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International Exhibition. 1876 official catalogue

Main building and annexes

United States Centennial Commission

Philadelphia, 1876

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Resident Commissioner

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with the compliments

of the United States Centennial Commission.

A. T. Goshorn

Director General.

Philadelphia, 3rd November 1876.



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S. W. Cor. Fourth and Library Sts., Philadelphia,

PUBLISHERS OF THE

OFFICIAL CATALOGUE

OF THE

INTERNATIONAL EXHIBITION OF 1876.

This Company owns the exclusive right to publish, sell, and distribute the "*Official Catalogue of the International Exhibition of 1876*," the work being printed under the direction of, and compiled from manuscript furnished by, the "U. S. Centennial Commission."

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MAIN EXHIBITION BUILDING.

United States Centennial Commission.

INTERNATIONAL EXHIBITION.

1876

Official Catalogue.

PART I.

MAIN BUILDING AND ANNEXES.

DEPARTMENT I.—MINING AND METALLURGY.
DEPARTMENT II.—MANUFACTURES.
DEPARTMENT III.—EDUCATION AND SCIENCE.

SECOND AND REVISED EDITION.

EIDGEN. POLYTECHN. SCHULE
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PHILADELPHIA:
Published for the Centennial Catalogue Company
BY JOHN R. NAGLE AND COMPANY.
Printed at the Riverside Press, Cambridge, Mass.
1876.

Entered according to Act of Congress, in the year 1876, by the
UNITED STATES CENTENNIAL COMMISSION,
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CONTENTS.

Subject Index, National Exhibits 4

The International Exhibition of 1876 7

Synopsis of the Classification 8

United States Centennial Commission 9

Officers of the United States Centennial Commission 10

Centennial Board of Finance 10

State Boards of Centennial Managers. 11

System of Awards 14

Judges of Awards 15

List of Buildings and Special Exhibits 20

The Main Exhibition Building 23

Key to the Notation 25

Ground Plan of the Main Exhibition Building 26

Classification 27

Catalogue of Department I., Mining and Metallurgy 47

Catalogue of Department II., Manufactures 101

Catalogue of Department III., Education and Science 321

Annex to Main Building. 374

NOTE.—The Alphabetical List of Exhibitors in the Departments of Mining and Metallurgy, Manufactures, and Education and Science is included in the General Index at the conclusion of Part IV. of the Official Catalogue.

SUBJECT INDEX, NATIONAL EXHIBITS.

NATIONS.	DEPT. I. MINING AND METALLURGY.			DEPT. II. MANUFACTURES.														DEPT. III. EDUCATION AND SCIENCE.				DEPT. IV.	DEPT. V.	DEPT. VI.	DEPT. VII.
	Minerals, Ores, Stone, Mining Products.	Metallurgical Products.	Mining Engineering.	Chemical Manufactures.	Ceramics, Pottery, Porcelain, Glass, etc.	Furniture, etc.	Yarns and Woven Goods of Vegetable or Mineral Materials.	Woven and Felted Goods of Wool, etc.	Silk and Silk Fabrics.	Clothing, Jewelry, etc.	Paper, Blank Books, Stationery.	Weapons, etc.	Medicine, Surgery, Prothesis.	Hardware, Edge Tools, Cutlery, and Metallic Products.	Fabrics of Vegetable, Animal, or Mineral Materials.	Carriages, Vehicles, and Accessories.	Educational Systems, Methods, and Libraries.	Institutions and Organizations.	Scientific and Philosophical Instruments and Methods.	Engineering, Architecture, Maps, etc.	Physical, Social, and Moral Condition of Man.	Art.	Machinery.	Agriculture.	Horticulture.
United States	47	55	60	101	106	109	115	119	122	123	129	133	134	136	142	143	321	328	329	334	336	...	382	...	...
Great Britain	61	61	...	374	145	374	148	149	150	378	152	152	378	378	380	380	338	382	339	...	382	...	...	...	...
New Zealand	63	63	...	155	155	155	155	155	...	155	...	...	...	...	155	153 383 ...	...	155	...	155	155	156	...	156	156
New South Wales	64	64	64	157	157	157	157	157	...	157	157	...	157	...	157	157 383	157 340	340	340	340	340	157 340	340	157	...
Victoria	65	65	65	160	160	160	160	161	161	161	161	161	161	161	161	161	341	...	341	341	341	161	162	162	165
South Australia	166	...	...	166	...	...	166	...	...	166	...	167	...	167	...	...	167	...	...	167	...	167	...	167	...
Cape of Good Hope	169	169	...	169	...	169	169	...	...	169	...	169	169	...	169	...	169	...	...	169	...	170	...	170	...
Jamaica	...	...	...	171	...	...	171	...	...	171	172	...	172	172	172	172	...	...	...	...	...	...	...	172	...
Bahamas	66	...	...	173	...	173	...	...	...	173	...	...	...	...	173	...	...	...	...	...	...	...	...	173	...
Bermudas	66	...	...	...	...	174	...	...	...	174	...	...	174	...	...	...	...	...	...	...	...	...	...	174	...
British Guiana	...	...	...	...	...	...	...	...	...	175	...	...	175	...	...	...	...	...	...	...	...	...	...	175	...
Ceylon	176	...	...	...	...	...	...	...	...	176	...	...	...	...	176	...	176	...	...	...	...	176	...	176	...
Straits Settlements	...	...	...	...	...	...	...	...	176	...	...	...	...	...	...	...	...	...	...	...	...	176	...	176	...
Gold Coast	177	...	...	177	177	177	177	177	177	177	177	177	...	...	177	...	...	...	177	...	...	177	177	177	..
Mauritius	...	...	...	178	...	...	...	...	...	178	...	...	178	...	...	...	178	...	...	...	...	178	...	178	...
Queensland	67	67	67	179	179	...	...	...	179	...	...	...	179	179	...	179	179	...	179	...	...	179	179	179	180
Seychelles Archipelago	...	...	...	...	...	181	...	...	...	181	...	...	...	...	...	...	...	...	...	...	...	...	...	181	...
Tasmania	68	68	...	182	...	...	...	...	...	182	...	182	...	...	...	...	182	...	182	182	182	182	182	182	...
Trinidad	184	...	...	...	...	184	...	...	...	184	...	...	...	184	184	...	...	...	...	...	...	...	...	184	...

India	69	69	...	185	185	185	185	185	185	185	...	185	186	186	186	186	186	...	...	186	...	186	186	186	...
Canada	70	74	...	187	188	188	188	189	...	189	189	190	190	190	190	...	341	342	342	342	342	...	191	191	...
France	In Agricul. Depart.			192	193	193	195	195	195	196	198	199	199	199	200	200	343	344	344	345	346	...	...	...	...
Germany	75	75	75	201	202	202	203	203	203	204	205	205	205	206	206	206 383	347	...	349	350	350	...	...	...	...
Austria	76	76	...	207	207	208	208	208	208	208	210	210	210	210	211	211 383	351	351	351	351	352	211	211	211	...
Switzerland	76	76	...	212	212	...	212	212	212	213	213	213	213	214	214	...	353	354	354	355	356	358	358	214	...
Belgium	77	77	...	215	215	216	216	216	217	217	217	218	218	218	218	...	359	359	359	359	360	...	...	218	...
Netherlands	77	...	...	220	220	220	220	220	220	220	221	221	221	221	221	...	360	360	361	361	361	...	361	...	...
Ditto. E. I. Colonies	221	221	...	221	221	221	221	...	...	221	...	222	222	222	222	...	...	...	...	...	...	222	...	222	222
Denmark	...	...	...	223	223	223	223	223	...	223	223	...	...	223	...	...	223	223	224	224	...	224	224	224	...
Sweden	78	78	...	225	225	225	226	226	226	226	226	227	227	227	228	...	362	363	363	363	363	...	...	...	...
Norway	80	80	...	229	229	229	229	229	...	229	230	230	230	230	230	230	364	...	364	364	364	...	...	...	...
Italy	81	81	...	231	232	233	233	233	233	234	234	235	235	235	235	235 383	365	365	365	365	365	235	...	...	...
Egypt	236	236	...	236	236	236	236	236	236	236	236	236	237	237	...	237	237	237	237	237	237	237	...	237	...
Tunis	239	...	...	239	239	239	...	239	239	239	...	239	...	...	...	239	...	...	239	...	...	239	...	...	...
Orange Free State	240	...	...	...	...	...	...	240	...	240	...	...	...	...	...	240	...	...	...	...	...	240	...	240	...
Luxemburg	...	...	...	...	240	...	...	...	...	240	...	...	...	...	...	...	...	...	...	...	...	...	...	240	...
China	241	241	...	241	241	241	241	241	241	242	242	...	242	242	242	...	...	...	242	...	242	242	...	242	...
Japan	244	...	...	244	244	245	245	...	246	246	247	247	247	...	247	...	247	...	248	...	248	248	...	...	...
Hawaii	250	...	...	250	...	250	250	...	...	250	...	...	...	...	250	250	250	250	...	251	251	251	251	251	...
Brazil	81	82	82	252	252	252	253	253	253	...	254	...	254	254	254	254	366	366	366	367	367	...	...	254	...
Argentine Republic	83	85	...	255	...	256	256	257	...	257	259	...	259	...	259	259	368	...	...	...	...	...	...	...	...
Chili	85	85	85	261	261	261	...	261	...	261	261	...	261	...	261	...	261	...	261	261	...	261	262	262	...
Peru	263	...	...	263	...	263	263	263	263	263	263	...	...	...	...	...	263	263	...	...	...	263	...	263	264
Mexico	86	86	...	265	265	265	...	265	265	265	266	...	266	...	266	...	266	266	267	...	...	267	267	267	269
Liberia*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Spain†	87	92	92	270	272	272	273	273	275	276	277	278	278	279	...	279	...	...	...	...	...	279	...	...	...
Philippine Islands	93	93	...	280	...	...	280	...	281	181	...	282	...	...	...	282	...	...	...	...	...	...	...	...	...
Portugal	94	95	95	283	283	284	284	286	286	287	289	289	289	289	289	290	369	369	369	369	370	290 370	...	...	...
Turkey	96	97	...	291	292	292	293	295	297	299	304	304	304	305	305	305	371	...	371	...	371	...	...	...	314
Russia	98	98	99	315	315	315	316	316	317	317	318	319	319	319	320	320 383	372	...	372	373	373	371	...	...	...

* Entire Exhibit in Agricultural Hall.

† For Spanish Educational Exhibit see Part III., p. 132.

THE INTERNATIONAL EXHIBITION OF 1876.

THE Congress of the United States, by an act approved March 3d, 1871, provided that the centennial anniversary of the promulgation of the Declaration of American Independence in Philadelphia should be celebrated in that city "by holding an International Exhibition of Arts, Manufactures, and Products of the Soil and Mine." The preparation of the Exhibition was, by the act, confided to the United States Centennial Commission, composed of a commissioner and alternate commissioner nominated by the governor of each State and Territory, and confirmed by the President of the United States. A subsequent act, approved June 1st, 1872, created the Centennial Board of Finance, charged with the financial conduct of the Exhibition.

A proclamation by the President of the United States, dated July 3d, 1873, announced the International Exhibition, and commended it to all nations. An act of Congress, approved June 5th, 1874, requested the President, in the name of the United States, to invite the governments of foreign nations to participate in the Exhibition. The invitation thus extended was accepted by the governments of

Argentine Republic,
Austria-Hungary,
Belgium,
Brazil,
Canada,
Chili,
China,
Denmark,
Egypt,
France, with Algeria,
Germany,
Great Britain, with colonies, viz.
Queensland,
New Zealand,
New South Wales,
Victoria,
South Australia,
India,
Cape of Good Hope,
Bahamas,
British Guiana,
Ceylon,
Straits Settlements,
Gold Coast,
Mauritius,
Seychelles Archipelago,
Tasmania,
Trinidad,
India,
Bermuda, and
Jamaica,
Hawaii,
Italy,
Japan,
Liberia,
Luxembourg,
Mexico,
Netherlands,
Norway,
Orange Free State,
Peru,
Philippine Islands,
Portugal,
Russia,
Spain,
Sweden,
Switzerland,
Tunis,
Turkey,
Venezuela.

The Centennial Commission provided for the classification of the objects to be exhibited in seven departments, which were referred to five exhibition buildings in this manner:

DEPARTMENT.	BUILDINGS.	ACRES COVERED.
I. Mining and Metallurgy, II. Manufactures, III. Education and Science,	Main Building,	21.47
IV. Art,	Art Gallery	1.5
V. Machinery,	Machinery Building,	14.
VI. Agriculture,	Agricultural Building,	10.
VII. Horticulture,	Horticultural Building,	1.5
Total, ...		48.47

The applications for exhibiting space, however, both at home and from abroad, so exceeded the calculations that had been made as to necessitate the erection of annexes supplementing the capacity of each of these buildings. Enumerations of these additional structures will be found on subsequent pages. The classes of objects grouped in the several departments are indicated in the following synopsis of the classification of the Exhibition.

SYNOPSIS OF THE CLASSIFICATION.

LOCATION.	DEPARTMENTS.	CLASSES.	GROUPS.
MAIN BUILDING.	I. MINING AND METALLURGY.	100—109	Minerals, Ores, Stone, Mining Products.
		110—119	Metallurgical Products.
		120—129	Mining Engineering.
	II. MANUFACTURES.	200—205	Chemical Manufactures.
		206—216	Ceramics, Pottery, Porcelain, Glass, etc.
		217—227	Furniture, etc.
		228—234	Yarns and Woven Goods of Vegetable or Mineral Materials.
		235—241	Woven and Felted Goods of Wool, etc.
		242—249	Silk and Silk Fabrics.
		250—257	Clothing, Jewelry, etc.
		258—264	Paper, Blank Books, Stationery.
		265—271	Weapons, etc.
		272—279	Medicine, Surgery, Prothesis.
		280—284	Hardware, Edge Tools, Cutlery, and Metallic Products.
		285—291	Fabrics of Vegetable, Animal, or Mineral Materials.
		292—296	Carriages, Vehicles, and Accessories.
	III. EDUCATION AND SCIENCE	300—309	Educational Systems, Methods, and Libraries.
		310—319	Institutions and Organizations.
		320—329	Scientific and Philosophical Instruments and Methods.
		330—339	Engineering, Architecture, Maps, etc.
		340—349	Physical, Social, and Moral Condition of Man.
ART GALLERY.	IV. ART.	400—409	Sculpture.
		410—419	Painting.
		420—429	Engraving and Lithography.
		430—439	Photography.
		440—449	Industrial and Architectural Designs, etc.
		450—459	Ceramic Decorations, Mosaics, etc.
MACHINERY BUILDING.	V. MACHINERY.	500—509	Machines, Tools, etc., of Mining, Chemistry, etc.
		510—519	Machines and Tools for working Metal, Wood, and Stone.
		520—529	Machines and Implements of Spinning, Weaving, etc.
		530—539	Machines, etc., used in Sewing, Making Clothing, etc.
		540—549	Machines for Printing, Making Books, Paper Working, etc.
		550—559	Motors, Power Generators, etc.
		560—569	Hydraulic and Pneumatic Apparatus.
		570—579	Railway Plant, Rolling Stock, etc.
		580—589	Machinery used in Preparing Agricultural Products.
		590—599	Aerial, Pneumatic, and Water Transportation.
			Machinery, and Apparatus, especially adapted to the requirements of the Exhibition.
AGRICULTURAL BUILDING.	VI. AGRICULTURE.	600—609	Arboriculture and Forest Products.
		610—619	Pomology.
		620—629	Agricultural Products.
		630—639	Land Animals.
		640—649	Marine Animals, Fish Culture, and Apparatus.
		650—662	Animal and Vegetable Products.
		665—669	Textile Substances of Vegetable or Animal origin.
		670—679	Machines, Implements, and Processes of Manufacture.
		680—689	Agricultural Engineering and Administration.
		690—699	Tillage and General Management.
HORTICULTURAL BUILDING.	VII. HORTICULTURE.	700—709	Ornamental Trees, Shrubs, and Flowers.
		710—719	Hot Houses, Conservatories, Graperies.
		720—729	Garden Tools, Accessories of Gardening.
		730—739	Garden Designing, Construction, and Management.

The full text of the classification of the several Departments will be found at the commencement of the enumeration of objects shown in each. The distribution of the departments and buildings through the four volumes of the catalogue, is as follows:

VOLUME I.—DEPARTMENT I. *Mining and Metallurgy;* II. *Manufactures;* III. *Education and Science.* Main Building and Annexes.

VOLUME II.—DEPARTMENT IV. *Art.* Memorial Hall and Annexes.

VOLUME III.—DEPARTMENT V. *Machinery.* Machinery Building and Annexes. Buildings of United States government and foreign governments, of State governments, and of individual exhibitors.

VOLUME IV.—DEPARTMENT VI. *Agriculture;* VII. *Horticulture.* Agricultural and Horticultural Buildings and Annexes, Alphabetical Index of Exhibitors, Commissioners, Judges, etc.

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THE Centennial Commission have substituted for the international juries employed at previous International Exhibitions, a system of awards which provided:

That awards shall be based upon written reports attested by the signatures of their authors.

That the judges should be selected for their known qualifications and character, and should be experts in the departments to which they are respectively assigned; the foreign members of this body being appointed by the Commission of each country and in conformity with the distribution and allotment to each; the judges from the United States by the Centennial Commission.

That judges should be reimbursed for their personal expenses.

That reports and awards should be based upon inherent and comparative merit; the elements of merit being held to include considerations relating to originality, invention, discovery, utility, quality, skill, workmanship, fitness for the purposes intended, adaptation to public wants, economy, and cost.

That each report should be delivered to the Centennial Commission as soon as completed, for final award and publication.

That awards should be finally decreed by the United States Centennial Commission, in compliance with the Act of Congress, and should consist of a diploma with a uniform Bronze Medal, and a special report of the judges on the subject of the Award.

That each exhibitor shall have the right to produce and publish the report awarded to him, but the United States Centennial Commission reserves the right to publish and dispose of all reports in the manner it thinks best for public information, and also to embody and distribute the reports as records of the Exhibition.

JUDGES OF AWARDS.

GROUP I.

Minerals, Mining, and Metallurgy, including the Machinery.—(Classes 100 to 108 of the classification. See page 27.)

Metals, Metallurgical Products and Processes.—(Classes 110 to 115.)

Machines, Tools, and Apparatus of Mining and Metallurgy.—(Classes 500 to 507, and 512.)

Mine Engineering—Models, Maps, and Sections.—(Classes 120, 121.)

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John Fritz, Bethlehem, Pa.
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GROUP II.

Pottery, Glass, Artificial Stone, etc.—(Classes 206 to 216, and 219, 103, 517, 518.)

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Mr. K. Notomi, Japan.

GROUP III.

Chemistry and Pharmacy, including the Apparatus.—(Classes 200 to 203, and 274, 508, 509, and 659.)

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GROUP IV.

Animal and Vegetable Products, and the Machinery for their Preparation.—(Classes 650 to 661.)

AMERICAN.

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Col. John Bradford, Tallahassee, Fla.
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GROUP V.

Fish and Fish Products—Apparatus of Fishing, etc.—(Classes 640 to 648.)

AMERICAN.

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GROUP VI.

Timber, Worked Lumber, Parts of Buildings, Forestry.—(Classes 600 to 607.)

AMERICAN.

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GROUP VII.

Furniture, Upholstery, Wooden Ware, Baskets, etc.—(Classes 217, 220, 221, 225, 226, 286, 289, 290.)

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Robert Mitchell, Cincinnati, O.

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GROUP VIII.

Cotton, Linen, and other Fabrics, including the Materials and the Machinery.—(Classes 228, 229 to 234, 521, 523, 524, 665, 666.)

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GROUP IX.

Wool and Silk Fabrics, including the Materials and the Machinery. Woven and Felted Goods of Wool, and Mixtures of Wool.—(Classes 235 to 241, 522, and 667.)

Silk and Silk Fabrics, and Mixtures in which Silk is the Predominating Material.—(Classes 242 to 249 and 520.)

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GROUP X.

Clothing, Furs, India Rubber Goods, Ornaments, and Fancy Articles. (Exclusive of Leather Boots and Shoes.)—(Classes 250 to 257 and 288.)

Caoutchouc and Gutta Percha Industry.—(Class 285.)

AMERICAN.

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GROUP XI.

Jewelry, Watches, Silverware, Bronzes, etc.—(Class 253.)

AMERICAN.

Martin P. Kennard, Boston, Mass.
Peter Gottesleben, Denver, Col.

FOREIGN.

G. H. Heap, Tunis.
M. Roulleaux du Gage, France.

GROUP XII.

Leather and Manufactures of Leather, including Boots, Shoes, Trunks, etc.—(Classes 532 and 533.)

AMERICAN.

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John Cummings, Boston, Mass.
Thomas Miles, Philadelphia, Pa.
J. P. Postles, Wilmington, Del.

FOREIGN.

GROUP XIII.

Paper Industry, Stationery, Printing, and Book Making.—(Classes 258 to 264.)

Machines and Apparatus for Type Setting, Printing, Stamping, Embossing, and for making Books and Paper Working.—(Classes 525 and 540 to 547.)

AMERICAN.

James M. Willcox, Ph.D., Glen Mills, Pa., 1722 Spruce St., Phila.
C. O. Chapin, Springfield, Mass.
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Edward Conly, Cincinnati, Ohio.
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GROUP XIV.

Apparatus of Heating, Lighting, Ventilation, Water Supply, and Drainage.—(Classes 222 to 224.)

AMERICAN.

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Azel Ames, jr., M.D., Wakefield, Mass.

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GROUP XV.

Builders' Hardware, Edge Tools, Cutlery, etc.—(Classes 280 to 284.)

AMERICAN.

Charles Staples, Portland, Me.
Daniel Steinmetz, Philadelphia.
George L. Reed, Clearfield, Pa.
Gen John D. Imboden, Richmond, Va.

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GROUP XVI.

Military and Sporting Arms, Weapons, Apparatus of Hunting, Explosives, etc.—(Classes 204, 205, and 265 to 270.)

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GROUP XVII.

Carriages, Vehicles, and Accessories.—(Classes 292 to 296.)

AMERICAN.	FOREIGN.
Thos. Goddard, Boston, Mass., 134 State St.	Mr. Guiet, France.
B. F. Morse, Augusta, Me.	Mr. Duffus, Canada.

GROUP XVIII.

Railway Plant, Rolling Stock, and Apparatus, Road Engines.—(Classes 570 to 577.)

AMERICAN.	FOREIGN.
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GROUP XIX.

Vessels and Articles of Transportation—(not included in other groups).—(Classes 287 to 544, and 590 to 597.)

AMERICAN.	FOREIGN.
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J. W. Griffith, Portsmouth, N. H.	
H. C. Goodspeed, Salt Lake City, Utah.	

GROUP XX.

Motors, Hydraulic and Pneumatic Apparatus, etc.—(Classes 550 to 555, and 560 to 568.)

AMERICAN.	FOREIGN.
C. T. Porter, Newark, N. J.	Mr. W. H. Barlow, C.E., Great Britain.
Joseph Belknap, New York.	Prof. Reuleaux, Germany.
James Moore, Philadelphia.	Nicholas Petroff, Russia.
Horatio Allen, South Orange—"Homewood," N. J.	Emil Brugsch, Egypt.
Chas. E. Emery, 7 Warren Street, New York.	

GROUP XXI.

Machine Tools—Wood, Metal, and Stone.—(Classes 510, 511, and 514 to 516.)

AMERICAN.	FOREIGN.
Irving M. Scott, Union Iron Works, San Francisco, Cal.	Mr. John Anderson, LL.D., C.E., Great Britain.
George H. Blelock, Springfield, Mass.	M. Le Commandant F. Perier, France.
W. F. Durfee, Wisconsin (at 56 Broadway, New York).	Mr. C. A. Angstrom, Sweden.
Prof. John A. Anderson, President Kansas State Agricultural College, Manhattan, Kan.	Mr. Auguste Gobert (fils), Belgium.
	Mr. Felix Reifer, Austria.

GROUP XXII.

Machines, Apparatus, and Implements used in Sewing and Making Clothing, Lace, Ornamental Objects, Pins, etc.—(Classes 530, 531, and 534 to 537.)

AMERICAN.	FOREIGN.
George W. Gregory, Boston, Mass.	Mr. Fred. A. Paget, C.E., Great Britain.
Edward H. Knight, Patent Office, Washington, D. C.	
L. D. F. Poore, Springfield, Dakota.	

GROUP XXIII.

Agricultural Machines, Implements of Agriculture, Horticulture, and Gardening.—(Classes 670 to 675, and 680 to 683.)

Tillage and General Management.—(Classes 690 to 692, and 715, 716.)

Garden Tools, Accessories of Gardening.—(Classes 720 to 722.)

Garden Designing, Construction, and Management.—(Classes 710, and 731 to 733.)

AMERICAN.	FOREIGN.
Hon. John P. Reynolds, Chicago, Ill.	Mr. John Coleman, Great Britain.
James S. Grinnell, Washington, D. C.	Dr. Jose de Saldanha, Brazil.
Geo. E. Waring, jr., Newport, R. I.	Don Fermin Rosillo, Spain.
James Bruce, Corvallas, Oregon.	

GROUP XXIV.

Instruments and Apparatus of Hygiene, Medicine, Surgery, Prothesis, etc.—(Classes 272, 273, and 275 to 278.)

AMERICAN.	FOREIGN.
C. B. White, M.D., New Orleans, La.	Dr. William Roth, Germany.
J. H. Thompson, A.M., M.D., Washington, D. C.	Dr. Ernst Fleischel, Austria.

GROUP XXV.

Instruments of Precision, Research, Experiment, and Illustration, including Telegraphy and Music.—(Classes 320 to 327.)

AMERICAN.

Prof. Joseph Henry, LL.D., Secretary of Smithsonian Institution, Washington, D. C.
Prof. F. A. P. Barnard, S.T.D., LL.D., Columbia College, N. Y.
Prof. J. E. Hilgard, Washington, D. C.
Prof. J. C. Watson, Ann Arbor, Mich.
General Henry K. Oliver, Salem, Mass.
Geo. F. Bristow, New York.

FOREIGN.

Sir William Thomson, LL.D., D.C.L., F.R.S., Great Britain.
Jul. Schiedmayer, Germany.
Mr. E. Levasseur, France.
P. F. Kupka, Austria.
Edw. Favre Perret, Switzerland.

GROUP XXVI.

Architecture and Engineering. (For Agricultural Engineering, see Class 680.) (For Mine Engineering, see Group I.) Architecture.—(Classes 341, 342.)

Engineering.—(Classes 330 to 333, and 335.)

AMERICAN.

James B. Eads, C.E., South Pass Jetty Works, 122 Common Street, New Orleans, La.
General Wm. B. Franklin, Hartford, Conn.
Richard M. Hunt, 49 West Thirty-fifth Street, New York.

FOREIGN.

Sir John Hawkshaw, C.E., F.R.S., Great Britain.
Mr. Lavoinne, France.
J. M. da Silva Continho, Brazil.
J. G. W. Fynje, Netherlands.
Lourenço Maheiro, M.E., Portugal.

GROUP XXVII.

Plastic and Graphic Art Sculpture.—(Classes 400 to 405.)

Painting.—(Classes 410 to 413.)

Engraving and Lithography.—(Classes 420 to 424.)

Photography.—(Classes 430 to 432.)

Industrial and Architectural Designs, Models, and Decorations.—(Classes 440 to 443.) (Classes 450 to 454.)

Decoration with Ceramic and Vitreous Materials; Mosaic and Inlaid Work.

AMERICAN.

Frank Hill Smith, Boston, Mass.
James L. Claghorn, Philadelphia, Pa.
Prof. S. F. Weir, New Haven, Conn.
Donald G. Mitchell, New Haven, Conn.
Geo. Ward Nichols, Cincinnati, Ohio.
Prof. Henry Draper, Medical College, New York City.

FOREIGN.

Mr. Charles West Cope, R.A., Great Britain.
Mr. Peter Graham, Great Britain.
Carl Schlesinger, Germany.
Dr. H. Vogel, Germany.
Mr. Emile T. Saintain, France.
Fritz L. Dardel, Sweden.
P. N. Arbo, Norway.
Count of Donadis, Spain.
Mr. Tantardini, Italy.
Guglielmo de Sanctis, Italy.
Mr. Carl Costenoble, Austria.
Prof. V. Dahlerup, Denmark.
J. E. van Heemskerck van Beest, Netherlands.

GROUP XXVIII.

Educational Systems, Methods, and Libraries.—(Classes 300 to 306.)

Institutions and Organizations.—(Classes 310 to 313.)

AMERICAN.

Hon. Andrew D. White, LL.D., President of Cornell University, Ithaca, N.Y.
D. C. Gilman, LL.D., President of St. John's Hopkins University, Baltimore, Md.
Hon. J. M. Gregory, LL.D., Pres. Illinois Industrial Union, Champaign, Ill.
Hon. J. W. Hoyt, M.D., LL.D., Madison, Wis.

FOREIGN.

Sir Charles Reed, Great Britain.
Mr. Réne Fouret, France.
Col. John Marin, Spain.
Prof. Dr. Otto Martin Torell, Sweden.

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—The buildings bear the numbers prefixed to them in this table, being the numbers adopted by the Centennial Guide Book Co. (Limited).]

Buildings South of the Avenue of the Republic.

No.		Part	Page
1.	Main Exhibition Building,	I.	23
2.	Machinery Hall,	III.	9
3.	Machine Shop,	III.	117
4.	American Boiler House,	III.	117
5.	Corliss Boiler House,	III.	117
6.	British Boiler House,	III.	117
7.	Shoe and Leather Exhibition Building,	III.	105
8.	Office Centennial Board of Finance,	III.	117
9.	Office U. S. Centennial Commission,	III.	117
10.	Centennial National Bank,	III.	117
11.	Weimer Machine Works,	III.	118
12.	Bartholdi Fountain	III.	146
13.	Catholic Total Abstinence Union Fountain,	III.	146
14.	Fuller, Warren, & Co., Heating Apparatus,	III.	118
15.	Gillender & Sons, Glassware Manufactory,	III.	118
16.	Camp of West Point Cadets,	III.	118
17.	Iron Pipe,	III.	118
18.	Liberty Stove Works,	III.	118
19.	Annex, Saw Mill,	III.	119
20.	Boiler House,	III.	119
21.	Railway Engine House,	III.	119
22.	St. Cecilia Organs,	III.	119
23.	Automatic Railway,	III.	119
24.	Monument—American Soldier,	III.	119
25.	Gunpowder Pile-Driver,	III.	119
26.	Jesse Star & Son, Iron Works,	III.	119
27.	West End Railway Offices,	III.	119
28.	Pneumatic Tubes,	III.	119
29.	New England Granite Co.'s Exhibit,	III.	120
30.	Railroad Crossings,	III.	120
31.	State of Nevada Quartz Mill,	III.	120
32.	Store House,	III.	120
33.	Friction Drum,	III.	120
34.	Stokes & Parrish, U. S. Hoisting Machine,	III.	120
35.	Chilean Amalgamating Machinery,	III.	120
36.	Campbell Printing Press,	III.	120
37.	Old Locomotive and Car,	III.	121
38.	Car House,	III.	121
39.	Police Station,	III.	121
40.	Averill Paint Co.,	III.	121
41.	Centennial Catalogue Co.,	III.	121
42.	Stokes & Parrish, Boiler House,	III.	121
43.	Ehret's Waterproof Roofing,	III.	121
44.	Tombstones,	III.	122
45.	Terra Cotta Pipe,	III.	122
46.	Mineral Annex, 1 and 2,	III.	122
47.	Fireproof Ventilated Buildings,	III.	122
48.	Swings,	III.	122
49.	Ornamental Stone Work,	III.	122

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.		Part	Page
51.	United States Government Building,	III.	73
51½.	Bartholdi Electric Light,	III.	122
52.	United States Hospital,	III.	73
52½.	Howe Monument,	III.	122
53.	United States Hospital Tent,	III.	73
53½.	Jerusalem Bazaar,	III.	122
54.	United States Laboratory,	III.	73
54½.	Office Philadelphia "Times,"	III.	123
55.	Pennsylvania State Building,	III.	123
55½.	Hungarian Wine Pavilion,	III.	123
56.	Ohio State Building,	III.	123
56½.	Police Station,	III.	124
57.	Indiana State Building,	III.	124
57½.	Sponge Fishers of Turkey,	III.	124
58.	Illinois State Building,	III.	124
58½.	Bethlehem Bazaar,	III.	124
59.	Wisconsin State Building,	III.	124
59½.	Fog Horn and Bell,	III.	124
60.	Michigan State Building,	III.	124
61.	New Hampshire State Building,	III.	125
62.	Connecticut State Building,	III.	125
63.	Massachusetts State Building,	III.	125
64.	Delaware State Building,	III.	125
65.	Maryland State Building,	III.	125
66.	Arkansas State Building,	III.	125
67.	Japanese Dwelling,	III.	125
68.	West Virginia State Building,	III.	125
69.	Canadian Log House,	IV.	134
70.	Missouri State Building,	III.	130
71.	British Government Building,	III.	130
72.	British Government Building,	III.	130
73.	British Government Building,	III.	130
74.	New York State Building,	III.	130
75.	Lienard's Relief Plans, Paris, Jerusalem, Italy, etc.,	III.	130
76.	Pop-corn Stand,	III.	131
77.	Cigar Stand,	III.	131
78.	Soda Water Stand,	III.	131
79.	Tunisian Café and Bazaar,	III.	131
80.	Columbus Monument,	III.	131
81.	Drinking Fountains,	III.	131
82.	Restaurant "Trois Frères Provençaux,"	III.	131
83.	Office New York "Tribune,"	III.	131
84.	World's Ticket Office, Cook, Son, & Jenkins,	III.	131
85.	Loiseau's Pressed Fuel Company,	III.	132
86.	Spanish Government Buildings,	III.	132
87.	United States Signal Office,	III.	141
88.	Tennessee State Building,	III.	141
89.	Mississippi State Building,	III.	142
90.	George's Hill Restaurant,	III.	142
91.	Bishop Allen Monument,	III.	142

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—Descriptions of the Buildings will be found at the indicated part and page of the Official Catalogue.]

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.		Part	Page
92.	Office of the Boston "Advertiser" and Boston "Herald,"	III.	142
93.	Rowell's Newspaper Exhibition Building,	III.	142
94.	California State Building,	III.	142
95.	Centennial Fire Patrol, No. 1,	III.	142
96.	Turkish Café,	III.	143
97.	Office Frank Leslie's Publications,	III.	143
98.	Iowa State Building,	III.	143
99.	Rhode Island State Building,	III.	143
100.	Vermont State Building,	III.	143

Buildings East of Belmont Avenue, and South of Fountain Avenue.

101.	Art Gallery,	II	9
102.	Art Gallery Annex,	II.	10
103.	B'nai B'rith Monument of Religious Liberty,	III.	143
104.	Photographic Art Building,	II.	137
105.	Vienna Bakery and Coffee House,	III.	143
106.	Principal Annex to Main Exhibition Building,	I.	374
107.	Swedish Government Building,	III.	144
108.	Japanese Bazaar,	III.	144
109.	The Judges' Hall,	III.	144
110.	Centennial Photographic Co.,	III.	144
111.	Sheet-metal Pavilion,	III.	144
112.	German Government Building,	III.	144
113.	Railroad Ticket Office,	III.	144
114.	Office United States Centennial Commission,	III.	145
115.	Brazilian Government Build'g,	III.	145
116.	The Dairy,	III.	145
117.	Restaurant "La Fayette,"	III.	145
118.	House of Public Comfort,	III.	145
119.	Empire Transportation Co.,	III.	145
120.	French Government Building,	III.	145
121.	Centennial Fire Patrol, No. 2,	III.	145
122.	Penn'a Educational Building,	III	146
123.	Telegraph Office,	III.	147
124.	American Fusee Company,	III.	147
125.	Klautscheck, Thomas, & Stewart's Glass Magazine,	III.	147
126.	Moorish Villa,	III.	147
127.	American Bible Society,	III.	147
128.	Hunter's Camp,	III.	147
129.	Office Water Department,	III.	148
130.	Soda Water Stands,	III.	148
131.	Cigar Stands,	III.	148
132.	Singer's Sewing Machines,	III.	148
133.	Centennial Medical Departm't,	III.	148
134.	Portugal Government Building,	III.	148
135.	Bankers' Building,	III.	148
136.	French Glass Exhibit,	III.	149
137.	Kindergarten,	III.	149
138.	Centennial Police Station,	III.	149
139.	Philadelphia City Building,	III.	149
140.	Music Pavilion,	III.	149
141.	Burial Caskets,	III.	149
142.	Perforated Metal Building,	III.	149
143.	Rubber Roofing,	III.	149
144.	Cuban Acclimation Office,	III.	149
145.	Naval Group,	III.	149
146.	The Dying Lioness,	III.	149

Buildings East of Belmont Avenue, and North of Fountain Avenue.

151.	Horticultural Hall,	IV.	147
152.	Agricultural Hall,	IV.	9
153.	The Women's Pavilion,	III.	85
154.	The Women's School House,	III.	150
155.	New Jersey State Building,	III.	150
156.	Restaurant of the South,	III.	150
157.	Kansas and Colorado State Building,	III.	150
158.	New England Farmer's Home 100 years ago, and Modern Kitchen,	III.	150
159.	Great American Restaurant,	III.	150
160.	German Restaurant,	III.	151
161.	Tea and Coffee Press,	III.	151
162.	Butter and Cheese Factory,	III.	151
163.	Soda Water Stand,	III.	151
164.	Cigar Stand,	III.	151
165.	Farm Wagon Building,	IV.	135
166.	Pomological Building,	IV.	135
167.	Brewers' Building,	IV.	136
168.	Model House Apiary,	IV.	140
169.	Guano Company,	III.	151
170.	Special Flower Exhibit Building,	III.	170
171.	Wind Mills,	IV.	140
172.	Office "Ohio Farmer,"	IV.	140
173.	Hay Press,	III.	152
174.	Police Station,	III.	152
175.	Elevated Railroad,	III.	152
176.	Boiler House,	III.	152
177.	Virginia State Building,	III.	152
178.	Protective Fire Apparatus,	III.	152
179.	Pop-corn Stands,	III.	152
180.	J. L. Mott Co. Fountain,	III.	152

No. 1. THE MAIN EXHIBITION BUILDING.

Size, 1880 by 464 feet.

Engineers and Architects, HENRY PETTIT & JOS. M. WILSON.

Contractor, R. J. DOBBINS.

Wrought and Cast Iron Manufactured by WM. SELLERS & CO., *Moor Iron Works.*

Wrought Iron Furnished by A. & P. ROBERTS, *Pencoyd Rolling Mills.*

Cast Iron Furnished by MORRIS, TASKER, & CO., *Pascal Iron Works.*

Erector of Iron Work, WATSON MANUFACTURING CO.

THE Main Exhibition Building, containing Departments I, II, III of the Exhibition, is in the form of a parallelogram, extending east and west 1880 feet in length, and north and south 464 feet in width.

The larger portion of the structure is one story in height, and shows the main cornice upon the outside at 45 feet above the ground, the interior height being 70 feet. At the centre of the longer sides are projections 416 feet in length, and in the centre of the shorter sides or ends of the building are projections 216 feet in length. In these projections, in the centre of the four sides, are located the main entrances, which are provided with arcades upon the ground floor, and central facades extending to the height of 90 feet.

The East Entrance forms the principal approach for carriages, visitors being allowed to alight at the doors of the building under cover of the arcade. The South Entrance is the principal approach from street cars, the ticket offices being located upon the line of Elm Avenue, with covered ways provided for entrance into the building itself. The Main Portal on the north side communicates with the Art Gallery, and the Main Portal on the west side gives the main passage way to the Machinery and Agricultural Halls.

Upon the corners of the building there are four towers, 75 feet in height, and between the towers and the central projections or entrances there is a lower roof introduced, showing a cornice at 24 feet above the ground. In order to obtain a central feature for the building as a whole, the roof over the central part, for 184 feet square, has been raised above the surrounding portion, and four towers, 48 feet square, rising to 120 feet in height, have been introduced at the corners of the elevated roof.

The areas covered are as follows:

	SQUARE FEET.	ACRES.
Ground floor,	872,320	20.02
Upper floors in projections,	37,344	.85
" " in towers,	26,344	.60
	936,008	21.47

The general arrangement of the ground plan shows a central avenue or nave 120 feet in width, and extending 1832 feet in length. This is the longest avenue of that width ever introduced into an exhibition building. On either side of this nave there is an avenue 100 feet by 1832 feet in length. Between the nave and side avenues are aisles 48 feet wide, and on the outer sides of the building smaller aisles 24 feet in width. In order to break the great length of the roof lines, three cross avenues or transepts have been introduced of the same widths and in the same relative positions to each other as the nave and avenues running lengthwise, viz.: a central transept 120 feet in width by 416 feet in length, with one on either side of 100 feet by 416 feet, and aisles between of 48 feet. The intersections of these avenues and transepts in the central portion of the building result in dividing the ground floor into nine open spaces, free from supporting columns, and covering in the aggregate an area of 416 feet square. Four of these spaces are 100 feet square, four 100 feet by 120 feet, and the central space or pavilion 120 feet square. The intersections of the 48 feet aisles produce four interior courts 48 feet square, one at each corner of the central space. The main promenades through the nave and central transept are each 30 feet in width, and those through the centre of the side avenues and transepts 15 feet each. All other walks are 10 feet wide, and lead at either end to exit doors.

The following table gives the principal dimensions of the different parts of the building:

DIMENSIONS.

Measurements taken from centre to centre of supporting columns.

Length of building,	1880 feet
Width of building,	464 "

CENTRAL AVENUE OR NAVE.	
Length,	1832 feet.
Width,	120 "
Height to top of supporting columns,	45 "
Height to ridge of roof,	70 "
CENTRAL TRANSEPT.	
Length,	416 "
Width,	120 "
Height to top of columns,	45 "
Height to ridge of roof,	70 "
SIDE AVENUES.	
Length,	1832 "
Width,	100 "
Height to top of columns,	45 "
Height to ridge of roof,	65 "
SIDE TRANSEPTS.	
Length,	416 "
Width,	100 "
Height to top of columns,	45 "
Height to ridge of roof,	65 "

CENTRAL AISLES.	
Length at east end,	744 feet.
" at west end,	672 "
Width,	48 "
Height to roof,	30 "
SIDE AISLES.	
Length at east end,	744 "
" at west end,	672 "
Width,	24 "
Height to roof,	24 "
CENTRE SPACE OR PAVILION.	
Ground plan,	120 ft. sq.
Height to top of supporting columns,	72 "
Height to ridge of roof,	96 "
TOWERS OVER COURTS.	
Ground plan,	48 "
Height to roof,	120 "
CORNER TOWERS.	
Ground plan,	24 "
Height to roof,	75 "

The foundations consist of piers of masonry. The superstructure is composed of wrought iron columns, which support wrought iron roof trusses. These columns are composed of rolled channel bars, with plates riveted to the flanges. Lengthwise of the building the columns are spaced at the uniform distance apart of 24 feet. In the entire structure there are 672 columns, the shortest being 23 feet and the longest 125 feet in length. Their aggregate weight is 2,200,000 pounds. The roof trusses

are similar in form to those in general use for depots and warehouses, and consist of straight rafters with struts and tie-bars. The aggregate weight of iron in the roof trusses and girders is 5,000,000 pounds. This building being a temporary construction, the columns and trusses are so designed that they may be easily taken down and erected again at another site.

The sides of the building, for the height of seven feet from the ground, are finished with brickwork in panels between the columns; above the seven feet, with glazed sash. Portions of the sash are movable for ventilation. The roof covering is of tin upon sheathing boards. The ground flooring is of plank upon sills resting upon the ground, with no open space underneath.

The building stands nearly due east and west, and is lighted almost entirely by side light from the north and south sides. Louvre ventilators are introduced over the central nave and each of the avenues. Skylights are introduced over the central aisles.

Small balconies, or galleries of observation, have been provided in the four central towers of the building at the heights of the different stories.

A complete system of water supply, with ample provision of fire cocks, etc., is provided for protection against fire, and for sanitary purposes.

Offices for foreign commissions are placed along the sides of the building, in the side aisles, in proximity to the products exhibited.

The ground was graded and foundation laid for this building in the autumn of 1874. The erection of iron work at the site commenced on May 8th, 1875; the erection of the iron work was finished December 2d, 1875; and the building was accepted from the contractor February 14th, 1876. The cost of the building was $1,580,000.

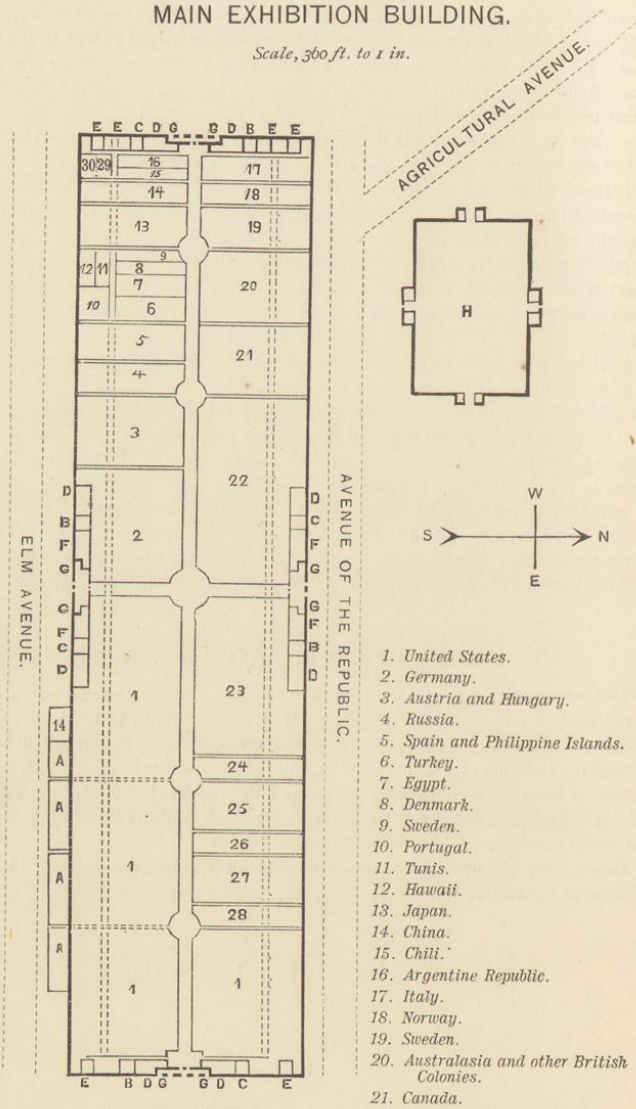
KEY TO THE NOTATION.

THE location of objects in the Main Building is shown by a letter and figure, indicating the nearest column of the building. The letters—A, B, C, to U—designate the successive ranges of columns, proceeding southward from the northern wall across the width of the building; the figures, the number of the column in each range, counting eastwardly from the western wall, the entire length of the building, from 1 to 79. Thus C 5 is the column in the third range from the north, and the fifth from the western end of the building. The southeasternmost column is U 79.

The class of the classification to which each exhibit belongs is indicated by the small figures at the end of the line.

MAIN EXHIBITION BUILDING.

Scale, 360 ft. to 1 in.



CARRIAGE CONCOURSE.

A *Mineral Annex.*
B *Ladies' Room.*
C *Gentlemen's Room.*
D *Water-closets.*
E *Offices.*
F *Restaurants.*
G *Stairway to Galleries.*
H *Carriage Annex.*

1. *United States.*
2. *Germany.*
3. *Austria and Hungary.*
4. *Russia.*
5. *Spain and Philippine Islands.*
6. *Turkey.*
7. *Egypt.*
8. *Denmark.*
9. *Sweden.*
10. *Portugal.*
11. *Tunis.*
12. *Hawaii.*
13. *Japan.*
14. *China.*
15. *Chili.*
16. *Argentine Republic.*
17. *Italy.*
18. *Norway.*
19. *Sweden.*
20. *Australasia and other British Colonies.*
21. *Canada.*
22. *Great Britain and India.*
23. *France and Colonies.*
24. *Switzerland.*
25. *Belgium.*
26. *Brazil.*
27. *Netherlands.*
28. *Mexico.*
29. *Peru.*
30. *Orange Free State.*

Total Length, 1880 ft. *Width, 464 ft.* *Height, 70 ft.*

CLASSIFICATION.

DEPARTMENT I.—MINING AND METALLURGY.

MINERALS, ORES, STONE, MINING PRODUCTS.

CLASS 100.—Minerals, ores, etc. Metallic and non-metallic minerals, exclusive of coal and oil. Collections of minerals systematically arranged; collections of ores and associated minerals; geological collections.

CLASS 101.—Mineral combustibles. Coal, anthracite, semi-bituminous, and bituminous, coal-waste and pressed coal; albertite, asphalt, and asphaltic limestone; bitumen, mineral tar, crude petroleum.

CLASS 102.—Building stones, marbles, slates, etc. Rough, hewn, sawn, or polished, for buildings, bridges, walls, or other constructions, or for interior decoration, or for furniture.

Marble—white, black, or colored—used in building, decoration, statuary, monuments, or furniture, in blocks or slabs not manufactured.

CLASS 103.—Lime, cement, and hydraulic cement, raw and burned, accompanied by specimens of the crude rock or material used, also artificial stone, concrete, beton.

Specimens of lime mortar and mixtures, with illustrations of the processes of mixing, etc. Hydraulic and other cement.

Beton mixtures and results, with illustrations of the processes.

Artificial stone for building purposes, building blocks, cornices, etc.

Artificial stone mixtures, for pavements, walls, or ceilings.

Plasters, mastics, etc.

CLASS 104.—Clays, kaolin, silex, and other materials for the manufacture of porcelain faience, and of glass, bricks, terra cotta and tiles, and fire brick. Refractory stones for lining furnaces, sandstone, steatite, etc., and refractory furnace materials.

CLASS 105.—Graphite, crude and refined; for polishing purposes; for lubricating, electrotyping, photography, pencils, etc.

CLASS 106.—Lithographic stones, hones, whetstones, grindstones, grinding and polishing materials, sand quartz, garnet, crude topaz, diamond, corundum, emery in the rock and pulverized, and in assorted sizes and grades.

CLASS 107.—Mineral waters, artesian well water, natural brines, saline and alkaline efflorescences and solutions. Mineral fertilizing substances, gypsum, phosphate of lime, marls, shells, coprolites, etc., not manufactured.

METALLURGICAL PRODUCTS.

CLASS 110.—Precious metals.

CLASS 111.—Iron and steel in the pig, ingot, and bar, plates and sheets, with specimens of slags, fluxes, residues, and products of working.

CLASS 112.—Copper in ingots, bars, and rolled, with specimens illustrating its various stages of production.

CLASS 113.—Lead, zinc, antimony, and other metals, the result of extractive processes.

CLASS 114.—Alloys used as materials, brass, nickel, silver, solder, etc.

MINING ENGINEERING—MODELS, MAPS, AND SECTIONS.

CLASS 120.—Surface and underground surveying and plotting. Projection of underground work, location of shafts, tunnels, etc. Surveys for aqueducts and for drainage.

Boring and drilling rocks, shafts, and tunnels, etc. Surveys for aqueducts, and for ascertaining the nature and extent of mineral deposits.

Construction. Sinking and lining shafts by various methods, driving and timbering tunnels, and the general operations of opening, stoping, and breaking down ore, timbering, lagging, and masonry.

Hoisting and delivering at the surface, rock, ore, or miners.

Pumping and draining by engines, buckets, or by adits.

Ventilation and lighting.

Subaqueous mining, blasting, etc.

Hydraulic mining, and the various processes and methods of sluicing and washing auriferous gravel and other superficial deposits.

Quarrying.

CLASS 121.—Models of mines, of veins, etc.

CLASSIFICATION.

DEPARTMENT II.—MANUFACTURES.

CHEMICALS.

CLASS 200.—Chemicals, pharmaceutical preparations.

Mineral acids, and the methods of manufacture. Sulphuric, nitric, and hydrochloric acids.

The common commercial alkalies, potash, soda, and ammonia, with their carbonates.

Salt and its production. Salt from deposits—native salt. Salt by solar evaporation from sea water. Salt by evaporation from water of saline springs or wells. Rock salt. Ground and table salt.

Bleaching powders and chloride of lime.

Yeast powders, baking powders.

CLASS 201.—Oils, soaps, candles, illuminating and other gases.

Oils from mineral, animal, and vegetable sources. Refined petroleum, benzine, naphtha, and other products of the manufacture. Oils from various seeds, refined, and of various degrees of purity. Olive oil, cottonseed oil, palm oil. Animal oils, of various kinds, in their refined state. Oils prepared for special purposes besides lighting and for food. Lubricating oils.

Soaps and detergent preparations.

Candles, stearine, glycerine, paraffine, etc., spermaceti.

Illuminating gas and its manufacture.

Oxygen gas, and its application for heating, lighting, metallurgy, and as a remedial agent.

Chlorine and carbonic acid.

CLASS 202.—Paints, pigments, dyes, colors, turpentine, varnishes, printing inks, writing inks, blacking.

CLASS 203.—Flavoring extracts, essences, perfumery, pomades, cosmetics.

CLASS 204.—Explosive and fulminating compounds; in small quantities only, and under special regulations, shown in the building only by empty cases and cartridges. Black powder of various grades and sizes. Nitroglycerine and the methods of using and exploding. Giant powder, dynamite, dualin, tri-nitroglycerine.

CLASS 205.—Pyrotechnics, for display, signaling, missiles.

CERAMICS—POTTERY, PORCELAIN, ETC.

CLASS 206.—Bricks, drain-tiles, terra cotta, and architectural pottery.

CLASS 207.—Fire clay goods, crucibles, pots, furnaces. Chemical stoneware.

CLASS 208.—Tiles, plain, enameled, encaustic; geometric tiles and mosaics. Tiles for pavements and for roofing, etc.

CLASS 209.—Porcelain for purposes of construction. Hardware trimmings, etc.

CLASS 210.—Stone china, for chemists, druggists, etc., earthenware, stoneware, faience, etc.

CLASS 211.—Majolica and Palissy ware.

CLASS 212.—Biscuit-ware, parian, etc.

CLASS 213.—Porcelain for table and toilet use, and for decoration.

GLASS AND GLASSWARE.

CLASS 214.—Glass used in construction and for mirrors. Window glass of various grades of quality and of size. Plate glass, rough, and ground or polished. Toughened glass.

CLASS 215.—Chemical and pharmaceutical glassware, vials, bottles.

CLASS 216.—Decorative glassware.

FURNITURE AND OBJECTS OF GENERAL USE IN CONSTRUCTION AND IN DWELLINGS.

CLASS 217.—Heavy furniture.—Chairs, tables, parlor and chamber suits, office and library furniture, vestibule furniture. Church furniture and decoration.

CLASS 218.—Table furniture.—Glass, china, silver, silver-plate, tea and coffee sets, urns, samovars, epergnes.

CLASS 219.—Mirrors, stained and enameled glass, cut and engraved window-glass, and other decorative objects.

CLASS 220.—Gilt cornices, brackets, picture frames, etc.

CLASS 221.—The nursery and its accessories; children's chairs, walking chairs.

CLASS 222.—Apparatus and fixtures for heating and cooking,—stoves, ranges, heaters, etc.

CLASS 223.—Apparatus for lighting,—gas fixtures, lamps, etc.

CLASS 224.—Kitchen and pantry,—utensils, tinware, and apparatus used in cooking (exclusive of cutlery).

CLASS 225.—Laundry appliances, washing machines, mangles, clothes-wringers, clothes-bars, ironing-tables.

CLASS 226.—Bath-room and water closet, shower bath, earth closet.

CLASS 227.—Manufactured parts of buildings,—sash, blinds, mantels, metal work, etc.

YARNS AND WOVEN GOODS OF VEGETABLE OR MINERAL MATERIALS.

CLASS 228.—Woven fabrics of mineral origin.—Wire cloths, sieve cloth, wire screens, bolting cloth.

Asbestos fibre, spun and woven, with the clothing manufactured from it.

Glass thread, floss, and fabrics.

CLASS 229.—Coarse fibres, of grass, rattan, cocoanut, and bark.

Matting, Chinese, Japanese, palm-leaf, grass, and rushes.

Floor cloths of rattan and cocoanut fibres, aloe fibre, etc.

CLASS 230.—Cotton yarns and fabrics, bleached and unbleached.

Cotton sheeting and shirting, plain and twilled.

Cotton canvas and duck. Awnings, tents.

CLASS 231.—Dyed cotton fabrics, exclusive of prints and calicoes.

CLASS 232.—Cotton prints and calicoes, including handkerchiefs, scarfs, etc.

CLASS 233.—Linen and other vegetable fabrics, uncolored or dyed.

CLASS 234.—Floor oil cloths, and other painted and enameled tissues, and imitation of leather, with a woven base.

WOVEN AND FELTED GOODS OF WOOL AND MIXTURES OF WOOL.

CLASS 235.—Card wool fabrics.—Yarns, broadcloth, doeskins, fancy cassimeres. Felted goods.

CLASS 236.—Flannels.—Plain flannels, domets, opera and fancy.

CLASS 237.—Blankets, robes, and shawls.

CLASS 238.—Combined wool fabrics.—Worsteds, yarns, dress goods for women's wear, delaines, serges, poplins, merinoes.

CLASS 239.—Carpets, rugs, etc.—Brussels, melton, tapestry, tapestry Brussels, Axminster, Venetian, ingrain, felted carpetings, druggets, rugs, etc.

CLASS 240.—Hair, alpaca, goat's hair, camel's hair, and other fabrics, mixed or unmixed with wool.

CLASS 241.—Printed and embossed woolen cloths, table covers, patent velvets.

SILK AND SILK FABRICS, AND MIXTURES IN WHICH SILK IS THE PREDOMINATING MATERIAL.

CLASS 242.—Cocoons and raw silk as reeled from the cocoon, thrown or twisted silks in the gum.

CLASS 243.—Thrown or twisted silks, boiled off or dyed, in hanks, skeins, or on spools.

CLASS 244.—Spun silk yarns and fabrics, and the materials from which they are made.

CLASS 245.—Plain woven silks, lutestrings, sarsnets, satins, serges, foulards, tissues for hat and millinery purposes, etc.

CLASS 246.—Figured silk piece goods, woven or printed. Upholstery silks, etc.

CLASS 247.—Crapes, velvets, gauzes, cravats, handkerchiefs, hosiery, knit goods, laces, scarfs, ties, veils, all descriptions of cut and made up silks.

CLASS 248.—Ribbons, plain, fancy, and velvet.

CLASS 249.—Bindings, braids, cords, galloons, ladies' dress trimmings, upholsterers', tailors', military, and miscellaneous trimmings.

CLOTHING, JEWELRY, AND ORNAMENTS, TRAVELING EQUIPMENTS.

CLASS 250.—Ready-made clothing, knit goods and hosiery, military clothing, church vestments, costumes, waterproof clothing, and clothing for special objects.

CLASS 251.—Hats, caps, boots and shoes, gloves, mittens, etc., straw and palm leaf hats, bonnets, and millinery.

CLASS 252.—Laces, embroideries, and trimmings for clothing, furniture, and carriages.

CLASS 253.—Jewelry and ornaments worn upon the person.

CLASS 254.—Artificial flowers, coiffures, buttons, trimmings, pins, hooks and eyes, fans, umbrellas, sunshades, walking-canes, pipes, and small objects of dress or adornment, exclusive of jewelry. Toys and fancy articles.

CLASS 255.—Fancy leather work, pocketbooks, toilet cases, traveling equipments, valises, and trunks.

CLASS 256.—Furs.

CLASS 257.—Historical collections of costumes, national costumes.

PAPER, BLANK BOOKS, AND STATIONERY.

CLASS 258.—Stationery for the desk, stationers' articles, pens, pencils, inkstands, and other apparatus of writing and drawing.

CLASS 259.—Writing paper and envelopes, blank-book paper, bond paper, tracing paper, tracing linen, tissue paper, etc., etc.

CLASS 260.—Printing paper for books, newspapers, etc.
Wrapping paper of all grades, cartridge and manilla paper, paper bags.

CLASS 261.—Blank books; sets of account books, specimens of ruling and binding, including blanks, bill heads, etc., book binding.

CLASS 262.—Cards; playing cards, cardboard, binders' board, pasteboard, paper or cardboard boxes.

CLASS 263.—Building paper, pasteboard for walls, cane fibre felt for car-wheels, ornaments, etc.

CLASS 264.—Wall papers, enamelled and colored papers, imitations of leather, wood, etc.

MILITARY AND NAVAL ARMAMENTS, ORDNANCE, FIREARMS, AND HUNTING APPARATUS.

CLASS 265.—Military small-arms, muskets, pistols, and magazine guns, with their ammunition.

CLASS 266.—Light artillery, compound guns, machine guns, mitrailleuses, etc.

CLASS 267.—Heavy ordnance and its accessories.

CLASS 268.—Knives, swords, spears, and dirks.

CLASS 269.—Firearms used for sporting and hunting, also other implements for the same purpose.

CLASS 270.—Traps for game, birds, vermin, etc.

MEDICINE, SURGERY, PROTHESIS.

CLASS 272.—Medicines; officinal (in any authoritative pharmacopœia), articles of the materia medica, preparations, unofficinal.

CLASS 273.—Dietetic preparations, as beef extract and other articles intended especially for the sick.

CLASS 274.—Pharmaceutical apparatus.

CLASS 275.—Instruments for physical diagnosis, clinical thermometers, stethoscopes, ophthalmoscopes, etc. (except clinical microscopes, etc., for which see Class 324).

CLASS 276.—Surgical instruments and appliances, with dressings, apparatus for deformities, prothesis, obstetrical instruments.

CLASS 277.—Dental instruments and appliances.

CLASS 278.—Vehicles and appliances for the transportation of the sick and wounded, during peace and war, on shore or at sea.

HARDWARE, EDGE TOOLS, CUTLERY, AND METALLIC PRODUCTS.

CLASS 280.—Hand tools and instruments used by carpenters, joiners, and for wood and stone in general. Miscellaneous hand tools used in industries, such as jewellers', engravers'.

CLASS 201.—Cutlery, knives, penknives, scissors, razors, razor straps, skates, and implements sold by cutlers.

CLASS 282.—Emery and sand paper, polishing powders, polishing and burnishing stones.

CLASS 283.—Metal hollow ware, ornamental castings.

CLASS 284.—Hardware used in construction, exclusive of tools and implements. Spikes, nails, screws, tacks, bolts, locks, latches, hinges, pulleys. Plumbers' and gas fitters' hardware, furniture fittings, ships' hardware, saddlers' hardware, and harness fittings and trimmings.

FABRICS OF VEGETABLE, ANIMAL, OR MINERAL MATERIALS.

CLASS 285.—India rubber goods and manufactures.

CLASS 286.—Brushes.

CLASS 287.—Ropes, cordage.

CLASS 288.—Flags, insignia, emblems.

CLASS 289.—Wooden and basket ware, papier mache.

CLASS 290.—Undertakers' furnishing goods, etc.

CLASS 291.—Galvanized iron work.

CARRIAGES, VEHICLES, AND ACCESSORIES.

(For farm vehicles and railway carriages, see Departments of Agriculture and Machinery.)

CLASS 292.—Pleasure carriages.

CLASS 293.—Traveling carriages, coaches, stages, omnibuses, hearses, Bath chairs, velocipedes, baby coaches.

CLASS 294.—Vehicles for movement of goods and heavy objects, carts, wagons, trucks.

CLASS 295.—Sleighs, sledges, sleds, etc.

CLASS 296.—Carriage and horse furniture, harness and saddlery, whips, spurs, horse blankets, carriage robes, rugs, etc.

CLASSIFICATION.

DEPARTMENT III.—EDUCATION AND SCIENCE.

EDUCATIONAL SYSTEMS, METHODS, AND LIBRARIES.

CLASS 300.—Elementary instruction. Infant schools and kindergartens, arrangements, furniture, appliances, and modes of training.

Public schools, graded schools, buildings and grounds, equipments, courses of study, methods of instruction, text-books, apparatus, including maps, charts, globes, etc.; pupils' work, including drawing and penmanship; provisions for physical training.

CLASS 301.—Higher education. Academies and high schools.

Colleges and universities. Buildings and grounds; libraries, museums of zoology, botany, mineralogy, art, and archeology; apparatus for illustration and research, mathematical, physical, chemical, and astronomical courses of study; text-books, catalogues, libraries, and gymnasiums.

CLASS 302.—Professional schools, theology, law, medicine, and surgery, dentistry, pharmacy, mining, engineering, agriculture, and mechanical arts, art and design, military schools, naval schools, normal schools, commercial schools, music.

Buildings, text-books, libraries, apparatus, methods, and other accessories for professional schools.

CLASS 303.—Institutions for instruction of the blind, deaf, and dumb, and the feeble-minded.

CLASS 304.—Education reports and statistics.

National bureau of education.

State, city, and town systems.

College, university, and professional systems.

CLASS 305.—Libraries, history, reports, statistics, and catalogues.

CLASS 306.—School and text-books, dictionaries, encyclopædias, gazetteers, directories, index volumes, bibliographies, catalogues, almanacs, special treatises, general and miscellaneous literature, newspapers, technical and special newspapers and journals, illustrated papers, periodical literature.

INSTITUTIONS AND ORGANIZATIONS.

CLASS 310.—Institutions founded for the increase and diffusion of knowledge. Such as the Smithsonian Institution, the Royal Institution, the Institute of France, British Association for the Advancement of Science, and the American Association, etc., their organization, history, and results.

CLASS 311.—Learned and scientific associations. Geological and mineralogical societies, etc. Engineering, technical, and professional associations. Artistic, biological, zoological, medical schools, astronomical observatories.

CLASS 312.—Museums, collections, art galleries, exhibitions of works of art and industry. Agricultural fairs, state and county exhibitions, national exhibitions. International exhibitions.

Scientific museums and art museums.

Ethnological and archeological collections.

CLASS 313.—Music and the drama.

SCIENTIFIC AND PHILOSOPHICAL INSTRUMENTS AND METHODS.

CLASS 320.—Instruments of precision, and apparatus of physical research, experiment, and illustration.

Astronomical instruments and accessories, used in observatories.

Transits, mural circles, equatorials, collimators.

Geodetic and surveying instruments. Transits, theodolites, needle compasses. Instruments for surveying underground in mines, tunnels, and excavations.

Nautical astronomical instruments. Sextants, quadrants, repeating circles, dip-sectors.

Leveling instruments and apparatus. Carpenters' and builders' levels, hand levels, water levels, engineers' levels.

Instruments for deep-sea sounding and hydrographic surveying.

Meteorological instruments and apparatus.

Thermometers, pyrometers.

Barometers.

Hygrometers and rain gauges.

Maps, bulletins.

Blanks for reports, methods of recording, reducing, and reporting observations.

CLASS 321.—Indicating and registering apparatus, other than meteorological; mechanical calculation.

Viameters, pedometers, perambulators.

Gas meters.

Water meters, current meters, ships' logs, electrical logs.

Tide registers.

Apparatus for printing consecutive numbers.

Counting machines, calculating engines, arithmometers.

CLASS 322.—Weights, measures, weighing and meteorological apparatus.

Measures of length; graduated scales on wood, metal, ivory, tape, or ribbon; steel tapes, chains, rods, verniers, rods, and graduated scales for measuring lumber, goods in packages, casks, etc., gaugers' tools and methods.

Measures of capacity for solids and liquids.

Weights. Scales and graduated beams for weighing; assay balances, chemical balances. Ordinary scales for heavy weights; weighing locomotives and trains of cars. Postal balances. Hydrometers, alchometers, lactometers, etc.; gravimeters. (*See Class 571.*)

CLASS 323.—Chronometric apparatus.

Chronometers. Astronomical clocks. Church and metropolitan clocks. Ordinary commercial clocks. Pendulum and spring clocks. Marine clocks. Watches. Ciepsydras, hour glasses, sun dials. Chronographs, electrical clocks. Metronomes.

CLASS 324.—Optical and thermotic instruments and apparatus.

Mirrors, plane and spherical.

Lenses and prisms.

Spectacles and eyeglasses, field and opera glasses, graphoscopes and stereoscopes.

Cameras and photographic apparatus.
Microscopes.
Telescopes.
Apparatus for artificial illumination, including electric, oxyhydrogen, and magnesium light.
Stereopticons.
Photometric apparatus.
Spectroscopes and accessories for spectrum analysis.
Polariscopes, etc.
Thermotic apparatus.

CLASS 325.—Electrical apparatus.
Friction machines.
Condensers and miscellaneous apparatus to illustrate the discharge.
Galvanic batteries and accessories to illustrate dynamical electricity.
Electro-magnetic apparatus.
Induction machines, Rumkorff coils, etc.
Magnets and magneto-electrical apparatus.

CLASS 326.—Telegraphic instruments and methods.
Batteries and forms of apparatus used in generating the electrical currents for telegraphic purposes.
Conductors and insulators, and methods of support, marine telegraph cables.
Apparatus of transmission; keys, office accessories, and apparatus.
Receiving instruments, relay magnets, local circuits.
Semaphoric and recording instruments.
Codes, signs, or signals.
Printing telegraphs for special uses.
Electrographs.
Dial or cadran systems.
Apparatus for automatic transmission.

CLASS 327.—Musical instruments and acoustic apparatus.
Percussion instruments, drums, tamborines, cymbals, triangles.
Pianos.
Stringed instruments other than pianos.
Automatic musical instruments, music boxes.
Wind instruments of metal and of wood.
Harmoniums.
Church organs and similar instruments.
Speaking machines.
Vocal music.

ENGINEERING, ARCHITECTURE, CHARTS, MAPS, AND GRAPHIC REPRESENTATIONS.

(For Agricultural Engineering, see Class 680.)

(For Mining Engineering, see Class 120.)

CLASS 330.—Civil engineering. Land surveying, public lands, etc.
River, harbor, and coast surveying. Construction and maintenance of roads, streets, pavements, etc. Surveys and location of towns and cities, with systems of water supply and drainage. Arched bridges of metal, stone, brick, or beton. Trussed girder bridges. Suspension bridges. Canals, aqueducts, reservoirs, construction of dams. Hydraulic engineering and means of arresting and controlling the flow of water.
Submarine constructions, foundations, piers, docks, etc.

CLASS 331.—Dynamic and industrial engineering. Construction and working of machines; examples of planning and construction of manufacturing and metallurgical establishments.

CLASS 332.—Railway engineering. Location of railways, and the construction and management of railways.

CLASS 333.—Military engineering.

CLASS 334.—Naval engineering.

CLASS 335.—Topographical map. Marine and coast charts.

Geological maps and sections.

Botanical, agronomical, and other maps, showing the extent and distribution of men, animals, and terrestrial products. Physical maps.

Meteorological maps and bulletins. Telegraphic routes and stations. Railway and route maps. Terrestrial and celestial globes. Relief maps and models of portions of the earth's surface. Profiles of ocean beds and routes of submarine cables.

PHYSICAL, SOCIAL, AND MORAL CONDITION OF MAN.

CLASS 340.—Physical development and condition.

The nursery and its accessories.

Gymnasiums, games, and manly sports. Skating, walking, climbing, ball-playing, acrobatic exercises; rowing, hunting, etc.

CLASS 341.—Alimentation. Markets; preparation and distribution of food.

CLASS 342.—The dwelling. Sanitary conditions and regulations. Domestic architecture.

Dwellings characterized by cheapness, combined with the conditions essential to health and comfort.

Fire-proof structures.

Hotels, club-houses, etc.

Public baths.

CLASS 343.—Commercial systems and appliances.

Mercantile forms and methods, counting-houses and offices.

Banks and banking.

Saving and trust institutions.

Insurance; fire, marine, life, etc.

Commercial organizations, boards of trade, merchants', produce, and stock exchanges.

Corporations for commercial and manufacturing purposes.

Railway and other transportation companies.

Building and loan associations.

CLASS 344.—Money. Mints and coining.

Collections of current coins.

Historical collections.

Tokens, etc.

Bank notes and other paper circulating mediums.

Commercial paper, bills of exchange, etc.

Securities for payment of money, stocks, bonds, mortgages, ground rents, quit rents.

Precautions against counterfeiting and misappropriation of money.

CLASS 345.—Government and law. Various systems of government.

Departments of government. Revenue and taxation, military organization, executive powers, legislative forms and authority, judicial functions and systems, police regulations, government charities.

International relations; international law; diplomatic and consular service, etc., allegiance and citizenship; naturalization.

Codes.

Municipal government.
Protection of property in inventions.
Postal system and appliances.
Punishment of crime.
Prisons and prison management and discipline; police stations; houses of correction; reform schools; naval or marine discipline; punishment at sea.

CLASS 346.—Benevolence. General hospitals.
Special hospitals for the eye and ear, for women, etc.
Hospitals for contagious and infectious diseases.
Hospitals for the insane—under State control, and private asylums.
Quarantine systems and organizations.
Sanitary regulations of cities.
Dispensaries.
Inebriate asylums.
Lying-in asylums.
Magdalen asylums.
Asylums for infants and children. Foundling and orphan asylums, children's aid societies.
Homes for the aged and infirm; homes for aged men and women; soldiers' homes; homes for the maimed and deformed; sailors' homes.
Treatment of paupers. Almshouses, feeding the poor, lodging houses.
Emigrant aid societies.
Treatment of aborigines.
Prevention of cruelty to animals.

CLASS 347.—Co-operative associations.
Political societies and organizations.
Military organizations and orders.
Trade unions and associations.
Industrial organizations.
Secret orders and fraternities.

CLASS 348.—Religious organizations and systems. Origin, nature, growth, and extent of various religious systems and faiths. Statistical, historical, and other facts.
Religious orders and societies, and their objects.
Societies and organizations for the propagation of systems of religion by missionary effort.
Spreading the knowledge of religious systems by publications.
Bible societies, tract societies, colportage.
Systems and methods of religious instruction and training for the young.
Sunday-schools, furniture and apparatus.
Associations for religious or moral improvement.
Dispensing charities, church guilds.

CLASS 349.—Art and industrial exhibitions. Agricultural fairs, state and county exhibitions, national exhibitions, international exhibitions, international congresses, etc.

CLASSIFICATION.

DEPARTMENT IV.—ART.

SCULPTURE.

CLASS 400.—Figures and groups in stone, metal, clay, or plaster.
CLASS 401.—Bas-reliefs, in stone or metal; electrotype copies.
CLASS 402.—Medals, pressed and engraved; electrotypes of medals.
CLASS 403.—Hammered and wrought work—*repoussé* and *rehaussé* work, embossed and engraved relief work.
CLASS 404.—Cameos, intaglios, engraved stones, dies, seals, etc.
CLASS 405.—Carvings in wood, ivory, and metal.

PAINTING.

CLASS 410.—Paintings in oil on canvas, panels, etc.
CLASS 411.—Water color pictures; aquarelles, miniatures, etc.
CLASS 412.—Frescoes, cartoons for frescoes, etc.
CLASS 413.—Painting with vitrifiable colors. Pictures on porcelain, enamel, and metal.

ENGRAVING AND LITHOGRAPHY.

CLASS 420.—Drawings with pen, pencil, or crayons.
CLASS 421.—Line engravings from steel, copper, or stone.
CLASS 422.—Wood engravings.
CLASS 423.—Lithographs, zincographs, etc.
CLASS 424.—Chromo-lithographs.

PHOTOGRAPHY.

CLASS 430.—Photographs on paper, metal, glass, wood, fabrics, or enamel surfaces.
CLASS 431.—Prints from photo-relief plates, carbon prints, etc.
CLASS 432.—Photo-lithographs, etc.
CLASS 433.—Photographic apparatus and supplies.

INDUSTRIAL AND ARCHITECTURAL DESIGNS, MODELS, AND DECORATIONS.

CLASS 440.—Industrial designs.
CLASS 441.—Architectural designs; studies and fragments, representations and projects of edifices; restorations from ruins and from documents.
CLASS 442.—Decoration of interiors of buildings.
CLASS 443.—Artistic hardware and trimmings, artistic castings, forged metal work for decoration, etc.

DECORATION WITH CERAMIC AND VITREOUS MATERIALS, MOSAIC AND INLAID WORK.

CLASS 450.—Mosaic and inlaid work in stone.
CLASS 451.—Mosaic and inlaid work in tiles, tessaræ, glass, etc.
CLASS 452.—Inlaid work in wood and metal, parquetry, tables, etc.
CLASS 453.—Stained glass.
CLASS 454.—Miscellaneous objects of art.

CLASSIFICATION.

DEPARTMENT V.—MACHINERY.

MACHINES, TOOLS, AND APPARATUS OF MINING, METALLURGY, CHEMISTRY, AND THE EXTRACTIVE ARTS.

CLASS 500.—Rock drilling.
CLASS 501.—Well and shaft boring.
CLASS 502.—Machines, apparatus, and implements for coal cutting.
CLASS 503.—Hoisting machinery and accessories.
CLASS 504.—Pumping, draining, and ventilating.
CLASS 505.—Crushing, grinding, sorting, and dressing. Breakers, stamps, mills, pans, screens, sieves, jigs, concentrators.
CLASS 506.—Furnaces, smelting apparatus, and accessories.
CLASS 507.—Machinery used in Bessemer process.
CLASS 508.—Chemical manufacturing machinery. Electroplating. Paint and powder mills. Blacking and soap-making machinery.
CLASS 509.—Gas machinery and apparatus.

MACHINES AND TOOLS FOR WORKING METAL, WOOD, AND STONE.

CLASS 510.—Planing, sawing, veneering, grooving, mortising, tonguing, cutting, moulding, stamping, carving, and cask-making machines, etc., cork-cutting machines.
CLASS 511.—Direct acting steam sawing machines, with gang saws. Bark mills.
CLASS 512.—Rolling mills, bloom squeezers, blowing fans. Rivet, nail, bolt, and tack making machinery.
CLASS 513.—Furnaces and apparatus for casting metals, with specimens of work.
CLASS 514.—Steam, trip, and other hammers, with specimens of work, anvils, forges, bellows.
CLASS 515.—Planing, drilling, slotting, turning, shaping, punching, stamping, cutting, and coining machines. Wheel cutting and dividing machines, emery wheels, drills, taps, gauges, dies, etc. Grindstones.
CLASS 516.—Stone-sawing and planing machines, dressing, shaping, and polishing, sand blasts, Tilghman's machines, glass-grinding machines, etc.
CLASS 517.—Brick, pottery, and tile machines. Machines for making artificial stone.
CLASS 518.—Furnaces, moulds, blowpipes, etc., for making glass and glassware.
CLASS 519.—Tools, implements, etc., for working metal, wood, and stone.

MACHINES AND IMPLEMENTS OF SPINNING, WEAVING, FELTING, AND PAPER MAKING.

CLASS 520.—Machines for the manufacture of silk goods.
CLASS 521.—Machines for the manufacture of cotton goods.
CLASS 522.—Machines for the manufacture of woolen goods, carpets, and tapestry.
CLASS 523.—Machines for the manufacture of linen goods.

CLASS 524.—Machines for the manufacture of rope and twine, and miscellaneous fibrous materials.
CLASS 525.—Machines for the manufacture of paper and felting.
CLASS 526.—Machines for the manufacture of india-rubber goods.
CLASS 527.—Machines for the manufacture of mixed fabrics.
CLASS 528.—Machines for the manufacture of wire cloth.

MACHINES, APPARATUS, AND IMPLEMENTS USED IN SEWING AND MAKING CLOTHING AND ORNAMENTAL OBJECTS.

CLASS 530.—Machines used in the manufacture of lace, floor-cloths, fancy embroidery, hair, ribbons, etc.
CLASS 531.—Sewing and knitting machines, clothes, corset, hat, and bonnet making machines.
CLASS 532.—Machines for preparing and working leather.
CLASS 533.—Machines for making boots and shoes.
CLASS 534.—Machines for ironing, drying, scouring, and cleaning.
CLASS 535.—Machines for making clocks and watches.
CLASS 536.—Machines for making jewelry.
CLASS 537.—Machines for making buttons, pins, needles, etc.
CLASS 538.—Pipes for smoking.

MACHINES AND APPARATUS FOR TYPESETTING, PRINTING, STAMPING, EMBOSSING, AND FOR MAKING BOOKS, AND PAPER WORKING.

CLASS 540.—Printing, stamping, embossing, and lithographing presses.
CLASS 541.—Typecasting machines, apparatus of stereotyping.
CLASS 542.—Types and typesetting machines. Type-writing machines.
CLASS 543.—Printers' furniture.
CLASS 544.—Bookbinding machines.
CLASS 545.—Paper-folding machines.
CLASS 546.—Paper and card cutting machines, paper box machines.
CLASS 547.—Envelope machines.

MOTORS AND APPARATUS FOR THE GENERATION AND TRANSMISSION OF POWER.

CLASS 550.—Boilers and all steam or gas generating apparatus for motive purposes.
CLASS 551.—Water-wheels, water engines, hydraulic rams, windmills.
CLASS 552.—Steam, air, or gas engines, electro-magnetic engines.
CLASS 553.—Apparatus for the transmission of power, shafting, belting, cables, transmission of power by compressed air, etc., gearing, cables.
CLASS 554.—Screw propellers, wheels for the propulsion of vessels, and other motors.
CLASS 555.—Implements and apparatus used in connection with motors. steam gauges, manometers, etc. Anti-friction metals.

HYDRAULIC AND PNEUMATIC APPARATUS, PUMPING, HOISTING, AND LIFTING.

CLASS 560.—Pumps and apparatus for lifting and moving liquids.
CLASS 561.—Pumps and apparatus for moving and compressing air or gas.
CLASS 562.—Pumps and blowing engines, blowers and ventilating apparatus.
CLASS 563.—Hydraulic jacks, presses, elevators, lifts, meters, cranes.
CLASS 564.—Fire engines, hand, steam, or chemical, and fire extinguishing apparatus, hose, ladders, and fire-escapes, etc.
CLASS 565.—Beer engines, soda-water machines, bottling apparatus, corking machines.
CLASS 566.—Stop valves, cocks, pipes, etc.
CLASS 567.—Diving apparatus and machinery.
CLASS 568.—Ice machines.

RAILWAY PLANT, ROLLING STOCK, AND APPARATUS.

CLASS 570.—Locomotives, models, drawings, plans, etc.
CLASS 571.—Carriages, wagons, trucks, cars, etc

CLASS 572.—Brakes, buffers, couplings, and snow-plows.
CLASS 573.—Wheels, tires, axles, bearings, springs, etc.
CLASS 574.—Permanent ways, ties, chairs, switches, etc.
CLASS 575.—Station arrangements, signals, water-cranes, turn-tables.
CLASS 576.—Miscellaneous locomotive attachments.
CLASS 577.—Street railways and cars.

MACHINES USED IN PREPARING AGRICULTURAL PRODUCTS.

CLASS 580.—Flour mills.
CLASS 581.—Sugar refining machines.
CLASS 582.—Confectioners' machinery.
CLASS 583.—Oil-making machinery.
CLASS 584.—Tobacco manufacturing machines.
CLASS 585.—Mills for spices, coffee, etc.
CLASS 586.—Machines for preparing fancy goods.
CLASS 587.—Machines for preparing malt and spirituous liquors.

AERIAL, PNEUMATIC, AND WATER TRANSPORTATION.

CLASS 590.—Suspended cable railways.
CLASS 591.—Transporting cables.
CLASS 592.—Balloons, flying machines, etc.
CLASS 593.—Pneumatic railways, pneumatic dispatch.
CLASS 594.—Boats and sailing vessels. Sailing vessels used in commerce. Sailing vessels used in war. Yachts and pleasure boats. Rowing boats of all kinds. Life boats and salvage apparatus, with life rafts, belts, etc. Submarine armor, diving bells, etc. Ice boats. Models and drawings.
CLASS 595.—Steamships, steamboats, and all vessels propelled by steam.
CLASS 596.—Vessels for carrying telegraph cables and railway trains, also coal barges, water boats, and dredging machines, screw and floating docks, and for other special purposes.
CLASS 597.—Steam capstans, windlass, deck-winches, and steering apparatus, fans.

MACHINERY AND APPARATUS ESPECIALLY ADAPTED TO THE REQUIREMENTS OF THE EXHIBITION.

Boilers, engines, cranes, pumps, etc.

CLASSIFICATION.

DEPARTMENT VI.—AGRICULTURE.

ARBORICULTURE AND FOREST PRODUCTS.

CLASS 600.—Timber and trunks of trees, entire or in transverse or truncated sections, with specimens of barks, leaves, flowers, seed vessels, and seed.

Masts, spars, knees, longitudinal sections of trees, railway ties, ship timber, lumber roughly sawn; as planks, shingles, lath, and staves.

Timber and lumber prepared in various ways to resist decay and combustion; as by injection of salts of copper and zinc.

CLASS 601.—Ornamental woods used in decorating and for furniture; as veneers of mahogany, rosewood, ebony, walnut, maple, and madrona.

CLASS 602.—Dyewoods, barks, and galls for coloring and tanning.

CLASS 603.—Gums, resins, caoutchouc, gutta percha, vegetable wax.

CLASS 604.—Lichens, mosses, fungi, pulu, ferns.

CLASS 605.—Seeds, nuts, etc., for food and ornamental purposes.

CLASS 606.—Forestry.—Illustrations of the art of planting, managing, and protecting forests. Statistics.

CLASS 607.—Fruit trees and shrubs.

POMOLOGY.

CLASS 610.—Fruits of temperate and semi-tropical regions; as apples, pears, quinces, peaches, nectarines, apricots, plums, grapes, cherries, strawberries, and melons.

CLASS 611.—Tropical fruits and nuts, oranges, bananas, plantains, lemons, pine-apples, pomegranates, figs, cocoanuts.

AGRICULTURAL PRODUCTS.

CLASS 620.—Cereals, grasses, and forage plants.

CLASS 621.—Leguminous plants and esculent vegetables.

CLASS 622.—Roots and tubers.

CLASS 623.—Tobacco, hops, tea, coffee, spices, condiments, herbs.

CLASS 624.—Seeds and seed vessels.

LAND ANIMALS.

CLASS 630.—Horses, asses, mules.

CLASS 631.—Horned cattle.

CLASS 632.—Sheep.

CLASS 633.—Goats, alpaca, llama, camel.

CLASS 634.—Swine.

CLASS 635.—Poultry and birds.

CLASS 636.—Dogs and cats.

CLASS 637.—Wild animals.

CLASS 638.—Insects, useful and injurious. Honey bees, cochineal, silk-worms.

MARINE ANIMALS, FISH CULTURE, AND APPARATUS.

CLASS 640.—Marine mammals.—Seals, cetaceans, etc., specimens living in aquaria, or stuffed, salted, preserved in alcohol, or otherwise.
CLASS 641.—Fishes, living or preserved.
CLASS 642.—Pickled fish, and parts of fish used for food.
CLASS 643.—Crustaceans, echinoderms, beche de mer.
CLASS 644.—Mollusks, oysters, clams, etc., used for food.
CLASS 645.—Shells, corals, and pearls.
CLASS 646.—Whalebone, shagreen, fish-glue, isinglass, sounds, fish-oil.
CLASS 647.—Instruments and apparatus of fishing.—Nets, baskets, hooks, and other apparatus used in catching fish.
CLASS 648.—Fish culture.—Aquaria, hatching pools, vessels for transporting roe and spawn, and other apparatus used in fish breeding, culture, or preservation.

ANIMAL AND VEGETABLE PRODUCTS.

(Used as food or as materials.)

CLASS 650.—Sponges, seaweed, and other growths used for food or in the arts.
CLASS 651.—The dairy.—Milk, cream, butter, cheese.
CLASS 652.—Hides, furs, and leather, tallow, oil, and lard, ivory, bone, horn, glue.
CLASS 653.—Eggs, feathers, down.
CLASS 654.—Honey and wax.
CLASS 655.—Animal perfumes; as musk, civet, ambergris.
CLASS 656.—Preserved meats, vegetables, and fruits. Dried, or in cans or jars. Meat and vegetable extracts.
CLASS 657.—Flour; crushed and ground cereals, decorticated grains.
CLASS 658.—Starch and similar products.
CLASS 659.—Sugar and syrups.
CLASS 660.—Wines, alcohol, and malt liquors.
CLASS 661.—Bread, biscuits, crackers, cakes, confectionery, cocoa, chocolate, etc.
CLASS 662.—Vegetable oils, oil cake.

TEXTILE SUBSTANCES OF VEGETABLE OR ANIMAL ORIGIN.

CLASS 665.—Cotton on the stem, in the boll, ginned, and baled.
CLASS 666.—Hemp, flax, jute, ramie, etc., in primitive forms and in all stages of preparation for spinning.
CLASS 667.—Wool in the fleece, carded, and in bales.
CLASS 668.—Silk in the cocoon and reeled.
CLASS 669.—Hair, bristles.

MACHINES, IMPLEMENTS, AND PROCESSES OF MANUFACTURE.

CLASS 670.—Tillage.—Manual implements, spades, hoes, rakes. Animal power machinery, plows, cultivators, horse-hoes, clod-crushers, rollers, harrows. Steam power machinery, plows, breakers, harrows, cultivators.
CLASS 671.—Planting.—Manual implements, corn-planters and hand-drills. Animal power machinery, grain and manure drills, corn and cotton planters. Steam power machinery, grain and manure drills.
CLASS 672.—Harvesting.—Manual implements; grain-cradles, sickles, reaping-hooks. Animal power machinery, reapers and headers. Mowers, tedders, rakes, hay elevators, and hay loaders.
Potato diggers.
CLASS 673.—Preparatory to marketing.—Thrashers, clover-hullers, corn-shellers, winnowers, hay, cotton, flax, jute, ramie, wine, oil, and sugar making apparatus. Cleaners and smutters. Horse powers.

CLASS 674.—Applicable to farm economy.—Portable and stationary engines, chaffers, hay and feed cutters, slicers, pulpers, corn mills, farm boilers and steamers, incubators, edged tools, mills, meat choppers.

CLASS 675.—Dairy fittings and appliances.—Churns for hand and power, butter-workers, cans and pails, cheese-presses, vats, and apparatus, ice-cream freezers, cedar-ware.

AGRICULTURAL ENGINEERING AND ADMINISTRATION.

CLASS 680.—Laying out and improving farms.—Clearing (stump extractors), construction of roads, draining, irrigating, models of fences, gates, drains, out-falls, dams, embankments, irrigating machinery, stack building and thatching.

CLASS 681.—Commercial fertilizers, phosphatic, ammoniacal, calcareous, etc.

CLASS 682.—Transportation.—Wagons, carts, sleds, harness, yokes, traction engines, and apparatus for road making and excavating.

CLASS 683.—Farm buildings.—Models and drawings of farm houses and tenements, barns, stables, hop-houses, fruit-driers, ice-houses, windmills, granaries, barracks, apiaries, cocooneries, aviaries, abattoirs, and dairies.

TILLAGE AND GENERAL MANAGEMENT.

CLASS 690.—Systems of planting and cultivation.

CLASS 691.—Systems of draining and application of manures.

CLASS 692.—Systems of breeding and stock feeding, training.

CLASS 693.—Veterinary surgery and appliances.

CLASSIFICATION.

DEPARTMENT VII.—HORTICULTURE.

ORNAMENTAL TREES, SHRUBS, AND FLOWERS.

CLASS 700.—Ornamental trees and shrubs, evergreens.
CLASS 701.—Herbaceous perennial plants.
CLASS 702.—Bulbous and tuberous rooted plants.
CLASS 703.—Decorative and ornamental foliage plants.
CLASS 704.—Annuals and other soft-wooded plants, to be exhibited in successive periods during the season.
CLASS 705.—Roses.
CLASS 706.—Cactacea.
CLASS 707.—Ferns, their management in the open air and in ferneries, wardian cases, etc.
CLASS 708.—New plants, with statement of their origin.
CLASS 709.—Floral designs, etc.—Cut flowers, bouquets, preserved flowers, leaves, seaweeds. Illustrations of plants and flowers.—Materials for floral designs. Bouquet materials, bouquet holders, bouquet papers, models of fruits, vegetables, and flowers.

HOTHOUSES, CONSERVATORIES, GRAPERIES, AND THEIR MANAGEMENT.

CLASS 710.—Hothouse and conservatory plants.
CLASS 711.—Fruit trees under glass.
CLASS 712.—Orchids and parasitic plants.
CLASS 713.—Forcing and propagation of plants.
CLASS 714.—Aquatic plants under glass, or in aquaria, etc.
CLASS 715.—Horticultural buildings, propagating houses, hotbeds, etc., and modes of heating them. Structures for propagating and forcing small fruits.
CLASS 716.—Portable or movable orchard houses and graperies, without artificial heat. Frames, beds.

GARDEN TOOLS, ACCESSORIES OF GARDENING.

CLASS 720.—Tools and implements.—Machines for the transplanting of trees, shrubs, etc. Portable forcing pumps, for watering plants in greenhouses and methods of watering the garden and lawn.
CLASS 721.—Receptacles for plants.—Flower pots, plant-boxes, tubs, fern cases, jardinieres, etc. Window gardening. Plant and flower stands, ornate designs in iron, wood, and wire.
CLASS 722.—Ornamental wirework, viz.: fences, gates, trellis bordering of flower beds, porches. Park seats, chairs, garden statuary, vases, fountains, etc. Designations, labels, numbers.

GARDEN DESIGNING, CONSTRUCTION, AND MANAGEMENT.

CLASS 730.—Laying out gardens.—Designs for the laying out of gardens, and the improvement of private residences. Designs for commercial gardens, nurseries, graperies. Designs for the parterre. Books on gardening.
CLASS 731.—Treatment of water for ornamental purposes, cascades, fountains, reservoirs, lakes.
CLASS 732.—Formation and after-treatment of lawns.
CLASS 733.—Garden construction, buildings, etc. — Rockwork, grottoes. Rustic constructions and adornments for private gardens and public grounds.
CLASS 734.—Planting, fertilizing, and cultivating.

DEPT. I.—MINING AND METALLURGY.

UNITED STATES.

Minerals, Ores.

Minerals, Ores, Stone, Mining Products.

1 **Cambria Iron & Steel Co., Johnstown, Pa.** W 66.
a Carbonate, fossil, and hematite ores from Johnstown, Frankstown, Marklesburg, Yellow Creek, Henrietta, and Springfield mines; specular, magnetic, red hematite, Lake Superior, and Lake Champlain ores; manganiferous Iron Mountain ores. 100
b B, C, D, and E coal from Johnstown and Bennington mines; Belgian oven and pit coke. 101
c Lime and ganister from near Hollidaysburg, Henrietta, and Ganister mines. 103

2 **Wharton, Joseph, Camden, N. J.**—Nickel ores. T 63. 100

3 **Sharswood, Wm., Philadelphia, Pa.**—T 70. 100
a Magnetic iron ore from the Moratuc Furnace mines, Danbury, N. C.; ores and minerals from North Carolina. 100
b Coal from North Carolina. 101
c Marble from North Carolina. 102
d Steatite, agalmatolite, etc. from North Carolina. 104

4 **Hatch, John, San Francisco, Cal.**—Minerals of the Pacific states and territories, Mexico, Central and South America, China, Japan, etc. T 67. 100

5 **Barton, Chas., Philadelphia, Pa.**—Ores from "Blazing Star" silver mine, Colorado. T 71. 100

6 **Adams, J. Howe, Philadelphia, Pa.**—Ore from "Blue Jacket" silver mine, Montana district, Colorado. T 71. 100

7 **Benton, Caroline C., Philadelphia, Pa.**—Iron ores from St. Lawrence and Lewis counties, N. Y. T 67. 100

8 **Foote, A. E., M.D., 3725 Lancaster** avenue, Philadelphia, Pa.—Collection of minerals; elementary collection of minerals for students illustrating principal species; all grand divisions in Dana; every chemical element; every system of crystallization; trimorphism, 100 specimens, averaging four square inches, mostly crystallized, printed label of species, composition, locality attached—$10.00; crystallized amazon stone, feldspar, quartz, Brookite, rutile rosettes, perofskite, hodrotetanite (new mineral, Koenig), schorlomite, samarskite, tellurides, copper, hexagonal graphite, embolite, aegerite, ozarkite, chlorastrolite, wavellite, peganite, etc. T 71. 100

9 **Cleveland Rolling Mill Co., Cleveland, Ohio.**—Ores. T 60. 100

11 **Wyoming Historical & Geological** Society, Wilkesbarre, Pa.—Fossils from the anthracite coal measures of Wyoming Valley, Pa. T 70. 100

12 **Cook, Isaac, St. Louis, Mo.—Lead** ores from Washington county, Mo. T 68. 100

13 **Port Henry Iron Ore Co., J. B.** Brinsmade, Treasurer, 56 Broadway, New York, N. Y.—Magnetic iron ores, "Twenty-one," puddling, and furnace ore; "Fisher" Bessemer ore. T 71. 100

14 **Witherbees, Sherman, & Co., Port** Henry, Essex County, N. Y.—Old bed puddling and furnace ore, and new bed Bessemer ore. T 71. 100

15 **Black Band Iron Co., Marietta, O.**—Black band, red hematite, and other iron ores. V 63. 100

16 **Brown & Co., Wayne Iron & Steel** Works, Pittsburg, Pa.—Ores. T 62. 100

17 **Lucy Furnace Co., Pittsburg, Pa.**—Iron ores. T 66. 100

18 **Providence Franklin Society, Providence, R. I.**—Minerals and geological specimens from Rhode Island. T 70. 100

19 **Lombard, Thos. C., New York, N.** Y.—Galena from Tudor mine, Hastings county, Ont. T 71. 100

20 **Hussey & Howe Mining Co., Plattsburg, N. Y.**—Blue magnetic iron ore (martite); black magnetic iron ore. T 69. 100

21 **Alexander, John S., Philadelphia,** Pa.—Collection of minerals. P 68. 100

22 **Passaic Zinc Co., Passaic, N. J.**—Zinc ores. T 63. 100

23 **Magnetite Iron Co., Philadelphia, Pa.**—Bessemer ores; minerals from Carter county, Tenn. T 69. 100

24 **Crab Orchard Iron Co., Philadelphia, Pa.**—Magnetic Bessemer iron ores from Crab Orchard, Tenn. T 69. 100

25 **Herr, Jos. C., Philadelphia, Pa.**—Hematite iron ores, manganese, and baryta from French Broad River, Cocke county, Tenn. T 69. 100

26 **Davis, O. W., jr., Bangor, Maine.**—Katahdin ores (limonite). T 69. 100

26*a* **Fleming, F. N. & J. S., Goochland** C. H., Va.—T 68.
a Minerals, especially gold ores. 100
b Mineral waters. 107

27 **Thomas Iron Co., Hokendauqua, Pa.**—Iron ore. T 64. 100

28 **Lehigh Zinc Co., Bethlehem, Pa.**—Zinc ores and minerals from zinc mines. T 64. 100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores.

29 Virginia Mineral Bureau, Alexandria, Va.—Collection of minerals of Virginia and West Virginia. X 62. 100

30 Stockbridge Iron Co., New Bedford, Mass.—Iron ore from West Stockbridge and Richmond, Mass. T 70. 100

31 Dexter & Co., New York, N. Y.—Mica from North Carolina. T 72. 100

32 Minong Mining Co., Detroit, Mich.—Native copper, etc. V 67. 100

33 Shalter, R. M., Carrick Furnace, Franklin county, Pa.—Iron ore. T 63. 100

34 Shelby Iron Co., Shelby Iron Works, Ala.—Iron ores. T 71. 100

35 Rockhill Iron & Coal Co., Philadelphia, Pa.—T 72 *and* Y 56.
a Iron ores. 100
b Semi-anthracite coal; coke. 101

36 Tecumseh Iron Co., Tecumseh, Ala. Willard Warner, President and Manager; A. E. Buck, Treasurer, Atlanta, Ga.—Pig iron, iron ore, charcoal, limestone. T 70. 100

36*a* Smith, J. C., Chicago, Ill.—Minerals of Jo Daviess county. V 72. 100

37 New River Railroad, Mining, & Manufacturing Co. of Virginia, Philadelphia, Pa.—Iron ores and other minerals. T 50. 100

37*a* Cosgriff, A., Tilly Foster Iron Mines, N. Y.—Magnetic iron ore. Y 62. 100

37*b* South & North Alabama Railroad, Montgomery, Ala.—Y 60 *and* T, 57.
a Iron ore and minerals. 100
b Coal and coke. 101

38 Lackawanna Iron & Coal Co., Scranton, Pa.—Iron ores. T 63. 100

39 Carpenter, Charles, Kelley's Island, Ohio.—Geological rocks. V 63. 100

40 Lake Superior Iron Co., Marquette county, Mich.—Iron ore. T 70. 100

41 Kentucky Geological Survey.—Collection illustrating the geology and mineral resources of Kentucky. X 65. 100

42 Allen, Oliver, Mumford, N. Y.—Petrified wood, leaves, ferns, etc., found on his premises. T 72. 100

43 Vesuvius Furnace, Etna Iron Works, Ironton, Ohio.—Iron ore. T 68. 100

44 Etna Furnace, Etna Iron Co., Hanging Rock, Ohio.—Iron ore. T 68. 100

45 Blanche Furnace, Etna Iron Works, Ironton, Ohio.—Iron ores. T 68. 100

46 Hecla Iron & Mining Co., John Campbell, President, Ironton, O.—Iron ores. T 68. 100

47 Monitor Furnace Co., Ironton, O.—Iron ores. T 68. 100

48 Grant Furnace, W. D. Kelley & Sons, Ironton, O.—Iron ores. T 68. 100

49 Center Furnace, W. D. Kelley & Sons, Ironton, O.—Iron ores. T 68. 100

49*a* Pennsylvania Geological Survey (by John B. Pease).—Scientific collection of rocks, minerals, models, and maps illustrating the geology of Pennsylvania. V 70. 100

50 Howard Furnace, Charcoal Iron Co., Ironton, O.—Iron ores. T 68. 100

50*a* Benton, Lewis F., Antwerp, N. Y.—Lead ore. T 70. 100

51 Buckhora Furnace, Charcoal Iron Co., Ironton, O.—Iron ores. T 68. 100

52 Olive Furnace, Campbell, McGugin, & Co., Ironton, O.—Iron ores. T 68. 100

53 Lawrence Furnace Co., Ironton, O.—Iron ores. T 68. 100

53*a* Ward, L. B., Niles, O.—V 61 *to* 63.
a Iron ore. 100
b Coal. 101

54 Pine Grove Furnace, Means, Kyle, & Co., Hanging Rock, O.—Iron ores. T 68. 100

55 Ohio Furnace, Means, Kyle, & Co., Hanging Rock, O.—Iron ores. T 68. 100

56 Washington Furnace, Union Iron Co., Portsmouth, O.—Iron ores. T 68. 100

56*a* Chaffin, Staples, & Co., Richmond, Va.—Ores. T 56. 100

57 Scioto Furnace, L. C. Robinson & Co., Portsmouth, O.—Iron ores. T 68. 100

58 Bloom Furnace, John Paul & Co., Portsmouth, O.—Iron ores. T 68. 100

59 Clinton Furnace, W. I. Bell, Wheelersburg, O.—Iron ores. T 68. 100

59*a* Selma & Alabama Railroad, Montgomery, Ala.—Y 60.
a Iron ore. 100
b Section of coal-beds. 101

60 Buckeye Furnace Co., Jackson, O.—Iron ores. T 68. 100

61 Cambria Furnace, D. Lewis & Co., Samsonville, O.—Iron ores. T 68. 100

62 Jackson Furnace, L. P. N. Smith's Heirs, Sciotoville, O.—Iron ores. T 68. 100

62*a* Wallis, Jno. G., Fulton, Ark.—Sulphate of antimony and argentiferous galena. N 55. 100

63 Jefferson Furnace Co., Oak Hill, O.—Iron ores. T 68. 100

64 Orange Furnace, Orange Iron Co., Jackson, O.—Iron ores. T 68. 100

65 Star Furnace Co., Jackson, O.—Iron ores. T 68. 100

66 Huron Furnace, Huron Iron Co., Jackson, O.—Iron ores. T 68. 100

67 Tropic Furnace Co., Jackson, O.—Iron ores. T 68. 100

68 Globe Furnace, Globe Iron Co., Jackson, O.—Iron ores. T 68. 100

69 Fulton Furnace, Globe Iron Co. Jackson, O.—Iron ores. T 68. 100

69*a* Liking Iron Co., Newark, O.—V 63.
a Iron ore. 100
b Coal. 101
c Flux and slag. 103

70 Wellston Twin Furnaces, Wellston Coal & Iron Co., Wellston, O.—Iron ores. T 68. 100

70*a* Hannibal & St. Joseph Railroad, Hannibal, Mo.—Minerals, etc. from the line of the road. V 65. 100

70*b* St. Louis & Iron Mountain Railroad, St. Louis, Mo.—Minerals, etc. from the line of the road. T 60. 100

71 Lincoln Furnace, I. M. McGhee's Estate, Rud's Mills, O.—Iron ores. T 68. 100

72 Richland Furnace Co., Richland P. O., O.—Iron ores. T 68. 100

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Minerals, Ores, Stone.

73 **Eagle Furnace, L. C. Damarin & Co.,** Rud's Mills, O.—Iron ores. T 68. 100

74 **Hope Furnace, L. C. Damarin & Co.,** Portsmouth, O.—Iron ores. T 68. 100

75 **Hamden Furnace, L. C. Damarin & Co.,** Portsmouth, O.—Iron ores. T 68. 100

75*a* **Marietta, Pittsburg, & Cleveland** Railway, Marietta, O.—Minerals and ores. V 63. 100

76 **Vinton Furnace, Bancroft, Rader, &** Co., Vinton Station, O.—Iron ores. 100

77 **Keystone Furnace Co., Portsmouth,** O.—Iron ores. T 68. 100

78 **Monroe Furnace, Union Iron Co.,** Portsmouth, O.—Iron ores. T 68. 100

79 **Latrobe Furnace, Bundy & Cobb,** Berlin Cross Roads, O.—Iron ores. T 68. 100

79*a* **Barnes, Lewis, Philadelphia, Pa.**—Manganiferous iron ore, from Warren county, N. J. T 50. 100

80 **Logan Furnace Co., Logan county,** O.—Iron ores. T 68. 100

81 **Union Furnace, Brooks & Hueston,** Haydensville, O.—Iron ores. T 68. 100

82 **Mount Savage Furnace, Lexington** & Carter county Mining & Manufacturing Co., Lexington, Ky.—Iron ores. T 68. 100

83 **Buffalo Furnace, Culbertson, Earhart, & Co.,** Greenupsburg, Ky.—Iron ores. T 68. 100

84 **Hunnewell Furnace, Eastern Kentucky Railway Co.,** Riverton, Ky.—Iron ores. T 68. 100

85 **Pennsylvania Furnace, Eastern Kentucky Railway Co.,** Riverton, Ky.—Iron ores. T 68. 100

86 **Charlotte Furnace Co.,** Riverton, Ky.—Iron ores. T 68. 100

87 **Laurel Furnace, Robt. Scott & Co.,** Riverton, Ky.—Iron ores. T 68. 100

88 **Gallia Furnace, Norton, Campbell, &** Co., Portsmouth, O.—Iron ores. T 68. 100

88*a* **Iowa, State of.**—Minerals, ores, etc. of Iowa. V 59. 100

89 **Raccoon Furnace, Raccoon Mining** & Manufacturing Co., Riverton, Ky.—Iron ores. T 68. 100

90 **Tygert's Valley Mining Co.,** Riverton, Ky.—Section of iron ore. T 68. 100

90*a* **Chester Iron Co., Chester, N. J.**—Iron ore. T 64. 100

91 **Bellefonte Furnace, Means, Russell,** & Means, Ashland, Ky.—Iron ores. T 68. 100

92 **Buena Vista Furnace, Means & Co.,** Ashland, Ky.—Iron ores. T 68. 100

93 **Trigg Furnace, D. Hillman & Sons,** Empire Iron Works, Ky.—Iron ores. T 68. 100

93*a* **Lowe, S. B., Chattanooga, Tenn.**—Ores. X 63. 100

94 **Center Furnace, D. Hillman & Sons,** Empire Iron Works, Ky.—Iron ores. T 68. 100

96 **Hanging Rock Iron Region, Ironton,** O.—Iron ores. T 68. 100

97 **Traber & Aubery, Cincinnati, O.**—Iron ores from twenty-five states and territories. T 68. 100

98 **Borden, William W., New Providence,** Ind.—Fossils of Clark county, Ind., and stone. X 60. 100

99 **Cooper, Hewitt, & Co., New York,** N. Y. T 66.
a Iron ores. 100
b Fuels. 101

100 **Ohio Coal Co., Marietta, O.**—V 63.
a Coal. 100
b Coke. 101

101 **Rhodes & Co., Cleveland, O.**—V 61 *to* 63.
a Lake Superior iron ores. 100
b Massillon, Ohio, coals. 101

102 **Poplar Creek Mineral Railroad Co.,** Philadelphia, Pa.—T 69.
a Iron ores, etc., from Anderson county, Tenn. 100
b Coal from Anderson county, Tenn. 101

103 **Durham Iron Co., Riegelsville, Pa.**—T 64.
a Ores. 100
b Fuel. 101

104 **Glendon Iron Co., Easton, Pa.**—T 64.
a Iron ores. 100
b Fuel. 101

105 **Mahoning Valley Centennial Association,** Youngstown, O.—V 63.
a Ores. 100
b Coal. 101
c Limestone. 103

106 **Bye, E. Mortimer, Wilmington,** Del.
a Iron ore. (Titaniferous magnetic.) *Chrome ore.* (Rock and sand.) 100
b Maryland "verde antique" marble (serpentine), various shades of green, handsomely blended; takes a brilliant polish, does not fade or weather, and is adapted for all kinds of ornamental work. T 70. 102

107 **Northampton Furnace,** worked by the Bethlehem Iron Co., Bethlehem, Pa.—T 64.
a Iron ores. 100
b Fuel. 101

108 **Lehigh Iron Co., Allentown, Pa.**—T 64.
a Iron ore. 100
b Coal. 101

109 **Emaus Iron Co., Allentown, Pa.**—T 64.
a Iron ore. 100
b Fuel. 101

111 **Allentown Rolling Mill Co., Allentown, Pa.**—T 64.
a Ores. 100
b Fuel. 101

112 **Carbon Iron Co., Parryville, Pa.**—T 64.
a Iron ore. 100
b Fuel. 101

113 **Philadelphia and Reading Coal and Iron Co., Philadelphia, Pa.**—T 72 *and* Y 56.
a Iron ores. 100
b Coals for smelting and steam purposes. 101

114 **Grand Tower Mining, Manufacturing, and Transportation Co., Grand Tower, Ill.**—T 68.
a Ores. 100
b Fuel. 101

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores, Stone.

115 Ironton Furnace Iron & Steel Co., Ironton, O.—T 68.
- *a* Iron ores. 100
- *b* Bituminous coal. 101

116 Belfont Furnace, Belfont Iron Works, Ironton, O.—T 68.
- *a* Iron ores. 100
- *b* Bituminous coals. 101

117 Ophir Furnace Co., Jackson, O.—T 68.
- *a* Iron ores. 100
- *b* Jackson county stone coal. 101

118 Norton Iron Works, Ashland, Ky.—T 68.
- *a* Iron ores. 100
- *b* Coals and coke. 101

119 Ashland Furnace, Lexington & Big Sandy Railroad Co., Ashland, Ky.—T 68.
- *a* Iron ores. 100
- *b* Coals. 101

120 Powel, Robert Hare, & Co., 424 Walnut street, Philadelphia, Pa.—X 54.
- *a* Iron ores. 100
- *b* Semi-bituminous and gas coals, from the Powelton estate, Pennsylvania. 101

121 Union Iron Co. of Buffalo, Buffalo, N. Y.—T 64 *and* U 60 *outside*.
- *a* Iron ores. 100
- *b* Limestone. 103

122 Woodstock Iron Co., Anniston, Ala.—T 63.
- *a* Iron and manganese ores. 100
- *b* Limestone. 103

123 Saucon Iron Co., Hellertown, Pa.—T 64.
- *a* Hematite and magnetic ore. 100
- *b* Limestone. 103

123*a* Selma, Rome, & Dalton Railroad (by S. W. Baird), Cincinnati, O.—X 64.
- *a* Copper and iron ores. 100
- *b* Coal. 101
- *c* Slate, marble, and limestone. 102
- *d* Fire clay. 104

124 Andrews, Hitchcock, & Co., Cleveland, O.—V 61 *to* 64.
- *a* Lake Superior iron ores. 100
- *b* Brier Hill coal. 101
- *c* Limestone. 103

125 Duncan, John W., Philadelphia, Pa.—T 72.
- *a* Iron ores. 100
- *b* Clays. 104

126 Peru Steel & Iron Co., Clintonville, N. Y.—T 63.
- *a* Iron ore. 100
- *b* Graphite ore. 105

127 Thomas, W. H. B., Mount Holly, N. J.—T 68.
- *a* Minerals. 100
- *b* Marls for fertilizing purposes; mineral waters from New Jersey. 107

127*a* Brooke, E. & G., Birdsboro', Pa.—T 67.
- *a* Magnetic and hematite iron ores. 100
- *b* Anthracite coal. 101

128 Myers, A. J., Shenandoah Alum Springs, Va.—T 67.
- *a* Minerals, ores. 100
- *b* Mineral spring waters, chalybeate, iron, and sulphur waters. 107

128*a* Andover Iron Co., Phillipsburg, N. J.—T 64.
- *a* Iron ores. 100
- *b* Coal. 101
- *c* Limestone and slags. 103

129 Crane Iron Co., Catasauqua, Pa.—T 64.
- *a* Hematite and magnetic iron ores. 100
- *b* Fuel. 101
- *c* Limestone. 103

130*a* Chattanooga Mineral District, Chattanooga, Tenn.—X 63.
- *a* Iron and copper ores; gold quartz. 100
- *b* Coal. 101
- *c* Marble. 102

131 Lehigh Valley Iron Co., Copley, Pa.—T 64.
- *a* Hematite and magnetic ore. 100
- *b* Fuel. 101
- *c* Limestone. 103

132 Ohlton Coal Co., Youngstown, O.—V 63.
- *a* Black band ore mixed with coal. 100
- *b* Mineral ridge coal. 101

132*a* Glasgow & Port Washington Iron & Coal Co., Port Washington, O.—V 61 *and* W 64.
- *a* Ores. 100
- *b* Coal. 101

133 Alice Furnace, Etna Iron Works, Hanging Rock, Ohio.—T 68.
- *a* Iron ores. 100
- *b* Bituminous coal and coke. 101
- *c* Limestone. 103

133*a* Coleraine Iron Co., Northampton county, Pa.—T 64.
- *a* Iron ore. 100
- *b* Coal. 101

134 Hanging Rock Iron Region Furnaces, Charles Campbell, Commissioner, Ironton, O.—T 69.
- *a* Iron ores. 100
- *b* Cinders, bituminous coals. 101
- *c* Limestone. 103
- *d* Fire clay. 104

135 Tuscarawas Coal & Iron Co., Cleveland, O.—T 71.
- *a* Iron ores. 100
- *b* Coal. 101
- *c* Limestone. 103
- *d* Sand, fire clay. 104

136 Mount Vernon Furnace, Hiram Campbell & Sons, Ironton, O.—T 68.
- *a* Iron ores. 100
- *b* Bituminous coals. 101
- *c* Limestone. 103
- *d* Fire clay. 104

137 Milton Furnace & Coal Co., Wellston, O.—T 68.
- *a* Iron ores. 100
- *b* Coals. 101
- *c* Limestone. 103
- *d* Fire clay. 104

138 Huntingdon & Broad Top Railroad Co., Philadelphia, Pa.—V 56.
- *a* Iron ores. 100
- *b* Coal. 101
- *c* Limestones. 103
- *d* Fire clays. 104

139 State of Wisconsin.—V 60.
- *a* Minerals, soils, etc. 100
- *b* Building stone. 102
- *c* Sands, gravel. 104

140 State of Ohio (by F. W. Green).—V 61 *to* 63.
- *a* Minerals, ores. 100
- *b* Stone. 102
- *c* Clay, etc. 104

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Minerals, Ores, Coal.

141 State of New Jersey (by Geo. H. Cook, State Geologist, New Brunswick, N. J.).—T 70.
a Iron, zinc, and copper ores; minerals, geological suite. 100
b Building stones. 102
c Clays and sands. 104
d Fertilizers. 107

142 State of Indiana (by E. T. Cox, State Geologist).—V 58.
a Hydrated brown oxide iron ores. 100
b Bituminous and cannel coal from various mines. 101
c Marble of various colors, oölitic building stone, limestone, sandstone, limestone flags, hydraulic stone. 102
d Hydraulic cement, caustic lime. 103
e Fire, white porcelain, and potters' clay; sand. 104

143 State of Michigan (Jay A. Hubbell, Houghton, Mich., Superintendent of Mineral Department).—V 67.
a Minerals, ores, geological collections, etc. 100
b Bituminous and cannel coal. 101
c Hewn, sawed, and polished building stone, marbles, and slates. 102
d Lime and cement. 103
e Clays and silex for glass manufacturers; sandstone, etc. 104
f Mineral waters, natural brines, gypsum, marls, etc. 107

144 State of Delaware (by J. P. Comegys, Dover, Del.).—V 55.
a Iron ore. 100
b Building stone. 102
c Clays. 104
d Natural woods. 600
e Fruits. 610
f Cereals. 620
g Peas, beans, potatoes, turnips. 621

145 State of Missouri (collective exhibit, by Thos. Allen, President State Board Centennial Managers, St. Louis, Mo.).—V 65 *and* T 60.
a Iron, lead, zinc, copper, and nickel ores, barytes, feldspar, and soils. 100
b Coal. 101
c Stone. 102
d Clays, sand, ochres, and kaolin. 104
e Tripoli. 106
f Peanuts. 605
g Wheat, rye, oats, barley, and corn. 620
h White beans and black-eyed peas. 621
i Millet. 624
j Cotton. 665
k Flax and hemp. 666
l Wool. 667
m Silk. 668

146 Cochran, John M., & Co., Bradford, Pa.—Connellsville bituminous coal and coke. T 56. 101

147 Foster Coal Co., Youngstown, O.—Coal. V 63. 101

148 Kittaning Coal Co., 125 South Fourth street, Philadelphia, Pa.—Clearfield bituminous coal, for steam and manufacturing purposes. Y 56 *and* T 72. 101

149 Westmoreland Coal Co., 230 South Third street, Philadelphia, Pa.—Bituminous coal from the Pittsburg seam, for manufacture of gas and iron, and for locomotive fuel. Y 58. 101

149*a* Warwick, John G., Massillon, O.—Coal from Warmington mines. V 63. 101

150 Penn Gas Coal Co., Westmoreland county, Pa.—Section of bituminous coal-vein. T 72 *and* Y 56. 101

150*a* Sparks, Westwater, & Co., Columbus, O.—Coal from Muskingum county. V 63. 101

151 Van Wickle, Stout, & Co., New York, N. Y.—Anthracite coal from Ebervale, Pa. W 53. 101

152 Kyle Coal Co., Youngstown, O.—Coal. V 63. 101

153 Linderman, G. B., Bethlehem, Pa.—Anthracite coal. T 64. 101

154 Newton, Jotham, New York, N. Y.—Composition fuel made of coal-dust. T 57. 101

155 Union Mining Co., of Alleghany county, Md.—Coal. X 58. 101

155*a* Stoner, Hitchman, & Co., Mt. Pleasant, Pa.—Coal and coke. X 57. 100

156 Anthracite Fuel Co., Rondout, N. Y.—Pressed anthracite coal. Y 54. 101

156*a* Hutchinson, A. A., & Bro., Pitts-burg, Pa.—Coke. X 56. 101

157 Hickory Coal Co., Pottsville, Pa.—Samples of coal. W 55. 101

158 Harleigh Coal Co., Philadelphia, Pa.—Samples of coal. W 55. 101

158*a* Lawton, Burnett, & Co., East Pal-estine, Ohio.—Bituminous coal, from Columbia county, O. V 61 *to* 63. 101

158*b* Draper, John W., Pottsville, Pa.—Anthracite coal. W 56. 101

159 Excelsior Coal Mining Co., Phila-delphia, Pa.—Samples of coal. W 55. 101

160 Garretson, Theodore, Philadelphia, Pa.—Coal from the Girard colliery. W 55. 101

161 Wadsworth Coal Co., Akron, O.—Coal from Medina county, O. V 63. 101

162 Blauvelt, Jas. C., Marietta, O.—Bituminous coal from Marietta Run, Ohio. V 61 *to* 64. 101

162*a* Hurd Coal & Iron Co., Columbus, O.—Bituminous coal from Perry county, O. V 63. 101

163 Lexington & Carter county Mining & Manufacturing Co., Lexington, Ky.—Section of bituminous coal. T 68. 101

163*a* Church Hill Coal Co., Youngs-town, O.—Coal from Briar Hill. V 63. 101

163*b* Burton, J. P., Massillon, O.—Coal. V 63. 101

163*c* Andrews & Hitchcock, Youngs-town, O.—Briar Hill block coal. V 61 *to* 63. 101

163*d* Huddell & Seitzinger, Philadel-phia, Pa.—Anthracite coal from Draper's colliery. W 58. 101

164 Keys, John, Brockwayville, Pa.—Lump of bituminous coal. Y 56. 101

164*a* Suydam, M. A. & Co., Columbus, O.—Coal from Straitsville Mining Company. V 63. 101

165 Eastern Kentucky Railway, River-ton, Ky.—Sections of cannel and bituminous coals. T 68. 101

165*a* Hayden, P., Columbus, O.—Coal from Hocking county. V 63. 101

165*b* Steubenville Coal Company, Steu-benville, O.—Bituminous coal. V 63. 101

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Coal, Stone.

165*c* Pomeroy Coal Company, Pomeroy, O.—Coal. V 63. 101

165*d* Brooks, W. B., & Son, Hocking county, O.—Coal. V 63. 101

165*e* Newark Coal Company, Newark, O.—Cannel coal. V 63. 101

166 Dysart & Co., Philadelphia, Pa.—Bituminous white ash coal from Cambria county, Pa. Y 57. 101

166*a* Franklin Coal Company, Akron, O.—Coal from Summit county. V 63. 101

166*b* Fitch, E. A., Columbus, O.—Coal from Athens county. V 63. 101

166*c* Howells, Anthony, Massillon, O.—Coal from Pigeon Run. V 63. 101

167 Kimes, J. B., & Co., Philadelphia, Pa.—Slate mantels, house decorations, building material. T 50. 102

168 Williams Marble & Slate Mantel Co., Philadelphia, Pa.—Marble and marbleized slate mantels, etc. T 48. 102

169 Wilson & Miller, Philadelphia, Pa.—Marbleized slate mantels, etc.; plain slate work. T 51. 102

171 Hayes, Coulter, & Co., Philadelphia, Pa.—Slate mantels with grates. T 59. 102

172 Dougherty, E. D., Philadelphia, Pa.—Blocks of Dougherty marble of Tennessee, rough and polished; pedestals, slabs, etc. The Dougherty marble is used in the U. S. Capitol, Treasury, South Carolina State House, and over one hundred and fifty other buildings, public and private, in all parts of the country. Operated since 1853. Quarry in Doughertyville, Hawkins county, Tenn. T 49. 102

172*a* Peninsula Stone Co., Peninsula, O.—Building stone. V 63. 102

173 Columbian Marble Co., Rutland, Vt.—Marble wainscoting, pedestal, tiling, etc. T 54. 102

174 Van Gunden, Young, & Drumm, Philadelphia, Pa.—Vermont marble tablets and rustic monument; Italian marble. T 47. 102

175 Innis, G. S., Warden of Ohio Penitentiary, Columbus, O.—Limestone from State quarries at Columbus, O. V 61 *to* 64. 102

175*a* Field, F. K., Philadelphia, Pa.—North River, Pennsylvania, and Virginia blue stone. T 53. 102

176 Gurney, H. D., St. Paul, Minn.—Minnesota granite—red, white, and blue. T 50. 102

177 Forest City Stone Co., Cleveland, O.—Sawed stone flagging. T 54. 102

178 Chase, M. K., Bluehill, Maine.—Cut granite pedestal. (*Nave.*) 102

179 Martin, H. F., Allentown, Pa.—Slate mantels and blackboards, school slates, etc. T 51. 102

180 Chandler, C.H., Brownville, Maine.—Roofing slate. T 51. 102

181 Allen, James T., & Co., Philadelphia, Pa.—Scagliola and Marezzo marble for interior decoration. T 54. 102

182 Fauchere, A. L., & Co., New York, N. Y.—Marble mantels, etc. T 50. 102

183 Williams, Chas., St. Louis, Mo.—Tennessee, Italian, and Missouri marble work; jewel box. T 53. 102

183*a* Barker, H., & Bro., Philadelphia, Pa.—Pedestal of Massachusetts granite. (*Nave.*) 102

184 Denton, Drake W., Office, 17 North Front street, Philadelphia, Pa.—Excelsior fire and water-proof slate roofing, and flax waste-composition batting. All orders promptly attended to. T 56. 102

185 Tillson, Davis, Rockland, Maine.—Plain, polished, and ornamental granite work. T 51. 102

185*a* Finnigan, M., Cincinnati, O.—Buena Vista stone. V 61 to 63. 102

185*b* Fish, W., & Co., Columbus, O.—Stone from Portsmouth and Black Lick, Ohio. W 63. 102

185*c* Finch, Pruyn, & Co., Glens Falls, N. Y.—Block of marble. T 51. 102

186 Maine Slate Co., Skowhegan, Maine.—Roofing slate, dark, rich, lustrous, unfading color, unequaled elasticity, toughness, and strength, wonderful rift and smoothness of surface. T. H. Dinsmore, *Business Manager.* T 53. 102

187 Chapman Slate Co., Bethlehem, Pa.—Roofing slate, flagging, stairways, blackboards, posts, door and window sills, mantels. T 64. 102

188 Lehigh Slate Co., Slatington, Pa.—Roofing and school slate, mantels, blackboards, bath tubs; bureau, table, and washstand tops. T 64. 102

188*a* Hinsdale, Doyle, & Co., New York, Granite monuments. T 72. 102

188*b* Fisher & Bird, New York, N. Y.—Marble mantels. T 50. 102

188*c* Howell, C. M., Lancaster, Pa.—Marble monuments. Y 60. 102

189 Allentown Slate Mantel Co., Allentown, Pa.—Slate mantels. T 51. 102

189*a* Hinton, David, Xenia, O.—Building limestone. V 61 *to* 64. 102

189*b* Caguires, Frank, Chicago, Ill.—Antique vase of limestone. T 53. 102

190 Carpenter & Raymond, Cambridge City, Ind.—Monumental work. T 71. 102

191 McDonald, Alexander, Cambridge, Mass.—The Centennial Cascade, a rustic rockwork surmounted by a cross (granite from Glen quarries, Mason, N. H., carved at Cambridge, Mass.), exhibiting fine quality of this granite and its capabilities for carved and polished work. N 56 *and* T 67. 102

191*a* Bosler, Marcus, Dayton, O.—Limestone. V 61 *to* 63. 102

191*b* Ballard & Galloway, Finley, O.—V 61 *to* 63.
a Building limestone. 102
b Lime, and water lime rock. 103

192 Bodwell Granite Co., Rockland, Maine.—Granite samples. T 72. 102

193 Brinton, Joseph H., Thornbury P. O., Pa.—Serpentine stone from quarries in Chester county, Pa. T 55. 102

194 Scorgie, Wight, & Co., Cambridge, Mass.—Polished granite fountain. U 48. 102

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Stone.

195 Struthers, W., & Sons, Philadelphia, Pa.—Mantels, font, group of birds in Caen stone; alto-relief in statuary, marble, sandstone, font, specimens of foreign marbles and native plaster; models for public buildings; specimens of native granites, marbles, and sandstones. T 25. 102

196 Pennsylvania Marble Co., Philadelphia, Pa.—Black marble mantel, book, and tiles. T 51. 102

197 Brown, E. F., Commandant Soldiers' Home, Dayton, O.—Stone from quarries on grounds of National Soldiers' Home. V 61 *to* 63. 102

197*a* Barker, Henry, & Sons, Quincy, Mass.—Quincy granite pedestal. (*Nave.*) 102

198 Rutland Marble Co., West Rutland, Vt.—Wrought and unwrought marble. T 59. 102

199 Maine Red Granite Co., Red Beach, Maine (G. G. McGlashan, superintendent).—Specimen block of red granite from top sheet of quarry. T 55. 102

199*a* Graves Brothers, Birmingham, O.—V 63.
a Building stone. 102
b Grindstones. 106

200 Columbia Slate Co., Slatington, Pa.—Manufactured Washington vein roofing slate. T 54. 102

201 Martin, F. O., St. George, Maine.—Block of dressed granite. T 64. 102

202 Wells, Chas. B., Marietta, O.—Sandstone for building purposes. T 64. 102

203 St. Johnsbury Granite Co., St. Johnsbury, Vt.—Granite monument and tablet.—T 56. 102

204 Merrille, Adams H., Williamsburgh, Maine.—Roofing slate. T 50. 102

207 Clemons, C. H., Sandusky, O.—Limestone. V 61 *to* 63. 102

208 Concord Granite Co., Quincy, Mass.—Granite pedestal. N 48. 102

209 Sheldons & Slason, West Rutland, Vt.—Pedestal of statuary and blue mottled marble. V 54. 102

210 Davis, I. J., Newark, O.—White and red sandstone. V 61 *to* 63. 102

211 McNally, William G., Cleveland, O.—Coat-of-arms of Ohio, carved from Berea stone. (*Ohio State Building.*) 102

211*a* Portland Brown Stone Quarries, Portland, Conn.—Stoops and doorways of Connecticut brown stone. (*Outside.*) 102

211*b* King, T. H., Trumansburg, N. Y.—Flag stones. (*Outside.*) 102

211*c* Stotler, D. C., Piqua, O.—Building limestone. V 61 *to* 64. 102

211*d* Strom & De Planque, New York, N. Y.—Marble table top and mantelpiece. T 51. 102

211*e* Fase, Lewis, Covington, O.—V 61 *to* 64.
a Building limestone. 102
b Lime. 103

211*f* North Pittsford Marble Company, Pittsford, Vt.—Marble monuments, pedestal, and design case. T 56. 102

211*g* Paul, John, & Co., Massillon, O.—Stone for building and glass manufacturing. V 61 *to* 63. 102

211*h* Myers, Uhl, & Co., Cleveland, O.—Marble mantel and grate. (*Ohio State Building.*) 102

212 Thompson, Wm. S., Springfield, Ohio.—V 63.
a Stone. 102
b Lime. 103

212*a* Traber, Jacob, Cincinnati, O.—Limestone. V 61 *to* 64. 102

212*b* Mueller, John M., Cincinnati, O.—Buena Vista stone. V 61 *to* 63. 102

212*c* Richey, Morris S., Waverly, O.—Building stone. V 61 *to* 64. 102

212*d* Singer & Talcott Stone Company, Chicago, Ill.—Illinois limestone dressed by machinery. (*At spring S. E. of Horticultural Hall.*) 102

212*e* St. Johnsbury Granite Company, St. Johnsbury, Vt.—Granite monument and tablet. T 57. 102

212*f* Richmond Marble Company, of Vermont, Philadelphia, Pa.—White marble pedestal. T 57. 102

213 Amherst Stone Co., Cleveland, O.—V 63.
a Blocks of sandstone. 102
b Grindstones. 106

214 Warthorst & Co., Massillon, O.—V 63 *and* T 61.
a Blocks of sandstone. 102
b Grindstones. 106

214*a* Berea Stone Company, Berea, O.—V 63.
a Building stone and flagging. 102
b Grindstones, and scythe stones. 106

215 Philadelphia & Reading Railroad Co., Philadelphia, Pa.—T 72 *and* Y 56.
a Building stone. 102
b Limestone. 103

216 Worthington & Sons, North Amherst, Ohio.—T 56 *and* V 63.
a Amherst building stone. 102
b Grindstones, etc., from quarries at Amherst and Lake Huron, Mich. 106

216*a* Burlington Manufacturing Co., Burlington, Vt.—Marble tiling.—T 56. 102

217 Williams, R. L., Middle Granville, N. Y.—T 51.
a Vermont and New York roofing slate. 102
b Car coupler. 576

COLLECTIVE EXHIBIT OF BUILDING STONES USED IN THE OHIO STATE BUILDING. 102

218 Hoffman, A. O., Thompson, Wm., and others, Springfield, O.

219 Berea Stone Co., Berea, O.

220 Hurst, I. R., Cleveland, O.

221 Ford, O. D., Cleveland, O.

222 Halderman, L., & Son, Cleveland, O.

223 Wagner, John, Cleveland, O.

224 Amherst Stone Co., Cleveland, O.

225 Black River Stone Co., Cleveland, O.

226 Paul, John, & Co., Massillon, O.

227 Wilson & Hughes Stone Co., Cleveland, O.

228 Clough Stone Co., Amherst, O.

229 Worthington & Sons, Amherst, O.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

230 Ohio Stone Co., Cleveland, O.

231 McDermott, J., & Co., Cleveland, O.

232 Coshocton Stone Co., Coshocton, O.

233 Stitt, Price, & Co., Columbus, O.

234 Finnegan, M., Cincinnati, O.

235 Finnegan, J. H., Cincinnati, O.

236 Montgomery, R. M., Youngstown, O.

237 Caldwell & Tod, Youngstown, O.

238 Byers & McIlhainy, Youngstown, O.

239 Mauser & Haid, Youngstown, O.

240 Hamilton, Homer, Youngstown, O.

241 Warthorst & Co., Massillon, O.

242 Stocking, Z. S., Mansfield, O.

243 Bosler, Marcus, Dayton, O.

244 Huffman, William, Dayton, O.

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245 Tremain, Chas., Manlius, N. Y.—Cement and land plaster. V 72. 103

246 Ervin, D. S., Cedarville, Ohio.—Limestone. V 61 *to* 64. 103

246*b* Howes Cave Association, Howes Cave, N. Y.—Hydraulic cement and lime, ground plaster, and rock strata. Y 55. 103

247 Fireproof Building Co., New York, N. Y.—Teil concrete hollow blocks, hollow bricks, and beton blocks. T 55. 103

247*a* Michael, F. M., and others, Eaton, Ohio.—Limestone and lime. V 61 *to* 63. 103

247*b* Sintz, George, Springfield, O.—Limestone and lime. V 61 *to* 64. 103

248 Mitchell, Wilson, Philadelphia, Pa.—Portsilica artificial stone building blocks, partitions, floors, colored paving tiles, etc. T 53. 103

248*a* Richardson, Geo., Milwaukee, Wis.—Artificial stone, with moulds and apparatus for hardening. X 57. 103

250 Wampum Cement & Lime Co., limited, New Castle, Pa.—Portland cement, and samples in artificial stone of various designs. T 57. 103

251 Coplay Cement Co., Allentown, Pa.—Cements, building blocks, pipe, ornaments, etc. T 56. 103

252 Allen Cement Co., Siegfried's Bridge, Pa.—Crude and manufactured cement. T 57. 103

253 Cedar Hollow Lime Co., Philadelphia, Pa.—Lime, lime rock, model of furnace, and model of receptacle for storing and preserving lime. T 58. 103

255 Abbott Pavement Co., Brooklyn, N. Y.—Pavement. The Abbott Pavement is a bituminous concrete that has been used for six years past on many miles of roadways in Brooklyn, and for four or five years in Washington. It costs less than the asphalt pavement of Paris; in this country only about one-half. It costs less than one-half for repairs, and it is not nearly so slippery, while in all the other qualities, of smoothness, quietness, cleanliness, comfort to those driving on it, economy of horseflesh and vehicles, it is admirable. Under patents held by the Abbott Pavement Company, old stone, macadam, and wood pavements can be utilized as a foundation, and millions of dollars' worth of wood pavements, now going rapidly to decay, can be saved, as demonstrated on many miles that have been covered in the city of Brooklyn T 70. 103

256 Union Stone Co., Boston, Mass.—T 50.
a Articles in artificial stone, soapstone register borders, millstone cement, etc. 103
b Emery wheels. 106

256*a* Shields, King & Co., Newark Star Glass Works, Newark, Ohio.—Sands, etc., for making glass. V 61 *to* 63. 104

257 Hampton, Cutter, & Sons, Woodbridge, N. J.—Clays, kaolin, sand. T 55. 104

258 Such, George, South Amboy, N. J.—Samples of clay. T 58. 104

259 Sarchet, J. W. & J. T., Glen Loch Post Office, Pa.—T 57.
a Moulding sand and kaolin. 104
b Flint. 106

260 Kier Brothers, Pittsburg, Pa.—Fire clay. Y 56. 104

261 Bradford, H., Philadelphia, Pa.—Maryland quartz. T 54. 104

261*a* Tucker, George, New York, N. Y.—Tripoli and polishing rouge. N 68. 106

262 Schreiber, W. A. H., Phœnixville, Pa.—Clay, kaolin, flint, spar, and sand; potters' and decorators' materials. T 69. 104

263 Toll, Charles, Monroe, Mich.—Washed and crude silex. V 67. 104

264 Zihlmann, Joseph, Bellaire, O.—Wooden mould for shaping blown glass. T 64. 104

265 Dover Fire Brick Co., Canal Dover, Ohio.—Fire clay. T 63. 104

266 Kreischer, B., & Son, Philadelphia, Pa.—Fire clay, etc. X 56. 104

267 American Kaolin Co.; Works, New Garden, Chester county, Pa.; office, 233 South Third street, Philadelphia, Pa.—Kaolin, china, fire clay, and fire sand. X 58. 104

268 Dixon Crucible Co., Jersey City, N. J.—Crude and refined graphite. P 72. 105

269 Strow, Wile, & Co., Philadelphia, Pa.—Black lead crucibles, retorts, covers, etc.; plumbago, crude and prepared; lumber pencils, stove polish. T 59. 105

270 Taylor, Robert, & Co., Philadelphia, Pa.—Black lead crucibles. T 58. 105

271 Morse Bros., Canton, Mass.—Stove polish, lumber pencils, plumbago. The "Rising Sun Stove Polish," noted for beauty of polish, saving of labor, durability, freeness from dust and odor, when heated. This preparation is an excellent article. The Rising Sun Lumber Pencils, and samples of plumbago, from which they are manufactured. T 56. 105

273 Jersey City Crucible Manufacturing Co., Jersey City, N. J.—Crucibles and stove polish. T 58. 105

274 Phœnix Manufacturing Co., Taunton, Mass.—Crucibles and stove polish. T 58. 105

275 Webb, Robert, Boston, Mass.—Stove polish; crude and prepared plumbago. T 60. 105

Minerals, Mineral Water, Metallurgical Products.

276 Nibbinger, Edward, Philadelphia, Pa.—Quartz paste for sharpening razors and knives. T 52. 106

277 Hand, James C., & Co., Philadelphia, Pa.—Corundum manufactured by the Pennsylvania Corundum Co. T 57. 106

278 Washington Mills Emery Manufacturing Co., Ashland, Mass.—Emery. T 57. 106

279 Boyd & Chase, New York, N. Y.—Arkansas and Washita oilstone. N 68. 106

284 U. S. Soapstone Manufacturing Co., Cincinnati, O.—Steatite. P 77. 106

285 Patten, F. H., Bath, Maine.—Feldspar and quartz, for potteries and sand paper factories. T 70. 106

286 Lehigh Whetstone Co., Allentown, Pa.—Whetstones from Lenigh mountain, near Allentown, Pa. T 57. 106

288 Coffin, Redington, & Co., New York, N. Y.—Electro selecan, a polishing powder for all fine metals, and infusorial silica from Nevada, from which the above is made.

Analysis:

Silica,	83.5
Alumina,	2.7
Water,	13.5
Loss,	.3
	——100.

T 72. 106

289 Louis, Julius, & Bro., Jeffersonville, Ind.—Hot Springs, Arkansas, and other oilstones. N 68. 106

290 Sibley, Freeman K., Waltham, Mass.—The prize medal emery and crocus cloth. (Only medals ever awarded in the world.) T 53. 106

291 Schultz, Carl H., New York, N.Y.—Carbonic acid and mineral spring waters, siphons, glass fountains, etc. T 58. 107

291*a* Jarves & Hooper, Detroit, Mich.—T 53.

a Fertilizers and animal charcoal. 107
b Glue and neat's-foot oil. 652

292 Knight & Widden, Portland Plaster Mills, Portland, Maine.—Calcined and ground land plaster. T 59. 107

293 Champion Spouting Spring, Saratoga Springs, N. Y.—Saratoga water. T 58. 107

294 Marsh & Co., Sandusky, O.—Gypsum. V 61 *to* 63. 107

295 Gettysburg Katalysine Co., Gettysburg, Pa.—Katalysine spring water. T 57. 107

296 Navassa Phosphate Co., Baltimore, Md.—Crude and ground phosphates, from Nevassa Island, West Indies; and other fertilizing materials. T 57. 107

297 Charleston, S. C., Mining & Manufacturing Co., Philadelphia, Pa.—Goodrich phosphatic nodules, mined from Agassiz's Ashley fish basin, Lamb's landing, S. C. T 58. 107

298 Bolen & Byrne, New York, N. Y.—Artificial mineral waters, granular effervescing salts, siphons, etc. T 60. 107

299 Lippincott, Chas., & Co., Philadelphia, Pa.—Apparatus for dispensing aerated waters. B 38. (*Nave and Transepts.*) 107

300 Lawrence, A. R., & Co., Excelsior Park, Saratoga Springs, N. Y.—Excelsior and Union Spring Saratoga waters, and apparatus for having them on draught in their natural condition. T 70. 107

300*a* Tufts, Jas. W., Boston, Mass.—Soda water fountains. (*Nave and Transepts.*) 107

Metallurgical Products.

301 Hastings & Co., Philadelphia, Pa.—Gold leaf, foil, and bronze; silver leaf, bronze powder, etc. P 47. 110

302 Wallis, Jno. G., Fulton, Ark.—Base bullion. N 55. 110

303 Cambria Iron & Steel Co., Johnstown, Pa.—Iron—pig, bloom, and muck bar, rail piles and rails; steel—Bessemer pig, and spiegeleisen, ingots, blooms, and rails. T 65. 111

303*a* Huntingdon & Broad Top Railroad Co., Philadelphia, Pa.—Pig iron. Y 56. 111

304 Wood, W. D., & Co., McKeesport Iron Works, Pittsburg, Pa.—Patent planished sheet iron. T 61. 111

305 Park Bro. & Co., Black Diamond Steel Works, Pittsburg, Pa.—Cast steel; samples of homogeneous crucible cast steel, boiler plate, and flangings. T 62. 111

305*a* Mahoning Valley Centennial Association, Youngstown, Ohio.—Pig and manufactured iron. V 63. 111

306 Rowland, James, & Co., Kensington Iron and Steel Works, Philadelphia, Pa.—Anvil brand, refined bar, band, skelp, hoop, and nut iron; plow, cultivator, and shovel steel. T 64. 111

307 Wood, Alan, & Co., 519 Arch street, Philadelphia, Pa.—Manufacturers of patent planished, galvanized, and common, and charcoal bloom, sheet, and plate iron. T 61. 111

307*a* Andover Iron Co., Phillipsburg, N. J.—Pig and spiegeleisen iron. T 64. 111

308 Straus, J. E., & Co., Philadelphia, Pa.—Hoop iron. P 71. 111

309 Miller, Metcalf, & Parkins, Crescent Steel Works, Pittsburg, Pa.—Crucible steel and articles manufactured therefrom. T 60. 112

309*a* Glasgow & Port Washington Iron and Steel Co., Port Washington, O.—Pig iron. W 63. 111

310 Hussey, Wells, & Co., Pittsburg, Pa.—Crucible cast steel bars, sheets, homogeneous boiler plates, railway axles, forgings, edge tools, rake teeth. T 68. 111

311 Phillips, Nimick, & Co., Sligo Iron Mills, Pittsburg, Pa.—Iron. The only manufacturers of "sligo" fire box, boiler plate, sheet and bar iron, and "Tyrone" plate, tank, sheet, and bar iron. Slates rolled one hundred inches wide. T 67. 111

312 Union Iron Co. of Buffalo, Buffalo, N. Y.—Solid wrought iron rolled beams. T 64 *and* U 60. 111

321*a* State of Indiana (by E. T. Cox, State Geologist).—Pig, bar, and railroad iron; cut nails. V 57. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Metallurgical Products.

313 Otis Iron & Steel Co., Cleveland, O.—Ingots, bars, plates, and forgings of Siemen's Martin steel. T 65. III

314 Cleveland Rolling Mill Co., Cleveland, O.—Pig metals, rails, bars, etc., of iron and Bessemer or Siemen's Martin steel. T 60. III

315 South & North Alabama Railroad, Montgomery, Ala.—Iron. Y 60 *and* T 57. III

316 State of New Jersey (by Geo. H. Cook, State Geologist, New Brunswick, N. J.).—T 70.
a Iron, steel, spiegeleisen. III
b Spelter, sheet zinc, zinc white. II3

317 Peru Steel & Iron Co., Clintonville, N. Y.—Loops, blooms, billets, bars, and steel. T 63. III

317*a* Silicon Steel Co., New York, N. Y.—Silicon steel, rails, etc.; steelified iron. T 63 III

318 Washburn & Moen Manufacturing Co., Worcester, Mass.—Iron wire rods; iron and steel wire. T 63. III

318*a* Valentines & Co., Bellefonte Iron Works, New York, N. Y.—Cold blast charcoal iron. T 61. III

318*b* Youngstown Rolling Mill Co., Youngstown, Ohio.—Horse shoe, bar, hoop, and band iron, steel mixed with iron. V 61 *to* 64. III

318*c* Wick, Ridgway, & Co., Youngstown, Ohio.—Railroad iron, of all sizes. V 61 *to* 64. III

318*d* Brown, Bonnett, & Co., Youngstown, Ohio.—Pig, bar, and sheet iron. V 61 *to* 64. III

318*e* Eyhon & Lloyd, Philadelphia, Pa.—Roughing rolls, hand rounds, and squares. T 65. III

319 American Sheet & Boiler-plate Co., Cleveland, Ohio.—Plate, sheet, corrugated, galvanized, metallic tile, universal plate and agricultural iron, Bessemer or Siemen's Martin steel. T 59. III

320 Cooper, Hewitt, & Co., New York, N. Y.—Iron fluxes, blooms, pigs, rods, bars, rails, beams; chain, wire, horseshoe, and Martin steel. T 66. III

321 Hanging Rock Iron Region Furnaces (Chas. Campbell, Commissioner), Ironton, Ohio.—Pig iron, with articles manufactured therefrom. T 69. III

322 Beale, Horace A., Parkesburg, Pa.—Charcoal and puddled iron for boiler tubes and plates, muck bar of superior quality, and hollow bottom plates for puddling furnace. T 66. III

323 Clark, Wm., & Co., Pittsburg, Pa.—Hoop, band, and scroll iron. T 66. III

324 Reese, Graff, & Woods, Pittsburg, Pa.—Wrought iron of all descriptions; cast and special steel; tool steel, spring steel, plow steel, machinery and agricultural steel, fire steel, steel hoop, steel cotton ties, horse and mule shoes, steel toe calks, steel boiler-plate. T 66. III

325 Andrews Brothers, Youngstown, O.—Bessemer, foundry, and mill pig iron. V 61 *to* 64. III

326 McCullough Iron Co., Philadelphia, Pa.—Bloom and refined cleaned sheet iron; charcoal blooms. Manufacturers of "Galvanized," "Best Bloom," "Best Refined," "Harvey's cleaned Sheet Iron," cleaned iron for stamping purposes, leaded roofing plates, corrugated iron, black and galvanized. P 70. III

327 Moorhead & Co., Soho Iron Mills, Pittsburg, Pa.—Galvanized and black sheet iron; roofing and ceiling irons. T 66. III

328 Henderson, James, Hamburg, Pa.—Wrought iron made by the Henderson process. T 59. III

329 Brown & Co., Wayne Iron & Steel Works, Pittsburg, Pa.—Cold-blast charcoal metal, blooms, boiler plate, bars; agricultural irons. T 62. III

331 Edgar Thomson Steel Co. (limited), Pittsburg, Pa.—Bessemer steel rails, billets, blooms, and ingots. T 66. III

333 Lucy Furnace Co., Pittsburg, Pa.—Pig metal, etc. T 66. III

334 Carnegie Bros. & Co., Pittsburg, Pa.—Wrought iron beams, channels, bridge iron, etc. T 66. III

335 Wilson, Walker, & Co., Pittsburg, Pa.—Railroad car forgings. T 66. III

336 Keystone Bridge Co., Pittsburg, Pa.—Raritan Bay pivot bridge, weldless chord bars, wrought iron, tubular sectional columns. T 66. III

337 United States Corrugated Elbow Co., Cincinnati, Ohio.—Stovepipe elbow machine; stovepipe elbows T 61. III

338 Gregory & Co., Jersey City, N. J.—American cast steel. T 59. III

339 Duncan, John W., Philadelphia, Pa.—Pig metal. T 72. III

340 Tuscarawas Coal & Iron Co., Cleveland, Ohio.—Pig iron. T 71 *and* V 63. III

341 Rhodes & Co., Cleveland, Ohio.—Bessemer car-wheel and malleable charcoal irons. T 71 *and* V 63. III

342 Woodstock Iron Co., Anniston, Ala.—Hot-blast, cold-blast, and spiegeleisen iron, charcoal. T 63. III

343 Middleton, C. W. & H. W., Philadelphia, Pa.—Collective exhibit of Fort Pitt Iron & Steel Works, Soho Iron Mills, Solar Hoop Iron Mills, Philadelphia Iron & Steel Co., Parkesburg Iron Works, Corydon Winch, Van Alen & Co., Cumberland Tube Works, Danville Iron Co. and Star Chain and Nail Works—iron and steel. T 65 *to* 66. III

344 Crane Iron Co., Catasauqua, Pa.—Foundry and forge pig iron; cinder. T 64. III

345 Alexander, John S., Philadelphia, Pa.—Bayonet spade. P 68. III

346 Singer, Nimick, & Co., Pittsburg, Pa.—Saw, tool, plow, machinery, safe, and boiler steel; steel railway axles and springs. T 69. III

346*a* Selma & Alabama Railroad, Montgomery, Ala.—Iron. Y 60. III

347 Magnetite Iron Co., Philadelphia, Pa.—Bessemer ore products. T 69. III

348 Crab Orchard Iron Co., Philadelphia, Pa.—Samples of iron and steel. T 69. III

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Metallurgical Products.

348*a* **Chester Iron Co., Chester, N. J.**—Iron ore. T 64. III

349 Danville Iron Co., Danville, Pa.—Railroad iron. T 66. III

350 Winch, Corydon, Philadelphia, Pa.—Wrought iron spikes. T 66. III

351 Philadelphia Iron & Steel Co., Philadelphia, Pa.—Special shapes and manufactures of iron. T 66. III

351*a* **Ward, L. B., Niles, O.**—Common boiled iron. V 61 *to* 63. III

352 Cumberland Nail & Iron Co., Bridgeton, N. J.—Wrought iron pipe. T 66. III

353 Davis, O. W., jr., Bangor, Me.—Charcoal pig iron, fluxes, cinders; articles made in part from Katahdin iron. T 69. III

354 Durham Iron Co., Riegelsville, Pa.—Flux, pig iron, and cinders. T 64. III

355 Glendon Iron Co., Easton, Pa.—Flux, slag, and pig iron. T 64. III

356 Selma, Rome, & Dalton Railroad, by S. W. Baird, Cincinnati, O.—Charcoal pig iron, slag and charcoal, spiegel, car wheels. X 64. III

359 Northampton Furnace, worked by the Bethlehem Iron Co., Bethlehem, Pa.—Pig iron, flux, slags. T 64. III

360 Lehigh Iron Co., Allentown, Pa.—Flux, slag, and pig iron. T 64. III

361 Bethlehem Iron Co., Bethlehem, Pa.—Charges and products of iron, Bessemer, and spiegeleisen furnaces; products from Bessemer steel mill. T 64. III

362 Emaus Iron Co., Allentown, Pa.—Flux, slag, and iron. T 64. III

363 Coleraine Iron Co., Northampton county, Pa.—Pig iron. T 64. III

364 Thomas Iron Co., Hokendauqua, Pa.—Iron and flux. T 64. III

365 Allentown Rolling Mill Co., Allentown, Pa.—Flux, iron, and slag, fist-plate bolts, nuts, spikes, rivets, etc. T 64. III

366 Allentown Iron Co., Allentown, Pa.—Pig iron. T 64. III

367 Lehigh Valley Iron Co., Copley, Pa.—Pig iron, cinders. T 64. III

368 Carbon Iron Co., Parryville, Pa.—Flux, slag, and pig iron. T 64. III

369 Saucon Iron Co., Hellertown, Pa.—Pig iron. T 64. III

370 Catasauqua Iron Co., Catasauqua, Pa.—Rolled iron and steel, iron and steel bars bent hot and cold and fractured. T 64. III

371 Lehigh Zinc Co., Bethlehem, Pa.—Metallic and sheet zinc, zinc oxide. T 64. III

372 Stewart & Co., South Easton, Pa.—Round, square, and triangular iron wire. T 64. III

373 Gough, Edward, Allentown, Pa.—Turned rolls. T 65. III

374 Bay State Iron Co., Boston, Mass.—Homogeneous iron boiler plates and iron. T 64. III

375 Co-operative Iron & Steel Works, Danville, Pa.—T and street passenger railroad iron. T 63. III

376 Shalter, R. M., Carrick Furnace, Franklin county, Pa.—Cold-blast pig iron. T 63. III

377 Philadelphia & Reading Railroad Co., Philadelphia, Pa.—Rails. T 72. III

378 Mintzer, S. J. W., Philadelphia, Pa.—Silicon steel. T 63. III

379 Shelby Iron Co., Shelby Iron Works, Ala.—Charcoal pig iron, chilled castings, wire rods, cotton ties. T 71. III

380 Chrome Steel Co., Brooklyn, N. Y.—Chrome steel, with samples showing tortional, tensile, and compressive strength; welded chrome steel and iron; ingredients of manufacture. T 64. III

381 Cartwright, McCurdy, & Co., Youngstown, O.—Hoop, band, and horseshoe iron and steel. V 63 *and* T 64. III

382 Burton, J. P., Massillon, O.—Iron from Massillon Furnace. V 63. III

383 Rockhill Iron & Coal Co., Philadelphia, Pa.—Pig iron. T 72. III

384 Tecumseh Iron Co., Tecumseh, Ala.—Charcoal pig iron, limestone, charcoal. T 70. III

385 Albany & Rensselaer Iron & Steel Co., Troy, N. Y.—Bessemer steel and iron rails, plates, merchant bars, axles, horseshoes, etc. T 68. III

386 Nes, Charles M., York, Pa.—Silicon steel; steel and steel capped rails. T 63. III

388 Grand Tower Mining, Manufacturing, & Transportation Co., Grand Tower, Ill.—Iron ore products; cokes. T 68. III

389 Globe Rolling Mill Co., Cincinnati, O.—Specialties, Globe Norway iron and Globe refined iron. Iron, T 63. III

390 Lackawanna Iron & Coal Co., Scranton, Pa.—Steel and iron railroad bars. T 63. III

391 Passaic Rolling Mill Co., Paterson, N. J.—Rolled iron, rivets, nuts. T 64. III

392 Cox, Justice, jr., & Co., Philadelphia, Pa.—Pig, bar, sheet, tank, pipe, and angle iron; spikes, railway car axles. T 70. III

394 Rogers, J. & J., Iron Co., Ausable Forks, N. Y.—Round and square iron and charcoal billets for steel, from Palmer ore. T 62. III

395 Vesuvius Furnace, Etna Iron Works, Ironton, Ohio.—Pig iron, cold blast charcoal car-wheel iron. T 68. III

396 Etna Furnace, Etna Iron Co., Hanging Rock, O.—Pig iron, cold-blast charcoal car-wheel iron. T 68. III

397 Alice Furnace, Etna Iron Works, Hanging Rock, O.—Pig iron, "Whitwell ovens," and Ferry process. T 68. III

397*a* **Briar Hill Iron & Coal Company**, Youngstown, O.—Pig iron of various grades. V 61 *to* 64. III

398 Blanche Furnace, Etna Iron Works, Ironton, Ohio.—Pig irons, Whitwell hot blast and Ferry process. T 68. III

399 Hecla Iron & Mining Co. (John Campbell, President), Ironton, O.—Pig iron, cold blast charcoal car-wheel irons. T 68. III

399*a* **Struthers Iron Co., Youngstown, O.**—Bessemer, foundry, and gray forge pig iron. V 61 *to* 63. III

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Metallurgical Products.

400 Monitor Furnace Co., Ironton, O.—Pig iron, cold blast charcoal car-wheel iron. T 68. III

401 Mount Vernon Furnace, Hiram Campbell & Sons, Ironton, O.—Pig iron, hot blast charcoal foundry iron. T 68. III

401*a* Brooke, E. & G., Birdsboro', Pa.—Keystone pig iron. T 67. III

402 Grant Furnace, W. D. Kelly & Sons, Ironton, O.—Pig iron, hot blast charcoal irons. T 68. III

403 Center Furnace, W. D. Kelly & Sons, Ironton, O.—Pig iron, hot blast charcoal irons. T 68. III

404 Howard Furnace Charcoal Iron Co., Ironton, O.—Pig iron, hot blast charcoal irons. T 68. III

405 Buckhora Furnace, Charcoal Iron Co., Ironton, O.—Pig iron, hot blast charcoal irons. T 68. III

406 Olive Furnace, Campbell, McGu-gin, & Co., Ironton, O.—Pig iron, hot blast charcoal iron. T 68. III

407 Lawrence Furnace Co., Ironton, O.—Pig iron, hot blast charcoal iron. T 68. III

408 Pine Grove Furnace, Means, Kyle, & Co., Hanging Rock, O.—Pig iron, hot blast charcoal irons. T 68. III

409 Ohio Furnace, Means, Kyle, & Co., Hanging Rock, O.—Pig iron, hot blast charcoal iron. T 68. III

410 Ironton Furnace Iron and Steel Co., Ironton, O.—Pig iron, Player hot blast. T 68. III

411 Belfont Iron Works, Ironton, O.—Pig iron, Player hot blast. T 68. III

412 Washington Furnace, Union Iron Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. III

413 Scioto Furnace, L. C. Robinson & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. III

414 Bloom Furnace, John Paul & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. III

415 Clinton Furnace, W. I. Bell, Wheel-ersburg, O.—Pig iron, hot blast charcoal iron. T 68. III

416 Buckeye Furnace Co., Jackson, O.—Pig iron, hot blast charcoal iron. T 68. III

417 Cambria Furnace, D. Lewis & Co., Samsonville, O.—Pig iron, hot blast charcoal iron. T 68. III

418 Jackson Furnace, L. P. N. Smith's heirs, Sciotoville, O.—Pig iron, hot blast charcoal iron. T 68. III

419 Jefferson Furnace Co., Oak Hill, O.—Pig iron; cold blast charcoal car-wheel and machinery iron. T 68. III

420 Orange Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. III

421 Star Furnace Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. III

422 Huron Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. III

423 Tropic Furnace Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. III

424 Globe Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. III

425 Fulton Furnace, Globe Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. III

426 Ophir Furnace Co., Jackson, O.—Hot blast pig iron. T 68. III

427 Milton Furnace & Coal Co., Wellston, O.—Pig iron, Jackson county softener iron. T 68. III

428 Wellston Coal & Iron Co., Wellston, O.—Pig iron, Jackson county stone coal iron. T 68. III

429 Lincoln Furnace, I. M. McGhee's estate, Rud's Mills, O.—Pig iron, cold blast charcoal iron. T 68. III

430 Eagle Furnace, L. C. Damarin & Co., Rud's Mills, O.—Pig iron, hot blast charcoal iron. T 68. III

431 Richland Furnace Co., Richland P. O., O.—Pig iron, hot blast charcoal iron. T 68. III

432 Hope Furnace, L. C. Damarin & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. III

433 Hamden Furnace, L. C. Damarin & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. III

434 Vinton Furnace, Bancroft, Rader, & Co., Vinton Station, O.—Pig iron, hot blast bituminous coal and coke irons. T 68. III

435 Keystone Furnace Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. III

436 Monroe Furnace, Union Iron Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. III

437 Latrobe Furnace, Bundy & Cobb, Berlin Cross-roads, O.—Pig iron, hot blast charcoal iron. T 68. III

438 Logan Furnace Co., Logan county, O.—Pig iron, hot blast charcoal iron. T 68. III

439 Union Furnace, Brooks & Hueston, Haydensville, O.—Pig iron, hot blast charcoal iron. T 68. III

440 Pascal Iron Works, Philadelphia, Pa.—Cast iron work for Main Exhibition Building. III

441 Lewis, Oliver, & Phillips, Pitts-burg, Pa.—Iron in merchant bars and odd shapes. T 64. III

442 Roberts, Henry, Newark, N. J.—Iron, Bessemer steel, and cast steel wire N 69. III

443 Andrews, Hitchcock, & Co., Cleve-land, O.—Merchant bar and sheet iron V 61 to 64. III

444 Mount Savage Furnace, Lexington & Carter county Mining & Manufacturing Co., Lexington, Ky.—Pig iron, hot blast charcoal iron. T 68. III

444*a* Himrod Furnace Co., Youngs-town, O.—Bessemer, foundry, and forge pig iron. V 61 *to* 64. III

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Metallurgical Products.

445 Buffalo Furnace, Culbertson, Earhart, & Co., Greenupsburg, Ky.—Pig iron, hot and cold blast charcoal iron. T 68. 111

445*a* Andrews & Hitchcock, Youngstown, O.—Scotch, foundry, forge, and mill iron. V 61 *to* 64. 111

446 Hunnewell Furnace, Eastern Kentucky Railway Co., Riverton, Ky.—Pig iron, hot blast charcoal foundry iron. T 68. 111

446*a* Liking Iron Co., Newark, O.—Pig iron. V 61 *to* 64. 111

447 Pennsylvania Furnace, Eastern Kentucky Railway Co., Riverton, Ky.—Pig iron, hot blast charcoal foundry iron. T 68. 111

448 Charlotte Furnace Co., Riverton, Ky.—Pig iron, hot blast charcoal foundry iron. T 68. 111

449 Laurel Furnace, Robert Scott & Co., Riverton, Ky.—Pig iron, cold blast charcoal car-wheel iron. T 68. 111

450 Gallia Furnace, Norton, Campbell, & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111

451 Raccoon Mining and Manufacturing Co., Riverton, Ky.—Pig iron, hot and cold blast charcoal iron. T 68. 111

452 Ashland Furnace, Lexington & Big Sandy Railroad Co., Ashland, Ky.—Pig iron, bituminous coal, and Player hot blast. T 68. 111

453 Bellefonte Furnace, Means, Russell, & Means, Ashland, Ky.—Pig iron, hot blast charcoal foundry iron. T 68. 111

454 Norton Iron Works, Ashland, Ky.—Pig iron, nail plate, nails. T 68. 111

455 Buena Vista Furnace, Means & Co., Ashland, Ky.—Pig iron, hot blast charcoal iron. T 68. 111

456 Trigg Furnace, D. Hillman & Sons, Empire Iron Works, Ky.—Pig iron, cinders, etc.; hot blast charcoal iron. T 68. 111

457 Center Furnace, D. Hillman & Sons, Empire Iron Works, Ky.—Pig iron, hot blast charcoal iron. T 68. 111

458 Empire Iron Works, Trigg county, Ky.—Samples of boiler plate and refined charcoal iron. T 68. 111

459 Cleveland Malleable Iron Co., Cleveland, O.—Malleable iron castings and tackle blocks; fifth wheels. T 55. 111

460 Traber & Aubery, Cincinnati, O.—Broken car-wheels, chill tests, and castings from Hanging Rock pig iron; pig iron. T 68. 111

461 Hanging Rock Iron Region, Ironton, O.—Pig iron. T 68. 111

462 Sellers, William, & Co., Edgemoor Iron Co., Wilmington, Del.—Wrought and cast iron work for Main Exhibition Building. 111

463 Roberts, A. & P., Pencoyd Rolling Mills, Philadelphia, Pa.—Wrought iron work for Main Exhibition Building. 111

464 Morris, Tasker, & Co., Philadelphia, Pa.—Cast iron work for Main Exhibition Building. 111

465 Watson Manufacturing Co., Paterson, N. J.—Iron framework of the Main Exhibition Building. 111

466 Pusey, Jones, & Co., Wilmington, Del.—Iron work for Machinery Hall. 111

467 State of Michigan (Jay A. Hubbell, Houghton, Mich., Superintendent of Mineral Department).—V 67.

a Pig, ingot, and manufactured iron and steel. 111

b Ingot, bar, and rolled copper in its various stages. 112

c Maps, models, stamp-mill model, etc. 120

468 Manhattan Brass Co., New York, N. Y.—Sheet brass; brass, copper, and zinc tubing; brass goods, nickel-plated oilers, etc. T 65. 112

469 Pope, Cole, & Co., Baltimore Copper Co., Baltimore, Md.—Specimens of copper mattes and slags, and refined copper; metallurgical products. T 64. 112

470 Revere Copper Co., Boston, Mass.—Copper and yellow metal sheets and bars; tinned metal for stove reservoirs; bronze cannon cast by a patented process. T 64. 112

471 Pennsylvania Lead Co., Pittsburg, Pa.—Refined pig lead from ores of Colorado and Utah. T 63. 113

472 Benedict & Burnham Manufacturing Co., Waterbury, Conn.—Sheet brass, German silver, brass tubing, rods, and wire, lamp burners, etc. T 61. 113

473 Passaic Zinc Co., Passaic, N. J.—Zinc ingots, foil, castings, and oxide; sheet zinc. T 63. 113

473*a* Crocker Bros. & Co., Taunton, Mass.—T 61.

a Copper and yellow metal. 112

b Zinc. 113

474 Holmes, Booth, & Haydens, Waterbury, Conn.—Brass and German silver wire, tubing, rivets, lamp trimmings, burners. T 61. 113

476 Matthiessen & Hegeler Zinc Co., La Salle, Ill.—Refined spelter; sheet tin to show the thickness of the common numbers. Various sizes of casks for shipment. Rolled zinc plates for galvanic batteries, lithographing, etc. T 70. 113

477 Wharton, Joseph, Camden, N. J.—Nickel goods. T 63. 114

478 Taylor, N. & G., Co., Philadelphia, Pa.—Tin plate patterns. T 62. 114

480 Scovill Manufacturing Co., Waterbury, Conn.—Sheet brass; German silver, gold and silver plated metal; lamps and trimmings; hinges, buttons, thimbles, castors, metal tubes, etc. P 67. 114

481 Ansonia Brass & Copper Co., Ansonia, Conn.—Brass and copper goods, sheet metal and wire, planished brass and copper. T 54. 114

482 Waterbury Brass Co., Waterbury, Conn., and 52 Beekman street, New York, N. Y.—Brass and German silver in sheets, rolls, wire, and tubes; brass kettles, copper and brass rivets and bolts; percussion caps, all qualities; powder flasks, shot belts and pouches; game bags, metallic eyelets, and tape measures. T 62. 114

483 Lancroft, C. E. & H. B., Fair Haven, Conn.—Sulphates of nickel, ammonia, cobalt, and aluminum. P 68. 114

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Mining Engineering.

484 Holley, Alexander L., New York, N. Y.—Exhibit relating to metallurgical engineering. (*West gallery.*) 120

485 State of New Jersey (by Geo. H. Cook, State Geologist, New Brunswick, N. J.).—Geological maps, mine maps, mine and vein models. T 70. 121

485*a* Lowe, S. B., Chattanooga, Tenn.—Map of Chattanooga iron district. X 63. 120

486 Prince, Franklin, & Bullock, E. L., Audenried, Pa.—Model of the Wharton anthracite coal vein at Beaver Brook collieries, Audenried, Pa. T 60. 121

487 Hanford, Theodore, Jersey City, N. J. —Specimen of the strata of the Gravelpit Gold Mines of Ballarat, Victoria, Australia. T 64. 121

488 Charleston, S. C., Mining & Manufacturing Co., Philadelphia, Pa.—Model of their works. Y 60. 121

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

GREAT BRITAIN.

(North of Nave, Columns 23 to 38.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 **West Cumberland Iron & Steel Co.** (limited), Workington, Cumberland.
a Iron ores. 100
b Coal and coke. 101
c Limestone. 103

1*a* **Whitwell, Thomas, Stockton-on-Tees.**—Cumberland ores. 100

2 **Wigan Coal & Iron Co.** (limited), Wigan, Lancashire, England.—Cannel and gas coal. 101

3 **Penrose & Richards, Swansea,** South Wales.—Coke fuel. 101

4 **Dixon, Frederick, London.**—Patent fuel. 101

5 **Dudgeon, Arthur, Westminster,** London.—Peat fuel, manufactured by the Irish Peat Fuel Co. 101

6 **Lindley, Robert Charles, Mansfield,** Nottinghamshire.—Stones from the Mansfield quarries. 102

7 **Cwmorthin Slate Co.** (limited), Portmadoc, North Wales.—Roofing slates. 102

8 **Hunter, James, Aberdeen, Scotland.**—Red polished granite monument. 102

9 **Macdonald, Field, & Co., Aberdeen** Granite Works, Aberdeen, Scotland.—Polished red granite monument. 102

10 **Pen-yr-orsedd Slate Quarry Co.** (limited), Carnarvon, North Wales.—Roofing slates, slate slabs, cisterns, ridges for roofs, billiard slabs, slate partly manufactured. 102

11 **Shearer, Smith, & Co., Dalbeattie** Granite Quarries, Scotland.—Scotch polished granite, and street paving blocks. 102

12 **Bessbrook Granite Works, Bessbrook,** Ireland.—Blue and gray Irish granites in headstones, monuments, and building work. 102

13 **Great North of Scotland Granite Co.** (limited), Peterhead, Scotland.—Monumental pedestal and vase in polished red granite. 102

13*a* **Campbell, Hugh, & Son, Newry.**—Polished granite. 102

14 **Hollick & Co., Greenwich, London.**—Portland cement. 103

15 **Patent Selenitic Cement Co.** (limited), London.—Method of preparing lime for mortar, for plastering and brickwork, and also for concrete. 103

16 **Wouldham Cement Co., Wouldham-on-the-Medway,** Kent, England.—Portland cement and its ingredients in different stages of manufacture. Concrete blocks and other objects made therefrom. 103

17 **Lavers, Alfred Hamilton, London.**—Portland cement, test blocks, cements, plaster of Paris, whiting. 103

17*a* **Busse, G., & Co., London.**—Cement. 103

18 **Francis & Co., Cliffe Creek, Rochester.**—Cements, cement concrete, parian scagliola, and decorated parian. 103

19 **Grays Chalk Quarries Co.** (limited) Grays, Essex.
a Chalk, whiting, kilndried chalk, gilders' whiting. 103
b Flint. 106

20 **Eastwood & Co.** (limited), London.—Portland cement. 103

21 **Pike, William Joseph, Wareham,** Dorsetshire.—Clays. 104

22 **Harrison, George King, Lye & Brettell Lane Fire Clay Mines & Brick Works,** Stourbridge, England.—Stourbridge fire clays. 104

23 **Dunn, Robert, & Co., St. Austell,** Cornwall.—China clay, in its raw material; samples for potting, bleaching, paper manufacturing, etc. 104

24 **Oakey, John, & Sons, Wellington** Mills, London.—Crude emery stone; grain emery; flour emery. 106

24*a* **Star Plate & Universal Polishing** Powder Co., London.—Plate and polishing powder. 106

Metallurgical Products.

25 **Johnson, Matthey, & Co., London.**—Articles in platinum; rare and precious metals. 110

26 **Wigan Coal & Iron Co.** (limited), Wigan, Lancashire.—Hematite, foundry, and forge pig iron. 111

27 **Great Western Iron Co., Soudley** Newnham.—Pig iron. 111

28 **West Cumberland Iron & Steel Co.** (limited), Workington, Cumberland.—Pig iron, spiegeleisen, granulated blast furnace slag, Bessemer steel in the ingot; steel forgings, rails and rail sections, boiler and bridge plates, railway chairs, etc.; samples illustrating the testing of steel, and its metallurgy. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Metallurgical Products.

29 Smith, Frederick, & Co., Caledonia Works, Halifax, Yorkshire.—Rope, rigging, telegraph, card, reed, and bonnet wire; iron in its various stages of manufacture into wire. 111

30 Houghton, William Dickson, Warrington.—Wire for special and general purposes. 111

30*a* Tayler, D. F., & Co., New Hall Works, Birmingham.—Iron, steel, brass, and copper wire. 111

31 Edge & Sons, Coalport Works, Shropshire.—Wire ropes and chains for mining and engineering purposes. 111

31*a* Hawksworth, Ellison, & Co., Carlisle Works, Sheffield.—Steel, and articles made therefrom. 111

32 Ash & Lacy, Globe Works, Staffordshire.—Galvanized, tinned, plain, and corrugated iron sheets; perforated zinc, metals, etc. 111

32*a* Ward & Payne, Sheffield.—Steel. 111

32*b* Whitwell, Thomas, Stockton-on-Tees.—Pig iron. 111

33 Cammell, Charles, & Co. (limited), Cyclops Steel & Iron Works, Sheffield.—Rolled iron armor plates. 111

34 Siemens, Charles William, London.—Specimens of iron and steel. 111

34*a* Jessop, William, & Sons (limited), Sheffield.—Steel in bars, sheets, and large and small plates. 111

34*b* Hatton, Sons, & Co., Bilston, Staffordshire.
a Charcoal sheet iron. 111
b Charcoal tin plates. 113

35 Baldwin, E. P. & W., Wilden Works, near Stourport.
a Button and sheet iron black plates. 111
b Tin and terne plates; tinned sheets. 113

35*a* Warrington Wire Rope Works, Liverpool.—Wire ropes, cord, etc. 111

36 Brown, John, & Co. (limited), **Atlas** Steel & Iron Works, Sheffield.—Armor plates; naval engineering. (*In Machinery Hall.*) 111

37 Swansea Tin Plate Co., The Tin & Terne Plate Manufacturers, Swansea Tin Plate Works, Swansea.—Tin and terne plates. 113

38 Nash, Henry, & Co., Liverpool.—Tin and terne plates, black plate, and patent continuous roofing terne plate. 113

39 Governor & Company of Copper Miners in England, London.—Tin and terne plates. 113

40 Morewood, E., & Co., Llanelly.
a Tin and terne plates. 113
b Machines for manufacturing tin and terne plate, and galvanized sheet iron. 512

41 Phosphor Bronze Co. (limited), London.—Phosphor bronze tools, locks, keys, tubes, wire, sheet, steam fittings, parts of machinery. 114

(*N. B. English Exhibits in this department are also installed in Agricultural Hall, and catalogued in that volume.*)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NEW ZEALAND.

(*North of Nave, Columns 10 to 17.*)

Stone, Mining Products, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 Parapara Iron & Coal Co., Nelson.
a Brown hematite ore. 100
b Coal from the Aorere river. 101
c Limestone used as a flux for hematite ore. 103

2 Johnstone Bros., Nelson.—Hematite iron ore. 100

3 Nelson Committee, Nelson.
a Iron, plumbago, galena, zinc blende, copper, antimony, and argentiferous lead ores. 100
b Coal from Coalbrookdale, Mount Rochfort, and Reefton. 101
c Marble from Ruatanuka, Golden Bay. 102
d Porcelain clays from Pakawau and Ruatanuka; steatite from Golden Gully, Collingwood. 104

4 Louisson, T. B., Nelson.—Iron ore, calcined iron ore. 100

5 Washbourn, W. E., Nelson.—Argentiferous lead ore. 100

6 Taranaki Committee.
a Titanic iron sand, older tertiary marl, trachyte pebble, trachyte with crystals of hornblende, trachyte cast, hornblende, obsidian, nephrite, taranakite, carnelian. 100
b Lignite from Urenui. 101
c Potters' clay from Urenui. 104

7 Colonial Museum, Wellington.—James Hector, Director.
a Collection of minerals, containing magnetic iron, hematite, chrome, copper, lead, zinc, and manganese ores. 100
b Specimens illustrating the classification of New Zealand coals; petroleums from Sugar Loaf Point, Waiapu, Waipawa. 101
c Marble from Collingwood, Nelson. 102
d Steatite from Parapara Valley, Nelson. 104

8 Kennedy Brothers, Nelson.
a Coal from the Brunner Mine, and coke manufactured from it. 101
b Raw and ground fire clay. 104

9 Albion Coal Co., Nelson.—Coal from Ngakauau. 101

10 Reid, Alexander W., Canterbury.— Coal from Kowai Pass. 101

11 Oakden, J. J., Canterbury.—Anthracite coal from Lake Coleridge. 101

12 Rowley, Wilson, & Co., Otago.— Coal from Shag Point, Palmerston. 101

13 Ross, A., Poverty Bay, Auckland.— Petroleum. 101

14 Wilson, W., Christchurch.—Hewn white and yellow limestone. 102

Metallurgical Products.

15 New Zealand Commissioners.— Specimens of alluvial gold and gold-bearing quartz from Auckland, Westland, and Otago, collected by the Bank of New Zealand. 110

16 Government of New Zealand.—Specimens of alluvial gold from Nelson and Westland, and of auriferous quartz from the west coast; specimens of alluvial gold from Otago; bars of melted and refined gold; bars of chloride of silver, and silver; model representing gold exported from New Zealand 1862–75. 110

17 Nelson Committee.—Specimens of auriferous quartz from Reefton. 110

18 Reefton Committee.—Specimens of auriferous quartz from the Inangahua and Lyell districts, Nelson. 110

19 Tolhurst, George E., Bank of New Zealand, Wellington.—Models of gold ingots. 110

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NEW SOUTH WALES.

(North of Nave, Columns 13 to 15.)

Minerals, Metallurgical Products, Mining Engineering.

Minerals, Ores, Stone, Mining Products.

1 **McCallum, Argyle, Yaas.**—Copper and lead ores from Woolgarloo Mine; iron ore from Bogolong. 100

2 **Stuart, Seymour C.**—Auriferous quartz from Adelong; lode and stream tin ore. 100

3 **King, P. G., Goonoo.**—Sulphuret of antimony, from Nundle. 100

4 **Howard, John, Sofala.**—Antimony, from Crudine creek. 100

4*a* **Dewhurst, Arthur, Tamworth.**—Collection of minerals. 100

5 **Coulter, Edward, Sydney.**—Magnetic iron ore containing gold and copper, from Mount Lambie. 100

5*a* **Cleghorn, Wm., Uralla.**—Collection of minerals. 100

6 **Department of Mines, Sydney.**
a Mineralogical and geological collection; specimens of gold from the Southern, Western, and Northern districts; models of gold nuggets found in New South Wales; gold trophy, showing production of New South Wales. 100
b Coal trophy. 101

7 **Towns & Co., Sydney.**—Kerosene shale from Murrumbidgee.

8 **Fountain, John, Gosford, Brisbane Water.**—Iron ore from Brisbane Water. 100

9 **King, P. G., Goonoo Goonoo.**—Lepidodendron fossils from Goonoo Goonoo. 100

10 **Wilson, W., Monaltrie, Richmond river.**—Fossils. 100

11 **Butchart, J. Hawkins, Sydney.**—Lode and stream tin ore. 100

12 **Caddell, Alfred, Sydney.**—Tin ore and wash dirt from Vegetable Creek Tin Mines. 100

13 **New South Wales Shale & Oil Company, Sydney.**—Kerosene shale. 101

14 **Towns, R., & Co., Sydney.**—Kerosene shale from Murrurundi. 101

15 **Browne, Thomas, Bishop's Bridge.**—Sandstone from West Maitland. 102

16 **Douglass, W., Sydney.**—Slate from a quarry near Goulburn. 102

17 **Young, John, Sydney.**—Granite from Moruya; marble. 102

18 **Mackintosh & Oakes, Bathurst.**—Kaolin. 104

19 **Warden, David, Ulladulla.**—Kaolin. 104

Metallurgical Products.

19*a* **Lithgow Valley Iron & Coal Co.**—Iron. 111

20 **New South Wales Commissioners.**—Copper ingots. 112

21 **Moore & Co., Sydney.**—Tin ingots. 113

22 **Vegetable Creek Company, Sydney.**—Tin ingots. 113

23 **New South Wales Commissioners.**—Tin ingots, bars, and grain tin. 113

Mining Engineering.

24 **Caddell, Alfred, Sydney.**—Model of shaft of Vegetable Creek Tin Mine, and report, plan, and photographs. 121

25 **Government Printing Office, Sydney, New South Wales.**—Mines and mineral statistics. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

VICTORIA.

(*North of Nave, Columns 11 to 13.*)

Minerals, Ores, Stone, Mining Products.

Minerals, Ores, Stone, Mining Products.

1 **Collection of Rocks, Minerals, and** Fossils, illustrative of the geology, mineralogy, and mining resources of Victoria, exhibited for, and on behalf of the Government, by R. Brough Smyth, F.G.S., F.L.S., Assoc. Inst. C.E., Secretary for Mines, and Chief Inspector of Mines for the colony. 100
a Older igneous or plutonic rocks.
b Newer igneous or volcanic rocks.
c Aqueous rocks.
d Upper silurian.
e Upper palæozoic.
f Mesozoic-carbonaceous.
g Tertiary.
h Collection of mineral specimens.
i Economic collection: auriferous quartz.
k Fac-similes of gold nuggets found in Victoria.
l Economic minerals.
m Fossil fruit.

2 **Acadia Catherine Gold Mining Com**pany, Sandhurst.—Golden stone. 100

3 **Bleasdale, J. I., Melbourne.**—Collection of gems and precious stones, consisting of diamonds, blue sapphires, oriental emeralds, rubies, aqua-marines, topazes, spinels, beryls, opals, garnets, tourmalines, etc. 100

4 **Commissioners for Victoria, for the** Philadelphia Exhibition, Melbourne.—
a Fac-similes of nuggets found in Victoria, and mineralogical and geological specimens. 100
b Coal. 101
c Sawn slate, block of granite, polished marble. 102
d Limestones from Major Plains. 103
e Black clay, clay and sand; kaolin clay. 104
f Sharpening stones from Wangunyah. 106

5 **Costerfield Gold & Antimony Mining** Co., Melbourne.—Antimony ore. 100

6 **Hanckar, J. H. H., Melbourne.**—Nickel ore from the Boa Kaine Mine, New Caledonia. 100

7 **McGie, James, & Co., Melbourne.**—Nickel ore. 100

8 **Shenandoah Gold Mining Co., Sand**hurst.—Gold-bearing quartz. 100

9 **Mining Department of Victoria,** Melbourne.—Coal. 101

10 **Mansfield Shire Council, Mans**field.—Polished marble, hewn sandstone. 102

11 **Arthur & Dogherty, New Zealand.**—Lithographic stone. 106

12 **Lewis & Whitty, Fitzroy.**—Knife polish. 106

13 **Hattersley, J., Yackandandah.**—Aerated waters. 107

14 **Lyon, George, Spring Creek, Beech**worth.—Lemonade, soda water, and ginger ale. 107

15 **Rowlands & Lewis, Ballarat.**—Tonic potass, soda, lithia, and seltzer waters, and ginger ale. 107

Metallurgical Products.

16 **Bright Bros. & Co., Melbourne.**—Star antimony in ingots. 13

17 **Costerfield Gold & Antimony Min**ing Co., Melbourne.—Antimony. 113

18 **Hodgson, Richard, Collingwood.**—Star antimony, pig lead, block tin. 113

19 **Croaker, Scott, & Co., Melbourne.**—Star antimony. 113

Mining Engineering.

20 **Smyth, R. Brough, Department of** Mines, Melbourne.—Geological maps, reports, etc. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

BAHAMAS.

(*South of Nave, Columns 15 to 17.*)

Minerals, Ores, Stone, Mining Products.

Minerals, Ores, Stone, Mining Products.

1 Dupuch, Joseph.—Building stone. 102
2 George, Jno. S.—Building stone. 102

BERMUDAS.

(*North of Nave, Columns 15 to 17.*)

Minerals, Ores, Stone, Mining Products.

Minerals, Ores, Stone, Mining Products.

1 Bermuda, Government of.—Top of a pillar of stalagmite, and a small stalactite from a submerged cave. 100
2 Ness, Ph.—Building stones. 102

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

QUEENSLAND.

(North of North Avenue, Columns 10 to 15.)

Mineral and Metallurgical Products, Mining Engineering.

Minerals, Ores, Stone, Mining Products.

1 Aplin, D.—Trophy of tin ores. 100
2 Brisbane Tin Mining Co.—Tin ores, wash dirt, etc. 100
3 Cloncurry Mine, Proprietors of.—Manganese. 100
4 Daintree, Richard.—Collection of rocks, soils, and fossils illustrative of the colony. 100
5 Foote, Alfred.—Iron ores from West Moreton. 100
6 Gregory, A. C.—Antimony ores. 100
7 Henry, Captain.—Nugget of native copper. 100
8 Hume, W. C.—Collection of tin ores. 100
9 Mount Marley Tin Mining Co.—Collection of tin ores. 100
10 Perry, Matthew.—Copper pyrites. 100
11 Staiger, C.—Antimony ores. 100
12 Tyrrell, J. de F.—Tin ores. 100
13 Wilkinson Mine, Proprietors of.—Cinnabar. 100
14 Government of Queensland.
a Copper ores, fossils, etc., from Ipswich; quartz and gold bearing stone from Gympie, Rockhampton, Ravenswood, Cawarrol, Palmer, Cloncurry, etc. 100
b Coal from Ipswich. 101
c Building stone. 102
d Plumbago. 105
15 Aberdare Mine, Proprietors of.—Coal. 101
16 Alexander, W. R.—Coal. 101
17 Allora Mine, Proprietors of.—Coal. 101
18 Bingera Mine, Proprietors of.—Coal. 101
19 Blackfellows' Creek Mine, Proprietors of.—Coal. 101
20 Bland & Wright, Perseverance Mine.—Coal. 101
21 Flagstone Creek, Proprietors of.—Coal. 101
22 Gulland & Co., Ipswich.—Coal and coke. 101
23 Rosewood Mine, Proprietors of.—Coal. 101
24 Tivoli Mine, Proprietors of.—Coal and coke. 101
25 Peak Downs Copper Mining Co.—Slab of polished malachite. 102

Metallurgical Products.

26 Government of Queensland.
a Gold, in nuggets, from Gympie, Rockhampton, Ravenswood, Cawarrol, Palmer, Cloncurry, etc. 110
b Tin in ingots. 113
27 Government of Queensland.—Refined copper. 112
28 Mount Perry Copper Mining Co.—Ingots of copper. 112
29 Peak Downs Copper Mining Co.—Trophy of copper ingots. 112
30 Bulimba Tin Smelting Co.—Refined tin, in ingots.
31 Mount Marley Tin Co.—Refined tin, in ingots. 113
32 Queensland Smelting & Assaying Co.—Trophy of tin ingots. 113

Mining Engineering.

33 Clifton Mine, Proprietors of.—Fossils, kaolin, etc., showing strata of mine. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

TASMANIA.

(*South of North Avenue, Columns 13 to 15.*)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products

1 **British & Tasmanian Charcoal Iron Co.**—Iron ores. 100

2 **Hammond, W., Hobart Town.**—Bismuth, from Mount Ramsey. 100

3 **Harrap, A., Launceston.**—Petrified wood. 100

4 **Hull, Henry J., Hobart Town.**—Tin ore, from George's Bay. 100

5 **Innes, J. H., Hobart Town.**—Tin ore, from Rongarooma. 100

6 **Just, T. C., Launceston.**—Iron ores and asbestos. 100

6*a* **Royal Society of Tasmania.**—Topazes and beryls from Bass's Straits Island. 100

7 **Smart, Dr., Hobart Town.**—Gold, in quartz. 100

8 **Smith, James, Launceston.**—Bismuth, from Mount Ramsey. 100

9 **Stanhope Company.**—Tin ore. 100

10 **Harcourt, James, Hobart Town.**
a Iron ores. 100
b Coal from Seymour. 101

11 **Hematite Iron Works, West Tamar.**
a Iron ores. 100
b Blue and white marble limestone. 102

12 **Lyell & Gowan, Melbourne.**
a Tin ore from Mount Bischoff. 100
b Coal from river Don. 101
c Slate from Piper's river. 102
d Marble limestone from river Don. 103

13 **Groom, F., Harefield.**—Coal. 101

14 **Hurst, J., Hobart Town.**—Coal from Tasman's Peninsular. 101

15 **Kermode, W. A., Mona Vale.**—Gray and brown freestone. 102

16 **Raynor, E., Bridgewater.**—Limestone, with fossils. 102

17 **Coverdale, John, Port Arthur.**—Pipe clay. 104

Metallurgical Products.

18 **Harcourt, James, Hobart Town.**—Pig iron and castings. 111

19 **Hematite Iron Works, West Tamar.**—Pig iron and castings. 111

20 **Mount Bischoff Tin Mining Co.,** Mount Bischoff.—Tin, in ingots. 113

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

INDIA.

(*North of Nave, Columns 22 to 25.*)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Collections selected from the India Museum by J. Forbes Watson, M.A., M.D., LL.D., Director of the India Museum, etc.

Minerals, Ores, Stone, Mining Products.

a Iron ores and magnetic iron sand from the Madras Presidency; iron ores from the Bombay Presidency; iron ores and magnetic iron sand from the Bengal Presidency; chrome iron ores from Salem and South Arcot; manganese ores from the Madras Presidency; copper ores from Nellore, Singbhum, and Deoghur; copper pyrites from the hills of Beloochistan; malachite from Central India; lead ore from Deoghur; galena from the Malanna and Parbutti mines, and from Catloor, Karnul, Chota Nagpur, Duttiah, Hazaribagh, and Beloochistan; (stibnite antimony ore) from Shigri, Busoh, Borneo, and Sarawak; tin stone from Junk Ceylon, Malacca, Kuhun, Mergui, Tenasserim, Larut, and Johore; gold sand from Purulia, Toradanally, Dandput, Rangoon, and Ramagherry; arsenical ores from Pegu, Burmah, Tenasserim, Bengal, and Madras; sulphur from Rangoon and Shoruns. 100

b Coal from Nerbudda Coal and Iron Co., Gurrawarra, Oormoo, Chigo, and Malacca; lignite from Darjiling; petroleum and naphtha from Burmah. 101

c Limestone from South Arcot, Nellore, Tripattur, Masulipatam, and Beronda; calcite from Ranigunj; calc spar from Kabul; selenite from Ava; white mica from Salem; black mica from Behar; agalmatolite from Chota Nagpur; zeolites from Deccan; lime from Bownee, Salem, Bellary, and Soonporah. 103

d Clays, for pottery, from South Arcot, Madura, North Arcot, Sadigeri, Bangalore, and Vizianagram; powdered mica from Lahore; quartz, yellow and red ochre, fire and china clays from Madras; ball clay from Mangalore and Raepore; raw, fine white, and prepared clay, powdered marble, red lead and red ochre from Pattan; litharge from Calcutta; white lead from Punjab; white earth from Beronda; geroo from Raepore; pink and yellow earth from Paldeo; white earth from Punnah; yellow earth from Alipore; pipe clay from Singapore; red clay from Duttiah; white earth from Kotee; fullers' earth from Sind. 104

e Graphite from Caviatten Coodul, Trevandrum, Almorah, and Ceylon. 105

f Corundum from Madras, Salem, and Mysore; agates and carnelians from Cambay; gem sand from Ceylon; ruby sand from Travancore; rough garnets from Mysore and Vizianagram; calderite from Nepal; tourmaline from Nellore; epidote granite from Madras. 107

g Fibrous gypsum from Karnul; reh from Buttiana. 107

Metallurgical Products.

h Crude iron from Assam; Wootz steel; native iron; native iron with slag. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

CANADA.

(North of Nave, Columns 16 to 23.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 **Gatling Gold Mining Co., Marmora,** Ont.—Gold-bearing arsenical pyrites. 100

2 **Russell, W. W., Ottawa, Ont.—Gold** in quartz. 100

3 **Lindsay, J. A., Toronto, Ont.—Gold,** silver, and magnetic ores. 100

4 **Jackfish Lake Gold Mining Co., To**ronto, Ont.—Gold and silver, in quartz. 100

5 **McKellar Bros., Prince Arthur's** Landing, Ont.—Gold, in quartz. 100

6 **McKellar, D., Prince Arthur's Land**ing, Ont.—Gold, in quartz. 100

7 **Toronto Gold Mining Co., Toronto,** Ont.—Gold-bearing arsenical pyrites. 100

8 **Lockwood, W. P., St. Francois, Q.—** Model of gold nugget. 100

9 **Geological Survey, Canada, Q.**

a Quartz, magnetic sand, and alluvial gold, models of gold nuggets, platinum, copper pyrites, native copper, magnetite, magnetic iron sand, hematite, iron ores, iron pyrites, native iron, antimony ore, galena, blende, barytes, mica, magnesite, kermesite, celestine, albite, orthoclase, asbestos, amethyst, agates, and Canadian rocks. 100

b Coal from Saskatchewan river, bituminous shale, crude and inspissated petroleum. 101

c Sandstones, marbles, marble column, dolomite, limestone, syenite, granite, gneiss, labradorite, jasper conglomerate, ornamental and polished slate, cut and polished stones. 102

d Hydraulic cement, gypsum. 103

e Clay, fire clay, clay for moulding, river and moulding sand, soapstone. 104

f Graphite. 105

g Lithographic stones, grindstones, whetstones, burr stones, granite for millstones. 106

h Brine, mineral water, phosphate of lime, shell marl. 107

10 **Oppenheimer Bros., Victoria, Br.** Col.—Gold nugget. 100

11 **Robertson, Robt., Halifax, N. S.—** Representation of the gold fields of Nova Scotia. 100

11*a* **Morton, George, Frontenac Lead** Mine.—Pig lead. 100

12 **Donaldson, T. B., Oldham, N. S.—** Gold in quartz. 100

13 **Sibley, A. H., Silver Islet, Ont.—** Silver ores and native silver. 100

13*a* **Moody & Nelson, Victoria, B. R.—** Native copper. 100

14 **McKellar Bros., Fort William, Ont.** —Silver ores, native silver, copper pyrites, and barytes. 100

15 **Marks, T., & McKellar Bros., Fort** William, Ont.—Silver ores. 100

16 **Dawson, S. J., Ottawa, Ont.—Silver** ores. 100

16*a* **Simpson, John, Upham, N. B.—** Manganese. 100

17 **Cyrette, Ambrose, Fort William,** Ont.—Silver ores. 100

18 **Van Norman, Judge, Prince Arthur's** Landing, Ont.—Native silver and silver ores. 100

19 **Plumber, McIntyre, & Russ, Fort** William, Ont.—Silver ores. 100

19*a* **Jones, T. R., & Co., St. John, N. B.** —Copper ore. 100

20 **Eames, Prof., Pie Island, Ont.—** Silver veinstone. 100

21 **Stephen, George, Montreal, Q.—** Silver ores. 100

22 **Eureka Mining Co., Victoria, Br. Col.** —Silver ores. 100

23 **Mechanics' Institute, North West**minster, Br. Col.

a Platinum. 100

b Anthracite. 101

24 **West Canada Mining Co., Welling**ton, Ont.—Copper pyrites, copper ore. 100

25 **Hime, H. L., Toronto, Ont.—Copper** pyrites. 100

26 **Plumber, B., Bruce Mine, Ont.—** Copper pyrites. 100

27 **Oliver, Geo., Perth, Ont.—Copper** pyrites, bog iron ore. 100

28 **Ontario Advisory Board, Toronto,** Ont.

a Copper pyrites, magnetic hematite, galena. 100

b Serpentine, syenite. 102

c Graphite. 105

d Emery. 106

e Phosphate of lime, shell marl. 107

29 **Shaw, P., Harvey Hill, Q.—Copper** pyrites. 100

30 **Stewart, W. W., Montreal, Q.—** Native copper. 100

31 **Douglas, Dr., Quebec, Q.—Copper** ore. 100

32 **Davidson, Wm., Alma, N. B.—Cop**per glance. 100

33 **Russell, Grand Manan, N. B.—Cop**per glance. 100

34 **Cole, Rufus, Dorchester, N. B.—** Copper glance. 100

35 **Sweet, R. J., Halifax, N. S.—Copper** glance. 100

36 **Lloyd, H. C., Madoc, Ont.—Mag**netite, hematite. 100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Mining and Metallurgy.

37 Ledyard, T. D., Toronto, Ont.—Magnetite. 100

38 Haycock, Will., Templeton, Q.—Magnetite. 100

39 Cobourg & Petersboro' Iron Co., Belmont, Ont.—Magnetite. 100

40 Bishop, A., Bell's Corners, Ont.—Magnetite. 100

41 Foley, James, Bathurst, Ont.—Magnetite with apatite. 100

42 Baldwin, A. H., Hull, Q.—Magnetite. 100

43 Chipman, David, Berwick, N. S.—Magnetite. 100

44 Lewis, Queen Charlotte's Island, Br. Col.—Magnetite. 100

45 Cowan, A., Brockville, Ont.
a Hematite, burnt iron pyrites. 100
b Phosphate and superphosphate of lime. 107

46 Crawford, J. D., & Co., Montreal, Q.—Hematite, spathic iron ore. 100

47 Ganthier, O., St. Urbain, Q.—Titanic iron ore. 100

48 Matheson & Gilice, Sydney, N. S.—Hematite. 100

52 Ottawa Iron & Steel Co., Ottawa, Ont.—Iron ore. 100

53 Stobie, James, Sault St. Marie, Ont.—Iron ore. 100

54 Duval, H. H., Quebec, Q.—Titanic iron ore. 100

55 McDougall, John, Three Rivers, Q.—Bog iron ore. 100

56 Steel Co. of Canada, Londonderry, N. S.—Iron ores. 100

57 MacKinnon, J. C., Whycocomagh, N. S.—Iron ores. 100

58 Duhamel, Dr., Quebec, Q.—Iron pyrites. 100

59 Russell, Willis, Lotbiniere, Q.—Antimony ore. 100

60 Hibbard, F., Prince William, N. B.—Antimony ore. 100

61 Hime, L. H., Toronto, Ont.—Galena and copper pyrites, with silver and gold. 100

62 Sibley, Col., & McIntyre, J., Silver Islet, Ont.—Galena. 100

63 Johnson, C. J., Wallaceburg, Ont.—Galena, blende. 100

64 Devine, Thos., Toronto, Ont.—Galena. 100

65 Wearne, Capt., Toronto, Ont.—Galena, blende. 100

66 Markham, A., Hammond, N. B.—Pyrolusite. 100

67 Brown, J., N. S.—Pyrolusite. 100

68 Galway Lead Mining Co., Galway, Ont.—Barytes, calcspar. 100

69 Dolphin Manufacturing Co., Five Islands, N. S.—Barytes. 100

70 Starr, John, Halifax, N. S.—Barytes. 100

71 Baker Mine, North Burgess, Ont.—Mica in plates. 100

72 Ackerly, James, Five Islands, N. S.—Dogtooth spar. 100

73 Dopp, Geo., Berlin, Ont.—Amethyst, fluorspar, and pyrites. 100

74 McVicar, Geo., Toronto, Ont.—Amethyst. 100

75 Blackwood, R., Toronto, Ont.—Amethyst, fluorspar, and pyrites. 100

76 Morrison, W. A., Toronto, Ont.—Collection of Canadian precious stones. 100

77 Poole, H. S., Halifax, N. S.—Ores and associated rocks. 100

78 Honeyman, Dr., Halifax, N. S.—Collection of Nova Scotia rocks. 100

80 Bailey, G., Grand Lake, N. B.—Coal. 101

81 Hall, William, Springhill, N. S.—Coal. 101

82 Mitchell, Henry L., Glace Bay Mines, N. S.—Coal. 101

83 McQueen, Wm., Blockhouse Mines, N. S.—Coal. 101

84 Brown, R. H., Sydney Mines, N. S.—Coal. 101

85 McDonald, R. A., International Mines, N. S.—Coal. 101

86 McKeen, David, Caledonia Mines, N. S.—Coal. 101

87 Archibald, T. D., Gowrie Mines, N. S.—Coal. 101

88 Sutherland, James, Big Glace Bay, N. S.—Coal. 101

89 Fraser, J. W., Victoria Mines, N. S.—Coal. 101

90 Routledge, William, Gardiner Mines, N. S.—Coal. 101

91 Campbell, C. J., North Campbellton, N. S.—Coal. 101

92 Hoyt, Jesse, Acadia Mines, N. S.—Coal. 101

93 Hudson, James, Albion Mines, N. S.—Coal. 101

94 Simpson, Robert, Intercolonial Mines, N. S.—Coal. 101

95 Greener, John, Vale Colliery, N. S.—Coal. 101

96 Bennett, Wm., Scotia Mines, N. S.—Coal. 101

97 Sterling, E., Cape Breton, Big Glace Bay, Sydney, and L. Mines, N. S.—Coal. 101

98 Union Mining Co., Union Mines, Comox, Br. Col.—Coal. 101

99 Baynes Sound Mining Co., Baynes Sound Mines, Br. Col.—Coal. 101

100 Vancouver Mining Co., Vancouver Mines, Br. Col.—Coal. 101

101 Wellington Mining Co., Wellington Mines, Br. Col.—Coal. 101

102 Ketchum, E. K., Albert Mines, N. B.—Albertite and bituminous shale. 101

103 Byers, J., Albert Mines, N. B.—Albertite. 101

104 Smith, Wm., Toronto, Ont.—Peat. 101

106 Griffin, R. A., Huntingdon, Q.—Peat. 101

107 Belliveau Albertite & Oil Co., Westmoreland, N. B.—Albertite mineral oil. 101

108 Waterman Bros., London, Ont.—Petroleum and products. 101

109 Gibson, Robert L., Grimsby, Ont.—Building sandstones. 102

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Mineral Water, Metallurgical Products.

110 Farquhar & Booth, Esquesing, Ont.—Building sandstones and flagging. 102

111 Skead, Gloucester, Ont.—Building sandstones. 102

112 Londley, Beckwith, Ont.—Building sandstones. 102

113 Rankin, John, Pembroke, Ont.—Building sandstones. 102

114 Bishop, Henry, Nepean, Ont.—Building sandstones. 102

115 Decew, William, Oneida, Ont.—Building sandstones. 102

116 McGregor, Lachute, Q.—Building sandstones and limestones. 102

117 Goodfellow, Joseph, North Esk, N. B.
a Building sandstones. 102
b Grindstones. 106

118 Dor. U. Free Stone Co., Budreau, Vil., N. B.—Building sandstones. 102

119 Caledonia Free Stone Co., Rockland, N. B.—Building sandstones. 102

120 Roberts & Co., Mary's Point, N. B.—Building sandstones. 102

121 Bayview Quarry Co., Albert City, N. B.—Building sandstones. 102

122 Hopewell Quarry Co., Shepody Mt., N. B.—Building sandstones. 102

123 McQuarrie, John, George River, N. S.—Building sandstones. 102

124 Gilpin, Edwin, Springville, N. S.
a Building sandstones. 102
b Limestone. 103
c Fire brick and fire clay. 104

125 Heustis, R. B., Wallace, N. S.—Building sandstones. 102

126 McDonald, George J., Cornwallis, N. S.—Building sandstones. 102

127 Peters, Henry S., Halifax, N. S.—Building sandstones. 102

128 Vancouver Coal Co., Vancouver Island, Br. Col.—Building sandstones, marble, limestone. 102

129 Howley, James, Montreal, Q.
a Building and flagging sandstones. 102
b Sandstone for glass-making. 104

130 Pitton & Co., Quebec, Q.—Sandstone, flagging, curbstones. 102

131 Worthington & Co., Montreal, Q.
a Polished marble. 102
b Limestone. 103

132 Somerville, P. T., Arnprior, Ont.—Marble monument. 102

133 Halon, Alphonse, Quebec, Q.—Marble. 102

134 Benjamin, H., & Co., Montreal, Q.
a Marble. 102
b Lime. 103

135 Brunet, Joseph, Montreal, Q.—Marble monument. 102

136 Langevin, A. B., Quebec, Q.—Marble. 102

137 Silver, John, Halifax, N. S.—Marble. 102

138 McQuarrie, John, George River, N. S.—Marble and syenite. 102

139 Ingram, Wm., St. George, N. B.—Red granite clock case. 102

140 Baxter, B., Cayuga, Ont.
a Dolomite. 102
b Lime and limestone, hydraulic cement. 103

141 Barclay & Morrison, Stony Mount, Manitoba.
a Dolomite. 102
b Clay. 104

142 Hayslip, John, Goderich, Ont.—Limestone. 102

143 Young, Y. & G., Gloucester, Ont.—Limestone. 102

144 Levallée, N., Carleton Place, Ont.—Limestone. 102

145 Kirkpatrick Quarry, Parrsboro', Q.—Limestone. 102

146 Forsyth, Robert, Montreal, Q.—Red granite monument. 102

147 Bay of Fundy Red Granite Co., St. George, N. B.—Red polished granite. 102

148 Danville School Slate Co., Danville, Q.—Ornamental slate panel, slates in blocks. 102

149 Danville Slate Co., Danville, Q.—School slates. 102

150 Rockland Slate Quarry, Melbourne, Q.—Slates. 102

151 DeCew, William, Cayuga, Ont.
a Lime and limestone. 103
b Sandstone for glass-making and furnace lining. 104

152 Whitson & Slater, St. Marys, Ont.—Lime and limestone. 103

153 Dunbar, George, Rockwood, Ont.—Lime and limestone. 103

154 Lewis, Levi, Kincardine, Ont.—Lime and limestone. 103

155 Buxton, George, Goderich, Ont.—Lime and limestone. 103

156 Emsley, R., Guelph, Ont.—Lime and limestone. 103

157 Ballantyne, Mrs., Galt, Ont.—Lime and limestone. 103

158 Farquhar, E. & C., Dundas, Ont.—Lime and limestone. 103

159 Goudle, Thomas, Limehouse, Ont.—Lime and limestone. 103

160 Lavallée, N., Carleton Place, Ont.—Lime and limestone. 103

161 Baker, W., Arnprior, Ont.—Lime and limestone. 103

162 Quebec Advisory Board, Quebec, Q.
a Lime and limestone. 103
b Porcelain clay. 104
c Phosphate of lime, chalk. 107

163 Garvies, C. A., Montreal, Q.—Lime and limestone. 103

164 Robitaille, Dr., Quebec, Q.
a Limestone. 103
b Marl. 107

165 Quesnal, Sheriff, Arthabaska, Q.—Lime and hydraulic cement. 103

166 Douglas, David, Pugwash, N. S.—Lime. 103

167 Goudie, Thomas, Limehouse, Ont.—Hydraulic cement. 103

168 McKay, Wm., Ottawa, Ont.—Hydraulic cement and artificial stone. 103

169 Buchanan Mineral Co., Hamilton, Ont.—Cement and mastics. 103

170 Gauvreau, P., & Co., Quebec, Q.—Cements and plasters, artificial stone. 103

171 Hill, Albert J., Sydney, N. S.—Selenite. 103

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Stone.

172 Gregory, V. R., & Co., Toronto, Ont.—Artificial stone monument. 103

173 Wandly, Henry, Clover Hill, Toronto, Ont.—Artificial stone. 103

174 Milner & Herd, Strathroy, Ont.—Artificial stone window cap. 103

175 Joslyn, J. H. L., Box 153, Tilsonburg, Ont.—Marbleade roofing, a seamless sheet of artificial stone, not excessively heavy, but wonderfully efficient; not resting on the roof boards, but accommodated to them by an intervening plastic waterproof composition. 103

176 Riggins, George, Kincardine, Ont.—Clay for bricks. 104

177 Russell, Samuel, London, Ont.—Clay for bricks. 104

178 Munn & Cochner, Dundas, Ont.—Clay for bricks. 104

179 Leslie, Robert, Glenwilliam, Ont.—Clay for bricks. 104

180 Townshend, Mrs. Mary, Rockville, Ont.—Clay for bricks. 104

181 Anderson, Thos., Nepean, Ont.—Clay for bricks. 104

182 Cashmore, Thos., Pembroke, Ont.—Clay for bricks. 104

183 McGregor, Daniel, Pembroke, Ont.—Clay for bricks. 104

184 Baker, William, Arnprior, Ont.—Clay for bricks. 104

185 Foshick, Eneas, Ramsay, Ont.—Clay for bricks. 104

186 Moore, Gilbert, Ramsay, Ont.—Clay. 104

187 Coulter, James, Ramsay, Ont.—Clay. 104

188 Metcalfe, James, Ramsay, Ont.—Clay. 104

189 Foster, W. A., Belleville, Ont.—Clay. 104

190 Workman, Hugh, Brantford, Ont.—Clay. 104

191 Peel, Thos. W., Montreal, Q.—Clay. 104

192 Mochan, Albert, St. Johns, Q.—Clay. 104

193 Jackson, Charles, Woodstock, N. B.—Clay. 104

194 Wells, William, Beamsville, Ont.—Pottery clay. 104

195 Ahren, J. H., Paris, Ont.—Pottery clay. 104

196 Pratt, Charles, London, Ont.—Pottery clay. 104

197 Farrar, G. H. & L. E., St. Johns, Q.—Pottery clay. 104

198 Bell, David, St. Johns, Q.—Clay drain tile. 104

199 Copeland & McLaren, Montreal, Q.—Fire clay, sandstone facing for furnaces. 104

200 McMann, G. N., Grand Lake, N. B.—Fire clay. 104

201 Bannerman, Robert, Montreal, Q.—Pipe clay. 104

202 St. Johns Stone Chinaware Co., St. Johns, Q.—Fire brick. 104

203 Bishop, H., Nepean, Ont.—Sandstone for glass-making. 104

204 McDougall, John, & Sons, Three Rivers, Q.—Sandstone for furnace lining. 104

205 Oil Cloth Factory, Yorkville, Ont.—Sand. 104

206 Jackson, Charles, Woodstock, N. B.—Brick sand. 104

207 Sweet, S. H., Wentworth, N. S.
a Kaolin. 104
b Gypsum. 107

208 McDonald, George J., Cornwallis, N. S.—Refractory stone. 104

209 Law, John, London, Ont.—Black lead crucible. 105

210 Dominion of Canada Plumbago Co., office, Ottawa, Ont.; mines and works, Buckingham, Province of Quebec.—Manufacturers of electrotyping, lubricating, pencil, crucible, stove polish, and other stock of every grade. Assays and tests prove quality. Prices are ordinary current market rates. 105

211 Millet, John G., Grenville, Q.—Graphite. 105

212 Montreal Plumbago Mining Co., Montreal, Q.—Stove polish. 105

213 Martin, Charles, Montreal, Q.—Stove polish. 105

214 Kelly, John, Belleville, Ont.—Lithographic stones. 106

215 Ontario Lithographic Stone Co., Marmora, Ont.—Lithographic stone. 106

216 Read, Stevenson, & Co., Dorchester, N. B.—Grindstone polishing and cutters' stone. 106

217 Seaman & Co., Lower Cove, N. S.—Grindstones. 106

218 Douglass, David, Port Philip, N. S.—Grindstones. 106

219 Leroux, G., Quebec, Q.—Millstones. 106

220 Casgrain, Stoneham, Q.—Tripoli. 106

221 Fisher, W., Victoria, Br. Col.—Tripoli. 106

222 Coleman, William, Paris, Ont.—Raw and prepared gypsum. 107

223 Ontario Plaster Co., Mt. Healy, Ont.—Raw and prepared gypsum. 107

224 Converse, John A., Montreal, Q.—Raw and prepared gypsum. 107

225 Brown, A., Petitcodiac, N. B.—Gypsum and selenite. 107

226 Tobique Gypsum Co., Tobique, N. B.—Gypsum. 107

227 Albert Manufacturing Co., Hillsboro, N. B.—Calcined and anhydrous gypsum; alabaster. 107

228 McDonald, R. N., International Museum, N. S.—Gypsum. 107

229 Nova Scotia Advisory Board, Halifax, N. S.—Gypsum. 107

230 Davidson, H. A., Black River, N. S.—Gypsum. 107

231 Cove, Jas. A., Claremont Hill, N. S.—Gypsum. 107

232 Fulton, C. A., Wallace, N. S.—Gypsum. 107

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Metallurgical Products.

232*a* Meighen Bros., Perth, Ont.—Phosphate of lime. 107

233 McLennan, Jos., Montague, N. S.—Gypsum. 107

234 Merchants' Salt Co., Seaforth, Ont.—Brine. 107

235 International Works, Goderich, Ont.—Brine. 107

236 Ransford, H., Clinton, Ont.—Brine. 107

237 Tecumseh Works, Goderich, Ont.—Brine. 107

238 Gray, Young, & Spalding, Seaforth, Ont.—Brine. 107

239 Jourvie, J. A., & Co., Caledonia Springs, Ont.—Saline, gas, and sulphur waters. 107

240 Winning, Hill, & Ware, Montreal, Q.—Carratraca water. 107

241 Gee, J. N., St. Francis Spring, Q.—Mineral water. 107

242 Hickman, James S., Amherst, N. S.—Saline water. 107

243 Murray, Edmund W., Buckingham, Q.—Phosphate of lime. 107

244 Buckingham Mining Co., Buckingham, Q.—Crystal phosphate of lime. 107

Metallurgical Products.

245 Silver Islet Co., Silver Islet, Ont.—Ingot of silver. 110

246 Ottawa Iron & Steel Manufacturing Co., Ottawa, Ont.—Iron billets. 111

247 Field & Aydon Patent Smelting Co., Marmora, Ont.—Pig iron, smelted with pure petroleum. 111

248 Gauthier, O., St. Urbain, Q.—Titanic pig iron. 111

249 McDougall, John, & Sons, Three Rivers, Q.—Charcoal iron; iron bars, bent and twisted cold; axes, tomahawk, slag. 111

250 Canadian Titanic Co., Baie St. Paul, Q.—Slags, titanic iron. 111

251 Chinic Eugene, Quebec, Q.—Viger steel. 111

252 Moisic Iron Works, Montreal, Q.—Iron, iron bloom. 111

253 McDougall, John, Montreal, Q.—Iron bloom, car-wheels. 111

254 Steel Co. of Canada, Londonderry, N. S.—Iron and steel. 111

255 West Canada Mining Co., Bruce Mines, Ont.—Ingot copper. 112

256 Lake George Antimony Co., Prince William, N. B.—Babbit metals, regulus, slags, oxidized ore. 113

FRANCE.

(*The French Exhibits in Mining and Metallurgy are installed in the Agricultural Building, and Catalogued in Part IV.*)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

GERMANY.

(South of Nave, Columns 28 to 38.)

Minerals, Ores, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 **Krupp, Fr., Essen.**—Ores and raw products. 100

2 **Burbach Works, Burbach.**
a Iron. 100
b Coal. 101
c Stone. 102

3 **Heinrichshütte, Au-on-the-Sieg.**—Spathic iron ore. 100

4 **Mine Owners of the Siegerland.**—Ores, etc. 100

(The above exhibits are installed in Machinery Hall.)

COLLECTIVE EXHIBIT OF PRODUCTIONS OF LEAD MINES AND FURNACES, ACCOMPANIED BY DRAWINGS.

5 **Royal Prussian Smelting Works of** the Upper Harz, Clausthal.—Lead, copper, and zinc ores. 100

6 **Royal Prussian & Ducal Brunswick** Smelting Works of the Lower Harz, Gaslar.—Argentiferous copper and lead ores. 100

6*a* **Royal Prussian Smelting Works,** Friedrichshütte.—Ores and litharge. 100

7 **Joint Stock Association for Mining,** & Lead & Zinc Manufactures, Stolberg, near Aix-la-Chapelle.—Lead and zinc ores. 100

8 **Rhenish-Nassau Co., Stolberg, near** Aix-la-Chapelle.—Lead ores. 100

9 **Solenhofen Joint Stock Co., Solenhofen.**
a Tiles for malt-house floors. 102
b Lithographic stones. 106

10 **Zimmermann, Otto, Greussen, Tophus.**—Tiles. 102

11 **Stern Portland Cement Factory,** Stettin.—Portland cement. 103

12 **Hiller, Otto, Berlin.**—Mastic roofing and model roof. 103

13 **Häeusler, Carl Sam., Hirchberg;** Silesia.—Wood cement and model roof. 103

14 **Scharlach, Louis, jr., Hamburg.**—Roofing. 103

15 **Vowohl Asphalt Works, Escherschausen.**—Asphalt mastic blocks. 103

16 **Schindel, John Adam, Solenhofen.**—Lithographic stones. 106

17 **Apollinaré's Co., Ahnweiler.**—Mineral waters. 107

17*a* **Bisresborn Mineral Spring Co.,** Bisresborn.—Mineral waters. 107

18 **Jungfer, A., Berlin.**—Amber. 107

19 **Stantien & Becker, Berlin.**—Raw amber. 107

20 **Managers of Friedrichshall Springs,** C. Oppel & Co., Friedrichshall, near Hilburghausen.—Friedrichshall natural bitter water. 107

(For mill and grindstones, see Machinery Hall.)

Metallurgical Products.

21 **Borsig, A., Berlin.**—Iron, cast steel, boiler plates, plates for fire boxes, etc. 111

22 **Burbach Works, Burbach.**—Rolled double T iron. 111

23 **Krupp, Fr., Essen.**—Wheels, pistons, flanges, rollers, springs, etc. 111

COLLECTIVE EXHIBIT, SIEGERLAND.—SPIEGELEISEN AND ORES.

24 **Heinrichshütte, Au-on-Sieg.**—Spiegel iron. 111

25 **Cologne Müsen Mining Co., Creuzthal.**—Spiegel iron. 111

26 **Joint Stock Co., Charlottenhütte,** Niederschelden.—Spiegel iron. 111

27 **Wissen Mining & Smelting Co.,** Wissen.—Spiegel iron. 111

28 **Lohmann & Söding, Witten.**—Steel for tools and arms. 111

29 **Westphalian Union Joint Stock Co.** for Mining & for Iron & Wirework, Hamm.—Wire. 111

(The above exhibits of Metallurgical Products are installed in Machinery Hall.)

30 **Royal Prussian Smelting Works of** the Upper Harz, Clausthal.—Lead, copper, silver, zinc fumes, slags, drawings, etc. 111

31 **Royal Prussian & Ducal Brunswick** Smelting Works of the Lower Harz, Gaslar.—Gold, silver, lead, and copper composition. 111

32 **Royal Prussian Smelting Works,** Friedrichschütte.—Lead bars, slag, and drawings. 111

33 **Hirsch, Aron, & Son, Brass Works** at Neustadt-Eberswalde.—Seamless brass tubes, etc. 112

34 **Joint Stock Association for Mining,** & Lead & Zinc Manufactures, Stolberg, near Aix-la-Chapelle.—Lead and zinc plates, etc. 111

35 **Ruffer & Co., Breslau.**—Sheet zinc. 113

35*a* **Rhenish-Nassau Co., Stolberg, near** Aix-la-Chapelle.—Lead. 111

Mining Engineering.

36 **Nörr, Eugene, Berlin.**—Drawings and description of a self-acting safety lamp. 120

37 **Gödecke, Carl, Gelsenkirchen.**—Plans of the Gelsenkirchen furnaces. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

AUSTRIA.

(*South of Nave, Columns 23 to 28.*)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 **Imperial & Royal Metallurgy Direction, Idria.**—Cinnabar. 100

2 **Jugoviz, A., Klagenfurt.**—Ore and mining products of Karnthen. 100

3 **Chief Mountain & Mining Administration, Pozoritta, Bukowina.**—Pyrolusite for aniline pigments for soda factories, German silver ware, and manganese products. 100

4 **Metallurgy & Mining Administration, Joachimsthal.** — Meteoric specimens. 100

5 **Goldschmidt, Louis A., Dubnik, Hungary.**—Unpolished opals. 100

6 **Nedwied & Son, Schlan, Bohemia.**—Red chalk, red-lead pencils. 107

7 **Saxlehner, Andreas, Budapest.**—Hunyadi János mineral water. 107

8 **Mineral Water Direction, Pullna,** near Brüx, Bohemia.—Mineral water. 107

9 **Loser Bros., Budapest.**—Genuine mineral water from the Ofen-Rakoczy spring. 107

Metallurgical Products.

10 **Industry Association in Krain,** Laibach.—Iron and steel mountain and mining works. Ferro-manganese and spiegel iron. 111

11 **Imperial & Royal Metallurgy Direction, Idria.**—Quicksilver. 113

SWITZERLAND.

(*North of Nave, Columns 52 to 55.*)

Minerals, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 **Neuchatel Asphalte Co.** (limited), Travers, Ct. Neuchâtel.—Natural and mastic asphalt. 101

(*The minerals illustrating the geological formations traversed by the St. Gothard tunnel are classified in this catalogue, together with the other exhibits of the St. Gothard Railroad Co., under Dept. III., Class 332.*)

Metallurgical Products.

3 **Bürgin Bros., Schaffhausen.**—Phosphate of bronze, different compositions, with strength and fracture tests. 114

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

BELGIUM.

(*North of Nave, Columns 54 to 59.*)

Minerals, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 **Bleyberg es Montzen Joint Stock** Co., Montzen, Province of Liége.—Zinc and lead ores. 100

2 **Vincent Son, Basècles** (Hainaut).—Samples of Basècles black marble pavements. 102

2*a* **Sacquelen, F., Basècles near Tournai** (Hainaut).—Specimens of Basècles blue and gray stone. 102

3 **Ville de Spa** (Communal Administration).—Trophy furniture, showing views of the city and environs, plans of mineral water-works, samples of these waters, articles of export, etc. The painting of this furniture was executed by Messrs. Boland, Chas., Bronfort, H., Crahey, senior, G. I., Debrus, Alexandre, Debrus, Alexis, Krins, E., Marcette, Henri, and Reigler, L. 107

Metallurgical Products.

4 **Bonehill Bros., L'Esperance High** Furnace Forge Foundry, Marchienne-au-Pont, near Charleroi.—Architectural iron. 111

5 **Constant, Emile, Monceau-sur-**Sambre, near Charleroi.—Patterns of building iron spring and web iron. 111

6 **Mabille, Valère, Mariemont** (Hainaut).—Manufactured iron, Kind Chaudron shaft-sinking apparatus. 111

7 **Paris, Isaac Joseph, Marchiennes,** near Charleroi.—Iron riveted beams for ship-building. 111

8 **Charleroi Iron Manufacturing Joint** Stock Co., Marchienne-au-Pont, near Charleroi.—Iron for building, etc. 111

9 **Providence Forge Joint Stock Co.,** Marchienne-au-Pont, near Charleroi.—Iron for building, iron wheels without welding. 111

10 **Forge and Rolling Mill Joint Stock** Co., Régissa, near Huy.—Polished and unpolished sheet iron by wood and coke. 111

11 **Angleur Steel Manufacturing Co.,** F. de Rossius, Pastor & Co., Renory, near Liége.—Bessemer cast steel products, rails, tires, axles, forge pieces, and rolled bars. 111

12 **Jemmapes Forge Foundry & Rolling** Mill Co., V. Demerbe & Co., Jemmapes (Hainaut).—Broken bar-bended iron, tramway rails, system of tramway rails on cast iron sleepers. 111

13 **Bivort, Raymond, Henri, Arbre,** Province of Namur.—Kettles and copper wire. 112

14 **Bleyberg es Montzen Joint Stock** Co., Montzen, near Verviers.—Prepared zinc and lead ore, potters' ore (pure galena) for glazing, pig lead for rolling mill, white lead and crystals, silver ore, block zinc for rolling, galvanizing, etc. 113

NETHERLANDS.

(*North of Nave, Columns 60 to 65.*)

Stone.

Minerals, Ores, Stone, Mining Products.

1 **Onderwater, H. F., Dordrecht.**—Stones for pavement. 102

2 **Van Verschuur & Van der Voort,** Amsterdam.—Unpolished stones. 102

3 **Borst & Roggenkamp, Delfzyl.**—Portland cement stones, lithographic stones, oilstones, whetstones, grindstones, polishing material, and sand quartz; garnets, raw topazes, diamonds, tripoli, and corundum. 106

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

SWEDEN.

(*North of Nave, Columns 6 to 11.*)

Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 Adelsvärd, Baron Th., Atvidaberg.—Copper ore. 100

2 Bofors Stock Co., Gullspang, Bofors.—Iron ores. 100

3 Berg, Axel, Warby, Stockholm.—Iron ores. 100

4 Berg, Gottfried, Warby, Stockholm.—Zinc, galena, and nickel ores, pyrites. 100

5 Fagersta Iron & Steel Works, Westanfors.
a Iron ores. 100
b Limestone. 103

5*a* Swedish Iron Masters' Association, Stockholm.
a Collection of minerals. 100
b Maps and drawings. 335

6 Avesta Garpenbergs Stock Co., Avesta.—Iron ores. 100

7 Björneborgs Iron & Steel Works, Björneberg.—Iron ores. 100

8 Degerfors Stock Co., Degerfors.—Iron ores. 100

9 Ekman, Carl, Finspong.—Iron ores. 100

10 Hermansson, C. F., Count von, Ferna.—Iron ores. 100

11 Hofors & Hammarby Iron Works, Gefle.—Iron ores. 100

12 Larsbo Norn Stock Co., Kafalla.—Iron ores. 100

13 Laxa Iron Works Co., Laxa.—Iron ores. 100

14 Lesjöfors Iron & Steel Co., Langbanshyttan.
a Iron ores. 100
b Hausmannite and limestone. 103

15 Lindberg, Lars, Kohlsva.—Iron ores. 100

16 Löfvenskiöld, Salomon, Nissafors, Jönköping.—Iron ores. 100

17 Ramnäs Iron Works Co., Ramnäs.—Iron ores. 100

18 Rettig, C. A., Kilafors, Gefle.—Iron ores. 100

19 Schisshytte-Molnebo Iron Works, Morgongåfva.—Iron ores, krebelite, linc ores, and galena. 100

20 Stockenström, Axel von, Aker, Mariefred.—Iron ores. 100

21 Stora Kopparbergs Bergslag, Stockholm.—Iron ores. 100

22 Sundström, J. O., Charlottenberg.—Iron ores. 100

23 New Gellivara Company (limited), Lulea.—Iron ores. 100

24 Osterby & Strömbacka Iron Works, Osterby.—Iron ores. 100

25 Uddeholm Company, Rada.—Iron ores. 100

26 Larsson, P. M., Löa, Rausa.—Iron ores. 100

27 Sanövikens Stock Co., Gefle.—Iron ores. 100

28 Schough, Robert, Lulea.—Iron and copper ores. 100

29 Geological Survey of Sweden, Stockholm.—Geological collections. 100

30 Höganäs Coal Mining Co., Höganäs.
a Mineral coal. 101
b Fire clay, fire brick. 104

31 Samuelson, S. H., Föskefors, Rada.—Peat. 101

32 Westerlund, A. F., Nybro, Kalmar.—Peat. 101

33 Berg, Gottfried, Wärby, Stockholm.—Porphyry, serpentine, and marble. 102

34 Klintberg, J. W., Wisby.—Marble table slabs, jewelry, etc. 102

35 Kullgrens', C. A., Widow, Uddevalla.—Articles of polished granite. 102

36 New Marble Works, Norrköping.—Manufactured marble. 102

37 Scanian Cement Co., Malmö.—Portland cement, raw materials and products. 103

38 Rörstrand Stock Co., Stockholm.—Feldspar. 104

39 Gottland Grindstone Co., Burgsvik.—Grindstones. 104

39*a* Karlson, Gust & Martin, Lugnas.—Grindstone. 106

40 Berg, Gottfried, Warby, Stockholm.
a Graphite. 105
b Grindstones. 106
c Vivianite. 107

41 Berg, Chr. Lud., Eriksberg, Stockholm.—Mineral waters. 107

42 Mineral Water Stock Co., Stockholm.—Mineral waters. 107

Metallurgical Products.

43 Bofors Stock Co., Gullpsang, Bofors.—Pig iron, blooms, bar iron, wire rods, and iron plate. 111

43*a* Ramnäs Stock Co., Ramnäs.—Pig and bar iron; slag. 111

44 Fagersta Stock Co., Westanfors.—Pig iron, Bessemer steel ingots, bars, plates, etc.; steel samples, showing the strength of the steel. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Metallurgical Products.

45 **Schisshyttan-Molnebo Manufacturing Co.**, Morgongäfva.—Spiegeleisen. 111

46 **Göteborgs Mechanical Works Stock Co.**, Göteborg.—Crown of a flue. 111

47 **Laxa Iron Works**, Laxa.—Pig iron, blooms, and bar iron. 111

COLLECTIVE EXHIBIT OF IRON MANUFACTURERS, STOCKHOLM.

48 **Ankarsrum Works**, Ankarsrum.—Pig iron, blooms, iron bars, wire rods, and railway crossings. 111

49 **Avesta Garpenberg Stock Co.**, Avesta.—Pig iron, blooms, and bar iron. 111

50 **Björneborgs Iron & Steel Works**, Bjorneborg.—Pig iron, Bessemer steel ingots, and manufactured Bessemer steel. 111

51 **Degerfors Stock Co.**, Degerfors, Wermland.—Pig iron, blooms, wire rods, and plate. 111

52 **Ekman, Carl**, Finspong.—Pig iron for guns, malleable blooms, and bar iron. 111

53 **Gysinge Iron Works**, Gysinge.—Iron in the pig and bars, with specimens of slag. 111

54 **Hermansson, C. F., Count von**, Ferna, Bernshammar.—Pig iron, spiegeleisen, and bar iron. 111

55 **Hofors & Hammarby, Hammarby**, Storvik, Gefle.—Pig iron, blooms, and bars, with specimens of slag. 111

56 **Larsbo, Norns, Stock Co., Kafalla.**—Pig, bar, and angle iron; blooms. 111

57 **Lesjöfors Iron & Steel Co.**, Filipstad.—Pig iron, ingots of Bessemer and Martin steel, bars, wires, and wire rope of the same material. 111

58 **Lindberg Lars**, Kohlsva.—Pig iron, bar iron, and wire rods. 111

59 **Löfvenskiöld, Salomon, Nissafors**, Jönköping.—Iron in the pig and bars. 111

60 **Rettig, C. A., Kilafors, Söderhamn.**—Pig and bar iron. 111

61 **Stockenström, Axel von, Mariefred.**—Pig iron for malleable iron. 111

62 **Bergslag Iron Works**, Stockholm.—Pig iron, Bessemer ingots, blooms, bar iron, and samples of iron showing the quality. 111

63 **Sundström, J. O.**, Charlottenberg.—Pig and bar iron; spikes. 111

64 **New Gellivara Company (limited)**, Lulea.—Pig and bar iron; nails. 111

65 **Osterby & Strömbacka, Dannemora.**—Pig iron, Bessemer steel ingots and bars, blister steel, crucible cast steel, and bar iron. 111

66 **Surahammars Iron Co.**, Surahammar.—Iron plate, puddled iron, and steel bars, railway wagon wheels and axles. 111

67 **Uddeholms Stock Co. (limited)**, Rada.—Pig iron, ingots of Bessemer and Martin steel, and iron in bars, springs, etc. 111

68 **Larsson, P. M., Löa, Rällsa.**—Samples of pig iron. 111

69 **Motala Mechanical Co.**, Motala.—Iron and steel, in bars, plates, and sheets, with products of working. 111

70 **Sandvikens Iron Works (limited)**, Sandviken.—Pig iron, Bessemer steel ingots, forgings for engines, steamers, etc. 111

71 **Adelswärd, Baron, Th., Atvidaberg.**—Copper in ingots, with specimens illustrating its various stages of production. 112

72 **Skultuna Stock Co., Westeras.**
a Copper, with products of working. 112
b Brass in different stages of production. 114

(For rails, railway and wagon wheels, tires, axles, etc., see Class 573, Machinery Hall.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

NORWAY.

(North of Nave, Columns 4 to 7.)

Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 **Geological Survey of Southern Norway**, Director Th. Kierulf, Christiania.
a Stones, eruptive rocks, leading strata, constituents of coarse granite dykes. 100
b Manuscript maps, natural sections, generalized representations, printed maps. 335

2 **Fasmer, I. H., & Son, Bergen.**—Feldspar. 100

3 **Hinderager Mining Co., Bergen.**—Copper ore, pyrites. 100

4 **Hoyem, Andr., Bergen.**—Titanium iron ore. 100

5 **Kongsberg Silver Mines, Kongsberg.**—Ores, crystals. 100

5*a* **Dahll, J., Krageró.**—Apatite ore. 100

6 **Bamble Nickel Mines, Johan Dahll, Krageró.**—Samples of nickel ores, with specimens illustrative of the melting process. 100

7 **Glorud Nickel Co., F. H. Frolich & Son, Christiania.**—Nickel ores. 100

7*a* **Geological Survey of Southern Norway**, Assistant Geologists W. Brögger and H. Reusch, Christiania.
a Newly-discovered crystals. 100
b Contents of giant-kettles, spiral marked interior grinding-stones. 106

7*b* **Ringerige's Nickel Works.**—Nickel ores, with rocks and specimens of the smelting process. 100

7*c* **Rom Nickel Works.**—Nickel ores, with rocks and specimens of the smelting process. 100

8 **Luttensee, Georg, Christiania.**—Quarry stone for street pavement and curbstones. 102

9 **Moestue & Co., Thv., Christiania.**—Slates for tables, roofs, and floors, from Slidre quarries. 102

10 **Pettersen, Karl, Tromsó.**—Granite, labbro and other massives, raw and polished. 102

11 **Frolich & Son, F. H., Christiania.**—Collection of Norwegian apatite ores. 103

12 **Birch, F., Selboe.**—Millstones. 106

14 **Christiania Millstones Manufacturing Co., Christiania.**—Millstones. 106

15 **Lönseth, Fred., Christiania.**—Millstones from Sælbo, flint millstones. 106

Metallurgical Products.

16 **Kongsberg Silver Mines, Kongsberg.**—Silver in bars and granulated silver. 110

17 **Cathrineholms Iron Works & Foundry, Fredrikshald.**
a Stoves and other wrought iron. 222
b Anchors, chains. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

ITALY.

(*North of Nave, Columns 1 to 5.*)

Minerals, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 Tagliavia, Francesco, & Co., Messina.—Collection of minerals. 100
2 Fontana Brothers, Luserna, Turin.—Flagstones. 102
3 Tassi, Peter, Leghorn.—Yellow marble and alabaster. 102
4 Chamber of Commerce & Arts, Sienna.—Marble and alabaster stone. 102
5 Stock Company for Manufacturing Bricks, Reggio, Emilia.—Cement, limestone. 103
6 Crispo, Moncada Carlo, Catania.—Limestone. 103
7 Maccagnani, Ulisse, Bologna.—Aromatic earth of Cattu. 104
8 Bolari & Yellow Earth Co., Sienna.—Bolari and yellow earth, earth for coloring. 104
9 Furse Bros., & Co., Rome.—Bolari earth of Sienna. 104
10 Molfino, Luigi, Genoa.—Lithographic stone. 106
11 Scammano, Cav. Michele, Catania.—Cedrats. 107
12 Birindelli, Carlo, Florence.—Colalli water. 107
13 Spedalieri, Ba Felice, Catania.—Sulphur. 107
14 Aristide, Count, Castrocaro.—Mineral waters. 107
15 Romano, Gaetano, Palermo.—Sulphur. 107
16 Scavo Vita Brothers, Catania.—Sulphur. 107
17 Dily, Edoardo, Catania.—Sulphur. 107
18 Ardizzone, Francesco, Catania.—Sulphur. 107
19 Pennini, Baron of Floristallo, Catania.—Sulphur. 107
20 Cesena Sulphur Co. (limited), Cesena.—Raw and refined sulphur. 107
21 Bartolini dott Cesare, Sienna.—Fossil flour. 107

Metallurgical Products.

22 Fornara, Gio., & Co., Turin.—Wire. 111
23 Ponsard & Gigli, Florence.—Iron, manganese. 111

BRAZIL.

(*North of Nave, Columns 58 to 61.*)

Minerals, Stone.

Minerals, Ores, Stone, Mining Products.

1 Province of Paraná.
a Iron ores. 100
b Clay, argil, and schist. 104
c Alkaline waters. 107
2 Province of San Paulo.—Iron ores. 100
3 Ypanema Iron Works.—Iron ores. 100
4 Cunha Bettencourt, M. J. da.—Minerals. 100
5 Gorceix, H.—Rocks and minerals. 100
6 Commission General for the National Exhibition.
a Ores. 100
b Coal. 101
c Marbles. 102
d Clay, argil, and schist. 105
e Minerals, showing gold and diamond formations. 106
7 National Museum.
a Minerals. 100
b Coal. 101
c Marbles. 102
d Gems. 106

For classes of exhibits, indicated by number at end of entries, see Classification, pp. 27-45.

Oils, Blacking, Boots and Shoes.

8 Goes, J. T. Pereira de.—Minerals. 100
9 Lemos, J. A. de.—Minerals. 100
10 Correia, J. Severo.—Calcareous rocks, galena, and pyrites. 100
11 Athayde, M. E. de S.—Mica. 100
12 Moraes, Rozeira, M. G. de.—Martial pyrites. 100
13 Mendes, J. O.
a Sulphur. 100
b Calcareous stalactites. 102
14 Costa Netto, J. da.—Fossils. 100
15 Province of San Pedro do Sul.—Coal. 101
16 Villa Franca, Baron of.—Peat. 101
17 Andrade, A. R. L.—Bituminous coal. 101
18 Barbacena, Viscount of.—Coal. 101
19 Province of Sancta Catherina.
a Coal. 101
b Marble. 102
20 Lopez, F. J. A., & Co.—Bituminous schist. 101
21 Carvalho, A. P. S.—Bituminous schist. 101
22 Muricy, J. C. da Silva.
a Anthracite and bituminous coal. 101
b Quartz, agates, and grindstones. 106
23 Steraux, E.—Marbles. 102
24 Leao, A. D.
a Calcareous siates and stalactites. 102
b Rock crystal and agates. 106
25 Coritiba Museum.
a Slates. 102
b Violaceous quartz. 106
26 Osternack, Charles.—Virgin lime. 103
27 Juparana, Baron of, & Nogueira da Gama.—Calcareous specimens. 103
28 Freitas, T. Teixeira de.—Lime. 103
29 Cardoso, A. Nunes.—Lime from oyster-shells. 103
30 Portugal, F. P. de Asvedo.—Calcareous rocks. 103
31 Commission of S. Joao d' El Rei.—Plaster of Paris in powder. 103
32 Nhorinho, J. S. da Silva.—Lime. 103
33 Bento, Dr.—Lime. 103
34 Lendenberg, L. B.—Lime. 103
35 Rezende, C. Xavier.—Stalactites. 103
36 Colony of Assungin.—Saponaceous clay. 104
37 Gonzaga, E. J.—Clays. 104
38 Gonsalves, J.—Calcined kaolin. 104
39 Correa, G. Lourenço.—Clay. 104
40 Wirmond, E. E.—Yellow argil. 104
41 Mota, C. S. da.—Tagua (rose-colored argil). 104
42 Gomes, T. G. C.—Argil. 104
43 Figueredo, D. J.—Argil and plastics. 104
44 Magalhaes, F. T. S.—Argil and colored clay. 104
45 Andrade, J. F. de.—Colored clay. 104
46 District of Formiga.—Argil. 104
47 Travanca, A.—Argil. 104
48 Schimmelpfing, A.—Kaolin. 104
49 Ribas, M. de Sa.—Alum. 106
50 Ferreira, Domingos F.—Rough and cut diamonds. 106
51 Silva, L. Machado da.—Quartz prisms. 106
52 Heyd, Theodoro.—Grindstones. 106
53 Siqueira, P. Lustósa de.—Agates. 106
54 Colony of Mucury.—Precious stones. 106
55 Cortez, P. de Siqueira.—Amethysts. 106
56 Asevedo, D. J. Santós.—Diamonds. 106
57 Maciel, D. Ferreira.—Sulphurous water. 106

Metallurgical Products.

58 Commission General for the National Exhibition.
a Gold. 110
b Iron. 111
c Mercury. 113
59 Province of Paraná.—Specimens of gold veins. 110
60 Tourinho, F. A. M.—Magnetic gold. 110
61 Camara, J. Ewbank da.—Auriferous stones. 110
62 Leone, F. M., & Lemos, P. L.—Auriferous minerals. 110
63 Camara, F. T. Vieyra da.—Gold-dust. 110
64 Pórtugol, F. P. de A.—Gold-dust. 110
65 Province of Pernambuco.—Native iron. 110
66 National Museum.
a Iron. 111
b Copper. 112
67 Province of Sancta Catherina.
a Iron. 111
b Nickel. 114
68 Cruz, B. A. da.—Magnetic iron. 111
69 Lellian, Ernesto.—Magnetic iron. 111
70 Ypanema Iron Works.—Bar iron. 111
71 Silva, M. A. Machado da.—Oligistic iron. 111
72 Oliveira, A. C. de.—Oligistic iron. 111
73 Barboda, Nemes.—Oligistic iron. 111
74 Aranjo, J. A. Vieyra de.—Oligistic iron. 111
75 Ledo, Agostinbo E. de.—Oligistic iron. 111
76 Supplicy, J. Francisco.—Pyrites and sulphuret of iron. 111
77 Gasse, F.—Lead foils from Rio de Janeiro. 113

Mine Engineering, Models, Maps, and Sections.

78 Geological Commission.—Geological photographs. 120
79 Gorceix, H.—Geological map of the Chapadao. 120

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ARGENTINE REPUBLIC.

(Nave to South Avenue, Columns 2 to 5.)

Minerals, Ores, Stone.

Minerals, Ores, Stone, Mining Products.

1 Raymond, Hipolito, Province of Mendoza.—Collection of minerals. 100

2 Provincial Commission, Province of Mendoza.—Collection of minerals. 100

3 Lemos, Abraham, Province of Mendoza.—Minerals for paints. 100

4 Treloar, William A., Province of La Rioja.—Collection of minerals. 100

5 Almonacid & Parchappe, Province of La Rioja.—Collection of minerals. 100

6 Illanes, Manuel I., Province of La Rioja.—Minerals of Cerro de Vinchina. 100

7 Bascuñan, Francisco, Province of La Rioja.—Minerals. 100

8 Provincial Commission, Province of La Rioja.
a Minerals. 100
b Lime and common gypsum. 103
c White chalk and specimens of colored clay used in the manufacture of pottery and paints; colored chalk. 104

9 Gelos, Martin, Province of La Rioja.
a Minerals of Olta. 100
b Calcined lime; gypsum. 103
c Chalk. 104
d Whetstones of "La Torre," in their native state; flint. 106

10 Vega, Daniel de la, Province of La Rioja.—A petrifaction. 100

11 Schröeder, Theodore, Province of La Rioja.—Copper ore. 100

12 Gifford, Senor, Province of La Rioja. —Silver ore. 100

12*a* Bevan, Eduardo A., Province of La Rioja.—Ores. 100

13 Aguilar, Francisco D., Province of San Juan.
a Minerals. 100
b Mineral waters. 107

14 Government of the Province of San Juan.—Collection of minerals. 100

15 Provincial Commission, Province of San Luis.
a Collection of minerals. 100
b Stone pestle used by the Indians to grind corn and other grains; stone pan made by Indians, etc. 102

16 Metzler, A., Province of Catamarca. —Minerals. 100

17 Romay, Gabriel, Province of Cata-marca.—Iron and antimony ores. 100

17*a* Zorilla, Benjamin, Province of Sal-ta.—Silver ore. 100

18 Provincial Sub-commission of Tino-gasta, Province of Catamarca.—Ores of iron, lead, copper, silver, etc. 100

19 Galindez, Clásico, Province of Cata-marca.—Silver and copper ore. 100

20 Villafañe, Tristan, Province of Cata-marca.—Silver-bearing galena. 100

20*a* Bedoya, Segundo, Province of Sal-ta.—Silver ore. 100

21 Resoagli, Luis, Province of Corrien-tes.—Quartz, flint, agate, etc. 100

22 Mansilla, Manuel, Province of Cor-rientes.—Quartz, agate, copper ore, and mica. 100

23 Galarraga, E. G. de, Province of Cor-rientes.—Crystal rock. 100

23*a* Tula, Nabor, Province of Catamar-ca.—Copper ore from the Cerro Negro. 100

24 Sicard, Juana G. de, Province of Cor-rientes.—Horn-shaped stone. 100

25 Porta, Felix, Province of Corrientes. —Agglomeration of small stones. 100

26 Acosta de Quirolo, Josefa, Province of Corrientes.—Crystal rock. 100

27 Cuña, Americo, Province of Corrien-tes.—Agate. 100

27*a* Molina & Carranza, Province of Cat-amarca.—Ore from the Rosario mine. 100

28 Cabral y Melo, José Maria, Province of Corrientes.—Crystal rock and flint. 100

28*a* Salcedo, Uladislas M., Province of Catamarca.—Copper and silver ore. 100

29 Pujol, Nicanor, Province of Corrien-tes.—Iron ore. 100

30 Córdoba University, Province of Cór-doba.—Collection of minerals. 100

30*a* Muro, Froilan, Province of Cata-marca.—Iron and copper ore, copperas, and alum. 100

31 Fragneiro, José M., Province of Córdoba.—Lead containing silver. 100

32 Provincial Commission, Province of Córdoba.
a Lead containing silver, gypsum, various minerals. 100
b Marble. 102
c Whetstones. 106

33 Vasquez, Lucrecio, Province of Cór-doba.—Emeralds; round-shaped stone made by Indians. 100

34 MacDowell, N., Province of Córdo-ba.—Minerals. 100

35 Olmos, José V., Province of Córdo-ba.—Minerals. 100

36 Provincial Commission, Province of Salta.
a Galena, silver, and iron ores. 100
b Wrought stone for table top. 102
c Sulphate of lime. 103
d Kaolin. 104

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Minerals, Ores, Stone.

37 Echevarria, Cecillo, Province of Santa Fé.—Minerals; quartz and agates of Alto Uruguay. 100

38 Rap, Eugenio, Province of Tucuman.—Collection of minerals. 100

39 Government of the Province of Jujui.—Silver ore from Tilcará. 100

40 Sub-commission of the Department of Diamante, Province of Entre Rios.—
a Stones found on the shores of the Plata y Uruguay. 100
b Hydraulic cement stones and cement, lime, artificial stone, petrified wood, etc. 103

40*a* Provincial Commission, Province of Catamarca.
a Quartz, garnets, manganese, etc. 100
b Coal. 101
c Soapstone from Ancasti. 102
d Water-lime, gypsum. 103
e Colored clay, soapstone in powder, kaolin, etc. 104
f Mineral waters. 107

40*b* Elordi, Louis, Province of Buenos Ayres.—Copper ore from Patagones. 100

41 Arguello, David, Province of Córdoba.
a Silver ore. 100
b Anthracite coal. 101

42 Galvan, Federico, Province of La Rioja.—Coal from Tumbillos. 101

43 Roman, Gabriel, Province of Catamarca.—Coal. 101

44 Valdes, Emiliano, & Cipriano, Prov-ince of Buenos Ayres.
a Colored and other stones from Tandil. 102
b Black and white vegetable clay from Balcarce. 104
c Sand and whetstones. 106

45 Olmos, José V., Province of Córdoba. —White marble. 102

46 Salas, Manuel M., Province of Cor-rientes.—Marble and crystallized stones. 102

47 Santos, Francisco A., de los, Prov-ince of Corrientes.—Hollow unpolished stone. 102

48 Hurley, Tomás, Province of Cata-marca.—Granites; copper and black bronzes; antique pieces of stone discovered in the abandoned mine of Ortiz. 102

49 Provincial Commission, Province of Santiago del Estero.
a Dressed stones from the Sierra de Guayacan. 102
b Crystallized and common gypsum. 103
c Colored clay and saltpetre. 104
d Mineral and sarsaparilla waters. 107

50 Provincial Commission, Province of San Juan.—Building stone. 102

51 Avellaneda, Nicolas, Province of Córdoba.—Marble. 102

52 Segura, Rufino, Province of Cata-marca.—Soapstone, flagstone. 102

53 Sub-commission of Andalgalá, Prov-ince of Catamarca.—Soapstone from Belen. 102

54 Riso, Isidoro, Province of Catamarca.
a Soapstone. 102
b Water lime. 103

55 Herrera, Nicolas, Province of Cata-marca.—Slate. 102

56 Cornejo, Melchora, T., Province of Salta.
a Carbonate of lime. 103
b Mineral waters. 107

57 Saravia, Pablo, Province of Salta.—Sulphate of lime. 103

58 Fornasari, R., & Facino, H., Prov-ince of Entre Rios.—Hydraulic cement, artificial stones. 103

59 Commission of Paranà, Province of Entre Rios.
a Paving-stones, limestones, lime, sulphate of lime, petrified oyster-shells, etc. 103
b Clay, fine sand, calcareous clay, containing gold and silver. 104
c Tripoli. 106

60 Garlive, N., Province of Entre Rios. —Artificial stone. 103

61 Peretti, Santiago, Province of Salta. —Dressed stone and carbonate of lime. 103

63 Solá, Ramon, Province of Entre Rios.—Gypsum. 103

64 Justice of the Peace of Ensenada, Province of Buenos Ayres.—Lime made from shells. 103

65 Pedruncini, Juan, Province of Bue-nos Ayres.—Shell-lime. 103

66 Valdes, Nicasio, Province of Buenos Ayres.
a Lime from Balcarce. 103
b Red clay. 104

67 Iñiguez, Manuel A., Province of Buenos Ayres.—Limestone from Tandil. 103

68 Commission of Water Works, Prov-ince of Buenos Ayres.
a Lime-shells, calcareous stones, raw and burnt cement, cement in shape of bricks. 103
b Clay. 104

69 Welsh, Miguel, Province of Buenos Ayres.—Limestone, quicklime, slaked lime. 103

70 Caetani, Vicente, Province of Buenos Ayres.—Artificial marble. 103

71 Sandrot, José, Province of Buenos Ayres.—Artificial stones. 103

72 Justice of the Peace of Patagones, Province of Buenos Ayres.—Gypsum, etc. 103

73 Ibañez, P., Province of Catamarca. —Stalagmitical lime. 103

74 Provincial Commission, Province of Tucuman.
a Black, yellow, and white limestone, common gypsum. 103
b White clay. 104

75 Paroni, Andrés, Province of Santa Fé.—Hydraulic cement. 103

76 Provincial Commission, Province of Corrientes.—Calcareous stones from Itati. 103

77 Aguilar, Francisco D., Province of San Juan.—Hydraulic lime. 103

78 Gache, Manuel, Province of Buenos Ayres.—Gypsum from Rio Salado. 103

78*a* Carenzo, Nicholas, Province of Sal-ta.—Kaolin, white clay, and chalk. 104

79 Santa Cruz, Simon de, Province of Entre Rios.—Sand from Ibicui. 104

79*a* Tamayo, Sidney, Province of Salta. —White clays. 104

80 Arias, Hilarion, Province of Salta.—Sulphate of lime. 104

81 Lopez, Feliciano, Province of Cor-rientes.—Clay for the manufacture of crockery, tiles, and bricks, yellow stone for coloring and paint. 104

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Minerals, Stone, Metallurgical Products.

82 Sub-commission of Bella Vista, Province of Corrientes.—Stone containing red and yellow coloring substances; clays. 104

84 Calderon, Pedro, Province of Entre Rios.—Vegetable clay. 104

85 Fontes, V. M., & Negra, S., Province of Entre Rios.—Clay for whitewashing. 104

86 Bazan, Abel, Province of La Rioja.—Refractory bricks. 104

87 Barros, José, Province of La Rioja.—Refractory bricks. 104

89 Justice of the Peace of Zarate, Province of Buenos Ayres.—Black and ferruginous clays. 104

90 Lobo, Tristan, Province of Catamarca.—Chalk clay, tiles, and bricks. 104

91 Lafone Quevedo, Samuel A., Province of Catamarca.
a White clay for bricks; refractory bricks. 104
b Hard fossil-ground quartz. 106

92 Caballero, Eugenio, Province of Salta.—Graphite. 105

93 Medina, Luis R., Province of Catamarca. — Whetstones from Concepcion. 106

94 Perez, Luisa, Province of La Rioja.—Mineral water. 107

96 Patron Bros., Province of Salta.—Mineral waters. 107

97 Schmidt, Antonio, Province of San Luis.—Mineral waters. 107

98 Escobar, Juan de D., Province of San Luis.—White-stone water. 107

99 Sub-commission of the Colony of San Carlos, Province of Santa Fé.—Vegetable clay. 107

100 Otamendi, Carlos, Province of Buenos Ayres.—Shells from the coast of Balcarce. 107

Metallurgical Products.

101 Gainza, Martin de, Province of Buenos Ayres.—Gold from Patagones. 110

102 Nell, Federico, Province of San Luis.—Gold and washed gold. 110

103 Bertram & Co., Province of San Luis. — Gold from the Descubridora mine. 110

104 Provincial Commission, Province of San Luis.—Gold from La Carolina mine. 110

105 Lafone Quevedo, Samuel A., Province of Catamarca.—Copper ingots. 111

CHILI.

(*North of Nave, Columns 3 to 5.*)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 Government of Chili.—Silver and copper ores, and other minerals. 100

2 Sere, Edouard, Santiago. — Minerals. 100

3 Escobar, E., Copiapo.—Gold, silver, and copper ores, and other valuable minerals. 100

4 Urmenta & Errazuriez, Santiago.—Copper ores from Tamagua. 100

5 Escudero, R., Santiago.—Stone. 102

6 Sanchez, Francisco, Talca.—Carved stone from Talca. 102

7 Cadiz, Jose, Gabriel, Santiago.—
a Artificial marble balustrade, mantel, pilasters, and columns. 103
b Natural and powdered gypsum. 107

Metallurgical Products.

8 Government of Chili.—Copper in ingots. 112

Mining Engineering.

9 Errazuriz, Maximiano, Santiago.—Strata of coal mine in Lebu. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

MEXICO.

(*North of Nave, Columns 64 to 67.*)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

1 **Ochva, Gaspen, Sanchez, City of Mexico.**—Sulphur from the Volcano Popocatepetl. 100

2 **Mexican Mining Society, City of Mexico.**—Minerals and rocks. 100

3 **School of Engineers, City of Mexico.**—Minerals. 100

4 **National Museum, City of Mexico.**—Minerals and rocks. 100

5 **Barcena, Mariano, City of Mexico.**—Livingstonite. 100

6 **Folsa, M. José, Pregones, State of Guerrero.**—Quicksilver ores. 100

7 **Natural History Society, City of Mexico.**—Minerals. 100

8 **Government of the State of Durango, Durango City.**—Iron ores. 100

8*a* **Muller, N., Chihuahua City.**—Meteoric iron. 100

9 **Soto, Mayor C., State of Michoacan.**—Minerals from the mineral district of Angangueo. 100

10 **Rull, Miguel, City of Mexico.**—Minerals. 100

10*a* **Corcuera, Manuel, State of Jalisco.**—Iron ores. 100

11 **Real Del Monte Company.**—Minerals. 100

12 **State Government of Oaxaca.**—Minerals. 100

13 **San Rafael Company.**—Minerals from Zacatecas City. 100

14 **Quebradella Company, Zacatecas City.**—Minerals. 100

15 **Mala Noche Company, Zacatecas City.**—Minerals. 100

16 **Ponce, Juan, Zacatecas City.**—Minerals. 100

17 **Romirez, S. & C. J., City of Mexico.**—Rocks. 100

18 **Barcena, Manimo, City of Mexico.**—Fossils, rocks, and geological maps. 100

19 **Farrugia, Federico, State of Hidalgo.**—Minerals and metallurgical products. 100

20 **Zenteno, Estevan, Fempoal, Vera Cruz.**—Coal. 101

21 **Gutierrez, Julian, & Co., City of Mexico.**—Marble from the State of Puebla. 102

22 **Bocanegra, S., State of San Luis Potosi.**—Marbles. 102

23 **State Government of Hidalgo.**—Argils. 104

Metallurgical Products.

24 **Bermegillo, Pio, State of Michoacan.**—Cake of silver from Argangueo. 110

25 **Encarnacion Company.**—Wrought and cast iron. 111

26 **Guadalupe Company.**—Wrought and cast iron. 111

27 **Esperon, José, Oaxaca City.**—Wrought and cast iron. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SPAIN.

(*South of Nave, Columns 16 to 18.*)

Minerals, Ores, Stone.

1 **Arrivillaga, Agustin, Fondon,** Province of Almería.—Galena. 100

2 **Fernandez, Diego, Cuevas,** Province of Almería.—Argentiferous galena and barytes. 100

3 **Campos, Francisco, Fondon,** Province of Almería.—Laminated galena. 100

4 **Montoro, Francisco, Vera,** Province of Almería.—Laminated galena. 100

5 **Bachiller, Guillermo, Cuevas,** Province of Almería.—Argentiferous galena with iron pyrites. 100

6 **Cerezuelo, Gonzalo, Berja,** Province of Almería.—Laminated galena. 100

7 **Gonzalez, Gabriel, Laujar,** Province of Almería.—Laminated galena. 100

8 **Terriza, José, Berja,** Province of Almería.—Laminated galena. 100

9 **Rapalo, José, Almería,** Province of Almería.—Galena. 100

10 **Olmo, José del, Berja,** Province of Almería.—Galena, stained with minium. 100

11 **Cavanillas, Juan, Cuevas,** Province of Almería.—Argentiferous galena. 100

12 **Corrello, Rafael, Almozita,** Province of Almería.—Galena. 100

13 **Abad, Jerónimo, Nijar,** Province of Almería.—Pyrolusite. 100

14 **Ayala, Antonio, Lucar,** Province of Almería.—Steatite. 100

15 **Padilla, Francisco, Nijar,** Province of Almería.—Calamine and carbonate of lead. 100

16 **Blanco, Prudencio, Alcolea,** Province of Almería.—Gray calamine. 100

17 **Duran, Estéban, Almería.**—Oxide of copper and calamine. 100

18 **Ramirez, Luis, Lucar,** Province of Almería.—Black oxide of cobalt. 100

19 **Rio, Eustaquio, Huercal-Overa,** Province of Almería.—Arseniate of cobalt. 100

20 **Real, José, Almería.**—Carbonate of lead. 100

21 **Gomez, Crisanto de, Nijar,** Province of Almería.—Carbonate of lead. 100

22 **Trell, Miguel del, Berja,** Province of Almería.—Carbonate of calamine. 100

23 **Daza y Ruiz, Francisco, Purchena,** Province of Almería.—Iron ore. 100

23*a* **Daza y Ruiz, Seron,** Province of Almería—Iron ore. 100

23*b* **Daza y Ruiz, Lucar,** Province of Almería—Cinnabar ore and cobalt. 100

24 **Vivas Asqueros, Antonio, Pechina,** Province of Almería.—Iron ore. 100

25 **Linares, Clemente, Albanchez,** Province of Almería.—Iron ore. 100

26 **Villalobos Brothers, Berja,** Province of Almería.—Sulphate of lead. 100

27 **Hernandez, Secundino, Feria,** Province of Badajoz.—Iron ores. 100

28 **Successful Society, Alconchel Chelos,** Province of Badajoz.—Chakopirita. 100

29 **Laffite & Co., Castuera,** Province of Badajoz.—Galena and argentiferous lead. 100

30 **Mateos y Morato, Santiago, Azuaga,** Province of Badajoz.—Sulphate of lead. 100

31 **Grappin, G. de, Llerena,** Province of Badajoz.—Galena. 100

31*a* **Grappin, G. de, Malpartida,** Province of Cáceres.—Phosphate of lime. 100

31*b* **Grappin, G. de, Aldeacentenera,** Province of Cáceres.—Copper. 100

31*c* **Grappin, G. de, various towns of the province of Cáceres.**—Collection of ores. 100

32 **Martinez de Santa Maria, Juan, Burguillos,** Province of Badajoz.—Magnetic iron ore. 100

33 **Lligé & de Planell, Juan, Gabá y del Figaró,** Province of Barcelona.—Iron ore with manganese. 100

34 **O'Daly, Olimpia Vallcareara,** Province of Barcelona.—Magnetic iron. 100

35 **Anglada & Co., Pontons,** Province of Barcelona.—Carbonate of zinc. 100

36 **Provincial Commission, Atapuerca,** Province of Búrgos.—Stalactites. 100

37 **Richard & Granducontangne, Riocavado,** Province of Búrgos.—Hematites. 100

37*a* **Richard & Granducontangne, Huerto-abajo,** Province of Búrgos.—Hematites. 100

37*b* **Richard & Granducontangne, Monterrubio de la Sierra,** Province of Búrgos.—Hematites. 100

38 **Gutierrez, Julian, Olmos de Atapuerca,** Province of Búrgos.—Yellow and red ochre. 100

39 **Oria, Eugenio, Pancorbo,** Province of Búrgos.—Oxide of iron. 100

40 **Corporation of Pineda.**—Micaceous iron. 100

41 **Muñoz Bello, Francisco, Cáceres.**—Phosphate of lime. 100

42 **Gonzalez, Diego Bibiano, Cáceres.**—Calcareous phosphates. 100

43 **Rocandio, Jorge, & Sbarby, Manuel,** Zarza y Ciclavin, Province of Cáceres.—Calcareous phosphate. 100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores.

44 Sande Olivares, Gerónimo de, Garrobillas de Alconetar, Province of Cáceres, —Copper ore. 100

45 Miro Cerdá, various towns of the Province of Castellon.—Ores. 100

46 Provincial Board of Agriculture, Province of Castellon.—Galena and calamine. 100

47 Caminero, José, Ciudad-Real.—Ores. 100

48 Piquet, Alfonzo Emilio, Horcajo, Province of Ciudad-Real.—Ores. 100

49 Mines of Almaden, Almaden, Ciudad-Real.—Cinnabar ores and rocks. 100

50 Ducloux, Francisco Javier, Province of Barcelona.—Ores. 100

51 Gomez Ruiz, widow & sons of Gabriel, San Julian del Llot, Province of Gerona.—Lead ore. 100

52 Hisern, Joaquin, Caratáunas, Province of Granada.—Hematite iron. 100

53 Vasquez, Diego, Pitres, Province of Granada.—Quicksilver ore. 100

54 Corps of Mining Engineers, Hiendelaencina, Province of Guadalajara.—Brittle silver, blue copper, and malachites. 100

55 Gracian, Andrés, Huelva.—Sulphur of argentiferous antimony. 100

56 Ibarra, José Maria de, Huelva.—Collection of cuprous-iron pyrites and products. 100

57 Vasquez y Lopez, M., Zalamea la Real, Province of Huelva.—Peroxide of manganese. 100

58 Rieken y Gerdes, George, Mina Bronteriza, Huelva.—Sulphur. 100

59 Solo, Emilio de, Alosno, Province of Huelva.—Peroxide of manganese. 100

60 Diaz y Gomez de Cadiz, Eduardo, Valverde del Camino, Province of Huelva.—Manganese ore. 100

61 Bull & West, Diego, Valverde del Camino, province of Huelva.—Cuprous pyrites. 100

62 Tharsis Sulphur & Copper Co. (limited), Alosno, Province of Huelva.—Ores and slags. 100

63 Rio Tinto Co. (limited), Province of Huelva.—Ores. 100

64 La Buena Fé, Society, Linares, Province of Jaen.—Laminated galena, etc. 100

65 La Familia Society, Linares, Province of Jaen.—Laminated galena and galena in dross. 100

66 La Inocencia Mining Society, Guarroman, Province of Jaen.—Laminated galena and galena in dross. 100

67 Stolberg & Westfalia, Anonymous Society, Linares, Province of Jaen.—Laminated galena and galena in dross. 100

68 English, Heirs of Juan Carlos, Linares, Province of Jaen.—Laminated and ground galena and galena in dross. 100

69 Accino y Vazquez de Araujo, Enrique, Linares, Province of Jaen.—Laminated galena. 100

70 Sopwith, Tomás, Linares, Province of Jaen.—Laminated galena. 100

71 Bonaplata, Eduardo, Bailén, Province of Jaen.—Galena. 100

72 Figueroa, Ignacio, Linares, Province of Jaen.—Galena. 100

73 Amado Salazar, Enrique, Bailén, Province of Jaen.—Galena. 100

74 Lohnstein, Emilio, Linares, Province of Jaen.—Galena. 100

75 Arboledas, Martin, Linares, Province of Jaen.—Sulphate of lead. 100

76 Villanova, José Genaro, Linares, Province of Jaen.—Earth from a lead mine, and potter's antimony. 100

77 Polo Leoncio, Villafeliz, Province of Leon.—Iron ore. 100

78 Alonso, Casimiro, Leon.—Oxidized iron ore. 100

79 Bertrand, Casimiro, Alins, Lérida.—Oaelleresa, native iron. 100

80 Reynante y Cancio, Manuel, Rivadeo, Lugo.—Ores. 100

81 Corps of Mining Engineers, Madrid.—Ores. 100

82 Naranjo y Garza, Felipe, from various towns of the Province of Madrid.—Ores. 100

83 Mining Engineers, Málaga.—Malachite copper ore. 100

83*a* Mining Engineers, Marbella, Province of Málaga.—Magnetic iron. 100

83*b* Mining Engineers, Estepona, Province of Málaga.—Magnetic iron. 100

83*c* Mining Engineers, Mijas, Province of Málaga.—Hydrated iron, galena, and magnetic iron. 100

83*d* Mining Engineers, Istan, Province of Málaga.—Magnetic iron. 100

83*e* Mining Engineers, Carratraca, Province of Málaga.—Hematites. 100

83*f* Mining Engineers, Antequera, Province of Málaga.—Oligistic iron. 100

83*g* Mining Engineers, Coin, Province of Málaga.—Hematites. 100

83*h* Mining Engineers, Benahanis, Province of Málaga.—Sulpho-arsenic nickel and sulphurous nickel. 100

83*k* Mining Engineers, Benalmadena, Province of Málaga.—Hydrated iron. 100

83*l* Mining Engineers, Alora, Province of Málaga.—Nickel. 100

83*m* Mining Engineers, Almogia, Province of Málaga.—Malachites and pyrites of copper. 100

83*n* Mining Engineers, Alhaurin el Grande, Province of Málaga.—Galena and carbonate of lead. 100

83*o* Mining Engineers, Colmenar, Province of Málaga.—Galena and pyrites of copper. 100

83*p* Mining Engineers, Nerja, Province of Málaga.—Galena. 100

83*q* Mining Engineers, Archidona, Province of Málaga.—Oligistic iron. 100

84 Blandin y Carrese, Manuel, Vera, Province of Navarra.—Iron ores. 100

85 Macia & Co., Demétrio, Penonta, Province of Orense.—Tin ore. 100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores, Stone.

86 Vila, Francisco, Pentes, Province of Orense.—Tin ore. 100

87 Mining District of Oviedo, various towns of the Province of Oviedo.—Ores. 100

88 Acebal y Menendez, Benito, Carreñoa, Province of Oviedo.—Iron ore. 100

89 Uria Pinilla, Navia de Luarca, Province of Oviedo.—Iron ores. 100

90 National Factory of Trubia, Trubia, Province of Oviedo.—Iron ores. 100

91 Diestro y Lastra, Antonio del, Mier, Province of Oviedo.—Ores. 100

92 Somoza Piñeiro, Ramon, Merza, Province of Pontevedra.—Magnetic iron. 100

93 Mining Society, Salamanca.—Tin ore. 100

94 Neeschourrer Bellesfrod & Co., from various towns and provinces.—Ores. 100

95 Mining & Foundry Co. of Santander.—Ores. 100

96 Buen Deseo Mining Society, Peñalcázar, Province of Soria.—Argentiferous lead ore. 100

97 Perez, Bernardo, Peñalcázar, Province of Soria.—Argentiferous lead ore. 100

98 Director of the Company of Mines & the Manufactory del Pedroso, Cazalla de la Sierra, Province of Seville.—Iron ores. 100

99 Gomez, José Maria, Vimbodi, Province of Tarragona.—Pyrites and barytes in powder. 100

100 Monner, Francisco, Las Borjas, Province of Tarragona.—Oligistic iron. 100

101 Britó & Sierra, Camañas, Province of Teruel.—Crystallized manganese ore, pyrolusite. 100

102 Maorad, Benito, Camañas, Province of Teruel.—Manganese. 100

103 Valdemoro, Juan Francisco, Teruel.—Oxide of iron. 100

104 Belles, James, Albarracin, Province of Teruel.—Oxide of iron. 100

105 Perez, Francisco, Linares, Province of Teruel.—Calamine. 100

106 Diego, Vicente de, Bilbao, Province of Vizcaya.—Iron ores. 100

107 Bourson, Miguel, Somorrostro, Province of Vizcaya.—Iron ore. 100

108 Bilbao Iron Ore Company (limited), Galdamés, Province of Vizcaya.—Iron ore. 100

109 Zabalo, Andrés, Illueca, Zaragoza.—Oligistic iron. 100

109*a* Mouner, Francisco, Reus, Province of Tarragona.—Ores. 100

110 Rueda, Manuel, Mesones, Province of Zaragoza.—Oligistic iron. 100

111 Boiven y Senty, Adolfo, Maestu, Province of Alava.—Natural rock asphaltum, refined bitumen, pure and dry asphaltum. 101

112 Asphaltum Company of Maestu, Vitoria.—Asphaltum. 101

113 Mining Union, Calaf, Province of Barcelona.—Lignite. 101

114 La Perla Bergadana Mining Society, Pont de Raventi, Province of Barcelona.—Mineral coal. 110

115 Gispert y Pujals, Manuel, Barcelona.—Mineral coal. 101

116 Oria, Eugenio, Brieva de Juarros, Province of Búrgos.—Dry pit-coal. 101

117 Juarreña Society, San Adrian de Juarros, Province of Búrgos.—Dry pit-coal. 101

118 Miró y Cerdá, C., from various towns of the Province of Castellón.—Coal. 101

119 Metallurgical Coal-pit Company of Belmez, Peñarroya, Province of Córdoba.—Pit-coal, and coke. 101

120 El Veterano Mineral Society, Surroca, Province of Gerona.—Pitcoal and coke; rocks, illustrating the geological composition of the coal districts of Surroca and Ogassa. 101

121 Board of Agriculture, Industry, & Commerce, Oviedo.—Coke and mineral coal. 101

121*a* Board of Agriculture, Industry, & Commerce, Mieres, Province of Oviedo.—Coal block, weighing 30 cwt. 101

122 Coal-pit Society of Muñon, Muñon, Pola de Lena, Province of Oviedo.—Mineral coal. 101

123 National Factory of Trubia, Trubia, Province of Oviedo.—Mineral coal and coke. 101

124 Garcia de los Rios, Eduardo, Mieres, Province of Oviedo.—Pit-coal. 101

125 Vigon, Braulio, Carrándi, Province of Oviedo.—Anthracite coal. 101

126 Mines of Castilla, Barruelo, Province of Palencia.—Pit-coal and coke. 101

127 Fernandez Castañeda, Telesforo, Reinosa, Province of Santander.—Lignite. 101

128 Pereire, Isaac, Villanueva del Rio, Province of Seville.—Coal. 101

129 Corps of Mining Engineers, Soria.—Impregnated asphaltum. 101

130 Peguero, Andrés, Utrillas, Province of Teruel.—Coal. 101

131 Sierra, Francisco, Utrillas, Province of Teruel.—Coal. 101

132 Estéban, Cristóbal, Libros, Province of Teruel.—Brimstone. 101

133 Fernandez, Francisco, Havana, Island of Cuba.—Asphaltum. 101

134 Blanquer Ronda, Mariano, Callosa de Ensarriá, Province of Alicante.—Black marble. 102

135 Serrano, Cardona & Co., Monóvar, Province of Alicante.—Tubing and pillar, with enclosure. 102

136 Jovér, Francisco, Almería, Province of Almería.—Construction stones. 102

136*a* Abelló y Boada, Pablo, Sarreal, Province of Tarragona.—Alabaster. 102

137 Daza, Francisco, Macael, Province of Almería.—Marble. 102

138 Trèll, Miguel del, Berja, Province of Almería.—Marble for construction. 102

139 Chief Engineer of Highways, Valdemolinos, Province of Avila.—Granite. 102

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Stone.

140 Estevez, Manuel Benito, Badajoz. —Slates. 10

143 Provincial Commission of Villagalijo, Province of Búrgos.—Alabaster, marble, calcareous stone, slate, and wheat stones. 102

144 Baldirez, Santiago, Villorobe, Province of Búrgos.—Slates. 102

145 Richard & Granducontagne, Barbadillo de Herreros, Province of Búrgos. —Gravel. 102

146 Corporation of Villamartin, Province of Cádiz.—Jasper. 102

147 Corporation of Chiclana, Province of Cádiz.—Jasper. 102

148 Corporation of Grazalema, Province of Cádiz.—Colored marble. 102

149 Nuñez, José María, Cádiz.—Collection of marbles and jaspers. 102

150 Feo y Hermos, Miguel Alfonso, San Miguel de Abona, Canary Islands.— Flagstone. 102

151 Gamez, Angel, Santa Cruz de Teneriffe, Canary Islands.—Rock, lava, and volcanic products. 102

152 Society of Friends, Las Palmas, Canary Islands.—Jasper. 102

153 Provincial Board of Agriculture, Calig, Province of Castellon.—Marble and calcareous stone. 102

154 Corporation of Cabra, Province of Córdoba.—Marbles. 102

155 Lopez Seoane, Victor, Ferrol, Province of La Coruña.—Stones and marbles. 102

156 Corporation of Portilla de la Sierra, Province of Cuenca.—Marbles. 102

157 Corporation of La Cierva, Province of Cuenca.—Marble. 102

158 Yañiz, Ambrosio, Las Majadas, Province of Cuenca.—Marbles. 102

159 Madero, Cirilo, Arcos de la Cantera, Province of Cuenca.—Calcareous stone. 102

160 Rubio Perez, Juan, Guejar, Province of Granada.—Serpentine. 102

161 Corporation of Fuente Heridos, Province of Huelva.—Marble. 102

162 Corporation of Galaroza, Province of Huelva.—Marbles. 102

163 Gonzalez Molada, Justo, Alcaudete, Province of Jaen.—Construction materials. 102

164 Corporation of Castillo de Locubin, Province of Jaen.—Jasper. 102

165 Provincial Institute, Leon.— Marbles and alabasters. 102

166 Uleeschouuer, Bellefroid, & Co., Unzanilla, Province of Leon.—Marble formed by calcareous fossils. 102

167 Institute of Secondary Instruction of Mondoñedo, Province of Lugo.— Marbles and slates. 102

168 Corps of Mining Engineers, Province of Málaga.—Marbles. 102

169 Corporation of Mijas, Province of Málaga.—Marbles. 102

170 Corps of Mining Engineers, Province of Murcia.—Marble, grit, construction stone, and alabaster. 102

171 Corporation of Piloña, Province of Oviedo.—Marbles. 102

172 Corporation of Salas, Province of Oviedo.—Marble. 102

173 Corporation of Colunga, Province of Oviedo.—Marble. 102

174 Odriozola, Joaquin de, Province of Segovia.—Construction stones. 102

175 Corporation of Linares, Province of Segovia.—Calcareous construction stones. 102

176 Corporation of Balisa, Province of Segovia.—Granite and siliceous stone. 102

177 Corporation of Aragoneses, Province of Segovia.—Stone. 102

178 Corporation of Moron, Province of Sevilla.—Jasper. 102

179 Corporation of Cantalucia, Province of Soria.—Marbles. 102

180 Corporation of Espeja, Province of Soria.—Marbles. 102

181 Garcia, Cayétano, Espejon, Province of Soria.—Marbles. 102

182 Gomez, José María, Sareal, Province of Tarragona.—Alabaster and marble, in powder. 102

183 Board of Public Works, Campaspero, Province of Valladolid.—Calcareous stone. 102

184 Generés, José, Sarreal, Province of Tarragona.—Alabaster. 102

185 Board of Public Works, Villarmentero, Province of Valladolid.—Crystallized gypsum. 102

186 Corporation of Ricla, Province of Zaragoza.—Marbles. 102

187 Corporation of Calatorao, Province of Zaragoza.—Black marble. 102

188 Corporation of Fuentes de Ebro, Province of Zaragoza.—Alabaster. 102

189 Boada, Jerónimo, Mataró, Province of Barcelona.—Artificial stone. 103

190 Navarro, Antonio, Las Palmas, Canary Islands.—Calcareous stone and powdered lime. 103

191 Lledó y Gomez, Cipriano, Cuenca. —White gypsum. 103

192 Fernandez, Gervasio, Torrubia del Campo, Province of Cuenca.—Alabastrian gypsum. 103

193 Lopez, Simon, Torrubia del Campo, Province of Cuenca.—Powdered alabastrian gypsum. 103

194 Corporation of Ayamonte, Province of Huelva.—Lime. 103

195 District of Mining Engineers, Province of Málaga.—Gypsum. 103

196 Corps of Mining Engineers, Province of Múrcia.—White and black calcareous stone. 103

197 Corporation of Moron, Province of Seville.—Gypsum and lime. 103

198 Tomás, Antonio, Reus, Province of Tarragona.—Sulphate of barytes and lime. 103

199 Cervera, Luis, Montblanch, Province of Tarragona.—Sulphate of hydrated lime. 103

200 Barran, Leoncio, Alcalá de Guadaira, Province of Seville.—Slack, quicklime, limestone, etc. 103

201 Climent, Hernandez, Francisco, Carcagente, Province of Valencia.— Artificial stone. 103

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Stone.

202 Giralt, Nicolás, Regla, Cuba.—Lime. 103

203 Benavides, Mariano, La Roda, Province of Albacete. — Magnesian earth. 104

204 Saavedra Ramirez, Alejo, Somotin, Province of Almeria.—Silicate of magnesia. 104

205 Daza y Ruiz, Francisco, Somotin, Province of Almeria.—Silicate of magnesia. 104

206 Masoliver, Bartolomé, Barcelona.—Chalk and volcanic clay. 104

207 Granducontangne, Richard, Barbadillo de Herreros, Province of Búrgos.—Argil. 104

208 Oria, Eugenio, Pancorbo, Province of Búrgos.—Bricks. 104

209 Provincial Commissions of various towns, Province of Búrgos. — Argil and clay. 104

210 Foundry & Delft Factory of Sargadelos, Cervo, Province of Lugo.—Crude materials for the manufacture of delft. 104

211 Banante, Juan, Chantada, Province of Lugo.—Argil. 104

212 District of Mining Engineers, Marbella, Province of Málaga.—Steatite. 104

213 Provincial Board of Agriculture, Industry, & Commerce, Collera, Province of Oviedo.—Spar. 104

214 Uria & Pinilla, Navia de Laurca, Province of Oviedo.—Refractory stone. 104

215 Factory of Trubia, Trubia, Province of Oviedo. — Argil, silicate, and lime. 104

216 Villar Cagide, Joaquin, Santa María de Abades, Province of Pontevedra.—Steatites. 104

217 Matheu, Antonio, Montblanch, Province of Tarragona.—Spanish white. 104

218 Corporation of Pinell, Province of Tarragona.—Refractory earth. 104

219 Corps of Mining Engineers, Zaragoza.—Argil. 104

220 District Mining Engineers, Igualeja, Province of Málaga.—Graphite. 105

221 Villalonga y Perez, Antonio, Capdepera, Baleares.—Tripoli. 105

222 Corporation of Cabra del Santo Cristo, Province of Jaen.—Whetstones. 106

223 Acebal y Menendez, Benito, Oviedo.—Grindstones. 106

224 Peguero, Andrés, Utrilla, Province of Teruel.—Jet. 106

225 Pedro, Cármen de, La Rambla, Province of Teruel.—Jet. 106

226 Sierra, Francisco, Utrilla, Province of Teruel.—Jet. 106

227 Villalba, Gregorio, Utrilla, Province of Teruel.—Jet. 106

228 Sanz, Mariano, Patatrubio, Province of Teruel.—Jet. 106

229 Clarós, Pablo, Utrilla, Province of Teruel.—Jet. 106

230 Banquells & Rascon, Francisco, Novelda, Province of Alicante.—Sulphurous mineral water from Salinetas. 107

231 Trell, Miguel del, Berja, Province of Almería.—Gypsum. 107

232 Mejías Moreno, José, Pechina, Province of Almería.—Lamellated gypsum. 107

233 Alonzo Cortés, Manuel, Pozas, Province of Búrgos.—Crude and refined salt. 107

234 Puig, Felipe, Miranda, Province of Búrgos.—Crude and refined salt. 107

235 Cerezanian Society, Cerezo, Province of Búrgos.—Sulphate of soda. 107

236 Constancia Society, Cerezo, Province of Búrgos.—Sulphate of soda. 107

237 Riscal de Alegre, Marquis of, Alia, Province of Cáceres.—Clay marl. 107

238 Corporation of Santa-Ella, Province of Córdoba. — Medicinal mineral waters. 107

239 Corporation of Montoro, Province of Córdoba.—Sulphurous water. 107

240 Lopez, José María, Lucena, Province of Córdoba.—Mineral water. 107

241 Marin Manuel, Villaharta, Province of Córdoba.—Mineral water. 107

242 Perafita Gavigola, Francisca, Gerona.—Carbonic water. 107

243 Medinaceli, Duke of, Gerona.—Ferruginous and sulphurous water. 107

244 Garcia, Gabriel, Gerona. — Ferruginous carbonic water. 107

245 Vilaret, José, Gerona. — Carbonic water. 107

246 Darnius, Count of, Gerona.—Ferruginous and sulphurous water. 107

247 Corporation of Marmolejo, Province of Jaen.—Acidulous and carbonic waters with iron. 107

248 Gutierrez Rodriguez, Cayetano, Mogrovejo, Province of Leon.—Mineral waters. 107

249 Borregan del Blanco, Dominga, Mogrovejo, Province of Leon.—Mineral waters. 107

250 Bathing Establishment, Ponferrada, Province of Leon.—Mineral waters. 107

251 Damian García, José, San Adrian de Vegaquemada, Province of Leon.—Mineral and medicinal waters. 107

252 Corporation of Navajun, Province of Logroño.—Mineral waters. 107

253 Diez Brothers, Grávalos, Province of Logroño.—Sulphurous waters. 117

254 Lopez Losada, Antonio, Incio, Province of Lugo.—Ferruginous waters. 107

255 Niera Gayoso, Dositeo, Lugo.—Sulphurous waters. 107

256 Pardo Montero, Ramon, Trasparga, Province of Lugo. — Sulphurous waters. 107

257 Benevolent Societies, of various towns and provinces.—Mineral waters. 107

258 Corporation of Mollina, Province of Málaga.—Mineral waters. 107

259 Corporation of Carratraca, Province of Málaga.—Mineral waters. 107

260 Corporation of Periana, Province of Málaga.—Mineral waters. 107

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Minerals, Metallurgical Products, Mining Engineering.

261 Corporation of Tolox, Province of Málaga.—Waters from Fuente Acuargosa. 107

262 Provincial Commission, Murcia.—Waters from Archena. 107

263 Corporation of Verin, Province of Orense.—Mineral waters. 107

264 Corporation of Carballino, Province of Orense.—Thermal medicinal waters. 107

265 Gonzalez Alegre, José, Las Caldas, Province of Oviedo.—Thermal waters. 107

266 Casariego, Cayetano, Prelo, Province of Oviedo.—Alkaline sulphurous waters. 107

266*a* Casariego, Cayetano, Buyeres de Nava, Province of Oviedo.—Ferruginous water. 107

267 Cortines, Augustin de, Puentenausa, Province of Santander.—Sulphurous waters. 107

268 Calderon Revuelta, Francisco, Alceda, Province of Santander.—Mineral sulphurous water. 107

269 Gutierrez de Ceballos, José, Caldas de Besaya, Province of Santander.—Mineral waters. 107

270 Ana Micó, Widow of Ferrandis, Játiva, Province of Valencia.—Sulphurous and ferruginous waters. 107

271 Durege, Julio, San Diego de los Baños, Island of Cuba.—View of sulphurous baths and springs. 107

Metallurgical Products.

272 Richard & Granducontagne, Barbadillo de Herreros, Province of Búrgos.—Soft iron and pig iron. 111

273 Corporation of Cobeta, Province of Guadalajara.—Iron and iron ore. 111

274 Arroyo, Juan, Cervantes, Province of Lugo.—Iron. 111

275 Ojea Porras, José, Cervantes, Province of Lugo.—Iron. 111

276 Somoza, Juan Manuel, Caurel, Province of Lugo.—Iron. 111

277 Lopez, José Maria, Puertomarin, Province of Lugo.—Iron. 111

278 Foundry & Delft Factory of Sargadelos, Servo, Province of Lugo.—Cast ingot. 111

279 Monriz, Gabriel, Lugo.—Horse bit. 111

280 Corral, Francisco, Triacastela, Province of Lugo.—Horse shoes. 111

281 Heredia, Sons of M. A., Málaga.—Iron, plates, boiler-plates, etc. 111

282 District Mining Engineers, Málaga.—Iron slag. 111

283 National Factory of Trubia, Oviedo.—Iron, steel, etc. 111

284 Uria & Pinilla, Navia of Luarea, Province of Oviedo.—Iron ingot. 111

286 Director of the Mining & Manufacturing Company del Pedroso, Cazalla de la Sierra, Province of Seville.—Iron castings and iron plates. 111

287 Belles, James, Albarracin, Province of Teruel.—Forged iron. 111

288 Valdemoro, Juan Francisco, Teruel.—Forged iron. 111

289 Ibarra & Co., Baracaldo, Province of Viscaya.—Iron. 111

290 Corps of Mining Engineers, Huelva.—Copper cement and copper. 112

291 Villalobos Bros., Berja, Province of Almería.—Lead. 113

292 Mines of Almadén, Province of Ciudad-Real.—Quicksilver ore. 113

293 Figueroa, Ignacio, Guarroman, Province of Jaen.—Lead in pigs. 113

294 Velasco, Bros, Linares, Province of Jaen.—Lead bars. 113

295 Macia & Co., Demetrio, Penouta, Province of Orense.—Tin bar. 113

296 Vila Yanez, Francisco, Pentes, Province of Orense.—Tin. 113

297 El Porvenir Mining Society, Mieres, Province of Oviedo.—Tin. 113

298 Alen, Pedro & Manuel, Santa Maria de Acibeiro, Province of Pontevedra.—Tin. 113

299 Vazquez Gulias, Francisco, Beariz, Province of Orense.—Oxide of tin. 113

300 Rui & Tolon, Barcelona.—White metal. 114

Mining Engineering.

301 Piquet, Alfonzo Emilio, Horcajo de los Montes, Province de Ciudad-Real.—Plan of the mines of Horcajo. 120

302 Mines of Almadén, Province of Ciudad-Real.—Plans of subterranean works, machines, etc. 120

303 Grappin, G., Salorino, Province of Cáceres.—Model of the mine Constancia. 121

304 Sabate Brunet, Salvador, Barcelona.—Instruments for the exploration of hard rocks. 120

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

PHILIPPINE ISLANDS.

(*South of Nave, Columns 16 to 18.*)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stones, Mining Products.

1 **Inspection of Mines, Province of** Cebú.—Fossil charcoal and auriferous galena. 100

2 **Con-ui, Isaac, Province of Cebú.**—Sand with fossils, and fossil charcoal. 100

3 **Manzano, Juan., Province of Albay.**—Fossil charcoal. 100

4 **Perez, Norverto, R.P.Fr., Province** of Pangasinan.—Rock argil and volcanic tophus. 100

5 **Provincial Commission of Camarines Norte.**—Oxydized magnetite, chromate of lead, auriferous minerals. 100

6 **Llanos, R.P.Fr. Antonio, Province** of Lepanto.—Minerals and products of furnaces. 100

7 **Veloso, Pascal, Province of Cebú.**—Fossil charcoal and auriferous galena. 100

8 **Anchuelo, Quiterio, Province of** Bulacan.—Oligistic iron. 100

9 **Inspection of Mines, Province of** Camarines Norte.—Cupreous sand with native copper. 100

10 **Inspection of Mines, Province of** Bulacan.—Oxydized magnetite. 100

11 **Commission of the District of Benguet, Province of** Benguet.—Auriferous sand. 100

12 **Inspection of Mines, Province of** Camarines Sur.—Fossil charcoal. 100

13 **Inspection of Mines, Province of** Albay.—Fossil charcoal, argil, quartzose vein, jet, and sulphur. 100

14 **Alonzó, Teodoro, Province of Manila.**—Amorphous phosphorus. 100

15 **Inspection of Mines, Province of** Lyte.
a Sulphur. 100
b Marble. 102

16 **Municipal Athenæum, Province of** Manila.—Marble and jasper. 102

Metallurgical Products.

17 **Provincial Commission of Masbate.**—Gold-dust and grains. 110

18 **Commission of the District of Lepanto, Province of** Lepanto.—Gold-dust and gold. 110

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

PORTUGAL.

(South of South Avenue, Columns 13 to 17.)

Minerals, Ores, Stone.

Minerals, Ores, Stones, Mining Products.

1 **Antonio, Martins, Henriques, & Co.,** Mont Alto.—Antimony ore from Mont Alto. 100

2 **Cortes Pereira Antimony Mine Exploring Co.**—Antimony ore. 100

3 **Antimony Mining Co. of Corte Pereira.**—Antimony ore. 100

4 **Blanck, Carlos Frederico, Lisbon.**—Antimony ore from Herdade da Prata. 100

5 **Barriga, Antonio F., Portalegre.**—Quartz of Valle de Peso. 100

8 **Caveira Mining Co., Grandola.**—Copper ore from the Caveira mine. 100

9 **Deliguy, Ernest, Lisbon.**—Copper ore. 100

10 **Eliott, George, & Ferreira Castello, José H., Lisbon.**—Iron ores from Ares Zambujal and San Bartholomeu mines. 100

11 **Eliott, George, Alvito.**—Iron ores from San Bartholomeu and Zambujal mines. 100

12 **Feurheerd, F. Detlof, & Cruickshank, William, Braçal.**—Lead and zinc ores from Braçal and Malhada mines; copper ore from Chança. 100

13 **Giron, D. José, Lagoas do Paço.**—Manganese ore. 100

14 **Gomes, Alonso, Mertola.**—Manganese ore from the Paraiso, Ferragudo, and Calvo mines. 100

15 **Malhada Mining Co., Malhada.**—Copper ore from Malhada mine. 100

16 **Monges Iron Co. (limited), Lisbon.**—Iron ore from Serra des Monges. 100

17 **Moraes, José Gonçalves, Arronches.**—Iron, manganese, and argentiferous lead ore. 100

18 **Mason & Barry, Mertola.**—Copper ores from San Domingo. 100

19 **Oliveira, Joao Correia, Senhora de Castello.**—Tin ore. 100

20 **Oliveira, Bento Rodrigues de, San Pedro du Cova.**—Anthracite, sulphuret of antimony, and galena. 100

21 **Portuguese Copper Mining Co., Evora.**—Specimens of ores from Basalho mine. 100

22 **Portuguese Mining Co., Covellos.**—Tin ore. 100

23 **Perseverança Co., Oporto.**—Antimony ore from Valle d'Ache, and tin ore from Logar d'Aborin. 100

24 **Sequeira, Thomas, & Carneiro d'Andrade, Eduardo, Beja.**—Copper ore from Juliana mine. 100

25 **Schreck, Maximiliano, & Kemp, Mauricio, Oporto.**—Antimony ore from Campo Redondo; manganese from Pinhal da Cunha. 100

26 **Serrinha Tin Co. (limited), Oporto.**—Tin ore from Serrinho da Casca. 100

27 **Telhadella Mining Co., Telhadella.**—Copper ores. 100

28 **Tras-os-Montes Mining Co., Bragança.**—Tin ore. 100

29 **Transtagana Mining Co., Lisbon.**—Copper ores. 100

30 **Velho, Agostino Francisco, & others, Villa Real.**—Lead ore. 100

31 **Freixo, Viscount de, Oporto.**—Argentiferous lead ore. 100

32 **Zarzechi, Ladislau, Oporto.**—Lead ore from the Pego mine. 100

33 **Department of Mines, Lisbon.**
a Manganese, tin, and antimony ores; iron pyrites. 100
b Marbles. 102

34 **Oliveira, Bento Rodrigues d', S. Pedro de Cova.**
a Lead and antimony ore. 100
b Mineral coal. 101

35 **Industrial Union Co., Povoa de Pedoride.**—Coal. 101

35*a* **Cabral, Frederico A. de V. P., Oporto.**—Coal from Monte das Cavadinhos. 101

36 **Direction of the Public Works of Braga.**—Building stones, etc. 102

37 **Barreto, Antonio Tavares, Santarem.**—Limestone from the Granja quarry. 102

38 **Carvalho, Venceslau M. de, Condeixa a Velha.**—Samples of marbles from Condeixa quarries. 102

39 **Brites, Augusto Pereira, Torres Novas.**—Building stone. 102

40 **Direction of the Public Works of Vianna do Castello.**—Building materials. 102

41 **Vallongo Slate & Marble Quarries Co., Oporto.**—Slabs and roofing slate. 102

43 **Governor of the Civil District of Ponte Delgada.**—Building materials. 102

44 **Rato, Antonio Moreira, Lisbon.**—Marbles. 102

45 **Santos, Joaquin Antunes dos, Lisbon.**—Samples of marble. 102

46 **Salles, Joaquim José de, Lisbon.**—Marbles. 102

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Stone, Minerals, Metallurgical Products, Engineering.

47 **Salles, Germano José de, Lisbon.**—Marbles. 102

48 **Bessoni, Viscount de, Cintra.**—Marbles. 102

49 **Ponta Delgada, Committee of.**—Building materials. 102

50 **Direction of the Public Works of** Vizeu, Vizeu.—Building materials. 102

51 **Direction of the Public Works of** Oporto, Oporto.—Building materials. 102

52 **Direction of the Public Works of** Aveiro, Aveiro.—Building materials. 102

53 **Direction of the Public Works of** the Mondego river & Figueira bar, Coimbra.—Building materials. 102

54 **Direction of the Public Works of** Coimbra, Coimbra.—Building materials of the district. 102

55 **Direction of the Public Works of** Leiria, Leiria.—Building materials of the district. 102

56 **Extremoz Marble Quarrying Co.,** Extremoz.—Marbles. 102

57 **Rasca Cement Exploring Company,** Lisbon.—Hydraulic cement. 103

58 **Parochial Board of Sabacheira,** Sabacheira.—Limestone. 103

59 **Governor of the Civil District of** Portalegre.—Phosphate of lime from Marvao. 103

60 **Lisbon Dyeing & Cotton Printing** Company, Lisbon.—Lime. 103

61 **Ponta Delgada, Committee of.**
a Pozzolana and pumice. 103
b Mineral waters of San Miguel, and analysis. 107

62 **Neuville, Louis, Lisbon.**—Kaolin. 104

63 **Coelho, Francisco, Torres Novas.**—Clay. 104

64 **Manilha, Francisco dos Santos** Lopes, Valongo.—Whetstones. 106

65 **Vidago Mineral Waters Company,** Lisbon.—Mineral waters. 107

66 **Pedras Salgadas Mineral Waters** Company, Oporto.—Mineral waters. 107

67 **Janson, J. H., & Co., Lisbon.**—Soda water. 107

69 **Freitas, Albino, José, Ega.**—Mineral waters. 107

70 **Fialho & Bro., Lisbon.**—Mineral waters. 107

71 **Committee of Administration, Sulphur baths of Castello de Vide.**—Sulphurous mineral waters. 107

Metallurgical Products.

73 **Mason & Barry, Saó Domingos.**—Gold bar and silver bar. 110

74 **Ferreira & Souza, Oporto.**—Gold leaf. 110

75 **Cardozo, José Pereira, jr., Oporto.**
a Gold and silver leaf. 110
b Aluminium, platina, and tin leaf. 113

76 **Beirollas, Manuel Antonio, Gollega.**—Horse shoes. 111

77 **Department of Mines, Lisbon.**—Iron from Moncorvo. 111

78 **Perseverança Company, Oporto.**—Tin ingot. 113

79 **Tras-os-Montes Mining Company,** Braganza.—Tin ingot. 113

Mining Engineering.

80 **Department of Mines, Lisbon.**—Plans of mines. 121

81 **Mason & Barry, Mertola.**—Plans of mines; model of a Roman wheel. 121

82 **Silva, S. A. P. da, & F. A. Marques** de Moura, Aveiro.—Plan of a salt pit, with description of same. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TURKEY.

(*South of Nave, Columns 14 to 17.*)

Minerals, Ores, Stone.

Minerals, Ores, Stone, Mining Products.

1 Wilkinson, Rizzo, & Co., Koumarlar, Dardanelles.—Sulphur ore, sulphurous copper. 100

2 Tapa, Daniel, Cian, Dardanelles.—Lead ore. 100

3 Sarral, Mouradite, Trebizond.—Argentiferous galena. 100

4 Sarral, Lokhia, Trebizond.—Iron pyrites. 100

5 Schirin Agha, Tirepola, Trebizond.—Copper pyrites. 100

6 Soleiman, Gueugine, Trebizond.—Galena. 100

7 Omer, Oglou Osman, Lokhia, Trebizond.—Galena. 100

8 Omer, Effendi, Ordou, Trebizond.—Argentiferous galena. 100

9 Nimetoulah, Trebelau, Trebizond.—Copper ore. 100

10 Nimètoulah, Kurelli, Trebizond.—Copper pyrites. 100

11 Pappazaki, Nicola, Sfakia, Crète.—Lignite. 100

12 Nimetoulah, Mouradite, Trebizond.—Argentiferous galena. 100

13 Moustapha, Effendi, Cherkech, Castamouni.—Chalk. 100

14 Gonssan, Government of, Adana.—Iron pyrites. 100

15 Multesim Oulah, Tireboli, Trebizond.—Ferruginous sediment. 100

16 Multesim, Abdoulah, Tirebole, Trebizond.—Argentiferous galena, copper pyrites. 100

17 Mandenè, Diarbekir.—Silver ore. 100

18 Multesim, Tireboli, Trebizond.—Cupreous pyrites. 100

19 Ligory, Effendi, Stankeny, Dardanelles.
a Manganese, iron ore, and sulphur ore. 100
b Emery. 106

20 Kara-Hissar, Government of, Sivas.—Argentiferous galena, aluminous earth. 100

21 Ali, Hadji Diarbekir.—Brimstone of the desert. 100

22 Moustapha, Hadji, Nich, Danube.—Iron stone. 100

23 Adrianople, Government of.
a Powdered mica. 100
b Coal. 101
c Sand for mouldings. 104

24 Debré, Government of, Monastir.—Sulphate of chalk. 100

25 Aydin, Government of.—Argentiferous galena, lignite, iron ore. 100

26 Adana, Government of.—Sulphate of chalk and galena. 100

27 Gumuch Hanè, Government of, Trebizond.—Argentiferous and cupreous galena. 100

28 Ichkodra, Government of, Monastir.—Sulphur ore. 100

29 Ichkloura, Government of, Monastir.—Brimstone, arsenical ore, and sulphate of copper. 100

30 Havret, Government of, Salonica.—Argentiferous galena. 100

31 Topouz, Oglou, Imbros, Dardanelles.
a Lead ore. 100
b Coal. 101

32 Koniah, Government of.—Brimstone. 100

33 Micheré, Government of, Yanina.—Lignite. 100

34 Medina, Government of, Hidjaz.—Rock crystals. 100

35 Maghlè, Government of, Aydin.—Argentiferous galena, iron and chrome ores. 100

36 Militinous, Government of, Samos.
a Talc 100
b Yellow earth, argil. 104

37 Lapsaki, Government of, Dardanelles.—Brimstone. 100

38 Karssendi, Government of, Adana.
a Copper and silver ore, lignite and galena. 100
b Grit sandstone. 102

39 Tdomane, Government of, Yanina.—Galena. 100

40 Trebizond, Government of.—Galena. 100

41 Uskup, Government of, Monastir.—Aluminous earth. 100

42 Samos, Government of.
a Galena. 100
b White and colored marble. 102
c Argil. 104
d Emery. 106

43 Suleimaneeyah, Government of, Bagdad.
a Melted brimstone, cut rock crystal. 100
b Argil. 104

44 Smyrna, Government of, Aydin.—
a Lignite, argentiferous galena, iron ore, manganese. 100
b Emery, grindstones. 106

45 Syros, Government of, Salonica.—Lignite. 100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Minerals, Ores, Stone, Metallurgical Products.

46 Soukė, Government of, Aydin.
a Iron ore. 100
b Red sandstone. 102
c Tripoli. 104
d Emery. 106

47 Saroukhan, Government of, Aydin.
a Chrome ore. 100
b Mineral water. 107

48 Samakon Factory, Sophia, Danube.—Iron ore. 100

49 Ergain, Diarbekir.—Copper ore. 100

50 Donel Aghop, Esinė, Dardanelles.—Manganese. 100

51 Dardalah, Mouradile, Trebizond.—Copper pyrites. 100

52 Pappazaki, Dimitri, Sfakia, Crète.—Argillous talc. 100

53 Abdi Bey, Myteline, Dardanelles.—Chrome. 100

54 Abdoullah Bey, Myteline, Dardanelles.
a Antimony. 100
b Emery. 106

55 Azit Anelė, Olevek, Trebizond.—Manganese. 100

56 Ulmusrati, Ahmed, Tripoli, Tripoli.—Crude brimstone. 100

57 Administration of the Mines, Constantinople.—Collection of ores. 100

58 Mehemed Agha, Aleppo.—Coal. 101

59 Bridore, Government of, Bosnia.—Lignite. 101

60 Djeziré, Diarbekir.—Coal. 101

61 Kratova, Government of, Monastir.—Coal. 101

62 Mosul, Government of, Bagdad.—Coal. 101

63 Nich, Government of, Danube.—Coal. 101

64 Panaloko, Government of, Bosnia.—Coal. 101

65 Ychtip, Government of, Monastir.—Coal. 101

66 Ereili, Castamouni, Castamouni.—Lignite. 101

67 Serkiz, Aleppo.—Red marble. 102

68 Razoula, Aleppo.—Yellow marble, calcareous stone. 102

69 Koyondja, Government of, Bosnia.—Marble. 102

70 Nenedės, Government of, Samos.—White marble. 102

71 Nicolaki, Jovan Oglou, Dardanelles, Dardanelles.—Cement. 103

72 Sfakia, Government of, Crète.—Crude lime. 103

73 Naoum Cassam, Aleppo.—Argil. 104

74 Baktiar Bez., Panaloko, Bosnia.—Pipe-clay. 104

75 Ali Effendi, Angora.—Argil. 104

76 Myteline, Government of, Dardanelles.—Graphite. 105

77 Osman Bin Mohamed, Bridore, Bosnia.—Emery. 106

78 Ali, Hadji, Tekė, Koniah.—Emery. 106

79 Yildis-Ki, Government of, Sivas.
a Emery. 106
b Mineral water. 107

80 Bendissa, Government of, Aleppo.—Hot mineral water. 107

81 Gesrichvouz, Government of, Aleppo.—Hot mineral water. 107

82 Ersindjan, Government of, Erzeroum.—Mineral water. 107

83 Marach, Government of, Aleppo.—Mineral waters. 107

84 Rikanié, Government of, Aleppo.—Mineral water. 107

86 Zeitoun, Government of, Aleppo.—Hot mineral water. 107

87 Volonia, Government of, Yanina.—Mineral water. 107

88 Central Drug Store, della Sudda's, Inigueul, Ichitli.—Mineral water. 107

89 Bin Cachi Mehemed, Aleppo.—Mineral water. 107

Metallurgical Products.

90 Giovan, Siros, Salonica.—Gold-dust. 110

91 Mehemeda, Marach, Aleppo.—Horse shoes and nails. 111

92 Moustapha, Hadji, Aleppo.—Iron. 111

93 Ak-Hissar, Government of, Bosnia.—Iron. 111

94 Kerschove, Government of, Bosnia.—Iron. 111

95 Varach, Government of, Bosnia.—Iron. 111

96 Karssendi, Government of, Adana.—Crude iron. 111

97 Kara-Hissar, Government of, Sivas.
a Iron. 111
b Lead slag. 113

98 Samakon Factory, Sophia, Danube.—Iron. 111

99 Abass Agha, Kuspuk, Monastir.—Horse shoes. 111

100 Ligory Effendi, Stankeny, Dardanelles.—Copper. 112

101 Samos, Government of.—Zinc. 113

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

RUSSIA.

(South of Nave, Columns 19 to 23.)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stones, Mining Products.

1 Yoogoff Iron Works, Government of Perm.—Copper ores. 100

2 Pootiloff Iron Works Company, St. Petersburg.—Iron ores. 100

3 Administration of the Goroblagodati Mining District, Government of Perm.—Magnetic and other iron ores. 100

4 Administration of the Mining Districts in Western Poland.
a Iron ore, calamine, and lead blende. 100
b Coal. 101
c Refractory clay. 104

5 Administration of the Clonetz Mining District.—Lake iron ore. 100

6 Rogosloosky Crown Copper Works, Government of Perm.—Copper ores. 100

7 Demidoff, Paul, Prince of San Donato, Nigni Tagil, Ural Mountains, Government of Perm.—Iron and copper ores. 100

8 Gessrick & Woerfel, St. Petersburg.—Siberian minerals and hard stones. 100

9 Kniaze Michailoffi Crown Steel Works, Government of Orenburg.—Magnetic iron ore. 100

10 Mining School, St. Petersburg.—Minerals and paleontological collection. 100

11 Bashkoff, Basil, Bogoyavlensk, & Verkhotoorgi, Government of Cofa.—Copper ores. 100

12 Russian Rail Manufacturing Company, Government of Riazan, District of Tronsk.—Iron ore. 100

13 Saltkinsky Crown Iron Works, Government of Orenburg.—Brown and sparry iron ores. 100

14 Sidoroff, Michael, St. Petersburg.
a Iron ore. (Northern limits of Russia.) 100
b Siberian graphite from the district of Toorookhansk. 105

15 Yakovleff, John, Alexandria, Government of Kherson.
a Iron ore. 100
b Graphite. 105

16 Russian Navigation & Trade Company, Odessa.—Specimens of anthracite coal. 101

18 Majervsky, T., & Stochelsky, M., Government of Pietrkoff, district of Bendzin.—Coal. 101

19 Sidoroff, Michael, St. Petersburg.—Bituminous coal, from underground fire burning since 1700. 101

20 Zievers, B. Wesenberg, Government of Est-land.—Portland cement. 103

21 Schmidt, C., Riga.—Cement. 103

22 Sytenko, John, Moscow.—Limestone and plaster. 103

23 Lanin, Nicolas. Moscow.—Mineral water. 107

Metallurgical Products.

27 Mining Department, St. Petersburg.—Native platinum, osmiridium (purified), and platinum. 110

28 Miasky Government Gold Mines, Government of Orenburg.—Gold-bearing sands; illustration of gold washing machines. 110

29 Votkinsk Crown Iron Works, Government of Perm.—Iron (in bars), and cast steel. 111

30 Pootiloff Iron Works Company, St. Petersburg.—Cast and wrought iron, steel, twisted rail. 111

31 Gun Foundry, Perm.—Cast and wrought iron; steel sections of cast steel guns. 111

32 Kama Armor Plate Works, Government of Perm.—Armor plate 111

33 Administration of the Goroblagodati Mining District, Government of Perm.—Cast iron projectile. 111

34 Administration of the Olonetz Mining Districts.—Cast and wrought iron; section of cast iron guns. 111

35 Demidoff, Paul, Prince of San Donati, Nigni Tagil, Ural Mountains, Government of Perm.
a Iron; pig bars, ingots, rails, sheets, slags, and flakes. 111
b Copper ingots, bars, sheets; illustrations of style of working. 112

36 Russian Rail Manufacturing Company, Government of Riazan, District of Trensk.—Cast iron and iron wire. 111

37 Satkinisky Crown Iron Works, Government of Orenburg.—Cast iron. 111

38 Admiralty Tyora Works, near St. Petersburg.—Boiler plates. 111

39 Yoogoo Copper Works, Government of Perm.—Copper (in bars and ingots), and products of working. 112

40 Pashroff, Basil, Bogoiavlensk & Vennihotoorji, Copper Works, Government of Oofa.—Copper ingots, bars, rolled wire, and spangles; illustrations of methods of working. 112

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27-45.

42 Ragoslovsky, Crown Copper Works, Government of Perm.—Illustrations of productions of copper. 112

43 Rastergaeff, Gregory, St. Petersburg.—Tinned iron sheets. 114

Mining Engineering.

44 Administration of Mines in Finland.—Helsingfors' editions and reports on local mine engineering and geology. 120

45 Scientific Committee of the Mining Department, St. Petersburg.—Special editions and periodicals on mine engineering. 120

46 Demidoff, Paul, Prince of San Donati, Nigni Tagil, District of Ural Mountains, Government of Perm.—Maps, plans, and views of this mining district; illustrations of gold washing process. 120

47 Babin, Victor, & Lepooshinsky, Moscow.—Illustrations of boring process, artesian well, and apparatus. 120

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

DEPT. II.—MANUFACTURES.

UNITED STATES.

Chemicals, Pharmaceutical Preparations.

Chemical Manufactures.

1 **Gantz, Geo. F., & Co., New York,** N. Y.—Baking powder. T 47. 200

1*a* **Feuchtwanger, L., & Co., New York,** N. Y.—Polytechnic chemicals. T 47. 200

2 **Royal Baking Powder Co., New York,** N. Y.—T 47.
a Baking powder. 200
b Flavoring extracts, celery salt. 203

2*a* **Ohio River Salt Co., Pomeroy, O.**—Salt. V 63. 200

3 **Hance Bros. & White, Philadelphia,** Pa.—Solid and fluid extracts, sugar-coated pills. P 43. 200

3*a* **Procter, Wm., jr., & Co., Philadelphia,** Pa.—Saccharated pepsin. P 48. 200

4 **Fries, Alex., & Bros., New York,** N. Y.—P 48.
a Chemicals, coloring, etc. 200
b Artificial fruit and liquor essences, flavors for cigars. 203

5 **Gordon, W. J. M., Cincinnati, O.**—Chemicals, glycerine, sugar-coated pills, podophyllin, hydrastine. P 47. 200

6 **Rosengarten & Sons, Philadelphia,** Pa.—Sulphates of quinine and morphine, and other chemicals for use in medicine and the arts. P 41. 200

7 **Warner, Wm. R., & Co., Philadelphia,** Pa.—Sugar-coated pills and pharmaceutical preparations. P 43. 200

7*a* **Hirsh, Joseph M., Chicago, Ill.**—Chemicals, albumen, dried blood, alizarine, carbolic acid, coal tar products, etc. P 47. 200

8 **Campbell, Sam'l, Philadelphia, Pa.**—P 47.
a Medicinal fluid extracts. 200
b Perfumery and toilet articles. 203

8*a* **Williamson, D. D., New York,** N. Y.—Bisulphite of lime, finings, beer coloring, cleansing powders, tannate of soda, etc. P 49. 200

9 **Kreitzer, M. C., Philadelphia,** Pa.—Medicines, perfumery, etc., in a marble show case. The marble is from a new quarry just opening in Lebanon Valley, Pa. T 43. 200

9*a* **Scheffer, E., Louisville, Ky.**—Preparations of pepsin. P 48. 200

10 **Keasbey & Mattison, Philadelphia,** Pa.—Granular effervescent preparations, gelatine-coated pills, pharmaceutical specialties. P 43. 200

10*a* **Hance, R. A., Philadelphia, Pa.**—Fluid extracts. T 43. 200

11 **Twining & Schiedt, Philadelphia,** Pa.—Fluid and solid extracts, sugar-coated pills, elixirs, concentrated preparations, chemicals, syrups, tinctures, powdered drugs. T 41. 200

11*a* **Shoemaker, Robert, & Co., Philadelphia,** Pa.—Fluid extracts; ground, crushed, and powdered drugs and spices. P 43. 200

12 **Powers & Weightman, Philadelphia,** Pa.—Sulphate of quinia, salts of cinchona barks, sulphate of morphia; chemicals, medicinal, photographic, and for the arts. P 41. 200

12*a* **Morrison, Arthur B., Portland, Me.**—Gold and silver solution for electrotyping without a battery; restorative for cleaning jewelry. T 57. 200

13 **Harrison Brothers & Co., Philadelphia,** Pa.—P 41.
a Chemicals, alum, sugars of lead, acetates of lime; sulphuric, nitric, muriatic, acetic, and pyroligneous acids. 200
b White lead, dry and in oil; colors for painters, lithographers, and calico printing. 202

13*a* **Central Ohio Salt Co., Columbus,** O.—Salt from Athens county. V 63. 200

14 **Doerr & Sloan, Philadelphia, Pa.**—Lacto-phosphate of lime, iron, and cod-liver oil. T 40. 200

15 **Mellor & Rittenhouse, Philadelphia,** Pa.—Licorice and pharmaceutical extracts; glycerine composition for printers' rollers. P 41. 200

16 **Stearns, Frederick, Detroit, Mich.**—Pharmaceutical products peculiar to United States, representing his catalogue, number 75, 132 pages, 168 classes, and 10,000 items. P 41. 200

17 **Dunton, Jacob, & Co., Philadelphia,** Pa.—Pills. Compressed lenticular non-excipient porous pills, made from dried powders, by pressure, without admixture; are as soluble after ten years as when first made, and much more readily dissolved than any freshly-made excipient pill. Process and machinery patented. T 40. 200

18 **Simes, Wm. F., & Son, Philadelphia,** Pa.—Camphor, sublimed and compressed into convenient blocks of 1 ounce and 4 ounces; is very durable, strong in natural oil, and perfectly pure. Patented. P 41. 200

19 **Tacony Chemical Works, Philadelphia,** Pa.—Acids, chemical salts, etc. T 42. 200

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Chemicals, Pharmaceutical Preparations.

20 Dreyfus, J. G., & Co., New York, N. Y.—Cream of tartar. T 43. 200

21 Mockridge, E., & Co., Philadelphia, Pa.—Azumea. T 47. 200

22 Bullock & Crenshaw, Philadelphia, Pa.—Sugar-coated pills; United States Pharmacopœia and recipes of eminent physicians, accurately compounded, readily soluble, and strictly reliable in every particular. P 41. 200

23 Pennsylvania Salt Manufacturing Co., Philadelphia, Pa.—Kryolite, alum, lye, sodas, acids, chlo. calcium, and alumina. T 42. 200

24 Savage, Keyser, & Stovell, Philadelphia, Pa.—Acids and salts. T 44. 200

25 Philadelphia Quartz Co., 9 North Front street, Philadelphia, Pa.—Silicate of soda, in its various forms, specially adapted to the different uses. T 45. 200

26 Coyne, Geo. S., Philadelphia, Pa.— Manufacturer and importer of dyewood liquor extracts, acids, dyestuffs, and chemicals generally. (Stores, 104 and 127 Church street, Philadelphia, Pa.; Chester Chemical Works, Delaware county, Pa.) T 44.
a Acids and chemicals. 200
b Dyestuffs. 202

28 Condit, Hauson, & Co., Newark, N. J.—Metallic salts, electro-plating materials; hatters', dyers', jewelers', and manufacturers' chemicals. P 49. 200

29 Baker, H. J., & Bro., New York, N. Y.—Refined saltpetre, borax and camphor; epsom salts, castor oil. T 49. 200

30 Lewis, John T., & Bros., Philadelphia, Pa.—T 42.
a Acids. 200
b White and red lead; litharge, orange mineral; paints, colors, and oils. 200

31 Silliman Chemical Works, Philadelphia, Pa.—Chemical products, from tar and fine chemicals, known as Fresenius's tests. P 43. 200

32 Wyeth, John, & Bro., Philadelphia, Pa.—Pharmaceutical preparations, drugs, and compressed pills. P 41. 200

33 Waterloo Yeast Co., New York, N. Y.—Dry hop yeast cakes. T 47. 200

34 McKesson & Robbins, 91 Fulton street, New York, N. Y.—Gelatine-coated pills, aromatic elixirs, medicinal syrups; fluid and solid extracts, perfume extracts, essential oils, indigenous crude drugs. P 43. 200

35 Benjamin, E. B., New York, N. Y.— Pure chemicals. N 57. 200

36 Kurlbaum & Co., Philadelphia, Pa. —Refined camphor and chemical preparations. P 49. 200

38 Libe, John C., Philadelphia, Pa.— Baking yeast powder. T 47. 200

39 McIlvaine Brothers, Philadelphia, Pa.—Ground and powdered drugs, paints, etc. P 43. 200

40 Smith, Hanway, & Co., Baltimore, Md.—Baking powder. T 47. 200

42 Chessman, W. H., Boston, Mass.— Pure lime from Missisquoi Lime Co., Highgate Springs, Vt. T 50. 200

43 Brown, Frederick, Philadelphia, Pa.—Essence of Jamaica ginger, and other pharmaceutical preparations. P 41. 200

44 Hagner Drug Milling Co., Philadelphia, Pa.—Powdering, grinding, flaking, crushing, and other mill work. T 51. 200

45 Bower, Henry, Philadelphia, Pa. —Glycerine, stearic and oleic acids; prussiate of potash, sulphate of ammonia. T 43. 200

46 Browning & Brothers, Philadelphia, Pa.—T 44.
a Acetic acid, acetate of lime, lead, alumina and iron, sulph. copper. 200
b Naphtha. 201
c Dyewoods. 202

48 Leidy, Francis D., Philadelphia, Pa.—Soap powder, washing crystals. T 50. 200

50 Bean, Lewis U., Philadelphia, Pa. —P 49.
a Pharmaceutical preparations, drugs, etc. 200
b Paints—dry and in oil. 202

51 Pfizer, Chas., & Co., New York, N. Y.—Pharmaceutical and chemical products; cream tartar, tartaric acid, refined borax, and camphor. P 49. 200

52 Preston & Merrill, Boston, Mass. —P 48.
a Yeast powder. 200
b Sugar of lemons, flavoring extracts. 203

53 Meyer, Jas., jr., & Co., New York, N. Y.—Girondin disinfectant. Inodorous and colorless; does not injure any object or material it may be applied to; destroys and neutralizes almost instantly the most offensive odors, vapors, or gases; arrests putrefaction, prevents contagion, and is infallible as an agent for embalming. P 49. 200

55 Billings, Clapp, & Co., Boston, Mass.—Chemicals. Manufacturers of acids, alkalies, ethers, chloroforms, podophyllin, preparations of gold, silver, tin, zinc, lead, iron, bismuth, mercury, and trade chemicals. Price lists and special quotations sent on application. T 45. 200

56 Mackeown, Bower, Ellis, & Co., Philadelphia, Pa.—Drugs and chemicals. T 43. 200

58 Phillips & Jacobs, Philadelphia, Pa. —Illustration of the recovery of gold and silver from wastes in the industrial arts. T 46. 200

59 Dooley & Bro., New York, N. Y.— Baking powder. T 49. 200

60 White, Charles T., & Co., No. 54 Maiden Lane, New York.—Pharmaceutical chemicals, quinia, morphia, strychnia, and their salts; iodides, bromides, acids C. P., etc. Medals of merit for appearance and purity, Am. Institute, 1867–1870; Cincinnati, 1870; Cordova (Arg. Repub.), 1870; Vienna, 1873. P 43. 200

61 United States Salicylic Acid Works, New York, N. Y.—Salicylic acid and its preparations. P 47. 200

62 Gray, Daniel H., New York, N. Y. —Brimstone and flour of sulphur. T 42. 200

63 Follett, O. S., New York, N. Y.— White sugar of lead, chloroform, acetic acid, and vinegar. P 47. 200

64 King, Wm., Son, & Co., Philadelphia, Pa.—Crude and refined petroleums. T 41. 201

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Oils, Soap, Candles.

64*a* **Frazer Lubricator Co., Jersey City, N. J.**—Axle grease. T 50. 201

65 **Pease, F. S., Buffalo, N. Y.**—Natural, mineral, vegetable, and animal oils, for commercial, chemical, and medicinal purposes. P 41. 201

66 **Baker, John C., & Co., Philadelphia, Pa.**—Medicinal cod-liver oil, pure, and in combination with other agents. P 43. 201

66*a* **Leonard & Ellis, New York, N. Y.**—Cylinder oil. T 54. 201

67 **Eavenson, Jones, & Sons, Philadelphia, Pa.**—Laundry soaps. T 43. 201

68 **Morgan's, Enoch, Sons, New York, N. Y.**—Sapolio, for cleaning and polishing; hand sapolio, for toilet. T 48. 201

69 **Cragin, I. L., & Co., Philadelphia, Pa.**—Dobbins' electric soap and materials used in its manufacture. P 47. 201

70 **Wrigley, Wm., & Co., Philadelphia, Pa.**—Mineral scouring soap. T 44. 201

71 **McKeone, Van Haagen, & Co., Philadelphia, Pa.**—Soaps, oils, perfumery, soap stock, candles. T 39. 201

72 **Conway, Wm., Philadelphia, Pa.**—Laundry soaps. T 49. 201

73 **Marx & Rawolle, New York, N. Y.**—T 40.
a Glycerine. 201
b Lacquers and French varnishes, bleached and refined gum shellac, sealing wax. 202

74 **Gest & Atkinson, Cincinnati, O.**—Lard, tallow, grease; lubricating, burning, and paint oils; car candles. T 39. 201

75 **Loper & Doughten, Philadelphia, Pa.**—Naval stores. T 43. 201

76 **Faller, Geo. J., Philadelphia, Pa.**—Sewing machine oils. T 44. 201

77 **Dreydoppel, Wm. Philadelphia, Pa.**—Borax soap. T 50. 201

78 **Elkins, Wm. L., Philadelphia, Pa.**—Petroleum, lubricating oils, gasoline, and deodorized naphtha. T 49. 201

79 **Page, Kidder, & Fletcher, New York, N. Y.**—Coal tar products and their uses. T 42. 201

80 **Aladdin Oil Co., Pittsburg, Pa.**—Illuminating and lubricating oils, paraffine, etc. T 43. 201

81 **Robinson Bros. & Co., Boston, Mass.**—Toilet soaps, silver soap. P 47. 201

82 **Williams, J. B., & Co., Glastonbury, Conn.**—Soaps. Manufacturers of Genuine Yankee, Barber's Bar, Clipper, Pumice, Bath, Pocket Shaving, Verbena Cream, and other popular shaving and toilet soaps. P 47. 201

83 **Brown, Robt. B., & Co., St. Louis, Mo.**—Castor oil. T 50. 201

85 **Marvin Brothers & Bartlett, Portsmouth, N. H.**—Cod liver oil. T 47. 201

86 **Kelley, Ezra, New Bedford, Mass.**—Watchmakers', mechanics', and sewing machine oils. T 45. 201

87 **Hartmann, Laist, & Co., Cincinnati, O.**—Glycerine. T 50. 201

88 **Crew, Moore, & Levick, Philadelphia, Pa.**—Illuminating and lubricating oils. T 46. 201

89 **Pratt, Charles & Co., New York, N. Y.**—Petroleum and its products, and packages for same. Model of refinery and astral oil works. T 43. 201

91 **Smith, Chas. K., & Co., Philadelphia, Pa.**—Burning and lubricating petroleum oils, miners' and railroad oils. T 40. 201

92 **Nye, Wm. F., New Bedford, Mass.**—Sewing machine, watch, and clock oils. These oils are obtained from the head of the sperm whale, the black fish, and porpoise, and most carefully refined for the purposes mentioned, only during the severest cold of winter. T 49. 201

93 **Houghton, E. F., & Co., Philadelphia, Pa.**—Cosmoline, for medical purposes; cylinder and machinery oils, hydrocarbonated bone black. T 40. 201

94 **Boyé, M. H., & Lewis, Geo. T., Philadelphia, Pa.**—Cottonseed oil, manufactured and refined. T 50. 201

95 **Harkness, N. W., Philadelphia, Pa.**—Refined petroleum, naphtha, residuum; natural lubricating oils, Harkness' wells, W. Va.; filtering apparatus. T 43. 201

96 **Eastman & Brooke, Philadelphia, Pa.**—P 47.
a Soaps. 201
b Washing blue, Russian dressing, and French blacking. 202

97 **Devoe Manufacturing Co., New York, N. Y.**—Cans with Devoe's faucet nozzle-top, and samples of oil. T 40. 201

98 **Day & Frick, Philadelphia, Pa.**—Laundry soap; polishes for cleaning paint, metal, etc. T 46. 201

99 **Dodd, A. W., & Co., Gloucester, Mass.**—Cod-liver oil. P 47. 201

100 **Warden & Oxnard, Pittsburg, Pa.**—Refined petroleum. T 49. 201

101 **Oleophine Oil Co., refinery & works, Greenpoint, L. I.; offices, 320 and 322 Broadway, New York, N. Y., and 84 Beaver street, New York, N. Y.**—Refined petroleum illuminating oils. Refiners of petroleum; proprietors of the celebrated Oleophine illuminating oils, and manufacturers of the Company's superior patented can. Oils delivered, in barrels and cans, for export and domestic use. T 44. 201

102 **Munger, John W., Portland, Me.**—Detergent compound. P 49. 201

103 **Eavenson, J., & Sons, Philadelphia, Pa.**—Soaps and candles. T 43. 201

104 **Jewett, John, & Sons, New York, N. Y.**—P 47.
a Linseed oil. 201
b White lead. 202

105 **Rush & Co., Philadelphia, Pa.**—Oils. T 41. 201

106 **West, C., & Sons, Baltimore, Md.**—Refined petroleum oil. T 41. 201

107 **Miller, William P., & Co., New York, N. Y.**—Bodeker's lubricants. T 49. 201

108 **Galena Oil Works (limited), Franklin, Pa.**—Lubricating oil. P 46. 201

109 **Bassett, George A., Washington City, D. C.**—Liquid laundry gloss. T 71. 201

110 **Todd, A. M., Nottawa, Mich.**—Natural oil of peppermint. P 47. 201

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Oils, Paints, Pigments.

111 Cook, Caleb, Provincetown, Mass.—Watch and clock oil. T 50. 201

112 Dixon Crucible Co., Jersey City, N. J.—Graphite paint. P 72. 202

112*a* Williston, A. L., Northampton, Mass.—Indelible ink and marking pens. T 46. 202

113 Hover, J. E., & Co., Philadelphia, Pa.—Chemical writing fluid; black ink, carmine, violet, and copying inks; mucilage. T 47. 202

113*a* Prunier, Pierre, Philadelphia, Pa.—Indigo extract, indigo carmine, tannins, gallo-tannic acid, archil, greens, etc. P 47. 202

114 Wetherill & Bro., Philadelphia, Pa.—White and red lead, litharge, orange mineral. T 44. 202

115 Lucas, John, & Co., Philadelphia, Pa.—White lead, white zinc, colors, paints, varnishes, Swiss and imperial French greens, etc. T 44. 202

117 Bihn & Co., Bridesburg, Philadelphia, Pa.—Lampblack. Established 1844. Manufacturers of all grades of lampblack for painters, curriers, printing ink, oil-cloth, rubber, and wall paper manufacturers. (Put up in handsome pasteboard boxes, neatly labeled.) T 40. 202

117*a* Reisinger Manufacturing Co., Harrisburg, Pa.—Chemical writing fluid. P 68. 202

119 Kokosing Oil Co., Gambier, O.—Lampblack. V 63. 202

120 Felton, Rau, & Sibley, Philadelphia, Pa.—Coach, furniture, and Japan varnishes. T 40. 202

120*a* Rue, Mrs. S., Philadelphia, Pa.—Furniture polish. W 53. 202

121 Reynolds, C. T., & Co., New York, N. Y. (Established 1770).—Paints, dry and in oil, fine colors, chemically pure; superfine quick-drying colors for coach and car painting; ready mixed paints for house and villa painting; laundry blueing, in bags, ready for use; artists' materials, embracing prepared canvas for oil painting, Tyrian water-color tablets, drawing papers and materials; crayons, gilders' tools, brushes for art, painters' and decorators' brushes, grainers' special tools, painters' cutlery, wax-flower materials, etc. The whole line of goods exhibited were taken from their regular stock, made for practical use, and not display. P 42. 202

121*a* Brandeis, L., & Co., New York, N. Y.—Bronze powders; gold, silver, and metal leaf. P 59. 202

122 Keystone Paint Co., Muncy, Pa.—Filler for coach, car, and safe painting; paint for school-house blackboards. T 40. 202

123 Carter, Dinsmore, & Co., Boston, Mass.—Writing fluid, inks, and mucilage; Lombard's inks and mucilage. T 47. 202

124 Fromherz, Jos., Cincinnati, O.—Inks. T 47. 202

125 Heller & Merz, New York, N. Y.—Ultramarine. T 41. 202

126 Rosenberg, D., & Sons, New York, N. Y.—Varnishes and baking japans. Manufacturers of coach, railway, cabinet, agricultural implements, and miscellaneous varnishes; baking japans for all uses; bronzing and colored varnishes, of all colors, a specialty. T 44. 202

127 Ware, M. J., Philadelphia, Pa.—Ostrich feathers, dyed and scoured. P 47. 202

128 Lockwood, Brooks, & Co., Boston, Mass.—Writing inks and mucilage. P 47. 202

129 Pecora Paint Company, Philadelphia, Pa.—Paints, stains, fillers, and dryers. T 41. 202

130 Davids, Thad., & Co., New York, N. Y.—Writing inks and fluid, mucilage, sealing wax, notarial seals, wafers, etc. T 47. 202

132 Raynald, John, 214 George street, Philadelphia, Pa.—Black and colored writing inks, copying inks, mucilage, hair dye, indelible ink. Inventor of the "Jet Black Writing Ink," invented 1860; instantaneously black, and remains so for ages. Raynald's instantaneous black Japan ink, for architecture. Raynald's instantaneous black copying ink, giving three or four copies distinct and perfect; Raynald's purple and greenish fluids at first, afterwards turning very black; Raynald's indelible ink for marking linen, silk, and cotton, with a clean pen or stencil, will not spread—no preparation; fifteen different albumen colors for coloring maps and photographs, all first class. T 47. 202

133 Iron Clad Paint Co., Cleveland, O.—Paints manufactured from iron ore, as used in iron smelting furnaces. T 41. 202

134 Phillips, C. C., & Co., Philadelphia, Pa.—Varnish and japans. T 41. 202

135 Brooklyn White Lead Co., New York, N. Y.—White lead, red lead, litharge. T 41. 202

136 Martin, L., & Co., Philadelphia, Pa.—Lampblack. T 41. 202

137 Barker, Moore, & Mein, Philadelphia, Pa.—White lead. T 40. 202

138 Parsons, John, New York, N. Y.—Glove powder, Dixon's silver powder, carmine and violet inks, pocket mucilage. T 47. 202

139 Waggoner, Gifford, & Co., Chicago, Ill.—Mixed paints. T 59. 202

140 Thompson, Albert, Bridgewater, Conn.—American sienna paint. T 40. 202

141 Sharpless, John M., & Co., Philadelphia, Pa.—Solid and liquid extract logwood. T 46. 202

142 Polychroite Veneer Co., Philadelphia, Pa.—Wood fibre composition, for decorating wood and other surfaces. P 57. 202

143 Mathers', Geo., Sons, New York, N. Y.—Type and lithographic printing inks. T 47. 202

144 Meyers, Simon S., Philadelphia, Pa.—Stove polish, liquid blueing, in ejecting bottles. T 47. 202

145 Valentine & Co., New York, N. Y.—Varnishes, etc., for fine coach and car work. T 43. 202

146 Milliken, Eugene, Boston, Mass.—Electrocon liquid polish. T 56. 202

147 Masury, J. W., & Son, New York, N. Y.—Grained doors, showing graining colors; superfine colors for coach, carriage, and car painting. T 41. 202

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Pigments, Essences, Perfumery.

148 Moss, Geo. A., New York, N. Y.—Liquid blueing, powder blue, shoe blacking, ladies' shoe dressing, writing inks, etc. T 47. 202

149 Adams White Lead Co., Baltimore, Md.—White lead and products, a new process securing excellence of body, color, softness, uniformity, and durability. T 40. 202

150 Smith, Edward, & Co., New York, N.Y.—Coach and car varnishes, and japan dryers. T 41. 202

152 Moser, Chas., & Co., Cincinnati, O.—Colors, dry and pulp; paints in oil, coach colors, artists' colors. T 41. 202

152*a* Jarboe, J. W., New York, N. Y.—Ship's model and iron slab coated with enamel paint composition. T 54. 202

153 Wright, J. K., & Co., Philadelphia, Pa.—Printers' and lithographers' inks and varnishes. T 47. 202

154 Continental Manufacturing Co., Philadelphia, Pa.—Inks, writing fluids, mucilage, artists' colors. T 47. 202

155 McCloskey, Bro., & Co., Philadelphia, Pa.—Paints and colors, ground in oil, dry, and in pulp. T 40. 202

155*a* Robinson & Pratt, Philadelphia, Pa.—Printing and lithographic inks and varnishes. T 51. 202

156 Erwin, H., & Co., Bethlehem, Pa.—Mineral paint from Lehigh valley. T 40. 202

157 Prince's Metallic Paint Co., Parryville, Pa.—Metallic paint and foundry facings. T 50. 202

158 Johnson, Chas. Eneu, & Co., Philadelphia, Pa.—Typographic and lithographic black and colored printing inks, varnishes, etc. T 47. 202

159 State of Oregon (by A. J. Dufur).—Paints and oils. V 56. 202

160 Maynard & Noyes, Boston, Mass.—Writing ink. T 47. 202

161 Estes, E. B., & Son, New York, N. Y.—Sign painters' smalts. T 45. 202

162 Rowland, Joseph S. C., Philadelphia, Pa.—Indelible, canceling, and copying ink, and writing fluid. T 47. 202

163 American Bronze Powder Manufactory, Brooklyn, N. Y.—Bronze powders. N 50. 202

164 Francis & Loutrel, New York, N. Y.—P 74.
a Copyable printing inks. (Patent, April, 1872.) Use any "copying press." 202
b Composition for inking rollers. Does not harden, shrink, or crack; good for all time and climate. 543

165 Foering, Geo. W., Locust Valley, Lehigh county, Pa.—"Saucon sienna." Geologically, and otherwise, a peculiar formation, rich in alumina and peroxide of iron, exhibiting the durability of the best ochres. T 50. 202

166 Peirce, I. Newton, Philadelphia, Pa.—Stone surface enamel colors, and samples. T 70. 202

167 Smith, Marshall L., Kimberton, Pa.—Silex mineral paint. T 70. 202

168 Marble, Jerome, & Co., Worcester, Mass.—Patent indigo blue dye. A pure indigo color produced in any shade, perfectly fast, saving in time and expense, stands all indigo tests; process learned in half a day. T 70. 202

169 Zinsser, Wm., & Co., New York, N. Y.—Bleached and refined shellac, French alcohol copal varnishes, sealing wax. Shellacs are in quality same as unbleached; refined, give clear, transparent solutions; varnishes, quick drying, hard surface; lacquers of lasting colors. P 47. 202

170 Thomson, J. S., New York, N. Y.—Non-erasable and other inks. T 47. 202

171 Shaw, Thomas Ogg, Providence, R. I.—Paint made from mineral from Wyoming Territory. T 50. 202

172 Johnson, Henry M., New York, N. Y.—Kalsomine and fresco paints. P 47. 202

173 Stimson & Babcock, Boston, Mass.—P. 47.
a Coach and car varnishes. 202
b Gum copals. 203

174 Tetlow, Henry, & Bro., Philadelphia, Pa.—Perfumery, bouquet and toilet soaps, fine toilet preparations, blanc illusion, etc. P 48. 203

175 Hotchkiss, H. G., Lyons, N. Y.—American officinal essential oils. P 47. 203

176 Upham, Sam'l C., Philadelphia, Pa.—Extract, cologne, Florida water. Perfume fragrant and lasting. Two medals awarded. P 47. 203

177 Wenck & Co., New York, N. Y.—Perfumes and toilet preparations. P 47. 203

178 Wenck & Briesen, New York, N. Y.—Automatic parlor fountain. P 47. 203

179 Chawshaw French Toilet Powder Co.—Toilet powder and perfumed soap. T 48. 203

180 Sulzberger, David, Philadelphia, Pa.—Fluid extracts, by cold process; cooking extracts, fruit and liquor flavors, fruit ethers. P 48. 203

181 Savournin, W. H., Philadelphia, Pa.—Lily whites, rouges, toilet powders, etc. P 47. 203

182 Malcom & Stevenson, Philadelphia, Pa.—Fruit flavoring extracts. P 47. 203

184 Woodworth, C. B., & Son, Rochester, N. Y.—Perfumery, hair oils, pomades, cosmetics, flavoring extracts. T 47. 203

185 Young, Ladd, & Coffin, New York, N. Y.—Perfumes, oil of cologne, California water. T 48. 203

186 Chesebrough Manufacturing Co., New York, N. Y.—Vaseline, pomades, cerates, ointments, perfumes, cold cream, etc. P 43. 203

187 Lorenz Bros., Toledo, O.—Concentrated perfumes. P 47. 203

188 Da Costa, D. R., Philadelphia, Pa.—Tooth wash. P 48. 203

189 Tallmadge & Co., New York, N. Y.—Essential oils and fluid extracts. P 48. 203

190 Fritzsch, Schimmel, & Co., New York, N. Y.—Essential oils and artificial fruit essences. P 47. 203

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

191 Bell, R. W., & Co., Buffalo, N. Y.—Staple and toilet soaps. T 48. 203

191*a* Hotchkiss, L. B., Phelps, N. Y.—Peppermint, spearmint, wintergreen, and pansy essential oils. P 47. 203

192 Taylor, C. R., & Co., Philadelphia, Pa.—Toilet soaps and perfumery. P 47. 203

193 Blair's, H. C., Sons, Philadelphia, Pa.—Toilet articles. T 47. 203

194 Colgate & Co., New York, N. Y.—Fancy soaps and perfumery. P 47. 203

195 Watson, Richard H., Philadelphia, Pa.—Handkerchief extracts. De Vies's quadruple handkerchief extracts. These celebrated extracts are produced with great skill, from the finest articles known in perfumery, and for delicacy of perfumes, truthfulness to nature, and tenacity, they are particularly recommended; they are guaranteed to be of quadruple strength, and warranted not to turn rancid. Although not old extracts, they have taken favor immediately, and the best proof of their quality is their large and constantly increasing sales. A trial will convince you. P 47. 203

196 Hoyt, E. W., & Co., Lowell, Mass.—Cologne. P 47. 203

197 Read, Wm. H., Baltimore, Md.—Cologne, tooth wash, perfumeries. P 47. 203

198 Worsley, Thos., & Co., Philadelphia, Pa.—Toilet and fancy soaps, and toilet powders. P 47. 203

199 Wright, R. & G. A., Philadelphia, Pa.—Extracts, cologne, cosmetics, pomades, oils, dentifrices, toilet soaps, etc. P 47. 203

200 Wolf Brothers & Keech, Centreville, Mich.—Essential oils. P 47. 203

201 Aschenbach & Miller, Philadelphia, Pa.—Flavoring extracts and perfumery. P 47. 203

202 Fricke, Arthur, Philadelphia, Pa.—Perfumery. P 47. 203

203 Burnett, Jos., & Co., Boston, Mass.—Flavoring extracts, cologne water, and other toilet articles. P 48. 203

204 Colton, J. W., Westfield, Mass.—Colton's select flavoring extracts of choicest fruits and spices. They are strictly pure, rich flavors of the fruits, and are great saving in actual cost, to all. In a sale of thousands of gross, not one particle of coloring or adulteration has ever been used. P 43. 203

205 Hale & Parshall, Lyons, N. Y.—Essential oils. P 47. 203

206 Atwood, Hermon W., New York, N. Y.—Cologne. The proprietor takes pride in comparing this product of home manufacture with the best imported colognes. Delicacy of fragrance is combined with lasting and invigorating qualities. P 47. 203

207 Mitchell, Geo. E., Lowell, Mass.—Cologne. N 53. 203

207*a* California Distilling Co., New York, N. Y.—Essential oils and fruit extracts. P 48. 203

208 Hambleton, J., & Son, Philadelphia, Pa.—Bay rum, pomades, cosmetics, colognes, extracts, hair tonics, etc. P 43. 203

209 Weaver, James B., Philadelphia, Pa.—Cologne, Florida water, bay rum. T 49. 203

209*a* Oriental Powder Mills, Boston, Mass.—Imitation samples of military, sporting, and blasting powder. P 43. 204

210 Barber Match Co., Akron, O.—Drawing-room and sulphur matches. T 44. 204

211 Toy, Bickford, & Co., Simsbury, Conn.—Safety fuses. T 45. 204

211*a* Du Pont de Nemours, E. I., Wilmington, Del.—Powder canisters and saltpetre. T 40. 204

212 Laflin & Rand Powder Co., New York, N. Y.—Gunpowder, empty packages, patent cartridges for mining, fuses, crude materials. N 62. 204

212*a* Zennig, R. H., & Co., New York, N. Y.—Wax matches and tapers. P 43. 204

213 Hazard Powder Co., Hazardville, Conn.—Sporting and blasting gunpowder. H 71. 204

214 Willis, Aug. L., Philadelphia, Pa.—Pyrotechnic fog signals. H 71. 205

214*a* Harris, H. G., New York, N. Y.—Balloon signals. H 68. 205

Ceramics — Pottery, Porcelain, Glass, etc.

215 Galloway & Graff, Philadelphia, Pa.—Terra-cotta statuary, vases, tazzas, pedestals, fountains, flower pots, garden edging, etc. B 72. 206

216 Neukumet, Philip, Philadelphia, Pa.—Fire bricks, clay retorts, gas-house tiles, and ornamental building brick. X 56. 206

216*a* Burns, Russell & Co., Baltimore, Md.—Pressed brick masonry. Y 60. 260

217 Moorhead Clay Works, Philadelphia, Pa.—Terra-cotta sewer and water pipes, drain and roofing tiles, garden vases, chimney tops, and flues. (*Outside.*) 206

218 Harvey & Adamson, Philadelphia, Pa.—Drain and sewer pipe, garden vases, statuary, chimney tops, flues, etc. B 72. 206

218*a* Davis & Chaddock, Boston, Mass.—Fire bricks. Y 61. 206

219 Remmey, Richard C., Philadelphia, Pa.—Chemical apparatus for manufacturing acids. B 68. 206

220 Gossin, F., Philadelphia, Pa.—Terra-cotta ware, statuary, vases, fountains, pedestals, etc. B 69. 206

221 Bowman, O. O., & Co., Trenton, N. J.—Terra-cotta drain and sewer pipe, chimney tops, and flues; garden vases and statuary. B 71. 206

221*a* Alexander, J. Park, Akron, O.—V 63.

a Fire brick. 206

b Stone ware. 210

222 Fritz, John, Philadelphia, Pa.—Terra-cotta work, hanging baskets, rustic flower pots, vases, fern cases, etc.; imitation gas logs. B 69. 206

222*a* Ogden, Isaac, Newark, N. J.—Drain pipe. Y 55. 206

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

223 Scioto Fire Brick Co., Sciotoville, Ohio.—Fire bricks and fire clays. V 61 *to* 64. 206

223*a* Dover Fire Brick Co., Canal Dover, O.—Fire brick. T 63. 206

223*b* Boynton, C. W., & Co., Woodbridge, N. J.—Under-drainage tile, hollow building brick, and garden borders. Y 54. 206

224 Ambruster, John, Camden, N. J.—Pressed brick work. X 58. 206

225 Union Mining Co., of Allegheny county, Md.—Fire brick. X 58. 206

226 Wood Brothers, Hartford, Conn.—Drain tiles. W 53. 206

227 Hinvest, Robt., New York, N. Y.—Clamp and band for securing masonry, hollow brick for ventilation, chimney top. (*Outside.*) 206

227*a* Scattergood, W. W., Rancocas, N. J.—Drain tile. X 56. 206

227*b* Brick Enameling Co., Philadelphia, Pa.—Enameled bricks. U 48. 206

227*c* Richardson, George, Milwaukee, Wis.—Stone pipe. X 57. 206

228 Hews, A. H., & Co., North Cambridge, Mass.—Flower pots, fancy earthenware, garden vases, ferneries, battery jars, etc. B 69. 206

229 Hall, A., & Son, Perth Amboy, N. J.—Brick used in chimney of New Jersey State Building. 206

230 Maurer, Henry, Perth Amboy, N. J., and 418 to 422 East Twenty-third street, New York, N. Y.—Roofing tiles used upon the New Jersey State Building. Cheap, light in weight, thoroughly fireproof, perfectly water-tight. 206

231 American Kaolin Co. Works, New Garden, Chester Co., Pa.; office, 233 South Third street, Philadelphia, Pa.—Fire brick, tile, etc. X 58. 206

232 Wassel Fire Clay Co., Columbus, O.—V 63.
- *a* Terra-cotta work. 206
- *b* Fire brick. 207

233 Kreischer, B., & Son, Philadelphia, Pa.—X 56.
- *a* Fire bricks, tiles, blocks, and slabs. 206
- *b* Clay gas retorts, furnaces, and muffles. 207

233*a* Newton & Co., Albany, N. Y.—X 56.
- *a* Fire brick. 206
- *b* Stove linings, heater fire-brick linings, portable clay furnaces. 207

233*b* Friese, C., Philadelphia, Pa.—Statuary, vases, stumps, flower pots, hanging baskets, etc. T 76. 206

234 Hall, A., & Sons, Perth Amboy, N. J.—T 59.
- *a* Diamantine front and fire bricks. 206
- *b* Street paving blocks. 208
- *c* Rockingham antique and yellow ware. 210

235 Hicks, George C., & Co., Baltimore, Md.—T 55.
- *a* Terra-cotta pipe, vase, clays, etc. 206
- *b* Fire bricks, gas retorts. 207
- *c* Tiles. 208

Standard fire-clay gas retort, made from the renowned Maryland fire clays, and remarkable for refractibility, tenacity, and freedom from gathering carbon. Fire clays, all from within the city limits of Baltimore.

236 Walker, N. U., Wellsville, O. (*Outside.*)
- *a* Sewer pipe, terra-cotta ware, chimney tops and statuary. 206
- *b* Fire tiles, stove linings. 207
- *c* Roofing tile. 208

237 State of New Jersey, by Geo. H. Cook, State Geologist, New Brunswick, N. J.—T 70.
- *a* Sewer and drain pipe; fine and common pottery. 206
- *b* Fire bricks. 207
- *c* Stoneware. 210
- *d* Window glass. 214
- *e* Apothecaries' and bottle glass. 215

237*a* Hampton, Cutter, & Son, Woodbridge, N. J.—T 64.
- *a* Fire brick. 207
- *b* White ware. 210

238 Dixon Crucible Co., Jersey City, N. J.—Graphite crucibles, retorts, etc. P 72. 207

238*a* Haws, A. J., Johnstown, Pa.—Fire brick bottoms for blast furnaces, rolling mills, etc. Y 60. 207

239 McIlvaine Bros., Philadelphia, Pa.—Foundry facings. P 43. 207

239*a* Kier Bros, Pittsburg, Pa.—Y 56.
- *a* Fire bricks. 207
- *b* Tiles. 208

240 Goebel, J., & Co., New York, N. Y.—Clay and clay pots. T 57. 207

240*a* Burlington Manufacturing Co., Burlington, Vt.—Samples of tile floor. T 56. 208

240*b* Peck, Kennedy, & Co., New York, N. Y.—Clay roofing tile. (*Outside.*) 208

240*c* Field, F. K., Philadelphia, Pa.—Flagging and floor tiles. T 53. 208

241 Young's, Wm., Sons, Trenton, N. J.—Crockery and porcelain hardware trimmings. T 74. 209

242 Empire China Works. James L. Jensen, Proprietor, Green Point, Brooklyn, E. D., N. Y.—Porcelain hardware and cabinet trimmings; also, patent lemon squeezers, wood frame, porcelain lined; porcelain blade knife sharpeners, etc. N 70. 209

243 Moore, Joseph H., Trenton, N. J.—Earthenware. T 76. 210

244 Carr, James, New York, N. Y.—White granite, majolica and parian ware. T 77. 210

244*a* Laughlin Bros., East Liverpool, O.—Ironstone china ware. T 75. 210

245 Davis, Isaac, Trenton, N. J.—White granite and decorated crockery ware. T 75. 210

246 Jeffords, J. E., & Co., Philadelphia, Pa.—Yellow, Rockingham, white-lined, buff-stone, majolica, and lava wares. T 77. 210

246*a* Coxon & Co., Trenton, N. J.—Earthenware. T 77. 210

247 Astbury & Maddock, Trenton, N. J.—Earthenware for sanitary purposes; china and earthenware for general use. T 73. 210

248 Ott & Brewer, Trenton, N. J.—White granite, porcelain, and parian wares; vases, figures, table and toilet goods. T 73. 210

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

249 Thompson, C. C., & Co., East Liverpool, O.—Pottery ware. T 76. 210

250 Yates, Bennett, & Allen, Trenton, N. J.—Dinner, dessert, tea, and toilet sets; crockery ware. T 77. 210

252 Brunt, Bloor, Martin, & Co., East Liverpool, O.—American white granite dinner, dessert, tea, and toilet decorated ware. T 74. 210

252*a* Speeler Pottery Co., Trenton, N. J. —T 75.
a Yellow and Rockingham fire-proof ware. 210
b Biscuit ware. 212

253 Baggott, S. & W., East Liverpool, O.—Rockingham and yellow ware. T 75. 210

253*a* Glasgow Pottery Co., Trenton, N. J.—T 73.
a Stone china and decorated ware. 210
b Majolica ware. 211

254 American Crockery Co., Trenton, N. J.—Chamber sets and table ware of bisque, white granite, and stone china. T 73. 213

255 Greenwood Pottery Co., Trenton, N. J.—Ironstone china, decorated dinner and toilet sets. T 74. 213

256 Mercer Pottery Co., Trenton, N. J. —Plain and decorative earthenware and china. T 75. 213

256*a* Union Porcelain Works, Greenpoint, N. Y.—Porcelain ware. T 75. 213

257 Onondaga Pottery Co., Geddes, N. Y.—White granite, and decorated table and toilet ware. T 77. 213

258 Hambleton, J., & Son, Philadelphia, Pa.—Decorated porcelain plates, pitchers, barber mugs. P 43. 213

258*a* Bullock, Charles, Trenton, N. J. —China ware. T 77. 213

259 Lucas, John, & Co., Philadelphia, Pa.—Window glass. T 45. 214

260 Sallandrouze, S. P., Cincinnati, O.—Plate glass. P 43. 214

261 Cohansey Glass Manufacturing Co., Bridgeton, N. J.—N 49.
a Cylinder window glass. 214
b Bottles, vials, and demijohns. 215

262 Gilbert, F. A., New Haven, Conn.—Combination table. P 51. 217

262*a* Lambie & Sargent, New York, N. Y.—Adjustable table. P 51. 217

263 Klautsheck, Thomas, & Stewart, Philadelphia, Pa. (*Pavilion in park.*)
a Window glass. 214
b Glass shades. 216

264 Diamond Glass Co., Ravenna, O.—Double-thick glass from ground white sandstone, in windows of Ohio State Building. 214

265 Wenck & Co., New York, N. Y.—Atomizers. P 47. 215

265*a* Whitall, Tatum, & Co., Philadelphia, Pa.—Druggists', perfumers', confectioners', etc., glassware; fruit jars. N 49. 215

266 Holzer, Wm., Philadelphia, Pa.—Druggists', chemists', philosophical, and fancy glassware. N 52. 215

267 Young, Ladd, & Coffin, New York, N. Y.—Perfume atomizers. T 48. 215

268 Pile, W. H., & Sons, Philadelphia, Pa.—Hydrometers, specific gravity bottles, graduated tubes, chemical thermometers, and analytical weights. N 50. 215

269 Caterson, Wm. M., Philadelphia, Pa.—Bottles for poisons. T 53. 215

270 Fox, H. C., & Sons, Philadelphia, Pa.—Druggists' and perfumers' glassware made from glass not containing lead. N 53. 215

271 Warner, Wm. R., & Co., Philadelphia, Pa.—Drug dispensing bottles. P 43. 215

272 Whitney Bros., Glassboro', N. J.—Green and other colored glassware, for druggists, chemists, etc. N 54. 216

272*a* Smith Bros., New Bedford, Mass. —Engraving and decorating of glass. N 51. 216

273 Boston & Sandwich Glass Co., Boston, Mass.—Glassware. Manufacturers of cut crystal chandeliers; rich cut glassware of every description, including the "Daniel Webster Punch Bowl." N 51. 216

273*a* Smith, H. J., & Co., Philadelphia, Pa.—Stained glass window of the "Crucifixion," the main figure after A. Durer's celebrated picture. (*North Gallery.*) 216

274 New England Glass Co., East Cambridge, Mass.—Glassware. N 50. 216

274*a* Smith Bros., New Bedford, Mass. —Decorated vases, shades, globes, etc. N 51. 216.

274*b* Jones, Thomas, New York, N. Y. —Ornamental cut and ground glass. N 49. 216

274*c* Hobbs, J. H., Brockunier, & Co., —Wheeling, W. Va.—Soda-lime glassware. N 52. 216

275 Dobelmann, J. B., Greenpoint, N. Y.—Cut and engraved glassware. N 53. 216

276 Hartell & Letchworth, Philadelphia, Pa.—Gas globes, ornamental sheet glass, and Centennial devices. P 64. 216

277 Mount Washington Glass Works, New Bedford, Mass.
a Cut crystal floral fountain. T 45. 216
b Crystal toilet table, prismatic candelabra, chandelier, vases, glassware. N 51. 216

278 La Belle Glass Co., Bridgeport, Ohio.—Table, bar, and lamp goods, cut and engraved ware. N 52. 216

279 Keystone Flint Glass Co., Pittsburg, Pa.—Pure lead glass, lamp chimneys, silvered glassware. N 51. 216

280 Bakewell, Pears, & Co., Pittsburg, Pa.—Pressed and blown crystal and opal glassware. N 51. 216

281 Ripley & Co., Pittsburg, Pa.—Imitation cut glassware, lamps blown and cut; bar goods cut and engraved. N 49 *to* 51. 216

283 Richards & Hartley Flint Glass Co., Pittsburg, Pa.—Crystal glass table ware, lamps, etc. N 49 *to* 51. 216

284 Adams & Co., Pittsburg, Pa.—Flint and opal glassware. N 49 *to* 51. 216

285 Atterbury & Co., Pittsburg, Pa.—Lamps and glassware, gas and kerosene globes. N 49 *to* 51. 216

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

286 Excelsior Flint Glass Co., Pittsburg, Pa.—Glass lamp chimneys, silvered glass reflectors. N 49 *to* 51. 216

287 Rochester Tumbler Co., Pittsburg, Pa.—Glass tumblers. N 49 *to* 51. 216

288 Crystal Glass Co., Pittsburg, Pa.—Moulded or pressed crystal glass table ware, etc. N 49 *to* 51. 216

289 Central Glass Co., Wheeling, W. Va.—Pressed glassware. N 52. 216

290 Albertson, J. M., Norristown, Pa.—Window glass, glass shades; colored, obscured, and corrugated glass. N 51. 216

Furniture and Objects of General Use in Construction and in Dwellings.

291 Collender, H. W., New York, N. Y.—Billiard tables, cue stand and marker, pool boards and buffet. T 51. 217

291*a* Doremus, P. C., New York, N. Y.—Sofa bed and lounge. V 51. 217

291*b* Pottin Register Manufacturing Co., Philadelphia, Pa.—Parlor billiard table. P 57. 217

292 Mitchell & Rammelsburg Furniture Co., Cincinnati, O.—Rosewood bed and bureau, renaissance style; walnut dining furniture and hall stand, mediæval style. P 60. 217

292*a* Collignon Bros., New York, N. Y.—Folding rocking chairs, settees, chairs. V 71. 217

293 Cole, Alexander, Manumuskin, N. J.—P 52.
a Iron and wood spring-bottom bedsteads. 217
b Sash fastener. 227

294 O'Hara, Chas. M., Philadelphia, Pa.—"Hygienic" chairs. P 58. 217

295*a* Miller, L. H., Baltimore, Md.—Fire and burglar proof safes. H 68. 217

296 Gardner & Co., New York, N. Y.—Chairs, settees, car and depot seats, etc. T 58. 217

296*a* New Haven Folding Chair Co., New Haven, Conn.—Portable folding chairs. T 59. 217

297 McKinley, John, Philadelphia, Pa.—Patent barbers' chairs. T 58. 217

297*a* Pabst, Charles, Philadelphia, Pa.—Sofa bed. P 52. 217

298 Allen & Bro., Philadelphia, Pa.—Furniture and interior decorations. P 54. 217

298*a* Reeves, S. H., & Co., New York, N. Y.—Spring bottom bed. P 52. 217

299 Adjustable Folding Chair Co., Pittsburg, Pa.—Adjustable folding chair. P 58. 217

299*a* Brady, E. W., Davenport, Ia.—Wooden slate window shades. T 52. 217

300 Henkels, Geo. J., Philadelphia, Pa.—Chamber furniture of wood from Independence Square; sofa beds. P 57. 217

300*a* Meriden Curtain Fixture Co., Meriden, Conn.—Curtain fixtures. P 53. 217

301 Smith & Campion, Philadelphia, Pa.—Parlor, dining-room, chamber, and library furniture. T 55. 217

301*a* Sawyer & Buckley, Meriden, Conn.—Chess and backgammon tables. P 53. 217

302 Hart, Clarence A., Philadelphia, Pa.—Military equipments, gold fringes, etc. B 78. 217

302*a* Krause, Frederick W., Chicago, Ill.—Gothic chairs. W 52. 217

303 Campbell, Wm., New York, N. Y.—Spring rollers for window curtains. T 52. 217

303*a* Harmon, J. C., Philadelphia, Pa.—Inlaid checker board. (*East Gallery.*) 217

304 Delaware Chair Co., Delaware, O.—Double cane-seat chairs. T 58. 217

304*a* Stevens, C. A., & Alrich, W. H., Philadelphia, Pa.—Folding bedstead. P 54. 217

305 Phelps, Doremus, & Corbett, 264 and 266 Canal street, near Broadway, New York, N. Y.—W. T. Doremus' patent chair base, patent rubber springs for oscillating chairs, patent oscillating rubber-spring chairs. Being combinations, affording manufacturers a wide range in the production of chairs for office, library, or parlor use. P 53. 217

305*a* Smith, Wm. B., New York, N. Y.—Improvement in counter show case. N 41. 217

306 Moore, York, & Howell, Philadelphia, Pa.—Parlor furniture, folding tables. T 54. 217

306*a* Shroeder, F. & H., Cincinnati, O.—Pulpit, with sounding board. P 47. 217

307 Loth, Henry, Philadelphia, Pa.—Folding table. P 51. 217

307*a* Spofford, Jennie H., Philadelphia, Pa.—Mattress bracket holders, mosquito bar. P 50. 217

308 Ferrari, Guiseppe, New York, N. Y.—Cabinet, richly carved, in Italian style of fifteenth century. P 58. 217

308*a* Brigg, M., & Son, Rochester, N. Y.—Fire and burglar proof safes. H 71. 217

309 Everitt, Elisha E., Philadelphia, Pa.—Portable and stationary washstand and writing desk combined; sofa bed. P 56. 217

309*a* Claes & Co., St. Louis, Mo.—Silver-plated show case. T 60. 217

310 Schubeuter, J., St. Louis, Mo.—Silver-plated show case. T 60. 217

311 Spiral Elliptic Spring Works, Cincinnati, O.—Springs for upholstering. P 53. 217

311*a* Brunswick Bros., Stephani, & Hart Co., St. Louis, Mo.—Billiard table and cue rack. T 54. 217

312 Woven Wire Web Bed Co., New Britain, Conn.—Woven wire bed bottom. P 53. 217

313 Knell, Geo., Philadelphia, Pa.—Sofa bed, invalid chair and bed, rocking reclining chair, chair and lounge, photographic chairs. T 59. 217

313*a* Adams, Dan., Nashville, Tenn.—Hat-rack and chairs made of wood from "The Hermitage," the old home of Andrew Jackson. V 72. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Furniture and Decoration.

314 Carrington, De Zouche, & Co., Philadelphia, Pa.—Interior decorations, traverse curtain fixture. P 56. 217

315 Sheppard, Arrison, & Sheppard, Philadelphia, Pa.—Curtains, decorations, and upholstered furniture. P 53. 217

316 Marcotte, L., & Co., New York, N. Y.—Library (Henry II.) and dining-room (Louis XIII.) furniture. T 52. 217

317 Lever Spring Bed Co., Springfield, O.—Spring bed. P 52. 217

318 Lamb, J. & R., New York, N. Y.—Church furniture, metal work, embroideries, and decorations. P 43. 217

319 Heiligmann & Bro., Philadelphia, Pa.—Solid wood cabinet carvings. P 57. 217

320 Wakefield Rattan Co., Boston, Mass.—Rattan furniture and ornamental ware. T 57. 217

321 White, Otis C., Hopkinton, Mass.—Stationary and portable head-rests for chairs and car-seat backs. This is a new mechanical combination of simple construction, which affords a complete opposition movement of great range, to all positions, without removing the head from the upholstery, and fastened by a single clamp. The portable kinds fold up to take but little space, make their own fastening to almost any form where support to the head is desired; they are simple, elegant, and thoroughly practical. Correspondence and orders solicited. T 59. 217

322 Lambie & Sargent, New York, N. Y.—Adjustable table. P 51. 217

323 Herts & Co., New York, N. Y.—Chamber suite, carved amaranth, ebony, and maple woods; upholstery, Horsfall's dressing-case wardrobe. P 54. 217

324 Cutter, Ephraim, Cambridge, Mass.—Adjustable chair for supine postures. N 58. 217

324*a* Russell, W. P., & Co., Charleston, S. C.—Show case in form of a ledger. P 74. 217

325 Kaiser & Herzog, **1005** Walnut street, Philadelphia, Pa.—Decorative painting for ceilings and side walls, in the modern renaissance style, executed after original designs by the firm. P 56. 217

326 Steele, John, Louisville, Ky.—Folding opera chairs; church, lawn, and school seats. T 58. 217

327 Kimbel & Cabus, New York, N.Y.—Parlor furniture and decorations. P 56. 217

328 Vaill, E. W., Worcester, Mass.—Patent folding chairs, in great variety. Business established 1861. I claim for my chairs durability, thoroughness of finish, simplicity in folding, and compactness when folded. Very extensive assortment of styles, adapted for parlor, drawing-room, library, veranda, and shipboard; also, a line suitable for tropical climates. On account of limited space allotted, am compelled to make a comparatively meagre exhibit. T 57. 217

329 Cutler, A., & Son, Buffalo, N. Y.—Business desks, reading tables, patent automatic folding parlor tables. P 53. 217

330 Turner, Henry A., & Co., Boston, Mass.—Sofas and chairs. B 68. 217

331 Koechling, B. H., New York, N. Y.—Opera folding chairs. P 51. 217

COLLECTIVE EXHIBIT OF THE SCHOOL OF DESIGN, UNIVERSITY OF CINCINNATI, OHIO. (*South Gallery.*) 217

331*a* Whittemore, R. R.—Laocoon.

331*b* Woodward, W. W.—Fugitive Slave.

331*c* Humphreys, Ella.—Illumination and frescoed ceiling.

331*d* De Camp, Essie.—Panel

331*e* Rettig, John.—Centre for ceiling and border for wainscoting.

331*f* Merrill, Susie.—Panel centre.

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332 Seymour, H. J., Chair Co., Troy, N. Y.—Bent chairs, patent braided chairs and rockers, walnut dining and library chairs. T 58. 217

333 Cooper, Jas. W., & Bro., Philadelphia, Pa.—Fancy cabinet ware, wood carvings, etc. P 57. 217

334 Stiles, Mrs. E. W., Philadelphia, Pa.—Combination desk. P 50. 217

335 Karcher's, Daniel M., Sons, Philadelphia, Pa.—Sideboard. P 60. 217

336 Yandell, Chas. R., & Co., New York, N. Y.—Leather window lambrequins, embossed wall leather hangings, leather chairs and tables. P 52. 217

337 Schrenkeisen, M. & H., New York, N. Y.—Upholstered rocking chair on castors. P 53. 217

338 Kilian Brothers, New York, N. Y.—Easels, parlor table, music stand, table, card receiver. P 51. 217

339 Schastey, Geo. A., New York, N. Y.—Furniture and interior decorations. P 58. 217

340 Brown & Bliss, **169** Canal street, New York, N. Y.—Dining-room furniture, extension tables, sideboards, etc. Special manufacturers and exporters of dining-room furniture "*en suite*," including extension tables of every description, with patent slides and patent screw-leg corner block, also sideboards and side tables with leaves of extension table enclosed within. T 50. 217

341 Palmer, Theo. J., New York, N. Y.—Rocking or reclining chair on castors. P 53. 217

342 Kittle, S. P., No. **203** Canal street, New York, N. Y.—Spring mattresses for under-mattress, or with mattress and bolster combined, and made to fold compactly for transportation, when desired; also, spring mattresses with straight frame and elastic edges; others so constructed that both sides and all the edges are alike elastic and most comfortable. A moderate outlay in these goods will insure a most exquisite bed. P 52. 217

343 Schenck, Jas. V., New York, N. Y.—Crescent spring mattress. P 51. 217

344 Paton, Robt., & Son, New York, N. Y.—Church and school furniture, Sunday-school and lecture-room settees. P 54. 217

345 Postawka, L., & Co., Cambridgeport, Mass.—The "X" piano taboret. P 60. 217

346 Roach, J. Chandler, Philadelphia, Pa.—Spring bedstead. P 52. 217

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Furniture.

347 Deetz, Edward, Philadelphia, Pa.—Adjustable sleeping apartment or retiring room. P 57. 217

348 Reeves & Eastburn, Philadelphia, Pa.—Folding bedstead, sofa or parlor bedstead, chamber furniture, bedstead fastening. P 56. 217

349 Ahrens, Geo., Crete, Ill.—Extension table. T 50. 217

350 Briggs, Joshua, Peterborough, N. H.—Piano stools. P 51. 217

351 Taylor, W. O., & Son, Bedford, O.—Double cane-seat rockers and chairs. T 59. 217

351*a* National Wire Mattress Co., New Britain, Conn.—Wire mattresses. P 53. 217

352 United States Spring Bed Co., Springfield, Mass.—Spring beds. P 52. 217

353 Chormann, E. G., Philadelphia, Pa.—Parlor, sketching, and studio easels. P 50. 217

354 Griendling, John, 213 N. Second street, Philadelphia, Pa.—Barber's chair, foot-rest, and hair-dressing standard. This chair is easily regulated for shaving and hair-cutting combined. An examination will satisfy any one of its merits. P 51. 217

354*a* Maires & Reed, New York, N. Y.—Adjustable iron chairs. P 50. 217

355 Matlack, Henry S., Philadelphia, Pa.—Paper hanging and fresco painting. P 50. 217

355*a* Gale, D. A. T., Syracuse City, N. Y.—Metallic spring webbing mattress. P 50. 217

356 Berkey & Gay Furniture Co., Grand Rapids, Mich.—Chamber suite, lounges. P 59. 217

356*a* Excelsior School Furniture Manufacturing Co., Cincinnati, O.—Church furniture. T 52. 217

357 Phœnix Furniture Co., Grand Rapids, Mich.—Bed-room suites, sideboard, hall stand. P 57. 217

358 Wooton Desk Co., Indianapolis, Ind.—Cabinet office secretary, rotary office desk. P 52. 217

359 Nelson, Matter, & Co., Grand Rapids, Mich.—Chamber suites. P 58. 217

359*a* Peck, Henry, New York, N. Y.—Show cases for various exhibitors. 217

360 Junge, Albert, Pittsburg, Pa.—Spring mattress. P 53 217

361 Pabst, Daniel, Philadelphia, Pa.—Walnut sideboard. P 58. 217

362 Richmond, Backus, & Co., Detroit, Mich.—Combined coupon and local railroad ticket case, with secretary and desk. P 58. 217

363 Fyler, E. W., Philadelphia, Pa.—Bedstead. P 53. 217

364 Halm, Bellows, & Butler, Columbus, O.—Furniture. P 50. 217

365 Buschor, Chas., Philadelphia, Pa.—Parlor furniture, decorations, window blinds with cornice, curtains, and outside shutters; show cases. P 56. 217

366 Vollmer, G., Philadelphia, Pa.—Furniture. T 54. 217

367 Thole, B., St. Louis, Mo.—Book case. P 59. 217

368 Swasey, I. N., M.D., Yonkers, N. Y.—Billiard tables; Trichorum table, a new principle in carpentry, securing a permanently level surface, and new built up work samples from the French Manufacturing Co. of New York City. T 51. 217

369 Hover, H. F., Philadelphia, Pa.—Folding wardrobe and lounge. P 50. 217

370 Most, John H., Old Saybrook, Conn.—Furniture made from wood of the "Charter Oak," Hartford, Conn. P 62. 217

371 Snyder, C. Ridgway, Minneapolis, Minn.—Work table, combining lap board and writing desk. P 50. 217

372 Caulier, F., Philadelphia, Pa.—Wardrobe bedstead. P 54. 217

373 Pottier & Stymus Manufacturing Co., New York, N. Y.—Bedstead, cabinet, bahut, table, door, door trimming, window cornice, curtains, sofa, chairs. P 55. 217

374 Schafft, Fridolin, Detroit, Mich.—Sideboard. P 60. 217

375 Ransom, D. L., & Co., Buffalo, N. Y.—Adjustable desks and business cabinets, can be adjusted to any position, at any moment, without disarranging any books, papers, etc. Five different styles, for private and general offices. Send for circular. T 50. 217

376 Wagan, R. M., Mount Lebanon, N. Y.—The Shakers' web-seated chairs, also with web backs, or with plush cushions, and foot-benches to match. The only manufacturer of the "Genuine Shakers' Chairs." P 52. 217

376*a* Killgore, J. L., Wilmington, Del.—Tourists' and miners' folding bedstead and spring bed. W 54. 217

377 Hutchings, E. W., & Son, New York, N. Y.—Sideboard and chair. P 59. 217

378 Demarest, Joyce, & Co., New York, N. Y.—Opera chairs. V 51. 217

379 Centennial Rolling Chair Co., Philadelphia, Pa.—Rolling chairs. (*Nave.*) 217

380 Cunningham, Peter B., Bethlehem, Pa.—Anthracite coal table, from Council Ridge coal fields, Luzerne county, Pa. T 53. 217

380*a* Nichols, W., Boston, Mass.—Book rack. P 47. 217

381 Fifield, J. B. M., Philadelphia, Pa.—Magic bed sofa. T 58. 217

382 Beard & Bro., St. Louis, Mo.—Burglar proof safes. B 70. 217

383*a* Hassenforder, C., Philadelphia, Pa.—Safes. H 71. 217

384 Lord, J. E., & Co., Quincy, Ill.—Spring bed bottom. P 52. 217

385 Goodwin, A. J., Brookline, Mass.—Sanitary bedstead. P 52. 217

386 Hill, Edwin P., Haverhill, Mass.—Folding table. P 50. 217

387 Ivins & Bro., Philadelphia, Pa.—Walnut bed. P 53. 217

388 Seidler & May, Hartford, Conn.—Sofa bed and adjustable extension chair. P 52. 217

389 Hopper, C. C., Philadelphia, Pa.—Chamber furniture. P 57. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

390 Andrews, A. H., & Co., Chicago, Ill.—T 67.
a School, church, office, and bank furniture; desks, pews, pulpits, chairs. 217
b Marquetry flooring. 217

391 Coburn Manufacturing Co., Philadelphia, Pa.—Canopy wardrobe and wardrobe arm. P 51. 217

392 Rhoner, Frank, & Co., New York, N. Y.—Reclining chairs. P 53. 217

393 Close, Thos. J., Philadelphia, Pa.—Reversible settees. N 63. 217

394 Allen, Jas. T., & Co., New York, N. Y.—Rockers. W 54. 217

395 De Bock, Matthew, South Boston, Mass.—Cabinet, work table, and frame. P 51. 217

396 Paine's Furniture Manufactory, Boston, Mass.—Pulpit and church furniture, case of designs. T 60. 217

397 Brunswick, J. M., & Balke Co., Chicago, Ill.—Billiard tables and materials; ivory and ten-pin balls. T 51. 217

398 Collins & Sturgeon, New York, N. Y.—Reclining chair. T 53. 217

399 Ellin, Robt., & Co., New York, N. Y.—Eagle lecturn carved in oak, sideboard, font, hall chairs, and litany desk. P 52. 217

400 Morse, L., & Son, Athol, Mass.—Folding settee. P 51. 217

401 Hartshorn, Stewart, New York, N. Y.—Window-shade rollers. T 51. 217

402 Glenn, Frank, Philadelphia, Pa.—American buffet. B 41 *to* 44. 217

403 Walter Heywood Chair Co., Fitchburg, Mass.—Chairs. Adapted for export to every foreign port and the home trade. T 59. 217

404 Whitney Manufacturing Co., South Ashburnam, Mass.—Chairs. W 50. 217

405 Sawin, L. H., Gardner, Mass.—Cane-seat chairs. W 52. 217

406 French, Julia B., Boston, Mass.—Cabinet and bedstead. N 60. 217

407 Decker, L., & Co., New York, N. Y.—Billiard tables and appurtenances. P 54. 217

408 Heywood Brothers & Co., Gardner, Mass.—Cane and wood seat and rattan chairs, rattan furniture, chair cane, reeds, etc. W 50. 217

410 Derby, Philander, Gardner, Mass.—Cane-seat chairs. Manufacturer of, and dealer in, all varieties of cane and wood-seat chairs for home and export trade. W 51. 217

411 Rath, Paul, New York, N. Y.—Bay-window curtain, screen, and pedestal. P 41. 217

411*a* Wilson, George, Chicago, Ill.—T 59.
a Folding bedstead and table combined, and recumbent reading chair. 217
b Mangle. 225

412 Watson, J., & Son, Philadelphia, Pa.—Safes, ladies' jewelry stand. H 72. 217

413 Hall's Safe and Lock Co., Cincinnati, O.—Fire, burglar, and fire and burglar proof safes, deposit vaults. H 67. 217

414 Herring & Co., New York, N. Y.—Bank vaults and doors; fire and burglar proof safes. H 69. 217

415 Farrel & Co., Philadelphia, Pa.—Fire and burglar proof safes. H 67. 217

416 Terwilliger & Co., New York, N. Y.—Fire and burglar proof safes. H 72. 217

417 Corliss Safe Co., Providence, R. I.—Burglar proof safes. H 67. 217

418 Valentine & Butler Safe & Lock Co., New York, N. Y.—Burglar and fire proof safes. H 70. 217

419 Marvin's Safe Company, New York, N. Y.—Safes. H 69. 217

420 Schermerhorn, Charles, New York, N. Y.—T 50.
a Towel stand and rack. 217
b Mirror. 219

421 Thiery, Adolph, Philadelphia, Pa.—P 51.
a Tables. 217
b Mirrors. 219

422 Dubernet, L., New York, N. Y.—P 52.
a Bamboo and fancy fire-gilt furniture. 217
b Paper, velvet, metal, and gilt frames. 220

422*a* Feust & Rice, New York, N. Y.—P 51.
a Cabinet ware. 217
b Mirror frames and brackets. 220

423 Speth, K. L., New York, N. Y.—P 53.
a Fancy cabinet ware. 217
b Carvings, easels, pedestals, brackets, mosaic veneer, etc. 220

424 Earle, James S., & Sons, Philadelphia, Pa.—P 49.
a Gilt tables. 217
b Framed looking glasses, Venetian mirrors. 219
c Picture frames, brackets. 220

425 Lowe, A. C., Philadelphia, Pa.—P 50.
a Gilt bouquet tables. 217
b Looking glasses. 219
c Picture frames. 220

426 Hale, Kilburn, & Co., Philadelphia, Pa.—P 55.
a Folding bed and crib, flexible-seat chairs, spring beds. 217
b Looking glasses. 219
c Picture frames. 220

427 McClees, J. E., & Son, Philadelphia, Pa.—T 49.
a Gilt chairs and tables. 217
b Mirrors. 219
c Fancy frames. 220

428 Salter, Jno. G., Philadelphia, Pa.—P 50.
a Console tables. 217
b Mirrors. 219
c Cornices, portrait frames. 220

428*a* Smith, Eldridge J., Philadelphia, Pa.—H 69.
a Adjustable desk, school desk and seat. 217
b Cooking utensil. 224
c Stair rods. 227

429 Reukauff, Geo. C., Philadelphia, Pa.—P 52.
a Bouquet tables. 217
b Mirrors. 219
c Cornices, picture frames. 220
d Mantelpiece. 227

430 Tiffany & Co., New York, N. Y.—Silver and plated ware, incrustations of metals. N 41. 218

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

430*a* **Mitcheson, Mrs. M. J., Philadelphia, Pa.**—Moustache spoon. N 41. 218

431 Bailey & Co., Philadelphia, Pa.—Silver ware. N 43. 218

432 Caldwell, J. E., & Co., Philadelphia, Pa.—Silver ware. N 41. 218

433 Meriden Britannia Co., West Meriden, Conn.—Fine electro-plated table ware, articles of ornament and vertu. N 43. 218

434 Derby Silver Co., Derby, Conn.—Hard metal silver-plated table cutlery and morocco-cased plated goods. P 46. 218

436 Krider, Peter L., Philadelphia, Pa.—Sterling silver ware. P 43. 218

437 Reed and Barton, Taunton, Mass.—Electro-plated nickel, silver and white metal table and presentation ware. N 47. 218

438 Ledig, A., & Son, Philadelphia, Pa.—Silver and nickel-plated ware in hard metal. P 43. 218

439 Middletown Plate Co., Middletown, Conn.—Silver-plated ware. N 43. 218

440 Gorham Manufacturing Co., Providence, R. I.—Silver ware, fine plated ware, plate chests, silver and jewelry cases. N 41. 218

441 Manning, Bowman, & Co., West Meriden, Conn.—Nickel-plated ware. N 69. 218

442 Kann & Sons Manufacturing Co., Baltimore, Md.—Albata and britannia tea and tablespoons. P 43. 218

443 Robbins, Clark, & Biddle, Philadelphia, Pa.—Silver ware. N 43. 218

444 Meriden Silver Plate Co., West Meriden, Conn.—Silver-plated and fine cut glass ware. N 43. 218

445 Holmes, Booth, & Haydens, Waterbury, Conn.—Silver-plated ware. T 61. 218

447 Mix, G. I., & Co., Yalesville, Conn.—Tea and tablespoons; planished and britannia tea and coffee pots, water coolers, etc. N 71. 218

448 Hall, Elton, & Co., Wallingford, Conn.—Electro-plated tableware, spoons, forks, ladles, knives, etc. P 43. 218

449 Sigler, C. & J., Paterson, N. J.—Embossed glass signs and table tops, glass letters, carved wood signs. T 49. 219

449*a* **Sallandrouze, S. P., Cincinnati, O.**—Venetian mirrors and hand glasses. P 43. 219

450 Walker Glass Importing, Silvering, Manufacturing Co., New York, N. Y.—Venetian or crystal cut, engraved, distorting, and toilet mirrors. N 54. 219

450*a* **Sharp, Henry E., Son, & Colgate, New York, N. Y.**—Stained glass windows. (*North Gallery.*) 219

451 Florence Manufacturing Co., Florence, Mass.—Hand mirrors. B 70. 219

452 Newman, Geo. C., 806 Market street, Philadelphia, Pa.—P 51.
- *a* Looking glasses. 219
- *b* Lacquered mouldings (imitation of gold gilding) for picture frames and window cornices, and ornaments for same. This imitation of gilding is cheap and durable. 220

452*a* **Schier, H., New York, N. Y.**—P 53.
- *a* Mirror. 219
- *b* Brackets and book rack. 220

453 Faser, Christian, Philadelphia, Pa.—P 49.
- *a* Looking glasses. 219
- *b* Picture frames. 220

454 Shaw, J. H., & Co., Philadelphia, Pa.—P 52.
- *a* Looking glasses. 219
- *b* Picture frames, mouldings. 220

455 Boland, Fred., Philadelphia, Pa.—P 50.
- *a* Looking glasses. 219
- *b* Pier cornices, picture frames. 220
- *c* Mantels. 227

456 Durand, Dominique, New York, N. Y.—Venetian looking glass. T 46. 219

457 Clark, C. W., Philadelphia, Pa.—Window shades, window shade cloth, and shade fixtures. T 52. 220

458 Johnston, Ed. S., Philadelphia, Pa.—Window shade rollers, window shades, lambrequins, cornices. T 53. 220

459 Gleason, W. B., & Co., West Camden street, opposite Chickering station, Boston, Mass.—Artificial wood ornaments for interior decoration, etc. Descriptive circulars will be found at the exhibit. O 78. 220

461 Reifschneider, Felix, New York, N. Y.—Velvet frames, morocco and velvet miniature cases. P 52. 220

462 Pape, Bros., & Kügemann, Cincinnati, O.—Mouldings for picture frames, portrait and photograph frames. P 51. 220

463 Carter, A. A., Philadelphia, Pa.—Window screens. T 50. 220

464 Whittier, Reuben S., Hyde Park, Mass.—Window screen and mosquito bar. T 51. 220

464*a* **Shorey, John, & Co., Lowell, Mass.**—Shade fixtures. T 52. 220

465 Kilgore, Damon Y., Philadelphia, Pa.—Inside window blinds. These blinds, adjustable, artistic, lowering from the top, light, combining beauty with economy, overcome all defects of Venetian blinds. Patented. T 53. 220

466 McKay, Ferd. C. D., Paterson, N. J.—Self-regulating shade rollers. T 51. 220

467 Nonnenbacher, John, & Co., New York, N. Y.—Gilt and imitation mouldings for picture frames and cornices. P 68. 220

468 Salem Shade Roller Manufacturing Co., Salem, Mass.—Control wood rollers, flying pawls, automatic stops for balance rollers. T 50. 220

469 Colwell, F. E., & Co., Chicago, Ill.—Mouldings and picture frames, shade fixtures. P 51. 220

470 Louderback, Edwin, Philadelphia, Pa.—Rustic window shades of wood. T 49 220

471 Dickinson, Alfred S., New York, N. Y.—Spring roller and drop window shades, safety brackets, and pulley blocks. T 53. 220

472 Lloyd Bros., Philadelphia, Pa.—Ventilating shade fixtures. T 50. 220

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Heating and Lighting Apparatus.

473 American Shade Roller Co., Boston, Mass.—Shade rollers, window shades, and fixtures. T 51. 220

474 Hewett, William, Philadelphia, Pa.—Self-operating swing carriage for parks and lawns. (*Outside.*) 221

474*a* Fisher, H., St. Louis, Mo.—Automatic swing. (*Missouri Building.*) 221

475 Beaudet, Homer J., Greenpoint, Long Island, N. Y.—Swing-convertible cradle. P 50. 221

476 Batley, John, Philadelphia, Pa.—Child's cradle or crib. P 51. 221

477 Rusk, Thos. J., Philadelphia, Pa.—Swing. (*In Park.*) 221

478 Providence Gas Burner Co., Providence, R. I.—P 47.

a "Novelty" gas cooking stoves; ovens and heaters, burning without smoke or smell. 222

b Gas burners, drop-light sockets, shade and globe holders, etc., manufactured from wrought brass. 223

478*a* Eldridge, G. Morgan, Philadelphia, Pa.—Automatic stove-damper. (*On stove pipe in Louisiana State Building.*) 222

479 Thackara, Buck, & Co., Philadelphia, Pa.—Gas fixtures, chandeliers, brackets, hall lights, reading lights, etc. N 60. 223

479*a* Miller & Eastmead, New York, N. Y.—Ship and railroad lanterns. P 47. 223

480 Cornelius & Sons, Philadelphia, Pa.—Gas fixtures, bronzes, etc. N 47. 223

480*a* New York Lamp Co., New York, N. Y.—Railroad and steamship lamps. P 47. 223

481 Bartlett, Jos. W., New York, N. Y.—Crystal and reflecting street lamps. N 50 *and* P 49. 223

481*a* Pennsylvania Globe Gaslight Co., Philadelphia, Pa.—Lanterns and apparatus for lighting streets. P 43. 223

482 Archer & Pancoast Manufacturing Co., New York, N. Y.—Gasoliers, centre slide chandeliers, ornamental bronzes, ecclesiastical metal work. N 47. 223

482*a* Kelly, S. S., Philadelphia, Pa.—Gas brackets, pendants, brass fittings, etc. T 45. 223

483 American Reflector Co., Philadelphia, Pa.—Gas and daylight reflectors, lanterns and shades. P 47. 223

483*a* Rollins, Geo. D., Philadelphia, Pa.—Automatic self-regulating gas burner. T 50. 223

484 Tucker, Hiram, & Co., Boston, Mass.—Iron gas chandeliers, brackets and statuettes. N 47. 223

484*a* Heywood, C. L., & Bruce, J. M., Boston, Mass.—Elevating street lamp; Bruce's vesper street lamp for towns, villages, and private grounds; patented by J. M. Bruce, December 22, 1874. Office, 4 Haymarket square. X 59. 223

485 Willheim & Newmann, Philadelphia, Pa.—Cast iron posts and brackets, street lanterns, mica reflectors, and car trimmings. N 48. 223

485*a* Henrichs, C. F. A., New York, N. Y.—Lamp with non-combustible wick and regulated burner; study lamps. N 47. 223

486 Quarré, V., Co., General Lithographers, 832 and 834 Arch street, Philadelphia, Pa.—Gas and lamp shades, and transparent window pictures. N 48. 223

486*a* Beidler, Geo. A., Philadelphia, Pa.—Lamp burners for use without chimneys. P 48. 223

487 Baker, Arnold, & Co., Philadelphia, Pa.—Gas fixtures. N 48. 223

488 Miner, Jacob G., New York, N. Y.—Street lamps for gas or oil. P 47. 223

489 Wilhelm, August, Philadelphia, Pa.—Ceiling reflectors. P 47. 223

490 Bradley & Hubbard Manufacturing Co., West Meriden, Conn.—Kerosene and gas chandeliers, brackets and fixtures, lamps. N 47. 223

491 Kramer, J. H., New York, N. Y.—Ornamental lanterns. P 47. 223

492 Walton Bros., New York, N. Y.—Railroad and steamship brass lanterns and supplies. P 47. 223

493 Dyott, M. B., Philadelphia, Pa.—Street lamps, brackets, posts, pendants, and lamp goods. P 48. 223

494 Miller, Edward, & Co., Meriden, Conn.—N 48.

a Bronze lamps and ornaments, lamp trimmings. 223

b Bronzes. 443

495 Hitchcock Lamp Co., Watertown, N. Y.—Lamps for animal, fish, or vegetable oils exclusively; no chimneys; burn twelve hours; fifteen car-candle power; odorless; smokeless; portable; for cars, shipping, factories, residences, etc. P 47. 223

496 Dreer, Smith, & Dreer, Philadelphia, Pa.—Berford gas-sunlight apparatus. P 47. 223

496*a* American Gas Screen Manufacturing Co., Haverhill, Mass.—Gas screens. (*West Gallery.*) 223

497 Atterbury & Co., Pittsburg, Pa.—Lamps. N 49 *to* 51. 223

498 Parkhurst, V. P., East Templeton, Mass.—Candle stand with flame regulator. P 47. 223

499 Williams, Page, & Co., Boston, Mass.—Railway and steamship lamps. P 47. 223

501 Mitchell, Vance, & Co., New York, N. Y.—Gas fixtures. N 49. 223

502 Ives Patent Lamp Co., New York, N. Y.—Kerosene lamps, brackets, chandeliers, and pendants, burners and attachments. P 47. 223

503 Stockwell Self-lighting Gas Burner Co., New York, N. Y.—Self-lighting gas burner. P 50. 223

504 Wiler, Wm., Philadelphia, Pa.—Taper holders, gas torches and keys, etc. N 71. 223

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

505 Cleveland Non-explosive Lamp Co., Cleveland, O., and 42 Barclay street, New York.—Perkins & House's patent metallic kerosene or coal oil safety lamps and filling cans. Thousands of families now using this lamp testify to its superiority; because, 1st, it is perfectly safe from explosion, owing to its scientific structure; 2d, it will not break, being made of metal; 3d, it is rendered perfectly clean by its patent drip-cup; 4th, it uses a very small amount of oil, in proportion to the light it gives, without odor; 5th, it gives a brilliant light, in consequence of its peculiar construction. Our filling can is perfectly safe from explosion, owing to its scientific structure—a flame cannot be communicated to the oil in it, either by accident or design. N 64. 223

506 American Calcium Light Co., Philadelphia, Pa.—Calcium light apparatus. T 43. 223

507 The Mains Manufacturing Co., New York, N. Y.—Lamps. N 65. 223

508 Doty, H. H., Washington, D. C.—Concentric mineral oil burner. N 50. 223

509 Lovell, F. H., & Co., New York, N. Y.—Kerosene burners, chimneys, wicks, lamps, etc. P 50. 223

510 United States Soapstone Manufacturing Co., Cincinnati, Ohio.—P 77.
a Lava gas tips. 223
b Soapstone griddles. 224

512 Cohansey Glass Manufacturing Co., Bridgeton, N. J.—Fruit jars. N 49. 224

513 Lowentrant, P., Newark, N. J.—House furnishing goods. N 70. 224

514*a* Jones, J. Alonzo, New York, N. Y.—Water cooler and refrigerator. N 43. 224

515 Lowerre & Tucker, Newark, N. J.—Fluting machines. N 71. 225

517 Lloyd, Supplee, & Walton, Philadelphia, Pa.—Fluting machines. P 70. 225

517*a* Blackie & Charles, St. Louis, Mo.—Anti-freezing hydrant. (*Missouri State Building.*) 226

517*b* Wheeler, Wm. F., Boston, Mass.—Disinfecting devices. (*In use in Main Building.*) 226

518 Boughton, Jno. W., Philadelphia, Pa.—Wood carpet, parquet floors, and wainscots; adjustable window screens, and bars. T 56. 227

519 National Wood Manufacturing Co., 950 Broadway, New York, N. Y.—Wood carpeting, parquet and inlaid floors, ornamental hard-wood ceilings, fancy wainscoting, and stair coverings. Send 3 cent stamp for book of design. P 52. 227

519*a* Canopy Frame Co., Willimantic, Conn.—Portable folding canopy frames. P 56. 227

520 Johns, H. W., New York, N. Y.—Asbestos roofing, sheathing, and lining felts. P 47. 227

521 Ehret, M., jr., Office, 404 Walnut street, Philadelphia, Pa.—Pavilion situated south of Main Building, to exhibit patent fire and waterproof granulated slag (composition) roofing. State and county rights for sale. (*Outside.*) 227

521*a* Miller, J. Wesley, Philadelphia, Pa.—Plumbing of eight rooms in Main Building. 227

522 Marion Blind Co., Brady, Pa.—Improved window blinds. T 53. 227

522*a* Reisinger Manufacturing Co., Harrisburg, Pa.—Sash locks, line holders, clothes hooks, cellar hoists, broom and wisp holders. P 68. 227

523 Walker, M., & Sons, Philadelphia, Pa.—Heavy wrought iron gates at north, south, east, and west entrances of Main Exhibition Building. 227

523*a* Peck, Kennedy & Co., New York, N. Y. (*Outside.*)
a Flat floor, arch, and fire proof building material. 227
b Brick and tile machine. 517
c Radiator. 555

524 Fisher & Bird, New York, N. Y.—Marble mantels, tablet, marble wainscoting. The white marble mantel is of pure American statuary; the black one is of the finest quality of velvet black, both designed and executed in the highest style of art, at our works, by American artisans. T 50. 227

525 Geddes, J. W., Baltimore, Md.—Skylight over south aisle. 227

526 Evans, C. B., Mantel & Grate Co., Cincinnati, O.—Iron mantels. T 68. 227

527 Garry Iron Roofing Co., Cleveland, O.—Sections of corrugated iron roof. (*Ohio State Building.*) 227

528 American Sheet & Boiler-Plate Cleveland, O.—Corrugated roofing iron and iron roofing tile. (*Ohio State Building.*) 227

529 House & Davidson, Cleveland, O.—Pair front doors. (*Ohio State Building.*) 227

530 Dobbins, R. J., Philadelphia, Pa.—Construction of Main Exhibition Building. 227

531 Quigley, Philip, Wilmington, Del.—Construction of Machinery Hall. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

532 De Witt Wire Cloth Co., New York, N. Y.—Wire cord, rope, cloth, and work; dandy roll, cotton and wire fabrics. B 76. 228

533 Clinton Wire Cloth Co., Clinton, Mass.—Iron railing, wire cloth, netting, fencing, fire proof lath. T 68. 228

535 Woven Wire Mattress Co., Hartford, Conn.—Woven wire cloth used for a spring bed. P 53. 228

536 Wild, Jos., & Co., New York, N.Y.—Matting and mats of fibre of cocoanut husks. N 77. 229

537 Wakefield Rattan Co., Boston, Mass.—Mats and matting. T 57. 229

538 Irving Bros., Elwood, N. Y.—Japanese paper carpeting, waterproof building paper. N 75. 229

539 Garsed Bros., Frankford, Pa.—Awnings and tickings. N 73. 230

540 Farnum, John, & Co., Philadelphia, Pa.—Tickings from Conestoga steam mills, Lancaster, Pa. N 75. 230

540*a* Slater, Wm. S., Providence, R. I.—Bleached cotton goods. N 73. 230

541 Bailey, John T., & Co., Philadelphia, Pa.—Bags. B 68. 230

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods.

541*a* Westport Manufacturing Co., Fall River, Mass.—Carpet warp and cotton batts. D 78. 230

542 Thornton, Samuel, & Sons, Philadelphia, Pa.—Cotton fabrics. N 76. 230

542*a* Alabama & Georgia Manufacturing Co., West Point, Ga.—Sheeting. N 78. 230

543 Berkeley Co., Providence, R. I.—Nainsooks, Victoria lawns, and cambrics. These fabrics are noted for their quality and finish, and are manufactured from either Sea Island, Egyptian, or Peeler cotton. N 75. 230

543*a* Slater Cotton Co., Providence, R. I.—Brown and bleached cotton goods. D 78. 230

544 Clark Thread Co., Newark, N. J.—Spool cotton. N 76. 230

544*a* Sykes, Henry, Chicago, Ill.—Awnings and awning frames. Y 63. 230

545 Johnson, Emory, Neptune Twine Mills, Moodus, Conn.—Cotton seine twines, welting cords, carpet warp, and knitting cotton, manufactured from superior stock and always of a uniform quality. Established in 1832. B 68. 230

546 Whitfield, F. E., Sen., Corinth, Miss.—Cotton yarns. N 75. 230

547 Semple, Samuel, & Sons, Mt. Holly, N. J.—Spool cotton. Manufacturers of Stuart's "Best six cord" and "Soft Enameled" spool cotton. Stuart & Bro., sole agents, 13 Bank street, Philadelphia. N 74. 230

547*a* Lawrence, Waterbury, & Co., New York, N. Y.—Bagging. D 78. 230

548 Walcott & Campbell, New York Mills, Oneida county, N. Y.—Shirtings, wide sheetings, cottonades, and knitting yarns. N 75. 230

548*a* Lewiston Mills, Lewiston, Me.—Tickings, cottonades, cheviot shirtings, duckings, seamless cotton bags. R 78. 230

549 Westbrook Manufacturing Co., Portland, Me.—Ship's cotton duck. B 70. 230

549*a* Lawrence Manufacturing Co., Lowell, Mass.—Bleached and unbleached cotton goods. N 73. 230

550 Powhatan Mills, Providence, R. I.—"Pocahontas" and "Wealth of the Country" bleached and brown muslins, well adapted for family and shirt maker's use. N 74. 230

550*a* Merrick Thread Co., Holyoke, Mass.—Ready-wound bobbins for sewing machine shuttles. H 74. 230

551 Saratoga Victory Manufacturing Co., Boston, Mass.—Silesias, cambrics, and fancy cottons. F 73 *and* 74. 230

551*a* Cutler Manufacturing Co., Warren, R. I.—Hosiery, cops, yarns, carpet warp, knitting cotton. D 78. 230

552 Chicopee Manufacturing Company, Chicopee Falls, Mass.—Cotton flannels, bleached and brown. F 73 *and* 74. 230

552*a* Foustdale Manufacturing Co., Providence, R. I.—Bleached cotton goods. N 73. 230

553 Great Falls Manufacturing Company, Rockingham, N. C.—Rockingham sheeting. N 75. 230

554 Peckham Manufacturing Company, Providence, R. I.—Kentucky jeans. B 76. 230

555 Androscoggin Mills, Lewiston, Me.—Sheeting, shirting, jeans, bags, etc. R 78. 230

556 Hill Manufacturing Company, Lewiston, Me.—Bleached and unbleached sheetings and shirtings. R 78. 230

557 Continental Mills, Lewiston, Me.—Sheetings and shirtings. R 78. 230

558 Barker Mills, Auburn, Me.—Bleached and unbleached sheetings. R 78. 230

559 Smith, James Y., Manufacturing Co., Providence, R. I.—Bleached and brown cotton goods. N 74. 230

560 Evansville Cotton Manufacturing Co., Evansville, Md.—Brown sheetings and drills, assorted yarns. N 74 230

561 King Philip Mills; Fall River, Mass.—Brown and bleached sheetings, cambric muslins, and rolled jaconets. Selling agents, Whorton, Atkinson & Co., Philadelphia; Converse, Staunton & Co., Boston and New York; Turnbull, Sweet & Co., Baltimore. N 76. 230

562 Hope Company, Providence, R. I.—Shirting. N 74. 230

563 Lonsdale Company, Providence, R. I.—Sheetings, cambric muslin, silesias, jaconets, Victoria lawns, sateens. N 74. 230

564 Blackstone Manufacturing Company, Providence, R. I.—Print cloths, shirtings, umbrella cloths. N 74. 230

565 Gambrill, Sons & Co., Baltimore, Md.—Cotton duck for sails, tents, and awnings. D 78. 230

566 Wamsutta Mills, New Bedford, Mass.—Shirting and sheeting. N 74. 230

567 Shaw, James G., New Castle, Del.—Single-carded cotton warps. N 74. 230

568 Riddle, Jas., Son & Co., Wilmington, Del.—Brandywine Mills tickings. N 74. 230

569 Wauregan Mills, Wauregan, Conn.—Cotton goods. N 74. 230

570 Ponemah Mills, Taftville, Conn.—Plain and fancy cotton goods. N 74. 230

571 Gabriel, Henry, & Sons, Allentown, Pa.—Counterpanes, bed coverlets, quilts, and bed spreads. F 68. 230

572 Stafford & Co., Providence, R. I.—Cotton yarns, hosiery cops, twilled goods. N 76. 230

573 Minot, Hooper, & Co., Boston, Mass.—Bleached cotton goods. F 69. 230

575 Farwell Mills, Lisbon, Me.—Bleached and brown cottons. R 78. 230

576 Morse, Kaley, & Co., Milford, N. H.—Knitting cotton. E 78. 230

577 Putnam Manufacturing Co., Providence, R. I.—Colored cotton goods. N 73. 230

577*a* White, R. T., & Son, Philadelphia, Pa.—Rag carpet warps and cotton batts. D 78. 230

578 Clinton Manufacturing Co., Providence, R. I.—Bleached cotton goods. N 73. 230

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Woven Goods.

579 Bridge Mill Cotton Manufacturing Co., Providence, R. I.—Bleached cotton goods. N 73. 230

580 Manville Co., Providence, R. I.—Cotton goods, bleached and colored. N 73. 230

581 Ross, John L., Providence, R. I.—Bleached, unbleached, and colored cotton goods. N 73. 230

582 Social Manufacturing Co., Providence, R. I.—Brown, bleached, and colored cotton goods. N 73. 230

583 Warren Manufacturing Co., Warren, R. I.—Bleached and colored cotton goods. N 73. 230

584 Peabody Mills, Providence, R. I.—Colored cotton goods. N 73. 230

585 Dyerville Manufacturing Co., Providence, R. I.—Brown and bleached cotton goods. N 73. 230

586 Ballou, Geo. C., & Son, Providence, R. I.—Brown, bleached, and colored cotton cloth. N 73. 230

587 Silver Spring Bleaching & Dyeing Co., Providence, R. I.—Bleaching, dyeing, and finishing the various grades and styles of cotton cloth. N 73. 230

588 Hooper, Wm. E., & Sons, Baltimore, Md.—Awning stripes, cotton duck. D 78. 230

589 Boston Manufacturing Co., Boston, Mass.—Cotton goods. B 76. 230

590 Cabot Manufacturing Co., Boston, Mass.—Cotton goods. B 76. 230

591 Gale & Co., Boston, Mass.—Lawn and other tents, canopies, and clothes dryer. (*Outside.*) 230

592 Greene & Daniels, Pawtucket, R. I.—Ivory finish and six-cord spool cotton; gray, bleached, and dyed cotton yarns. N 76. 230

593 Fall River Bleachery, Fall River, Mass.—Bleached cottons, shirtings, and sheetings. N 76. 230

594 Lowell Bleachery, Lowell, Mass.—Bleached and colored cotton fabrics. N 73. 230

595 Amoskeag Manufacturing Co., Manchester, N. H.—Tickings, denims, awning stripes, cotton flannels, ginghams, fancy shirtings, jeans, shirtings, sheetings, drillings. N 74. 230

596 Naumkeag Steam Cotton Co., Salem, Mass.—Satteens, Pequot wide sheetings, bleached and unbleached, 5-4, 6-4, 7-4, 8-4, 9-4, 10-4; Naumkeag twilled sheetings, 8-4, 9-4, 10-4; Pequot, 36 inch and 40 inch; El Dorado, 36 and 40 inch sheetings. The product of these mills has a reputation for softness and durability, and for general excellence; the cotton used is especially selected with a view to securing these qualities, and the greatest care is used in their manufacture. N 74. 230

597 Massachusetts Cotton Mills, Lowell, Mass.—Sheetings, shirtings, drillings, etc. N 73. 230

598 Tremont & Suffolk Mills, Lowell, Mass.—Brown and bleached cotton flannels, twenty-six varieties, from the lightest to the heaviest grade, for summer, fall, and winter wear, from twenty-seven to thirty-six inches in width, superior in quality of material, grade, and finish; Suffolk drills, blued, brown and bleached. Sheetings, shirtings, and corset jeans. N 73. 230

599 Appleton Co., Lowell, Mass.—Unbleached sheetings and drillings. N 73. 230

600 Boott Cotton Mills, Lowell, Mass.—Brown and bleached cottons. N 73. 230

601 Shroder, F., & Co., New York, N. Y.—Brown cottons, drills, and nankeens. B 75. 230

602 Nashua Manufacturing Co., Nashua, N. H.—Brown and bleached cottons, cotton flannels, printings. N 77. 230

603 Jackson Co., Nashua, N. H.—Heavy brown cottons. N 77. 230

604 Ocean Mills, Nashua, N. H.—Brown and bleached cottons. N 77. 230

605 Shetucket Co., Norwich, Conn.—Fancy stripes, denims, ducks, cheviots. N 77. 230

606 Falls Co., Norwich, Conn.—Cotton duck, fancy colored duck tickings. N 77. 230

607 The Utica Steam Cotton Mills, Utica, N. Y.—Very heavy and fine brown and bleached sheetings and shirtings, from one to three yards wide. N 74. 230

608 Mount Vernon Co., Baltimore, Md.—Duck and sail twine. Manufacturers of cotton sail duck, enameling duck, hose and belting duck, U. S. hammock, bag, and cot duck; machine apron, and a superior article of duck for paper-makers' felting; from seven to fifteen ounce army tent and awning duck, plain and in stripes; cotton canvas, from nine to one hundred and thirty inches wide; sail twine, all numbers. D 78. 230

609 Hadley Co., Boston, Mass.—Cotton yarns and warps, spool cottons, threads; harness and seine twines. N 75. 230

610 Union Wadding Co., Providence, R. I.—Cotton wadding, batting, and machinery waste. F 74. 230

611 Smith, H. E., & Co., Providence, R. I.—Cotton yarns for hosiery, shawl, and carpet manufacture. N 74. 230

612 Richardson, C. D., & Co., Philadelphia, Pa.—Tents. (*Outside.*) 230

613 Hale, B. S., & Co., Lawrence, Mass.—Fish lines. N 75. 230

614 Laconia Company, Biddeford, Me.—Sheetings, shirtings, drills, and jeans. R 78. 230

615 Pepperill Manufacturing Co., Biddeford, Me.—Sheetings, shirtings, drills, and jeans. R 78. 230

616 Otis Company, Palmer, Mass.—Denims. N 75. 230

617 Palmer Mills, Palmer, Mass.—Dress goods. N 75. 230

617*a* Trainer, D., & Sons, Linwood Station, Pa.—Cotton yarns and tickings. C 78. 230

618 Brinckerhoff, Turner, & Co., New York, N. Y.—Duck, canvas, ravens, awning stripes, bags, twines, bunting. D 78. 230

619 Washington Manufacturing Co., Gloucester, N. J.—Printing cloths, etc. N 75. 230

622 Monadnock Mills, Claremont, N. H.—Quilts, counterpanes, and wide sheetings. H 78 *and* N 74. 230

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven Goods.

623 American Linen Co., Fall River, Mass.—Printing cloths. B 77. 230

624 Annawan Manufactory, Fall River, Mass.—Printing cloths. B 77. 230

625 Barnard Manufacturing Co., Fall River, Mass.—Printing cloths. B 77. 230

626 Border City Mills, Fall River, Mass.—Printing cloths. B 77. 230

627 Chace Mills, Fall River, Mass.—Printing cloths. B 77. 230

628 Flint Mills, Fall River, Mass.—Printing cloths. B 77. 230

629 Granite Mills, Fall River, Mass.—Printing cloths. B 77. 230

630 Mechanics Mills, Fall River, Mass.—Printing cloths. B 77. 230

631 Merchants Manufacturing Co., Fall River, Mass.—Printing cloths. B 77. 230

632 Metacomet Mills, Fall River, Mass.—Printing cloths. B 77. 230

633 Narragansett Mills, Fall River, Mass.—Printing cloths. B 77. 230

634 Osborn Mills, Fall River, Mass.—Printing cloths. B 77. 230

635 Richard Borden Manufacturing Co., Fall River, Mass.—Printing cloths. B 77. 230

636 Sagamore Mills, Fall River, Mass.—Printing cloths. B 77. 230

637 Shove Mills, Fall River, Mass.—Printing cloths. B 77. 230

638 Slade Mills, Fall River, Mass.—Printing cloths. B 77. 230

639 Stafford Mills, Fall River, Mass.—Printing cloths. B 77. 230

640 Tecumseh Mills, Fall River, Mass.—Printing cloths. B 77. 230

641 Troy Cotton and Woolen Manufactory, Fall River, Mass.—Printing cloths. B 77. 230

642 Wampanoag Mills, Fall River, Mass.—Printing cloths. B 77. 230

643 Weetamoe Mills, Fall River, Mass.—Printing cloths. B 77. 230

644 Dwight Manufacturing Co., Chicopee, Mass.—Brown and bleached sheetings and shirtings. F 69. 230

645 Lyman Mills, Holyoke, Mass.—Brown and bleached sheetings and shirtings, drills, lawns, cambrics, cotton flannels, etc. F 69. 230

646 Great Falls Manufacturing Co., Great Falls, N. H.—Bleached and brown sheetings and shirtings. F 69. 230

647 Schum, Philip, Lancaster, Pa.—Coverlets and counterpanes. Well known manufacturer of genuine Lancaster quilts, coverlets, counterpanes, carpets, cradle, bureau and tidy covers, stocking yarns, woolen carpet chains, etc. All kinds of dyeing done. These goods being all of my own manufacture, made of the very best of material, I guarantee them as represented and to give entire satisfaction in every respect. G 78. 230

647*a* Wood, Wm., & Co., Philadelphia, Pa.—Cottonades. B 77. 230

648 Methuen Mill, New York, N. Y.—Jute bagging. F 76. 230

649 Webster Mills, New York, N. Y.—Jute bagging. F 76. 230

650 Nevins Mill, New York, N. Y.—Jute bagging. F 76. 230

651 Mississippi Mills, Wesson, Miss.—Yarns, cotton, cottonades. F 76. 230

652 Bullock, George & James M., Conshohocken, O.—Cotton warp. F 75. 230

653 Wortendyke Manufacturing Co., Wortendyke, N. J.—Lamp wicks and cotton yarns. N 75. 230

654 Moss Manufacturing Co., Westerly, R. I.—Shirtings. N 74. 230

655 Harris Manufacturing Co., Providence, R. I.—Bleached shirtings. The "Gem of the Spindle" exemplifies the limit of fineness consistent with durability. N 74. 230

656 Knight, B. B., & R., Providence, R. I.—Bleached cotton goods. N 75. 230

657 Glasgow Company, South Hadley Falls, Mass.—Ginghams, yarns. N 74. 230

658 Allendale Company, Providence, R. I.—Bleached shirtings and sheetings. N 74. 230

659 Groton Manufacturing Co., Philadelphia, Pa.—Bleached goods. N 74. 230

660 Franklin Manufacturing Co., Providence, R. I.—Bleached cottons. N 74. 230

662 Tucker, Carter, & Co., New York, N. Y.—Bagging. B 69. 230

663 Renfrew Manufacturing Co., South Adams, Mass.—B 75.
a Cotton warps, skirtings. 230
b Ginghams. 231
c Cotton dress goods. 232

664 Gloucester Gingham Mills, Gloucester City, N. J.—N 76.
a Cottonades, shirtings. 230
b Ginghams, dress goods. 231

665 Langdon Manufacturing Co., Manchester, N. H.—Brown and bleached shirtings; fine brown and bleached G. B. shirtings. N 74. 230

666 Whittenton Manufacturing Co., Taunton, Mass.—N 76.
a Cottonades, shirtings, tickings, denims, and awnings. 230
b Dress goods and fancy checks. 231

667 York Manufacturing Co., Saco, Me.—Geo. C. Richardson & Co., selling agents, Boston and New York. N 74.
a Cottonades light and heavy, ticking 28 inches by 32 inches wide, denims plain, striped, and plaid: shirtings and skirtings. 230
b Dress goods, in great variety; nankins, and seersuckers. 231

668 Everett Mills, Lawrence, Mass.—B 73.
a Fancy cottons, cottonades, ticking, denims, cheviot. 230
b Stripes, ginghams, dress goods. 231

669 Davoll Mills, Fall River, Mass.—Selling agents, Wharton, Atkinson & Co., Philadelphia; E. C. Whitman, New York. N 76.
a Sheetings, pillow muslins, shirtings, silesias. 230
b Fancy cotton fabrics. 232

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Woven Goods, Felting, Yarn.

670 Hamilton Manufacturing Co., Lowell, Mass.—N 73.
a Tickings, drillings, and canton flannels. 230
b Printed and dyed calicoes, shirting and awning stripes. 232

671 Holt, R., Paterson, N. J.—N 74.
a Cotton and Turkish towels, terry cloth, dusters, etc. 230
b Linen towels. 233

672 Stark Mills, Manchester, N. H.—N 74.
a Seamless bags, sheetings, and drills, overall and double ducks. 230
b Linen crash toweling. 233

673 Millville Manufacturing Co., R. D. Wood & Sons, Philadelphia and New York, sole agents.—F 75.
a Bleached shirtings, cambrics, silesias. 230
b Printed linings, umbrella cloths, vellums. 231
c Window hollands, tillottings, etc. 233

674 Bates Manufacturing Co., Lewiston, Me.—R 78.
a Shirtings, skirtings, quilts, jeans, towels, knitting cotton, etc. 230
b Ginghams, damask, silesias. 232
c Linen checks. 233

675 Ripka & Elton Mills, Philadelphia, Pa.—Cotton manufactures. N 74. 231

676 Lancaster Mills, Clinton, Mass.—Fancy ginghams. N 77. 231

677 Belfast Mills, Philadelphia, Pa.—Ginghams. N 76. 231

678 Albion Print Works, Conshohocken, Pa.—Solid colors suitings, plain blacks, grays, mourning prints, shirtings, and printed articles for men. N 73. 232

678*a* Pacific Mills, Lawrence, Mass.—B 73.
a Calicoes. 232
b Lawns, percales. 233

679 Hartel, Andreas, & Co., Pennypack Print Works, Philadelphia, Pa.—Madder and fancy prints and shirtings. N 75. 232

680 Brown, David S., & Co., Philadelphia, Pa.—Madder fancies, shirtings and mournings from Gloucester Manufacturing Co., Gloucester, N. J.; aniline, alezarine, oil, and madder colors and shirtings from Ancona Printing Co., Gloucester, N. J. N 77. 232

681 Simpson, Wm., & Sons, 126 Chestnut street, Philadelphia, Pa.—Calico prints in mourning, fancy, and shirting styles. Manufacturers and calico printers of the popular alpaca finish, solid blacks, Berlin solids of all colors, aniline blacks, mourning prints, silver grays, Eddystone chocolates, hair cloth cheviots, and fancy prints. These styles are all fast colors, and are printed exclusively on the best extra 64 square cloth. N 75. 232

682 Pretty, Grime, & Co., Philadelphia, Pa.—Calico prints. N 74. 232

683 Green, S. H., & Sons, Clyde Bleachery and Print Works, River Point, R. I.—Printed calicoes. N 74. 232

684 Richmond Manufacturing Co., Providence, R. I.—Printed calicoes. N 75. 232

685 Manchester Mills, Manchester, N. H.—Prints. N 73. 232

686 American Print Works, Fall River, Mass.—Printed calicoes, percales, cambrics, shirtings, indigo blues, greens, robes, seersuckers, etc. Special styles and colorings printed for export. N 75. 232

687 Hamilton Woolen Co., Southbridge, Mass.—Prints, shirting prints, printed cambrics. N 74. 232

688 Merrimac Mills, Lowell, Mass.—Printed and dyed calicoes. N 73. 232

689 Stevens Linen Works, New York, N. Y.—Plain and twilled linen crashes, and diapers. B 75. 233

690 Barbour Flax Spinning Co., Paterson, N. J.—Flax threads. N 76. 233

690*a* American Linen Thread Co., Mechanicville, Saratoga county, N. Y.—Flax, gilling, and machine threads, warp, filling, and twines. Manufacturers of patent linen thread (on spools and in skeins) of all kinds, numbers, and colors; also, gilling thread, of all numbers; machine, shoe, carpet, fringe, whip, and McKay threads, in all varieties; linen floss, selvage, and hose warp; hose filling, broom and brush twines; pink and variegated twines; loom cord; line and tow yarns. All manufactured from the best foreign stock. H 75. 233

691 McCrossan & Farr, New York, N. Y.—Printed linen and cotton, and white cotton handkerchiefs. N 76. 233

692 American Linoleum Manufacturing Co., New York, N. Y.—Linoleum floor cloth. N 77. 234

694 Blabon, Geo. W., & Co., Philadelphia, Pa.—Floor, carriage, upholstery, and table oil cloths and window shades. N 77. 234

696 Virolet & Durlach, Elizabeth, N. J.—Floor oil cloths. F 73. 234

698 Potter, Thos., Sons & Co., Philadelphia, Pa.—Oil cloths. N 77. 234

700 Brasher, Wm. M., & Co., Brooklyn, N. Y.—Floor oil cloths. F 71. 234

701 Reeve, R. H. & B. C., Camden, N. J.—Oil cloths. F 71. 234

702 Powers, D., & Sons, New York, N. Y.—Floor oil cloths. F 77. 234

Woven and Felted Goods of Wool and Mixture of Wool.

703 Shaffner & Stringfellow, Philadelphia, Pa.—Knitting cotton and Germantown wool. B 75. 235

703*a* Knox Woolen Co., Camden, Me.—Paper makers' feltings and machinery cloths. R 78. 235

704 Bacon, Chas. N., Winchester, Mass.—Felts for polishing, printing, erasing, etc.; cotton and wool wadding. N 74. 235

705 New England Co., Rockville, Conn.—Fine fancy cassimeres, finest wool, fine spinning, indigo colors. The first mill in America to make fancy cassimeres. B 76. 235

705*a* Noske, Henry, Philadelphia, Pa.—Woolen felts. F 72. 235

706 Philadelphia Worsted Spinners' Association, Philadelphia, Pa.—Worsted yarns. F 75. 235

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven and Felted Goods.

707 Midnight Yarn Co., Philadelphia, Pa.—Woolen knitting and Germantown yarns, representing process of manufacture. B 77. 235

708 Thornton, Samuel, & Sons, Philadelphia, Pa.—Woolen fabrics. N 76. 235

709 Philips, James, jr., Fitchburg, Mass.—Fine worsted coatings and suitings Hunt, Catlin, & Valentine, sole agents, 107–113 Franklin street, New York, N. Y. B 77. 235

709*a* Kirkman, James, Chester, Pa.—Doeskins. B 78. 235

710 Ledward, J., & Son, Chester, Delaware county, Pa.—Cassimeres and doeskins. B 76. 235

711 Horstmann, Wm. H., & Sons, Philadelphia, Pa.—Woolen knitting yarns. These goods are known generally as Germantown, balmoral, cashmere, saxonia, and stocking yarns. They are particularly noted for brilliancy of colors, variety of shades, evenness of thread, and the low prices at which they are sold. H 73. 235

712 Globe Woolen Co., New York, N. Y.—Fancy cassimeres. F 74. 235

713 Dryfoos, L., & Co., New York, N. Y.—Felt skirts, embroidered and braided; Italian cloth skirts, trimmed and quilted. B 77. 235

713*a* Kent Woolen Co., Centreville, R. I.—Cassimeres. B 74. 235

713*b* Stillwater Woolen Mills, Still-water, R. I.—Cassimeres. B 74. 235

714 Worumbo Manufacturing Co., Lisbon Falls, Me.—Moscow beaver and other overcoatings. R 78. 235

715 Bel Air Manufacturing Co., Pitts-field, Mass.—Fancy all-wool cassimeres. F 73. 235

716 Burlington Woolen Co., Wi-nooski Fall, Vt.—Woolens, castorines, moscows, kerseys, broadcloths, doeskins, elastic doeskins, elysians. F 73 *and* 74. 235

717 Broad Brook Co., Broad Brook, Conn.—Fancy cassimeres. F 75. 235

718 Weybosset Mills, Providence, R. I. —Fancy cassimeres. Samples of regular production made for the general market. Wendell Hutchinson & Co., New York, selling agents. F 74. 235

719 Howard, R., & Son, Apponang, R. I.—Woolen stocking yarns, fancy and plain colors. B 75. 235

719*a* State of Oregon (by A. J. Dufur). —Woolen fabrics. H 71. 235

720 Wanskuck Co., Providence, R. I. —Worsted coatings, overcoatings, kerseys. B 75. 235

721 Rodman, Robt., La Fayette, R. I. —Doeskins. N 75. 235

722 Sawyer Woolen Mills, Dover, N. H.—Silk and wool cassimeres, fancy cassimeres, double and twist cassimeres. F 75. 235

722*a* Clinton Mills Co., Norwich, Conn. —B 74.
a Tweeds and repellents. 235
b Blankets. 237

723 Hinsdale Bros., Hinsdale, Mass. —Kerseys, beavers, worsted suitings, etc. B 74. 235

724 Rockville Manufacturing Co., Rockville, Conn.—Fancy cassimeres and worsteds. B 74. 235

725 Hockanum Co., Rockville, Conn. —Fancy cassimeres and worsteds. B 74. 235

727 Eddy's, Jesse, Sons, Fall River, Mass.—Woolens for men's wear. F 74. 235

728 U. S. Bunting Co. Lowell, Mass. —Bunting, flags, worsted damasks and moreens, skirtings, and dress buntines. H 76. 235

729 Middlesex Co., Lowell, Mass.—Woolen goods. B 77. 235

729*a* Shuler & Benninghofen, Hamil-ton, O.—Felts for paper-makers. B 76. 235

729*b* Uxbridge Woolen Co., Uxbridge, Mass.—Cassimeres. B 74. 235

730 Germania Mills, Holyoke, Mass. —Eskimos, doeskins, and fur beavers, overcoatings. C 78. 235

731 Norway Plains Co., Rochester, N. H.—Blankets. B 73. 235

732 Norwich Woolen Co., Norwich, Conn.—Blankets and repellents. B 73. 235

733 Union Manufacturing Co., Wol-cottville, Conn.—Black doeskins. B 73. 235

734 Meriden Woolen Co., West Meri-den, Conn.—Fancy cotton warp cassimeres and coatings. B 73. 235

734*a* Baltic Woolen Mills, Philadel-phia, Pa.—Woolen goods. F 72. 235

735 Niantic Woolen Mills, Norwich, Conn.—Suitings and repellents. B 73. 235

736 Mason, C. F., & Co., Providence, R. I.—Fancy cassimeres. B 76. 235

737 Wood, Morrell, & Co., Woodvale Woolen Mills, Johnstown, Pa.—Cassimeres made from half-blood wool. B 77. 235

738 Kirkman, James, Chester, Pa.—Doeskins. B 78. 235

740 Peirce, C. W. & J., Bristol, Pa. —G 78.
a Polishing felts and crumb cloths. 235
b Skirts. 238

741 Mississippi Mills, Wesson, Miss. —Wool fillings, jeans, cassimeres, tweeds, linseys. F 76. 235

742 Bullock, Geo. & Jas. M., Consho-hocken Woolen Mills, Conshohocken, Pa. —Doeskins, moscows, beavers, cloth. F 75. 235

743 Fox, Henry, & Co., Urbana, O.—D 78.
a Cassimeres, tweeds, satinets, and yarns. 235
b Flannels. 236

744 Belfast Mills, Philadelphia, Pa. —N 76.
a Cheviots. 235
b Dress goods. 238

745 Roy, Jas., & Co., West Troy, N. Y.—F 77.
a Suitings and yarns. 235
b Woolen shawls. 237

746 Fay, C. J., Camden, N. J.—F 74.
a Felt roofing and siding. 235
b Ceiling and floor carpeting. 239

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Woven Goods.

747 McKee, Jos. D., Penn Knitting Mills, Philadelphia, Pa.—N 74.
a Cloths, fancy woolen goods. 235
b Worsted shawls. 237

748 Bates Manufacturing Co., Lewiston, Me.—R 78.
a Beavers and repellents. 235
b Dress goods. 238

749 Lippitt Woolen Co., Providence, R. I.—B 73.
a Elysian beaver overcoatings, fancy cassimeres, and suitings. 235
b Flannels. 236

750 Peace Dale Manufacturing Co., Peace Dale, R. I.—F 77.
a Cassimeres, coatings, lastings, etc. 235
b Woolen shawls. 237

751 Schofield, Seville, Philadelphia, Pa.—B 74.
a Piece goods and coatings. 235
b Blankets. 237

752 Camden Woolen Mills, Philadelphia, Pa.—B 76.
a Woolen goods, cassimeres, suitings, cloakings, repellents. 235
b Plaid opera flannels. 236
c Dress goods, etc. 238

753 Piqua Woolen Mills, F. Gray, O'Ferrall & Co., Piqua, O.—B 75.
a Paper-makers' fourdrinier and cylinder wet and press felts and jackets, for all kinds of paper. All felts warranted. 235
b Flannels. 236
c Blankets. 237

754 Washington Mills, Lawrence, Mass.—F 73 *and* 74.
a Worsted coatings, cloakings, and repellents. 235
b Flannels. 236
c Worsted goods, shawls, and dress goods. 238

755 Landenberger's, Martin, Sons, Philadelphia, Pa.—F 67.
a Worsted coatings and yarns. 235
b Shawls. 237
c Dress goods. 238

756 Dobson, Jno. & Jas., Philadelphia, Pa.—H 77.
a Cloths. 235
b Blankets. 237
c Carpets. 239

757 Steffan, F., & Co., Philadelphia, Pa.—H 76.
a Coatings. 235
b Shawls. 237
c Worsted dress goods. 238

758 Pontoosuc Woolen Manufacturing Co., Pittsfield, Mass.—F 76.
a All-wool cloths and repellents. 235
b Sleeping car blankets and summer dusters. 237
c Dress goods. 238
d Carriage rugs. 239

759 Belvidere Woolen Manufacturing Co.—Flannels. F 74. 236

761 Ballard Vale Mills, New York, N. Y.—Fine white flannels. B 77. 236

762 Waumbeek Co., New York, N. Y.—Plain white flannels. B 77. 236

763 Norway Plains Co., New York, N. Y.—Plain white flannels. B 77. 236

764 Lucas, B., & Co., New York, N. Y.—Plain white domets and Shakers. B 77. 236

765 Groveland Mills, New York, N. Y.—Scarlet, yellow, and blue plain flannels, scarlet and blue twilled flannels, scarlet Shaker opera flannels. B 77. 236

766 Columbia Spring Co., New York, N. Y.—Fancy flannels. B 77. 236

767 Stott, C. H. & F. H., New York, N. Y.—Mixed twilled flannel. B 77. 236

768 Titus, E., & Sons, New York, N. Y.—White and Shaker flannels. B 77. 236

770 Gilbert, Geo. H., Manufacturing Co., Ware, Mass.—F 72.
a Flannels—white, opera, silk warp, plaid, moleskin, swansdown, gauze, medicated, etc. 236
b Blankets. 237

771 Bachman, S., New York, N. Y.—Shawls. B 75. 237

771*a* Sandford Mills, Sandford, Me.—Carriage robes. R 78. 237

772 Gibson & Tyler, New York, N. Y.—Fine white blankets. B 77. 237

772*a* Bloodgood, Mrs. I. S., New York, N. Y.—Embroidered afghans. N 52. 237

773 Waterloo Woolen Manufacturing Co., Waterloo, N. Y.—Woolen shawls. B 77. 237

773*a* Bishop & Northrup, Wyandotte, Mich.—Woolen robes, mats, and dusters. F 71. 237

774 Mission Woolen Mills, San Francisco, Cal.—B 75.
a Blankets. 237
b Woolen fabrics. 238

775 Arlington Mills, Lawrence, Mass.—Black alpacas, in ten qualities; black mohair brilliantines, in five qualities; figured mohair brilliantines, in two qualities; and roubaix poplins, in assorted colors. The black alpacas and mohair brilliantines are "warp dyed," and are made from the choicest materials, in the most thorough manner. Especial attention is invited to the softness of finish, brilliancy of color and lustre, uniformity and perfection of manufacture. The roubaix poplin is a "yarn dyed" fabric,—not dyed in the piece,—consequently, the strength of the fibre is preserved, and the color made more permanent than if "piece-dyed." The peculiarity of the finish is such that the goods will not cockle. F 77. 238

775*a* Pacific Mills, Lawrence, Mass.—Poplins, alpacas, serges, cashmeres, reps, jacquards, cretonnes, jaconets, and crêpe. B 73. 238

776 Peckham Manufacturing Co., Providence, R. I.—Woolen and merino knitting yarns, tweeds, doeskins. B 76. 238

777 Manchester Mills, Manchester, N. H.—Worsted dress goods. N 73. 238

778 Turner, John, Norwich, Conn.—Dyed and printed worsted, woolen, and cotton yarns, for weaving, knitting, etc. B 77. 238

779 Tunxis Mills, Poquonnock, Conn.—White and colored worsted yarns; process of manufacture from raw wool. B 76. 238

780 Farr Alpaca Co., New York, N. Y.—Alpacas, serges, cashmeres, fancy linings. B 74. 238

781 Hamilton Woolen Co., Southbridge, Mass.—Delaines, reps. N 74. 238

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods, Carpets, Silk.

782 Wood, Wm., & Co., Philadelphia, Pa.—Wool mixture suitings. B 77. 238

782*a* Chapman & Bros., Belfast, Me.— Dry goods. N 76. 238

783 Walshaw, Wm., Saxonville, Mass.—Colored wool and yarns. F 69. 238

783*a* White, Payson & Co., Boston, Mass.—Cotton and worsted textile fabrics. N 73. 238

784 Lowell Manufacturing Co., Bos- ton, Mass.—F 77.
a Serges and lastings. 238
b Wilton and Brussels, two and three ply ingrain carpeting. 239

785 Blake, C. H. & F. D., New York, N. Y.—Alpacas, mohairs, cashmeres, and worsted serges. B 75. 238

786 Wood & Haslam, Camden, N. J. —B 77.
a Turkey red yarn. 238
b Quilts, table cloths. 241

787 Smith, Alex., & Sons Carpet Co., Yonkers, N. Y.—Power loom, Axminster, tapestry Brussels, and tapestry ingrain carpetings. F *and* H 73 *to* 76. 239

787*a* McCallum, Crease, & Sloan, Phil- adelphia, Pa.—Ingrain carpets. H 75. 239

788 Wentworth, C. B., & Co., Boston, Mass.—Star-quilted carpet lining. F 75. 239

788*a* Hutchison, J. & H., Brooklyn, N. Y.—Rugs and mats. O 78. 239

789 Gibb & Co., Philadelphia, Pa.— Rag carpet. F 77. 239

789*a* Seffarlen & Fritz, Philadelphia, Pa.—Carpet warps. F 77. 239

790 Dornam, Bros. & Co., Philadel- phia, Pa.—Ingrain carpets and damask. F 77. 239

790*a* Mayall, Miles, Boston, Mass.— Carpet linings and stair pads. D 78. 239

791 Bromley, Jno., & Sons, Philadel- phia, Pa.—Ingrain and damask Venetian carpets. H 77. 239

791*a* Bailey, Edw. H., New York, N. Y. —Carpet lining and stair pads. E 78. 239

792 Leedom, Shaw, & Stewart, Phila- delphia, Pa.—Carpetings. F 77. 239

792*a* Lewis, Willard, Walpole, Mass. —Carpet lining. D 78. 239

793 Chipman, Geo. W., & Co., Boston, Mass.—Carpet lining and stair pads. F 75. 239

794 Taylor, Jas., & Muller, S. N., Newark, Del.—Rag and rug carpet. F 74. 239

795 Hartford Carpet Co., Hartford, Conn.—Brussels and three and two ply ingrain carpeting. F *and* H 73 *to* 76. 239

796 Wagan, R. M., Mount Lebanon, N. Y.—The Shakers' plush floor rugs. P 52. 239

797 Ivins, Dietz, & Magee, Philadel- phia, Pa.—Three and two ply ingrain carpets. H 75. 239

798 Bigelow Carpet Co., Clinton, Mass.—Jacquard Brussels and Wilton carpets, rugs and mats. F *and* H 73 *to* 76. 239

799 Lowell Carpet Co., Boston, Mass. —Wilton and Brussels, two and three ply ingrain carpeting. F *and* H 73 *to* 76. 239

800 Roxbury Carpet Co., Boston, Mass.—Tapestry carpeting. F *and* H 73 *to* 76. 239

801 Read Carpet Co., Bridgeport, Conn.—Two ply ingrain carpets. H 77. 239

802 Farrington & Kinsey, Rahway, N. J.—Wool extracted from rags. B 76. 240

803 Pawtucket Hair Cloth Co., Paw- tucket, R. I.—Automatically woven hair cloths for upholstery. B 74. 240

Silk and Silk Fabrics, and Mixtures in which Silk is the predominating Material.

804 Belding Bros. & Co., Rockville, Conn.—H 74.
a Twisted silk in gum, raw silk, cocoons. 242
b Machine twists; sewings, embroidery, and saddlers' silks; buttonhole twist. 243

805 Aub, Hackenburg, & Co., Philadel- phia, Pa.—H 76.
a Raw silk and cocoons. 242
b Machine and buttonhole twist, sewing and spool silk. 243

806 Franke, Louis, New York, N. Y. —H 74.
a Thrown silk. 242
b Silk fringes, passementerie, braids, cords, tassels. 249

806*a* Boissiere, E. V. de, Williamsburg, Kansas.—H 74.
a Silk cocoons, raw silk, and silk-worm eggs, produced in Kansas. 242
b Velvet ribbons. 248

807 Hamil & Booth, Paterson, N. J. —H 76.
a Raw and thrown silks. 242
b Dress goods, tie silks. 245
c Ties. 247
d Ribbons. 248

808 Seavey, Foster, & Bowman, Boston, Mass.—H 75.
a Cocoons, raw silk. 242
b Twisted silk. 243

808*a* Newmann, Joseph, San Francisco, Cal.—H 75.
a Cocoons, raw silk, silk-worm eggs. 242
b Silk flags. 247

809 Werner, Itschner, & Co., Phila- delphia, Pa.—Silk ribbon fabrics. H 74. 243

810 Brainerd, Armstrong, & Co., offices, 469 Broadway, New York; 301 Market street, Philadelphia; 13 German street, Baltimore.—Spool and skein silks, for families, merchant tailors, clothing manufacturers, and shoe manufacturers. Handsome cabinets furnished to retailers. Having no western or southern office, we will make liberal arrangements with dealers, or responsible parties wishing to act as agents for those sections. H 75. 243

811 Hovey, F. S., Philadelphia, Pa.— Sewing silks and machine twists. H 76. 243

812 Morel, Chas., & Sons, Philadelphia, Pa.—Skein silks, dyed. H 76. 243

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

813 Cheney Brothers, Hartford and South Manchester, Conn.—H 75.
a Twist. 243
b Spun silks and spun silk fabrics. 244
c Dress goods, serges, florentines, and foulards. 245
d Organzine, tram, and handkerchiefs. 247
e Ribbons. 248

814 Atwood & Richmond, Brooklyn, Conn.—Ounce silk machine twist, black and colors. H 77. 243

815 Nonotuck Silk Co., Florence, Mass.—Black and colored machine twist, buttonhole twist, embroidery and sewing silk. H 74. 243

816 Hayden, J. H., & Son, Windsor Locks, Conn.—Black sewing silk. H 76. 243

817 Heminway, M., & Sons Silk Co., New York, N. Y.—Spool, embroidery, and saddlers' silk; machine and buttonhole twist, etc. H 73. 243

818 Holland Manufacturing Co., Willimantic, Conn.—Silk machine twist and sewing silk. H 74. 243

819 Baare, Fred., Paterson, N. J.— Millinery, tie, and umbrella silks. H 77. 244

820 Strange, Wm., & Co., Paterson, N. J.—H 73.
a Millinery and dress silks. 245
b Ribbons. 248

821 Dexter, Lambert, & Co., New York, N. Y.—H 73.
a Silk piece goods. 245
b Ribbons. 248
c Dress trimmings. 249

823 Wright, Wm. P., Philadelphia, Pa. —Oiled silks and muslins. H 76. 245

825 Weidmann & Greppo, Paterson, N. J.—Dyed silk, blacks and colors. H 76. 246

826 American Silk Label Manfacturing Co., 389 Broome street, New York, N. Y.—Names of signers of Declaration of Independence, labels, and other designs, woven in silk; for clothiers, merchant tailors, and hatters. H 77. 246

827 Meyenberg, S. M., Paterson, N. J. Office, 40 Lispenard street, New York. —N 74.
a Upholstery satins. 246
b Ladies' silk scarfs, sewing silk veils; millinery silks and gauze fabrics. 247

828 Stearns, Jno. N., & Co., New York, N. Y.—H 77.
a Brocade silks. 246
b Silk handkerchiefs. 247

829 New York Woven Label Manufacturing Co., New York, N. Y.—Woven labels and hangers. H 74. 247

831 Horstmann, W. H., & Sons, Philadelphia, Pa.—Dress, carriage, upholstery, and undertakers' trimmings; narrow textile fabrics; passementerie. H 73. 249

832 Kohn, Tobias, Novelty Weaving and Braiding Works, Hartford, Conn.—Star and embroidery braids. H 76. 249

833 Dale Manufacturing Co., Paterson, N. J.—Silk, mohair, and fancy trimming braids; cords, bindings, hat bands, braided sewings, and watch guards. H 75. 249

835 Fleisher, S. B. & M., Philadelphia, Pa.—Alpaca braids. F 71. 249

836 Sutro Bros., New York, N. Y.— Embroidery braids, put up on patent cards, stating correctly the measurement of each skein. F 71. 249

837 Nottingham Lace Works, Brooklyn, N. Y.—Guipure, thread, cashmere, and other laces and trimmings; hair nets. Manufacturers from original designs of guipure laces, thread, cashmere, Spanish and millinery laces, silk purlings, lace fringes, hair nets, etc.; also, a specialty of all desirable styles of silk lace ties and scarfs. Orders sent to A. G. Jennings, 428 Broome street, New York. H 75. 249

838 Turner, John, Norwich, Conn.— Picture and furniture cords. B 77. 249

839 Goff, D., & Son, Pawtucket, R. I. —Alpaca skirt braid. F 71. 249

840 Silver Lake Co., Boston, Mass.— Solid braided cords. F 68. 249

841 Kelty, G. L., & Co., New York, N. Y.—Furniture coverings, gimps, fringes, cords, tassels, and other upholstery goods. C 78. 249

Clothing, Jewelry, and Ornaments, Traveling Equipments.

842 Häpke, A. B., Harrisburg, Pa.— Knit goods and embroideries. F 69. 250

842*a* Lowery & Williams, Utica, N. Y. —Merino and cotton underwear. F 73. 250

843 Moore, Leopold, Philadelphia, Pa.—B 69.
a Wrappers, shirts. 250
b Silk hats. 251

843*a* Munson Manufacturing Co., Cohoes, N. Y.—Merino and cotton underwear. F 73. 250

844 Sachse, F., & Son, S. E. corner Eighth and Vine streets, Philadelphia, Pa. —Finest American dress shirts; also, cricket, club, fire, base-ball, yachting, and society shirts. F 69. 250

844*a* Meyer, Jonasson, & Co., New York, N. Y.—Felt skirts. F 78. 250

845 Butterick, E., & Co., New York, N. Y.—Paper patterns for ladies' and children's garments. H 70. 250

846 Maize & Schwartz, Philadelphia, Pa.—Military uniforms. C 78. 250

847 Chapman, Mrs. Dr. H. M., 219 South Eighth, and 336 South Fifth street, Philadelphia, Pa.—Patent skirt supporting, shoulder brace, puff corset. Requires no padding; allows the form its natural shape without pressure. F 69. 250

847*a* Wyoming Valley Knitting Co., Pittston, Pa.—Hosiery and underwear. F 73. 250

848 Cooper, Henry Prouse, New York, N. Y.—Clothing. F 72. 250

849 Schuyler, Hartley, & Graham, New York, N. Y.—Military and naval equipments, society and theatrical goods. F 70. 250

849*a* Moeller, C. H., St. Louis, Mo.— Netted underwear. F 71. 250

850 Glazier, J. J., Bro. & Co., Philadelphia, Pa.—Brown, bleached, and colored hose and half hose. F 72. 250

850*a* Fall River Merino Co., Fall River, Mass.—Ladies' and men's underwear. F 73. 250

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

851 Judson Bros., New York, N. Y.—Shirts, underwear, drawers. F 70. 250

851*a* Weldon, Dana, & Co., San Francisco, Cal.—Stocking supporters, ladies' belts, etc. F 71. 250

852 Thalheimer & Hirsch, Philadelphia, Pa.—Gentlemen's white and fancy shirts, underwear, collars, and cuffs. F 61. 250

852*a* Dudley Hosiery Co., Newton Lower Falls, Mass.—Knit underwear, hosiery. F 73. 250

853 Michaelis & Kaskel, 653 Broadway, New York, N. Y.—Shirts, underwear, and pjamas; anti-rheumatic flannels, and embroideries. Manufacturers of the finest dress shirts and underwear, to order only; embroiderers, and importers of gentlemen's furnishing goods; depot for Dent's London-made kid gloves, Cartwright and Warner's merino underwear, and Martin's umbrellas; sole agents in the United States for Lairitz's celebrated anti-rheumatic flannels and medicinal preparations. Office, during the exhibition, at the Transcontinental Hotel, opposite the Main Building. F 67. 250

853*a* Leighton, Chas., New Orleans, La.—Shirt. F 71. 250

854 Harvey & Baird, Philadelphia, Pa.—Shirts. F 72. 250

854*a* Eager, P. B., Tower, & Co., Boston, Mass.—C 78.
a Oiled clothing. 250
b Oiled hats. 251

855 Griswold, Catherine A., New York, N. Y.—Corsets. F 69. 250

856 Devlin & Co., Clothiers, Broadway, corner Grand street; Broadway, corner Warren street, New York, N. Y.—Military uniforms, for army, navy, and national guard; gentlemen's dress and business suits; duck vests, robes-de-chambre, breakfast jackets, and shirts; also, boys' and youths' clothing. F 67. 250

856*a* Hemple, J. C., Baltimore, Md.—Rubber cloth diaper. F 72. 250

857 Prindle, G. H., Philadelphia, Pa.—Muffs and boas, caps, cloaks, afghans, capes, hoods, designs for bed spreads. F 70. 250

857*a* Thudium, C. A., & Son, Philadelphia, Pa.—Woolen and worsted cardigan jackets. B 79. 250

858 Moore, George, New York, N. Y.—Bias and bias neck cutter. H 71. 250

858*a* Bishop & Northrup, Wyandotte, Mich.—Wool dusters. F 71. 250

859 Thomas, A. W., Philadelphia, Pa.—Bustle, skirt elevator, bosom form. F 70. 250

859*a* Jacobs, Strouse, & Co., New York, N. Y.—Corset clasps and busks. T 60. 250

860 Rosenbach & Co., Philadelphia, Pa.—Shirts, pantaloons, overalls, drawers. F 68. 250

860*a* Schoenhof, J., & Co., New York, N. Y.—Skirts in embossed and trimmed effects. F 70. 250

861 Conrad Bros., Philadelphia, Pa.—Shirts, collars, cuffs, etc. F 67. 250

862 National Suspender Co., New York, N. Y.—Shoulder braces and suspenders. F 68. 250

862*a* Oliver, Thomas, New York, N. Y.—Transfer for measuring and cutting coats. P 68. 250

863 Cohn, M., & Co., Novelty Corset Works, New York, N.Y.—Woven corsets. F 69. 250

864 Piqua Woolen Mills, Piqua, O.—Jackets and woolen socks. B 75. 250

865 Taylor, S. T., New York, N. Y.—System of dressmaking, bias cutter, fashion journals. F 71. 250

866 Hopkins, W. T., Philadelphia, Pa.—Ladies' and children's undergarments, infants' dresses, hoop skirts, corsets, panniers, bustles. F 69. 250

867 Horstmann, Wm. H., & Sons, Philadelphia, Pa.—Military and theatrical goods. Military, society, regalia, church, and theatrical goods; flags, banners, bunting, army, navy, national guard, and band equipments, in great variety; regalia, jewels, and properties for Masonic Blue lodges, chapters, commanderies, Scottish Rite, and other societies; Knights Templar uniforms a specialty. A full line of materials and trimmings suited to all the above lines. H 73. 250

868 Demorest, Mme., New York, N. Y.—Fashion patterns and bulletin, dress-cutting system, corsets, shoulder brace, skirt and stocking suspenders. F 68. 250

869 Nashawannuch Manufacturing Co., Easthampton, Mass.; factories, Easthampton, Mass.; salesrooms, 74 and 76 Worth street, New York.—Elastic rubber suspenders and webs. Manufacturers of elastic suspenders, frills, and webs, in silk, worsted, and cotton; new styles, plain and figured, in great variety, constantly produced. This company successfully introduced in this country "Goodyear's" patent vulcanized rubber, in woven elastic goods, and continues its use very extensively. F 67. 250

871 Thompson, E. O., merchant tailoring, 908 Walnut street, Philadelphia, Pa.—Clothing. Exemplification of mechanical and artistic tailoring is displayed in these garments, made to order for competition, designed, also, to illustrate characteristic national workmanship, in their embellishment, by trimmings made of the national colors and coins; also particular merit is claimed for the perfect fitting pantaloons, cut according to the process patented by the exhibitor. F 71. 250

872 Sternberger, L. & S., Philadelphia, Pa.—White shirts. Manufacturers of the "Eclipse" fine white shirts; shirt fronts, drawers, overalls, etc. F 68. 250

873 Norfolk & New Brunswick Hosiery Co., New Brunswick, N. J.—Ladies', gentlemen's, and children's knitted underwear; shirts, vests, pants, and drawers; ladies' and misses' union dresses, gentlemen's and boys' merino wool half hose; ladies' and misses' merino and wool hose and three-quarter socks, in various colors. We manufacture only full fashioned or regular made goods of fine qualities. H. J. Libby & Co., agents, No. 57 White street, New York. F 70. 250

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Clothing.

874 Warner Bros., New York, N. Y.—Corset and skirt supporter, corset waist. F 70. 250

875 Bowers, Jas., & Co., Newark, N. J.—Sewed corsets and rivetless corset clasps. F 69. 250

876 Alkinson, Henry, Philadelphia, Pa.—White shirts, buckskin shirts, and drawers. F 70. 250

877 Zäuner, Henry, Philadelphia, Pa.—Lace, silk, and meo caps, hand knit and crochet zephyr goods, for infants. F 70. 250

879 Borm, L., Philadelphia, Pa.—Dress suit. F 69. 250

880 Wilson, J. H., Philadelphia, Pa.—Military goods. F 70. 250

881 Foy & Harmon, New Haven, Conn.—Skirt-supporting corset. F 69. 250

882 America Hosiery Co., New Britain, Conn.—Wool, merino, and cotton underwear, hosiery. F 68. 250

883 Worcester Corset Co., Worcester, Mass.—Corsets, corset and skirt supporters. F 69. 250

884 Boston Comfort Corset Co., Boston, Mass.—Corset without bones. F 69. 250

885 Palmer & Williams, Boston, Mass.—Jacqueline corsets and misses' waists. F 69. 250

886 Denham, T. M., & Brother, New Bedford, Mass.—White laundried shirts and shirt bosoms. F 68. 250

887 Rockhill & Wilson, Philadelphia, Pa.—Clothing. F 69. 250

888 Lowell Hosiery Co., Lowell, Mass.—Women's plain cotton hose. F 69. 250

889 Wanamaker & Brown, Philadelphia, Pa.—Gentlemen's, youths', and children's ready-made clothing; gentlemen's furnishing goods. B 67. 250

890 Wanamaker, John, & Co., Philadelphia, Pa.—Ancient and modern clothing worn by American gentlemen during the past century. F 67. 250

892 Cummings, J. S., & Co., Philadelphia, Pa.—Scarfs, cravats, stocks, bows, and neck wear. F 68. 250

893 Hughes, Thos., & Co., Bristol, Pa.—Cotton, merino, and wool hosiery. F 70. 250

894 Strahan, Hodgson, & Co., New York, N. Y.—Linen collars and cuffs. F 72. 250

895 American Suspender Co., Waterbury, Conn.—Webbing frills and suspenders. F 68. 250

896 Brewster Bros. & Co., Birmingham, Conn.—Corsets, combined corset and skirt supporters, corset clasps. F 69. 250

897 Gabriel, Henry, & Sons, Allentown, Pa.—Knitted woolen and cotton hosiery. F 68. 250

898 American Molded Collar Co., Boston, Mass.—Combined cloth and paper collars. These collars are well known for their complete shape to the neck. The collars and cuffs have a pure starch finish, and are suitable for any gentleman to wear, always being of the latest fashion. The "molding" process, by which each collar is made to fit the neck perfectly and easily, is controlled exclusively by this company. These goods have been awarded the first prize at several expositions. F 70. 250

899 Frost, Geo., & Co., Boston, Mass.—Corsets, waists, hose supporter, emancipation suit, and under-flannel. F 70. 250

900 Sweet, Orr, & Co., factory, Wappinger's Falls, N. Y.; office, 345 Broadway, New York City.—Orr's pantaloons, overalls, and engineer jackets. The peculiar cut of these overalls must be noticed, by which such seat-room is given that the wearer feels perfect ease, in all positions; no binding or straining in any part; their strength is such that they are "warranted never to rip." F 76. 250

901 Bickford, Dana, New York, N. Y.—Knitted articles made on Dana Bickford's knitting machines. F 68. 250

902 Beatty Hosiery Mills, Philadelphia, Pa.—Hosiery. F 73. 250

903 Landenberger's, Martin, Sons, Philadelphia, Pa.—Hosiery and knit goods. F 67. 250

904 United States Corset Co., New York, N. Y.—Corsets. B 71. 250

905 Sharpless & Sons, Philadelphia, Pa.—Ladies' costumes. B 68. 250

906 Rothschild Bros. & Gutman, New York, N. Y.—Shirts, drawers, and undershirts. F 69. 250

907 Cameron, Wm., & Son, Philadelphia, Pa.—Embroidering, braiding, and stamping designs; children's clothing, indelible ink marking. F 70. 250

908 Dress Reform Co., Boston, Mass.—Dress reform clothing. F 71. 250

909 Otis Co., Ware, Mass.—Hosiery and underwear. N 75. 250

910 Hayden, James, Philadelphia, Pa.—Shirts, drawers, and necktie shields. F 72. 250

911 Peck & Greene, Brooklyn, N. Y.—Worsted and silk goods for theatrical, boating, and general underwear. B 75. 250

912 Star Knitting Co., Cohoes, N. Y.—Cotton, woolen, and merino shirts, drawers, pantalets, and union suits. F 67. 250

913 Parsons, J. H., & Co., Cohoes, N. Y.—Woolen, merino, and cotton shirts; drawers, pantalets, and union suits. F 67. 250

914 Brookside Hosiery Mills, Troy, N. Y.—Cotton, woolen, and merino shirts; drawers, pantalets, and union suits. F 67. 250

915 McDonnell, Kline, & Co., Amsterdam, N. Y.—Cotton, woolen, and merino shirts; drawers, pantalets, and union suits. F 67. 250

916 Bennett, E., Brooklyn, N. Y.—Shirts. F 68. 250

917 Coon & Van Volkenburgh, Troy, N. Y.—Men's linen collars and cuffs. F 67. 250

918 Ellis Manufacturing Co., Waltham, Mass.—Stocking supporters. H 71. 250

For classes of exhibits, indicated by nnmbers at end of entries, see Classification, pp. 27-45.

Clothing, Ornaments, Jewelry.

919 Homer, Colladay & Co., Philadelphia, Pa.—F 71.
a Ladies' dresses, trousseaux, neck-ties, scarfs, and furnishing goods. 250
b Embroidery, lingerie. 252
All articles contained in this exhibit are of H., C. & Co.'s own manufacture, and at their extensive establishment, Nos. 1412 and 1414 Chestnut street, above Broad street, Philadelphia, will be found goods of a similar character, in great variety.

920 Pettingell & Sawyer, East Cambridge, Mass.—F 76.
a Waterproof oil clothes. 250
b Waterproof hats. 251

920*a* Brady, Edward, Philadelpnia, Pa.—U 63.
a Collars for men's wear. 250
b Buttons. 254

921 Carney, Bernard L., Philadelphia, Pa.—Silk, beaver, and felt hats. B 70. 251

922 Jacoby, Theo., Philadelphia, Pa.—Hats, bonnets with domestic trimmings. F 70. 251

923 Hegle, Fortuné, New York, N. Y.—Material for kid glove manufacturing, and kid gloves. B 68. 251

924 Stetson, John B., & Co., Philadelphia, Pa.—Soft and stiff felt hats in various stages of manufacture. B 68. 251

925 Walton, Maison, New York, N. Y.—Bonnets and round hats. F 71. 251

926 Littleton Saranac Buck Glove Co., Boston, Mass.—Grain tanned gloves. B 69. 251

927 New York Catholic Protectory, New York, N. Y.—Shoes. V 53. 217

928 Brown, Emma, New York, N. Y.—Straw round hats and feathers. B 70. 251

929 Nonnenberger, Christian, Philadelphia, Pa.—Hatters' blocks and tools. B 69. 251

930 Fenton, J. H., & Bro., Philadelphia, Pa.—Gentlemen's dress, silk, soft and stiff felt, and other hats. B 70. 251

931 Pierson & Herman, Newark, N. J.—Hat blocks and flanges, hatters' tools. B 70. 251

932 Yates, Wharton, & Co., Newark, N. J.—Fur felt hats. B 70. 251

933 Field, J. C. & J. F., Philadelphia, Pa.—Gloves. B 69. 251

934 Hays, Daniel, Gloversville, N. Y.—Buckskin and peccary skin gloves, gauntlets, and mittens. B 71. 251

934*a* Blaylock & Co., Philadelphia, Pa.—B 71.
a Straw hats; hats. 251
b Furs, robes, fur caps, turbans, gloves, etc. 256

935 Jeannisson, Lewis, & Son, Johnstown, N. Y.—Gloves. B 71. 251

937 Haverhill Hat Co., Haverhill, Mass.—Wool hats. B 69. 251

938 Solmans, Alden, South Norwalk, Conn.—Felt hats. B 71. 251

939 Morris, E., & Co., Philadelphia, Pa.—Silk, soft, and stiff hats. B 67. 251

940 Amidon's Son, T. H., New York, N. Y.—Hats and caps. B 70. 251

941 Dunlap & Co., Hatters, 174 Fifth avenue and 589 Broadway, New York, N. Y.; manufactory and wholesale department, 160 Mercer street, New York, N. Y.—Gentlemen's silk, felt, straw and opera hats; ladies' riding hats. B 70. 251

942 Kennedy, Thos., & Bro., Philadelphia, Pa.—Wax figure in bridal costume; trimmed bonnets and hats. F 72. 251

943 Schiller, Jos., & Co., St. Louis, Mo.—Hats for gentlemen's wear. B 69. 251

945 Hutchinson, John C., Johnstown, N. Y.—Men's lined dogskin, calfskin, and lambskin gloves and gauntlets. B 71. 251

946 Northrup, W. S. & M. S., & Co., Johnstown, N. Y.—Fine lamb, real calf, and buckskin castor unlined gloves. Most glove dealers know the reliability of gloves made by this firm. B 71. 251

947 Colwell, F. E., & Co., Chicago, Ill.—Husking gloves. P 51. 251

948 Miller, Geo. F., Jacksonville, Fla.—B 74.
a Palmetto hats. 251
b Florida curiosities. 254

949 Bancroft, J. S., & Co., New York, N. Y.—Hats and caps, boys' and children's hats. B 72. 251

950 Kursheedt & Co., 190 to 194 South Fifth avenue, New York, N. Y.—Standard manufacturers—Embroideries, puffings, plaitings, and flutings, made on patented machines; ladies' collars and cuffs, ties, collarettes, lock-stitch all-over tuckings, and tucked frockings. F 69. 252

950*a* Beatty & Thorne, New York, N. Y.—Hat, badge, and ornamental printing in gold, silver, etc. P 78. 252

951 Bentley, Jeff. O., Philadelphia, Pa.—Embroidered, braided, and stamped goods; indelible marking, designs, stamps. F 72. 252

951*a* Roberts & Hevell, Newark, N. J.—T 65.
a Dress, hat, and shoe trimmings. 252
b Metal fancy goods, notions. 254
c Trunk and bag trimmings. 255

952 Barrett, Jos. W., Philadelphia, Pa.—Embroidery and braiding designs, hand worked and printed. F 72. 252

953 Thomas, Joel, Philadelphia, Pa.—Ruches, ladies' and infants' caps, ruffings, and collarettes. F 71. 252

954 Clickerman, L. M., Philadelphia, Pa.—Embroidery on linen cambric. F 68. 252

955 Palmer & Kendall, Middletown, Conn.—Mosquito net canopies with attachments, machine-tentered wide fabrics, mosquito nettings, cords, and window lines. F 77. 252

956 Bedichimer, Isaac, Philadelphia, Pa.—Masonic marks, society jewels, pins, and emblems in gold and silver. N 43. 253

956*a* Barrows, H. F., & Co., New York, N. Y.—Plated jewelry. P 43. 253

957 Muhr's, H., Sons, Philadelphia, Pa.—Gold finger rings. P 43. 253

957*a* Celluloid Novelty Co., New York, N. Y.—Celluloid jewelry. N 43. 253

958 Bailey & Co., Philadelphia, Pa.—Jewelry. N 43. 253

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

959 Simons, Opdyke, & Co., Philadelphia, Pa.—Gold chains, gold head canes, thimbles, gold and pearl jewelry. P 43. 253

960 Caldwell, J. E., & Co., Philadelphia, Pa.—Jewelry and artistic manufactures in the precious metals, for use and decoration. N 41. 253

961 Vulcanite Jewelry Co., New York, N. Y.—Vulcanite and jet, and combination vulcanite and jet jewelry. P 43. 253

962 Goggin, Jas., New York, N. Y.—Suites of jewelry, and jewel cases of shell, jet, and bog oak. P 50. 253

963 Neher, Chas., Philadelphia, Pa.—Hair jewelry. P 43. 253

964 Starr & Marcus, New York, N. Y.—Diamonds, pearls, precious stones, rich jewels, and stone cameos. N 41. 253

965 Morgan & Headly, Philadelphia, Pa.—Gold spectacles and chains, fine jewelry. N 42. 253

966 Cottier, C., & Son, N. Y.—Imitation of precious stones and fancy cut stones. P 44. 253

967 Tillinghast, Mason & Co., Providence, R. I.—Imitation diamond jewelry. N 43. 253

968 Richards, J. J. & J. M., New York, N. Y.—Sleeve and collar buttons, studs, crosses, pins, and eardrops. P 43. 253

969 Haas, Jas. A., & Co., Philadelphia, Pa.—Jewelry; masonic and other emblems. N 43. 253

970 Hamilton P. Hunt, Providence, R. I.—Plated chains and buckle bracelets. P 43. 253

971 Kipling's, R., Sons, New York, N. Y.—Precious and imitation stones for jewelry. N 43. 253

972 Tiffany & Co., New York, N. Y.—N 41.
a Jewelry, precious stones. 253
b Gilt goods. 254

973 Robbins, Clark & Biddle, Philadelphia, Pa.—N 43.
a Jewelry, diamonds. 253
b Bronzes, fancy goods. 254

973*a* Sand, M., New York, N. Y.—Wax flowers. F 71. 254

974 Miller, Thos., New York, N. Y.—Silk umbrellas. B 70. 254

975 Pope Manufacturing Co., Boston, Mass.—Rifle air pistol for target shooting. H 71. 254

975*a* Oakville Company, Waterbury, Conn.—Shawl, bankers', and mixed pins; toilet pin rolls. H 68. 254

975*b* Galena Oil Works (limited), Franklin, Pa.—Silver card baskets and cards. P 47. 254

976 Wallace & Keller, Philadelphia, Pa.—Walking canes, bell earrings, and fancy articles. B 72. 254

976*a* Pratt, D. G., Cambridgeport, Mass.—Wood and ivory turned goods. N 57. 254

977 Birgé & Berg, Philadelphia, Pa.—Artificial flowers; picture of lion, made of flowers. F 72. 254

978 Glendenning & Truitt, Philadelphia, Pa.—Whips. B 71. 254

978*a* New York Button Co., New York, N. Y.—Silk, velvet, metal, and other buttons. B 71. 254

979 Lacmann, J., & Sons, Philadelphia, Pa.—Doll bodies. F 72. 254

979*a* Weintroub, Paul, Philadelphia, Pa.—Fancy articles of olive wood from Jerusalem. T 54. 254

980 Pilling, George P., Philadelphia, Pa.—Gold, silver, and plated masonic, odd fellows, and society jewels, marks, emblems, and other small silver wares. N 52. 254

981 Baeder, Adamson, & Co., Philadelphia, Pa.—Cowhide whips. N 68. 254

981*a* Bene, Creighton, & Co., New York, N. Y.—Feathers. H 76. 254

982 Wilson, John, Philadelphia, Pa.—Carved walking canes. B 69. 254

983 Hirsh & Brother, Philadelphia, Pa.—Umbrellas, parasols, and materials. B 72. 254

983*a* Bacon, George W., Philadelphia, Pa.—Artistic transfers in spermaceti. N 55. 254

984 Galbraith, Alex., Philadelphia, Pa.—Wax flowers and materials. F 71. 254

984*a* Dudley, Dana, Philadelphia, Pa.—Toy gyroscopes. P 71. 254

985 Watson, Brock, Philadelphia, Pa.—Fancy articles carved from nuts and fruit stones; wood relics. H 69. 254

986 Potter, W. K., Providence, R. I.—Tortoise shell goods, combs, jewelry, etc. P 43. 254

986*a* Shoenhof, J., & Co., New York, N. Y.—Felt skirts. F 71. 254

987 Nickle, Robt., Rochester, N. Y.—Magical apparatus and toys. H 78. 254

987*a* Goodwin, W. C., New Haven, Conn.—Hot-air toys, guns, games, novelties, recording bank. N 71. 254

988 Bloodgood, Miss A. De Etta, New York, N. Y.—Sheet wax, wax flowers, leaves, shells, fruit, etc.; illuminated and rustic crosses. P 42. 254

988*a* Noyes, W. F., Newburyport, Mass.—Combs. F 71. 254

989 Chambers & Co., Philadelphia, Pa.—Umbrellas, parasols, and sun umbrellas. B 72. 254

989*a* Leighton, Charles, New Orleans, La.—Sleeve buttons mounted with Long Branch pebbles. F 71. 254

990 Johnson, E. S., New York, N. Y.—Tooth picks and ear spoons. N 43. 254

990*a* Jackson, Samuel C., New York, N. Y.—Silverware and jewelry trays and cases, fancy wood boxes. N 43. 254

992 Wahl, Emil, Philadelphia, Pa.—Fancy bone work, dominoes, chessmen, crochet needles, buttons, jewelry, etc. N 43. 254

993 India Rubber Comb Co., New York, N. Y.—Hardware rubber combs, syringes, drinking flasks; surgical, telegraphic, and photographic goods, etc. Manufacturers of hard rubber combs, syringes, drinking flasks, whip sockets, inkstands, oilers, thimbles, doll-heads, martingale rings, tumblers, rulers, funnels, scoops, dice cups, soap trays,

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

castor rolls, napkin rings, whip handles, salad spoons and forks, gas faucets, mustard spoons; photographic, telegraphic, electrical, and surgical goods, and all kinds of special goods; sheet, rod, and tubing. B 67. 254

994 Leiner, Moritz, New York, N. Y.—Ear cleaners, filtering racks, sponge baskets, bath and bottle brushes, probangs. P 65. 254

995 Aiken, Lambert, & Co., New York, N. Y.—Toothpicks. N 43. 254

996 Koch, Sons, & Co., New York, N. Y.—Albums and backgammon boards. P 76. 254

997 Birch, John S., New York, N. Y.—Watch key that will wind any watch. P 43. 254

998 Ellis, Knapp, & Co., New York, N. Y.—Umbrellas and parasols. B 70. 254

998*a* Feust & Rice, New York, N.Y.—Toys, jardiniers, and parlor ornaments. P 51. 254

999 Drown, W. A., & Co., Philadelphia, Pa.—Umbrellas and parasols. B 69. 254

999*a* Buffalo Decorating Co., Buffalo, N. Y.—Artificial ivy and autumn leaves. P 62. 254

1000 Hopkins & Robinson Manufacturing Co., Akron, O.—Smoking pipes. T 44. 254

1000*a* Smithers, Mrs. G. H., New York, N. Y.—Wax flowers and figures; sheet wax. F 70. 254

1001 Orange Judd Co., New York, N. Y.—Crandall's building blocks. T 73. 254

1003 Dickinson, Mrs. C. J., Chicago, Ill.—Wax flowers, leaves, fruit, ferns, etc. P 42. 254

1004 Tobin, Joseph F., No. 82 Duane street, New York, N. Y.—Whalebone goods. Manufacturer of dress, corset, whip, cane, probe, busks, brush, ribbon, round and half-round bone. F 72. 254

1005 Mabie, Todd, & Bard, New York, N. Y.—Tooth-picks. N 43. 254

1007 Riley & Lynch, Newark, N. J.—Bag and umbrella trimmings, military metal goods, masonic ornaments, etc. H 67. 254

1008 Celluloid Manufacturing Co., Newark, N. J.—Toilet brushes, etc., made from celluloid. N 43. 254

1009 American Mechanical Toy Co., N. Y.—Mechanical toys. F 70. 254

1010 Leonhard, Theo., Paterson, N. J.—Pure white beeswax bleached by sun, wax tapers or gaslighters, sheet wax and gilded brass moulds for wax flowers. N 56. 254

1011 Bradley & Hubbard Manufacturing Co., West Meriden, Conn.—Bronzes, call bells. N 47. 254

1013 Carlisle, Henry, & Son, Philadelphia, Pa.—Tortoise shell and horn combs, jewelry sets, and fancy articles. N 52. 254

1014 Althof, Bergmann, & Co., New York, N. Y.—Tin and mechanical toys. F 76. 254

1016 Bickel, August, & Son, Philadelphia, Pa.—Canes. B 71. 254

1017 Heister & Gans, New York, N. Y.—Automatic umbrellas and parasols. B 69. 254

1018 Kaldenberg, Fred. Julius, New York, N. Y.—Genuine meerschaum pipes and cigar holders, amber goods. P 66. 254

1019 Holland, John, Cincinnati, O.—Toothpicks. N 43. 254

1020 Adams, J. S., & Co., Providence, R. I.—Tortoise shell jewelry and combs. N 42. 254

1021 Demuth, Wm., & Co., New York, N. Y.—Pipes and smokers' articles. P 69. 254

1022 Wagan, R. M., Mount Lebanon, N. Y.—Fancy articles made by the Shakers. P 52. 254

1023 Stehr, Carl, New York, N. Y.—Meerschaum and amber goods. B 72. 254

1024 Harvey & Ford, Philadelphia, Pa.—Canes, umbrella and whip handles; pipes, billiard balls; pearl, horn, and ivory work. B 70. 254

1025 Waterbury Button Co., Water- bury, Conn.—Army, navy, railroad, police, state, livery, and cloth buttons; ladies' belt buckles, medals, and badges. B 76. 254

1027 Armstrong, F., Bridgeport, Conn.—Duplex ventilated garters and armlets. F 72. 254

1028 Field, A., & Sons, Taunton, Mass.—Buttons and eyelets. P 68. 254

1029 Lewy, F., New York, N. Y.—Kid glove safe. E 78. 254

1030 Matthias, Mrs. C. E., Philadel- phia, Pa.—Umbrellas and parasols. F 70. 254

1031 Mitchell, Vance, & Co., New York, N. Y.—Bronzes. N 49. 254

1031*a* Griffin, A. B., Ravenna, O.—Box and pyramid made of the woods of the world, containing 9865 pieces. P 49. 254

1032 Independent Comb Co., Wappin- ger's Falls, N. Y.—Ladies' horn and rubber combs, dressing combs, pipe stems, and bits. B 73. 254

1033 Barnhurst & Robinson, Philadel- phia, Pa.—Umbrella and parasol stretchers. B 70. 254

1034 Grottenthaler, V., Philadelphia, Pa.—Block for wood engravers, wooden smoking pipes. B 70. 254

1035 Ives, Blakeslee, & Co., Bridgeport, Conn.—Mechanical toys and novelties. F 72. 254

1036 Mains Manufacturing Co., New York, N. Y.—Dice box. N 65. 254

1037 Nax, Kuhn, & Silberman, Phil- adelphia, Pa.—Tobacco pipes; umbrella, parasol handles, cigar tubes, etc. B 75. 254

1038 National Button Co., Easthamp- ton, Mass.—Cloth-covered and vegetable-ivory buttons, in great variety. Williston, Knight & Co., selling agents, Nos. 74 and 76 Worth street, New York, who sell by the case or package only. B 76. 254

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Fancy Articles, Traveling Equipments, Stationery.

1039 Spaulding, D. S., Mansfield, Mass.—Tortoise shell jewelry, back combs, and fancy goods. N 43. 254

1040 Sevey, J. A., Boston, Mass.—Articles of whalebone, for whips, canes, corsets, dresses, etc. F 71. 254

1041 Eureka Manufacturing Co., Boston, Mass.—Air pistols. H 71. 254

1042 Joslin, Palmer, & William, New York, N. Y.—Horn and rubber goods, fancy back combs, and jewelry. N 43. 254

1043 Hildreth, Milo, & Co., Northboro', Mass.—Horn and tortoise shell combs and jewelry. N 43. 254

1044 Mahn, L. H., Jamaica Plains, Mass.—Base balls. F 71. 254

1047 Porter Brothers & Co., New York, N. Y.—Buttons and presses for attaching the same. H 71. 254

1047*a* Holland, J. C., New York, N. Y.—Needles. F 71. 254

1048 Harris, S., & Sons Manufacturing Co., Clinton, Mass.—Dressing and fancy combs, imitation jet and shell chains. F 71. 254

1049 Wild, G. L., & Brother, Washington, D. C.—Musical dancing toy attachment for pianos. N 64. 254

1050 Moutoux, Emil W., New York, N. Y.—Hair pictures and devices for breastpins. P 52. 254

1051 Grote, F., & Co., New York, N. Y.—Carved and turned ivory; pearl and shell goods. B 71. 254

1051*a* Conrad, Wm. C., Middletown, Pa.—Cane. T 61. 254

1052 Ansley, Fred. W., St. Augustine, Fla.—Jewelry made from native Florida material. H 68. 254

1053 Fowler Fly Fan Co., Philadelphia, Pa.—Fly fan moved by clockwork. N 54. 254

1054 Platt Bros. & Co., Waterbury, Conn.—Buttons. H 71. 254

1055 Cheshire Manufacturing Co., West Cheshire, Conn.—Buttons. H 71. 254

1056 Godfrey, C. J., & Son, Naugatuck, Conn.—Thimbles. H 71. 254

1057 Comstock Dickinson Ivory Co., Center Brook, Conn.—Ivory fine combs. H 71. 254

1058 Blake & Johnson, Waterbury, Conn.—Satin finish hair pins. H 71. 254

1059 Ives, Blakeslee, & Co., Bridgeport, Conn.—Silk covered ventilated metallic garters. H 71. 254

1059*a* Ladd, S. J., Providence, R. I.—Gold thimbles. N 43. 254

1060 Peacock, H. H., Philadelphia, Pa.—Fancy cases in morocco, velvet, and marqueterie, for jewelry, etc.; physicians' cases. P 63. 255

1060*a* Turner, Andrews & Co., Philadelphia, Pa.—Pocket and bill books, letter cases, and fancy leather articles. F 72. 255

1061 Rumpp, Chas., Philadelphia, Pa.—Fancy leather goods, dressing case, work boxes, pocketbooks, satchels, etc. H 69. 255

1061*a* Langfeld, J., & Sons, Philadelphia, Pa.—Pocketbooks, satchels, and fancy leather articles. F 70. 255

1062 Kolb, G. F., & Son, Philadelphia, Pa.—Cases for jewelry and silverware. B 71. 255

1062*a* Arms Manufacturing Co., Northampton, Mass.—Pocketbooks, photograph cases, chess boards, etc. B 78. 255

1063 Rumpp, C. F., 116 & 118 North Fourth St., Philadelphia, Pa.—Fancy leather goods, pocketbooks, cigar and match cases, bankers' cases, dressing cases, writing desks, satchels, traveling bags, etc. Any article exhibited is kept in store, and any similar goods will be made to order at short notice. B 68. 255

1063*a* Spitzer, George W., 33 Maiden Lane, New York, N. Y.—Fans, jewelry cases, and fancy leather goods. Manufacturer of leather fancy goods. Our specialties are jewelry cases and fans. These are the only fans of the kind made in this country. B 71. 255

1064 Parkhurst & Gridley, Newark, N. J.—Shawl and book strap. P 68. 255

1065 Likly, McDonald, & Rockett, Cleveland, Ohio.—Fancy leather work, gun case, etc. B 70. 255

1066 Stambach, John A., & Co., Philadelphia, Pa.—Ladies' and gentlemen's furs and robes. B 68. 256

1067 Mawson, Ed. S., & Sons, Philadelphia, Pa.—Seal sacques, muffs, caps, gloves; seal, sable, and mink skins, etc. B 68. 256

1068 Fishblatt, Lewis, Philadelphia, Pa.—Ladies' furs and carriage robes. B 70. 256

1069 Mahler, M., New York, N. Y.—Furs. B 67. 256

1070 Reisky, N. C., Philadelphia, Pa.—Ladies' furs, gentlemen's driving goods, sleigh robes, Indian painted buffalo robes. B 69 *and* 71. 256

1071 Booss, F., & Bro., 449 Broadway, New York, N. Y.—Furs, sacques, coats, muffs, boas, caps, robes, gloves, fur trimmings, and skins of all kinds. B 69. 256

1075 Kaehler, Otto, Philadelphia, Pa.—Stuffed animals, raw and dressed skins, fur robes, fancy furs, etc. B 68. 256

1076 Duryee & Hallett, Rahway, N. J.—Dressed and dyed furs. H 68. 256

1077 Burnett, W. H. & R., Newark, N. J.—Furs, fur cloaks, and fur-lined mantles. B 68. 256

Paper, Blank Books, and Stationery.

1078 Dixon Crucible Co., Jersey City, N. J.—Pencils of graphite. P 72. 258

1078*a* Amberg, William A., New York, N. Y.—File and binder. P 77. 258

1079 McGill, Geo. W., New York, N. Y.—McGill's patent fasteners, for binding papers of all descriptions; sampling for woolen, dry, and fancy goods, and for all descriptions of light binding; McGill's patent suspending rings, and braces for hanging cards, calendars, etc.; one hundred different patterns of fasteners and rings; McGill's patent letter clips, punches, presses, copying press, water cups, etc. Factories at Waterbury, Conn.; warehouses, at 49 Chambers street, New York, and 18 Federal street, Boston. P 73. 258

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Stationery.

1079*a* **Smith, Eldridge J., Philadelphia,** Pa.—Bill holder, envelope, and book clamp. H 69. 258

1080 Hoskins, W. H., Philadelphia, Pa.—Paper, envelopes, designing, engraving, printing, and lithographing. P 76. 258

1080*a* **Chamberlin, Whitmore, & Co.,** New York, N. Y.—Stationery. P 74. 258

1081 Woodruff, E. W., Washington, D. C.—File holders, for filing business and official papers, compactly and conveniently for reference. Adopted by the United States Government. P 49. 258

1082 Tiffany & Co., New York, N. Y.— Stationery. N 41. 258

1082*a* **Pottin Register Manufacturing** Co., Philadelphia, Pa.—Bank check. P 57. 258

1083 Goldsborough, John, Philadel-phia, Pa.—Ribbon machine and hand stamps, perforating and canceling stamps. P 77. 258

1084 American Lead Pencil Co., New York, N. Y.—Lead pencils, materials, and process of manufacture. P 74. 258

1085 Fairchild, Leroy W., & Co., New York, N. Y.—Gold pens, pencil and pen cases, toothpicks and desk holders of gold and silver, etc. Awarded highest premium at Paris, 1867; Vienna, 1873; and gold and silver medals from other fairs wherever in competition. N 43. 258

1086 Faber, Eberhard, New York, N. Y.—Lead pencils, penholders, rubber goods, and stationers' articles. P 73. 258

1087 Cooke, G. K., & Co., New York, N. Y.—Revolving hand stamps, seal presses, rubber stereotypes, check protectors, combined pad and rack. P 77. 258

1088 Johnson, E. S., New York, N. Y. —Gold pens, pencils, and cases. N 43. 258

1089 Muller's, Nicholas, Sons, New York, N. Y.—Bronze stationery ware, inkstands. P 76. 258

1090 Janentzky & Co., Philadelphia, Pa.—Artists' materials, oil colors, water colors, paint boxes, artists' canvas, adjustable drawing table, artists' brush and color stand, sketching easels, and other articles appertaining to the fine arts, all of our own manufacture. P 77. 258

1091 Bergner, Theo., Philadelphia, Pa. —Drawing boards, parallel rulers, and section liners for draughtsmen's use. P 76. 258

1092 Hawkes, Geo. F., New York, N. Y.—Gold pens, gold, silver, pearl, and rubber pencils; fountain pen. N 43. 258

1093 Lipman, Hymen L., Philadel-phia, Pa.—Eyelet machines, combining punch and riveter. P 74. 258

1094 Brower Bros., New York, N. Y. —Inkstands, paper weights, sponge cups, letter files, etc. P 74. 258

1095 Aiken, Lambert, & Co., 12 Maiden Lane, New York, N. Y.—Choice gold pens, penholders, cases. All goods sold guaranteed of same excellency as those on exhibition. N 43. 258

1096 Buck, T. S., & Co., Davenport, Ia.—Rubber type forms, rubber dating stamp. P 77. 258

1097 Stiles, Mrs. E. W., Philadelphia, Pa.—Book paper-file, revolving inkstand. P 30. 258

1098 Youngs, Wm. J., & Sons, Phila-delphia, Pa.—Hand stamp. N 57. 258

1099 Stoddard, Richard T., Boston, Mass.—Book supporter. P 74. 258

1100 Young, W. A., Jacksonville, Fla. —Pencil sharpeners. H 68. 258

1101 Bender & Phillips, Hohokus, N. J.—Sheet wax. N 56. 258

1102 Mabie, Todd, & Bard, New York, N. Y.—Gold pens, cases, pencils, holders. N 43. 258

1103 Hall, P. W., Austin, Texas.— Postage stamp and ticket holders. N 68. 258

1104 Dreka, Louis, Philadelphia, Pa.— Portfolio and stationery. Specimens of steel and copper plate engraving, die sinking, printing, illuminating and designing. All work exhibited executed in our establishment. P 74. 258

1105 Parkhurst & Gridley, Newark, N. J.—Stationers' goods. P 68. 258

1106 Foley, John, New York, N. Y.— Gold pens, pencils, and penholders. N 43. 258

1107 Chase, John S., Union Paste & Sizing Co., 200 Mulberry street, New York, N. Y.—Preserved flour paste, for bookbinders' and general use; Eureka perfumed paste, for office, library, and household. P 77. 258

1108 Mason & Co., Philadelphia, Pa.— Engraving, fine stationery, illuminating, stamping, and copper plate printing. P 73. 258

1109 Somers, D. M., Greenport, Brook-lyn, N. Y.—Penholders. P 72. 258

1110 Holland, John, Cincinnati, O. —Gold pens, pencil cases, penholders. N 43. 258

1111 United States Soapstone Manu-facturing Co., Cincinnati, O.—Soapstone slate pencils, crayons for blackboard or metals, tailors' markers, hair crimpers and curlers, boot powder, shoemakers' blocks, foundry facings; manufacturers of soapstone goods of any description. P 77. 258

1112 Hart, Bliven, & Mead Manufac-turing Co., New York, N. Y.—Stationery for the desk, paper files, clips, etc. P 70. 258

1113 James, Samuel, Philadelphia, Pa. —Artists' rotary color and brush-stand. P 77. 258

1114 Chamberlin, Whitmore, & Co., New York, N. Y.—Stationery. P 74. 258

1117 Walker, Tucker, & Co., Philadel-phia, Pa.—Rubber hand stamps. P 74. 258

1118 Esterbrook Steel Pen Co., Cam-den, N. J.—Pens and penholders. P 72. 258

1119 Eagle Pencil Co., New York, N. Y.—Lead and mechanical pencils, copying crayons, penholders, stationery, wood and brass articles. P 76. 258

1121 Rowland, Joseph S. C., Phila-delphia, Pa.—Canceling ink-pad. T 47. 258

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Stationery.

1122 Edsall, D. A., New York, N. Y.—Rubber hand stamps, stereotypes, folding rack pads. P 77. 258

1123 Morton, James, New York, N. Y.—Gold pens, gold, celluloid, and pearl pencils and penholders. N 43. 258

1124 Donovan, J. W., Detroit, Mich.—Record file covers, classified directory. P 58. 258

1125 Koch, Sons, & Co., New York, N. Y.—P 76.
a Bankers' cases, portfolios, patent binders, etc. 258
b Blank books. 261

1126 Moss & Co., Philadelphia, Pa.—P 77.
a Stationery. 258
b Blank books and printed books. 261

1127 Root, R. C., Anthony, & Co., New York, N. Y.—P 74.
a Office stationery. 258
b Account books, lithographic work. 261

1128 Cohen, Chas. J., 26 South Fifth street, Philadelphia, Pa.—P 74.
a Everpoint leads for pencil cases. 258
b Envelopes, all sizes and qualities. 259
c Satinette copying book. 261
d Paper boxes. 262

1129 Byron, Weston, Dalton, Mass.—Ledger and record paper. Linen, strong, double-sized paper for books, where great strength and long use are required. P 75. 259

1129*a* Stratford, Hoe, & Co., Jersey City, N. J.—P 74.
a Tissue paper. 259
b Press boards. 262

1130 Owen Paper Co., Housatonic, Mass.—First-class linen ledger papers, bond and thin linen papers; tinted wedding royals and folios, plain and patent finished; bristol boards and staple writing papers of all kinds. P 73. 259

1130*a* Brown, L. L., Paper Co., South Adams, Mass.—Ledger and flat papers. P 74. 259

1131 Southworth Co., Mittineaque, Mass.—Writing papers. P 75. 259

1132 Mount Holly Paper Co., Mount Holly Springs, Pa.—Writing papers. P 73. 259

1133 Whiting Paper Co., Holyoke, Mass.—Fine papers. P 77. 259

1134 Crescent Mills, Springfield, Mass.—Writing papers. P 74. 259

1135 Holyoke Paper Co., Holyoke, Mass.—Writing papers. P 74. 259

1136 Carson & Brown Co., Dalton, Mass.—Writing paper. P 74. 259

1137 Parsons Paper Co., Holyoke, Mass.—Writing paper. Manufacturers of white and tinted writing and envelope papers, of every description. P 74. 259

1138 Crane & Co., Dalton, Mass.—Bond, bank-note, parchment, letter, and note paper. P 74. 259

1139 Parker, Joseph, Son, & Co., New Haven, Conn.—Treasury and commercial blotting paper. Treasury blotting paper is well known for its durability and great absorbent quality, cleanliness in its use; grows soft and pliable by exposure, and never hardens on the desk. It will absorb more ink than the same thickness of papers of this class manufactured in the ordinary manner. J. G. Ditman & Co., Philadelphia, agents for Centennial. P 74. 259

1140 Campbell, Hall, & Co., New York, N. Y.—Safety paper, for protection from erasures. P 74. 259

1142 Tileston & Hollingsworth, Boston, Mass.—Steel plate, chromo, and wood-cut paper. P 77. 259

1143 Crane Brothers, Westfield, Mass.—Bank ledger, record, and linen fabric papers. P 74. 259

1144 Hurlbut Paper Co., South Lee, Mass.—Writing and blank book papers. P 75. 259

1145 Seymour Paper Co., Windsor Locks, Conn.—P 75.
a Writing, envelope, blotting, plate, chromo, book, and printing papers. 259
b Colored papers. 264

1146 Megargee Bros., Philadelphia, Pa.—P 74.
a Book, plate, envelope, and writing papers. 259
b Colored papers. 264

1147 Francis & Loutrel, New York, N. Y.—P 74.
a Manifold writers, by which letters and copies are written at the same time. 259
b Bank ledger's spring book, patented April 20, 1870, opens freely and extra strong. Diaries published annually; safety checks, sure protection against raising, or fraud. 261

1147*a* Crane, L., jr., Dayton, O.—P 77.
a Paper. 260
b Card board. 262

1148 Haldeman Paper Co., Lockland, Ohio.—P 77.
a Wrapping and carpet paper, etc. 260
b Building and roofing paper. 263

1149 Jessup & Moore, Philadelphia, Pa.—Copperplate, lithograph, and book papers, news paper. P 74. 260

1150 Ivanhoe Manufacturing Co., Paterson, N. J.—Book papers, flat writing, Butler's "French folios," also in four colors; American silk copying paper, cheap colored laid writing. Specialty—animal sized writing paper in rolls. Roll one-half mile long—one continuous sheet. P 74. 260

1153 Howlett, Onderdonk, & Co., Philadelphia, Pa.—Machine-made paper bags. P 73. 260

1155 Tangeman, Geo. P., Hamilton, Ohio.—P 77.
a Carpet paper. 260
b Roofing felt. 263

1156 McNeil, Irving, & Rich, Elwood, N. J.—P 74.
a Carpet, manila, flour sack, and wrapping paper. 260
b Waterproof building paper. 263
c Colored papers. 264

1157 Mann, Wm., Philadelphia, Pa.—Blank books for banks, parchment copying books. P 75. 261

1157*a* Mets & Willse, Dubuque, Ia.—Specimens of bookbinding. P 77. 261

1158 Altemus & Co., Philadelphia, Pa.—Photograph albums, scrap books, etc. T 76. 261

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Stationery.

1159 Murphy's, W. F., Sons, Philadelphia, Pa.—Blank books, made to order for actual use. P 77. 261

1159*a* Lippincott, J. B., & Co., Philadelphia, Pa.—Blank books of their own manufacture. T 72. 261

1160 Thomas, Chas. F., Wilmington, Del.—Index for public records, and mercantile accounts. P 76. 261

1161 Kohler, Ignatius, Philadelphia, Pa.—Samples of bookbinding; samples of hand-finished ornamental, artistical, tool-worked bibles and large royal photograph albums, holding from 600 to 1000 pictures. (Hand-finished by Ig. Kohler himself.) T 74. 261

1161*a* Holman, A. J., & Co., Philadelphia, Pa.—Bookbinding and photograph albums. T 74. 261

1162 Burlock, Saml. D., & Co., Philadelphia, Pa.—Bookbindings. T 73. 261

1163 Walker, Evans, & Cogswell, Charleston, S. C.—Blank books, law blank case. P 74. 261

1163*a* Robinson, Savage & Co., Cleveland, O.—Russia bound register books. (*Ohio State Building.*) 261

1164 Appleton, D., & Co., Philadelphia, Pa.—Bookbinding. (*Gallery.*) T 73. 261

1164*a* Hinsdill, Henry M., Grand Rapids, Mich.—Office scratch-books. T 77. 261

1165 Sandford & Co., Cleveland, O.—Full Russia bank books. P 77. 261

1165*a* Beckett & Cervi, Cambridge, Mass.—Specimens of bookbinding. T 74. 261

1166 Siddall Bros., Philadelphia, Pa.—Vellum printing, conveyancers' envelopes, and job and book printing. P 74. 261

1167 Lange, Little, & Co., New York, N. Y.—Wood cut, railroad, and job printing. T 78. 261

1168 American Tract Society, New York, N. Y.—Bookbinding. T 76. 261

1169 Oldach & Mergenthaler, Philadelphia, Pa.—Bookbinders' work. T 75. 261

1170 Houghton, H. O., & Co., Riverside Press, Cambridge, Mass., Hurd & Houghton, New York.—Specimens of their publications, in fine library and law bindings, among them the "Massachusetts Reports," in law calf; the "Butterflies of North America," in crushed levant and vellum; "Smith's Unabridged Bible Dictionary," and "Knight's American Mechanical Dictionary," in grained levant; the special feature being a copy of "Webster's Unabridged Dictionary," manufactured at the Riverside Press, in illuminated vellum. T 76, *on the pavilion of the American Book Trade Association.* 261

1171 Reed, A., & Co., Philadelphia, Pa.—Ornamental bookbinding. T 74. 261

1171*a* New York Catholic Protectory, New York, N. Y.—Printing. V 53. 261

1172 Lindsay & Blakiston, Philadelphia, Pa.—Specimens of binding. T 73. 261

1173 Boorum & Pease, New York, N. Y.—Blank books. P 75. 261

1174 Bradley & Gilbert, Louisville, Ky.—P 75.
a Blank books, specimens of printing. 261
b Bonnet boards, file paper boxes. 262

1175 Kerr, N. M., & Co., Philadelphia, Pa.—Paper boxes, jewelers' findings. P 75. 262

1175*a* Richardson, J. N., Boston, Mass.—Playing cards. P 78. 262

1176 Dixon, Charles A., & Co., Philadelphia, Pa.—Engraved wedding and visiting cards, invitations, heraldic designs, and illuminations in monograms. P 75. 262

1177 American Paper Box Co., Philadelphia, Pa.—Fancy paper boxes. P 74. 262

1178 Porter & Bainbridge, New York, N. Y.—Cardboard, stationery, papeteries, etc. N 72. 262

1179 Dennison & Co., Boston, Mass.—Jewelers' paper boxes, cards, tags, labels, seals, tissue papers, sealing wax; jewelers' and surgical cotton. P 75. 262

1180 Osborn, Bennet, Newark, N. J.—Paper boxes. P 73. 262

1181 Dennison & Brown, Portland, Me.—Wood pulp and products, paper boxes, etc. P 77. 262

1182 Cornell & Shelton, Birmingham, Conn.—Folding paper boxes. P 74. 262

1183 Crompton, John, & Co., Philadelphia, Pa.—Jewelers', druggists', and perfumers' boxes. P 74. 262

1184 Rhode Island Cardboard Co., Pawtucket, R. I.—Cardboard, cards for printers and photographers, manilla tag stock. P 74. 262

1185 McClement Brothers, Philadelphia, Pa.—Embossed business cards, embossed labels, cut and gummed, and impressions from notarial and society seals. P 74. 262

1186 Nashua Card & Glazed Paper Co., Nashua, N. H.—Fancy paper boxes, colored paper and cardboard. P 74. 262

1186*a* Zennig, R. H., & Co., New York, N. Y.—Fancy paper boxes. P 43. 262

1187 Dougherty, A., New York, N. Y.—Playing cards. P 77. 262

1188 Beck, Charles, Philadelphia, Pa.—P 76.
a Cards, cardboard. 262
b Fancy, colored, glazed, enameled, and embossed papers. 264

1188*a* Scott, T. Seymour, & Bro., Philadelphia, Pa.—P 77.
a Bonnet and carpet boards. 262
b Paper carpet and building paper. 263

1189 Davey, W. O., & Sons, Jersey City, N. J.—P 77.
a Binders' trunk and box boards. 262
b Oakum. 666

1190 Stelwagon, Jos., & Sons, Philadelphia, Pa.—Raw roofing paper; prepared roofing and sheathing paper; carpet and sheathing paper. P 76. 263

1193 Grice, Jas., & Sons, Downingtown, Pa.—Wrappers for paper manufacturers. P 77. 263

1194 Gordon, A. Dunlop, Philadelphia, Pa.—Building and manila concrete felts. P 74. 263

1195 Case Brothers, South Manchester, Conn.—Paper boards. P 74. 263

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

1196 Barrett, Arnold, & Kimball, Chicago, Ill.—P 76.
a Aluminous and ornamental building paper. 263
b Paper oil cloth. 264

1197 Van Skelline, Theo., Brooklyn, N. Y.—Motto papers and motto flowers. P 74. 264

1197*a* Goth, Herman J., Bethlehem, Pa.—Oil-painted-washable wall paper. A. Goth & Co.'s patents improved. This paper is a most valuable invention, and as to beauty, smoothness, durability, and cheapness, it is superior to oil-painted walls. P 59. 264

1198 Dejonge, Louis, & Co., New York, N. Y.—Fancy colored, glazed, plated, enameled, varnished, embossed, and printed papers. P 74. 264

1199 Beck, Fr., & Co., 206 & 208 West Twenty-ninth street, New York, N. Y.—Wall papers. The goods exhibited by this firm are of two classes: one made by hand-printing alone, the other by machinery alone. In the former a great variety of colors can be used, matching furniture coverings and draperies, if desired, and, indeed, the appearance of watered silks, or satins, or rich embroidered stuffs, can be so closely imitated that the printed paper can scarcely be distinguished from the genuine fabric. The goods made by machinery are commended for skill in workmanship, for graceful drawing in pattern, for a close resemblance to hand-printed papers, and for cheapness in price. P 76. 264

1200 Howell & Brothers, Philadelphia, Pa.—Paper hangings, borders, fireboard prints, and window papers. P 76. 264

1200*a* Spurr, Chas. W., Boston, Mass.—Wood hangings and marquetries. P 73. 264

1201 Howell & Bourke, Philadelphia, Pa.—Paper hangings and fresco decorations. P 59. 264

1202 Westerberg, Jefferson, & Co., New York, N. Y.—Decorations and embossed gold papers. P 76. 264

1203 Nagle, Cook, & Ewing, Philadelphia, Pa.—Decorative paper hanging. T 55. 264

Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.

1204 Union Metallic Cartridge Co., Bridgeport, Conn.—Metallic shells, bullets, wads, and percussion caps; cartridge machinery. H 70. 265

1205 Sparks, Thos. W., Philadelphia, Pa.—Drop-shot, mould, and conical balls. H 71. 265

1206 Billings & Spencer Co., Hartford, Conn.—Breechloading firearms. H 72. 265

1207 Remington, E., & Sons, Ilion, N. Y.—Firearms and ammunition. H 67. 265

1208 Smith & Wesson, Springfield, Mass.—Revolving firearms. H 69. 265

1209 Colt's Patent Firearms Manufacturing Co., Hartford, Conn.—Breechloading military and sporting small-arms, and military and pocket revolvers for metallic ammunition. H 72. 265

1210 Gardner, Wm., Hartford, Conn.—Breechloading cannon, machine guns, magazine shoulder arms. H 70. 265

1211 Forehand & Wadsworth, Worcester, Mass.—Revolving military and sporting firearm. H 71. 265

1212 Rawbone, Thos., Newark, N. J.—Cartridge-creaser. H 72. 265

1213 Whitney Arms Co., Whitneyville, Conn.—Breechloading military and sporting rifles, carbines, shotguns, revolvers, etc., with ammunition. H 68. 265

1214 Sharps Rifle Co., Bridgeport, Conn.—Rifles. H 72. 265

1215 Merchants' Shot Tower Co., Baltimore, Md.—Drop and mould shot. Capacity, one million bags per annum. Patent improved style soft bar lead. H 71. 265

1216 Burgess, Andrew, Owego, N.Y.—Magazine rifles for military and sporting purposes. H 68. 265

1217 Goldmark, Joseph, New York, N. Y.—Percussion caps, primers, burglar alarm exploders, blasting detonators, metallic and paper cartridges, metal and paper boxes. H 71. 265

1218 Lovell, John P., & Sons, Boston, Mass.—Revolvers. H 72. 265

1219 Dana, Edw. A., Boston, Mass.—Expanding projectiles for rifled cannon. H 72. 265

1220 Schoverling & Daly, New York, N. Y.—Hunting and target rifles, revolvers, breechloading implements. H 70. 265

1221 Winchester Repeating Arms Co., New Haven, Conn.—Magazine or repeating military and sporting firearms, metallic cartridges for small arms. H 72. 265

1222 Wesson, Frank, Worcester, Mass.—Breechloading sporting and pocket target rifles. H 70. 265

1223 Rupertus, Jacob, Philadelphia, Pa.—Revolvers and repeating pistols. H 70. 265

1224 United States Cartridge Co., Lowell, Mass.—Metallic cartridges. Manufacturers of a perfect brass shell, central fire, solid head cartridge, capable of reloading many times; also, manufacturers of central and rim fire ammunition, of all kinds. H 72. 265

1225 American Arms Co., Boston, Mass.—Double-barreled, breechloading shotguns, and locks. H 72. 265

1226 Merwin, Hulbert, & Co., New York, N. Y.—Revolving firearms and magazine gun, military and sporting metallic cartridges. H 70. 265

1227 Evans' Rifle Manufacturing Co., Mechanic Falls, Me.—Magazine rifle, carbine, and musket. H 70. 265

1227*a* Clark & Sneider, Baltimore, Md.—Guns and parts of breechloading shot guns. H 71. 265

1228 Willis, Aug. L., Philadelphia, Pa.—Time and percussion shell fuse. H 68. 265

1229 Miller, Wm. Deeds, New York, N. Y.—Firearms. H 70. 265

1230 Schneelock, Otto, Brooklyn, N. Y.—Self-indicating target. H 70. 265

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Weapons, Ammunition, Medicines.

1231 Stevens, J., & Co., Chicopee Falls, Mass.—Breechloading shotguns, rifles, and pistols. They now supply thoroughly well-made strong and close-shooting breech-loading double shotguns, 10 or 12 gauge twist, $40.00; laminated steel, $45.00; extra finish, $55.00. Their rifles and pocket rifles shoot with wonderful accuracy. Circulars and full particulars on application to their agent, Charles Folsom, 53 Chambers street, New York, or H 71 Main Building. H 71. 265

1232 Stoddard, Charles J., Washington, D. C.—Cartridge-loading implement. H 72. 265

1233 Gatling, Richard J., Hartford, Conn.—Battery gun. This celebrated machine gun fires from 800 to 1000 shots per minute, has great accuracy, and the larger calibres have an effective range of over two miles. Manufactured by the Gatling Gun Company, at Hartford, Conn. H 70. 266

1234 Witty, Calvin, New York, N. Y.—Breechloading field cannon. H 69. 266

1235 Nekervis, Wm., Philadelphia, Pa.—Model of Parrott gun, with caisson complete. H 72. 266

1236 South Boston Manufacturing Co., Boston, Mass.—Bronze and steel rifle cannon, boat howitzer. H 71. 266

1237 Boon, B., West Medford, Mass.—Miniature field artillery, limber, and field piece. H 72. 266

1239 Ridgway, John, Heirs of, Boston, Mass.—Revolving battery. H 69. 267

1239*a* Stevens Institute of Technology, Hoboken, N. J.—Model of the Stevens battery. T 67. 267

1239*b* Paulding, Kemble, & Co., Cold Spring, N. Y.—Model of gun carriage. H 72. 267

1240 Ames Manufacturing Co., Chicopee, Mass.—United States regulation, masonic, and society swords. H 72. 268

1241 Collins & Co., New York, N. Y.—Machetes, swords, bayonets, etc. N 67. 268

1242 Gaylord Manufacturing Co., Chicopee, Mass.—Presentation and society swords. N 70. 268

1243 Wurfflein, Wm., Philadelphia, Pa.—Parlor or gallery rifles and mechanical targets. H 72. 269

1244 Krider, John, Philadelphia, Pa.—H 72.

a Guns, pistols. 269

b Fishing tackle and sporting goods. 270

1245 Providence Tool Co., Providence, R. I.—Breechloading rifles for military, target, and sporting purposes. Manufacturers of "Peabody-Martini" rifles, for military, target, and sporting purposes. The standard arm of Great Britain, noted for strength, accuracy, simplicity, and beauty; 1,500,000 shots have been fired at the factory from 300,000 of these rifles, without accident; also manufacturers of heavy hardware, ship-chandlers' and sail-makers' hardware, nuts, bolts, hinges, etc. H 72. 269

1246 Tryon, E. K., jr., & Co., Philadelphia, Pa.—Muzzle loading rifles, shotguns, revolvers, gunmakers' tools, etc. H 70. 269

1247 Harder, J., & Son, Lock Haven, Pa.—Single, double, and three-barrel guns. Manufacturers of all kinds of muzzle-loading guns. H 71. 269

1248 Parker, Chas., Meriden, Conn.—Double-barreled breechloading shot guns. H 70. 269

1249 Harrington & Richardson, Worcester, Mass.—Revolving firearms with shell ejector. H 72. 269

1250 Burton, Bethel, Brooklyn, N. Y.—Military and sporting magazine rifles, bayonets, portable cartridge reloader. H 72. 269

Medicine, Surgery, Prothesis.

1252 Boericke & Tafel, 635 Arch street, Philadelphia, Pa.—Official homeopathic medical preparations, books and periodicals. Manufacturing homeopathic pharmacists. Complete assortment of homeopathic medicines, in their different degrees and forms, for physicians, families, and druggists; sugar of milk, pellets, cases, corks, vials. Publishers of homeopathic literature. N 50. 272

1252*a* Planten, H., & Son, New York, N. Y.—Gelatine capsules. N 58. 272

1253 Wallace Bros., Statesville, N. C.—Wholesale dealers in southern roots, herbs, barks, flowers, seeds, etc., of fine quality. Orders solicited. N 58. 272

1253*a* Dick, Dundas, 35 & 37 Wooster street, New York.—Tasteless medicines. These soft capsules are acknowledged by the most eminent physicians a true method to administer nauseous medicines, which often detract from, if they do not destroy, the beneficial effects of some of the most valuable remedies prescribed. No patent or proprietary medicines are put up in soft capsules. Explanatory circulars free at every drug store in the United States. These capsules were admitted to the last Paris Exposition. T 50. 272

1254 Seabury & Johnson, New York, N. Y.—Plasters. T 44. 272

1255 Mitchell, Geo. E., Lowell, Mass.—Surgical, medicinal, and pharmaceutical plasters and plaster compounds, lung protectors. N 53. 272

1256 Fehr, Julius, Hoboken, N. J.—Compound talcum—baby powder. The hygienic dermal powder, useful for infants and adults, containing most valuable therapeutic properties. N 52. 272

1257 Randle, Wm. H., Baltimore, Md.—Botanical medicines. N 52. 272

1258 Tims, Wm., Paterson, N. J.—Homeopathic pellets. N 52. 272

1259 Wilson, B. O. & G. C., Boston, Mass.—Pressed medicinal herbs, leaves, flowers, seeds, roots, barks, etc. N 52. 272

1260 Smith's Homeopathic Pharmacy, New York, N. Y.—Homeopathic preparations in tinctures, triturations, and globules, cases for professional and family use. N 54. 272

1261 Ayer, J. C., & Co., Lowell, Mass.—Cherry pectoral, cathartic pills, sarsaparilla, ague cure, hair vigor. N 52. 272

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Medicines, Surgical Appliances.

1262 Blair's, H. C., Sons, Philadelphia, Pa.—T 47.
a Wheat food. 273
b Fountain syringes. 274

1263 Hance Bros. & White, Philadelphia, Pa.—Conical plate drug mill and filtering apparatus. P 43. 274

1263*a* Rohrbeck & Goebeler, New York, N. Y.—School air pump. N 55. 274

1264 Bishop, Joaquin, Sugartown, Chester Co., Pa.—Platina crucibles, stills, bottles, blowpipe tubes, ignition tubes, etc. Manufacturers of platinum crucibles, ignition tubes, stills, bottles, wire, and articles used by analytical chemists; refining and melting of scrap or native grain platinum. Old platinum bought and taken in exchange. P 49. 274

1265 Gilbert, Alfred A., Philadelphia, Pa.—Medicine chest and saddlebags. N 51. 274

1266 Hechelman, H. W., Allegheny City, Pa.—Anatomical preparations of human ear and eye. N 54. 275

1266*a* Seaman, Louis Livingston, New York, N. Y.—Auscultatory percussor, for diagnosing. N 58. 275

1266*b* Longaker, H. D., Allentown, Pa. —Surgical and anatomical specimens of malignant tumors. T 47. 275

1266*c* Bowen, Truman, Boston, Mass. —Casting in the lungs of a calf. N 54. 275

1267 McIlroy, T., New York, N. Y.—Invalid, elevating, and fracture bedsteads, surgical operating and dissecting tables, oculists' and surgical operating chair. N 50. 276

1267*a* Whittemore, Joshua, Wakefield, Mass.—Elastic crutches. H 72. 276

1268 Condell, J., & Son, New York, N. Y.—Artificial limbs. N 58. 276

1268*a* Vaughan, W. R., Council Bluffs, Ia.—Belt trusses and supporters. N 58. 276

1269 Everett, B. C., Philadelphia, Pa. —Trusses, supporters, shoulder braces, elastic stockings, belts, and artificial limbs. N 56. 276

1269*a* Shepard & Dudley, New York, N. Y.—Surgical instruments and orthopedic apparatus. N 58. 276

1270 Taylor, Charles F., New York, N. Y.—Orthopedic apparatus and machines for local exercise. N 52. 276

1270*a* Day, G. Hayden, Bennington, Vt.—Fracture splints. N 55. 276

1271 Tiemann, Geo., & Co., No. 67 Chatham street, New York, N. Y.—Manufacturers of surgical instruments and orthopedic appliances. Established in 1826; branch store, 107 East Twenty-Eighth street, New York; steam factory, 81, 83, and 85 Boerum street, Brooklyn, E. D. Exhibit a most complete and compact operating set, containing, in ten compartments, over one hundred and eighty instruments, ample for every modern operation; specimens of operating cases used in America; Heine's osteotome for resection; Tiemann & Co.'s new rotating-blade osteotome; Tiemann & Co.'s new apparatus for fracture of arm and leg; anatomical syringe; Dawson's cautery battery, smallest battery known; Tiemann & Co.'s patent and other aspirators; patent steam atomizer; patent automatic and other hypodermic syringes; laryngoscopes; ophthalmologists', aurists', gynecologists', and other instruments; a variety of entirely new instruments of American origin, etc., etc. All articles exhibited are Tiemann & Co.'s own manufacture. Their catalogue, bound in cloth, numbering four hundred and twenty-six pages, and containing over fifteen hundred engravings, can be obtained in New York for the cost of binding—seventy-five cents. N 51. 276

1271*a* Newbauer, Wm. G., Long Island City, N. Y.—Medical-plaster spreading machine. P 47. 276

1272 Marks, A. A., New York, N. Y.—Artificial limbs, india rubber hands and feet. N 58. 276

1272*a* Lee, Benjamin, Philadelphia, Pa.—Apparatus for the treatment of spinal curvatures. N 56. 276

1273 Woods, J. T., Toledo, O.—Splint for leg and thigh. N 59. 276

1273*a* Ahl, David, Newville, Pa.—Adaptable porous splints. P 71. 276

1274 Pilling, Geo. P., Philadelphia, Pa. —Gold, silver, and plated surgical instruments. N 52. 276

1275 Mervine, S. P., jr., Philadelphia, Pa.—Gynecological apparatus. N 52. 276

1276 Gemrig, J. H., Philadelphia, Pa. —Surgical instruments and appliances. N 57. 276

1277 Perry, Vincent, Germantown, Pa. —Elastic bandages for surgical purposes. N 57. 276

1278 National Surgical Institute, Indianapolis, Ind.—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276

1279 Penfield, E. C., & Co., Philadelphia, Pa.—Trusses, etc. N 59. 276

1280 Elastic Truss Co., New York, N. Y.—Elastic trusses and abdominal supporters. N 56. 276

1281 Blanck, Wm., & Son, Philadelphia, Pa.—Artificial limbs and appliances. N 58. 276

1283 Leiner, M., New York, N. Y.—Surgical instruments, ear cleaners, filtering racks. P 66. 277

1284 Rhodes, Isaac M., Hancock, Mich. —Easy chair, invalid bed, and fracture apparatus combined. N 59. 276

1285 Clement, Richard, Philadelphia, Pa.—Artificial limbs. N 58. 276

1286 Horn, W. H., & Bro., Philadelphia, Pa.—Trusses, abdominal supporters, etc. N 59. 276

1287 Darrach, S. A., Newark, N. J.—Wheel crutch and attachments; vulcanized rawhide spine support. N 58. 276

1288 Goodier, John, Philadelphia, Pa. —Lever and shield trusses for ruptures. N 58. 276

1289 Crandall, Chas. J., New York, N. Y.—Crutches. N 56. 276

1290 Wickett & Bradley, New York, N. Y.—Artificial limbs. N 57. 276

1290*a* Beckel, August, & Son, Philadelphia, Pa.—Crutches. 276

1291 Hinkle & Mayon, San Francisco, Cal.—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Medical and Surgical Appliances, Tools.

1292 Handy & Boland, Atlanta, Ga.—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276

1293 Kolbe, D. W., Philadelphia, Pa.—Surgical and orthopedical instruments; artificial limbs. N 53. 276

1294 Triumph Truss Co., New York, N. Y.—Truss and supporter. N 53. 276

1295 Kern, Horatio G., Philadelphia, Pa.—Surgical and dental instruments. N 56. 276

1296 Foster, James A., Philadelphia, Pa.—Artificial limbs. These limbs are manufactured at Philadelphia, Pa.; Cincinnati, O.; St. Louis, Mo.; Chicago, Ill.; and Detroit, Mich. Illustrated descriptive pamphlets free. N 53. 276

1297 Pingree, Luther F., Portland, Me.—Artificial limbs. N 53. 276

1298 Otto, F. G., & Sons, New York, N. Y.—Surgical instruments and orthopedical appliances. N 53. 276

1299 Bartlett, Butman, & Packer, Boston, Mass.—Trusses. N 51. 276

1300 Frees, C. A., New York, N. Y.—Artificial limbs and extensions. N 56. 276

1301 Palmer, B. Frank, LL.D., Philadelphia, Pa.—New patent leg and arm, safety socket united to the stump, securing positive comfort. Original patent, 1846; new patent, perfected, 1873. New automatic system, for universal motion, power, and sound applied to writing, printing, music, etc. Original writing machine (type-writer) made in 1851, perfected in 1876. N 54. 276

1302 Seeley, I. B., Philadelphia, Pa.—Hard rubber trusses, abdominal supporters, pile instruments, elastic surgical hosiery, bandages, etc. N 53. 276

1303 McElroy, P. J., East Cambridge, Mass.—Glass and family syringes, feeding and drinking tubes, nipple shields, medicine droppers, etc. N 51. 276

1304 Miller, Jas. S., Philadelphia, Pa.—Trusses and braces. N 58. 276

1305 Rowand, John R., Philadelphia, Pa.—Gynæcological apparatus. N 51. 276

1307 Allen & Johnson, Philadelphia, Pa.—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276

1308 Bethell, John P., Philadelphia, Pa.—Surgical and gynæcological apparatus; artificial steel leg. N 57. 276

1309 Philadelphia Truss Co., Philadelphia, Pa.—Trusses, supporters, shoulder braces, elastic stockings, belts; combination truss and supporter. N 57. 276

1310 Gunning, Thomas Brian, 34 East Twenty-first street, New York, N. Y.—Fractured jaw appliances, including Secretary Seward's; illustrating heads; cleft palate appliances; teeth plates; regulating plates. N 51. 276

1311 Spillman, Henry, New Orleans, La.—Trusses, supporters, and shoulder braces. N 58. 276

1312 Davis, James T., New York, N. Y.—Artificial human eyes. N 54. 276

1313 Teufel, J. J., office and factory, No. 103 South Eighth street, Philadelphia, Pa.—N. 54.
a Surgical instruments. 276
b Dental instruments. 277

1314 Codman & Shurtleff, Boston, Mass.—N 57.
a Surgical instruments, apparatus and appliances. 276
b Dental instruments, furniture, and materials; laboratory tools, etc. 277

1315 Justi, H. D., Philadelpha, Pa.—Artificial teeth, tools, and materials for their manufacture. N 54. 277

1316 Johnson & Lund, Philadelphia, Pa.—Artificial teeth, corundun wheels, gold foil, tooth powders, amalgans, dental instruments and materials. N 59. 277

1316*a* Neve, Edward, Omaha, Neb.—Artificial teeth. N 58. 277

1317 Wardle, Thos., Philadelphia, Pa.—Artificial teeth and models. N 58. 277

1317*a* Chapman, John Winslow, Hyannis, Mass.—Artificial teeth. N 58. 277

1318 Brown, E. Parmly, Flushing, N. Y.—Gold fillings in human teeth, dentists' cases, dental improvements. N 57. 277

1319 White, Samuel S., Philadelphia, Pa.—Artificial teeth, instrumens, chairs, dental engines, stools, lathes, brackets, spittoons, gold foils, corundum wheels, etc. N 55. 277

1320 White, Chas. A., Philadelphia, Pa.—Celluloid apparatus and dental flasks, process of forming sets of artificial teeth, artificial dentures. N 56. 277

1321 Metcalf, David H., Battle Creek, Mich.—Tinman's pattern sheets and squares. N 68. 280

1322 Allen, J., & Son, New York, N. Y.—Artificial dentures. N 57. 277

1323 Abbey, Chas., & Sons, Philadelphia, Pa.—Dentists' fine gold foil, soft or non-adhesive and adhesive. Our specialty for fifty years. N 58. 277

1324 Bonwill, W. G. A., Philadelphia, Pa.—Electro-magnetic mallet for filling teeth, carving marble, chasing metals, and as an autographic printing press; dental chair and engine. N 59. 277

1325 Taylor, J. Hare, Philadelphia, Pa.—Tooth paste, etc. N 57. 277

1326 Wardle, S., Cincinnati, O.—Specimens of dentistry. N 58. 277

1327 Neall, Daniel W., Camden, N. J.—Porcelain teeth. N 57. 277

1329 Crowther, D. W., Hagerstown, Md.—Mechanical and operative dentistry. N 58. 277

1330 Scott, Quincy A., Pittsburg, Pa.—Atmospheric disk for holding artificial teeth in the mouth, dental specimens, dentrifice. N 56. 277

1331 Ludwig, Schmidt, & Mohl, Houston, Texas.—Enamel; specimens of teeth. N 52. 277

1332 Valleau, William, jr., New York, N. Y.—Gold and silver leaf, gold and platina filling for dentists' use. N 63. 277

1334 Cutter, Ephraim, Cambridge, Mass.—Adjustable chair for invalids. N 58. 278

Hardware, Edge Tools, Cutlery, Metallic Products.

1335 Collins & Co., New York, N. Y.—Cast steel tools; sledges. N 67. 280

1336 Elgin National Watch Co., Elgin, Ill.—Watchmakers' tools. P 67. 280

1336*a* **Shepardson, H. S., & Co.,** Shelburn Falls, Mass.—Diamond, pod, and screw driver bits, nail sets, gimlets, tool cases, etc. H 68. 280

1337 Douglas Axe Manufacturing Co., Boston, Mass.—Axes, hatchets, adzes, picks, etc. N 67. 280

1338 Pugh, Job T., Philadelphia, Pa. —Screw augers and auger bits. Known as an old established manufacturer of augers and bits; established 1774; a descendant of the inventor of the screw auger. These augers are known to all who use them, as the old hand-made auger, thereby gaining great durability. N 72. 280

1338*a* **Ernst & Elterich, Jersey City,** N. J.—Tools. N 68. 280

1339 Conard, A. & I., Whitemarsh, Pa. —Cast steel wood-boring implements. P 71. 280

1339*a* **Eagle Square Manufacturing** Co., South Shaftsbury, Vt.—Boring machines, squares, and rules. P 78. 280

1340 Elmira Nobles' Manufacturing Co., Elmira, N. Y.—Carpenters' and shipwrights' tools. N 71. 280

1340*a* **Buck, Charles, Milbury, Mass.** —Edge tools. N 71. 280

1341 Quint, S. H., & Son, Philadelphia, Pa.—Stencils, stamps, checks, tags, etc.; metallic pattern letters, for raised lettering on castings, names, addresses, etc. H 71. 280

1341*a* **Genkinger, Adolph, Newark,** N. J.—Tools, etc. N 68. 280

1342 Carter, Edwd., Troy, N. Y.— Nickel-plated goods; planes, mechanics' tools. P 69. 280

1342*a* **Howell, S. J., Orange, Mass.**— Polishing lathes and wheels, tweezers, saw frames. N 68. 280

1343 Stanley Rule & Level Co., New Britain, Conn.—Rules, levels, squares, and carpenters' tools. N 68. 280

1343*a* **Holland, James C., New York,** N. Y.—Self-threading surgical and sewing machine needles, sail and packing needles. F 71. 280

1344 Billings & Spencer Co., Hartford, Conn.—Drop forgings, machinists' small tools, sewing machine shuttles. H 72. 280

1344*a* **Bossard, H., Philadelphia, Pa.** —Watchmaker's slide rest. N 43. 280

1345 Eddy, Geo. M., & Co., Brooklyn, N. Y.—Fine steel band saws and tempered steel springs. N 57. 280

1345*a* **Fry's Bookbinder's Stamp &** Tool Manufactory, Philadelphia, Pa.—Stamps and tools for the embellishment of books. T 75. 280

1346 Rose, Wm., & Bros., Philadel-phia, Pa.—Bricklayers', plasterers', moulders' and saddlers' tools. N 72. 280

1346*a* **Douglass Manufacturing Co.,** New York, N. Y.—Mechanics' tools, cutting and boring implements. N 70. 280

1347 Colton, Alfred J., Philadelphia, Pa.—Stair hand-rail planes and double-edge routers, carpenters' moulding planes. N 69. 280

1348 Pratt, Jas. T., & Co., New York, N. Y.—Tool chests for amateurs or mechanics. N 68. 280

1349 Maltby, Curtiss, & Co., New York, N. Y.—Nail puller. B 77. 280

1350 Kohler, Martin, Philadelphia, Pa. —Knee-rest for tailors. N 70. 280

1351 Carter, Henry, New York, N. Y. —Moulders' and plasterers' tools. N 70. 280

1352 Sinsz, Philip, Baltimore, Md.— Glaziers' diamonds, machinery for circular and oval cutting, engravers' points, carbon tools. N 68. 280

1353 King, Josiah, & Son, New York, N. Y.—Planes and tools for wood workers. N 71. 280

1354 Booth, John, & Son, Philadelphia, Pa.—Carpenters' tools and sundries. N 69. 280

1355 Barton, D. R., Tool Co., Rochester, N. Y.—Mechanics' edge tools. N 70. 280

1356 American Shovel Co., Birming-ham, Conn.—Shovels and scoops. P 68. 280

1357 Johnson, Wm., Hedenberg Works, Newark, N. J.—Carpenters' and other mechanics' tools and hardware. N 69. 280

1358 Hampton, Chas. F., Ardmore, Pa. —Augers and bits. N 71. 280

1359 Ten Eyck Axe Manufacturing Co., Cohoes, N. Y.—Axes, carpenters' edge tools, etc. N 68. 280

1360 White, Wm., Newark, N. J.— Axes, hatchets, adzes, bush hooks, stone hammers, picks, etc.; carriage shaft-couplings. P 71. 280

1361 Selsor, Geo., & Co., Philadelphia, Pa.—Hammers, edge and railroad tools, coffee mills, slaw cutters, tacks, and nails. N 68. 280

1362 Star Tool Co., Middletown, Conn.— Machinists' and carpenters' tools; squares, bevels, gauges, standard steel rules, etc.; blind trimmings. These goods are of the finest finish; the squares are perfectly accurate and of different varieties, adapted to the wants of workers in wood or iron; the rules are graduated on spring-tempered steel, and are made only by this company. P 67. 280

1362*a* **Gardam, William, & Son, New** York, N. Y.—Index plates, dividing and drilling machines. N 68. 280

1363 Snell Manufacturing Co., Fisk-dale, Mass.—Augers, auger bits, and boring machines. P 71. 280

1364 Buck Bros., Riverlin Works, Mil-bury, Mass.—Shank and socket firmer chisels and gouges, plane irons, screw drivers, nail sets, etc. N 69. 280

1365 Maydole, D., & Co., Norwich, N. Y.—Cast steel hammers. N 71. 280

1366 Foerster & Kraenter, Newark, N. J.—Tools. N 68. 280

1367 Davis Level & Tool Co., Spring-field, Mass.—Adjustable levels and planes, and iron planes. P 71. 280

1368 DeWitt, Morrison, & Kelley, Phil-adelphia, Pa.—Carpenters', millwrights', gasfitters', pump, and car builders' machine and auger bits. These are the celebrated arrow brand for boring all kinds of wood. P 71. 280

1369 Shepherd & Lloyd, Philadelphia, Pa.—Scales, glass cutters, lard presses, and hardware specialties. N 71. 280

1370 Rowland, B., & Co., Philadelphia, Pa.—Shovels, spades, and scoops; draining and ditching tools. N 71. 280

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Hardware, Tools, Cutlery.

1371 Yerkes & Plumb, Philadelphia, Pa.—Edge tools, hammers; railroad, mining, and blacksmiths' sledges. N 70. 280

1372 Bailey, Leonard, & Co., Hartford, Conn.—Bench planes, try squares, bevels. N 68. 280

1373 Mayo, M. C., Boston, Mass.—Plane. P 71. 280

1374 Miller, Edward, & Co., Meriden, Conn.—N 48.
a Machine oilers. 280
b Tinners' hardware. 284

1375 Bemis & Call Hardware & Tool Co., Springfield, Mass.—Machinists' tools. P 72. 280

1376 Newton, C. C., Dunkirk, N. Y.—Twisted drill taps, dies, and reamers. T 60. 280

1377 Ives, W. A., & Co., New Haven, Conn.—Wood-boring implements, bit braces. N 72. 280

1378 Mills, E., & Co., Philadelphia, Pa.—Braces, bits, bevels, screwdrivers, spokeshaves, squares, and saw pads. P 68. 280

1379 Donaldson, J. W., Massillon, Ohio.—Block stamps for stamping garments for braiding and embroidery. P 68. 280

1380 Bailey Wringing Machine Co., New York, N. Y.—Metallic bench planes, spokeshaves, box scrapers, etc. N 69. 280

1381 Klein, Logan, & Co., Birmingham Tool Manufactory, Birmingham, Pa.—Picks, mattocks, fire shovels, etc. N 71. 280

1382 Crossman, A. W., & Son, West Warren, Mass.—Carpenters' hand tools. N 70. 280

1383 Nixon, G. W. C., New York, N. Y.—Engravers' tools. N 68. 280

1384 Ohio Tool Co., Columbus, O.—Planes, screws, edge tools, plane irons, handles, etc. N 71. 280

1385 Palmer, Wm. F., Berry street, bet. Fourth & Fifth streets, San Francisco, Cal.—Edge tools. All tools warranted of excellent cutting qualities. N 70. 280

1385*a* Rue, Theodore, Philadelphia, Pa.—Stencils and tools, nickel-plated signs and numbers, steel stamps. T 54. 280

1386 Taylor, Thomas, cor. Eddy & Friendship streets, Providence, R.I., P.O. box 993.—Bloodstone burnishers. Bloodstone burnishers and reflectors made to order. N 71. 280

1387 Smyth & Pennington, Paterson, N. J.—Files and rasps. N 69. 280

1388 Whitney Manufacturing Co., South Ashburnam, Mass.—Tools used in manufacturing chairs. W 50. 280

1389 Franklin, Mrs. Esther P., Philadelphia, Pa.—Marking stencils and branding irons. T 58. 280

1390 Sandusky Tool Company, Sandusky, O.—Planes, plane irons, bench and hand screws, chisel and file handles. P 71. 280

1391 Hopkins, C., Waltham, Mass.—Watchmakers' tools. N 68. 280

1392 Tower, John J., New York, N. Y.—N 68.
a Carpenters' planes, wrenches, adjustable clamps. 280
b Handcuffs and police implements, padlocks. 284

1393 Harrison & Kellogg, Troy, N. Y.—N 68.
a Screw wrenches. 280
b Plain, tinned, japanned, and nickel-plated malleable iron castings to order, in all varieties; extra refined air-furnace irons. (Low freights open all the year.) 283

1394 Wills, Edwin S., Philadelphia, Pa.—N 69.
a Tools. 280
b Wood screws, etc. 284

1395 Miller's Falls Co., Miller's Falls, Mass.—P 71.
a Mechanics' tools. 280
b Hardware. 284

1396 Lloyd, Supplee & Walton, Philadelphia, Pa.—P 70.
a Hollow auger, spokeshave. 280
b Locks. 284

1397 Vatterlein, John, Plainfield, N. J.—N 69.
a Carpenters' gauges. 280
b Gate hardware. 284

1398 Lowentrant, P., Newark, N. J.—N 70.
a Mechanics' tools. 280
b Hardware. 284

1399 Hart, Bliven, & Mead Manufacturing Co., New York, N. Y.—P 70.
a Carpenters' tools. 280
b Carpenters', saddlers', and carriage hardware; gong door bells. 284

1400 Hotchkiss's Sons, Bridgeport, Conn.—N 72.
a Hand drills, saw sets, currycombs. 280
b Pruning shears. 281
c Harness snaps, bull rings. 284

1401 Beaver Falls Cutlery Co., Beaver Falls, Pa.—Table, pocket, and miscellaneous cutlery. Special exhibits, large carving knife and fork, nine and a half feet long, cost $1500; revolving knife, with three hundred and sixty-five blades. N 70. 281

1402 Barney, E. H., Springfield, Mass.—Skates, perforating stamp, show case and counter combined. Barney & Berry's celebrated "Club All-clamp and Rink Skates," patented 1859, 1866, 1868, 1873. I show the advantage of a screw fastening for operating clamps on metal-topped skates; also, originality of the designs, fine quality, workmanship, and finish. P 68. 281

1403 Will & Finck, San Francisco, Cal.—California carving sets and cutlery, bar tools. P 71. 281

1404 Union Hardware Co., Wolcottville, Conn.—Skates, skate straps, tool handles, wood turning, dog collars, etc. N 69. 281

1405 Badger, Benj. F., Charlestown, Mass.—Razor strops. Leading styles, "Genuine Emersons," established 1810; "Souvenir," for presentation; "German Belt," with non-extensible base; "Badger's super-quality;" "Patent X;" "Square." N 72. 281

1406 Goldschmidt, Herrmann, New York, N. Y.—Razor strops. N 71. 281

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Hardware, Cutlery, Metallic Ornaments.

1407 Florence Sewing Machine Co., Florence, Mass.—Skates. N 71. 281

1408 Herder, L., & Son, Philadelphia, Pa.—Shears and scissors. N 69. 281

1409 Russell, John, Cutlery Co., Green River Works, New York, N. Y.—Table cutlery, butchers', hunters', painters', and druggists' knives, etc. N 67. 281

1410 Shipley, Howard W., Philadelphia, Pa.—Pocket cutlery. P 71. 281

1411 Seymour, Henry, & Co., New York, N. Y.—Tailors', bankers', and sheep shears, trimmers, and scissors. N 71. 281

1412 Evans, W. D., & Co., Philadelphia, Pa.—Razor strops and oilstone hone. N 72. 281

1413 Meriden Cutlery Co., New York, N. Y.—Table cutlery. N 69. 281

1414 Holley Manufacturing Co., Lakeville, Conn.—Pocket cutlery. P 71. 281

1415 Lamson & Goodnow Manufacturing Co., Shelburne Falls, Mass.—Table and butchers' cutlery. N 70. 281

1416 United States Steel Shear Co., West Meriden, Conn.—Solid cast steel scissors and shears. N 71. 281

1417 Miller Bro. Cutlery Co., West Meriden, Conn.—Pocket cutlery. N 70. 281

1418 Heinisch's, R., Sons, Newark, N. J.—Tailors' shears, scissors, and trimmings. N 69. 281

1419 Wiss, J., Newark, N. J.—Cutlery, shears, and scissors, hand and pole pruning shears. P 68. 281

1420 Plimpton, J. L., New York, N. Y.—Parlor skates. P 71. 281

1421 Friedman & Lauterjing, New York, N. Y.—Razors. P 70. 281

1422 Funke, Leopold, St. Louis, Mo.—Knife with three hundred and sixty-six blades. T 60. 281

1423 Robbins, Clark & Biddle, Philadelphia, Pa.—Cutlery. N 43. 281

1424 Gesswein & Reichhelm, New York, N. Y.—Polishing implements and materials. N 70. 281

1425 Northfield Knife Co., Northfield, Conn.—Pocket cutlery. N 71. 281

1426 Breeden & Nelke, New York, N. Y.—Spring scissors and shears. P 71. 281

1427 Goodell Company, Antrim, N. H.—Cutlery and shoe knives. N 71. 281

1428 Marx Bros., New York, N. Y.—Folding pocket scissors. N 69. 281

1429 Winslow, Samuel, Worcester, Mass.—Skates. H 71. 281

1430 Brady, Edward, Philadelphia, Pa.—U 63.
a Metal boot fastening. 281
b Model of iron fort. 283

1431 Willis, Aug. L., Philadelphia, Pa.—Ice creeper. H 71. 281

1432 Peck & Snyder, New York, N. Y.—Skates. H 71. 281

1433 New York Knife Co., Walden, N. Y.—Table, pen, and pocket cutlery. N 67. 281

1433*a* Louis, Julius, & Co., Jeffersonville, Ind.—Oilstones. N 68. 282

1434 Mitchell, J. E., Philadelphia, Pa.—Carpenters', engravers', opticians', and cutlers' grindstones; oilstones, razor hones, etc. P 67. 282

1434*a* Boyd & Chase, New York, N. Y.—Arkansas and Washita oilstone. N 69. 282

1434*b* Zucker & Levett, New York, N. Y.—Hard and soft rouge and composition for polishing metals. T 53. 282

1435 Baeder, Adamson, & Co., Philadelphia, Pa.—N 68.
a Sand and emery paper, emery cloth, emery, corundum, flint. 282
b Glue. 652
c Curled hair. 669

1435*a* Nittinger, Edward, Philadelphia, Pa.—Quartz paste for sharpening knives, etc. T 52. 282

1435*b* Tucker, Geo., New York, N. Y.—Polishing compositions. N 68. 282

1435*c* White, T. R., Philadelphia, Pa.—Sandilene, for cleaning marble, metal, glass, etc. T 54. 282

1436 Harrison, W. H., & Bros., Philadelphia, Pa.—Low and elevated fire grates, fenders, fireplaces, etc. T 52. 283

1436*a* Garland, Benj., Philadelphia, Pa.—Iron bridge and fence railings. Y 62. 283

1437 Dixon, Thos. S., & Sons, Philadelphia, Pa.—Grates, fenders, fireplace fittings, and gas logs. T 49. 283

1437*a* Manly, M. M., & Son, Philadelphia, Pa.—Wrought iron hand rails, mouldings, and bridge railings. T 60. 283

1438 Jackson, Wm. H., & Co., New York, N. Y.—Grates, fenders, fireplaces, fire irons, and fancy coal boxes. N 67. 283

1439 Lalance & Grosjean Manufacturing Co., New York, N. Y.—Stamped iron culinary ware. T 68. 283

1440 Reyburn, Hunter, & Co., Philadelphia, Pa.—Weather vanes. N 62. 283

1441 Tin Plate Decorating Co., New York, N. Y.—Decorated tin plates, boxes, cans, etc. N 70. 283

1442 Miller & Krips, **716 & 718** Cherry street, Philadelphia, Pa.—Plain and ornamental bronze; white bronze, brass, German silver, and zinc castings. Also, sole manufacturers of bronze reliefs in a new style of mounting; bronze reliefs made to order, from life or photograph. P 72. 283

1443 Demuth, Wm., & Co., **501** Broadway, New York, N. Y.—Show figures in metal and wood, meerschaum and brier pipes, with rubber and amber mouthpieces; smokers' articles in general. P 69. 283

1444 Mott, J. L., Iron Works, New York, N. Y.—Fountains, vases, statuary, settees, aquaria, aquarium fountains, drinking fountains, candelabra, lamp pillars, crestings, castings, railings, gates, summer houses, band stands, stable fixtures, etc. N 54. 283

1445 Paxon, Comfort & Co., New York, N. Y.—Zinc monuments. T 64 *and outside*. 283

1446 Woods, Sherwood, & Co., Lowell, Mass.—White lustral wire ware, comprising an extensive line of household, table, and fancy goods, such as fruit, cake and jewel baskets, tea and coffee strainers, castors, toilet articles, etc. N 72. 283

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Wrought and Cast Metal Work, Hardware.

1447 Ansonia Brass & Copper Co., Ansonia, Conn.—Brass and nickel-plated kettles. N 57. 283

1448 Rohrman, J. Hall, & Son, Philadelphia, Pa.—Tea, coffee, and spice caddies; water coolers and decorated japanned tinware. P 70. 283

1449 Hussey, C. G., & Co., Pittsburg, Pa.—Copper sheet, circle, and bottoms; planished and ingot copper, copper lightning rods, sheet brass, brass kettles. N 72. 283

1450 Champion Fence Co., Kenton, O.—Wrought and malleable iron fence and gate. The advantages claimed for the champion iron fence are: 1st—The longitudinal rail is rolled in T shape, thus giving the greatest lateral strength, also horizontal strength, when put up in fence, without bolts, rivets, or forging whatever, leaving the iron as it comes from the rolls. 2d—As the arched or cylindrical form of the iron resists the greatest strain, the pickets are rolled concave, convex, with a flange on each side, forming the strongest picket that can be made from the same amount of iron. 3d—The ornaments used, together with the different connecting parts, are made of refined malleable iron, or stamped from wrought iron plates, and of any desired form, and at one-tenth the cost of making them at the forge. 4th—The pickets are driven into the ornaments and passed to nearly the top of the picket, at the rear of the ornaments. There are lugs and clips, which are clinched, combining ornament and picket together, forming a strong and durable top-head for the picket. 5th—The fence is put together with clips; these are slipped on the T rail, and the sides of the ornaments form circles, or segments of circles, thus rendering them adjustable to any and all grades or angles. 6th—The panels are connected with a compound clamp, which holds them firmly together, at the same time allowing for the expansion and contraction of the iron. 7th—That we have in the combination of our rail and picket the strongest and most ornamental fence that can be made, from the same amount of material. 8th—That we can, by our adjustable posts, keep our fence in perfect line; also, that we can set the fence upon coping or stone walk of any grade, the same as upon our iron foundation. 9th—That we can pack the fence for shipment, in compact bundles, and put it upon the ground as conveniently as a wooden fence can be put up. 10th—That we manufacture the fence without the use of any costly and cumbersome machinery, being virtually made when the iron comes from the foundry and the rolls. 11th—The base upon which the fence is set is of cast iron, eighteen inches wide at the bottom, and six inches at the top; twenty-eight inches in length, which is set in the ground; upon this foundation is placed a wrought iron post, adjustable front and rear, and also adjustable at the top, while at the bottom it would be stationary, or *vice versa*. Upon this post we also adjust the height of the fence. One of the beauties of our invention is, that we make a fence that looks light, yet strong and durable. (*Ohio State Building.*) 283

1451 Bevin Bros. Manufacturing Co. East Hampton, Conn.—N 72.

a Bell metal kettles. 283

b Bells. 284

1452 Armbruster, Jacob H., Philadelphia, Pa.—Organ and sash weights. (*Organ, East Gallery.*) 284

1453 Yale Lock Manufacturing Co., Stamford, Conn.—Locks, ornamental bronze hardware, post-office boxes. P 72. 284

1453*a* Bray, Edw. L., Boston, Mass.—Balance spring curtain fixture. (*East Gallery.*) 284

1454 Stewart & Mattson, Philadelphia, Pa.—Building hardware, locks, door knobs and trimmings. N 69. 284

1454*a* Dexter Spring Co., Hulton, Pa.—Carriage springs. T 60. 284

1455 Nock, Geo. W., Philadelphia, Pa.—Locks and padlocks. N 70. 284

1455*a* Cleveland Steel Horseshoe Co., Cleveland, O.—Steel horseshoes and bars, hand shoe formers. T 59. 284

1456 Trenton Lock & Hardware Co., Philadelphia, Pa.—Patent lever and spring, with corrugated bolt door locks, latches, knobs, and other hardware. N 68. 284

1456*a* Adams, Wm. R. M., New York, N. Y.—Door bolt and chain check. N 72. 284

1457 Shannon, J. B., Philadelphia, Pa.—Hand-made locks and building hardware. N 72. 284

1457*a* Smith & Egge, Bridgeport, Conn.—Padlocks, hasps, chains, etc. N 70. 284

1458 Wells & Hope Co., Philadelphia, Pa.—Metallic show cards and advertising signs; decorative glass printing, etc. P 72. 284

1458*a* Stafford Manufacturing Co., New York, N. Y.—Stencil combinations, machine cut alphabets and figures; key-rings, checks, and badges. N 69. 284

1459 Corbin, P. & F., New Britain, Conn.—House trimmings and miscellaneous hardware. N 72. 284

1459*a* Brooke, E. & G., Birdsboro', Pa.—Nails. T 67. 284

1460 American Stair-Rod Co., New York, N. Y.—Stair rods and stair carpet fasteners. N 71. 284

1461 Stanley Works, New Britain, Conn.—Wrought iron butts, japanned, bronzed, and plated; hinges, door bolts, etc. P 71. 284

1461*a* Orbeton, W. W. S., Boston, Mass.—Screw braces and screw-brace blind hinges. N 68. 284

1462 Globe Nail Co., Boston, Mass.—Machine-made horseshoe nails. N 71. 284

1463 Tuchfarber, F., & Co., Cincinnati, O.—Enameled iron show cards. P 72. 284

1464 Wiler, Wm., Philadelphia, Pa.—Stair rods and plates. N 71. 284

1465 Walton, E. S., & Co., Philadelphia, Pa.—Lock hardware and fine bronze work. N 72. 284

1467 Dunbar, Hobart, & Whidden, South Abington, Mass.—Tacks, brads and nails, steel shanks, heel plates, etc. P 72. 284

1468 Hildebrand & Wolf, Philadelphia, Pa.—Trunk locks, padlocks, dead-latches, door springs, etc. P 69. 284

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

1469 Carr, Crawley, & Devlin, Philadelphia, Pa.—Building, cabinet, carriage, and saddlery hardware; malleable iron, brass, and steel castings. N 70. 284

1470 Hall's Safe & Lock Co., Cincinnati, O.—Bank and time locks. H 67. 284

1471 Whitaker & Skirm, Trenton, N. J.—Iron chains, chute nails. T 65. 284

1472 Gould's, M., Sons, 83 & 85 Duane street, New York, N. Y., and 514 Commerce street, Philadelphia. — Stair rods, step plates, dog collars, upholstery, and trunk hardware. Manufacturers of stair rods, stair plates, dog collars, stepladders, trunk rivets, and all kinds of trunk hardware; also, a general line of upholstery hardware. Factory, Newark, N. J. N 71. 284

1473 Morton, Thos., New York, N. Y. —Sash chain and attachments for suspending windows, doors, etc. T 49. 284

1474 Mallory, Wheeler, Co., New Haven, Conn.—Door locks and knobs, padlocks, etc. N 69. 284

1475 Gaylord Manufacturing Co., Chicopee, Mass.—Cabinet locks. N 70. 284

1476 Union Manufacturing Co., New Britain, Conn.—Plain and ornamental butt hinges. N 69. 284

1477 Mersereau, W. T. & J., Newark, N. J.—Stair rods and plates, dog collars and muzzles, bridle fronts, and upholsterers' hardware. N 71. 284

1478 Marvin's Safe Co., New York, N. Y.—Locks. H 69. 284

1479 Bohannan, Wilson, Brooklyn, N. Y.—Brass spring padlocks and car locks. P 68. 284

1480 Union Steel Screw Co., Cleveland, O.—Bessemer steel wood screws, with samples showing stages of manufacture. T 59. 284

1481 Clark & Co., Buffalo, N. Y.—Nickel-plated builders' hardware. N 71. 284

1482 Van Wagoner & Williams, 82 Beekman street, New York, N. Y.—Spring hinges and door springs of the leading kinds, for screen and other doors, gates, etc. All articles of superior manufacture. N 70. 284

1483 Gong Bell Manufacturing Co., East Hampton, Conn.—Bells. P 72. 284

1484 Romer & Co., Newark, N. J.—Locks for railroad switches, cars, prisons, stores, etc. N 71. 284

1485 Cowell, J. J., & Co., Newark, N. J. —Builders' and trunk hardware. Manufacturers of trunk and builders' hardware, sash pulleys, trunk rollers, catches, handle caps, stay hinges, clamps, etc. Also malleable and gray iron small castings. N 71. 284

1486 Middletown Tool Co., Middletown, Conn.—Plane irons, harness snaps, washer cutters, hitching chains, planemakers' hardware, etc. P 71. 284

1487 Whipple, H. J. P., West Meriden, Conn.—Door-knob attachment. P 68. 284

1488 McEachern, Daniel, Wilmington, Del.—Cast iron Centennial chain, each link representing a State and giving the Governor's name. Q 78. 284

1490 Tiebout, W. & J., New York, N. Y.—Brass, galvanized, and ship chandlery hardware. H 68. 284

1491 Parker & Whipple Co., West Meriden, Conn.—Door-knob attachment and adjustment. N 69. 284

1492 Thorn, Stephen S., 39 Oliver street, Newark, N. J.—Brass, copper, and iron wire ferrules, from ⅜ to 3½ inches, for paint brushes — these ferrules warranted not to burst or expand; bonnet and insulating wire. N 69. 284

1493 Worrell Bank Lock Manufacturing Co., Philadelphia, Pa.—Bank lock. H 70. 284

1496 Herring & Co., New York, N. Y. —Safe, bank, and time locks. H 69. 284

1497 Neuman, R., & Co., Newark, N. J. —Satchel and traveling bag frames, and bag trimmings. P 68. 284

1498 Van Alen & Co., Northumberland, Pa.—Cut nails and spikes. T 66. 284

1499 Blake Bros. Hardware Co., New Haven, Conn.—Hardware for builders', cabinet makers', and carriage makers' use P 69. 284

1500 Miller, D. K., Lock Co., Philadelphia, Pa.—Locks. P 70. 284

1501 Eagle Lock Co., Terryville, Conn. —Trunk and cabinet locks. H 67. 284

1502 Judd, Hubert L., New York, N. Y.—Upholstery and fancy hardware. N 69. 284

1503 Coleman Eagle Bolt Works, Philadelphia, Pa.—Carriage bolts, nuts, and axle clips. P 71. 284

1504 Meeker, D. M., & Son, Newark, N. J.—Iron, bronze, and German silver castings. N 71. 284

1505 Hall, P. W., Austin, Texas.—Combination door, drawer, and trunk locks. P 68. 284

1506 Norwalk Lock Co., South Norwalk, Conn.—Door locks, knobs, padlocks, and builders' hardware. N 70. 284

1507 Terwilliger & Co., New York, N. Y.—Safe locks. H 72. 284

1508 Arms, Bell, & Co., Youngstown, O.—Nuts, bolts, and washers. V 63. 284

1509 Wheeling Hinge Co., Wheeling, W. Va.—Hinges, butts, wrought goods, and washers. N 68. 284

1511 Vanduzen & Tift, Cincinnati, O.—Bells. T 53. 284

1512 American Screw Co., Providence, R. I.—Gimlet pointed screws of iron, brass, and steel; coach, hand rail, and machine screws; rivets; stove and tire bolts. P 69. 284

1513 Branford Lock Works, New York, N. Y.—Rim and mortise door locks and latches, brass and steel keys, door knobs, lock furniture. P 69. 284

1514 Easton Lock Works, Easton, Pa. —Rim and mortise locks and latches; safety locks and night latches. N 72. 284

1515 Wilson, John, Chicago, Ill.—Fire nozzle. B 69. 284

1515*a* Keystone Hardware Manufacturing Co., Reading, Pa.—Hardware. N 69. 284

1516 Quigley, W. E., Waterbury, Pa. —Hand-made horseshoes. T 71. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

1517 Evans, F. H., Brooklyn, N. Y.—Expansion bolts and screw fastenings; photographs of other manufactures. P 69. 284

1519 Field, A., & Sons, Taunton, Mass.—Tacks, brads, nails, etc. P 68. 284

1520 Valentine & Butler Safe & Lock Co., New York, N. Y.—Safe locks. H 70. 284

1521 Lewis, Oliver, & Phillips, Pittsburg, Pa.—Wagon and heavy hardware, fence pickets, etc. T 64. 284

1522 New Britain Lock Co., New Britain, Conn.—Key register; dial, bank, safe, and time locks. N 72. 284

1523 American Wire & Screw Nail Co., cor. Madison and State streets, Covington, Ky.—Common, bright, smooth, and barbed wire nails with sharp points; small, large, depressed heads and without heads. Moulding nails, wire cigar-box nails, iron and brass oval head escutcheon pins. Wire screw nails (patented). These nails have round, tapering points, and screw thread till under the head. Are to be driven with a hammer as quick as common nails, but turn like screws while driving under the hammer. Wire nails of every description, also blued, tinned, and colored nails. P 71. 284

1524 Buckman, Ira, Brooklyn, N. Y.—Torsion spring hinge, automatic window lock, and door fixtures. N 68. 284

1525 Riverside Iron Works, Wheeling, W. Va.—Nails and spikes. T 64. 284

1526 Turner & Seymour Manufacturing Co., Walcottville, Conn.—Brass and iron upholstery goods and hardware, and notion goods. N 68. 284

1527 Sargent & Greenleaf, Rochester, N. Y.—Chronometer, bank, safe, and flat key locks. H 72. 284

1528 Wilcox, Wm., Manufacturing Co., Middletown, Conn.—Padlocks, plate locks, and keys. N 71. 284

1529 King, J. M., & Co., Waterford, N. Y.—Stocks and dies, plug and taper taps, pliers, etc. N 71. 284

1530 Keyless Padlock Co., New York, N. Y.—Keyless padlocks. N 70. 284

1531 Lyon, Sylvanus, New York, N. Y.—Locks. N 72. 284

1532 Johns, H. W., New York, N. Y.—Tacks, etc. P 47. 284

1533 Barton, W. E., East Hampton, Conn.—Bells. N 71. 284

1534 Clarke Combination Lock Co., Baltimore, Md.—Combination keyless locks. P 68. 284

1535 Orbeton, Wm. W., Boston, Mass.—Screw braces and hinges. N 68. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

1536 Glendale Elastic Fabrics Co., Easthampton, Mass.—Woven and braided elastic rubber fabrics. F 68. 285

1537 Easthampton Rubber Thread Co., Easthampton, Mass.—India rubber thread and rubber in process of manufacture. F 68. 285

1538 Willis, Aug. L., Philadelphia, Pa.—Rubber rails for tracks. H 71. 285

1539 Sellers, Chas. P., Philadelphia, Pa.—Corn brooms and whisks. T 46. 286

1540 Reynolds, C. T., & Co., New York, N. Y.—Brushes. P 42½. 286

1540*a* Isaacs, M. C., & Co., Chicago, Ill.—Wire brooms, casting, and flue brushes. N 71. 286

1541 Leiner, M., New York, N. Y.—Brushes and ear cleaners. T 65. 285

1541*a* Kerr, Hugh S., Philadelphia, Pa.—Sponge brushes. B 71. 286

1542 Lovell, G. H. & M. F., Philadelphia, Pa.—Ear brush. T 50. 286

1542*a* Pollock & Son, Newark, N. J.—Brushes, buffs, etc. N 68. 286

1543 Miles, Bros., & Co., New York, N. Y.—Brushes. N 69. 286

1544 Grand Rapids Brush Co., Grand Rapids, Mich.—Brushes. N 72. 286

1545 Clinton, E., & Co., Philadelphia, Pa.—Brushes. N 66. 286

1546 Bowman, C. A., & Bro., Madison, Ind.—Clothes brushes made of broom corn. T 46. 286

1547 Johns, H. W., New York, N. Y.—Brushes. P 47. 286

1548 Florence Manufacturing Co., Florence, Mass.—Hair brushes. B 70. 286

1550 Bailey, John T., & Co., Philadelphia, Pa.—Rope and twines. B 68. 287

1551 Baumgardner, Woodward, & Co., Philadelphia, Pa.—Cordage and clothes lines, tarred yarns, hemp packing. B 70. 287

1551*a* Lawrence, Waterbury, & Co., New York, N. Y.—Cordage. T 78. 287

1552 Vyse, Robt. H., Brooklyn, N. Y.—Rawhide rope, sash cord, and round belting. B 68. 287

1553 Hooper, Wm. E., & Sons, Baltimore, Md.—Twine. D 78. 287

1554 Hart, A. H., & Co., 90 White street, New York, N. Y.—Elm Flax Mills; flax twines for upholsterers, sail, bag, broom makers, etc.; flax yarns, shoe threads, etc. B 68. 287

1555 Wall's, William, Sons, New York, N. Y.—Ships' rigging; rope and cordage. E 78. 287

1556 Tucker, Carter, & Co., New York, N. Y.—Wire and manila ropes. B 69. 287

1557 Hart, Clarence A., Philadelphia, Pa.—Painted silk banners. B 78. 288

1557*a* Reynolds, J. P., & Co., New York, N. Y.—Escutcheons of military and naval service. T 44. 288

1558 Lilley, M. C., & Co., Columbus, O.—Masonic goods and society supplies. Manufacture society furniture, jewels, regalia, uniforms, banners, band and military goods. Price lists upon application. P 65. 288

1559 Wilson, J. H., Philadelphia, Pa.—Regalias, flags, and banners. F 70. 288

1560 New England Bunting Co., Lowell, Mass.—Bunting. B 75. 288

1561 Salisbury & Co., New York, N. Y.—Muslin flags; engraving, designing, lithographing, and printing; original manufacturers of American, election, and other decorations—all nations—in sets or single. H 77. 288

1562 Piton, Camille, Philadelphia, Pa. —Trophies representing America, Europe, Asia, and Africa. (*Nave and Centre Transept.*) 288

1563 Tremain, Chas., Manlius, N. Y.—Paper barrels; cheese and fruit packages. T 57. 289

1564 Trasel, Edward G., New York, N. Y.—Papier maché household ware, chamber sets, pails, cuspadors, etc. P 64. 289

1565 Wakefield Rattan Co., Boston, Mass.—Rattan baskets. T 57. 289

1566 Beaudett, Homer J., Greenpoint, N. Y.—Fancy scroll work. P 50. 289

1567 Waters, E., & Sons, Troy, N. Y. —Boat barrels, camp stools, seats, packages for volatile liquids, etc., made of paper. B 73. 289

1568 Jennings Brothers, 352 Pearl street, New York, N. Y.—Japanese paper ware. Their manufacture of pails, basins, pitchers, spittoons, cuspadors, etc., are thoroughly waterproof, durable, and ornamental; are not affected by the climate. T 68. 289

1569 Preston & Merrill, Boston, Mass. —Wooden boxes. P 48. 289

1570 Dorman Manufacturing Co., New York, N. Y.—Baskets, urns, carriage bodies, etc. P 59. 289

1571 Paxon, Comfort, & Co., Philadelphia, Pa.—Burial robes and dresses; casket trimmings. B 73 *and outside.* 290

1572 Smith, Wm. M., West Meriden, Conn.—Casket trimmings, handles, name plates, and ornaments. N 43. 290

1573 Rogers, C., & Bros., West Meriden, Conn.—Gold and silver plated coffin and casket trimmings. F 72. 290

1574 Chase, F. & P. F., Penn Galvanic Works, Philadelphia, Pa.—Galvanized iron goods, sheet iron, water pipe, boilers, hardware, shipsmithing, railings; bar, hoop, and chain iron. P 68. 291

1574*a* Danby, Geo., & Co., Philadelphia, Pa.—Galvanized sheet iron, mantels, cornices, railings, etc. Y 59. 291

1575 Straus, J. E., & Co., Philadelphia, Pa.—Galvanized, wrought, and cast iron work. P 71. 291

1577 Philadelphia Galvanizing Co., Philadelphia, Pa.—Galvanized sheet iron pipe, railing, wirework, chairs, boilers, sinks, coal hods, etc. P 69. 291

1578 Kittredge Cornice & Ornament Co., Salem, O.—Sheet metal cornices, doors, shutters, and pavilion; architectural ornaments, light wrought iron work. (*Outside.*) 291

1579 Falstrom & Tomqvist, Passaic City, N. J.—Galvanized iron cornice and ornamental sheet iron work for buildings. P 68. 291

1580 Philadelphia Architectural Iron Co., Philadelphia, Pa.—Galvanized iron and sheet zinc gate entrance. P 70. 291

1581 McCullough Iron Co., Philadelphia, Pa.—Galvanized sheet iron. P 70. 291

1582 Brown & Owen, Philadelphia, Pa.—Cemetery inclosure, ornamental iron work, and wrought iron pipe. (*Outside.*) 291

1583 Cornell, J. B. & J. M., 141 Centre street, New York, 9 Studio Buildings, Boston, 427 Walnut street, Philadelphia. —All kinds of heavy and light wrought and cast iron work for buildings and bridges; cast iron fronts, stairs, columns, girders, lamp posts, etc.; wrought iron columns, girders, beams, railings, sheet lath, etc.; steel and iron rolling shutters, fire-proof columns, burglar proof safes and vaults. Works cover six acres of ground. P 70. 291

1584 Marshall Brothers & Co., Philadelphia, Pa.—Galvanized and leaded sheet iron work. P 71 *and outside.* 291

1585 Zinc Roofing & Ornamenting Works, Chicago, Ill.—Ornaments in pressed and cast zinc, brass, and copper; zinc statues, emblematic signs, etc. P 69. 291

1586 Buringer Brothers, Dayton, O. —Ohio coat-of-arms of galvanized iron. (*In gable of Ohio State Building.*) 291

1586*a* Smith, S. A., New York, N. Y.—Rolling chairs. (*In use in the buildings.*) 292

Carriages, Vehicles, and Accessories.

1587 Blake Bros. Hardware Co., New Haven, Conn.—Trucks for moving open barrels and kegs. P 69. 294

1588 Newichawanick Co., South Berwick, Me.—Horse blankets and goods for horse clothing. R 78. 296

1588*a* Hopkins & Robinson Manufacturing Co., Akron, O.—Animal pokes. 296

1589 Pettingell & Sawyer, East Cambridge, Mass.—Horse and wagon covers. F 76. 296

1590 Eager, P. B., Tower, & Co., Boston, Mass.—Oiled horse covers. C 78. 296

1592 Faxon, E., & Co., Philadelphia, Pa.—Wool extract. P 43. 667

GREAT BRITAIN.

(North of Nave, Columns 23 to 38.)

Chemical Manufactures.

Chemical Manufactures.

1 **Hutchinson, John, & Co., Widnes,** Lancashire.—Soda ash, soda crystals, caustic soda, bicarbonate of soda, salt cake, bleaching powder, and sulphur recovered from vat waste. 200

2 **Corbett, John, Stoke Prior Salt Works,** Worcestershire.—Refined salt. 200

3 **Richards, Kearne, & Gasquoine, Malkins** Bank Alkali Works, Sandbach, Cheshire.—Brine, sulphate of ammonia, soda ash, bicarbonate of soda. 200

4 **Gaskell, Deacon, & Co., Widnes,** Lancashire.—Carbonated soda ash, and refined alkali, bleaching powder, soda crystals, bicarbonate of soda, and chloride of calcium. 200

5 **Brunner, Mond, & Co., Northwich,** Cheshire. — Alkali or carbonate of soda. 200

6 **The Desoto Alkali Co. (limited),** Widnes, Lancashire.—Caustic soda, and black ash or ball soda. 200

8 **Runcorn Soap & Alkali Co. (limited),** Liverpool.—Bleaching powder, soda ash, crystals of soda, caustic soda, and refined resin. 200

9 **Muspratt Bros, & Huntley, Liverpool.**—Soda ash, caustic soda, bleaching powder, soda crystals, and bicarbonate of soda. 200

10 **Muspratt, James, & Sons, Liverpool.**—Soda ash, cream caustic soda, bleaching powder, chlorate of potash, salt cake, and brimstone. 200

12 **Spence, Peter, Manchester.**—Crystallized alum, in block and crystals, and a new alumino-ferric compound for precipitating sewage and for paper making. 200

13 **Higgin, Thomas, & Co., Liverpool.**—Salt. *(Agricultural Hall.)* 200

14 **The Newcastle Chemical Works** Co. (limited), Newcastle-on-Tyne.—Soda ash, alkali, bleaching powder, crystals and bicarbonate of soda, caustic soda, chloride of calcium. 200

15 **White, John & James, Shawfield** Works, Glasgow.—Bichromate of potash. 200

16 **Liver Alkali Works Co. (limited),** Liverpool.—Caustic soda. 200

17 **Young, James, Kelly, Wemyss Bay,** N. B.—Illustrations of manufacture of carbonate of soda, chlorate of potash, products from petroleum, coal, and shale, preservation of iron ships. 200

18 **Greenbank Alkali Co., St. Helen's,** Lancashire. — Chemical products, pure caustic soda, chlorate of potash. 200

20 **Jennings, T., Brookfield Chemical** Works, Cork.—Carbonate of and calcined magnesia. 200

21 **Calvert, F. C., & Co., Bradford,** Manchester.
a Carbolic and cresylic acids and derivatives. 200
b Carbolic acid soaps. 201

22 **Parkinson Bros., Burnley.**—Baking-powder. 200

23 **Morson & Son, London.**—General chemicals and specialties, creasote, pepsine, gelatine, etc. 200

24 **Allen & Hanburys, London.**—Paté de jujube and analogous articles. 200

25 **Gerrard, Alfred William, London.**—Pharmaceutical preparations. 200

26 **Chance Bros., Alkali Works,** near Birmingham.—Chemical products. 200

27 **Wyndham, F., & Co., London.**—"Esprit des Œufs" (spirit of eggs), a medicinal compound. 200

28 **Price's Patent Candle Co. (limited),** Belmont Works, London.—Candles, night-lights, glycerine, fatty acids, machinery oils; toilet, household, and mill soaps, glycerine, paraffine, stearine, and tapers. 201

29 **Field, J. C. & J., London.**—Candles, toilet soaps, beeswax, and refined yellow wax, white wax, dyers' soaps, sealing wax, and fancy ornamental candles. 201

30 **Pears, A. & F., Lanadron Soap** Works, Isleworth, near London.—Transparent soap. 201

31 **Wright & Holdsworth, London.**—Dog soap, worm powders, Bauer's baby soap. 201

32 **Cohné, Sigismund, London.**—Chemical and medical soaps. 201

33 **Craig & Rose, Caledonian Oil &** Color Works, Edinburgh.
a Oils. 201
b Paints and colors. 202

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

34 Williams, Miles, Britannia Varnish Works, Wigan, Lancashire.
a Gas carburetter and drawings; improvement in manufacture of gas and liquid fuel. 201
b Varnishes, varnish paints, enamels, lacquers, and specimens of work. 202

35 Hickisson, Mrs. M. A., London.—Marking ink, pens, linen stretcher, and framed specimens. 202

36 Turner, Chas., & Son, London.—Varnishes, fine colors, gums. 202

38 Lyons, William, Manchester.—Writing and copying fluids and inks, marking ink, ink powders, paper dye tablets. 202

39 Bowman, Charles, London.—Solid ink, stencil plates, stencil brushes, etc. 202

40 Rawlins & Son, Brook Works, Prescot.—Ultramarine and smalts, with raw materials. 202

41 Chambers, T. F., Hull.—Black varnish. 202

42 Johnson Bros., Hull.—Colors, varnishes, machinery oils, and locomotive and anti-friction greases. 202

44 Rowney, George, & Co., London.—Pigments, colors, varnishes, artists' materials. 202

45 Storer, David, & Sons, Glasgow.—Colors, pigments, and wood stains; Venetian, Indian, and other reds; drop black, greens, and other pigment colors. 202

46 Cooper & Co., London.—Writing, register, and japan inks, copying and fluid ink; red, scarlet, blue, and violet inks. 202

47 Silicate Paint Co., Liverpool.—Silicate paints and colors; petrifying liquid for damp walls; enameling and anti-fouling paints; cement for steam joints, anti-incrustation fluid, nitre killer, etc. 202

47*a* Young & Strang, Glasgow.—Gums for calico printing. 202

48 Blackwood, John, & Co., London.—Writing, copying, and indelible marking inks. 202

49 Mackay, John, Edinburgh.
a Spirit varnishes and polishes for coating wood of all colors, white, mahogany, oak, or ebony. 202
b Fluid flavoring essences from spices, fruits, and vegetables. 203

50 Stephens, Henry Charles, London.—Writing fluids and copying inks, ink powders, machine ruling and indorsing inks; stains for wood. 202

51 Crown Perfumery Co., London.—Perfumes and toilet requisites. 203

52 Brooks, Henry, & Co., London.—Perfumery. 203

53 Atkinson, J. & E., London.—Perfumery and toilet articles. 203

54 Jaap, John, Glasgow.—Flavoring essences and other preparations. 203

55 Low, Son, & Haydon, London.—Perfume extracts, toilet soaps. 203

56 Perks, Samuel, Hitchin Herts.—Essential oil of lavender, extract lavender flowers, etc. 203

57 Thiellay, Eugene Henry, London.—Hair tincture, dyes, and bleaching liquid, tonics, and cultivators. 203

58 Rimmel, Eugene, London.—Perfumery and toilet articles; perfume vaporizers, etc. 203

59 Evans, Sons, & Co., Liverpool, and Evans, Lescher, & Evans, London.—Perfumery. 203

59*a* Sturge's Montserrat Co. (limited), Broad street, Birmingham.—Essences. 203

60 Bryant & May, Fairfield Works, London.—Safety matches, wax vestas and vesuvians, decorated metal and other boxes. 204

62 Bickford, Smith, & Co., Tuckingmill, Cornwall.—Safety fuses for blasting operations. 204

63 Pigou, Wilks, & Laurence (limited), London.—Military, sporting, African, and mining powders of every description. 204

64 Lacey, Richard George, Coast Guard Station, Leigh, Essex.—Rocket apparatus for throwing lines from one ship to another. 205

Ceramics—Pottery, Porcelain, Glass, etc.

65 Peake, Thomas, The Tileries, Tunstall, Staffordshire.
a Paving and facing bricks. 206
b Ridge, roofing, and flooring tiles; ornamental tiles for garden borders, skirtings, and mural decorations. 208

66 Hamblet, Joseph, Piercy Blue Brick Works, West Bromwich, Staffordshire.
a Vitrified blue bricks, copings, plinths, stable floor bricks, and quarries. 206
b Ridges, roofing tiles, and terra metallic pavings. 208

67 Wood & Ivery, Albion Brick Works, West Bromwich, Staffordshire.—Blue terra metallic building and fancy bricks; mouldings, copings, footpath paving bricks, grooved stable floor bricks, terminals; terra metallic vases, trusses, etc. 206

68 Johnson & Co., Ditchling Potteries, Sussex.—Terra-cotta as applied to building purposes; terminals, vases, ridge tiles, and general terra-cotta work. (*Agricultural Hall.*) 206

69 Matthews, John, Royal Pottery, Weston-super-Mare, Somerset.—Terra-cotta vases, fountains, and baskets; garden pottery, etc. 206

70 Watcombe Terra-Cotta Co. (limited), Watcombe, South Devon.—Terra-cotta, painted vases and plaques, statuettes, etc.; frescoes for mural adornment, and architectural terra-cotta specimens. 206

71 Brooke, Edward, & Sons, Fieldhouse Fire Clay Works, Huddersfield, Yorkshire.
a Sanitary tubes. 206
b Fire bricks and clay for furnaces; sewer ventilators; silica fire bricks for furnaces. 207

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Ceramics.

72 Stiff, James, & Sons, London.
a Terra-cotta jars, bottles, tiles, vases, medallions, water filters, refrigerators, air bricks, stoves, and stove linings, tablets with figures in bas-relief, figures for church and other decorations; sanitary ware, sewer traps, drain pipes, etc. 206
b Terra-cotta stoves and stove hinges. 207
c Files. 208
d Chemical stoneware, water filters, refrigerators, etc. 210

73 Jennings, George, London.—Appliances for ventilation, terra-cotta bricks, etc.; stoneware drain pipes, gulley traps. 206

74 Holland, William Thomas, Yrisy-mudw, South Wales.
a Architectural terra-cotta, bricks and tiles, sanitary pipes and ware. 206
b Fire bricks and fireproof cements. 207
c Ceramic goods, earthenware, or faience, in table, tea and toilet services, etc. 213

75 Lindsay & Anderson, Lilliehill Fire Clay & Terra-Cotta Works, Dunfermline, Scotland.
a Fountain in terra-cotta, bust and pedestal of Sir Walter Scott, statuette of Sir James Y. Simpson, nymphs at fountain, garden vases and pedestals, sewage pipes and sanitary appliances, collection of terra-cotta. 206
b Gas stove in terra-cotta, fire-clay bricks, chimney cans. 207

76 Doulton, Hy., & Co., London.—Terra-cotta goods for architectural purposes; sanitary pottery in salt-glazed stoneware, queensware; vitrified metallic bricks and pavings. 206

76*a* Eastwood & Co., (limited), London.
a Building, paving, ornamental, and fire bricks; Staffordshire blue bricks, grooved paviors. 206
b Red paving and roofing tiles; ridges and clinkers. 208

77 Brownhills Pottery Co., Tunstall.
a Terra-cotta and black glazed ware. 206
b Floor and roof tiles, ridge ornaments, etc. 208
e Jugs. 210
d Earthenware dinner, dessert, and toilet ware. 213

78 Dean, Henry, Rugby, Warwickshire.—Stoneware drain traps and yard gullies of different patterns. 206

78*a* Maw & Co., Benthall Works, Broseley, Shropshire.
a Architectural majolica, and terra-cotta. 206
b Geometrical mosaic, encaustic, and majolica tiles. 208

79 Tinworth, George, London.—Panels in terra-cotta, illustrative of Scripture, and articles in colored stoneware. 206

79*a* Daniell, A. B., & Son, London.
a Porcelain and pottery, ornamental vases, candelabra, etc.; fountains, jardinières, garden seats, vases, etc. 206
b Dinner, dessert, tea, and coffee services; toilet services. 213

80 Harper & Moores, Stourbridge.—Fire clays, prepared clays, fire bricks, crucibles, melting pots, bricks for smelting furnaces, etc. 207

81 Cliff, John, Runcorn, near Liverpool.—Fire brick. 207

82 Patent Plumbago Crucible Co., Battersea Works, London.—Portable furnaces; skittle pots for glass melting; crucibles for jewelers, assayers, dentists, etc.; founders' blacking. 207

83 Price, J. & C., & Bros., Bristol.—Ale bottles, spirit jars, barrels, preserve jars, water filters, feet warmers, etc.; stoneware. 207

84 Bates, Walker, & Co., Dale Hall Works, Burslem.
a Ironmongers', artists', and gardenware; earthenware goods; signboard letters. 209
b Spirit barrels. 210
c Dinner, dessert, toilet, and tea ware; porcelain slates, menu tablets, etc. 213

85 Doulton & Co., London.—Mantelpieces, stoves, hearth, and fenders of clay; crucibles, furnaces, muffles, in fire clay and plumbago. 207

86 King Bros., Stourbridge.—Fire brick, gas retorts, etc. 207

88 Davidson, T., jr., & Co., Caledonian Pipe Works, Glasgow.—Clay tobacco pipes; white clay pipes, fitted with fancy mouthpieces and cases. 207

88*a* Doulton & Watts, Lambeth Pottery, London.
a Stoneware for chemical works. 207
b Tile decorations. 208
c Stoneware for manufacturing purposes; pulpit and font in fine art pottery faience. 209
d Stoneware for domestic purposes. 210

89 The Campbell Brick & Tile Co., Stoke-upon-Trent.—Encaustic, geometric, majolica, and all kinds of glazed tiles and mosaics, bricks, and roofings. 208

90 Craven, Dunill, & Co., Jackfield Works, near Ironbridge, Shropshire.—Tiles for pavements and hearths; ornamental splays for fireplaces; tiles for walls and furniture. 208

91 Minton, Hollins, & Co., Minton's China Works, Stoke on Trent.—Tiles, tile-mosaic, tile fender, chimney piece, fire grate, flower vases, etc. 208

92 Stanley Bros., Midland Tile Works, Nuneaton, Warwickshire.—Perforated tiles for malt kiln floors. 208

93 Brown-Westhead, T. C., Moore, & Co., Cauldon Place, Staffordshire Potteries.
a Tiles and sanitary ware. 206
b China, earthenware, statuary, porcelain, and majolica ware. 209
c Druggists' and perfumers' goods. 210
d Dinner, dessert, and toilet services. 213

93*a* Matthews, Edward, & Son, London.—Decorative tiles. 208

93*b* Minton China Works, Stoke upon Trent.—Enameled tiles, etc. 208

93*c* Colthurst, Symons & Co., Bridge-water.—Bricks and tiles. (*In Agricultural Hall.*) 208

94 Brownfield, Wm., & Son, Cobridge, Staffordshire Potteries.—China, majolica, ironstone china, parian, earthenware, stoneware, etc. 210

95 Edwards, J., & Son, Burslem, Staf-fordshire.—Ironstone whiteware. (*In Agricultural Hall.*) 210

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

96*a* **Gardner, Peter, Dunmore Pottery,** by Stirling, Scotland.—Rockingham teapots. 210

97 Edwards, John, Fenton, Staffordshire.—Ironstone china and porcelain de terre tea, dinner, toilet, and jug services. (*In Agricultural Hall.*) 213

98 Bailey, W. & J. A., Alloa, Scotland.—Rockingham earthenware teapots. 213

98*a* **Powell & Bishop, Hanley, Staffordshire.**—Dinner, dessert, tea, and toilet services, white granite, etc. 213

99 Hetley, J., & Co., London.—Glass shades; glass used for photographic, building, and horticultural purposes. 214

100 Chance Bros., & Co., Glass Works, near Birmingham.—Glass for optical instruments. 214

101 Kilner Bros., London.—Glass bottles and glass, for useful and scientific applications. 215

107 Aire & Calder Glass Bottle Co., London.—Glass bottles, combination stoppers, packing cases, corks, straw envelopes. 215

108 Green, James, & Nephew, Thames Cut Glass Works, London.—Table glass, cut and engraved table decorations and flower stands, glass chandeliers, and lustre candlesticks. 216

109 Millar, John, & Co., Edinburgh.—Engraved and cut glass. 216

109*a* **Jenkinson, Alexander, Edinburgh.**—Venetian glass in antique shapes. 216

Furniture and Objects of General Use in Construction and in Dwellings.

110 Cox & Sons, London.—Chimney piece, embroidered mantel board, ebonized corner cupboard, carved oak furniture, bronze ornament, stained glass church window, wrought iron pulpit body, lecterns, church plate, wrought iron and brass work, art tiles and plaques; the challenge prize of the National Musical Union, etc. 217

110*a* **Turner, George, & Co., London.**
a Hammock bedstead and sofa, mosquito curtains. 217
b Camp oven. 222

111 Wright & Mansfield, London.—Cabinet furniture of the 18th century. 217

112 Hems, Harry, Exeter.—Alabaster statue; carved oak chest made out of ancient beams (nearly 600 years old) from the choir of Salisbury cathedral. 217

113 Peyton & Peyton, Bordesley Works, Birmingham.—Metallic bedsteads. 217

114 Morton, W. Scott, & Co., Art Furniture Works, Edinburgh.—Decorative furniture, ebonized and decorated cabinet, sideboard. 217

115 Hart, Son, Peard, & Co., London.
a Artistic metal work (chiefly for ecclesiastical purposes), stove grates, etc. 217
b Stove grates, etc. 222
c Gas fixtures. 223

116 Shoolbred, James, & Co., London.—Furniture in the Jacobean and Queen Anne styles; bedroom furniture in the Anglo-Indian style; curtains and carpets. 217

116*a* **White, William George, London.**—Steel safe. 217

117 Barnard, Bradly, London.—Furniture and hammock. 217

118 Cooper & Holt, London.—Furniture, sideboard, portion of bedroom suite, decorative drawing-room furniture. 217

119 Phipson, Miss Emma, Monk Sherborne, Basingstoke, Hants.—Sideboard, ladies' work table, dressing glass, and candlesticks. 217

119*a* **Chatwood, Samuel, London.**—Fire and burglar proof safes. 217

120 Ward & Co., London.—Bear arranged as dumb waiter to hold tray and lamp. 217

122 Arthur, Frederick, London.—Cabinet work and fittings for Royal School of Art needlework exhibits. 217

123 Wethered, Edwin Robert, Woolwich, Kent.
a Hammock. 217
b Friction pulley block, exhibited as a fire-escape. 227

124 Matthews, Edward, & Son, London.—Stained glass windows, mural brasses. 217

125 Barnard, Bishop, & Barnards, Norfolk Iron Works, Norwich.
a Stoves. 222
b Mangles. 225
c Ornamental wrought and cast iron gates, palisade, pavilions, etc. 710
d Lawn mowers, hose reels, garden rollers, and iron garden requisites. 720

125*a* **Howard & Sons, London.**—Household furniture. 217

126 Singer, J. W., & Son, Frome, Somerset.—Artistic metal work, altar crosses and candlesticks, alms dishes, and mural brass plates for churches. 217

126*a* **Sage, Frederick, London.**—Air-tight show cases, velvet show stand, etc. 217

127 Knight, Miss Mary, London.—Bedstead. 217

128 Jeffreys, Charles, London.
a Show cases, bronzed shop fittings, and show stands. 217
b Cut glass mirrors. 219
c Reflecting lamps. 223

129 Royal School of Art Needlework, London.—Artistic needlework and embroidery in applique, crewels, and silk. 217

130 MacIntosh, James, London.—Decorative doors and panels; imitations of woods and marbles, decorative designs and paper-hanging. 217

130*a* **Collmann, L. W., London.**—Piano in carved satinwood case, etc. 217

130*b* **Watson & Son, Bombay, East** India.—Indian furniture, etc. 217

131 Collinson & Lock, London.—Furniture, wall papers, and textile fabrics in the old English style. 217

131*a* **Neal, John, London.**—Table ware. 218

132 Goggin, Jeremiah, Dublin.
a Table ornaments, drinking cups, tankards, etc. 218
b Mirrors. 219

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Table Furniture, Heating and Lighting Apparatus, Woven Goods.

133 Bailey, W. & J. A., Alloa, Scotland.—Engraved table glass. 218

133*a* Gill, James, London.—General engraving on metals, etc. 218

134 Elkinston & Co., Birmingham.
a Solid silver and electro-silver plate for domestic use; decorative table plate relieved with electro-gold and oxidized silver. 218
b Cloisonné and champlevé enamels on silver and copper. 413
c Works of art in gold, silver, and other metals; bronzed statuary. 443
d Antique art treasures, in metal, from the South Kensington Museum. 454

137 Kent, George Barton, & Co., London.
a Ivoride mirrors. 219
c Photograph stands. 220

138 Engert, A. C., & Co., London.—Ornamental mouldings for picture frames and architectural decorations. 220

139 Hieronimus, W., London.—Frame mouldings, window cornices, decorating mouldings, etc. 220

140 Heaps & Wheatley, Brotherton, Yorkshire.—Oil cooking stove, gas stove, water boilers, etc. 222

143 Steel & Garland, Wharncliffe Works, Sheffield.—Steel grates, with porcelain tiles; fenders, encaustic tile hearths, stoves with china tiles, fire irons, etc. 222

144 Smart, Walter, Buckhurst Hill, Essex.—Sub-fire oven. 222

146 Feetham, Mark, & Co., London.—Stoves and grates with appliances; decorated china for fireplaces. 222

147 Perkins, A. M., & Son, London.—Steam oven for marine use. (*In Machinery Hall.*) 222

148 Thornton, Ebenezer, Bradford, Yorkshire.—Cooking stove for gas or solid fuel. 222

148*a* Clay, Randolph, London.—Flexible gas tubing. 223

149 Gardner, John, & Sons, London.—Lamps, Arctic expedition lamps, traveling canteens. 222

150 Field, J. C. & J., London.—Night lights and candle guard. 223

151 Partridge & Co., Birmingham.—Brass gaseliers, brackets, etc. 223

152 Skelton & Co., London.—Street lamp, with reflectors. 223

152*a* Kent, George, London.—Knife-cleaning machine. 224

153 Etzenberger, R. Z., London.—Patent coffee filter, etc. 224

153*a* Cheavin, George, Boston, Lincolnshire.—Water filters. (*In Agricultural Hall.*) 226

154 Jennings, George, London.—Lavatories, baths, closets, urinals, and latrines; water meters and water waste preventors. 226

155 Bullivant, Thomas, London.—Sash window. 227

156 Edwards, G., London.—Sliding window sashes and frame. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

157 Brown, J. B., & Co., London.—Galvanized wire netting for inclosing poultry, pheasants, dogs, etc. (*In Agricultural Hall.*) 228

157*a* Engert & Rolfe, London.—Felts for roofing, fibrous asphalt, etc. (*In Agricultural Hall.*) 235

158 Greening, N., & Sons, Warrington.—Woven wire. (*In Agricultural Hall.*) 228

158*a* McTear & Co., Belfast, Ireland.—Roofing, ship sheathing, and inodorous felt; model of roof. 228

159 Cox Bros., Camperdown Linen Works, Dundee, Scotland.—Jute yarns, twines, etc. 229

160 Sandeman, Frank Stewart, Manhattan Works, Dundee, Scotland.—Linen and jute yarns, carpet yarns, burlaps, baggings, canvas paddings, scrim cloth, horse covers, and lap robes. 230

161 Laird, William, & Co., Canmore Linen Works, Forfar, Scotland.—Textile fabrics, washed damasks, fancy towelings, horsecloths, sheetings, osnaburgs, stair covering, seamless bags, hessians, striped beddings, paddings, ducks, buckram, etc. 230

162 Johnson, Jabez, & Fildes, Manchester.
a Quilts and bedcovers, toilet or bureau covers, brocades, damasks, dimities, muslins. 230
b Printed cretons, towels, dress fabrics, etc. 232

163 Dewhurst, John, & Sons, Belle Vue Mills, Skipton, Yorkshire.—Sewing cotton, finished and in various stages of manufacture. 230

164 Brook, Jonas, & Bros., Meltham Mills, Huddersfield.—Spool cotton, white and colored; crochet and embroidery cotton. 230

164*a* Greenmount Spinning Co., Greenmount Factory, Dublin.
a Cotton goods for domestic and clothing purposes. 230
b Linen goods. 233

165 Neilson, Storer, & Sons, Thorn Mills, Johnstone, near Paisley.—Yarns; knitting, mending, and other cottons; yarns for lace, curtain, and fancy dress manufacturers. 230

165*a* McBride, Robert, & Co., Belfast.
a Cotton goods. 230
b Mixed cotton and linen goods. 233

166 Clark, John, jr., & Co., Glasgow, Scotland.—Spool cotton. 230

167 Swainson, Birley, & Co., Fishwick Mills, Preston.—Bleached cotton fabrics. 230

167*a* Turner, George, & Co., London.—Tent. 230

168 Barlow & Jones (limited), Manchester.—Toilet quilts, covers, and mats; cloakings, cotton towels, blankets, alhambras, and counterpanes, plain and fancy muslins, etc. 230

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven Goods.

168*a* **Briggs, J. F., & Co., Huddersfield,** Yorkshire.—Drills and ducks. 230

169 Ashworth, Edmund, & Sons, Egerton Mills, Bolton, Lancashire.—Cotton in various stages of manufacture; yarns, sewing cottons; crochet, embroidery, knitting, mending, and glove cottons, linen finish thread. 230

170 Pearson, Thomas, & Son, Victoria Mills, Little Bolton.—Quilts, quiltings, toilet covers, and mats. 230

171 Hawkins, John, & Sons, Manchester.—Plain and twilled calicoes and prints. 232

172 Ferguson Bros., Holme Head. Works, near Carlisle.—Satteens. 231

173 Schwabe, Salis, & Co., Manchester.—Cotton prints for garments, chintzes, and furniture. 232

174 Simpson & King, Manchester.—Printed cotton furniture fabrics. 232

175 Marshall & Co., Leeds.—Linen sewing threads. 233

176 Normand, James, & Sons, Dysart, Fifeshire, Scotland.—Linens for housekeeping, shoe linings, etc. 233

177 Ewart, William, & Sons, Belfast, Ireland.—Linen fabrics. 233

178 The York Street Flax Spinning Co. (limited), Belfast.—Linen piece goods, drills, ducks, sheetings, shirtings, and frontings. 233

179 Matier, Henry, & Co., Belfast.—Bleached and printed linens; handkerchiefs, plain, hemstitched, printed, and embroidered. 233

180 Ainsworth, Thomas, Cleator Mills, Cleator, Cumberland.—Linen threads and towels. 233

181 Ullathorne & Co., London.—Shoe and saddlers' threads. 233

182 Fenton, Connor, & Co., Linen Hall, Belfast.—White linens, cambric, table linens, linen ducks, drills, etc.; printed shirtings and lawn dress goods. 233

183 Brown, John S., & Sons, Belfast.—Table linen, diapers, sheetings, shirting linen, lawns, linen and cambric handkerchiefs. 233

184 Richardson, J. N., Sons, & Owden, Belfast.—Linen goods. 233

185 Dicksons, Furguson, & Co., Belfast.—Linens bleached and unbleached. 233

190 Dunbar, McMaster, & Co., Gilford, Ireland.—Linen threads. 233

191 Nairn, Michael, & Co., Kirkaldy, Scotland.—Floor oil cloths. 234

192 Corticine Patent Floor Covering Co., London.—Floor covering. 234

193 Hall, Thomas, Edinburgh.—Hand painted cloths in imitation of tapestry, for wall decoration. 234

194 Wellock, J., & Co., Bradford, Yorkshire.—Waterproof materials for cart and wagon covers. 234

195 Boulinikon Floor Cloth Manufacturing Co. (limited), Manchester.—Floor cloth. 234

Woven and Felted Goods of Wool, etc.

196 Andrews, Henry, & Co., Leeds.—Worsted coatings, wool and union cloths, and wool meltons. 235

197 Brown, John S., & Sons, Belfast.—Yarns. 235

198 Hooper, Charles, & Co., Eastington Mills, Stonehouse, Gloucestershire.—Woolens, broadcloths, military cloths, doeskins, beavers, elysians, kerseys, meltons, coatings, and trowserings. 235

199 Salter, Samuel, & Co., Home Mills, Trowbridge, Wiltshire.—Trowserings and coatings. 235

200 Dunbar, McMaster, & Co., Gilford, Ireland.—Gray and bleached yarns. 235

201 Mahony, Martin, & Bros., Blarney, Ireland.—Tweeds, boating serge, worsted coatings, railway traveling wraps. 235

202 Anderson, David, & Son, Lagan Felt Works, Belfast, Ireland.—Roofing, flooring, and ship sheathing felt, lining felt, hair felts for covering boilers and steam pipes. (*In Machinery Hall.*) 235

203 Bliss, William, & Son, Chipping Norton, Oxon.
a Tweeds, woolen serges, and saddlers' woolens. 235
b Shawls. 337
c Mauds and rugs. 239

204 Brigg, J. F., & Co., Huddersfield, Yorkshire.—Beavers, coatings, cheviot, cassimeres, carriage and livery cloths, doeskins, elysians, meltons, kerseys, pilots, rugs, vestings and quiltings, velvets, union cloths, witneys, and reversible coatings. 235

205 Carr, Isaac, & Co., Twerton Mills, Bath.—Woolen cloths, meltons, twills, beavers. 235

206 Bubb & Co., Southfields Mills, near Stroud.—Woolen cloths; billiards, government, and piano cloths. 235

207 Marling & Co., Ebley and Stanley Mills, Stroud, Gloucestershire.—Raw, scoured, and dyed wool; woolen cloths, beavers, venetians, doeskins, deerskins, cassimeres, etc. 235

208 King, William, Gilroyd and Albert Mills, Morley, Leeds.—Union and melton cloths. 235

209 Birchall, J. D., & Co., Burley Mills, Leeds.—Woolen and worsted goods. 235

211 Hargreaves & Nusseys, Farnley Low Mills, Leeds.—Coatings, overcoatings, kerseys, meltons, woolen cloths. 235

213 Davies, Robert S., & Sons, Stonehouse Mills, Gloucestershire.—Cloths, doeskins, venetians, meltons, coatings, beavers, etc. 235

214 Little, T. W., & Co., Leeds.—Mantle cloths, waterproof tweeds, twills, meltons, blue and black deerskins, and diagonals. 235

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven Goods, Silk, Clothing.

215 Jones, Pryce, Newtown, North Wales.
a Welsh flannel, homespuns, tweeds, yarns, etc. 236
b Shawls. 237

216 Buckley, Joseph, & Co., Moorcroft Mills, Delph, near Manchester.—Shawls, raised fancies, Rob Roys, and shepherds. 237

217 Farmer & Rogers, London.—Cashmere shawls. (*In Indian Section.*) 237

218 Buckley, J. E. & G. F., Linfitts Mill, Delph, near Manchester.—Queensland and beaver shawls. 237

218*a* Hepworth, B., & Sons, New Wakefield Mills, Dewsbury, Yorkshire.
a Railway knee wrappers. 237
b Rugs. 239

218*b* McGee, John G., & Co., Belfast, Ireland.
a Traveling wraps, shawls, etc. 237
b Rugs. 239

219 Williams, E. G., & Co., Bradford, Yorkshire. — Textile fabrics for dress goods. 238

220 Pim Bros. & Co., Dublin.—Irish poplins, silk terries, and brocatelles. 238

221 Henderson & Co., Durham.—Durham axminster. 239

222 Lewis, John, Halifax, Yorkshire.—Brussels and Wilton carpets. (*British Offices.*) 239

223 Gregory & Co., London.—Indian and Persian carpets. 239

224 Robinson, Vincent, & Co., London.—Carpets and rugs. 239

225 Crossley, John, & Sons (limited), Dean Clough Mills, Halifax, Yorkshire.—Carpets, rugs, sofa carpets, table covers, etc. 239

226 Tomkinson & Adam, Kidderminster.—Axminster carpets. 239

227 Lapworth Bros., London.—Carpets and rugs. 239

228 Templeton J. & J. S., Glasgow.—Brussels and Wilton carpeting; silk and wool window curtains. 239

228*a* Welch, Margetson, & Co., London.—Rugs. 239

229 Templeton, James, & Co., Glasgow.—Axminster carpets, breadth carpeting, hearth rugs. 239

229*a* Tapling, Thomas, & Co., London.—Tapestry. 239

230 Webb, Edward, & Sons, Worcester.—Hair cloth for furniture covering, hair cloth paddings, curled hair, crinoline, hair cloth. 240

230*a* McLintock, James, & Sons, Barnsley, Yorkshire.—Down quilts and pillows. 240

231 Wild, John, Greenfield Mills, Shaw, near Oldham.—Cotton plush velveteen. 231

Silk and Silk Fabrics.

232 Sheldon & Fenton, London.—Sewing silks, tailors' twist, machine silks, etc. 243

233 Rickards, Charles Ayscough, Bell Busk Mills, near Leeds.—Sewing and machine silks, twists; embroidery, knitting, and crochet silks. 243

234 Milner, Wm., & Sons, Leek, Staffordshire.—Sewing silks. 243

235 Ward, Anthony, & Co., Albion Silk Mills, Leek, Staffordshire.—Silk threads. 243

236 Adams & Co., London.—Knitting silks, filoselle. 243

237 Hilditch, G. & J. B., London.
a Silk and silk fabrics. 245
b Velvets. 248

238 Norris & Co., London.—Silk for furniture and upholstery purposes. 246

238*a* Stewart, Moir, & Muir, Glasgow.—Curtains for window and decorative purposes and for use in the British section. 246

239 French & Co., St. Mary's Mills, Norwich.—Black crape. 247

239*a* Simon, May, & Co., Nottingham.—Nets, Shetland scarfs, shawls, elastic webs, etc. 247

239*b* Welch, Margetson, & Co., London.—Scarfs, ties, and silk handkerchiefs. 247

240 Stevens, Thomas, Stevengraph Works, Coventry. — Jacquard loom at work; ribbons, neckties, sashes, badges, and emblematical regalia; navy hat ribbons, gold and silver lace, silk-centred sachets. 248

241 Heymann & Alexander, Nottingham. — Nets, quillings, trimmings, etc. 249

243 Turner, Archibald, & Co., Leicester.—Elastic fabrics, cords, and braids. 249

Clothing, Jewelry, and Ornaments; Traveling Equipments.

245 Morley, J. & R., London.
a Hosiery. 250
b Gloves. 251

246 McLintock, James, & Sons, Barnsley, Yorkshire.
a Down quilts, skirts, jackets, and dressing gowns; dress improvers. 250
b Slippers. 251

247 Welch, Margetson, & Co., London.
a Linen collars, shirtings, etc. 250
b Umbrellas. 254

248 Sykes, Josephine, & Co., London.—Corsets and ladies' belts. 250

249 Hitchcock, Williams, & Co., London.—Costumes of mixed fabrics. 250

250 McGee, John G., & Co., Belfast, Ireland.—Ulster overcoats and Irish homespun goods. 250

250*a* Connor, Mrs., Dublin.—Patchwork quilt. 250

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Clothing, Jewelry, Fancy Goods.

251 Smyth & Co., Balbriggan, Ireland.—Balbriggan hosiery, lace hose, light stockings. 250

251*a* Turner, George, & Co., London.
a Military and traveling equipments; appliance for picketing horses. 250
b Hammock-valise and canteen. 255

252 Roe, William Allen, Leicester.—Boots and shoes. 251

253 Lobb, John, London.—Gentlemen's and ladies' boots. 251

254 Dash, Osmond, Brighton.
a Hats and caps. 251
b Umbrellas. 254

260 Lincoln, Bennett, & Co., London.—Hats. 251

261 Humbert, Hermann, London.—Hats and bonnets; hat and bonnet shapes. 251

263 Debenham & Freebody, London.—Gloves. 251

264 Tress & Co., London.—Hats; pith and felt solar hats and helmets. 251

264*a* Jacoby, M., & Co., Nottingham.—Valenciennes and silk guipures; imitation Swiss curtains, lace curtains. 252

265 Smith, George John, London.—Irish lace made by the Industrial Poor. 252

265*a* Heymann & Alexander, Nottingham.—Silk, wool, and cotton laces. 252

266 Dunraven, the Countess of, Adare, County Limerick, Ireland.—Embroidery on lawn; robes, pocket handkerchiefs, insertion for dresses, pincushion cover, etc. 252

266*a* Simon, May, & Co., Nottingham.—Lace curtains, valances. 252

267 Goggin, Jeremiah, Dublin.
a Jewelry. 253
b Reading-stands, walking-canes, pipes, etc. 254

269 Francati & Santamaria, London.—Jet ornaments, brooches, earrings, bracelets, necklaces, etc.; jet cameo mosaics, carved by Roman cameo cutters. 253

271 Neal, John, London.—Gold and silver jewelry, precious stones. 253

272 Aitchison, James, Edinburgh.—Scottish jewelry, in gold and silver; Highland ornaments, and stones found in Scotland. 253

273 Gibson, William, Belfast.
a Gold, diamond, and Irish bog oak jewelry. 253
b Walking-sticks and table ornaments. 254

274 English, John, & Co., Feckenham, Worcestershire.—Needles; fishhooks; steel pins; hairpins; bodkins. 254

275 Johnson, J., & Co., Charterhouse Works, Sycamore street, London.—Shell boxes, toy furniture and ornaments, and fancy paper boxes. 254

276 Davis & Wilson, Birmingham.—Whip, walking-stick, and umbrella mountings; African chiefs' canes; whips and general whip materials. 254

277 Millward, Henry, & Sons, Redditch.—Needles, sewing machine needles, fishhooks. 254

278 Turner, R., & Co., Old Factory, Redditch.—Needles, pins, fishhooks, etc., displayed in a glass case, forming model of the exhibition of 1851. 254

279 Swaine & Adeney, London.—Whips, whip lashes, thongs, and sockets; horns, canes, and walking-sticks; sporting apparatus. 254

280 Smith, John Wright, Leicester.—Self-acting needles used in hosiery frames. 254

281 Kent, George Barton, & Co., London.—Ivory paper knives and shoe lifts. 254

282 Evans, David, Studley, Redditch.—Needles for hand and machine sewing. 254

283 Fenton, James, Birmingham.—Pearl buttons. 254

284 Kirby, Beard, & Co., Birmingham.—Pins, needles, hairpins, fishhooks, etc. 254

284*a* Elrick, Charles Gray, Aberdeen, Scotland.—Dressing combs; real and imitation shell, side braid, and high Spanish combs, etc. 254

285 Sangster & Co., London.—Umbrellas, parasols, sunshades, whips, canes. 254

286 Smith, James, & Son, Astwood Bank, near Redditch.—Needles, showing stages of manufacture; bodkins, hairpins, and fancy cases for holding needles. 254

287 Hayes, Crossley, & Co., London.—New shape sewing needles, machine needles, pins, bodkins, and specimens in various stages of preparation. 254

288 Cooke Bros., Birmingham.—Safety pins, curtain hooks, and fancy nails. 254

289 Woodfield, William, & Sons, Easemore Works, Redditch.—Needles, sewing machine needles, fishhooks, etc.; sail tools and fancy needle cases. 254

290 Martin, William Henry, London.—Umbrellas, walking-sticks, whips. 254

292 Tayler, D. F., & Co., New Hall Works, Birmingham.—Solid-headed toilet pins, hairpins, hooks and eyes, pearl buttons. 254

295 Hoe, Richard, & Sons, London.—Leather portmanteaus, hat cases, and bags. 255

295*a* Ward, Marcus, & Co., London.—Fancy leather work. 255

296 Harrington, J., & Co., London.—Imitation leather hat linings, shoes and shoe linings, wall decorations, pocket-books, belts, dispatch boxes, dressing and jewel cases, glove and handkerchief boxes, etc. 255

297 Bussey, Geo. G., & Co., London.—Chili leather portmanteaus, trunks, traveling bags, and leather and waterproof goods used for shooting and traveling purposes. 255

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

297*a* Jeffreys, Charles, London.—Leather traveling and jewel cases; morocco and velvet cases. 255

Paper, Blank Books, and Stationery.

299 Hinks, Wells, & Co., Buckingham Steel Pen Works, Birmingham.—Steel pens, penholders. 258

300 Stephens, Henry Charles, London.—Inkstands, gum mucilage, quills, sealing wax, parallel rulers. 258

301 Ortner & Houle, London.—Seal engraving, steel and copper plate heraldic engraving, and die sinking. 258

302 Ward, Marcus, & Co., London.
a Writing paper and envelopes, diaries, calendars, etc. 258
b Photograph albums and scrap books. 261
c Cards and valentines. 262

303 Blackwood, John, & Co., London.—Sealing and bottle wax. 258

304 Lyons, William, Manchester.—Sealing wax, gum mucilage. 258

305 Waterston, George, & Son, Edinburgh.—Sealing wax. 258

306 Ford Works Co., Ford, Durham.—Paper stock, manufactured from esparto grass; products from esparto, bamboo, megasse, phormium tenax, maize, and other fibres. 259

307 Dudgeon, Arthur, London.—Writing-papers; paper pulp manufactured from peat. 259

308 Pirie, Alexander, & Sons, London.
a Writing-papers. 259
b Cardboard. 262
c Enameled papers. 264

310 Fletcher, Robert, & Son, Kersley Paper Works, Stoneclough.—White and colored papers, fine tissues, silver tissues, copying and cigarette papers. 259

311 Birdsall & Son, Northampton.—Binding of the Hexaglot Bible. 261

312 Goodall, Charles, & Son, Camden Works, London.—Playing and Christmas cards. 262

313 Rimmel, Eugene, London.
a Valentines. 262
b Fancy crackers. 661

313*a* Stevens, Thomas, Stevengraph Works, Coventry.—Cards and valentines. 262

314 Jeffrey & Co., London.—Artistic wallpaper decorations. 264

Military and Naval Armaments, Ordnance, Firearms, and Apparatus of Hunting and Fishing.

315 Reilly, E. M., & Co., London.—Breechloading guns and express rifles. 265

315*a* Bussey, Geo. G., & Co., London.—Breechloading guns and their accessories; gyro pigeon. 265

316 Greener, William Wellington, Birmingham.—Sporting guns and rifles; breechloading guns. 265

317 Rigby, John, & Co., Dublin.—Guns and rifles and their accessories. 265

318 Henry, Alexander, Edinburgh.—Breechloading express rifles, fowling-pieces, harpoon and bomb-lance guns; military arms and target rifles. 265

319 Clay, Randolph, London.—Converter for breechloading firearms. 265

320 Dougall, James Dalziel, Glasgow.—Long-range shotguns and rifles. 265

322 Lancaster, Charles, London.—Guns, rifles, cannon; drawings and models of the oval bored. 265

323 Scott, W. & C., & Sons, Premier Gun Works, Birmingham.—Sporting firearms, revolvers, gun materials. 265

324 Needham, J. & G. H., London.—Breechloading double guns. 265

325 Purdey, Jas., London.—Guns, rifles, etc. 265

326 Lancaster, Alfred, London.—Sporting guns and rifles. 265

327 Soper, William, Reading.—Rifles. 265

328 Lang, J., & Sons, London.—Guns and rifles. 265

328*a* Eley Bros. (limited), London.—Paper and metal cartridge cases (empty), sporting and military percussion caps, gun waddings. 265

329 Webley, P., & Son, Birmingham.—Sporting breechloading guns, rifles, and revolvers. 265

329*a* Hewitt, William, Bristol.—Breechloading gun, gun carriage. (*In Machinery Hall*). 266

330 Needham, John, Sheffield.—Daggers. 268

331 Brookes & Crookes, Atlantic Works, Sheffield.—Sportsmen's and bowie knives. 268

333 Buchanan, James, Glasgow.—Sea fishhooks. 269

334 Ryder, William Henry, Birmingham.—Fishing tackle. 270

335 Green, E. C., Cheltenham.—Sporting guns, with their appurtenances; cleaning rods, with attachments; cartridge-loading implements, nipple keys, gun cases and bags. 269

336 Tolley, J. & W., Pioneer Works, Birmingham.—Sporting breechloading shot guns, implements, cartridge cases, lubricators, bullets, and primets for reloading cartridges. 269

337 Williams & Powell, Liverpool.—Breechloading guns. 269

Medicine, Surgery, and Prothesis.

338 Allen & Hanburys, London.—Cod-liver oil; gelatine impregnated with atropine and calabar bean, for application to the eye. 272

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Medical and Surgical Appliances, Hardware, Cutlery, Vehicles.

339 Gerrard, Alfred William, London. —Mustard plasters. 272

340 Evans, Sons, & Co., Liverpool.—Vegetable, animal, and mineral drugs; pharmaceutical products and accessories. 272

341 Usher, Rufus, Bodicote, Oxon.—Medicinal rhubarb; extract of henbane and dried henbane leaves; photographs of henbane plants. 272

342 Mackay, John, Edinburgh.—Articles of diet for invalid and table use. 273

343 Mellin, Gustav, London.—Non-farinaceous food for infants and invalids. 273

344 Goodall, Backhouse, & Co., Leeds. —Food for infants and invalids. 273

345 Lynch & Co., London.—Druggists' sundries and surgical instruments; spinal apparatus, chest protectors, feeding bottles, spray producers, poison bottles, etc. 276

346 Glasgow Apothecaries Co., Glasgow.—Surgical appliances and antiseptic dressings. 276

347 Mayer & Meltzer, London.—Surgical instruments. 276

348 Lee, Robert James, London.—Steam draft inhaler and disinfector. 276

348*a* Haywood, J. S., Nottingham.—Surgical bandages, belts, trusses, etc. 276

349 Turner, Archibald, & Co., Leicester.—Surgical braids and bandages. 276

350 Pulvermacher, Isaac Louis, London.—Electrical instruments for medical purposes. 276

353 Liverpool Spun Oakum Co., Liverpool.—Oakum, stypium; pure antiseptic dressing for hospital use. 276

353*a* Clay, Randolph, & Co., London.—Portable invalid bed tray. 278

354 Turner, George, & Co., London.—Ambulances. 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

355 Ward & Payne, Sheffield.
a Tools for carpenters, joiners, coachmakers, shipwrights, millwrights, masons, bricklayers, tanners, curriers, engravers, die-sinkers, plasterers; wood, stone, and metal carvers and turners, etc. 280
b Sheep shears. 281

356 Smith, John & Samuel, Low Bridge Works, Keighley, Yorkshire.—Engineers' and machinists' tools. (*In Machinery Hall.*) 280

357 Baker, William, London.—Awls, bodkins, needles for saddlers, packers, and upholsterers; screwdrivers. 280

358 Addis, J. B., & Sons, Arctic Works, Sheffield.—Tools for carving stone and wood; turning tools for iron, brass, ivory, hard wood, etc.; carpenters' tools. 280

359*a* Needham, John, Sheffield.—Cutlery, table and dessert knives and forks, fish eaters. 281

359*b* Wostenholm, George, & Son (limited), Sheffield.—Cutlery. 281

359*c* Brooks, Henry, & Co., London.—Metal stoppers and collapsible tubes for artists' colors. 281

359*d* Burnand, James, & Co., Sheffield. —Table cutlery, etc. 281

359*e* Needham, John, Sheffield.—Cutlery. 281

360 Neal, John, & Co., London.—Table, dessert, and fish cutlery. 281

360*a* Brookes & Crookes, Atlantic Works, Sheffield.—Pen, pocket, and table knives, scissors, razors, and dressing case instruments, cutlery. 281

360*b* Ryder, William Henry, Birmingham.—Taps for drawing effervescing wines or aerated waters. 281

360*c* Mayer & Meltzer, London.—Cutlery. 281

361 The Patent Nut & Bolt Co. (limited), London Works, near Birmingham.—Iron bolts, nuts, screws, rivets, and washers; fish and sole plates; fish bolts, spikes, and fang bolts. 284

362 Francis, Thomas, & Co., Birmingham.—Nails. 284

363 Baker, Christopher, & Sons, Birmingham.—Coffin furniture; cabinet and general brass fittings; rails, stair rods, nails, and bolts. 284

364 The Phosphor Bronze Co. (limited), London.—Phosphor bronze tools, locks, tubes, wire, sheet, steam fittings, parts of machinery, etc. 284

365 Adams, Robert, London.—Hinges and shoes, secure fastening bolts, weather-tight sill bars for French casements, etc. 284

366*a* Turner, George, & Co., London.—Screw anchor peg. 284

367*a* Ullathorne & Co., London.—Heel balls and shoe findings. 284

367*b* Turner, Archibald, & Co., Leicester.—Elastic fabrics. 285

Fabrics of Vegetable, Animal, or Mineral Materials.

368 Low, Son, & Haydon, London.—Brushes. 286

369 Kent, George Barton, & Co., London.—Brushes. 286

370 Culmer, W., & Sons, London.—Brushes used in decorative art. 286

371 Bevis, Henry, London.—Silk banner with emblematic designs. 288

372 Spill, Daniel, London.—Ivoride. 289

372*a* Barnard, Bradly, London.—Bassinettes, baskets, etc. 289

Carriages, Vehicles, and Accessories.

373 Windover, Charles Sandford, London.—Brougham, canoe, landau, Victoria, Parisian, and Stanhope phaeton. 292

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Vehicles.

374 Mulliner, H., & Co., Northampton.—Carriages. 292

375 McNaught & Smith, Worcester.—Barouche, landau, and broughams. 292

376 Thorn, Charles, Norwich.
a Carriages. 292
b Shooting and baggage cart. 294

377 Roberts, John, Manchester.—Parisian phaeton. 292

378 Hooper & Co., London.—Carriages and drawings. 292

380 Peters, Thomas, & Sons, London.—Carriages. 292

381 Thompson, Charles, London.—Perambulator. 293

381*a* Roberts, Digby, Coventry.—English bicycle. 293

382 Hawkins Bros., Hatherton Works, Walsall.—Bits, stirrups, spurs, chains, buckles, and general saddlery iron work. 296

383 Hudson, Samuel, Dublin.—Trace and shaft tug safety buckles; safety stirrup. (*In Swaine & Adeney's case.*) 296

384 Martin, Robert, Old Charlton, Kent.—Horse clipping machines; circular cutters for cutting the teeth of the above machines. (*In Machinery Hall.*) 296

385 Pollock, Sydney, London.—Apparatus for checking runaway and unmanageable horses. 296

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387 Goodall, Chas., & Son, London.—Card printing. 424

388 Cohnė, Sigismund, London.—Bearings requiring no lubricant. 573

389 Parkinson Bros., Burnley.—Spiced pickling vinegar. 660

(*N. B.—Certain exhibits in this Department, from Great Britain, are installed in Agricultural Hall, and catalogued in Part IV.*)

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27–45.

NEW ZEALAND.

(*North of Nave, Columns 10 to 17.*)

Manufactures, Education and Science.

Chemicals.

1 **Horler, John, Woolston, Canterbury.**—Soap and mould candles. 201

2 **Innes, W. M., Port Chalmers, Otago.**—Cod-liver oil. 201

3 **Louisson, T. B., Nelson.**—Paint made from hematite ore. 202

4 **Johnstone Brothers, Nelson.**—Umber and red pigments made from hematite ore. 202

5 **Grayling, W. S., Taranaki.**—Extract of towai (Weinmannia racemosa); extract of hinau (Eldeocarpus dentatus). 202

Ceramics—Pottery, Porcelain, Glass, etc.

6 **Kennedy Bros., Nelson.**—Fire bricks. 207

Furniture and Objects of General Use in Construction and in Dwellings.

7 **Greenfield & Stewart, Wellington.**—Panel door made of rimu (Dacrydium cupressinum). 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

8 **Government of New Zealand.**—Specimens of fabrics made from Phormium tenax. 233

Woven and Felted Goods of Wool, etc.

9 **Webley Bros., Nelson.**—Nelson tweeds made from New Zealand wool. 235

10 **Cook, James, Nelson.**—Woolen rugs, woven and dyed at Nelson. 239

Clothing, Jewelry, and Ornaments, Traveling Equipments.

11 **Taylor, B. K., Wanganui.**—Hat made of kiekie (cordyline). 251

12 **Liardet, H. E., Wellington.**

a Fancy articles made from feet and bones of sea birds. 254

b Feathers, muffs, collarettes, wristlets, etc. 256

13 **Taylor, Mrs. Richard, Wanganui.**—Ornamental satchel and table mat. 254

15 **New Zealand Commissioners.**—Garments and ornaments of the Maoris. 257

Fabrics of Vegetable, Animal, or Mineral Materials.

16 **Moyle, Edward, Taranaki.**—Cord made from phormium tenax. 287

17 **Bevan, Thomas, jr., Otaki, Wellington.**—Rope made from Maori dressed phormium, fish line, horse halter, lead line, twine. 287

18 **Bevan & Sons, Otaki, Wellington.**—Cord and twines made from Maori dressed phormium. 287

19 **Kinross & Co., Hawke Bay.**—Cordage and twines made from Maori dressed phormium. 287

20 **Grant & Co., Otago.**—Cordage made from phormium. 287

21 **Auckland Patent Steam Rope Co.**—Phormium rope. 287

22 **Canterbury Flax Association, Christchurch.**—Tarred and untarred cordage made from phormium. 287

23 **Lennon, T., Christchurch.**—Cordage, ropes, and twines, made from phormium. 287

24 **Cook, James, Nelson.**—Mats and matting made from phormium. 287

25 **Simons & Malcolm, Nelson.**—Door mats made from phormium. 287

Institutions and Organizations.

26 **Colonial Museum, J. Hector, Director.**—Garments and ornaments of the Maoris. 312

27 **National Museum at Washington, J. Henry, Secretary.**—Garments of the Maoris. 312

27*a* **New Zealand Commissioners.**—Weapons of the Maoris. 312

Engineering, Architecture, Maps, etc.

28 **Government of New Zealand.**—Geological maps of New Zealand, by James Hector. 335

29 **Geological Survey Department, James Hector, Director.**—Geological plans and sections. 335

30 **Canterbury Museum, J. von Haast, Director.**—Geological plans and sections. 335

31*a* **Hector, J.**—Relief Model of New Zealand, geologically colored. 335

32*b* **Government of New Zealand.**—Topographical map of the colony, engraved by E. Ravenstein. 335

Physical, Social, and Moral Condition of Man.

33 **National Museum, Washington, J. Henry, Secretary.**—Canoe paddles of Maoris; skulls of Maoris and Moriori from the Chatham Islands. 340

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

34 Woon, R. W., Wanganui.—Canoe paddles of the Maoris. 340

35 Government of New Zealand.—Statistics and census of New Zealand for 1874, prepared by W. R. E. Brown, Registrar-General. 345

35*a* Hector, J.—Transactions and Proceedings of the New Zealand Institute, Vols. I. to VII. 345

35*b* Vogel, Sir Julius.—Hand-book of New Zealand. 345

Painting.

35*c* Geological Survey Department, James Hector, Director.—Water color sketches by W. M. Cooper. 411

Engraving and Lithography.

35*d* New Zealand Commissioners.—Pictures from W. L. Buller's "Birds of New Zealand," drawn by J. H. Keulemans. 422

Photography.

36 Burton Bros., Dunedin.—Views of scenery of South Island. 430

36*a* Bothamley, A. T.—Photographs of Maoris. 430

37 Government of New Zealand.—Views of scenery, etc., by H. Deveril. 430

38 Taranaki Committee.—Views of New Plymouth and surrounding country. 430

38*a* Hector, J.—Photographs exhibiting domestic life of the Maoris. 430

39 Mundy, D. L.—Views of scenery, foliage, buildings, gold mining, etc. 430

Railway Plant, Rolling Stock, etc.

40 Government of New Zealand.—Photographs of engines and engineering works used in New Zealand. 570

Arboriculture and Forest Products.

41 Cruickshank, J. D., Upper Hutt Saw Mills, Wellington.—Section of trunk of rimu (Dacrydium cupressinum), red pine of settlers. 600

42 Westland Committee.—Specimens of woods with bark. 600

43 Taranaki Committee.
- *a* Specimens of woods. 601
- *b* Barks of the Atawhero and the Pukatea; earth used by the Maoris as a mordant for dyes. 602
- *c* Dried ferns; fungus exported as food to China; esculent fern root; birds' nest fungus and curious parasite. 604

44 Black, W. B., American Coach Factory, Wellington.—Specimens of woods. 601

45 New Zealand Commissioners.—Specimens of woods. 601

46 Grayling, W. S., Taranaki.—Bark of hinau; blue earth, used by the Maoris, mixed with shark oil, as blue paint. 602

47 Colonial Museum, Wellington, James Hector, Director.—Tanbarks, native to New Zealand. 602

49 Walker, Renwicks & Co., New York.—Kauri gum. 603

50 Forbes, R. W., New York.—Kauri gum. 603

Agricultural Products.

51 Banks, E. H., Christchurch.—Oats and other cereals. 620

52 Wood, W. D., Christchurch.—Wheat. 620

53 Cunningham, P., & Co., Christchurch.—Wheat grown in Canterbury. 620

54 Ruddenklau, J. G., Addington, Canterbury.—Wheat. 620

55 Hooper & Dodson, Nelson.—Hops. 623

56 Wilkin, Robert, Christchurch.—Perennial rye grass and cocksfoot seed. 624

57 Armstrong, J. B., Christchurch.—Phormium seeds. 624

Animal and Vegetable Products.

58 Wilson, Thomas, Woolston, Canterbury.—Saddle, harness, and shoemakers' leather; fancy colored skins for shoemakers and bookbinders. 652

59 Armitage, Taranaki.—Dressed kip and calf leather. 652

60 Morris, Thomas, Oamaru, Otago.—Gentleman's town saddle. 652

61 National Museum, Washington, J. Henry, Secretary.
- *a* Specimens of kiwi; skeleton and bones of moa. 652
- *b* Egg of the kiwi, and model of egg of moa. 653

62 Gilmour, John, Christchurch.—Hams and bacon. 656

63 New Zealand Provision & Produce Company, Christchurch.—Preserved meats. 656

64 Nairn, David, Addington, Canterbury.—Tomato sauce. 656

65 Trent Brothers, Woolston, Canterbury.—Chiccory in different stages of preparation. 657

66 Smith, James, Nelson.—Fruit wines. 660

67 Henderson & Farrah, Wanganui.—Ale and porter. 660

Horticulture.

68 Coates, Laning, Christchurch.—Live ferns. 707

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

NEW SOUTH WALES.

(*North of Nave, Columns 10 to 17.*)

Manufactures, Education, Art.

Chemical Manufactures.

1 Read, R. B., Randwick.—Extract, leaves, and berries of Smilacis glycyphylla, or Australian sarsaparilla. 200

2 Barrett & Co., Sydney.—Aerated waters and cordials. 200

3 Gilroy & Hurst, Sydney.—Baking, custard, egg, and butter powders. 200

4 Hunt, A. M., & Co., Goulburn.—Baking powders. 200

5 Swain & Co., Parramatta.—Washing fluid and soap. 201

6 New South Wales Shale & Oil Co., Sydney.—Kerosene oil, etc. 201

7 New South Wales Commissioners, Sydney.—Stearine candles. 201

8 Layton, Fred., Grafton, Clarence river.—Soap and candles. 201

9 Underwood, Thomas, Paddington.—Paints and paint pigment. 202

10 Hoff, M. Camille, Nakutakinna, New Caledonia.—Indigo. 202

Ceramics—Pottery, Porcelain, Glass, etc.

11 New South Wales Commissioners.—Churns, jars, etc. 210

Furniture, etc.

12 Lyons, Cottier, & Co., Sydney.—Stained glass staircase window—subject, "Captain Cook." 219

13 Hudson Brothers, Steam Joinery Mills, Sydney.—Window sashes, outside hall door, inside four-panel door, drapery panel door, French casements, cedar table legs. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

14 Read, John Cecil, Darlinghurst, Sydney.—Mats and matting made of cocoa fibre yarn, by aborigines of New South Wales and Frazer's Island. 229

15 Rudder, E. W., Kempsey.—Linens. 233

Woven and Felted Goods of Wool, etc.

17 New South Wales Commissioners.
a Tweeds. 235
b Shawls. 237

18 Jennings, P. A., Sydney.—Rug of tanned platypus skin. 239

19 New South Wales Commissioners. Wallaby skin rug. 239

Clothing, Jewelry, and Ornaments, Traveling Equipments.

20 Jennings, P. A., Sydney.—Collaret and cuffs of platypus skin. 250

21 Midgley, Mrs., Cook's River.—Wool flowers, copied from Australian native flowers. 254

22 Layton, Fred., Grafton.—Furs and skins of opossum, kangaroo, wallaby, and platypus. 256

Paper, Blank Books, and Stationery.

23 Government Printing Office, Sydney.—Blank books and printing. 261

Medicine, Surgery, Prothesis.

24 Spencer, John, Sydney.—Mechanical dentistry. 277

Fabrics of Vegetable, Animal, or Mineral Materials.

25 New South Wales Commissioners, Sydney.—Brushware. 286

26 New South Wales Commissioners, Sydney.—Manila rope, New Zealand flax rope, and lines. 287

27 Green, R., Sydney.—Cradles, flower stand, chair, perambulator; cane and willow work. 289

Carriages, Vehicles, and Accessories.

28 John Robertson, Sydney.—Buggy. 292

29 New South Wales Commissioners.—Lady's side saddle. 296

30 New South Wales Commissioners, Sydney.—Saddlery. 296

Educational Systems, Methods, and Libraries.

30*a* Government Printing Office, Sydney.—Books. 306

30*b* Sutherland, George.—Christian psychology. 306

30*c* Australian Museum.—Collection of birds, animals, etc. 312

30*d* New South Wales Commissioners.—Collection of birds. 312

Photography.

30*e* New South Wales Commissioners.—Photographs. 430

30*f* Holtermann, B. O.—Photographs. 430

30*g* Barnet, James.—Photographs. 430

30*h* Richards, Thomas.—Photo-lithographs. 431

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Forest and Agricultural Products, Animal and Vegetable Products.

Arboriculture and Forest Products.

31 Macarthur, Sir W., assisted by Hill & Hanrahan & J. Hassell.—Woods of southern districts. 600

32 Moore, Charles.—Woods indigenous to the northern districts. 600

33 Shoobert, James, Sydney.—Iron bark and turpentine timber. 600

34 Derepas, W., Yonngara Station.—Boree, and straight and curly yarran timber. 600

35 Hodgson, George, Redfern.—Timber from Bellinger river. 600

36 Penzer, J., Bundamar, near Dubbo.—Timber. 600

37 Du Faur, E., Sydney.—Timber from Mount Victoria. 600

37*a* New South Wales Commissioners.—Woods indigenous to New South Wales. 600

38 Hudson Bros, Botany Road, Redfern.—Timber. 600

39 Derepas, R., Yonngara.
a Yarran gum. 603
b Quondong nuts. 605

40 Harling, Mrs., & H. H. Field, Sydney.—Pressed ferns. 604

41 Moore, Charles, Botanic Gardens, Sydney.—Seeds, ginger-root, and bitter bark. 605

42 Hemmings, F. W., Loma Loma, Fiji.—Dried cocoanut. 605

43 Ryder Bros, Mango Island, Fiji.—Dried cocoanut. 605

Agricultural Products.

44 Lovegrove, W., Terrara, Shoalhaven river.—Maize. 620

45 Ryder Bros, Mango Island, Fiji.
a Maize. 620
b Beans. 621
c Turmeric and turmeric powder. 622

46 Peden, M. J., Bega.—Maize. 620

47 Demestre, E., Shoalhaven.—Maize. 620

48 Eggins, James, Grafton, Clarence river.—Maize. 620

49 Blain, C. R., Grafton, Clarence river.—Maize. 620

50 Macarthur, Sir W.—Maize. 620

51 Lewis Bros., Tamworth.—Wheat. 620

52 Dalton Bros., Orange.—Wheat. 620

53 Nelson Bros., Orange.—Wheat. 620

54 Jaeschke, Gustave, Clarence river.—Cigars and tobacco leaf. 623

55 Schweigert, W., & Co.—Cigars. 623

56 Muirhead, R., Grafton, Clarence river.—Cigars. 623

57 Hoff, M. Camille, Nakutakina, New Caledonia.—Coffee. 623

Land Animals.

59 Jennings, P. A., Sydney.—Stuffed platypus. 637

Water Animals, Fish Culture and Apparatus.

60 Hemmings, F. & W., Loma Loma, Fiji.—Bêche de mer. 643

Animal and Vegetable Products.

61 Secombe, R., Milton, Ulladulla.—Preserved milk. 651

62 Wright, Davenport, & Co., Sydney.—Leather. 652

63 Forsyth, J., & Sons, Sydney.—Leather. 652

64 Alderson & Sons, Sydney.—Leather. 652

65 Bell, H., Sydney.—Tallow and neat's-foot oil. 652

66 Hewitt, T. G., Grafton, Clarence river.—Tallow and neat's-foot oil. 652

67 Berry, J. S., Botany, Sydney.—Neat's-foot oil and glue. 652

68 Layton, Fred., Grafton, Clarence river.—Beeswax. 654

69 Sydney Meat Preserving Co., Sydney.—Preserved meats. 656

70 Squires, Elam, Penrith.—Preserved fruits, jams, and jellies. 656

71 Hoff, Camille, Nakutakina, New Caledonia.—Preserved pineapples. 656

72 Biddell Bros, Sydney.—Preserved lemons and oranges. 656

73 Moore, Charles, Botanic Gardens, Sydney.—Preserved lemons and oranges. 656

74 Watson Bros., Young.—Flour. 657

75 Lewis Bros., Tamworth.—Flour. 657

76 Cohen & Levy, Tamworth.—Flour. 657

77 Dalton Bros., Orange.—Flour. 657

78 Nelson Bros, Orange.—Flour. 657

79 Waters, James, Ravensdale, Brisbane Water.—Arrowroot. 658

80 Cole, W., & Son, Tomago, Hunter river.—Arrowroot. 658

81 Laurie, W. & L., Gloucester, Port Stephens.—Arrowroot. 658

82 Ryder Bros., Mango Island, Fiji.—Arrowroot. 658

83 Payne, George, Grafton, Clarence river.—Arrowroot. 658

84 Champion, George, Ulmarra, Clarence river.—Arrowroot. 658

85 Munn, A. L., Merimbula.—Maizena. 658

86 Colonial Sugar Refining Co.—Refined sugars. 659

87 Martin, George, Grafton, Clarence river.—Sugar. 659

88 Chowne, E. G., Ulmarra, Clarence river.—Sugars. 659

89 Biddell Bros., Sydney.—Confectionery. 659

90 New South Wales Co., Clarence river.—Raw sugars. 659

91 Fallon, James T., Albury.—Wines. 660

92 Munro, A., Bebeah, Singleton.—Wines. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

93 Carmichael, G. L. & J. B., Porphyry, Williams river.—Wines. 660

94 Brecht, Carl J. P., Rosemount, Denman.—Wines. 660

95 Powell, Edward, Richmond.—Wines. 660

96 Parnell, Montague, West Maitland, Hunter river.—Wines. 660

97 Wyndham, Wadham, Bukkulla, Inverell.—Wines. 660

98 Wyndham, George, Branxton, Hunter river.—Wines. 660

98*a* Doyle, J. F., Kaloodah, Lochinvar.—Wines. 660

99 Monk, D. J., Sydney.—Malt and wine vinegars. 660

100 Marshall, J., Paddington Brewery.—Ale and porter. 660

101 Hardie, John, Sydney.—Biscuits. 661

102 Layton, Fred., Grafton, Clarence river.—Castor oil. 662

Textile Substances of Vegetable or Animal Origin.

103 Hemmings, F. & W., Loma Loma, Fiji.—Cotton. 665

104 Ryder Bros., Mango Island, Fiji.—Cotton. 665

105 Hoff, Camille, Nakutakina, New Caledonia.—Cotton. 665

106 Moore, Charles, Botanic Gardens, Sydney.—Vegetable fibres of various kinds. 666

107 Rudder, E. W., Kempsey.—Fibre of gigantic nettle tree. 666

107*a* Cox, E. K.—Wool. 667

107*b* Cox, G. H.—Wool. 667

107*c* Cox, F. & A.—Wool. 667

107*d* Lamb & Roberts.—Wool. 667

107*e* Tindal, E. & A.—Wool. 667

107*f* Clive & Hamilton.—Wool. 667

107*g* Bettington, J. B.—Wool. 667

107*h* Loder, Andrew.—Wool. 667

107 *i* King, P. G.—Wool. 667

108 Ramsay, D., Sydney.—Wool. 667

108*a* Shanahan & Jennings.—Wool. 667

108*b* Henty & Balfour.—Wool. 667

108*c* Learmonth, L.—Wool. 667

108*d* White, F. R.—Wool. 667

108*e* Caughey, S. M.—Wool. 667

108*f* Campbell, D. H.—Wool. 667

108*g* Wilson, A.—Wool. 667

108*h* Loder, A.—Wool. 667

108 *i* Lethbridge, G. L.—Wool. 667

109 Lowe, A. H., Dynevor.—Wool. 667

109*a* Hume, E. B.—Wool. 667

109*b* Bowman, E. & A.—Wool. 667

109*c* Brown, T., & Co.—Wool. 667

109*d* Gell, P. H.—Wool. 667

109*e* Gilbert, A. N.—Wool. 667

109*f* Macdonald, J. L.—Wool. 667

109*g* Allen, J.—Wool. 667

109*h* Brodribb, W. A.—Wool. 667

110 May, J. M., Randwick, near Sydney.—Silk materials from the grain to the manufacture, produced by the inmates of the Asylum for Destitute Children, Randwick. 668

111 Thorne, George, Sydney.—Cocoons and cards of eggs desiccated and pierced, grown at Claremont, Rose Bay, Sydney. 668

Agricultural Engineering and Administration.

112 Bell, H., Sydney.—Bonedust. 681

113 Berry, J. S., Botany.—Bonedust. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

VICTORIA.

(*North of Nave, Columns 11 to 13.*)

Chemical Manufactures, Ceramics, Furniture.

Chemical Manufactures.

1 **Bosisto, Joseph, Richmond, Melbourne.**—Chemical and pharmaceutical preparations obtained from the eucalyptus or gum trees of Australia, and other indigenous vegetation. 200

3 **Hood & Co., Melbourne.**—Chemical and pharmaceutical preparations. 200

4 **Lewis & Whitty, Fitzroy.**—Washing and baking powders, ball blue. 200

5 **Stringer & Co., Melbourne.**—Baking powder. 200

6 **Sullivan, Joseph, Melbourne.**—Poor man's filter; disinfectants, fluke specific and lick, hydrated silicate of aluminum. 200

7 **Woodward, George, Kew.**—Guano, deodorants, block of deodorized night-soil. 200

8 **Fitts, Charles, & Son, Emerald Hill.**—Neat's-foot and trotter oil. 201

8*a* **Apollo Stearine Candle Co. (limited),** Footseray.—Stearine and paraffin candles, and products. 201

9 **Kitchen & Sons, Melbourne.**—Stearine and large carriage candles. 201

10 **Borthwick, Alex., Melbourne.**—Varnishes, anti-fouling composition for ships' bottoms, enameled cast iron pedestal pillars, anti-corrosive paint. 202

11 **Bowman, John S., Melbourne.**—Colonial crayons. 202

12 **Commissioners for Victoria, for the** Philadelphia Exhibition, Melbourne.—Crayons. 202

13 **Lewis & Whitty, Melbourne.**—Blacking. 202

14 **Hogg, S. P., & Co., Melbourne.**—Curry powder. 203

15 **Lewis & Whitty, Fitzroy.**—Hair oil, essences, curry powder. 203

16 **Perry, Hunter, & Co., Sandhurst.**—Safety fuse. 204

Ceramics—Pottery, Porcelain, Glass, etc.

17 **Birmingham & Lacy, Brunswick.**—Red building and white pressed and moulded bricks. 206

18 **Nolan, Luke, Brunswick.**
a Stoneware drain pipes. 206
b Bronze vases, stone porous jugs, patent damp-proof for floor ventilation. 210

19 **Commissioners for Victoria, for the** Philadelphia Exhibition, Melbourne.
a Fire-clay crucibles. 207
b Encaustic tiles, trusses, vases, etc. 208
c Earthenware and pottery. 210
d Glassware. 216

20 **Adams, R. T., Melbourne.**—Filters. 210

21 **Bendigo Pottery Co., Sandhurst.**—Earthenware worm for still. 210

23 **Ferguson & Urie, Melbourne.**—Stained glass for windows. 214

24 **Gledhill, Melbourne.**—Glass bottles. 215

25 **Melbourne Glass Bottle Works Co.,** Emerald Hill.—Glass bottles. 215

26 **Mount & Co., Emerald Hill.**—Glassware. 215

Furniture, etc.

27 **Alcock & Co., Melbourne.**—Blackwood billiard table with appliances; console table. 217

28 **Carr & Sons, Melbourne.**—Window blinds, window sash, with Venetian shutters, etc. 217

29 **Davis, J., Richmond.**—Window sash. 217

30 **Hodgson Bros., Sandhurst.**—Self-acting Venetian blind, spring roller blind. 217

31 **McEwan, James, Melbourne.**—Sideboard. 217

32 **Muschialli, Lewis, Melbourne.**—Pier glass, console table. 217

33 **Baker, John, Emerald Hill.**—Safety steps. 220

34 **Wiegmann, August, Melbourne.**—Basketware cradles, perambulators, chairs and flower stands, baskets. 221

35 **Walker, A. R., Melbourne.**—Gas cooking stoves. 222

36 **Shaw, Alfred, & Co., Melbourne.**—Millet brooms and whisks. 224

37 **Guthrie, G. D., Epsom, Sandhurst.**—Collection of pottery ware for household use, etc. 224

38 **Bogle, Andrew, & Co., Melbourne.**—Boot and shoe brushing and cutters' polishing and sharpening machine. 224

39 **Draper & Sons, Melbourne.**—Earth-closets and fittings. 226

Yarns and Woven Goods of Vegetable or Mineral Materials.

40 **Commissioners for Victoria, for the** Philadelphia Exhibition, Melbourne.—Flax, ropes, lines, twines, etc. 229

41 **Donaghy, Michael, Geelong.**—Ropes and lines. 229

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

42 Miller, James, & Co., Melbourne.—Ropes and lines. 229

43 McPherson, Thomas, Melbourne.—Corn sacks, wool packs, and sugar bagging. 229

Woven and Felted Goods of Wool, etc.

44 Barwon Woolen Mill Co., Geelong.
a Tweeds. 235
b Blankets. 237

45 Gray, Alexander, & Co., Albion Woolen Mills, Geelong.—Plain and fancy tweeds. 235

46 Ballarat Woolen Co., Ballarat.—Shawls, tweeds, blankets. 237

47 Director of Botanic Gardens, Melbourne.—Dyed woolen cloth and silk. 238

48 Robertson, John, Melbourne.—Dyed Angora goat's fleece. 240

49 Zoological and Acclimatization Society, Melbourne.—Angora goat's hair. 240

Silk and Silk Fabrics.

50 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Silk cocoons from the Acclimatization Society, Victoria, and Mrs. Bladen Neill; cultivated silk, in cocoons and hanks, also bleached, dyed, and worked upon llama. 242

51 Timbrell, Ann, Collingwood.
a Cocoons produced by silkworms from Japan, France, Italy, and Greece. 242
b Silk (raw material in hank). 243
c Victorian silk, worked on Brussels net. 246

52 Victoria Ladies' Sericulture Co. (limited), Castlemaine.—Silk, desiccated and pierced cocoons. 242

Clothing, Jewelry, and Ornaments, Traveling Equipments.

53 Ford Brothers, Melbourne.
a Pith hats, in felt, silk, merino, etc. 251
b Pith sunshades for horses. 254

54 Inspector-General of Penal Department, Melbourne.—Boots and shoes. 251

55 Rosier, John, Melbourne.—Boots and shoes. 251

56 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
a Myall pipes; rouleau boxes of myall wood. 254
b Address-case of inlaid leather. 255

57 De Richelieu, Madam F., Windsor.—Ornaments made from fish scales, etc. 254

58 Pausacker, Evans, & Co., Melbourne.—Registered edge, solid leather portmanteaus. 255

Paper, Blank Books, Stationery.

59 Botanic Gardens, Director of, Melbourne.—Paper made from various barks, stems, and stems and leaves. 260

60 Ramsden, Samuel, Melbourne.—Various grades of paper, including cartridge, printing, and wrapping paper. 260

Weapons, etc.

61 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
b Aboriginal weapons, native axe. 268

Medicine, Surgery, Prothesis.

62 Stanway, W., South Yarra.—Models of chairs for invalids. 279

Hardware, Edge Tools, Cutlery, and Metallic Products.

63 Danks, John, Melbourne.—Valves, cocks, lubricators, injectors, etc. 284

64 McIlwraith, John, Melbourne.—Gas pipe and tin tube. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

64*a* Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Victorian and English ensigns. 288

Carriages, Vehicles, and Accessories.

(For farm vehicles and railway carriages, see Departments of Agriculture and Machinery.)

65 Stevenson & Elliott, Melbourne.—Landau. 292

66 Bothwell, Wade, Melbourne.—Harness, saddles, whips, etc. 296

67 Glenister, W. A., Geelong.—Axles, Colling's crank, etc. 296

68 Stoneman, Alfred, Richmond.—Carriage springs. 296

Sculpture.

69 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Medals of the Victorian Intercolonial Exhibition, 1875; seals of the Melbourne Public Library, University, and Exhibition of 1862. 402

Painting.

70 Campbell, O. R., Windsor.—Crossing the Plains. 410

71 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Heraldic painting on panels. 410

72 Curtis, J. W., Melbourne.—Track off the Point Nepean road. 410

73 Guerard, E. Von, Melbourne.—Pulpit rock, Phillip Island, Ballarat, in 1873. 410

74 Johnston, H. J., Melbourne.—Summer Sunset. 410

75 Whitehead, Isaac, Melbourne.—Dandenong State Forest. 410

Engraving and Lithographing.

76 Bowman, John S., Melbourne.
a "The Knob in the Alps," crayon, Miss Bowman.
b "In the Alps," crayon, Miss Adams.
c "Fall from the Omeo Plains," crayon.
d "Valley in North Gippsland," crayon.
e "A Pool in the Otway Ranges," crayon, F. Shaw.
f "Bushy Park," crayon. 420

77 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Lithographs of fossils, roots, and seeds. 423

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Photography.

78 Ararat, Shire Council of, Ararat.—Photographic views and statistics of the shire. 430

79 Batchelder & Co., Melbourne.—Photographs of persons born in the colony of Victoria. 430

80 Bock, Henry, Gippsland.—Photographs of Victorian native flowers. 430

81 Chuck, T. F., Melbourne.—Photographs of persons born in the colony of Victoria. 430

82 Colac, Shire Council of, Colac.—Photographic views of the district. 430

83 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
a Photographic views of scenery, public and private buildings, cattle, etc. 430
b Biographical charts of the schools of Venice and the Venetian state schools. 432

84 Creswick, Borough Council of, Creswick.—Photographic views and statistics of the borough. 430

85 Darebin Shire, Council of, East Bourke.—Photographic views and statistics of the shire. 430

86 Echuca, Borough Council of, Echuca.—Photographic views and statistics. 430

87 Emerald Hill, Borough Council of, Emerald Hill.—Photographic views. 430

88 Hotham, Town Council of, Hotham.—Photographic views and statistics of the town. 430

89 Johnstone, O'Shannessy & Co., Melbourne.—Photographs of persons born in the colony of Victoria, photographs colored in oil. 430

90 McDonald, D., St. Kilda.—Photographic views. 430

92 Phœnix Foundry Co. (limited), Ballarat.—Photograph of locomotives, engine, and tender, manufactured for the Victorian government. 430

93 Prahran, Town Council of, Prahran.—Photographic views and statistics of the town. 430

94 Robertson Brothers, Colac.—Colored photographs of cattle, bred by exhibitors. 430

95 Sandhurst, City of, Sandhurst.—Photographic views and statistics of the city. 430

96 Stewart & Co., Melbourne.—Photographs of persons born in the colony of Victoria. 430

97 Surveyor General of Victoria, Melbourne.—Photographic views of botanical and other gardens. 430

98 Wangaratta, Shire Council of, Wangaratta.—Photographic views and statistics of the shire. 430

99 Willett, G., Ballarat.—Colored photographs. 430

100 Wilson, Sir Samuel, Ercildoun.—Photographs: team of Hereford bullocks, bred by himself; prize sheep; his residence, etc. 430

101 Melbourne, City of.—Photographic views of city. 430

Industrial and Architectural Designs, etc.

102 Dowling, William, Emerald Hill.—Centre flowers, trusses. 442

103 Heathcote, T. S., Carlton.—Painted panels. 442

104 Murphy, Edward, Sandridge-road.—Centre flowers, and ventilators, ornamental chimney cap. 442

105 Patterson Brothers, Carlton.—Tablets of imitation wood and marble. 442

106 Pepper, George, Windsor.—Plasterers' models, ceiling and wall ventilators. 442

Machines, Tools, etc., of Mining, Chemistry, etc.

107 Morrison, L. K., Melbourne.—Abyssinian tube-wells and pumps, with boring apparatus. 501

108 White, David, Stawell.—Safety hook, to prevent accidents from overwinding in mining claims. 503

109 O'Malley, Edmund, Melbourne.—Ventilating safety cage, for mines. 504

110 Harkness, A., & Co., Victoria Foundry, Sandhurst.—Disk, fitted on screwed stamper shank, and showing principle; cam or wiper. 505

111 Perry, Davis, & Co., Sandhurst.—Stamper gratings. 505

Railway Plant, Rolling Stock, etc.

112 Cornish & Co., Melbourne.—Seats for railway carriages. 571

113 Stoneman, Edward, Richmond.—Railway truck spring. 573

Aerial, Pneumatic, and Water Transportation.

114 Cornish & Co., Melbourne.—Life-preserving buoys, mattresses, belts, rafts, etc.; seats, couches, and mattresses for ships. 590

Arboriculture and Forest Products.

115 Bass River Steam Saw-Mills, Bass river.—Blue gum timber. 600

116 Director of Botanic Gardens, Melbourne.
a Carpological collection; barks, polished woods, fibre and tow prepared from barks, leaves, and stems. 600
b Resins, gums, oleo fat, and caoutchouc. 603

117 Lands and Agriculture, Department of, Melbourne.—Native woods. 600

118 Commissioners for Philadelphia Exhibition, Melbourne.
a Boxes, paper knives, and tubs, made of Victoria woods. 601
b Myall and grass-tree gum, rubber and rubber stamp. 603

119 Clark, John, & Sons, Melbourne.—Wattle bark. 602

Agricultural Products.

120 Taylor, John, Allansford.—Adelaide wheat, grown at Merunga, near Warrnambool. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Agricultural, Animal, and Vegetable Products.

120*a* Patience, John, Ichuca.—Purple straw wheat. 620

120*b* Wright, Thomas Spencer, Rochester.—Purple straw wheat. 620

120*c* Kelly, Mortimer, Bridgewater.—Wheat. 620

120*d* Patterson, J. Matthew, Loddon.—Wheat. 620

121 St. Arnaud Pastoral & Agricultural Society, St. Arnaud.—Short oats, wheat, barley. 620

121*a* O'Reilly, Thomas, Toolamba.—Wheat. 620

121*b* Adams, John, Wahring.—Wheat. 620

121*c* Smith, George, Ballard.—White Tuscan wheat. 620

122 Scott, James, Indigo, Chiltern.—Wheat. 620

123 Commissioners for Philadelphia Exhibition, Melbourne.
a Collection of varieties of wheat and grass-tree plant. 620
b Collection of beans. 621

124 O'Keefe, Andrew, Adelaide Vale, Clare Inn.—Purple-straw wheat. 620

125 Myring, Joseph, Campbell's Creek, Castlemaine.—Barley. 620

126 Adams, James, Wahring.—White Tuscan wheat. 620

127 Laidlay, John, Bundoora, Plenty-road.—Wheat. 620

128 McNair, Angus, Bellerine East.—New fodder-pea. 620

129 Stewart & Ferguson, Indigo, Chiltern.—Wheat. 620

130 Connor, James, Allansford.—Fox-tail oats, grown at Merunga, near Warrnambool. 620

131 Schmitt, Lewis, Mornington.—Wheat. 620

132 Buckley, Edward, Newbridge, Loddon.—Red-straw wheat from counties of Gladstone and Bendigo, oats. 620

133 Jack, John, Oxley Plains, Ovens District.—Frampton white wheat, grown on chocolate soil after English grass. 620

134 Northeastern Pastoral & Agricultural Society, Murchison.—Wheat grown by J. McNab, Tabilk. 620

134*a* Catlin, James, Runnymede.—Purple-straw, white Tuscan and other wheats. 620

135 Moncrieff, John, Tabilk, Goulburn river.—Purple-straw and white wheat. 620

136 Gilmour, Andrew, Colomsky, Buangor.—Oats from parish of Ballyrogan. 620

136*a* Ararat Flour Mill Co. (limited).—Prime miller's wheat. 620

137 Rossi, Thomas, Dry Diggings, near Daylesford.—Purple-straw wheat. 620

138 Polson, Angus, Chapman, Moyston.—English barley, Tartarian oats, purple-straw and white wheat. 620

139 West Bourke Pastoral & Agricultural Society, Romsey.—White Tuscan wheat, grown by Hon. T. F. Hamilton. 620

140 Aboriginal Mission Station, Coranderrk.—Hops. 623

141 McKenzie, James F., & Co., Melbourne.—Coffee, chiccory, cocoa, and chocolate made from Trinidad nuts; mustard, spices. 623

Land Animals.

142 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
a Water fowl, stuffed by Chas. French. 635
b Manna, with the insect producing it. 638

143 St. John, F., Melbourne.—Ducks, plover, grouse, quail, black swan, etc. 635

144 Grimwood, Thomas, Fern Tree Gully.—Quail, snipe, landrail. 635

145 Gaskell, Joseph, Melbourne.—Australian snipe. 635

146 Robertson, W. W., Richmond.—Australian native birds. 635

147 Gaskell, Joseph, Melbourne.—Wild animals. 637

148 Godfrey, F. R., Melbourne.—Wild animals. 637

149 McCoy, Prof., Melbourne University.—Wild animals, and black swan. 637

150 French, C., Melbourne.—Australian longicorns, buprestidal, lepidoptera, etc. 638

151 Timbrell, Ann, Collingwood.—Japan silkworms, modeled in wax. 638

Water Animals, Fish Culture and Apparatus.

153 St. John, F., Melbourne.—Fish. 641

Animal and Vegetable Products.

154 Bird, George, Inkerman, Lyndhurst.—Cheese. 651

155 Pierce, G. G., Melbourne.—Cheese. 651

156 Riddle, J., Lancefield.—Cheese. 651

157 Clark, John, & Sons, Melbourne.—Leathers, skins, basils. 652

158 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Rugs made from skins of Victorian animals. 652

159 Fink, M., Geelong.—Skins. 652

160 Quinn, H. S., Richmond.—Dyed and white wool mats, kangaroo glove leathers. 652

161 Brearley Brothers, Geelong.—Sole leather. 652

162 Dunckley & McBride, Melbourne.—Sash lines, whip gut, gut lathe bands, sausage casings. 652

163 Pearse Brothers, Fremantle, Western Australia.—Hides, leather, skins. 652

164 Fitts, Charles, & Sons, Emerald Hill.—Glue. 652

165 Penal Department, Inspector-General of, Melbourne.—Leather. 652

166 Wallis & Co., Richmond.—Leather, goat skin mat. 652
Malt. 657

172 Bennett, T. K., Melbourne.—Preserved meats. 656

173 Director of Botanic Gardens, Melbourne.—Jam. 656

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Animal and Vegetable Products, Textile Substances.

174 Zorn, Edward, Clayton's-road, near Oakleigh.—Tomato and Oakleigh sauces. 656

175 Wright, Payne, & Co., South Yarra.—Fruit jams. 656

176 Watson & Paterson, Melbourne.—Hams, bacon, mess pork. 656

177 Western Meat Preserving Co., Colac.—Preserved meats. 656

178 Melbourne Meat Preserving Co., Melbourne.—Preserved meats. 656

179 Lyon, George, Beechworth.—Tomato sauce. 656

180 Grant, Mrs., Richmond.—Tomato sauce. 656

181 Comport, Henry, Cheltenham.—Tomato sauce. 656

182 Stringer & Co., Melbourne.—Mixed pickles, sauces, curry powder. 656

182*a* Boddy, Edward, Nagambie.—Flour. 657

182*b* Hood, F. & J., Melbourne.—Malt. 657

183 McKenzie, Jas. F., & Co., Melbourne.—Oatmeal, groats, brose meal. 657

183*c* Martin, P. J., Melbourne.—Malt. 657

184 Trouette & Blampied, Great Western, Ararat District.—Wines. 660

184*d* Myring, Joseph, Campbell's Creek, Castlemaine.—Malt. 657

185 Best, Joseph, Great Western, Ararat District.—Wine. 660

185*e* Perrin, William, jr., Richmond.—Malt. 657

186 Docker, F. G. & J. B., Wangaratta, Beechworth District.—Wine. 660

187 Evans, Henry, Beechworth District.—Wine. 660

188 Mellon, Francis, Dunolly, Castlemaine District.—Wines. 660

189 Botten, William, Eddington, Castlemaine District.—Wine. 660

190 Jung, Otto, Castlemaine, Castlemaine District.—Wines. 660

191 Schroeder, Castlemaine, Castlemaine District.—Wines. 660

192 Crippa, Fabrizzio, Hepburn, Castlemaine District.—Wine. 660

193 Greer & Co., Echuca, Echuca District.—Wines. 660

194 Vettler, John, Echuca, Echuca District.—Wines. 660

195 Weber, Jacob, Geelong, Geelong District.—Wine. 660

196 Deppeler, Jacob, Gheringhap, Geelong District.—Wine. 660

197 Ritchie, John, Murgheboluc, Geelong District.—Wine. 660

198 Bear & Ford, Tabilk Vineyard, near Seymour, Goulburn District.—Wine. 660

199 Egli, F., Tabilk, Goulburn District.—Wine. 660

200 Schmitt, Franz, Berwick, Melbourne District.—Wine. 660

201 Francis, Charles, Sunbury, Melbourne District.—Wines. 660

202 St. Hubert's Vineyard Co., Yering, Melbourne District.—Wines. 660

203 Johnston, J. S., Craiglie Vineyard, Sunbury, Melbourne District.—Wines. 660

204 Maplestone, Charles, Ivanhoe Lodge, Heidelberg, Melbourne District.—Wines. 660

205 Brasche, Charles, Sunbury, Melbourne District.—Wine. 660

206 Snowden, E. G., Boroondara, Melbourne District.—Wine. 660

207 Smith, G. S., Wahgunyah, Melbourne District.—Wine. 660

208 Pohl, Carl, Strathfieldsaye, Sandhurst District.—Wines. 660

209 Bruhn, Albert, Strathfieldsaye, Sandhurst District.—Wines. 660

210 Fuchs, Adolph, Strathfieldsaye, Sandhurst District.—Wines. 660

211 Fischer, August, Shamrock Vineyard, Emu Creek, Strathfieldsaye, Sandhurst District.—Wines. 660

212 Shaw, F. K., Goornong, Sandhurst District.—Wine. 660

213 Grosse, Frederick, Strathfieldsaye, Sandhurst District.—Wines. 660

214 Grosse, Fred., Toorongo Vineyard, Bendigo, Sandhurst District.—Wine. 660

215 Greiffenhagen, Wm., Strathfieldsaye, Sandhurst District.—Wines. 660

216 Brown, H. J., Australian Distillery, Melbourne.—Geneva spirits of wine. 660

217 Fuller, Alfred, Kew.—Ale, stout. 660

218 Henelly, James, Melbourne.—Ale. 660

219 Latham, Edward, Carleton Brewery, Carleton.—Ale, porter. 660

220 Martin, P. J., Melbourne.—Ale. 660

221 Reed, Henry, & Co., South Yarra.—Vinegar. 660

222 Steward, James, Eaglehawk, Sandhurst.—Ale. 660

223 Treacy, John, & Co., Geelong.—Ale, stout. 660

224 Warrenheip Distillery Co., Ballarat.—Whisky, Geneva spirits of wine. 660

225 Guest, T. B., & Co., Melbourne.—Fancy biscuits. 661

226 Smith & Son, West Melbourne.—Biscuits. 661

227 Swallow & Ariell, Sandridge.—Biscuits. 661

Textile Substances of Vegetable or Animal Origin.

228 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Cotton. 665

229 Atkinson, Wm., Camperdown.—Teazles. 666

230 Longmire, Thomas, Kooroocheang, Smeaton.—Flax stalks and seeds. 666

231 McPherson, Thomas, & Co., Melbourne.—Jute. 666

232 Armstrong, Alex., Warramtine, Shelford.—Wools. 667

233 Arnold, George, & Co., Melbourne.—Assorted wools grown by James Gibson, Cleveland, Tasmania; Wm. Gibson & Son, Scone, Tasmania; P. Russell, Langi Willi and Carngham, Victoria; Wm. Cumming, Mt. Fyans, Victoria; A. M. Campbell, Melaluka, Victoria; John

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Macvean, Mooloomoon, Victoria; Thos. Russell & Co., The Plains, Victoria; G. W. Thomson, Challicum, Victoria; Thos. Millear, Green Vale, Victoria; Executors of late A. Russell, Mawallok, Victoria; Wm. Lewis, Stoneleigh, Victoria; J. & S. Austin, Mount Pleasant, Victoria; and Wm. Murray, Brie Brie, Victoria. 667

234 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Wools; wool from S. Robertson, Geelong. 667

234*a* Cumming, Thomas F., Stoney Point. 667

235 Currie, John Lang, Larra, Derimallum.—Wools. 667

236 Degraves, C. & J., Coliban Park, Elphinstone.—Wool. 667

237 Elder, W. & N. G., Elder, Rookwood.—Wools. 667

238 Gilbert, Alfred N., Warwilla Station, Wanganilla, Deniliquin.—Wools. 667

239 Goldsbrough, R., & Co., Melbourne.—Assorted wools, grown by James Alexander, Woodhouse station; R. & J. Ramsey, Narrow Plains station; Carter Bros., Glenisla station; J. & H. Orborne, Momalong Plains; A. & H. McCulloch, and others. 667

240 Greeves, Edward G., Berriallock, Skipton.—Wool. 667

241 Hastings, Cunningham, & Co., The Australian Wool Stores, Melbourne.—Fleeces of wool from the following breeders: H. Cattanach, Tellegara; C. W. Simson, Mundagal; Godfrey & Chambers, Pevensey; F. L. Parker, Quiamong; Everett & Watson, Tchelery and Nyang; Hon. Wm. Lang, M. L. A., Wargam; Hon. Phillip Russell, M. L. A., Carngham and Langi Willi; John L. Currie, Larra; Thomas Dowling & Sons, Jellalabad; executors of late A. Russell, Mawallock; Wm. Lewis, Stoneleigh; Ewan McPherson, Binduck; Godfrey McKinnon, Goonambill; Russell & Shaw, Eli Elwah; Rutherford Brothers, Ulupna; Hon. Robert Simson, M. L. A., Langi Kal Kal; Nichol & Telford, Tarrawonga; Knight & Lydiard, Koorongah; Mount Battery Co., Mount Battery; Alfred Chenery, Delatite; Alexander Wilson, Mount Emu; J. G. Reeves, Footscray. 667

242 Henty, Edward, Portland.—Wools. 667

247 Reeves, Isaac G., Footscray, Melbourne.—Wool. 667

248 Russell, Thomas, Barunah Plains, Mount Hesse.—Wool. 667

249 Rutledge, William, Farnham Park, Warrnambool.—Fleeces. 667

250 Rutherford, Andrew, Como, Kensington, Geelong.—Wool. 667

251 Synnot, Monckton, Melbourne.—Wool. 667

252 Synnot, George, & Co., Geelong.—Wool. 667

253 Thomas, C. T., North Sandridge.—Dressed skin of pure Romney ewe, bred by R. Muldoon, Boos. 667

254 Timms Brothers, Mount Hesse, Beeac.—Wools. 667

255 Watson, Alexander, Warribee.—Fleeces. 667

256 Wilson, Sir Samuel, Oakleigh Hall, East St. Kilda.—Wools and fleeces. 667

257 Wilson, John, Lismore.—Wool. 667

258 Howard, John, near Albury.—Sample cocoons of mulberry silk-worms, with wound silk in its natural colors; floss silk; Japanese and Italian grain; hanks of suffocated and pierced cocoons. 668

Machines, Implements, and Processes of Manufacture.

259 Lennon, Hugh, North Melbourne.—Double-furrow plow. 670

260 Bodington, Robert, Carlton.—Sheep support on rollers. 674

Ornamental Trees, Shrubs, and Flowers.

261 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Tree ferns from Dandenong State Forest and Mount Macedon; todea ferns from Mount Macedon. 707

262 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Fac-similes of specimens of fruit, the originals of which were selected during the past season, modeled and arranged by Thos. McMillan:

a Apples and pears from Josiah Trevestan, Ballarat; Chas. Draper, Hazelghen; H. U. Cole, Twyford; Robert Whatmough, Greensborough; Horticultural Society of Victoria; John Harbison, Essendon; John Smith & Sons, Riddell's Creek; T. C. Cole; King & Sons, Fyansford; Geelong and Western District Agricultural and Horticultural Society; W. L. Hunt, Malvern; Chas. Allen, jr., South Brighton; Thos. Christian, Mount Macedon; W. Lawford, Doncaster; J. Carson; J. Roberts; H. Boyce; Mr. Freike, Carisbrook; C. May, Sunbury; J. C. Cole, Richmond; J. D. Roberts, Hawthorne; Robt. Hepburn, Hawthorne; A. Stuart, Toorak; Geo. Kilroy, Caulfield; J. Weber, Geelong; Jas. Lang, Harcourt; Sir Redmond Barry; J. Banks, Flemington; Mr. James, Ballarat; Jos. Bosisto, Richmond; and Joseph Webster, Wahgunyah.

b Quinces from Sir Redmond Barry and J. Webber, Geelong.

c The medlar and the loquat.

d Peaches from C. Draper, R. Whatmough, W. Lawford, J. McDonald, G. & W. D. Agricultural and Horticultural Society.

e Nectarines from R. Whatmough and market.

f Apricots, plums, cherries, and olea europœa.

g Grapes, mulberries, figs, pomegranates, and oranges.

h Kau apples from Mr. Graham and the Melbourne Botanical Gardens.

i Gooseberries from Thos. Lang & Co. and F. Moss, Buninyong.

j Black, red, and white currants from Thos. Lang & Co.

k Raspberries from Henry Boyce.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Fruits, Flowers.

l Almond, walnut, and hazel nuts.
m Strawberries.
n Tomatoes from Horticultural Society's Gardens; W. Chandler, Scoresby; and King & Son, Fyansford.
o Egg apple from H. J. Dines.
p Cape gooseberries and capsicums.
q Book collection of plants, shrubs, trees, and herbs. 709

263 Gaskell, Mrs., Melbourne.—Facsimiles of Victorian bush flowers. 709

SOUTH AUSTRALIA.

(*North of Nave, Columns 10 to 17.*)

COLLECTIVE EXHIBIT.

Minerals, Chemicals, Manufactures, Clothing.

Minerals, Ores, Stone, Mining Products.

1 Clark, F., & Sons, Adelaide.—Iron ores. 100

2 Balhannah Mining Co., Adelaide.—Copper ores and bismuth. 100

3 North Yelta Mine, near Adelaide.—Copper ores. 100

4 Moonta, Wallaroo, and other mines, near Adelaide.—Copper ores. 100

5 Crabb, R. S., Adelaide.—Azurite and malachite from the Burra Burra mine, near Adelaide. 100

5*a* South Australian Commissioners.—Specimens of gold quartz from the northern territory. 100

5*b* Coozong Oil & Coal Co.—"Coozongik," a mineral caoutchouc. 100

COLLECTIVE EXHIBIT OF AURIFEROUS QUARTZ FROM THE NORTHERN TERRITORY OF SOUTH AUSTRALIA, BY THE COMMISSIONERS, FOR THE FOLLOWING OWNERS. 100

6 Ayliffe, I. H., W. Union Mine.
7 Becker, I., Yam Creek.
8 Brese & Starke, Extended Union Mine.
9 Caledonia New Amalgamated Co.
10 Golden Stream Claim.
11 Griffiths, W. K., South Union Mine.
12 Grove Hill Co.
13 Gunn, J. H., Britannia Reef.
14 Lewis, John, Pine Creek.
15 Bernardo, M., Pine Creek.
16 New Telegraph Co.
17 Sandy Creek Claim.
18 Shepperd, E., John Bull Reef.
19 Sandy Creek Puddling Co.
20 Tripp, J. P., Lady Alice & Union Reef.
21 Union Prospectors Co.
22 Whitelaw, E. H., Pine Creek.
23 Westcott, J. S., & Wisendunger, I., North Union Mine.

24 South Australian Commissioners, Adelaide.—Marble, sandstone, and slate from quarries near Adelaide. 102

Chemical Manufactures.

25 Barnard, George L., Adelaide.—Olive oil. 201

26 Davenport, Samuel, Adelaide.—Olive oil. 201

Yarns and Woven Goods of Vegetable or Mineral Materials.

27 Knight, J. G., Adelaide.
a String made from human hair. 229
b Native bag used by Lubras (women). 230

Clothing, Jewelry, and Ornaments, Traveling Equipments.

28 Steiner, Henry, Adelaide.
a Shell necklace, gold brooch and earrings; shell brooch and earrings set in gold. 253
b Silver-mounted emu vases and ornaments; silver oxidized metal-figured piano candlesticks. 254

29 Davenport, Samuel, Adelaide.—Emu eggs made up in imitation of jewelry. 253

30 Nitscke, W., Adelaide.—Copper vase, cross, and pipe; silver cups made from a dollar and a five-franc piece; teapot made from a shilling. 254

31 Knight, J. G., Adelaide.—Aboriginal ornaments from the northern territory of South Australia. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Manufactures, Education, Art, Agriculture.

32 **Steiner, Henry, Adelaide.**—Silver-mounted emu egg inkstands. 254

33 **Wendt, J. M., Adelaide.**—Silver-mounted emu egg inkstand. 254

34 **South Australian Commissioners,** Adelaide.—Skins of indigenous birds and animals of South Australia made into muffs, collarettes, etc. 256

Military and Naval Armaments, Ordnance, Fire Arms, and Hunting Apparatus.

35 **Knight, J. G., Adelaide.**—Aboriginal weapons from the northern territory of South Australia. 269

Hardware, Edge Tools, Cutlery, and Metallic Products.

36 **South Australian Commissioners,** Adelaide.—Iron castings made from Adelaide ore. 283

Educational Systems, Methods, and Libraries.

37 **South Australian Commission, Adelaide.**—Herbarium, comprising specimens of all the known plants indigenous to South Australia, prepared by Dr. Schomburgk, director of the Botanic Gardens at Adelaide. 301

38 **Adelaide Museum, Adelaide, F. G.** Waterhouse, curator.—Collection of birds, mammals, reptiles, skins of animals, and eggs of South Australia. 301

Engineering, Architecture, Charts, Maps, and Graphic Representations.

39 **South Australian Commissioners,** Adelaide.—Statistical records and maps relating to South Australia, compiled by the Surveyor-General. 335

Photography.

40 **Scott, G. B., South Australia.**—Photograph of northern territory of South Australia. 430

41 **South Australian Commission, Adelaide,** South Australia.—Photographs descriptive of town, pastoral, and farming life in South Australia, the Adelaide Botanic Gardens, suburban views, and mining. 430

42 **Angas, G. H., Collingwood, near** Adelaide.—Photographs of stud stock. 430

Arboriculture and Forest Products.

43 **Hardy, Arthur, Mt. Lofty, near Adelaide.**—Cork from tree raised from an acorn imported from Spain in 1864. 600

44 **Davenport, Samuel, Adelaide.**—Woods, useful and ornamental. 600

45 **South Australian Commissioners,** Adelaide.
- *a* Woods, useful and ornamental, from the northern territory of South Australia, forwarded by J. B. Scott, government resident; woods from the neighborhood of Adelaide, collected by Mr. Mais, engineer in chief, and others. 600
- *b* Fungi, supplied by W. B. Hughes, northern territory of South Australia. 604
- *c* Red berries (seeds of the creeping liquorice) and corkscrew pine seeds, from J. E. Kelsey and W. B. Hughes, northern territory of South Australia. 605

46 **Wilke, H., & Co., Port Adelaide.**—Barks for tanning; ground and chopped mimosa (black wattle), and ground acacia. 602

47 **Knight, J. G., Adelaide.**—Bark from the northern territory of South Australia. 602

Pomology.

48 **South Australian Commissioners,** Adelaide.—Wax models of fruit taken from originals grown in South Australia. 610

Agricultural Products.

49 **Carling, Thomas, Adelaide.**—Wheat. 620

50 **Riggs, John, Adelaide.**—Wheat. 620

51 **Young, C. B., Adelaide.**—Wheat. 620

52 **South Australian Commissioners,** Adelaide.
- *a* Wheat, barley, oats, and rye. 620
- *b* Peas. 621
- *c* Linseed; hemp, rape, sunflower, prairie and rib grass seed. 624

53 **Kelsey, J. E., Mt. Gambier, Adelaide.**—Hops, grown in volcanic soil. 623

Water Animals, Fish Culture and Apparatus.

54 **Cardwell, Robert, Port Essington,** northern territory of South Australia.—Trepang, cured at the fishery, Port Essington, northern territory of South Australia. 644

Animal and Vegetable Products.

55 **Kemp, W., Adelaide.**—Sheepskin mats. 652

56 **Angas, J. H., Collingwood, near** Adelaide.—Sheepskins; skins of the spotted emu. 652

57 **South Australian Commissioners,** Adelaide.
- *a* Dressed skins of the kangaroo, wallaby, and other indigenous animals; also, skins made up in designs. 652
- *b* Emu eggs. 653
- *c* Raisins, plums, figs, and currants. 656
- *d* Wines. 660

58 **Davenport, Samuel, Adelaide.**
- *a* Skins of native animals and birds. 652
- *b* Emu eggs. 653

59 **Bagot, E. M., Adelaide.**—Extract of meat. 656

60 **Hardy, Thomas, Adelaide.**
- *a* Raisins and currants. 656
- *b* Wine. 660

61 **Murray, Alexander, near Adelaide.**—Jams, jellies, and marmalades. 656

61*a* **McEwen, George, Adelaide.**—Assorted jams. 656

62 **Dunn, John, & Co., Adelaide.**—Flour. 657

63 **Magarey, Thomas, & Co., Adelaide.**—Flour. 657

64 **Cowan, Thomas, & Co., West Adelaide.**—Flour. 657

65 **Gilbert, Joseph, Pewsey Vale, Adelaide.**—Wine. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

66 Clark & Crompton, Adelaide.—Wines. 660

67 Richman, J.W., Watervale.—Wines. 660

68 Quick, H. C., Marden, Adelaide.—Wines. 660

69 Ross, R. D., Highercombe, Adelaide.—Wines. 660

70 Kaines, John H., Adelaide.—Wines. 660

71 Auld, Patrick, Magill, Adelaide.—Wines. 660

72 Barnard, G. L., Adelaide.—Wines. 660

73 Hornabrook, C. A., Adelaide.—Wines. 660

74 White, George, Rosefield, Adelaide.—Wines. 660

75 Baker, Isabella, Morialta, Adelaide.—Wines. 660

76 Gillard, Joseph, Adelaide.—Wines. 660

77 Ind, G. F., Paradise, Adelaide.—Wines. 660

78 Foote, Henry, Adelaide.—Wines. 660

79 Holbrook, J. D., Adelaide.—Wines. 660

80 Kelly, Dr., Tintara, Adelaide.—Wines. 660

81 Salter, W., & Son, Saltram, Adelaide.—Wines. 660

82 Davenport, Samuel, Beaumont, Adelaide.—Wines. 660

83 Martin, James, Gawler, Adelaide.—Wines. 660

83*a* Young, C. B., Adelaide.—Wine. 660

84 Thornber, Unley, Adelaide.—Wines. 660

85 Wright, E. W., Horne Park, Adelaide.—Wines. 660

86 Bickford, A. M., & Sons, Adelaide.—Bitters, quinine wine, and lime-juice cordial. 660

87 Davis, F. C., Adelaide.—Bitters and cordials. 660

88 Nitschke, W., Adelaide.—Cordials and liquors. 660

Textile Substances of Vegetable or Animal Origin.

89 Angas, J. H., Collingrove, Adelaide.—Wool. 667

90 Keynes, Joseph, Keynton, Adelaide.—Wool. 667

91 Murray, John, Murrayvale, Adelaide.—Wool. 667

92 Graham, Thomas, Adelaide.—Wool. 667

93 Browne, W. J., Moorak, Adelaide.—Wool. 667

94 Hayward, Armstrong & Co., Wonoka, Adelaide.—Wool. 667

94*a* Crozier, W., Adelaide.—Wool. 667

95 McFarlane, Allan, Wellington Lodge, Adelaide.—Wool. 667

95*a* Price & Browne, Adelaide.—Wool. 667

96 Wurm, Frederick, Adelaide.—Silk and silk cocoons. 668

Agricultural Engineering and Administration.

97 Dalwood, W. F., Adelaide.—Guano from Browse Island, off west coast of Australia. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

CAPE OF GOOD HOPE.

(*South of North Aisle, Columns 15 to 17.*)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education and Science.

Minerals, Ores, Stone, Mining Products.

1 **Cape Copper Mining Co. (limited)**, Cape Town.—Copper ores from Ookiep, Spectakel, Narrap, Karolusburg, and Kilderman mines, Little Namaqualand. 100

2 **Bright, H. C. R., Mowbray, near** Cape Town.—Copper ores and collection of minerals. 100

2*a* **Muskett, E. B.**—Galena from Banghock mine, Hope Town division. 100

3 **Dickson, W. W., Cape Town.**—Black oxide of manganese, from Hercules mine. 100

4 **Stonestreet, Samuel, Kemberly Diamond Fields.**—Diamonds and associated rocks. 100

5 **Vice, G., Stormbergen.**
a Saltpetre from the Stormbergen. 100
b Coal from the Stormbergen. 101

6 **Wilson, A., Gas Works, Cape Town.**—South African coals, cokes, and ashes. 101

Metallurgical Products.

7 **Cape Copper Mining Co. (limited)**, Cape Town.—Copper. 111

Chemical Manufactures.

8 **Smithers, J. & G., Cape Town.**—Soaps. 201

Furniture and Objects of General Use in Construction and in Dwellings.

9 **Moulton, R., Swellendam.**—Workbox constructed of South African woods. 217

10 **Lesar, W., Cape Town.**—Table constructed of various colonial timbers. 217

Yarns and Woven Goods of Vegetable or Mineral Materials.

10*a* **Cawood, Hon. S., Grahamstown.**—Cotton table cloth. 230

Clothing, Jewelry, and Ornaments, Traveling Equipments.

11 **Perry, Mrs., Cape Town.**—Melon seed necklaces, bracelets, etc. 253

12 **Gladwin, J. P., Kafirland.**—Hair of Pondomise, surmounted by ring of Euphorbia jap; ivory earrings of Pondomise baboon skin; dress of witch doctor. 253

13 **Local Committee, Cape of Good Hope.**
a Native articles of dress—necklaces, armlets, earrings, etc. 253
b Native aprons, head-dress, etc. 254

14 **Ayliff, Mrs., Grahamstown.**—Skeletonized flowers. 254

Weapons, etc.

15 **Local Committee of Cape of Good Hope.**—Knobe kierie of rhinoceros horn. 268

16 **Vigors, P., Cape Town.**—Native weapons, Kafir assegais, Bushman axe. 268

Medicine, Surgery, Prothesis.

17 **Auret, W. H., Paarl.**—Vegetable drugs and medicines. 272

18 **Barkly, Sir H., Governor of Cape Colony.**—Bitter barks used by Kafir doctors in fever cases. 272

Fabrics of Vegetable, Animal, or Mineral Materials.

19 **Local Committee of Cape of Good Hope.**—Kafir beer and milk pots, Kafir and Basuto baskets. 289

Educational Systems, Methods, and Libraries.

20 **Solomon, C., Cape Town.**—Map of South Africa. 300

23 **Solomon, Saul, & Co., Cape Town.**—Specimens of bookbinding. 306

24 **Local Committee of Cape of Good Hope.**—Catalogue of South African Public and Sir G. Grey's libraries; University calendar; reports of South African Museum, Public Library, and Botanic Gardens; Dr. Bleek's Bushman Researches. 306

25 **Juta, J. C., & Co., Cape Town.**—Books. 306

26 **Mabille, A., Morija, Basutoland.**—Books printed, bound, and published at Morija Mission Station, Basutoland. 306

27 **Stewart, G., Lovedale, Kafirland.**—Books printed, bound, and published at the Lovedale Kafir Mission Institution. 306

Engineering, Architecture, Maps, etc.

28 **Local Committee of Cape of Good Hope.**—Models of harbor works and dry docks at Cape Town. 330

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Art, Agricultural, Animal, and Vegetable Products.

29 Dunn, E. I., Cape Town.—Geological sketch map of Cape Colony. 335

29*a* Coates, H. C., Commissioner, Philadelphia, Pa.—Photograph of city of Cape Town. 335

29*b* Ayliff, Reuben, Grahamstown.—Photographs of Cape Town, harbor works, etc. 335

Paintings.

30 Hermann, W., Cape Town.—Oil paintings. 410
a View in Knysna Forest, Cape Colony.
b View of Three Anchor Bay, near Cape Town.

31 Coppen, F., Cape Town.—Water color sketches. 411
a Sketch of Hangklip, a spur of the Stormbergen, Queenstown division.
b Sketch of the Mac Mac Falls, Lydenburg gold fields, South African Republic.

32 Hays, Miss Anna, Cape Town.—Water color sketch of the native population of Cape Town. 411

33 Hermann, W., Cape Town.—Six water color sketches of colonial scenery. 411

34 Thwaits, Miss F. C., Cape Town.—Six water color drawings of indigenous Cape flowers. 411

Engraving and Lithography.

35*a* Bruton, C. I., Cape Town.—Photographs. 430
a Views in Cape Town.
b View of Kloof Lodge, near Cape Town.
c Views of scenery around Cape Town.

35*b* Barnard, S. B., Cape Town.—Photographs of Cape Town, natives, etc., in a book. 430

35*c* Fenneysey, C. D., George.—Photographs of colonial scenery. 430

Arboriculture and Forest Products.

36 Carson, E. J., Ookiep, Namaqualand.—Ebony. 601

37 Holland, B. H., Alexandria, Cape Colony.—Specimens of timber from the Alexandria crown forests, with articles made from various woods. 601

38 Mossop & Garland, Cape Town.—Barks in the rough and ground. 602

39 Smithers, J. & G., Cape Town.—Vegetable wax. 603

40 Dale, Dr., Cape Town.—Vegetable wax. 603

Agricultural Products.

41 Barry, Arnold, & Co., Cape Town.—Wheat. 620

42 Myburgh, N., Meerlust, Eerste river.—Wheat. 620

43 Barry & Herdon, Mossel Bay.—Aloes. 623

44 Barry & Nephews, Cape Town.—Aloes. 623

45 Jongh, S. J. de, Cape Town.—Snuff. 623

46 Powrie, E., Mossel Bay.—Leaf tobacco and snuff. 623

Land Animals.

46*a* Coates, H. C., Commissioner, Philadelphia, Pa.—King penguin. 635

47 Gibbon, J. M., Cape Town.—Cochineal, grown and dried in the Botanic Gardens, Cape Town. 638

Water Animals, Fish Culture and Apparatus.

48 Merriman, John, Cape Town.—Preserved crayfish from Table Bay. 643

49 Moodie, D., Swellendam.—Pearl oyster shells from the south coast of the colony. 645

Animal and Vegetable Products.

50 Dier & Diets, Port Elizabeth.—Skins. 652

50*a* Benningfield & Son, Natal.—Elephant tusks. 652

51 Mossop & Garland, Cape Town.—Leather. 652

52 Local Committee, Cape of Good Hope.—Robe of skins of the blackbacked jackal and avard wolf. 652

53 Dickson, W. W., Cape Town.—Skins of the lion and cheetah or hunting leopard. 652

53*a* Coates, H. C., Commissioner, Philadelphia, Pa.
a Pair of horns and head. 652
b Ostrich eggs. 653

54 Vigors, P., Cape Town.—Lion and leopard skins, head of a leopard, antelope and rhinoceros horns. 652

54*a* Clipp, G. W.—Pair of horns. 652

55 Local Committee of Cape of Good Hope.—Ostrich feathers and eggs. 653

56 Douglass, A., Grahamstown.—Ostrich incubator, with stuffed ostriches and eggs. 653

57 Powrie, E., Mossel Bay.—Beeswax. 654

58 Barry & Nephews, Cape Town.—Beeswax. 654

59 Toit, A. L. du, Rondebosch.—Grapes in brandy. 656

59*a* Volsteedt, P. J., Cape Town.—Preserved lemons, citrons, nartjes, bitter oranges, melons, and Cape gooseberries. 656

60 Merwe, J. H. van der, Robertson.—Grapes in brandy. 656

60*a* Merriman, John, Cape Town.—Preserved tomatoes and Cape gooseberries. 656

61 Falck, J. A. H., Montagu.—Peaches in brandy. 656

62 Clear, E., Cape Town.—Wheat flour. 657

63 Letterstedt & Co., Cape Town.—Wheat flour. 657

64 Barry, Arnold & Co., Cape Town.—Wheat flour. 657

65 Heydenrych, B. G. P., Cape Town.—Starch from wheat flour. 658

74 Ryn, J. H. van, Cape Town.—Pontac, red, and white wines, brandy. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Wines, Textiles, Flower Work.

75 Renen, S. van, & Co., High Constantia.—Red and white wines. 660

75*a* Cloete Brothers, Constantia.—Red and white wines. 660

76 Anderson & Murison, Cape Town.—Pontac, pale, and golden sherry wines. 660

76*a* Cloete, H., Bellevue, Constantia.—Red and white wines. 660

77 Green, E. K., Cape Town.—Red, white, and sherry wines. 660

78 Collison, H. C., Cape Town.—Sherry, Madeira, Pontac, and Constantia wines. 660

78*a* Cloete, J. P., Groot Constantia.—Red and white wines. 660

79 Joubert, W. A., Stellenbosch.—Dry white wine. 660

80 Paarl Wine and Brandy Co., Paarl.—Red and white wines. 660

81 Rosenberg, S., Cape Town.—Brandy. 660

82 Barry & Nephews, Cape Town.—Brandy. 660

83 Collison, H. C., Cape Town.—Cognac. 660

84 Hauf, Dr., Robertson.—Brandy. 660

85 Marais, H. H., Robertson.—Cape sherry wine and Congo brandy. 660

86 Villiers, A. J. J. de, Cape Town.—Sherry, port, and red wines. 660

87 Villiers, A. B. de, Paarl.—Red and white wines. 660

Textile Substances of Vegetable or Animal Origin.

88 Cawood, Hon. S., Grahamstown.—Cotton. 665

89 Grewar, John W., Uitenhage.—Wool. 667

90 Priest, W., Graff Reinet.—Wool. 667

91 Rubidge, C., Graff Reinet.—Wool. 667

92 Stewart, A. C., Port Elizabeth.—Wool. 667

93 Court, P. W., Port Elizabeth.—Wool. 667

94 Barry & Nephews, Cape Town.—Wool. 667

95 Barry, Arnold, & Co., Cape Town.—Wool. 667

96 Dier & Diets, Port Elizabeth.—Wool. 667

97 Stewart, A. C., & Co., Port Elizabeth.—Angora hair. 669

Ornamental Trees, Shrubs, and Flowers.

98 Villiers, Miss de, Fransche Hoek.—Articles made of everlasting flowers. 709

99 Smuts, Miss G., Cape Town.—Articles made of everlasting flowers. 909

JAMAICA.

(*North of Nave, Columns 15 to 17.*)

COLLECTIVE EXHIBIT.

Chemicals, Woven Goods, Clothing.

Chemical Manufactures.

1 Reynolds, John N.—Salt. 200

2 Frith & Murphy.—Salt. 200

3 Grant, Charles.
a Bisulphate of lime. 200
b Chewstick powder and odontine. 203

4 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Essential oils. 203

5 Auvray, P. E.—Odontine. 203

Yarns and Woven Goods of Vegetable or Mineral Materials.

6 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Palm and plantain leaf mats. 229

Clothing, Jewelry, and Ornaments, Traveling Equipments.

7 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
a Palm leaf hats. 251
b Baskets and fans from leaves; shell baskets; walking sticks; bamboo whip; tortoise shell combs, necklaces; napkin rings and egg cups; doilies and fans made of lace bark. 254

7*a* Nash, Mrs.
a Hats made of dagger plant, lace bark, and strainer fibre. 251
b Dagger plant and lace bark ornaments, comprising fans, flowers, baskets, etc.; earrings and brooch made of lobster shell. 254

8 Brooks, Mrs. G.—Doilies and fans made from lace bark, etc. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Manufactures, Agricultural, Animal, Vegetable Products.

8*a* Reid, William.—Cocoanut Shell Ornaments; walking sticks, etc. 254

Paper, Blank Books, and Stationery.

9 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
a Rulers. 258
b Paper stock. 260

Medicine, Surgery, Prothesis.

10 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Cinchona barks, jalap, senna, aloes, etc. 272

Hardware, Edge Tools, Cutlery, and Metallic Products

11 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Razor strops made from stems of plants. 281

Fabrics of Vegetable or Mineral Materials.

12 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
a Brushes from the penitentiary. 286
b Ropes from sisal hemp; coir; wild cotton, cocoanut, etc. 287
c Bamboo baskets. 289

Carriages, Vehicles, and Accessories.

13 Brass, John, & Son.—Carriage harness and riding saddle. 296

Arboriculture and Forest Products.

14 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
a Cedar and juniper shingles; lancewood, etc., for carriage building; cashaw, etc., for railway sleepers; pimento leaves, juniper wood, etc., for making perfumery. 600
b Mahogany, cedar, bullet tree, braziletto, lignum vitæ, ebony, satinwood, rosewood, etc. 601
c Logwood, fustic, annatto, turmeric, etc.; divi-divi, mangrove, catechu, guanga, etc. 602
d Dried ferns. 604

15 Pantrepant Estate.—Lace bark. 600

15*a* Fisher.—Concrete for tanning. 602

Agricultural Products.

16 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
a Peas and beans. 621
b Ginger, pimento berries, nutmegs, vanilla, cayenne pepper, etc.; tobacco, tea, cocoa, and chocolate; coffees from the following parties, John McLean, Francis Chalmer, John Davidson, Mrs. Maclaverty, Mrs. Lascelles, Dr. Stephens, James Harrison, Ernest Elliott, and Geo. Henderson. 623

16*a* Thompson & Weitzmann.—Tobacco. 623

16*b* Espent, W. B.—Cigars. 623

17 Soutar & Co.—Tobacco and cigars. 623

17*a* Major, Dr.—Nutmegs. 623

18 Richards, W. S.—Coffee. 623

Animal and Vegetable Products.

18*a* Fisher.—Leather. 652

19 Grant, Charles.—Beeswax. 654

20 Brass, John, & Son.—Honey and beeswax. 654

20*a* Fegan.—Bleached wax. 654

21 Auvray, P. E.—Bleached wax. 654

22 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
a Candied fruits and preserves; pickles, etc.; fruits preserved in alcohol; meal made from plantains, bananas, cassava, bread, and other fruits. 656
b Corn, rice, and flour. 657
c Starch, arrowroot, etc. 658
d Sugars from the following parties: W. S. Richards, Albion estate and Constant Spring estate; Louis Verley, Mona estate; Ernest Elliott, Bog estate; James Harvey, Hillside estate; Joseph Reid, Caymannas estate, and J. McPhail. 659
e Rums from the following parties: David Galloway, Vale Royal estate; William Vickers, Frome, and other estates; M. C. Morgan, Appleton estate; James Harrison, Hordley and other estates; Plato Elphick, Belvidere estate; W. S. Richards, Hopewell estate; Ernest Elliott, Bog and other estates; Louis Verley, Mona estate; C. W. Steer, Blenheim estate; F. Hall, Mexico estate; James Harvey, Hillside estate; Joseph Reid, Camanas estate; J. Wray & Nephew, George J. Peynado, Alberga & Mitchell. 660
f Cocoanut, castor, groundnut, and other oils. 662

22*a* Espent, W. B.—Rum. 660

23 Gadpaille, Charles.—Rum. 660

23*a* Wray, J., & Nephew.—Orange and ginger wine, pimento dram, lime-juice, etc. 660

24 Melville, James.—Rum and Falernian wine. 660

25 Deshoes, P., & Son.—Rum, ginger cordial, orange wine, pimento dram, etc. 660

25*a* Alberga & Mitchell.—Orange and ginger wine, pimento dram, chutney, etc. 660

26 Nunes, Robert.—Rum. 660

27 King, Alexander, & Co.—Rum and lime-juice. 660

Textile Substances of Vegetable or Animal Origin.

28 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
a Wild cotton. 665
b Sisal hemp, China grass, pineapple, coir, bamboo, mahoe trumpet tree, bastard, cedar, and other fibres, etc. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

BAHAMAS.

(*South of North Avenue, Columns 15 to 17.*)

COLLECTIVE EXHIBIT.

Manufactures, Agricultural, Animal, Vegetable Products.

Chemical Manufactures.

1 Sargent, D., Inagua.—Specimens of salt and table salt. 200

2 Meadows, John G., Inagua.—Salt and table salt. 200

Furniture and Objects of General Use in Construction and in Dwellings.

3 Robertson, Mrs. S. E.—Epergne. 218

4 Dorsette, Thomas.—Dripstone for filtering water. 224

Clothing, Jewelry, and Ornaments, Traveling Equipments.

5 Minns, Albert C. J.—Necklaces, locket, pin and earrings, bracelets, solitaires and studs, vest button, spoon, and paper knife. 253

6 Dupuch, Joseph.—Card tray, bread platters, and walking canes. 254

7 Grant, Misses Julia and Mary.—Mimosa bean ornaments, card tray, watch cases, mats, and cross. 254

8 Armbrister, James A.—Walking canes. 254

9 Centennial Exhibition Committee, Nassau.—Mimosa bean card basket, bags, and bracelets, manufactured by Messrs. Jarrett, Nassau; tortoise back, cleaned and polished by J. R. Saunders, Nassau; palmetto fans and hats, manufactured by Mrs. John Taylor, Inagua. 254

10 Evans, Ellen, G. E.—Shell cross, basket, and bridal wreath. 254

11 Atwell, Misses.—Memorial wreath, cornucopia, brooches, and earrings, made of shells and fish scales. 254

12 Symonett, Mrs. Matthew.—Palm tree, and watch stand. 254

13 Wallace, Alexander C.—Walking canes. 254

14 Eldon, Mrs. James.—Case containing orange tree. 254

15 Garner, Mrs. Maria E.—Basket, fruit basket, bridal wreath, and sprays. 254

Fabrics of Vegetable, Animal, or Mineral Materials.

16 Carrol, Richard E., Long Island.—Rope made of aloe fibre. 287

17 Centennial Exhibition Committee, Nassau.—Palmetto rope. 287

18 Knowles, Joseph A., Long Island.—
a Rope and net made out of wild fig tree bark. 287
b Palmetto baskets and mat. 289

Arboriculture and Forest Products.

19 Knowles, Joseph A., Long Island.—Wild fig tree bark. 600

20 Sawyer, R. H. & Co.
a Stopper wood; ship's knees of sabicu wood; bark. 600
b Mahogany, sabicu, satin, bull, cedar, and cocoanut woods. 601
c Green ebony, braziletto wood, and logwood. 602
d Myrtleberry wax. 603

21 George, John S.
a Specimens of bark and palmetto leaves, yellow pine and cedar woods. 600
b Mahogany, sabicu, satin, stopper, orange, and lignum vitæ woods. 601
c Logwood, braziletto, and green ebony. 602
d Wax made from myrtleberry. 603

22 Saunders, Samuel P.—Vegetable sponge. 604

Agricultural Products.

23 Boyd, Adam.—Tobacco and coffee, cultivated in New Providence. 623

Water Animals, Fish Culture and Apparatus.

24 Sawyer, R. H. & Co.—Conch shells. 645

25 Treco, P. A.—Bahama shells, collected and arranged by J. R. Saunders. 645

26 Saunders, Samuel P.—Small shells. 645

27 George, John S.—Queen conch shells. 645

Animal and Vegetable Products.

28 Sawyer, R. H. & Co.—Sponges. 650

29 George, John S.
a Beeswax. 654
b Arrowroot and cassava starch. 658

30 Centennial Exhibition Committee, Nassau.—Assorted preserved fruits, assorted pickles; pimento manufactured of native fruits by Daphne Fife. 656

Textile Substances of Vegetable or Animal Origin.

31 Sawyer, R. H., & Co.—Specimens of cotton produced principally at Long Island. 665

32 Saunders, S. P.—Cotton. 665

33 Brice, D. A.—Cotton. 665

34 Centennial Exhibition Committee, Nassau.—Fibres of the pita and pineapple plants, plantain, banana, and aloe trees, and esparto grass; wool made from leaves of the forest pine, pita plant, banana tree, and plantain. 666

Agricultural Engineering and Administration.

35 Saunders, Samuel P.—Cave earth (fertilizer). 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BERMUDAS.

(*North of Main Aisle, H 16.*)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art, Agriculture.

Furniture and Objects of General Use in Construction and in Dwellings.

1 Bermuda, Government of.—Inlaid tables. 217

Clothing, Jewelry, and Ornaments, Traveling Equipments.

2 Trimingham, J.
a Bermuda straw plait, bonnets, etc., palmetto plait, and articles made from the palmetto leaf. 251
b Wreath of shell work. 254

3 Middleton, T. D.—Articles in point lace, from Somerset Island. 252

4 Smith, Mrs. R. T.—Fine point lace. 252

5 Ness, Miss.—Point lace sleeveless basque. 252

6 Ness, Miss C.—Point lace sofa pillow. 252

7 Lines, Mrs.—Point lace. 252

9 Bermuda, Government of.—Walking canes. 254

Medicine, Surgery, Prothesis.

10 Hugh, J. B.—Medicinal herbs and drugs. 272

Educational Systems, Methods, and Libraries.

11 Education, Board of.—School-map of the Bermudas. 300

12 Thorpe, Mrs. W.—"Afternoon in Bermuda." 306

13 Wilkinson, Major H. J.—"The Sand Hills." 306

14 Anon.—Bermuda flowers from nature. 306

Engineering, Architecture, Maps, etc.

15 Bermuda, Government of.—Large general map of the Bermudas, details by Royal Engineers and Major Crawford, R.A.; diagram showing the monthly mean temperature of Bermuda compared with other places of winter resort, drawn by Lieut. Colonel Bland, R.E.; fac-simile of the earliest published map of Bermuda, from Norwood's survey of 1616. 335

Physical, Social, and Moral Condition of Man.

18 Bermuda, Government of.—Examples of the ancient records of the colony of Bermuda, from 1616; title deeds, or original grants of land of the Bermuda Company, 1628-9.

Photography.

19 Somerset, Col. Fitzroy, R.E.—Photographs of Bermuda scenery, by the Royal Engineers. 430

20 Hugh, J. B.—Photographs of Bermuda scenery. 430

Aerial, Pneumatic, and Water Transportation.

21 Hinson, Dr.—Model of a Bermuda yacht, cutter-rigged. 594

22 Admiralty, Lords of the.—Model of her Majesty's floating dock at Bermuda; sectional drawing of same. 596

Arboriculture and Forest Products.

24 Several Contributors.—Sections and specimens of woods. 600

25 Astwood, Mrs.—Bird's-eye cedar, and other ornamental woods. 601

Pomology.

26 Committee, The.—Bananas and other fruits. 611

Marine Animals, Fish Culture and Apparatus.

27 Bermuda, Government of.—Conch shells used by cameo cutters; an extinct land shell of relatively large size; Sp. of hyalline; corals, nullipores, corallines, sea fans, and sea rods. 645

Animal and Vegetable Products.

28 Bermuda, Government of.—Sponges. 650

29 Hugh, J. B.—Dried and preserved fruits. 656

30 Tucher, Tho. Fowle.—Arrowroot. 658

31 Bertram, J. T.—Arrowroot and Tous les Mois. 658

Textile Substances of Vegetable or Animal Origin.

32 Peniston, W.—Fibre prepared from the leaves of fourcroye gigantea. 666

Machines, Implements, and Processes of Manufacture.

33 Bermuda, Government of.—Tools used in freeing the ground of the roots of sage and wild mimosa. 672

Ornamental Trees, Shrubs, and Flowers.

34 Bermuda, Government of.—Flowers, ferns, and ornamental plants. 700

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BRITISH GUIANA.

(North of Main Aisle, F 16.)

COLLECTIVE EXHIBIT.

Manufactures, Agricultural and Vegetable Products.

Clothing, Jewelry, and Ornaments; Traveling Equipments.

1 Great Diamond Plantation.—Rice straw ornaments. 254

Medicine, Surgery, Prothesis.

2 Fresson, William.—Drugs and other medicinal productions of the colony. 272

Arboriculture and Forest Products.

3 Mackey, T. H.—Greenheart wood, nearly 100 years old. 600

Agricultural Products.

4 Great Diamond Plantation.—Rice. 620

Animal and Vegetable Products.

5 Fresson, William.—Starches. 658
6 Bel Air Plantation.—Vacuum pan sugar. 659
7 Columbia Plantation.—Common process sugar. 659
8 Greenfield Plantation.—Vacuum pan sugar. 659
9 La Bonne Intention Plantation.—Vacuum pan sugar. 659
10 Met-en-Meerzorg Plantation.—Vacuum pan sugar. 659
11 Ogle Plantation.—Vacuum pan sugar. 659
12 Leonora Plantation.
a Vacuum pan and other sugars. 559
b Rum. 660
13 Uitvlugt Plantation.—Vacuum pan sugar. 659
14 Vreed-en-Hoop Plantation.—Common process sugar. 659
15 Versailles Plantation.—Vacuum pan sugar. 659
16 Great Diamond Plantation.
a Vacuum pan sugar. 659
b Rum. 660
17 Hope Plantation.
a Vacuum pan sugar. 659
b Rum. 660
18 Tuschen de Vrienden Plantation.
a Vacuum pan sugar; molasses. 659
b Rum. 660
19 Lusignan Plantation.—Rum. 660

Textile Substances of Vegetable or Animal Origin.

20 Godfrey, B. J.—Plantain, silk grass, mahoe, sweet brier, and monkey apple fibres. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

CEYLON.

(*North of North Avenue, Columns 15 to 17.*)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education, Art, Agriculture.

Minerals, Ores, Stone, Mining Products.

1 Armitage Bros., Colombo.—Tin and plumbago. 100

Clothing, Jewelry and Ornaments, Traveling Equipments.

2 Armitage Bros., Colombo.
a Straw hats. 251
b Canes. 254

Fabrics of Vegetable, Animal, or Mineral Materials.

3 Armitage Bros., Colombo.
a India-rubber. 285
b Ropes. 287

Educational Systems, Methods, and Libraries.

4 Armitage Bros., Colombo.—Almanacs and other books. 306

Sculpture.

5 Armitage Bros., Colombo. — Elephant, carved in plumbago. 405

Photography.

6 Armitage Bros., Colombo.—Photographs. 430

Arboriculture and Forest Products.

7 Armitage Bros., Colombo.
a Woods. 600
b Dye woods. 601
c Gutta-percha and gums. 603

Agricultural Products.

8 Armitage Bros., Colombo.
a Coffee, spices, tobacco, and cigars. 623
b Seeds. 624

Water Animals, Fish Culture and Apparatus.

9 Armitage Bros., Colombo.—Mother-of-pearl and other shells. 645

Animal and Vegetable Products.

10 Armitage Bros., Colombo.
a Coco de mer. 650
b Vegetable tallow. 652
c Tapioca. 658
d Sugars. 659

Textile Substances of Vegetable or Animal Origin.

11 Armitage Bros., Colombo.
a Cotton. 665
b Fibres. 666

STRAITS SETTLEMENT.

(*North of North Avenue, Columns 15 to 17.*)

Manufactures, Art, Agriculture.

Silk and Silk Fabrics.

1 Meyer, Behn, & Co., Singapore.
a Silk floss from Rungpore. 242
b Dyed silk from Rungpore. 243
c Silk thread from Bengal, Gyah, and Rungpore. 244
d Silk lace from Jubbulpore. 247

Photography.

2 Meyer, Behn, & Co., Singapore.—Photographic views. 430

Arboriculture and Forest Products.

3 Meyer, Behn, & Co., Singapore.
a Woods from Singapore, Madras, Bombay, and Nagpore. 600
b Dye-woods, galls, bark, etc. 602

Pomology.

4 Meyer, Behn, & Co., Singapore.—Nuts. 611

Agricultural Products.

5 Meyer, Behn, & Co., Singapore.
a Grass. 620
b Tea, coffee, spices, etc. 623
c Seeds. 624

Textile Substances of Vegetable or Animal Origin.

6 Meyer, Behn, & Co., Singapore.
a Cotton boll, seed, and flake. 665
b Hemp and fibres. 666
c Wool. 667
d Cocoon silk. 668

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GOLD COAST.

(*North of Main Aisle, B 16.*)

Minerals, Manufactures, Machinery, Agriculture.

Minerals, Ores, Stone, Mining Products.

1 Colonial Government.
a Granite. 102
b White clay,—used in medicine, and to "chalk" divorced wives. 104

Chemical Manufactures.

2 Colonial Government. — Palm and other oils. 201

3 Melton, W.—Palm, cocoanut, groundnut, and other oils. 201

Ceramics—Pottery, Porcelain, Glass, etc.

4 Colonial Government.
a Goldsmith's furnace and crucibles. 207
b Earthenware. 210

Furniture and Objects of General Use in Construction and in Dwellings.

5 Colonial Government.—Native stools; desk, and envelope case. 217

Yarns and Woven Goods of Vegetable or Mineral Materials.

6 Crowther, Bishop.
a Niger mats. 229
b Cotton goods. 230

7 Colonial Government.
a Mats and baskets of grass. 229
b Cotton fabrics; Whydah and Agney cloth. 230

Woven and Felted Goods of Wool, etc.

8 Colonial Government.—Woolen fabrics. 238

Silk and Silk Fabrics.

9 Colonial Government.—Silk fabrics. 245

Clothing, Jewelry, and Ornaments; Traveling Equipments.

10 Colonial School, Cape Coast.—Wool knitting. 250

11 Crowther, Bishop.—Slippers. 251

12 Colonial Government.
a Sandals, hats, etc. 251
b Jewelry. 253
c Fans, pipes, walking-sticks, etc. 254
d Leather satchel and leather work. 255

Paper, Blank Books, Stationery.

13 Colonial Government.—Book for keeping gold accounts. 261

Weapons, etc.

14 Crowther, Bishop.—Dagger. 268

15 Colonial Government.—Swords, daggers, bows and arrows. 268

Fabrics of Vegetable, Animal, or Mineral Materials.

16 Colonial Government.
a Ropes. 287
b Basket ware. 289

Scientific and Philosophical Instruments and Methods.

17 Colonial Government.—Drums, guitars, flute, horn, etc.; strings for musical instruments. 227

Sculpture.

18 Colonial Government.—Carved wooden figures, ladles, etc.; carved image exhibited at native funerals. 405

Machines and Implements of Spinning, Weaving, Paper Making, etc.

19 Colonial Government.—Looms for manufacturing cotton yarns. 521

Arboriculture and Forest Products.

20 Colonial Government.
a Odoom wood. 600
b Ornamental woods. 601
c Gums, resin, etc. 603

Pomology.

21 Colonial Government.—Nuts. 611

Agricultural Products.

22 Colonial Government.
a Beans. 621
b Pepper. 623
c Seeds, gourds, etc. 624

23 Davison, Mrs.—Coffee (produced in eight months, from the seed). 623

Animal and Vegetable Products.

24 Colonial Government.
a Skins. 652
b Beeswax. 654
c Starch. 658

25 Nugent, Mr., Cape Coast.—Arrowroot. 658

26 Melton, W.—Colored starch. 658

Textile Substances of Vegetable or Animal Origin.

27 Colonial Government.—Fibres of bamboo, pineapple, etc. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

MAURITIUS.

(*North of North Avenue, Columns 15 to 17.*)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Agriculture.

Chemical Manufactures.

1 Lemière, A.—Salt. 200

Clothing, Jewelry, and Ornaments; Traveling Equipments.

2 Foucaud, Mme. Vve.—Slippers, cigar case, baskets, etc., made of Palmiste leaves. 254

Medicine, Surgery, Prothesis.

3 Boulton, L.—Medicinal plants. 272

Educational Systems, Methods, and Libraries.

4 Boulton, L.—Transactions of the Royal Society of Arts and Sciences of Mauritius, from 1870 to 1875. 305
Book on medicinal plants of Mauritius. 306

5 Kyshe, J.—Mauritius Almanac, 1874. 306

Photography.

6 Moco, S.—Photographs. 430

Arboriculture and Forest Products.

7 Horne, J.—Mauritius Botanical Gardens; native woods. 600

Agricultural Products.

8 Flore Mauricienne.—Vanilla. 623

9 Bouton, H. & E.—Mauritius coffee. 623

Animal and Vegetable Products.

10 Mauritius, Flore Mauricienne.—Preserved fruit. 656

11 Marie, François.—Arrowroot. 658

12 Wiehe, J.—Sugars. 659

Textile Substances of Vegetable or Animal Origin.

13 Brugada, L. de, & Boucherville, E. de.—Ramie. 666

14 Horne, J., Mauritius Botanical Garden.—Fibres, etc. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

QUEENSLAND.

(North of North Avenue, Columns 10 to 15.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art, Agriculture.

Chemical Manufactures.

1 Berkley & Taylor, Brisbane.—Dugong oil. 201

2 Ching, John.—Dugong oil. 201

3 Daintree, Richard.—Essences from Queensland vegetables. 203

Ceramics—Pottery, Porcelain, Glass, etc.

4 Mount Marley Co.—Fire brick. 207

Silk and Silk Fabrics.

5 Chubb, C. F., Ipswich.
a Reeled silk. 242
b Manufactured silk. 245

Medicine, Surgery, Prothesis.

6 Clarke, David.—Eucalyptus medicinal preparations. 272

Hardware, Edge-tools, Cutlery, and Metallic Products.

7 Hipwood & Sutton.—Bells made of Queensland metal. 283

Carriages, Vehicles, and Accessories.

8 Queensland, Government of.—Saddlery made by prison labor. 296

Educational Systems, Methods, and Libraries.

9 Bailey, F. M.—"Ferns of Queensland." 306

10 Clarke, David.—Catalogue of plants and seeds. 306

11 Groom, W. H.—"Account of Toowoomba and Vicinity." 306

12 Hartmann, C. H.—"Fruits, Flowers, and Timbers of Queensland." 306

13 Hockings, A. T.—Catalogue of seeds and plants. 306

14 Hockings, A. J., Brisbane.—"Queensland Garden Manual;" "Horticulture in Queensland." 306

15 Diggles, Silvester.—"Ornithology of Australia." 306

16 Government Printing Establishment.—Bound books, pamphlets, and printed matter. 306

17 Lukin & Gresley, Brisbane.—Copies of the "Queenslander." 306

18 Mackay, Angus.—Works entitled "The Sugar-cane in Australia," "Semi-tropical Agriculturist and Colonist's Guide." 306

19 Proprietors of volumes of Queensland journals.—Journals with summary, prepared for the Centennial Exhibition. 306

20 Robertson.—Maryborough almanac. 306

21 Sloter, Geo., & Co.—Sloter's almanac. 306

22 Thorne & Greenwell, Brisbane.—Queensland almanac and directory. 306

23 Willmett, Townsville.—Almanacs of Northern Queensland. 306

Engineering, Architecture, Maps, etc

24 Brisbane Tin Company.—Model showing strata of tin country. 335

25 Government Lithographic Establishment.—Maps, plans, charts, etc. 335

Photography.

26 Commissioners for Queensland.—Views of Ipswich, Rockhampton, Marlborough, Townsville, and Warwick. 430

27 Daintree, Richard.—Colored photographs. 430

28 Mackay, Angus.—Colonial views. 430

29 Wright, J. P.—Photographic views of Brisbane. 430

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

30 Repetti, Joseph.—Model of quartz-crushing machine. 505

Arboriculture and Forest Products.

32 Daintree, Richard.
a Collection of polished timbers. 600
b Gums from Queensland vegetables. 603

33 Hill, Walter, Botanical Curator, Brisbane.
a Collection of timbers in the rough. 600
b Queensland nuts. 605
c Bark for tanning. 602

34 Mackay, Angus.—Common timbers. 600

35 O'Shausey, P. A., Rockhampton.—Timbers of northern Queensland. 600

36 Pettigrew, William.—Pick and axe handles of Queensland woods. 600

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural, Animal, and Vegetable Products.

37 Carey, J. W.—Work-box of various finished woods. 601

Agricultural Products.

40 Downs, George, Gowrie.—Barley. 620

41 Enderitch, H., Toowoomba.—Wheat. 620

42 Free, A., Warwick.—Wheat. 620

43 Free, George, Warwick.—Wheat. 620

44 Mackay, Angus.—Queensland maize. 620

45 Walker, R. F., Toowoomba.—Wheat, barley, and oats. 620

46 Grimes, S. & G., Brisbane.—Arrowroot. 622

47 Marks.—Arrowroot. 622

48 Tahey, F., Nerang.—Arrowroot. 622

49 Alexander, W. R., Redbank.
a Coffee and tea. 623
b Castor oil seeds. 624

50 Boreham, J. H.—Chutney and spices. 623

51 Chubb, F. E., Ipswich.—Coffee beans. 623

52 Hill, Walter, Botanical Gardens.—Leaf tobacco. 623

53 Hocker, J. H., Brisbane.—Cigars, cigarettes, leaf and manufactured tobacco. 623

54 McFarlane.—Chili peppers. 623

55 Mahony, Albert River.—Leaf tobacco. 623

Land Animals.

56 Richland, G., Cardwell.—Butterflies of northern Queensland. 638

Water Animals, Fish Culture and Apparatus.

57 Ching, John, Wide Bay.—Dugong calf, preserved in spirits. 640

Animal and Vegetable Products.

58 Stephens, T. B., Ekibin Tannery.—Leather and skins. 652

59 Ching, John, Wide Bay.—Dugong skull, tusks, etc. 652

60 Hayes, W. H., Candied pineapple, rockmelon, citron, ginger, lemon and orange peel. 656

61 Neden Bros., Toowoomba.—Flour. 657

62 Keates, F., Allora Mills.—Wheat, flour, and meal. 657

63 Black, Messrs., Moyea.—Sugar. 659

64 Brown, A. H., Antigua, Mary District.—Sugar. 659

65 Couldrey, W. H., Ageston.
a Sugar. 659
b Rum. 660

66 Davey & Gooding, Beenleigh.—Sugar. 656

67 Davidson, J. E., Mackay.
a Sugar. 659
b Rum. 660

68 Fryar and Strachan, Loganholme.
a Sugar. 659

69 Gibson & Sons, Clydesdale.—Sugar. 659

70 Superintendent of Penal Plantations.—Sugar. 659

71 Grimes, S. & G., Oxley.—Sugar. 659

72 Johnston, James, Helensfield, Doughboy.—Sugar. 659

73 Mackenzie, Gairloch.—Sugar. 659

74 Muir, Robert, Nerang.—Sugar. 659

75 Tooth & Cran, Zengarré.—Sugar. 656

76 Neame & Co., Herbert river.—Sugar. 659

79 Irwin Bros., Warrilla, Ipswich.—Wine. 660

80 Kirchner, Asmanhausen.—Wines. 660

81 Mauch, David, Warwick.—Wine. 660

82 Raff, George, Morayfield.—Rum. 660

83 Ramsey Bros., Iindah.—White spirits of wine. 660

84 Brocklemann, Brisbane.—Arrowroot biscuit. 661

85 Daintree, Richard.—Vegetable oils. 662

Textile Substances of Vegetable or Animal Origin.

86 Mackay, Angus.—Queensland cotton. 665

87 Hill, Walter.—Collection of fibres. 666

88 McPherson, Alexander, Fortitude Valley.—Collection of Queensland fibres. 666

89 Clarke, George E., Talgai.—Fleece wool. 667

90 Davenport, G. H.—Merino wool. 667

91 Fenwick & Scott.—Australian wool. 667

92 Fisher, C. B., Headington Hill.—Merino wool. 667

93 Gore & Co., Yandilla.—Ewe fleece wool. 667

94 Green, C. H., Goomburra.—Fleece wool. 667

95 Gunn, Donald, Pikedale.—Wool. 667

96 Marshall & Slade, Glengallen.—Fleece wool. 667

97 North British Australian Co.—Fleece wool. 667

98 Parr, B. le, Chiverton.—Australian merino fleece wool. 667

99 Parr, B. C.—Fleece wool. 667

100 Shanahan & Jennings, Westbrook.—Merino wool. 667

101 Government Penal Establishment.—Silk worm cocoons. 668

102 Hine, Mrs., Ipswich.—Silk cocoons. 668

Ornamental Trees, Shrubs, and Flowers.

103 Bailey, F. M.—Flora of Australia, and Botany of Queensland. 709

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

ARCHIPELAGO OF SEYCHELLES.

(*North of North Avenue, Columns 15 to 17.*)

COLLECTIVE EXHIBIT.

Manufactures, Agricultural, Animal, Vegetable Products.

Furniture and Objects of General Use in Construction and in Dwellings.

1 Bouquet, Miss.—Teacups and saucers. 218

Clothing, Jewelry, and Ornaments; Traveling Equipments.

2 Bouquet, Miss.
a Straw hats and slippers. 251
b Straw baskets, watch-pockets, and fans. 254

3 Cayol, Mrs. Tony.—Bouquets of shell flowers. 254

4 Bury, J. Ames.—Walking-canes. 254

Arboriculture and Forest Products.

6 Seychelles, Chief Commissioner of.—Samples of woods and planks. 600

7 Briard, Mr., Praslin Island.
a Black bark dye and samples of dyed stuffs. 602
b Nuts. 605

Agricultural Products.

8 Houareau, Sylvain.—Tobacco. 623

9 Madine, Mr.—Cigars. 623

10 Lemarchand, Mr.—Cacao, cloves, coffee, and vanilla. 623

Water Animals, Fish Culture and Apparatus.

10*a* Beyron, F.—Turtle shell. 645

Animal and Vegetable Products.

11 Bouquet, Miss.—Coca de mer straw. 650

13 Cauvin's Distillery.—White rum. 660

14 Nageon, Mr., La Digue Island.—Cocoanut oil. 662

Textile Substances of Vegetable or Animal Origin.

15 Brooks & Dupuy.—Cotton from Dennis Island. 665

16 Briard, Mr.—Cotton. 665

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TASMANIA.

(South of North Avenue, Columns 13 to 15.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art, Agriculture.

Chemical Manufactures.

1 Kermode, W. A., Mona Vale.—Salt. 200

2 Strachan, R., Cambridge.—Salt. 200

3 Colvin, Charles, Hobart Town.—Oil from mutton birds, from islands in Bass's Straits. 201

4 Coverdale, John, Port Arthur.—Red ochre, earth for paints. 202

5 Laughton, James, Hobart Town.—Earth for paints. 202

Clothing, Jewelry, and Ornaments; Traveling Equipments.

6 Bidencope, J., Hobart Town.—Silk and felt hats and caps, with material of manufacture. 251

7 Tasmanian Commissioners.—Opossum and cat skin rugs. 256

8 Hull, H. M., Hobart Town.—Portraits of aborigines. 257

Weapons, etc.

9 Moir, J., Queenborough, Hobart Town.—Shot. 265

Educational Systems, Methods, and Libraries.

10 Hull, H. M., Hobart Town.—"Hull's Hints to Emigrants," parliamentary journals. 306

11 Nowell, E. C.—Books. 306

12 Tasmanian Commissioners.—Newspapers and statistics. 306

13 Walch & Sons, Hobart Town.—Almanac and guide. 306

Scientific and Philosophical Methods and Systems.

14 Royal Society of Tasmania.—Meteorological tables. 320

Engineering, Architecture, Maps, etc.

15 Randall, A., Hobart Town.—Chart of waterworks. 330

16 Dibbs, T. F., Launceston.—Chart of Launceston. 335

17 Cemetery Commissioners, Hobart Town.—Chart of cemetery. 335

18 Moore, Hon. Wm., Hobart Town.—Geological map of Tasmania. 335

19 Walch & Sons, Hobart Town.—Charts of Hobart Town and Launceston. 335

19*a* Hull, H. M., Hobart Town.—Map of Tasmania. 335

Physical, Social, and Moral Condition of Man.

20 Walch & Sons, Hobart Town.—Tasmanian postage stamps. 345

Sculpture.

21 Carlsen, P. O., Port Arthur.—Carved ivory and wooden egg and cruet stand; carved ivory and myrtle Danish pipe. 405

Photography.

22 Bailey, H. H., Hobart Town.—Photographs. 430

23 Hobart Town, Corporation of.—Photographs of public buildings. 430

24 Launceston, Corporation of.—Photographs of public buildings. 430

25 Tondeur & Lempriere, Melbourne.—Photographs of the British and Tasmanian Charcoal Iron Company's (limited) Works in Tasmania. 430

Machines and Implements of Spinning, Weaving, and Paper Making.

26 Coverdale, J., Port Arthur.—Spinning jenny of Tasmanian myrtle. 521

Arboriculture and Forest Products.

27 Creswell, C. F., Hobart Town.—Forest tree seeds (340 varieties). 600

28 Gulliver Brothers, Hobart Town.—Tree seeds. 600

29 Hull, Hugh M., Hobart Town.—Polished Tasmanian woods. 600

30 Edwards, G. W., Hobart Town.—Grass-tree gum and resin, for varnish. 603

31 Mitchell, Mrs., Swansea.—Gum, from Oyster Bay pine. 603

32 Lipscombe, F., Sandy Bay.—Blue gum seeds. 605

Agricultural Products.

33 Dalgety, Moore, & Co., Launceston.—Wheat and oats. 620

34 Dean, W., New Norfolk.—Wheat. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Agricultural, Animal, Vegetable Products.

35 Gibson, W., Hobart Town.—Wheat. 620
36 Harrap, A., Launceston.—Wheat. 620
37 Hogarth, D., Launceston.—Wheat. 620
38 Kemp, G., Upper Bagdad.—Wheat. 620
39 Archer, W. H. D., Longford.
a Wheat and English barley. 620
b Linseed. 624
40 Creswell, C. F., Hobart Town.
a Wheat, barley, oats, and rye. 620
b Peas and beans. 621
c Grass and other seeds. 624
41 Graves, J. W., Hobart Town.—Native bread. 621
42 Sharland, W. C., New Norfolk.—Hops. 623
43 Shoobridge, E., New Norfolk.—Hops. 623

Land Animals.

44 Archer, W. H. D., Longford.
Cream-colored opossum, platypus. 637

Water Animals, Fish Culture and Apparatus.

45 Salmon Commissioners of Tasmania.—Brown trout. 641
46 Davies, R. H., Torquay.—Tasmanian shells. 645

Animal and Vegetable Products.

47 Coverdale, John, Port Arthur.—Seaweed, and jelly made therefrom. 650
48 Archer, W. H. D., Longford.—Native furs and skins. 652
49 Arnot, S., Bothwell.—Leather of kangaroo skins. 652
50 Gardner & McKenzie, Launceston.—Skins of kangaroo, tanned and dressed; native furs and skins. 652
51 Tasmanian Commissioners.
a Native furs and skins. 652
b Blue gum tree oil. 662
52 Holroyd, Kennedy, & Co., Hobart Town.—Jams and tart fruits. 656
53 Degraves, John, Hobart Town.—Malt. 657
54 Dossetor Brothers, Hobart Town.—Flour. 657
55 Gracie, William, Hobart Town.—Malt. 657

Textile Substances of Animal or Vegetable Origin.

56 Archer, W. H. D., Brickendon, Longford.—Merino wool. 667
57 Brock, J.—Merino wool. 667
58 Cameron, Hon. Donald, Burnside.—Merino wool. 667
59 Gibson, James, Belle Vue, Cleveland.—Merino wool; portrait of stud sheep. 667
60 Gibson, W. H., Fairfield, Snake Banks.—Merino wool. 667
61 Gibson, W., & Son, Scone, Perth.—Merino wool; portraits of stud sheep. 667
62 Headlam, Charles, Egleston, Macquarie river.—Merino wool. 667
63 Keach, G.W., Chiswick, Ross.—Merino wool. 667
64 Lindley, G. W., Runnymede, Richmond.—Leicester wool. 667
65 McLanachan, Hon. James, Ballochmyle.—Merino wool. 667
66 Page, Samuel, Belle Vue, New Town.—Merino wool. 667
67 Parramore, Thomas, Beaufront, Ross.—Merino wool. 667
68 Ralston, John, Logan, Evandale.—Merino wool. 667
69 Searle, C.—Leicester wool. 667
70 Sharland, W. S., Woodbridge, New Norfolk.—Merino wool. 667
71 Shaw, Fred., Redbanks, Swansea.—Leicester wool. 667
72 Simmons, W. C.—Leicester wool. 667
73 Taylor, David, St. Johnstone's, Macquarie river.—Merino wool. 667
74 Taylor, G. Milford, Campbell Town.—Merino wool. 667
75 Taylor, John, Winton, Campbell Town.—Merino wool. 667
76 Wilson, George, Oatlands.—Merino wool. 667

Agricultural Engineering and Administration.

77 Anglo-Australian Guano Company, Hobart Town.—Guano from Bird's Island. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

TRINIDAD.

(*South of North Avenue, Columns 15 to 17.*)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Animal and Vegetable Products.

Minerals, Ores, Stone, Mining Products.

1 André, L. A. F.—Surface coals from the eastern coast. 101

2 Finlayson, Thomas A.—Asphalt, boiled and crude. 101

Furniture and Objects of General Use in Construction and in Dwellings.

3 Devenish, Syl., Surveyor General.—Gourd calabash. 224

Clothing, Jewelry, and Ornaments; Traveling Equipments.

4 Trinidad, Government of.—Mats, fans, strainers, etc. 254

5 McAdam, Miss Venus.—Baskets made of gourds. 254

6 Devenish, Syl., Surveyor General.—Walking-sticks. 254

Hardware, Edge Tools, Cutlery, and Metallic Products.

7 Devenish, Syl., Surveyor General.—Razor strops. 281

Fabrics of Vegetable, Animal, or Mineral Materials.

8 Trinidad, Government of.—Baskets. 289

Arboriculture and Forest Products.

9 Prestoe, Hy., Government Botanist.—Collection of native woods. 600

10 Devenish, Syl., Surveyor General.—Samples of woods. 600

11 Trinidad, Government of.—Gutta-percha, liquid and solid. 603

Pomology.

12 Cumming, A., & Co., Port of Spain.—Cocoanuts. 611

Agricultural Products.

13 Prestoe, Hy., Government Botanist.—Nutmegs, cloves, mace, etc. 623

14 Needham, Sir Jos., San Antonio.—Cocoa. 623

15 Penco, Jos., La Merced.—Cocoa. 623

16 Cleaver, C., Verdant Vale.—Cocoa. 623

17 D'Abadie, St. L., St. Pedro.—Cocoa. 623

18 Flamant, Mrs. C.—Snuff of native tobacco. 623

Animal and Vegetable Products.

19 Prestoe, Hy., Government Botanist.—Preserved fruits. 656

20 Trinidad, Government of.—Cassarip. 656

21 Flament, Mrs. Ch.
a Farina and plantain flour. 657
b Cassada starch. 658

22 Jenny, Miss.—Farina. 657

23 Colonial Company's Agency.—Sugar. 659

24 Seigert, Dr., Port of Spain.—Angostura bitters. 660

25 Somes & Co.—Cocoanut oil. 662

26 Devenish, Syl., Surveyor General.—Carap oil. 662

Textile Substances of Animal or Mineral Origin.

27 Somes & Co., Nariva Cocal.—Cocoanut fibre. 666

28 Devenish, Syl., Surveyor General.—Fibre from Agave vivipara. 666

29 Prestoe, Hy., Government Botanist.—Fibres. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

INDIA.

(*North of Nave, Columns 22 to 25.*)

COLLECTIVE EXHIBIT.

Chemicals, Ceramics, Woven Goods, Clothing.

Chemical Manufactures.

COLLECTIONS FROM THE INDIAN MUSEUM, BY J. FORBES WATSON, M.A., LL.D., DIRECTOR OF THE INDIAN MUSEUM, ETC.

a Rock salt from Salt range; salt from Poorthemauk, Nellore, Toomlook, Balasore, Cuttack, and Jeypore; black salt from Calcutta; saltpetre from Cutch, Sarun, Bengal, Ahmednugger, Lahore, Central India, Ellore, Nellore, Cawnpore, Salem, Madras, and Calcutta; alum from Madras, Lahore, and Bengal; carbonate of soda from Lind and Calcutta; sulphate of iron from Salt range; borax from Thibet; sal ammoniac from Kurnal and Calcutta; sulphate of copper from Calcutta. 200

b Gamboge from Bombay; indigo from South Arcot, Moorshedabad, Madras, and Shikarpore; cutch from Calcutta, Madras, and Burmah; gambier from Bombay and Malacca; lac dye from Jubbulpore and Malwa. 202

Ceramics—Pottery, Porcelain, Glass, etc.

c Ornamental tiles from Hyderabad. 208

d Water vessels from Patna, Ghallawar, Madras, South Canara, and Allahabad; vase from Sindh; hookah bowl and bottom from Patna; cup, dish, and cover from Hyderabad; milk pan from Madras; goblet from Vizagapatam. 210

Furniture and Objects of General Use in Construction and in Dwellings.

e Copper and brass lamps, boxes, plates, dishes, basins, cups, etc., from Calcutta, Benares, Bengal, Bombay, Patna, Indore, Madras, Mirzapore, Travancore, Nepal, Cachar, and Poonah; betel plates inlaid with silver, from Hyderabad; copper amulet case from Thibet; brass spoon for oil from Madras. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

f Phulgat mat from Travancore. 229

g Muslin and cotton from Dacca and Madras. 230

h Striped and checked cotton from Madras. 231

Woven and Felted Goods of Wool, etc.

i Cashmere and woolen carpets from Madras, Scind, and Ferahan. 239

j Cashmere long and square shawls, net shawls, chuddahs, scarfs, burnouse, cravats, gold embroidered cloaks and table covers. 240

Silk and Silk Fabrics.

k Raw silk from Surdah, Berhampore, Bogra, Seetapore, and Bengal; Tusseh silk thread from Bengal, Gyah, and Bhagulpore; cocoons from Bengal and Cuttack; Eria silk thread from Rungpore and Assam. 242

l Floss silk from Umritsur, Punjab, Vellore, Tatta, and Cashmere. 243

m Striped and plain piece silk from Beerchoom, Hyderabad, Ahmedabad, Burmah, and Benares. 246

Clothing, Jewelry, and Ornaments; Traveling Equipments.

n Women's garments from Madras, Pegu, and Dharwar; men's garments from Goodaspore, Moultan, and Sindh; pinna silk skirt from Madras. 250

o Embroidered shoes and turbans from Hyderabad, Gwalior, Sindh, Kotah, and Madura. 251

p Nets, muslin, cloth, and silk embroidered in gold and colors from Sindh, Madras, Benares, Hyderabad, Delhi, Bhurtpore, and Bombay; gold, silver, white, and colored laces from Bombay, Nagpore, and Madras; handkerchief from Poona convent; doyleys from Madras. 252

q Collection of jewelry from Bombay. 253

r Dolls from Benares; fans from Madras, Delhi, Tipperah, South India, Poona, and Monghyr; chourie split ivory from Sylhet; chowrie, split sandal wood from Madras. 254

s Leather box, embroidered with quill work, from Simla. 255

Weapons, etc.

t Spears, bows and arrows from Lahore, Delhi, and South India; velvet quivers and arm covers from Lahore; battle axes from Delhi and Nagpore; coat of mail from Punjab; daggers, swords, breastplates, etc., from Lahore, Burmah, Deccan, Coorg, and Bengal. 268

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Medicine, Surgery, Prothesis.

u Barks, liquorice, opium, nux vomica, aconite, patchouli, tamarinds, anise, cardamom and croton seeds, cubebs, blistering beetles, juniper berries, aloes, and other medicinal products from Madras, Travancore, Bombay, Penang, Bengal, Mysore, North India, Malacca, and Calcutta. 272

Hardware, Edge Tools, Cutlery, and Metallic Products.

v Copper bell from Burmah. 283
w Lock and key from Indore. 284

Fabrics of Vegetable, Animal, or Mineral Materials

x Baskets and cigar case from Madras; cane stands from Singapore; grass window shades from Travancore; papier-maché articles from Cashmere, Kurnool, and Sindh; lacquered wood work from Burmah and Sindh; japanned cabinet from Bareilly. 289

Carriages, Vehicles, and Accessories.

y Model of state carriage from Poona. 292
z Models of passenger and luggage carts, and palanquin from Bombay. 293
aa Sikh saddle; velvet and gold trappings from Punjab. 296

Educational Systems, Methods, and Libraries.

ab Books, "The People of India" and "The Textile Manufactures of India," by J. Forbes Watson, LL.D.; "Tree and Serpent Worship," by J. Fergusson, F.R.S.; "Ancient Buildings in Kashmir" and "Ancient Buildings near Muttra and Agra," by Lieut. H. H. Cole; "Primitive Tribes of the Nilagiris," by J. W. Breeks; Report on the Archæology of West India, by J. W. Burgess. 306
ac Stringed and wind instruments from Madras; kettle drum from Bengal; horn from Moorshedabad. 327

Engineering, Architecture, Maps, etc.

ad Maps illustrative of Indian surveys; relief map of India. 335

Sculpture.

ae Sculptured stone bull from Nandi. 400
af Sculptures from the Amravati Tope, viz.: base of large slab; panel figure of temple with Buddha seated; portions of frieze; figure standing; slab, Buddha's feet. 401
ag Carved model of Burman chuttree, and sandal wood model of Hindoo temple from Booj; carved vase, sandal wood fan, and glove box from Bombay; carved stone idol, "Vishnu riding on Garuda" from Madras; carved wooden idols from Nepal; carved ivory box from Burmah; carved elephant with howdah from Berhampore; carved horn tazza from Gokah; carved pith figures from Trichinopoly, and carved horn drinking cup from Rutnagherry. 405

Photography.

ah Photographic views of India; photographs of races and tribes of Hindoostan; photographs of Indian architecture. 430
ai Photo-lithographs illustrative of the textile fabrics of India. 432

Ceramic Decorations, Mosaics, etc.

aj Inlaid marble boxes from Agra and Myhere. 450
ak Inlaid wooden glove and work box from Bombay. 452
al Card basket and box of porcupine quill work from Vizagapatam; casket and basket of Koftgari ware; miniature paintings on ivory, in carved sandal wood frames from Delhi; writing pads of ornamental painted leather from Kurnool; paintings on mica from Trichinopoly; samples of ornamental writing in colors. 454

Aerial, Pneumatic, and Water Transportation.

am Models of passenger, ferry, coasting, and freight boats from Calcutta. 594

Arboriculture and Forest Products.

an Ornamental and other woods. 601
ao Dye woods, barks, roots, and galls from Madras, Sindh, Cuttack, Nagpore, Burmah, and Singapore. 602
ap Gums, resin, incense, gutta-percha, myrrh, etc., from Raepore, Gyah, Burmah, Madras, Pegu, Salem, Travancore, Malacca, Indore, and Bombay. 603

Agricultural Products.

aq Wheat from Sindh, Punjab, Faridpur, and Bengal; barley from Belgaum, and other places; oats from Patna and Monghyr; maize from Northwestern India; millet; raggee; buckwheat from the Himalayas; illustrations of food plants of India. 620
ar Peas, beans, lentils, and vetch. 621
as Tea from Assam, Bishnath, Cachar, Dehra-Doon, Punkabaree, Kangra, Kumoon, and other places; tea buds from Silcoorie; coffee from Aden, Bombay, Tinnevelly, Paradise estate, and Chittagong; coffee berries from South India, Mysore, and Coorg; spices, pepper, ginger, mustard, curry powder, and turmeric from Bombay, Travancore, Indore, Dehra-Doon, Bengal, Nepal, Madras, and other places. 623
at Coriander, dill, and fennel seed from Berar, Oudh, Faridpur, and Dharwar; water lily stems from Sindh; oil seeds from Faridpur, Nagpore, Ahmednugger, Bengal, and Indore; poppy seed from Central Provinces and Bengal; groundnuts from Berar, Indore, and Khandeish. 624

Land Animals.

au Various kinds of silk worms of India from Cashmere, Bengal, and the Himalayas. 638

Water Animals, Fish Culture and Apparatus.

av Pearl oysters from Kurrachee. 645
aw Edible birds' nests from Ceylon; fish maws and sharks' fins from Bombay. 646

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Animal and Vegetable Products, Textiles, Machines.

Animal and Vegetable Products.

ax Glue from Cawnpore. 652
ay Beeswax from Travancore, Pegu, Rangoon, Singapore, and Chota Nagpore. 654
az Soojee flour from Madras; rice from Punjab, Sindh, and Bengal. 657
ba Arrowroot, tapioca, and sago. 658

Textile Substances of Vegetable or Animal Origin.

bb Cotton from various parts of India, in its different stages of growth and manufacture. 665
bc Flax from Punjab; rheea stems and fibre from Assam; brown hemp from Bombay; Jubbulpore hemp; pineapple fibre from Madras and Mangalore; aloe fibre from Madras; Manila hemp; mat grass from Bengal; illustrations of fibre-producing plants of India. 666
bd Sheep's wool from Bombay, Mysore, Ladakh, and Bokhara; goat's wool from Umritsur, Punjab, Turfan, and Yarkand; camel's wool from Bokhara and Punjab. 667

Machines, Implements, and Processes of Manufacture.

be Plow and yoke from Berar. 670
bf Native cotton gin from Bengal. 673

Agricultural Engineering and Administration.

bg Models of water and cotton cart from Bombay. 682

CANADA.

(*North of Nave, Columns 16 to 23.*)

Chemicals.

Chemical Manufactures.

1 Cowan, A., Brockville, Ont.—Salt, nitre cake; nitric, muriatic, and sulphuric acids; sodium nitrate. 200

12 Geological Survey of Canada, Q.
a Salt, salt cake, salt gypsum cake, residue for crystallizing pans, salt scales. 200
b Ochres. 202

14 Sharp, Jos. S., Apohaqui, N. B.—Salt. 200

17 Cooper, Robert, Toronto, Ont.—Washing crystals. 200

18 Lane, T. G., Hamilton, Ont.—Washing and bleaching crystals. 200

19 Saunders, Wm., London, Ont.
a Pharmaceutical preparations. 200
b Perfumery. 202

20 Lyman, Clare, & Co., Montreal, Q.
a Pharmaceutical preparations. One of the longest established drug firms in the Dominion. Specialty—pure drugs. Also, linseed oil crushers and paint grinders. 200
b Oil. 201
c Paints. 202

22 Lyman Bros. & Co., Toronto, Ont.
a Pharmaceutical and chemical preparations. 200
b Oil for paints. 201
c Paints in oil. 202

23 Wilson, John, St. John, N. B.—Soaps. 201

24 Savage, Alfred, & Son, Montreal, Q.—Oil. 201

25 Morse, Geo. D., & Co., Toronto, Ont.—Soap, candles, tallow, lard, and oils. 201

26 Walker, J., Hamilton, Ont.—Soaps. 201

28 Hood, A. W., & Son, Montreal, Q.—Soaps. 201

29 Albert Toilet Soap Co., Montreal, Q.—Soaps. 201

30 Spinelli, R., Montreal, Q.—Paraffine soaps. 201

31 Lyman, S. J., Montreal, Q.
a Phosphorus soap. 201
b Perfumery. 203

33 Waterman Bros., London, Ont.—Hard and soft coke from petroleum, crude and refined petroleum, paraffine oil, benzine, axle oil, tar from petroleum, paraffine scales. 201

36 Leeds Paint Manufacturing Co., Mallorytown, Ont.—Ferruginous rock and paints. 202

39 Buchanan Mineral Co., Walsingham, Ont.—Paints and colors. 202

40 McKay, William, Ottawa, Ont.—Liquid drier for paint, printers' ink. 202

42 Ramsay, T., Montreal, Q.—Paints. 202

44 Ramsay, A., & Son, Montreal, Q.—Paints. 202

45 Montreal Plumbago Mining Co., Montreal, Q.—Stove polish, crucibles. 202

46 Martin, Charles, Montreal, Q.—Stove polish, crucibles. 202

48 Hall, G. B., Quebec, Q.—Ochres. 202

53 Copeland & McLaren, Montreal, Q.—Iron oxide. 202

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

55 Thompson, G. F., & Sons, St. John, N. B.—White lead. 202

57 Edgett, W., Pudsey's Point, N. S.—Iron ochre. 202

58 Miller, Hugh, & Co., Toronto, Ont.—Pomade. 203

62 Manuvilling, J. J., Hampton, N. B.—Matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

81 Pratt, Charles, London, Ont.—Pottery. 206

82 Ahren, J. H., Paris, Ont.—Pottery. 206

83 Bell, David, Little River, Q.—Drain tiles. 206

84 Mochan, Albert, St. John, Q.—Bricks. 206

86 Geological Survey, Montreal, Q.—Bricks. 206

87 Advisory Board, Quebec, Q.—Bricks. 206

91 Bell, W. & D., Quebec, Q.—Tobacco pipes. 206

93 Lee Brothers, St. John, N. B.—Bricks, drain tiles. 206

94 Smith & Kaye, Halifax, N. S.
a Bricks, drain tiles. 206
b Earthenware. 210

98 St. John Stone Chinaware Co., St. John, Q.—Stone chinaware. 210

99 Cape Rouge Pottery Co., Quebec, Q.—Crockery ware. 210

103 Booth, W., Toronto, Ont.—Sign painting on glass. 216

104 McAusland, J., Toronto, Ont.—Stained glass, figured work. 216

Furniture and Objects of General Use in Construction and in Dwellings.

105 Hay, R., & Co., Toronto, Ont.—Sideboard. 217

107 Riley & May, Toronto, Ont.—Billiard tables, etc. 217

110 Kremer, C., Preston, Ont.—Furniture. 217

111 Murphy, A. A., Montreal, Q.—Store stools. 217

112 Roy & Co., Montreal, Q.—Invalid mechanical chair. 217

113 Reinhardt, C., Montreal, Q.—Combination spring-bottom bedstead. 217

114 Reid, R., Montreal, Q.—Marble mantelpiece. 217

115 Stephen, A., & Son, Halifax, N. S.—Secretary. 217

117 Drum Cabinet Manufacturing Co., Quebec, Q.—Parlor and bedroom sets, sideboard. 217

118 Whiteside, H., & Co., Montreal, Q.—Beds and mattresses. 217

121 Chapleau, Godfroi, Montreal, Q.—Fireproof safes, burglar-proof door. 217

122 Bennett, Jas., St. John, N. B.—Newspaper files. 217

123 Hutching & Co., St. John, N. B.—Mattresses. 217

127 Huber, Allen, Berlin, Ont.—Mirrors. 219

129 Ewing & Co., Toronto, Ont.
a Mirrors. 219
b Mouldings. 220

130 Dixon, A. H., Toronto, Ont.—Show cards. 219

131 Shantz, J. Y., Berlin, Ont.—Mirror. 219

132 Spence, John C., Montreal, Q.—Stained glass window. 219

135 Wade, J. M., Montreal, Q.—Ornament on glass and wood. 219

136 Cockburn, D., Ottawa, Ont.—Carved frame. 220

140 Brown, J. T., St. John, N. B.—Frames, book-rack. 220

141 Copp Bros., Hamilton, Ont.
a Stoves. 222
b Sad irons. 225

142 Moore, D., & Co., Hamilton, Ont.—Stoves, tubular lanterns. 222

143 Elliot, J. W., Toronto, Ont.—Stoves. 222

144 White, H. A., Hamilton, Ont.—Stovepipe damper. 222

146 Wexelburg & Co., Toronto, Ont.—Sheet metal elbows. 222

150 Harris, J., & Co., St. John, N. B.
a Ship camboose and register grates. 222
b Iron mantels. 227

151 Trudeau, P., Ottawa, Ont.—Gas burner, globe, and gallery. 223

154 Williams, J. M., & Co., Hamilton, Ont.—Tin and stamped ware. Manufacturers of plain, stamped, re-tinned and japanned tinware, tubular lanterns, etc. etc. Price lists sent on application. 224

158 Penton, Thos., Sarnia, Ont.—Combined cooking and heating engine. 225

161 Elliott, T. C., Guelph, Ont.—Washing machine. 225

163 Lawlor & Co., Montreal, Q.—Washing machines. 225

164 Hall, G. B., Quebec, Q.
a Washing machines. 225
b Blinds, etc. 227

166 Cable, Bayard, & Co., Montreal, Q.—Clothes rack. 225

168 Foster, S. R., & Son, St. John, N. B.—Fireproof shutters. 227

171 Wood, T. M., & Co., Toronto, Ont.—Venetian blind. 227

174 Evans, Oscar C., Hamilton, Ont.—Blinds. 227

176 Fontaine, J., Montreal, Q.—Hothouse windows. 227

177 Wells & Co., Toronto, Ont.—Window fastener. 227

178 Fairbank, Hawes, & Co., St. John, N. B.—Doors, blinds, sash, turned work. 227

179 Wilson, Gilmour, & Co., St. John, N. B.—Marbleized mantels and grates. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

180 Dundas Cotton Mills Co., Hamilton, Ont.—Cotton fabrics. 230

181 Canada Cotton Manufacturing Co., Cornwall, Ont.—Domestics, tickings, bags, yarn, etc. 230

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven Goods, Clothing, Paper Work.

182 Smith & Wilby, Toronto, Ont.—Samples of cotton batts. 230

183 Woodworth, J. L., St. John, N. B.—Cotton yarns. 230

184 Parks, W., & Son, St. John, N. B.—White and colored cotton yarns. 230

185 Winger, H., Elmira, Ont.
a Canadian and Oxford gray cloth. 230
b Linen sheeting. 233

186 Stevens, A. J., & Co., Paris, Ont.—Floor oil cloth. 234

Woven and Felted Goods of Wool, etc.

191 Toronto Tweed Co., Toronto, Ont.
a Tweeds. 235
b Flannels. 236

192 Rosamond Woolen Co., Almonte, Ont.—Cassimeres. 235

195 Mills & Hutchison, Montreal, Q.—Tweeds. 235

196 Paton Manufacturing Co., Sherbrooke, Q.—Cloths and tweeds. 235

197 Woodworth, J. L., St. John, N. B.—Woolen yarns. These 4-ply woolen yarns, chiefly for knitting purposes, are made of pure native wool, with special regard to durability. 235

198 Oxford Woolen Mills, Oxford, N. S.—Woolen goods. 235

199 Fisher, T. S., Toronto, Ont.
a Tweeds, buckskins, doeskins. 235
b Yarns. 238

200 Advisory Board, Victoria, Br. Col.
a Yarn made from wool of Rocky mountain goat. 235
b Indian blankets from wool of Rocky mountain goat. 237

201 Lomas, Adam, & Son, Sherbrook, Q.—Flannels. 236

202 Willett, S. T., Chambly, Q.—Flannels. 236

203 St. John Woolen Mills, St. John, Q.—Flannels. 236

203*a* Smith & Wilby, Toronto, Ont.—Fancy flannels. 236

204 Cantlie, Ewan, & Co., Montreal, Q.—Plain and fancy flannels. 236

205 Winger, H., Elmira, Ont.
a Blankets. 237
b White stocking yarn. 238

207 Wardlaw, J., Galt, Ont.—Woolen yarns. 238

Clothing, Jewelry, and Ornaments; Traveling Equipments.

210 Taylor, R. F., & Son, Toronto, Ont.—Full dress suit, dress overcoat. 250

212 McCrae & Co., Guelph, Ont.—Knit goods and hosiery. 250

213 Ancaster Knitting Co., Hamilton, Ont.—Knitted and fancy goods. 250

214 Blacklock, W., & Co., Hastings, Ont.—Wool shirts and drawers. 250

215 Smith, H. H., Goderich, Ont.—Suits of Canadian goods. 250

216 Shorey & Co., Montreal, Q.—Ready made clothing. 250

217 Fisher, T. S., Toronto, Ont.—Shirts, pants, clouds, and scarfs. 250

218 Skelton, Tooke, & Co., Montreal, Q.—Shirts, collars, and cuffs. 250

219 Brown & Clagget, Montreal, Q.—Dresses. 250

220 Willis, E., & Co., St. John, N. B.—Paper collars and cuffs. 250

222 May, James S., St. John, N. B.—Ready-made clothing. 250

225 McKensie, Charlottetown, P. E. I.—Clothing. 250

228 Sussex Boot & Shoe Co., Sussex, N. B.—Boots and shoes. 251

229 Sutherland, A., Kingston, Ont.—Boots and shoes. 251

231 King & Brown, Toronto, Ont.—Boots and shoes. 251

233 Moore, Th., Cooksville, Ont.—Wood models of boots and shoes. 251

235 Corestine, J., & Co., Montreal, Q.—Hats and caps. 251

237 Gentesse, C., Montreal, Q.—Improved head conformateur. 251

238 Slater & Perry, Montreal, Q.—Boots and shoes. 251

239 Cloutier, George, Pointe Levis, Q.—Shooting boots. 251

242 Ramsay, D., Cobourg, Ont.—Boots and shoes. 251

244 Dominion Suspender Co., St. Stephens, N. B.—Gents' and youths' suspenders. 251

260 Saunders, S., Guelph, Ont.—Carved walking-canes. 254

261 Shantz, J. Y., Berlin, Ont.—Vegetable ivory buttons. 254

263 Lavoie, M., Montreal, Q.—Hair work. 254

264 Leblanc, J. H., Montreal, Q.—Fancy feathers. 254

265 Clarke, U. E., & Co., Toronto, Ont.—Trunks, valises, and bags. 255

266 Taylor, Robert, Halifax, N. S.—Trunks. 255

267 Borbridge, S. & H., Ottawa, Ont.—Trunks. 255

268 Chisholm, W., New Glasgow, N. S.—Ladies' trunks. 255

269 Renfrew, G. R., & Co., Quebec, Q.—Furs, Indian work. 256

270 Reynolds & Volkel, Montreal, Q.—Complete set of furs. 256

271 Hudson Bay Co., Montreal, Q.—Furs. 256

272 Keizer, C., & Son, Halifax, N. S.—Furs. 256

272 Thibault, Lanthier & Co., Montreal, Q.—Furs. 256

Paper, Blank Books, and Stationery.

278 Kilgoren Bros., Toronto, Ont.—Paper bags. 260

283 Wilson, J. C., & Co., Montreal, Q.—Paper bags. 260

284 Canada Paper Co., Montreal, Q.—Wrapping and printing paper and envelopes. 260

288 Warwick, Wm., Toronto, Ont.—School blank books, letter press. 261

289 Hunter, Rose & Co., Toronto, Ont.—Books printed and bound. 261

290 Brown Bros., Toronto, Ont.—Account and pocket book binding. 261

291 Perrault, L., & Co., Montreal, Q.—Account books, printing. 261

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

293 Dawson Bros., Montreal, Q.—Blank books, binding. 261

295 MacKinlay, A. & W., Halifax, N. S.—Blank books. 261

297 Stanton, M., & Co., Toronto, Ont.—Room paper hangings. 264

Weapons, etc.

300 Meyer, F. W. Albert, Montreal, Q.—Small gun, light artillery. 266

301 Rawbone, J. L., Toronto, Ont.—Implements for breech and muzzle guns. 269

302 Stephens, R. E., Owen Sound, Ont.—Breechloading rifle. This rifle is remarkable for having only the minimum of motions, cock, load, and fire; the maximum of rapid fire is consequently attained. It has the side-hinge block breech. 269

303 Kilby, R. H., Montreal, Q.—Evans repeating rifle. 269

305 Egan, John, Halifax, N. S.—Case of guns and rifles. 269

Medicine, Surgery, Prothesis.

307 Miller, Hugh, & Co., Toronto, Ont.—Tick destroyer for sheep. 272

310 Stewart, George, jr., St. John, N. B.—Ship's medicine chest. 272

311 Marter, F. B., Halifax, N. S.—Ship's medicine chest. 272

314 Canada Truss Factory, Montreal, Q.—Surgical apparatus, artificial limbs. 276

315 Pourtier, M., Quebec, Q.—Philodonte fountain. 277

Hardware, Edge Tools, Cutlery, and Metallic Products.

316 Moore, Th., Cooksville, Ont.—Axe and tool handles. 280

318 Smith, R. H., & Co., St. Catherine, Ont.—Saws. 280

320 Dates Patent Steel Co., Toronto, Ont.—Edge tools. 280

322 Ahern & Walsh, Ottawa, Ont.—Lumbermen's tools. 280

323 Robertson, Peter, Ottawa, Ont.—Lumbermen's and stonecutters' tools. 280

324 Warnock, Jos., & Co., Galt, Ont.—Edge tools for wood, iron, and stone. 280

325 Booth, G., Toronto, Ont.—Engine and pipe wrench. 280

327 Chapleau, Godfroi, Montreal, Q.—Limestone cutters' tools. 280

328 Gilmour, G., Cote St. Paul, Q.—Augers and bits. 280

329 Boivin & Co., New Liverpool, Q.—Axes and edge tools. 280

332 Spiller Bros., St. John, N. B.—Edge tools and cutlery. 280

335 Broad, E., St. John, N. B.—Axes, edge tools, hammers. 280

339 Morley, Victoria, Br. Col.—Carpenters' mallets, yew and arbutus. 280

340 Cable, Bayard, & Co., Montreal, Q.—Adjustable elastic razor strop. 281

341 Whelpley, J. Albert, Greenwich, N. B.—Skates. 281

342 Starr Manufacturing Co., Halifax, N.S.—Skates. Acme, Club, Forbes' patent, sold largely in Russia, Sweden, Norway, Denmark, France, England, and United States. Being self-fastening, it possesses great merit for convenience. Quality superior. 281

343 Fenerty, E. L., & Co., Halifax, N. S.—Skates. 281

344 Copp Brothers, Hamilton, Ont.—Enameled ware. 283

347 Laidlaw, A., & Co., Hamilton, Ont.
a Enameled hollow ware. 283
b Enameled plumbers' ware. 284

349 Dixon, Smith, & Co., Toronto, Ont.—Sash fastener. 284

352 Campbell, Geo., Toronto, Ont.—Fireproof shutters. 284

353 Gibbs, Geo., & Co., Port Hope, Ont.—Nuts and bolts. 284

354 Law, John, London, Ont.—Brass work. Our mica slit lubricator will bear high pressure, is transparent, will not break. Our water-gauge glass guard and new mode of packing is very durable. Law's patent tar and petroleum burner demonstrates gas tar and petroleum tar as a good and handy fuel. A quarter-inch stream of tar will give fifty horse-power sure. 284

355 Griffith & Co., Toronto, Ont.—Locks and latches. 284

356 Brisley, W., Toronto, Ont.—Clip hook. 284

358 Stringer, Jos., Kingston, Ont.—Locks. 284

359 Cavern & Button, Gananoque, Ont.—Hinges and nails. 284

360 Ritchie, John, & Son, Toronto, Ont.—Brass work. 284

363 Pillow, Hersey, & Co., Montreal, Q.—Tacks, nails, spikes, horseshoes. American export agents and foreign visitors interested in this class of goods will do well to examine them. We endeavor to please all in executing orders intrusted to us. They can be sold at prices that must induce buyers. 284

365 Ives, H. R., Montreal, Q.—General hardware. 284

370 Belanger, Vinet, & Dupart, Montreal, Q.—Axles. 284

373 Foster, S. R., & Son, St. John, N. B.—Tacks, nails. 284

374 McKenzie, M., Prince Edward's Island.—Burglar-proof locks. 284

376 Starr Manufacturing Co., Halifax, N. S.—Nails, spikes, bolts, cans, dies. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

379 Gurd, J. R., London, Ont.—Corn broom and whisks. 286

381 Simms, T. S., & Co., St. John, N. B.—Brushes. 286

382 Whitehead & Turner, Quebec, Q.
a Brushes, brooms, dusters. 286
b Fancy woodenware. 289

383 Nelson, H. A., & Sons, Montreal, Q.—Brooms. 286

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Cordage, Leather, Wooden, Metal Ware.

385 Copland, McLaren, & Co., Montreal, Q.—Wire brushes for cleaning castings. 286

387 Copeland, Geo., Hamilton, Ont.—Cordage and twine. 287

390 Conner, Thos., & Sons, St. John, N. B.—Cords, ties, lines. 287

391 The Dartmouth Ropework Co., Halifax, Nova Scotia—Manila cordage and bolt rope, and tarred manila lanyards, four-strand tarred Russian hemp cordage and ratline. No. 1 navy, navy, and patent new stock oakum in 50-pound bundles, and the same qualities spun, ready for calkers to drive. The patent new stock oakum is made entirely from hemp and tow, tarred upon their own machinery, patented December 30, 1873. It can be carded or spun directly from tarring machine, the finished oakum being completed within the hour. 287

392 Bridge, Andrew, West Brook, Ont.—Pails and tubs. 289

393 Clerke & Co., St. John, N. B.—Lasts for boots and shoes. 289

394 Hall, G. B., Quebec, Q.—Tubs, pails. 289

396 Peacock, W., Montreal, Q.—Cricket bats. 289

399 Wendberg & Co., Toronto, Ont.—Galvanized ironwork. 291

Carriages, Vehicles, and Accessories.

419 Guerin, C., Ottawa, Ont.—Child's carriage. 293

426 Webb, John R., Quebec, Q.—Sliding sleigh. 295

431 Lugsden & Barnett, Toronto, Ont.—Ladies' hunting saddles. 296

432 Skellington, S., Bros., Windsor, Ont.—Whip lashes. 296

433 Borbridge, S. & H., Ottawa, Ont.—Harness. 296

434 Vahey, W., Forrest, Ont.—Collars and machine. 296

438 Percy, John, Bowmanville, Ont.—Horseshoes. 296

439 Weichel, M., Elmira, Ont.—Horseshoes. 296

440 Bell, C. R., Parkhill, Ontario.—Horseshoes. 296

441 Malcolm, R., Toronto, Ont.—Saddlery, harness, bags. 296

442 Cable, Bayard, & Co., Montreal, Q.—Halter clasps. 296

446 Culbert, W. H., Sussex, N. B.—Harness, collars. 296

449 Campbell & Fowler, St. John, N. B.—Springs and axles. 296

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450 Clarke, R., & Co., St. John, N. B.—Lasts. 533

451 Bradshaw, T. H., St. Martin's, N. B.—Ship models. 594

452 Bradshaw, J. D., St. Martin's, N. B.—Ship models. 594

453 Date, John, Montreal, Q.—Diving apparatus. 594

454 Skinner, G. M., Gananoque, Ont.—Fishing tackle. 647

455 Scribner, D., St. John, N. B.—Salmon and trout rods. 647

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

FRANCE.

(North of Nave, Columns 39 to 53.)

Chemical Manufactures.

Chemical Manufactures.

1 Grillon, E., Paris.—Indian dates. 200

2 Coignet, Father & Son, & Co., Paris.—Chemical and pasture products. 200

3 Galzy, E., Lyons.—Insect products. 200

4 Fournier, Jean, Roanne, Loire.—Cream of tartar. 200

5 Hygienic Products Manufacturing Co., Paris.—Chemical preparations. 200

6 Limousin, Paris.—Pharmaceutical preparations; medicated capsules. 200

7 Limousin & Co., Paris.—Medicated capsules. 200

8 Michel, Pyrrhus, Vaison, Vaucluse.—Digestive elixir and vermifuge. 200

9 Rigollot & Co., Paris.—Mustard poultice and instantaneous plaster. 200

10 Rouault, Ch., Paris.—Syrup of iron and tar. 200

11 Audibran, Paris.—Anti-scorbutic elixir. 200

12 Baudon, Paris.—Wine of antimony. 200

13 Boude & Son, Marseilles.—Refined sulphur. 200

14 Beslier, A., Paris.—Pharmaceutical preparations. 200

15 Brasseur, Romorantin, Loir & Cher.—Pectoral tonic syrup. 200

16 Bravais, Rooul, & Co., Paris.—Pharmaceutical preparations. 200

17 Chevrier, Paris.—Pharmaceutical preparations. 200

18 Cléry, Hughes, Paris.—Pharmaceutical preparations. 200

19 Vicat, Joseph Henri, Paris.
a Insect powder, and instruments for its use. 200
b Liquid blacking. 202

20 Tancrède Bros., Paris.—Glue and gelatin, animal charcoal, bone tallow. 200

21 Daubin & Co., Paris.—Fly-paper and mosquito powder. 200

22 Druelle, Reims, Marne.—Champagne wines. 200

23 Dubois, Charles, Marseilles.—Special chemical preparations for the navy. 200

24 Garnier, P., Noyon, Oise.—Pharmaceutical preparations. 200

25 Ducro & Co., Paris.—Meat extract. 200

26 Jacquand, Father & Son, Lyons.—Glues, gelatins, bone phosphates, etc. 200

27 Joseph, Victor, Petit Quévilly, near Rouen.—Oil for burns. 200

28 Lefebvre, Fortuné, Illiers, Eure & Loire.—Green water. 200

29 Reynal, Léonce, Paris.—Pharmaceutical preparations. 200

30 Rigand & Dusard, Paris.—Chemical and pharmaceutic preparations. 200

31 Rubaton, Ges., & Co., Marseilles.—Carbonate of soda. 200

32 Solvay & Co., Varangeville, Dombasle, Mewithe and Moselle.—Chemical products. 200

33 Torchon, Ch., Paris.—Pharmaceutical preparations. 200

34 Hottot, A., & Co., Paris.—Pepsin and other digestive preparations. 200

35 Thomas Brothers, Avignon, Vaucluse.
a Chemical products; artificial alizarine, sulphuric acid, etc. 200
b Madders. 202

36 Coux Roseaux, Asnieres, near Paris.—Oils and greases; covering for steam pipes. 201

37 Poiret & Son, Paris.—Soap in the form of letters and various ornaments. 201

38 Bourgeois & Co., Paris.—Machine oils. 201

39 Jolivet, L., Paris.—Wax tapers. 201

40 Deutsch, A., Paris.—Machine oils; refined petroleum. 201

41 Chivot, Naudé, Amiens, Somme.—Machine oils. 201

42 Roux, Charles, jr., Marseilles.—Soaps and raw materials; olive oil for dyers. 201

43 Rigaud & Co., Paris.
a Toilet soaps. 201
b Perfumery. 203

44 Violet, Godefroy, & Co., Paris.
a Soaps. 201
b Fine perfumery and raw materials. 203

45 Richter, F., Lille, Nord.—Ultramarine blue. 202

46 Berthoud & Co., Paris.—Blacking. 202

47 Antoine's, L., Son, Paris.—Writing inks. 202

48 Chiraux, L., Cambray.—Blacking. 202

49 Clauseau, Father & Son, Palun & Co., Avignon, Vaucluse.—Madder extract. 202

50 Coez, E., & Co., St. Denis.—Paints and varnishes. 202

51 Julien, A., & Co., Marseilles.—Chemical products, submarine paint. 202

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Chemicals, Ceramics, Furniture.

52 Bourgeois, senior, Paris.—Fine colors for painting and drawing. 202

53 Caron, L., Paris.—Cement and plaster dryer. 202

54 Guinon's Son & Co., Lyons.—Chemical products for dyeing and printing. 202

55 Gillet & Son, Lyons.—Chemical products for dyeing. 202

56 Guimet, Lyons.—Ultramarine blue. 202

57 Hardy, Milori, Ch. G., Paris.—Colors. 202

58 Jacquot & Co., Paris.—Blacking. 202

59 Kaulek, Adolphe, Puteaux, Seine.—Coloring materials. 202

60 Larenaudière, F., Paris.—Inks. 202

61 Lacroix, A., Paris.—Vitrifiable colors for china, faience, church windows, opal, and enamel. 202

62 Lorilleux, Ch., Paris.—Black and colored typographic and lithographic inks. 202

63 Plateau, E., Paris.—Writing inks. 202

64 Poirrier, A., Paris.—Chemical products, coloring materials. 202

65 Seurin, J., Paris.—Varnish, mastic, and oil colors. 202

66 Toiray, Maurin, Paris.—Writing inks. 202

67 Foubert, A., Paris.—Hair dyes. 202

68 Brochocki, C. D., & Co., Boulogne, Seine.—Javelle water. 203

69 Chiris, A., Grasse, Alpes Maritimes.—Perfumery and raw materials. 203

70 Colas, E., & Christoff, C., Paris.—Essence of roses. 203

71 Delettrez, Adolphe, Paris.—Perfumery. 203

71*a* Chouet & Co., Paris.—Dentifrice water. 203

72 Hermann, Louis, Paris.—Raw materials for perfumery. 203

73 Lautier Sons, Grasse, Alpes Maritimes.—Pomades, essential oils, essences, etc. 203

74 Mottett, J., & Co., Marseilles.—Raw materials for perfumery. 203

75 Roure, Bertrand, Son, Grasse, Alpes Maritimes.—Raw materials for perfumery; extracts and essences. 203

76 Seguin, Bordeaux.—Zenobia water and dyes. 203

77 Sensfelder, Arcueil, Seine.—Eye water and pomades. 203

78 Viard, F., Paris.—Perfumery. 203

79 Viguier, Manager French Hygienic Society, Paris.—Figaro water. 203

80 Séguin, Paris.—Althocinum. 203

Ceramics—Pottery, Porcelain, Glass, etc.

84 Goyard, F., Paris.—Crucibles and furnaces for laboratories. 207

85 Simons & Co., Cateau (Nord).—Mosaic tiles of sandstone in vestibule of Department of Public Works Pavilion. 208

86 Muller, E., & Co., Ivry (Seine).—Enameled tiles in the vestibule and on the front of Department of Public Works Pavilion. 208

87 Ollive, A., Paris.—Faience pavements. 208

88 Trichaud, A., Marseilles.—Tiles. 208

89 Boulenger, senior, Paris.—Incrusted mosaic pavement. 208

90 Gien Pottery Mnfg. Co., Gien (Loiret).—Artistic faience. 210

91 Caille, Miss Fanny, Paris.—Artistic faience. 210

92 Montagnon, A., Nevers.—Artistic faience. 210

93 Howry, J., Paris.—Artistic china and faience, fancy furniture. 210

94 Hasslauer & de Champeaux, Givet (Ardennes).—Clay pipes. 210

95 Aubry, J., Bellevue (near Toul).—Artistic faience. 210

96 Fiolet, L., St. Omer (Pas de Calais).—Clay pipes. 210

97 Brianchon, J., senior, Paris.
a Artistic faience. 210
b Pearl porcelain. 213

98 Sergent, Th., Paris.—Artistic faience. 211

99 Barbizet, Son, Paris.—Bernard Palissy faience. 211

100 Sohn, L., & Delabre, A., Paris.—Porcelain flowers, jewels, ornaments, crowns, and bouquets. 212

101 Woodcock, F., Paris.—Porcelain flowers and bouquet. 212

102 Blot, Paul, Paris.—China and glass. 213

103 Détemmerman, P., Paris.—Porcelain flowers. 213

104 Vacquerel, P. E., Paris.—Decalcomania on porcelain. 213

105 Thierry, Paris.—Decorated china. 213

106 Field-Haviland, Ch., Paris.—Porcelain. 213

107 Hache, Ad., & Lehalleur Bros., Paris.—White and decorated porcelain. 213

108 Haviland & Co., Limoges.—China. 213

109 Floreffe Company, Jeumont (Nord).—Mirrors and glassware. 214

110 St. Gobain, Chauny, & Cirey, Paris.—Plain, plated, and silvered glass; rough glass for skylights. 214

111 Pelletier, M. A., & Sons, St. Just on the Loire.—Stained window glass. 216

112 Appert, Lengele, & Co., Paris.—Glass cylinders. 216

113 Brocard, P. J., Paris.—Chandeliers and mirrors. 216

114 Souchet & Co., Paris.—Flowers in enamel. 216

115 Hue & Co., Paris.—Crystals for interior decorations. 216

Furniture and Objects of General Use in Construction and in Dwellings.

116 Raffl & Co., Paris.—Church statues and furniture. 217

117 Poussielgue, Rusand P., Paris.—Church decorations. 217

118 Perrot, Henry, Paris.—Bronzes for furniture. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Glassware, Heating and Lighting Apparatus.

119 Parfonry & Lemaire, Paris.—Marble chimney pieces. 217

120 Touchard, Ernest, Paris.—Special ornaments for churches. 217

121 Duplan, Hamot, & Co., Paris.—Furniture. 217

122 Brunet, Paul, Paris.—Bronze and goldsmiths' wares for churches. 217

123 Morel, A., Paris.—Bronzes for furniture. 217

124 Michel, Louis, Toulouse.—Church decorations. 217

125 Mazaroz, Ribalier, Paris.—Artistic furniture. 217

126 Marga, Eugene, Paris.—Marble chimney piece. 217

127 Mayaud Bros., Paris.—Religious articles. 217

128 Marchand, I., Paris.—Decorated furniture. 217

129 Marchand, Louis-Léon, Paris.—Artistic bronzes for furniture. 217

130 Lichtenfelder, Paris.—Elastic steel seats. 217

131 Haffner, B., senior, Paris.—Safes with combination locks. 217

132 Kaffel Bros., Paris.—Bronze furniture with china, faience, crystal, and marble decorations. 217

133 Jolivet, L., Paris.—Candles for churches. 217

134 Houry, T., Paris.—Fancy furniture. 217

135 Gallais, A., Paris.—Lacquered furniture. 217

136 Froc, Robert, & Son, Paris.—Altars and religious statues. 217

136*a* Allard, Paris.—Furniture. 217

137 Eliaers, A. E., Paris.—Folding seats. 217

138 Cornu, E., & Co., Paris.—Bronzes. 217

139 Chovet, L., Paris.—Religious pictures. 217

140 Beysens & Beckers, Paris.—Religious articles. 217

141 Susse Brothers, Paris.—Bronzes. 217

142 Sussfeld, Lorsch, & Co., Paris.—Marble clocks. 217

143 Sauvage & Ruck, Paris.—Bronze mantel ornaments. 217

144 Frenais, Armand, Paris.—Unplated and plated knives, forks, and spoons. 218

145 Bitterlin, Paul, jr., Paris.—Glassware. 218

147 Haviland & Co., Limoges.—Table china. 218

148 Field-Haviland, Ch., Paris.—Table china. 218

149 Hache, Ad., & Pepin, Lehalleur Bros., Paris.—Table china. 218

150 Bitterlin, Son, Paris.—Glassware. 218

151 Blot, Paul, Paris.—Table glass and chinaware. 218

152 Lorin, A., Chartres (Eure & Loir).—Stained glass church windows. 219

153 Brocard, P. T., Paris.—Emdeane. glass. 219

155 Chabin, H., Paris.—Stained glass windows. 219

156 St. Gobain, Chauny, & Cirey, Paris.—Mirrors. 219

157 Mansuy-Dotin, Jules, Paris.—Artistic enamels for furniture. 219

158 Pelletier, M. A., & Sons, St. Just sur Loire.—Stained window glass. 219

159 Pottier, Paris.—Artistic enamels, Limousin and Henry II. style. 219

159*a* Brot, Leopold, Paris.—Mirrors in gilt frames; mirrors in furniture. 219

160 Thiry, jr., Paris.
a Galvanized iron bird cage. 219
b Forged iron pavilion. 227

161 Luttringer, Ch., Paris.—Pasteboard frames. 220

162 Neuvialle, J. B., Paris.—Heating apparatus. 222

163 Laperche, Paris.—Marble chimney pieces. 222

163*a* Bouhon & Co., Paris.—Bronze fire guards. 222

164 Aubry, T., Bellevue, near Toul.—Faience stoves. 222

165 Entz, H., Wazcon, near Sedan.—Portable cooking range used in the army. 222

166 Roux, L., Lyons.—Heaters and chimney pieces. 222

167 Robinot, Ch., Paris.—Gas fixtures. 223

168 Corbon, Paris.—Lamps. 223

169 Peltier, E., & Paillard, A., Paris.—Metallic labels and boxes for preserves; direct printing upon metals. 224

170 Barau & Colas, Nantes (à la Ville en Bois).—Metallic jars for preserving. 224

171 Mestre, A. de, Bordeaux.—Apparatus for corking gaseous liquids. 224

172 Letang, Th. I. B., Paris.—Chocolate moulds. 224

173 Gervais, A., & Co., Paris.—Kettles. 224

174 Fisse, Thirion, & Co., Reims.—Iron clasps; system of corking wines. 224

175 Denet, E., Paris.—Copper moulds for alimentary pastes. 224

176 Dagand, Etienne, Paris.
a Coffee pots used by the army, navy, steamships, and public establishments. 224
b Hot water baths. 226

177 Dienheim-Brochocki, T. O. de, Paris.—Automatic disinfector. 226

178 Chappée, A., Mans (Sarthe).—Iron water and gas pipes. 227

179 Richard, B., Longecourt, near Aisery (Cote d'or).—Massive floor with borders. 227

180 Regnier, Paris.—Economical wooden ridge of a house. 227

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven Goods, Silk.

181 Bonhomme, Uncle & Nephew, Paris.—Wooden doors of the vestibule, and wainscoting and frames of the drawings of the Department of Public Works Pavilion. 227

182 Moisant, A., Paris.—Metallic frame of Department of Public Works Exhibition Pavilion. 227

183 Secretan, E., Paris.—Copper sheets for construction. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

184 Pallu, Eug., & Co., Mahé (Seychelle Island).—Cocoanut fibres. 229

185 Dumortier & Cuigniet, Roubaix (Nord).—Tickings. 230

186 Cartier-Bresson, Paris.—Cotton threads. 230

187 Perreaux, L. G., Paris.—Model of a military tent. 230

188 Walcker, W., Paris.—Military and garden tents. 230

189 Chiffray, A., Maronne, near Rouen.—Prints and calicoes. 232

190 Roussel, Emile, Roubaix (Nord).—Dyed and printed cotton fabrics. 232

191 Vraux & Co., Paris.—Linen thread. 233

192 Meunier & Co., Paris.—Linen and linen table covers. 233

192*a* Vrau & Co., Paris.—Linen and thread. 233

193 Hassebroucq Brothers, Comines (Nord).—Linen threads. 233

194 Vrau & Co., Lille.—Hemp thread for sewing. 233

Woven and Felted Goods of Wool, etc.

195 Demar, L., Elbeuf (Seine Inférieure).—Gentlemen's dress goods. 235

196 Dumortier & Cuignet, Roubaix (Nord).—Cloth. 235

197 Prouvost, Amédée, & Co., Roubaix.—Carded wools. 235

198 Chamber of Commerce, Reims.—Woolen fabrics. 235

199 Delamotte-Mongrenier, Reims (Marne).—Dyed merinoes, cashmeres, reps, etc. 235

200 Seydoux, Sieber, & Co., Paris.—Carded threads and woolen fabrics. 235

201 Talamon, Son, & Co., Paris.—Woolen fabrics. 235

202 Bellest, E., & Co., Elbeuf.—Woolen cloth. 235

203 Blin & Bloch, Elbeuf (Seine Inférieure).—Woolen cloth. 235

204 Decaux, Son, Elbeuf.—Woolen cloth. 235

205 Dabert & Co., Saint Denis (Seine).—Dyed woolen fabrics. 235

206 Fortin Bros., Paris.—Felts. 235

207 Fouchet, sr. & jr., & Hulme, Elbeuf.—Cloth. 235

208 Frézon, senior, & Leclerc, senior, Amiens.—Cloth. 235

209 Philippe, C., Elbeuf (Seine Inférieure).—Cloth for pants and vests. 235

210 Mali, Henry W. T., & Co., Paris.—Woolen fabrics and cloth. 235

211 Pinon & Guérin, Paris.
a Cloth for men's wear. 235
b Novelties for females' wear. 238

212 Reynaud, Paris.—Medicated flannel. 236

213 Terrillon, L., Paris.—Shawls. 237

214 Robert, Guérin, Widow, & Son, Reims (Marne).—Merinoes and Scotch cashmeres. 238

215 Houpin, Ernest, Reims (Marne).—Dyed merinoes, cashmeres, reps, etc. 238

216 Maes, G., Clichy-la-Garonne.—Dyed woolen fabrics. 238

217 Dufourmantel, Ph., & Co., Corbie (Somme).—Woolen and silk warps. 238

218 Chalamel, Alf., & Co., Paris.—Dyed woolen fabrics. 238

219 Laroche, A., Saulxures (Vosges).—Cotton and wool, with process of manufacture. 238

220 Drogue & Monnard, Lyons.—Poplins. 238

221 Droz, Juillet, & Co., Lyons.—Poplins. 238

222 Gravier, Clément, Nimes (Gard).—Velvet carpets. 239

223 Duplan, Hamot, & Co., Paris.—Carpets. 239

224 Bertrand, Boulla, Nimes (Gard).—Imitations of old tapestries. 239

225 Braquenie Brothers, Paris.—Tapestries and carpets. 239

226 Grison, T., & Co., Lisieux (Calvados).—Dyed and printed cloth. 241

227 Guillaumet, A., Sons, Suresnes (Seine).—Dyed woolen fabrics. 241

228 Boquet, J., & Co., Amiens.—Velvet. 241

229 Chiffray, A., Maromme, near Rouen.—Printed woolen fabrics. 241

230 Roussel, Emile, Roubaix (Nord).—Dyed and printed woolen fabrics. 241

231 Piquée, F., & Bros., Paris.—Reps and velvets. 241

232 Poirrier-Mortier & Muller, Paris.—Dyed fabrics. 241

233 Vanoutryve, F., & Co., Paris.—Furniture coverings. 241

234 Wattine, Ch., & Co., Roubaix (Nord).—Furniture coverings and draperies. 241

235 Montagnac, E. de, & Son, Sedan (Ardennes).—Velvet. 241

236 Dupont, L., Paris.—Furniture coverings. 241

Silk and Silk Fabrics.

237 Pellet, A. P., St. Jean du Gard.—Raw silk. 242

238 Arles, Dufour, Lyons.—Raw silk. 242

239 Boudon, Louis, St. Jean du Gard.—Raw silk. 242

240 Chabert, J., & Co., Chomerac (Ardèche).
a Raw silk. 242
b Woven silks. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Silk, Clothing.

241 Thomas Brothers, Avignon (Vaucluse).
a Raw silk. 242
b Silks. 245

242 Thomas, F., Pont-des-Charrettes (Gard).
a Cocoons and raw silk. 242
b Silks. 245

243 Bonnet & Co., Lyons.
a Raw silk. 242
b Failles, taffetas, and satins. 245

244 Chardin, Ernest, Paris.—Sewing and embroidery silks. 243

244*a* Poydebard, St. Paul-on-Jarret, Loire.—Sewing silk. 243

245 Hamelin, A., Son, Paris.—Silks. 244

246 Faye & Thévenin, Lyons.—Colored silks. 245

246*a* Droz, Juillet & Co., Lyons.—Silks. 245

247 Gascou, L. R., Montauban (Tarn and Garonne).—Bolting silk. 245

248 Gillett & Son, Lyons.—Black silks. 245

249 Giraud, Alex., & Co., Lyons.—Colored silks and foulards. 245

250 Trapadoux, A. L., Bros., & Co., Lyons.—Foulards. 245

251 Poncet, senior & junior, Lyons.—Silks. 245

252 Sèvène, Barral, & Co., Lyons.—Failles. 245

253 Tapissier Sons & Debry, Lyons.—Black silks, failles, and taffetas. 245

254 Doux, E., & Co., Lyons.—Silks. 245

255 Mauvernay&Co.,Lyons.—Silks. 245

256 Lachard Bros. & Co., Lyons.—Lining silks. 245

257 Jaubert, Audras, & Co., Lyons.—Black silks. 245

258 Jaudin & Duval, Lyons.—Foulards. 245

259 Brosset-Heckel & Co., Lyons.—Satins. 245

260 Audibert, Monin, & Co., Lyons.—Silks and poplins. 245

261 Bardon & Ritton, Lyons.—Colored silks. 245

262 Bullot, C., Paris.—Millinery goods. 245

263 Huber, E., & Co., Paris.—Silk plush for hatters. 245

264 Tabard, Benoit, & Co., Lyons.
a Silks and failles. 245
b Moire antiques. 246

265 Bressen-Agnés & Co., Lyons.
a Silks. 245
b Gauzes. 247

266 Guinet, Ant., & Co., Lyons.
a Black silks. 245
b Velvets. 247

267 Jurie, A., & Co., Lyons.
a Silks. 245
b Velvets. 247

268 Gondard, Cirlot, & Martel, Lyons.
a Foulards. 245
b Velvets. 247

269 Martin, J. B., Tarare (Rhone).
a Silks. 245
b Plush and velvets. 247

270 Million & Servier, Lyons.
a Silks. 245
b Velvets. 247

271 Champromy, J. B., Renaison (Loire).
a Foulards. 245
b Ribbons. 248

272 Gourd, Croizat, Son, & Dubost, Lyons.—Silks. 246

273 Henry, J. A., Lyons.—Silk fabrics for church ornaments and furniture. 246

274 Luthringer, Lyons.—Figured silks. 246

275 Tassinari & Chatel, Lyons.—Silks for church ornaments and furniture. 246

276 Chiffray, A., Maromme, near Rouen.—Printing upon silk. 246

277 Servant, C. J., & Co., Lyons.—Black velvets. 247

278 Montessuy & Chomer, Lyons.—Crapes. 247

279 Terrillon, L., Paris.—Fancy goods and handkerchiefs. 247

280 Villard & Co., Lyons.—Black velvets. 247

281 Bouchinet, Paris.—Dress goods. 247

282 Gautier, Bellon, & Co., Lyons.—Velvets. 247

283 Dornon, L., Lyons.—Silk gauzes for bolting flour, and sifting chemical and ceramic products. 247

284 Font, Chambeyron, & Benoit, Lyons.—Black velvets. 247

285 David, J. B., Saint-Etienne (Loire).—Ribbons. 248

285*a* Brionde, St. Etienne.—Velvet ribbons. 248

286 Girou Brothers, St. Etienne (Loire).—Velvet ribbons. 248

287 Lamary, Paris.—Silk watch guards. 249

Clothing, Jewelry, and Ornaments; Traveling Equipments.

288 Lutton, Am., Paris.—Chasubles. 250

289 Fromage, Lucien, & Co., Rouen.—Braces, belts, garters, and elastic tissues. 250

290 Tabourot & Pacault, Paris.—Shirts. 250

291 Vessiere-Paulin, J. A., Paris.—Children's clothing. 250

292 Vauthier, Mrs., Paris.—Children's clothing. 250

293 Tailors' Society, Paris.—Gentlemen's clothing. 250

294 Bullot, C., Paris.—Silk stockings. 250

295 Levilion, Paris.—Ladies' costumes and trimmings. 250

296 Lenoir, P., Paris.—Corsets. 250

297 Fouet, Mrs., Paris.—Ladies' underwear. 250

298 Farcy & Oppenheim, Paris.—Corsets. 250

299 Society of United Cutters, Paris.—Gentlemen's furnishing goods. 250

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

300 Vasseur, Mrs. Virginie, Paris.
a Traveling and court dresses; cloaks. 250
b Laces. 252

301 Herth, Henry, Paris.—Boots and shoes. 251

302 Jouvin & Co., Paris.—Kid gloves. 251

303 Tréfousse & Co., Chaumont (Haute-Marne).—Kid gloves. 251

304 Poron Bros., Troyes (Aube).—Millinery. 251

305 Jouvin, Mrs. Xavier, Paris.—Kid gloves. 251

306 Jeandron-Ferry, Paris.—Ladies' boots and shoes. 251

307 Jugla, D., Paris.—Kid gloves. 251

308 Méliès, Louis Stanislas, Paris.—Boots and shoes. 251

309 Nemoz, Pierre, Paris.—Ladies' and children's felt hats. 251

309*a* Legendre, Paris.—Boots and shoes. 251

310 Ruffin, J. B., Paris.—Hats for ladies and children. 251

311 Berr, Eugène, Paris.—Kid gloves. 251

311*a* Guibert, jr., Paris.—Gloves. 251

312 Bullot, C., Paris.—Millinery. 251

313 Buscarlet, Widow, & Malo, Paris.—Kid gloves and skins. 251

314 Shoemakers' Society, Paris.—Boots and shoes. 251

315 Chapsal, Auguste, Aurillac (Cantal).—Waterproof shoes. 251

316 Dubois, Gustave, Mony (Oise).—Boots and shoes. 251

317 Corady, Julia de, Paris.—Millinery. 251

318 Pinet, F., Paris.—Boots and shoes for ladies and children. 251

319 Huard, L., Paris.—Boots and shoes. 251

320 Hègle-Glandines & Corbeau, Paris.—Gloves. 251

321 Bacquet & Co., Saint-Pierre-les-Calais.—Machine-made laces. 252

322 Babey, Ch., Calais.—Tulles and embroideries. 252

323 Bailey, Alfred, Paris.—Tulles and gimp for furniture. 252

324 Boutenjeun, Saint-Pierre-les-Calais.—Machine-made laces. 252

326 Maxton, Robert, & Co., Saint-Pierre-les-Calais.—Machine-made laces. 252

327 Meunier & Co., Paris.—Embroidered curtains. 252

328 Millas, Toulouse.—Gimps for furniture. 252

328*a* Galoppe & Tragin, Paris.—Laces. 252

329 Herbelot & Devaux, Calais.—Blonde and laces. 252

330 Dieutegard, E. & E., Paris.—Trimmings. 252

331 Dognin & Co., Paris.—Lama, India, and Chantilly laces. 252

332 Giraud & Josserand, Tarare (Rhône).—Muslins and tarlatans. 252

333 Gaillard, J., senior & junior, Saint-Pierre-les-Calais.—Machine-made laces. 252

334 Frances Brothers, Saint-Pierre-les-Calais.—Tulle and blonde laces. 252

335 Flauraud & Son.—Laces. 252

336 Pauw, F. de, Paris.—Trimmings. 252

337 Perrin Brothers, Grenoble.—Kid gloves. 252

338 Raffin, Mrs. C. M., & Son, Tarare.—Tarlatans and muslins. 252

339 Terrillon, L., Paris.—Ladies' trimmings. 252

339*a* Crassier & Co., Paris.—Laces. 252

340 Cossard, Paris.—Laces. 252

341 Cazin & Noyon, Saint-Pierre-les-Calais.—Blonde and black laces. 252

342 Verdé-Delisle & Co. (India Company), Paris.—Hand-made lace. 252

343 Davenierè, E., jr., Saint-Pierre-les-Calais.—Machine-made laces. 252

343*a* Erassier, Paris.—Laces. 252

344 Collective Exhibit of the Calvados lace manufacturers.—Dalechamp, J., Caen; Lecornu, Caen; Lecoq-Lamotte, Caen; Leroy, Mrs., Caen; Mérouze, Mrs., Caen; Robert Brós., Courseulles-sur-Mer (Calvados); Mérouze, U., Caen; Verdé-Delisle & Co., Caen. Laces. 252

345 Clément & Co., Paris.—Pearls and diamonds. 253

346 Audy, Mrs., Paris.—Imitation pearls. 253

347 Bolzani, Jean, Son, Paris.—Chains. 253

347*a* Boucheron, Paris.—Jewelry. 253

348 Bourcier, Ch., Paris.—Imitation jewelry. 253

349 Carbonneaux, François, Paris.—Gilt and steel jewelry. 253

349*a* Otterbourg, Paris.—Jewelry. 253

350 Capra, J., Paris.—Gilt jewelry. 253

351 Foruch, A., Bourg (Ain).—Jewelry. 253

352 Hémery, Ed., Paris.—Gilt and gold-plated jewelry. 253

352*a* Briens, Paris.—Jewelry. 253

353 Hirn, A., & Co., Paris.—Gilt jewelry. 253

354 Levy, Isidore, Paris.—Imitation jewelry. 253

355 Maseurand Bros., Paris.—Gilt jewelry and pearls. 253

356 Murat & Co., Paris.—Gold-plated jewelry. 253

356*a* Bosset, Paris.—Jewelry. 253

357 Philippe, Emile, Paris.—Jewelry. 253

358 Piel, A., Paris.—Imitation jewelry. 253

359 Regad, Anatole, jr., Paris.—Imitation diamonds. 253

360 Savary & Rondeleux, Paris.—Jewelry and imitation stones. 253

361 Sordoillet, Joseph François, Paris.—Steel jewelry. 253

362 Soyer, Paul, Paris.—Jewelry. 253

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Jewelry, Fancy Articles, Stationery.

363 Topart Bros., Paris.—Imitation pearls and corals. 253

364 Touchard, Ernest, Paris.—Gilt church and theatrical ornaments. 253

365 Carmant, Adolphe, Paris.
a Jewelry. 253
b Fancy bronzes. 254

366 Cléray, E., Paris.
a Shell jewelry. 253
b Fancy articles. 254

367 Woodcock, F., Vaugirard.—Porcelain flowers. 254

368 Aubé, H., Paris.—Napkin ring and fastener. 254

369 Bapterosses, F., Paris.—Porcelain buttons and pearls. 254

370 Bicqué & Dupressoir, Paris.—Feathers. 254

371 Blot, Eugène, Boulogne-sur-Mer.—Clay pipes. 254

372 Bondier, Ulbrich, & Co., Paris.—Meerschaum and brier-wood pipes. 254

373 Bontems, B., Paris.—Moving and singing birds. 254

374 Bourgeois, senior, Paris.—Colors without poison, for toys. 254

375 Brodin, jr., Paris.—Aerostatic articles. 254

376 Cohumer & Collet, Paris.—Children's and dolls' furniture. 254

377 Charageat, E., Paris.—Paragon and automatic umbrella. 254

378 Dehors, A., Paris.—Toys. 254

379 Delivré, L., Paris.—Artificial flowers. 254

380 Deschamps, Maurey, & Co., Paris.—Toilet brushes. 254

381 Détemmermann, P., Paris.—Porcelain flowers. 254

382 Didout, H., Son, Paris.—Clasps for pocket books, cigar cases, etc. 254

383 Dupont, A., Beauvais.—Ivory brushes. 254

384 Faivre, Paris.—Toys. 254

385 Favier, A., Paris.—Flowers and leaves. 254

386 Fiolet, L., Saint Omer (Pas de Calais).—Clay pipes. 254

387 Girondeau, François, Paris.—Fancy bronzes. 254

388 Gogly, Auguste, Paris.—Artificial flowers. 254

389 Gosse-Perier, Paris.—Artificial flowers. 254

390 Guyot & Migneaux, Paris.—Birds and insects made of flowers and feathers. 254

391 Hasslauer, Mrs., & Champeaux de, Givet (Ardennes).—Clay pipes. 254

392 Hiélard, L., & Co., Paris.—Feathers and artificial flowers. 254

393 Jumeau, F., Paris.—Dolls. 254

394 Kees, Ernest, Paris.—Fans. 254

395 Lamarre, Paris.—Fancy articles. 254

396 Loiseau, A., Son, Paris.—Toys. 254

397 Loonen, F., Paris.—Ivory brushes. 254

398 Maltête, Paris.—Toys. 254

399 Mayaud Bros., Paris.—Medals and ornaments. 254

400 Muzet & Co., Paris.—Hair work. 254

401 Pinson, Paris.—Shell, ivory, and pearl fancy articles. 254

402 Radiguet, Paris.—Toys. 254

403 Ravenet, senior, Paris.—Combs. 254

404 Sohn & Delabre, Paris.—Porcelain flowers. 254

405 Souchet & Co., Paris.—Enameled flowers. 254

406 Truffy, Paris.—Mechanical toys. 254

407 Vacquerel, P. E., Paris.—Decalcomanie. 254

408 Voisin, V. C., Paris.—Fancy articles. 254

409 Bapterosses, F., Paris.—Buttons and pearls of porcelain. 254

410 Alexandre, Paris.—Fans. 254

411 Walker, W., Paris.—Traveling articles. 255

412 Lenègre, A., Paris.—Photographic albums and fancy leather work. 255

413 Revillon Bros., Paris.—Furs. 256

414 Jacquemin, Paris.—Historical costumes. 257

Paper, Blank Books, Stationery.

415 Dubourguet, A., Paris.—Inkstands and office and artists' articles. 258

416 Gaffré & Caen, Paris.—Steel pens. 258

417 Gonthier, Dreyfus, & Co., Paris.—Stationery, lithography, and engravings. 258

418 Panier, Ernest, Paris.—Mathematical instruments. 258

419 Plateau, E., Paris.—Office stationery. 258

420 Poure, Gillot, O'Kelly, & Co., Boulogne-sur-Mer.—Steel pens and pen holders. 258

421 Rous, Ermond, Paris.—Inkstand. 258

422 Susse Brothers, Paris.—Fancy stationery. 258

423 Toiray, Maurin G., Paris.—Office stationery. 258

424 Bondier, Ulbrich, & Co., Paris.—Cigarette paper. 259

425 Bardou, J. P., Perpignan.—Cigarette paper. 259

426 Blanchet Bros., & Kléber, Paris.—Paper. 259

427 Bernard, J., & Co., Paris.—Papers. 259

428 Haymann Bros., Paris.—Tissue papers. 259

429 Hennecart & Co., Paris.—Papers. 259

430 Lacroix Bros., Paris.—Writing papers and parchments. 259

431 Maguet, Paris.—Fancy stationery and engraving. 259

432 Marais & St. Marie Paper Mills, Paris.—Paper. 259

433 Lair, E., Paris.
a Bond paper. 259
b Printing paper. 260

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Stationery, Weapons, Medical Appliances, Hardware.

434 Bécoulêt & Co., Paris.
a White and fancy papers. 259
b Colored papers. 264

435 Canson & Montgolfier, Paris.—Paper. 260

435*a* Lortie, Paris.—Bookbinding. 261

436 Hutinet, D., Paris.—Bristol board and cards. 262

437 Laroche, A., Saulxures (Vosges).—Vegetable paste for pasteboard manufacturers. 262

438 Desfeux, Ph., Paris.—Leather roofing. 262

439 Bourgeois, Martin, jr., Paris.—Decorative paintings for apartments and fireboards. 263

440 Roger & Montlouis, Paris.—Wall papers. 264

Weapons, etc.

441 Gévelot, Paris.—Guns and ammunition. 265

442 Jullien & Gauthey Bros., Paris.—Metallic cartridges. 265

443 Laffiteau & Rieger, Paris.—Fancy arms. 269

Medicine, Surgery, Prothesis.

444 Badiole, Henry, Tarbes (Hautes-Pyrénées).—Medicines. 272

446 Vie, Garnier, & Co., Paris.—Pharmaceutical preparations. 272

447 Valby, Dijon.—Medicinal capsules and pills. 272

448 Limousin, Paris.—Machine for the manufacture of capsules, and apparatus for inhaling oxygen gas. 274

449 Reynal, Léonce, Paris.—Physicians' case. 274

450 Briére, Jules, Alençon (Orne).—Hygienic nipples. 274

451 Benas, Jean Pierre, Paris.—Rubber surgical instruments. 276

452 Vergne & Chose Bros., Paris.—Rubber surgical instruments. 276

453 Rondeau Bros., Paris.—Rubber surgical instruments, truss. 276

454 Eliaers, A. E., Paris.—Chairs for invalids. 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

455 Lichtenfelder, Paris.—Locksmiths' tools. 280

455*a* Segant, Paris.—Shoemakers' tools. 280

456 Pottecher, B., Bussang (Vosges).—Iron covers and currycombs. 280

457 Dugoujon, J., senior, Paris.—Saws. 280

458 Limet, Lapareillé, & Co., Paris.—Files. 280

459 Rheims, Anatole, Paris.—Military equipments; screws. 280

460 Guillemin, Renaut, Nogent (Haute-Marne).—Cutlery. 281

461 Girard, Charles, Nogent (Haute-Marne).—Cutlery. 281

462 Sommelet, Courcelles (Haute-Marne).—Cutlery. 481

463 Thévenot, Felix, Nogent (Haute-Marne).—Cutlery. 281

464 Thinet, Paris.—Cutlery. 281

465 Vitry Bros., Paris.—Cutlery. 281

466 Charbonne-Thuillier, J., Nogent (Haute-Marne).—Cutlery. 281

467 Couvreux, Wichard, Nogent (Haute-Marne).—Pruning shears and cutlery. 281

468 Thomachot-Thuillier, Nogent (Haute-Marne).—Scissors and pruning shears. 281

469 Dissoire, Nogent (Haute-Marne).—Surgical instruments. 281

470 Denizet, Langres (Haute-Marne).—Cutlery. 281

470*a* Scheidecker, Ch., Paris.—Shearing machines. 281

470*b* Pérard, V., Paris.—Sheep shearing machines. 281

471 Chateau, Louis Auguste, Paris.—Emery paper and cloth for polishing glass. 282

472 Deplanque, senior, Maison-Alfort (Seine).—Whetstones. 282

473 Dumas, Fremy, Mrs., Paris.—Emery paper and cloth. 282

474 Durrschmidt, Lyons.—Whetstones. 282

475 Edeline, Amédée Jean, Paris.—Burnishing stones. 282

476 Fournier, Dondel & Co., Paris.—Metallic fire fenders and bronze articles. 283

478 Marchand, Louis Léon, Paris.—Bronzes. 283

479 Martin, Louis, Paris.—Sheet iron ornaments. 283

480 Morel, A., Paris.—Bronze ornaments. 283

481 Perrot, Henry, Paris.—Bronzes. 283

482 Christofle & Co., Paris.—Goldsmiths' ware. 283

483 Froment-Meurice, Paris.—Goldsmiths' ware. 283

484 Cornu, Eug., & Co., Paris.—Bronzes. 283

485 Poussielgue-Rusand, Paris.—Bronzes and plated ware for churches. 283

486 Sauvage & Rück, Paris.—Bronzes. 283

487 Tahon, Felix, Lille.—Forged copper plates. 283

488 Susse Bros., Paris.—Bronzes. 283

489 Deny, Louis, Paris.—Construction materials. 284

489*a* Carmoy, Celestin, Paris.—Brass and steel nails. 284

490 Anthoni, G., Levallois-Perret (Seine).—Axles and springs for carriages. 284

491 Jeantaud & Co., Paris.—Carriage wheels. 284

492 David-Damoiseau & Co., Paris.—Chains. 284

493 Marquise Iron Co., Paris.—Chandeliers and stove pipes. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

494 Mage, senior, Lyons.—Woven wire for mattresses. 284

495 Sirot, C. & L., Charleville (Ardennes).—Nails. 284

496 Vachette Bros., Paris.—Locks for furniture. 284

497 Chappée, A., Le Mans (Sarthe).—Iron pipes for water and gas. 284

498 Chameroy & Co., Paris.—Water pipes and cocks. 284

499 Cazaubon, D., Paris.—Pumps and water closets. 284

500 Gallais, A., Paris.—Gilt nails. 284

501 Thiry, jr., Paris.—Artistic locksmiths' goods. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

502 Fromage, Lucien, & Co., Rouen.—Elastic fabric. 285

503 Bénas, Jean-Pierre, Paris.—Rubber surgical instruments. 285

504 Vergne & Chose Bros., Paris.—Rubber surgical instruments. 285

505 Rondeau Bros., Paris.—Rubber surgical instruments. 285

506 Vital, A., Paris.—Lithographic press rollers. 285

507 Deschamps, Mauroy, & Co., Paris.—Toilet brushes. 286

508 Dupont, A., Beauvais (Oise).—Toilet brushes and prepared bristles. 286

509 Loonen, F., Paris.—Brushes. 286

510 Pitet, senior & junior, Paris.—Brushes. 286

511 Roullies & Co., Paris.—Carpet brushes. 286

512 Carue, Paris.—Ropes. 287

513 Arnold, E., Paris.—Metallic, glass, porcelain, and wooden letters; coats of arms of all nations. 288

514 Bornet, Paul, Paris.—Signs and leather letters. 288

515 Boudvillain, J., Paris.—Trophy of flags. 288

516 Pichot, E., Paris.—Ornamental labels. 288

517 Moitrier, Leon, Bénaménil (Meurthe).—Wicker baskets. 289

518 Policard, René, Paris.—Flower stands, etc. 289

Carriages, Vehicles, and Accessories.

519 Mühlbacher, Paris.—Carriages. 292

520 Gaudichet, Vierzon Cher.—Carriages. 292

521 Desouches, Paris.—Carriages. 292

522 Binder Bros., Paris.—Carriages. 292

523 Million, Guiet, & Co., Paris.
a Carriages. 292
b Harness. 296

524 Perreaux, Paris.—Steam velocipede. 293

525 Huret, N., Paris.—Carriage. 293

526 Fortin Bros., Paris.—Harness felts. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GERMANY.

(South of Nave, Columns 28 to 38.)

Chemical Manufactures.

Chemical Manufactures.

COLLECTIVE EXHIBIT OF THE GERMAN UNION OF MANUFACTURING CHEMISTS. — MANUFACTURED CHEMICALS, ETC. 200-203

1 Kahlbaum, C. A. F., Berlin.
2 D'Andrian & Wegelin, Mülhousen.
3 Vorster & Grüeneberg, Kalk, near Cologne.
4 Schuchardt, Theodor, Görlitz.
5 Koepp, Rud., & Co., Oestrich.
6 Saame & Co., Ludwigshafen.
7 Th. Wurtz's successors, Leipsic.
8 Von Heyden, F., Dresden.
9 Chemical Joint Stock Co., Berlin.
10 Jobst, Friedrich, Stuttgart.
11 Fischer & Schmitt, Höchst.
12 Brohme & Co., Bergen-on-Dosse.
13 Bartels & Kroyemann, Frohse.
14 Trommsdorff, H., Erfurt.
15 Lindenbauer, Otto, Hanau.
16 Marquart, L. C., Bonn.
17 Loeflund, Edward, Stuttgart.
18 Suhr, W., Altona.
19 Heyl, J. F., & Co., Berlin.
20 Sauberlich, Anton, Zwickau.
21 Bloedner's, Joh. Chr., Son, Gotha.
22 Hübner, B., Rehmsdorf.
23 Saxon Thuringian Joint Stock Co., Halle-on-Saale.
24 Ruffer & Co., Breslau.
25 Hisgen, G. C., Nassmühle, near Hanau.
26 Gans & Leonhardt, Frankfort-on-Main.
27 Clever, Joh., Werden.
28 Aniline Manufacturing Co., Rummelsburg and Berlin.
29 Zeltner, Johann, Nuremberg.
30 Gysae, Robert, Oberlössnitz.
31 Ultramarine Works, Marienberg.
32 Kaiserslautern Ultramarine Works, Kaiserslautern.
33 Rosenstein, W., Stettin.
34 Vossen Bros., Aix-la-Chapelle.
35 Hirsch & Merzenich, Cologne.
36 Bayer, Fr., & Co., Barmen.
37 Johann Anton Farina, zur stadt Mailand, Cologne.
38 Mack, Ernst, Reichenhall.
41 Goedecke & Co., Leipsic.
41*a* Honigman, M. & Co., Aix-la-Chapelle.
42 Kluge & Pöritzsch, Leipsic.
42*a* Sieperman, C. F., & Son, Elberfeld.
43 Bernhardi, J., Leipsic.
43*a* Gebens, Ernst, Baden-Baden.
44 Brückner, Lampe & Co., Leipsic.
45 Sachse, E., & Co., Leipsic.
46 Haensel, Heinrich, Pirna-on-Elbe.
47 Wolff, F., & Son, Carlsruhe.
48 Langwisch, Bernh., Hamburg.
49 Lohse, Gustav, Berlin.
50 Wilhelmi, F., Reudnitz.
51 Lüder & Leidloff, Dresden.
52 Kunheim & Co., Berlin.
53 Haarmann, W., Holzminden.
53*a* Royal Prussian & Ducal Brunswick Smelting Works of the Lower Hartz, Gaslar.—Sulphuric acid, intermediate products, etc. 200

54 Nörr, Eugene, Berlin.—Siphon valve. 200

STASSFURT COLLECTIVE EXHIBIT.

54*a* Royal Salt Works, Stassfurt.—Rock salt, salts of potassium, magnesium, etc. 200
54*b* Chemical Factory, Stassfurt.—Potassium salts, chloride of potassium, manure salts, etc. 200
54*c* Chemical Factory, Leopoldshall.—Chloride of potassium, sulphate of potash, glauber salts, etc. 200
54*d* Chemical Factory of Nett, Faulwasser, & Co., Leopoldshall.—Chloride of potassium. 200
54*e* Zimmer & Co., Stassfurt.—Artificial salts of chloride of potassium, manure salts, etc. 200
54*f* Lindemann, G., & Co., Stassfurt.—Chloride of potassium. 200
54*g* Douglas, B. W. B., Westeregeln.—Salt, medical and manure salts; plans, section of the mine. 200
54*h* Lairitz, C. & L., Remda.—Pine oil. 201

COLLECTIVE EXHIBIT OF BAVARIAN METAL LEAF AND BRONZE COLORS. 202

55 Haenle, Leo, Munich.
57 Fuchs, Gg. L., & Sons, Fürth.
58 Nuchterlein, Fried., Fürth.
59 Metz, Friedrich, Fürth.
60 Stoeber & Segitz, Fürth.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Chemicals, Ceramics, Glass, Furniture.

61 Schaetzler, G. E., Nuremberg.
62 Weidner, J. L. & P., Nuremberg.
63 Reich, H. & Chr., Nuremberg.
65 Eiermann & Tabor, Fürth.
67 Spiegelberger, Ludwig, Fürth.
68 Cramer, J. W., Fürth.
69 Beckh, Georg Adam, Nuremberg.
71 Kühn's Wire Factory, Nuremberg.
72 Meier, J. C., Fürth, near Nuremberg.

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73 Beyer, Edward, Chemnitz.—Copying, writing, and fancy inks. 202
74 Jäenecke Bros. & F. Schneemann, Hanover.—Printing inks; varnishes. 202
75 Vogel, M. B., Leipsic.—Colors. 202
75*a* Lesser, G., & Co., Leipsic.—Preparations for finishing textile manufactures. 202
76 Farina, Johann Maria, Jülichsplatz No. 4, Cologne.—Eau de Cologne. 203
77 Farina, F. Maria, Glockengasse 4711, Cologne.—Eau de Cologne extracts, Florida water, soaps, and perfumery. 203
78 Schimmel & Co., Leipsic.—Essential oils. 203
79 Gadamer & Jaeger, Waldenburg.—Swedish matches. 204
80 Hochstätter, Heinrich, Langen, near Darmstadt.—Matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

81 Mendheim, Georg, Berlin.—Clay goods. 206
81*a* Lonitz, Hugo, Neuhaldenslaben.—Jars, terra-cotta figures, etc. 206
82 Gundlach Bros., Grossalmerode.—Crucibles and fire-bricks. 207
83 Gundlach, W., & Son, Grossalmerode.—Fire-clay crucibles. 207
84 Stettin Fire-brick Manufacturing Co.—Fire-brick retorts and fire-bricks. 207
85 Gundlach, Joh., jr., Grossalmerode.—Crucibles and jars for ointments. 207
86 Knodchen, J. A., Höhr.—Clay ware. 207
87 Villeroy & Boch, Mettlach.—Mosaic tiles. 208
87*a* Wagner & Starker, Stuttgart.—Parquet tiles. 208
88 Telegraph Supply Manufacturing Co., Berlin.—Porcelain for chemical uses. 210
89 Royal Porcelain Works, Berlin.—Porcelain, buscuit work, etc. 207
90 Hanke, Reinhold, Höhr, near Coblentz.—Antique German pottery. 213
91 Merkelbach & Wick, Grenzhausen.—Pottery partly in the antique German style. 213
92 Joint Stock Association of Looking-glass Manufacturers & Manufacturing Chemists of St. Gobain, Chauny and Cirey, Stolberg, near Aix-la-Chapelle.—Looking-glass plates, mirrors, and rough glass. 214

COLLECTIVE EXHIBIT OF BAVARIAN LOOKING-GLASSES AND LOOKING-GLASS PLATE. 214

93 Schaller, Joh., Fürth.
94 Vogel, G., Fürth.
96 Berlin, J. W., Fürth.
97 Heilbronn, Leop., Fürth.
97*a* Winkler, Ch., & Son, Fürth.
97*b* Wiederer, N., Fürth.
97*c* Brann & Reich, Fürth.

---

98 Underberg-Albrecht, H., Rheinberg.—Bottles. 215
99 Greiner, Elias, Cousin's Son, Lauscha, near Sonneberg.—Enameling colors. 216

Furniture and Objects of General Use in Construction and in Dwellings.

100 Friedrich, O. B., Dresden.—Fancy furniture. 217
101 Gutte, Louis, Görlitz.—Wood carving. 217
101*a* Vogts, F., & Co., Berlin.—Furniture. 217
102 Kimbel, Martin, Breslau.—Fancy furniture, etc. 217
103 Schöttle, Georg, Stuttgart.—Furniture. 217
106 Völker, Otto, Berlin.—Carved furniture. 226
107 Tenner, A. B., Eisfeld.—Wooden rolling blinds. 217
108 German Sewing Machine Factory, Frankfort-on-Main.—Ship furniture for the prevention of sea-sickness. 217
109 Neuhusen, J., Berlin.—Billiard table. 217
110 Bahse & Haendel, Chemnitz.—School desk and bench. 217
111 Mayer's Art Institution for the Manufacture of Church Furniture and Decorations, Munich.—Wooden statues and altars. 217
113 Friedrich, Hch. Ottm., Beierfeld, near Schwarzenberg.—Tin-plated iron spoons and forks. 213
114 Schreiner, Anton, Nabburg.—Ornamental drinking utensils. 218
115 Woldemar, Wimmer, Annaberg, Saxony.—Gold and silver wire-ware. 218
117 Voeltzkow, W., Berlin.—Picture frames. 220
118 Voeltzkow, G. W., jr., Berlin.—Picture frames. 220
119 Massmann, F., Kiel.—Gold cornices. 220
119*a* Mendheim, Georg, Berlin.—Plans for stove. 222
120 Joint Stock Co. for the Manufacture of Bronze Goods & Zinc Castings, Berlin.—Chandelier of bronze, and zinc castings. 223
121 Körner & Co., Berlin.—Lamps. 223
122 Kleemann, C. A., Erfurt.—Lamps. 223
123 Schwarz, J. von, Nuremberg.—Gas-burners made of soapstone. 223
125 Normann, Joh. Georg, Nuremberg.—Moulds for confectioners' use. 224

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven and Felted Goods, Silk.

Yarns and Woven Goods of Vegetable or Mineral Materials.

128 Herrmann, L., jr., Dresden.—Woven wire goods. 228

129 Scholler, Ph. Jacob, & Sons, Neustadt-on-Hardt.—Woven wire goods. 228

130 Siemsen, Joh., Hameln-on-Weser.—Manila hemp goods. 229

COLLECTIVE EXHIBIT OF COTTON AND MIXED GOODS FROM THE GLADBACH DISTRICT. 230

131 Gladbach Joint Stock Spinning & Weaving Mills, M. Gladbach.

132 Busch Bros., M. Gladbach.

133 Droste & Siepermann, M. Gladbach.

134 Ercklentz, Max, & Co., M. Gladbach.

135 Goertz & Kirch, M. Gladbach.

136 Willemsen, P., Widow, M. Gladbach.

137 Rosenberg & Cohen, M. Gladbach.

138 Schlafhorst & Brüel, M. Gladbach.

139 Everling, Carl, & Co., M. Gladbach.

140 Ercklenz & Reuter, M. Gladbach.

141 Bötterling & Schultze, M. Gladbach.

142 Essers, Martin, M. Gladbach.

143 Croon Bros., M. Gladbach.

144 Langen, Kruchen, & Borrenkott, M. Gladbach.

145 Wolff, Fr., M. Gladbach.

146 Hellendall & Steinberg, M. Gladbach.

147 Grunwald & Klei, Rheydt.

148 Kropp, J. P., Rheydt.

149 Nacken, G. H., Rheydt.

150 Sanders, W., Rheydt.

151 Ax, Heinrich, Rheydt.

152 Oechelhäuser, Rheydt.

153 Coenen & Wolter, Odenkirchen.

154 Erckens & Co., Grevenbroich.

155 Rolffs & Co., Siegfeld.

---

156 Steam Net Manufactory, Itzehoe, Holstein.—Nets. 230

157 Rischbieter, Carl, Dessau.—Window-shades. 230

158 Schlieper & Baum, Elberfeld.—Calico. 232

COLLECTIVE EXHIBIT OF WURTEMBURG MANUFACTURERS OF LINEN GOODS.

159 Lang, Ed., of Blaubeuren.—Linen handkerchiefs. 233

160 Eckstein & Kahn, Stuttgart.—Table cloths, towels, shirts. 233

162 Pichler, Hermann, Urach.—Table cloths, damask covers. 233

163 Beck, E., Ulm.—Linen and cotton shirt fronts; linen. 233

164 Steam Ticking Mills, Göppingen.—Ticking. 233

165 Kolb & Schüle, Kirchlieun.—Fustian for bed covers. 233

166 Mayer & Co., Bielefeld.—Linen goods. 233

166*a* Meyer, Jos., Dresden.—Damask goods. 233

166*b* Lairitz, C. & L., Remda.—Linen fabrics. 233

166*c* Loewenberg, H., Charlottenburg.—Imitation leather goods. 234

Woven and Felted Goods of Wool, etc.

167 Bergmann & Co., Berlin.—Zephyr wool. 235

168 Hüffer, Heinrich, Crimmitschau.—Worsted for weaving. 235

170 Scholz, Paul, Friedberg-on-Oder.—Knitting yarns. 235

171 Tittel & Krüger, Leipsic.—Dyed zephyr wools. 235

RHENISH COLLECTIVE EXHIBIT OF CLOTHS. 235

172 Erckens', Joh., Sons, Burtscheid, near Aix-la-Chapelle.

173 Ackens, Grand, Ry, & Co., Eupen.

174 Delius, C., Aix-la-Chapelle.

175 Jansen, Joh. Wilh., Montjoie.

176 Knops, Aloys., Aix-la-Chapelle.

177 Schöller, J. P., Düren, near Aix-la-Chapelle.

177*a* Schöller, L., & Sons, Düren, near Aix-la-Chapelle.

178 Wiess Bros., Werden-on-Ruhr.

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179 Weiss Bros., Leipsic.—Cloths. 235

180 Wurtemberg Felt Factory, Giengen.—Felt shabracks. 235

181 Marthaus, Ambrose, Oschatz.—Felt goods. 235

183 Kauffmann, Carl, Reutlingen.—Coverlets. 237

COLLECTIVE EXHIBIT OF ELBERFELD, MANUFACTURERS OF ITALIAN CLOTH AND TAILORS' TRIMMINGS. 238

184 Boeddinghaus, Fr., & Son, Elberfeld.

185 Boeddinghaus, Wilh., & Co., Elberfeld.

186 Herminghaus & Co., Elberfeld.

187 Jung & Simons, Elberfeld.

188 Lucas Bros., Elberfeld.

189 Schaefer & Co., Elberfeld.

190 Weerth, de, & Co., Elberfeld.

191 Wolff, R. & E., Elberfeld.

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192 Worsted Spinning Mills, Kaiserslautern.—Worsted yarns. 238

194 Gevers & Schmidt, Schmiedeberg, Silesia.—Carpets. 236

195 Valckenberg & Schoen, Worms.—Artificial wool. 240

198 Linden Steam Mills Joint Stock Co., Linden, near Hanover.—Velvet. 241

199 Weigert & Co., Berlin.—Furniture plushes, etc. 241

Silk and Silk Fabrics.

200 Mez, Carl, & Son, Freiburg, Baden.—Sewing-silks. 243

201 Gebhard & Co., Elberfeld.—Satins, silks, etc. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

202 Gressard & Co., Hilden.—Silks, taffetas, foulards, etc. 245

203 Massing, Bros., & Co., Püttlingen, Lorraine.—Silk plushes. 247

204 Escales & Hatry, Saargemünde.—Silk plushes. 247

204*a* Hoemmighaus & de Greiff, Crefeld.—Silk velvets. 247

Clothing, Jewelry, etc.

205 Hake, Mrs. von, Berlin.—Ladies' underwear. 250

206 Gros & Co., Bruchsal, Baden.—Corsets. 250

207 Ottenheimer, J. M., & Sons, Stuttgart.—Corsets. 250

208 Gulden, Heinrich, Chemnitz.—Gloves. 251

209 Woller, Fr. Ehreg., Stollberg, near Chemnitz.—Cotton hosiery. 250

210 Kaufmann, A. & C., Berlin.—Paper collars and cuffs. 250

211 Ereutznach, Ed., successor, Chemnitz.—Cotton hosiery. 250

212 Scholz, Paul, Friedeberg-on-Oder.—Hosiery. 250

212*a* Bortfeld, Carl, Bremen.—Hats. 251

213 Miller, Thomas, Berlin.—Hats. 251

214 Natanson & Hurwitz, Berlin.—Felt shoes and boots. 251

215 Wolf, S., Mayence.—Shoes. (*In Shoe and Leather Building.*) 251

216 Koraczewski, G., Posen.—Shoes. (*In Shoe and Leather Building.*) 251

217 Krebs, F. Eugen, Regensburg.—Kid gloves. 251

218 Lehmann, Heinrich, Berlin.—Kid gloves. 251

219 Zeitteles, D., Esslingen.—Leather gloves. 251

220 Ellstätter & Urbino, Carlsruhe.—Leather gloves. 251

221 Ranniger, J. L., & Sons, Altenburg.—Leather gloves. 251

221*a* Doerffel, C. G., & Sons, Eibenstock.—Laces, embroidered covers. 252

222 Kuehn, Heinrich, Berlin.—Embroidery patterns. 252

222*a* Tittel & Krüger, Leipsic.—Embroidery. 252

223 Schneider, Bruno, Buchholz, Saxony.—Embroideries. 252

225 Aren & Blumenheim, Berlin.—Embroideries. 252

226 Hirschberg, M., & Co., Eibenstock.—Embroideries and laces. 252

227 Hesselbein, Sophie, Berlin.—Embroideries. 252

COLLECTIVE EXHIBIT OF IDAR-OBERSTEIN.—POLISHED STONES, AGATE GOODS, ETC. 253

228 Boehm, Philipp, Oberstein.

229 Hahn, Carl, Idar.

230 Leyser, Wilhelm, Idar.

231 Wild, J. C., IX, Idar.

232 Hahn, Philipp, Idar.

233 Heydt, Friedrich, Idar.

234 Caesar, Louis, Idar.

235 Herringer, Johann, Idar.

236 Fuchs, Friedrich August, Oberstein.

COLLECTIVE EXHIBIT OF GOLD, SILVER, AND PLATED JEWELRY. 253

237 Spranger, N., Schwäb. Gmünd.

238 Renner&Buchler, Schwäb. Gmünd.

239 Wöhler, Edward, Schwäb. Gmünd.

240 Ott, B., & Co., Schwäb. Gmünd.

241 Zieher, Ottmar, Schwäb. Gmünd.

242 Erhard & Sons, Schwäb. Gmünd.

243 Hauber, Gustav, Schwäb. Gmünd.

244 Soergel & Stollmeyer, Schwäb. Gmünd.

245 Pleuer & Co., Stuttgart.

246 Strohmeier & Co., Stuttgart.

247 Gabler Brothers, Schorndorf.

248 Ritter & Co., Esslingen.

249 Zimmermann, E. G., Hanau.

250 Geissel & Hartung, Hanau.

251 Kurr-Schüttner, C., Hanau.

252 Steinhauer & Co., Hanau.

253 Weber, O., & Co., Hanau.

254 Weishaupt, C. M., Sons, Hanau.

255 Bissinger, C., Sons, Hanau.

256 Kraul & Bier, Hanau.

257 Hertel, C., & Son, Hanau.

258 Krug, J. M., Hanau.

259 Winkler, Carl, Hanau.

260 Drescher & Kiefer, Hanau.

261 Roth, J., Hanau.

262 Schehl, C. W., Hanau.

263 Zeuner, Hugo, Hanau.

264 Dingeldein Bros., Hanau.

265 Storck & Sinsheimer, Hanau.

266 Baker & Co., Hanau.

267 Volz-Bier, A., Hanau.

268 Schoenfeld, E., jr., Hanau.

269 Schantz & Katz, Pforzheim.

270 Spahn, C. C., Pforzheim.

271 Keller, Heinrich., Pforzheim.

272 Lay, Edward, Pforzheim.

273 Heidegger, W., & Co., Pforzheim.

274 Deyhle Bros., Pforzheim.

275 Kiehnle, Aug., Pforzheim.

276 Gerwig, Aug., Pforzheim.

277 Bizer Bros., Pforzheim.

278 Wild & Co., Pforzheim.

279 Becker, Fritz, Pforzheim.

280 Siebenpfeiffer, C., Pforzheim.

281 Lodholz, Friedrich, Pforzheim.

282 Koch & Bergfeld, Bremen.

283 Humbert & Heylandt, Berlin.

284 Binder, W., Schwäb. Gmünd.

285 Becker, Chr., Pforzheim.

286 Felge, Paul, Berlin.

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287 Burchardt, C. A., Berlin.—Artificial flowers and plants. 254

288 Boeck, W., Berlin.—Artificial leaves. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

289 Sachs, Joseph, & Co., Berlin.—Umbrellas, sunshades, etc. 254

290 Wingender Bros., Höhr, Nassau.—Clay and bruxère pipes. 254

291 Meyer, Heinrich, Hamburg.—Ivory goods. 254

292 Peine, Edward, Hamburg.—Cuff buttons. 254

BAVARIAN COLLECTIVE EXHIBIT OF TOYS AND SMALL WARES. 254

294 Pabst, G. J., Nuremberg.

295 Hinrichsen, W., Nuremberg.

296 Eichner, G. L., & Son, Nuremberg.

297 Issmayer, J. A., Nuremberg.

299 Norrmann, J., Nuremberg.

300 Helmbrecht, G., Nuremberg.

301 Schleuerpflug, E., Nuremberg.

302 Stief, J., Nuremberg.

303 Miller, Th., Nuremberg.

304 Strobel, J. P., Nuremberg.

305 Baudenbacher, C., Nuremberg.

306 Kithil, A., Nuremberg.

307 Uebelacker, L., Nuremberg.

308 Hess, Math., Nuremberg.

310 Fischer, J. G., Erlangen.

311 Schlenk & Lutzenberger, Nuremberg.

312 Probst, Gottfr., Nuremberg.

313 Hahn, Gottlieb, Fürth.

314 Ott, Gebhard, Nuremberg.

315 Ziegele & Hauck, Fürth.

316 Keller, Conrad, Fürth.

319 Pruckner, D., Munich.

320 Bettman & Kupfer, Bayreuth.

321 Stolze, J. F. E., Bayreuth.

322 Schlegel, J., Nuremberg.

324 Sichling, H., Nuremberg.

325 Plank, E., Nuremburg.

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326 Barth & Wagner, Rodach near Coburg.—Mechanical toys. 254

327 Dressel, Cuno & Otto, Sonneberg, Thuringia.—Toys, dolls, and slates. 254

328 Schunemann, L., Magdeburg.—Dolls. 254

329 Hawsky, Adalbert, Leipsic.—Paper balloons. 254

330 Magnus, G., & Co., Berlin.—Billiard balls. 254

331 Oehme, J. D., & Sons, Grunhainichen.—Toys. 254

332 Knipp, T. F., Berlin.—Album. 255

333 Vité, François, Berlin.—Leather goods. 255

Paper, Blank Books, Stationery.

334 Faber, A. W., Stein, near Nuremberg.—Lead pencils, water-colors, etc. 258

335 Pensel, H., & Co., Ludwigstadt, Bavaria.—Slates, etc. 258

336 Schwanhäuser, Nuremberg.—Lead pencils, rubber, chalk, etc. 258

337 Büttner, Ed., & Co., Berlin.—Fancy papers. 259

338 Heinitz & Seckelson, Berlin.—Fancy papers. 259

339 Mayer, M., Coblentz.—Envelopes. 259

340 Meissner, C. F., & Son, Raths-Damnitz, near Stolp.—Papers. 259

341 Munich-Dachau Joint Stock Paper Mill, Munich.
a Writing papers. 259
b Paper for artificial flowers. 264

342 Schött, Hermann, Rheydt.—Fancy papers, etc. 259

343 König, J. C., & Ebhardt, Hanover.—Account books. 261

344 Rufus, Fr. Wilh., Dortmund.—Account books. 261

345 Joint Stock Playing Card Manufactory, Stralsund.—Playing cards. 262

346 Adler, Geo., Buchholz, Saxony.—Card-board work. 262

347 Schlesinger, Martin, Berlin.—Paper letters, cards, etc. 262

348 Wiskott, C. T., Breslau.—Labels. 262

349 Haenle, Leo., Munich.—Gold and silver papers. 264

350 Herting, C., Einbeck, Hanover.—Paper-hangings. 264

351 Dessauer, Alois, Aschaffenburg.—Fancy colored papers. 264

353 Werner & Schumann, Berlin.—Paper letters. 264

Weapons, etc.

353*a* Krupp, Fr., Essen.—Cannon and projectiles. 267

354 Schilling, V. Chr., Suhl.—Military weapons. 269

Medicine, Surgery, Prothesis.

355 Scheller, Ferdinand, Hildburghausen.—Malt preparations. 273

356 Wolff, F. A., & Sons, Heilbron.—Pharmaceutical apparatus. 274

357 Lepowski, E., Heidelberg.—Rolling chairs, and general apparatus for the sick and wounded. 276

357*a* Müller, L., Lauscha.—Artificial human eyes. 276

357*b* Esmarch, F., Kiel.—Bandages and dressings. 276

357*c* Horn, G., Kiel.—Bandages, safeguards for broken legs, etc. 276

357*d* Hartmann, P., Heidenheim.—Prepared medical dressing materials, etc. 276

357*e* Surgical Clinic of the University of Koenigsberg.—Plaster of Paris and hemp bandages for fracture. 276

357*f* Port, Dr., Munich.—Dressing for fractures. 276

357*g* Moratski, A., New Buckan.—Plaster of Paris dressings. 276

357*h* Paper & Chemical Manufactory.—Plaster and dressing materials. 276

357*i* Beck, Dr., Carlsruhe.
a Dressings for wounds. 276
b Articles for transporting the wounded in battle. 278

357*j* Gehrig Brothers, Berlin.—Teething necklaces. 277

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Medical Appliances, Metal and Wooden Ware.

357*k* Saal, F. O., Coblentz.—Model of larynx. 277

357*l* Plambeck, N., Hamburg.—Model of a hospital car, and other sanitary apparatus. 278

357*m* Lower Silesian and Markish Railway.—Models of cars, etc., for transportation of the wounded. 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

358 Vorster, R. & H., Hagen, Westphalia.—Edge tools, etc. 280

359 Eisenführ, Wilh., Berlin.—Tools. 280

360 Böker, H., & Co., Solingen.—Cutlery, etc. 281

361 Hessenbruch, T., & Co., Ronsdorf.—Steel goods, cutlery, etc. 281

362 Höller, J. S., & Co., Solingen.—Steel goods, cutlery, etc. 281

363 Wellmann, Fr., Altona.—Cutlery. 281

364 Leykauf, George, Nuremberg.—Burnishing stones. 282

365 Felsing, Conrad, Berlin.—Ornamental castings. 283

366 Castner, A., Berlin.—Zinc castings. 283

367 Stolberg, Count, Wernigerodes Factory, Ilsenburg.—Ornamental castings, basins, etc. 283

368 Amsberg, Adolphe, Aix-la-Chapelle.—Door knobs. 284

369 Brousson, J., & Son, Neuwied-on-Rhine.—Nails, etc. 284

370 Roehle, Louis, Dresden.—Door and window knobs, etc. 284

371 Wire & Screw Factory, Talkau.—Screws. 284

372 Koch & Bein, Berlin.—Metal letters and castings. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

375 Reissbarth, G. C., & Son, Nuremberg.—Brushes. 286

376 Kochs, Gustav, Broich, near Muhlheina-on-Ruhr.—Hempen and wire rope. 287

377 Lorenz, Gustav, Bockau, Saxony.—Basket ware. 289

378 Cordes & Ellgass, Delmenhorst, near Bremen.—Corks. 289

379 Lindemann, Carl, Dresden.—Corks. 289

380 Lürssen, Carl, Delmenhorst, near Bremen.—Corks. 289

381 Praechter, Bros., & Co., Heidelberg.—Cork ware. 289

382 Gagel, Lorenz, Lichtenfels.—Basket goods. 289

Carriages, Vehicles, and Accessories.

383 Dick & Kirschten, Offenbach-on-Main.—Axles for fine carriages. 293

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

AUSTRIA.

(*South of Nave, Columns 23 to 28.*)

Chemicals, Ceramics, Glass.

Chemical Manufactures.

1 **Gobetsky, Josef, Essegg.**—Prepared quinine. 200

2 **Mook, John Peter, Vienna.**—Extracts of soap and pine spurs, kali cream. 201

3 **Weineck, Ignaz, Stockerau.**
a Candles, soap, toilet soap. 201
b Perfumery. 203

4 **Fritsch, Ferdinand, Vienna.**
a Soap. 201
b Ink, colors. 202
c Perfumeries. 203

5 **Sarg, F. A., Son, & Co., Liesing, near Vienna.**
a Artificial wax candles, soap, glycerine, oleo margerine butter, etc. 201
b Toilet articles. 203

6 **Dobel, Paul, Boryslaw, Galicia.**—Crude and melted ozocerite. 201

8 **Sell, Charles, Pirano, Istria.**—Soap. 201

9 **Demartini, I., Prague.**
a Toilet soap. 201
b Perfumery. 203

10 **Calderara & Bankmann, Vienna.**
a Toilet and glycerine soap. 201
b Perfumery. 203

12 **Prochaska, Franz, Prague.**
a Toilet soap. 201
b Perfumeries, pomades, etc. 203

12*a* **Ujhely & Co., Stockerau.**—Candles, tapers, etc., of ceresine. 201

12*b* **Wagenmann, G., Vienna.**—Petroleum, mineral wax, candles, tapers, etc. 201

14 **Przibram & Co., Vienna.**—Alizarine, Adrianople red. 202

16 **Palme, Elias, Steinschonan, Bohemia.**—Glass and bronze lustre. 202

17 **Herbert, Franz Paul, Klagenfurt.**—White lead. 202

18 **Riha, Ernst, Pilsen, Bohemia.**—Water colors for artists. 202

19 **Andés & Son, Vienna.**—Lac, varnish, oil color, mastic. 202

20 **Ecker, Alexander, Stockerau, near Vienna.**—Colors for painters and carriage varnishers. 202

21 **Wuste, F., Vienna.**—Colors for stone and copper-plate printing. 202

30 **Pollak, Jacques, Vienna.**—Essences, essential oils. 203

Ceramics—Pottery, Porcelain, Glass, etc.

34 **Klammerth, Alois, Znaim, Moravia.**—Earthenware vessels. 210

35 **Zasche, Joseph, Vienna.**
a China. 210
b Porcelain. 213

36 **Fischer, Samuel, Vienna.**—China. 210

39 **Thun, Count v. Klosterle, Bohemia.**—China articles of luxury. 210

41 **Eberhardt, Carl, Prague.**—Chinaware; flowers made of china, bouquets, wreaths, and jewelry. 213

42 **Chemical Technical Manufactory,** Elbogen, Bohemia.—Porcelain (lustrous colors). 213

43 **Riedl von Riedenstein, David &** Fredrich, Dallwitz, Bohemia.—China services. 213

46 **Ziegler's Son, Joh. Ant., Kreuzhutte,** Bohemia.—Blown plate-glass. 214

47 **Ziegler's Son, Andreas, Sofienhutte,** Bohemia.—Cast looking-glass, glass tiles. 214

48 **Austrian Glass Foundry Association,** Aussig, Bohemia.—Glass bottles. 215

49 **Schmid, Jos. Ed., Annathal, Bohemia.**—Concave glass articles. 215

50 **Batka, Franz, Prague.**—Glassware for chemical purposes. 215

51 **Franke, Carl, Prague.**—Chemists' fixtures. 215

52 **Umann, John, Tiefenbach, Bohemia.**
a Flagons. 215
b Glass articles. 216

53 **Rasch, Clemens, Meistersdorf, Bohemia.**—Concave glass articles. 216

54 **Lobmeyr, I. & L., Vienna.**—Glass articles. 216

55 **Grohmann & Kessler, Haida, Bohemia.**—Glass articles. 216

58 **Muller, Hermann, Ulrichsthal, Bohemia.**—Concave glass articles. 216

59 **Von Harrach, Count, Neuvelt, Bohemia.**—Glass articles. 216

60 **Tyrolese Glass Painting Manufactory,** Innsbruck.—Glass painting and annealing. 216

61 **Hartmann, Moritz, Pribram, Bohemia.**—Glass pearls and cylinders. 216

62 **Wagner, Franz, Meistersdorf, Bohemia.**—Glass and bronze articles. 216

63 **Zeckert, John, Meistersdorf, Bohemia.**—Glassware and bronze. 216

64 **Brunfant, Jules de, Vienna.**—Glassware. 216

65 **Schreiber, S. Neffen, Jos., Vienna.**—Glassware. 216

66 **Palme's Son, F. E., Zvecevo, Slavonia.**—Glassware. 216

67 **Stolzle's Sons, C., Vienna.**—Glassware. 216

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

68 Meyr's Nephew, Adolf, near Winterberg, Bohemia.—Glassware. 216

Furniture and Objects of General Use in Construction and in Dwellings.

69 Kohn, Jacob & Joseph, Vienna.—Furniture of bent wood. 217

70 Dillmann, I., & Fischer, L., Vienna.—Iron furniture. 217

71 Rigl, Rudolf, Vienna.—Iron double bed. 217

73 Stein, Carl, Vienna.—Cabinet furniture. 217

74 Thonet Brothers, Vienna.—Furniture of bent wood. 217

75 Hoyer, Joseph, Svetla, Hungary.—Plates of crystal. 218

76 Moser, Ludwig, Carlsbad, Bohemia.—Glass articles, painted services. 218

77 Lerl, Gustave, & Sons, Vienna.—Frames for photographs (in bronze). 220

78 Scheidl, Alois, Vienna.—Gold frames and cornices. 220

79 Krauliz, M., Vienna.—Frames for photographs. 220

80 Bambula, John, Vienna.—Bronze picture frames. 220

81 Sommerschuh, W. I., Prague.—Earthenware stoves and slabs. 222

82 Ostersetzer Brothers, Vienna.—Paper lamp screens. 223

83 Kerl's Heir, F. A., Platten, near Carlsbad, Bohemia.—Plated and tinned spoons, boxes, tin articles. 224

84 Kirchhof's Sons, C. F., Vienna.—Refrigerators. 224

85 Buchsbaum, Max, Vienna.—Ceiling ornaments. 227

86 Csánk & Co., Vienna.—Wood work, blinds, table mats, wall screens. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

87 Beutel, Franz, Vienna.—Wicker work. 229

88 Richter, Ignaz, & Sons, Niedergrund, Bohemia.—Cotton velvets. 231

89 Parma, Joseph, Tichau, Moravia.—Bleached piqués. 233

90 Regenhart, Raymann, & Kufferle, Vienna.—Table linen, linen. 233

92 Siegl, Carl, Vienna.—Bleached linen. 233

93 Weiss & Grohmann, Vienna.—Linen and cotton thread. 233

Woven and Felted Goods of Wool, etc.

95 Huckel Sons, I., Neutitscheim, Moravia.—Hatters' articles, felts. 235

96 Cloth Manufacturers' Association, Reichenberg, Bohemia.—Cloths, with and without finish. 235

98 Schmidt, I. Ph., & Sons, Reichenberg, Bohemia.—Woolens. 235

99 Iakob, Adolf, Reichenberg, Bohemia.—Woolens, military cloth. 235

100 Von Bauer, Otto, Brunn.—Woolens. 235

103 Siegmund, Wilhelm, Reichenberg.—Woolens. 235

104 Koch, Max, Vienna.—Woven long and square shawls. 237

106 Hlawatsch & Isbary, Vienna.—Woven shawls. 237

107 Vöslau Yarn Manufactory, Vöslau, near Vienna.—Dyed woolen yarns. 238

111 Schweinburg, Gustav, Vienna.—Carpets. 239

Silk and Silk Fabrics.

113 Hornbostel, C. G., & Co., Vienna.—Silk and half silk goods. 245

114 Reichert's Sons, F., Vienna.—Silks. 245

115 Frebitsch, S., & Son, Vienna.—Silk articles. 245

117 Hetzer, Carl, & Sons, Vienna.—Silk ribbon and velvet. 248

118 Kemperling, John, & Sons, Vienna.—Silk ribbons. 248

119 Stefsky, Joseph, Stockerau.—Haberdasheries, woolen and silk cords and laces for military purposes. 249

120 Schmidl Sons, W., Vienna.—Passementerie. 249

Clothing, Jewelry, and Ornaments; Traveling Equipments.

121 Bauer, Albert, Humpoletz, Bohemia.—Cloth, velvets, clothing for military purposes. 250

122 Keller & Alt, Vienna.—Clothing. 250

124 Mottl Sons, M., Prague.—Men's clothing. 250

126 Straschitz, Beermann, Prague.—Men's clothing. 250

127 Schwarzmann, D., & Co., Vienna.—Men's clothing; European costumes, from coarse to fine. 250

128 Thieben, Emanuel, Vienna.—Woven shawls and dressing garments. 250

130 Werner, John, Prague.—Men's clothing. 250

131 Budan, Joseph, Prague.—Leather gloves. 251

132 Eckstein Brothers, Prague.—Kid gloves. 251

133 Engelmuller, Ferdinand, Prague.—Leather gloves. 251

134 Habig, Peter, & Co., Vienna.—Hats. 251

135 Bencker, M., & Son, Prague.—Kid gloves. 251

136 Lörincz, Stephan, Budapest.—Boots. 251

137 Micka, Karl, Prague.—Leather gloves. 251

138 Pilat, Anton, Prague.—Leather gloves. 251

139 Pokorny, Karl, Prague.—Leather gloves. 251

140 Reichart, Adolf, Vienna.—Shoes. 251

141 Repper, Joseph, Vienna.—Leather gloves. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

142 Stiasny, Franz & Max, Vienna.—Leather gloves. 251

143 Dewidels, Simon, Prague.—Kid gloves. 251

144 Stoger, Ludwig, Vienna.—Leather gloves. 251

145 Hauer, Carl, Brunn.—Leather gloves. 251

146 Straub, August, Prague.—Leather gloves. 251

147 Frese, Anton, Prague.—Kid gloves. 251

148 Steinhilber, Anton, Prague.—Leather gloves. 251

149 Bencker, I. U., Prague.—Leather gloves. 251

150 Turnwald, Ch., Prague.—Leather gloves. 251

151 Braunek, Edward, Vienna.—Leather gloves. 251

152 Beutel, Franz, Vienna.—Bath shoes made of plaited rushes. 251

153 Aue, Fred. v. d., and Kollmann, Prague.—Kid gloves. 251

155 Berg, S., Krakau.—Albumen for the manufacture of gloves, condensed yolks of eggs. 251

156 Roth, Franz, Prague.—Leather gloves. 251

158 Suchy, Anton, Prague.—Leather gloves. 251

159 Schwarz & Son, Joh., Vienna.—Hatbands. 251

160 Vcelicka, August, Prague.—Kid gloves. 251

161 Haberkorn, George, Prague.—Leather gloves. 251

162 Hamerli, John, Funfkirchen, Hungary.—Leather gloves. 251

163 Hoffmann, Joseph, Prague.—Leather gloves. 251

164 Irmenbach's successor, Gottlieb, Prague.—Kid gloves. 215

167 Kubik, Joh. Nep., Stuhlweissenburg, Hungary.—Leather gloves. 251

168 Lowenstein, Adolf R., Vienna.—Fancy shoes. 251

170 Skrivan, John, & Son, Vienna.—Hats, felts. 251

171 Port, Alois, Vienna.—Leather gloves. 251

172 Bloch, E., & Sons, Brunn.
a Boots and shoes. 251
b Cartridge pouches. 255

174 Martius, W., Vienna.—Leather gloves. 251

175 Korb, Vincenz, Graslitz, Bohemia.—Silk laces, lace articles. 252

176 Czerminska, Inocenta, Wisniowczyk, Galicia.—Embroidery. 252

178 Richter, Edward A., Vienna.—Variegated embroidery, working materials requisite for the same. 252

179 Schnabl, Joseph, Gossengrun, Bohemia.—Laces, fichus, handkerchiefs, and fan decorations of lace. 252

181 Ullmann, J. F., Neudeck.—Laces. 252

182 Dorner, Emilie, Bosing, Hungary.—Laces and embroideries. 252

183 Erlbeck, Anton, Gossengrun.—Laces, fan decorations, handkerchiefs, and lace fichus. 252

184 Horner, Anton, Grossengrun, Bohemia.—Laces, lace fichus, and fan decorations. 252

185 Schmidl & Sons, W., Vienna.—Haberdashery, trimmings, silk and woolen braids. 252

186 Fritsch, Joseph, Gossengrun.—Laces, handkerchiefs, fichus, and fan decorations of lace. 252

187 Lapaine, Caroline, Idria.—Bobbinets. 252

189 Metzner, Bernhard, Graslitz, Bohemia.—Laces, handkerchiefs, and fan decorations. 252

190 Stramitzer, I., Vienna.—Point gaze tape laces. 252

191 Menzel, W. E., Teplitz, Bohemia.—Garnets, genuine and imitation stones (pierres de strasse). 253

192 Reif, Joseph, Prague.—Jewelry of precious stones. 253

193 Goldschmidt's Sons, Michael, Prague.—Gold and silver ornaments. 253

194 Steiner & Kolliner, Prague.—Garnet, gold and silver jewelry. 253

195 Goldschmidt, Louis A., Dubnik, Hungary.—Polished opals. 253

196 Markowitsch & Scheid, Vienna.—Silver trinkets. 253

197 Neustadtl, M. H., Prague.—Garnet jewelry. 253

199 Bolzani & Fussl, Vienna.—Gold chains. 253

200 Bergmann, Franz, Gablonz.—Imitation gems. 253

202 Rodek Brothers, Vienna.—Bronze and leather jewelry. 253

205 Kersch, Moritz, Prague.—Garnet articles. 253

207 Ulbrich, Franz, Ober-Kukan, near Gablonz.—Imitation of precious stones. 253

209 Hofrichter's Son, Joseph, Reichenau, near Gablonz, Bohemia.
a Imitation precious stones. 253
b Papier-maché boxes. 254

213 Schadelbauer, Vincenz, Vienna.—Mother-of-pearl buttons. 254

216 Baudissin, Countess Pauline, Vienna.—Artificial flowers. 254

217 Turners' Sample Office, Vienna.—Cork articles, tobacco pipe tube, and amber cigar holders. 254

223 Iaruschka, Joseph, Vienna.—Mother-of-pearl buttons. 254

226 Hieke, Augustine, Tyssa, near Bodenbach, Bohemia.—Horn and metal buttons. 254

227 Lux, Cl., Vienna.—Bronze articles. 254

228 Bergman, Franz, Vienna.—Bronze articles. 254

231 Hellmich, F. A. Eidam, Wolfersdorf, Bohemia.—Glass, pearls, bone, ivory, horn, and tortoise-shell buttons, real and imitation. 254

232 Heller's Sons, Balduin, Teplitz, Bohemia.—Metal buttons and trinkets. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Fancy Goods, Stationery, Medical Appliances, Hardware.

234 Hiess, Franz, Vienna.—Turners' articles, meerschaum and amber. 254

237 Kemperling, Hermann, Vienna.—Turners' articles, pipes, cigar holders, canes. 254

241 Krehan, Ignaz, Vienna.—Mother-of-pearl buttons. 254

243 Kuzel, John, & Jankowsky, C., Vienna.—Turners' articles, inkstand, cigar holder, ash bowls, watch holder, candle screens. 254

248 Umann, John, Tiefenbach, Bohemia.—Paper weights. 254

251 Wagner, Franz, Meistersdorf.—Bronze articles. 254

252 Lederer, K., Gablonz, Bohemia.—Glass trinkets. 254

254 Hartmann, L., & Eidam, Vienna.—Turners' articles, smoking requisites made of meerschaum and amber. 254

256 Lukasch, I., Vienna.—Mother-of-pearl fancies. 254

256*a* Schneider, Wenzel, Prague.—Necessaries for the toilet, threading machines. 254

267 Sittig, Joseph, Vienna.—Horn buttons. 254

271 Coffani, Maria, Vienna.—Parasols, fans, hats, and trinkets, made of straw. 254

272 Bauer & Pokorny, Vienna.—Meerschaum pipes. 254

274 Osterritter, Joseph, Vienna.—Fans of tortoise-shell, ivory, feathers, silk, wood, and leather. 254

278 Puschner, Franz Anton, Tyssa, near Bodenbach, Bohemia.—Metal buttons, brooches, sets of earrings, emblems, medals, decorative buckles. 254

279 Schwan, Wilhelm, Willendorf.—Mother-of-pearl buttons. 254

283 Wittek, Adalbert, Vienna.—Mother-of-pearl buttons. 254

285 Steindl, Carl, Vienna.—Mother-of-pearl buttons. 254

286 Blazincic & Sons, John, Vienna.—Haberdashery. 254

290 Trebitsch, Arnold, Vienna.—Articles of meerschaum and amber. 254

291 Unger, Franz, Vienna.
a Smoking requisites. 254
b Leather articles. 255

293 Danberger, George, Vienna.—Bronze ware, frames for photographs, toilet looking glass, cigar holders, inkstands, match boxes. 254

297 Bechmann, A. F., Vienna.—Bronze ware. 254

298 Beihl, Franz, Vienna.—Bronze ware. 254

299 Frank, Joseph, Vienna.—Bronze ware. 254

300 Dziedzinski & Hanusch, Vienna.—Bronze articles. 254

301 Bohm, Anton, Vienna.—Bronze ware. 254

302 Bohm, Ludwig, Vienna.—Bronze ware. 425

306 Wertheimer, Joseph, Vienna.—Fans. 254

307 Wielander, Peter, Vienna.—Mother-of-pearl buttons. 254

308 Bambula, John, Vienna.—Bronze goods, albums, writing portfolios, belts. 254

310 Unger, Franz, Vienna.—Portemonnaie, frames for manufacture of leather fancy goods. 255

315 Seewald, Michael, Vienna.—Leather ware and trinkets. 255

316 Rodek Bros., Vienna.—Leather articles. 255

317 Osterritter, Joseph, Vienna.—Leather articles. 255

Paper, Blank Books, Stationery.

321 Fialkowski Bros. & Twerdy, Bielitz, Austria-Silesia.
a Writing paper. 259
b Printing paper. 260

322 Eichmann & Co., Arnau, near Prague.—Samples of paper. 259

323 Opitz & Son, Carl, Teplitz, Bohemia.
a Paper. 259
b Pasteboard. 262

325 Knepper, W., Vienna.
a Cigarette paper. 260
b Fancy paper. 264

326 Schloglmuhl Paper Factory, Vienna.—Paper rolls for printing machines. 260

327 Schoffel, Anton, Reichenau, Bohemia.—Papier-maché boxes. 262

328 Wesely, Veit., Vienna.—Boxes. 262

331 Ostersetzer Bros., Vienna.—Paper laces. 264

Weapons, etc.

333 Percussion Caps, Cartridge, & Breech Ring Factory, Prague.—Percussion caps, cartridges, and breech rings. 265

Medicine, Surgery, Prothesis.

334 Wilhelm, Franz, & Co., Vienna.—Drugs, medicinal herbs, volatile oils, etc. 272

335 Wartpatrikoff Bros., Vienna.—Insect powder. 272

336 Pollak, Jacques, Vienna.—Ether. 272

337 Zacherl, John, Vienna.—Insect powder and tinctures. 272

338 Hamerli, John, Funfkirchen, Hungary.—Leather trusses. 276

338*a* Politzer, Adam, Vienna.—Anatomical and pathologico-anatomical preparations. 276

339 Berghammer, Fr., Vienna.—Set of artificial teeth. 277

340 Perl, Joseph, Klausenburg, Hungary.—Teeth, sets of teeth. 277

341 Zsigmondy, Adolf, Vienna.—Teeth. 277

Hardware, Edge Tools, Cutlery, and Metallic Products.

343 Wertheim, Baron Franz, Vienna.—Complete representation of the Austrian tool manufacture. 280

344 Schneider, Wenzel, Prague.—Fine penknives. 281

346 Winkler, Alois, Vienna.—Cast zinc articles, plates, emblems, letters, and coat of arms. 283

347 Winkler, Michael, Vienna.—Cast metal signs and letters. 283

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

348 Moravia Ironware Industry & Trade Co., Vienna.—Nails, screws. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

350 Schnek & Kohnberger, Vienna.—India-rubber goods. 285

351 Hausmann, Wilhelm, Reichenberg.—Rope articles, twine, cords, girths. 287

352 Kohl, August, Vienna.
a Hemp hose, mill straps for mills. 287
b Fire buckets for mills. 289

Carriages, Vehicles, and Accessories.

353 Lohner & Co., Jacob, Vienna.—Phaeton carriages. 292

356 Armbruster, Sebastian, Vienna.—Landau coach. 293

357 Bloch & Sons, E., Brunn.—Sole-leather saddle cloths. 296

Painting.

357*a* Hofrichter's Sons, Reichenau, near Gablonz.—Oil paintings. 410

357*b* Isella, Pietro, Vienna.—Painting. 410

Engraving and Lithography.

357*c* Paterno, Fr., Vienna.
a Drawings. 420
b Chromo-lithographs. 424

357*d* Kaeser, P., Vienna.—Engravings. 421

357*e* Bader, F. W., Vienna.—View of Vienna. 422

358 Winkler, Alois, Vienna.—Oleographs. 424

358*a* Lehmann, Nikolaus, Prague.—Chromos. 424

358*b* Lott, Ludwig, Vienna.—Chromotypographs. 424

358*c* Reiffenstein & Rösch, Vienna.—Chromos. 424

358*d* Sieger, Edward, Vienna.—Lithographs. 424

358*b* Czeiger, S., Vienna.—Chromos. 424

Ceramic Decorations, Mosaics, etc.

359 Steinmetz, Franz, Petronberd, Illyria.—Inlaid work and veneer. 452

360 Egger, I. B., Villach, Karnthen.—Inlaid work and veneer. 452

Machines for Printing, Making Books, Paper Working, etc.

361 Wuste, F., Vienna.—Cylinder coverings. 543

Arboriculture and Forest Products.

362 Frankl, J. G. & L., Vienna.—Wood specimens for the manufacture of furniture. 601

Water Animals, Fish Culture and Apparatus.

364 Nachtmann, Jacob, Tannwald, Bohemia.—Chamber leech aquariums. 640

Animal and Vegetable Products.

365 Zacherl, John, Vienna.—Cleaned sponges. 650

370 Ujhely & Co., H., Stockerau.—Wax. 654

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

SWITZERLAND.

(North of Nave, Columns 52 to 55.)

Chemicals, Ceramics, Woven Goods, Silk.

Chemical Manufactures.

1 **Guyot-Lupold, A., Locle, Ct. Neuchâtel.**—Chemical products, artificial black diamond, diamantine, powder of rubies, enamels for jewelry. 200

4 **Amblet & Poncet, Geneva.**—Oil for watches and instruments of precision. 201

5 **Brunnschweiler, Traugott, St. Gallen.**—Caseum for calico printing, caseum glue for cold glueing. 201

6 **Vaucher, L., Peseux, near Neuchâtel.**—Animal oil for chronometers and fine watches. 201

7 **Bindschedler & Busch, Basle.**—Raw materials for the manufacture of dyes, aniline dyes, artificial alizarine. 202

8 **Brunnschweiler & Son, St. Gallen.**—Printing inks, inks for Morse & Hughes' apparatus, extracts of ink in powder. 202

9 **Durand & Huguenin, L., Basle.**—Naphthaline, resorcine, fluorescene, eocene, phthaline and solutions, sefranine, galleine, ceruleine, steam blue, etc. 202

10 **Bühler, Emile, Neuchatel.**—Hair regenerator, pomade, balsam, tooth-water, quinine-water. 203

Ceramics—Pottery, Porcelain, Glass, etc.

11 **Collin, Ch., Derendingen, Ct. Solothurn.**—Watch glasses. 214

Yarns and Woven Goods of Vegetable or Mineral Materials.

13 **Billeter, C. G., Zurich.**—Singed cotton threads, unbleached cotton sewing thread, cotton leash threads. 230

14 **Brunner, A., Männedorf, Ct. Zurich.**—White and colored bed-covers. 230

15 **Gujer-Brunner, Uster, Ct. Zurich.**—White and colored tricot bed-covers and table-cloths. 230

16 **Oetiker, M. R., Männedorf, Ct. Zurich.**—White and colored cotton bed-covers and table-cloths. 230

17 **Schlaepfer, J. U., Waldstatt, Ct.** Appenzell, Inner Rhodes.—Muslin. 230

18 **Fierz, Henri, Zurich.**—Cotton goods. 231

19 **Wallenstadt Fancy Cotton Goods** Mills, Wallenstadt, Ct. St. Gallen.—Fancy cotton goods. 231

20 **Fierz, Henri, Zurich.**—Turkey-red printed handkerchiefs, cashmere shawls, door-curtains, chintz. 232

21 **Hanhart-Solivo, J., Dietikon, Ct.** Zurich.—Cambrics, handkerchiefs, shawls, chintzes. 232

22 **Azmoos Weaving Mills, Azmoos,** Ct. St. Gallen.—Figured cotton goods. 232

23 **Schneider, C. F., Dättlikon, Ct. Zurich.**—Lint for hospitals, colored wadding for jewelry. 233

Woven and Felted Goods of Wool, etc.

24 **Munzinger, Conrad, Olten, Ct. Solothurn.**—Felt of wool and cotton for paper mills, cylinder-cloth. 235

25 **Siegenthaler, Sl., Enggistein, near** Worb, Ct. Berne.—Boots and shoes of felt, with and without wooden soles, felt soles, felt tablets for watch-makers, filtering bags, felt trimmings. 235

26 **Ernst, Ferdinand, Winterthur, Ct.** Zurich.—Goods of wool and mixtures of wool. 238

27 **Schnyder, J. J., Wädensweil, Ct.** Zurich.—Worsted horse-hair and fibre for mattresses and upholstery, horse-tails, bristles. 240

Silk and Silk Fabrics.

28 **Baumann, senior, & Co., Zurich.**—Silks. 245

28*a* **Zæslein & Müller, Basle.**—Argal, silk waste, and fabrics of silk waste. 245

29 **Baumann & Streuli, Horgen, Ct.** Zurich.—Silks. 245

30 **Dufour & Co., Thal, Ct. St. Gallen.**—Silk bolting-cloth, silk grit-gauze. 245

31 **Egli & Sennhauser, Zurich.**—Silk bolting-cloth, middlings purifiers. 245

32 **Frey-Feer, J., & Co., Aargau, Ct.** Aargau.—Silk ribbons, faille, cord-edged taffetas, sarsenets, listons, satins. 245

33 **Heidegger, Wegmann, & Co., See**feld, Zurich.—Silk bolting-cloth. 245

34 **Homberger Bros., Wetzikon, Ct.** Zurich.—Silk bolting-cloth. 243

35 **Jansen, Bodek, & Hertz, Riesbach,** near Zurich.—Silks and satins. 245

36 **Adlischweil Silk Goods Factory,** Adlischweil, near Zurich.—Silks. 245

37 **Winterthur Silk Goods Factory,** Winterthur, Ct. Zurich.—Umbrella silks. 245

38 **Meyer, Bros., Zurich.**—Swiss silk bolting-cloth. 245

39 **Reiff-Huber, Zurich.**—Silk bolting-cloth. 245

40 **Rütschi, S., & Co., Zurich.**—Silks and satins. 245

41 **Ryffel & Co., Stæfa.**—Silks. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Silk, Clothing, Jewelry, Weapons.

42 Schærer, Emil, & Co., Zurich.—Silks. 245

43 Schrœder, Wilhelm, & Co., Zurich.—Silks. 245

44 Schwarzenbach, Landis J., Thalweil, near Zurich.—Silks. 245

45 Stapfer, Joh., Sons, Horgen, Ct. Zurich.—Silks. 245

46 Stunzi & Sons, Horgen, Ct. Zurich.—Silks and satins. 245

Clothing, Jewelry, etc.

47 Blumer & Wild, St. Gallen.—Hosiery, ladies' fancy articles. 250

48 Bourquin, C. F., Cormondrèche, near Neuchâtel.—Wool hosiery, jackets, and waistcoats. 250

49 End-Ulmi, Ali., Lucerne.—Knitted under-garments. 250

50 Hess, Gebr., Amrisweil, Ct. Thurgau.—Colored shirts and over-shirts. 250

51 Huggenberger, U., Frauenfeld, Ct. Thurgau.—Hosiery. 250

52 Meyer-Wæspi & Co., Altstetten, near Zurich.—Knitted under-garments. 250

53 Wiki, B., Lucerne.—Gentlemen's clothing. 250

54 Bell, August, Kriens, near Lucerne.—Crinoline braids. 251

55 Chiesa Bros., Locarno, Ct. de Tessin.—Braids and straw hats, Canton Tessin specialty. 251

56 Eich & Co., Lenzburg, Ct. Aargau.—Horse-hair braids, straw-plaitings, cotton tress-work, borderings, hair-cloth. 251

57 Indermühle, E. Th., Berne.—Straw hats. 251

58 Isler, Aloyse, & Co., Wildegg, Ct. Aargau.—Hair and cotton plaits, fancy goods of hair, straw, cotton, and silk for hats and bonnets. 251

59 Isler, Jacob, & Co., Wohlen, Ct. Aargau.—Straw goods. 251

60 Walser, Conrad, Wohlen, Ct. Aargau.—Straw hats, plaits, and fancy articles of straw, crinoline, cotton, and manila hemp, tissues of straw, silk, and other materials for fancy boxes, sparterie, embroidery, and ornaments for bonnets. 251

61 Alder Bros., Herisau, Ct. Appenzell, Inner Rhodes.—Hand and mechanical embroideries. 252

62 Alder & Meyer, Herisau, Ct. Appenzell, Inner Rhodes.—Embroidered trimmings. 252

63 Baerlocher-Custer, Rheineck, Ct. St. Gallen.—Embroidery, lace curtains, tidies, bed-covers, pillow-case covers. 252

64 Basquin, Hector, & Schweizer, St. Gallen.—Machine embroideries. 252

65 Bion & Tschumper, St. Gallen.—Mechanical embroideries. 252

66 Fisch Bros., Buhler, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries. 252

67 Göldy, A., & Co., St. Gallen.—Mechanical embroideries, Hamburg edgings and insertions. 252

68 Hirschfeld Bros. & Co., St. Gallen.—Swiss lace curtains. 252

69 Iklé Bros., St. Gallen.—Mechanical embroideries. 252

70 Locher Bros., Speicher, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries on silk. 252

71 Wülflinger Machine Embroidery Establishment, near Winterthur, Ct. Zurich.—Colored embroidery by machinery, Hamburg edgings. 252

72 Scheitlin & Widmer, St. Gallen.—Mechanical embroideries. 252

73 Stäheli-Wild, C., St. Gallen.—Hand and mechanical embroideries. 252

74 Steiger & Co., Herisau, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries, lace curtains. 252

75 Strauss, D., & Co., St. Gallen.—Lace curtains, drop laces, embroideries. 252

76 Sturzenegger & Rutz, Trogen, Ct. Appenzell, Inner Rhodes.—Cravats, edgings. 252

77 Sutter-Dörig, R., Appenzell.—Hand and machine embroidery. 252

78 Tobler, Ulr., & A., Rheineck & Thal, Ct. St. Gallen.—Machine embroidery. 252

79 Zähner & Schiess, Herisau, Ct. Appenzell, Inner Rhodes.—Hamburg edgings and insertions. 252

80 Zellweger, J. C., Trogen, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries. 252

81 Drawing School of the Board of Trade, St. Gallen.—Embroideries executed from designs of the drawing school. 252

82 Urech, E., Herisau, Ct. Appenzell, Inner Rhodes.—Mechanical embroidery. 252

82*a* Zürcher-Banziger, J., Teufen, Ct. Appenzell, Inner Rhodes.—Mechanical embroidery. 252

83 Petit-Pierre & Bryson, Geneva.—Jewelry. 253

84 Gay, Jean, Geneva.—Watch chains. 253

84*a* Meylan & Mertens, Ed., Geneva.—Gold chains and chatelaines. 253

85 Jaccard, Eugène, St. Croix, Ct. de Vaud.—Plate engraved with flowers, ornaments, and devices relating to the Centennial. 254

86 Rohr, Walter von, A., Mümliswyl, Ct. Solothurn.—Combs. 254

Paper, Blank Books, Stationery.

88 Müller, Johs., Schaffhausen.—German, French, English, and Spanish playing cards, railway tickets. 262

Weapons, etc.

89 Swiss Manufacturing Co., Neuhausen, near Schaffhausen.—Vetterli-system, infantry and target rifles, blank cartridges. 265

89*a* Schmidt, Major, Berne.—Rifle and revolver. 266

Medicine, Surgery, Prothesis.

90 Durieu, Oettli, & Co., Vevay, Ct. Vaud.—Milk-powder. 273

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Medical Appliances, Hardware, Animal and Vegetable Products.

91 Gerber & Co., Thun, Ct. Berne.—Condensed milk, children's food, medical condensed milk. 273

92 Lapp, C., Freiburg.—Food for children, condensed milk. 273

93 Naumann-Burkhardt, H., Basle.—Extract honey, syrup, and flour of meat. 273

94 Nestlé, Henry, Vevay, Ct. Vaud.—Milk food or lacteous farina. 273

94*a* Wander, G., Berne.—Extracts of malt and malt drops. 273

95 International Bandage-shiff Factory, Schaffhausen.—Dressings, lint, appliances for the dressing of wounds, pharmaceutical apparatus. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

96 Spillmann, Heinrich, Unterstrass, near Zurich.—Engineering tools. 280

97 Schneider, C. F., Geneva.—Complicated pocket-knives. 280

98 Bürgin, Bros., Schaffhausen.—Upholsterers' nails. 280

98*a* Le Coultre, Jacques, Sentier, Ct. Vaud.—Razors. 281

98*b* Bossi, Gaetano, Locarno, Ct. Tessin.—New system of safety locks. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

99 Bally & Schmitter, Aargau, Ct. Aargau.—Elastic webs for boots. 285

AGRICULTURE.

Agricultural Products.

1 Anastasio, Giuseppe, Lugano, Ct. Tessin.—Cigars. 623

2 Kottmann, J., Solothurn.—Cigars. 623

3 Sauter, A., Diessenhofen, Ct. Thurgau.—Cigars. 623

Animal and Vegetable Products.

4 Schleife Tanneries, Winterthur, Ct. Zurich.—Blackened calf leather. 652

5 Hürlimann. J. J., Rapperswyl, Ct. St. Gallen.—Swiss honey. 654

6 Society for Bee Culture, Lukmanier, Sobrio, Ct. Tessin.—Honey and wax. 654

7 Coffee Surrogate Factory, Zurich.—Fig-meal (surrogate of coffee), conserved coffee. 656

8 Robbi & Co., Geneva.—Chocolate. 656

9 Schweigert, Auguste, Geneva.—Theodoro's sauce. 656

10 Suchard, Ph., Neuchatel.—Chocolate, cacaos. 656

11 Almen, von, & Kopp, Fleurier, Ct. Neuchâtel.—Absinthe. 660

12 Berger, C. F., Couvet, Ct. Neuchatel.—Absinthe. 660

13 Bernhard, S., Samaden, Engadin, Ct. Graubünden.—Jva bitter, Jva perfume, and tincture. 660

14 Bolle, L. A., Son, Verrières, Ct. Neuchâtel.—Green and white absinthe. 660

15 Grandpierre, J., Geneva.—Vermouth. 660

16 Henny & Moullet, Fleurier, Ct. Neufchâtel.—Absinthe. 660

17 Kirschwasser Company Zug, Zug.—Kirschwasser. 660

18 Nievergelt, Joh., Maschwanden, Ct. Zurich.—Kirschwasser. 660

19 Pernod, Ed., Couvet, Ct. Neuchatel.—Green and white absinthe, gentian-liquor, kirschwasser. 660

20 Scherer, Bros., Meggen, Lucerne.—Kirschwasser. 660

21 Schmidt, Joseph, Zug.—Sweet-liquors, righibitter, stomach-bitters, kirschwasser. 660

22 Stauffenegger, Chr., Travers, Ct. Neuchâtel.—Absinthe. 660

23 Gessler-Zeller, J., Basle.—Leckerly of Basle. 660

24 Mattmann, Brothers, C. & J., Horw, near Lucerne.—Italian pastry. 661

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

BELGIUM.

(*North of Nave, Columns 54 to 59.*)

Chemicals, Ceramics, Glass.

Chemical Manufactures.

1 **Hemptinne, A. de, Son, Molenbeek,** St. Jean, near Brussels.—Plan of apparatus for manufacturing sulphuric acid. 200

3 **Meeus, M. & J., Antwerp.—Refined** sulphur. 200

4 **Solvay & Co., Couillet, near Charleroi.**—Chemicals, soda-salt. 200

6 **Des Cressonnières (widow) & Son,** Molenbeek, St. Jean, near Brussels.—Toilet soap. 201

8 **Staes, Sproelants, Termonde, East** Flanders.—Linseed, rape-seed, hemp-seed, cotton, and other oils. 201

9 **Botelberge, Gustave, & Co., Melle,** near Ghent, East Flanders.—Ultramarine. 202

10 **Gilkinet, C. J., Ensival, near Verviers.**—*Cache-epoutil*, or special ink, to point out the defects on cloth and dye-stuffs. 202

11 **Lummerzheim, M. H., & Co., Wondelgem,** near Ghent, East Flanders.—Bituminous and re-asphaltic roof and ship sheathing paper, lampblack. 202

12 **Offergeld Bros., Forest, near Brussels.**—Red, brown, and chestnut iron paint. 202

13 **Planche, Edouard, Son, Laeken,** near Brussels.—Writing ink. 202

14 **Planche, Melchior, Ixelles, near** Brussels.—Writing ink. 202

15 **Singer, Max, Tournai (Hainaut).**—Aniline products for dyes extracted from coal-tar, etc. 202

16 **White Lead & Iron Paint Joint** Stock Co., Anderghem, near Brussels.—White lead, iron paint, mastics. 202

17 **Van der Velden, Leopold, Liége.**—Writing, glossing, and indelible ink, liquid glue, etc. 202

18 **Van Laer, Guillaume, Verviers.**—Dyers' practical guide, mordant processes. 203

19 **Marbaix, Auguste de, Antwerp.**—Aromatic liquor, Anvers water, essential oil, caraway essence, cedar essence, Florentine iris, and oil of cloves. 203

20 **Cooppal & Co., Wetteren, East** Flanders.—Charcoal, sulphur, powder and cartridges. 204

Ceramics—Pottery, Porcelain, Glass, etc.

23 **Seilles lez Andenne & Bouffioulx** Joint Stock Co. of Refractory Products and Plastic Clay, Seilles, near Andenne, Province of Liége.—Burnt refractory earthenware, brick for gas furnaces, etc., gas retorts, refractory plastic clay. 207

25 **Wingender Bros., Chokier, near** Liége.—White and colored clay pipes. 210

26 **Floreffe Co., Floreffe, near Namur.** —Plate glass for windows. 214

26*a* **Schmidt Brothers & Sisters, Lo**delinsart.—Window glass. 214

27 **Andris, Lambert, & Co., Mar**chienne-au-Pont, near Charleroi (Hainaut).—White window and heavy muslin glass. 214

27*a* **National Glass Works Joint Stock** Co., Jumet.—Window glass. 214

28 **Baudoux & Co., Charleroi.—White** and colored window and unpolished and corrugated muslin glass, with variegated rosettes engraved and cut. 214

29 **Baudoux, E., & Jonet, Lodelinsart.** —Colored and fancy window glass. 214

30 **Bennert & Bivort, Jumet, near Char**leroi.—Window glass. 214

31 **Bougard, A., Le Brun, H., & Co.,** Roux, near Charleroi.—Window glass. 214

32 **Dorlodot, L. de, & Co., Lodelinsart.** —Unpolished and corrugated window glass, greenhouse, cathedral, and stained glass, old glass imitation. 214

33 **Looper, de, Haidin, & Co., Cour**celles.—Window glass. 214

34 **Dessent, J., & Bros., Jumet.—Win**dow glass. 214

35 **Fourcault-Frison, A., & Co., Dam**premy, near Charleroi.—Window glass. 214

36 **Hans, Octave, & Co., Jumet, near** Charleroi.—Window glass. 214

37 **Lambert, Casimir, Son, Charleroi.—** Window glass. 214

38 **Lambert, L., & Co., Hamendes** Glass Works, Jumet.—Window glass. 214

39 **Leurant, Emile, Jumet (Heigne),** near Charleroi.—Glass cylinder. 214

40 **Mondron, Leon, Lodelinsart, near** Charleroi.—Window glass. 214

41 **Monnoyer, J., & Son, Dampremy,** near Charleroi.—Window glass. 214

42 **Morel, Alphonse, Lodelinsart, near** Charleroi.—Window glass. 214

43 **Schmidt, A., & Co., L'Alliance Glass** Works, Jumet (Brulotte), near Charleroi. —Window and fluted glass. 214

44 **Schmidt, Devillez, & Co., Dam**premy, near Charleroi.—Window glass. 214

45 **Glass Works Joint Stock Co., Char**leroi.—Window glass. 214

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

46 Plate Glass Manufacturing Joint Stock Co., Courcelles, near Charleroi.—Clean polished and plated glass. 214

47 Hainaut Glass Manufacturing Joint Stock Co., Roux, near Charleroi.—Plate glass for windows, silvered glass, samples of plate glass at different stages of manufacture. 214

48 Glassware & Plate Glass Manufacturing Joint Stock Co., Brussels.—Framed plated and unplated mirrors. 214

49 Bougard, A., Manage (Hainaut).—Crystals. 216

50 Boussu, Famille reux & Blanc Misseron Glass Works Joint Stock Co., Boussu, near Mons (Hainaut).—Crystals and half crystals, dinner service, and articles for lighting. 216

Furniture and Objects of General Use in Construction and in Dwellings.

51 Demeuter, Leopold, Son, Brussels.—Furniture and hangings. 217

53 Goyers, J. A. & H., Bros., Louvain.—Pulpit in the ogive style. 217

54 Snyers, Rang, & Co., Brussels.—Carved walnut furniture, renaissance style, ebony inlaid with ivory. 217

55 Teugels, Emile, Malines, Province of Anvers.—Carved furniture, a chair of the sixteenth century, a Flemish chair of the sixteenth century. 217

56 Zech, H., Malines.—Ebony bureau, arm-chair, and book-case. 217

57 Boucneau, Leon, Schaerbeek, near Brussels.—Marble mantelpiece, Belgian mosaic marble panels for dining-room decoration, brick pavement and Belgian mosaic marble table. 217

58 Guyaux Bros., Bouffioulx, near Charleroi.—Black marble, St. Anne mantelpiece. 217

59 Lintelo, A., Brussels.—Clocks and marble slabs. 217

60 Parmentier, Gosset, & Co., Sivry (Hainaut).—Marble mantelpieces with vases and clocks. 217

61 Tainsy, F., Brussels.—Marble mantelpieces. 217

62 Brodure, Mathieu, Spa.—Painted, varnished, and gilt wooden work. 219

63 Bronfort Bros., Spa.—Painted and ornamented wooden boxes, etc. 219

64 Debrus-Leclaire (widow), Spa.—Painted and ornamented wooden boxes, etc. 219

65 Debrus, Willem Alexandre, Spa.—Wooden boxes, etc. 219

66 Krins, E., Spa.—Wood carvings. 219

67 Van Ginderdeuren, Brussels.—Wood carvings, furniture. 219

68 Costermans, Jean, Brussels.—Hearth of the Flemish renaissance. 222

69 Miedel, Dieudonné, Sombreffe, near Gembloux, Province of Namur.—A brick layer ventilator for chimneys and coal-mine pits. 222

70 Serta, G. N., Director of the State Railroad.—A plan for utilizing the heat wasted by kitchen stoves, and a heating and ventilating system for passenger railroad cars. 222

71 L'Eclair Joint Stock Co., Kessel-Loo, near Louvain (Brabant).—Match tapers. 223

73 Pas, Gerard, Brussels.—Silver, copper, and bronze household utensils. 224

74 Tremouroux, N. & J., Bros., Saint Gilles, near Brussels.—Polished, varnished, bronzed, enameled, plated, and wrought iron household utensils. 224

75 Valania, Jean, Ixelles, near Brussels.—Machines for confectioners. 224

76 Vanderrest, Guillaume, Brussels. —Machine for the manufacture of sweetmeats. 224

76*a* Dogny, Jean Baptiste, Brussels.—Balusters, ornaments for door panels. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

77 Baertsoen, A., & Buysse, A., Ghent.
a Cotton textile fabrics. 230
b Linen textile fabrics. 233

78 Smet, E. de, & Co., Ghent.—Thread in packages; warped, unbleached and dyed skeins. 230

79 Desmet Bros., Ghent.—Dyed, bleached, and unbleached textile fabrics. 230

80 Parmentier, Van Hoegarden & Co., Ghent.—Spun cotton, bleached and unbleached printed cotton textile fabrics. 230

81 Devos, Camille, & Brother, Court-rai.—Stuff for trowsers. 231

82 Idiers, Emile, Auderghem, near Brussels.—Spun cotton, dyed Adrianople red, etc. 231

85 Brandt, Jacques de, Alost.—Dia-pered and damasked table linen. 233

86 Declercq, Clement, Iseghem, East Flanders.—Twisted linen thread for machine and hand sewing. 233

87 Govaert Bros., Alost, East Flanders.—Canvas, sackcloth and bags for grain, guano, salt, etc. 233

88 Leirens-Eliaert of Eliaert-Cools, Alost, East Flanders.—Thread and tow for weaving, sewing thread. 233

90 Re y, senior, Brussels.—Linen fab-rics. 233

91 Sak-Volders, Joseph, Turnhout, Province of Antwerp.—Tickings for beds and awnings. 233

92 La Lys Co., Ghent.—Jute and linen thread. 233

93 Van Damme Bros., Roulers, East Flanders.—Cloth. 233

94 Van de Wynckele Bros. & Als-berge, Ghent.—Tow and linen thread bleached, at every stage. 233

95 Wilford, William, Tamise, East Flanders.—Imperial extra flax, merchant and navy canvas; combed flax and thread for its manufacture. 233

Woven and Felted Goods of Wool, etc.

96 Hauzeur-Gerard, Son, Verviers.—Carded woolen thread. 235

99 Baras-Navaux, Verviers.—Cloth and woolen stuff. 235

100 Bettonville, Clement, Hodimont, near Verviers.—Cloth and woolen stuff. 235

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven Goods, Silk, Clothing, Stationery.

101 Biolley, François, & Son, Verviers. —Cloth and woolen stuff. 235

102 Biolley Bros. & Co., Juslenville, near Verviers.—Cloth and woolen stuff. 235

103 Chatten, M., & Co., Dison, near Verviers.—Cloth and woolen stuff. 235

104 Delhez Bros., Dison.—Cloth and woolen stuff. 235

105 Devosse-Blaise, Dison.—Cloth and woolen stuff. 235

106 Dolne, Lekeux, & Co., Dison.—Cloth and woolen stuff. 235

107 Domken Bros., Verviers.—Cloth and woolen stuff. 235

108 Dreze, H. & J., Dison.—Cloth and woolen stuff. 235

109 Franck Bros., Dison.—Cloth and woolen stuff. 235

110 Henrion, J. J., Dison.—Cloth and woolen stuff. 235

111 Herve, Fanchamps, Verviers.—Cloth and woolen stuff. 235

112 Lecloux, G. J., Dison.—Cloth and woolen stuff. 235

113 Lejeune-Vincent, H. J., Dison.—Cloth and woolen stuff. 235

114 Olivier, J. J., & Son, Verviers.—Cloth and woolen stuff. 235

115 Peltzer & Son, Verviers.—Cloth and woolen stuff, carded woolen thread. 235

116 Simonis, Iwan, Verviers.—Cloth and woolen stuff. 235

117 Tasté, J., Verviers.—Cloth and woolen stuff, carded woolen thread. 235

118 Wihl, M., & Co., Verviers.—Cloth and woolen stuff. 235

119 Jamme, Armand, Saint Hadelin, (Nessonvaux), near Verviers.—Carded woolen thread. 235

120 Begasse, Charles, Liége.—Felt for paper manufacture, fag-end fabrics, and woolen bed blankets. 237

121 Jacobs, Poelaert, & Co., Brussels.—Woolen bed blankets. 237

122 Rolin, H., Son, & Co., Saint Nicholas, East Flanders.—Tartan shawls, thin, light cloth, tweeds, waterproofs, lady cloth, fancy cloths, etc. 237

123 Braquenié Bros., Malines.—Malines tapestry. 239

a Portrait of Rubens, panel from Gallait.
b Portrait of Cousin, in Arabian costume.
c Eight panels together, representing eight gods, from Olympus, with all their attributes, from Audran.
d Full length painting—style Louis XVI.

Silk and Silk Fabrics.

124 Fonteyn Bros., Lede, East Flanders.—Black silk goods. 245

125 Van Bellingen, Jos., Son, Antwerp.—Black silk cassimere, Antwerp silk and trimmings. 245

126 Van Bellingen, J. H., & Suremont, Max, Antwerp.—Antwerp black silk tissues. 245

Clothing, Jewelry, etc.

127 Dujardin Bros., Leuze (Hainaut). —Cotton and woolen hosiery. 250

128 Leynen-Hougaerts, J. A. H., Peer, Province of Limbourg.—Church vestments, chasuble, and various embroideries. 250

128*a* Couvreur Sisters, Brussels.—Women's dresses. 250

129 Bouhon, François, Verviers.—Wooden and other shoes. 251

131 Frenay Bros., Roclenge-sur-Geer (Limbourg).—Braids and straw hats. 251

132 Level, Leon, Brussels.—Kid gloves. 251

133 Vandenbos-Poelman, G., Ghent.—Shoes. 251

134 Watrigant, Alphonse, Brussels.—Gentlemen's, ladies', and children's shoes. 251

135 Begerem, René, Ypres.—Valenciennes lace. 252

136 Crommelinck, Courtrai.—Lace. 252

137 Dassonville, Courtrai.—Lace. 252

138 Declercq-Clement, Iseghem, East Flanders.—Common lace of twisted thread. 252

139 Des Mares, P. T., Laeken, near Brussels.—Lace. 252

140 Vergnies, O. De, & Sisters, Brussels.—Lace. 252

141 Duden Bros., Brussels.—Lace. 252

142 Everaert, Julie, & Sisters, Brussels.—White and black lace. 252

143 Bruyneel, senior, Grammont.—Black lace. 252

144 Groote, Vierendeel de, Grammont. —Black lace. 252

145 Everaert-Leclercq, Jules, Grammont.—Black lace. 252

146 Everaert Sisters, Grammont.—Black lace. 252

147 Ghys-Bruneel, Grammont.—Black lace. 252

148 Leclerq (widow), Grammont.—Black lace. 252

149 Saligo-Vandenberghe, Grammont. —Black lace. 252

150 Gillon-Steyaert, Courtrai.—Valenciennes lace. 252

151 Rectem, Jean, Brussels.—Gold embroidered picture. 252

152 Sacré, L., Brussels.—Lace. 252

153 Vandezande-Goemaere, Courtrai. —Valenciennes lace. 252

154 Verdé, Delisle Bros., & Co. (India Co.), Brussels.—Lace. 252

156 Coryn, Jules, Ghent, East Flanders. —Chignons and wigs. 254

157 Gossieaux, Félicien, Wavre (Brabant).—Hair picture. 254

157*a* Graf, Emile, Son, Liége.—Trunk. 255

Paper, Blank Books, Stationery.

158 Vandamme, Pierre Jean, Brussels. —Proofs of steel engraving for stamping with colors, illuminated with gold and silver, chromograms, and coats of arms. 258

159 Braff, Pfeffer, & Co., Ghent.—Raw material for the manufacture of paper, worked and cleaned rags, and old paper. 259

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Weapons, Medical Appliances, Animal and Vegetable Products.

160 De Mesmaecker, Fr., Brussels.—Samples of bindery work. 261

161 De Tournay-Catala, Brussels.—Printing, writing, and wrapping paper, and pasteboard. 259

162 Poissonniez, Jean Baptiste, Brussels.—Cases for jewelers, confectioners, druggists, etc.; card of samples. 262

163 Daye, F., & Co., Scharbeek, near Brussels.—Pressed leather, pasteboard made from Cordoue and Malines old hides. 264

Weapons, etc.

164 Fusnot, Charles, & Co., Cureghem, near Brussels.—Cartridges for weapons of every description. 265

165 Heuse, Ernest, Nessonvaux, near Liége.—Gun-barrels. 265

166 Mairlot & Heuse, Fraipont (Liége).—Gun-barrels for warfare and export. 265

167 Bayet Bros., Liège.—Fine weapons. 269

168 Neumann Bros., Liége.—Double-barreled hunting guns. 269

169 Tambeur, Michel, Liége.—Hunting weapons. 269

Medicine, Surgery, Prothesis.

170 Depuy, Barthélémy, Brussels.—Pharmaceutical preparations, pamphlets on toxicology, pharmacy, and hygiene. 272

173 Guillery, Hippolyte, Brussels.—Sanitary report of the battle-field at Sedan in 1870; apparatus for the rapid dressing of wounds on the battle-field, etc., and for the treatment of limb fractures. 276

174 Hermant, Emile, Bruges.—Treatise on flying ambulances, model of ambulance bags adopted by the Belgian government, memoir of the military physician. 276

174*a* Buys, L., Brussels.—Car for the transport of the sick and wounded. 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

175 Lambert, A. de, Liége.—Files for watchmakers and jewelers. 280

175*a* Jean, Emile de, Brussels.—Collection of iron and tools for horse-shoeing. 280

176 Constant, Emile, Monceau-sur-Sambre, near Charleroi.—Cheese-vat bolts, clamps for rails, rivets, tinkers' ware. 284

177 Demanet, Albert, Gosselies (Hainaut).—Forged nails. 284

178 Fondu, Jean Baptiste, Brussels.—Locksmiths' work, locks for vehicles, carriages, and railway cars; nickel ware used in construction. 284

179 Hoorickx, Guillaume, Brussels.—Two large chests—one representing an old-fashioned Flemish trunk, the other the present style. 284

180 Nicaise, Charles, Louvière (Hainaut).—Locomotive and other bolts, screws for locomotives, screw nuts, rivets, clamps for rails, etc. 284

180*a* Fix, A. J., Brussels.—Nails, rivets, etc. 284

181 Nicaise, Pierre & Nicolas, Marcinelle, near Charleroi.—Bolts, screw-nuts and rivets, spokes, and round-nose chisels, carriage tenders, clamps, etc. 284

182 Velings & Co., Chatelet, near Charleroi (Hainaut).—Iron wire, tacks, nails. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

183 Ryckere, Edouard de, senior, Iseghem, East Flanders.—Brushes and pencils. 286

Carriages, Vehicles, and Accessories.

184 Ruytter, Charles de, Ghent.—Carriages. 292

185 Van Aken, Louis, Anvers.—Carriages. 292

AGRICULTURE.

Agricultural Products.

1 Le Bailly-D'Inghuem, Viscount Arthur John, Villeneuve, Switzerland.—Cereals cultivated in a sandy soil. 620

2 Ameye Berte, Rodolph, Ghent.—Chiccory, raw, in the pod, and manufactured. 623

5 Vandendaele-Rigot, Charles, Quiévrain (Hainault).—Ground mustard. 623

6 Delannoy, Nicholas, Tournai.—Chocolate. 623

6*a* Mottie, L., Brussels.—Tobacco and cigars. 623

7 Joveneau, Arthur, Tournai (Hainault).—Powdered cocoa and chocolate; detail of chocolate manufacture. 623

Animal and Vegetable Products.

9 Bodart, Ed., Louvain (Brabant).—Sheepskins, white leather, morocco, salted roans. 652

10 Baugniet, T., & Co., Brussels.—Crystallized blood. 652

11 Lebermuth, J., & Co., Brussels.—Waxed leather and goat skins. 652

12 Ocreman, L., & Witdoeck, E., Mechlin, province of Antwerp.—Varnished skins. 652

13 Schmitz, F. A., & Co., Koekelberg, near Brussels.—Skins for hats; manufactured morocco leather. 652

15 Versé-Spelmans, Brichot, Ant, & Co., Brussels.—Curried leather. 652

17 Remy & Co., Louvain (Brabant).—Starch and similar products. 658

20 Vandendaele-Rigot, Ch., Quiévrain (Hainault).

a Pear, apple, and beet-root syrups. 659

b Vinegar. 660

21 Charlier, John Baptist, Ghent.—Beer. 660

22 De Beukelaer, F. X., Antwerp.—Antwerp elixir, hygienic cordial. 660

23 Melkior, P. J., Brussels.—Liquors. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural Products and Machines.

24 Schaltin, Pierry & Co., Spa.—Cordial, mineral waters, etc. 660

25 Schmidt, Emile, Schaerbeck, near Brussels.—Belgian bitters, cordial. 660

27 Bergh, van den, & Co., Antwerp.—Gin made from fine grains. 660

29 Wauters-de-Busscher, Mechlin, Province of Antwerp.—Cordials. 660

30 Damman, Edm., Borgerhout, near Antwerp.—Ship biscuit. 661

31 Couvreur Sisters, Brussels.—Confections. 661

Textile Substances of Vegetable or Animal Origin.

32 Leclercq, Henry, Courtrai.—Flax. 666

33 Taulez-Bottelier, Charles, Bruges, East Flanders.—Oakum, flax. 666

35 Müllender, S., Verviers.—Flocks of wool and shearings. 667

36 Delmotte, Hippolitus, Ghent.—White bristles. 669

Machines, Implements, and Processes of Manufacture.

37 Dassonville de Saint-Hubert, L.-Namur.—Stones for grinding grain, cements, etc. 674

38 Vandendaele, Rigot, Charles, Quievrain (Hainault).—Steam machine for manufacturing chiccory. 674

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

NETHERLANDS.

(North of Main Aisle, Columns 60 to 65.)

Chemicals, Ceramics, Furniture, Woven Goods, Silk.

Chemical Manufactures.

1 Matthes, W. E., Amsterdam.—Sulphate of ammonia. 200
2 Gorter, D. & S., Sneek.—Soap. 201
3 Willems, P. J., Schiedam.—Oils. 201
4 Sauders & Co., Leyden.—Soaps. 201
5 Henny, C. O., Deventer.—Glue. 202
6 Van Calker, P. W., Utrecht.—Glue. 202
7 Verrocy & Van Heusde, Tiel.—Dyes, turpentine, inks, wax, colors, salves. 202
8 Grootes, M., Westzaan.—Blueing. 202
9 Leur, W., Schooten, near Haarlem.—Red lead made from iron ore. 202
10 Mills, M. A.—Inks. 202
11 Vriesendorp, H. M., Dordrecht.—Oils and varnish. 202
12 Lousbergh, V., Gravenhage.—Colors. 202
13 Van den Bergh, N. L. J., Arnhem.—Cologne. 203

Ceramics—Pottery, Porcelain, Glass, etc.

14 Van Bergen, A. H., Heiligerlee, Province of Groningen.—Stone and drain tiles. 206
15 Van Henkelom, H. C., Utrecht.—Building stone. 206
17 Koolemans-Beijnen, C. G. L., Willeskop.—Architectural pottery. 206
18 Goedwaagen, P., Gouda.—Chemical stoneware and stoves. 207
19 Fontein, R., Franeker.—Roofing tiles. 208
20 Ravesteijn, H. F., Westraven.—Painted wall stone. 208
21 Bouvy, J. J. B. J., Dordrecht.—Glassware. 214

Furniture and Objects of General Use in Construction and in Dwellings.

22 Nooijen, L. J., Rotterdam.—Furniture and fancy articles. 217
23 Van Vliet, W. F., Gravenhage.—Chairs. 217
24 Lowman, J., Zwolle.—Folding screen. 217
25 Van der Lugt, Gravenhage.—Furniture and fancy articles. 217
26 Lommen, C. H., Roermond.—Painted and cut glass. 219
27 Grolman, C. W., Utrecht.—Picture frames. 220
28 Batenburg & Co., Rotterdam.—Lamps. 223
29 Cool, G. Thz., Amsterdam.—Mantels. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

31 Director of Prison, Utrecht.—Matting and rugs. 229
32 Ter Horst, J. H., Ryssen.
a Jute matting. 229
b Linen. 233
33 Arntzenius, Jannink, & Co., Goor.—Fish nets and yarn. 230
34 Hilversumsche Spinning & Weaving Manufactory, Amsterdam.—Spun and woven cotton goods. 230
35 Planteijdt, L., Krommenie.—Thread cloth and canvas. 230
36 Maas en Zonen, A. E., Scheveningen.—Fish nets. 230
37 Bottenheim, D. & S., Amsterdam.—Yarns. 230
38 Stork, C. F., Hengeloo.—Colored woven goods. 231
39 Swinkels, W., Helmond.—Yarns. 231
40 Veltman, J. A., jr., Amsterdam.—Covers and scarfs. 232
41 Veetman, J. A., Amsterdam.—Scarfs. 232
42 Elias, J., Strijp.—Table cloths, napkins, and dress goods. 233
43 Nieuwenhuizen & Van Stratum, Geldrop.—Towels, napkins, and table cloths. 233

Woven and Felted Goods of Wool, etc.

44 Tilburg Woolen Manufacturing Co.—Flannels, opera cloaks, and fancy goods. 236
45 Zaalberg, J., Leyden.—Woolen covers. 237
46 De Lange, A. G., Delft.—Imitation Smyrna rugs. 239
47 Garjeanne, A. G., Delft.—Imitation Smyrna carpets. 239
48 Royal Carpet Manufactory, Deventer.—Deventer hangings. 239
49 Prins, M., Deventer.—Artificial wool and cowhair carpets. 239
50 Van Leer, B., Amersfoort.—Hangings. 239
51 Veelo, P. J., Gravenhage.—Sofa cloths. 241

Silk and Silk Fabrics.

52 Travaglino, P. J. & W. J. P., Haarlem.—Silks. 244

Clothing, Jewelry, and Ornaments; Traveling Equipments.

54 Wienbelt, W., Deventer.—Boots. 251
55 Costermans, C., jr., Gravenhage.—Trunks, satchels, and bags. 255

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Stationery, Weapons, Medical Appliances, Hardware.

Paper, Blank Books, and Stationery.

56 Loeber, G., Amsterdam.—Stationery. 258

57 Abrahams Bros., Middleburg.—Blank books. 261

58 Simons, Ph., Gravenhage.—Bindings for maps, etc. 261

59 Cramer, H. G. D., Ootmarsum.—Pasteboard. 262

60 Van der Burgh, M., Schiedam.—Imitations of marble and wood. 264

61 Van der Burgh, A. R. & P., Rotterdam.—Imitations of marble and wood. 264

62 Rijperman, C. J. F., Velzen.—Wood painting. 264

63 Dobbe, J. P., Gravenhage.—Wood and marble painting. 264

64 Kerkhoven, R., Utrecht.—Wood and marble painting. 264

Weapons, etc.

65 Government Arm Manufactory, Delft.—Army rifle. 265

66 Betou, J. P. de, Delft.—Breechloading rifle. 265

Medicine, Surgery, Prothesis.

67 Van de Loo, J. P. H., Venlo.—Plaster and bandages. 276

68 Schokking, J. A. J., Amsterdam.—Conical tube for injections. 276

70 Krol, W., Kampen.—Plasters and bandages. 276

71 Mathijsen, A., Budel.—Plaster and bandages. 276

73 Gori, M.W.C., Amsterdam.—Water and land conveyances for sick and wounded. 278

74 Committee on Sick & Wounded Soldiers.—Work of the "Red Cross." 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

75 Erdman-Schmidt, J. D., Helmond.—Cast engraving plates. 280

77 Enthoven, H. S., Zalt-Bommel.—Tinned iron kitchen utensils. 284

78 Van Heukelom, H. C., Utrecht.—Machine screws. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

79 Reus, N., Pzn, Dordrecht.—House and ship brushes. 286

NETHERLANDS EAST INDIAN COLONIES.

COLLECTIVE EXHIBIT.

Minerals, Manufactures.

Minerals, Ores, Building Stones, and Mining Products.

1 Netherlands Commission.

a Gold, quicksilver, lead, and hematite iron ores; sulphur, feldspar, quartz, porphyry, trachyte, obsidian, garnet rocks, talc, flinty schist. 100

b Coal. 101

c Marble, granite, sandstone, syenite, diorite. 102

d Limestone. 103

e Clays, chalk bamboe. 104

Metallurgical Products.

f Gold, from Soepayang. 110

g Block tin. 113

Chemical Manufactures.

h Nutmeg soaps. 201

i Indigo. 202

Ceramics—Pottery, Porcelain, etc.

j Water jug. 210

Furniture and Objects of General Use in Construction and in Dwellings.

k Table, benches, rocking chairs, footstools. 217

Yarns and Woven Goods of Vegetable or Mineral Materials.

l Mats, fabric of beaten bark. 229

l a Native cotton thread. 230

l b Native calico. 232

Clothing, Jewelry, and Ornaments; Traveling Equipments.

m Native garments of silk, cotton, etc. 250

n Native caps, headkerchiefs, plaited hats, and Chinese slippers. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

o Lace, silk embroideries, embroidered handkerchiefs, etc. 252
p Silver filigree necklace, brooches, ear-drops, and bracelets. 253
q Artificial flowers, lacquered boxes, cases, fruits, etc.; nutmeg-tree made of feathers; flower baskets, cigar cases, vases, box, native boat and sedan chair made of cloves, book mark, tortoise-shell covers, models of Malay dwelling, chapel, rice barns, baskets, tea-set of silver filigree work, etc. 254

Weapons, etc.

r Native weapons, small models of inland arms. 265
s East Indian weapons, creeses, swords, knives, sabres, head-choppers, blow pipes for arrows, arrows, and shields. (Loaned by His Majesty the King of the Netherlands.) 265

Medicine, Surgery, Prothesis.

t Alkaloids from cinchona bark, quinium, quinine, quinidine, cinchonine, cinchonidine, and cinchona powder; gum damar, catechu. 272

Hardware, Edge Tools, Cutlery, Metallic Products.

u Small models of inland tools. 280
v Rice knife. 281

Fabrics of Vegetable, Animal, or Mineral Materials.

w Ropes made of fibres of native trees and plants. 287
x Baskets, lacquered wooden box and trays. 289

Arboriculture and Forest Products.

y Cotton reels; East Indian loom; trunks, roots, barks, etc., of various species of the cinchona tree; collection of native woods; leaves, fruit, and pulp of the vegetable tallow tree; samples of bamboo. 600
z Ebony, sapan, and fustic woods. 601
aa Gutta-percha, gutta-gitang, gutta-soesoe, India-rubber, agar-agar, gum benjamin, camphor, dragon's blood, vegetable talc, etc. 603
bb Wild nuts, binamoe, langa bidjan, leadoeri flue seeds, sapo ranto, fruit, preserved wild nutmegs, etc. 605

Agricultural Products.

cc Rices, hulled, unhulled, and in the stalk; millet, dragong wheat. 620
dd Bienkoero and tarok roots. 622
ee Coffees, teas, cocoa, nutmegs, white and black peppers, mace, cloves, tobacco. 623

Land Animals.

ff Birds of Paradise.

Marine Animals, Fish Culture and Apparatus.

gg Tripang fish. 641
hh Tortoises. 643
ii Mother-of-pearl shells. 645

Animal and Vegetable Products.

jj Edible birds' nests. 650
kk Tiger skins. 652
ll Wax. 654
mm Preserved victuals. 656
nn Arrow-root, sente, ketella, red obi, tales, aren, cassava, and potato flours. 657
oo Sago. 658
pp Sugars. 659
qq Arrack. 660
rr Kajoe-poeti, Macassar, and Tekawan oils. 662

Textile Substances of Vegetable or Animal Origin.

ss Kapok (cotton), cotton. 665
tt Ramie flax, leaves, etc.; oakum; fibrous materials from trees and plants; rattan, samanboe pipit, and semanboe besar reeds. 666
uu Imitation clove-tree. 709

2 Bernelot, Moens, J. C.—Herbarium exhibiting the cinchona cultivation in Java. 721

3 Noordendorp, J., Amsterdam.—Photographs of the government cinchona establishments, and the Bouda Temple at Boro Bodor. 430

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

DENMARK.

(*South of Nave, Columns 11 to 13.*)

Manufactures, Education and Science.

Chemical Manufactures.

1 Aalborg Chemical Works, Aalborg.—Bicarbonate and carbonate of soda. 200

2 Holmblad, L. P., Copenhagen.—Stearine candles. 201

3 Guldberg, C. Hoegh, Copenhagen.—Varnish, and wood polished with it. 202

4 Hansen, C., Copenhagen.—Cheese rennet extract and coloring fluid; butter coloring. 202

5 Meyer & Henckel, Copenhagen.—Butter and cheese coloring, cheese rennet extract, varnishes. 202

6 Riise, A. H., St. Thomas, West Indies.—Double-distilled bay spirit and oil of bay leaves. 203

7 Odense Match Factory, Odense.—Matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

8 Hesse, Georg W., Copenhagen.—Terra-cotta vases, jugs, etc. 206

9 Ipsen's, P., widow, Copenhagen.—Terra-cotta vases, tazzas, figures, etc. 206

10 Wendrich & Son, Copenhagen.—Terra-cotta bas-reliefs, bowls, vases, etc. 206

11 Royal Porcelain Manufactory, Copenhagen.—Biscuit bas-reliefs after Thorwaldsen, exhibited by the Commissioner. 212

12 Argentine Manufactory, Copenhagen.—Porcelain covered with copper, silver, and gold. 213

Furniture and Objects of General Use in Construction and in Dwellings.

13 Hansen, C. B., Copenhagen.—Furniture. 217

14 Meidel, F., Copenhagen.—Fire-proof safes. 217

15 Christesen, V., Copenhagen.—Silverware; large table ornament of silver, representing Art, Science, and Industry; tea and coffee sets, etc. 218

16 Stenstrup, Copenhagen.—Sign painting. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

17 Ramsing, Th., Aarhuus.—Dyed linen fabrics. 233

Woven and Felted Goods of Wool and Mixtures of Wool.

18 Müller, H., Faroe Islands.—Woolen goods. 235

Clothing, Jewelry, and Ornaments; Traveling Equipments.

19 Möller, C., Copenhagen.—Waterproof oil clothing. 250

19*a* Sorensen, C. P., Copenhagen.—Hand-sewed black coat, waistcoat, and pantaloons. 250

20 Larsen, N. F., Copenhagen.—Gloves. 251

21 Christesen, V., Copenhagen.—Jewelry and ornaments. 253

22 Assam, H. M., Odense.—Tobacco pipes, etc. 254

23 Ovre, Mrs., Copenhagen.—Artificial flowers. 254

Paper, Blank Books, Stationery.

24 Holmblad, L. P., Copenhagen.—Playing cards. 262

25 Hansen, Carl, & Co., Ebeltoft.—Impregnated pasteboard. 262

Hardware, Edge Tools, Cutlery, and Metallic Products.

25*a* Engelbrecht, C., Copenhagen.—Pair of water-skates. 281

Educational Systems, Methods, and Libraries.

1 Hveisel, G., Randers.—School maps. 300

2 Simonsen, C., Copenhagen.—"Punch," an illustrated paper. 306

3 Steenberg, A., Copenhagen.—"Industridenden," an industrial paper. 306

Institutions and Organizations.

4 Browning, Georg, Copenhagen.—Ethnographical collection, products, minerals, etc., from Iceland and Faroe Islands. 312

5 Müller, H., Faroe Islands.—Collection of birds, feathers, eggs, etc. 312

6 Harboe, C., Copenhagen.—Ethnographical collection; products, minerals, etc., from Greenland. 312

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific and Philosophical Instruments and Methods.

7 Bie, C., Aalborg.—Arithmometer. 321

8 Ferslew, C., & Co., Copenhagen.—Register for cars, etc. 323

Engineering, Architecture, Maps, etc.

9 The Royal Staff, Copenhagen.—Topographical maps. 335

10 Steen, C., & Son, Copenhagen.—Geographical, historical, meteorological, and other maps. 335

Sculpture.

10*a* Fjeldskov, V., Copenhagen.—Carving in wood, statuettes, medals, etc. 405

a Sailor.
b Viking.
c Crucifix.
d Peasant.
e Children.
f Friends.
g Spring.
h Thorwaldsen.
i Göethe.
j Angelo.
k H. C. Andersen.
l Oersted.

Painting.

10*b* Ferslew, C., & Co., Copenhagen.—Lithographs. 413

Industrial and Architectural Designs, etc.

10*c* Hetsch, Chr., Copenhagen.—Architectural designs. 441

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

1 Ambrosiussen, O. P., Copenhagen.—Model of a scaffold. 503

Machines and Implements of Spinning, Weaving, Felting, and Paper-making.

2 Tullesen, P., Lyngby.—Hair-braiding machine. 524

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

3 Henriksen, H., Copenhagen.—Sewing machine. 531

Machines for Printing, Making Books, Paper-working, etc.

4 Hansen, R. Malling, Copenhagen.—The tachygraph, operated by electricity, and the type-writing ball, operated by hand. 542

Motors, Power Generators, etc.

5 Godfredsen, R., Copenhagen.—Belting, etc., for transmission of power. 553

Arboriculture and Forest Products.

1 Halkier, P. A., Copenhagen.—Timber, planks, boards, rough and finished, for buildings, etc. 600

Agricultural Products.

2 Wendt, Frantz, Roeskilde.—Rye, winter and spring wheat, barley, and oats. 620

Animal and Vegetable Products.

3 Danish Preserved Butter Co., Aarhuus.—Canned butter for export. 651

4 Heymann, P. W., Copenhagen.—Preserved butter for export, also butter which was at the Vienna Exposition in 1873. 651

5 Copenhagen Leather Manufactory, Copenhagen.—Consolidated leather soles, heels, sheets, etc. 652

6 Pork Packing Co., Copenhagen.—Lard packed in bladder. 652

7 Eriksen, C., Lyngby.
a Honey and wax. 654
b Mead. 660

8 Müller, P. A. E., Copenhagen.—Honey and wax. 654

9 Herreborg, Otto, Copenhagen—Preserved fruit, vegetables, jellies, etc. 656

10 Bróndum, A., Copenhagen.—Corn brandy and table liquor. 660

11 Aalborg Syrup & Spirit Factory, Aalborg.—Table liquor and spirit. 660

12 Anthony, F., Copenhagen.—Brandies and liquors. 660

13 Been, C. A., Copenhagen.—Liquors, etc. 660

14 Gottschalk, I. C., Holbek.—Essences. 660

16 Heering, Peter F., Copenhagen.—Cherry cordial. 660

17 Lorenzen, L., Aarhuus.—Bitter cordial. 660

18 Odin Distillery, Randers.—Corn brandy flavored with carraway seeds, table liquor, and rectified spirit. 660

19 Sabro, I. C., Randers.—Bitters, etc. 660

19*a* Farch, J., & Sons, Nibe.—Alcohol, raw spirits, and brandy. 660

20 Schucani & Wegmann, Copenhagen.—Liquors, bitters, etc. 660

21 Svanholm Brewery, Copenhagen.—Beer for export. 660

22 Ramsing, T., Aarhuus.—Chocolate. 661

Textile Substances of Vegetable or Animal Origin.

23 Müller, H., Faroe Islands.—Wool. 667

Machines, Implements, and Processes of Manufacture.

24 Schültz, Thurebyholm.—Model of milk cooler. 675

Agricultural Engineering and Administration.

25 Aalborg Chemical Works, Aalborg.—Artificial bone manure. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

SWEDEN.

(North of Nave, Columns 6 to 11.)

Chemicals, Ceramics, Furniture.

Chemical Manufactures.

1 Aseptin Amykos Stock Co.
a Upsala Aseptin, for preservation of provisions and animal materials. 200
b Upsala amykos, used as a cosmetic. 203

2 Bengtsson, B., Astra Torp, Trelleborg.—Chemicals. 200

4 Friestedt, A. W., Stockholm.—Chemicals. 200

5 Gullberg Stock Co. (limited), Göteborg.—Sulphuric acid. 200

6 Liljeholmen Stearine Manufacturing Stock Co., Stockholm.—Stearine candles, oleine, glycerine, and stearine. 201

7 Sjoberg, A. P., Malmö.—Soaps. 201

8 Werner, C. O., Stockholm.—Bone oil. 201

14 Strandberg, Fr. Aug., Jönkoping.—Varnishes, ink. 202

17 Granholm, J. P., Stockholm.—Rectified amykos. 203

18 Pauli F., Stockholm.—Essences, perfumery, cosmetics. 203

21 New Match Manufacturing Co. (limited), Stockholm.—Safety matches. 204

22 Berg, Gottfried Warby, Stockholm.—Gunpowder. 204

23 Blombacka Stock Co., Mölkom.—Safety matches and their raw materials. 204

24 Guesta Match Manufactory, Stockholm.—Paraffined safety matches. 204

25 Holmberg, Eric, Södertelje.—Safety matches. 204

26 Jönköping Match Manufacturing Co. (limited), Jönköping.—Safety matches. 204

27 Kreuger, P. E., & Jennings, Kalmar.—Safety matches. 204

28 Ellbo Göteborg Match Factory, Göteborg.—Matches. 204

29 Lindahl, J. F., Kalmar.—Safety matches. 204

30 Lover Manufacturing Co. (limited), Kalmar.—Matches. 204

31 Norrköping Match Manufacturing Co. (limited), Norrköping.—Safety matches and appurtenances. 204

32 Stregnas Match Manufacturing Co. (limited), Stregnäs.—Safety matches. 204

33 Phœnix Match Manufacturing Co. (limited), Malmö.—Matches. 204

34 Vulcan Match Manufacturing Co. (limited), Göteborg.—Matches. 204

35 Westervik Match Factory, Westervik.—Matches. 204

36 Wisby Match Manufacturing Co. (limited), Wisby.—Matches. 204

37 Ystad Match Manufacturing Co. (limited), Ystad.—Safety matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

39 Helsingborgs Iron and Stone Ware Manufacturing Co. (limited), Helsingborg.—Salt glazed clay goods. 207

40 Höganäs Coal Mining Co., Höganäs.
a Fire clay goods. 207
b Tiles for pavements. 208

42 Gustafsbergs Manufacturing Co., Stockholm.
a Architectural pottery. 206
b Faience. 210
c Biscuit ware and parian. 212
d Porcelain and Argentine. 213

43 Rörstrands Stock Co. (limited), Stockholm.
a Faience. 210
b Majolica and palissy ware. 211
c Biscuit ware and parian. 212
d Porcelain. 213

46 Malmö Porcelain Manufacturing Co., Malmö.—Porcelain for table use. 213

47 Brusewitz, Fr., Limmared.—Glassware. 215

48 Reymyre Glass Factory (limited), Reymyra.—Glassware. 215

Furniture and Objects of General Use in Construction and in Dwellings.

49 Backman, J. F., Stockholm.—Safe. 217

50 Glömsta Manufacturing Co. (limited), Huddinge.—Cottage furniture. 217

51 Lastbom, Iven, Stockholm.—Cupboard of birchwood. 217

52 Peterson, C. E., Stockholm.
a Table. 217
b Frame. 220

53 Rambach, C., Stockholm.—Chair. 217

54 Rusch, P. O., Göteborg.—Japanned furniture. 217

54*a* Holm, F. F. W., Stockholm.—Furniture. 217

55 Sandberg, A. Cook, Stockholm.—Writing chair. 217

56 Wahlström, S. Fr., Stockholm.—Willow furniture. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Furniture, Woven Goods, Clothing, Stationery.

57 Osterberg, C. G., Jäder, Eskilstuna.—School furniture. 217

58 Bruzewitz, Fr., Limmared.—Table glass. 218

59 Goldsmiths' Stock Co. (limited), Stockholm.—Silver tankard. 218

60 Gustafsberg Manufacturing Co., Stockholm.—Table china. 218

61 Reymyre Glass Factory (limited), Reymyra.—Table glass. 218

62 Rörstrand Stock Co. (limited), Stockholm.
a Table china. 218
b Stoves. 222

64 Bolinders, J. & C. G., Machine Co. (limited), Stockholm.
a Heating apparatus. 222
b Stove for smoothing-irons. 225

65 Hedengren, A. F., & Son, Eskilstuna.—Stove sets. 222

66 Eriksson, G., Eskilstuna.—Brass doors for stoves. 222

68 Moberg Machine Co., Stockholm.—Range. 222

73 Elfving, C. E., Stockholm.—Apparatus for cutting lamp wicks. 223

74 Kuntze & Co., Stockholm.—Water filters, refrigerators. 224

74*a* Kallinge Iron Works, Ronneby.—Kitchen utensils of iron and steel sheets. 224

75 Lafquist, J. A., Eskilstuna.—Smoothing-irons. 225

76 Björk, J. O., Eskilstuna.—Hardware of mollified iron. 227

77 Dickson, James, & Co., Sandarne,—Woodwork for buildings. 227

78 Essen, Baron H. H. von, Tidaholm.—Woodwork for buildings. 227

79 Hedlund, Joh., Eskiltuna.—Metal work for buildings. 227

82 Wengström, J. O., Stockholm.—Manufactured parts of buildings. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

83 Anderson, J., Kjärdingagärde, Gnosjö.—Wire and sieve cloth. 228

84 Berg, J. Th., Nääs, Floda.
a Cotton yarns. 230
b Dyed cotton yarn. 231

86 Malmö Manufacturing Co. (limited), Malmö.
a Cotton yarns. 230
b Dyed cotton fabrics. 231

87 Rosenlunds Spinning Co. (limited), Göteborg.—Cotton yarns and fabrics. 230

89 Johansson & Carlander, Göteborg.—Calicoes. 232

90 Stenburg's, G., Widow, Jönköping.—Linen fabrics. 233

Woven and Felted Goods of Wool, etc.

91 Bergsbro Stock Co., Norrköping.—Card-wool fabrics. 235

92 Drag Stock Co. (limited), Norrköping.—Card-wool fabrics. 235

93 Landskrona Manufacturing Co., Landskrona.—Card-wool fabrics. 235

94 Malmö Woolen Manufacturing Co. (limited), Malmö.—Card-wool fabrics. 235

95 Stockholm Woolen Manufacturing Co. (limited), Stockholm.—Woven and felted goods of wool. 235

Silk and Silk Fabrics.

96 Almgren, K. A., Stockholm.—Plain woven silks. 245

Clothing, Jewelry, and Ornaments; Traveling Equipments.

98 Ek, J. A., Stockholm.—Military equipments. 250

99 Fernlund, E. F., Stockholm.—Military and civil clothing. 250

100 Heurlin, G. U., & Co., Stockholm.—Military clothing. 250

101 Royal War Office, Department of Investment, Stockholm.—Complete equipment of foot and mounted soldiers; specimens of cloth, linen, etc. 250

103 Swedmark, G., Malmö.
a Leather jackets. 250
b Gloves. 251

104 Wallgren, A. R., Stockholm.—Military clothing. 250

105 Forsell, David, & Co., Stockholm.
a Hats and caps. 251
b Furs. 256

106 Jacobson & Anderson, Malmö.—Gloves. 251

107 Svanberg, C. E., Jönköping.—Shoes. 251

109 Tornberg, Olof, Göteborg.—Boots and shoes. 251

110 Odberg, C. R., Stockholm.—Hunting boots. 251

111 Peterson, C. E., Stockholm.—Embroidered portrait of Washington. 252

112 Klintberg, J. W., & Co., Wisby.—Jewelry made of petrifactions. 253

113 Anderson, J., Kjärdingagärde, Gjnosjö.—Pins. 254

114 Berg, F. J., Göteborg.—Wigs, braids, and chignons. 254

114*a* Clarborg, T. A., Stockholm.—Jewel case. 254

116 Bergström, P. N., Stockholm.—Furs. 256

118 Royal Swedish Commission, Stockholm.—Life-size figures, dressed in national costume. 257

Paper, Blank Books, Stationery.

119 Berggren, A. N., Stockholm.—Penholders of cork. 258

120 Brunell, J. E., Stockholm.—Penholders of common reed. 258

121 Klintberg, J. W., & Co., Wisby.—Letter-presses of petrifactions. 258

122 Kullgren's, C. A., Widow, Uddevalla.—Letter-presses of polished granite. 258

123 Nordström, M. S., Stockholm.—Stamps for marking on linen or paper. 258

125 Munktell, J. H., Grycksbo, Falun.
a Filtering paper. 259
b Wood pulp. 260

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Paper, Weapons, Medical Appliances, Hardware.

127 Nynäs Pasteboard Factory, Nynas, Mavida.—Pasteboard. 260

129 Lewenhaupt, Count, Sten, Wermbohl, Katrineholm.—Wood pulp, chemically prepared. 260

130 Malmö Wood Pulp Manufacturing Co. (limited), Delaryd, Elmhult.—Wood pulp, chemically prepared. 260

131 Munkedal Manufacturing Co. (limited), Uddevalla.
- *a* Wrapping, bagging, and sketching paper. 260
- *b* Building papers. 263
- *c* Wall paper. 264

132 Munksjö Paper Factory, Jönköping.—Wrapping paper. 260

133 Rosendahl Manufacturing Co., Göteborg.—Paper pulp of wood and straw, paper. 260

134 Wargöns Stock Co., Rannum.—Printing paper for newspapers. 260

135 Litografiska Stock Co., Norrköping.
- *a* Blank books, sets of account books, billheads, etc. 261
- *b* Playing cards. 262

136 Tidström, C. W., Stockholm.—Account books, portfolios. 261

137 Djupafors' Manufacturing Co. (limited), Ronneby, Djupafors.—Pasteboard; building paper. 262

138 Köhler & Co., Malmö.—Playing cards. 262

140 Munksjö Paper Mill, Jönköping.—Building paper. 263

141 Edgren, Julius, Jönköping.—Wall paper. 264

142 Kaberg, C. A., Stockholm.—Wall paper. 264

143 Mineur, C. G., Stockholm.—Wall paper, imitation of leather, and ornaments of wood pulp. 264

145 Rosell, P. A., & Co., Jönköping.—Wall paper. 264

Weapons, etc.

146 Husqvarna Arms Manufacturing Co. (limited), Jönköping.
- *a* Military small arms, muskets, and revolvers. 265
- *b* Fire arms for sporting and hunting. 269

147 Royal War Office, Artillery Department, Stockholm.
- *a* Military small arms from the royal factory at Carl Gustafs Stad. 265
- *b* Field gun with carriage, ammunition carriage, field forge. 266
- *c* Fortification ordnance with carriage and shots. 267

148 Motala Mechanical Works Co. (limited), Motala.—Hoops for guns. 266

149 Palmcrantz, Helge, Stockholm.—Mitrailleuse. 266

150 Ekman, Carl, Finspong, & De Maré, A., Ankarsrum.—Steel guns and shot. 267

151 Eskilstuna Iron Manufacturing Co. (limited), Eskilstuna.—Blades of swords, sabres, foils, and hunters' hangers. 268

153 Norrström, C. A. & C. H., Eskilstuna.—Hunting knives. 268

Medicine, Surgery, Prothesis.

154 Pitz, G., Stockholm.—Medicated gelatine. 272

155 Lamm, Axel, M., Stockholm.—Galvano-caustic apparatus, gynecological apparatus. 275

156 Royal War Office, Sanitary Department, Stockholm.—Surgical instruments for military use. 276

157 Stille, Alb., Stockholm.—Surgical instruments. 276

158 Zander, G., Stockholm.—Apparatus for mechanical gymnastics. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

159 Eskilstuna Iron Manufacturing Co. (limited).—Screw plates and hinges. 280

160 Liberg, B. & O., Rosenfors.
- *a* Edge tools. 280
- *b* Cutlery. 281

161 New File Manufactory, Eskilstuna.—Files. 280

162 Oberg, C. O., & Co., Eskilstuna.—Files. 280

163 Fagersta Iron & Steel Works, Westanfors.
- *a* Saws. 280
- *b* Nails. 284

164 Uddeholm Stock Co. (limited), Räda.
- *a* Hand tools. 280
- *b* Springs and hardware. 284

165 Engström, Joh., Eskilstuna.—Razors. 281

166 Gustafson, G., Eskilstuna.—Knives. 281

167 Halling, A., Eskilstuna.—Knives. 281

168 Heljestrand, Christoffer, Eskilstuna.—Razors, knives, and corkscrews. 281

169 Stählberg, L. F., Stählfors.—Cutlery. 281

170 Svalling, E. M., Eskilstuna.—Knives. 281

171 Söderén, F. W., Eskilstuna.—Knives. 281

172 Hedlund, Joh., Eskilstuna.—Locks. 284

173 Jernberg, S., Eskilstuna.—Latches. 284

174 Lafqvist, J. A., Eskilstuna.—Hinges. 284

175 Lagerbäck, H., Eskilstuna.—Locks. 284

178 Stenman, F. A., Eskilstuna.—Locks. 284

179 Strandberg, J., Eskilstuna.—Brass. 284

181 Walén, Joh., Eskilstuna.—Locks. 284

182 Johnson, A. & Co., Stockholm.—Cart springs. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Metal, Leather, Wooden Ware.

183 Kallinge Iron Works, Ronneby.—Nails. 284

183*a* New Gellivara Co. (limited), Luleä.—Nails. 284

184 Robson, Albert, Aspa, Askersund.—Oak spikes. 284

185 Sundström, J. O., Charlottenberg.—Nails. 284

187 Wiklund, W., Stockholm.—Brass hardware. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

189 Tuxen, Louis von, Stockholm.—Fabrics of patent leather. 285

190 Olsson, M., Arnäs, Lina.—Flower stand, willow chair and basket. 289

191 Kallinge Iron Works, Ronneby.—Galvanized iron vessels. 291

192 Karlskrona Galvanizing Stock Co. (limited), Karlskrona.—Galvanized sheet iron. 291

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

NORWAY.

(*North of Nave, Columns 4 to 7.*)

Textiles, Ceramics, Woven Goods, Clothing.

Chemical Manufactures.

1 Bergen Gas Works, Bergen.—Sulphate of ammonia, raw and refined. 200

1a Bergen's Commercial Association, Bergen.—Cod-liver oil. 201

2 Borthen, J., Trondhjem.—Medical cod-liver oil. 201

3 Hanssen, F., Aalesund.—Medical cod-liver oil. 201

4 Devold, L. C., Aalesund.—Medical cod-liver oil. 201

4a Henriksen, J. H., Tromsö.—Medical cod-liver oil. 201

5 Jordan, C., Trondhjem.—Medical cod-liver oil. 201

6 Moller, Peter, Christiania. — Cod-liver oil. 201

6a Bordewick & Co., Lynzvor.—Medical cod-liver oil. 201

7 Steen, Daniel, Christiania.
a Soaps. 201
b Essences, perfumery, pomades, cosmetics. 203

8 Holmen's, G. R., Technical Works, Fuglesang, Christiania.—Writing ink, aseptine, diamond oil blacking, grease for leather. 202

10 Rode, C. N., Porsgrund.—Scandinavian ink, writing and copying, dark violet copying ink. 202

11 Pettersen, Andr., Bergen.—Hair dressing and perfumery. 203

12 Dons, Henrik, Christiania.—Matches from Bryn manufactory. 204

16 Jolsens, H., Match Manufactory, Christiania.—Matches. 204

17 Nitedals Match Manufactory, Christiania.—Safety and common matches. 204

(*For fish oil, see Agricultural Catalogue, page 61.*)

Ceramics—Pottery, Porcelain, Glass, etc.

17a Havnven's Works, Christiania.—Tiles and bricks. 206

18 Schwarzenhorn, Fr. von, Christiania.—Painted and decorated porcelain. 213

19 Hurdal, Biri, Hadeland & Hövik's Glass Works.
a Window glass. 214
b Bottles. 215
c Glassware. 216

20 Bergen's Glass Works.—Floaters. 215

Furniture and Objects of General Use in Construction and in Dwellings.

21 Gram, Wm., Christiania.
a Antique bedstead and cupboards. 217
b Antique brass and copper dishes. 218
c Candlesticks. 223

22 Holst, Chr., Head Steward to His Majesty the King, Christiania.—Buffet chairs, antique arm chairs, peasant chairs. 217

23 Klemetsen, Chr., Christiania.—The fittings of the Norwegian section. 217

24 Moestue, Thv., & Co., Christiania.—Iron safe. 217

25 Opsahl, P. J., Christiania.—Iron safes. 217

28 Drammen Foundry and Mechanical Works, Drammen.—Stoves. 222

29 Nord & Son, M. E., Christiania.—Refrigerator. 224

30 O. Jacobsen's Mechanical Works, Christiania.—Mechanical mangle. 225

(*For stoves, see page 88.*)
(*For door-handles, see page 88.*)

Yarns and Woven Goods of Vegetable or Mineral Materials.

31 Christiania Sail Cloth Manufactory, Christiania.—Sail cloth, fishing yarns, etc. 230

32 Nydalens Company, Christiania.—Cottons, sail cloth, tissues, and yarns, fishing nets, etc. 230

34 Eche, J. D., & Son, Bergen.—Floor oil cloths and painted window blinds. 234

Woven and Felted Goods of Wool and Mixtures of Wool.

36 Pettersen, Gunerius, Christiania.—Textile domestic industry; valises. 238

Clothing, Jewelry, and Ornaments; Traveling Equipments.

40 Falkenberg, Johs., Christiania.—Ready-made linen. 250

41 Næss, H. S., Christiania.—Boots and shoes. 251

42 Nordahl, Petter N., Christiansand.—Boots. 251

43 Falck-Yster, Christiania.—Snow shoes. 251

44 Gramm, Wm., Christiania.
a Collection of antique and modern silver ornaments worn upon the person. 253
b National costumes from Hardanger. 257

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

45 Lie, P. A., Christiania.—Silver filigree work in Norwegian style. 253

45*a* Olsen, Th., Bergen.—Filigree silver ornaments. 253

46 Tostrup, J., Christiania.—Silver work; silver filigree work in specific Norwegian style. 253

49 Kittelsen, Jens, Christiania.—Valises. 255

50 Brandt, C., Bergen.—Furs, skins, etc. 256

51 Rustad, A. S., Drammen.—Collection of Norwegian furs. 256

Paper, Blank Books, and Stationery.

53 Haneborg, A. O., Christiania.
a Paper. 260
b Wood pulp for paper manufacturing. 263

54 Moestue, Thv., & Co., Christiania.
a Account books. 261
b Pasteboard boxes. 262

55 Christophersen, Chr., Christiania.—Wood pulp for paper manufacturing. 263

56 Frolich, F. H., & Son, Christiania.—Paper hangings and borders. 264

Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.

57 Gram, William, Christiania.—Antique weapons. 268

Medicine, Surgery, Prothesis.

58 Ditten, H. S., Christiania.—Aperient tonic pills, tourist pharmacies. 272

Hardware, Edge Tools, Cutlery and Metallic Products.

58*a* Bennett, T.—Cutlery and carved goods. 281

59 Michelsen, John B., Bergen.
a Cutlery. 281
b Brass goods. 283
c Carvings in wood and walrus teeth. 405

59*a* Smith, William.—Knives with carved handles. 281

60 Blunck, C., Christiania.
a Metal hollow ware, cast iron ware. 283
b Pumps. 560
c Fire engines. 564

61 Krogstad Society, Drammen.—Nails and spikes, machine-made by hot and cold process. 284

61*a* Opsahl, P. J., Christiania.—Locks. 284

(*For anchors, chains, and stoves, see page 80.*)

Fabrics of Vegetable, Animal, or Mineral Materials.

65 Fredriksvorn Rope Manufactory, Fredriksvorn.—Cordage. 287

66 Kuhne, W., Christiania.—Basket ware. 289

Carriages, Vehicles, and Accessories.

67 Heffermehl, L., Drammen.
a Carriages (kariols). 292
b Racing sledge. 295

68 Sorensen & Klovstad, Christiania.—Carriages (kariols). 292

69 Christensen, Chr., Christiania.
a Kariol. 292
b Antique sleigh. 295

70 Falck-Yster, Christiania.—Fisherman's ice sledge. 295

Motors, Power Generators, etc.

71 Gjerdrum, Otto, Christiania.—Model of self-acting smoke-consuming apparatus for boilers. 550

72 Klem Hansen & Co., Trondhjem.—Belting. 553

73 Roed Works, near Sandefjord.—Rotating steam-engine with boiler and feed-water heater. 554

Hydraulic and Pneumatic Apparatus.

74 Blunck, C., Christiania.
a Pumps. 560
b Fire-engines. 564

Aerial, Pneumatic, and Water Transportation.

75 Arentz, Hjalmar, Christiania.—Models and drawings of iron ships. 594

76 Board of Commerce, Aalesund.—Models of fishing boats. 594

77 Brandi, J., Christiania.—Drawings and models of sailing vessels. 594

78 Brunchorst & Dekke, Bergen.—Models of sailing vessels. 594

79 Gran, Jens, Bergen.—Models of sailing vessels. 594

80 Hansen, Carl A., Porsgrund.—Models and drawings of sailing vessels. 594

81 Museum of Bergen, Bergen.—Models of fishing boats. 594

82 Naval Establishment of Carl Johansværn, Horten.—Models of boats. 594

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

ITALY.

(North of Nave, Columns 1 to 5.)

Chemicals.

Chemical Manufactures.

1 **Mineralogical Society of Naples.**—Sulphurous products. 200

2 **Salinella, Baron Michele, Nicosia,** Catania.—Rock salt. 200

3 **Musumeei, Gulli Gaetano, Catania.**—Liquorice. 200

4 **Giacomazzi, Favare Salvatore, Trapani.**—Sea salt. 200

5 **Giacomazzi, Rocco, Trapani.**—Liquorice. 200

6 **Martorana, Paladino S., Trapani.**—Sea salt. 200

7 **Mazullo, Cav. Agostino, Mandanui,** Messina.—Rock salt. 200

8 **Pirrone, Antonino, of Gaetano, Messina.**—Liquorice. 200

9 **Labonia, B. G., Naples.**—Liquorice. 200

10 **Romano, Gaetano, Palermo.**—Salt. 200

11 **Ferrino, Cesare, Turin.**
a Nitrate. 200
b Colors in powder and paste. 202

12 **Baroncelli, Baldassarre, Cinciano,** Sienna.—Bicarbonate of potassium and sodium. 200

13 **Borelli, Luigi, late Tommaso, Asti,** Alexandria.—Cream of tartar, acids. 200

14 **Reimandi, Giuseppe, Acqui, Alexandria.**—Cream of tartar, tartaric acid. 200

15 **Gentili, Grassini, late Giuseppe, Padua.**—Cream of tartar. 200

16 **Sbertoli, Giuseppe, late Domenico,** Genoa.—Carbonate of lead. 200

17 **Candiani & Biffi, Milan.**—Acids and chemicals. 200

18 **Emmanuele, Francesco, Catania.**—Cream of tartar. 200

19 **Grimaldi, Giovanni, Paterno, Sicily.**—Extract of liquorice. 200

20 **Pastore, Gio., late Filippo, Catania.**—Juice of liquorice. 200

21 **Grasso, Giuseppe, Catania.**—Juice of liquorice. 200

22 **Catanzaro, Giuseppe, Termini, Palermo.**—Liquorice paste. 200

23 **Lancia di Brolo, Duke Federigo,** Palermo.—Sea salt. 200

24 **Fonzo, Domenico, Catania.**—Cream of tartar. 200

25 **Di Mauro, Francisco, Catania.**—Cream of tartar. 200

26 **Scuderi, Giuseppe, Catania.**—Cream of tartar, zamba. 200

27 **Rampazzini, Frederico, Milan.**—Sulphur and chemicals. 200

28 **Solinas, Arras Giuseppe, Sassari.**—Olive oil. 201

29 **Oneto, Agostino, & Co., Sampierdarena,** Genoa.—Soap. 201

30 **Agostini Della Seta, Count Alfredo,** Pisa.—Olive oil. 201

31 **Cenami, Count Bartolomeo, Lucca.**—Olive oil. 201

32 **Mingori, Vincenzo, Lucca.**—Olive oil. 201

33 **Tellini, Vincenzo, Calci, Pisa.**—Olive oil. 201

34 **Tellini, Dario, & Co., Cascina, Pisa.**—Olive oil soap. 201

35 **Bonei, Casuccini Ottavio, Sienna.**—Olive oil. 201

36 **Contucci, Eustachio, Montepuleiano,** Sienna.—Olive oil. 201

37 **Lanza Bros,, Turin.**—Stearine, candles, soap. 201

38 **Rinaldo, Raffaele, Salerno.**—Olive oil. 201

39 **Guglielmini, Andrea, Salerno.**—Olive oil. 201

40 **Virgili, Angelo, Vacone, Perugia.**—Olive oil. 201

41 **Rosselli Del Turco, Pier Francesco,** Florence.—Olive oil. 201

42 **Capponi, Conti Bros., Florence.**—Olive oil. 201

43 **Alli Maccarani Claudio, Florence.**—Olive oil and paste of Zanza. 201

44 **Corsini, Prince Tommaso, Florence.**—Olive oil. 201

45 **Merlini, Alfonso, & Enrico Bros.,** Terriciuola, Pisa.—Olive oil. 201

46 **Farinola, M. Paolo, Florence.**—Olive oil. 201

47 **Albergotti, Geo., & Agostino Bros.,** Arezzo.—Olive oil. 201

48 **Rospigliosi, Prince Clemente, Lampovecchio,** Florence.—Olive oil. 201

49 **Chamber of Commerce & Arts,** Sienna.—Olive oil. 201

50 **Saracini, Alessandro, Sienna.**—Olive oil. 201

51 **Pucci, Sansedoni Aless., Sienna.**—Olive oil. 201

52 **Ricasoli, Baron Bettino, Florence.**—Olive oil. 201

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

53 Botti, Alessandro, Chiavari, Genoa.—Olive oil. 201

54 Calamari, Pietro, Milan.—Soaps. 201

55 Gianoli Bros., Milan.—Soaps. 201

56 Giuffrida, Leotta Giovanni, Catania.—Oil of sweet almonds. 201

57 Merlo, Baron Vincenzo, Palermo.—Olive oil. 201

58 Sciacca della Scala, Baron, Palermo.—Olive oil. 201

59 Martines, Filippo, Palermo.—Olive oil. 201

60 Inguaggiato, Baron Croce, Palermo.—Olive oil. 201

61 Pacchiani, Eliseo, Passignano, Umbria.—Olive oil. 201

62 Rossi, Leopardi Cav. Cesare, Comiso, Syracuse.—Soaps. 201

63 Fazio, Domenico, Palermo.—Olive oil. 201

64 Galli, Cesare, Florence.—Olive oil. 201

65 Piacente, Francesco, Bari.—Olive oil. 201

66 Agrarian Committee for Thirty Exhibitors, Florence.—Olive oil. 201

67 Jatta, Antonio, Ruvo di Puglia.—Olive oil. 201

68 Chamber of Commerce & Arts, of Bari.—Olive oil. 201

69 Mazzullo, Cav. Luigi, Messina.—Olive oil. 201

70 Di Salvo, Salvatore, Messina.
a Olive oil. 201
b Essences. 230

71 Agrarian Committee of Chiavari.—Olive oil, soap. 201

72 Marzi Bros,, Poggibonsi, Sienna.—Olive oil. 201

73 Russo, Calogero, Termini, Palermo.—Olive oil. 201

74 Favare, Marchese della, Palermo.—Olive oil. 201

75 Martillaro, Mar. Carlo, Palermo.—Olive oil. 201

76 Tucci-Savo Benedetto, Rome.—Olive oil. 201

77 Agosti Brothers, Bagnoria, Rome.—Olive oil. 201

78 Marini, Marq. Pietro, Rome.—Olive oil. 201

79 Rotali, Francesco, Rome.—Olive oil. 201

80 Isnardi, Pierre, Leghorn.—Olive oil. 201

81 Conti, E., & Sons, Leghorn.—Soaps. 201

82 Tarussi, Luigi, & Bros., Leghorn.—Olive oil. 201

83 Generois, Felice, & Sons, Naples.—Soaps. 201

84 Anselmi & Marassi, Naples.—Oils. 201

85 Rocco, Francesco, Catania.—Olive oil. 201

86 Rolando, Giacomo, Modena.—Ink. 202

87 Mora, Domenico, Turin.—Chestnut extract for dyeing. 202

88 Morandi, Pietro, Milan.—Ink. 202

89 Bassolini, Vincenzo, Milan.—Various colors. 202

90 Bonacina, Cesare, Milan.
a Varnishes, ink. 202
b Aromatic tooth paste. 203

91 Maranesi, Gaetano, & Masetti Bartolomeo, Bologna.—Ink. 202

92 Gnocchi, Giovanni, Milan.—Inks. 202

93 Scarselli, Benedetto, Rome.—Gruma, incrustation from casks. 202

94 Ghibellini Bros., S. Giovanni in Persiceto, Bologna.—Varnish. 202

95 Santi, Amantini, Adamo, Florence.—Perfumery. 203

96 Lardera, A., Milan.—Perfumery. 203

97 Cosentini & Caruso, S. Manno Marchesato, Calabria Citra.—Extract of liquorice. 203

98 Scocchiolini, Adone, Rome.—Pomatum. 203

99 Pateguazza Bros., N. & A., Rome.—Perfumery. 203

100 Bortolotti, Pietro, Bologna.—Felsina water (for the toilet). 203

101 Antonelli, Cav. Alessandro, Bologna.—Essence of lemon. 203

102 Alessi & Bonaventura, Messina.—Essences. 203

103 Alessi, Gaetano, Messina.—Essences. 203

104 Ottaviani Bros., Messina.—Essences. 203

105 Rizzuto Carmelo, Reggio-Calabria.—Essences. 203

106 De Sieto Bros., Reggio-Calabria.—Essences. 203

107 Siles, Ignazio, Reggio-Calabria.—Essences. 203

108 Lacoria, Felice, Reggio-Calabria.—Essences. 203

109 Enological & Agrarian Society of Acireale, Sicily.—Essence of lemon. 203

110 De Nava, Giuseppe di P., Reggio-Calabria.—Essences. 203

111 Mostardini, Adolfo, Florence.—Perfumery. 203

112 Melissari, Giuseppe, Florence.—Essences. 203

113 Pennise, Baron di Floristallo, Catania.—Boiled essence of lemon (agro). 203

114 Lavaggi, Francesco, Trofarello, Turin.—Matches. 204

115 Dellachi, Ambrogio, Moncalieri, Turin.—Wax and wood matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

116 Trojani, G. Batta, Florence.—Bas-relief in baked clay. 206

117 Pagliaccetti, Raffaello, Florence.—Statues in baked clay. 206

118 Stock Company for Manufacturing Bricks, Reggio, Emilia.—Bricks. 206

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

119 Tomei, Albiani Franco, Pietrasanta, Lucca.—Sample of pavements. 208

120 Pellas, Giuseppe, Florence.—Galvano-plastic ornaments. 209

121 Bertini, Emilio, Pisa.—Crockery. 210

122 Miliani, Cesare, Fabriano, Ancona.—Crockery. 210

123 Torelli, Jafet, Florence.—Crockery. 210

124 Castellani, Torquato, Rome.—Crockery. 210

125 Ferniani, Count Annibale, Faenza.—Crockery. 210

126 Crockery Society of Farina, Faenza.—Artistic crockery. 210

127 Benucci & Latti, Pesaro.—Majolica vases and dishes. 211

Furniture and Objects of General Use in Construction and in Dwellings.

128 Ammirati, Domenico, Palermo.—Chairs. 217

129 Lopez, Salvatore, Palermo.—Stone tables. 217

130 Coco, Salvatore, Palermo.—Ebony furniture. 217

131 Cavallaro, L. & G., Palermo.—Metallic beds. 217

132 Catalano, Antonio, Palermo.—Furniture. 217

133 Martinotti, Luigi, Turin.—Carved furniture. 217

134 Buzzi, Giberto Francesco, Varese, Lombardo.—Marble furniture. 217

135 Lancetti, Federigo, Perugia.—Furniture. 217

136 Elli, Luigi, Milan.—Seats for theatre. 217

137 Fava, Avo, Niccolo, Florence.—Carved walnut furniture. 217

138 Castelvedere, Luigi, Brescia.—Metal candelabra and chased dish. 218

139 Rolandi, G. Batto, Milan.—Crystals and glasses. 219

140 Grattarola, Cesare, Bologna.—Picture frames of other exhibitors' pictures. (*In Art Gallery.*) 220

141 Pontif. Oleographic Society, Bologna.—Frames. 220

142 Sarettiere, Giuseppe, Palermo.—Lamps. 223

143 Menici, Angiolo, Leghorn.—Shower bath. 226

144 Della, Casa Nicola, Baveno, Novara.—Granite cornice. 227

145 Bianchi & Molinari, Milan.—Wooden floor. 227

146 Vajani, Pietro, Milan.—Window blinds, curtains, etc. 227

147 Rizzi, Augusto, Milan.—Persian window blinds. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

148 Vecchietti, Cesare, Florence.—Green-weed (ginestro) products. 229

149 Polidori, Count Augusto, Anghiari, Arezzo.—Prepared green-weed (ginestro). 229

150 Scurati, Manzoni de G., Biella, Novara.—Skein of cotton. 230

151 Assetto di Graziani Bros., Chieri, Turin.—Cotton goods. 230

152 Madini, Augusto, & Cº., Bologna.—Seamless bags. 230

153 Gentiluomi, I. V., & Co., Pisa.—Colored cotton goods. 231

154 Meda, Bernardo, Monza, Milan.—Colored calico. 232

155 Alessio Bros., Milan.—Red calico. 232

156 Special Committee of Salerno.—Linen goods. 233

157 Remaggi Bros., Navacchio, Pisa.—Linen goods. 233

Woven and Felted Goods of Wool, etc.

158 Caldara, Salvatore, Palermo.—Cloths. 235

159 Mangeri, Antonino, Messina.—Cloths. 235

160 Barbarulo Bros., Naples.—Cloths. 235

161 Radieri Bros., Gandino, Bergamo.—Felted flannel and cloth. 235

162 Barbarulo, Antonio, Peluzzano, Salerno.—Cloths. 235

163 Correction Department of Salicето, Modena.—Cloths. 235

164 Assetto di Graziani Bros., Chieri, Turin.—Blankets. 237

165 Chapelle & Co., Turin.—Woolen blankets. 237

166 Bass, Abrate, & Co., Turin.—Blankets. 237

167 Woolen Manufactory of Borgo Sesia, Turin.—Worsted wool. 238

168 Bozzalla, Gio, & Son, Biella, Novara.—Woolen goods. 238

169 Bozzalla, Antonio, & Brother, Coggiola, Novara.—Woolen goods. 238

Silk and Silk Fabrics.

170 Keller, Alberto, Milan.
a Raw silk. 242
b Woven silk. 245

171 Chiericoni, Ugolino, Messina.—Cocoons. 242

172 Giannotti, Giuseppe, Barga (Lucca).
a Raw silk. 242
b Spun silk. 244

173 Diena, M. G., Modena.—Raw silk. 242

174 Sinigaglia, Salomon, Heir of, Lattes, Turin.
a Raw silk. 242
b Woven silk. 245

175 Franzi Bros., Alzano Maggiore, Bergamo.
a Raw silk. 242
b Woven silk. 245

176 Dalla Pozza, Filippo, Vicenza.
a Raw silk. 242
b Woven silk. 245

177 Frizzoni, Antonio F., Bergamo.
a Raw silk. 242
b Woven silk. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Silk, Clothing, Jewelry, Stationery.

178 Meyer & Co., Milan.
a Raw silk. 242
b Spun silk. 244

179 Sciacca della Scala, Baron, Palermo.—Silk. 245

180 De Silvestri, Salvatore, Rome.—Silk goods. 245

181 Cagliani, Leopoldo, Milan.—Silk velvets. 247

Clothing, Jewelry and Ornaments; Traveling Equipments.

182 Morandi, G. Montepulciano, Sienna.—Dress for lady. 250

183 Incerti Anselmo, Modena.—Knit goods. 250

184 Comellini & Buratti, Bologna.—Corsets. 250

185 Marchesini, Pietro, Bologna.—Straw hats. 251

186 Ricci, Luigi, & Sons, Florence.—Straw hats. 251

187 Duranti, Agostino, Florence.—Straw hats. 251

188 Angelucci, Gerolamo, Ancona.—Shoes. 251

189 Lodi, G. Batta, Palermo.—Gloves. 251

190 Di Rosalia, Antonino, Palermo.—Shoes. 251

191 Vinci, Melchiorre, Palermo.—Shoes. 251

192 Petroli, Pietro, Pallanza.—Shoes. 251

193 Shoemakers' Co-operative Society, Bologna.—Shoes. 251

194 Baccilieri, Lorenzo, Bologna.—Gloves. 251

195 Bossi, Eduardo, Naples.—Gloves. 251

196 De Notaris, Sigismundo, Naples.—Shoes. 251

197 Calise, Tommaso, Ischia Island, Naples.—Ladies' straw hats. 251

198 Rumieri, Gabriele, Naples.—Silk and felt hats. 251

199 Casella, Giuseppe, Salerno.—Shoes. 251

200 Moiraghi, Antonio, Turin.—Shoes. 251

201 Bruzzesi, Giacinto, Milan.—Shoes. 251

202 Scarselli, Benedetto, Rome.—Straw hats and braided straw. 251

203 Taddei, Gaetano, Florence.—Straw hats and braided straw. 251

204 Straw Hat Stock Co., Pianoro, Bologna.—Straw hats and braided straw. 251

205 Santini Bros., Florence.—Straw hats and braided straw. 251

206 Working Men's Benevolent Association of Falerone.—Straw hats and braided straw. 251

207 Angeli Candido, Reggio, Emilia.—Hats and braided straw. 251

208 Kubli, Gio Giacomo, Florence.—Straw hats and braided straw. 251

209 Romani, Eugenio, & Wife, Milan.—Embroidered pictures. 252

210 Gerosa, Adele Educanda, Milan.—Embroidered pictures and handkerchief. 252

211 Stock Co. for Manufacturing Laces, Venice.—Laces, old and new styles. 252

212 Bon Regina, Como.—Laces. 252

213 Gioiuzza, Giuseppe, Naples.—Jewelry and coral. 253

214 Melillo, Giacinto, Naples.—Jewelry and coral. 253

215 Francati & Santamaria, Rome.—Jewelry. 253

216 Geraldini, Ettore, Rome.—Gold and silver jewelry. 253

217 Bellezza, Niccolo Aless, Rome.—Jewelry. 253

218 Accarisi, Giuseppe, Florence.—Roman jewelry. 253

219 Jacobini, Raffe, & Giobbe, Pio, Rome.—Old precious stones. 253

220 Ponti, Rovera, & Co., Piacenza.—Buttons. 254

221 Olivieri, Luigi, Venice.—Fancy articles. 254

222 Forte, Emilio, Genoa.—Silver filigree work. 254

223 Salvo, C., & Sons, Genoa.—Objects in filigree and gold. 254

224 Righini Bros., Turin.—Umbrella and parasol. 254

225 Labriola, Luigi, Naples.—Tortoise-shell work. 254

226 Castellani, Alessandro, Rome.—Gold and silver articles. 254

227 Brusa, G. Batta, Venice.—Album. 255

228 Rossetti, Cav. Giacomo, Brescia.—Album, with photographs. 255

229 Cavaleri, Avo. Michele, Milan.—Album and miniatures. 255

230 Leoni, Angelo, Catania.—Sicilian costumes. 257

Paper, Blank Books, Stationery.

231 Grassi, Francesco, Bologna.—Vertical letter press. 258

232 Cartiera Italiana, Turin.—Paper and envelopes. 259

233 Agosti, Agnes, Rome.—Paper embroideries. 259

234 Cattaneo, Alessandro & Bro., Bergamo.—Common paper. 260

235 Vallini, Natale, Bologna.—Paper. 260

236 Miliani, Pietro, Faleiano, Marche.—Various kinds of paper. 200

237 Fornari, Antonio G. B., Fabriano, Ancona.
a Papers. 260
b Pasteboard. 262

238 Migliaccio, Raffaelo, Salerno.—Paper. 260

239 Giordano, Scipione, Turin.—Blank form of contract for nurses. 261

240 Cassinara, Eugenio, Pavia.—Billheads. 261

241 Fagioli, Gaetano, Piacenza.—Paper boxes. 262

242 Mottura, Ing. Oreste, Piacenza.—Bricks of pasteboard. 263

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Weapons, Medical Appliances, Hardware, Vehicles, Sculpture.

Weapons, etc.

243 Comminassi Bros., Brescia.—Needle-gun barrels. 265

244 Botti, Pietro, Brescia.—Gun. 265

245 Corica, Agostino, Messina.—Shot. 265

Medicine, Surgery, Prothesis.

246 Decol, Maria, Bologna.—Decotto (a medicine). 272

247 Garau, Salvatore, Milan.—Tamarind powder; extract to prevent sea sickness. 227

248 Morreale, Ettore, Palermo.—Medicinal liquors. 272

249 Margani-Valenti, Gaetano, Niscemi, Sicily.—Medicines. 272

250 Pagliaro, Domenico, St. Stefano Camostra, Palermo.—Medicines. 272

251 Pagliaro, Andrea, Mistretta, Messina.—Medicinal gelatines. 272

252 Valentini, Gottardo, Milan.—Medicines. 272

253 Arrosto, Gioacchimo, Messina.—Citrates and medicines. 272

254 Spadaro, Grassi P., Catania.—Medicinal citrate. 272

255 Ponzoni, Luigi, Milan.—Hygienic liquors and medicine. 272

256 Menici, Angiolo, Leghorn.—Appliance for raising the sick. 276

257 Bernabei, Alessandro, Rome.—Tubes and metallic syringes. 276

258 Papini, Leopoldo, Florence.—Hernial truss. 276

259 Gramignani, Leopoldo, Ancona.—Dental prothesis. 277

260 Noel-Winderling Bros., Milan.—Dental anatomy. 277

261 Testi, Ulisse, Bologna.—Dental machines. 277

262 Sirletti, Francesco, Rome.—Sets of teeth. 277

Hardware, Edge Tools, Cutlery, and Metallic Products.

263 Guelpa-Piazza Bros., Biella, Novara.—Gimlets. 280

264 Giulivo, B., & Co., Turin.—Iron and tin knives, forks, and spoons. 281

265 Ferrino, Cesare, Turin.—Sand linen and sand paper. 282

266 Bonini, Emilio, Pignone, Florence.—Articles in zinc. 283

267 De Poli Bros., Vittorio, Trevisto.—Bronze church bell. 283

268 Zalaffi, Benedetto, Sienna.—Iron work. 283

269 Parise, Achille, Sons, Naples.—Mechanical lock. 284

270 Cane, Geremia, Bologna.—Tools for umbrellas. 284

271 Namei, Giovanni, Florence.—Turned metallic articles. 284

272 Olivieri, Luigi, Venice.—Hardware. 284

273 Escoffier, Giuseppe Gio., Florence.—Mechanical articles. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

274 Giacomini, Luigi, & Co., Treviso.—Brushes. 286

275 Bargioni, Ferdinando, Florence.—Ropes of rush. 287

276 Chamber of Commerce of Syracuse.—Ropes. 287

277 Rosso, Leopardo Cav. Cesare, Comiso, Syracuse.—Ropes. 287

278 Vincenzi, Paolo, Carpi, Modena.—Corks. 289

279 Marchini, Cesare, Fiesole, Florence.—Straw works. 289

Carriages, Vehicles, and Accessories.

280 Sarettiere, Giuseppe, Palermo.—Lamps for carriages. 292

281 Locati, Cav. Alessandro, Turin.—Carriages. (*In Annex.*) 292

282 Mainetti, Francesco, Milan.—Carriage (landau). (*In Annex.*) 292

Sculpture.

283 Bazzantie, Figlio, Florence.—Cupid and Psyche (group). 400

284 Porcinai, Antonio, Florence.
- *a* Surprised (bust). 400
- *b* Venus of Canova (statue). 400

285 Torelli, Lot, Florence.—David, by Michael Angelo (copy). 400

286 Garofoli, Oreste, Rome.
- *a* Trasteverina (Roman costume). 400
- *b* After the Theatre. 400
- *c* Ciociara (Roman costume). 400
- *d* Genzanese. 400

287 Ricci, Paolo, Florence.—Dante (statuette). 400

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

EGYPT.

(*South of South Avenue, Columns 12 to 15.*)

COLLECTIVE EXHIBIT.

Minerals, Manufactures.

Minerals, Ores, Building Stones, Mining Products.

1 National Museum.
a Rough gold-dust, petrified wood. 100
b Rough, hewn, and polished marbles, alabaster, and limestones. 102
c Crude lime rock, cement, burned lime, and plaster. 103
d Clays and materials for manufacturing porcelain and faience. 104
e Sand. 106
f Soil and water. 107

Metallurgical Products.

2 National Museum.
a Solid rough gold pieces. 110
b Iron. 111

Chemical Manufactures.

3 Laboratory of the Government.
a Chemicals of all kinds and pharmaceutical preparations. 200
b Prepared oils, solid and liquid. 201
c Flavoring extracts, solid and liquid. 203

Ceramics—Pottery, Porcelain, etc.

4 National Museum.
a Bricks from Lower Egypt. 206
b Porcelain tiles. 208
c Egyptian earthenware, from Upper Egypt. 210

5 Brugsch Bey, Cairo.
a Majolica ware in different designs. 211
b Porcelain of all kinds. 213

Furniture, and Objects of General Use in Construction and in Dwellings.

6 Parvis, Mr., Cairo.—Oriental drawing-room furniture. 217

7 National Museum.
a Table furniture of porcelain, solid gold and silver ware, coffee sets, and vessels of brass. 218
b Utensils for kitchen, and tinware. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

8 National Museum.
a Coarse fabrics of rattan, bark, palm-leaf, grass, and rushes. 229
b Cotton fabrics, unbleached, bleached, and dyed. 231
c Linen fabrics, uncolored and dyed, and linen canvas and duck for awnings and tents. 233

Woven and Felted Goods of Wool and Mixtures of Wool.

9 National Museum.
a Fabrics of wool, fancy cassimeres. 235
b Flannels. 236
c Robes. 237

10 National Museum.—Collection of Brussels carpet, Melton, and tapestry, from wool and camel's hair. 239

Silk and Silk Fabrics, and Mixtures in which Silk is the predominating material.

11 Tramontino, Mr., Cairo.—Cocoons and raw silk. 242

12 National Museum.
a Twisted silk in spools and skeins. 243
b Woven silk, lute-strings, satins, and foulards. 245
c Woven figured silk goods. 246
d Fancy silk and velvet ribbons. 248

Clothing, Jewelry and Ornaments; Traveling Equipments.

13 National Museum.
a Dress goods for men's and women's wear, with gold and silver trimmings. 250
b Hats, and boots; women's shoes embroidered in velvet, silk, gold, and silver. 251
c Silk dress trimmings and embroideries, woven with gold and silver. 252
d Turquoises, jewelry, and ornaments worn upon the person. 253
e Fancy articles, dress adornments, fans, walking-canes, sunshades, and pipes of all descriptions, with gold, silver, and silk woven ornaments, ostrich and marabout feathers. 254
f Fancy leather work. 255
g Historical collection of the national costumes from Abyssinia and the Soudan. 257

Paper, Blank Books, and Stationery.

14 National Museum.
a Stationers' articles of the Orient. 258
b Writing paper. 259

Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.

15 National Museum.—Swords, spears, and dirks. 268

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Manufactures, Education and Science, Art, Agriculture.

16 Cassegrain, F. P., of Cairo.—Hunting firearms of a special pattern. 269

Medicine, Surgery, and Prothesis.

17 National Museum.—Medicinal plants. 272

18 National Museum of Egypt, Mr. Zucchinetti, of Cairo.—Veterinary instruments. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

19 Mechanic Institute of Boolak.—Iron hardware for different mechanical purposes. 284

Carriages, Vehicles, and Accessories.

20 National Museum of Egypt, Mr. Zucchinetti, of Cairo. — Furniture for horses and mules, harness and saddlery, ornamental mule blankets, and silk woven saddle blankets. 296

Educational Systems, Methods, and Libraries.

21 Ministry of Public Instruction.—Maps, charts, penmanship, drawings of pupils' work and course of study in water colors, from the public schools and academies. 300

22 National Museum.
a Map of Egypt and the new annexed provinces made by Mr. Friederichsen. 300
b Mechanical instruments executed by scholars at the Polytechnic school. 302
c Text-books and apparatus. 306

23 Onsy, Mr., of Cairo.—Types and books for the education of the blind. 303

24 Ministry of Public Instruction.
a College and school statistics and educational reports of Egypt. 304
b Statistical reports. 305

25 Mourès & Co., Cairo, Ministry of Public Instruction.—Printed works, school and text books, and dictionary, from the public schools of Egypt; literature in the Arabic language, newspapers, and periodical literature. 306

Institutions and Organizations.

26 National Museum.—Ethnographical collection and publications. 312

Scientific and Philosophical Instruments and Methods.

27 National Museum.
a Egyptian weights and measures. 322
b Musical instruments from Egypt and the provinces of Soudan. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

28 National Museum.—Maps of railways, roads, telegraphs, and postal service; topographical maps and charts. 335

Physical, Social, and Moral Condition of Man.

29 National Museum.—Collection of Egyptian gold, silver, and copper coins. 344

Sculpture.

30 National Museum.—Plaster casts from Egyptian monuments. 400

31 National Museum.
a Stones with ancient Arabic inscriptions. 401
b Hammered relief works in copper, and collection of plates, trays, and vases of the modern time of Egypt. 403

32 Vegis, Mr., Cairo.—Repoussé and rehaussé work in copper and iron of the ancient Arabic time. 403

33 National Museum.—Specimens of "Mousharabie" window patterns in wood and ivory, engraved wood. 405

Painting.

34 National Museum.
a View of Cairo and other water-color paintings, executed by Mr. Weidenbach, Berlin. 411
b Painted water-bottles. 413

Engraving and Lithography.

35 Ravon, H., Staff-officer National Museum.—Drawing in ink of the citadel of Cairo, list of the names of the caliphs and sultans who have reigned in Egypt, from Omar to Ismail Pacha, Khedive of Egypt, list of the names of Pharaohs. 420

35*a* Penasson, A., Alexandria.—Samples of lithographic printing. 423

Photography.

36 National Museum.—Collection of photographs, views of public works, costumes, scenery, panorama, and a collection of albums. 430

Industrial and Architectural Designs, Models, and Decorations.

37 National Museum.—Collection of Arabic ornaments (plaster and zinc casts, painted and gilt), from time of the caliphs, made by Schmo-ranz. 443

Decorations with Ceramic and Vitreous Materials, Mosaic and Inlaid Work.

38 National Museum.
a Ancient glass lamps from the mosques. 451
b Woodwork inlaid with ivory; ancient door from the sanctuary of a mosque, carved and inlaid in ivory and ebony. 452

Arboriculture and Forest Products.

39 National Museum.
a Collection of woods from Egypt and the annexed provinces, cotton tree. 600
b Materials for dyeing and other industrial purposes. 602

40 National Museum & Mr. Heller.—Samples of gums. 603

Agricultural Products.

41 National Museum.
a Cereals. 620
b Legumes—beans, lentils, etc. 621
c Tuberculous alimentaries. 622
d Tobacco. 623
e Cotton seeds. 624

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Animal and Vegetable Products, Textile Substances.

Water Animals, Fish Culture and Apparatus.

42 National Museum.

a Crocodiles. 640
b Pearls. 545

Animal and Vegetable Products.

43 National Museum.

a Samples of butter. 651
b Samples of grease, colored hides, skins, collection of hippopotamus and rhinoceros horns, tusks of elephants and hippopotami. 652
c Ostrich eggs and feathers. 653
d Edible pulps, seeds, fruits, pastes, and confections, dried fruits and vegetables. 656
e Flour and rice. 657
f Starches. 658
g Sacchariculture. 659
h Wines, alcohol, rum, and vinegar. 660
i Biscuits. 661

Textile Substances of Vegetable or Animal Origin.

44 Estate of the Khedive.—Collection of over 2000 cotton samples, representing the crops of eight years, with classification and price of sale in Egypt and England. 665

45 National Museum.—Textile fibres, raw and manufactured, cords and ropes, flax. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TUNIS.

(South of South Avenue, Columns 10 to 14.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art.

Minerals, Ores, Stones, Mining Products.

1 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Minerals and ores of Tunis. 100

Chemical Manufactures.

2 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Essences and flavoring extracts. 203

Ceramics—Pottery, Porcelain, Glass, etc.

3 Valensi, M., Tunis and Paris.—Pottery. 206

3*a* His Highness Sidi Mohammed Essadok, Bey of Tunis.
a Pottery. 206
b Earthenware. 210

Furniture and Objects of General Use in Construction and in Dwellings.

4 Valensi, M., Tunis and Paris.
a Inlaid furniture. 217
b Brackets. 220

5 His Highness Sidi Mohammed Essadok, Bey of Tunis.
a Inlaid and household furniture. 217
b Gilt brackets. 220

Woven and Felted Goods of Wool and Mixtures of Wool.

6 His Highness Sidi Mohammed Essadok, Bey of Tunis.
a Woolen blankets, shawls. 237
b Carpets, rugs. 239

7 Valensi, M., Tunis and Paris.
a Shawls. 237
b Carpets and rugs. 239

Silk and Silk Fabrics, and Mixtures in which Silk is the predominating material.

8 His Highness Sidi Mohammed Essadok, Bey of Tunis.
a Woven silks. 245
b Hangings. 246

9 Valensi, M., Tunis and Paris.
a Woven silks. 245
b Hangings. 246

Clothing, Jewelry, and Ornaments; Traveling Equipments.

10 His Highness Sidi Mohammed Essadok, Bey of Tunis.
a Burnous. 250
b Embroideries. 252
c Jewelry. 253
d National costumes. 257

11 Valensi, M., Tunis and Paris.
a Jewelry. 253
b Oriental manufactures generally. 254
c Tunisian costumes. 257

Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.

12 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Ancient and modern arms. 265

13 Valensi, M., Tunis and Paris.—Arms. 265

Carriages, Vehicles, and Accessories.

14 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Saddlery; furniture and accoutrements for horses, mules, and camels; ornamental horse and mule saddles and bridles. 296

Scientific and Philosophical Instruments and Methods.

15 Valensi, M., Tunis and Paris.—Musical instruments. 327

Ceramic Decorations, Mosaics, etc.

16 Ancient mosaics from Carthage. 450

Physical, Social, and Moral Condition of Man.

17 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Two Arab tents, exhibiting the domestic life and customs of Arab sheiks and Bedouins; farming implements of Arabs. (*In Park.*) 342

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ORANGE FREE STATE.

(*South of South Avenue, Columns 2 to 5.*)

COLLECTIVE GOVERNMENT EXHIBIT.

Minerals, Clothing, Animal and Vegetable Products.

a Diamonds in the rough, from the diamond fields of the Orange Free State. 100
b Diamondiferous soil, with a diamond in it. 100
c Copper and iron ore, chlorsastrolite, and magnesita. 100
d Coal. 101
e Pebbles accompanying the diamond. 102
f Kaolin. 104
g Springbuck mats. 239
h Angora, blesbuck, and jackal karosses. 239
i Boots of native manufacture. 251
j Pipes of native manufacture. 254
k Baskets of native manufacture. 289
l Harnesses and whips. 296
m Figures in wood, cut with a penknife. 405
n Blue gum, olive, and thorn woods. 600
o Petrified wood. 600
p Sumach. 602
q Cream of tartar fruit. 611
r Wheat, mealies, and Kaffir corn. 620
s Stuffed birds. 635
t Butterflies and other insects. 638
u Tusks of ivory. 652
v Gemsbuck, roorbuck, rietbuck, and hartebeeste horns. 652
w Koodoo cow hides. 652
x Blesbuck skins. 652
y Hartebeeste and blesbuck skins, tanned. 652
z Shambucks, long and short. 652
aa Rhinoceros hide flexible rods, reins, thongs, and girdles. 652
bb Whips of giraffe hide. 652
cc Ostrich feathers and eggs. 653
dd Bird plumage, natural. 653
ee Dried fruit. 656
ff Mealie meal. 657
gg Wool, washed and unwashed. 667
hh Mohair of Angora goat. 669
ii Model of transport wagon. 682

GRAND DUCHY OF LUXEMBURG.

COLLECTIVE EXHIBIT.

Ceramics, Clothing, Animal and Vegetable Products.

Ceramics—Pottery, Porcelain, Glass, etc.

1 Utschneider & Jaunez, Wasserbillig.—Cement products of Wasserbillig. 206

Clothing, Jewelry, and Ornaments; Traveling Equipments.

2 Charles, Auguste, & Co., Bonnevoie, near Luxemburg.—Kid gloves. 251
3 Mayer, Gabriel, Luxemburg.—Kid gloves. 251
4 Boot Manufactory of Luxemburg.—Boots and shoes. 251

Animal and Vegetable Products.

4*a* Charles, Auguste, & Co., Bonnevoie, near Luxemburg.—Tanned and dyed kid skins. 652
5 Michaelis, Frederic, Luxemburg.—Concentrated vinegar. 660
6 Pauly, Bouthon, & Co., Distillery Vinegar Manufactory.—Concentrated vinegar. 660
7 Eichhorn, Gustav, Wormeldang.—Moselle wines. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

CHINA.

(*South of South Avenue, Columns 5 ty 11.*)

COLLECTIVE EXHIBIT.

Minerals, Manufactures.

Minerals, Ores, Stone, Mining Products.

1 Harman, G., Swatow.—Petrifaction. 100

2 Imperial Maritime Customs.
a Coal. 101
b Granite stones. 102
c Borax. 104
d Gypsum. 107

Metallurgical Products.

3 Imperial Maritime Customs.
a Silver leaf and imitation of gold leaf. 110
b Steel. 111
c Tin foil. 113

Chemical Manufactures.

4 Imperial Maritime Customs.
a Various seed, vegetable, and wood oils. 201
b Varnish, indigo, and sundry other dyes and colors. 202
c Sauce. 203

Ceramics—Pottery, Porcelain, Glass, etc.

5 Imperial Maritime Customs.
a Bricks. 206
b Roof tiles. 208
c Collection of earthenware. 210

6 Tack Loong, Canton.
a Earthenware ornaments, figures, etc. 210
b Porcelain vases, flower-pots, tea set, cigar holders, etc. 213

7 Bean & Jardine, Kiukiang.—Porcelain vases, flower-pots, cups, etc. 213

8 Fow Loong, Canton.—Porcelain vases, dinner service, etc. 213

9 Hö Kan Cheu, Shanghai.—Collection of old china. 213

10 Hu Kwang, Yung Hang Chow.—Collection of old china porcelain. 213

11 Imperial Maritime Customs, Canton.—Porcelain vases, dinner, dessert, tea, and toilet sets, flower-pots, candle-holders, bowls, cuspadors, etc. 213

12 Imperial Maritime Customs, Kiukiang.—Porcelain vases, cups, and bowls; plates, teapots, etc. 213

13 Imperial Maritime Customs, Shanghai.—Collection of old china. 213

14 Kopsch, H., Kiukiang.—Porcelain vases, cups, bottles, cups and plates, dessert dishes, goblets, etc. 213

15 Lovatt, W. N., Kiukiang.—Porcelain vases, flower-pots, garden seats, teacups, dessert dishes, goblets, etc. 213

16 Moore, C. F., Kiukiang.—Porcelain teapots, bottles, flower-pots, ornaments, etc. 213

17 Rose, S. C., Kiukiang.—Porcelain vases, flower-pots, jars, plates, dishes, cups, dinner sets, etc. 213

18 Tong Chock-hing, Kiukiang.—Porcelain vases, ornaments, dessert service, etc. 213

19 Toin Peh Mei, Kiukiang.—Porcelain vases, teacups, fruit stands, dinner sets, and screen. 213

20 Wadman, E., Ningpo.—Collection of old china vases. 213

Furniture and Objects of General Use in Construction and in Dwellings.

21 Fow Loong, Canton.—Blackwood furniture—tables, sofas, chairs, screens, cabinets, etc. 217

22 Imperial Maritime Customs, Canton.
a Blackwood, bamboo, rattan, and lacquered furniture. 217
b Rattan cradle, and children's chairs. 221
c Different kinds of lanterns. 223

23 Kopsch, H., Kiukiang.—Screens. 217

24 Lien Shing, Canton.—Lacquered furniture, chairs, and blackwood screens. 217

25 Sung Sing Kung, Ningpo.
a Carved furniture—beds, chairs, tables, bookcases, cabinets, etc. 217
b Carved picture and photograph frames. 220

26 Imperial MaritimeCustoms, Ningpo.
a Teakettles and dishes. 224
b Washbasins. 226

Yarns and Woven Goods of Vegetable or Mineral Materials.

27 Fergusson & Co., Chefoo.—Samples of straw braid. 229

28 Imperial Maritime Customs.
a Samples of grass cloth, rattan and coir matting, etc. 229
b Plain cotton fabrics. 230
c Printed cotton fabrics. 232
d Hemp cloth. 233

Woven and Felted Goods of Wool, etc.

29 Imperial Maritime Customs.—Felt rugs. 239

Silk and Silk Fabrics.

30 Fergusson & Co., Chefoo.
a Raw silk. 242
b Plain woven silks. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

31 Imperial Maritime Customs, Shanghai.—Collection of reeled and re-reeled silks. 242

32 Hö Kan-cheu, Shanghai.—Plain woven silks. 245

33 Hu Kwang-Yung, Hangchow.—Plain woven silks. 245

34 Imperial Maritime Customs.
a Plain woven silks. 245
b Figured silk piece goods. 246
c Embroidered silk scarfs. 247

35 Fergusson & Co., Chefoo.—Figured silk piece goods. 246

36 Hö Kan-cheu, Shanghai.—Figured silk piece goods. 246

37 Hu Kwang-Yung, Hangchow.—Figured silk piece goods. 246

38 Wu, Shanghai.—Soochow gauzes. 247

Clothing, Jewelry, and Ornaments; Traveling Equipments.

39 Imperial Maritime Customs.
a Stockings. 250
b Shoes, hats, caps, etc. 251
c Fans, small articles of dress, pipes, smoking apparatus, etc. 254

40 Imperial Maritime Customs, Canton.—Collection of silk embroidered goods, shawls, slippers, and caps, bed and cushion covers, cloth, etc. 252

41 Sisters of Charity, Ningpo.—Embroideries. 252

42 Sung Sing Kung, Ningpo.—Satin embroideries. 252

43 Lien Shing, Canton.
a Jewelry. 253
b Fans and hand screens. 254

44 Moore, C. F., Kiukiang.—Jewelry and ornaments. 253

45 Ho A Ching, Canton.—Carved fans. 254

46 Imperial Maritime Customs, Niuchwang.—Collection of furs and skins. 255

47 Imperial Maritime Customs, Shanghai.—Fancy leather work, trunks, and toilet boxes. 255

Paper, Blank Books, and Stationery.

48 Imperial Maritime Customs.
a Paper, knives, ink, pens, etc. 258
b Writing paper. 259
c Oiled and pith paper. 260
d Various colored paper. 264

49 Tong Chou Hing, Kiukiang.—Ink. 259

Medicine, Surgery, Prothesis.

50 Imperial Maritime Customs.—Collection of medicines, officinal and unofficinal. 272

Hardware, Edge Tools, Cutlery, Metallic Products.

51 Ho Kan Cheu, Shanghai.—Collection of old bronzes, vases, urns, etc. 283

52 Hu Kwang-Yung, Hangchow.—Collection of old bronzes, vases, urns, etc. 283

53 Imperial Maritime Customs.—Pewter ware, tea canisters, cups, pots, mugs, boxes, candlesticks, etc. 283

54 Imperial Maritime Customs, Shanghai.—Collection of old bronzes, vases, urns, etc. 283

55 Wadman, E., Ningpo.—Collection of old bronzes, vases, urns, etc. 283

Fabrics of Vegetable, Animal, or Mineral Materials.

56 Imperial Maritime Customs.
a Cord, rope, twine, etc. 287
b Lacquer, rattan, and bamboo ware. 289

57 Ho A Ching, Canton.—Lacquer ware. 289

58 Lien Shing, Canton.—Lacquer and sandalwood ware. 289

Scientific and Philosophical Instruments and Methods.

59 Imperial Maritime Customs.—Collection of musical instruments. 327

Physical, Social, and Moral Condition of Man.

60 The Protestant Missionaries in China.—Publications. 348

Sculpture.

61 Grimm, B., Shanghai.—Collection of coins and medals. 401

62 Ho A Ching, Canton.—Carved ivory ware. 405

63 Imperial Maritime Customs, Canton.—Carved ivory and tortoise shell ware. 405

64 Lien Shing, Canton.—Carved ivory ware, etc. 405

65 Moore, C. F., Kiukiang.—Carved figure. 405

Paintings.

66 Hippisley, A. E., Shanghai.—Water-color paintings on silk, for screens, painted by Wang Kieu-ting. 411

67 Imperial Maritime Customs.—Collection of ancient water-color paintings on silk and paper; pictures on pith paper. 411

Ceramic Decorations, Mosaics, etc.

68 Vo Chon, Canton.
a Two cloisonné brass incense burners. 452
b Bronze vases, incense burners, plates, etc. 454

69 Moore, C. F., Kiukiang.—Enamel vase and bowl, idols, jade plate. 454

Arboriculture and Forest Products.

71 Imperial Maritime Customs.
a Specimens of timber. 600
b Gallnuts and dyestuff. 602
c Camphor. 603
d Moss and fungus. 604
e Collection of nuts and seeds. 605

72 Fergusson & Co., Chefoo.—Red dyestuff. 602

Agricultural Products.

73 Fergusson & Co., Chefoo.
a Peas and beans. 620
b Tobacco. 623

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Agricultural, Animal, Vegetable Products.

74 Imperial Maritime Customs.
a Cereals. 620
b Leguminous plants. 621
c Ginger. 622
d Tobacco and opium. 623
e Seeds. 624

75 Imperial Maritime Customs, Shanghai.—Collection of teas. 623

Water Animals, Fish Culture and Apparatus.

76 Imperial Maritime Customs.
a Dried fish. 642
b Clams, dried. 644
c Fish glue and sea blubber. 646
d Instruments and apparatus of fishing. 647

77 Imperial Maritime Customs, Tamsui.—Collection of sea shells. 645

Animal and Vegetable Products.

78 Imperial Maritime Customs.
a Seaweed. 650
b Leather, furs, skins, tallow, glue, etc. 652
c Honey and wax. 654
d Dried fruit. 656
e Flour. 657
f Vermicelli, maccaroni, starch, etc. 658
g Sugar, etc. 659
h Wines, etc. 660
i Vegetable tallow and oil. 662

79 Fergusson & Co., Chefoo.
a Bean cakes. 657
b Vermicelli. 658

Textile Substances of Vegetable or Animal Origin.

80 Imperial Maritime Customs.
a Cotton. 665
b Hemp, coir, etc. 666
c Wool. 667
d Hair. 669

81 Fergusson & Co., Chefoo.—Sample of hemp. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

JAPAN.

(*South of Nave, Columns 5 to 11.*)

COLLECTIVE EXHIBIT.

Minerals, Chemicals, Ceramics.

Minerals, Ores, Stone, Mining Products.

1 Kaitakushi, Department for the colonization of the Island of Hokkaido.—Minerals and geological collection from Hokkaido. 100

2 Kozanriyo, Mining Department, Tokio.
a Ores. 100
b Coals and anthracite. 101

3 Seki-yu Kuwaisha Petroleum Co., Tokio.—Mineral oils, crude and refined. 101

4 Hashimoto, S., Tokio.—Building stones. 102

5 Oyama, K., Chichibu, Province of Musashi.—Limestone and quick lime. 103

6 Hattori, C., Tokio.—Mortars. 103

7 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Clay, chinastone, kaolin, etc. 104

8 Chemical Laboratory of the City of Kiyoto.—Natural carbonated water. 107

9 Yeisei-Kiyoku, Board of Public Health, Tokio.—Mineral water statistics. 107

Chemical Manufactures.

10 Chemical Laboratory of the City of Kiyoto.—Pharmaceutical preparations. 200

11 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Vegetable oils, wax candles, etc. 201

12 Matsu-zaki, S., Yorita, Y., & Kondo, M., Tokio.—Soap. 201

13 Koshima, J., Tokio.—Shark liver oil. 201

14 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.—Japanese and Chinese ink. 202

15 Wada, Y., Tokio.—Indigo and specimens of dyed silk. 202

Ceramics—Pottery, Porcelain, etc.

16 Kobu-sho, Department of Public Works, Tokio.—Bricks. 206

17 Nakashima, R., Kagoshima, Province of Satsuma.—Vases, jars, tea sets, and ornamental pieces. 210

18 Kashiu, Sampei, Igano-Mura, Province of Awaji.—Vases, coffee and tea sets, candlesticks, etc. 210

19 Minoda, Ch., Tokio.—Ancient pottery and ornaments. 210

20 Miyagawa, T., Ota, near Yokohama.—Vases, censers, etc. 210

21 Susuki, Y., Yokohama.—Earthenware. 210

22 Shitomi Sohei, Yokka-ichi, Province of Ise.—Banko ware, vases, tea pots, etc. 213

23 Mori, Y., Yokka-ichi, Province of Ise.—Banko ware, vases, tea pots, bowls, etc. 213

24 Nakayama, M., Kuwana, Province of Ise.—Vases, cake boxes, and dishes. 213

25 Kato Gosuke, Tajimimura, Province of Mino.—Cups, covered bowls, flower pots, etc. 213

26 Fukihara, S., Tokio.—Cloisonné enamel on porcelain. 213

27 Koran-Sha Porcelain Manufactory, Arita, Province of Hizen.—Cups and flower vases, pedestals, tea and coffee services, etc. 213

28 Chaki-Shosha, Tea Set Manufactory, Kiyoto.—Tea pots, cups, jars, etc. 213

29 Tanzan Seikai, Kiyoto.—Vases, flower pots, dinner sets, jewel cases, photographs on porcelain, etc. 213

30 Kinkozan-Sobei, Kiyoto.—Vases, flower pots, plates, jewel cases, etc. 213

31 Takahashi, Dohachi, Kiyoto.—Vases, dishes, flower pots, etc. 213

32 Shimidzu Rokubei, Kiyoto.—Tarzas, vases, jars, sets, etc. 213

33 Kanzan Denshichi, Kiyoto.—Tea and coffee sets, incense cases, pitchers, and tablets. 213

34 Wage Kitei, Kiyoto.—Cigar stands, vases, basins, etc. 213

35 Mashimidzu Zoroku, Kiyoto.—Vases, flower pots, and dishes. 213

36 Shimidzu Shichibei, Kiyoto.—Tea and coffee cups and saucers, milk jugs, and sugar bowls. 213

37 Shimidzu Kameshichi, Kiyoto.—Tea and coffee sets. 213

38 Yeiraku, Z., Kiyoto.—Bowls, flower vases and pots, egg cups, jewel cases, etc. 213

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Ceramics, Furniture, Woven Goods.

39 Tsuji, Ch., Kiyoto.—Toilet services. 213

40 Taizan Yohei, Kiyoto.—Tea sets, tazzas, etc. 213

41 Seifu Yohei, Kiyoto.—Vases, flower pots, bowls, etc. 213

42 Wateya, G., Kanazawa, Province of Kaga.—Coffee and tea sets, tea jars, cake boxes, and tazzas. 213

43 Yoshida, Y., Kanazawa, Province of Kaga.—Large bowls. 213

44 Awo, P., Kanazawa, Province of Kaga.—Vases, tea and coffee cups, bowls, etc. 213

45 Hekizan, T., Kanazama, Province of Kaga.—Vases, cups, bowls, etc. 213

46 Seikan, S., Kanazawa, Province of Kaga.—Tea jars and coffee sets. 213

47 Kachoken, A., Kanazawa, Province of Kaga.—Flower vases and cake boxes. 213

48 Shoza, T., Kanazawa, Province of Kaga.—Coffee cups, flower pots, etc. 213

49 Setzuzan, A., Kanazawa, Province of Kaga.—Coffee and tea cups, teapots, and vases. 213

50 Haruna, S., Kanazawa, Province of Kaga.—Cake boxes, lamp vases, coffee and dinner sets. 213

51 Muneaki, Kanazawa, Province of Kaga.—Coffee sets. 213

52 Utsumi, K., Kanazawa, Province of Kaga.—Cups, vases, cake boxes, etc. 213

53 Yamakishi, Kanazawa, Province of Kaga.—Bowls, coffee cups, etc. 213

54 Chiuji, Kanazawa, Province of Kaga.—Coffee and tea pots. 213

55 Sekitei, I., Kanazawa, Province of Kaga.—Teapots, lamp vases, etc. 213

56 Kaga Association for the Encouragement of Manufactures.—Bowls, coffee cups, vases, etc. 213

57 Shinoda, K., Province of Kaga.—Flower vases, cigar stands, etc. 213

58 Hiyochiyen-sha, Manufactory of Painted Porcelain, Tokio.—Flower pots and vases, coffee and tea sets, dishes, tables, and ornaments. 213

59 Shippo-Kuwaisha, Cloisonné Enamel Manufactory, Nagoya, Province of Owari.—Enamel on porcelain. 213

60 Makudzu Kozan, Ota.—Flower and lamp vases, coffee sets, etc. 213

61 Minoda, Ch., Tokio.—Old and new porcelain. 213

62 Kawamoto Masukichi, Nagoya, Province of Owari.—Tables, vases, and flower pots. 213

63 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.—Ancient pottery and porcelain. 213

63*a* Iida, T., Nagoya, Province of Owari.—Porcelain flower vases and pots, plates, fruit dishes, pitchers, ladles, bowls, tea services, tables, braziers, etc. 213

Furniture and Objects of General Use in Construction and in Dwellings.

64 Kuwangiyo-Riyo-Shi-ken-jo, Experimental Section of the Board of Agriculture, Industry, & Commerce, Tokio.—Cabinets and toilet table. 217

65 Arai, H., Tokio.—Lacquered furniture. 217

66 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.
- *a* Bureaus, tables, etc. 217
- *b* Silver tea sets, etc. 218
- *c* Blinds and screens. 227

67 Minoda, Ch., Tokio.
- *a* Bureau, toilet tables, etagères, etc. 217
- *b* Silver tea kettle. 218
- *c* Bath tub and accessories. 226

68 Yamamoto, Y., Shizuoka, Province of Suruga.—Lacquered furniture, screens, etc. 217

69 Shikki-Shosha, Lacquered Ware Manufactory, Kiyoto.—Lacquered furniture, etc. 217

70 Kikuchi-Kuhei, Tokio.—Hat racks, chairs, etc. 217

71 Ota, M., Tokio.—Furniture and cabinet work. 217

72 Chaki-Shosha, Kiyoto.—Tea services, etc. 218

73 Iwahashi, K., Kuroimura, Province of Kii.—Lacquered ware for household use. 218

74 Awoumi, G., Hiromai, Province of Mutzu.—Lacquered utensils. 218

75 Fûjisawa, H., Osaka.—Lacquered lunch boxes and trays. 218

76 Ishioka, S., Noshiro, Province of Ugo.—Trays, boxes, dishes, tables, etc. 218

77 Kimura, H., Kiyoto.—Table ware. 218

78 Hirai Ikkan, Kiyoto.—Coffee sets. 218

79 Asano, T., Kiyoto.—Lacquered vases. 218

80 Nakamura, H., Kiyoto.—Bowls, trays, etc. 218

81 Uyemura, S., Tsuruga, Province of Yechizen.—Lacquered ware. 218

82 Riukiu-han, the island of Loochoo.—Lacquered plates, bowls, etc. 218

83 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.
- *a* Lanterns. 223
- *b* Iron utensils, kettles, etc. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

86 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Mats. 229

87 Sakaiken, Local Government of.—Cotton cloths, yarns, etc. 230

88 Ono, G., Naniwamura, Province of Settsu.—Cotton cloths. 230

89 Riu-kiu-han, Loochoo Islands.
- *a* White cotton cloths. 230
- *b* Striped cotton cloths. 231
- *c* Ramie and fibre cloths. 233

90 Kawamura, Y., Province of Owari.—Cotton cloths dyed and spotted. 231

91 Osaka fu, Municipality of, Osaka.—Cotton rugs. 231

92 Miye-ken, Local Government of.—Cotton gauze. 231

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

93 Association for Women's Work, Kiyoto.—Cotton rugs. 231

94 Fuji-Kawa, G., Kiyoto.—Printed cotton cloth. 231

95 Watanabe, S., Shiro-ishi, Province of Iwaki.—Shifu cloth, paper yarn. 233

96 Ni-i-gata-ken, Local Government of.—Ramie cloth. 233

97 Nara-ken, Local Government of.—Hemp cloth. 233

Silks and Silk Fabrics.

98 Yoyan-jo, Silk-Worm Breeding Establishment, Kiyoto.—Raw silks. 242

99 Sci-shi-jo, Silk Reeling Establishment, Kiyoto.—Raw silks. 242

100 Association for Women's Work, Kiyoto.
a Raw silks. 242
b Dress silks. 245
c Cravats. 245

101 Kojima, T., Kiyoto.—Silk thread. 242

102 Suzuki, Yo, Yamura, Province of Kai.
a Dress silks. 245
b Handkerchiefs. 247

103 Tsurugaken, Local Government of.—White dress silk. 245

104 Yehara, T., Kiriu, Province of Kotsuke.—Dress silk. 245

105 Yamamoto Kinu, Ousakamura, Province of Shinano.—Bombyx sho-chin silk. 245

106 Nakagawa, Y., Kiyoto.—White silk. 245

107 Morita, B., Kiyoto.—Colored silks. 245

108 Nishimura, S., Kiyoto.
a Fancy dress silks. 245
b Plaid dress silks. 246
c Crapes dyed and figured. 247

109 Kuwangiyo-jo, Association for the Encouragement of Arts & Manufactures, Kiyoto.—White dress silk. 245

110 Shibata, Y., Hakata, Province of Chikuzen.—Striped and figured silks. 246

111 Shiromidzu, Ch., Hakata, Province of Chikuzen.—Striped dress silk. 246

112 Nawa, S., Akita, Province of Ugo.—Fancy silks. 246

113 Ito, T., Sendai, Province of Kikusen.—Checkered dress silk. 246

114 The Nishijin Weavers, Kiyoto.
a Silk goods; brocade and striped silk. 246
b Velvets and gauze. 247

115 The Shokkojo Weavers, Kiyoto.—Striped and figured dress silks. 246

116 Sumiyama, I., Kiyoto.—Checkered dress silk. 246

117 Kiriu-Kosho-Kuwaisha, Tokio.—
a Silk carpetings and brocades. 246
b Cravats. 247

118 Tsubaki Yoshi, Sendai, Province of Rikusen.—Striped shot dress silk. 246

119 Tomita, S., Kiyoto.—Gauze. 247

120 The Kanokoshosha, Kiyoto.—Dyed and spotted crapes. 247

121 Ichida, R., Kiyoto.—Dyed and spotted crapes. 247

122 Shii-no, S., Yokohama.—Handkerchiefs, cravats, etc., of crape. 247

123 Yoshida, S., Mineyami, Province of Tango.—Crapes. 247

124 Nabeshima, S., Mineyami, Province of Tango.—Crapes. 247

125 Ikebe, N., Mineyamo, Province of Tango.—Crapes. 247

126 Nishigori, K., Nagahama, Province of Omi.—White crapes. 247

127 Nakamura, M., Nagahama, Province of Omi.—White crapes. 247

128 Tsuboi, C., Nagahama, Province of Omi.—White crapes. 247

129 Kimura, G., Kiyoto.—Crapes. 247

130 Inagaki, T., Kiyoto.—White crape. 247

131 Koseki, I., Kiyoto.—Braids. 249

131*a* Nakatsu-ji, Kiyoto.—Braids. 249

132 Izu-kura, K., Kiyoto.—Watch guards. 249

Clothing, Jewelry, and Ornaments; Traveling Equipments.

133 Wakamatsu, R., Minakuchi, Province of Omi.—Hats. 250

134 Hosoda, Z., Kiyoto.—Silk embroidery. 252

135 Sakaguchi, S., Niyoto.—Embroideries. 252

136 Nishimura, S., Kiyoto.—Embroidered tablets, table cloths, screens, etc. 252

137 Cha-ki-shosha, Kiyoto.—Embroidered picture of Buddha; embroidered carpeting and cushions. 252

138 Teramura, S., Kiyoto.—Embroidered table cloths and shawls. 252

139 Sumiyama, I., Kiyoto.—Embroidered silks. 252

140 Kiriu-Kosha-Kuwaisha, Tokio.
a Embroidered table cloths and silks. 252
b Crystal necklaces and earrings. 253
c Cigar cases, buttons, toys, umbrellas, etc. 254
d Leather boxes. 255

141 Shii-no, S., Yokohoma.—Embroidered silks, coverlets, etc. 252

142 Association for Women's Work, Kiyoto.
a Embroidered table cloths and screens. 252
b Pin cushions; silk pictures in relief. 254
c Wallets and tobacco pouches. 255

143 Nuisho-sha (Embroiderer's Society), Kiyoto.—Embroidered cloths, curtains, and screens. 252

144 Tanaka, R., Kiyoto.—Embroidered screens, curtains, etc. 252

145 Asakura, M., Tokio.—Toys and fancy articles, small objects of adornment. 254

145*a* Arai, H., Tokio.—Lacquered jewel cases, needle boxes, card boxes, cigar stands, canes, etc. 254

146 Kuwangiyo-Riyo, Tokio.—Ornamental piece of rock crystal. 254

147 The Shikki-shosha, Kiyoto.—Toys. 254

148 Iwai, Z., Nara, Province of Yamato.—Fans. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Fancy Goods, Stationery, Weapons, Medical Appliances, Education.

149 Myagawa, C., Tokio.—Portfolios, cigar cases, fans, pipes, etc. 254

150 Fukuda, K., Kiyoto.—Silk pictures. 254

151 Katayama, G., Kiyoto.—Ornaments. 254

152 Wobanawa, M., Tokio.—Fans. 254

153 Shippo Kuwaisha, Nagoya, Province of Owari.—Fans. 254

154 Kimura, T., Kiyoto.—Fans. 254

155 Sumii, Z., Kiyoto.—Fans. 254

156 Kuwangiyo-jo (Association for the encouragement of art and manufactures), Kiyoto.—Fans, pouches, cages, etc. 254

157 Jiami Joyen, Kiyoto.—Fans. 254

158 Tei-Ami Tegiyo, Kiyoto.—Fans. 254

159 Jo-Ami Heishiro, Kiyoto.—Fans. 254

160 Rin-ami Hanzo, Kiyoto.—Fans. 254

161 Murakami, T., Kiyoto.—Walking-canes. 254

162 Terada, G., Kiyoto.—Pipes. 254

163 Namikawa, S., Kiyoto.—Birds and toys. 254

164 Funaki, S., Kiyoto.—Birds and toys. 254

165 Yamamoto, Y., Shidzu-oka, Province of Suruga.—Cages. 254

166 Suzuki, M., Kiyoto.—Buttons, etc. 254

167 Mitsui, Kiyoto.—Pictures on small pieces of silk. 254

167*a* Awoumi, G., Hiromai, Province of Mutzu.—Lacquered glove cases, jewel cases, letter holders, etc. 254

168 Kimura, H., Kiyoto.—Note tablets. 254

Paper, Blank Books, and Stationery.

169 Kiriu-Kosho-Kuwaisha (First Japanese Manufacturing & Trading Company), Tokio.—Writing-brushes. 258

170 Kochi-ken, Local Government of.—Paper. 259

171 Hamadaken, Local Government of.—Paper. 259

172 Kiyoto-Fu, Municipality of Kiyoto.—Paper. 259

173 Riu-Kiu-han, Loo Choo Island.—Paper, of plantain fibre and straw. 259

174 Gifu-ken, Local Government of.—Writing-paper. 259

175 Tsuruga-ken, Local Government of.—Paper. 259

176 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Paper. 259

177 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Company, Tokio.
- *a* Paper. 259
- *b* Blank books. 261
- *c* Wall papers. 264

178 Yoshida, K., Kiyoto.—Colored and ornamented paper for writing poetry. 260

180 Minoda, Ch., Tokio.—Albums. 261

181 Ikibe, S., & Okuyama, K., Inakimura & Komatamura, Province of Ise.—Wall paper, etc. 264

182 Haibara, N., Tokio.—Wall papers. 264

183 Matsumoto, T., Tokio.—Wall paper. 264

Weapons, etc.

184 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Company, Tokio.
- *a* Coat of mail. 265
- *b* Swords, spears, etc. 268
- *c* Bows and arrows. 269

185 Minoda, Ch., Tokio.—Swords. 268

186 Kumagai, K., Kiyoto.—Halberds. 268

187 Yamamoto, Y., Shidzu-oka, Province of Suruga.—Swords. 268

Medicine, Surgery, Prothesis.

188 Kuwangiyo-Riyo Imperial, Board of Agriculture, Industry & Commerce), Tokio.—Drugs and medicines. 272

189 Nara, Y., Kiyoto.
- *a* Surgical instruments. 276
- *b* Dental instruments. 277

190 Rikugunsho, Imperial War Department.—Vehicles and litters for the transportation of wounded soldiers. 278

Fabrics of Vegetable, Animal, or Mineral Materials.

191 Hiogo-ken, Local Government of.—Bamboo work. 289

192 Toyo-oka-ken, Local Government of.—Straw work. 289

193 Shiga-ken, Local Government of.—Basket ware, mats, cake boxes, etc. 289

194 Nagata, Y., Tokio.—Rattan work, trays. 289

195 Yamamoto, Y., Shidzu-oka, Province of Suruga.—Bamboo work. 289

196 Kiriu-Kosho-Kuwaisha First Japanese Manufacturing & Trading Company, Tokio.—Wooden ware, boxes, cases, etc. 289

197 Shimidzu, J., Kiyoto.—Bamboo ware. 289

198 Murakami, T., Kiyoto.—Bamboo ware. 289

199 Terada, G., Kiyoto.—Bamboo ware. 289

200 Iwada, H., Kiyoto.—Bamboo ware. 289

201 Hotta, Z., Kiyoto.—Bamboo ware. 289

202 Chikumaken, Local Government of.—Bamboo ware. 289

Educational Systems, Methods, and Libraries.

203 Mombusho, Department of Public Education, Tokio.
- *a* Educational systems and methods.
- *b* Constitution of the Japanese Educational Department, and maps showing the divisions.
- *c* Elementary school books and apparatus.
- *d* Chairs and tables, etc., for schoolrooms.
- *e* Infant training and toys.
- *f* Reading and writing implements, such as were used by children in former times.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

g Maps, charts, globes, etc.
h Educational equipments, tables, pens, ink boxes, blank books, paper, and other stationery.
i Abacus, arithmetical board, slates, pencils, etc.
k Examination paper for students.
l Designs and photographs for schools.
m Sectional specimens of woods.
n Leaves of various plants.
o Books of botany.
p Tabular statements of botanical classification.
q Moku-zai-sho-ran (album showing samples of the various woods used for industrial purposes).
r Artificial fruits.
s Ancient and modern medical and surgical books, and modern surgical instruments made by K. Iwashiya.
t Medicines and drugs.
u I-in zas-si, miscellaneous reports of the hospital pertaining to the medical academy.
v Anatomical designs.
w Paintings and painting materials.
x Lacquer work, showing process of manufacture and implements used.
y Wood engravings and engraving-tools, blocks and types; printing materials.
z Photographs.
aa Outline of the history of education in Japan; history of the literature and short historical sketch of the educational department. (All accompanied by the English translation.)
bb Educational regulations, notifications, reports, miscellaneous information, and Riji-ko-tei (educational reports by F. Tanaka).
cb Statistical table, showing the number of public and private schools, with their scholars, tabular statement of the revenue and expenditure of the public schools and the public school property, and other statistical tables relating to education.
db Photographs, history, regulation, and catalogue of Tokio Library.
eb Almanacs, history, dictionaries, and illustrated works on natural history, etc.
fb Newspapers, journals, and magazines, etc. 300

204 Kuwangiyo-riyo Imperial Board of Agriculture, Industry, & Commerce. —Tabular statement showing number of national newspapers. 300

205 Hirano, T., Tokio.—Collection of type and paper matrices used in printing. 300

206 Tamai, C., Province of Mino.—Illustrated work on the flora of Japan. 300

207 Hababutskuwan Museum, Tokio. —Zoological collection. 310

Scientific and Philosophical Instruments and Methods.

208 Mombusho, Department of Public Education. — Geometrical instruments: apparatus for experiments in natural philosophy. 320

209 Kozan-riyo, Mining Department, Tokio.—Meteorological report. 320

210 Kuwangiyo-riyo, Imperial Board of Agriculture, Industry, & Commerce. —Counting machine. 321

211 Okurasho, Finance Department.— Graduated scales of bamboo and brass; measures of capacity, scales, and graduated beams for weighing. 322

212 Kiriu-kosho-kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.—Musical instruments. 327

Engineering, Architecture, Maps, etc.

213 Kuwangiyo-riyo, Imperial Board of Agriculture, Industry, & Commerce. —Diagrams, showing the means of arresting and controlling the flow of water; plan of water supply at the city of Tokio. 330

214 Shiu-shi-kiyoku, National Archive Office, Tokio.—Map of the Empire of Japan. 335

215 Todai-riyo, Lighthouse Department, Tokio.—Photographs of lighthouses, and maps showing their location. 335

216 Yeki-tei-riyo, General Post-office, Tokio.—Map showing the mail routes. 335

217 Suiro-riyo, Hydrographic Department, Tokio.—Marine and coast line charts. 335

218 Denshin-riyo, Telegraph Department, Tokio.—Map, showing telegraphic lines and stations. 335

Physical, Social, and Moral Condition of Man.

219 Kuwangiyo-riyo, Tokio. — Games and manly sports. 340

220 Komura, S., Kanazawa, Province of Kaga.—Japanese model house on the exhibition grounds, built by I. Matsuo. 342

221 Matsuo, I., Tokio.—Bazar on the exhibition grounds. 343

222 Zohei-riyo, Imperial Mint, Tokio.— Collection of gold and silver coins. 344

223 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.—Collection of old copper coins. 344

224 Yeki-tei-riyo, General Post-office, Tokio.—Postal cards and stamps; annual reports. 345

225 Sozeiriyo, National Revenue Department.—Revenue stamps, blank papers and licenses, etc. 345

Sculpture.

226 Honma Takusai, Sado Island.— Bronze statuette, vases, etc. 403

227 Kiriu-kosho-kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.
a Bronze fountains, vases, braziers, plates, censers, teacup stands, etc. 403
b Miniature palace of sandal wood. 405

228 Minodo, Ch., Tokio.—Bronze censers, vases, candlesticks, etc. 403

230 Minodo, Ch., Tokio.—Metal pipe, paper weight, and statue. 403

231 Arai, H., Tokio.—Silver vase and decorative objects. 403

232 The Chaki-sho-sha Co., Kiyoto.— Bronze vessel. 403

233 Yoshida, Ya, Kiyoto.—Bronze vases and censers. 403

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Art.

234 Nakagawa Joyeki, Kiyoto.—Bronze kettle, vase, and sweetmeat boxes. 403

235 Kanaya Gorosaburo, Kiyoto.—Bronze kettle, vases, and sweetmeat boxes. 403

236 Shomi, Y., Kiyoto.—Bronze vases and trays. 403

237 Shinoyama, A. U., Kiyoto.—Bronze sweetmeat box. 403

238 Kawara-bayashi Hidekuni, Kiyoto.—Bronze jug. 403

239 Kawamura, Ya, Kiyoto.—Metal teapot, cup, and stand. 403

240 Saito, Z., Tokio.—Bronze censer, vases, tablet, and images. 403

241 Yamamoto, I., Wakamatsu, Province of Iwashiro.—Bronze vases. 403

242 Imai Rihei, Kiyoto.—Carved ivory images. 405

243 The Chakishosha Co., Kiyoto.—Ivory incense box. 405

244 Hotta, Z., Kiyoto.—Ivory paper weight and tray. 405

245 Shichijo Yasunori, Kiyoto.—Carved and colored wooden statuettes. 405

246 Ide, Z., Kiyoto.—Carved wooden statuettes. 405

247 Yamamoto, Y., Shizuoka, Province of Suruga.—Carved ivory images. 405

248 Suzuki, M., Tokio.—Ivory vase, boats, and other decorative objects. 405

249 Negishi Manzo, Tokio.—Carved wooden bedstead and bedroom furniture. 405

250 Makudsu Kozan, Yokohoma.—Porcelain mouldings. 405

251 Tsuji Katsuzo, Arita, Province of Hizen.—Porcelain mouldings. 405

Paintings.

252 Kikuchi Yosai, Tokio.—Water color picture. 411

253 Tanaka Honi, Tokio.—Water color picture. 411

254 Fukushima Riuho, Tokio.—Water color picture. 411

255 Kishi Seppo, Tokio.—Water color picture. 411

256 Kawanabe Giosai, Tokio.—Water color picture. 411

257 Hasegawa Settei, Tokio.—Water color picture. 411

258 Megata Kaian, Tokio.—Water color picture. 411

259 Yamazaki Tosen, Tokio.—Water color picture. 411

260 Nagasaka Suiho, Tokio.—Water color picture. 411

261 Numado Masa-u-ki, Tokio.—Water color picture. 411

262 Minoda, Ch., Tokio.—Pictures and album. 411

263 Suzuki Hiyakunen, Kiyoto.—Pictures. 411

264 Tanaka, R., Kiyoto.—Picture album. 411

265 Shi-o-kawa Bunrin, Kiyoto.—Picture. 411

266 Nishimura, S., Kiyoto.—Pictures. 411

267 Sakaguchi, S., Kiyoto.—Pictures. 411

268 Fukami, Suminosuke, Arita, Province of Hizen.—Painted porcelain. 413

Engraving and Lithography.

269 Kuwappankiyoku, Government Printing Office.—Copper plates for government bonds, revenue stamps, etc., and specimens of work. 421

Photography.

270 Sakai, T., Kiyoto.—Photographs. 430

271 Kuwangiyo-jo, Association for the Encouragement of Art & Manufactures, Kiyoto.—Photographs. 430

Industrial and Architectural Designs, etc.

272 Zoroku, H., Kiyoto.—Bronze statuettes, tripod kettles. 443

273 Kumagai, K., Kiyoto.—Bronze vases. 443

Ceramic Decorations, Mosaics, etc.

274 Nishimura, S. J., Mikuria, Province of Hoki.—Inlaid work in wood. 452

275 Yamamoto, Y., Shizuoka, Province of Suruka.—Inlaid work in wood. 452

276 Marunaka, M, Kanazawa, Province of Kaga.
a Vases, inlaid boxes, etc. 432
b Enameled silver goblets. 454

277 The Shippokuwasha, Province of Owari.—Tea caddy. 452

278 Kanaya Gorosaburo, Kiyoto.
a Bronze vases and pots. 452
b Water pot, goblets, and sweetmeat boxes. 454

279 Yomo Yasunosuke, Kiyoto.—Bronze plates. 452

280 Fukihara, S., Tokio.—Enameled plates and jar. 454

283 Ta-Ho-jo, Kiyoto.—Vase. 454

284 Namiwaka Yasu-u-ki, Kiyoto.—Vases, lunch boxes, cigar stands, etc. 454

285 Zoroku, H., Kiyoto.—Ornamental buckle in imitation of old bronze. 454

286 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.—Enameled basin, imitation of Chinese ware; porcelain statuettes, bronze bowl. 454

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

HAWAII.

(*South of South Avenue, Columns 10 to 14.*)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education.

Minerals, Ores, Stone, Mining Products.

1 Gilman, J. H.—Lava specimens from Kilauea. 100

2 Hawaiian Museum.—Geological specimens, by W. L. Green. 100

3 Hitchcock, H. R.—Geological specimens from crater of Kilauea. 100

4 Boys' Boarding School.—Coal from the forests of Haleakala. 101

Chemical Manufactures.

5 Pinkham, G. S.—Blacking. 202

Furniture and Objects of General Use in Construction and in Dwellings.

6 Auld, William.—Cue. 217

7 Brown, G. W.—Table from a variety of woods. 217

8 Kamaipelekane, E. P.—Fac-simile of bed, etc., used by Kamehamha I. 217

9 Fischer & Co.
a Small and large tables, revolving book-rack. 217
b Picture frame. 220

10 Williams, C. E.—Revolving shell case. 217

11 Hopper, J. A.—Kou calabashes. 224

11*a* Emma, Queen.—Water gourds and figured calabashes. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

12 Gilman, J. H.—Bamboo of silky fibre for decorations. 229

12*a* Emma, Queen.—Figured kapas and niihau mats. 229

Clothing, Jewelry, and Ornaments; Traveling Equipments.

12*b* Peterson, James A.—Yellow and black feather cape. 250

12*c* Kawaiahao Female Seminary.
a Crotchet work by pupils. 252
b Mimosa seed necklaces by pupils. 254

13 Emma, Queen.
a Cane flower and fern stem hats. 251
b Yellow and green feather wreaths, feather fly brushes, ever-lasting and moss wreaths, strings of Niihau shells, and arrowroot plant fans. 254

14 Dickson, J. Bates.—Micronesian curiosities and corals. 254

15 Beckley, F. W.—Set of kapa. 254

16 Boyd, Miss E.—Spatter work of mottoes and island ferns. 254

16*a* Pratt, Mrs.—Feather fly brushes. 254

17 Kealoha.—Set of kapa. 254

18 Oahu College.—Land shells. 254

19 Rose, Katie.—Set of kapas. 254

20 Williams, C. E.—Canes. 254

21 Wilder, Helen.—Manahiki woman's hair. 254

22 Young, Mrs.—Wreath of mosses and shells. 254

Fabrics of Vegetable, Animal, or Mineral Materials.

23 Department of War.—Hawaiian flag, royal standard. 288

Carriages, Vehicles, and Accessories.

24 Lyman, F. S.—Saddle and bridle. 296

Educational Systems, Methods, and Libraries.

25 Department of Education.
a Photographs of school-houses and groups of Hawaiian teachers and pupils. 300
b Hawaiian school-books and legislative reports. 306

25*a* Brigham, W. T.—"Hawaiian Volcanoes" and various works on the Hawaiian Islands. 306

27 Damon, S. C.—"The Friend" and Bowditch's Navigator, in the Japanese language. 306

28 Whitney, H. M.—"Gazette" and "Kuokoa" for 1875. 306

29 Sheldon, H. L.—"Pacific Commercial Advertiser." 306

29*a* Thrum, T. G.—Volume of the "Islander." 306

Institutions and Organizations.

30 Clarke, F. L.—Hawaiian curiosities; cocoanut shell water calabash, lei palava tobacco pipe, stone lamp, stone adze, sling stone. 312

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

30*a* Emma, Queen.—Ancient implements of various kinds. 312

Engineering, Architecture, Charts, Maps, and Graphic Representations.

31 Honolulu Iron Works.—Drafts of machinery. 330

32 Alexander, W. D.—Map of the crater of Haleakala. 335

32*a* Department of Government Survey.—Map of the Hawaiian Islands. 335

32*b* Thrum, T. G.—Sets of Hawaiian postage stamps. 345

Physical, Social, and Moral Condition of Man.

33 Native of Hawaii.—Wooden idols. 348

Painting.

34 Spencer, O. B.—Oil painting "Hilo Bay," by J. H. Nawahi. 410

35 Bailey, E.—Oil paintings. 410
a Bird's eye view of the crater of Haleakala.
b View of Hilo Village and Cocoanut Island.
c Views in Hilo.
d Scenery in Iao Valley.

Photography.

36 Honolulu Iron Works.—Photographs of works. 430

36*a* Brigham, W. T.—Photographs of ancient idols. 430

37 Thrum, T. G.—Photograph of Honolulu. 430

38 Dickson, M.—Photographs of Island scenes. 430

Ceramic Decorations, Mosaics, etc.

39 Department of Interior.—Hawaiian coat of arms painted on glass. 453

Machines and Implements of Spinning, Weaving, Felting, and Paper Making.

39*a* Kapa beaters and dies for printing. 524

Arboriculture and Forest Products.

40 Boys' Boarding School.
a Woods from the forests of Haleakala. 600
b Silver swords, living ferns. 604

41 Andrews, C. B.—Mounted ferns. 604

42 Hitchcock, D. H. & E. G.—Specimens of the pulu ferns, silver swords. 604

43 Hitchcock, H. R.—Ferns and mosses. 604

44 Jones, G. W. C.—Large tree fern. 604

Agricultural Products.

44*a* Wong Go.—Rice. 620

44*b* Chulan & Co.—Rice and paddy. 620

44*c* Waimanalo Plantation.—Rice. 620

45 Hackfeld, H., & Co.—Coffee from H. N. Greenwell. 623

Land Animals.

46 Mills, J. D.—Hawaiian birds. 635

Animal and Vegetable Products.

47 Krull, E.—Tallow. 652

48 Lyman, F. S.—Leather. 652

49 Eldarts, T. E.—Arrowroot and tapioca. 658

49*a* Dreier & Heine.—Manioc root. 658

50 Spencer, T., Hilo.—Cane sugars. 659

51 Hitchcock Bros., Hilo.—Cane sugars. 659

52 Austin, S. L., Hilo.—Cane sugars. 659

53 Afong & Achuck, Hilo.—Cane sugars. 659

54 Campbell & Turton, Lahaina.—Cane sugars. 659

55 Bailey, W. H., Wailuku.—Cane sugars. 659

56 Makee, Capt. James, Ulupalakua.—Cane sugars. 659

57 Alexander, S. T., Haku.—Cane sugars. 659

58 Waihee Plantation, Mani.—Cane sugars. 659

59 Lihue Plantation, Kauai.—Cane sugars. 659

60 Kapena, J. M.—Samples of sugar cane. 659

61 McLean, G. C.—Castor, cocoanut, and kukui oils. 662

Textile Substances of Vegetable or Animal Origin.

62 Holstein, H.—Sea Island cotton. 665

63 Wilder, S. G.—Olona fibre. 666

64 Hyman Bros.—Ramie fibre. 666

65 Gilman, J. N.—Painiu fibre. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

BRAZIL.

(North of Nave, Columns 58 to 61.)

Chemicals, Ceramics, Furniture.

Chemicals.

1 Lopez, F. J. de Almeida.—Saltpetre. 200
2 Muricy, J. C. da Silva.—Sulphur from quartz. 200
3 Leao, D. Agostinho, S. E.—Sulphuret of lead. 200
4 Lendenberg, L. B.—Salt. 200
5 Penna, A. G. d'Araujo.—Homœopathic vegetable tinctures and opodeldoc. 200
6 Chemical Laboratory.—Chemical and pharmaceutical preparations. 200
7 Maia, Ferreira, & Co.—Pharmaceutical preparations. 200
8 Perdigao, D. F. Z.—Pharmaceutical products. 200
9 Province of Maranhao.—Pharmaceutical preparations. 200
10 Province of San Paulo.—Medical preparations. 200
11 Yiotti, E.—Pharmaceutical preparations. 200
12 Province of Pará.—Medicinal oils. 200
13 Cardoso & Gonsalves.—Soap. 201
14 Alves, Pereira, & Co.—Soap and candles. 201
15 Guimaraes, A. J. A.—Soap and candles. 201
16 Oliveira & Bro.—Soaps. 201
17 Carvalho, Ferreira de, & Bro.—Soap and candles. 201
18 Stearic Light Co.—Soaps and candles. 201
19 Dias, Duarte.—Oils. 201
20 Province of Paraná.—Soaps and candles. 201
21 Safarana, J.—Wax candles. 201
22 Stechel.—Oils. 201
23 Silva, S. S. G. da.—Copying and writing ink. 202
24 Monteiro & Co.—Writing inks. 202
25 Guimaraes, J. A. da Sa.—Pigments and varnishes. 202
26 Province of San Paulo.—Writing inks. 202
27 Yillela.—Writing inks. 202
28 Henninger, Dan., & Co.—Toilet soaps. 203
29 Lang & Co.—Toilet soaps. 203
30 Leao & Alves.—Perfumery. 203
31 Freire, Otto.—Essences. 203
32 Lepage, F. J.—Essences and pomades. 203
33 Commission-General for the National Exhibitions.—Flavoring extracts, essences, and perfumery. 203
34 Lang, J.—Toilet soaps. 203
35 Province of Pernambuco.—Safety matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

36 Esberard, F. A. M.—Terra-cotta vases and pottery. 206
37 Colony of D. Francisca.—Bricks and tubes. 206
38 Commission-General for the National Exhibitions.—Bricks. 206
39 Leao, D. A. E.—Brick of gres (clay). 206
40 Province of San Pedro do Sul.—Stone bricks. 206
41 Province of Paraná.—Tiles and bricks. 206
42 Grillo, Amaro D.—Clay pots, cups, and vases. 207
43 Patury, J. J. S.—Clay pots. 207
44 Correa, J. S.—Slate tiles for pavements and roofing. 208
45 Muricy, J. C. da Silva.—Enameled tiles. 208

Furniture and Objects of General Use in Construction and in Dwellings.

46 Commission-General for the National Exhibitions.
a Parlor furniture. 217
b Tortoise-shell boxes and articles of straw. 218
47 Province of Paraná.—Furniture. 217
48 Army Arsenal of Porto-Alegre.—Secretary of cedar wood. 217
49 House of Correction of Bahia.—Furniture made by the inmates. 217
50 House of Correction of Rio de Janeiro.
a Secretary and cabinet suit of satinwood. 217
b Baskets, barrels, and stands for manioc flour. 224
51 Kern, Clara, & Lang, Tela.—Reclining chair. 217
52 Itabapoana, Baron of.—Reclining chair. 217
53 Gerth, R. J.—Willow furniture. 217
54 Kappel & Bro.—Wood works. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

55 Aguair, J. C. da Costa.—Book-stand. 217

56 Supplicy, J. F.—Hanging shelves and cane-seated chairs. 217

57 Loesch, Zacharias.—Work-box. 217

58 Moreira, F. J., & Co.—Chairs. 217

59 Alipio, D. J.—Writing-desk of sole leather. 217

60 Rodriguez, A. A.—Writing-desk. 217

61 Province of San Paulo.—Suit of furniture made of straw. 217

62 Keppler & Bro.
a Wooden chairs. 217
b Mouldings. 227

63 Borddal, Jonas.—Tables and shelves. 217

64 Province of Sancta Catharina.—Furniture. 217

65 Rocha, Polybio da.—Multiform piece of furniture. 217

66 Martinelli & Bro.—Marble fixtures for wash-stands. 219

67 Pittanti, Adriano, & Co.—Marble wash-stand. 219

68 Pommerais, Leon.—Imitation marbles. 219

69 Baumgarten, J.—Box with looking-glass for examining eggs. 224

70 Malcher, A. J., Gama.—Straw satchels and sieves. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

72 Person, A.—Wire cloths. 228

73 Bardet, F.—Wire cloths and manufactures. 228

74 Commission-General for the National Exhibitions.
a Hammocks made of different coarse materials, and in different provinces. 229
b Cotton fabrics, quilts, and towels. 230
c Dyed cotton fabrics. 231

75 Arouca & Co.—Cotton fabrics. 230

76 Rebello & Co.—Cotton fabrics. 230

77 Brazil Industrial Cotton Mill Co.—Cotton fabrics. 230

78 Colony of Blumenau.—Cotton fabrics and quilts. 230

79 Mascarenhas & Bros.—Cotton goods. 230

80 Barros, Diogo A. de.—Cotton goods. 230

81 Anhaia & Angelo.—Cotton goods. 230

82 Union Mercantile Co.—Cotton goods. 230

83 College of the Immaculate Conception.—Cotton hammocks. 230

84 Yicara, C. P. Sa.—Cotton hammocks. 230

85 Province of Paraná.—Twisted yarns. 230

86 Petropolitan Co.—Cotton goods. 230

87 Chaná, Barthelemy.—Dyed cotton goods. 230

88 Reyner, F.—Dyed cotton goods. 231

89 Lemes, R. Z. Paes.—Cotton articles. 232

90 Keller, Felippe.—Linen goods. 233

91 Colony of St. Maria da Soledade.—Linen goods. 233

92 Colony of Nova Petropolis.—Linen goods. 233

93 Kalden, Baron of.—Linen goods. 233

Woven and Felted Goods of Wool and Mixtures of Wool.

94 Lopez, F. J., Almeida.—Cloth, quilts, and cassimeres. 235

95 Moura, J. C. de.—Cassimeres. 235

96 Rheingantz & Vater.—Woolen goods. 235

97 Maschado, M. A.—Articles made of horsehair. 240

Silk and Silk Fabrics.

98 Reyhner, Fernando.—Silk goods. 245

Clothing, Jewelry, and Ornaments.

99 Dol, Ad., & Co.—Linen underwear. 250

100 Lopez, F. J. A.—Pantaloons and other cotton wear. 250

101 Roballo, J. J.—Coat of fine cloth. 250

102 Grava, Frei L. da.—Knitted shirt. 250

103 Amaral & Co.—Complete suit for gents. 250

104 Fayett & Battcher.—Pantaloons. 250

105 Commission-General for the National Exhibitions.
a Wooden and leather shoes and cipó hats. 251
b Walking-canes and articles of tortoise-shell and straw. 254
c Leather suit worn by herdsmen. 257

106 Chastel & Co.—Hats. 251

107 Armada, J. Alvaro de.—Hats, caps, and bonnets. 251

108 Bierrenback & Bros.—Hats and caps. 251

109 Braga, Fernandes, & Co.—Hats, caps, and bonnets. 251

110 Bithencourt, J.—Lasts for shoes. 251

111 Viguier.—Boots and shoes. 251

112 Silva, J. B. Carvalho da.—Hats. 251

113 Camará, J. E. P.—Hats. 251

114 City Council of Cameta.—Hats. 251

115 Santos, P. C. dos.—Hats. 251

116 Bossel, H.—Felt hats. 251

117 House of Correction, Rio de Janeiro.—Boots and shoes. 251

118 Fischer, F.—Hats and caps. 251

119 Figueredo & Co.—Boots and shoes worn by the army and navy. 251

120 Cathiard, C. F.—Boots and shoes. 251

121 Berthon.—Ladies' shoes. 251

122 District of Paulo Alfonso.—Leather hats. 251

123 Silva, H. J. da.—Canvas shoes. 251

124 Requiao, F. P.—Hats. 251

125 Gomes, M. M. Rodriguez.—Boots and shoes. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Fancy Goods, Medical Appliances, Harness, Leather.

126 Sertorio & Pinho.—Kid gloves. 251
127 Viguier, H.—Shoes. 251
128 Moraes, J. C. de.—Silk hats. 251
129 Fluminense Institute of Agriculture.
a Hats made of the Bombonacea fibre. 251
b Cigar cases made of the same. 254
130 Valentin, M. J.—Jewelry. 252
131 Resse, jr., Victor, & Bros.—Decorations. 252
132 Nattè, Miss.—Fancy objects made of feathers, as fans, coiffures, etc. 254
133 Province of Amazonas.—Wreath of feathers. 254
134 Lima, C. A. de, & Calarans, J. M. de.—Artificial flowers. 254
135 Braga, A. J. F.—Feather articles. 254
136 Cavalcanti, J. S. H.—Umbrella, with secret spring. 254
137 Henke Bros.—Walking-canes. 254
138 Leme, D. R. Paes.—Leather walking-canes. 254
139 Rocha, J. P. da.—Buttons, earrings, and watch chain made of cocoa. 254
140 Ferreira, L. Gomes.—Walking-canes. 254
141 Barros, A. A.—Walking-canes. 254
142 Bastos, José Xavier.—Carved walking-cane. 254
143 Costa, J. F. da.—Pictures made of mosses and insects. 254
144 Reis, H. F. dos.—Walking-cane. 254
145 Province of Rio Grande do Norte.—Jewelry boxes of wood and tortoise-shell. 254
146 Province of Maranhao.—Drinking-cups of wood. 254
147 Silva, F. J. X. da.—Chalices and cups of sassafras. 254
148 Sabut, George.—Objects made from pine-tree knots. 254

Paper, Blank Books, Stationery.

149 Leusinger Sons.—Blank books and specimens of binding. 261
150 Seckler, J.—Specimens of ruling and binding. 261

Medicine, Surgery, and Prothesis.

151 Garrid, J. F. da Silva.—Druggist's scales. 274
152 Merino & Co.—Surgical instruments. 276
153 Costa, jr, M. F. da.—Artificial teeth. 277
154 Faria, J. Bento da.—Artificial teeth. 277
155 Diniz, J. Borges.—Artificial teeth. 277

Hardware, Edge Tools, Cutlery, etc.

156 Commission-General for the National Exhibitions.—Knives, daggers, and other implements. 281

Fabrics of Vegetable, Animal, or Mineral Materials.

157 Commission-General for the National Exhibitions.
a Brooms, brushes, etc. 286
b Cordage. 287
158 Almeida, A. R. de.—Cordage. 287
159 Andrade, J. Neves.—Baskets. 289
160 Mello, G. C. de.—Wooden urn. 289

Carriages, Vehicles, Harness, and Accessories.

161 Commission-General for the National Exhibitions.—Harness and saddle. 296
162 Gulmaraes, A. A. A.—Lady's saddle. 296
163 Maylasky, S.—Serigotis (a leather girth). 296
164 Lima, F. Gomes dos Santos.—Girths. 296
165 Cahy, Baron of.—Leather reins and bridles. 296
166 Cranz, Joao, & Pinto.—Harness and horse collar. 296
167 Schmitt, Nicolau, & Co.—Complete set of harness. 296
168 Guimaraes, T. T. A.—Saddles. 296
169 Coullant, Aimé.—Horse collars. 296
170 House of Correction of San Paulo.—Bridles, reins, and harness. 296
171 Almeida, A. L.—Leather reins. 296
172 Moraes, T. C.—Saddle. 296
173 Barros, J. de A.—Leather reins. 296
174 Bierrengard, Waldemar.—Harness. 296
175 Leao, A. E. de.—Whip. 296
176 Barros, A. A., & Gaveao, B. A.—Whips. 296
177 Freischlag, Frederico.—Harness. 296

Animal and Vegetable Products.

178 Klippel & Bro.—Hides and furs. 652
179 Freischlag, F.—Patent leather. 652
180 Costa, Eymael, & Co.—Tanned hides. 652
181 Lima, F. G. S.—Tanned and sole leather. 652
182 Richlin, Jacob.—Tanned and sole leather. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

ARGENTINE REPUBLIC.

(South of Nave, Columns 2 to 5.)

Chemical Manufactures.

Chemical Manufactures.

1 Serravalle, Carlos, Province of Corrientes. —Chemical and pharmaceutical preparations. 200

1*a* Cabrera, Mauro, Province of Buenos Ayres.—Horse medicine. 200

1*b* Cardalda, Inocencio, Province of Buenos Ayres.
a Iodoform and pepsin. 200
b Glycerine. 201

2 Queirel, Joaquin, Province of Corrientes.—Depurative solution. 200

3 Tàva, Carlos, Province of Corrientes. —Bitters, digestive pepsin wine, pectoral syrup. 200

4 Sub-Commission of Bella Vista, Province of Corrientes.—Salt extracted from clay; sample of clay. 200

5 Perez, A. G., Province of La Rioja. —Tonic. 200

6 Gelos, Martin, Province of La Rioja. —Mineral salt. 200

7 Provincial Commission, Province of La Rioja.—Salt and alum. 200

7*a* Lagos, Joseph M., Province of Buenos Ayres.—Sheep wash. 200

7*b* Torres, Ana Barton de, Province of Buenos Ayres.—Fumigating lozenges. 200

8 Provincial Commission, Province of Santiago del Estero.—Ashes for soap manufacturing. 200

9 Provincial Commission, Province of Salta.
a Salt. 200
b Soap. 201

10 Justice of the Peace of Bahia Blanca, Province of Buenos Ayres.—Salt. 200

11 Justice of the Peace of Patagones, Province of Buenos Ayres.—Salt. 200

11*a* Rosquellas, Julian, Province of Santa Fé.—Medicines for animals. 200

12 Murga, N., Patagones, Province of Buenos Ayres.—Coarse salt. 200

12*a* Mujica, Eleuterio, S., Province of Buenos Ayres.
a Artificial guano from dried and boiled blood. 200
b Soluble blood albumen for producing fast colors. 202

12*b* Fablet, Beltran.—Preserved and soluble blood. 200

13 Provincial Commission, Province of Tucuman.
a Sea salt. 200
b Soap. 201

14 Commission of Andalgala, Province of Catamarca.—Rock salt from Laguna Blanca. 200

15 Provincial Commission, Province of Catamarca.
a Rock salt from Fiambalá, and saltpetre. 200
b Soap. 201

16 Lafone-Queveda, Samuel A., Pro-vince of Catamarca.
a Ashes of Cachi Yuyo for the production of carbonate of soda; carbonate of soda. 200
b Soap. 201

17 Provincial Commission, Province of Jujui.—Salt. 200

18 Escobar, Juan D., Province of San Luis.—Salt. 200

19 Terramola, Delfin, Province of San Juan.—Salt from the mines of Leoncito. 200

20 Jones, Fabian, Province of San Juan. —Ashes for manufacturing soap. 200

21 Vidal, M. A., Province of San Juan. —Ashes for manufacturing soap. 200

22 Bruna, Estevan, Province of San Juan.—Ashes for manufacturing soap. 200

23 Puertas, Lorenzo, Province of San Luis.—Cholera medicine. 200

24 Escrich, Pedro, Province of Buenos Ayres.—Peanut oil. 201

26 Piñeiro, Aurelio, Province of Buenos Ayres.—Soap. 201

27 Lanieri, Miguel, Province of Entre-Rios.—Soap. 201

28 Iglesias, José, Province of Entre-Rios.—Soap. 201

32 Provincial Commission, Province of Córdoba.—Balsamic oil. 201

33 Carmen, T. Dávila, Province of La Rioja.—Olive oil. 201

34 Alric, Antonio, Province of San Luis. —Soap. 201

34*a* Bergaré, Dr, Province of Santa Fé. —Peanut oil. 200

35 Billar, Salvador, Province of Jujui.—Petroleum. 201

36 Julien & Son, Province of Buenos Ayres.—Dyed stuff fabrics. 202

37 Prat, Adrian, Province of Buenos Ayres.—Dyed wool. 202

38 Doucet, Emilio, Province of Buenos Ayres.—Writing fluids. 202

39*a* Muro, Antonio, Province of Buenos Ayres.—Inks. 202

40 Herrera, Melchora, Province of Cata-marca.—Cochineal. 202

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

42 Nolte, Ernesto, Province of Buenos Ayres.—Tooth powder. 203

42*a* Corneja, Melchora T. de, Province of Salta.—Zarza water. 203

Ceramics—Pottery, Porcelain, Glass, etc.

43 Pedruncini, Juan, Province of Buenos Ayres.—Burnt bricks. 206

44 Valdes, Emiliano, & Cipriano, Province of Buenos Ayres.—Burnt brick from Balcarce; brick made of black clay. 206

45 Fauvety & De Ville Massot, Province of Buenos Ayres.—Bricks. 206

46 Sub-Commission of the Department of Victoria, Province of Entre-Rios.—Architectural pottery. 206

47 Tudicar, H., & Co., Province of Entre-Rios.—Bricks made in Gualegu aychú. 206

48 Commission of the Department of Paraná, Province of Entre-Rios.—Tiles and bricks made in Victoria. 206

49 Provincial Commission, Province of Córdoba.
- *a* Tiles of burnt clay, of San Vincente Factory. 206
- *b* Flower pots, jars, stew pans, and dishes. 207
- *c* Cup, jug, etc. 213

50 Grunes & Co., Chaco-Argentine Territory.—Bricks. 206

51 Cervera & Co., Province of Santa Fé.—Tiles and bricks. 206

51*a* Provincial Commission, Province of Tucuman.—Bricks and tiles. 206

53 Echevarria, Cecilio, Province of Santa Fé.—Pitchers made by Indians. 210

54 Provincial Commission, Province of Salta.—Pans and plates. 213

55 Provincial Commission, Province of San Luis.—Crockery. 213

56 Alegre, Juan, Province of Corrientes.—Italian earthenware. 213

57 Provincial Commission, Province of Corrientes.—Crockery. 213

58 Pini & Co., Province of Buenos Ayres.—Glass cruet stand. 216

Furniture, and Objects of General Use in Construction and in Dwellings.

60 Provincial Commission, Province of Córdoba.
- *a* Tables of cocoanut and carrob-tree wood. 217
- *b* Wooden cups, silver pitchers. 218

62 Gimenez, Luis, Province of Buenos Ayres.—Combined writing-desk, wash-stand, etc. 217

63 Galeano, Salvador, Province of Buenos Ayres.—Venetian blinds. 217

64 Molinari, Joaquin, Province of Buenos Ayres.—Carved arm chair. 217

65 Provincial Commission, Province of Catamarca.—Cups made of Retamo wood, silver drinking-tubes. 218

67 Ladies' Commission, Province of San Luis.—Plain and carved cups. 218

68 Provincial Commission, Province of Tucuman.—Cebil wood cups. 218

69 Güemes, Domingo, Province of Salta.—Cup of palo santo wood. 218

70 Provincial Commission, Province of Salta.—Goblets and cup of palo santo wood. 218

71 Azzimonte, Luis, Province of Buenos Ayres.—Silver drinking-cup and tube. 218

71*a* Martinez, Antonio Souza, Province of Salta.—Stone cup. 218

72 Escobar, Juan D., Province of San Luis.
- *a* Wooden dish and soup ladle. 224
- *b* Wooden washing-tub. 225

Yarns and Woven Goods of Vegetable or Mineral Materials.

74 Provincial Commission, Province of Mendoza.—Mat made by prisoners in the penitentiary. 229

75 Benevolent Society, Province of Buenos Ayres.—Hemp mat. 229

76 Provincial Commission, Province of Corrientes.—Cotton counterpanes; spun cotton. 230

77 Sotomayor, Pretrona, Province of Corrientes.—Cotton counterpane. 230

78 Mantilla, Concepcion, Province of Corrientes.—Cotton counterpane; spun cotton fabrics. 230

79 Sub-Commission of Bella Vista, Province of Corrientes.—Cotton thread. 230

80 Llanos, Jorge R. de, Province of Salta.—Poncho, a national garment. 230

81 Provincial Commission, Province of Salta.—Embroidered towel. 230

82 Zorilla, Benjamin, Province of Salta.—Hammock; poncho, a national garment. 230

83 Provincial Commission, Province of La Rioja.—Cotton shawl, table cloth, and carpet. 230

84 Provincial Commission, Province of Catamarca.—Cotton napkins and table cloth. 230

85 Ponce, Delfina, Province of Catamarca.—Table cloth. 230

86 Government of the Province of Catamarca.—Cotton table cloth, napkins, handkerchief, and counterpane. 230

86*a* Burgos, Josefa, Province of Catamarca.—Table cloth. 230

87 Echevarria, Cecilio, Province of Santa Fé.—White cotton from the Province of Corrientes. 230

88 Silva, Florentino, Province of Corrientes.—Cotton from Gayasta. 230

89 Commission of the Province of Santiago del Estero.—Cotton counterpane. 230

90 Provincial Commission, Province of Tucuman.—Poncho, a national garment. 230

91 Commission of the Province of Córdoba.—White counterpanes. 230

92 Roibon, Federico, Province of Corrientes.—Fabric made by Indians from a native plant. 233

93 Benevolent Society of the Paraná, Province of Entre-Rios.—Spun cotton and napkins. 233

94 Carreras, Rosaura C. de, Province of Mendoza.—Table mat. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

95 Provincial Commission, Province of Salta.—Cuirass made of chaguar grass. 233

Woven and Felted Goods of Wool, etc.

96 Provincial Commission, Province of Salta.
a Woolen fabrics, saddle bags, cloth, etc. 235
b Vicuña cloak. 240

97 Provincial Commission, Province of Jujui.
a Woolen fabrics, ropes and slings, saddle bags. 235
b Blanket. 237

98 Palacios, Prudencio, Province of Salta.—Woolen fabrics. 235

99 Diaz, Julia, Province of Catamarca.—Dyed woolen counterpane. 235

100 Lafone Quevedo, Samuel A., Province of Catamarca.
a Dyed poncho. 235
b Vicuña cloak, without seam, handkerchief and garment. 240

101 Carranza, Adolfo E., Province of Catamarca.—Woolen counterpane. 235

102 Government of the Province of Catamarca.
a Woolen articles. 235
b Vicuña blankets. 237
c Vicuña scarf, cloak, handkerchief, and quilt. 240

103 Provincial Commission, Province of Tucuman.
a Manufactures of wool. 235
b Vicuña cloak. 240

104 Provincial Commission, Province of Corrientes.—Yarns and woolen goods. 235

104*a* Devotee, A., Province of Buenos Ayres.—Ponchos, saddle cloth, and garters. 235

104*b* Campos, Julio, Province of Buenos Ayres.—Pampa girdle. 235

105 Sub-Commission of Bella Vista, Province of Corrientes.—Dyed woolen yarns. 235

106 Commission of the Province of Córdoba.
a Woolen yarns and fabrics. 235
b Tulumba blankets. 237
c Carpets. 239
d Vicuña counterpane. 240

107 Industrial Society of Rio de la Plata, Province of Buenos Ayres.—Cloth. 235

108 Provincial Commission, Province of Buenos Ayres.—Fabrics made by the Pampas Indians. 235

109 Provincial Commission, Province of Santiago del Estero.—Woolen counterpanes. 237

110 Provincial Commission, Province of San Luis.—Woolen mattress, saddle bags, quilt, blanket. 237

111 Provincial Commission, Province of La Rioja.
a Quilt, boa, etc. 237
b Vicuña cloak and shawl. 240

112 Provincial Commission, Province of San Juan.
a Woolen cloaks, blankets. 237
b Vicuña cloak and shawl. 240

114 Bustamente, Abdon, Province of Córdoba.—Blanket. 237

120 Carreras, Rosaura C. de, Province of Mendoza.—Ladies' head-dress, collars, bracelets, and gloves made of bristles. 240

121 Franco, Luis A., Province of Catamarca.—Vicuña cloak. 240

123 Schikendantz, Maria, Province of Catamarca.—Vicuña quilt. 240

125 Ocampo, Vicente, Province of Catamarca.—Vicuña shawl and coverlet. 240

Clothing, Jewelry, and Ornaments; Traveling Equipments.

138 Muntaner & Bermudéz, Province of Buenos Ayres.—Shirts. 250

139 Donato, Fortunato, Province of Buenos Ayres.—Child's suit. 250

140 Videla, Juan, Province of Buenos Ayres.—Leggings worn by the Argentine army. 250

141 Madueño, Jova, Province of Catamarca.—Vicuña handkerchief, neckties, gloves, etc. 251

142 Buasso, Lorenzo, Province of Buenos Ayres.—Boots and shoes made of domestic material. 251

142*a* Carneiro, Serafin A., Province of Buenos Ayres.—Vicuña hats. 251

143 Rodriguez & Sangronis, Province of Buenos Ayres.—Boots. 251

144 Buffeti & Maya, Province of Buenos Ayres.—Hats. 251

145 Heully, Marie, Province of Buenos Ayres.—Bonnets. 251

146 Valdes, Emiliano & Cipriano, Province of Buenos Ayres.—Boots. 251

146*a* Tramon, T., Province of Santa Fé.—Boots. 251

147 Provincial Commission, Province of Tucuman.
a Boots and shoes; hats. 251
b Towels, tuckers for chemises. 252

148 Provincial Commission, Province of Corrientes.
a Palm-leaf hats. 251
b Embroideries, laces, trimmings, etc. 252

149 Nicolas, Francisco, Province of Corrientes.—Boots made of snake skin. 251

150 Provincial Commission, Province of Córdoba.
a Shoes and kid boots. 251
b Embroidered saddle bags, tuckers, towels, pillow case, and insertions. 252
c Ostrich feather dusters, silver tinder box. 254

151 Machado, Ruben, Province of Catamarca.—Aibé straw hat. 251

152 Provincial Commission, Province of San Juan.—Wool hats. 251

153 Boullet, Lewis, & Isodoro Ibarre, Province of Santa Fé.—Fur hats. 251

154 Barelli, Francisco, & Son, Province of Santa Fé.—Boots. 251

155 Treolar, Guillermo A., Province of La Rioja.—Shoes worn by Argentine miners. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Clothing and Fancy Articles.

156 Provincial Commission, Province of Salta.
a Boots, gaiters, cloth for hats, and Vicuña wool hats. 251
b Embroidered North American flags. 252
c Ostrich feather dusters. 254
d Leather bags. 255

157 Provincial Commission, Province of Jujui.
a Wool hats. 251
b Leather traveling bag. 255

158 Provincial Commission, Province of San Luis.
a Straw hats. 251
b Laces, embroidered underwear, church carpet, and other needle work. 252

160 Cabral, Juana T., Province of Corrientes.—Embroidered tidies, doylies. 252

161 Silva, Mercedes, Province of Corrientes.—Embroidered cloth, napkins, handkerchiefs, and chemises. 252

162 Pampin, Carmen, Province of Corrientes.—Embroidered cloth. 252

163 Colodrero, M. Cabral de, Province of Corrientes.—Crochet tray cloth, table cloth. 252

164 Lagraña, Sinforosa, Province of Corrientes.—Embroidered shawls. 252

165 Torrent, Eloiza G. de, Province of Corrientes.—Embroidered chemise and handkerchief. 252

166 Anzotegui, Escolastica S. de, Province of Corrientes.—Embroidered towel. 252

167 Pujol, Leonor, Province of Corrientes.— Embroidered chemises and towels. 252

168 Parras, Angela E. de, Province of Corrientes.—Embroidered cloth. 252

169 Mantilla, Pilar, Province of Corrientes.—Embroidered shirts. 252

170 Mantilla, Francisca, Province of Corrientes.—Embroidered shirts. 252

171 Enriguez, Anastasia Gonzalez de, Province of Corrientes.—Embroidered quilt. 252

172 Perichon, Telesfora, Province of Corrientes.—Embroidered fabric. 252

173 Mantilla, Concepcion, Province of Corrientes.—Shawls, thread lace table covers. 252

174 General Ferré's Widow, Province of Corrientes.—Embroidered cotton shirts. 252

175 Arguello, Esequiel, Province of Córdoba.—Feather mats. 252

181 Provincial Commission, Province of Catamarca.
a Crotchet quilt and towels. 252
b Raw hide trunks. 255

182 Avellaneda, Nicomeden, Province of Catamarca.—Embroidered towel. 252

183 Caballi, Cristobal, Province of San Juan.—Chasuble embroidered in colors. 252

184 Klappenbach, Sofia de, Province of San Juan. — Embroidered handkerchief. 252

185 Tello, Juana, Province of San Juan. —Embroidered handkerchief. 252

186 Provincial Commission, Province of Santa Fé. — Embroidered towel. 252

188 Provincial Commission, Province of La Rioja.
a Crochet and lace work, ornamental watch cases, embroidered tuckers, pillow cases, and napkins. 252
b Hair watch chain, screen. 254

189*a* Lillo, Tomasa, Province of Tucuman.—Towels and tuckers, for chemises. 252

189*b* Santillan, J. C., Province of Tucuman.—Cuffs. 252

190 Commission of the Chaco Argentino Territory.—Embroidered cloth. 252

191 Provincial Commission, Province of Santiago del Estero. — Embroidered counterpanes, netted towels, linen towels, and tuckers. 252

191*a* Irygoyen, Carmen O. de, Province of Salta.—Worked mat. 252

193 Bustos, Mariano, Province of San Luis.—Religious pictures embroidered in silk. 252

194 Videla, Rosa, Province of San Luis.—Embroidered paper case. 252

195 Public School of "Las Conchas," Province of Buenos Ayres.—Embroidered pillow and child's shirt, made by the scholars. 252

196 Gimenez, José, Province of Buenos Ayres.—Silk sash, with the Argentine and American colors. 252

197 Balugera, Angela, Province of Entre-Rios.— Gold and silk embroidered writing-case. 252

197*a* Simon Bros., Province of Buenos Ayres.—Embroidered picture. 252

198 Balugera, Elena, Province of Entre-Rios.—Embroidered velvet pillow. 252

199 Benevolent Society of Paraná, Province of Entre-Rios.—Crochet counterpane; tucker; embroidered handkerchief. 252

200 Etcheveherre, G., Province of Entre-Rios. — Embroidered handkerchief, dedicated to the President of the United States. 252

202 Clarke, Roberto, Province of San Luis. — Silver rings made by the Indians. 253

203 Grande, Rosario, Province of Buenos Ayres.—Gold necklace and medallion, representing the fourteen Argentine Provinces. 253

204 Lopez, Feliciano.—Cocoanut rings made of Mabocaya palm, by the Indians. 253

205 Pujol, Leonor, Province of Corrientes.—Flower made of hair. 254

205*a* Alegree, John, Province of Corrientes.—Work box. 254

206 Gonzalez, Damiana, Province of Corrientes.—Artificial flower wreath. 254

206*a* Webster, Stephen, Province of Córdoba.—Tippet made of feathers. 254

207 Etchevehére, Irene, Province of Entre-Rios.—Artificial flowers. 254

207*a* Colodrero y Pedra, Maria del Transito, Province of Corrientes.—Jatay palm, made of hair. 254

207*b* Goyena, Juana Z. de, Province of Buenos Ayres.—Hair flowers. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

207*c* Mullan, Ciriaca de la Elguera, Province of Buenos Ayres.—Hair flowers. 254

208 Bourgeois, N., Province of Buenos Ayres.—Hair picture. 254

210*a* Robion, Julian, Province of Buenos Ayres.—Hair flowers. 254

211 Ferrer, Eleucadia, Province of Córdoba.—Flowers made of seeds. 254

212 Sub-Commission of Andalgala, Province of Catamarca.—Artificial flowers. 254

213 Guntsche, J., & Schröeder, Province of Buenos Ayres.—Trunks. 255

214 Mattaldi, Eugenio, Province of Buenos Ayres.—Trunk which can be transformed into a sofa, with writing-desk, etc. 255

215 Grest, M., & Co., Province of Santa Fé.—Trunk. 255

Paper, Blank Books, and Stationery.

216 Benelische, Federico, Province of Buenos Ayres.—Blank books, diaries, and bindings. 261

217 Piqueras, Cuspinera, & Co., Province of Buenos Ayres.—Books bound by hand. 261

Medicine, Surgery, Prothesis.

232 Provincial Commission, Province of Catamarca.—Medicinal herbs. 272

233 Provincial Commission & D. Abraham Lemos, Province of Mendoza. —Herbarium of the officinal flora of the province. 272

234 Roman, Medardo, Province of Mendoza.—Wild fennel. 272

235 Provincial Commission, Province of San Luis.—Medicinal herbs. 272

236 Molina, Angela, Province of Catamarca.—Sudorific and digestive substances; cedron de puna, for affections of the lungs. 272

237 Iturbe, Fidel, Province of Catamarca.—Pharmaceutical preparations. 272

238 Castelo, Guadalupe, Province of Catamarca.—Medicinal herbs and plants. 272

239 Hurley, Tomas, Province of Catamarca.—Medicinal herbs. 272

240 Lafone Quevedo, Samuel A., Province of Catamarca.—Medicinal herbs. 272

241 Würffbain, Gustavo, & the Provincial Commission, Province of La Rioja. —Herbarium composed of herbs and medicinal plants. 272

241*a* Schickendantz, Frederick, Province of Catamarca.—Medicinal herbs. 272

242 Gonzalez, Joaquin, Province of La Rioja.—Medicinal plants and herbs. 272

243 Gelos, Martin, Province of La Rioja.—Spurge, from which castor oil is extracted. 272

245 Justice of the Peace of Ensenada, Province of Buenos Ayres.—Sarsaparilla, etc. 272

247 Valdez, E. & C., Province of Buenos Ayres.—Chamomile, borage, sponge, sarsaparilla, sage, etc. 272

248 Gonzales, Juan, Province of Buenos Ayres.—Medicinal herbs. 272

249 Iñiguez, Dalmira, Province of Buenos Ayres.—Medicinal herbs. 272

250 Provincial Commission, Province of Buenos Ayres.—Medicinal herbs. 272

250*a* Oliden, Tomas, Province of Buenos Ayres.—Medicinal herbs. 272

250*b* Gache, Manuel, Province of Buenos Ayres.—Té pampa. 272

251 Ferrer, Vicente, Province of Corrientes.—Medicinal herbs. 272

252 Roibon, Enrique, Province of Corrientes.—Herbarium. 272

253 Sub-Commission of Bella Vista, Province of Corrientes.—Tartago seed, chamico, etc. 272

255 Provincial Commission, & Sola, Juan, Province of Salta. — Medicinal herbs. 272

256 Provincial Commission, Province of Córdoba. — Medicinal herbs and plants. 272

257 Fontes, Vicente Martinez, Province of Entre-Rios.—Medicinal herbs. 272

259 Berdie, M., Province of Entre-Rios. —Medicinal water. 272

260 Commission of Paraná, Province of Entre-Rios.—Berros waters and medicinal herbs. 272

261 Rodriguez, Victor, Province of San Juan.—Saffron, flax seed. 272

263 Rodriguez, Severo, Province of San Juan.—Mustard. 272

266 Poblete, Tiburcio, Province of San Juan.—Medicinal seeds, herbs, and plants. 272

267 Provincial Commission, Province of Santiago del Estero. — Medicinal herbs. 272

268 Lacour, Guillermo, Province of Buenos Ayres. — Orthopedic apparatus. 276

269 Newbery, Rodolfo, Province of Buenos Ayres.—Artificial teeth. 277

Fabrics of Vegetable, Animal, or Mineral Materials.

271 Provincial Commission, Province of Salta.—Brooms from Totora. 286

Carriages, Vehicles, and Accessories.

272 Balvidares, Victorino, Province of Buenos Ayres.—Horse-hair whip. 296

273 Peñalva, Benito, Province of Buenos Ayres.—Horse belt. 296

274 Videla, Juan, Province of Buenos Ayres.—Harness. 296

275 Provincial Commission, Province of Buenos Ayres.—Silver spurs. 296

276 Guntsche, J., & Schröeder, Province of Buenos Ayres.—Saddles. 296

276*a* Valdes, Honorio, Province of Buenos Ayres.—Plaited lasso. 296

277 Mattaldi, Eugenio, Province of Buenos Ayres.—Saddles and harness. 296

278 Provincial Commission, Province of San Juan.—Saddlery and harness. 296

Harness, Ornaments.

279 Tirapegui, Ramon, Province of San Juan.—Mexican saddle, stirrups, bridles, etc. 296

280 Rodriguez, Victor, Province of San Juan.—Harness and stirrups. 296

281 Rodriguez, Severo, Province of San Juan.—Spurs and horse cloth. 296

282 Crest, M., & Co., Province of Santa Fé.—Pack saddle used by the army, leather girth, etc. 296

283 Provincial Commission, Province of Santa Fé.—Horse cloths, tapir leather reins and surcingle. 296

284 Provincial Commission, Province of Tucuman.—Leather caparisons, saddlery, lassoes, etc. 296

285 Provincial Commission, Province of Cordoba.—Harness, saddlery, horse cloth, etc. 296

286 Provincial Commission, Province of San Luis.—Bristle horse cloth, ostrich feather and other caparisons. 296

287 Escobar, Juan de D., Province of San Luis.—Stirrups, braided shackles, girth, and reins. 296

288 Sosa, Rafael, Province of San Luis.—Ostrich feather caparison. 296

289 Provincial Commission, Province of Salta.—Pack-saddle, girth, straps, head stall, tapir leather reins, caparisons, lassos, etc. 296

290 Provincial Commission, Province of Catamarca.—Vizcacha leather caparison, and braided lasso. 296

291 Andalgalá Commission, Province of Catamarca.—Horse cloth, harness, girths, reins, bridles, etc. 296

292 Gigena, Justiniano, Province of Catamarca.—Horse cloth. 296

293 Gonzalez, Daniel, Province of Mendoza.—Horse cloths. 296

295 Provincial Commission, Province of Jujui.—Tapir leather reins, bridle, etc. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

CHILI.

(*South of Nave, Columns 3 to 5.*)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art.

Chemical Manufactures.

1 Salcedo, L., Bogota, Columbia.—Oil of wood, for medicinal purposes. 201

2 Campora Brothers, Department of Santiago, Province of Santiago.—Olive oil. 201

3 Celedonia, Diaz de la Vega, Valparaiso.—Perfumes, etc. 203

Ceramics—Pottery, Porcelain, Glass, etc.

4 Escudero, R., Santiago.—Samples of enameled tiles for flooring. 208

Furniture and Objects of General Use in Construction and in Dwellings.

5 Dell, Aquila A., Santiago.—Alabaster table tops. 217

Woven and Felted Goods of Wool, etc.

6 School for Poor Girls, Molina, Department of Lontue.—Assorted worsteds. 238

Clothing, Jewelry, Ornaments, and Traveling Equipments.

7 School for Poor Girls, Molina, Department of Lontue.
a Knitted spread and afghan. 250
b Sofa pillows of satin and lace; hand-made lace, crochet and lace tidies, bed covers, embroidered tapestry rug, and silk parasol embroidered with tatting. 252

8 Astudillo, J. M., Santiago.—Leather and silk boots and shoes. 251

9 Monastery, of the Good Shepherd, Santiago.—Embroidered handkerchief. 252

10 Cadiz, José, Gabriel, Santiago.—Gypsum ornaments. 254

11 Schrebler, Federico, Santiago.—Card baskets. 254

Paper, Blank Books, Stationery.

12 Shrebler, Federico, Santiago.—Blank books; samples of printing, lithography, and binding. 261

13 "Mercurio" Printing & Binding Office.—Specimens of printing and binding. 261

Medicine, Surgery, Prothesis.

14 Celedonia, Diaz de la Vega, Valparaiso.—"Wine of life," medicinal. 272

Fabrics of Vegetable, Animal, or Mineral Materials.

15 Waddington, Wm., Department of Limache, Province of Valparaiso.—Straw, brooms, and brushes. 286

16 Osthaus, Luis, Department of Limache, Province of Valparaiso.—Rope and cordage. 287

17 Reich, Federico, Santiago.—Rope and wire cordage. 287

Educational Systems, Methods, and Libraries.

18 Gonzalez, Ugalde, Carlas.—Educational reports. 304

19 Chili, Government of, Statistics Bureau, Valparaiso.—Statistics of Chili. 305

20 Séve, Edouard, Santiago.—Periodical publications of Chili, and "Chili as it is." 306

21 Chaigneau, Julie, Valparaiso.—Newspapers. 306

22 Lefèvre, R., Valparaiso.—Works on agriculture. 306

23 Hydrographic Office, Valparaiso.—Various publications. 306

24 Villaroel, A., Santiago.—Various publications. 306

25 Latrop, E., Valparaiso.—Various publications. 306

26 Lastarria, Victorine, Santiago.—Various publications. 306

27 "Mercurio" Printing Office, Valparaiso.—Various publications. 306

28 Tarnero, S., Valparaiso.—"Chili Illustrated." 306

Scientific and Philosophical Instruments and Methods.

29 Galapé, J. M. L., Andes.—Model of telegraph machine. 326

Engineering, Architecture, Maps, etc.

30 Chili, Government of.—Map of Chili; plans of bridges and public buildings. 335

Sculpture.

31 Plaza, Nicanor.—Gypsum bust, two bronze medallions, and one bronze statue. 400

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

32 Bravo, Simon, Santiago.—One crucifix, carved in wood. 405

Engraving and Lithography.

33 Balbé, Juan C., Santiago.—Pen drawing. 420

Ceramic Decorations, Mosaics, etc.

34 Dell, Aquila A., Santiago.—Black marble table tops, inlaid with mosaic. 450

35 Dee, José, Antonio, Valparaiso.—Wood mosaic. 452

Machines, Tools, etc., of Mining, Chemistry, etc.

36 Chili, Government of.—Working model of gold and silver amalgamating machine. 506

Machines and Implements of Spinning, Weaving, and Paper-making.

37 School for Poor Girls of Molina, Department of Lontue.—Weaving frame for cotton. 521

Arboriculture and Forest Products.

38 National Society of Agriculture, Santiago.
- *a* Building woods of Chili. 600
- *b* Ornamental woods of Chili. 601

39 Billerlich, Juan, Ancud.—Varnished woods. 601

40 Lontue, Department of.—Samples of wood. 600

Agricultural Products.

41 National Society of Agriculture, Santiago.
- *a* Medicinal herbs of Chili. 621
- *b* Seeds. 624

42 Enrique, Clasen, & Co.—Cigars, cigarettes, smoking and leaf tobacco. 623

43 Cox, W. O.—Cut tobacco. 623

44 Waterhouse, Thomas, Santiago.—Hops. 623

45 Pretta, Pedro, Santiago.—Seeds, separated by machinery. 624

Land Animals

46 Soto, O. & M., Canquenes.
- *a* Stuffed heimuel. 633
- *b* Stuffed condor. 635
- *c* Stuffed puma. 637

Water Animals, Fish Culture and Apparatus.

47 Sciaccaluga & Co., Calbuco.
- *a* Preserved fish. 641
- *b* Preserved shell fish. 643

Animal and Vegetable Products.

48 Valenzuela, P. N., Rengo.—Leather, tanned and varnished. 652

49 Wolle, A., & C., Tome.—Glue. 652

50 Day, J. M., Colchagua.—Wax. 654

51 National Society of Agriculture, Santiago.—Wax. 654

52 Escheverria, J. R., Guillota.—Wax. 654

53 Gallo, A. M., Caupolican.—Wax. 654

54 Dupuch, B., Limache.
- *a* Preserved fruits, marmalades, etc. 656
- *b* Claret. 660

55 Pretta, Pedro, Santiago.—Extract of coffee. 656

56 Velazco, J. J., Mill Santiago.—Flour and bran. 657

57 Zapata, L., Department of Quillota, Province of Valparaiso.—Starch. 658

58 Donis, Félipe, Department & Province of Santiago.—Fruit syrup and lemonades. 659

59 Urmeneta, José Tomas de, Department of Limache, Province of Valparaiso.—Claret and sauterne wines. 660

60 Montane, R., Department of Limache, Province of Valparaiso.—Claret. 660

62 Campora Bros., Department of Santiago, Province of Santiago.—Wines and cider. 660

63 Ochagavia, Silvestre, Department of Santiago, Province of Santiago.—Claret and sauterne. 660

64 Infante, Manuel, Department of San Felipe, Province of Aconagua.—Whisky, cider, and wine. 660

65 Rusque, Juan, Department of Quillota, Province of Valparaiso.—Claret. 660

66 Salva, de Pelle, Margarita, Department of Quillota, Province of Valparaiso.—Claret. 660

67 Zapata, L., Department of Quillota, Province of Valparaiso.—Whisky and claret. 660

68 Meneses, N., Department of Quillota, Province of Valparaiso.—Claret. 660

69 Rogers, Salamanca F., & Co., Department of Victoria, Province of Santiago.—Claret and sauterne. 660

70 Ovalle, D. & E., Department of Victoria, Province of Santiago.—Claret and sauterne. 660

71 Vargas, Blas, Department of Victoria, Province of Santiago.—Claret and sauterne. 660

72 Paulsen, J., Department of Chillan, Province of Chillan.—Claret, white, and port wine. 660

73 Gallo, Department of Copiape, Province of Alacama.—Madeira wine. 660

74 Riquieri & Co., Department of Valparaiso, Province of Valparaiso.—Brandy, curaçoa, and fancy liquors. 660

75 Serrano, H., Department of Concepcion, Province of Concepcion.—Claret and red wine. 660

76 Perez, Juan José, Department of Casablanca, Province of Valparaiso.—Whisky and claret. 660

77 Plageman & Co., Valparaiso.—Beer, ale, and lager beer. 660

78 Codelia, Juan, Santiago.—Vermicelli. 661

Textile Substances of Vegetable or Animal Origin.

79 Barros, Lauro, Santiago.—Wool. 667

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

PERU.

(South of South Avenue, Columns 2 to 5.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education, Art, Agriculture.

Minerals, Ores, Stones, Mining Products.

1 Special Commissioner to the Exposition from Lima.—Minerals of Peru. 100

2 Helguero, Genaro S., Puira.
a Sulphur. 100
b Tar. 101

3 Davila é hyos, Maguegua. — Plans of Maguegua. 120

Chemical Manufactures.

4 Garces, Vicente, Puira.—Soap. 201

5 Smith, Estéban G., Puira.—Petroleum. 201

6 Prugue, E., Lima.—Oil, soap, candles. 201

Furniture and Objects of General Use in Construction and in Dwellings.

7 Penitentiary of Lima. — Wood work. 220

Yarns and Woven Goods of Vegetable or Mineral Materials.

8 Puira, Department of.—Ponchas, towels, etc. 233

Woven and Felted Goods of Wool, etc.

9 Torre, Manuel Espirito la, Lima.—Vicuña texture. 238

Silk and Silk Fabrics.

10 Amazon, Department of the.—Vegetable silk. 244

Clothing, Jewelry, and Ornaments; Traveling Equipments.

11 Brambilla, Fortunato, Lima.—Shirts, cuffs, and collars. 250

12 Ayacucho, Department of.
a Clothing. 250
b Silver filigree work, etc. 254

13 Torre, Manuel Espirito la, Lima.—Gloves. 251

14 Navarro, Pedro, Catasos. — Straw hats. 251

15 Pinó, Manual, Lima.—Gloves. 250

16 Penitentiary of Lima.
a Shoes. 251
b Canes. 254

17 Manzanares, Josefa, Lima. — Embroideries. 252

18 House of Santa Rosa, Lima.—Embroideries. 252

19 House of Santa Teresa, Lima.—Artificial flowers. 254

Paper, Blank Books, Stationery.

20 Perez, Manuel, Trinidad. — Typographical specimens. 261

Educational Systems, Methods, and Libraries.

21 Bureau of Education, Lima.—Map of Peru. 300

22 Raimondi, Antonio.—Map of Peru. 300

Institutions and Organizations.

23 Hevvera, Antonio M., Lima.—Antiquities. 312

24 Cohille, Guillermo B., Lima.—Antiquities. 312

Sculpture.

25 Manual de la Vega, Juana.—"General Grant" (wire bust). 400

26 Barrenechea, Paulino, Lima.—Coat of arms of Peru (wood carving). 405

Painting.

27 Muniz, Ramon, Lima.—"La Chilena," "The Peruvian Rabona" (oil paintings). 410

Photography.

28 Municipal School of Lima.—Photographs. 430

Arboriculture and Forest Products.

29 Ayacucho, Department of.—Woods from Huanta and La Mar. 600

30 Special Commission to the Exhibition.—Woods. 600

Pomology.

31 Ayacucho, Department of.—Nuts. 611

32 Valcarcel, Venancio, Moguega.—Olives. 611

33 Pisco, Province of.—Raisins. 611

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural, Animal, Vegetable Products.

34 Vico, Vicente, Moguega.—Olives. 611
35 Loreto, Department of.—Nuts. 611

Agricultural Products.

36 Society for the Increase of Peruvian Industry, Lima.—Grains. 620
37 La Libertad, Department of.—Grains from the Province of Ozuxco. 620
38 Loreto, Department of.
a Beans. 621
b Coffee. 623
40 Ayacucho, Department of.—Coffee and cocoa. 623
41 Amazon, Department of The.—Coffee and tobacco. 623
42 Goybura, J. B., San Pedro.—Coffee. 623
43 Pouehan, Antonio, & Co., Lima.—Cigars. 623
44 Special Commissioner to the Exposition from Lima.—Huanco coffee. 623
45 Puira, Department of.—Cigars. 623
46 Botanical Garden of Lima.—Seeds. 624

Animal and Vegetable Products.

47 Segovia, Carolina, Challuanca.—Hides. 652
48 Ayacucho, Department of.—Skins. 652
49 Goybura, J. B., San Pedro.—Rice. 657
50 Solf, Alfred, & Co., Chiclayo.
a Rice. 657
b Sugar. 659
c Alcohol. 660
51 Puira, Department of.—Starch. 658
52 Laos, Mariano.—Sugars. 659
53 Laos, Domingo, Lima.—Sugar. 659
54 Swain, Enrique, Lima.
a Sugar. 659
b Rum and brandies. 660
55 Ward, M. Adrian, Tacna.—Wines and brandies. 660
56 Boza, José, Pisco.—Liquors, wines, and brandies. 660
57 Davila é higos, Lima.—Brandies. 660
58 Torre, Marianola, Lima.—Wines. 660
59 Palacios, Fernande, Lima.—Wines and brandies. 660
60 Pandoy, José Maria, Algosta.—Wines. 660
61 Society for the Improvement of Peruvian Industries, Lima.—Amazon bitters, liquors. 660
62 Barrios, José P., Moquegua.—Brandy and liquors. 660
63 Cabello, Gregorio, Lima.—Liquors, wines, and brandies. 660
64 Barrios, Domingo, Moquegua.—Wines. 660
65 Barrios, Samuel, Moquegua.—Wines. 660
66 Dios de la Quintana, Juan de, Ica.—Liquors, wines, and brandies. 660
67 Barrios, José Maria.—Liquors, wines, and brandies. 660
68 Torre, Manuel Espirito la.—Liquor from Conocancha. 660
69 Salas & Terry, Lima.—Rum. 660
70 Soldan, Luis Paz, Lima.—Olive oil. 662
71 Ylo, Province of.—Olive oil. 662
72 Lerra, Manuel J., Puira.—Castor oil. 662

Textile Substances of Vegetable or Mineral Origin.

73 Dios de la Quintana, Juan de, Ica.—Cotton. 665
74 Navvarez, José Maria Cardenas, Ayacucho.—Huantra cotton. 665
75 Elias, D. & C., Lima.—Cotton. 665
76 Torre, Manuel Espirito la.—Wool. 667
77 Ayacucho, Department of.
a Wool. 667
b Silk. 668
78 Special Commissioner to the Exhibition.—Cocoons and silk. 668

Agricultural Engineering and Administration.

79 Peru, Government of.—Guano deposits from Lobos, Pabellon de Pica, and Guamillas. 681

Ornamental Trees, Shrubs, and Flowers.

80 Botanical Garden of Lima.—Plants. 701
81 Special Commissioner to the Exhibition.—Plants for silk worms. 704

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

MEXICO.

(South of Nave, Columns 64 to 67.)

COLLECTIVE EXHIBIT.

Chemicals, Ceramics, Furniture, Woven Goods, Clothing.

Chemicals.

1 Mier, Antonio, State of Jalisco.—Natural salts of sodium. 200

2 Hay, Guillermo, City of Mexico.—Salts of sodium, extracted from the lakes of the Valley of Mexico. 200

3 Rio de la Loza, Manuel, City of Mexico.—Salts of sodium. 200

4 State Government of Yucatan, Merida.—Salts of sodium. 200

5 State Government of Campeche.—Salts of sodium. 200

6 State Government of Mexico.—Salts of sodium. 200

7 Rio de la Loza, Maximino.—Chemical products. 200

8 Ligero, M., City of Puebla.—Stearine. 201

8*a* Hurtado, H.—White and red lead. 200

Ceramics—Pottery, Porcelain, Glass, etc.

9 Casarir, Alezander, & Co., City of Mexicb.
a Indian vases. 206
b Porcelain. 213

10 Guerrero, Ygnacia, Puebla City.—Bricks. 206

11 State Government of Morelos.—Indian vases. 206

Furniture and Objects of General Use in Construction and in Dwellings.

12 Garcia, Francisco, State of Oaxaca.—Chairs of Mexican reeds. 217

12*a* State Government of Hidalgo.—Mexican agave fibre manufactures. 229

12*b* State Government of Yucatan.—Hammocks, shawls, bags, and other objects, made of istle, or fibres, of the Mexican hereguen (agave of Yucatan). 229

13 Gomez, Poloma J., Guadalajara City.—Cotton yarns. 230

14 Rosario Hacienda, State of Coahuila.—Cotton goods. 230

15 Trapaga, Torriello, & Co., State of Oaxaca.—Yarns; cotton cloth. 230

16 Colima Workingmen's Club.—Cotton goods for vestings, etc. 230

17 Bermejillo, Pio, City of Mexico.—Cotton goods. 230

18 Davila, Hoyas, Saltillo City.—Cotton goods. 230

19 El. Labrador Factory, Saltillo City.—Cotton goods. 230

20 Aurora Factory, Saltillo City.—Cotton goods. 230

21 Comte, Manuel, City of Puebla.—Cotton goods. 230

22 Patriotismo Factory.—Cotton cloths. 230

23 Quijano, Alexandro.—Cotton goods. 230

24 La Beneficencia Factory.—Cotton goods. 230

25 Benites, D., City of Puebla.—Cotton goods. 230

Woven and Felted Goods of Wool, etc.

25*a* Zempoala Factory, State of Guanajuato.—Woolen goods. 235

26 Rosa, Manuel, City of Mexico.
a Cassimeres. 235
b Blankets. 237

Silk and Silk Fabrics.

27 City of Puebla.—Silks and silk fabrics. 244

Clothing, Jewelry, and Ornaments; Traveling Equipments.

28 State Government of Coahuila.—Zarapes. 250

29 Tailors' Society, City of Mexico.—Charro dress. 250

30 State Government of Yucatan.—Indian baby dress. 250

31 Polo, Miss Luz, City of Mexico.—Fancy shirt. 250

32 Hernandez, Mrs. Amalia, City of Mexico.—Fancy shirts. 250

33 Cusset, N., City of Mexico.—Gloves. 251

34 Fernandez, Gertrude.—Embroidery. 252

35 Robles, Miss Rita.—Embroidery. 252

36 Perry, Miss Concepcion.—Embroidery. 252

37 Castorena, Miss Merced.—Embroidery. 252

38 Fuentes, Miss Loreto.—Embroidery. 252

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–44.

Fancy Goods, Stationery, Medicine, Education and Science.

39 Montes de Oca, Miss Bernardo.—Embroideries. 252

40 Velasquez, Mrs. Luz, City of Mexico.—Embroidered handkerchief. 252

41 Loreto, Mrs., City of Mexico.—Embroidery. 251

42 Mata, Mrs. Josefina, City of Mexico.—Fancy towel. 252

43 Campo de Mata, Mrs. Josefa, City of Mexico.
a Cushion in filigree. 252
b Fancy box. 254

45 Pensado, Mrs., & Sisters.—Artificial flowers. 254

46 Carvajal, Antonio, City of Mexico.—Gold and silver galloon. 254

Paper, Blank Books, Stationery.

47 Benfield, City of Mexico.—Paper. 260

48 Palomar & Co., State of Jalisco.—Paper. 260

49 Dias, Leon Francisco de, City of Mexico.—Specimens of printing. 260

Medicine, Surgery, Prothesis.

50 Grissi, J.—Medicinal plaster. 272

51 Morril, A.—Extract of zarzaparrilla and other preparations. 272

52 Society of Natural History.—Medicinal plants. 272

53 Fink, Hugo, State of Vera Cruz.—Cinchona, from Cordova. 272

54 Rogul, Antonio, City of Mexico.—Artificial teeth. 273

55 Chacun, Mariano.—Artificial teeth. 273

Fabrics of Vegetable, Animal, or Mineral Materials.

56 Carvajal, Antonio, City of Mexico.—Indian manufactures from the State of Michoacan. 289

56*a* Escobedo, Mariano, City of Mexico.—Indian manufactures from the State of Yucatan. 289

Educational Systems, Methods, and Libraries.

57 Cerna, David, City of Mexico.—Musical compositions. 302

57*a* Peralta, Mrs. Angela.—Musical compositions. 302

58 Garfias, Miss Maria.—Musical works. 302

58*a* Rocha, Miss Amelia, City of Mexico.—Musical compositions. 302

59 Alcarar, Vicente.—Elementary arithmetic. 306

60 Almazan, Pascal.—Treatise on railroads. 306

61 Argandar, Alexandro.—Commercial arithmetic. 306

62 Bablot, Aranyo y.—Children's recreative books. 306

63 Castilla, Antonio y.—Lessons on religion and morality. 306

64 Manuel, Contreras.—Elements of mathematics; lessons on morality. 306

65 Chimalpopoca, Faustino, City of Mexico.—Nahuatl language. 306

66 Covarriebias, Francisco.—Astronomical and geographical works. 306

67 Domisguer, J.—Geography and statistics. 306

68 Garcia y Cubas, Antonio.—Geography and statistics. 306

69 Gama, Mucéo.—Geometry. 306

70 Gutierrez, Serapio.—School books. 306

71 Garcia, Vargas.—Elementary Spanish grammar. 306

72 Gabran, Rivera,—Arithmetic. 306

73 Hermosa, J.—Geography. 306

74 Moral, Fomas.—Geography. 306

75 Marrogui, J. M.—Democratic catechism and orthology. 306

76 Murguria.—School books. 306

77 Magalori, Horatio.—Italian grammar. 306

78 Orellana, Estevan.—Latin language. 306

79 Oviedo, Paulino.—School books. 306

80 Orozco, Antonio.—Book-keeping. 306

81 Payno, Manuel.—Compendium of geography. 306

82 Paniagua, Cenobio.—Lessons on harmony. 306

83 Rosas, José.—School books and other works. 306

84 Rivera, T. Rio.—Reading book. 306

85 Ruis, Davila.—Metrical system. 306

86 Remigio, Rodriguez.—Spanish grammar. 306

87 Tamborrel.—Equations. 306

88 Ferrazas, José Joaquim.—Elementary arithmetic. 306

89 Zambrano, Francisco.—Lessons on orthology, and other works. 306

90 Mexican Mining Society.—"El Progador" (scientific paper). 306

91 Tapia, Mrs. Ester.—Works on literature and poetry. 306

92 Arriago, Joaquim.—Recreative science. 306

93 Aguilar, Bruno.—Treatise on artillery. 306

94 Arteaga, Juan.—Zöotechnic studies. 306

95 Aiye, Patricio.—Calculus. 306

96 Arroniz, Marcus.—Biography. 306

97 Barcena, Mariano.—Works on natural history. 306

98 Barcena, M. José Roa.—Treatise on history and geography. 306

99 Brito, José.—Works on jurisprudence. 306

100 Bernardy, Mrs. Louisa.—Geography of Mexico. 306

101 Castillo, Velasco.—Constitutional rights. 306

102 Chavero, Alfredo.—Archæological essays. 306

103 Dias, Barriero.—Mexican penal code. 306

104 Diaz, José Covarrubias.—Public instruction in Mexico. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Education and Science, Art, Vessels, Woods.

105 Escandon, Pedro.—Instruction in fine arts. 306

106 Esptein, Isidoro.—Works on topography and thermometry. 306

107 Garcia, Antonio Cubas.—History. 306

108 Iglesias, José Maria.—Historical documents. 306

109 Iglesias, Angel.—Laryngoscopy. 306

110 Jirnenez, Julio.—On public administration. 306

111 Lobato, J. Guadalupe.—Cerebral softening. 306

112 Lozano, J. M.—Civil code. 306

113 Lescanor, Antenor.—Agriculture. 306

114 Mender.—Narrow gauge in operation. 306

115 Maravedo, Salazar.—Military maneuvering. 306

116 Montez, R. Oca.—Ornithological essays. 306

117 Martinez, Victor.—History of the Mexican Revolution. 306

118 Monteil, Duarte.—Personal and civil rights. 306

119 Martinez, Joaquim.—Modern and ancient history and mythology. 306

120 Martinez, Del Rio.—Cultivation of cotton. 306

121 Nunez, Angel.—Geography of Vera Cruz. 306

122 Orasco, Manuel Berra J.—Hydrographical chart of the valley of Mexico, and geography of language. 306

123 Perez, E. Juan.—Statistical almanacs. 306

124 Perez, Hernandez.—Geographical dictionary. 306

125 Prieto, Guillermo.—Political economy, and other works. 306

126 Pimental, Francisco.—Comparative and descriptive sketch of American physiology. 306

127 Peon, José Contreras.—Historical romances. 306

128 Rivas, José.—Code of urbanity. 306

129 Sierra, Justo.—Maritime law. 306

130 Povan, Parrtaleon.—Parliamentary history. 306

131 Zayas, Pablo.—Dictionary of Mexican legislation, civil code. 306

132 Federal Government.—Works upon the gubernatorial system, relating to the department of the interior, war, navy, public instruction, topography, and other scientific subjects. 306

133 Pharmaceutical Society of Mexico.—Pharmacopœia of the city of Mexico. 306

134 Larry Scientific Association.—Historical accounts and reports of the proceedings of the association. 306

135 Mexican Scientific Society.—Works on education and geography. 306

136 Society of Natural History.—"La Naturaleza"—scientific newspaper. 306

137 Humboldt Society.—"Humboldt's Annals." 306

138 Department of Public Works.—Drainage of the valley of Mexico, topography of the federal districts of the city of Mexico, of the mountains of Pacheco, and of the palace of the archbishop of Mexico. 306

Institutions and Organizations.

139 Romier, Cuatafraro T.—Pyrocnostical study of minerals from Guanajuato. 311

140 Camacho, J., City of Mexico.—Musical compositions. 313

141 Ytuarte, J., City of Mexico.—Musical compositions. 313

Scientific and Philosophic Instruments and Methods.

142 Loera, City of Mexico.—Frenometry. 320

143 Oropera, Guillermo.—Sensible scales. 320

144 Zenca, J. Estrada, City of Mexico.—Map. 335

145 Ramirez & Cuataparo, City of Mexico.—Maps. 335

146 Barcena, Mariano, City of Mexico.—Maps. 335

Oil Paintings.

148 Majira, Mrs. G.—Oil paintings. 410

149 Labisky, Mrs.—Water color painting, "coffee plant." 411

Engraving and Lithography.

150 Loreta, Pupils of Mrs.
a Engraving on wood. 422
b Lithographic work. 423

Photography.

151 Salazar, Miss.—Photographs. 430

Ceramic Decorations, Mosaics, etc.

152 Ramirez, Miss Soledad.—Cottage with clay figures. 454

153 Alcocer, Miss Antonia.—Fruits and flowers in wax. 454

Aerial, Pneumatic, and Water Transportation.

154 State Government of Campeche, Campeche City.—Model of a vessel. 594

154*a* Cesar, José Maria, City of Mexico.—Model of steam vessel. 595

Arboriculture and Forest Products.

155 State Government of Vera Cruz.—Woods. 600

156 State Government of Puebla.—Woods. 600

157 State Government of Yucatan.—Woods. 600

158 State Government of Campeche.—Woods. 600

159 State Government of Mexico.—Woods. 600

160 State Government of Hidalgo.—Woods. 600

161 State Government of Colima.—Woods. 600

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Agricultural, Animal, Vegetable Products.

163 State Government of Morelos.—Woods. 600

165 Jimenez, J., Cuernavaca City.—wood. 600

166 Vallarta, L. Y.—Aloes, aromatic Woods. 600

167 State Government of Oaxaca.—Indigo. 602

168 State Government of Colima.—Indigo. 602

169 Society of Natural History.—Gums and resins. 603

169*a* State Government of Oaxaca, Oaxaca City.—Resins. 603

196*a* State Government of Campeche, Campeche City.—Caoutchouc. 603

Agricultural Products.

170 Legarreta, A., Queretaro.—Cereals. 620

171 Cuevas Bros.—Wheat. 620

172 State Government of Puebla.—Cereals. 620

173 State Government of Hidalgo.
a Cereals. 620
b Coffee. 623

174 State Government of Morelos.—Cereals. 620

174*a* Coahuistla Hacienda, State of Mexico.—Wheat. 620

175 Society of Natural History.—Cereals. 620

176 Cirilo, Mingo.—Córdoba coffee. 623

177 Cuantecomatan Co., Colima City.—Coffee. 623

178 Canedo, Señor.—Cigars and cigarettes. 623

179 Martinez de la Forre, City of Mexico.—Cigars and tobacco-leaf. 623

180 Gardida, Thomas.—Tobacco and cigars. 623

181 State Government of Vera Cruz.—Coffee. 623

182 State Government of Mexico.—Coffee. 623

182*a* State Government of Yucatan.—Coffee. 623

182*b* Ortiz, Anastacio, City of Mexico.—Tobacco. 623

183 Balza Bros.—Cigars. 623

184 Lascurain & Co.—Cigars, cigarettes, etc. 623

185 Cainzo, Antonio.—Tobacco, etc. 623

186 Madrazos & Co.—Tobacco, etc. 623

187 Asylum for the Poor, State of Puebla.—Cigars, tobacco, etc. 623

188 Escobedo Gral, State of Michoacan.—Coffee. 623

189 Santiago Villa, Vera Cruz.—Córdoba coffee. 623

Animal and Vegetable Products.

190 Severino, Perez.—Pipitza-huina (a new vegetable base). 650

190*a* Garcia, Hilario, City of Mexico.—Skins. 652

191 State Government of Oaxaca.—Skins. 652

192 State of Colima.—Skins. 652

193 State of Puebla.—Skins. 652

194 State Government of Yucatan.—Skins. 652

195 State Government of Morelos.—Beeswax. 654

196 State Government of Hidalgo.—Beeswax. 654

196*a* State Government of Oaxaca, Oaxaca City.—Beeswax. 654

196*b* Preparatory School, Mexico City.—Beeswax. 654

196*c* State Government of Hidalgo.—Vegetable wax. 654

196*d* Society of Natural History, City of Mexico.—Vegetable wax. 654

197 State Government of Yucatan.—Oil of the insect niin, used for burnishing metallic instruments. 657

198 Torres, N., Puebla City.—Flour. 657

199 Society of Natural History.—Farina. 657

200 Ycazbalcata & Garcia.—Sugar. 659

201 State Government of Coahuila.—Preserved fruits. 659

202 State of Puebla.—Sugar. 659

203 Zerango Hacienda.—Sugar. 659

203*a* State Government of Yucatan, Morida City.—Sugar. 659

204 Oacalco Hacienda, State of Morelos.—Sugar. 659

205 Goribar, Faustino.—Sugar. 659

206 Clara Santa Hacienda.—Sugar. 659

207 Atlihuayan Hacienda.—Sugar. 659

207*a* Ferrer, Ignacio, City of Mexico.—Chocolate. 659

208 Campos, Fernande.—Feguila liquor. 660

208*a* State Government of Yucatan.—Sugar. 659

209 Paraiso Factory, Campeche Distillery.—Whisky. 660

210 Ylizalituvú, Rivera.—Pulque (agave liquor). 660

211 Cortez, Agapito.—Wines. 660

212 Royo, Remegio, State of Coahuila.—Grape wines from Parras. 660

213 Barreda, C.—Alcohol. 660

214 Martinez, J. M.—Jehuacan Puebla wines. 660

215 Boeza, Simon.—Wines. 660

216 Society of Natural History.—Vegetable oils. 662

217 Canas, Eduardo.—Olive oil. 662

218 Morril, A.—Vegetable oils. 662

219 Jaspeado, J.—Olive oil. 662

220 State Government of Yucatan.—Ricino oil. 662

221 Sayo, Vega de la, City of Mexico.—Vegetable oil. 662

221*a* Cordera, Manuel, City of Mexico.—Vegetable oil. 662

Textile Substances of Animal or Vegetable Origin.

222 State Government of Morelos, Cuernavaca City.—Cotton. 665

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Textile Fibres, Agricultural Engineering, Botanical Collections.

222*a* State of Coahuila, Saltillo City.—Cotton. 665

222*b* Pereda, Blas, San Luis Potosi City.—Cotton. 665

222*c* State Government of Campeche, Campeche City.—Cotton. 665

222*d* State Government of Hidalgo.—Cotton. 665

222*e* Herrera, Alfonso, Mexico City.—Products of chayote plant. 666

222*f* State Government of Oaxaca, Oaxaca City.—Vegetable fibres. 666

222*g* Juarez, T., Texcoco City.—Hemp. 666

223 State of Yucatan.—Fibres. 666

224 Cabo, J. de Villa.—Strings and cords. 666

225 State of Hidalgo.—Fibres of the Mexican maguey. 666

226 Lopez, Miguel.—Cords from the fibres of the agave. 666

227 Society of Natural History.—Wild silk. 668

Agricultural Engineering and Administration.

228 Gomez, Z., City of Colima.—Agrometre. 680

228*a* Rul, Miguel.—Photographic views of agricultural works and farms. 683

Horticulture.

229 Preparatory School of the City of Mexico.—Botanical collection of the Valley of Mexico. 709

230 Barcena, Marinana.—Botanical map of the State of Queretaro. 709

231 Ocampo, Miss J.—Botanical collections. 709

232 State Government of Mexico.—Botanical collections. 709

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

SPAIN.

(*South of Nave, Columns 16 to 18.*)

Chemical Manufactures.

Chemical Manufactures.

1 **Community of Heirs of Añana, Salinas de Añana, Province of Alava.**—Salt obtained by filtering and by evaporation. 200

2 **Salines of Torrevieja, Province of Alicante.**—Salt. 200

3 **Rosa Martinez, Joaquin de la, Berja,** Province of Almería.—Syrup of proto-iodide of iron and of ferruginous Peruvian bark. 200

4 **Zabala Iñiguez, Justo, Dalias,** Province of Almería.—Syrup of ferruginous Peruvian bark and concentrated essence of sarsaparilla. 200

5 **Padilla, Francisco, Almería.**—Carbonate of lead. 200

6 **Sureda & Villalonga, Juan, San José,** Ibiza, Baleares.—Chloride of sodium. 200

7 **Estruch & Co., Andrés, Barcelona.**—Manure. 200

8 **Tobella & Argila, Francisco, J.,** Hospital de Llobregat, Province of Barcelona.—Manure. 200

9 **Medinaceli, Duchess, Cardona,** Province of Barcelona.—Sal gemma. 200

10 **Sanchez, Miguel, Barcelona.**—Mineral and sea salt. 200

11 **Pons, Bartolomé, Sans,** Province of Barcelona.—Cream of tartar and tartar crystal. 200

12 **Fortuny Bros., Barcelona.**
a Magnesia, mustard paper, etc. 200
b Almond oil. 201

13 **Vte Mondova, Juan, San Juan,** Porto Rico.—Cocoa butter, orange-flower water, citrate of lime, ricinus oil, almond oil, cocoanut oil, essential oil of orange-flower and lemon. 200

14 **Dominguez, Celestino, Guyana,** Porto Rico.—Cocoa butter, castor oil, and tobacco pepper essence. 200

15 **Tauriño, Juan, Toledo.**—Remedy for deafness. 200

16 **Formiguera, G., Barcelona.**—Pastilles, extracts, oil, syrups, liniments, etc. 200

17 **Ferrer & Batlle, Barcelona.**—Chemical and pharmaceutical preparations. 200

18 **Arola, A., & Domenech, Francisco,** Barcelona.—Chemical and pharmaceutical preparations. 200

19 **Boada, G., & Travessa, Gracia,** Province of Barcelona.—Sulphate of copper, chloride of tin, sulphuric acid, nitric acid, etc. 200

20 **Provincial Commission, Búrgos.**—Calcined and black animal bone. 200

21 **Regis Cisneros, Francisco, Búrgos.**—Cream of tartar. 200

22 **Bensusan, Antonio J., Puerto-Real,** Province of Cádiz.—Sea salt. 200

23 **Calle, Bernardo, M. de la, Cadiz.**—Sea salt. 200

24 **Hidalgo y Berjano, Eduardo, Sanlúcar de Barrameda,** Province of Cádiz.—Sea salt. 200

25 **Forner Sales, Domingo, Burriana,** Province of Castellon.—Orange flower and orange-flower water. 200

26 **Corporation of Minglanilla,** Province of Cuenca.—Sal gemma. 200

27 **Gamboa y Calvo, José, Villalcayado,** Province of Guadalajara.—Salt. 200

28 **Muñoz, Marcelino, Imon,** Province of Guadalajara.—Salt. 200

28*a* **Marin, Manuel, Córdoba.**—Essence of sarsaparilla, extract and syrup of eucalyptus, cod-liver oil, balsam opodeldoc, etc. 200

29 **Leon Teruel, José, Huelva.**—Salt obtained by evaporation. 200

30 **Lopez de Codes, Tomás, Isle of Cristina,** Province of Huelva.—Chemical guano. 200

31 **Tapia y Pereira, Pedro, Isle Cristina,** Province of Huelva.—Artificial guano. 200

32 **Soriano, Aniceto, Jaen.**—Salt obtained by evaporation. 200

33 **Tiburcio Escabias, José, Jaen.**—Salt. 200

34 **Miguel Garcia, Manuel de, Jaen.**—Salt. 200

35 **Mas, Ramon, Lérida.**—Barilla (impure soda). 200

36 **Arteche, Angel María, Azofra,** Province of Logroño.—Inalterable carbonate of iron. 200

37 **Baanante, Juan, Chantada,** Province of Lugo.—Mustard and cantharides powder. 200

38 **Armesto Vinuesa, Francisco, Mondoñedo,** Province of Lugo.—Peat. 200

39 **Delf Factory of Sargadelos, Cerro,** Province of Lugo.—Peat. 200

40 **Jorge de la Peña, José, Lugo.**—Peat. 200

41 **Puerta, Gabriel de la, Madrid.**—Emetic tartar. 200

42 **Canales, Juan Bautista, Málaga.**—Essence of lemon, citric acid. 200

43 **Fuentes & Sons, Palencia.**—Blister. 200

44 **Escarpizo, Lorenzana, Augusto,** Cangas, Province of Pontevedra.—Anti-scorbutic and odontalgic elixir. 200

45 **Gonzalez, Domingo Cecilio, Salamanca.**—Nitrate of ammonia. 200

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Chemical Manufactures.

46 Santiago Fuentes, Ignacio, Salamanca.—Chromic acid, arseniate of iron, etc. 200

47 Villar, José, Salamanca.—Pharmaceutical preparations. 200

48 Delgado, Joaquin, Seville.—Inalterable syrups. 200

49 Vinet, Troviño, & Co., Seville.—Citric acid, hyposulphate of soda, etc. 200

50 Monge & Sanz, Bonifacio, Soria.—Digital, extract of digital, digitaline, essence of sarsaparilla, etc. 200

51 Cuchi y Deixens, Tomás, Tarragona.—Arsenic, extract of tar, and meat in powder. 200

52 Eyries, Agustin, Valladolid.—Phosphate of lime and nitrate of soda. 200

53 Flor Carenou, & Tur, Zaragoza.—Extract of liquorice. 200

54 Diaz & Acebedo, Cleto, Havana, Cuba.—Preservative to prevent oxidizing of metals. 200

55 Quesada & Garcia, Almería.—Soap. 201

56 Fuster, Francisco, Palma de Mallorca, Balearic.—Oil of sweet almonds. 201

57 Corps of Mountain Engineers, Lerma, Province of Búrgos.—Juniper oil. 201

58 Vega Grande, Count of, Las Palmas, Canaries.—Walnut oil. 201

59 Carné & Moreno, Tarancon, Province of Cuenca.—Soaps. 201

60 Yaniz, Ambrosio, Villar del Humo, Province of Cuenca.—Juniper oil. 201

61 Coco & Bro., Celestino, Ubeda, Province of Jaen.—Soaps. 201

62 Gil de Muro, Isidoro, Andújar, Province of Jaen.—Common soaps. 201

63 Mon, Celestino, Rivadeo, Province of Lugo.—Soaps. 201

64 Perez Villamil, José, Rivadeo, Province of Lugo.—Soaps. 201

65 Juliá y García Nuñez, Eusebio, Madrid.—Soaps. 201

66 Yarritu, Sons of, Carabanchel Baio, Madrid.—Soap. 201

67 Saenz Martinez, José Benito, Málaga.—Stearine and candles. 201

68 San Roman, Pedro, Oviedo.—Prepared wax for the manufacture of matches. 201

69 Moneo & Mirat, Salamanca.—Soap. 201

70 Renau, Angel, Béjar, Province of Salamanca.—Soap. 201

71 Falcon, Ruiz & Llorente, Coca, Province of Segovia.
a Resin oil. 201
b Turpentine, varnish, and essence of turpentine. 202

72 Falcon, Ruiz & Llorente, Córdoba.—Resin and colophonium. 201

74 Astolfi, Cárlos, Seville.—Soap. 201

75 Conradi Bros., Seville.—Soap. 201

76 Conradi, Sons of J. B., Seville.—Soap. 201

77 Gasau, José Antonio, Seville.—Soap. 201

78 Carol & Co., Antonio, Reus, Province of Tarragona.—Soap. 201

79 Marca, Salvador, Reus, Province of Tarragona.—Soap. 201

80 Oliva, Salvador, Reus, Province of Tarragona.—Olive oil soap. 201

81 Zamora, Francisco, Reus, Province of Tarragona.—Soap. 201

82 Ruedas y Pedraza, Lorenzo, Toledo.—Soap. 201

83 Agudo, Gonzalez, Leandro, Valladolid.—Soap. 201

84 Girart, Nicolás, Regla, Island of Cuba.—Purification of burning gas. 201

85 Planella Roure, Alejandro, Barcelona.—Colors, varnishes, cardboards, and canvas for painting. 202

86 Perez Romero, Diego, Huelva.—Collodion and photographers' varnish. 202

87 Acero, Antonio, Jaen.—Peroxide of aluminous iron. 202

88 Alcaraz Angulo, José, Madrid.—Ink. 202

90 Grau y Puig, José, Seville.—Bitumen. 202

91 Corporation of Belilla Medina, Province of Soria.—Ochre. 202

92 Serra, Juan, Reus, Province of Tarragona.—Ink. 202

93 Magallon, Francisco, Zaragoza.—Ink. 202

94 Miró & Corominola, José, Barcelona.—Spanish hair-dye. 203

96 Avilés y Merino, Francisco, Córdoba.—Alcohol, orange-peel syrup, etc. 203

97 García Martinez, Francisco, Santiago de Compostela.—Ether. 202

98 Villalon, Eduardo, Madrid.—Toilet waters and cream. 203

99 Huelin & Son, Guillermo, Malaga.—Extract of liquorice. 203

100 MacAndrews & Co., Coria, Province of Sevilla.—Liquorice. 203

101 Llofriu, Manuel, Seville.—Rice flour. 203

102 Delgado, Joaquin, Seville.—Depurative and regenerative essence. 203

103 Padilla, José, Seville.—Tincture Bismarck. 203

104 Burguillo, Castro, Joaquin, Seville.—Vegetable balsam. 203

105 Estivill, Antonio, Reus, Province of Tarragona.—Orange-flower water. 203

106 Gisbert & Soler, Juan, Torredembarra, Province of Tarragona.—Dentifrice powder and elixirs. 203

107 Orive, Salustiano, Bilbao, Province of Vizcaya.—Chemical and pharmaceutical products. 203

108 Saliaz, Juan Vicente, Havana, Island of Cuba.—Cosmetic. 203

109 Lasa y Elizondo, Dionisio, Tarazona, Province of Zaragoza.—Phosphoric wax tapers. 204

110 Artiz Antonio, María, Havana, Island of Cuba.—Phosphorus. 203

111 Arteaga & Jáuregui, Havana, Cuba.—Phosphorus. 204

112 Military Pyrotechny, Seville.—Fusees, quick-matches, and cartridges. 204

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

113 Muñoz Iñiguez, José, Seville.—Rockets. 204

Ceramics—Pottery, Porcelain, Glass, etc.

115 Romeu & Barella, Hospitalet, Province of Barcelona.—Bricks and tiles. 206

116 Provincial Commission, Búrgos.
a Tiles, bricks, and pipes. 206
b Pottery. 210

117 Escudero, Pascual, Búrgos.—Bricks. 206

118 Bueso Fabregad, Vicente, Castellon.—Glazed tiles. 206

119 Fabregad & Co., Francisco, Castellon.—Glazed tiles. 206

120 Provincial Commission, Lugo.—Pottery. 206

121 Fernandez Castañeda, Telesforo, Las Rozas y Arroyo.—Tiles. 206

122 Ochoa, José María de, Segovia.—Bricks, tiles, and flagstones. 206

123 Carral, Widow of Ignacio, Segovia, —Tiles, flagstones, and bricks. 206

124 Corporation of Moron, Province of Seville.—Bricks and pipes. 206

125 Casado, Melchor, Débanos, Province of Soria.—Tiles, flagstones, and bricks. 206

126 Cucurny, Pablo, Barcelona.—Refractory earthenware. 207

127 Molàs & Co., Barcelona.—Refractory clay. 207

128 Gomez, Sebastian, Trujillo, Province of Cáceres.—Earthenware. 207

129 Fernandez, Tomás, Trujillo, Province of Cáceres.—Earthenware. 207

130 Bueno, Remigio, Trujillo, Province of Cáceres.—Earthenware. 207

131 Fernandez, José, Trujillo, Province of Cáceres.—Earthenware. 207

132 Olago, Manuel, Trujillo, Cáceres.—Earthenware. 207

133 Olago, Juan, Trujillo, Province of Cáceres.—Earthenware. 207

134 Pajares, Juan, Arroyo del Puerco, Province of Cáceres.—Earthenware. 207

135 Bisier, Benito, Cuenca.—Manufactures of clay. 207

136 Corporation of Chiclana, Province of Cádiz.—Pitchers and pottery. 207

137 National Factory of Trubia, Oviedo.—Refractory bricks. 207

138 Sagarminaga, Gerardo, Muelas del Pan, Province of Zamora.—Refractory clay and crucibles. 207

139 Santigós & Co., Macías, Barcelona.
a Tiles. 208
b Crockery. 210

140 Barella, Joaquin, Hospitalet de Llobregat, Province of Barcelona.—Ceramics, ornaments and paving tiles. 208

141 Llevát & Son, Antonio, Reus, Province of Tarragona.—Mosaic. 208

142 Soto y Tello, Manuel, Seville.—Mosaic tiles. 208

143 Gonzalez, R., Valencia.—Enameled tiles. 208

144 Vives & Aspiroz, Rafael, Villa de Oliva, Province of Valencia.—Flags. 208

145 Diez Cataluña, Salvador, Manises, Province of Valencia.—Enameled tiles. 208

146 Nolla & Son, Miguel, Meliana, Province of Valencia.—Mosaic flagstones. 208

149 Girona y Mató, Ramon, Alcora, Province of Castellon.—Delft. 210

150 Aljama Moreno, Miguel, La Rambla, Province of Córdoba.—Pitchers. 210

151 Jimenez de García, Antonio, La Rambla, Province of Córdoba.—Pitchers. 210

152 Leon y Raigon, Antonio, La Rambla, Province of Córdoba.—Pitchers. 210

153 Provincial Deputation of Múrcia.—Delft. 210

154 Fuentes y Ponte, Javier, Múrcia.—Antique vases. 210

155 Association of Potters of Andújar, Province of Jaen.—Pots. 211

156 His Majesty the King of Spain, Madrid.—China. 213

157 García Montalvan, Francisco, Seville.—Delft of earthenware. 213

158 Pickman & Co., Seville.—Delft and china. 213

159 Vallés & Sons, José, Barcelona.—Crystal. 214

160 Fernandez Castañeda, Telesforo, Las Rozas, Province of Santander.
a Plate glass. 214
b Crystal lantern. 216

161 Casademunt, Modesto, Barcelona.—Fine glass bottles for chemicals. 214

162 Fernandez Castañeda, Telesforo, Reinoso, Province of Santander.—Glass bottles. 214

163 Farris, A., & Co., Badalona, Province of Barcelona.—Crystal ware. 216

Furniture and Objects of General Use in Construction and in Dwellings.

165 Isaura, Francisco de Paula, Barcelona.—Objects of bronze and white metal. 217

166 Roberst, Epifanio, Barcelona.
a Dressing-table, couch. 217
b Picture frame. 220

167 Forzano Bros., Madrid.—Sideboard for dining-room. 217

168 Pascual y Granés, Pedro, Barcelona.—Window. 219

169 Molins, José, Havana, Cuba.—Impermeable wood curtains. 220

170 Gallardo Bastant, Luis, Barcelona.—Gas apparatus. 222

171 Isaura, Francisco de Paula, Barcelona.—Gas apparatus. 222

172 Metallurgical Society of San Juan de Alcaráz, Province of Albacete.—Manufactures of brass. 224

173 Riera, L. A., & Co., Arenys de Mar, Province of Barcelona.—Corks. 224

174 Moragrega & Soldevila, Tomás, Castellon.—Cork vessel. 224

175 Brochi, Juan, Havana, Cuba.—Tin cans for preserving fruits. 224

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods.

176 Oyarzabal, Jorgé, Philadelphia, Pa. —Apparatus for serving ice cream. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

177 Beltran y Lopez, José, Elche, Province of Alicante.—Twine and string. 229

178 Fuentes Agulló & Bros., Francisco, Elche, Province of Alicante.—Palm leaf and articles manufactured from the same. 229

179 Más & Son, Manuel, Crevillente, Province of Alicante. — Esparto, rush, and bass fabrics. 229

180 Rampál, Juan, Elda, Province of Alicante.—Esparto mats and carpets. 229

181 Sevilla & Perez Bros., Monforte, Province of Alicante.—Baskets and ropes of green esparto. 229

182 Lopez, José, Badajoz. — Esparto matting. 229

183 Mora, Manuel, Badajoz.—Esparto and rush matting. 229

184 Amat, Gervasio, Gracia, Province of Barcelona.—Fine matting. 229

185 Martinez la Llana, Tiburcio, Cuenca.—Work basket. 229

186 García Brito, Manuel, Córdoba.—Cyprus cable. 229

187 Arzalaya, Ramon de, Jaen.—Osier basket. 229

188 Gonzalez Maceda, Pedro, Villalba, Province of Lugo.—Horse-hair webs. 229

189 Huelin & Son, Guillermo, Almogia, Province of Málaga.—Palm baskets. 229

190 Corps of Mountain Engineers, Madrid.—Fabrics and ropes of esparto. 229

191 Provincial Deputation of Múrcia. —Esparto work. 229

192 Fernandez Bros. & Co., Aguilas, Province of Múrcia.—Mats. 229

193 Mazarrasa, Gregorio, Santander.—Osier basket. 229

194 Però & Buxeda, Barcelona.—Cotton textiles. 230

195 Pagès & Co., Salvador, Mataró, Province of Barcelona.—Bleached linen. 230

196 Oliver, Fonrodona, Mataró, Province of Barcelona.—Cotton canvas. 230

197 Volart Bros. & Conill, Barcelona.—Cotton fabrics. 230

198 Puig & Co., José, Esparraguera, Province of Barcelona. — Madapolans, etc. 230

199 Conti, Juan, Barcelona.—Cotton fabrics. 230

200 Ribot & Bros., Estéban, Granada. —Thread. 230

201 Roiz de la Parra, Gerónimo, La Cavada, Province of Santander.—Twisted cotton. 230

202 Solé, Estéban, Reus, Province of Tarragona.—Cotton. 230

203 Regordosa & Co., Mariano, Sans, Province of Barcelona.—Dyed cotton. 231

204 Parellada, Flaquer & Co., Sans, Province of Barcelona. — Cotton velvet. 231

205 Clariano Ciuró, Angè, & Co., Granollers, Province of Barcelona.—Cotton tartan. 231

206 Batlló Bros., Barcelona.—Cotton thread and fabrics. 231

207 Cavelles y Ferré, José, Reus, Province of Tarragona.—Serges, nankin, etc. 231

208 Ferrer & Co., José, Villanueva y Geltrù, Province of Barcelona.—Cretons, percales, etc. 232

209 Ferrer y Vidal, José, Barcelona.—Cretons, percales, etc. 232

210 Casas & Jovér, Joaquin, San Martin de Provencalls, Province of Barcelona.—Cotton prints. 232

212 Saladrigas Bros., Barcelona.—Cotton prints. 232

213 Jaumandreu & Co., Barcelona.—Cotton prints. 232

214 Achon, J., Barcelona.—Cotton prints. 232

215 Tolrá & Co., José, Barcelona.—Cretons and madapolams. 232

216 "España Industrial," Barcelona. —Dyed and printed cotton fabrics. 232

217 Torrelló & Co., Mateo, Barcelona. —Cotton prints. 232

218 Borrás, Eduardo, Barcelona.—Printed cotton shawls. 232

219 Ricart & Co., Barcelona.—Cotton prints. 232

220 Rivas & Co., Francisco, Barcelona. —Cotton prints. 232

221 Beltran y Lopez, José, Elche, Province of Alicante.—Hempen bags. 233

221*a* Igualadina, Algodonera, Barcelona.—Bleached linens. 233

222 Sadó, Jaime, Barcelona.—Table linen and towels. 233

223 Conti, Juan, Barcelona.—Drilling fabrics, for ladies' dresses, and Turkish towels. 233

224 Mestra Pedro, Barcelona.—Linen drilling. 233

225 Provincial Commission of Búrgos. —Linen cloth and towels. 233

226 Society of Friends of the Country Las Palmas, Canary Islands.—Pita cloth for girths. 233

227 Salomó & Co., Francisco Antonio, Vinaróz, Province of Castellon.—Canvas. 233

228 Bas y Verdera, Juan Bautista, Vinaróz, Province of Castellon.—Canvas. 233

229 Ribot & Bros., Estéban, Granada.—Saddle bag, hemp fabric, bags and hemp soles for sandals. 233

230 Igualada, Francisco, Seville.—Andalusian saddle-bag. 233

231 García Valdeavellano, J., Seville.—Table linen, etc., made on hand-loom. 233

232 Landa, Sons of Salvador, Calatayud, Province of Zaragoza.—Linen cloth. 233

233 Vega & Co., Seville.—Oil cloth. 234

Woven and Felted Goods of Wool and Mixtures of Wool.

234 Abad Bros., Vicente, Alcoy, Province of Alicante. — Edredon and paten cloth. 235

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven Goods.

235 Boronás Soler, Antonio, Alcoy, Province of Alicante.—Lanilla cloth. 235

236 Hernandez Osa, Juan, Alcoy, Province of Alicante.—Paten cloth. 235

237 Candela, Miguel, Alcoy, Province of Alicante.—Paten cloth. 235

238 Cantó, Tomás, & Sons, Alcoy, Province of Alicante.—Paten cloth. 235

239 Gisbert Pascual, Camilo, Alcoy, Province of Alicante.—Paten cloth. 235

240 Jordá & Sons, José, Alcoy, Province of Alicante.—Paten cloth. 235

241 Llacer, Agustin, Alcoy, Province of Alicante.—Paten cloth. 235

242 Llopis & Son, Widow of C., Alcoy, Province of Alicante.—Paten cloth. 235

243 Mataix, Cristobal, Alcoy, Province of Alicante.—Paten, tricot, and edredon cloth. 235

244 Miró, Sons of Gabriel, Alcoy, Province of Alicante.—Paten, castor, and edredon cloth. 235

245 Pastor, Moltó, & Co., Alcoy, Province of Alicante.—Paten cloth. 235

246 Moltó y Sanz, José, Alcoy, Province of Alicante.—Satin. 235

247 Moltó y Valor, Francisco, Alcoy, Province of Alicante.—Tricot and paten cloth. 235

248 Monllor & Sons, Miguel, Alcoy, Province of Alicante.—Paten cloth. 235

249 Pascual & Co., Fabian, Alcoy, Province of Alicante.—Paten and edredon cloth. 235

250 Pascual, Santiago, Alcoy, Province of Alicante.—Paten cloth. 235

251 Perez & Son, Benito, Alcoy, Province of Alicante.—Corduroy cloth. 235

252 Perez, Sons of J., Alcoy, Province of Alicante.—Velvet cloth. 235

253 Poblet, Antonio, Alcoy, Province of Alicante.—Paten cloth. 235

254 Reig, Rafael, Alcoy, Province of Alicante.—Paten and velvet cloth. 235

255 Sanz & Sons, Widow of Felipe, Alcoy, Province of Alicante.—Paten cloth. 235

256 Vicedo, José, Alcoy, Province of Alicante.—Tricot. 235

257 Amores, Miguel, Badajoz.—Mantas cloth. 235

258 Clariana, Ciuró, Angé, & Co., Province of Barcelona.
a Woolen fabrics and cloths. 235
b Shawls. 237
c Mixed fabrics. 238
d Paten cloth. 241

259 Provincial Commission, Búrgos.—Woolen articles. 235

260 Mendiola & Co., Casimiro, Munilla, Province of Logroño.—Cloth, melton, tweeds, etc. 235

261 Provincial Commission of Lugo.—Woolen fabrics. 235

262 Rodriguez Arias, Cipriano, Béjar, Province of Salamanca.—Cloth. 235

263 Rodriguez Bros., Béjar, Province of Salamanca.—Cloths. 235

264 Gonzalez Sanz, Luis, Riaza, Province of Logroño.—Cloths. 235

265 Sanz, Manuel, Molinos de Razon, Province of Soria.—Cloths. 235

266 Torre, José, Almenar, Province of Soria.—Cloths and woolen fabrics. 235

267 Tarrat & Sociats, Teruel.—Cloths. 235

268 Garcia Aranda, Antonio, & Co., Sonseca, Province of Toledo.—Cloths. 235

269 Bonel & Sons, Benito, Tarazona, Province of Zaragoza.—Cloths. 235

270 Provincial Commission of Pradoluengo, Province of Búrgos.—Flannels. 236

271 Delgado & Co., Faustino, Antequera, Province of Málaga.—Flannels. 236

272 Moreno, Widow of, Antequera, Province of Málaga.—Flannels. 236.

273 Alia y Lopez, Miguel, Escalonilla, Province of Toledo.—Serge. 236

274 Delgado & Co., Faustino, Seville.—Waistbands. 237

275 Murtró y Turelló, Widow of A., Reus, Province of Tarragona.—Matafrios (waistbands). 237

276 Conti, Juan, Barcelona.—Woolen fabrics. 238

277 Planas, Sons of M., Sabadell, Province of Barcelona.—Woolen fabrics. 238

278 Sallares & Son, Juan, Sabadell, Province of Barcelona.—Woolen fabrics. 238

279 Buxeda Bros., Sabadell, Province of Barcelona.—Woolen fabrics. 238

281 Dalinau, José M., Barcelona.—Flannels. 238

282 Sert Bros. & Solá, Barcelona.—Woolen goods. 238

283 Badia, José, Sabadell, Province of Barcelona.—Woolen yarns. 238

284 Arañó, Enrique, San Martin de Provençals, Province of Barcelona.—Woolen yarns. 238

285 Bresca & Co., Province of Barcelona.—Merinoes. 238

286 Serret & Turull, Sabadell, Province of Barcelona.—Woolen shawls, etc. 238

287 Viejo, Isidoro, Búrgos.—Woolen blanket. 238

288 Blanco, Bartolina, Valverde del Camino, Province of Huelva.—Saddlebag. 238

289 Murtró Turelló, Widow of A., Reus, Province of Tarragona.—Cloak, tartans, woolen yarns, etc. 238

290 Clariana, Ciuró, Angé, & Co., Santa Coloma de Querals, Province of Tarragona.—Mixed fabrics, shawls, etc. 238

292 Casaramona, Juan, Barcelona.—Blankets and mantas. 238

293 Baucells & Co., Narciso, Barcelona.—Moleskins and mantas. 238

294 Serret & Turull, Sabadell, Province of Barcelona.—Woolen webs and shawls. 238

295 Viejo, Isidoro, Búrgos.—Mantas. 238

296 Nuñez Ramos, Francisco, Torrejoncillo, Province of Cáceres.—Coarse cloth. 238

297 Moreno y Sanchez, Francisco, Torrejoncillo, Province of Cáceres.—Coarse cloth. 238

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods, Silk.

298 Llanos de Pedro, José, Torrejoncillo, Province of Cáceras.—Coarse cloth. 238

299 Llanos Nuñez, Pedro, Torrejoncillo, Province of Cáceras.—Coarse cloth. 238

300 Llanos Valle, Sebastian, Torrejoncillo, Province of Cáceres.—Coarse cloth. 238

301 Llanos Moreno, Saturnino, Torrejoncillo, Province of Cáceres.—Coarse cloth. 238

302 Bonilla, Ramon, Torrejoncillo, Province of Cáceres.—Coarse cloth. 238

303 Serrano, Benito, Torrejoncillo, Province of Cáceres.—Coarse cloth. 238

304 Society of Friends of the Country, Las Palmas, Canary Islands.—Cloth. 238

305 Guimera Bro., Giner, Morella, Province of Castellon.—Woolen textile. 238

306 Provincial Board of Agriculture, Morella, Province of Castellon.—Woolen mantas. 238

307 Aparicio, Jaime, Córdoba.—Ends of cloth, and cloak. 238

308 Alvarez Otin Bros., Córdoba.—Mountain cloaks and jergas. 238

309 Corporation of Pozoblanco, Province of Córdoba.—Mantas and flannels. 238

310 Corporation of Bujalance, Province of Córdoba.—Mantas and jergas. 238

311 Corporation of Villa del Rio, Province of Córdoba.—Mantas, jergas, and mountain cloaks. 238

312 Cabezas Sarabia, José, Córdoba.—Mountain cloak. 238

314 Provincial Deputation of Murcia.—Manta. 238

315 Fuentes, Maria, Prádanos, Province of Palencia.—Coarse cloth. 238

316 Garcia, Mauricio, Prádanas, Province of Palencia.—Coarse cloth. 238

317 Val, Angel, Prádanos, Province of Palencia.—Coarse cloth. 238

318 Martin, Domingo, Prádanos, Province of Palencia.—Coarse cloth. 238

319 Gomez, Andrés, Astudillo, Province of Palencia.—Cloth. 238

320 Olmeda, Faustino, Astudillo, Province of Palencia.—Cloth. 238

321 Sanmillan, Manuel, Astudillo, Province of Palencia.—Cloth. 238

322 Rodriguez Mambilla, Manuel, Astudillo, Province of Palencia.—Cloth. 238

323 Hera, Vicente de la, Palencia.—Mantas. 238

324 Arroyo, Gerónimo, Palencia.—Mantas. 238

325 Aguilar Calvo, Antonio, Amusco, Province of Palencia.—Flannel. 238

327 Corporation of Vitigudino, Province of Salamanca.—National manta and sayal. 238

329 Alia & Lopez, Miguel, Escalonilla, Province of Toledo.—Counterpane. 238

330 Maiquez y Tomás, T., Valencia.—Mantas and fabrics for upholstering. 238

331 Fernandez Laza, & Sons, M., Valladolid.—Manta. 238

332 Perdiguero, Guillermo, Valladolid.—Mantas. 238

332*a* Castell de Pons, Antonio, Barcelona.—Tapestry. 239

332*b* His Majesty the King of Spain, Madrid.—Tapestry from the royal factory, Madrid. 239

333 Alsina, Juan, San Andrés de Palomar, Province of Barcelona.—Velvets. 241

334 Casanovas & Sons, Joaquin, Sabadell, Province of Barcelona.—Woolen cloths. 241

336 Carominas, Salas, & Co., Sabadell, Province of Barcelona.—Woolen fabrics. 241

337 Durán, J., & Son, Sabadell, Province of Barcelona.—Woolen fabrics. 241

338 Montllor Bros., Sabadell, Province of Barcelona.—Cloths and woolen goods. 241

339 Volta Vivé, José, Sabadell, Province of Barcelona.—Woolen fabrics and fine woolen yarns. 241

Silk and Silk Fabrics.

340 Carrillo, Blas, & Co., Santa Cruz de la Palma, Canary Islands.—Yellow and white silk. 242

341 Diaz Varela, Celestino, Sober, Province of Lugo.—Raw silk. 242

342 Víctor Navarro, Pedro, Espinardo, Province of Múrcia.—Silks. 242

343 Martinez, Faustino, Seville.
a Raw silk. 242
b Silk thread and twist. 243
c Ribbons. 248

344 Oñate, Sons of, Valencia.
a Raw silk. 242
b Twisted silk. 243

345 Piedrola, Juan de Dios, Granada.—Twisted silk. 243

346 Económica of Múrcia.—Silks and cord made of the gut of silkworms. 243

347 Andrion, Heirs of, Múrcia.
a Silks, twist, and cord. 243
b Silk purses. 247

350 Farriols & Sons, Barcelona.—Silk textile. 244

351 Provincial Deputation of Múrcia.—Silk taja (national waistband) and shawls. 244

352 Ferrer & Co., Joaquin, Barcelona.—Silk goods. 245

353 Gué & Co., G., Barcelona.—Silk goods. 245

354 Diaz Varela, Celestino, Sober, Province of Lugo.—Silk fabrics. 245

355 Freixa, Sebastian, Reus, Province of Tarragona.—Gró (silk fabric). 245

356 Pascual & Co., Antonio, Reus, Province of Tarragona.—Gró, glasé, and other silk fabrics. 245

357 Ibañez Palenciano, Fernando, Valencia.—Gró, taffetas, damasks, and poplins. 245

357*a* Rodriguez, Arias, Cipriano, Bejar, Province of Salamanca.—Satin. 245

358 Malvehy, Benito, Barcelona.—Silk goods. 246

359 College of Superior Works of Art in Silk, Barcelona.—Portrait of H. M. the King of Spain. 246

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Silk, Clothing, Embroidery.

360 Reig & Co., Barcelona.—Silk fabrics. 246

361 Masoliver Bros., Barcelona.—Silk hosiery, etc. 247

362 Pascual & Co., Antonio, Province of Tarragona.—Velvets. 248

363 Piédrola, Juan de Dios, Granada.—Woven silk. 248

365 Blanco, Emilio, Seville.—Trimmings. 249

366 Sanchez, Francisco, Seville.—Trimmings. 249

Clothing, Jewelry, and Ornaments.

367 Solanas, Antonia, Barcelona.—Shirts. 250

367*a* Tarriba Pablos, Clemente, Palencia.—Embroidered manta. 250

368 Escaler, Benito, Barcelona.—System of cutting garments. 250

369 Provincial Commission of Salas de los Infantes, Province of Búrgos.—National dress and photographs. 250

370 Corporation of Bujalance, Province of Córdoba.—Jacket. 250

371 Salgado Rodriguez, Rafael, Santiago, Province of la Coruña.—Jacket, pants, and vest. 250

372 Direction of Cavalry, Madrid.—Military equipment. 250

373 Gonzalez, Benito, Vilaboa, Province of Pontevedra.—Country woman's cloak, made of rush. 250

374 Luna, Ramon, Havana, Cuba.—Figure dressed in the uniform of a captain of volunteers. 250

375 Marfà, Cayetano, Mataró, Province of Barcelona.—Cotton hosiery. 250

376 Sala Baladia & Coll, Barcelona.—Cotton hosiery. 250

377 Oliver & Co., Mataró, Province of Barcelona.—Cotton shirts, hose, and socks. 250

377*a* García, Aranda, & Co., Antonio, Sonseca, Province of Toledo.—Working men's cloaks. 250

378 Beltran & Lopez, José, Elche, Province of Alicante.—Sandals and slip-shods. 251

379 Ceva y Llorens, Enrique, Elche, Province of Alicante.—Sandals. 251

380 Diaz Corrales, Antonio, Madrid.—Boots, shoes, and slippers. 251

381 Cardona Baldrich, José, Barcelona.—Corsets and waistbands. 251

382 Freixa & Son, Barcelona.—Boots, shoes, and gaiters. 251

383 Conde Puerto & Co., Barcelona.—Shirts. 251

384 Says, José, Barcelona.—Boots and shoes. 251

385 Verderau, Luis, Barcelona.—Shirts. 251

386 Provincial Commission of Búrgos.—Shoes, gloves, and caps. 251

387 Zamorano & Bros., Nemesio, Búrgos.—Kid gloves. 251

388 Bueso Herrando, José, Castellon.—Sandals. 251

389 Carpi, Vicente, jr., Castellon.—Sandals. 251

390 Provincial Board of Agriculture, Castellon.—Sandals. 251

391 Ruiz Vicent, Francisco, Castellon.—Sandals. 251

392 Verchili y Marqués, Francisco, Castellon.—Sandals for women. 251

393 Pintado y Morales, Luis, Ciudad-Real.—Hat. 251

394 Devesa Dominguez, José, Santiago, Province of Coruña.—Boots and shoes. 251

395 Rodriguez, Rafael, Coruña.—Boots and shoes. 251

396 Ribot & Bros., Estéban, Granada.—Sandals and slip-shods. 251

397 Fernandez & Toscano, José, Huelva.—Shoes and boot patterns. 251

398 Mantero & Asuero, Manuel, Valverde, Province of Huelva.—Riding-boots. 251

399 Montiel, José, Huelva.—Boots. 251

400 Acero & Son, José, Jaen.—Hats. 251

401 Ares, Rosendo, Villalba, Province of Lugo.—Clogs. 251

402 Fraga, José, Corpeito, Province of Lugo.—Clogs. 251

403 Pallares, Count of, Villalba, Province of Lugo.—Sabots. 251

404 Robledo, Luis Paulino, Fonsagrada, Province of Lugo.—Clogs. 251

405 Villasante, Francisco, Madrid.—Hats. 251

406 Huelin & Son, Guillermo, Málaga.—Palm-leaf hats. 251

407 Provincial Deputation of Múrcia.—Sandals. 251

408 Crespo, Melchor, Peñaranda, Province of Salamanca.—Hats. 251

409 Galindo, Rafael, Peñaranda, Province of Salamanca.—Hats. 251

410 Gonzalez, Fermin, Peñaranda, Province of Salamanca.—Hats. 251

411 Ralero, Epifanio, Segovia.—Shoes. 251

412 Chia & Ganga, Francisco, Seville.—Boots and shoes. 251

413 Gely Bros. & Co., Seville.—Kid gloves. 251

414 Sarton, Gregorio, Seville.—Hats. 251

415 Villen, José, Valencia.—Shoes. 251

416 Ronchetti Denti, B., Valladolid.—Gloves. 251

417 Stampa Bula, Felipe, Valladolid.—Gloves. 251

418 Iborna, Mateo, Zamora.—Hats. 251

419 Melendez Carvajal & Co., Havana, Cuba.—Hats. 251

420 Central Commission, Havana, Cuba.—Hats. 251

421 García & García, Juliana, Avila.—Lithographed embroidery. 252

422 Martinez, Rosamunda, Avila.—Silk embroidery. 252

423 Provincial Convent, Superior of, Avila.—Embroidered altar cloth. 252

424 Nin & Mañé, Benito & Luisa, Barcelona.—Embroidery. 252

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Embroidery, Fancy Goods, Stationery.

425 Marti de Detrell, Dolores, Barcelona.—Embroidered sofa cushion. 252

426 Pi & Solanes, José, Barcelona.—Laces. 252

427 Tejada, Antolina, Cáceres.—Openwork. 252

428 Vidal, Rosa, Plasencia, Province of Cáceres.—Embroidered handkerchief. 252

429 Delgado, Rita, Alcalá de los Gazules, Province of Cádiz.—Counterpane. 252

430 Bianchi & Mellado, Pedro, Almagro, Province of Ciudad-Real.—Guipure and other laces. 252

431 Barinaga de Oteiza, Amalia, Madrid.—Embroidered tapestry. 252

432 Agudo, Asuncion, Madrid.—Embroidered handkerchief. 252

433 Guibelalde, Caledonia, Madrid.—Embroidered picture. 252

434 His Majesty the King of Spain, Madrid.—Embroideries for the lay brothers of San Lorenzo. 252

435 President of the Women's Catholic Association, Madrid.—Church ornaments. 252

436 Asylum of San Manuel, Málaga.—Handkerchief bag. 252

437 Asylum of Mendicity, Seville.—Embroidered shirt and handkerchief. 252

438 Eguiazu, Leon, San Sebastian, Province of Guipúzcoa.—Objects of damaskeened iron. 252

439 Ibarzabal de Eibar, Teodoro, San Sebastian, Province of Guipúzcoa.—Objects of damaskeened iron. 252

440 Feu, P. & Sons, Madrid.—Crosses and ornaments. 252

441 Hernandez, Demétrio, Salamanca.—Toothpick case, of filigree silver. 252

442 Morán, Ramon S., Salamanca.—Cross and earrings. 252

443 Fernandez de Sola, Dolores, Madrid.—Embroidered shawls and other embroideries. 252

444 Martinez, Rosmunda, Avila.—Basket of wax grapes. 254

445 García & García, Julia, Avila.—Branch of flowers. 254

446 García, Cristina, Badajoz.—Embroidered picture. 254

447 Lucenqui de Pimentel, Walda, Badajoz.—Paper pictures and album of design. 254

448 Oriol, Son of J., Barcelona.—Fans, umbrellas, and sunshades. 254

449 Riba Bros., Barcelona.—Hooks and eyes, and buttons. 254

450 Provincial Commission, Vivero, Province of Lugo.—Basket and needle-case of straw. 254

451 Feu, P., & Sons, Madrid.—Buttons. 254

452 Gutierrez, Juan Enrique, Madrid.—Fan. 254

453 Mozoncillo, Concepcion, Madrid.—Paper fan. 254

454 Gonzalez, Maria Cruz, Madrid.—Sunshade of embroidered satin. 254

455 Villalón, Eduardo, Madrid.—Human hair work. 254

456 Peña, Pantaleon, Madrid.—Wigs, human hair, album, etc. 254

457 Rey Gomez, Andrés, Presidio de Santoña, Province of Santander.—Lady's work-box, covered with straw. 254

458 Gimenez, Justo, Presidio de Santoña, Province of Santander.—Glove-box, covered with straw. 254

459 Fraola, José, Santoña, Province of Santander.—Bottles, covered with straw. 254

460 Bernbal, Manuel, Santoña, Province of Santander.—Straw hampers. 254

461 Urbina, Meliton, Santoña, Province of Santander.—Hampers and match-box, of straw. 254

462 Plaza, Salvador de la, Riaza, Province of Segovia.—Pins. 254

463 Soto & Barrera, Matilde, Toledo.—Flower basket. 252

464 Sans de Mardevall, Alejandro, Valencia.—Fans. 254

465 Massaguer & Lledó, Valencia.—Fans. 254

466 Noailles, Antonio, Zaragoza.—Canes and cane-heads. 254

467 Salvi y Don Antonio, Barcelona.—Combs of horn and tortoise shell. 254

468 Sabato Bros., Barcelona.—Leather belting. 254

469 Ribot & Bros., Estéban, Granada.—Portmanteau. 254

470 Martinez, Benito, Seville.—Leather trunks. 254

471 Yavas, Francisco, Barcelona.—Toys. 254

472 Casas, José, Havana, Cuba.—Hair work. 254

473 Fuentes & Ponte, Javier, Múrcia.—Embroidered belt, cap, sandals, and photographs of national costumes. 257

474 Becerra & Gomez, Braulio, Vidriales, Province of Zamora.—Dress worn in the valley of Vidriales. 257

475 Perez, Miguel, Carvajales, Province of Zamora.—Cloak. 257

476 Heras, Elena de las, Almeida, Province of Zamora.—Complete woman's dress. 257

Paper, Blank Books, and Stationery.

477 Quintana, Juan de, Las Palmas, Canary Islands.—Blotting sand. 258

478 Ferrer & Son, Widow of, Alcoy, Province of Alicante.—Cigarette paper. 259

479 Blanes Bros., Alcoy, Province of Alicante.—Cigarette paper. 259

480 Payá & Gisbert, Facundo, Cocentaina, Province of Alicante.—Cigarette paper. 259

481 Romani & Puigdengolas, Juan, Capellades, Province of Barcelona.—Paper. 259

482 Vila & Son, Cristóbal, Capellades, Province of Barcelona.—Paper. 259

483 Valadia, Conradó, Barcelona.—Cigarette paper. 259

484 Capdevila & Co., Barcelona.—Paper. 259

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Stationery, Weapons, Medical and Surgical Appliances.

485 Villaseca & Pniggene, José, Barcelona.—Paper. 259

486 Ruis & Co., Pedro, Barcelona.—Cigarette paper. 259

487 Guarro, Wenceslao, Gélida, Province of Barcelona.—Paper. 259

488 Ferrer & Roca, Widow of F., Capellades, Province of Barcelona.—White and colored paper. 259

489 Romani & Tarres, Sons of, Capellades, Province of Barcelona.—Paper. 259

490 Prats, Widow & Sons of José, Capellades, Province of Barcelona.—Card-board for the manufacture of playing-cards. 259

491 Provincial Commission, Búrgos.—Writing-paper. 259

492 Torras Bros., San Juan las Fonts, Province of Gerona.—Writing-paper. 259

493 Riber & Co., Widow & Sons of José, Segovia.—Cigarette paper. 259

494 Garcia Martin, Modesto, Segovia.—Cigarette paper. 259

495 Gavarra & Son, Jaime, Reus, Province of Tarragona.—Cigarette paper. 259

496 Gavaarro, Mora, José, Bocayrente, Province of Valencia.—Cigarette paper. 259

497 Comas Delgado, Rafael, Onteniente, Province of Valencia.—Cigarette paper. 259

498 Pesquera, Alonzo, Miguel, Sardon del Duero, Province of Valencia.—Cigarette paper. 259

499 La Peña, Partners of, Bilbao, Province of Vizcaya.—Cigarette paper. 259

500 Provincial Commission, Búrgos.—Printing paper. 260

501 Coromina & Antiga, San Juan las Fonts, Province of Gerona.—Straw paper. 260

502 Martinez Lopez, Francisco, Caravaca, Province of Múrcia.—Brown paper. 260

503 Fulladosa & Co., Barcelona.—Playing-cards. 262

504 Inclán, Ramon, Yoca de Juarros, Province of Búrgos.—Card-boards. 262

505 Olea, Segundo of, Cádiz.—Complete pack of cards. 262

506 Maffei, Patrocinio, Cádiz.—Complete pack of cards. 262

507 Loix, Francisco, Rivadeo, Province of Lugo.—Papier-maché. 262

Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.

508 Metallurgical Company of San Juan de Alcaráz, Province of Albacete.—Cartridges for the Remington system. 265

508*a* Bronze Foundry, Seville.—Shells and canister shot. 265

509 Soldevilla, Estanislao, Madrid.—Double-barreled pistols. 265

510 National Manufactory of Fire-arms, Oviedo.—Rifle parts. 265

511 Manufactory of Arms, Toledo.—Remington cartridges. 265

512 Museum of Artillery, Madrid.—Bronze gun and accessories. 266

513 Artillery Corps, Seville.—Plasencia gun and accessories. 266

514 National Manufactory of Trubia, Province of Oviedo.—Carriage for eight centimeter mountain gun. 266

515 Manufactory of Side-arms, Toledo,—Side-arms. 268

516 Nieulant, Count of, Valencia.—Bayonet. 268

517 Manufactory of Arms, Toledo.—Hunting knife, Arabian sword blade, gumia (dagger) blade, and dagger. 268

518 Harzabel, Teodoro, San Sebastian, Province of Guipiuzcoa.—Sword, dagger, and shield. 268

519 Osorio, Fernando, Madrid.—Pistols. 269

520 Fabra, Camilo, San Martin de Provençals, Province de Barcelona.—Mechanical fishing-rods. 270

521 Alien, Pedro, Gracia, Province of Barcelona.—Mechanical and hand fishing rods. 270

522 Roca Bros., Múrcia.—Wormgut fishing line. 270

Medicine, Surgery, Prothesis.

523 Arnaus, Melchor, Sabadell, Province of Barcelona.—Odontalgic elixir. 272

524 Gener, Pompeyo, Barcelona.—Medicinal syrups. 272

525 Terrades & Vallmana, Jaime, San Feliu de Guixol, Province of Gerona.—Liquid vulcanized sulphur. 272

526 Rubio Perez, Juan, Granada.—Essences, pastilles, syrups, and extracts. 272

527 Martinez, Cárlos, Madrid.—Cicatrisant preparation. 272

528 Zaragoza, Manuel, Málaga.—Balsams, unguent, and Zaragoza waters. 272

529 Orduña, Calixto, Cascante, Province of Navarra.—Poppy capsules. 272

530 Gibert & Soler, Juan, Torredembarra, Province of Tarragona.—Lemon essence. 272

531 Corporation of Vinuesa, Province of Soria.—Chamomile. 272

532 Pelaez, Raphael, Havana, Cuba.—Balsam. 272

533 Serra & Font, José, Sabadell, Province of Barcelona.—Stomach liquor. 273

534 Casademont, Modesto, Barcelona.—Apparatus for the finishing of pills. 274

535 Revuelta Carrillo & Montes, Doctor, Jerez de la Frontera, Province of Cadiz.—Uteroscope. 276

536 Gastaldo, Doctor José, Madrid.—Blepharotome. 276

537 Pozuelo & Canto, Francisco, Madrid.—Gynecological apparatus. 276

538 Losada, Leocadio, Palacios de Goda, Province of Avila.—Set of teeth, atmospheric pressure. 277

539 Garcia, Martinez Francisco, Santiago de Compostela, Province of Coruña.—Superior set of teeth, atmospheric pressure. 277

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

540 Centeno, Luis, Seville.—Anatomical piece, and set of artificial teeth. 277

541 Valenzuela, Manuel, Seville.—Set of artificial teeth. 277

542 Military Park of Health, Madrid.—Sanitary material. 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

543 Corporation of Bujalance, Province of Córdoba.—Gimlets for hard woods. 280

544 Cabeza, Angel, Husillos, Province of Palencia.—Hammers. 280

545 National Factory of Trubia, Province of Oviedo.—Files. 280

546 Rosa & Carin, Jaime, Torres-Torres, Province of Valencia.—Watchmaker's tool. 280

547 Metallurgical Co. of San Juan de Alcaráz, Province of Albacete.—Knockers, door knobs, latches, bolts, etc. 284

548 His Majesty the King of Spain, Madrid.—Locks and ornamental ironwork for dwellings. 284

549 Corcho, Domingo, Santander.—Bronze nails. 284

550 Flechoso, Gregorio, Santander.—Key and latch. 284

551 Benito, Santiago de, Escorial, Province of Madrid.—Lock and padlock. 284

552 Metallurgical Co. of San Juan de Alcaráz, Province of Albacete.—Collection of objects of metal. 284

Carriages, Vehicles, and Accessories.

553 Feuntes & Ponte, Javier, Múrcia.—Piece from the body of an antique coach. 292

554 Saiz, Juan, Búrgos.—Saddle armor. 296

555 Direction General of Cavalry, Madrid.—Complete mounting. 296

556 Rodriguez Zurdo, José, Madrid.—Ladies' saddles, with bridles, bits, etc. 296

557 Diaz, Antonio, Málaga.—Andalusian harness. 296

558 Fuentes & Ponte, Javier, Múrcia.—Soft skin put on the forehead of working oxen to prevent their being hurt by the yoke; halter, breast-leather, crupper. 296

559 Rio, Rafael del, Peñaranda de Bracamonte, Province of Salamanca.—Hemp bridles. 296

560 Muñoz, Bruno, Penaranda de Bracamonte, Province of Salamanca.—Horse cover. 296

561 Martin & Bros., Demétrio, Peñaranda de Bracamonte, Province of Salamanca.—Horse cover. 296

562 Aranda & Co., Garcia, Antonio, Sonseca, Province of Toledo.—Horse covers. 296

Miscellaneous Art Objects.

563 Feu, P., é hijos, Madrid.—Collection of medals. 454

564 Gelabert, R. y hermano, Barcelona.—Ornamental models in frames. 454

565 Latles, Marcos, Madrid.—Four shields; coat of arms; six frames, with subjects in bronze. 454

566 Pando, Acha y Garcia, Seville.—An ornamented iron frame. 454

567 Metallic Co. of San Juan de Alcaraz, Province of Albacete.—Collection of metallic objects. 454

568 Harzahal, Teodoro, St. Sebastian, Province of Guipuzcoa.—Sword, knife, and shield. 454

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

PHILIPPINE ISLANDS.

(*South of Nave, Columns 16 to 18.*)

COLLECTIVE EXHIBIT.

Chemical Manufactures, Woven Goods.

Chemical Manufactures.

1 **Inspection-General of Woods & Forests.**—Ashes. 200

2 **Rodriguez, Lucía, Province of Pampanga.**—Tintarron. 202

3 **Buison, Nicasio, Province of Bataan.**—Tantarron. 202

4 **Gonzalez, Mariano, Province of Santa Cruz, Province of Manila.**—Japan varnish. 202

5 **Rodriguez, José, Province of Ilocos Sur.**—Indigo. 202

6 **Rodoreda, Francisco, Province of Manila.**—Indigo. 202

7 **Llamas, Gabriel de, Province of Manila.**—Balsam Dugtungajas. 203

8 **Gruppe, Gustavo, Province of Manila.**—Philippine drugs. 203

9 **Reymann, Oscar, Province of Manila.**—Philippine essences. 203

10 **Westernhagen, Agustin, Province of Manila.**—Philippine essences. 203

11 **Provincial Board, Province of Batangas.**—Balsam maria, and Pacayaus. 203

Yarns and Woven Goods, of Vegetable or Mineral Materials.

12 **Alibalas, Crisanto, Province of Bulican.**—Buri mats. 229

13 **Gil, Rafael, Province of Pampanga.**—Buri brooms. 229

14 **Villamarzo, Tiburcio, Province of Tayabas.**—Buri mats. 229

15 **Oliveros, Miguel, Province of Pampanga.**—Buri mats and bags. 229

16 **Buison, Julian, Province of Pampanga.**—Buri mats. 229

17 **Rojas, Juan M., Province of Pangasinan.**—Buri mats and Saguran matting. 229

18 **Vera Bauton, Maria, Province of Albay.**—Work baskets. 229

19 **Ramos, José, Province of Bohol.**—Saguran mats. 229

20 **Provincial Board, Province of Masbate.**—Nito baskets. 229

21 **Provincial Board, Province of Mindoro.**—Basket of cane and nito. 229

22 **Provincial Board, Province of Bohol.**
a Sagurang, Sabatan mats and buri bags. 229
b Buri and sinamay fabrics. 233

23 **Provincial Board, Province of Batangas.**
a Buri mats. 220
b Cotton fabrics. 230
c Sinamay, Guinaras, and Jusi fabrics. 233

24 **Provincial Board, Province of Antigua.**
a Cocoa basket. 229
b Cotton fabrics and counterpanes. 230
c Abacá, sinamay, piña and jusi fabrics. 233

25 **Villamen, Clemencia, Province of Batangas.**—Cotton bagging. 230

26 **Bravo, Fr. Antonio, Province of Pampanga.**—Cotton tapestry. 230

27 **Gomez, Nepomuceno, Province of Pampanga.**—Cotton towels and napkins. 230

28 **Martinez, Margarita, Province of Ilocos Sur.**—Cotton fabrics. 230

29 **Batlle y Hernandez, José Paoay, Province of Ilocos N.**—Cotton blanket. 230

30 **Prado, Margarito, Province of Antigua.**—Cotton towel. 230

31 **Simson, Alexandra, Province of Ilocos Sur.**—Cotton fabric. 230

32 **Mendez, Bartolomé A., Province of Batangas.**—Cotton fabric. 230

33 **García, Cipriana, Province of Pampanga.**
a Cotton napkins and fabric. 230
b Fabrics of pineapple leaf fibres. 233

34 **Dumayuga, Procesa, Province of Batangas.**
a Cotton handkerchief and saya (native garment). 230
b Abacá fabrics, and shirt of sinamay. 233

35 **Provincial Board, Province of Mindanao.**
a Cotton fabrics. 230
b Dyed cotton fabrics. 230
c Guinaras fabric. 233

36 **Governor and Municipality of San Pedro, Province of Antigua.**
a Cotton counterpanes. 231
b Fabrics of sinamay and pineapple leaf fibres. 233

37 **Reyes, Juana, Province of Batangas.**—Abacá shirting. 233

38 **Agregado, Angel, Province of Batangas.**—Abacá shirting. 233

39 **Sangalan, Maria, Province of Batangas.**—Towels. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

40 Governor and Municipality of Libalon, Province of Antigua.—Sinamay fabric. 233

41 Quiamson, Lázaro, San José, Province of Cavite.—Sinamay fabric. 233

42 Governor and Municipality of Sibalon, Province of Antigua.—Sinamay fabric. 233

43 Rania, Tio de la, Province of Iloilo.—Sinamay fabric and piña and jusi handkerchiefs. 233

44 Calacao, Apolinario, Province of Iloilo.—Sinamay fabric. 233

45 Provincial Board, Province of Samar.—Jusi fabric. 233

46 Feced, José, Province of Manila.—Piña and abacá fabrics. 233

47 Flores, Segunda, Manila, Province of Manila.—Sinamay fabric, and jusi shirt and handkerchief. 233

48 Temprado, Ramon F., Province of Camarines Sur.—Handkerchiefs of pineapple leaf fibres and sinamay. 233

49 Prieto, Federico, Province of Albay.—Abacá fabric. 233

50 Gallegos, Tomás, Province of Albay.—Sinamay fabric. 233

51 Roca, Joaquim E. de, Province of Albay.—Guinaras fabric. 233

52 Prieto, Federico, Province of Albay.—Jusi fabric. 233

53 Yuson, Plácido, Province of Iloilo.—Jusi fabric. 233

54 Riosa, Juana, Province of Albay.—Jusi fabric. 233

55 Hernandez, Telesforo, San José, Province of Batangas.—Jusi fabric. 233

56 Guevara, Saturnino, Province of Ilocos Sur.—Fabric of pineapple leaf. 233

57 Provincial Board, Province of Leyte.—Sinamay and guinaras fabrics. 233

58 Provincial Board, Province of Tayabas.—Fabric of pineapple leaf and sinamay. 233

59 Gonzalez J., Dolores, Province of Batangas.—Jusi handkerchiefs. 233

60 Provincial Board, Province of Albay.—Sinamay fabric. 253

Silk and Silk Fabrics.

61 Provincial Board, Province of Pampanga.—Silk tapestry. 246

62 Bravo, Antonio, Macabebe, Province of Pampanga.—Silk handkerchief. 247

63 Provincial Board, Province of Batangas.—Silk handkerchiefs. 247

64 Flores, Segunda, Manila, Province of Manila.—Silk saya. 247

65 Gomez, Nepomuceno, Province of Pampanga.—Silk handkerchiefs. 247

66 Feced, José, Province of Manila.—Silk handkerchief. 247

Clothing, Jewelry, and Ornaments; Traveling Equipments.

67 Reyes, Juana de los, Province of Batangas.—Cotton pantaloons. 250

68 Saludares, Wenceslao, Province of Tayabas.—Nito and panday hats. 251

69 Esteves, Fr., Province of Albay.—Nito hat. 251

70 Rosales, Gregoria, Province of Tayabas.—Buri hats. 251

71 Arguin, Eustaquio, Province of Tayabas.—Nito webs. 251

72 Gallego, Tomás, Province of Albay.—Nito hat. 251

73 Provincial Board, Province of Manila.
- *a* Nito hats, sandals, and clogs. 251
- *b* Nito cigarette cases. 254

74 College of St. Isabel, Province of Manila.
- *a* Sandals for women. 251
- *b* Embroidered velvet watch-stand. 252
- *c* Pictures of artificial flowers and hair-work. 254

75 Prieto, Federico, Tabaco, Province of Albay.
- *a* Nito and Buri hats. 251
- *b* Nito cigarette cases. 254

76 Rojas, Juan M. de, Province of Pangasinan.
- *a* Buri and Nito hats. 251
- *b* Buri, Nito, and Uay cases. 254

77 Martinez, Dorotea, Province of Batangas.—Embroidered silk bag. 252

78 Mendoza, Perfecta, Province of Manila.—Picture and embroidered pin-cushion. 252

79 Morales, Lucina, Santa Cruz, Province of Manila.—Embroidery. 252

80 Dávila, Teodora, Navotas, Province of Manila.—Embroidered shawl. 252

81 Trinidad, Maria, Province of Batangas.—Silk bag embroidered with gold. 252

82 Badon, Bartolomé, Province of Camarines Sur.—Embroidered sleeves made of pineapple leaf fibres. 252

83 Batlle y Hernandez, José, Hermita, Province of Manila.—Embroidered handkerchiefs made of pineapple leaf fibres. 252

84 Provincial Board, Lucban, Province of Tayabas.—Buri cases. 254

85 Cadeliñio, Pedro, Province of Tayabas.—Salacot (natural head-dress) of horn. 254

86 Feced, José, Province of Manila.—Tobacco and cigarette cases. 254

87 Vidal, Balinag, Province of Bulacan.—Nito cases. 254

88 Garcia, Cipriano, Province of Pampanga.—Silk purses with silver rings. 254

89 Reyes, Laureana; Huerto, Josefa; Martinez, Arcadia; Bello, Toribia, Province of Batangas.—Ornaments of fish scales. 254

90 Provincial Board, Province of Batangas.—Picture of artificial branches. 254

91 Ilustre, Gregoria, Taal, Province of Batangas.—Ornament of glass beads. 254

92 Uson, Antonio, Province of Ilocos Sur.—Pipes, buttons of buffalo horn, gold-headed coral cane. 254

93 Provincial Board, Province of Manila.—Tortoise-shell combs and horn drinking-cups. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Clothing, Fancy Goods, Weapons, Harness.

94 **Leonardo, Quintin, Province of** Laguna.—Salacot (national head-dress) of horn and silver. 254

95 **Ilagan, Gregoria; Ilagan, Leoncia;** Cabrera, Eulalia; Garcia, Leoncia; Montenegro, Eulalia; Montenegro, Maria, Province of Batangas. — Feathers with gold. 254

96 **Ilustre, Timotea, Province of Batan-** gas.—Flowers of glass beads. 254

97 **Máximo, Isabel & Evarista, Prov-** ince of Batangas.—Artificial flowers. 254

98 **Jordana & Morera, Manila, Prov-** ince of Manila.—National wearing apparel. 257

99 **Provincial Board, Province of Ba-** tangas.— Pantaloons and saya, the national garment. 257

Weapons, etc.

100 **Economical Society, Province of** Manila.—Collection of national arms and photographs of same. 265

101 **Provincial Board, Province of** Mindanao.—Collection of national arms and photographs. 265

102 **Provincial Board, Province of** Bulacan.—Hunting-knives and sheaths. 268

Carriages, Vehicles, and Accessories.

103 **Osmeña, Rita, & Co., Province of** Cebú.—Harness made of abacá. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

PORTUGAL.

(South of South Avenue, Columns 13 to 17.)

Chemical Manufactures, Ceramics.

Chemical Manufactures.

1 Direction of the Works at Mondego river & Figueira bar, Figueira da Foz.—Salt. 200

2 Samora Correa, Baroness, Lisbon.—Salt. 200

3 Companhia das Lezirias do Tejo e Sado, Lisbon.—Salt. 200

4 Vinva, A. J. Judice, Masilhaeira.—Salt. 200

5 Bandeira, A.S.B.M., Setubal.—Salt. 200

6 Branca, Anna Delphina, Alcacer do Sal.—Salt. 200

7 Bivar, Jeronymo, d'A. C. de, Algarve.—Salt. 200

8 Cooke & Co., Figueira da Foz.—Salt. 200

9 Drack, Jr., José R. G., Lisbon.—Pharmaceutical preparations. 200

10 Cresswell & Co., Lisbon.—Salt. 200

11 Castello Branco, Joaó da S. F., Villa Franca de Xira.—Salt. 200

12 Delegny Bros., Lisbon.—Chemicals. 200

13 Franco, Pedro Augusto, Belem.—Pharmaceutical preparations. 200

14 Figueiredo, Joaquim, Aviz.—Pharmaceutical preparations. 200

15 Ferraz, José Libertador Magalhaes, Coimbra.—Pharmaceutical preparations. 200

16 Galiano, Manuel d'Asfes, d'Oliveira, Oporto.—Pharmaceutical preparations. 220

17 Gragera, Antonio Maria Mendes, Villa Nova de Reguengos.—Pharmaceutical preparations. 200

18 Judice, V. A. J., Mexilhoeira.—Salt. 200

19 Jesus, Manuel Vicente de, Lisbon.—Pharmaceutical preparations. 200

20 Lezirias Co., Lisbon.—Salt. 200

21 Leite, Francisco de Paula, Alcacer do Sal.—Salt. 200

22 Lima, Guilherme A. E., Lisbon.—Pharmaceutical preparations. 200

23 Meirelles, Antonio Moreira de Souza, Faro.—Salt. 200

24 Miranda & Sons, Lisbon.—Salt. 200

25 Pires, Joao Luiz, Lisbon.—Salt. 200

26 Pedroza, Dellaria José Lopes, Figueira.—Salt. 200

27 Pires, Joao de Jesus, Lisbon.—Patent medicines. 200

28 Rei, Jose Joaquim, Lisbon.—Pharmaceutical preparations. 200

29 Salgueiro, Nuno Freire Dias, Oporto.—Pharmaceutical preparations. 200

30 Serzedello & Co., Lisbon.—Chemicals. 200

31 Silva, Silverio Augusto Percira da, & Francisco Antonio, Marques de Moura, Aveiro.—Salt. 200

32 Schurmann, Adolpho, Lisbon.—Patent medicines. 200

33 Torlades, O'Neill, Setubal.—Salt. 200

35 Alcacer do Sal, Viscount d', Alcacer-do Sal.—Salt. 200

36 Peres, Joaquim Manuel de Mattos, Evora.—Soaps. 201

37 Gueiroz, José Sequeira Pinto de, Vianna.—Orange-peel oil. 201

38 Navarro & Co., Beja.—Soap. 201

39 Tenorio, Francisco Domingues.—Soap. 201

40 Vieira, Agostinho José, Villa Nova de Gaia.—Soap. 201

41 Mello, Antonio José Teixeira, Lisbon.—Wax candles. 201

42 Esmoriz, Manuel Ferreira, Oporto.—Soaps. 201

43 Department of Public Works, Lisbon.
a Wax candles. 201
b Blacking. 202

44 Costa, Joaquim Soares da, Oporto.—Oils. 201

45 Burnay, Viuva de J. B. B., Lisbon.—Oils. 201

46 Administrative Board of Works for the artificial port of Ponta Delgada.—Building materials. 201

47 Ferreira da Silva, Agostinho, & Co.—Common and fancy soaps. 201

48 Board of Public Forests, Lisbon.—Turpentine, oil, and spirits. 202

49 Costa, Rodrigo de Campos, Soure.—Writing-ink. 202

50 Moedas, José, Moura.—Building materials. 202

50*a* Torres, Feliciano Luiz, Lisbon.—Paints and varnishes. 202

51 Mendona, Thomaz Antunes de, Lisbon.—Blue. 202

52 Souza Braga, Joar José, Oporto.—Writing-ink. 202

53 Domingo, Juan, Lisbon.—Wax matches. 204

Porcelain, Ceramics—Pottery, Glass, etc.

54 Silva, Miguel da, Evora.—Pottery. 206

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

55 Paparanhos, Balthasar José, Beja.—Bricks, tiles, and bricks dried in the sun, etc. 206

56 Pimentao, Antonio Ayres.—Pottery. 206

57 Marcal, Joao Lopes, Evora.—Bricks, tiles, etc. 206

58 Oliveira Soares, M. de, Evora.—Bricks and tiles. 206

59 Mira, José Paulo de, Evora.—Tiles, bricks, etc. 206

60 Neuville, Luis, Lisbon.—Ceramics. 206

61 Joao, Antonio, Evora.—Ceramics. 206

62 Martins, Alberto Cypriano, Lisbon.—Pottery. 206

63 Coelho, Francisco, Torres Novas.
a Bricks. 206
b Tiles. 208

64 Alves Cunha, José, & Mendonça, Henriquetta S., Caldas da Rainha.—Ceramics. 206

65 Lamego, Antonio da Costa, Lisbon.
a Architectural pottery. 206
b Tiles. 208
c Earthenware and faience. 210

66 Almeida da Costa, Antonio d', & Co., Oporto.
a Architectural pottery. 206
b Tiles. 208
c Earthenware and stoneware. 210

67 Boim & Co., Ponta Delgada.
a Architectural pottery. 206
b Dutch tiles, plain and ornamented. 208
c Stone china. 210

68 Rio Junior, J. do, Oporto.—Dutch tiles. 208

69 Victoria, José Goncalves, Aveiro.—Earthenware. 210

70 Scholfield, John Howarth, Lisbon.—Stoneware, faience, etc. 210

71 Marques, Pedro Antonio, Aviero.—Glazed earthenware. 210

72 Marques, Joao da Rosa, Entremoz.—Earthenware. 210

73 Manuel Leita Pereira & Bro., Ponta Delgada.—Glazed pottery. 210

74 Mafra, Manuel Cypriano Gomes, Caldas.—Ceramics (Caldas ware). 210

75 Conquis, Manuel, Ponta Delgada.—Earthenware. 210

76 Department of Public Works, Lisbon.—Earthenware. 210

77 Campolini, Miguel, Oporto.—Earthenware. 210

78 Coimbra, Candido.—Black earthenware. 210

79 Fanfarrao, Joao, Villa Verde.—Earthenware. 210

80 Cavaquinha, Joaquim Antonio, Beja.—Earthen water-vessel. 210

81 Borges, Joaquim Antonio, Vianna do Alemtejo.—Earthenware. 210

82 Vista Alegre Porcelain Manufactory, Vista Alegre.—Table, toilet, and decorative porcelain. 213

83 Montes, Manuel Alvares, Oporto.—Cylindrical glass, plate and window glass. 214

84 Marinha Grande Royal Glass Manufactory.—Marinha Grande.
a Glass. 214
b Glassware. 216

85 Margarido, Manuel d'Oliveira, Oporto.—Bottle and flask. 215

86 Cabo Mondego Mining Industrial Co., Figueira.—Specimens of glass work. 216

Furniture and Objects of General Use in Construction and in Dwellings.

87 Barboza & Costa, Lisbon.—Praying desk of pock wood. 217

88 Chaves, Augusto P. dos S., Lisbon.—Iron furniture. 217

89 Vallongo Slate & Marble Quarries Co., Oporto.
a Billiard and other tables. 217
b Stoves. 222

91 Gaspar, Manuel Rodrigues, Funchal.—Table. 217

92 Industrial Institute of Oporto, Oporto.—Silver cup and trays. 218

93 Gold Working Co., Oporto.—Plate. 218

94 Santos & Bro., Oporto.—Mirrors. 219

96 Corta, Basto, & Co., Oporto.—Drawing-room stoves. 222

97 Maralha, Pedro, Beja.—Brass pitcher. 224

98 Department of Public Works, Lisbon.—Kitchen utensils. 224

99 Alcobia, Joao Thomé, Lisbon.—Tinware and apparatus used in cooking. 224

100 Moreira, Antonio B., & Bro.—Cast iron pots. 224

101 Santos, Joaquim Autunes dos, Lisbon.—Marble bath. 226

Yarns and Woven Goods of Vegetable or Mineral Materials.

102 Ferreira, Manuel Simoes, Aveiro.—Sieves. 228

103 Panada, Joar Luiz, Lisbon.—Woven goods of mineral origin. 228

104 Lopez do Campo, Amaro, Beja.—Sieves. 228

105 Carvalho, D. Maria da C., Ponta Delgada.—Articles of Guinea aloes fibre. 229

106 Borges, Manuel da Cunha, Ponta Delgada.—Grass mats. 229

107 Dabney, R. L., Fayal, Azores.—Straw mat. 229

108 House of Correction, Lisbon.—Mats, coarse fabrics of rushes. 229

109 Lisbon Central Jail, Lisbon.—Mats. 229

110 Machado, Manuel, Ponta Delgada.—Marsh reed matting and straw fabrics. 229

111 Lima, Carvalho, Fayal.—Plaited straw. 229

112 Melindre, Joaquin d'Oliveira, Oporto.—Matting. 229

113 Margarido, Manuel d'Oliveira, Oporto.—Matting. 229

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods.

114 Santos, José Marques, Ovar.—Coarse matting. 229

115 Silvas, Manuel Dias da, Oporto.—Drawing-room matting. 229

116 Silva, José Pinto, Aveiro.—Mats. 229

117 Silva, Bruno da, Lisbon.—Straw mats. 229

118 Santos, Antonio Marques dos, Braga.—Rush mats. 229

119 Thomar Royal Weaving Co., Thomar.—Cotton yarns and fabrics. 230

120 Xabregas Cotton Manufactory, Lisbon.—Cotton yarns and fabrics. 230

121 Torres Novas National Spinning & Weaving Co., Torres Novas.—Cotton fabrics, bleached and unbleached. 230

122 Souza & Silva, Antonio José, Vallonga.—Cotton yarns. 230

123 Rezendes, Barbara, Ponta Delegada.—Counterpane. 230

124 Rio Vizella Weaving Co., Oporto.—Cotton yarns. 230

125 Oporto Weaving Co., Oporto.—Cotton yarns. 230

126 Neves, Casuniro de Castro, Oporto.—Cotton yarns. 230

127 Nogueira, Manuel Augusto, Ponta Delgada.—Cotton canvas. 230

128 Deut, José Rodriguez de, & Co., Torres Novas.—Unbleached cotton canvas. 230

129 Leite, Tito José, Oporto.—Cotton yarns. 230

130 Lisbon Spinning & Weaving Co., Lisbon.—Cotton yarns and fabrics, bleached and unbleached. 230

131 Fraternal Association of Weavers & Correlative Trades, Braçal.—Cotton fabrics. 230

132 Ferriera, Joao José, Oporto.—Toweling. 230

133 Department of Public Works, Lisbon.
a Cotton fabrics. 230
b Linen fabrics. 233

134 Crestuma Weaving Co., Oporto.—Cotton yarns. 230

135 Carneiro, Anna, Ponto Delgada.—Counterpane. 230

136 Camara, Manuel da, Ponta Delgada.—Embroidered table cloth. 230

137 Barraya, Maria, Safara, Alemtijo.—Counterpane. 230

138 Albuquerque, Caetano de A., Ponta Delgada.—Cotton rags. 230

139 Diaz, Rodrigo A. F., Oporto.
a Cotton fabrics. 230
b Linen fabrics. 233

140 Nabinho, José da Fonseca, Oporto.
a Cotton twine. 230
b Linen twine. 233

141 Bahia & Genro, Oporto.
a Cotton fabrics. 230
b Linen fabrics. 233

142 Michon, André, Oporto.
a Cotton fabrics. 230
b Linen fabrics. 233

143 Moreira, Manuel José, Ponta Delgada.
a Counterpane of colored linen and cotton. 230
b Unbleached linen fabrics. 233

144 Mello, José Carneiro de, Oporto.
a Cotton fabrics. 230
b Linen fabrics. 233

145 Gueiroz, Antonio Gonçalves, Oporto.—Cotton prints. 232

146 Lisbon Dyeing & Cotton Printing Co., Lisbon.—Cotton prints. 232

147 Etur, Augusto Frederico, Sacavem.—Cotton prints. 232

148 Anjos & Co., Lisbon.
a Cotton prints. 232
b Handkerchiefs. 233

149 Guimaraes, Joaquim A. da S., Son, & Genro, Oporto.—Cotton prints. 232

149*a* Anjos, Cunha, Ferreira, & Co., Lisbon.
a Cotton prints. 232
b Handkerchiefs. 233

150 Guimaraes, Antonio da Costa, Guimaraes.—Linen fabrics, towels, napkins, thread, vases made of thread. 233

151 Guimaraes, Balthasar J. P., Penafiel.—Linen woof. 233

152 Guimaraes, Manuel M. R., Guimaraes.—Linen table cloths and napkins. 233

153 Guerra, Joaquim Baptista da Silva, Oporto.—Linen stuffs, nets. 233

155 Castro, Joao Vaz Pacheco, Ponta Delgada.—Packing thread. 233

156 Carvalho, Isabel Candida Alves, Mondein de Basto.—Linen fabrics. 233

157 Baptista, Joao Guerreiro, Almodovar.—Linen yarns and fabrics. 233

158 Brum, Caetano de, Ponta Delgada.—Linen duck. 233

159 Collaço, Manuel Matheus, Castro Verde.—Linen fabrics. 233

160 Camara, D. H. Gago da, Ponta Delgada.—Linen fabrics and threads. 233

161 Canto, Anna Adelaide, Ponta Delgada.—Linen yarns. 233

162 Almeida, Jacintho Pacheco, Ponta Delgada.—Linen fabrics. 233

163 Teixeira, Maria Amalia, Ponta Delgada.—Reeled linen thread, bleached and unbleached. 233

164 Silva, José Pinto, Averio.—Linen stuffs. 233

165 Santos, Ascencio José dos, Valença.—Linen counterpanes, napkins, etc. 233

166 Pacheco, J. V., Ponta Delgada.—Striped linen counterpanes. 233

167 Pacheco, Antonio Vaz, Ponto Delgada.—Linen stuffs. 233

168 Pacheco, Francisco Jeronymo, Ponta Delgada.—Uncolored linen fabrics and linen threads. 233

169 Rosa, Izable, Castro Verde.—Napkins. 233

170 Peres, Joaquim Manuel de Mattos, Evora.—Linen fabrics. 233

171 Mesquita, Pedro José de, Taboa.—Linen fabric. 233

172 Nobre, J. R. Furtado, Odemira.—Linen yarns and fabrics. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven and Felted Goods, Silks.

173 Magalhaès, Francisco Thiago, Taboa.—Linen fabric. 233

174 Lança, Francisco Parreira de, Castro Verde.—Linen fabrics. 233

175 Barboza Marinho, Veuva, Lisbon.—Oil cloths. 234

Woolen and Felted Goods of Wool, etc.

176 Silva, José Francisco, Redondo.—Brown woolen cloth (Saragossa). 235

177 Rosa, Vicencia, Ithavo.—Woolen fabrics. 235

178 Portalegre National Wool Manufacturing Co., Portalegre.
a Cloths. 235
b Cassimeres. 238

179 Perdigao, Miguel Salvado, San Miguel de Machede.—Brown woolen cloth. 235

180 Peres, Joaquim Manuel de Mattos, Evora.—Woolen fabrics. 235

181 Neves, Balbina das, Serpa.—Coarse woolen fabrics. 235

182 Andrade, Antonio Pequito Sieras de Gavias, Portalegre.—Wool. 235

183 Padronello Woolen Manufacturing Co., Amarante.—Card-wool fabrics. 235

184 Ponte, Jose Caetano da, Almodovar.—Woolen fabrics. 235

185 Mello, Gil Tavares, Ponta Delgada.—Yarn. 235

186 Netto, Antonio Eugenio Bello, Macao.—Woolen fabrics. 235

187 National Rope Yard, Belem.—Yarn. 235

188 Mirrada, José Pedro Meudas, Macao.—Card-wool fabrics. 235

189 Leandro, Manuel, Beja.—Woolen fabrics. 235

190 Lança, Francisco Parreira de, Castro Verde.—Woolen fabrics. 235

191 Lordello Woolen Manufacturing Co., Oporto.—Cloths, cassimeres. 235

192 Department of Public Works, Lisbon.—Woolen fabrics, yarns. 235

193 Campo Grande, Company of Woolen Manufacturers of, Lisbon.—Card-wool fabrics, kerseymeres, etc. 235

194 Custodio & Silva, Covilha.—Woolen fabrics. 235

195 Burnay, Constant, Lisbon.
a Woolen fabrics, kerseymeres, plaids. 235
b Blankets. 237

196 Costas & Carvalho, Oliveira, d'Azemeis.
a Woolen cloths. 235
b Shawls. 237

197 Collaço, Manuel Matheus, Castroverde.
a Woolen fabrics. 235
b Combined wool fabrics. 238

198 Bibianno, Antonio Alves, Lisbon.—Broadcloth. 235

199 Bernardo, Daupias, & Co., Lisbon.—Woolen fabrics. 235

200 Nabinho, José da Fonseca, Oporto.—Woolen twine. 235

201 Pacheco, Francisco Jeronymo, Ponta Delgada.—Plain flannel. 236

202 Guilherme, Maria, Castro Verde.—Coarse blankets. 237

203 Simaes, Rosa Clara, Aveiro.—Blanket. 237

204 Pignatelli, José da Cunha, Guarda.—Blanket. 237

205 Piteira, Filipe, Serpa.—Blankets and mantilla. 237

206 Department of Public Works, Lisbon.—Blankets. 237

207 Guerra, Joaquim Baptista da Silva, Oporto.—Poplins. 238

208 Campos, Mello, & Co., Covilha.—Kerseymeres. 238

209 Costa, Clemente Joaquim da, Ponta Delgada.—Mixed fabrics of linen and wool. 238

210 Albuquerque, Caetano de A., Ponta Delgada.—Counterpane of linen and wool. 238

211 Abren e Lima, Joao A., Ponta Delgada.—Table cloth of linen and wool. 238

212 Santos, Ascencio José dos, Valença.—Combined woolen fabrics. 238

213 Pacheco, J. V., Ponta Delgada.—Combined wool fabrics, for blankets and wearing apparel. 238

214 Almeida & Silva, José Soares d', Oporto.—Mats. 239

215 Fernandes, Manuel, Coimbra.—Goat's hair cloth. 240

Silks and Silk Fabrics.

216 Sonto, Antonio Manuel Granzo, Nova Visen.—Silk cocoons. 242

217 Vasconcellas, Jacintha P., Villa Nova de Leacira, Oporto.—Raw silk. 242

218 Silva, Antonio José de Lansa e Vallongo, Oporto.—Silk cocoons. 242

219 Patricio, Francisco Antonio, Guarda.—Silk cocoons. 242

220 Queiroz, José de Sequeira Pinto, S. Sebastiao do Duque, Vianna do Castello.—Raw silk. 242

221 Reis, José Antonio, Moncorvo, Bragança.—Raw silk. 242

222 Pereira, Antonio de la Velha, Bragança.
a Raw silk, silk cocoons. 242
b Thrown silk. 243

223 Vasconcellas, Joas da Camara Seure Hornema, Funchal, Madeira.
a Raw silk. 242
b Spun silk and weft. 244

224 National Silk Spinning & Weaving Manufactory, Lisbon.
a Cocoons, raw silk. 242
b Twisted silk. 243
c Woven silks. 245

224*a* Pereira, Antonio de la'Velha, Bragança.
a Raw silk. 242
b Thrown silk. 243
c Silk cocoons. 244

225 Brandao, José Marçal, Oporto.—Twisted sewing-silk. 243

226 Silva, Antonio J. P. da, & Alves.—Twisted sewing-silks. 243

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven Goods, Silks, Clothing.

227 Egyptian Silk Growing Co., Oporto.
—Spun silk yarns. 244

228 Cavalho, José Baptista Valhe, Passos, Vilha Real.—Spun silk. 244

229 Azevedo, Miguelina Julia de J. Garvea Roris, Oporto.—Spun silk. 244

230 Ribas, Limas, Guarda.—Silk wefts. 244

231 Silva, David Jose da, & Sons, Oporto.
a Satin and gold damasks. 245
b Figured silk. 246
c Gold tissue. 249

232 Ramires & Ramires, Lisbon.—Woven silks. 245

233 Pimentel & Queiroz, Oporto.
a Plain silks, serges, tailles, glaces, and satins. 245
b Figured silks. 246
c Velvets. 247

234 Moreira, Verdeiras de Manuel Custodia, Oporto.
a Plain damask. 245
b Figured damask. 246
c Satin handkerchiefs. 247

235 Fouseca, Manuel da Motta, Oporto.
a Serges. 245
b Figured satin handkerchiefs. 247

236 Avaujo, Antonio J. B. de., Braga.—Damasked silk. 246

237 Guerra, Joaquim Baptista da Silva, Oporto.
a Brocatelles. 246
b Satin handkerchiefs. 247

238 Vasconcellos, José da Silva Pereira, Braga.
a Damask. 246
b Black velvet. 247

239 Manuel, Joaquim de Luna & F., Oporto.—Black velvet. 247

240 Silva, Manuel José Francisco da, Braga.
a Gold lustring upholstery silk. 247
b Silk braids, galloons. 249

240*a* Motta, Augusto Antonio da, Oporto.—Silk and cotton ribbon. 248

240*b* Nogueira, Francisco José, Oporto.
a Ribbons. 248
b Velvets, fringes, etc. 249

240*c* Silva Guimaraes, Custodio José, Oporto.—Samples of galloons. 249

240*d* Machado, Julio Rodrigues, Oporto.—Bindings, braids, cords, etc. 249

240*e* Coelho, José de Soura, Penafiel.—Galloons. 249

241 Braga, Manuel J. V., Coimbra.—Silk trimmings. 249

241*a* Autunes, Jeronimo J., Braga.—Elastic braids. 249

Clothing, Jewelry, and Ornaments; Traveling Equipments.

241*b* Dabney, S. W., Fayal, Azores.—Aloe shawl, knitted hose, jacket, sash, etc. 250

241*c* Serrana, Florencia, Aveiro.—Waistcoat. 250

241*d* Rezendes, Francisco de, Ponta Delgada.—Colored petticoat. 250

242 Rego, A. P., Lisbon.—Clothing. 250

243 Paixao, Antonio Augusto da, jr., Coimbra.—Clothing. 250

244 Gonçalves, Manuel Joao, Castro Verde.—Woolen girdle. 250

245 Brites, Rose e M. G. do S., Ovar.
a Articles of dress. 250
b Lace, crochet. 252
c Artificial flowers, representation of Calvary, in pasteboard. 254

246 Ferreira, Joanna E., Fayal.
a Lace skirt, jacket, and sash. 250
b Hats. 251
c Lace, mats. 252
d Artificial flowers. 254

247 Vianna, Antonio Martius, Oporto.—Plated shoes. 251

248 Valenca, Domingo Fernandes, Oliveira d'Azemeis.—Hats. 251

249 Trindade, Joaquim Antonio, Beja.—Peasant gaiters. 251

250 Silva, Antonio Moreira, Oliveira d'Azemeis.—Hats. 251

251 Silva, Miguel Manuelda, Vianna do Castello.—Military boots. 251

252 Santo Thirso, Antonio dos Reis, Aveiro.—Embroidered wooden-soled shoes. 251

253 Scheehan, Diogo Jorge, Lisbon.—Kid gloves. 251

254 Soares, José Nogueira, Penafiel.—Wooden shoes. 251

255 Silva, Julio Pereira, Penafiel.—Peasant's shoes. 251

256 Souza, José da Cunha Alves, Braga.—Boots and ladies' kid boots. 251

257 Salga, Maria da, Ponta Delgada.—March-reed hat. 251

258 Serra, Felippe José, Lisbon.—Boots and shoes. 251

259 Silva, Bernardino Antunes, Lisbon.—Kid gloves. 251

260 Ramalho, José da Cunha, Ponta Delgada.—Straw hats. 251

261 Gonçalves, Joao, Almodovar.—Card worked by the hand. 251

262 Sonto, Rodrigo Alves Martius de, Oporto.—Boots and shoes. 251

263 Sequeira, Francisco Pinto, Oporto.—Boots and shoes. 251

264 Silva Guimaraes, Custodio José, Oporto.—Braided shoes. 251

265 Paiva, Manuel J. de, Braga.—Boots and shoes. 251

266 Pereira, Luiz Maria, Oporto.—Boots and shoes. 251

267 Roxo, Viuva de A., Roxo, Lisbon.—Hats. 251

268 Pereira Bros., Ponta Delgada.—Straw hat. 251

269 Paula, Antonio José, Barcellos.—Cork hats. 251

270 Oporto Glove Manufacturing Co., Oporto.—Gloves. 251

271 Lima, Carvalho, Fayal.—Straw hats. 251

272 Maria & Silvia, F., & Gonçalves, Oporto.—Hats. 251

273 Gomez & Sons, Lisbon.—Boots and shoes. 251

274 House of Correction, Lisbon.—Boots and shoes. 251

275 Ferreira, José Bento.—Boots and shoes. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Clothing, Fancy Goods, Jewelry.

276 Delaye, Hypolite, Lisbon.—Kid gloves. 251

277 Dias, Antonio, Oporto.—Wooden shoes. 251

278 Dabney, R. L., Fayal Azores.—Hat made of wood shavings. 251

279 Corta, Braga, & Son, Oporto.—Hats. 251

280 Ponta Delgada, Committee of, San Miguel.—Straw hats. 251

282 Coutinho, José M. da C., Ponta Delgada.—Linen and woolen caps. 251

283 Carvalho, Joaquim José, Guimaraes.—Wooden shoes, slippers. 251

284 Barreiros, Francisco I., Beja.—Boots and shoes. 251

285 Bahia, Antonio José R., Braga.—Hats. 251

286 Bahia, Custodio J. R., Braga.—Hats. 251

287 Almeida, Germano, Lisbon.—Boots and shoes. 251

288 Aren, Manuel J. da S., Braga.—Boots and shoes. 251

289 Santos & Bro., St. Vincente de Pereira.—Hats. 251

290 Calheta, Maria Pereira da, Ponta Delgada.
a Woolen caps. 251
b Linen embroidery. 252

291 Department of Public Works, Lisbon.
a Wooden shoes, hats. 251
b Laces, bindings, and braids. 252
c Costumes. 257

292 Infant School, Barcellos.
a Knit stockings. 251
b Needlework embroideries. 252

293 Oliveira, J. F. de, Funchal.
a Caps. 251
b Embroideries. 252

293*a* Camara, Manuel da, Ponta Delgada.—Cotton lace. 252

294 Tavares, Rita de J., Aveiro.—Lace. 252

295 Theresa de Jesus, Ponta Delgada.—Needlework. 252

296 Teixeira, Carlota Matilde, Funchal.—Embroideries. 252

297 Themudo, Maria Eduarda, Castro Verde.—Lace. 252

298 Vuiva Ferreira Campos & Co., Oporto.—Materials for gold and silver embroidery, gold lustring, galloons, and lace. 252

299 Magalhaès, Anna Maria Barboza de, Aveiro.—Lace. 252

300 Gois, Francisca, Emilia de, Aljustrel.—Lace. 252

301 Davies, John, Fayal.—Pin-cushion covers, crivo work. 252

303 Carvalho, Anna C. L. da C., Ovar.—Embroideries. 252

304 Coral, Joanna Maria Dias, Ovar.—Embroideries. 252

305 Bivar, Manuel d' A. C. de, Algarve.—Lace. 252

307 Abren e Lima, Joaó, B., Ponta Delgada.
a Embroideries. 252
b Frame with pricked paper work. 254

308 Carneiro, Francisco dos Santos, Oporto.—Gilt tissue. 252

309 Teixeira, José Rodriguez, Oporto.—Silver jewelry. 253

310 Seabra, José dos Santos, Oporto.—Gold and silver jewelry. 253

311 Montinho Souza, F. de, Oporto.—Gold and silver jewelry. 253

312 Nogueira, Antonio Marques, Oporto.—Gold jewelry. 253

313 Montinho, Luiz Pinto, Oporto.—Silver jewelry. 253

314 Marques, Manuel Martius, jr., Oporto.—Silver jewelry. 253

315 Lobao & Ferreira, Oporto.—Gold and silver jewelry. 253

316 Leitao & Irinao, Oporto.—Gold and silversmith's work, jewelry. 253

317 Gold Working Co., Oporto.—Goldsmith's work, jewelry. 253

318 Cerquinho, Francisco Augusto V., Oporto.—Gold and silver jewelry. 253

319 Conto, Antonio Guilherme, San Pedro da Cova.—Silver jewelry. 253

320 Coutinho, A., & Titho, Oporto.—Gold and silver jewelry. 253

321 Augusta, Maria da P., Coimbra.—Toothpicks. 254

322 Martins, Jeronymo, & Son, Lisbon.—Toothpicks. 254

323 Martins Jeronymo & Bro., Lisbon.—Toothpicks. 254

324 Avellar & Miranda, Lisbon.—Toothpicks. 254

325 Cunha, Augusto Mendes da, Guimaraes.—Horn combs. 254

326 Dabney, S. W., Fayal, Azores.—Eagle made of fig-tree pith. 254

327 Gonçalves, Ribas, & Co., Oporto.—Buttons and materials of manufacture. 254

328 Maria, Joaquim, Coimbra.—Tree composed of toothpicks. 254

329 Margues, José Antonio, Braga.—Umbrellas. 254

330 Diogo, Antonio Manuel, Oporto.—Umbrellas. 254

331 Gandencio, José, Coimbra.—Toothpicks. 254

332 Maria, José, Coimbra.—Toothpicks. 254

333 Lauriano & Tavores, Ponta Delgada.—Pincushion of silk and aloes-thread. 254

334 Pinho, Guithermina d'Oliveira, Ponta Delgada.—Flowers made of feathers and rags. 254

335 Passos, Augusto Fructuoso, Guimaraes.—Horn combs. 254

336 Mello, Antonio Machado de Souza, Ponta Delgada.—Bead work, flowers, and lace. 254

337 Schalck, H., Lisbon.—Buttons, hooks and eyes, etc. 254

338 Silva, José Gonçalves, Oporto.—Bird cages. 254

339 Souza, Maria Magdalena, Ponta Delgada.—Artificial flowers of stearine and Guinea aloe fibres. 254

340 Silva, Joaquim da, Coimbra.—Toothpicks. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Traveling Equipments, Stationery, Weapons, Hardware, etc.

341 David, José de A., Oporto.—Portmanteau and hat-boxes. 255

342 Conceiçao, Umbelina da, Castro Verde.—Saddlebags. 255

343 Ramos, Joaquim Antonio, Beja.—Leather bottles. 255

344 Neves, Balbina dos, Serpa.—Saddlebags. 255

345 Rocha, Francisco José da Silva, Oporto.—Leather portmanteaus, traveling bags, valises, belts, and game pouches. 255

Paper, Blank Books, Stationery.

346 Manilha, Francisco dos Santos Lopes, Valongo.—Slates. 258

347 Lemos, J. Gonçalves de, Louzan.—Paper. 259

348 Galiano, Manuel d'A., d'O., Oporto.—Cigarette paper. 259

349 Mesnier, Raul, Coimbra.—Cigarette paper. 259

350 Freitas, Feliciano Gabriel de, Lisbon.—Writing-paper. 259

351 Prado Paper Manufacturing Co., Thomar.—Paper. 259

352 National Printing Office, Lisbon.
a Typographical proofs. 260
b Playing cards, etc. 262

353 Reis & Monteiro, Oporto.
a Typographical proofs. 260
b Lithographic proofs. 261

Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.

355 Cardozo, José Pereira, Oporto.—Lead shot. 265

355*a* National Printing Office, Lisbon.—Weapons, etc. 265

356 Manuel, Antonio da Silva, & Sons, Lisbon.—Lead shot. 265

357 Carvalho e Mello, Adrianno José, Bragança.—Convertible fowling-piece and cane. 269

Medicine, Surgery, Prothesis.

358 Nobreza, Francisco Augusto da Silva, Figueira.—Vermifuge lozenges. 272

359 Rodriques, José Pereira, Lisbon.—Pharmaceutical preparations. 272

360 Andradi, Albano Abilio de, Oporto.—Surgical instruments. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

361 Direction of the Works at Mondego river & Figueira bar, Figueira da Foz.—Tools employed in the salt pits. 280

362 Santos, Manuel Moreira, Oporto.—Carpenters' tools and calking irons. 280

363 Industrial Institute of Oporto, Oporto.—Stone-cutters' tools. 280

364 Cardozo, Joao Thomaz, Villa Nova de Gaia.
a Coopers' tools. 280
b Locks and nails. 284

365 Cunha, August Mendes da, Guimaraes.—Knives, scissors. 281

365*a* Guimaraes, Joaquim M. da S., Guimaraes.—Scissors. 281

366 Alves, Antonio, jr., Villa Real.—Pruning knives. 281

367 Cruz, Luiz F. de S., Oporto.—Cast iron escutcheons. 283

368 Souza, Luiz Augusto de, Evora.—Small bells. 283

369 Santos Rocha & Morena, Oporto.—Leaden tubes. 283

370 Corta, Basto, & Co., Oporto.
a Cast iron cross, lead pipes. 283
b Tinned hardware. 284

371 Cruz, Luiz F. de S., Oporto.—Ranges and bushes for axles. 284

372 Santos, Joaquim Antunes dos, Lisbon.—Card of wire and wire nails. 284

373 Schalck, H., Lisbon.—Nails, etc. 284

374 Peixoto, Rodrigo José, Penafiel.—Brass nails. 284

375 Pacheco, Francisco Gomez, Braga.—Nails. 284

376 Ferreira, M. J., & da Silva, Jos., Braga.—Hardware. 284

377 Guerra, Antonio José de Soura, Oporto.—Brass cocks, hinges, etc. 284

378 Department of Public Works, Lisbon.—Hardware. 284

379 Camara, Antonio da, Ponta Delgada.—Nails, lock. 284

380 Ponta Delgada, Committee of, San Miguel.—Lock. 284

381 Ben Saude, Jacob, Ponta Delgada.—Copper nails. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

382 Ileuriques, Antonio Alexandre, Oporto.—Elastic webs for boots and shoes. 285

383 Cardozo, Manuel Joaquim, Oporto.—Elastic webs for boots and shoes. 285

384 Costa, José Antonio, Oporto.—Elastic webs for boots and shoes. 285

385 Lisbon Central Jail, Lisbon.—Scouring brushes. 286

386 Carvalho, Antonio Raymundo, Lisbon.—Brushes. 286

387 Oliveira, Balthasar, Pinto.—Ropes. 287

388 National Rope Yard, Belem.—Ropes. 287

389 Lauriano & Tavores, Ponta Delgada.—Osier baskets. 287

390 Castro, Joaó Vaz Pacheco, Ponta Delgada.—Rope. 287

391 Barboza, Antonio José, Oporto.—Flax and hempen ropes and twines. 287

392 Cruz, Joaó Maria.—Hemp and esparto ropes. 287

393 Department of Public Works, Lisbon.—Statistical monograms. 288

394 Braga, Antonio P. da S., Braga.—Portuguese armorial bearings. 288

395 Tavares, José, Oporto.—Willow baskets. 289

396 Matlos, Antonio José de, Barcellos.—Basket work. 289

397 Department of Public Works, Lisbon.
a Basket ware. 289
b Wooden spoons. 289

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woodenware, Harness, Art.

399 Baptista, Joaó Guerreiro, Almodovar.—Wooden spoons. 289

400 Mattos, F. C. Pereira de, Faro.—Palm-leaf flails. 289

401 Araiyo, José Antonio, Barcellos.—Basket work. 289

402 Mendonca, Manuel Fernandes de, Lisbon.—Spools. 289

404 Direction of the Works at Mondego river & Figueira bar, Figueira da Foz.—Baskets and mats, tatch. 289

405 Lemos & Antunes, Figueira da Foz.—Pulley blocks. 289

Carriages, Vehicles, and Accessories.

406 Cunha, Augusto Mendes da, Guimaraés.—Horse bits, snaffles, spurs. 296

407 Carvalho, Manuel, Guimaraes.—Horse bits, stirrups, spurs. 296

408 Guimaraes, Joaó Carvalho, Guimaraés.—Horse bits, spurs. 296

409 Sonto José Sebastiao, Oeiras.—Horse-shoe. 296

410 Silva, Joaó d'Oliveira, Braga.—Horse furniture. 296

411 Silva, J. Baptista da, Guimaraes.—Horse bits. 296

Sculpture.

412 Gonçalves, A. D.—Christ Crucified (in marble). 400

Oil Paintings.

413 Segueira, D. A.—Distribution of Soup in Lisbon to the Refugees during the French Invasion of 1810. 410

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TURKEY.

(*South of Nave, Columns 14 to 17.*)

Chemical Manufactures.

Chemical Manufactures.

1 Ali Effendi, Angora.—Salt. 200
2 Allah, Tozula, Bosnia.—Salt. 200
3 Djorbaji, Chio, Dardanelles.—Sulphate of antimony. 200
4 Ayvadjik, Government of, Dardanelles.—Sea salt. 200
5 Adana, Government of, Adana.—Salt. 200
6 Bigdé, Government of, Koniah.—Mineral salt. 200
7 Canea, Government of, Crete.—Sea salt. 200
8 Djidé, Government of, Hidjaz.—Salt. 200
9 Kara-Hissar, Government of, Sivas.—Alum. 200
10 Tous-Hissar, Government of, Sivas.—Sea salt and white salt. 200
11 Toutous, Government of, Sivas.—Nitre. 200
12 Syria, Government of.—Dead Sea salt. 200
13 Van, Government of, Erzeroum.—Nitre. 200
14 Beker, Hadji, Aleppo.—Salt. 200
15 Seit, Hadji, Koniah.—Crude potash. 200
16 Ligory, Effendi, Stankens, Dardanelles.—Sulphate of iron. 200
17 Maktis, Diarbekir.—Balsam flower. 200
18 Mehemed, Aleppo.—Salt. 200
19 Memla Memour, Kangre, Castamouni.—Salt. 200
20 Moustapha, Diarbekir.—White and red salt. 200
21 Pano Mamatti, Prévézé, Yanina.—Salt. 200
22 Suleiman, Prévézé, Yanani.—Salt. 200
23 Saldne, Erzeroum.—Salt. 200
24 Saline de Coniah, Koniah.—Salt. 200
25 Zanni, Constantinople.—Pharmaceutical preparations. 200
26 Smyrna, Government of, Aydin.
a Sea salt. 200
b Olive oil. 201
27 Erzeroum, Government of.
a Mineral salt. 200
b Soap. 201
28 Tchelder, Government of, Erzeroum.
a Borax. 200
b Orpiment (a pigment). 202
29 Riza, Effendi, Constantinople.—Candles. 201
30 Anaghrosti Dascalo Paolo, Sfakia, Crete.—Wild mint, apple, and daphné oils. 201
31 Vaskapoli, Arnasnoti, Canea, Crete.—Sumac, rosemary, and red oils. 201
32 Chakir Agha, Ayvadjik, Dardanelles.—Olive oil. 201
33 Chakir Elké, Aleppo.—Soap. 201
34 Chaul Kepka, Bérat, Yanina.—Olive oil. 201
35 Chamlotte, Malatia, Diarbekir.—Opium oil. 201
36 Costa, Prévézé, Yanina.—Soap. 201
37 Mazalaki, Dimitri, Canea, Crete.—Oil of sweet and bitter almonds. 201
38 Eflimitaki, Giorgui, Canea, Crete.—Essential oil. 201
39 Salonica, Government of.—Olive oil. 201
40 Samos, Government of.—Soap and olive oil. 201
41 Volania, Government of, Yanina.—Olive and other oils. 201
42 Haranlar, Boyorki, Mytilene, Dardanelles.—Soap. 201
43 Koudour, Hadji, Aleppo.—Olive and sesame oils. 201
44 Yehrapalaki, Hadji, Nicolas, Lachite, Crete.—Oil of myrtle. 201
45 Schidebalaki, Hadji Nicolas, Lachite, Crete.—Oil of juniper. 201
46 Fezli Ogli Samy, Bey, Hadji.—Soaps. 201
47 Hussein, Saret, Diarbekir.—Soap. 201
48 Foliatis, Joseph, Smyrna, Aydin, Soap. 201
49 Mehemed, Piseren, Monastir.—Soap. 201
50 Pedros, Diarbekir.—Olive oils. 201
51 Pla Oghli, Smyrna, Aydin.—Soap. 201
52 Tanassi, Aydonat, Yanina.—Olive oil. 201
53 Tassia Didé, Prévézé, Yanina.—Olive oil. 201
54 Yani Paoli, Narda, Yanina.—Olive oil. 201
55 Salomon, Salonica.—Soap. 201
56 Panayote, Petron, Chio, Dardanelles.—Oil of flowers. 201
57 Nicoforaki, Théophane, Canea, Crete.
a Olive oil. 201
b Orange flower and rose waters. 203

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

58 Anastassiades, George, Constantinople.
a Fancy soaps. 201
b Perfumery, tooth powder, cosmetics, etc. 202

59 Garatoéla, Aleppo.
a Scented soap. 201
b Perfumed argil for baths. 203

60 Kisin, Government of, Salonica.—Chrome. 202

61 Massoudjou, Diarbekir.—Ochre. 202

62 Moury, Bey, Fokat, Sivas.—Madder. 202

64 Roussio, Tchihlahi, Sfakia, Crete.—Red ochre. 202

65 Salé, Zubei, Ziemen.—Indigo. 202

65*a* Feizoulah, Constantinople.—Perfumery, essences, cosmetics, soap, etc. 203

66 Aleppo, Governor of.—Rose and orange blossom waters. 203

67 Menteché, Government of, Aydin.—Incense. 203

68 Aydin, Government of, Aydin.—Liquorice juice. 203

69 Selim Agha, Prévézé, Yanina.—Cedar and orange blossom waters. 203

70 Medina, Government of, Hidjaz.—Kena, for coloring the nails. 203

71 Maktis, Diarbekir.—Violet, marshmallow, virgin maria, and rose flowers. 203

72 Papaz, Oglou Bros., Philippopolis, Adrianople.—Rose oil. 203

73 Abdoullah, Tahil, Hidjat.—Essence of roses; mint and rose waters. 203

74 Ali Agha Bachkin, Tripoli, Tripoli.—Essences of geranium and orange flowers. 203

75 Ali Mehemed, Effendi, Koniah, Koniah.—Essence of mint and wild thyme oil. 203

76 Christo, Philippopolis, Adrianople.—Rose oil and rose water. 203

Ceramics—Pottery, Porcelain, Glass, etc.

77 Ali, Agha, Roostchook, Danube.—Flower pots. 206

78 Djebar Oglou Mustapha, Vardar, Bosnia.—Pottery. 206

79 Kirkor, Aintab.—Terra-cotta pot. 206

80 Ousta, Tahir, Dardanelles.—Flower pots. 206

81 Ousta, Hussein, Dardanelles.—Terra-cotta vases, flower pots. 206

82 Kirkor, Terssus, Adana.
a Water pots. 206
b Earthenware cup. 210

83 Nicoforaki, Théophani, Canea, Crete.—Yellowware. 210

84 Mehemed, Hadji, Constantinople.—Earthenware coffee pot, boxes, cups and saucers, plates, spoons, pipe bowls, vases, etc. 210

Furniture and Objects in General Use in Construction and in Dwellings.

85 Vester, Jerusalem, Syria.
a Olive wood table. 217
b Olive wood sugar bowls, napkin rings, cups. 218
c Olive wood shelves, wall pockets, frames, etc. 220
d Olive wood candlesticks. 223

86 Seid Alip, Damascus.
a Inlaid mother-of-pearl tables. 217
b Plate. 218
c Looking glass. 219

87 Ludovic & Vallauri, Constantinople.
a Curtains. 217
b Plates, coffee cup and saucer, spoons, tumblers. 218
c Mirrors. 219
d Copper braziers, bellows. 222
e Bronze and paper lanterns. 223
f Bronze coffee pots, coffee mill, preserve jars, etc. 224

88 Isaac Agha, Brousse.—Curtain. 217

89 Ibrahim, Constantinople.—Table inlaid with mother-of-pearl. 217

90 Murtazi, Hadji, Trebizond.—Secretary. 217

91 Abdi Agha, Hadji, Bosnia.
a Gilt copper censer. 217
b Copper plates, dishes, etc. 224

92 Ebou Raguel Ana, Damascus.
a Table. 217
b Plate. 218

93 Ahmed Ana, Damascus.—Chair. 217

94 Yanaki, Widin, Danube.—Zarf saucer, silver candy-basket. 218

95 Tahir, Ousta, Dardanelles.—Water pitcher and decanters. 218

96 Tahir, Ousta, Piseren, Monastir.—Gilt spoon, knife, and fork. 218

97 Parabet, Tokat, Sivas.—Basket. 218

98 Seid Ragui, Damascus.—Plate. 218

99 Papaz Avediz, Trebizond.—Copper dinner set. 218

100 Nicolas, Oglou, Trebizond.—Silver filigree cupholder. 218

101 Abil, Aleppo.—Silver filigree saucers. 218

102 Ferrad, Ousta, Keuprula, Salonica.—Earthen cup and tumblers, inlaid with silver. 218

103 Nazar Kezork, Aintab, Aleppo.—Silver filigree saucers and silver saucer. 218

104 Manouk, Aleppo.—Silver plate. 218

105 Mehemed, Ousta, Castamouni, Castamouni.
a Dinner sets and copper dishes. 218
b Copper plate and wash basin. 224

106 Ismail Ousta, Koniah, Koniah.—Earthen goblets and drinking cup. 218

107 Ith, Jerusalem.—Cups and saucer. 218

108 Hussein Ousta, Dardanelles.—Terra-cotta plates, cups, sugar bowl, decanters, tumblers, soup tureen, pots, and dinner set; water pitchers. 218

109 Hussein Ousta, Bollo, Castamouni.—Copper decanter and drinking cups. 218

110 Mehemed Ousta Hadji, Castamouni, Castamouni.—Copper cup. 218

111 Hussein, Ousta, Castamouni.
a Copper decanter cup, and dinner set. 218
b Water pitcher. 224

112 Bagdad, Government of.—Silver goblet and saucer, brass cup. 218

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Household Utensils, Woven Goods.

113 Jerusalem, Government of, Syria.—Earthen cup. 218

114 Zaframbolo, Government of, Castamouni.—Marble drinking cups. 218

115 Vissoka, Government of, Bosnia.—Coffee cup and saucer. 218

116 Giorki, Bêrat, Yanina.—Pitchers and dishes. 218

117 Boch Kirkor, Aintab.—Forks and spoons. 218

118 Avedis Papazogla, Trebizond.—Copper pitcher, water pots, decanter, etc. 218

119 Assi Agha, Trebizond.
a Plate. 218
b Chandelier. 223

120 Ali Agha, Roostchook, Danube.—Coffee and tea set, decanter and plate, glasses, jam pots, spoon holder, tumbler, and brandy service. 218

121 Abdourahman, Mehemed Ousta, Castamouni, Castamouni.—Dinner sets. 218

122 Miran Moumdjia, Constantinople.—Picture frame. 220

123 Rizzo Giorki, Yanina, Yanina.—Looking-glass frames. 220

124 Moustapha, Effendi, Constantinople.—Brass brazier. 222

125 Brahim Agha, Hadji, Aintab.—Bellows. 222

126 Ovakim, Constantinople.—Lantern. 223

127 Tanasse, Yanina, Yanina.
a Brass chandelier, candlesticks, censer. 223
b Hand bell, scales, steelyards, pestle and mortar, liquor flask. 224

128 Usine Hassan, Retimo, Crete.—Chandeliers. 223

129 Abdoulah, Hadji, Bosnia.
a Gilt copper lantern. 223
b Copper water pots. 224

130 Suleiman, Bosnia.—Coffee-grinders. 224

132 Raz Oglou Hussein, Bello, Castamouni.—Copper tea pot, coffee pot. 224

133 Moustapha, Constantinople.
a Mortar and pestle. 224
b Wash basin. 225

134 Keur Ali, Koniah, Koniah.—Earthen pitcher. 224

135 Jacob Ousta, Bollo, Castamouni.—Copper vase, refrigerator, water pitcher, and tea pots. 224

136 Prévézé, Government of, Yanina.—Dishes. 224

137 Kara-Hissar, Government of, Sivas.—Wooden spoons. 224

138 Medina, Government of, Hidjaz.—Coffee pot and roaster. 224

139 Espahi, Tripoli, Tripoli.—Pestle and mortar. 224

140 Ali Ousta, Koniah.—Earthen pitchers. 224

141 Abdourahman, Castamouni, Castamouni.—Copper plate. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

142 Aintab, Government of.—Reed mat. 229

143 Basra, Government of, Bagdad.—Palm leaf mats. 229

144 Bagdad, Government of.
a Palm mats. 229
b Cotton fabrics. 230
c Linen fabrics, coverlet. 233

145 Cherif Effendi, Aintab.—Mat. 229

146 Tiraki Selim Agha, Retimo, Crete.—Cotton fabric. 230

147 Salih, Tripoli.—Cotton tissue. 230

148 Tanach, Yanina.—Cotton fabric. 230

149 Tchoula Cheyfi, Aintab, Aleppo.—Cotton cloth. 230

150 Seid Cherif, Aleppo.—Cotton tissues. 230

151 Razakoula, Aleppo.—Embroidered cotton fabric. 230

152 Pirik Oglou, Pedros, Aleppo.—Cotton tissue. 230

153 Ounedji, Osman, Castamouni.—Duck. 230

154 Bolad, Nicolas, Damascus.—Cotton fabric. 230

155 Nerssez, Marach, Aleppo.
a Sheeting, etc. 230
b Printed calicoes. 232

156 Moustapha Bey, Castamouni.—Sheeting. 230

157 Maktès Bagdo, Ourpha, Aleppo.
a Sheeting. 230
b Printed calicoes. 232

158 Mehemeda, Nabachir du Tidjan, Canea, Crete.—Cotton fabric. 230

159 Mehamed Bin Adoura, Tripoli, Tripoli.—Cotton tissue. 230

160 Mahmoud, Effendi, Damascus.—Cotton fabric. 230

161 Mahmoud Cozzi, Tripoli, Tripoli.—Cotton tissue. 230

162 Mitchez, Yanina.—Cotton foulards. 230

163 Kesban, Madame, Koniah.—Cotton yarn. 230

164 Kaisparexeko & Co., Aleppo.—Cotton fabrics. 230

165 Koussou Kirkor, Aintab, Aleppo.
a Sheeting. 230
b Printed calicoes. 232

166 Ibrahim, Miss, Dardanelles.—Cotton fabric. 230

167 Ibrahim Agha, Canea, Crete.—Cotton shirting. 230

168 Ilias Hatti, Aleppo.—Silk and cotton tissue. 230

169 Ibrahima, Cyprus.
a Cotton fabrics. 230
b Handkerchief and napkin stuff, counterpane, sheet, and table cloth. 233

170 Iskilidjan, Canea, Crete.
a Cotton fabrics and thread. 230
b Linen napkins. 233

171 Mansour, Hadji, Tripoli, Tripoli.—Cotton coverlet. 230

172 Aghop, Hodja, Adrianople.—Cotton cord. 230

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45,

Woven Goods.

173 Ilias, Hodja, Aleppo.
a Embroidered cotton fabrics. 230
b Colored cotton fabric. 231

174 Mehemed Agha, Hadji, Bartia, Castamouni.—Cotton fabric. 230

175 Hassan, Ousta, Angora.—Cotton thread. 230

176 Hassan Ali, Houdehida, Yiemen.—Cotton fabrics; curtains. 230

177 Hassan Chaban, Houdehida, Yiemen.—Cotton fabrics. 230

178 Hakim, Hadji, Bros., Aleppo.
a Embroidered cotton fabric, tissues. 230
b Silver-embroidered table cloth. 233

179 Constantinople, Government of.—Cotton cloths. 230

180 Aintab, Government of, Aleppo.—Tent curtains. 230

181 Beyroot, Government of, Syria.—Cotton fabrics. 230

182 Aleppo, Government of.—Cotton tissues. 230

183 Karraissalo, Government of, Adana.—Cotton thread. 230

184 Kerbella, Government of, Bagdad.—Cotton yarn. 230

185 Kara-Hissar, Government of, Sivas.
a Cotton threads and fabrics. 230
b Calicoes. 232
c Linen cloths and duck, towels, etc. 233

186 Erzeroum, Government of.
a Cotton cloth. 230
b Unbleached linen. 233

187 Nich, Government of, Danube.
a Cotton tissues. 230
b Linen, coverlets, etc. 233

188 Gasko, Gaspard, Aleppo.—Cotton fabric. 230

189 Eminé, Koniah.—Shirting. 230

190 Esmé, Ani, Koniah.
a Sheeting. 230
b Linen textile. 233

191 Edilé Factory, Damascus.—Cotton yarn. 230

192 David Ilias, Yanina.—Cotton thread, twist, and cord. 230

193 Chicho Zeko, Makrincha, Yanina.—Quilts. 230

194 Bassardji Maktés, Ourpha, Aleppo.—Cotton cloths. 230

196 Bruffel, Kricca, & Co., Smyrna.—Spun cotton. 230

197 Ahmed Agha, Aleppo.—Cotton thread. 230

198 Abir Tarip, Aleppo.—Cotton fabric. 230

199 Abadji Molagha, Aintab, Aleppo.—Divan stuff. 230

200 Antoli, Miss Maidos, Dardanelles.—Spun cotton. 230

201 Aiché, Konaih.—Shirting. 230

202 Ayaza Oglon Ahmed, Kangre, Castamouni.—Cotton cloths. 230

203 Allahjadji Alop, Aleppo.—Cotton tissue. 230

204 Atidgé, Madame, Koniah.—Cotton cloth. 230

205 Astardji Narssès, Aintab, Aleppo.—Cotton fabrics. 230

206 Ahmed, Agha, Sivas, Sivas.
a Cotton thread. 230
b Linen. 233

207 Papazaki, Manoli, Candia, Crete.—Counterpane. 231

208 Iskilechina, Crete, Crete.—Striped ticking. 231

209 Abdul Hahat, Mosul, Bagdad.
a Cottonade. 231
b Towels, bathing linen, and handkerchiefs. 233

210 Mehemed Ali, Zoubid, Yiemen.—Printed calicoes. 232

211 Kachpi, Zoubid, Yiemen.—Printed calicoes. 232

212 Hana Meti, Mosul, Bagdad.—Printed calico. 232

213 Hartin, Adana, Adana.—Printed calico. 232

214 Ali Hadji, Koniah.—Printed calico. 232

215 Mahmoud Hadji, Aleppo.—Printed calicoes. 232

216 Chaban Hussein, Zoubid, Yiemen.
a Calico. 232
b Bathing linen. 233

217 Van, Government of, Erzeroum.
a Calicoes. 232
b Linen cloths. 233

218 Garabet, Tokat, Sivas.—Printed calico. 232

219 Caba Oglou Mehemed, Gueugnek. Castamouni.—Printed calico. 232

220 Ahmed Ousta, Castamouni.—Printed calico. 232

221 Aghop, Sivas, Sivas.—Printed calicoes. 232

222 Ezinchan, Government of, Erzeroum.
a Printed calicoes. 232
b Bathing linen and napkins. 233

223 Abdoulah Keiré, Zoubid, Yiemen.
a Calico. 232
b Handkerchief. 233

224 Youssuf, Mosul, Bagdad.—Bathing linen. 233

225 Youssouf Gunki, Diarbekir.—Linen cloth. 233

226 Yasmadji, Mehemed, Tefrik, Constantinople.—Fabric for counterpanes and pillows. 233

227 Wasikili, Yanina.—Linen cloth. 233

228 Vidal, J. M., Constantinople.—Linens. 233

229 Thomas, Diarbekir.—Bathing linen. 233

230 Ohannès, Agha, Angora.—Pillow case. 233

231 Ohan, Diarbekir.—Thread. 223

232 Musulmé, Madame, Koniah.—Table cloth. 233

233 Marquar, Trebizond.—Napkins and bathing apron. 233

234 Mourouk, Oglou Ohanès, Brousse.—Towels, napkins, bathing linen, etc. 233

235 Mehemed Effendi, Denizli, Aydin.—Linen, etc. 233

236 Mehemed Effendi, Smyrna.—Linen, napkins, divan cover, towels, burnous, sheeting, etc. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woven Goods.

237 Mehemed, Merzifoun, Sivas.—Bed curtains, sheet, and towels. 233

238 Mehemed Effendi, Kara-Sou, Aydin.—Bathing linen. 233

239 Mehemed Agha, Castamouni.—Linen sheeting. 233

240 Ousta Mehemed, Koniah, Koniah.—Spun hemp and flax. 233

241 Kodan, Smyrna.—Bed covers. 233

242 Kamile, Madame, Tripoli, Syria.—Towels. 233

243 Kicho Dimitri, Yanina.—Linen. 233

244 Karasch Oglou, Tokat, Sivas.—Linen thread. 233

245 Karabet, Malatia, Diarbekir.—Thread textile. 233

246 Ibrahim Agha, Brousse.—Bathing towels, counterpane, etc. 233

247 Iskiladjan, Dellalé, Canea, Crete.—Towels. 233

248 Harline, Merzifoun, Sivas.—Towels. 233

249 Hatna Gros, Mosul, Bagdad.—Handkerchiefs. 233

250 Mehemed, Hadji, Tripoli, Tripoli.—Linen coverlet. 233

251 Mohammed, Hadji, Malatia, Diarbekir.—Thread. 233

252 Cherisor, Government of, Bagdad.—Linen fabric. 233

253 Bigdé, Government of, Koniah.—Spun hemp. 233

254 Damascus, Government of, Syria.—Linen. 233

255 Smyrna, Government of.—Towels and bed covers. 233

256 Volonia, Government of, Yanina.—Linen. 233

257 Yanina, Government of.—Spun hemp. 233

258 Gabriel, Sivas, Sivas.—Towels. 233

259 Faladj Imssi, Malatia, Diarbekir.—Thread textile. 233

260 Dimitri, Yanina.—Shirting, pillow cases, and divan cover. 233

261 Fatma, Madame, Koniah.—Linen. 233

262 Duran Effendi, Constantinople.—Table cloth, cushion cover, etc. 233

263 Salé Agha, Madame, Koniah.—Linen pillow case. 233

264 Dervich Oglou, Kokas, Brousse.—Bathing linen, etc. 233

265 Cadir, Suleimaneeyah, Bagdad.—Sheets. 233

266 Cazas, Thomas, Diarbekir.—Twisted thread. 233

267 Buftam, Mosul, Bagdad.—Counterpane. 233

268 Ahmed Effendi, Madame, Canea, Crete.—Towels. 233

269 Ana, Madame, Mosul, Bagdad.—Pillow case. 233

270 Aicha, Madame, Koniah.—Linen. 233

271 Azar Ogli, Tokat, Sivas.—Linen cloth. 233

272 Abdul Kader, Koniah.—Table cloth. 233

273 Ali Imi, Madame, Koniah.—Towels. 233

Woven and Felted Goods of Wool, etc.

274 Zokopolani, Maria, Canea, Crete.—Wool fabric. 235

275 Zaferembolo Orphan School, Zaferembolo, Castamouni.—Cloth for garments. 235

276 Vassil Postak, Salonica.—Cloth. 235

277 Youssoul Blouna, Aleppo.—Woolen yarn. 234

279 Tasse Kochman, Berat, Yanina.—Cloth. 235

280 Tathma, Trebizond.—Woolen fabrics. 235

281 Trentefil, Miss, Otoulouk, Adrianople.—Pants stuff. 235

282 Sahak Ousta, Angora.—Woolen fabric. 235

283 Kamps, Oglou, Angora.—Woolen fabric. 235

284 Ohannès Agha, Angora.
a Woolen fabrics. 235
b Carpet, tapestry. 239

285 Maripa Golopo, Canea, Crete.—Striped yellow cloth. 235

286 Mollat Ahmed, Salonica.—Wool fabric. 235

287 Moussé Kapsal, Yanina.—Woolen fringe. 235

288 Moustapha, Tripoli, Tripoli.—Wool yarn. 235

289 Mehemed Effendi, Boldan, Aydin.—Cloth for garments. 235

290 Mehemed Effendi, Saroukhan, Aydin.—Cloth for garments. 235

291 Mehemed Ousta, Biledjeklı, Brousse.—Furniture cloth. 235

292 Marie, Madame, Koniah.
a Woolen ribbon. 235
b Cushion carpet. 239

293 Mehemed. Hadji, Mousra, Castamouni.—Woolen fabric. 235

294 Mehemed Agha, Hadji, Bartia, Castamouni.—Woolen fabric. 235

295 Mahmouda, Hadji, Sivas, Sivas.—Felts. 235

296 Erzeroum, Government of.—Woolen fabrics. 235

297 Kendi Oglou Trantchi, Islimia, Adrianople.—Woolen fabrics. 235

298 Usni, Hadji, Brousse.
a Felts. 235
b Felt blanket. 237

299 Constantinople, Government of.
a Cloths. 235
b Flannels. 236
c Woolen counterpanes. 237
d Carpet. 239

300 Nich, Government of, Danube.
a Woolen fabrics. 235
b Carpets. 239

301 Ineboli, Government of, Castamouni.—Woolen yarn. 235

302 Van, Government of, Erzeroum.
a Cloth for pants, woolen fabric. 235
b Carpets. 239

303 Bagdad, Government of.
a Woolen yarn and textiles. 235
b Goat-hair fabric. 240

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woolen Goods, Carpets.

304 Fevfik, Erzeroum.—Woolen yarn. 235

305 Djamian, Gabriel, Kara-Hissar.—Woolen fabric. 235

306 Cheri Oglou Ahmed Agha, Kangre, Castamouni.
a Woolen textile. 235
b Angora wool yarn. 240

307 Cheri Oglou Ahmed Agha, Zafrembolo, Castamouni.—Woolen textiles. 235

308 Ahmed Agha, Madame, Mousra, Castamouni.—Woolen fabric. 235

309 Ahmed Ousta, Balat, Brousse.—Cloth. 235

310 Zaha, Mosul, Bagdad.
a Shawls. 237
b Carpet. 239

311 Tehezi Agha, Adrianople.—Blanket. 237

312 Sali Agha, Madame, Koniah.—Woolen bag. 237

313 Poto Yani, Kerénié, Yanina.—Woolen counterpane. 237

314 Ousta Ahmed, Cherisor, Bagdad.—Coverlet. 237

315 Ousta Mehemed, Suleimaneeyah, Bagdad.—Woolen coverlet. 237

316 Mekon, Kiron, Sivas.—Woolen shawls. 237

317 Mehulourt, Suleimaneeyah, Bagdad.—Counterpane. 237

318 Mosla Mahmoud, Diarbekir.—Woolen sheet. 237

319 Moustapha, Suleimaneeyah, Bagdad.—Coverlet. 237

320 Matros, Erzeroum.—Blanket. 237

321 Icrahima, Canea, Crete.—Woolen counterpane. 237

322 Marie, Gueuridjé, Monastir.—Woolen coverlet. 237

323 Cassim Bakar, Hadji, Tripoli, Tripoli.—Blankets and coverlets. 237

324 Kerénié, Government of, Yanina.—Woolen cover. 237

325 Mosul, Government of, Bagdad.—Shawls. 237

326 Cherifé, Madame, Koniah.—Blanket. 237

327 Abdoullah Oglou Hassan, Guengnek, Castamouni.—Woolen shawl. 237

328 Nicolaki, Yanina.—Organzine. 238

329 Minodoro, Sophia, Danube.—Woolen and silk fabric. 238

330 Oulmia, Hadji, Sophia, Danube.—Woolen and silk fabrics. 238

331 Dervich, Oglon Ko Kas, Brousse.—Mohair. 238

331*a* Deli Mourad, Diarbekir.—Various fabrics. 238

332 Casas, David, Yanina.—Organzine. 238

333 Yanaki Micholi, Prevézé, Yanina.—Carpet. 239

334 Yorgaki, Miss, Dardanelles.—Tapestry. 239

336 Said Effendi, Sivas, Sivas.—Carpets. 239

337 Rakinié, Madame, Koniah.—Prayer carpet. 239

338 Papa Giorki, Volonia, Yanina.—Carpet. 239

339 Rahimé, Madame, Haltah, Koniah.—Carpet. 239

340 Osman Agha, Sivas, Sivas.—Divan carpet. 239

341 Omer Agha, Sivas, Sivas.—Carpets. 239

342 Ohanna, Angora.—Carpet.

343 Manapola, Catherine, Sfakia, Crete.—Carpet. 239

344 Mourad Kasson, Ayvadjik, Dardanelles.—Carpet. 239

345 Mehemed Oglou Alichan, Turgosklou, Koniah.—Prayer and other carpets. 239

346 Mehemed Agha, Gabwva, Danube.—Carpet. 239

347 Mohamed, Hanari, Mecca.—Carpet. 239

348 Mehemed Kirkit, Tripoli, Tripoli.—Carpets. 239

349 Marie, Madame, Larik, Koniah.—Cushion carpet. 239

350 Karabet, Kangre, Castamouni.—Carpet. 239

351 Kerim, Suleimaneeyah, Bagdad.—Prayer carpet. 239

352 Ibrahim Effendi, Salonica.—Carpets. 239

353 Hussein Agha, Sivas, Sivas.—Divan carpet. 239

354 Hamparssoum, Sivas, Sivas.—Carpet. 239

355 Hassan, Hadji, Kircheré, Angora.—Carpet. 239

356 Mehemed, Hadji, Kircheré, Angora.—Carpet. 239

357 Tahera, Hadji, Volonia, Yanina.—Carpet. 239

358 Haicha Agha, Koniah.—Carpet. 239

359 Castamouni, Government of.—Carpet. 239

360 Semaré, Government of, Bagdad.—Carpet. 239

361 Rekanié, Government of, Aleppo.—Carpets. 239

362 Smyrna, Government of.—Carpets. 239

363 Prévézé, Government of, Yanina.—Carpet. 239

364 Oulé, Government of, Bagdad.—Carpets. 239

365 Bourd, Government of, Bagdad.—Carpet and prayer carpet. 239

366 Widin, Government of, Danube.—Carpet. 239

367 D'Andria, Lombard, & Co., Boston, Mass.—Smyrna carpets. 239

368 Chakir, Trebizond.—Carpet. 239

369 Chamdelon, Ohanès, Angora.—Carpet. 239

370 Chakir Agha, Ayvadjik, Dardanelles.—Carpet. 239

371 Chicho Zeko, Kerénié, Yanina.—Carpet. 239

372 Allatorini, Piaz, Adana.—Carpet. 239

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Woolen and Silk Goods.

373 Biké, Madame, Philippopolis, Adrianople.—Carpet. 239

374 Chaban Oglou, Mussein, Guengnek.—Carpet. 239

375 Ali Ani, Larik, Koniah.—Carpet. 239

376 Ali Agha, Ouchak, Brousse.—Divan carpet. 239

377 Ahmed Effendi, Sivas, Sivas.—Carpet. 239

378 Adret, Agha, Diarbekir.—Carpet. 239

379 Adver, Mardin, Diarbekir.—Carpet. 239

380 Abdoullah Effendi, Guelguen, Trebizond.—Woolen carpet. 239

381 Abdi Effendi, Sivas, Sivas.—Carpet. 239

382 Tchorbadji Serkis, Marach, Aleppo.—Goat-hair bag. 240

383 Simon, Piseren, Monastir.—Goat-hair carpet. 240

384 Piseren, Government of, Monastir.—Goat-hair cloth. 240

385 Ludovic & Vallauri, Constantinople.—Table and bench covers. 241

Silk and Silk Fabrics.

386 Sukiasian, Adrianople.
a Raw silk. 242
b Japanese silk. 245

387 Schilizzi, E. F., Adrianople.—Raw silk. 242

388 Temio Petcha, Yenidjé, Danube.—Raw silk. 242

389 Temno Petcha, Yanina.—Raw silk. 242

390 Oustour, Piaz, Adana.—Silk. 242

391 Moustapha Effendi, Ayvadjik, Dardanelles.—Raw silk. 242

392 Mehamoud Dekiz, Hadji, Tripoli, Tripoli.—Raw silk. 242

393 Hassan, Cyprus.
a Silk. 242
b Silk fabrics. 245
c Silk handkerchief. 247

394 Hassan Effendi, Cyprus.
a Silk. 242
b Silk fabric and taffetas. 245

395 Zaferemboli, Government of, Castamouni.—Raw silk. 242

396 Bérat, Government of, Danube.—Raw silk. 242

397 Smyrna, Government of.—Raw silk. 242

398 Samos, Government of, Castamouni.
a Raw silk. 242
b Silk shirting. 245
c Silk lace and gauzes. 247

399 Bagdad, Government of.
a Raw silk. 242
b Foulards. 245
c Embroidered foulards, etc. 246
d Silk fichus, belt and sabretaches. 249

400 Demerdji Constantin, Madame, Candia, Crete.—Raw silk. 242

401 Andonafake, Anasthas, Canea, Crete.—Raw silk. 242

402 Antakia Caimakan, Antakia, Aleppo.—Raw silk. 242

403 Sayas Karabetli, Salonica.—Silk. 243

404 Sali Kamber, Ichkodra, Monastir.
a Silk twist, skeins, etc. 243
b Organzine. 245
c Silk garters. 247
d Silk cords, fringes, etc. 249

405 Kandilaphtaki Mehemeda, Candia, Crete.
a Silk skeins. 243
b Organzine. 245
c Silk braid. 249

406 Yanina, Government of.—Silk. 243

407 Retchani, Government of, Yanina.—Silk. 243

408 Brousse, Government of.—Twisted silk. 243

409 Cazas, David, Yanina.
a Silk threads and twists. 243
b Silk buttons, ribbons, etc. 249

410 Ahmed Mehamoudik, Yanina, Bosnia.—Silk. 243

411 Mavrilis, Emanuel E. G., Brousse.—Silk. 244

412 Litolu Nakous Oglou, Aleppo.—Silk fabrics. 244

413 Yekahim, Hadji, Aleppo.—Embroidered silk and silver fabric. 244

414 Ilias, Hodja, Aleppo.—Embroidered silk fabrics. 244

415 Hakin Hadji Bros., Aleppo.
a Silk fabrics. 244
b Taffetas, satins, etc. 245
c Silk tissue. 247

416 Ineboli, Government of, Castamouni.
a Raw spun silk. 244
b Organzine. 245

417 Demitraki, Constantinople.—Silk fabrics. 244

418 Cazas, Thomas, Diarbekir.
a Silk twist. 244
b Silk belt. 247
c Ribbons. 248
d Silk buttons. 249

419 Schakal, Anton, Aleppo.—Cotton and silk tissue. 245

420 Seid Yayia, Damascus.—Silk fabric. 245

421 Thomas Isaac, Van, Erzeroum.—Silk foulard. 245

422 Tetoullah, Diarbekir.—Silk fabrics. 245

423 Tasse Kochman, Berat, Yanina.—Silk fabric. 245

444 Vidal, J. M., Constantinople.—Silk fabrics. 245

445 Seid Abdul Hamid, Damascus.
a Silk fabric, mixed cotton and silk fabrics. 245
b Silk scarf, coverlet, belt, and pillow case. 247

446 Pansein, Yanina.—Silk shirting. 245

447 Nessibo, Madame, Ichkodra, Monastir.
a Silk fabric. 245
b Lace. 247

448 Sebou, Nicolas, Damascus.—Silk fabrics. 245

449 Nakos, Mikail, Aleppo.—Silk fabrics; mixed cotton and silk fabrics. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Silk Goods.

450 Bolad, Nicolas, Damascus.
a Silk fabrics, mixed cotton and silk fabrics. 245
b Figured silk fabrics. 246
c Silk goods. 247
d Silk cord. 249

451 Mourad Agha, Brousse.
a Silk fabrics, foulards. 245
b Silk gauzes. 247

452 Moustapha Effendi, Brousse.—Organzine. 245

453 Mourouk Oglou Ohanès, Brousse.
a Silk foulards. 245
b Silk gauzes. 247

454 Mikali, Redjani, Yanina.—Silk fabrics. 245

457 Kirkor, Mamour, Diarbekir.—Silk fabrics. 245

458 Mallah Ahmed, Malech, Salonica.—Silk fabrics. 245

459 Metrouge, Berat, Yanina.—Silk tissue. 245

460 Kendi Oglou Trantchi, Adrianople.—Silk fabrics. 245

461 Talep, Hadji, Brousse.
a Silk fabrics, satin, etc. 245
b Gauzes. 247

463 Ibrahima, Cyprus.
a Silk fabric and mixed cotton and silk fabric. 245
b Silk handkerchief. 247

464 Youssouf, Hodja, Aleppo.—Silk and silver foulards. 245

465 Aghop, Hodja, Adrianople.
a Organzine. 245
b Ribbons. 248
c Cord. 249

466 Thomas, Hodja, Diarbekir.—Silk fabric. 245

467 Thomas, Hadji, Malatia, Diarbekir.—Silk fabrics and foulards. 245

468 Heleni, Berat, Yanina.
a Silk fabric. 245
b Silk gauze. 247

469 Hassan Ali, Houdehida, Yieman.
a Silk and cotton fabrics. 245
b Silk pillow case. 247

470 Hakim Bros., Aleppo.
a Silk and cotton mixed piqué, silk fabrics, etc. 245
b Silk handkerchiefs and tissue. 247

471 Gasko, Gaspard, Aleppo.—Cotton and silk mixed fabric. 245

472 Vassili, Piaz, Adana.—Silk cloth. 245

473 Gascandil, Trebizond.
a Silk tissue and coverlet. 245
b Silk belt. 247

474 Aleppo, Government of.—Silk crape tissue. 245

475 Amassia, Government of, Sivas.—Silk fabrics for shirts and bed coverings. 245

476 Gergi Melouk, Damascus.
a Silk fabric. 245
b Silk coverlet. 247

477 Beyroot, Government of, Syria.
a Silk fabrics, organzine, etc. 245
b Silk laces, belts. 247
c Ribbons. 248
d Silk embroideries. 249

478 Karkali, Dimitri, Yanina.—Silk fabrics. 245

479 Eminé, Trebizond.
a Tissue for shirting. 245
b Silk belt. 247

480 Deli Mourad, Diarbekir.
a Silk fabric. 245
b Silk prayer carpet. 247

481 Chicho Zeka, Volonia, Yanina.—Silk fabric. 245

482 Constanti Giorki, Berat, Yanina.—Silk fabrics. 245

483 Birkor, Trebizond.—Colored tissues. 245

484 Bezaz Effendi, Diarbekir.—Silk fabrics. 245

485 Atanach, Miss, Dardanelles.—Silk sheet. 245

486 Ahmed Effendi, Mamour, Diarbekir.—Silk fabric. 245

487 Abir Tarip, Aleppo.—Silk fabric. 245

488 Abbas Riza, Damascus.—Silk fabric. 245

489 Alil Fakildin, Damascus.—Silk fabric. 245

490 Abdul Hamid, Damascus.—Silk foulard. 245

491 Anagnosti, Yanina.—Silk fabric. 245

492 Anastassi, Yanina.—Silk shirting. 245

493 Ana, Yania, Bosnia.—Silk and cotton fabric. 245

494 Nefissé, Madame, Ichkohra, Monastir.
a Embroidered foulards. 246
b Silk coverlet. 247

494*a* Elias Hatti, Hadji, Aleppo.—Upholstery satins. 246

495 Marionga, Constantinople.—Silk counterpane. 246

496 Mehemed Emin, Constantinople.—Upholstering fabrics. 246

497 Matié, Lady, Adrianople.—Figured silk fabric. 246

498 Ludovic & Vallauri, Constantinople.—Upholstery and divan fabrics. 246

499 Kadir Oglou Abdul Kader, Said Ili, Koniah.—Divan cover. 246

500 Gueudjehan, Ohannès, Constantinople.—Silk fabrics, taffeta, moreen, etc. 246

501 Constantinople, Government of.—Silk curtain fabrics. 246

502 Sagoundjaki, Lefteraki, Canea, Crete.—Silk gauze. 247

503 Seid Alil, Damascus.—Silk goods. 247

504 Thomas, Diarbekir.
a Silk belt. 247
b Silk ribbons. 248

505 Taquoui, Madame, Adrianople.—Gauzes. 247

506 Regnier, Yanina.—Gauze. 247

507 Rechid Effendi, Damascus.—Silk lace. 247

508 Omeraki, Ibrahima, Canea, Crete.—Silk gauze. 247

509 Nefissé, Madame, Tripoli, Syria.—Silk shirts 247

510 Nasmi Effendi, Madame, Candia, Crete.—Silk gauze. 247

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Silk Goods, Clothing.

511 Naoun Miltelete, Aleppo.—Silk and cotton and silk tissues. 247

512 Monnouk Ozlou, Brousse.—Silk fabric and aprons. 247

513 Muniré, Brousse.—Silk lace. 247

514 Milaki, Nicolaki, Melle, Canea, Crete.—Silk gauze. 247

515 Maroli, Kara Yanapola, Canea, Crete.—Silk crape. 247

516 Marouli, Madame Giorgui Sefakanaki, Candia, Crete.—Silk gauze. 247

517 Meuzeurlé Fathma, Candia, Crete.—Gauze. 247

518 Marie, Yanina.—Silk gauze. 247

519 Moussa Chaouch, Oglou Ibrahim, Canea, Crete.—Gauzes. 247

520 Ismail Agha, Hadj Brousse.—Silk counterpane. 247

521 Istiphanidja, Candia, Crete.—Silk gauze. 247

522 Kamil, Tripoli, Syria.—Embroidered gauze foulard and silk pillow cases. 247

523 Mahmoud Deguiz, Hadji, Tripoli, Tripoli.—Silk coverlets. 247

524 Ismail Agha, Hadji, Candia, Crete.—Silk gauze. 247

525 Mikali, Hadji, Tripoli, Syria.—Silk coverlets. 247

527 Gotha, Tripoli, Tripoli.—Silk shirts. 247

528 Kara-Hissar, Government of, Sivas.—Silk belt. 247

529 Piseren, Government of, Monastir.—Silk caps. 247

530 Emzia, Ibrichindji Nicoli, Mme., Candia, Crete.—Gauze. 247

531 Dervich Oglou Kokas, Brousse.—Silk gauzes, silk burnous, scarf and belt. 247

532 Cazas Abdoullah, Damascus.
a Silk belts. 247
b Silk cords, etc. 249

533 Cazas Ahmed, Damascus.—Silk crochet belt. 247

534 Ana, Madam, Mosul, Bagdad.—Silk lace. 247

535 Cazas Said, Tripoli, Syria.—Silk belts and suspenders. 247

536 Assibi, Madame, Koniah.—Silk lace. 247

537 Avadiz, Miss, Dardanelles.—Silk lace. 247

537*a* Makboubi, Trebizond.—Silk towels and shirting. 247

538 Isaac Effendi, Bello, Castamouni.—Silver ribbon. 248

539 Selim, Mosul, Bagdad.—Turban cord. 249

540 Sali Kamber, Piseren, Monastir.—Gold and silver filigree cord. 249

541 Idrissi Agha, Hadji, Bonandji, Adrianople.—Cord. 249

Clothing, Jewelry, Ornaments; Traveling Equipments, etc.

542 Zoardji Gocha, Yanina.—Goat-hair shepherd's vest. 250

543 Yani, Smyrna.—Men's suit. 250

544 Zahardji Gotcha, Yanina.—Vests. 250

545 Yani, Hadji, Berat, Yanina.
a Vests. 250
b Gaiters. 251

546 Yani, Forol, Trebizond.
a Woolen hose. 250
b Woolen gloves. 251

547 Vely Bey, Sivas, Sivas.—Woolen socks. 250

548 Seid Hassan, Mosul, Bagdad.—Turkish garment. 250

549 Siméon, Trebizond.—Ladies' trowsers, jacket. 250

550 Seid Cherif, Aleppo.—Cotton belts. 250

551 Seid Abdul Hamid, Damascus.
a Cotton scarf. 250
b Embroidered cap and slippers. 251
c Tobacco pouch. 254

552 Raphaelian, Gabriel, Constantinople.
a Collars and cuffs. 250
b Crochet caps, slippers. 251
c Crochet fichu, curtains, etc. 252

553 Rinko, Permidi, Yanina.—Ladies' hose. 250

554 Palassé, Madame, Trebizond.—Gown. 250

555 Rina, Yanina.—Chemise, embroidered with gold. 250

556 Ousta Bachou, Forol, Trebizond.—Woolen hose. 250

557 Ousta Yano, Bonandji, Adrianople.—Woolen hose. 250

558 Ousta Yani, Miss, Bonandji, Adrianople.—Men's woolen hose. 250

559 Nogho, Uskup, Monastir.—Woolen apron and stockings. 250

560 Moustapha Agha, Damascus.—Woolen garment. 250

561 Moustapha, Miss, Balekoi, Dardanelles.—Bridal trousseau. 250

562 Moussa Chaouch Oglou Ibrahim, Canea, Crete.
a Silk embroidered shirt, etc. 250
b Tobacco pouch. 254

563 Mahmoud Agha Djiri, Damascus.—Turkish garments. 250

564 Mehemed Abdul Hamid, Houdehida, Yiemen.—Drawers. 250

565 Mehemed Ousta, Koniah.—Goat-hair jacket. 250

566 Mikahil Seboul, Damascus.—Turkish garments. 250

567 Lambron, Phrasine, Yanina.—Chemise. 250

568 Mer Allah, Zoubid, Yiemen.—Percale shirt. 250

569 Mitscherè, Marie, Yanina.—Men's and women's hose. 250

570 Mikahl Agha, Adrianople.—Jacket. 250

571 Karabet, Yangre, Castamouni.—Cloak belt. 250

572 Kurschu Casmad, Diarbekir.—Wolf-skin jacket. 250

573 Isaac, Mosul, Bagdad.—Turkish garment. 250

574 Ibrahim Agha, Brousse.—Bathing suit, woolen burnous. 250

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Clothing, Fancy Articles.

575 Osman, Hadji, Koniah.—Turkish woolen belt. 250

576 Hadj, Trebizond.—Ladies' trowsers, vest. 250

577 Ahmed, Hadji, Aleppo.—Turkish belt. 250

578 Hakim Bros., Hadji, Aleppo.—Silk, burnous, and other garments. 250

579 Mikahili, Hadji, Adrianople.—Woolen garments. 250

580 Osman, Hadji, Suleimaneeyah, Bagdad.—Shepherd's cloak. 250

581 Hassan, Cyprus.—Silk underskirt. 250

582 Hussien Chaban, Zoubia, Ziemen.—Cotton jacket, Turkish belt. 250

583 Hassan Agha, Trebizond.—Turkish trowsers and vest. 250

584 Hassan Effendi, Kotchettissar, Castamouni.—Woolen belts. 250

585 Haler Oglou Hassan, Kara Baitar.—Woolen hose. 250

586 Haler Oglou Hassan, Koniah.—Woolen hose. 250

587 Haidar, Mosul, Bagdad.—Turkish garment. 250

588 Haido, Bagdad.—Turkish garment. 250

589 Haldji Oulmia, Sophia, Danube.
a Turkish belts. 250
b Woolen gloves, mittens. 251
c Necktie, etc. 254

590 Helene, Miss, Bonandji, Adrianople.—Waterproof cloak. 250

591 Asco, Giorgio, Yanina.—Vest. 250

592 Heleni, Permidi, Yanina.
a Ladies' hose. 250
b Gold embroidered fichu. 252

593 Giorki, Miss, Bonandji, Adrianople.—Woolen hose. 250

594 Damascus, Government of, Syria.—Woolen hose. 250

595 Bourd, Government of, Bagdad.—Stockings. 250

596 Ohannes Agha, Angora.
a Woolen and cotton hose. 250
b Head-dress ornament, belt. 254

597 Mentefek, Government of, Bagdad.—Turkish garment. 250

598 Kara-Hissar, Government of, Sivas.—Belts. 250

599 Semaré, Government of, Bagdad.—Veils, Turkish garment. 250

600 Nedjep, Government of, Bagdad.—Turkish garments. 250

601 Van, Government of, Erzeroum.—Woolen belt. 250

601*a* Uskup, Government of, Monastir.—Woolen stockings. 250

602 Ezinchan, Government of, Erzeroum.—Turkish belt, woolen trowsers. 250

603 Piseren, Government of, Monastir.—Turkish belt, lisle thread hose. 250

604 Gotha, Tripoli, Tripoli.
a Embroidered silk vest. 250
b Woman's hat. 251

605 Fatma, Madame, Koniah.
a Woolen hose. 250
b Purse. 254

606 Elvadji Youssouf, Diarbekir.—Vest. 250

607 Erza Yaco, Yanina.—Albanian skirt. 250

608 Eminé, Trebizond.—Silk shirt. 250

609 Diptou Noutoukdji, Damascus.—Woolen belt. 250

610 Delepné, Koniah.—Woolen stockings. 250

611 Despot, Yanina.—Women's hose. 250

612 Delal Mehemed, Diarbekir.—Cloak. 250

613 Dervichian, Smyrna.
a Shirt. 250
b Embroidered belt, silk lace. 252
c Ladies' cuffs and collars, necktie and cushion. 254

614 Cazas David Ilias, Permidi, Yanina.
a Hosiery. 250
b Cotton cap. 251
c Cotton ribbons, and buttons. 252
d Purse, garters. 254

615 Christo, Daughter of, Bonandji, Adrianople.—Waterproof. 250

616 Christo, Bonandji, Adrianople.—Turkish garments. 250

617 Cazas Said, Tripoli, Syria.—Belt. 250

618 Cheik Moussa, Mardin, Diarbekir.—Arabian garment. 250

619 Constanti, Miss, Stankeny, Dardanelles.—Socks. 250

620 Chavirdi Hadji, Ourpha, Aleppo.—Vests. 250

621 Balthazar, Miss, Dardanelles.—Cotton chemises. 250

622 Bagdad, Government of.
a Turkish garments, embroidered belt. 250
b Boots and shoes. 251
c Silver tobacco-box, pipes, Narghilés, pipe-bowls, combs, pouches, etc. 254

623 Abdul Kader Ousta, Koniah—Embroidered jacket. 250

624 Abdourahman, Erzeroum.—Sheepskin jacket. 250

625 Moustapha, Abadji, Bigha, Aleppo.—Vest. 250

626 Ismail, Abadji, Aintab, Aleppo.—Vest. 250

627 Abas Ousta, Piseren, Monastir.—Velvet jacket and vest. 250

628 Anastassi, Héleni, Yanina.—Chemise. 250

629 Alexia, Miss, Bonandji, Adrianople.—Men's woolen hose. 250

630 Aiché, Koniah.—Shirt. 250

631 Antaki, Giorki, Aleppo.—Belt. 250

632 Ali, Diarbekir.—Vest. 250

633 Astor, Aleppo.—Woolen socks. 250

634 Atidjé, Madame, Eski-Kariel, Koniah.—Woolen hose. 250

635 Astadji Oglou Narcisse, Aleppo.—Turkish belt. 250

636 Zorié, wife of Ahmed, Yanina.—White cap. 251

637 Zahardj Nocha, Yanina.—Woolen gaiters. 251

638 Zekiyé, Madame, Koniah.—White cap. 251

639 Stéphani, Dardanelles.—Boots and shoes. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Clothing, Needle Work, Fancy Articles.

640 Rahari, Mosul, Bagdad.—Morocco boots. 251

641 Mahmoud Agha, Damascus.—Morocco boots. 251

642 Ferrouch, Mehemed, Tripoli, Tripoli.—Morocco slippers. 251

643 Oulfrouch, Mehemed, Tripoli, Tripoli.—Ladies' boots. 251

644 Mèhadani, Ali, Damascus.—Boots and shoes. 251

645 Mehemed, Houdehida, Yieman.—Leather clogs. 251

646 Mehamed Mousseri, Zoubid, Yiemen.
a Cotton cap. 251
b Handkerchiefs. 254

647 Mahmoud, Tahif, Hidjaz.—Embroidered cap. 251

648 Mehemed, Mosul, Bagdad.—Morocco boots. 251

649 Mahmond, Aintab.—Turkish shoes. 251

650 Mehemed Ali, Mosul, Bagdad.—Morocco boots. 251

651 Ludovic & Vallauri, Constantinople.
a Form for Turkish caps; men's shoes. 251
b Pipes, pipe stems, and bowls, narghilés and requisites, ash receivers, ornamental pictures. 254
c Albanian and Turkish café waiters' costumes; office lady's costume. 257

652 Moustapha, Hadji, Constantinople.—Embroidered velvet slippers. 251

653 Mahmoud, Hadji, Marach, Aleppo.—Men's boots. 251

654 Isaac, Aintab.—Red shoes. 25

655 Hassan Reiss, Rhodes.—Wooden shoes. 251

656 Hassan Reiss, Dardanelles.—Wooden shoes. 251

657 Hassan Sali, Damascus.—Wooden and mother-of-pearl clogs. 251

658 Hamid Moustapha, Bosnia.—Ladies' boots and shoes; wooden clogs, etc. 251

659 Mosul, Government of, Bagdad.—Rhinoceros hide boots. 251

660 Constantinople, Government of.
a Boots and shoes, military caps, etc. 251
b Russia leather whip. 255
c Popular costumes. 257

661 Alidjè, Madame, Koudehida, Yieman.—Palm-wood clogs. 251

662 Duric, Madame, Constantinople.
a Velvet slippers. 251
b Coiffure ornament. 254

663 Dimo, Yanina.—Shoes. 251

664 Dimitri, Yanina.
a Morocco boots. 251
b Morocco belt. 253

665 Cafak Mehemeda, Aintab.—Turkish shoes and slippers. 251

666 Cafak Mahmoud, Marach, Aleppo.—Children's boots and shoes. 251

667 Chaouch Mahmoud Agha, Damascus.—Ladies' boots and shoes; Turkish shoes. 251

668 Baba Chika, Yanina.—Morocco boots and shoes. 251

669 Abhou Oglou Avediz, Marach, Aleppo.—Morocco boots. 251

670 Abhou, Avediz, Marach, Aleppo.—Boots and shoes. 251

671 Abdourahman, Tahif, Hidjaz.—Women's boots and shoes. 251

672 Abdul Keri, Mecca.—Boots and shoes; embroidered cap. 251

673 Abdoullah Arouniyè, Koudehida, Yieman.—Leather clogs. 251

674 Ali bin Chaban, Tripoli, Tripoli.—Morocco boots and shoes. 251

675 Ali Bachakar, Tripoli, Tripoli.—Clogs. 251

676 Ali Nazif, Tripoli, Tripoli.—Morocco boots. 251

677 Ali bin Nazif, Tripoli, Tripoli.—Boots and shoes. 251

678 Atanach, Miss, Dardanelles.
a Velvet slippers. 251
b Crotchet work; pillow case. 252

679 Aghop, Smyrna.
a Ladies' bonnet. 251
b Silver embroidery, lace. 252

681 Zozié, Yanina.—Silk lace. 252

682 Ziamani, daughter of Nicoli, Canea, Crete.—Crochet pillow case. 252

683 Vidal, J. M., Constantinople.—Oriental embroidery. 252

684 Vassiliki, Madame, Constantinople.—Laces. 252

685 Trotomastoropolani, Catrini, Canea, Crete.—Crochet counterpane. 252

686 Tophna, Koniah.—Crochet lace and pillow case. 252

687 Tchiko, Yanina.—Lace. 252

688 Sali Djestine, Mecca.—Trimmings for clothing. 252

689 Stacoupola, Madame Hèleni, Canea, Crete.—Divan cover. 252

690 Rokopolani, Hèleni, Canea, Crete.—Crochet table cloth. 252

691 Rechid Effendi, Damascus.—Crochet coverlet, etc. 252

692 Pérachipolani, Krissi, Canea, Crete.—Crochet sofa cover. 252

693 Papazoupola, Annetta, Canea, Crete.—Table cloth. 252

694 Osman Effendi, Salonica.—Lace trimmings, silver lace, thread, etc. 252

695 Penssimo, Redjani, Yanina.—Laces. 252

696 Osman, Effendi, Brousse.—Embroidered handkerchief. 252

697 Nefissé, Madame, Ichkodra, Monastir.—Embroidered napkins. 252

698 Nikogos, Koniah.—Crochet cuffs. 252

699 Nicolaïde, Azulfi, Mdlle., Canea, Crete.—Lace. 252

700 Moustapha Bey, Bartia, Castamouni.
a Embroidered napkins. 252
b Belt. 254

701 Mombjian, Kirkor, Constantinople.—Embroideries, embroidered table cover. 252

702 Manoli Toraki, Catherine, Canea, Crete.—Crochet pillow case. 252

703 Mikail, Dardanelles.—Silk lace. 252

704 Legueurdji, Miss, Dardanelles.—Silk lace. 252

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Needle Work, Fancy Articles, Jewelry.

705 Kamile, Madame, Tripoli, Syria.—Embroidered napkin, etc. 252

706 Koliopoula, Maria, Canea, Crete.—Embroidery, embroidered handkerchiefs, cuffs. 252

707 Ismyrnopola, Hèleni, Canea, Crete.—Crochet table cloth. 252

708 Isphakanopola, Aspasia, Canea, Crete.—Crochet table cloth. 252

709 Iskilidjan, Canea, Crete.—Crochet work, napkins, etc. 252

710 Isaac Agha, Brousse.—Stand-cover. 252

712 Dervich Effendi, Hadji, Canea, Crete.—Embroidered handkerchiefs and belts. 252

713 Hèleni, Madame, Constantinople.—Laces. 252

714 Heminé, Madame, Koniah.—Crochet cap. 252

715 Beyroot, Government of, Syria.
a Trimmings, gold lace, cords. 252
b Tobacco pouch. 254

716 Grandaki Ahmed Effendi, Canea, Crete.—Embroidered handkerchiefs, belts, etc. 252

717 Grandaki Ahmed Effendi, Madame, Canea, Crete.—Gold embroidered napkins. 252

718 Fatma Eminé, Koniah.—Embroidered napkins. 252

719 Ellissi, Madame, Constantinople.
a Laces. 252
b Tobacco pouch. 254

720 Feriyé, Madame, Koniah.—Crochet lace. 252

721 Dervich Oglou Kokas, Brousse.—Embroidered neckties, handkerchiefs, and skirt. 252

722 Catherine, Constantinople.—Silk embroidered fabric. 252

723 Boyachipolani, Marigo, Canea, Crete.—Crochet lounge cover. 252

724 Abdi Azadé Ali Bey, Canea, Crete.—Embroidery, silk and silver lace, embroidered handkerchiefs and belt, etc. 252

725 Aghop, Miss, Dardanelles.—Silk lace. 252

726 Aiacha, Madame, Koniah.—Embroidered handkerchief. 252

727 Avanza, Torki, Miss, Canea, Crete.—Crochet chair cover. 254

728 Assibi, Madame, Koniah.—Embroidered belt. 252

729 Vester, Jerusalem, Syria.
a Olive wood cuff buttons. 253
b Olive wood ladies' companions, caskets, purses, needle cases, tobacco pots and boxes, book and album covers; card cases, spectacle cases, cane and cane heads; match boxes, cigar case and holders, chalices, crosses, glove boxes, postage stamp boxes, pipes, beads, snuff boxes, toys, etc. 252

730 Toup Hané c Hadji, Trebizond.
a Watch chain. 253
b Ornaments, etc. 254

731 Sako, Aintab.—Gilt silver bracelets. 253

732 Sassi Nahil, Tripoli, Tripoli.—Silver bracelets. 253

733 Rapate, Mikail, Aleppo.
a Necklace, earrings, and pin. 253

734 Omer Agha, Canea, Crete.—Silver and gilt chains. 253

735 Manouk, Aleppo.—Gilt silver purse chain. 253

736 Mikail, Aleppo.—Gilt silver earrings. 253

737 Mikail, Aintab.
a Ring. 253
c Silver cigarette pincers. 254

738 Mesrouhout, Tripoli, Tripoli.—Gold bracelets. 253

739 Lalotte Ahmed, Siros, Salonica.—Amethysts. 253

740 Kirio, Aleppo.—Silver vest buttons. 253

741 Golaksiz Oglou Nicolas, Trebizond.
a Earrings, brooches, sleeve buttons, locket, etc. 253
b Silver snuff box, pin, cigarette holders, bouquet holder, etc. 254

742 Raphaélion, Gabriel, Constantinople.
a Amber brooches, earrings, crosses, etc. 253
b Pipe stems and bowls, cigarette holders, and canes. 254

743 Suleimaneeyah, Government of, Bagdad.—Rock crystal seal and beads. 253

744 Babani Azerè, Tripoli, Tripoli.—Gold ear-rings. 253

745 Cherkis Berké, Jerusalem.—Mother-of-pearl lockets. 253

746 Andonaki, Kenprenz, Dardanelles.—Amethyst. 253

747 Meskout Serros, Tripoli, Tripoli.—Silver earrings. 253

748 Abil, Aleppo.
a Silver and silver gilt jewelry. 253
b Silver thimble, pincers, and paint flasks. 254

749 Zenoup, Marie, Constantinople.—Embroidered necktie. 254

750 Yanaki, Widin, Danube.—Tobacco box. 254

751 Thomas, Diarbekir.—Head-dress ornament, ladies' belt. 254

752 Tanach, Thomas, Yanina, Yanina.—Silver filigree belt, snuff box, cigarette box, looking glass, cigarette holders, etc. 254

753 Selim Zeutekli, Damascus.—Narghilé stems. 254

754 Sedj Agha, Madame, Koniah.—Purse. 254

755 Selim Arikili, Damascus.—Accessories of the narghilé. 254

756 Sehi Tassane, Djidé, Hidjaz.—Cigarette cases. 254

757 Selim Zia Effendi, Candia, Crete.—Canes. 254

758 Sali Kamber, Piseren, Monastir.—Garter ornamented with gold. 254

759 Sako, Aleppo.—Silver filigree cigarette holder. 254

760 Suleiman, Djidé, Hidjaz.—Mother-of-pearl ash receivers. 254

761 Suleiman Agha, Yania, Bosnia.—Pipe bowl. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Needle Work, Fancy Articles, Jewelry.

762 Amassia, Government of, Sivas.—Night cap and tobacco pouch. 254

763 Panoucha, Yanina.—Morocco belt. 254

764 Emarè, Government of, Bagdad.—Silver saucer. 254

765 Djidé, Government of, Hidjaz.—Fan. 254

766 Oustour, Aleppo.—Canes. 254

767 Oannès, Sivas, Sivas.—Ladies' companion. 254

768 Mehamed Tourmae, Ousta, Tripoli, Tripoli.—Suspender belt. 254

769 Chaban Assiani, Ousta, Tripoli, Tripoli.—Suspender belt. 254

770 Ferrad, Keuprulu, Ousta, Salonica.—Cigarette cases. 254

771 Nazar Kezork, Aleppo.—Silver filigree goblet, comb case, silver comb, etc. 254

772 Namik Effendi, Yanina.—Silk purse. 254

773 Nicoforaki, Thèophani, Oulia, Crete.—Linen belt. 254

774 Nazar Kezork, Aintab.—Silver filigree cigarette holders; silver belt buckle. 254

775 Nazar Kerkor, Aintab.—Silver needle case. 254

776 Moustapha Agha, Constantinople.—Ivory needle case, box, wooden spindle, pipe, etc. 254

777 Moustapha Oglou, Salonica.—Purses. 254

778 Moustapha Ousta, Broussa, Broussa.—Cane. 254

779 Moustapha, Tripoli, Tripoli.—Cigarette holders. 254

780 Mehemed Ali, Kerat, Damascus.—Accessories of the narghilé. 254

781 Mehemed Dervich, Roostchook, Danube.—Fan. 254

782 Manol Veledidinko, Karchova, Monastir.—Silver cigarette basket. 254

783 Marie, Madame, Constantinople.—Purses, tobacco pouch, and cushion. 254

784 Mikail Antaki, Aleppo.—Silver filigree box, and saucer. 254

785 Kesban, Madame, Koniah.—Watch holder. 254

786 Kouyoumdjou Epsso, Piseren, Monastir.—Silver filigree box and belt. 254

787 Kessiar, Sivas, Sivas.—Silver pipe, snuff box, cigarette holders, and pipe stems. 254

788 Ibrahima, Cyprus.—Embroidered handkerchief. 254

789 Ibrahim Ousta, Terssus, Adana.—Canes. 254

790 Ismail Ibrahim, Ak-Hissar, Bosnia.—Pipe. 254

791 Ismail, Tripoli, Tripoli.—Rhinoceros-horn cup and saucers. 254

792 Ismail Ousta, Koniah, Koniah.—Earthen pipe bowls. 254

793 Ismaila, Sivas, Sivas.—Pipe stem. 254

794 Koudour, Hadji, Aleppo.—Pipes, pipe bowls, cigarette holders, etc. 254

795 Hussein, Hadji, Mardin, Diarbekir.—Pipe heads. 254

796 Hadjidli Ousta, Bollo, Castamouni.—Silver tobacco box and cigarette cases. 254

797 Hassan Usine, Retimo, Crete.—Canes, narghilé pipe, cigarette holder, and tobacco vase. 254

798 Hussein Ousta, Dardanelles.—Cigarette holders, ash receivers, tobacco pots, and toys. 254

799 Hussein Ousta, Sivas, Sivas.—Cigarette holders and pipe stems. 254

800 Hussein Agha, Zakra, Tripoli.—Cane, cigarette box. 254

801 Feti, Mosul, Bagdad.—Pipe stems. 254

802 Kasseudje, Giorgi, Aleppo.—Pipe. 254

803 Kerbella, Government of, Bagdad.—Palm-leaf fans and fly-brush. 254

804 Uskup, Government of, Bagdad.—Cigarette holder, snuff box, knife haft, and bellows. 254

805 Vissoka, Government of, Bosnia.—Cigarette cases. 254

806 Dervich Osman, Herede, Castamouni.—Cigarette cases. 254

807 Emina, Madame, Ichkodra, Monastir.—Handkerchief. 254

808 Dervich Yaya, Uskup, Monastir.—Pipe bowls. 254

809 Djéza Hirli Moustapha, Tripoli, Tripoli.—Ivory fan, fly-brush. 254

810 Dervichian, School for Young Ladies, Smyrna.—Divan cushions, chatelet, slippers, lace collar, needle case, etc. 254

811 Cazas Said, Tripoli, Syria.—Garters. 254

812 Catherine, Redjani, Redjani, Yanina.—Collars and cuffs. 254

813 Bekir Agha, Ourpha.—Narghilé heads. 254

814 Babi, Saret, Diarbekir.—Ebony wood canes. 254

815 Beram, Agha, Trebizond.—Cane. 254

816 Abil, Aintab.—Silver needle case, cigarette holder, belt buckles, finger cover, gilt silver relic shrine. 254

817 Suriani, Anton, Aleppo.—Silver filigree cigarette holder. 254

818 Ahmed Hassan, Adila, Yieman.—Mother-of-pearl ash receivers. 254

818*a* Ahmed Chibre, Houdehida, Yieman.—Rhinoceros-horn and wooden cups and saucers; canes, cigarette box and holders, ash receivers. 254

819 Ahmed Moussa, Rhodes.—Wooden pipes. 254

820 Ali, Aintab.—Ash receivers. 254

821 Ali Agha, Roostchook, Danube.—Pipe heads, tobacco pot, and cigarette holder. 254

822 Ali Agha, Widin, Danube.—Ash receivers. 254

823 Ali, Houdehida, Yieman.—Bamboo cup and cigarette box. 254

824 Ahmed Ousta, Trebizond.
a Pipe inlaid with silver. 254
b Cartridge box, case, and bag. 255

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

825 Ardavissa, Madame, Constantinople.—Thread baskets. 254

826 Avadiz, Miss, Dardanelles.—Tobacco pouch, silk purse. 254

828 Mounidjian Kirkor, Constantinople.—Traveling bag. 255

829 Moustapha, Mosul, Bagdad.—Morocco pistol cases. 255

830 Moustapha Ani, Koniah.—Couriers' bags. 255

831 Ibrahim, Hadji, Tripoli, Tripoli.—Morocco pistol holders. 255

832 Hachmet, Trebizond.—Cartridge box. 255

833 Abdoullah Chili, Tripoli, Tripoli.—Morocco cushion cover. 255

834 Ahmed Cherif, Damascus.—Morocco cartridge box and case. 255

835 Ali Oglou Velz, Larik, Koniah.—Courier's bag. 255

836 Aghop, Erzeroum.—Fox furs. 256

Paper, Blank Books, Stationery.

837 Dervich, Oglou Nacif, Hadji, Candia, Crete.—Writing materials and inkstands. 258

838 Koniah, Government of.—Turkish inkstands. 258

839 Chirignan, Constantinople.—Turkish inkstands. 258

840 Dimitri, Yanina, Yanina.—Turkish inkstand. 258

841 Birch Kirkor, Aintab.—Inkstand. 258

842 Bekir Agha, Ourpha, Aleppo.—Inkstands. 258

843 Ahmed Chibre, Houdehida, Yieman.—Turkish inkstand. 258

844 Ali Agha, Roostchook, Danube.—Turkish inkstands. 258

845 Karabet, Constantinople.—Turkish inkstands. 258

846 Zaferembolo, Government of, Castamouni.—Marble inkstand. 258

847 Vester, Jerusalem, Syria.—Olive wood desks, inkstands, penholders, paper weights, calenders, rules, seals, paper-knives, paper boxes, etc. 258

848 Ferrad, Ousta, Keuprulu, Salonica.—Office utensils. 258

849 Nicoforaki, Thèophani, Canea, Crete—Green parchment. 259

850 Ludovic & Vallauri, Constantinople.—Liquor labels. 261

Weapons, etc.

851 Christo, Polita, Trebizond.—Pistol and case. 265

852 Vidal, J. M., Constantinople.—Old firearms. 265

853 Constantinople, Government of.
a Schneider rifles, knapsack and cartridge box. 265
b Sabres. 268

854 Ahmed Agha, Poya, Trebizond.—Yataghan. 268

855 Ahido, Adrianople.—Yataghan. 268

856 Ali Osman, Broussa, Broussa.—Knives. 268

857 Raphaélion, Gabriel, Constantinople.—Tomahawk. 268

858 Mehemed, Mosul, Bagdad.—Cartridge boxes, pistol cases, military belt, saddle bags. 269

Medicine, Surgery, Prothesis.

859 Spalhareon, Government of, Samos.—Amianthus. 272

860 Abdourhman, Aleppo.—Sumac berries. 272

861 Anguel, Ichkodra, Monastir.—Leaves of the adragante plant. 272

862 Boghend Luzzena, Constantinople.—Benzine. 272

863 Fakari, Aleppo.—Nigella. 272

864 Smyrne, Government of, Aydin.—Jalap. 272

865 Tootchana, Government of, Monastir.—Opium. 272

866 Saroukhan, Government of, Aydin.—Opium, and tinpigonde. 272

867 Medina, Government of, Hidjaz.—Zathère and chinan plants, used as medicines. 272

868 Mosul, Government of, Bagdad.—Mint, dried roses, etc. 272

869 Kara-Tach, Government of.—Poutargue. 272

870 Kerbella, Government of, Bagdad.—Opium. 272

871 Kara Issalé, Government of, Adana.—Asphodele plant. 272

872 Koyondja, Government of, Bosnia.—Orpiment, a narcotic. 272

873 Catara, Government of, Yanina.—Salep. 272

874 Damascus, Government of, Syria.—Poppy heads, carthamum seeds and blossoms. 272

875 Canea, Government of, Crete.—Laudanum. 272

876 Broussa, Government of.—Opium. 272

877 Hazrou, Aleppo.—Bastard saffron. 272

878 Hab Usu, Sullé, Koniah.—Chaleb aléanus. 272

879 Moustapha, Hadji, Marach, Aleppo.—Opium. 272

880 Hussein Effendi, Koniah, Koniah.—Opium. 272

881 Illias Manou, Aleppo.—Poppy heads. 272

882 Koular Oglou Mehemed, Lapseki, Dardanelles.—Poutargue. 272

883 Nicolas, Prévézé, Yanina.—Poutargue. 272

884 Starri, Oglou, Castamouni, Castamouni.—Salep. 272

885 Sali, Ichkodra, Monastir.—Poutargue. 272

886 Tadjiché, Malatia, Diarbekir.—Opium. 272

887 Tarrout & Co., Volonia, Yanina.—Poutargue. 272

888 Tayk Pasha, Constantinople.—Opium. 272

889 Mourad Oglou Ali, Ayvadjik, Dardanelles.—Scammony. 272

890 Yussuf Mocha, Salonica.—Poutargue. 272

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

891 Mussa Soleiman, Tdomane, Yanina.—Pernécone. 272

892 Zuccala, Carlo, Constantinople.—Pharmaceutical preparations. 272

893 Abazar Ketour, Saret, Diarbekir.—Ebony wood crutches. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

894 Bagdad, Government of.—Hatchet, iron tomahawks. 280

895 Palonka, Government of, Monastir.—Iron nippers, etc. 280

897 Isaac Agha, Hadji, Constantinople.—Saws. 280

898 Hussein, Constantinople.—Planes and ruler. 280

899 Chaouch, Ibrahim, Constantinople.—Joiners' chisels. 280

900 Ibrahim, Ousta, Constantinople.—Gimlets. 280

901 Suleiman, Constantinople.—Files. 280

902 Ludovic & Vallauri, Constantinople.—Copper pincers. 280

903 Suriani, Anton, Aleppo.—Silver scissors. 281

903*a* Hartine, Sivas, Sivas.—Scissors. 281

904 Kodja Osman Agha, Bosnia.—Knife. 281

905 Laz Oglou Giorki, Castamouni, Castamouni.—Penknives. 281

906 Noury Eddin Ousta, Piseren, Monastir.—Scissors. 281

907 Samarina Yani, Yanina, Yanina.—Knife. 281

908 Soliman, Candia, Crete.—Pocket-knife, scissors, etc. 281

909 Tanasse, Yanina, Yanina.
a Goat and sheep bells. 283
b Door knocker. 284

910 Moustapha, Constantinople.—Copper cocks, etc. 284

911 Ahmed, Ousta, Trebizond.—Lock. 284

912 Kirkor, Aintab.—Pincers. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

913 Ludovic & Vallauri, Constantinople.
a Brooms. 286
b Turkish ensign and wooden crescent. 288

914 Medina, Government of, Hidjaz.
a Fly brush. 286
b Wooden dish; palm-leaf basket. 289

915 Ali, Marach, Aleppo.—Sorghum straw brooms. 286

916 Yazacoula, Marach, Aleppo.—Broom. 286

917 Mehemed, Ousta, Koniah.—Ropes. 287

918 Andon, Mitchré, Yanina.—Wooden casks. 289

919 Alidjé, Madame, Koudehida, Yieman.—Baskets. 289

920 Tchobano, Dimitri, Yanina, Yanina.—Wooden mould. 289

921 Dimitri, Yanina, Yanina.—Wooden dish. 289

922 Bagdad, Government of.—Palm baskets. 289

923 Piseren, Government of, Monastir.—Wooden water pitcher. 289

924 Djira, Government of, Castamouni.—Wooden spoons. 289

925 Chaban, Hadji, Koniah, Koniah.—Wooden cups. 289

926 Youssouf, Hadji, Terssus, Adana.—Wooden water pots. 289

927 Murtaza, Hadji, Trebizond.—Wooden box. 289

928 Ibrahim, Terssus, Adana.—Wooden scraper. 289

929 Kiamil, Effendi, Koniah, Koniah.—Wooden spoons. 289

930 Marco, Bosnia.—Wooden spoons. 289

931 Mehemed bin Abdoulah, Bosnia.—Wooden spoons. 289

932 Menehoz, Priest of Mount Athos, Salonica.—Wooden spoons. 289

933 Mahmoud Kabali, Mecca, Hidjaz.—Wooden decanter, goblet, and dish. 289

934 Mollah, Youssouf, Cassendi, Adana.—Wooden mortar. 289

935 Moustapha, Nevrekop, Salonica.—Wooden casks, drinking cup, and coffee box. 289

936 Younusse, Uskup, Monastir.—Wooden spoons. 289

Carriages, Vehicles, and Accessories.

937 Abdourahman, Aman, Zoubeid, Yieman.—Whip. 296

938 Boch, Kirkor, Aintab.—Stirrups. 296

939 Cazas, Thomas, Diarbekir.—Silk breast-piece for horses. 296

940 Delimé, Suleimaneeyah, Bagdad.—Saddle cloth. 296

941 Dip Notutchu, Damascus.—Woolen bridle, pistol holders, cartridge box. 296

942 Bagdad, Government of.—Reins and stirrups. 296

943 Constantinople, Government of.—Cavalry saddle and harness. 296

944 Ibrahim, Oglou Ali, Koniah.—Woolen knapsack. 296

945 Maktès, Heron, Ourpha, Aleppo.—Saddle cloth. 296

946 Mehemed, Larik, Koniah.—Saddle cloth. 296

946*a* Moustapha, Omer, Koniah.—Woolen halter. 296

947 Moustapha, Mosul, Bagdad.—Saddle cloths. 296

948 Osman Effendi, Broussa.—Girth. 296

949 Ousta Mehemed Tournous, Tripoli, Tripoli.—Saddle and harness. 296

950 Sarak, Salif, Damascus.—Pack saddles of tiger skin. 296

951 Sarradj, Moustapha, Marach, Aleppo.—Saddle girth and stirrups. 296

952 Tanasse, Yanina, Yanina.—Stirrups. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Arboriculture and Forest Products.

Agriculture, Arboriculture, and Forest Products.

953 Noury Bey, Darendè, Sivas.—Sumac. 600

954 Kara-Hissar, Government of, Sivas.—Sumac leaves. 600

955 Dofat & Co., Pargua, Yanina.—Acorn cups. 600

956 Chakir Agha, Ayvadjik, Dardanelles.—Acorn cups. 600

957 Cadi Kazi Agha, Caraman.—Sumac berries. 600

958 Ali Agha, Kangre, Castamouni.—Sorbus (tree). 600

959 Avadjan, Savas, Savas.—Aloe wood. 600

960 Massoudjou, Diarbekir.
a Bark of the pomegranate tree. 600
b Gall-nuts, acorn cups, madder. 602
c Vegetable gum. 603
d Juniper berries and asphodele seed. 605

961 Schit Mohammed, Sparthe, Koniah.—Gall-nuts. 602

962 Ali Oglou Mehemed, Koniah, Koniah.—Gall-nuts. 602

963 Ziadji Oglou Bolis, Diarbekir.
a Sumac leaves. 602
b Excrescence of an oak tree, etc. 604

964 Taraiche Metre, Monastir, Monastir.—Madder. 602

965 Pano Mamatti, Prévézè, Yanina.—Gall-nuts. 602

966 Petro, Volonia, Yanina.—Gall-nuts. 602

967 Djourbachi, Nicolas, Imbros, Dardanelles.—Madder root. 602

968 Moustapha Effendi, Koniah, Koniah.—Madder. 602

969 Mosul, Government of, Bagdad.
a Madder root. 602
b Excrescence of an oak. 604
c Yellow seeds. 605

970 Illias Ténè, Aleppo.—Madder. 602

971 Ahmed, Hadji, Tripoli, Tripoli.—Saffron. 602

972 Moustapha, Hadji, Tripoli, Tripoli.—Galls for tanning. 602

973 Bougali, Hadji Ali, Tripoli, Tripoli.—Henna leaves. 602

974 Mehemet Agha, Hadji, Angora.—Acorn cups, gall-nuts, sumac leaves. 602

975 Charade, Hadji Ali, Tripoli, Tripoli.—Madder. 602

976 Moustapha, Hadji, Aleppo.
a Gall-nuts, madder. 602
b Pitch, vegetable gum. 603

977 Cherishor, Government of, Bagdad.—Henna gum and leaves. 602

978 Bigdè, Government of, Koniah.
a Madder root. 602
b Vegetable gum. 603
c Yellow seeds. 605

979 Adrianople, Government of.—Gall-nuts. 602

980 Damascus, Government of, Syria.
a Gall-nut, sumac, and madder root. 602
b Basson gum. 603

981 Erezena, Government of, Crete.—Pine tree bark. 602

982 Zaferampolo, Government of, Castamouni.—Saffron. 602

983 Mihalgazi, Government of, Castamouni.—Sumac leaves. 602

984 Kara-Issali, Government of, Adana.
a Sumac leaves. 602
b Mastic tree resin. 603

985 Isklip, Government of, Castamouni.
a Scammony. 602
b Yellow seeds. 605

986 Adana, Government of.
a Gall-nuts, etc. 602
b Adragante seed. 605

987 Suleimaneeyah, Government of, Bagdad.
a Galls, gall-nuts, etc. 602
b Vegetable gum. 603
c Yellow seeds. 605

988 Saroukhan, Government of, Aydin.—Gall-nuts. 602

989 Smyrna, Government of, Aydin.
a Pine tree bark. 602
b Pitch. 603
c Dolique seed. 605

990 Retimo, Government of, Crete.—Gall-nuts. 602

991 Abdourahman Effendi, Kangre, Castamouni.
a Gall-nuts. 602
b Yellow seed. 605

992 Artin Effendi, Adana, Adana.—Madder root. 602

993 Ali Effendi, Angora.
a Madder. 602
b Yellow and black pitch. 603

994 Oghan, Sivas, Sivas.—Black pitch and tar. 603

995 Suleiman, Ichkodra, Monastir.—Pitch. 602

996 Nicolaki, Jovan Oglou, Bairamich, Dardanelles.—Resin. 603

997 Maktis, Diarbekir.—Manna. 603

998 Mahmoud Katlani, Aleppo.—Pitch. 603

999 Moustapha, Ahmed Oglou, Bairamich, Dardanelles.—Pitch. 603

1000 Las Osman, Kangre, Castamouni.—Adragante gum. 603

1001 Kouyoun Oglou, Andoni, Angora.—Opium and adragante gum. 603

1002 Ismail, Cherishor, Bagdad.—Vegetable gum. 603

1003 Illias Manou, Aleppo.—Pine resin. 603

1004 Erzeroum, Government of.—Pitch. 603

1005 Sfakia, Government of, Crete.—Vegetable pitch, resin. 603

1006 Yldis-Ili, Government of, Sivas.—White pitch. 603

1007 Merssine, Government of, Adana.—Yellow pitch. 603

1008 Volonia, Government of, Yanina.—Pitch. 603

1009 Akhati, Giorki, Aleppo.—Apricot tree gum. 603

1010 Toutous, Government of, Sivas.—Vegetable gums. 603

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Arboriculture, Pomology, Agricultural Products.

1011 Samos, Government of.
a Resin. 603
b Carob bean. 605

1012 Central Drug-store, della Sudda's, Broussa.—Scammony resin. 603

1013 Yconomidès, Antonio, Canea, Crete.—Mastic. 603

1014 Ahmed, Agha, Alada, Koniah.—Resin. 603

1015 Ahmed, Agha, Koniah, Koniah.—Vegetable and purified pitch. 603

1016 Mehemed Galz Effendi, Damascus.—Marshmallow. 604

1018 Théophani, Nicoforaki, Canea, Crete.—Sweet almonds; seeds. 605

1019 Stiraki, Marinaki, Canea, Crete.—Sweet almonds. 605

1020 Over, Agha, Malalio, Diarbekir.—Pistachio-nuts. 605

1021 Latzindaki, Nicoli, Canea, Crete.—Sweet almonds. 605

1022 Missa Yian, Diarbekir.—Yellow seeds. 605

1023 Moustapha, Bandjak, Adana.—Palma-christi seed. 605

1025 Mehemed Rechio, Diarbekir.—Batones, a species of pistachio-nuts. 605

1026 Mehemed Ousta, Koniah, Koniah.—Yellow seeds. 605

1027 Karabet, Kangre, Castamouni.—Yellow seeds. 605

1028 Latzindaki, Hadji Yorghi, Canea, Crete.—Sweet almonds. 605

1029 Ali Bekir, Hadji, Sarret, Diarbekir.—Batones, species of pistachio-nuts; hazel-nuts. 605

1030 Aleppo, Government of.—Yellow Avignon seed. 605

1031 Esiné, Government of, Dardanelles.—Gall-nuts. 605

1032 Fokat, Government of, Sivas.—Avignon seed. 605

1033 Houran, Government of, Syria.—Asphodele seed. 605

1034 Chagir, Agha, Canea, Crete.—Sweet almonds. 605

1035 Bolesse, Diarbekir.—Yellow seeds. 605

1036 Ali Ani, Sullé, Koniah.—Yellow seed. 605

1037 Ali Baba, Aleppo.—Pine seeds. 605

Pomology.

1038 Ali Bekir, Hadji, Sarret, Diarbekir.—Crab apples. 610

1039 Carnic Ali Agha, Kangre, Castamouni.—Corinth grapes. 610

1040 Feefik, Mamor, Diarbekir.—Cherries. 610

1041 Seid, Hadji, Koniah, Koniah.—Corinth grapes. 610

1042 Over Agha, Malatio, Diarbekir.—Grapes. 610

1043 Abdoullah, Aleppo.—Almonds. 611

1044 Abdourahman, Aleppo.—Hazel and pistachio nuts. 611

1045 Austagan, Adrianople.—Gombo fruit. 611

1046 Djemal Ali, Sarret, Diarbekir.—Dried figs. 611

1046*a* Yanacoli, Canea, Crete.—Sweet almonds. 611

1047 Amassia, Government of, Sivas.—Nuts. 611

1048 Retimo, Government of, Crete.—Salted olives. 611

1049 Cattari Giorki, Yanina, Yanina.—Olives. 611

1050 Tschataldja, Government of, Yanina.—Green olives. 611

1051 Ichel, Government of, Adana.—Olives. 611

1052 Medina, Government of, Hidjaz.—Dates. 611

1053 Samos, Government of.—Olives, almonds, and raisins. 611

1054 Prévézé, Government of, Yanina.—Cedras, a sort of lemon. 611

1055 Churadè, Hadji Ali, Tripoli, Tripoli.—Raisins. 611

1056 Kemer Kirkor, Mamor, Diarbekir.—Dried almonds. 611

1057 Youssouf, Aleppo.—Jujube. 611

1058 Chaouch, Moustapha, Ayvadjik, Dardanelles.—Olives. 611

1059 Mehemed Effendi, Dardanelles, Dardanelles.—Almonds and nuts. 611

1060 Djudie, Mehemed, Tripoli, Tripoli.—Dates. 611

1061 Petro, Bèrat, Yanina.—Almonds and nuts. 611

1062 Seid Hussa, Mardin, Diarbekir.—Mahaleb. 611

1063 Salomon, Salonica.—Olives. 611

1064 Smyrna, Government of, Aydin.—Almonds, olives. 611

Agricultural Products.

1065 Topchin Mulasin, Koniah, Koniah.
a Oats. 620
b Flaxseed. 624

1066 Toran Costa, Philippopolis, Adrianople.
a Wheat, rye, maize, barley, rice, and millet. 620
b Vetch. 621

1067 Youssouf, Diarbekir.
a Cereals: wheat, barley, and millet. 620
b Gray peas. 621
c Kuchené seed. 624

1068 Abdi Agha, Prevézé, Yanina.—Oats. 620

1069 Ab-del Kader Kourou Atechè, Adana.—Sesame. 620

1070 Abdourahman, Aleppo.
a White sorghum. 620
b Lentils, gray peas. 621
c Dofique seed. 624

1071 Ahmèd, Tchataldja, Yanina.—Barley. 620

1072 Banouch Agha, Permidè, Yanina.—Wheat. 620

1073 Christo, Yanina, Yanina.
a Wheat, barley, rye, oats, maize, and millet. 620
b Lentils, green peas. 621
c Dolique seed. 624

1074 Christo, Volonia, Yanina.—Barley. 620

1075 Christo, Prévézé, Yanina.—Barley. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Agricultural Products.

1076 Ahmed, Chaouch, Cus-Kuri, Dardanelles.—Oats. 620

1077 Dibra Gaza, Aleppo.
a Rice. 620
b Asphodele and liquorice root. 622

1078 Emin Agha, Constantinople.
a Wheat, maize, oats, sesame, millet, spelt, etc. 620
b Lentils, vetch, and grach. 621
c Flaxseed. 624

1079 Ferssouz, Adana, Adana.—Wheat. 620

1080 Fodolali, Nazif Agha, Candia, Crete.—Barley. 620

1081 Giorki, Antaki, Aleppo.—Sesame. 620

1082 Giorki, Volonia, Yanina.
a Rice. 620
b Kidney beans. 621

1083 Aydin, Government of.
a Wheat, barley. 620
b Liquorice root. 622

1084 Berat, Government of, Yanina.
a Maize. 620
b Tobacco. 623

1085 Cherishor, Government of, Bagdad.—Rice. 620

1086 Damascus, Government of, Syria.
a Wheat, maize, barley, white sorghum, etc. 620
b Vetch and gray peas. 621
c Anise and coriander seed. 623
d Beet root, fennel, and hemp seed. 624

1087 Diarbekir, Government of.—Wheat. 620

1088 Erzeroum, Government of.
a Wheat, rye, and barley. 620
b Flaxseed. 624

1089 Houran, Government of, Syria.—Sesame. 620

1090 Kara-Hissar, Government of, Sivas.
a Wheat and barley. 620
b Gray peas, kidney beans, lentils. 621

1091 Kerbella, Government of, Bagdad.
a Rice, millet, sesame, barley, wheat, white sorghum. 620
b Lentils, beans, masch (vegetable). 621
c Dolique seed. 624

1092 Medina, Government of, Hidjaz.—Wheat and barley. 620

1093 Mentefek, Government of, Bagdad.
a Wheat, millet, and rice. 620
b Beans, masch. 621
c Dolique seed. 624

1094 Mosul, Government of, Bagdad.
a Maize. 620
b Peas. 621
c Coriander. 623
d Flaxseed. 624

1095 Serfiché, Government of, Monastir.—Wheat, rye, barley, and maize. 620

1096 Smyrna, Government of, Aydin.
a Wheat, maize, evrier, millet, sesame, white sorghum. 620
b Peas and beans. 621
c Fennel, cumin. 624

1097 Suleimaneeyah, Government of, Bagdad.
a Barley, millet, and rice. 620
b Vetch and beans. 621

1098 Tahif, Government of, Hidjaz.—White and red sorghum, millet, wheat, and barley. 620

1099 Tootchana, Government of, Monastir.—Rice. 620

1100 Toutous, Government of, Sivas.
a Cereals. 620
b Chick-peas. 621
c Radish and flaxseed. 624

1101 Uskup, Government of, Monastir.
a Wheat and rye. 620
b Leaf tobacco. 623

1102 Volonia, Government of, Yanina.—Maize. 620

1103 Ali Agha, Hadji, Koniah, Koniah.—Wheat. 620

1104 Ali Agha, Hadji, Kangre, Castamouni.
a Millet. 620
b Cumin. 623

1105 Ali, Hadji, Koniah, Koniah.—Wheat. 620

1106 Ali Bou Allia, Hadji, Tripoli, Tripoli.
a Wheat, barley, maize. 620
b Lentils and beans. 621
c Coriander and cumin. 623

1107 Ali Bougali, Hadji, Tripoli, Tripoli.
a Millet. 620
b Sorghum seed. 624

1108 Bekir Effendi, Hadji, Adana, Adana.—Barley and millet. 620

1109 Esseid Effendi, Hadji, Koniah, Koniah.—Wheat. 620

1110 Ismail, Hadji, Koniah, Koniah.—Wheat. 620

1111 Ismaila, Hadji, Cus-Kuri, Dardanelles.—Barley. 620

1112 Moustapha Agha, Hadji, Adana, Adana.—Gray peas. 621

1113 Sali, Hadji, Anabon, Monastir.—Wheat and maize. 620

1114 Weisser, Hadji, Dardanelles, Dardanelles.—Evrier, a cereal. 620

1115 Hassan Agha, Koniah, Koniah.—Wheat. 620

1116 Hussein, Aleppo.—Maize. 620

1117 Ismail Agha, Abdi Tolli, Koniah.
a Black barley. 620
b Radish seed. 624

1118 Ismail, Tchataldja, Yanina.—Wheat. 620

1119 Ismail Effendi, Candia, Crete.—Barley. 620

1120 Kavilian, Stépan, Sivas.—Wheat. 620

1121 Kutchuk Ali Agha, Dardanelles, Dardanelles.—Wheat. 620

1122 Manoli, Boyadjaki, Candia, Crete.—Barley. 620

1123 Mehemed Effendi, Dardanelles, Dardanelles.—Indian corn, sesame. 620

1124 Mehemeda, Cus-Kuri, Dardanelles.—Rye. 620

1125 Merdik, Mardin, Diarbekir.—Sesame. 620

1126 Moussin Oglou Seid, Koniah, Koniah.
a Barley. 620
b Gray peas. 621

1127 Mourazedé, Aleppo.—Unhulled rice. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Agricultural Products.

1128 Moussa OglouVeli, Alada, Koniah.—Rye. 620

1129 Moussin Effendi, Koniah, Koniah.—Evrier, a cereal. 620

1130 Moustapha Effendi, Cherkech, Castamouni.—Wheat and barley. 620

1131 Moustapha, Agha, Canea, Crete.—Barley. 620

1132 Nougai Baitimour, Adana, Adana.—Millet. 620

1133 Ohannes, Aleppo.—Wheat and barley. 620

1134 Olah Artin, Adana, Adana.—Oats. 620

1135 Oudjou Christo, Yanina, Yanina.—White sorghum. 620

1136 Pachistizzi, Volonia, Yanina.—Maize. 620

1137 Petro, Bérat, Yanina.—Rice and oats. 620

1138 Portocalaki, Moustapha Agha, Candia, Crete.—Wheat. 620

1139 Salbé, Diarbekir.—Rice, hulled and unhulled. 620

1140 Salih, Ichkodra, Monastir.
a Barley, rye, oats, wheat, and maize. 620
b Beans. 621
c Flaxseed. 624

1141 Salomon, Salonica.—Wheat, rye, oats, barley. 620

1142 Seid Chaban, Zubei, Yiemen.
a Maize, millet, and red, white, and yellow sorghum. 620
b Lentils. 621
c Dolique and indigo-plant seeds. 624

1143 Seid Mehemed Agha, Angora.
a Wheat, barley, etc. 620
b Beans, peas, lentils. 621
c Coriander. 623

1144 Théophani, Nicoforaki, Canea, Crete.
a Wheat, barley, Indian corn, oats. 620
b Gray peas, vetch, beans, parsnip, celery, mühlie. 621
c Leaf tobacco, mustard. 623

1145 Houllé, Government of, Bagdad.—Lentils, vetch, and beans. 621

1146 Kara Issalé, Government of, Adana.
a Vetch. 621
b Sage. 623

1147 Samos, Government of.
a Vetch. 621
b Anise seed. 624

1148 Saroukhan, Government of, Aydin.
a Lentils. 621
b Madder root. 622
c Mustard seed. 624

1149 Mehemed, Hadji, Diarbekir.—Roast peas. 621

1150 Isaac, Hodja, Aleppo.—Lentils, peas, and masch. 621

1151 Ismail Agha, Koniah, Koniah.—Vetch. 621

1152 Mehemed Ali Agha, Saradjik, Dardanelles.—Beans, gray peas. 621

1153 Ahmed, Erzeroum.—Lentils, kidney beans, and peas. 621

1154 Aghoba, Kingnessa, Adana.—Lentils. 621

1155 Ali Ousta, Koniah, Koniah.—Kidney beans. 621

1156 Charchou Akassi, Diarbekir.—Lentils. 621

1157 Christo, Palatnos, Yanina.—Beans. 621

1158 Kachomla, Christo, Tdomane, Yanina.—Kidney beans. 621

1159 Diaba, Heudeurlé, Adana.—Kidney beans. 621

1160 Giorki, Aleppo.
a Vetch. 621
b Kuchené seed. 624

1161 Mehemed Seid, Angora.
a Kidney beans. 621
b Cumin. 623

1162 Molah Ahmed, Adana, Adana.—Beans. 621

1163 Sidmaki, Sfakia, Crete.—Dried beans. 621

1164 Fetou, Aleppo.—Kidney beans. 621

1165 Yorghanodhaki, Sfakia, Crete.—Vetch. 621

1166 Valah, Vandiria, Sfakia, Crete.—Lentils. 621

1167 Youssouf Mamor, Diarbekir.—Kidney beans. 621

1168 Youssouf Manoc, Aleppo.—Beans. 621

1169 Akhati, Giorki, Aleppo.—Soapwort root. 622

1170 Moustapha, Hadji, Marach, Aleppo.—Scammony. 622

1171 Hazrou, Aleppo.—Coriander seed. 623

1172 Imperial Administration, Constantinople.—Tobacco. 623

1173 Kandi Bros., Erguiré, Yanina.—Snuff. 623

1174 Mehemed, Koniah, Koniah.—Cumin. 623

1175 Nassou Tarrouchan, Ichkodra, Monastir.—Leaf tobacco. 623

1176 Omer Oglou Kassan, Tchan, Dardanelles.—Leaf tobacco. 623

1177 Rahimin David, Tripoli, Tripoli.—Cumin. 623

1778 Ramazan, Effendi, Smyrna, Aydin.—Tobacco. 623

1179 Abil, Aleppo.—Snuff. 623

1180 Djourbachi, Antolu, Dardanelles, Dardanelles.—Cumin and anise. 623

1181 Bedros, Antoine, Philadelphia, Pa.—Turkish tobacco. 623

1182 Bekir Bey, Marach, Aleppo.—Scammony root. 623

1183 Costanti, Aydonat, Yanina.—Snuff. 623

1184 Aleppo, Government of.—Tobacco. 623

1185 Amassia, Government of, Sivas.—Tobacco. 623

1186 Kenidje, Government of, Salonica.—Tobacco. 623

1187 Haskanorich Ali, Korimdja, Bosnia.—Tobacco. 623

1188 Manoli Calergui, Papa, Canea, Crete.—Leaf tobacco. 623

1189 Takssim Effendi, Tchataldja, Yanina.—Tobacco. 623

1190 Tokatlou, Trebizond.—Leaf tobacco. 623

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural, Animal, and Vegetable Products.

1191 Yani, Oglou Andin, Angora, Angora.—Tobacco. 623

1192 Youssouf, Chaouch, Nardat, Yanina.—Tobacco. 623

1193 Youssouf, Chaouch, Tchataldja, Yanina.—Tobacco. 623

1194 Manouk, Youssouf, Aleppo.—Tobacco. 623

1195 Kayod, Hussein, Mardin, Diarbekir.—Fennel seed. 624

1196 Moustapha Effendi, Koniah, Koniah.—Hemp seed. 624

1197 Kouyoun Oglou, Andonie.—Seed. 624

1198 Yousouf, Hadji, Diarbekir.—Palma-christi seeds. 624

1199 Kazikli, Government of, Aydin.—Anise seed. 624

1200 Cus-Kuri, Government of, Dardanelles.—Dolique seed. 624

1201 Djbra Gaza, Aleppo.—Fennel seed and cumin. 624

1202 Ali Bin Mehemed, Tripoli, Tripoli.—Lucern seed. 624

1203 Youssouf, Aleppo.—Hemp, palma-christi, mekineche, melon, and watermeion seeds. 624

1204 Tarai, Djemetrė, Bokeva, Monastir.—Flax and hemp seed. 624

1205 Maneza, Government of, Aydin.—Flaxseed. 624

1206 Adana, Government of.—Dolique seed. 624

Land Animals.

1207 Mazloum Aghiah, Constantinople.—Insects. 638

Water Animals, Fish Culture and Apparatus.

1208 Ali Zotte, Volonia, Yanina.—Coral. 645

Animal and Vegetable Products.

1209 Lachite, Government of, Crete.—Sponges. 650

1210 Themeli, N., New York, N. Y.—Sponges. 650

1211 Mansour, Hadji, Tripoli, Tripoli.—Sponges. 650

1212 Djidė, Government of, Hidjaz.—Sponges. 650

1213 Gallinos, Rhodes, Dardanelles.—Sponges. 650

1214 Théophani, Nicoforaki, Canea, Crete.
a Cheese. 651
b Leather and skins. 652
c Honey. 654
d Dried cherries. 656

1215 Minassian Miguerdji, Tokat, Sivas.—Cheese. 651

1216 Markora, Salonica.—Cheese. 651

1217 Mikahl Agha, Adrianople.—Lamb skins. 652

1218 Mikaėl, Kotchissar, Castamouni.—Beaver skin. 652

1219 Mehemeda, Dardanelles.—Morocco. 652

1220 Starri, Oglou, Kotchissar, Castamouni.—Marten skin. 652

1221 Nichan, Sivas, Sivas.—Skins. 652

1222 Nely, Ali, Marach, Aleppo.—Morocco. 652

1223 Moustapha, Ourpha, Aleppo.—Leather. 652

1224 Moustapha, Erzeroum.—Leather, morocco, etc. 652

1225 Mohadjeri Nahe, Adana, Adana.—Gazelle skin. 652

1226 Abdul Medjid, Vesalomon.—Goat skin. 652

1227 Abdoulah, Aroubirje, Zoubei, Bagdad.—Morocco. 652

1228 Seyfoullah, Roostchook, Danube.—Leather. 652

1229 Sari Faki Moustapha, Marach, Aleppo.—Morocco. 652

1230 Safran Bolu, Zaferemboli, Castamouni.—Morocco. 652

1231 Panoucha, Yanina.—Leather. 652

1232 Osman Agha, Koniah.—Leather. 652

1233 Mehemed, Ousta, Boschir, Koniah.—Leather. 652

1234 Omer, Ousta, Piseren, Monastir.—Morocco. 652

1235 Ohannės Agha, Angora.—Angora goat skins. 652

1236 Ahmed Agha, Koniah.—Leather and morocco. 652

1237 Yanaki Kalviro, Yanina.—Goat skin. 652

1238 Youssouf, Caraman, Koniah.—Morocco. 652

1239 Vasali Borbo, Yanina.—Morocco. 652

1240 Tosty, Galota, Chio, Dardanelles.—Leather. 652

1241 Chinopli, Thomas, Teralu, Yanina.—Sheep skin. 652

1242 Sirkilė, Olan Andin, Angora.—Weasel skin. 652

1243 Sirch, Oglou, Andon, Angora.—Wolf, weasel, and fox skin. 652

1244 Atanach, Dardanelles, Dardanelles.—Sheep skin. 652

1245 Andria, Trebizond.—Grebe skins. 652

1246 Andon, Chio, Dardanelles.—Morocco. 652

1247 Anastach, Kangre, Castamouni.—Goat skin. 652

1248 Ali, Omer, Bigha, Dardanelles.—Deer skin. 652

1249 Ali, Salonica.—Leather. 652

1250 Ali, Mosul, Bagdad.—Beaver, fox, and wolf skin. 652

1251 Ahmed, Ousta, Castamouni, Castamouni.—Angora goat skin. 652

1252 Zelo, Christo, Yanina.—Red morocco. 652

1253 Cherbedji Mehemed, Marach, Aleppo.—Goat and sheep skin. 652

1254 Moussa Agha, Cheik, Diarbekir.—Goat and sheep skin. 652

1255 Chaban Oglou Mehemed, Koniah, Koniah.—Cat skin. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Animal and Vegetable Products.

1256 Cassal, Adana, Adana.—Goat and sheep skin. 652

1257 Cafak, Abdoullah, Marach, Aleppo.—Morocco. 652

1258 Bekir Agha, Sivas, Sivas.—Leather, morocco, and skins. 652

1259 Balto Oglou Youssouf, Guengnek, Castamouni.—Morocco. 652

1260 Glano, Giorki, Yanina.—Skin. 652

1261 Eyoup, Ourpha, Aleppo.—Goat and sheep skin. 652

1262 Echef Effendi, Trebizond.—Morocco. 652

1263 Ebouker, Chérif, Tripoli, Tripoli.—Sheep skin. 652

1264 Dchoban Oglou Mehemed, Koniah.—Fox skin. 652

1265 Corporation of Curriers, Smyrna.—Leathers, skins, and morocco. 652

1266 Dauli, Christo, Yanina.—Morocco. 652

1266*a* Corporation of Curriers, Damascus.—Leather and morocco. 652

1267 Calman, Government of, Syria.—Goat skin. 652

1268 Cherishor, Government of, Bagdad.—Lamb skin. 652

1269 Bourd, Government of, Bagdad.—Morocco. 652

1270 Ohanès Agha, Marach, Aleppo.—Ounce and weasel skins. 652

1271 Bagdad, Government of.—Buffalo skin and morocco. 652

1272 Moustapha, Hadji, Marach, Aleppo.—Skins. 652

1273 Adana, Government of.—Roebuck and calf skins. 652

1274 Godché, Erondi, Prévézé, Yanina.—Leather, morocco. 652

1275 Gulbin, Oglou Mehemed, Koniah, Koniah.—Jackal skin. 652

1276 Tahif, Government of, Hidjaz.
a Sheep and goat skin. 652
b Honey. 654

1277 Kara Issali, Government of, Adana.—Deer skin. 625

1278 Feulgehete, Government of, Syria.—Deer skin. 652

1279 Erzeroum, Government of.
a Goat skin, morocco. 652
b Down. 653

1280 Diarbekir, Government of.—Leather and morocco. 652

1281 Dardanelles, Government of.—Goat skin. 652

1282 Damascus, Government of, Syria.
a Sheep skin. 652
b Honey and wax. 654

1283 Constantinople, Government of.—Morocco and other leathers. 652

1284 Manik, Hadji, Erzeroum.—Fox skin. 652

1285 Ismail Effendi, Hadji, Koniah, Koniah.—Otter skin, etc. 652

1286 Ismail, Hadji, Aintab.—Calf skin, leather, and morocco. 652

1287 Ibrahim, Hadji, Angora.—Leather and morocco. 652

1288 Damiano, Hadji, Bosnia.—Bear, fox, weasel, badger, and marten skins. 652

1289 Amparson, Hadji, Trebizond.—Jackal, fox, weasel, lamb, and sable skins. 652

1290 Ahmed, Hadji, Angora.—Goat and sheep skin. 652

1291 Achmet Agha, Hadji, Angora.—Lamb skin. 652

1292 Rafoul, Hodja, Marach, Aleppo.—Wildcat, fox, otter, and jackal skins. 652

1293 Hassan Oglou Ahmed, Dardanelles, Dardanelles.—Wildcat, fox, beaver, weasel, and jackal skins. 652

1294 Hassan, Ousta, Castamouni.—Morocco. 652

1295 Harani Oglou, Castamouni, Castamouni.—Ounce skin. 652

1296 Haho, Babanoun Hamed Agha, Koniah.—Morocco. 652

1297 Yassin, Hadji, Saret, Diarbekir.—Leather. 652

1298 Rouchen, Hadji, Trebizond.—Goat and calf skins. 652

1299 Omer Agha, Hadji, Diarbekir.—Morocco. 652

1300 Moustapha Ahmoud, Hadji, Tripoli, Tripoli.—Morocco, tanned skins, etc. 652

1301 Kurdju, Hadji, Diarbekir.—Beaver skin. 652

1302 Karabet Agha, Erzeroum.—Weasel and wolf skins. 652

1303 Kara, Poutamo, Prévézé, Yanina.—Goat and sheep skin. 652

1304 Ismail, Agha, Boschir, Koniah.—Leather. 652

1305 Ismail, Hadji, Marach, Aleppo.—Leather. 652

1306 Isaac, Aleppo, Aleppo.—Lamb skin. 652

1307 Ipsilanki & Co., Samos, Castamouni.—Leather. 652

1308 Ibrahim, Uskup, Monastir.—Morocco. 652

1309 Hussein Effendi, Salonica.—Tanned hides and morocco. 652

1310 Mehemed Emin, Mosul, Bagdad.—Moroccos. 652

1311 Mehemed Effendi, Adrianople.—Leather, morocco, goat, and calf skins. 652

1312 Mehemed, Koniah, Koniah.—Wolf skin. 652

1313 Masloum Agha, Candia, Crete.—Goat skins and morocco. 652

1314 Salomon, Salonica.
a Goat and lamb skins. 652
b Virgin wax. 654
c Cherry, orange, apricot, prune, verjuice, and gourd marmalade. 656
d Brandy, wine, and vinegar. 660

1315 Maroquin, Dardanelles.—Morocco. 652

1316 Kurjut Casmat, Diarbekir.—Fox and weasel skins. 652

1317 Piseren, Government of, Monastir.—Morocco. 652

1318 Abdoullah Ousta, Angora.—Leather. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Animal and Vegetable Products.

1319 Ana Bini, Tanasse, Sarret, Diarbekir.—Wax. 654

1320 Yeni Ahmed, Chür, Yanina.—Wax. 654

1321 Ahmed Agha, Lapseki, Dardanelles.—Yellow wax. 654

1322 Sahalim Bacbac, Tripoli, Tripoli.—Honey. 654

1323 Derbabian, Pedros, Sivas, Sivas.—Yellow wax 654

1324 Ohannès, Son of Varcha, Angora.—Honey. 654

1325 Moussin Effendi, Koniah, Koniah.—Yellow wax. 654

1326 Ahmed, Aintab, Aleppo.—Honey and wax. 654

1327 Samos, Government of.
a Honey. 654
b Wine and brandy. 660

1328 Medina, Government of, Hidjaz.—Honey. 654

1329 Cherif Effendi, Trebizond.
a Honey. 654
b Gourd, pear, and rose marmalade. 656
c Mulberry vinegar. 660

1330 Arpadji Mahmoud Agha, Adana, Adana.—Wax. 654

1331 Lefterimo, Aposthol, Tirala, Yanina.—Honey. 654

1332 Andonaki, Angora.—Wax. 654

1333 Pisereken, Government of, Monastir.—Crude wax. 654

1334 Ali Zotte, Golos, Yanina.—Yellow wax. 654

1335 Mahmoud Agha, Adana, Adana.—Honey. 654

1336 Keranche Oglou, Kotchissar, Castamouni.—Wax. 654

1337 Hussein Dédé, Kilid-Bahar, Dardanelles.—Honey. 654

1338 Haktar Mehemed, Aleppo.—Yellow wax. 654

1339 Osman, Hadji, Sarret, Diarbekir.—Honey. 654

1340 Volonia, Government of, Yanina.—Honey and wax. 654

1341 Suleimanceeyah, Government of, Bagdad.—Wax. 654

1342 Smyrna, Government of, Aydin.
a Honey and wax. 654
b Dried grapes, raisins. 656
c Wine. 660

1343 Abdourahman, Erzeroum.—Yellow wax. 654

1344 Abdourahman, Zubei, Yiemen.—Wax. 654

1345 Catari, Giorki, Golos, Yanina.—Olives. 656

1346 Ali Oglou Moussa.—Dried morellas. 656

1347 Ahmed Agha, Aleppo.—Raisins. 656

1348 Yussuf Sarret, Diarbekir.—Raisins. 656

1349 Tetoullah Effendi, Darende, Sivas.—Prunes. 656

1350 Serdar, Hassan Oglou Hussin, Canea, Crete.—White and black raisins. 656

1351 Seid, Mehemed Agha, Angora.—Dried apples, prunes, cherries, apricots. 656

1352 Pembedje, Oglou Moustapha, Mardin, Diarbekir.—Prunes. 656

1353 Koyoun, Andonik, Angora.
a Dried and salt beef, sausages. 656
b Brandy, wine, and vinegar. 660

1354 Kirkor, Avakir, Diarbekir.—Mulberry paste. 656

1355 Hussein, Gaat, Mardin, Diarbekir.—Prunes. 656

1356 Haskanorich, Ali, Korimdja, Bosnia.—Prunes. 656

1357 Osman, Hadji, Koniah, Koniah.—Raisins. 656

1358 Ali, Hadji, Aleppo.—Dried prunes, quinces, cherries, and apricots. 656

1359 Zaferampolo, Government of, Castamouni.—Dried prunes. 656

1360 Nitch, Government of, Danube.—Prunes. 656

1361 Nasli, Government of, Aydin.—Dried figs. 656

1362 Mikali, Nicolaidi, Canea, Crete.—Orange, apple, orange blossom, cherry, and pear marmalade. 656

1363 Mikail, Aleppo.
a Dried prunes, cherries, apricots, raisins, and apples. 656
b Mastic. 660

1364 Merkioss, Mamor, Diarbekir.—Dried mulberries. 656

1365 Mehemed Aichè, Tripoli, Tripoli.—Soup and vegetable paste, vermicelli. 656

1366 Mehemed, Malatia, Diarbekir.—Mulberry paste. 656

1367 Mazloum, Aghiah, Constantinople.—Trehala and trehalose pastes. 656

1368 Maki Yani, Chio, Dardanelles.—Mastic, orange, rose, and lemon-blossom comfitures. 656

1369 Mark, Samos, Samos.—Muscat raisins. 656

1370 Kournik Ali Agha, Kangre, Castamouni.—Dried apricots. 656

1371 Pedros, Mihalgazi, Castamouni.—Raisins. 656

1372 Over Agha, Malatia, Diarbekir.—Raisins. 656

1373 Osman Bin Mohamed, Korimdja, Bosnia.—Prunes. 656

1374 Omer Djerbali, Tripoli, Tripoli.—Vermicelli and soup paste. 656

1375 Moustapha, Malatio, Diarbekir.—Dried peaches. 656

1376 Ateuf Dédé, Broussa, Broussa.—Angelica-root marmalade 656

1378 Widin, Government of, Danube.
a Sausages and smoked beef tongues. 656
b Raspberry wine. 660

1379 Moustapha Agha, Adana, Adana.—Raisins. 656

1380 Ahmed, Erzeroum.—Dried prunes. 656

1381 Mehemed Djebali, Tripoli, Tripoli.—Semoulel flour. 657

1382 Koudour Hadji, Aleppo.—Grenade syrup. 659

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Vegetable Products, Wines, Textile Substances.

1383 Ohannes, Diarbekir.—Grape syrup. 659

1384 Central Drug Store, Constantinople.—Fruit syrups, etc. 659

1385 Ispiro, Salonica.—Orange, cherry, and grenade syrups. 659

1386 Raftopoulos, Nicolas.—Mint, sage, and almond liquors. 660

1387 Kirkor Effendi, Erzeroum.—Alcohol. 660

1388 Karabet, Diarbekir.—Orange, rose, juniper, and other brandies. 660

1389 Ychrapalaki, Hadji, Nicolas, Retimo, Crete.—Mulberry brandy. 660

1390 Gulbing Oglou Kakout, Koniah, Koniah.—Wine and brandy. 660

1391 Salomon, Gumuldjin, Salonica.—Wine. 660

1392 Retimo, Government of, Crete.—Wine and brandy. 660

1393 Monastir, Government of.—Wines. 660

1394 Gostcho Djivarė, Prėvėzė, Yanina.—Wine. 660

1395 Vafiadi Giorki, Salonica.—Wine. 660

1396 Distillery of Zahari, Piseren, Monastir.—Brandy. 660

1397 TountchaLitchė, Tirnova, Yanina.—Wine. 660

1398 Tomochordo, Piseren, Monastir.—Wine. 660

1399 Tletora, Theodore, Samos.—Muscat wine. 660

1400 Thėophasaki Ysiako, Canea, Crete.—White wine. 660

1401 Stamadi Marneraki, Lachite, Crete.—Red wines. 660

1402 Pereno Papa, Adana, Adana.—Brandy. 660

1403 Pefkiades, John, Samos.—Muscat wine. 660

1403*a* Yussep, Tokat, Sivas.—Rose mastic. 660

1404 Papaz Oglou, Salonica.—White wine. 660

1405 Nicoloreuzi Bros., Samos.—Muscat wine. 660

1406 Yanaki, Nicolas, Ile of Bousdja, Dardanelles.—Wine and vinegar. 660

1407 Manoli Muzė, Tirnova, Yanina.—Vinegar. 660

1408 Direction of the Vineyards Pacha Liman, Broussa.—Red and white wines, cognac. 660

1409 Leonisaki, Dimitri, Canea, Crete.—Brandy. 660

1410 Cafejedaki, John, Samos.—Alcohol and wines. 660

1411 Bodou Agha, Diarbekir.—Wine. 660

1412 Bano, Adana, Adana.—Wine. 660

1413 Bedrė, Anton, Aleppo.—Vinegar. 660

1414 Andin Chako, Narda, Yanina.—Mulberry brandy. 660

1415 Yussep, Tokat, Sivas.—Rose vinegar and brandy. 660

1416 Yani, Lachite, Crete.—Mulberry brandy. 660

1417 Yani, Pappa Antoanaki, Lachite, Crete.—Grape brandy. 660

1418 Mehanedji, Foly, Candia, Crete.—Rose brandy and wine. 660

1419 Manoli Prizi, Candia, Crete.—Wine and white brandy. 660

1420 Ipsamarki Yani, Ile of Bousdja, Dardanelles.—Brandy. 660

1421 Mark, G. L., Samos.—Brandy and wine. 660

1422 Missir, Joseph, Samos.—Muscat wine. 660

1423 Tousseano, Diarbekir.
a Vinegar. 660
b Mint oil. 662

1424 Moustapha, Dardanelles.—Coffee biscuits. 661

1425 Ipsamarki Yani, Chio, Dardanelles.—Vine-branch oil. 662

1426 Ahmed, Antakia, Aleppo.—Almond and palma-christi oils. 662

1427 Cherif Oglou Mehemed, Philippopolis, Adrianople.—Wild thyme and mint oil. 662

1428 Hetoulat, Diarbekir.—Batom oil. 662

Textile Substances of Vegetable or Animal Origin.

1429 Hussein Agha, Adana, Adana.—Cotton. 665

1430 Bekir, Hadji, Adana, Adana.—Cotton, cotton bolls. 665

1431 Uskup, Government of, Monastir.
a Cotton. 665
b Spun hemp. 666
c Cocoons. 668

1432 Saroukhan, Government of, Aydin.—Cotton. 665

1433 Mosul, Government of, Bagdad.
a Cotton. 665
b Cocoons. 668

1434 Kerbella, Government of, Bagdad.
a Cotton. 665
b Indian hemp. 666
c Wool. 667

1435 Feulgehete, Government of, Syria.
a Cotton. 665
b Wool. 667

1436 Etlėp, Government of, Aleppo.—Cotton and cotton bolls. 665

1437 Thėophani, Nicoforaki, Canea, Crete.
a Cotton seed. 665
b Spun flax. 666
c Wool. 667
d Blue and yellow cocoons. 668

1438 Salomon, Salonica.
a Cotton. 665
b Tow. 666
c Wool. 667

1439 Pano Mamatti, Prėvėzė, Yanina.—Cotton. 665

1440 Moussa, Palatnos, Yanina.—Cotton bolls. 665

1441 Mardili, Oustidi, Diarbekir.—Crude cotton. 665

1442 Laz Osman, Kangre, Castamouni.—Cotton. 665

1442*a* Kozon, Andonaki, Angora.—Cotton. 665

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Textile Substances of Animal and Vegetable Origin.

1443 Ismail Effendi, Sullé, Koniah.—Cotton. 665

1444 Ibrahim Effendi, Gueugnek, Castamouni.—Cotton. 665

1445 Amassia, Government of, Sivas.
a Cotton. 665
b Indian hemp. 666

1446 Dimitri, Giorgaki, Prévésé, Yanina.—Cotton. 665

1447 Dimitri, Constanti, Tirala, Yanina.—Cotton. 665

1448 Cazi, Agha, Caraman, Koniah.—Cotton bolls. 665

1449 Astadji, Narcisse, Aleppo.—Cotton. 665

1450 Djourbachi, Antolu, Maidos, Dardanelles.—Cotton. 665

1451 Andon, Constanti, Palatnos, Yanina.—Cotton. 666

1452 Tarako, Uskup, Monastir.—Spun flax. 666

1453 Mehemed, Marach, Aleppo.—Hemp. 666

1454 Damascus, Government of, Syria.—Hemp. 666

1455 Maimoun, Tripoli, Tripoli.—Wool. 667

1456 Kiyork, Dellale Oglou, Esiné, Dardanelles.—Wool. 667

1457 Kirkora, Adana, Adana.—Wool. 667

1458 Khalil Agha, Ourpha, Aleppo.—Wool. 667

1459 Hadji, Koniah, Koniah.—Wool. 667

1460 Volonia, Government of, Yanina.—Wool. 667

1461 Suleimaneeyah, Government of, Bagdad.
a Wool. 667
b Goat and other hair. 669

1462 Smyrna, Government of, Aydin.
a Wool. 667
b Cocoons. 668

1463 Youssouf, Aleppo, Aleppo.—Wool. 667

1464 Tigour Ahmed, Kangre, Castamouni.—Wool. 667

1465 Teftif Oglou Moussa, Koniah, Koniah.—Wool. 667

1466 Starri, Kangre, Castamouni.—Wool. 667

1467 Selim Kohi, Ichkodra, Monastir.—Wool. 667

1468 Panor Mamatti, Volonia, Yanina.—Wool. 667

1469 Moustapha, Hadji, Painbé Zadé, Esiné, Dardanelles.—Black wool. 667

1470 Mehemed Agha, Koniah, Koniah.—Wool. 667

1471 Couyoun Oglou Andon, Angora.—Wool. 667

1472 Cherif Agha, Ezeroum.—Wool. 667

1473 Zadé Moustapha, Cheik, Kangre, Castamouni.—Wool. 667

1474 Avadjan, Sivas, Sivas.—Sheeps' wool. 667

1475 Arabe Mehemed, Mardin, Diarbekir.—Wool. 667

1476 Anagnosti, Pappadlaki, Lachite, Crete.—Wool. 667

1477 Ahgme Agha, Kangre, Castamouni.—Wool. 667

1478 Kochaf Ajediz, Antakia, Aleppo.—Cocoons. 668

1479 Karabet, Salonica.—Cocoons. 668

1480 Ibrahim Effendi, Hadji, Mihalgazi, Castamouni.—Cocoons. 668

1481 Samos, Government of.—Yellow and white cocoons. 668

1482 Berat, Government of, Yanina.—Cocoons. 668

1483 Estur Oglou Estur, Tias, Adana.—Cocoons. 668

1484 Banouch, Son, Kiranié, Yanina.—Cocoons. 668

1485 Avram, Adrianople.—Japanese cocoons. 668

1486 Yanaki, Tdomane, Yanina.—Cocoons. 668

1487 Yanaki, Thomas, Volonia, Yanina.—Cocoons. 668

1488 Yanak, Arap, Tdomane, Yanina.—Cocoons. 668

1489 Sukiasian, Adrianople.—Cocoons. 668

1490 Pemno Petcha, Tirala, Yanina.—Cocoons. 668

1491 Nakach, David, Diarbekir.—Cocoons. 668

1492 Mihali, Sullé, Koniah.—Cocoons. 668

1493 Makiani, Ipsser, Bigha, Dardanelles.—Cocoons. 668

1494 Anguel, Ichkodra, Monastir.—Cocoons. 668

1495 Anastassi, Antonafaki, Canea, Crete.—Blue and yellow cocoons. 668

1496 Ali Zotte, Caza, Yanina.—Cocoons. 668

1497 Mahmoud, Marach, Aleppo.—Goat hair. 669

1498 Hussein, Hadji, Koniah, Koniah.—Camel hair. 669

1499 Mohamed, Hadji, Koniah, Koniah.—Goat hair. 669

1500 Ali Effendi, Angora.—Angora goat wool. 669

Machines, Implements, and Processes of Manufacture.

1501 Christo, Yanina, Yanina.—Harrow. 670

Ornamental Trees, Shrubs, and Flowers.

1502 Théophani, Nicoforaki, Canea, Crete.—White lupine. 709

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

RUSSIA.

(South of Nave, Columns 19 to 23.)

Chemicals, Ceramics, Furniture.

Chemical Manufactures.

1 **Koroleff, A., Vologda.**—Ferrocyanate of potassa. 200

2 **Lepeshkin, Nicolas, Moscow.**
a Chemical products. 200
b Dyes, pigments of vegetable and animal extraction. 202

3 **Ooshkoff, Peter, Elaboog, Government of Viatka.**—Yellow chrome, blue copperas, and alum. 200

4 **Poel, Alexander, St. Petersburg.**—Oils, volatile extracts from the wild rosemary (sedum polustre). 200

5 **Philosofoff, Basil, & Co., Kineshma, Government of Kostroma.**—Chemicals. 200

6 **Rastergaëff, Gregory, St. Petersburg.**—Chemicals. 200

7 **Matteissen, Nicolas, Moscow.**—Potash. 200

8 **Shlippe, Moscow.**—Chemicals. 200

9 **Bett, Theodore, Cronstadt.**—Oil, refined lubricating. 201

10 **Calcined Bone Manufacturing Co., St. Petersburg.**—Burnt bone, bone grease, ammoniac, etc. 201

11 **Calix, John, St. Petersburg.**—Oil, lubricating. 201

12 **Hartman, W., Riga.**
a Oils, refined and drying. 201
b Oil varnish. 202

13 **Yssakovitch, J. & M., Odessa.**—Soap. 201

14 **Krestovnikoff Bros., Kazan.**—Stearine candles and glycerine. 201

15 **Schmidt, C., Riga.**—Oil, refined, linseed, oil cakes. 201

16 **Tahlheim, George, Riga.**—Lubricating grease. 201

18 **Lankovski & Likop, Mitau.**—Inks, writing, copying, and fluids. 202

20 **Poiteling, Peter, St. Petersburg.**—Varnish and lacker. 202

21 **Wulf, Nicetas, Sokolovo, Government of Twer, District of Staritza.**—Mineral paint, ochre. 202

22 **Kramsta von Sosnowee Zinc Works, Piotrkoff, District of Bendzin.**—White zinc. 202

23 **Reichel, Julius, Warsaw.**—Permanent marking colors. 202

24 **Serdukoff, Basil, Borovitchi, Government of Novgorod.**—Cosmetics. 203

25 **Schmidt, Frederic, St. Petersburg.**—Cosmetic soap. 203

26 **Linde, F., St. Petersburg.**—Glycerine, soap, and cosmetics. 203

27 **Winner, St. Petersburg.**—Black powder, exhibitor's system. 204

28 **Okhta Gunpowder Mills, near St. Petersburg.**—Black powder and its compounds. 204

29 **Haase, J., Mitau.**—Matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

30 **Krishtafovich, P. C., Gorodishtche, Government of Penza.**—Refractory bricks. 206

31 **Kharlamoff, M., St. Petersburg.**—Ceramic statuary. 206

32 **Rasterjaeff, Gregory, St. Petersburg.**—Bricks. 206

33 **Perm Gun Foundry, Perm.**—Graphite crucibles. 207

34 **Demidoff, Paul, Prince of Donato, Nigni Tagil, Ural Mountains, Government of Perm.**—Clay stones; refractory furnace materials. 207

35 **Museum of Fine Arts applied to Industry, Moscow.**—Ornamental tiles. 208

36 **Bonafede, Leopold, St. Petersburg.**
a Enameled ornamental tiles. 208
b Enameled ornamental vases and plates. 211

37 **Moltchanoff, Wladimir, Nigni Novgorod and Gyil, Government of Moscow, District of Bagorodsk.**—Faience and earthenware. 210

38 **Krasnostchekoff, Paul, Moscow.**—Painted faience ware. 210

39 **Cibulski, Cassimir Smeloff, Government of Rodom, District of Opatoff.**—Stoneware. 210

40 **Ter-Davydoff, St. Petersburg.**—Earthenware jugs. 210

41 **Museum of Fine Arts applied to Industry (attached to the Strogonoff School of Design).**—Painted porcelain and stoneware. 211

43 **Zaitzevski, St. Petersburg.**—Ornamental pottery. 211

45 **Korniloff Bros., St. Petersburg.**—China cups and plates. 213

Furniture and Objects of General Use in Construction and in Dwellings.

47 **Akimoff, Spiridonius Zagarzi, Government of Moscow, District of Bogorodsk.**—Articles of church decoration. 217

48 **Wunsh, Adolphus, St. Petersburg.**—Writing-table and arm-chair. 217

49 **Shrader, St. Petersburg.**—Writing-table and arm-chair. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

50 Shootoff, St. Petersburg.—Armchair, fancy. 217

51 Leontieff, St. Petersburg.—Japanned furniture. 217

52 Jgoomnoff, St. Petersburg.—Artistic furniture. 217

53 Briggen, Charles, St. Petersburg.—Billiard tables. 217

54 Stroem, Augustus, St. Petersburg, —Table furniture, in bronze. 218

55 Semenoff, Moscow.—Silver plate, gilt and enameled. 218

56 Morand, Adolphus, St. Petersburg. —Bronze samovar and bowl. 218

57 Ivanoff, N., St. Petersburg.—Silver plate, gilt and enameled. 218

58 Glookhoff, N. G.—Japanned ware. 218

60 Dutkevicz, X., Warsaw.—Melchior tea-pots, tray, and samovar (heated by a mineral oil lamp). 218

61 Bryzgaloff, St. Petersburg.—Silver-gilt jugs, cups, etc. 218

62 Botasheff, Basil, Toola.—Bronze and brass samovars. 218

63 Beliajeff, George, Fastavo, near Moscow.—Japanned trays, with pictures. 218

63*a* Hessrich & Woerffel, St. Petersburg. —Decorative articles of furniture, malachite, lapis, jasper, rhondonite, nephrite, labrador, with bronze fittings. 219

64 Jevleff, Andrew, Moscow.—Gilt frames. 220

65 Khrenoff, Pantelei, Egorievsk, Government of Riazan.—Carved frame, gilt. 220

66 Glinka, Paul, St. Petersburg.—Leather frames and decorative objects. 220

67 Goroshkoff, P., Yaroslaw.—Tin household utensils. 224

68 Beltzikewicz, Henry.—Portable cooking apparatus, heated by petroleum, with kitchen utensils. 224

69 Jvanitzki, L., Jarow, Government of Minsk, District of Retchitza.—Inlaid flooring. 227

Yarns and Woven Goods, of Vegetable and Mineral Materials.

70 Neuman, Hugo, Warsaw.—Endless copper-wire cloth, for paper-making machines. 228

71 Pashkoff, Basil, Bogojavlensk & Verkhatorie Copper Works, Government of Oafa.—Copper-wire cloth. 228

72 Beliajeff, Theodore, Moscow.—Mats and bags of lime-tree bark. 229

72*a* Loth, Edward, Warsaw.—Straw and bast goods. 229

73 Garelin, John, Yvanovo Voznessensk, Government of Wladimir.
- *a* White calico and long cloth. 230
- *b* Red cotton stuffs. 231
- *c* Printed calico. 232

74 Garelin, Nikon, & Sons, Yvanovo Voznessensk, Government of Moscow.—Cotton yarn. 230

75 Konshin, John, Serpookhoff, Government of Moscow.—Cotton yarn. 230

76 Pale, T. Ch., St. Petersburg.
- *a* Long cloths and twills. 230
- *b* Cotton fabrics dyed. 231
- *c* Cotton prints and calico. 232

77 Zimin, J. M. P. & F., Zooievo, Government of Moscow, District of Dogorodvsk.
- *a* Cotton goods, plain and twilled. 230
- *b* Red cotton stuff and Adrianople dye. 231
- *c* Printed calico. 232

82 Reichel, Julius, Warsaw.—Cotton stuffs, printed from stone, wood, and metal. 232

83 Possilin, Alexis, Yvanovo Voznessensk.—Cotton stuffs. 232

84 Polooshin, Nicolas, Yvanovo Voznessensk, Government of Wladimir.—Printed calico. 232

86 Lopatin, Paul, Yvanovo, Voznessensk.—Printed calico. 232

87 Menshikoff's, W., Sons, Yvanovo Voznessensk.—Printed calico. 232

88 Koovajeff, Catherine, Yvanovo, Voznessensk.—Printed goods. 232

89 Garelin, Nikon, & Sons, Yvanovo Woznessensk.—Printed calico and kerchief. 232

91 Borissoff, Stephen, & Sons, Yvanovo Voznessensk, Government of Wladimir.—Printed calico. 232

93 Stieglitz, Baron Alexander, near Narva.—Sail cloth. 233

94 Mindovsky, Brukhanoff, & Babakin, Yoorjevietz, Government of Kostroma.—Flat yarn and thread. 233

95 Hille & Dietrich, Girardovo, Govment of Warsaw.—Linen cloth, table linen, Turkish towels, etc. 233

96 Gribanoff, James, Sons, Oostioog, Government of Vologda.—Linens and linen yarns. 233

97 Alofoozoff & Alexandroff, Kazan.—Linen fabrics and yarns. 233

Woolen and Felted Goods of Wool, etc.

98 Stieglitz, Baron Alexander, near Narva.—Woolen cloths. 235

99 Seliverstoff, Nicolas, Roomiantzero, Government of Simbirsk, District of Karsoon.—Woolen cloths. 235

100 Sooviroff, V. N., Tooshino, Government and District of Moscow.—Woolen cloths and satins. 235

101 Kazejeff, Stephen, Kerensk, Government of Pensa.—Gray army cloth. 235

102 Gootchkoff, Efim, Moscow, Woolen cloth goods. 235

103 Possilin, Alexis, Yvanovo, Voznessensk, Government of Wladimir.—Woolen shawls. 237

104 Kommichau, Germanius, Belostok, Government of Grodno.—Woolen goods and blankets. 237

105 Gratcheff, John, Moscow.—Woolen shawls and scarfs. 237

106 Ooskoff, Peter, Moscow.—Dress goods (ladies' wear).

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

107 Bagdanoff, W. T., St. Petersburg.—Cushions. 238

108 Zolotareff's Widow & Ribakoff, Moscow.—Silk and mixed goods. 238

109 Shrader, Augustus, Moscow.—Woolen goods. 238

110 Poliakoff, N., & A., Bros., near Moscow.—Woolen and mixed fabrics. 238

111 Nikitin, Gorjaieff, & Co., Moscow.—Woolen and mixed goods. 238

112 Mikhailoff, Theodore, & Son, Moscow.—Woolen and mixed goods. 258

113 Ganeshin W. & N. Bros., & Co., Moscow.—Woolen yarn. 238

114 Borodin, Michael, Moscow.—Mixed silk fabrics, with cotton and wool. 238

115 Armand, Eugene, & Sons, Moscow.—Woolen and worsted goods. 238

116 Durkman, Bragestadt, Finland.—Embroidered carpet. 239

117 Voyeikoff, Demetrius, Sisran, Government of Simbirsk.—Camel's hair cloth. 240

118 Petroff & Medvedeff, St. Petersburg.—Woven goat-hair shawls. 240

120 Seliverstoff, Nicholas, Roomiantzevo, Government of Simbirsk, District of Karsoon.—Camels' and goats' hair. 240

122 Komaroff, Mercury, St. Petersburg.—Table covers. 241

Silk and Silk Fabrics.

123 Ganeshin, W. & N. Bros., & Co., Moscow.—Silk yarns. 244

124 Brashnin Bros., Nicolas & Nicetas, Orekhovo, Zooevo, Government of Moscow.—Silk stuff. 245

125 Timasheff, Alexander, Moscow.—Silk and mixed goods. 245

126 Emilianoff & Rochefort, Moscow.—Silk and mixed goods. 245

127 Zoobkoff, Sergius, Khomootovo, Government of Moscow, District of Bogorodsk.—Plain silk goods. 245

128 Shelajiff, S. & G., Bros., Moscow.—Plain silk goods, satin, and faille. 245

129 Perepelkin, John, St. Petersburg.—Silk stuffs for umbrellas. 245

130 Kondrasheff Bros., Grebenevo, Government of Moscow, District of Bogorodsk.—Silk goods, plain. 245

131 Sapojnikoff, A. & W., Moscow.—Figured silk goods and brocades. 246

132 Mozjookhin's, Theodore, Sons, Moscow.—Figured silk goods (upholstery). 246

133 Fomitcheff, Alexis, Moscow.—Silk goods, plain and figured. 246

134 Sytoff, John, Moscow.—Gold and silver cloth brocade. 247

135 Reichel, Julius, Warsaw.—Silk ties. 247

136 Boonin, John, Moscow.—Hosiery silk. 247

137 Lange & Co., Moscow.—Silk ribbons and wool ribbons. 248

138 Sytoff, John, Moscow.—Galloons and trimmings. 249

139 Zinserling, Charlotte, St. Petersburg.—Tape, cord, and bindings. 249

Clothing, Jewelry, and Ornaments; Traveling Equipments.

140 Reichel, Julius, Warsaw.—Shirt fronts. 250

141 Boonin, John, Moscow.—Hosiery cotton. 250

142 Florand, Jules, St. Petersburg.—Shirt fronts, embroidered. 250

143 Vinogradova, Anne, Nijni-Novgorod.—Fancy articles in ladies' dress, swan's down. 250

144 Wekmann, Malvina, Helsingfors.—Hosiery. 250

145 Shereshevsky, Nicolas, Moscow.—Shirts, chemises, and jackets. 250

146 Chief Intendency of War, St. Petersburg.—Articles of army equipments; illustrations of army dress. 250

147 Hooving, Walter, Wiborg, Finland.—Articles of ladies' dress, pellerines. 250

148 Sacken, Boetticher, Schmidt, & Ooss, Riga.—Millinery. 251

149 Popp, J., Riga.—Hats. 251

150 Sossoolnikoff, John, Nijni-Novgorod.—Felt boots and caps. 251

151 Bagdanoff, W. T., St. Petersburg.
a Boots, shoes, and slippers. 251
b Gold and silver embroidery. 252

152 Til, Charles, Moscow.—Boots, and felt caps. 251

153 Sitnoff, Gregory, Moscow.—Boots. 251

154 Laude, Peter, St. Petersburg.—Boots. 251

155 Szelibeiff, Theodore, St. Petersburg.—Boots and shoes. 251

156 Sorokin, Tichon, Moscow.—Gloves. 251

157 Kudelsky, Helen, Warsaw.—Kid gloves. 251

158 Szczepansky, F., Warsaw.—Boots, shoes, and slippers. 251

159 Strelnikoff, Basil, Yaransk, Government of Viatka.—Felt, boots, and shoes. 251

160 Smirnoff, N. Nijni-Novgorod.—Boots and shoes, felt. 251

161 Kitaizteff, W., Moscow.—Boots and galoshes. 254

162 Hubner, Nicolas, St. Petersburg.—Boots and shoes. 251

163 Fominsky, Basil, Kongoor, Government of Perm.—Boots. 251

164 Filimonoff, Alexander, St. Petersburg.—Military caps. 251

165 Wilkin, Leon, Moscow.—Hats and caps. 251

166 Weigt, Theodore, Warsaw.—Hats. 251

167 Shubert, Levis, Riga.—Hats. 251

168 Miakotin, John, St. Petersburg.—Hats and caps. 251

170 Tchistiakoff, Basil, Schawkin, St. Petersburg.—Hats and caps. 215

Clothing, Embroidery, Jewelry, Fancy Articles, Stationery.

171 Nazareff, E., St. Petersburg.—Helmet (horse guards). 251

172 Ribe, Frederic, Riga.—Hats. 251

174 Kamaroff, Mercury, St. Petersburg.—Embroideries. 252

175 Stchelkoff, Sergiefsky-Possad, near Moscow.—Embroidered articles of church furniture. 252

176 Moltchanoff, Wladimlr, Vologda.—Russian lace and embroidery. 252

177 Koroleff, Basil, Toryok, Government of Twer.—Embroidered articles. 252

178 Koroleff, L., Moscow.—Embroidered and inlaid leather cushions. 252

179 Karelin, Toryok, Government of Twer.—Embroidered sashes, etc. 252

180 Kamenstchikoff, Toryok, Government of Twer.—Embroidered cushions, sashes, etc. 252

181 Arsenjeff, F., Vologda.—Russian ce laand embroidered eltows. 252

182 Tikhomandritzky, Nadin, St. Petersburg.—Embroideries, table cloths, etc., and articles of national costume. 252

183 Shadrin, Elias, Moscow.—Embroideries for uniforms, etc. 252

184 Sovetoff, Mary, St. Petersburg.—Embroidered shirt. 252

185 Society for the Encouragement of Women's Labor, Moscow.—Embroideries, towels, handkerchiefs. 252

186 Reichel, Julius, Warsaw.—Embroideries, handkerchiefs. 252

187 Nevossiltzeff, M., St. Petersburg.—Embroideries, lace. 252

188 Nadporosky, M., Belozersk, Government of Novgorod.—Embroideries, laces. 252

189 Hodjaieff, Karapet, St. Petersburg.—Silk and gold embroideries. 252

190 Gorodetzki, Alexander, Moscow.—Embroideries. 252

191 Hodjaieff, Karapet, St. Petersburg.—Brooch and earrings (Caucasian style). 253

192 Adler, W., Moscow.—Jewelry. 253

193 Alexeieff, A., Krasnoe & Sidorofskœ, Government of Kostroma.—Silver chains and earrings. 253

194 Krumbügel, Otto, Moscow.—Jewelry. 253

195 Tchitcheleff, John, Moscow, Jewelry, diadems, bracelets, earrings, etc. 253

196 Grikooroff, St. Petersburg.—Silver ornaments, bracelets, brooches, belts, and studs. 253

197 Hessrich & Woerffel, St. Petersburg.—Jewelry, personal adornments in malachite, rhodorite, jasper, lopis, lazuli, and other Siberian hard stones. 253

198 Bach, St. Petersburg.—Silver bracelets in Niello and enamel. 253

199 Glinkin Bros., Government of Vologda, District of Kadnikoff.—Horn articles. 254

200 Aksenoff, Paul, Moscow.—Toys. 254

201 Perepelkin, John, Petersburg.—Umbrellas. 254

202 Minheimer, L., Warsaw.—Metallic buttons. 254

203 Maass, T., Mitau.—Wigs. 254

204 Loth, Edward, Warsaw.—Basket artificial flowers. 254

205 Kotzmann, E., Reval.—Umbrellas. 254

206 Hodjaieff, Karapet, St. Petersburg.—Cigar holders; Niello, with silver. 254

207 Bernstein Bros., H. & B., Ostrolenko, Government of Loenza.—Fancy articles in amber. 254

208 Pravotoroff, George, Moscow.—Umbrellas. 254

209 Fogt, St. Petersburg.—Pictures, made from dried plants and insects. 254

210 Vishniakoff, Joseph, & Sons, Ostashkovo, near Moscow.—Lacquered papier-maché articles, and japanned trays. 254

211 Nissen, William, St. Petersburg.—Leather goods, valises, trunks, bags, leather cushions. 255

212 Kleeberg, St. Petersburg.—Russia leather blotting case and pocket book. 255

213 Zimmerman, Roman, Moscow.—Portmanteaus and traveling-bags. 255

214 Mikhailoff, Alexis, Moscow.—Fur goods, carpet, costume. 256

215 Grünwald, M., Riga.—Furs; mosaic fur carpet. 256

216 Petroff & Medvedeff, St. Petersburg.—Furs, articles of winter dress for ladies. 256

217 Odnoooshefsky, M., & Sons, St. Petersburg.—Muffs, collars, and gorgette; sable and stone. 256

218 Soorin, Paul, St. Petersburg.—Mosaic fur carpet of three thousand pieces. 256

219 Komaroff, Nicetas, Moscow.—Articles of dress in sheepskin. 256

220 Litoff, K., Vologda.—National costumes of the Tyrians. 257

221 Hoving, Walter, Viborg, Finland.—Dolls, in national costumes. 257

222 Aristoff, Alexis, Moscow.—Cotton and woolen scarfs, used as sashes by the Russian peasantry. 257

223 Vedernikoff & Mikailoff, St. Petersburg.—National costumes and articles of clothing. 257

224 Sidoroff, Mikhael, St. Petersburg.—National costumes of Samoieds and Ostiaks, from extreme north of Russia. 257

Paper, Blank Books, Stationery.

225 Tahlheim, George, Riga.—Sealing wax. 258

226 Mirkovski Paper Mill Co., Weruszen, Government of Calisz, District of Velun.—Writing-paper. 256

227 Epstein, John, Soczevka, Warsaw, District of Gostyn.—Writing-paper, drawing and blotting paper. 259

228 Sergeieff, P. W., Pensa.—Writing-paper. 259

229 Frenkel, J. K., & Son, Tammerfors, Government of Tavastgus, Finland.—Writing-paper. 259

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

230 Vagoonin Bros., St. Petersburg.
a Writing-paper. 259
b Printing-paper. 260

231 Koomanin, Nicolas, Moscow.—Account books. 261

232 Kleeberg, Henry, Riga.—Account books. 261

233 Franaszek, T., Warsaw.—Paper-hangings. 264

Weapons, etc.

234 Kniaz Mikhaeloff's Crown Copper Works.—Gun barrels. 265

235 Koozmin, G., Toola.
a Guns. 265
b Dirks. 268

236 Griaznoff, Alexis, Toola.
a Pistols. 265
b Double-barreled guns. 269

237 Hahn, Baron, St. Petersburg.—Fortress rifle cartridges. 265

238 Imperial Rifle Manufactory, Toola.—Infantry rifles with bayonets; section of a gun-barrel. 265

239 Metallic Cartridge Manufactory, St. Petersburg.—Specimens of illustrations, metallic cartridges, distance fuses, and percussion. 265

240 Sestroretzk Rifle Manufactory, near St. Petersburg.—Calvary carabines, Cossack mnskets. 265

241 Tenner, St. Petersburg.—Apparatus for wrapping bullets with paper. 265

242 Pootiloff Iron Works Co.—St. Petersburg.—Eleven-inch projectiles. 267

243 Raskazoff, St. Petersburg.—Model of a double stand for two forty-ton guns. 267

244 Ordnance Department, St. Petersburg.—Mortar and gun carriage (Semenaf's and Engelhardt's system). 267

245 Obookhoff Steel Foundry, near St. Petersburg.—Heavy ordnance gun carriages and platforms (wedge mechanism for breech loading). 267

246 Naval Artillery, Workshop of the port of Cronstadt.—Gun carriages and platforms, general, Pestrich's system. 267

247 Administration of the Olonetz Mining District.—Six-inch projectile with zinc covering. 267

248 Zlatoust Crown Armor Factory, Government of Orenburg.—Damascus swords, blades, daggers, and knives. 268

249 Hodjaieff, Karapet, St. Petersburg.—Asiatic dagger. 268

250 Yachimek, John, & Sosnovski, Jacob, Warsaw.—Double-barreled gun. 269

Medicine, Surgery, Prothesis.

251 Shmidt, Dr. von, St. Petersburg.—Guaco plaster. 272

252 Matteissen, Nicolas, Moscow.—Vegetable and animal products used in medicine. 272

253 Pik, Jacob, Warsaw.—Surgical instruments. 276

254 Ebermann, Alexander, St. Petersburg.—Urethrotome (exhibitor's system). 276

255 Crown Surgical Instrument Manufactory, St. Petersburg.—Set of surgical instruments (special purpose). 276

256 Wywodzeff, St. Petersburg.—Apparatus for embalming. 276

257 Bauch, Charles, St. Petersburg.—Artificial jaws, teeth, and palate. 277

258 Finkheim, William, Revel.—Artificial teeth, appliances for deformities of teeth and palate; apparatus for stammerers. 277

259 Majevski, T., Warsaw.—Odontalgic drops. 277

260 Bernardo, Berkmeier, Dr. L., Moscow.—Collection of artificial teeth and jaws. 277

261 Ivanoff, Timothy, Moscow.—Portable hospital couch (photographic copy). 278

262 Lilpop, Rau, & Loevenstein, Warsaw.—Steps for hospital wagon and springs for litter. 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

263 Zavialoff, Alexis, Vorsma Government of Nijni-Novgorod.—Knives, penknives, and scissors. 281

264 Russian Rail Manufacturing Co., Government of Riason, District of Pronsk.—Iron and steel sewing and knitting needles. 281

265 Kondratoff, Demetrius, Vatcha, Government of Vladimir, District of Moorom.—Knives and penknives. 281

266 Kaliakin, John, & Sons, Pavlovo, Government of Nijni-Novgorod.—Knives and penknives. 281

267 Koozmin, T., Toola.—Cutlery, knives, and scissors. 281

268 Benkofski, Albert, Warsaw.—Cutlery (knives, penknives, scissors, etc). 281

269 Tarassoff, John, Novaia, Government of Moscow, District of Bogorodsk.—Embossed brass images (irons) and crosses. 283

270 Sossoolnikoff, John, Nijni-Novgorod.—Brass crosses. 283

271 Fedoroff, John, Zagarje Government of Moscow, District of Bogorodsk.—Silvered tureens and brass hand-wash basin. 283

272 Kataloff, Basil, Kroopino, Government of Moscow, District of Bogorodsk.—Brassware. 283

273 Elaghin, Constantine, Moscow.—Bronze ornamental castings. 283

274 Salobanoff, D. A., Nijnii-Novgorod.—Embossed brass images and crosses. 283

275 Naoomoff, Basil, Kroopino, Government of Moscow, District of Bogorodsk.—Bronze candlesticks. 283

276 Yoffrio, St. Petersburg.—Gasalier of forged iron. 284

277 Bessonoff Bros., Moscow.—Brass and iron hardware, bolts, etc. 284

278 Starr & Co., Riga.—Wire tack and square nails. 284

279 Hantke, Bernard, Warsaw.—Hardware, wire tack, railway ties, telegraphic fittings, chains, etc. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Fabrics of Vegetable, Animal, or Mineral Materials.

280 Russian American India-Rubber Co., St. Petersburg.—India-rubber goods, golashes, waterproofs, fire-engine hose, belts, etc. 285

281 Nemiloff, Clement, Ryeff, Government of Twer.—Hemp yarn. 287

282 Herczinski, W. Opolye, Government of Lublin, District of Nova Alexandria.—Cordage. 287

283 Nemiloff, Clement, Ryeff, Government of Twer.—Hemp, rope, and bolt rope yarns. 287

284 Fedoroff, John, Moscow.—Lime-tree bast hampers, samples of same material. 289

285 Booroff, S., Moscow.—Articles turned in wood. 289

286 Skorniakoff, E., Yaroslaw.—Articles turned in wood. 289

287 Serebrenikoff, Sergius, Nijni-Novgorod.—Painted wooden tureens and utensils for house. 289

288 Moltchanoff, Wladimir, Nijni-Novgorod, Vologda and Sergievski, Passad, near Moscow.—Wooden tureens and household articles. 289

289 Beliaieff, George, Fastavo, near Moscow.—Albums, papier-maché. 289

290 Safonoff, S. A., Sergievsky, Passad, Government of Moscow.—Toys carved in wood. 289

292 Mikhaeloff, Mrs., St. Petersburg.—Ornamental wooden tureens and spoons. 289

293 Mikhaeloff, Basil, Kretzky, Government of Novgorod.—Painted wooden household utensils. 289

294 Lookootin, Alexander, & Son, Moscow.—Lacquered and painted papier-maché articles. 289

295 Alexeieff, A., Oostug Veliki, Government of Vologda.—Basket, secret locks. 289

296 Serebrenikoff, Sergius, Nijnii-Novgorod.—Chests. 289

297 Mneff, John, Moscow.—Chests and caskets. 289

298 Solomonoff, P. Z., Moscow.—Chests. 289

Carriages, Vehicles, and Accessories.

299 Schmidt, Edward, St. Petersburg.—Patent carriage axles. 292

300 Chief Intendency of War, St. Petersburg.—War train-wagons and vehicles. 294

301 Shiloff, Athanasius, Moscow.—Harness, gilt fittings and trimmings. 296

302 St. Petersburg Arsenal.—Artillery harness. 296

303 Mück, William, Warsaw.—Hemp carriage trimming, bridles, girth for harness. 296

304 Lange & Co., Moscow.—Reins and saddle girths. 296

305 Roozin, Theodore, Pestovo, Government of Moscow, District of Bogorodsk.—Harness. 296

306 Sossoolnikoff, John, Nijnii-Novgorod.—Harness. 296

307 Hodjaeff, Karapet, St. Petersburg.—Harness and saddlery. 296

308 Herczinski, W., Warsaw.—Harness articles—reins, traces, saddles, etc. 296

309 Antonoff, Moscow.—Harness-bow (dooga) painted and gilt. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

DEPT. III.—EDUCATION AND SCIENCE.

UNITED STATES.

School Text Books, Furniture, Apparatus.

Educational Systems, Methods, and Libraries.

1 Barnes, A. S., & Co., New York, N. Y.—School books, maps, charts, etc. T 73 *to* 78. 300

1*a* New York Institution for the Blind, New York, N. Y.—Maps, mathematical apparatus, books, tablet for tangible writing and musical annotation. (*South Gallery.*) 300

2 New York Silicate Book Slate Co., New York, N. Y.—School book slates, liquid blackboard slating, blackboards on wall, cloth, and paper. T 68. 300

2*a* National School Furniture Co., New York, N. Y.—School furniture. T 59. 300

3*Smith, J. L., Map Publisher & Manufacturer, No. 27 South Sixth street, Philadelphia.—Wall maps, pocket maps, atlases, guide books, globes. A large assortment of plain and mounted drawing-paper, all widths and lengths, and prepared to order; map cases and spring map rollers, hold four to sixteen large maps. 1st, for economy of space; 2d, they preserve the maps; 3d, they do not get out of order; 4th, they work easily. See circulars. T 74. 300

3*a* Shepherd, Henry E., Superintendent of Public Instruction, Baltimore, Md.—Book-case (as prescribed), examination work, drawings, school furniture. (*South Gallery.*) 300

4 Moeller, Peter W., New York, N. Y.—Adjustable blackboard frame. Q 78. 300

4*a* Lloyd, E. Philadelphia, Pa.—Maps. T 78. 300

5 Nims, H. B., & Co., Troy, N. Y. —Terrestrial and celestial globes. P 77. 300

5*a* Doyle, Bros., Bangor, Me.—School desk and folding seat. W 53. 300

6 McDermott, Francis, New York, N. Y.—School and library globes, slated globes. T 73 *to* 77. 300

7 Mitchell, S. A., Philadelphia, Pa. —Atlases, maps, engravings, etc. T 73. 300

7*a* Boothby, Chas. W., New Orleans, La.—Bound manuscript and album of drawings. (*South Gallery.*) 300

8 Schermerhorn, J. W., & Co., New York, N. Y.—Books, charts, and modern school material. (*South Gallery.*) 300

8*a* American Missionary Association, New York, N. Y.—Map, pictures of institutions, catalogues, histories, and examination papers. T 47 (*South Gallery.*)

9 Peirce, I. Newton, Philadelphia, Pa.—Combination desks, seats, settee, blackboard, model of a log cabin school house, maps. (*Pennsylvania Educational Building.*) 300

9*a* Roos, Peter, Boston, Mass.—Draw- ings. (*East Gallery.*) 300

10 Steiger, E., 22 & 24 Frankfort street, New York, N. Y.
- *a* Kindergarten material, kindergarten books. 300
- *b* Ahn-Henn's series of German and French school books for Americans, with reading charts, readers, and keys; German school books for Germans in America; automatic tellurian and school clock combined; Schedler's terrestrial and celestial globes, of from three to twenty inches diameter, costing from $1.50 to $175 each, altogether sixty different numbers; Schedler's relief maps. T 73 *to* 78. 300

10*a* Schedler, Jos., Jersey City Heights, N. J.—Terrestrial and celestial globes and relief maps. T 74. 300

10*b* Andrews, A. H., & Co., Chicago, Ill. —Globes, apparatus, and maps. T 67. 300

10*c* Excelsior School Furniture Manu- facturing Co., Cincinnati, O.—School furniture and apparatus, geographical models. T 52. 300

10*d* Ingham University, Le Roy, N. Y. —Paintings and crayons. T 40. 300

11 Cowperthwait & Co., Philadel- phia, Pa.—T 73.
- *a* Text books and wall maps for schools. 300
- *b* Illustrated works. 306

11*a* Adams, S. C., Cincinnati, O.— Illustrated map of the world's history. T 73. 300

11*b* Whitall, Henry, Philadelphia, Pa. —Movable planispheres of the heavens, astronomical indicator. (*South Gallery.*) 300

12 Sower, Potts, & Co., Philadelphia, Pa.—T 74.
- *a* Outline wall maps. 300
- *b* Normal school books. 301
- *c* Publications of five generations of Sower family. 306

13 Ditson, J. E., & Co., Philadelphia, Pa.—Sheet music. T 73 *to* 78. 302

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

School Text Books, Apparatus, Statistics, etc.

13*a* Massachusetts Institute of Technology, Boston, Mass.—Students' work, drawings, designs, note-books, theses, published memoirs, models, apparatus, inventions, metallurgical products, etc. (*East Gallery.*) 302

14 Stevens Institute of Technology, Hoboken, N. J.—A school of mechanical engineering. Course, four years in mathematics, physics, chemistry, mechanical drawing, mechanical engineering, French, German, and belles-lettres, with extensive laboratories, workshops, drawing-rooms, etc. Exhibit consists of instruments of measurement and for illustration, exhibiting methods of instruction. Designs of machinery made by students, and finished machines and instruments actually constructed by students; these illustrating the results of instruction. Lastly, results of original investigations carried out by members of the faculty. Illustrated catalogues sent on application. T 67. 302

14*a* Cooper Union Evening School of Science and Art, New York, N. Y.—Collection of drawings. T 46. 302

15 Hampton Normal & Agricultural Institute, Hampton, Va.—Views, oil paintings, ground plan of building and of experimental farm; photographs of building and of students, examination papers. (*South Gallery.*) 302

15*a* Meyer, Louis, Philadelphia, Pa.—Sheet music and music books. T 73 *to* 78. 302

15*b* American Printing House for the Blind, Louisville, Ky.—Books and apparatus for the blind, reports. (*South Gallery.*) 303

16 State of Indiana Educational Department (by S. H. Smart, Indianapolis).—Bound volumes of examination manuscripts, by pupils of schools at Indianapolis, Evansville, Terre Haute, Fort Wayne, Logansport, Richmond, Goshen, Plymouth, Bedford, Huntington, Elkhart, Lawrenceburg, Mishawaka, Kokomo, Vevay, Delphi, Franklin, Bartholomew county, Martinville, Salem, Vanderburg county, and Wayne county.

Reports and works of Indiana authors.

Drawings from schools.

"Indiana School Journal," plans of buildings, maps of cities, school blanks, etc.

Herbariums and botanical specimens prepared by pupils of schools at Bedford and Indianapolis.

School apparatus from Terre Haute.

Specimens from Owen cabinet.

Mineral collection by pupils of Huntington schools.

Electrical apparatus for weighing under glass, invented by Prof. H. W. Wiley, Purdue University.

Chemical products by pupils of Purdue University.

Indiana fishes, prepared by Prof. Copeland, of Indianapolis High School.

Zoological specimens, prepared by pupils of Indianapolis High School.

Native woods of Huntington county, by pupils of Huntington city schools.

Drawings from Fort Wayne, Indianapolis, and La Fayette schools.

Photographed blackboard work, specimens of penmanship and written music from Indianapolis schools.

School law of the State, condensed.

Photographed blackboard work from La Fayette, Fort Wayne, and Terre Haute schools.

Photographs of prominent educators.

Primary work of Indianapolis and Fort Wayne schools.

Models of Ward and High School buildings at Indianapolis, Fort Wayne, Evansville, Muncie, Terre Haute, and La Fayette.

Model of log school house, the first built in Delaware county, Indiana.

Charts, exhibiting school system and its growth, and the college system of the State.

Banners, exhibiting school system, statistics, distribution of school houses, and the growth of the system in twenty years by semi-decades.

Banners showing Purdue, Asbury, and State Universities, Wabash, Union, Christian, and Eastham Colleges.

Banners showing State and Northern Indiana normal schools, and Indianapolis and Huntington city systems. (*South Gallery.*) 304

17 State of Michigan (F. W. Noble, Secretary, Detroit, Mich.).—Michigan school system, its history, statistics, plans, elevations, interior views, and students' work in public, primary, graded, and high schools, universities, and colleges. Rare birds and marine and land animals from museum of Michigan University. (*South Gallery.*) 304

18 State of Wisconsin Educational Department (by Edward Searing, Superintendent of Public Instruction).—Students' work, photographs of school buildings, educational map, books, etc. (*South Gallery.*) 304

19 Educational Exhibit of Ohio (by Charles S. Smart, State Commissioner of Common Schools).—History of educational effort and progress in Ohio; local histories of colleges, universities, private and technical schools; city, town, and village schools, giving rise and development of graded school system, etc.; manuscripts of students' work, including drawing, penmanship, arithmetic, English grammar, English composition, geography, natural sciences, music, high school branches, etc.; graphic illustrations of school statistics and progress; photographs and lithographs of school and college grounds and buildings; reports of city schools for year ending 1875, and of State Commissioner of Common Schools from 1837 to 1875 inclusive; catalogues of colleges and technical schools; reports of benevolent institutions; centennial contribution from the pioneer association of Athens county, Ohio. (*South Gallery.*) 304

19*a* University of Nebraska.—Photographs of building, etc. (*South Gallery.*) 304

20 State of Rhode Island Board of Education, Providence, R. I. (by T. B. Stockwell, Commissioner of Public Schools).—General history of education in the State; full set of State school reports; common school manual; annual reports for 1875 from the various cities and towns; documents relating to Brown University; history of Rhode Island Institute of Instruction; catalogues of State Normal School and Mowry & Goff's School; set of State and Newport school blanks; file

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

of the Rhode Island "Schoolmaster;" statistical chart; school map of State and cities of Providence and Newport; course of study for State Normal School.

Providence public schools—Examinations from grammar and high schools, map and free hand drawing, design from flat copy, industrial drawings and crayon portraits. Warner's Commercial College—Drawings and penmanship; written examinations from primary, intermediate, grammar, and high schools, with map and free hand drawing and designs from Newport, Westerly, Woonsocket, Coventry, Warwick, Richmond, and Smithfield public schools.

Perspective views of new library of Brown University and Woonsocket new high school, with plans and specifications; plans of some of the school buildings in Providence; views of Rhode Island State Normal School (study hall), Friends' Boarding School, and intermediate school of Providence; views of school houses of Tiverton, Bristol, Newport, and Woonsocket.

Class volume of photographs, Brown University, 1876; school furniture from E. M. Thurston, Providence; blackboard from H. H. Burrington, Providence; book holders from I. S. & C. N. Brown, Providence. (*South Gallery.*) 304

21 State of New Hampshire, Department of Public Instruction (by John W. Simonds, State Superintendent, Franklin, N. H.).—Kindergarten school—Specimens of kindergarten work. Public schools—Slates covered with work of primary pupils; specimens of scholars' written work, and examinations, compositions, drawings, penmanship; maps and plans; photographs and plans of school buildings and rooms; photographs of school superintendents and teachers; illustrated school register; wooden model of school-house.

Academies, seminaries, and high schools—Photographs and plans of buildings and rooms; photographs of teachers and students; students' written work, drawings, etc.

Dartmouth College—Bound catalogues and pamphlets, students' examination papers, drawings, illustrated programme, map of grounds, portraits of faculty and class of 1876; plans and views of buildings and rooms; relief map of the White Mountains.

State Normal School—Reports; students' written work.

Thayer School of Engineering—Model Pratt truss railroad bridge.

Chandler Scientific School—Drawings, surveying papers, railroad map, models in plaster, examination papers and abstracts; essays.

Agricultural College—Geological map.

State school laws, reports, and registers; town school reports, history and catalogue of academies, etc.; records of normal school; Bouton's provincial papers.

Educational publications; histories of towns; text books used 100 years ago; text books in present use; publications of E. C. Eastman. (*South Gallery.*) 304

22 State of Connecticut Educational Department (by B. G. Northrop, Secretary, Hartford, Conn.).—Work by scholars and Chinese students; photographs of schoolhouses; works by former members of Yale College. (*South Gallery.*) 304

23 State of Illinois, Department of Public Instruction (by S. M. Etter, Superintendent).—Reports of the department, and history of education in the State.

Public schools—Pupils' work, school apparatus, drawings, books, maps, etc.

Chicago public schools—Portfolios of examination papers, photographs, drawings, etc.

Colleges and Seminaries—Work of students, museums, etc.

Industrial University, Champaign, Ill.—Books, portfolios, and charts, containing work of students.

Illinois Normal Universities—Work of students, museums, etc. (*East Gallery.*) 304

24 State of Maine, Educational Department (by Warren Johnson, State Superintendent, Augusta, Me.).

Kindergarten school, Lewiston; public schools in Portland, Bangor, Bath, Lewiston, Calais, Augusta, and various other cities and towns; private schools; Johnson Home School for Boys; Abbott School for Boys; St. Catharine's School for Girls, and others. School furniture from Doyle Bros., Bangor.

Bowdoin College, Colby University, Bates College.

Maine Wesleyan Seminary and Female College, Westbrook Seminary, Waterville Classical Institute, Maine Central Institute, Hallowell Classical Institute, and others; Western Normal School; Farmington and Eastern Normal School, Castine.

State collection of agriculture and mechanic arts. (*South Gallery.*) 304

25 State of Iowa, Educational Department (by Alonzo Abernethy, Des Moines).—Collective exhibit of the public schools of Davenport, Des Moines, Atlantic, Muscatine, Ottumwa, Marengo, Boone, Sigourney, Winterset, Lyons, Indianola, Wheatland, Clarence, Friends' Academy, Le Grand, and Osceola, Mt. Pleasant, Jefferson, West Liberty, Mason City, Wilton, Burlington, Sioux City, Denison, Kellogg, and of Oskaloosa, Amity, and Western Colleges, Iowa. Reports, charts, drawings, and examination manuscripts.

Iowa School Furniture Co.—School desks and seats. (*South Gallery.*) 304

25*a* State of Missouri, Educational Department (by Wm. T. Harris, St. Louis, Mo.).—Volumes of school furniture and photographs of schools. (*South Gallery.*) 304

26*a* State of Maryland Educational Exhibit. (T 38 *and South Gallery.*)

26 State of Tennessee Educational Department, collective exhibit.

Trousdale, Leon, State Superintendent of Schools, Nashville, Tenn.—Reports and school banner.

Dean, John R., County Superintendent, Shelbyville, Tenn.—Manuscripts of pupils of the schools, and school banner.

Presnell, H., County Superintendent of Schools, Jonesboro, Tenn.—Photographs of Colored Training School and South Normal School buildings.

Pickett, A., City Superintendent of Schools, Memphis, Tenn.—Examination manuscripts and principles of instruction; geographical drawings.

Caldwell, S. Y., City Superintendent,

Nashville, Tenn.—Examination manuscripts, drawings, school banner, and annual reports.

Perkins, W. H., Principal Peabody Graded School, Powell's Station, Tenn.—Examination manuscripts of classes D and C, second grade.

Tennessee Medical Society, Nashville, Tenn.—Transactions of the session 1845.

Lindsley, J. Berrian, Nashville, Tenn.—Life and works of Philip Lindsley.

Giers, C. C., Nashville, Tenn.—Photographs of educators. (*South Gallery.*) 304

27 **Commonwealth of Massachusetts,** Department of Education and Science.

DRAWING AND MODELING.—Industrial, mechanical, and free hand, from the public day, evening, and Normal Art School; from the Massachusetts Institute of Technology, the Worcester Free Institute, and Boston Art Academy, nearly one thousand exhibits.

The Massachusetts System of Art Instruction for industrial, free hand, mechanical, and other drawing, designs of various kinds, models, and text books for schools and advanced study in drawing, designing, and modeling. Prepared by Butler Smith, published by L. Prang & Co.; exhibited in twenty-eight text books, one hundred and thirty-eight studies, forty-seven models, and fifty-seven casts.

PHOTOGRAPHS.—*Universities, Colleges, and Technical Schools:* Howard University, Bussey Institute, Williams College, Amherst College, Tuft's College, Boston College, College of the Holy Cross, Museum of Comparative Zoology, Massachusetts Institute of Technology, and Worcester Free Institute.

Women's Colleges: Mt. Holyoke, Wellesley, and Smith, Clarke's Articulating School for the Deaf.

Normal Schools: Bridgewater, Framingham, Westfield, Salem, and Worcester (interiors and exteriors).

School houses: Primary, grammar, high, and private schools of Boston, New Bedford, Greenfield, Salem, and other towns.

Harvard University, represented by photographs, catalogues, and courses of study.

Williams College, by photographs, catalogues, text books, and publications of its presidents and professors.

Amherst College, by photographs, catalogues, text books, history, and student life at Amherst.

Tuft's College, by photographs, text books, and catalogues; from the scientific department, instruments for the projection of Lissajou's curves, and the opeidoscope, by Prof. Dolbear.

Boston University, by year-books.

Boston College, by photographs and catalogues.

College of the Holy Cross: Photograph and historical sketch.

Mt. Holyoke Seminary: Photographs, water colors, catalogues, reports, documents, and history, memoir of Miss Lyon, first principal.

Wellesley College: Photographs, water colors, and drawings of buildings and interiors, circulars, pamphlet of history, and sketch.

Smith's College: Photographs, water colors, ground and other plans, history, and pamphlets.

Museum of Comparative Zoology: drawings, illustrated catalogues, bulletins, and reports, bust of Prof. Agassiz, contributions to natural history of the United States.

Massachusetts Institute of Technology: Photographs, documents, and students' works, as follows: drawings and original designs in civil and mechanical engineering and architecture; physical, metallurgical, mining, and surveying apparatus; results of physical experiments; models of engineering structures; silver and lead extracted from the ore; tablet of the metric system; theses by graduates in civil, mechanical, and mining engineering, architecture, chemistry, metallurgy, natural history, physics, science, and literature and philosophy; designs for various textile fabrics, oil-cloths, porcelain decorations, etc., by students of the Lowell Free Course of Practical Design.

Worcester Free Institute: Drawings and photographs, plan of study and discipline, students' work exhibited in examination papers, drawings, designs, physical apparatus and models.

Theological Seminary, Andover: Memorial catalogues, etc.

Theological Institution, Newton: Photographs, catalogues, etc.

Clarke's Institution for the Deaf, Northampton: Photographs, history, and system of teaching by articulation and lip-reading, annual reports; system of visible speech, by A. Graham Bell.

Perkins's Institution for the Blind: Specimens of books printed at the asylum; work of pupils; Dr. Howe's reports.

Nathaniel Bowditch: Bust and works.

Horace Mann: Portrait, life, lectures, and reports.

Collective Exhibits: From Boston, New Bedford, and Greenfield, illustrating the system of public instruction in the large and small cities and towns, including text books, reference books, and apparatus; text books used in Tuft's College, Williams, and Amherst, in the public schools of Boston, New Bedford, Greenfield; text books used in different cities and towns of the State.

PUPILS' WORK.—From primary, grammar, and high schools, in two hundred and ninety bound volumes and on seventy-two slates; specimens of sewing from grammar schools, in six portfolios; desk-mat, primary department, Grafton.

PUBLIC LIBRARIES.—*Boston Public Library:* Seventeen bound volumes, history, catalogues, administration, annual and quarterly reports.

Catalogues and photographs of libraries in Salem, Springfield, Lynn, Concord, and other towns.

REPORTS.—Complete set of reports of State Board of Education, from 1837 to 1876, bound in twenty-nine volumes.

Complete set of annual school reports for 1875, from eighteen cities and three hundred and twenty-four towns, in twelve volumes.

ANNUAL STATE REPORTS FOR 1875.—Board of Education, Board of State Charities, Board of Health, Bureau of Labor Statistics, Registration of Births and Deaths, State Librarian, Board of Agriculture, Treasurer, Adjutant-General, Auditor, Annual Returns of Corporations, Trustees of the Perkins Institution for the Blind, Trustees of the School for Idiotic and Feeble-Minded Children, Commission-

ers of Railroads, Commisioners of Harbors, Commissioners of Insurance, Commissioners of Taxes, Commissioners of Savings Banks, Commissioners of State Prison, Inspectors of State Prison, Inspectors of State Workhouse, Bridgewater; Inspectors of State Almshouse, Tewksbury; Inspectors of State Primary School, Mouser; Inspectors of State Gas; Trustees Industrial School for Girls; Trustees State Reform School, Westboro'; Trustees Lunatic Asylum, Taunton; Trustees Lunatic Asylum, Northampton; Trustees Lunatic Asylum, Worcester; Trustees Lunatic Asylum, Danvers; Census of the State for 1865; Acts and Resolves for 1875; Public Documents, 1862 to 1874; Plymouth Colony and Massachusetts Bay Records; Decisions of Supreme Judicial Courts; Directories, city and county, from Sampson, Davenport & Co., Greenough & Co., D. Dudley & Briggs; Publications and Text books, from Brewer & Tileston, G. & C. Merriam, Thompson, Brown & Co., Schoenhof & Moeller, R. S. Davis & Co., W. F. Draper, Grim Bros., Oliver Ditson.

Publications of Societies: Natural History, Numismatic, Historic, Genealogical, Medical Improvement.

Reports of associations, organizations, towns, public libraries, etc.; Psyche Advertiser of Entomology.

Periodical Literature: A copy of every newspaper and periodical published in Massachusetts in 1876, bound in eleven volumes; New England Journal of Education for 1875 and 1876.

American Academy of Arts and Sciences: Proceedings, memoirs, and other works, thirty-four volumes.

Essex Institute: Full set of works; American Naturalist, nine volumes.

Peabody Academy of Science: Two volumes; complete set of Asa Gray's works; scientific, educational, and miscellaneous publications by Massachusetts authors; photographs and autographs of some of the living authors of Massachusetts; a series of astronomical drawings (thirty-four), from the physical observations of L. Trouvelot; Cambridge pastel drawings, from actual telescopic observations requiring ten years for their preparation, representing most interesting objects in astronomy, as comets, clusters, nebulæ, meteors, solar spots and protuberances, eclipses, moon craters, planets, zodiacal light, aurora borealis, etc.

Reports Specially Prepared for this Exhibit.—American Board of Commissioners for Foreign Missions; College of the Holy Cross; Boston College, 1874–1876; Clarke Institution for the Deaf; Mount Holyoke Seminary; Wellesley College; Smith College; Worcester Free Institute; Worcester Academy; Worcester Lyceum; Worcester Public Library; State Normal School, Bridgewater; State Normal School, Westfield; Publications Williams College, 1793–1876; Public Charities of Massachusetts, 1776–1876; Statistics of Schools, Greenfield; Statistics of High School, Pittsfield; Report of Grammar School, Pittsfield; Questions for Written Examinations, Worcester; Worcester Truant School; Worcester Productive Union; Worcester County Musical Association; Worcester Choral Union; Worcester Young Men's Christian Association; Worcester Home for Aged Females; Worcester Children's Friend Society; Massachusetts Temperance Alliance; New England Hospital for Women and Children; Temporary Home for Discharged Female Prisoners; Home for Little Wanderers; School for Pauper Boys; Industrial School for Girls, Dorchester; Washingtonian Home.

Maps.—Educational, representing the universities, colleges, professional and technical institutions, academies, normal, high, grammar, primary, and ungraded schools and public libraries in the State; geological, hypsometric, density of population, proportion of foreigners to native population, trades and occupations, land under cultivation, wealth, railroads, births, deaths, and marriages; Nantucket historical and geographical map; Hoosac tunnel, large profile, twenty-three feet in length, with fifty-eight photographs; illustrated missionary map of the world, showing every station of the A. B. C. F. M.; globe, by E. C. Fitz.

Architectural Illustrations of Insane Asylums at Danvers, Worcester, and Northampton; New England Hospital for Women and Children, in Boston; Washingtonian Home, at Boston; Reformatory Prison for Women, at Sherborn; School for Neglected Children, at Deer Island (private); Institution for Feeble Minded Youth, at Barre; Warren Street Chapel, Boston; Abattoir, at Brighton.

Miscellaneous. — Carving of wood from Washington's elm, Cambridge; illustration and description of Mastodon giganteus; astronomical lantern, from J. F. Clark; system of tachygraphy, by D. P. Linsley; specimen penmanship, by K. O. Herline; arithmetical cards, by Misses Faxon & Walcutt; tablet of metric system, J. P. Putnam, with pamphlet; natural history series and aids to object teaching, L. Prang & Co.; case containing two thousand crayons, Parmenter & Walker, Waltham; reversible blackboard, by Zollinger; health-lift, by W. A. Knight; method of teaching music, by Mrs. J. B. Paige and H. M. Tappan; stereoscope and stereoscopic views of public buildings of historical interest; insurance tables, by Elizur Wright; school furniture, from A. G. Whitcomb and W. O. Haskell & Son; combination desk and organ, George Woods & Co.

Kindergarten: Inventions of children from four to six years of age; material for instruction, by Milton, Bradley, & Co.

Micro-photographs by Dr. E. Cutter.

Photographs of cities, libraries, high and other schools.

Exhibit illustrating the interest, progress, and condition, by the Essex Institute, four tables and one hundred and twenty-eight photographs, charts, models, and books, from S. E. Warren.

Society for the "Prevention of Cruelty to Dumb Animals," with improved methods for their treatment, books, newspaper, tracts, etc.

Photographs of specimens from Brown High School, Newburyport. (*East Gallery.*)

27*a* **State of Minnesota, Educational** Department.—Bound volumes of examination papers, maps, drawings, etc., from the public schools of St. Paul, L. M. Burrington, Superintendent of Public Schools; bound volumes of examination papers, maps, drawings, etc., from the public

Students' Work, Educational and General Publications.

schools of Minneapolis and Winona, O. V. Tousley, Superintendent; designs and plans for school buildings, exhibited by A. Langdon, Winona. (*South Gallery.*) 304

28 State of New Jersey, Department of Public Instruction (by Ellis A. Apgar, Trenton, N. J.).—Work by school children, viz.: maps drawn from memory; mathematical operations; analysis and parsing; compositions; spelling; primary and miscellaneous work; artistic drawing in crayon, indian ink, and lead pencil; mineral and natural history collections; mechanical contrivances; photographic views, exterior and interior of school-houses, and decennial exhibit of their improvements, showing condition in 1866 and 1876; kindergarten work; penmanship; history of schools in New Jersey; works written by alumni of Princeton and Rutgers Colleges, and photographic views of the same. (*South Gallery.*) 304

29 State of Pennsylvania.—Educational exhibit shown in Pennsylvania Educational Hall. 304

29*a* Peirce's Union Business College.—Exhibit noticed under special buildings. (*Pennsylvania Educational Hall.*)

30 Bartlett, John R., Providence, R. I.—Catalogue of the library of the late John Carter Brown, relating to America. T 75. 305

31 Lippincott, J. B., & Co., Philadelphia, Pa.—Selected publications printed and bound in their establishment. T 72. 306

31*a* Lockwood, George R., New York, N. Y.—Audubon's Birds of America and Birds and Quadrupeds of America. T 75. 306

32 Porter & Coates, Philadelphia, Pa.—Books. T 73 *to* 78. 306

32*a* Merriam, G. & C., Springfield, Mass.—Copies of Dr. Noah Webster's works. T 73 *to* 78. 306

33 Davis, Chas. H., & Co., Philadelphia, Pa.—Zell's Encyclopedia, Hand Atlas, Cyclopedia of American Literature, and United States Business Directory; Centennial map of one hundred and thirty-six miles around Philadelphia. A specimen of Zell's Encyclopedia with map will be sent to any address on receipt of twenty cents. T 73 *to* 78. 306

33*a* Methodist Book Concern, New York, N. Y.—Miscellaneous books, Bibles, and hymn-books, Sunday-school libraries, teachers' helps. T 76. 306

34 Burley, S. W., Philadelphia, Pa.—Historical, descriptive, and statistical books. T 73. 306

34*a* Marshall, B. F. jr., Mobile, Ala.—The accountant's vade mecum. T 73 *to* 78. 306

35 Holman, A. J., & Co., Philadelphia, Pa.—Bibles. T 74. 306

35*a* Clark & Maynard, New York, N. Y.—Educational, Masonic, and miscellaneous works. T 73 *to* 78. 306

36 Presbyterian Board of Publication, Philadelphia, Pa.—Theological, practical, and Sabbath-school books and periodicals. T 74. 306

36*a* Miller, James, New York, N. Y.—Books. T 77. 306

37 Kohler, Ignatius, Philadelphia, Pa.—Publisher of German family Bibles, theological, classical, and miscellaneous works, viz., Schiller's Works, German, two editions, two volumes, and twelve volumes; Schiller's Works, English, complete in two volumes; Schiller's Poems, German-English, on opposite pages; German-English dictionaries, etc., etc. German classical, theological, and miscellaneous books. T 73 *to* 78. 306

37*a* Gevin Bros., Boston, Mass.—Educational and other works. T 77. 306

38 Allen, Henry S., New York, N. Y.—History of America. T 77. 306

38*a* Peters, J. L., New York, N. Y.—Musical magazines, sheet music, etc. T 73 *to* 78. 306

39 Wilson, Hinkle, & Co., Cincinnati, O.—Educational books. T 74. 306

39*a* Hoyt, Henry, Boston, Mass.—Books. T 77. 306

40 Calmann, Chas., Philadelphia, Pa.—Book of business firms in the United States. T 73. 306

40*a* McLoughlin Bros., New York, N. Y.—Toy books, games, etc. T 73 *to* 78. 308

41 Ivison, Blakeman, Taylor, & Co., New York, N. Y.—School and college text books; Spencerian system of penmanship. T 77. 306

41*a* Estes & Lauriat, Boston, Mass.—Books. T 77. 306

42 Graham, Andrew J., New York, N. Y.—Phonographic works. T 73. 306

42*a* Blodget, Lorin, Philadelphia, Pa.—Meteorological works and charts. T 73. 306

42*b* Putnam, G. P., & Sons, New York, N. Y.—Books. T 73. 306

43 Butler, J. H., & Co., Philadelphia, Pa.—Educational text books and outline maps. T 73. 306

43*a* Cook, E. A., & Co., Chicago, Ill.—Expositions of Freemasonry, etc. T 73. 306

44 Wood, Wm., & Co., New York, N. Y.—Medical books. T 77. 306

44*a* Harper & Bros., New York, N. Y.—Miscellaneous books, and complete sets of periodicals. T 77. 306

45 National Temperance Society, New York, N. Y.—Temperance books, tracts, pamphlets, papers, diagrams, etc. T 76. 306

45*a* Harding, W. W., Philadelphia, Pa.—Bibles, Testaments, and photograph albums. T 73. 306

46 Bicknell, A. J., & Co., New York, N. Y.—Books for builders. T 70. 306

46*a* Sherwood, George, & Co., Chicago, Ill.—Educational books. T 73 *to* 78. 306

47 Anglim, James, Washington, D. C.—Biographical annals of the civil government of the United States during its first century, by Charles Lanman. T 76. 306

47*a* Still, William, Philadelphia, Pa.—Book—The Underground Railroad. P 73. 306

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Books, Publications.

48 **Claxton, Remsen & Haffelfinger,** Philadelphia, Pa.—Books, games, historical charts, Centennial Guide and map of Philadelphia. T 73 *to* 78. 306

48*a* **Swasey, J. N., Yonkers, N. Y.**—Iconographic chart. T 52. 306

49 **Kelly, Thomas, New York, N. Y.**—Catholic prayer books and Bibles. T 77. 306

49*a* **Atwood, John M., Philadelphia,** Pa.—Map of North America. T 73. 306

50 **Sheldon & Co., New York, N. Y.**—School and college text-books; theological, religious, miscellaneous, and juvenile books; "Galaxy" magazine. T 77. 306

50*a* **Dewey, D. M., Rochester, N. Y.**—Plates of ornamental trees, fruits, and flowers of America. T 73 *to* 78. 306

51 **Burlock, Saml. D., & Co., Philadelphia,** Pa.—Photograph albums, Bibles. T 73. 306

51*a* **Townsend, G. W., Philadelphia,** Pa.—Napoleon question slips, for cultivating habits of thought, intended for educational uses, and the greatest good to the greatest number. For sale by Claxton, Remsen & Haffelfinger, Philadelphia, Pa., in packages, fifty cents and one dollar. T 73. 306

52 **Potter, John E., & Co., Philadelphia,** Pa.—Bible Encyclopedia, Bibles, Testaments, and standard miscellaneous books. T 76. 30

52*a* **Virtue & Yorston, New York, N. Y.**—T 73.
a Books, bound and in parts. 306
b Steel engraving. 421

53 **Baird, Henry Carey, & Co., Philadelphia,** Pa.—Practical, scientific, and economic books. T 75. 306

53*a* **United States Publishing Co., New** York, N. Y.—Our First Hundred Years, and other books. T 73. 306

54 **Orange Judd Co., New York, N. Y.**—"American Agriculturist" and rural books. T 73. 306

55 **American Sunday-School Union,** Philadelphia, Pa.—Evangelical publications for Sunday-schools and families. T 73. 306

55*a* **Goodrich, D. W., New York, N. Y.**—Books and calendars. T 73. 306

56 **Appleton, D., & Co., Philadelphia,** Pa.—Books. T 73 *to* 78. 306

57 **Gebbie & Barrie, Philadelphia,** Pa.—Fine art publications. N 71. 306

58 **Roberts, Rev. H. Floy, Williamsburgh, N. Y.**—Manuscript interlinear New Testament; the original Greek text, verbally translated, compared with our English version. T 73. 306

59 **Asher & Adams, New York, N. Y.**—Pictorial album, atlases, maps, and specimens of printing. T 73. 306

60 **American Bible Society, New** York.—Bibles in ancient and modern languages and various bindings. T 75. 306

61 **Potter, Ainsworth, & Co., New** York, N. Y.—School books. T 76. 306

62 **Griffiths, John W., New York, N. Y.**—Works on ship building. T 76. 306

62*a* **Michels, Ivan C., New York, N. Y.**—Book containing the Lord's Prayer in five hundred languages; work of great research, comprising the labor of twenty-three years. T 75. 306

63 **Johnson, T. & J. W., & Co., Philadelphia,** Pa.—American and English law text books and reports. T 75. 306

64 **Peterson, T. B., & Bros., 306 Chestnut** street, Philadelphia, Pa.—Booksellers and publishers of American and foreign novelists. Call or send for illustrated catalogue. Books. T 77. 306

65 **Stoddart, J. M., & Co., Philadelphia.**—General literature; American edition of the "Encyclopedia Britannica." T 74. 306

66 **Rice, D., & Co., Philadelphia, Pa.**—McKenney's Indian Tribes of North America, one hundred and twenty illustrations (government edition), folio, three volumes; Michaux & Nuttall's Sylva, two hundred and seventy-seven illustrations, five volumes; National Portrait Gallery of Distinguished Americans, one hundred and fifty illustrations, three volumes. T 75. 306

67 **Brewer & Tileston, Boston, Mass.**—Worcester's dictionaries, arithmetics, histories. T 76. 306

68 **University Publishing Co., New** York, N. Y.—School books: Maury's geographies and wall maps; Venable's mathematics; Holmes's readers, United States history and grammars; Gildersleeve's Latin books; Carter's general history, etc. T 77. 306

69 **Houghton, H. O., & Co., Riverside** Press, Cambridge, Mass.; Hurd & Houghton, New York, N. Y.—Specimens of fine book printing, selected from their own publications and books printed for others; among them, Lord Bacon's Works, five copies only, printed on India paper; Notes on Columbus; and the Bibliotheca Americana, being the catalogue of the library of the late John Carter Brown, of Providence. Also framed specimens of plain and colored lithographic printing, designed and printed at the Riverside Press,—among them Longfellow's portrait, drawn by Baker, issued only with the Atlantic Monthly. T 73. (*On the Pavilion of the American Book Trade Association.*) 306

70 **Masonic Publishing Co., New** York, N. Y.—Masonic books and publications. T 73. 306

71 **Wells, S. R., & Co., New York, N. Y.**—Phrenological books and specimens, including busts and paintings, miscellaneous publications. T 77. 306

72 **Scribner, Armstrong & Co., New** York, N. Y.—Books, maps, etc. T 77. 306

73 **American Tract Society, New** York, N. Y.—Books, tracts, periodicals, wood engravings, teachers' Bibles, etc. T 76. 306

74 **Sabin, J., & Sons, New York, N. Y.**—Dictionary of books relating to America. T 75. 306

75 **Leypoldt, F., New York, N. Y.**—Publishers' Weekly, Trade List Annual, and other trade publications. T 75. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Books, Publications, Archæological Collections.

76 Kehoe, Lawrence, The Catholic Publication Society, New York, N. Y.—Catholic books of history, devotion, controversy, and general literature. T 77. 306

77 Lindsay & Blakiston, Philadelphia, Pa.—Medical, dental, and scientific books; physicians' visiting list. T 73. 306

78 Kay & Bro., Philadelphia, Pa.—American and English law books. T 74. 306

79 Lee & Shepard, Boston, Mass.—Books. T 73 *to* 78. 306

80 Osgood, James R., & Co., Boston, Mass.—Books. T 73 *to* 78. 306

82 Seventh Day Adventist Publishing Association, Battle Creek, Mich.—Periodicals, books, and tracts. T 73. 306

83 Knapp, Albert E., Poultney, Vt.—Pictorial family Bible and continuous genealogical family record, for photographs and autographs of heads of families for successive generations. T 73. 306

84 American News Co., New York, N. Y.—American Bookseller's Guide and American Bookseller. T 75. 306

85 Miller's Bible & Publishing House, Philadelphia, Pa.—Bound Bibles and other books. T 73. 306

86 Dick & Fitzgerald, New York, N. Y.—Dick's Encyclopedia, books of popular information, etc. T 77. 306

87 The Centennial Guide Book Co. (limited), Philadelphia, Pa.—Visitors' Guide to the Centennial Exhibition and Philadelphia. H 72 *and* N 5. 306

88 American Baptist Publication Society, Philadelphia, Pa.—Books and periodicals. T 76. 306

89 Allen, Lane & Scott & Jas. W. Lauderbach, publishers, Philadelphia, Pa.—An elegant illustrated quarto, entitled "A Century After;" picturesque glimpses of Philadelphia and Pennsylvania, including Fairmount, the Wissahickon, the cities and landscapes of the State, and the Centennial Buildings. T 73 *to* 78. 306

90 Gill, Wm. F., & Co., Boston, Mass.—Monument device of books, in the form of Bunker Hill monument. T 74. 306

Institutions and Organizations.

91 Burleigh, J. B., Philadelphia, Pa.—Indian relics, illustrating the pre-historic age of the western continent. T 57. 312

91*a* Allen, Geo. W., St. Louis, Mo.—Archæological specimens from the ancient mounds of Missouri. T 63. 312

91*b* Sloan, W. B., Port Clinton, O.—Flint and stone implements and ornaments. V 63. 312

91*c* Read, A. N., Norwalk, O.—Stone implements. V 63. 312

91*d* Cutler, C., Hudson, O.—Flint, stone, and iron implements. V 63. 312

91*e* Kelley, Gustavus, Kelley's Island, O.—Flint and stone implements and ornaments. V 63. 312

91*f* Paul, Daniel, Martinsburg, O.—Flint and stone implements. V 63. 312

91*g* Fireland Historical Society, Norwalk, O.—Stone and flint implements and ornaments, pottery, etc. V 63. 312

91*h* Agricultural College of Ohio, Columbus, O.—Copper and stone implements, etc. V 63. 312

91*i* Archæological Society of Ohio, Columbus, O.—Map showing the location of ancient earthworks in the State. V 63. 312

91*j* Western Reserve College, Hudson, O.—Copper implements, stone pipes, hammers, etc. V 63. 312

91*k* Force, W. F., Cincinnati, O.—Copper implements of the mound builders. V 63. 312

91*l* Neff, Peter, Gambier, O.—Implements of stone and flint. V 63. 312

91*m* Buchtel College, Akron, O.—Stone and flint ornaments and implements. V 61. 312

91*n* Mt. Union College, Alliance, O.—Flint implements and weapons, pestles and mortars, slingstones, pipes. V 61. 312

91*o* Matson, John S. B., Shelby, O.—Mound implements, ornaments, etc. V 63. 312

91*p* Whittlesey, Charles, O.—Archæological collection. V 61. 312

92 Gabriel, Peter J., Perry, Me.—Implements, ornaments, and utensils used by the Passamaquoddy Indians; weapons, costumes, house implements, and books. P. 65. 312

92*a* Kenney, T. Mc., Portsmouth, O.—Stone relics, hammers, rollers, pestles, chisels, plates, pendants and other ornaments. V 63. 312

92*b* Henderson, J. P., Newville, O.—Stone, flint, and copper implements and ornaments. V 63. 312

92*c* Judge, J. F., Cincinnati, O.—Stone and flint implements and ornaments. V 63. 312

92*d* Morgan, M. C., Urbana, O.—Stone and flint implements. V 63. 312

92*e* Bartlett, C. L., Ravenna, O.—Stone and flint implements and ornaments. V 63. 312

92*f* Munday, Gilbert, Montezuma, O.—Stone implements. V 63. 312

92*g* Ashtabula County Historical Society, Ashtabula, O.—Stone and flint implements and ornaments. V 63. 312

92*h* Peet, S. D., Ashtabula, O.—Flint and stone implements and ornaments. V 63. 312

92*i* Beard, John, Attica, O.—Flint and stone implements and ornaments. V 63. 312

92*j* Bennett, H., Putnam, O.—Stone and flint implements and ornaments. V 63. 312

92*k* Hawkins, A. W., Twinsburg, O.—Stone and flint implements and ornaments. V 63. 312

92*l* Schroyer, J. C., Cincinnati, O.—Stone and flint implements and ornaments. V 63. 312

92*m* Byrnes, L. M., Cincinnati, O.—Stone and flint implements and ornaments. V 63. 312

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Archæological Collections, Scientific Instruments.

92*n* Cleneay, Thomas, Cincinnati, O.—Stone implements and pottery. V 63. 312

92*o* Giauque, Florien, Cincinnati, O.—Flint, stone, shell, and bone implements and ornaments. V 63. 312

92*p* Mercer, R. W., Cincinnati, O.—Pottery from mounds of Ohio. V 63. 312

92*q* Hill, H. H., Cincinnati, O.—Flint, stone, bone, and copper implements and ornaments, pottery, etc. V 63. 312

92*r* Hosea, L. M., Cincinnati, O.—Flint and stone implements and ornaments, pottery, etc. V 63. 312

92*s* Simerell, C.B., Cincinnati, O.—Flint, stone, shell, and bone implements and ornaments. V 63. 312

92*t* Hawley, R. E., Cleveland, O.—Flint and stone implements and ornaments. V 63. 312

92*u* Freeman, L. R., Cincinnati, O.—Pottery, stone, and flint implements and ornaments. V 63. 312

92*v* Johnson, J. M., Mt. Union, O.—Stone implements. V 63. 312

92*w* Larkins, John F., West Mansfield, O.—Stone implements. V 63. 312

92*x* Smucker, Isaac, Newark, O.—Flint and stone implements and ornaments, casts and photographs. V 63. 312

92*y* Read, M. C., Hudson, O.—Flint and stone implements and ornaments, casts and photographs. V 63. 312

92*z* Chase, G. W., Newark, O.—Photographs and drawings of mounds, stone images and implements. V 63. 312

92*a b* Zane, Carbon, Mifflin, O.—Stone and flint implements. V 63. 312

93 State Archæological Association of Ohio.—Relics of pre-historic races and Indians of Ohio. V 63. 312

93*a* Dickeson, M. W., Philadelphia, Pa.—Mound relics. T 68. 312

93*b* Western Reserve Historical Society, Cleveland, O.—Relics of Indians and pre-historic races of Ohio. V 61. 312

93*c* Anderson, Marshall, Circleville, O.—Flint and stone implements, etc. V 63. 312

Scientific and Philosophical Instruments and Methods.

94 Kuebler, Wm., Philadelphia, Pa.—Surveyors' and engineers' instruments; mining transit. N 60. 320

94*a* Wilder, Charles, Peterborough, N. H.—Thermometers and portable barometers. N 78. 320

95 Kuhnel, Paul, New York, N. Y.—Terrestrial and celestial planisphere globe. N 56. 320

96 Ritchie, E. S., & Sons, Boston, Mass.—Philosophical and nautical instruments. N 57. 320

96*a* Bianck, G., New York, N. Y.—Parallel rule. N 54. 320

97 Keuffel & Esser, New York, N. Y.—Drawing instruments, models, and machinery for scientific schools. N 57. 320

98 Rogers, Wm. A., Assistant, Harvard College Observatory, Cambridge, Mass.—Automatic machines for ruling microscopic lines on glass or metals; for grinding and polishing ruling diamonds; for polishing parallel surfaces on glass; for dividing any unit into equal parts; microscope, specimens of diamond and etched rulings on glass, and water motor. N 55. 320

98*a* Allen, Horatio, South Orange, N.J.—Astronomical instruments. P 78. 320

99 Clum, H. A., Elmira, New York N. Y.—Aëllograph or storm writer for pre determining storms. N 60. 32

99*a* Leete, Isaac P., Branford, Conn.—Atomizer and vaporizer. N 70. 320

100 Muller's Sons, Nicholas, New York, N. Y.—Thermometers. P 76. 320

101 Benjamin, E. B., New York, N. Y.—Chemical glass and porcelain wares; rare chemical and assaying implements; tools for blowpiping; students' setts; Geissler tubes and physical apparatus. N 57. 320

103 Gurley, W. & L. E., Troy, N. Y.—Civil engineers', land surveyors', and mining engineers' instruments and apparatus. N 56. 320

104 Lowe, N. M., Boston, Mass.—Terrestrial orrery, graphic hygrometer. N 55. 320

105 Prentice, James, New York, N.Y.—Engineers' and surveyors' instruments. N 58. 320

106 Heller & Brightley, Philadelphia, Pa.—Surveying, engineering, mathematical, optical, and astronomical instruments. N 59. 320

107 Alteneder, Theodore, Philadelphia, Pa.—Joint draughting instruments, protractors, triangles, and drawing scales. N 58. 320

108 Fauth, C., & Co., Washington, D. C.—Astronomic, geodetic, and scientific instruments; equatorial-universal alt-azimuth, theodolites, levels, etc. N 57. 320

109 Tarr, Henry S., & Son, Philadelphia, Pa.—Dry level; plumb and level combined. N 57. 320

110 Bahmann Bros., New York, N. Y.—Hydrometers, thermometers, and chemical glass instruments. N 58. 320

111 Schlotterbeck, A. S., Portland, Me.—Thermometer. N 58. 320

112 Tagliabue, Giuseppe, New York, N. Y.—Recording barometer, thermometer, and rain gauge; pyrometers, milk tester, hydrometers. N 58. 320

113 Kroedel, Franz, New York, N. Y.—Chorometer for surveying. (*West Gallery.*) 320

114 Knox & Shain, Philadelphia, Pa.—N 57.
- *a* Engineering instruments. 320
- *b* Telegraph instruments. 326

115 Young's, Wm. J., Sons, Philadelphia, Pa.—N 59.
- *a* Astronomical circle, equatorial sextant, transits. 320
- *b* Telescopes. 324

116 Riggs & Bro., Philadelphia, Pa.—N 58.
- *a* Ships' binnacles and logs. 320
- *b* Watchmen's clocks, balance springs for chronometers and watches. 323

117 Queen, Jas. W., & Co., Philadelphia, Pa.—N 55.
- *a* Mathematical and drawing instruments and accessories for students and professional men. 320
- *b* Microscopes. 324

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Scientific and Philosophical Instruments.

118 Bliss, John, & Co., 110 Wall street, New York, N. Y.—N 52.
a Ships' logs, register fastened to taffrail; rotator attached and towed astern. 320
b Marine chronometers, entirely American manufacture, with auxiliary compensation; watchmakers' portable transit instruments, for obtaining correct time. 323
tern. 320

119 Deakin, Robt. T., Philadelphia, Pa.—N 58.
a Philosophical instruments, mandrel-drawn tubes. 320
b Green-house syringes; portable fire engine and garden pump. 720

120 Watts & Co., Baltimore, Md.—N 61.
a Scientific apparatus. 320
b Electrical apparatus. 325
c Telegraphic apparatus. 326

121 Stewart, A., Philadelphia, Pa.—Fare controller and indicator; mechanical instruments. N 56. 321

121*a* Pottin Register Manufacturing Co., Philadelphia, Pa.—Registers for cars, ferries, billiards, and money drawers. P 57. 321

122 Darling, Brown, & Sharpe, Providence, R. I.—Rules, try squares, wire gauges, and tools for accurate measurements. P 70. 322

123 Eddy, Geo. M., & Co., Brooklyn, N. Y.—Measuring tapes of cotton, linen, and steel. N 57. 322

124 Mains Manufacturing Co., New York, N. Y.—Petroleum tester. N 65. 322

125 Weaver, Henry M., Mansfield, O.—Automatic balance scales. N 56. 322

126 Juvet, L. P., Glen's Falls, N. Y.—Time globe. N 55. 323

127 Tiffany & Co., New York, N. Y.—Watches. N 41. 323

127*a* Hietel Bros., Philadelphia, Pa.—Spring lever for watch escapement. N 58. 323

128 Elgin National Watch Co., Elgin, Ill.—Watch movements and materials. P 67. 323

128*a* Galena Oil Works (limited), Franklin, Pa.—Oil well clock. P 47. 323

129 Seth Thomas Clock Co., Thomaston, Conn.—Clocks. N 65. 323

130 Hagstoz & Thorpe, Philadelphia, Pa.—Stiffened gold watch cases. P 43. 323

131 American Watch Co., Waltham, Mass.—Watches and watch movements, gold and silver watch cases, watch materials. P 67. 323

132 Mehr, Geo., 1218 Hutchinson street, Philadelphia, Pa.—Patent sun dials made of marble, showing time of day, and distance of nineteen cities from Philadelphia. (*Outside.*) 323

134 Ithaca Calendar Clock Co., Ithaca, N.Y.—Perpetual calendar clock. N 66. 323

135 Teske, Charles, Saratoga Springs, N. Y.—Watch regulator. N 56. 323

136 Ansonia Brass & Copper Co., Ansonia, Conn.—Brass and nickel movement clocks. N 57. 323

137 Spellier, Louis H., Doylestown, Pa.—Regulator, with new mode of hanging the pendulum, and anchor pin escapement. N 55. 323

138 Empire City Watch Co., Jersey City, N. J.—Watches, watch movements, and watch materials. N 55. 323

139 Fasoldt, Charles, Albany, N. Y. —Astronomical tower clock. N 56. 323

140 Elson, Julius, Boston, Mass.—Safety attachments and regulators for watches. N 56. 323

141 Lapp, Ferd., Detroit, Mich.—Carved black walnut clock case. N 56. 323

142 Fortenbach & Sons, Carlstadt, N. J.—Silver watch cases. N 55. 323

143 Paulus, E., Philadelphia, Pa.—Watches and clocks. N 55. 323

144 Hummel, Alois, Baltimore, Md. —Musical clock. N 66. 323

145 Robbins, Clark & Biddle, Philadelphia, Pa.—Watches, clocks. N 43. 323

146 Gropengiesser, Jno. L., Philadelphia, Pa.—Astronomical clock. N 56. 323

148 E. N. Welch Manufacturing Co., Forestville, Conn.—Clocks. N 65. 323

149 New Haven Clock Co., New Haven, Conn.—Clocks. N 65. 323

150 Imhauser & Co., New York, N. Y.—Watchman's time detector. This watch clock, which is fastened at the watchman's beat, is supplied with twelve keys. In making his rounds, the watchman inserts the keys in the watch, which will perfectly show his movements. N 56. 323

151 Bacon, B. H., Philadelphia, Pa.—Lunar clock. N 56. 323

152 Mitchell, Vance, & Co., New York, N. Y.—Clocks. N 49. 323

153 Pequignot, C. & A., Philadelphia, Pa.—Watches and watch cases. N 63. 323

154 Hahl, A., & Co., Baltimore, Md. —Electric clocks, bells, indicators, burglar alarms, tower clocks. N 63. 323

155 Wheeler, Marshall, Big Rapids, Mich.—Solar chronometer. N 52. 323

156 Schenck, John H., New York, N. Y.—Illuminated clock, "phantasmagoria." N 66. 323

157 Hill, J. W., Waterville, Kansas.—Clock that will run 100 years without winding, with a new escapement. With this escapement clocks can be made that will run the longest time, and with least machinery, and be perfectly accurate. (*Kansas Building.*) 323

158 Wilson, T. A., & Co., Reading, Pa.—Steel spectacle and eyeglass frames; lenses for optical purposes. N 58. 324

158*a* Black, L., & Co., Detroit, Mich.—Spectacles and eye glasses. N 64. 324

159 Zentmayer, Joseph, Philadelphia, Pa.—Microscopes and accessories. N 58. 324

159*a* Beatty, George D., Baltimore, Md. —Microscopical slides, showing vegetable tissue. T 50. 324

160 Bausch & Lomb Optical Co., Rochester, N. Y.—Optical instruments, lenses, etc. N 55. 324

161 Wales, W., Fort Lee, N. J.—Microscope object glasses, with back for photographing; photomicrographs. N 58. 324

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Scientific and Philosophical Instruments.

162 Weiskopf, E., New York, N. Y.—Lenses for solar printing, lenses for magic lanterns, lenses and laryngoscopes and ophthalmoscopes; mirrors for eye, ear, and throat; instruments for dentists, and microscopes. N 57. 324

163 Spencer Optical Manufacturing Co., New York, N. Y.—Optical lenses, spectacles, and eyeglasses. N 59. 324

164 Edgerton, N. H., Philadelphia, Pa.—Philosophical instruments, stereopticons and slides; self-condensing gas cylinders. N 58. 324

165 Diamond, J., Pittsburg, Pa.—Spectacles and eyeglasses; Russian pebbles. N 56. 324

165*a* Miller Bros., New York, N. Y.—Microscope and specimens. P 47. 324

166 Walmsley, W. H., Philadelphia, Pa.—Microscopic preparations. N 55. 324

167 American Optical Co., Southbridge, Mass.—Spectacles and eyeglasses. N 57. 324

168 Yale Lock Manufacturing Co., Stamford, Conn.—Anodes for nickel-plating. P 72. 325

168*a* Pulvermacher Galvanic Co., Cincinnati, O.—Electro-galvanic appliances, etc., for medical purposes. N 55. 325

169 Bryan, Jas. C., Philadelphia, Pa. —Magnetic and magneto-electrical lightning rods. N 63. 325

169*a* Gardiner, Samuel, Washington, D. C.—Electrical gas lighting apparatus. T 64. 325

170 Reyburn, Hunter, & Co., Philadelphia, Pa.—Lightning rods, points, and fixtures. N 62. 325

170*a* Garratt, Alfred, Boston, Mass.—Electric disc. N 55. 325

171 Kidder, Jerome, New York, N. Y. —Electro-medical apparatus. A gold medal of progress was awarded to Dr. Kidder at the fair of the American Institute, in the fall of 1875, for the "best electro-magnetic machine." For illustrated catalogue, address Dr. Jerome Kidder, northeast corner of 17th street and 4th avenue, New York. N 56. 325

172 Patrick & Carter, Philadelphia, Pa.—Telegraph sounders, learners' apparatus, hotel annunciators, Philadelphia relay, electric bells, and burglar alarms. N 64. 325

173 Fleming & Talbot, Philadelphia, Pa.—Electrical instruments and batteries for physicians and surgeons. N 63. 325

175 Cornish, Thos. E., Philadelphia, Pa.—Electric burglar alarm, annunciators, bell calls, clocks, batteries, gongs, wire, etc. N 64. 325

177 Munson, David, Indianapolis, Ind.—Lightning rods. N 59. 325

178 Western Electric Manufacturing Co., Chicago, Ill.—Electrical apparatus, electro-physical, medical, and harmonic instruments, annunciators, railway signals, etc. N 60. 325

179 Laflin & Rand Powder Co., New York, N. Y.—Electrical blasting apparatus. H. Julius Smith's patents. Novel and perfect adaptation. N 62. 325

180 Brittain, R. J., Hedenberg Works, Newark, N. J.—Electro-medical instruments. N 65. 325

181 Paoli Belt Co., New York, N. Y. —Electro-voltaic chain belt. N 61. 325

181*a* Buckman, Ira, Brooklyn, N. Y.—Annunciators. N 68. 325

182 Galvano-Faradic Manufacturing Co., New York, N. Y.—Electrical instruments for medicinal use. N 57. 325

183 Launert & Decker, Cleveland, O.—N 60.

a Indicating annunciators and burglar alarm. 325

b Alphabetical telegraph instruments. 326

183*a* Finger, Hare, & Co., Boston, Mass. —Electro-magnetic annunciator. N 78. 325

184 McCormick, James, Philadelphia, Pa.—Burglar alarm and door fastener. H 72. 325

185 National Fire Alarm Telegraph Co., Richmond, Ind.—System of fire alarm and police telegraph. N 65. 326

186 Holmes Burglar Alarm Telegraph Co., New York, N. Y.—Bank vault and safe protector, burglar alarm telegraph, electric hotel and house annunciator, electrical bells. N 64. 326

187 Brooks, David, Philadelphia, Pa.—Underground cables for telegraph lines. (*Nave.*) 326

188 Edison, Thos. A., Newark, N. J. —Roman letter, etheric, domestic, automatic, and quadruplex telegraph; electromotograph, doubler, and electric pen. N 63. 326

188*a* Cleveland Lightning Rod Co., Garrettsville, O.—Lightning rods, vanes, and ornaments. (*Ohio Building.*) 326

189 Dowden, Geo. A., Newark, N. J.—Burglar alarm and automatic annunciator N 65. 326

189*a* American District Telegraph Co., Philadelphia, Pa.—Telegraph signal boxes. (*Nave.*) 326

190 Henry, D. F., Chief Engineer Water Works, Detroit, Mich.—Model of subaqueous tunnel; telegraphic current meter; flexible jointed water pipe. P 65. 326

190*a* Gamewell, John N., New York, N. Y.—Fire alarm telegraph signal boxes. (*Nave.*) 326

191 Rice, Jas. D., Philadelphia, Pa.—Lightning rods and points. N 66. 326

191*a* Gray & Barton Western Electric Telegraph Co., Chicago, Ill.—Printing telegraph instrument. (*Nave.*) 326

192 Atlantic & Pacific Telegraph Co., Philadelphia, Pa.—Automatic and duplex telegraphic apparatus. (*Nave.*) 326

193 Phillips, Eugene F., Providence, R. I.—Patent flexible gas-tight tubing; patent insulated telegraph wires. N 51. 326

193*a* Philips, W. J., Philadelphia, Pa.—Printing telegraph instruments. (*Nave.*) 326

194 Vigneron, Charles, Providence, R. I.—Piano insulator. N 58. 326

194*a* Lockwood, Brooks, & Co., Boston, Mass.—Computing telegraph. P 47. 326

195 Welch & Andres, Boston, Mass. —Magneto-printing and dial telegraph instruments; watchman's time recorders. N 61. 326

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Scientific, Philosophical, Musical Instruments.

195*a* **Gray, Elisha, Chicago, Ill.**—Electro-harmonic telegraph. (*Nave.*) 326

196 Watkins, Wm. B., New York, N. Y.—Automatic fire and burglar telegraph and fire extinguisher; electric thermostats, fire signal boxes, duplex telegraph. N 59. 326

196*a* **Bell, A. Graham, Boston, Mass.**—Electro-harmonic telegraph. N 64. 326

197 Western Union Telegraph Co., New York, N. Y.—Telegraphic apparatus. N 63. 326

197*a* **Frost & Hanline, Philadelphia,** Pa.—Automatic thermostat for fire alarm telegraph. (*Nave.*) 326

198 Day, Austin G., office, 120 Broadway, New York, N. Y.—Kerite insulated telegraph wire and cables; Kerite battery cups; electrical battery. Manufacturer of Kerite insulated telegraph wire and cables. Do not require protection from long exposure in hot climates in the air, earth, or water, or from the corrosive action of acids, alkalies, oils, or gases. Can be kept on storage for a long term of years without deterioration. N 63. 326

199 White, Samuel S., Philadelphia, Pa.—Electro-harmonic telegraph. N 65. 326

200 Coston, Wm. F., Philadelphia, Pa.—Application of Coston night signal to the International and N. Y. Yacht Club codes. H 68. 326

201 Colton, Martha J., Philadelphia, Pa.—Telegraphic night signal for use on land and sea H 68. 326

202 Hale, B. S., & Co., Lawrence, Mass.—Electric wire. N 75. 326

203 Otto, John William, St. Louis, Mo.—Piano. P 60. 327

203*a* **Siebenhüner, Anton, New York,** N. Y.—Violins and bows. P 64. 327

204 Pfaff, John, Philadelphia, Pa.—Clarionets, ivory flute, tail piece for violin, tuning pipe. P 66. 327

204*a* **Greiner, Geo., Philadelphia, Pa.**—Piano. N 64. 327

205 Martin, C. F., & Co., Nazareth, Pa.—Guitars. P 59. 327

206 Pratt, Read, & Co., Deep River, Conn.—Ivory combs, piano forte and organ keys, ivory veneers, and other ivory goods. P 62. 327

206*a* **Monroe Organ Reed Co., Worcester,** Mass.—Organ reeds and organ material. P 59. 327

207 Burdett Organ Co., Erie, Pa.—Burdett organs. P 64. 327

207*a* **Boulanger, Louis, St. Louis, Mo.**—Violin. T 60. 327

208 Meyer, Conrad, & Sons, Philadelphia, Pa.—Square piano fortes, original iron-plate frame piano, Conrad Meyer inventor, 1833. P 65. 327

209 Schomacker Piano Co., Philadelphia, Pa.—Square and concert grand, square, and upright pianos. N 67. 327

210 Hallet, Davis, & Co., Boston, Mass.—Orchestral, concert, and parlor grand, upright, and square grand pianos. N 61. 327

211 Miller, Henry F., Boston, Mass.—Piano fortes. N 65. 327

212 Zimmermann, C. F., Philadelphia, Pa.—Musical instruments. N 63. 327

213 Albert, Chas. F., Philadelphia, Pa.—String quartet, violins, chin and cello rests, wrapped strings, guitars, a Stradivarius and a Guarnerius violin. P 62. 327

214 Mason & Hamlin Organ Co., Boston, Mass.—Cabinet organs. P 66. 327

215 Albert, John, Philadelphia, Pa.—String quintet, violins made by Albert's machine. P 62. 327

216 Seefeldt, Wm. F., Philadelphia, Pa.—Brass and German silver musical instruments. P 59. 327

217 Ingalls, W. G., & Co., Worcester, Mass.—Reeds, reed boards, and valves for organs. P 58. 327

218 Estey, J., & Co., Brattleboro', Vt.—Organs. Call special attention to,—1st, elegance and solidity of their structure; 2d, durability of manufacture throughout; 3d, richness, sweetness, and pipe-like quality of tone; 4th, number of organs manufactured and sold; 5th, reputation throughout the world, highest endorsement by such artists as Rubinstein, Wilhelmj, Abt, Lucca, Joachim, Freyer, Kucken, Czerny, Ole Bull, Saint-Saëns, Tinel, and many others. P 63. 327

219 Dolge, Alfred, New York, N. Y.—Piano forte and polishing felts; spruce sounding-board material. P 66. 327

220 Faas, Anthony, Philadelphia, Pa.—Pianos. P 64. 327

221 Waters, Horace, & Sons, New York, N. Y.—Organs. P 64. 327

222 Roosevelt, H. F., New York, N. Y.—Organs, hydraulic engines, and other blowing apparatus. (*North gallery.*) 327

223 Calender, Vaupel, & Co., New York, N. Y.—Piano fortes. P 64. 327

224 Hazleton Bros., New York, N. Y.—Grand, cabinet grand, upright, and square pianos. N 64. 327

224*a* **Eisel, M., St. Louis, Mo.**—Piano movement. V 60. 327

225 Albrecht & Co., 610 Arch street, Philadelphia, Pa. (Charles Albrecht, Frederick Riekes, Edmund Wolsieffer)—Piano manufacturers of first-class, grand, square, and upright pianos. Prices low, for cash, and five years' guarantee. P 68. 327

225*a* **Hamlin, Emmons, Boston, Mass.**—Violins. T 66. 327

226 Woods, Geo., & Co., Cambridgeport, Mass.—Organs. P 61. 327

227 Gemunder, Geo., Astoria, N. Y.—Stradivarius quartet, one Stradivarius, and one Guarnerius violin. P 59. 327

228 Dürner, Chas. F., Quakertown, Pa.—Church organ. P 61. 327

229 Shoninger, B., Organ Co., New Haven, Conn.—Reed organs. Manufacturers of reed organs for churches and families, with all improvements, embracing a stool, a chime of bells, which make the instrument very complete. N 68. 327

230 Steinway & Sons, New York, N. Y.—Grand, upright, and square piano fortes. P 66. 327

231 Decker Bros., New York, N. Y.—Concert and parlor grand, upright, and square piano fortes. P 67. 327

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Musical Instruments.

232 Lehnert, Henry G., Philadelphia, Pa.—Improved brass instruments, for bands and orchestras. P 64. 327

233 Goldsmith, Jonas G., New York, N. Y.—Square piano forte. P 64. 327

234 Bacon & Karr, New York, N. Y.— Square and upright pianos. P 62. 327

235 Neff, James, Philadelphia, Pa.— Quartette of musical stringed instruments. P 64. 327

236 United Piano Makers, Brooklyn, N. Y.—Grand, upright, and square pianos. P 64. 327

237 Hoeppe, C. J., Philadelphia, Pa.— Grand, square, and upright pianos, and parlor organs. P 64. 327

238 Manhattan Piano Forte Co., New York, N. Y.—Piano fortes. This company, composed of practical mechanics, was established 1863. Their pianos are admired by every one for their sweet and powerful tone, as well as the pleasing touch they possess. P 63. 327

239 Emerson Piano Co., Boston, Mass.—Upright and square pianos. P 63. 327

240 Oldendorf, Henry, New York.— N. Y.—Bass and snare drums. P 59. 327

241 Quaker City Organ Co., Philadel- phia, Pa.—Cabinet organs. P 63. 327

242 Newman, Edward G., New York, N. Y.—Square grand pianos. N 63. 327

243 Peloubet, Pelton, & Co., New York, N. Y.—Reed organs. The standard organs here shown are exhibited as specimens of the daily work of the manufacturers. P 65. 327

244 Ivers, W. H., Dedham, Mass.— Piano. P 65. 327

244*a* Jennison, Wm. A., Camden, Miss. —Violin. P 62. 327

245 Nicholls, Reuben, Philadelphia, Pa.—Church organ, with pneumatic action. Composition, balance swell, crescendo and diminuendo pedals, never beforeintroduced. P 66. 327

246 Lehnert, Carl, Boston, Mass.— Cymbals and gongs, Turkish and Chinese combination of metals. P 62. 327

247 Ohio Valley Piano Co., Ripley, Ohio.—Pianos. P 63. 327

248 Cummins, Henry, New York, N. Y.—Violin. P 62. 327

249 Robbins & Appleton, New York, N. Y.—Gold and silver watch cases. P 67. 327

251 Hinds & Sons, Newark, N. J.— Piano fortes. N 63. 327

252 Wing, F. L., & Hill, F. M., New York, N. Y.—Dolce piano forte, without strings; organ. T 59. 327

253 McFadden, George, Syracuse, N. Y.—Cornets and trombones. P 63. 327

254 Moeller, A., Hartford, Conn.— Upright piano. P 63. 327

255 Simpson & Co., New York, N. Y.—Square and upright piano fortes. P 64. 327

256 Gemunder, August, New York, N. Y.—Four-stringed double bass P 59. 327

257 Sohmer & Co., New York, N. Y.—Upright and square piano fortes. P 62. 327

258 McDonald, Jas., Williamsport, Pa.—Square grand piano fortes. P 63. 327

259 Dobson, Mrs. Louisa, New York, N. Y.—Banjo. P 65. 327

260 Haines Bros., New York, N. Y.— Grand, square, and upright piano fortes. P 62. 327

261 Steck, George, & Co., New York, N. Y.—Grand, square, and upright pianos. N 60. 327

262 Hardman, Hugh, New York, N. Y.—Grand, square, and upright piano fortes. N 62. 327

263 Weber, Albert, New York, N. Y.—Concert and parlor grand, upright, and square pianos. N 66. 327

264 Wildman, L. P., Danbury, Conn.— Violins. P 59. 327

265 United States Piano Co., New York, N. Y.—Piano forte. P 62. 327

266 Knabe, Wm., & Co., Baltimore, Md.—Grand, square, and upright pianos; a harpsichord made by Tschudi & Broadwood for Chas. Carroll of Carrollton. P 60. 327

267 Berry, James B., Boston, Mass.— Square and grand piano fortes. P 62. 327

268 Stieff, Chas. M., Baltimore, Md.— Grand, square, and upright pianos. N 64. 327

269 New Haven Organ Co., New Ha- ven, Conn.—Organs. P 64. 327

270 Hook, E. & G. G., & Hastings, Boston, Mass.—Grand concert, chapel, and church organs. (*East Gallery.*) 327

271 Knauff, Theodore O., Philadelphia, Pa.—Mechanical and pipe organs. (*Outside.*) 327

272 Hinzen & Rosen, Louisville, Ky.— Piano. P 64. 327

273 Wessell, Nickel & Gross, New York, N. Y.—Piano. P 64. 327

274 Perry, J. R., Wilkesbarre, Pa.— Organs; testing and toning box for reed organs. P 64. 327

275 Rogers Upright Piano Co., Bos- ton, Mass.—Upright pianos. The mechanical principles employed secure claims for this instrument of the greatest utility and practical importance to musicians and amateurs. P 65. 327

276 Perrot, Auguste, Philadelphia, Pa.—Tonognome, a portable melodeon. P 59. 327

277 Watson, J. Jay, New York, N. Y.— Violin and violin strings. P 59. 327.

278 Chickering & Sons, Boston, Mass.—Piano fortes. P 61. 327

279 Wellenberger, Jos., & Ganter, New York, N. Y.—Orchestrion or self-acting organ. P 65. 327

280 Mortimer, John R., New York, N. Y.—Pneumatic exhaust palate for organs. P 63. 327

281 Behning & Diehl, New York, N. Y.—Grand square pianos. N 63. 327

282 Benham Organ Co., Indianapolis, Ind.—Cabinet organs. T 62. 327

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Musical Instruments, Engineering Designs.

283 Mathushek Piano Manufacturing Co., New Haven, Conn.—Pianos. P 59. 327

284 Smith, B. N., & Co., New York, N. Y.—Carved piano legs and lyres. P 59. 327

285 Secor, Jerome B., Bridgeport, Conn.—Automaton singing birds in cages and vases. T 48. 327

286 Kranich & Bach, New York, N. Y.—Grand, upright, and square piano fortes. N 63. 327

287 Clough & Warren Organ Co., Detroit, Mich.—Parlor organ. P 63. 327

288 Missenharter, Chas., New York, N. Y.—Excelsior musical instruments. P 64. 327

289 Kompff, Ph., New York, N. Y.—Military drums, banjos, and tambourines. P 62. 327

290 Lighte & Ernst, New York, N. Y.—Grand square piano fortes. P 65. 327

291 Willis, Aug. L., Philadelphia, Pa.—Octave coupler for piano fortes. H 71. 327

292 Browne & Buskewell, New York, N. Y.—Grand concert double action harp and music desk. P 63. 327

293 Conn & Dupont, Elkhart, Ind.—Musical instruments for bands; improved mouthpieces for band instruments. P 61. 327

294 Boston Musical Instrument Manufactory, Boston, Mass.—Brass band musical instruments. P 64. 327

295 Schindler, C. A., New York, N. Y.—Piano stools. P 63. 327

296 Taylor & Farley Organ Co., Worcester, Mass.—Cabinet and church reed organs. P 58. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

297 Lowthorp, Francis C., Trenton, N. J.—Photographs of iron bridges erected, plans of wrought iron bridge and turn tables. T 67. 330

297*a* Barnum, Richardson, & Co., Lime Rock, Conn.—Drawings relating to various works. (*West Gallery.*) 330

298 American Bridge Co., Chicago, Ill.—Model of rigid suspension bridge, details of construction, photographs and drawings. T 67. 330

298*a* Carroll, Francis, New Orleans, La.—Model of automatic damper for gas furnaces. (*West Gallery.*) 330

299 Clarke, Reeves, & Co., Phœnixville Bridge Works, Philadelphia, Pa.—Photographs and models of bridges, viaducts, and other iron structures actually executed. (*West Gallery.*) 330

299*a* Philadelphia & Reading R.R. Co., Philadelphia, Pa.—Bridge models, etc. V 53. 330

300 Pettit, Henry, & Wilson, Jos. M., Engineers and Architects, Philadelphia, Pa.—The Main Exhibition building, Machinery Hall and adjacent boiler houses for the International Exhibition, 1876. (*In Park.*) 330

300*a* Thomas Iron Co., Hokendaqua, Pa.—Drawings relating to iron works. (*West Gallery.*) 330

301 King Iron Bridge & Manufacturing Co., Cleveland, O.—Wrought iron highway bridge between Horticultural Hall and Art Gallery. 330

301*a* North Chicago Rolling Mill Co., Chicago, Ill.—Drawings relating to various works. (*West Gallery.*) 330

302 Pearsons, G. W., Ogdensburg, N. Y.—Model of standpipe and turbine wheel. (*West Gallery.*) 330

303 Pettit, Henry, Philadelphia, Pa.—Bridges and bridge construction. (*West Gallery.*) 330

304 Wilson, Jos. M., Philadelphia, Pa.—Bridge and bridge construction. (*West Gallery.*) 330

305 Centennial Commission of the American Society of Civil Engineers of the United States.—Papers, drawings, photographs, and models of engineering in America. (*West Gallery.*) 330

306 Chanute, Octave, New York, N. Y.—Engineering exhibits relating to bridges and bridge construction. (*West Gallery.*) 330

306*a* Morrison, E. H., Boonton, N. J.—Model and drawings relating to various works. (*West Gallery.*) 330

307 Croes, J. James R., Yonkers, N. Y.—Engineering exhibits relating to water works. (*West Gallery.*) 330

307*a* Morris, R. C., Nashville, Tenn.—Plans of early and late bridges in the Southern States. (*West Gallery.*) 330

308 Herring, Rudolph, Philadelphia, Pa.—Plans of bridges, with photographs showing progress; section of sewers of Philadelphia. (*West Gallery.*) 330

308*a* McDonald, Charles, New York, N. Y.—Drawings and photographs of various iron bridges. (*West Gallery.*) 330

309 Chester, Stephen, New York, N. Y.—Exhibit relating to electrical engineering. (*West Gallery.*) 330

309*a* Pearse, J. B., Philadelphia, Pa.—Drawings relating to various works. (*West Gallery.*) 330

310 Linville, J. H., Philadelphia, Pa.—Bridges and bridge construction. (*West Gallery.*) 330

310*a* Phœnix Iron Co., Philadelphia, Pa.—Drawings relating to various works. (*West Gallery.*) 330

311 Clark, Reeves, & Co., Philadelphia, Pa.—Bridges and bridge construction. (*West Gallery.*) 330

311*a* Johnson, J., La Salle, Ill.—Drawings relating to various works. (*West Gallery.*) 330

312 Rockwood, Geo. F., New York, N. Y.—Photographs showing successive stages of engineering construction. (*West Gallery.*) 330

312*a* Fowler, Charles E., New Haven, Conn.—Plans, sections, and details of the sewerage and drainage system of New Haven and other public works. (*West Gallery.*) 330

313 Crezier, D. W. C., Chicago, Ill.—Model of hydrant and stopcock. (*West Gallery.*) 330

313*a* Bethlehem Iron Co., Bethlehem, Pa.—Drawings relating to various works. (*West Gallery.*) 330

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Engineering Designs.

314 Jervis, John B., Rome, N. Y.—Engineering drawings, relating to construction of canals; Carbondale railroad and Croton aqueduct. (*West Gallery.*) 330

314*a* Severt, Wm. A., Syracuse, N. Y.—Drawings relating to various works. (*West Gallery.*) 330

314*b* Cox, E. T., Indianapolis, Ind.—Drawings relating to various works. (*West Gallery.*) 330

314*c* Dudley, P. H., Cleveland, O.—Drawings relating to various works. (*West Gallery.*) 330

314*d* Drinker, Henry S., Philadelphia, Pa.—Drawings relative to tunnel excavation and timbering. (*West Gallery.*) 330

315 Foster, Wilbur F., Nashville, Tenn.—Model of Howe truss bridge. (*West Gallery.*) 330

316 Armington, James H., Brooklyn, N. Y.—Exhibit relating to gas engineering. (*West Gallery.*) 330

316*a* Smedley, Samuel L., Philadelphia, Pa.—Drawings of Public Works in the City of Philadelphia. (*West Gallery.*) 330

316*b* Davis, E. T. C., Pottsville, Pa.—Drawings and photographs relating to various works. (*West Gallery.*) 330

316*c* Darrach, S. A., East Orange, N. J.—Drawings relating to the Water Works of Philadelphia. N 58. 330

316*d* Canfield, Frederic A., Dover, N. J.—Drawings relating to various works. (*West Gallery.*) 330

316*e* Grant, Wm. A., New York, N. Y.—Topographical map of recent additions to New York City, with proposed street and avenue plans. (*West Gallery.*) 330

317 Thurston, Robert M., Hoboken, N. J.—Exhibit relating to mechanical engineering; detail drawings of machinery, etc., by Robert Fulton. (*West Gallery.*) 330

317*a* Tarr, H. G. H., Orbesonia, Pa.—Stove plates cast in 1763 and 1792. (*West Gallery.*) 330

317*b* Stanley, I. N., Brooklyn, N. Y.—Improved setting of retorts. (*West Gallery.*) 330

318 Ellis, Theo. G., Hartford, Conn.—Engineering exhibit relating to river and harbor improvement. (*West Gallery.*) 330

319 McAlpine, Wm. J., Albany, N. Y.—Engineering exhibits relating to canals and inland navigation. (*West Gallery.*) 330

320 Bowden, J. H., Wilkesbarre, Pa.—Drawings relating to various works. (*West Gallery.*) 330

321 Smith, Wm. Sooy, Maywood, Ill.—Engineering exhibit relating to foundations and masonry. (*West Gallery.*) 330

322 Shedd, J. Herbert, Providence, R. I.—Engineering exhibits relating to sewerage and sanitary purposes. (*West Gallery.*) 330

323 Briggs, Robert, Philadelphia, Pa.—Exhibits of illustrations and diagrams of ventilating fans. (*West Gallery.*) 331

323*a* Thompson, D. M., Providence, R. I.—Pictures of cotton mill with description. (*West Gallery.*) 331

323*b* Union Iron Co., Buffalo, N. Y.—Model relating to iron works. (*West Gallery.*) 331

323*c* Wren, W. C., Brooklyn, N. Y.—Model of gas machinery. (*West Gallery.*) 331

323*d* Witherbee, J. F., Port Henry, N. Y.—Drawings and models relating to iron works. (*West Gallery.*) 331

323*e* Oxford Iron Co., Oxford, N. Y.—Drawings and photographs relating to iron works. (*West Gallery.*) 331

323*f* Smith & Sayre, New York, N. Y.—Drawings of exhauster engine, shafting, and other machinery for gas works. (*West Gallery.*) 331

323*g* Paulding, Kemble, & Co., Cold Spring, N. Y.—Drawings relating to iron works. (*West Gallery.*) 331

323*h* Prindle, F. C., Philadelphia, Pa.—Drawings of dredging machinery, and gunpowder pile driver. (*West Gallery.*) 331

323*i* Patton, J. D., Norristown, Pa.—Drawings of machinery for burning petroleum gas on cars. (*West Gallery.*) 331

323*j* Risdon Iron & Locomotive Works.—Drawings of hydraulic machinery. (*West Gallery.*) 331

323*k* School of Mines of Columbia College, New York, N. Y.—Selected metallurgical drawings. (*West Gallery.*) 331

323*l* Glendon Iron Co., Easton, Pa.—Drawings relating to iron works. (*West Gallery.*) 331

323*m* Cambria Iron Co., Johnstown, Pa.—Drawings relating to iron works. (*West Gallery.*) 331

323*n* Birkenbine, H. P. M., Philadelphia, Pa.—Drawings of combined high and low pressure pumping engine, portfolio of details and drawings. (*West Gallery.*) 331

323*o* Hornig, Julius, Chicago, Ill.—Model of improved method of canal boat propulsion, with track and traction chain. (*West Gallery.*) 331

324 Shinn, Wm. P., Pittsburg, Pa.—Engineering exhibit relating to railroads and rolling stock. (*West Gallery.*) 332

324*a* Nichols, H. K., Pottsville, Pa.—Model of rail splice. (*West Gallery.*) 332

324*b* Bishop, D. E., New York, N. Y.—Models of special rail joint. (*West Gallery.*) 332

324*c* Sandberg, C. P., London, England.—Drawings of standard rail sections. (*West Gallery.*) 332

325 Emery, Chas. E., New York, N. Y.—Drawings of marine engines and boilers; connected arch boiler; compound engine for Phœnix Iron Company. (*West Gallery.*) 334

325*a* Gaujot, E., Philadelphia, Pa.—Geological maps, sections, and pamphlets of the State of Michigan. V 67 *to* 69. 335

326 Hanging Rock Iron Region, Ironton, O.—Geological map of the Ohio portions of the Hanging Rock iron regions. (Presented by Mr. John Campbell.) T 68. 335

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

327 Earnshaw, Henry, Cincinnati, O.—Photographs of parks and cemetery, water works machinery, reservoirs, and drawing of tunnel. (*West Gallery.*) 335

328 Cleveland, H. W. S., Chicago, Ill.—Design (adopted) for improvement of South Park, Chicago. (*West Gallery.*) 335

329 Bowditch, Ernest W., Boston, Mass.—Plans of proposed chain of parks for Boston; a cemetery, and a country estate. (*West Gallery.*) 335

330 Krause, H., New York, N. Y.—Topographical maps. (*West Gallery.*) 335

331 Sibeth, Otto, New York, N. Y.—Construction map New York Central Park. (*West Gallery.*) 335

332 Walling, H. T., Boston, Mass.—Topographical maps and atlases. (*West Gallery.*) 335

333 Bogart, John, New York, N. Y.—Engineering exhibit relating to park work, surveying, and geodesy. (*West Gallery.*) 335

Physical, Social, and Moral Condition of Man.

334 Health Lift Co. of New York, N. Y.—Reactionary lift apparatus. P 62. 340

334*a* Lawrence, John N., New York, N. Y.—Ten pin balls and sample pin. H 72. 340

335 Shibe, J. D., Philadelphia, Pa.—Base balls. B 77. 340

335*a* Automatic Swing Co., St. Louis, Mo.—Automatic swings. (*Outside space.*) 340

336 Reach & Johnston, Philadelphia, Pa.—Base balls and sporting goods. B 75. 340

336*a* Wood, William, New York, N.Y.—Model of gymnasium with apparatus. T 55. 340

337 Marsh, Jas. P., & Co., Chicago, Ill.—Improved health lift. N 52. 340

337*a* Carr, W. B., & Co., Brooklyn, N. Y.—Base balls. F 71. 340

338 Rice, S. W., & Co., New York, N. Y.—Base and dead balls, uniforms, and sporting goods. B 75. 340

338*a* Knight, W. A., Worcester, Mass.—Health lifts. B 74. 340

339 Hiester, Chas. Edward, Harrisburg, Pa.—Exercising clubs of adjustable weight. N 50. 340

340 Leeds, Louis M., New York, N. Y.—Diagrams and charts on ventilation. B 78. 342

341 Derrom, Andrew, Passaic, N. J.—Workman's cottage. (*In Park.*) 342

342 Kasson, W. M., Department of Public Comfort. (*North, South, and West Entrances.*) 342

343 Department of Public Comfort.—Stationery, newspapers, periodicals, and photographs for sale. H 70 *and* N 6. 342

344 Rudolph & Walter, Camden, N. J.—Buffet. T 41 *to* 47. 342

345 Department of Public Comfort.—Café, Leland's. T 33 *to* 36. 342

345*a* Hinvest, Robert, New York, N.Y.—Clamp and band for scouring masonry, hollow brick for ventilation, chimney top. (*Outside.*) 342

347 Centennial Safe Deposit Co., Philadelphia, Pa.—Safes for the protection of valuables. N 65. 343

348 Scott, J. W., & Co., New York, N. Y.—Foreign stamp albums. P 73. 344

349 Mayer, Moses, New York, N. Y.—Collection of coins. T 72. 344

349*a* New York Catholic Protectory, New York, N. Y.—Photographic views of the Protectory buildings. V 53. 346

350 Inventors' Protective & Benevolent Association of the United States, Pittsburg, Pa.—Working models of inventions of members of the Association. (*West Gallery.*) 346

350*a* American Society for the Prevention of Cruelty to Animals, New York, N. Y.—Deodands, or instruments used in torturing dumb animals, taken from offenders; banners and illustrations. D 79. 346

350*b* American Missionary Association, New York, N. Y.—Map, showing location of institutions and mission stations in the United States, photographs of buildings, examination papers, catalogues. (*South Gallery.*) 348

351 Young Men's Christian Association of North America, Executive Committee, Richard C. Morse, Secretary, New York, N. Y.—Map, pictures, and plans of Association buildings; reports, circulars, and other literature. (*South Gallery.*) 348

351*a* Dod, S. B., Hoboken, N. J.—Bust of Col. John Sterns. (*West Gallery.*) 400

351*b* Shippen, W. W., Hoboken, N. J.—Portraits of the Messrs. Stevens. (*West Gallery.*) 410

351*c* Miller, William J., Philadelphia, Pa.—Engravings on whitening. 421

351*d* Camp, J. H., Philadelphia, Pa.—Photographs of the drawing of Main Building and Machinery Hall. P 65. 430

351*e* Sweeney, Thomas S., Cleveland, O.—Transparent photographic views in Ohio. (*Vestibule windows, Ohio State Building.*) 430

352 Heard & Sons, Cleveland, O.—Architectural design of the Ohio State Building. 441

353 Pfeiffer, Carl, New York, N. Y.—Design of New Jersey State Building. 441

354 Schwarzmann, H. J., Philadelphia, Pa.—Designs of Memorial Hall, Horticultural Hall, Judges' Pavilion, and Women's Pavilion. 441

355 Buzby, Albert G., Philadelphia, Pa.—Water motor for blowing organ bellows, etc. P 66. 562

356 Stokes & Parrish, Philadelphia, Pa.—Passenger elevator. (*S. E. Central Tower.*) 563

357 Boston Hydraulic Motor Co., Boston, Mass.—Hydraulic motors for blowing Hook & Hastings' organ in gallery at east end of nave. L 79 *and* K 79. 563

358 Byrns & Bryan, New York, N. Y.—Ale pump. P 59. 565

Railroad Cars, Vessels, Agricultural Products.

359 **Pullman's Palace Car Co.**, Chicago, Ill.—Gold and silver model of a Pullman palace sleeping car. N 63. 571

360 **Woodruff, Jonah**, Philadelphia, Pa.—Silver model of sleeping car. N 61. 571

361 **Snow, J. H.**, Bucksport, Me.—Model ship. H 70. 594

362 **Neilson, George**, Philadelphia, Pa.—Model of the ship "Independence," of Philadelphia. (*Centre Aisle.*) 594

363 **State of New Jersey** (by Geo. H. Cook, State geologist, New Brunswick, N. J.).

a Specimens of wood growing in New Jersey. T 70. 600

b Fertilizers and soils. 681

364 **Philadelphia & Reading R. R. Co.**, Philadelphia, Pa.—Cereals. T 72. 620

365 **Judy, W. W.**, St. Louis, Mo.—Game birds of Missouri, stuffed. T 60. 635

366 **Bene, Creighton, & Co.**, New York, N. Y.—Feathers. H 76. 653

367 **Campbell, S. S., Cadiz, O.**—Samples of wool. V 61 *to* 65. 667

368 **Baylis, H., Cadiz, O.**—Samples of wool. V 61 *to* 65. 666

369 **Birney, M. L.**, Bowerstown, O.—Samples of wool. V 61 *to* 65. 667

370 **Quigley, Albert, Cadiz, O.**—Wool. V 61 *to* 64. 667

371 **Jamison, W. W., Cadiz, O.**—Wool. V 61 *to* 64. 667

372 **Faxon & Wright**, Philadelphia, Pa.—Samples of wool extracted from rags composed of cotton and wool, by a new process. . P 43. 667

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

GREAT BRITAIN.

(South of Nave, Columns 23 to 38.)

Educational Books and Appliances.

Educational Systems, Methods, and Libraries.

1 **Sunday-School Union, London.**—Works for Sunday-schools.—Books, magazines, cards, reward tickets, illuminations, and large type texts, Sunday-school registers, roll books, librarian and minute books; Sunday-school newspaper. 300

3 **Bartholomew, John, Edinburgh.**—Maps. 300

7 **Adams, Walter Marsham, London.**—The problem of Pythagoras; cœlometer for illustrating elementary astronomy; mensurator for solving triangles, etc. 302

8 **Augener, George, & Co., London.**—Editions of the classics and other printed music books. 302

8*a* **Boosey & Co., London.—Band,** choral, and household music. 302

9 **Clark, Edward Podmore, Bath.**—Military model apparatus for illustrating drill movements. 302

10 **The British & Foreign Blind Association,** for Promoting the Education and Employment of the Blind, London.—Writing frames, embossed books, and maps for the blind. 303

11 **Dickinson & Higham, London.—The** hexaglot Bible. 306

12 **Dickes, William, London.**—Chromo-lithography, engraving and photographic engraving, and photographic engraving and printing; framed oleographs, chromographs from stone and surface printing, wood engraving, photographic engraving, etc. 306

13 **Scott, Robson John, London.**—Blocks used for wood engravings; compound and bolted blocks of box and other woods. 306

14 **Stephenson, Blake, & Co., Sheffield.**—Specimens of printing types, book of specimens. 306

15 **Ravenstein, Ernest George, Geographical Institute, London.**—General and geological maps of New Zealand; physical and statistical atlas of United Kingdom; relief map of the United States; geographical and statistical works. 306

15*a* **Johnston, W. & A. K., Edinburgh,** Scotland.—Maps; illustrations of human anatomy, astronomy, botany, and mechanical powers. 306

16 **Palmer, Samuel, London.—Index to** the "Times" newspaper, a quarterly publication. 306

16*a* **Warner, Robert, London.—Works** on "Select Orchidaceous Plants." 306

17 **Loth, John Thomas, Edinburgh.**—Educational books and illustrations of the thirty-three degrees of the ancient and accepted Scottish rite. 306

17*a* **Audsley & Bowes, Liverpool.**—Works on "Keramic Art in Japan." 306

18 **Lockwood, Crosby, & Co., London.**—Books, rudimentary, scientific, educational, and classical series. 306

19 **Cassell, Petter, & Galpin, London.**—Illustrated books, publications, serials; educational books and appliances; electrotypes of engravings on wood. 306

20 **Smith, David, Halifax, Yorkshire.**—The "Dyer's Instructor." 306

21 **Dowson, Sutherland, & Co. (limited),** London.—Complete file of "Iron," a weekly newspaper. 306

21*a* **Price & Co., London.—Fac-similes** from ancient manuscripts and printed books. 306

22 **Potts, Roberts, M.A., Trinity College, Cambridge.**—Educational books. 306

23 **Murray, Andrew, London.—Illustrations** and specimens of galls produced by mites, aphides, flies (cecidomyia), sandflies, cympidæ. 306

23*a* **Bradbury, Agnew, & Co., London.**—Books and engravings. 306

24 **Proprietors of the "Illustrated London News,"** London.—Specimens illustrating the art department of the "Illustrated London News." 306

25 **Rola, Vincent, Bayswater.—Method** for the piano, with diagrams and specimens of music. 306

26 **Proprietors of the "Graphic," London.**—Process of producing an illustrated newspaper, from the receipt of sketches to the final issue of printed sheets to the public. 306

27 **Holdsworth, Edmund William** Hunt, London.—Work on deep sea fishing and fishing boats. 306

28 **Johnson, J. M., & Sons (limited),** London.—Printing in color, show tablets. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

30 Rundell, Joseph Benjamin, South Kensington Museum, London.—Shorthand alphabet; maps, plans, etc., for educational atlases and other purposes; lithographic printing as applied to maps. 306

31 Paul, William, Waltham Cross, Herts.—Works on horticulture. 306

Institutions and Organizations.

31*a* South Kensington Museum.—Objects exhibited by order of the Lords of the Committee of Council on Education. 310

31*b* Ordnance Survey of the United Kingdom of Great Britain and Ireland.—Ordnance maps. 311

31*c* Geological Survey of the United Kingdom of Great Britain and Ireland.—Maps. 311

31*d* Johnson, Edmund, London.—Catalogues and other works having reference to international exhibitions. 312

Scientific and Philosophical Instruments and Methods.

31*e* Hicks, James Joseph, London.—Meteorological and scientific instruments. 320

32 Siemens, Charles William, London.—Pyrometers. (*In Machinery Hall.*) 320

32*a* Clay, Randolph, London.
- *a* Instrument for tracing ellipses and other curves. 320
- *b* Model of a deck seat with life-raft and of a boat distinguishing hook. 594

32*b* Negretti & Zambra, London.—Meteorological and scientific instruments. 302

33 Lyon, Washington, London.—Calculating table for rapidly multiplying numbers above 12. 321

33*a* Zimdars, C. E., London.—Pneumatic signal and communication apparatus; pneumatic railway signals, indicating and registering apparatus. 321

34 Wier, M. A., & Co., London.—Hydro-gyrometer or revolution indicator. 321

35 Morton, George, London.—Chronometer and watch balance springs, wire, and gauge. 323

35*a* Gibson, William, Belfast.—Watches. 323

36 Smith, Borthwick, London.—Watches and chronometers, cases, dials, and movements. 323

36*a* Goggin, Jeremiah, Dublin.—Timepieces. 323

36*b* Neal, John, London.—Gold and silver watches, chronometers, and timepieces. 323

37 Sewill, J., Liverpool.—Marine chronometers and watches. 323

38 Mercer, Thomas, London.—Marine chronometers. 323

39 Kullberg, Victor, London.—Marine chronometers, watches, chronographs, repeaters, etc. 323

40 Dent, M. F., London.—Marine chronometers, watches, chronometer clocks, etc. 323

41 Whittaker, Richard, London.—Keyless watches. 323

42 Poole, James, & Co., London.—Marine chronometers and watches. 323

43 Nicole, Nielson, & Co., London.—Watches, chronometers, complicated watches, and chronographs. 323

44 Claxton, Robert, London.—Chronometer jewelings in all stages. 323

45 Frodsham, Charles, & Co., London.—Watches, clocks, and chronometers for astronomical purposes; pocket and marine chronometers. 323

46 Swift, James, London.—Microscopes and apparatus. 324

47 Middleton, Thomas John, London.—Magic lanterns, dissolving view apparatus, dissolving top for the oxyhydrogen lime light, lantern slides, etc. 324

48 Beck, R. & J., London.—Microscopes, telescopes, race glasses, surveying and meteorological instruments and tools. 324

49 Wheeler, Edmund, London.—Specimens for the microscope. 324

50 Dallmeyer, John Henry, London.—Astronomical and terrestrial telescopes, microscopes, photographic lenses, cameras, and apparatus. 324

51 Ross & Co., London.—Microscopes, monocular and binocular apparatus, object glasses, telescopes, and photographic lenses. 324

52 Crouch, Henry, London.—Microscopes, binocular, and with complete accessories for every class of scientific investigation; cabinets, lamps. 324

52*a* Rein, Frederick Charles, & Son, London.
- *a* Magneto-electric machines. 325
- *b* Acoustic instruments, speaking tubes and trumpets; acoustical contrivances for churches, public buildings, etc.; anti-acoustic protector. 327

53 India-Rubber, Gutta-Percha, and Telegraph Works Co. (limited), Silvertown, Essex.—Telegraph cables, insulated telegraph wires. 325

53*a* Mayer & Meltzer, London.—Galvanic batteries. 325

54 Siemens Bros., London.—Cable samples, and gutta-percha as applied to the manufacture of cables. 325

54*a* Lacey, Richard George, Coast Guard Station, Leigh, Essex.
- *a* Alarm signal box for ships. 326
- *b* Fisherman's block. 647

54*b* Kimpton, Thomas, London.—Pneumatic sound communicator. 326

54*c* Telegraph Construction & Maintenance Co. (limited), London.—Submarine telegraph cables. 326

55 Heaps, John Knowles, Holbeck, Leeds.—Violin and violoncello. 327

56 Smith, George, South Hackney.—Portable finger organ. 327

57 Boosey & Co., London.—Musical wind instruments, percussion instruments for bands. 327

58 Brinsmead, John, & Sons, London.—Grand, semi-grand, upright, and studio pianos; check repeater action for upright and grand pianos. 327

59 Collmann, Leonard W., London.—Cottage piano. 327

60 Besson, F., & Co., London.—Brass musical instruments. 327

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Musical Instruments, Sports, Construction of Buildings.

61 Browne, H. Justin, London.—Upright cottage piano fortes. 327

Physical, Social, and Moral Condition of Man.

62 Nicholson, Hamlet, Rochdale.—Cricket and playing balls. 340

62*a* Lewis, J., Edinburgh.—Curling stone. 340

63 Cochrane, Robert C. E., Athlone, Ireland.—Drawings illustrating the application of concrete to the erection of an improved construction of dwellings. 342

63*a* Greenway, Henry, Plymouth.—Drawings of hospital construction. 346

(N.B.—Certain exhibits in this department from Great Britain are installed in Agricultural Hall, and catalogued in Part IV.)

NEW SOUTH WALES.

(North of Nave, Columns 10 to 17.)

Educational Publications, Statistics, Maps, Photographs, etc.

Educational Systems, Methods, and Libraries.

1 Mechanics' School of Arts, Sydney.—Wax seal impression of corporate seal. 302

2 Government Printing Office, Sydney, New South Wales.

a Meteorological results, and report on education. 305

b Government gazettes, statutes, statute index, specifications of patents, parliamentary hand book, blue book and statistical register, census reports on railways, Rae's poems, newspapers, Australian languages. 306

Institutions and Organizations.

3 New South Wales Commissioners, Sydney.—Birds of Australia, prepared by Thorpe. 312

4 Trustees of the Australian Museum, Sydney.—Specimens of natural history of Australia. 312

Scientific and Philosophical Instruments and Methods.

5 Parrot, T. S., Sydney.—Semaphore, an instrument designed for army signaling purposes. 326

Engineering, Architecture, Maps, etc.

6 New South Wales Commissioners, Sydney.—Topographical and geological maps and sections of New South Wales. 335

Physical, Social, and Moral Condition of Man.

7 Government Printing Office, Sydney.—Industrial Progress of New South Wales; Transactions of Royal Society. 347

Photography.

1 The Commission.—Photographic views of public buildings, scenery, etc., in and around Sydney, N. S. W. 430

2 Richards, T., Sydney.—Photographic views of buildings, etc., in and around Sydney; photographic views of Blue Mountains and valley of the Grose; photographic views of entomological collection of New South Wales. 430

3 Degotardi, John, Sydney.—Photo-mechanical printing. 431

4 Richards, T., Sydney.—Photo-lithographs. 432

Hydraulic and Pneumatic Apparatus.

1 Postle, Sydney.—Ice machine. 568

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

VICTORIA.

(*North of Nave, Columns 10 to 17.*)

Publications, Statistics, etc.

Educational Systems, Methods, and Libraries.

1 Educational Department of Victoria, Melbourne.—Photographic views of state schools in Victoria. 300

2 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Portfolios of music by W. H. Glen. 302

3 Victorian Asylum & School for the Blind, Melbourne.—Baskets, perambulators, portmanteaus, trunks, mats, fancy wool-work, etc., made by the pupils. 303

3*a* Victorian Asylum for Deaf & Dumb.—Photographs. 303

4 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Official records, catalogues, lectures, reports, medical works, school books, sermons, and general literature. 304

5 Ferres, John, Government Printer, Melbourne.—Reports and statistics from the principal government institutions of Melbourne; Victorian newspapers. 305

6 Warrnambool, Borough Council for.—Statistics of the borough. 305

Scientific and Philosophical Instruments and Methods.

7 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Bell and stand. 327

8 Kilner, Joseph, Richmond.—Piano fortes. 327

Engineering, Architecture, Maps, etc.

9 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Miscellaneous maps, etc. 330

10 Surveyor-General of Victoria, Melbourne.—Maps and plans of the colony of Victoria. 330

Physical, Social, and Moral Condition of Man.

11 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.

a Patent ceiling ventilator; model of Victorian bush residence, with huts and various kinds of fencing. 342

b Sovereigns and half-sovereigns from Royal Victorian mint, Melbourne. 344

c Baskets, mats, etc., made at Coranderrk aboriginal mission station; vocabulary of Victorian aboriginal dialects, bluestone tomahawk, photographs of Victorian aborigines. 348

12 Bank of Victoria, Melbourne.—Bank notes and statistics of the bank. 344

13 Commercial Bank of Australia, Melbourne.—Bank notes, photographs, and statistics of the bank. 344

14 National Bank of Australasia, Melbourne.—Bank notes and statistics of the bank. 344

15 Penal Department, Inspector-General of Melbourne.—Warder's uniform, prisoners' clothing, hats, boots, shoes, mats, etc. 345

CANADA.

(*North of Nave, Columns 16 to 23.*)

Educational Collections.

Educational Systems, Methods, and Libraries.

1 Merritt, J. P., St. Catherine's, Ont. —Metric and chronological tables, chronotable of Canada. 300

2 Tennant & McLachlan, Hamilton, Ont.—Penmanship. 300

3 Pearse, James, Chatham, Ont.—Penmanship. 300

4 Browne, James, Toronto, Ont.— Chart stand and illustrator. 300

5 Educational Department, Toronto, Ont.—This is a department of State of the Province of Ontario, constituted by a committee of the Executive Councils, and is presided over by a member thereof, who is directly responsible to the Legislature. Minister of Education, Hon. Adam Crook, LL.D.; Deputy Minister of Education, John George Hodgins, LL.D.; Secretary, Abraham Marling, LL.D. 300

6 Beatty, L. J., Belleville, Ont.—Penmanship. 300

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Educational Appliances, Scientific and Musical Instruments, etc.

7 Hector, Thos., Ottawa, Ont.—Rotary polar map of the world. 300

8 Genest, P. M. A., Quebec, Q.—Map of "La Nouvelle France." 300

9 Tackabury, J. N., Montreal, Q.—Dominion atlas, maps of Ontario and Quebec. 300

10 May, John P., Canada School Apparatus Co., Toronto, Ont.—Chemical laboratories, anatomical models, object-lesson cabinets, etc. 300

12 English, Ch., St. John, N. B.—Composition blackboard. 300

13 Hill, C. P., Halifax, N. S.—Photograph Halifax Industrial School. 300

15 McGill University, Montreal, Q.—Calendars, medals, photographs of universities. 301

16 Université Laval, Quebec, Q. 303

17 College Nicolet, Nicolet, Q. 303

18 Maitrise St. Pierre, Montreal, Q. 303

19 Ecole du Plateau, Montreal, Q. 303

20 College Ste. Hyacinthe, Ste. Hyacinthe, Q. 303

21 Séminaire Ste. Thérèse, Ste. Thérèse, Q. 303

22 Collége Joliette, Joliette, Q. 303

29 Providence, Montreal, Q. 303

30 Bon Pasteur, Montreal, Q. 303

33 Hopital Général, Quebec, Q. 303

34 Hopital Général, Montreal, Q. 303

35 Frères de la Charité, Montreal, Q. 303

36 Hopital du Sacré-Cœur, Montreal, Q. 303

39 Convent de Sillery, Quebec, Q. 303

40 Campbell, James, Toronto, Ont.—Books. 306

41 Weld, W., London, Ont.—Farmer's Advocate. 306

42 Lovell Printing & Publishing Co., Montreal, Q.—School and other books. 306

43 Webster, Geo., Hamilton, Ont.—Bible, printed. 306

44 Sheppard, W., Quebec, Q.—Bible (1555). 306

45 MacKinlay, A. & W., & Co., Halifax, N. S.—Map of the United States; series of school books. 306

Institutions and Organizations.

46 Bell, Robert, Montreal, Q.—Indian curiosities and manufactures. 312

47 St. Amand, A., Loretto, Q.—Indian curiosities. 312

48 Advisory Board, Victoria, Br. Col.—Indian goods and manufactures. 312

Scientific and Philosophical Instruments and Methods.

49 Cornell, S., Widden Stantio, Ont.—Marine compass. 320

50 Meyer, Aleert, F. W., Montreal, Q—Apparatus for determining inaccurate points. 320

51 Hearne & Harrison, Montreal, Q.—Surveying and other instruments. 320

52 Ross, Alex., Montreal, Q.
a Odonmeter. 320
b Indicating and registering apparatus. 321

53 Landham, F., Ottawa, Ont.—Lumbermen's measuring rule. 322

54 Sabis, B., Point Levis, Q.—Sliding foot rule. 322

56 Morris, J. W., Hamilton, Ont.—Universal clock. 323

57 Duquet, C., Quebec, Q.—Watchman detector. 323

58 Lefort & Chapleau, Montreal, Q.—Watchman detector. 323

62 Marrin Bros., Parkhill, Ont.—Parlor organ. 327

63 Bell, W., & Co., Guelph, Ont.—Cabinet organs. 327

65 Delamere, J. H., Toronto, Ont.—Organs. 327

66 Mee, C., & Co., Kingston, Ont.—Melodeon, parlor organ, and organ keys. 527

68 Dominion Organ Co., Bowmanville, Ont.—Organs. 327

70 Knott, John, & Son, Hamilton, Ont.—Upright piano. 327

71 Heintzman & Co., Toronto, Ont.—Square piano. 327

72 Kater, Th., Hamilton, Ont.—Pianos, parts of pianos, etc. 327

73 Weber & Co., Kingston, Ont.—Pianos. 327

74 Rainer & Son, Guelph, Ont.—Piano. 327

75 Draper, E., London, Ont.—Harmonic instructor and musical game. 327

77 Lyonnais, T., Quebec, Q.—Violin. 327

79 Sheppard, W. G., Quebec, Q.—Violoncello, 1772. 327

80 New Dominion Organ Co., St. John, N. B.—Cabinet organs. 327

81 Gates, E. E., Halifax, N. S.—Cabinet organs. 327

82 Brockley & Co., Halifax, N. S.—Upright piano and stool. 327

Engineering, Architecture, Maps, etc.

83 Gray, F. Wood, Quebec, Q.—Engineering drawings. 330

84 Cousin, Paul, Quebec, Q.—Map of city of Quebec, etc. 330

86 Trout, W. H., Peterborough, Ont.—Mechanical drawings. 330

87 Johnstone, J., Ottawa, Ont.—Geographical drawing. 335

88 Burpee, M., Upper Sheffield, N. B.—Mechanical drawing. 335

89 Honeyman, Dr., Halifax, N. S.—Geological map of Nova Scotia. 335

90 Anderson, A. T., Br. Col.—Physical map of British Columbia. 335

Physical, Social, and Moral Condition of Man.

92 The Corporation of Toronto, Toronto, Ont.—Photographic views of buildings in Toronto. 345

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

FRANCE.

(South of Nave, Columns 39 to 53.)

Educational Publications, School Apparatus.

Educational Systems, Methods, and Libraries.

1 Godchaux, Aug., & Co., Paris.—Copy books for schools. 300

2 Rives, Paris.
a School furniture. 300
b School materials. 301

3 Bapterosses, F., Paris.—School materials. 300

4 Desbarolles, Paris.—Works on penmanship. 300

5 Delalain, J., & Son, Paris.—School books in different languages. 300

7 Le Brun, Paris.—Elementary dictionaries. 300

8 Lagout, Nogent-sur Seine (Aube).—School materials. 300

9 Leroy, P., Brides-les-Bains, near Moutiers (Savoy).—Educational system. 300

10 Maitrepierre, Paris.—Copy books. 300

11 Raybaud, Draguignan (Var).—Reading method. 300

12 Touron, Emile, Bois de Colombes (Seine).—Geometrical problems. 300

13 Taulard, Principal of Menelou-Salon School, Menelou-Salon (Cher).—Pupils' work. 300

15 Mouret, Paris.—Globe. 301

16 Levesque, Villeneuve St. Denis (Seine and Marne).—Metrical system. 301

17 Eloffe & Co., Paris.—Works on natural history; terrestrial globes. 301

18 Level, Paris.—Medical and graphic systems. 301

19 La Cointe, Evreux (Eure).—Arithmetical problems. 302

20 National School of Engineering, Paris.—Documents and reports of the school. 302

21 National School of Mines, Paris.—Documents and reports of the school. 302

22 Méilot, A., Paris.—Music method. 302

23 Dauphin, Lunéville (Meurthe and Moselle).—Printing in relief for the blind. 303

24 Dupont, Paul, Paris.—Works on government and education. 306

25 Duployé Bros., Paris.—System of stenography. 306

26 Dunod, Paris.—Scientific and mechanical works. 306

27 Dumaine, J., Paris.—Military books. 306

28 Ducrocq, P., Paris.—Children's books. 306

29 Deucher & Co., Paris.—Works on art and architecture; chromo-lithographs, engravings and photographs. 306

30 Didier & Co., Paris.—Academical books. 206

31 "Gazette des Beaux Arts," Paris.—Specimens of the paper and its engravings. 306

32 Gauthier-Villars, Paris.—Scientific books. 306

33 Furne, Jouvet, & Co., Paris.—General literature. 306

34 Firmin Didot & Co., Paris.—Illustrated literary works. 306

35 Laboulaye, Ch., Paris.—Dictionary of arts and manufactures, and works concerning industrial art. 306

36 Jouaust, D., Paris.—Literary works. 306

37 Jacquemin, Paris.—Historical costumes. 306

38 Hetzel, J., & Co., Paris.—Books. 306

39 Hennuyer, Paris.—Books. 306

40 Hachette & Co., Paris.—Educational, literary, and illustrated works. 306

41 Guillaumin & Co., Paris.—Works on political economy and finance: "Journal des Economistes." 306

42 Guérin, L., & Co., Paris.—Works on science and art. 306

43 Lemerre, Alphonse, Paris.—Classical work. 306

44 Desteract, A., Paris.—Account books. 306

45 Leroy, André, Angers (Maine and Loire).—Pomological dictionary. 306

46 Leroy, P. N., Paris.—Illustrated historical works. 306

47 Maisonneuve & Co., Paris.—Books. 306

48 Loones, Paris.—History of painters. 306

49 Maison Rustique, Agricultural Library, Paris.—Works on agriculture and horticulture. 306

50 Mariel, H. de, New York.—Work on the commerce and industry of the United States. 306

51 Mame, A., & Son, Tours.—Classical works. 306

52 Masson, G., Paris.—Works on medicine, natural history, etc. 306

53 Morel, Mrs. A., & Co., Paris.—Works on architecture. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Educational Publications, Statistics, Scientific Instruments.

54 Plon & Co., Paris. — Illustrated works on history, jurisprudence, etc. 306

55 Delahaye, V. A., & Co., Paris.— Works of the Biological Society and the Anatomical Society of Paris. 306

56 Delagrave, Ch., Paris.—Geographical and classical books. 306

57 Ballue, A., Paris.—Illustrated publications. 306

58 Balny, A., Espaubourg (Oise).— Work on agriculture. 306

59 Baudry, T., Paris.—Works on engineering, mechanics, mining, metallurgy, and railroads. 306

60 Beckensteimer, Lyons.—Works on electricity. 306

61 Belin, Mrs., Paris.—Classical books; maps in relief. 306

62 Belleville, Col., Toulouse.—Report on hydrophobia; physiological reports. 306

63 Boulanger, Mrs., Paris.—Books. 306

64 Calman, Lévy, Paris.—Literature, history, and modern drama. 306

65 Charpentier & Co., Paris.—Various publications. 306

66 Colin & Co., Paris.—Classical books. 306

67 Reinwald, E., & Co., Paris.— Books. 306

68 Rothschild, J., Paris.—Books. 306

69 Rudy, Charles, Paris.—The Chinese mandarin language. 306

70 Staaff, Paris.—Work on military tactics. 306

71 Tanera, Paris.—Topographical maps and plans of battles; military books. 306

72 Thirion, Ch., Paris.—Inventors' and patentees' tablets. 306

73 Central Union of Fine Arts, Paris.— Albums and publications. 306

74 Chervin, Paris.—Method of curing stammering. 306

75 Dron, Paris.—Commercial books. 306

76 City of Paris.—Statistics, regulations, models, programmes, reports, books, and scholars' work of the schools of Paris; report on primary instruction by Mr. Gréard. 306

Institutions and Organizations.

77 Department of Public Education, Paris.—Regulations of the French Institute, the College of France, and the National Library; books and catalogues; report on primary education at the Vienna Exposition. 310

78 Chaix, A., & Co., Paris.—Scientific books. 311

79 Industrial School, St. Quentin and Aisne.—Albums, cartoons, etc. 311

80 Elementary Education Society, Paris.—Pupils' works and report. 311

81 Publishers', Printers', and Stationers' Club, Paris.—Publishing, printing, and stationery. 311

82 City of Paris.—Catalogue of the French section of the London Exhibition. 312

83 Bouvier, A., Paris.—Skeletons of gorillas; catalogue of the birds of Central Africa; map. 312

84 Department of Agriculture & Commerce, Paris.—Prizes awarded to agriculturists by various fairs. 312

Scientific and Philosophical Instruments and Methods.

85 Alvergniat Bros., Paris.—Scientific instruments. 320

86 Grivolat L., Paris.—Solar clock. 320

87 Lion & Guichard, Paris.—Barometers, thermometers, and pyrometers. 320

88 Louvet, A., Pont l'Evêque (Calvados).—Support for instruments. 320

89 Optical Society, Paris.
a Mathematical instruments. 320
b Optical instruments. 324

90 Malligand, Ed., jr., Paris.—Alcohol tester. 320

91 Naudet & Co., Paris.—Barometers. 320

92 Perreaux, L. G., Paris.
a Instruments of precision. 320
b Indicating apparatus. 321

93 Colange, Leo de, Philadelphia.— Automatic indicator. 321

94 Haas, B., jr., & Co., Paris.
a Carriage controllers. 321
b Clocks, watches, musical boxes, and singing birds. 323

95 Nicolas & Chamon, Paris.—Water meters. 321

96 Rigollot, Paris.—Water meter. 321

97 Rubolti, Cesar, Grenoble.—Spigot meter. 321

98 Deschiens, Paris.—Calculating machines. 321

99 Fialont, Mrs., Paris.—Measuring tapes. 322

100 Chameroy & Co., Paris.— Scales. 322

101 Deleuil, Paris.—Photometer, scales, and pneumatic machines. 322

102 Panier, Ernest, Paris.—Mathematical instruments. 322

103 Paupier, Leonard, Paris.—Scales for railroads. 322

104 Trayvou, B., Paris.—Scales. 322

105 Savary & Rondeleux, Paris.—Gold and silver watches. 323

106 Boucher-Gravet, Paris.—Clocks. 323

107 Cressier, E., Besançon.—Watches and clocks. 323

108 Bréguet & Co., Paris.—Chronometers. 323

108*a* Hangard, Paris.—Springs for watches. 323

109 Farcot, Eugène, Paris.—Clocks. 323

110 Gondy, J. B., & Co., Pontarlier (Doubs).—Watches. 323

111 Malfait, F., & Co., Paris.—Clocks. 323

111*a* Moat, Eugène, Paris.—Springs for watches. 323

112 Marrel, J. E., Paris.—Clocks. 323

113 Mayet-Tissot, Morez (Jura).—Regulators. 323

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific and Musical Instruments, Engineering Designs.

114 Rodanet, A. H., Paris.—Marine and pocket chronometers, watches, and chains; clocks, registers. 323

115 Süssfeld, Lorsch, & Co., Paris.—Marble clocks. 323

116 Vignon, A., Paris.—Clocks. 323

117 Lachenal, Favre, & Co., Paris.—Stereoscopes with views on glass. 324

118 Bardou & Sons, Paris.—Optical instruments. 324

119 Darlot, Paris.—Photographic apparatus and photographs. 324

120 Derogy, Paris.—Optical instruments. 324

121 Duboscq, J., Paris.—Optical instruments. 324

122 Feil, Charles, Paris.—Optical goods. 324

123 Henry-Lepaute, Paris.—Lenses for lighthouses. 324

124 Hoel, J., Paris.—Spectacles and eyeglasses. 324

125 Lacombe, Paris.—Opera glasses. 324

126 Nachet, A., Paris.—Microscopes. 324

127 Secrétan, Paris.—Astronomical and scientific instruments. 324

128 Radiguet, Paris.—Mirrors. 324

128*a* Lemaire, Paris.—Eyeglasses, opera glasses, etc. 324

129 Loiseau, A., Son, Paris.—Electrical apparatus. 325

130 Bréguet, Paris.—Models of magneto-electric machines for laboratories. 325

131 Carré, E., Paris.—Pneumatic pumps, electrical machines, and light regulators. 325

132 Janin, Paris.—Magnets. 325

133 Gramme's Magneto-Electric Machine Co., Paris.—Galvano-plastic machine, etc. 325

134 Walcker, A. G., Paris.—Pneumatic and telegraph bells applied to the navy and railways. 326

135 Alexandre & Son, Paris.—Church and parlor organs. 327

136 Angot & Dubreuil, Ivry-la-Bataille (Eure).—Wooden musical instruments. 327

137 Beunon, Paris.—Upright piano. 327

138 Baudet, Paris.—Pianos. 327

139 Bontems, B.—Singing and moving birds. 327

140 Brunning, Otto, Paris.—Upright pianos. 327

141 Debain & Co., Paris.—Mechanical piano. 327

142 Focké & Son, Paris.—Pianos. 327

143 Fortin Bros., Paris.—Felts for pianos. 327

144 Gavioli, C., jr., Paris.—Pianos and organs; automatic musical instruments. 327

145 Gavioli & Co., Paris.—Organs, pianos, flutes, and band instruments. 327

146 Gehrling, Ch., jr., Paris.—Piano movements. 327

147 Goumas, P., & Co.,—Wind musical instruments and saxophone. 327

148 Koenig, Rudolph, Paris.—Acoustic apparatus. 327

149 Kriegelstein & Co., Paris.—Pianos. 327

150 Lecomte, A., & Co., Paris.—Musical instruments. 327

152 Mennesson, Emil, Reims.—Violins, altos, bass, and double bass. 327

153 Morand & Tourneur, Paris.—Mechanical harmoniums. 327

154 Thibouville, Lamy, Paris.—Musical instruments. 327

155 Zimmermann, Henry, Paris.—Organ pipes. 327

Engineering, Architecture, Maps, etc.

156 Suez Canal Co., Paris.—Maps and plans of the Suez Canal. 330

157 Caligny, A. de, Versailles.—Report on hydraulics. 330

158 Blanchet, A. P., Henrichemont (Cher).—Projected channel through Nicaragua. 330

159 Chanudet, L., Neuilly-sur-Seine.—Model of wooden pavement. 330

160 Le Moulnier, Paris.—Sample of pavement. 330

161 Department of Public Works, Paris.

a Roads, bridges, viaducts, dams, hydraulic press, docks, embankments, aqueducts, and reservoirs. 330

b Railroads; steel rails, depots, rolling stock, etc. 332

c Navigation; lighthouses, buoys, and beacons, with apparatus for lighting; life-saving apparatus from the Life-Saving Society. 334

d Geological and agricultural maps, etc., of France; reports and documents from the National School of Mines. 335

162 Monteil & Cassaynes, Paris.—Technical report upon the Suez Canal. 330

163 City of Paris.—Reports of the various departments of the city of Paris, maps, plans, etc.; projected and completed bridges by Mr. Legrand; promenades by Mr. Alphand; architectural reports of public buildings by Messrs. Ballu, Baltard, Duc, Davioud, Magne, and Fernique; portfolio of engravings of monuments; historical works; plan of Paris by Quesnal; archæological reports by Vacquer; photographs; reports and plans of the sewers of Paris. 330

164 Edoux, Leon, Paris.—Special system for mountain railroads. 332

165 Transatlantic Steamship Co., Paris.—Model of the steamship "Pereire." 334

166 Beaumarchey, Louis, Aix (Provence).—Astronomical maps and pictures, astronomical indicator, cosmographic apparatus. 335

167 Fay, de, War Department, Paris.—Relief plans. 335

168 Erhard, Paris.—Geographical maps. 335

169 Furne, Jouvet, & Co., Paris.—Geographical military atlas adopted by the military school of St. Cyr. 335

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

170 D'Italo, Enrico F., Paris. — Geographical works, atlas, and maps. 335

171 Thomas, Paris.—Chronometric and cosmographic instruments. 335

172 Wührer, L., Paris.—Geographical maps. 335

173 Lienard, F. — Plans in relief, of Paris and Jerusalem. (*In Park.*) 335

Physical, Social, and Moral Condition of Man.

174 Brière, Jules, Alençon (Orne).—Nursing-nipples. 340

175 Carue, Paris.—Gymnastic apparatus. 340

176 Paz, E., Paris.—Gymnastic apparatus. 340

177 Regnier, Paris. — Economical wooden roofing. 342

178 Thirion, Ch., Paris.—Writing tablets. 343

178*a* Society of Comparative Legislation, Paris.—Legislative works. 345

179 Marbeau, Paris. — Plans, documents, etc., of a foundling hospital. 346

180 City of Paris.
a Reports of the municipal authorities. 345
b Reports of the municipal lying-in asylum, by Dr. Tarnier. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

GERMANY.

(*South of Nave, Columns 28 to 38.*)

Books, Maps, Engravings, Type.

Educational Systems, Methods, and Libraries.

COLLECTIVE EXHIBIT OF THE BOOK TRADE AND PRINTING INDUSTRIES OF GERMANY.—BOOKS, LITHOGRAPHIC PRINTS, COPPER-PLATE AND XYLOGRAPHIC WORK, MAPS, PHOTOGRAPHS, GRAPHIC, AND OTHER METHODS OF INSTRUCTION, TYPE FOUNDERS' WORK. 300-306

1 Ackermann, Theodore, Munich.—Books with engravings.
2 Amelang, C. F., Leipsic.—Books.
3 André, Joh., Offenbach-on-Main.—Musical publications.
4 Anton, Ed., Halle-on-Saale.—Books.
5 Bach, I. G., Leipsic.—Lithographs.
6 Baedeker, G. D., Essen.—Books.
6*a* Baedeker, J., Iserlohn.—Illustrated books.
7 Baedecker, Carl, Leipsic.—Books.
8 Bauer's Type Foundry, Frankfort-on-Main.—Type, etc.
8*a* Bazar Publishing Co., Leipsic.—Books.
9 Beck, C. H., Nördlingen.—Books, plates, and designs.
10 Bomsdorf, Oscar von, Leipsic.—Maps.
10*a* Brend'amour & Co., Dusseldorf.—Albums.
11 Brandstetter, Friedrich, Leipsic.—Illustrated and other books.
12 Breidenbach & Baumann, Dusseldorf.—Art publications.
13 Breitkopf & Härtel, Leipsic.—Musical classics, catalogue, etc.
14 Brockhaus, F. A., Leipsic.—Books and maps.
15 Back, Leipsic.—Publications.
16 Publishing & Printing House of the Orphan Asylum, Halle-on-Saale.—Books and Bibles.
17 Cohen & Risch, Hanover.—Books on gardening, etc.
18 Costenoble, Hermann, Jena.—Books and maps.
19 Cotta, I. G., Stuttgart.—German classics.
19*a* Official Gazette of the German & Prussian Governments, Berlin.—Volume for 1875.
20 Drugulin, W., Leipsic.—Type and printing.
21 Duncker & Humblot, Leipsic.—Books.
22 Dürr, Alphonse, Leipsic.—Illustrated books.
23 Engelhorn, I., Stuttgart.—Illustrated work on Italy, etc.
24 Engelmann, Wilh., Leipsic.—Books.
25 Ernst & Korn, Berlin.—Plates from architectural works.
26 Eschebach & Schaefer, Leipsic.—Lithographs.
27 Fritzsche & Zschiesche, Leipsic.—Illustrated postage-stamp albums.
28 Hennes, A., Berlin.—Piano forte method.
31 Fischer, Theodore, Cassel.—Publications, plates, and maps.
32 Fleischer, Ernst, Leipsic.—Scientific and school books.
33 Flemming, Carl, Glogau.—Maps, atlases, books, etc.
34 Flinsch Type Foundry, Frankfort-on-Main.—Specimens of printing.
35 Friderichs, R. L., Elberfeld.—Publications.
36 Fries, Hermann, Leipsic.—Books.
37 Fritzsche, Gustav, Leipsic.—Books.
38 Furstenau, Oscar, Leipsic.—Lithographs.
39 Gebhardt, I. M., Leipsic.—Manuals of arts and sciences, etc.
40 Hauboldt, Otto, Leipsic.—Publications.
41 Photographic Association, Berlin.—Picture books.
42 Grunow, F. W., Leipsic.—Publications.
43 Habel, Carl, Berlin.—Publications.
44 Glaser, Louis, Leipsic.—Lithographs in imitation of photography.
45 Grote, G., Berlin.—Illustrated classics and photographs.
46 Grumbach, C., Leipsic.—Illustrated books, pictures, and engravings.
47 Hans, L., Berlin.—Prints and plates.
48 Hartknoch, Joh. Fr., Leipsic.—Books.
49 Hartung, H., & Son, Leipsic.—Books.
50 Haessel, H., Leipsic.—Dictionaries.
52 Hermann, Bernhard, Leipsic.—Lexicon of dates.
53 Heymann, Carl, Berlin.—Books.
54 Hinrichs, I. C., Leipsic.—Publications.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Books, Printing, Engravings, etc.

54*a* Hirschman, I. M., Offenbach-on-Main.—Labels and signs.
55 Hirt, Ferdinand, Breslau.—School books.
56 Hirt & Son, Leipsic.—Geographical publications.
57 Hirzel, Solomon, Leipsic.—Dictionary and books.
58 Hofmeister, Fr., Leipsic.—Musical publications.
58*a* Hoppe, E., & Co., Berlin.—Chromos.
59 Hunderstund & Pries, Leipsic.—Engravings and prints.
60 Bibliographic Institute, Leipsic.—Classics, books of travel, and maps.
61 Geographical Institute, Weimar.—Atlases, maps, and globes.
62 Photo-lithographic Institute, Weimar.—Maps.
63 Issleib & Rietzschel, Gera.—Atlases, maps, and books.
65 Kaeseberg, Hugo, Leipsic.—Wood cuts.
66 Kafemann, A. W., Dantzic.—Books, etc.
67 Kern, I. U., Breslau.—Books.
68 Kirmayer, Max, Munich.—Map.
69 Klingenberg Bros., Detmold.—Scientific publications.
71 Koehler, Carl, Darmstadt.—Chromo-lithographic views, etc.
72 Kortkampf, Fr., Berlin.—Legal and political books.
72*a* Kressner, L., Wurtzburg.—Surgico-pathological tables.
73 Kratzschmar, Fr., Leipsic.—Lithographs.
74 Langenscheid Publishing House, Berlin.—Dictionaries and school books.
74*a* Leipsic Gazette, Leipsic.—"Leipsic Gazette."
75 Lesimple, Adolf, Mayence.—Books.
76 Leukart, Breslau.—Medical works.
77 Lorck, Carl B., Leipsic.—Books.
78 Lüderitz, C. G., Berlin.—Books.
78*a* Mauke, W., Leipsic.—Housebook.
79 Mayer, Edward Heinrich, Cologne.—Books.
80 Meinhold, C. C., & Sons, Dresden.—Anatomical atlas.
81 Meissner, Otto, Hamburg.—Books.
82 Meissner & Buch, Leipsic.—Lithographs, etc.
82*a* Mentzel, A., Leipsic.—Books.
83 Mey & Widmayer, Munich.—Art publications.
84 Müller, C. Ed., Bremen.—Books.
85 Naumann, C. G., Leipsic.—Job printing.
86 Naumann, Justus, Leipsic.—Biblical pictures.
87 Nicolai's Publishing House, Berlin.—Books.
89 Nitzschke, Wilhelm, Stuttgart.—Atlases.
89*a* Oehmigke's Publishing House, Leipsic.—School books, etc.
90 Paetel Bros., Berlin.—Books.
91 Perthes, Justus, Gotha.—Atlases, etc.
92 Peters, C. F., Bureau de Musique, Leipsic.—Music.
92*a* Polz, E., Leipsic.—Leipsic "Tageblatt."
93 Reimer, Dietrich, Berlin.—Maps, etc.
94 Röder, C. G., Leipsic.—Prints, etc.
95 Rommel, Wilhelm, Frankfort-on-Main.—Illustrated heraldic works.
96 Römmler & Jonas, Dresden.—Prints.
97 Schlegel, Ernst, Aschersleben.—Art plates.
98 Schmidt, H. W., Halle-on-Saale.—Books.
98*a* Schmidt, Heinr., & Günther, Carl, Leipsic.—Books.
99 Schönfeld, G., Dresden.—Books.
101 Schotte & Co., Ernst, Berlin.—Globes, maps, etc.
102 Schreiber, I. F., Esslingen.—Picture books.
103 Schubert & Co., Leipsic.—Music.
104 Seemann, E. A., Leipsic.—Books.
105 Schulz, O. A., Leipsic.—Directory of German book trade.
105*a* Schwann, L., Neuss.—Publications.
105*b* Schulze, Oldenburg.—Books.
106 Siegismund & Volkening, Leipsic.—Educational literature.
108 Soenneken, Fr., Remscheid.—Writing books.
109 Spamer, Otto, Leipsic.—Books.
110 Spemann, W., Stuttgart.—Art works.
110*a* Spiller, Ph., Berlin.—Books.
111 Springer, Julius, Berlin.—Books.
112 Steinhaus, J. F., Bremen.—Bibles.
113 Storch & Kramer, Berlin.—Chromos.
115 Strumper & Co., Hamburg.—Prints.
117 Tauchnitz, Bernhard, Leipsic.—Publications.
118 Tegetmeyer, Ferd., Leipsic.—Wood engravings.
119 Trewendt, Eduard, Breslau.—Books and maps.
120 Velhagen & Clasing, Leipsic.—Illustrated journals, religious works, etc.
121 Veith, J., Carlsruhe.—Art publications.
122 Vogel, F. C. W., Leipsic.—Books.
123 Voss, Leopold, Leipsic.—Books.
123*a* Wachsmuth, F. E., Leipsic.—Animal pictures.
123*b* Waldow, A., Leipsic.—Books and periodicals.
124 Wagner, R., Berlin.—Plates.
125 Wagner, H., & Debes, C., Leipsic.—Plates and maps.
126 Weber, J. J., Leipsic.—Diaries, etc.
128 Weigel, T. O., Leipsic.—German and Latin works.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

129 Westermann, George, Brunswick.—School books.

130 Wiegandt, Hempel, & Parey, Berlin.—Books on agriculture, etc.

131 Wigand, George, Leipsic.—Religious books, atlas, etc.

132 Wigand, Otto, Leipsic.—Dictionaries, year books.

133 Winter, C. F., Leipsic.—Illustrated works.

134 Wolf, Adolph, Dresden.—Illustrated journals and chromos.

135 Zahn, R. von, Dresden.—Books.

136 Zernin, Eduard, Darmstadt.—Works on military science.

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137 Hermes, Wilhelm, Berlin.—Drawing instructor and studies. 300

139 Grothe, Hermann, Berlin.—Apparatus for instruction in technical schools. 302

140 Loeff, Paul, Berlin.—Books on furnaces, ovens, kilns, etc. 302

141 Raumer, C. V., Warmbrunn, Silesia.—Instruction book for the manufacture of bricks. 302

142 Blankenhorn, A., Carlsruhe.
a Instruction books for wine growing and agriculture. 302
b Enological reviews. 306

143 Keller, Heinrich, Son, Darmstadt.—Herbarium of forest and field grasses. 302

144 Schröder, J., Polytechnic Industrial Institute, Darmstadt.—Models for teaching purposes, drawing appliances. 302

145 Lette Association, Commercial and Trades School, Berlin.—Placard relating to the labors of the Association. 302

146 Stenographibal Society of Stolze, Berlin.—Books, reports, etc. 306

147 Moeser, W., Berlin.—Sundry literary works. 306

148 Bavarian Museum of Arts, Nuremberg.—Publications, communications, etc. 306

Scientific and Philosophical Instruments and Methods.

151 Riefler, Clem., Maria-Rhein, near Kempten.—Mathematical instruments. 320

COLLECTIVE EXHIBIT OF NUREMBERG MATHEMATICAL INSTRUMENT MANUFACTURERS. 320

152 Schoenner, Georg, Nuremberg.

153 Bayer, Jean, Nuremberg.

154 Heisinger, Ludwig, Nuremberg.

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155 Schultze, G. A., Berlin.—Philosophical apparatus. 321

155*a* Schäffer & Budenberg, Buckan.—Water gauges. 321

156 Sartorius, F., Göttingen.—Analytical scales. 322

COLLECTIVE EXHIBIT OF THE BLACK FOREST CLOCK MANUFACTURERS. 323

157 Lenzkirch Joint Stock Co., Lenzkirch.

158 Schwer, Benedict, jr., Triberg.

159 Haas, Ph., & Sons, St. Georgen.

160 Wehrle, Em., & Co., Furtwangen.

161 Kaltenbach, Leo, Furtwangen.

162 Ketterer, B., Sons, Furtwangen.

163 Bob, Lorenz, Furtwangen.

164 Beha, J. Bapt., & Sons, Eisenbach.

165 Weishaupt & Fleig, Villingen.

166 Feser, Paul, Villingen.

167 Maurer & Höfler, Eisenbach.

168 Zimber, J., Furtwangen.

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169 United Clockmakers of Glashütte, Saxony.—Clock parts. 323

170 Becker, Gustav, Freiburg, Silesia.—Regulators. 323

171 Felsing, Conrad, Berlin.
a Regulators, etc. 323
b Music boxes, melodeons. 327

172 Hadank & Son, Hoyerswerda, Upper Lausitz.—Steeple clock and bell. 323

173 Lange, A., & Sons, Glashütte, Saxony.—Watches and watch parts. 323

174 Voigtlaender & Son, Brunswick.—Photographic objectives, opera glasses, field glasses, and telescopes. 324

174*a* Hirschmann, W. A., Berlin.—Electrical apparatus for medical use. 325

175 Joint Stock Co. for Telegraph Supplies, Berlin.—Materials for insulators. 326

COLLECTIVE EXHIBIT OF MUSICAL INSTRUMENTS AND STRINGS. 327

176 Pfretzschner, G. A., Markneukirchen, Saxony.

177 Bauer, Albin, jr., Markneukirchen, Saxony.

178 Paulus & Schuster, Markneukirchen, Saxony.

181 Glier, K. A., jr., Markneukirchen, Saxony.

182 Adler, Richard, Markneukirchen, Saxony.

183 Kämpffe, Gustav, Markneukirchen, Saxony.

184 Paulus, Ernst, Markneukirchen, Saxony.

185 Paulus, August, Markneukirchen, Saxony.

COLLECTIVE EXHIBIT OF MOUTH HARMONICAS. 327

187 Bilger, Chr., Trossingen.

188 Hohner, Math., Trossingen.

189 Koch, Andreas, Trossingen.

190 Messner & Co., Trossingen.

191 Hotz, Fr., jr., Knittlingen.

192 Jäger, Gottlob, Knittlingen.

193 Jäger, Joshua, Knittlingen.

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194 Müller, C. A., Unterwiesenthal.—Gutstrings. 327

196 Euler, A. A., Frankfort-on-Main,—Clarionets, flutes, etc. 327

197 Pfaff, F., Kaiserslautern.—Brass and wood instruments. 327

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

198 Stratton, John F., & Co., Gohlis, near Leipsic.—Violins, etc. 327

199 Altenburg & Graue, Bremen.—Piano. 327

200 Blüthner, Julius, Leipsic.—Concert grand piano and pianino. 327

202 Ibach, Rudolpe, & Son, Barmen.—Concert grand piano and piano. 327

203 Kaps, Ernst, Dresden.—Concert grand piano. 327

204 Neumann, F. L., Hamburg.—Piano. 327

206 Schiedmayer, J., Stuttgart.—Concert grand piano and harmoniums. 327

209 Schwechten, G., Berlin.—Pianos. 327

210 Seiler, Edward, Liegnitz.—Piano. 327

210*a* Stahlecker, C. F., Stuttgart.—Metal piano. 327

211 Gläsel, Moritz, Marknenkirchen.—Guitars, citherns, violins, etc. 327

212 Haslwanter, J., Munich.—Citherns. 327

213 Tiefenbrunner, Georg, Munich.—Citherns. 327

214 Walcker, E. F., & Co., Ludwigsburg.—Church organ. 327

215 Welte, M., & Sons, Freiburg.—Orchestrion. 327

216 Trayser, Ph. I., & Co., Stuttgart.—Cabinet organs. 327

217 Geyer, W. & Ed., Bros., Eisenberg.—Buckskin for piano manufacturers' use. 327

217*a* Schlessinger & Lummer, Gera.—Leather for piano manufacturers' use. 327

217*b* Pohlmann, Moritz, Nuremberg.—Piano strings. 327

217*c* Huber Bros., Pirmasens.—Hand organ. 327

Engineering, Architecture, Maps, etc.

217*d* Royal Prussian Ministry of Commerce, Trade, and Public Works, Berlin.—Books, statistical tables, and geological maps. 535

Physical, Social, and Moral Condition of Man.

218 Jungfer, A., Berlin.—Coins and commemorative medals. 344

219 Central Committee of the German Associations for the Aid of Wounded and Sick Soldiers in War, Berlin.—Reports, and album of objects exhibited at Vienna in 1873 by the "Red Cross." 346

220 Central Committee of the Bavarian Association for nursing and aiding Wounded and Sick Soldiers in time of War.—Model of a fully-dressed and equipped member of the corps. 346

221 Directors of the Badish National Aiding Association, Carlsruhe.—Photographs of scenes in hospitals; magazines, etc. 346

222 Association of the Circuit and Town of Altona for nursing Sick and Wounded Soldiers, Altona.—Model of a hospital. 346

223 Zuelzer, Dr., Berlin.—Model of a hospital and ventilating apparatus, and sanitary statistics of Germany for 1872–74, etc. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45

AUSTRIA.

(*South of Nave, Columns 23 to 28.*)

Educational and Engineering Appliances, Scientific Instruments.

Educational Systems, Methods, and Libraries.

1 Municipality of Vienna.—Photographs of objects pertaining to education. 300

2 Fuchs, John Bapt., Emmerich, Gaming.—Artistic penmanship. 300

2*a* Delhez, Constantine, Vienna.—Gymnastics of the senses. 300

3 Brunn, Dr., Vienna.—Plaster cast of the human face. 302

5 Politzer, Adam, Vienna.—Anatomical, pathological preparations of the organs of hearing. 302

8 Pechar, John, Teplitz, & A. Peez, Vienna.—Statistics of the import, export, and consumption of cotton in Austria in 1871. 305

9 Lehmann, Adolf, Vienna.—Residence and business directory. 306

Institutions and Organizations.

11 Schmitt, Hans, Vienna.—Piano study and compositions. 313

Scientific and Philosophical Instruments and Methods.

13 Kraft, E., & Son, Vienna.—Mathematical instruments. 320

14 Kreidl, Alois, Prague.—Chemical and physical apparatus for schools. 320

15 Kreuter, Franz, Brunn.—Tachometer, distance poles, leveling poles. 320

16 Lenoir & Forster, Vienna.—Chemical, physical, and mineralogical apparatus. 320

17 Paugger, F., Trieste.—Nautical instruments. 320

18 Florenz, Joseph, Vienna.—Scales and balances, gold and silver precision balances, balance scales, table balances. 322

19 Schmidt, John, Vienna.—Measuring and regulating apparatus for petroleum. 322

22 Richter, C.W., Oedenburg.—Optical instruments, spectacles. 324

23 Plossl, S., & Co., Vienna.—Mechanical and optical instruments. 324

24 Kiendl, A., Vienna.—Ciherns. 327

25 Cervény, V. F., Koniggratz.—Musical instruments of wood and metal. 327

26 Bohland & Fuchs, Graslitz.—Metal instruments. 327

27 Fuchs, Daniel, Vienna.—Metal instruments. 327

29 Farsky, John F., Pardubitz.—Wind instruments. 327

31 Lausmann, John W., Linz.—Wood and metal wind instruments. 327

34 Placht Bros., Vienna.—Musical instruments. 327

37 Stecher, Karl, Vienna.—Musical wind instruments. 327

38 Thie, William, Vienna.—Mouth musical instruments. 329

40 Kirchner Bros., Vienna.—Guitar and violin strings. 327

41 Robitsek, H., Vienna.—Mouth musical instruments. 327

Engineering, Architecture, Maps, etc.

COLLECTIVE EXHIBIT OF ENGINEERING AND ARCHITECTURAL PHOTOGRAPHS, MODELS, DESIGNS, REPORTS, AND PLANS. 330 *to* 335

42 Vienna Building Association, Vienna.

43 Battig, Anton, Chief Engineer of the State Railroad Co., Vienna.

44 Bayer, Rudolph, Vienna.

45 Bomches, Fred., Trieste.

46 Claus, Heinrich & Gross, Vienna.

47 Fellner, Fred., & Hermann Helmer, Vienna.

47*a* Friedmann, Alex., Vienna.

48 Doderer, Wilh., Vienna.

49 Danube Regulation Commission, Vienna.

49*a* Helmer, Hermann, Vienna.

50 Dorfel, Julius, Vienna.

51 Hornig, Dr. Emil J. R., Vienna.

51*a* Rziha, Franz, Vienna.

52 Ferstel, Heinr. Ritter von, Vienna.

53 Flattich, Wilh., & Wilhelm Franz, Vienna.

54 Schmidt, Heinrich, Inspector-General of the State Railroad Co., Vienna.

55 Forster, Emil Ritter von, Vienna.

56 Fraenkel, Wilh., Vienna.

57 Gaertner, Ernst, Vienna.

58 Gross, E., Vienna.

59 Hansen, Theopil Ritter von, Vienna.

60 Hintrager, Moritz, Vienna.

61 Hlubek, Peter, Vienna.

62 Holder, Alfred, Vienna.

63 Schmoranz, Franz, Vienna.

64 Klein Bros., Vienna.

65 Klunzinger, Paul, in Belinzona.

66 Delhez, Constantine, Vienna.

67 Lazar, Adolph, Vienna.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Engineering Designs, Commercial and Industrial Statistics.

68 Lehmann & Wentzel, Vienna.
69 Lohr, August Ritter von, Vienna.
70 Frankl, Ludwig August, Vienna.
71 Morawitz, Moriz, Vienna.
73 Obach, Theodore, Vienna.
74 Paradeiser, W., Pola.
75 Neitsche, R., Olmütz.
76 Popovits, Lazar, Marchegg.
77 Schachner, Friedrich, Vienna.
78 Rumpelmayer, Victor, Vienna.
79 Schlimp, Carl, Vienna.
80 Schmidt, Friedr., Vienna.
81 Schmidt, Heinrich, Vienna.
82 Schmoll, Adolph von, Eisenwerth.
83 Schon, John George, Brunn.
84 Schrabetz, Emil, Vienna.
85 Serres, August de, Vienna.
86 "Stadtbauamt of Vienna."
87 Tilp, Emil, Vienna.
88 Pechar, Johann, Teplitz.
90 Waldheim, R. von, Vienna.
91 Wentzel, Vienna.
93 Wilhelm, Franz, Vienna.
94 Winkler, Dr. Emil, Vienna.

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95 Bader, F. W., Vienna.—Design of the city of Vienna. 335

Physical, Social, and Moral Condition of Man.

96 Commission in Vienna for the Philadelphia Exhibition, Vienna.—Graphical representation of the productions and foreign commerce of Austria, of its savings banks, etc. 343

96*a* Frankl, Lewis A., Vienna.—Plans and descriptions of the Institute for the Blind in Vienna. 346

97 First Ordinary Civil Social Union of the Austro-Hungarian Monarchy, Vienna.—Representation of the activity and development of co-operative union of the Austro-Hungarian monarchy. 347

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SWITZERLAND.

(*North of Nave, Columns 52 to 55.*)

Books, Educational Appliances, Statistics.

Educational Systems, Methods, and Libraries.

1 **Board of Education of the Canton** of Appenzell Ausserrhoden.—Laws and regulations, books, maps, and plans. 300

2 **Board of Education of the Canton** of Basle City.—Annual accounts of the department of public instruction, reports and prospectus of the schools, school-books, plans of the Bernoullianum, special schools. 300

3 **Board of Education of the Canton** of Berne.—Obligatory and facultative text books and apparatus used in elementary and higher schools, laws and regulations, reports and plans. 300

4 **Board of Education of the Canton** of Fribourg.—Laws and regulations, books, maps, and plans. 300

5 **Board of Education of the Canton** of Geneva.—Obligatory and facultative text books and apparatus used in elementary and higher schools, laws and regulations, reports and plans. 300

6 **Board of Education of the Canton** of Lucerne.—Laws and regulations, books, maps, and plans. 300

7 **Board of Education of the Canton** of Neuchâtel.—Laws and regulations, books, maps, and plans. 300

8 **Board of Education of the Canton** of Solothurn.—Laws and regulations, books, maps, and plans. 300

9 **Board of Education of the Canton** of Zurich.—Obligatory and facultative series of books and apparatus used in elementary and higher schools, models and maps for instruction in drawing, laws and regulations, reports and plans. 300

10 **Kindergarten, St. Gallen.**—Collection of work and employments for children; "the education of children according to Fröbel's principles," by J. Wellauer, director of the orphan asylum St. Gallen, 1872, annual reports, statutes, and prospectus. 300

11 **Beust, F., Hottingen, near Zurich.**—Educational system, constructive method, for children of five to twelve years, text books, maps, models, apparatus, and pupils' work in mathematics, geography, and natural history. 300

12 **Zollikofer Female Seminary, Romanshorn,** Ct. Thurgau.—Publications, manuscripts, album of works executed by pupils. 300

13 **Bachmann, Franz., Winikon, Ct.** Lucerne.—Intuitive principle of instruction, tables and appliances. 300

14 **Ferri, Felix, Lugano, Ct. Tessin.**—Tables and album for the drawing of architectural ornaments. 300

15 **Ganz, J., Zurich.**—Photographs of microscopic preparations for instruction in natural sciences. 300

16 **Hindermann & Siebenmann, Zurich.**—Illustrations for little children, M. Staub's method. 300

17 **Götzinger, Dr. E., St. Gallen.**—Systematic course of topographical drawing. 300

18 **Hofer, J. J., Zurich.**—Korrodi's copy writing-books. 300

19 **Kaiser, Dr., St. Gallen.**—Table for instruction in chemistry. 300

20 **Keller, Heinrich, Zurich.**—Large school map of Switzerland. 300

20*a* **Lussy, Mathis, Stanz, Ct. Unterwalden.**—Systematical course for musical studies. 300

21 **Unterstrass Modeling School, near** Zurich.—Pupils' work in modeling. 300

22 **Paroz, J., Peseux, Ct. de Neuchatel.**—History of pedagogy, elementary instruction, intuitive multiplication table, table for the learning of fractions. 300

23 **Rikli, Carl, Wangen, Ct. Berne.**—Historical and chronographical tables. 300

24 **Stierlin, Dr. R., Lucerne.**—Model of the glacier garden at Lucerne. 300

25 **Steidinger, J., Therwyl, Ct. Basle-Land.**—Writing-copies for the French ronde. 300

26 **Zwicky-Laager, C., Mollis, Ct.** Glarus.—Atlas of drawings for elementary schools. 300

27 **Largiadèr, Rorschach, Ct. St. Gallen.**—School-bench with movable reading-desk. 300

28 **Saint George, W. H., de Nyon, Ct.** de Vaud.—Treatise on the construction and hygiene of school-houses. 300

29 **Agricultural & Professional Colony** of Suisse romande, Serix, near Oron, Ct. de Vaud.—Statutes. 302

30 **Free School for Apprentices, St.** Gallen.—Report of the institution, selection of pupils' work. 302

31 **Industrial School Association, Zu**rich and vicinity.—First report, 1875. 302

32 **Asylum for Girls, B. Rittmeyer &** Co., St. Gallen.—Reports, 1869–1873. 302

33 **Dairy Station, Lausanne, Mont** Riond, Canton de Vaud.—Collection of writings on dairying and on Alpine cultivation. 302

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Educational Appliances, Statistics, Reports, Scientific Instruments.

34 Drawing School of the Board of Trade, St. Gallen.—Competition works of pupils, album of drawings by pupils, school report. 302

35 Blind Asylum, Lausanne, Ct. Vaud.—General regulations, Lausanne, 1864; reports, 1873–1874. 302

36 Private Blind Asylum, Berne.—Statutes, Berne, 1874; constitutional report, 1862; annual reports, 1861 to 1874. 303

37 Deaf & Dumb Asylum, Canton Vaud, Moudon.—Regulations, 1874. 303

38 Institution for Deaf Mutes, Aarau, Ct. Aargau.—Report, 1874. 303

39 Institution for Deaf Mutes, Riehen, near Basle.—Prospectus, reports, and accounts, 1874; list of lessons, 1875–1876; view of the establishment; travels, by G. Jörgensen; courses of study and appliances of instruction. 303

40 Institution for Deaf Mutes, St. Gallen.—Statutes of the Society for the Education of Deaf and Dumb Children, annual reports, 1873–1875. 303

41 Institution for Feeble-minded Children, Weissenheim, near Berne.—Annual reports, Berne, 1869 and 1872. 303

42 Federal Statistical Office.—Statistics of public instruction in Switzerland, by H. Kinkeline. 304

43 Federal Polytechnical School, Zurich.—Report on the organization, laws, and regulations, plans of the localities. 304

44 Christen, J. J., Aarau.—Manuals for instruction, school books. 306

45 Dalp, J., Berne.—Manuals for instruction, school books. 306

46 Hitz, Chur, Ct. Graubünden.—Manuals for instruction, school books. 306

47 Huber, Jacques, Frauenfeld.—Pedagogical reviews, school books, drawing, musical works, agricultural instruction. 306

48 Meisel, C. J., Herisau, Ct. Appenzell, Inner Rhodes.—Manuals for instruction, school books. 306

49 Orell, Füssli, & Co., Zurich.—Manuals for instruction, school books. 306

50 Sauerländer, H. R., Aarau, Ct. Aargau.—Manuals for instruction, school books. 306

51 Scheitlin & Zollikofer, St. Gallen.—Collection of manuals, books of instruction, maps. 306

52 Shulthess, Friedr., Zurich.—Manuals for instruction, school books. 306

52*a* Sonderegger, Y. Y., St. Gallen.—Manuals for instruction. 306

Institutions and Organizations.

53 Federal Statistical Office.—The savings banks of Switzerland, by J. L. Spyri, statistics of the newspapers in Switzerland, by Kinkelin; history of the schools of the Canton of Berne, by J. J. Kummer. 311

54 Swiss Geodetical Commission.—Determination of longitudes, determination of pendulum-lengths, leveling of Switzerland. 311

55 Swiss Geological Commission.—Geology and geological maps of Switzerland. 311

56 Swiss Meteorological Commission.—Meteorological observations. 311

57 Swiss Statistical Society.—The mutual relief societies of Switzerland in 1865, by H. Kinkelin; the public libraries in Switzerland in 1868, by E. Heitz. 311

58 Swiss Society for the Advancement of Natural Philosophy.—New memoirs, minutes, and reports; history of the society, statutes, list of members. 311

59 Swiss Historical Society.—List of documents on Swiss history, archives of Swiss history, indicator for Swiss history (informer). 311

60 Swiss Alpine Club.—Annual reports, itineraries, maps. 311

61 Association of the Canton of Aargau for the Advancement of Natural Philosophy.—The scarcity of water in the Canton of Aargau, paper read at the 500th session, map of erratic blocks. 311

62 Historical Society, St. Gallen.—Reports, annual papers. 311

63 Society for the Advancement of Natural Philosophy, Basle.—Proceedings 1867–1873, paper read at the 50th anniversary. 311

64 Society for the Advancement of Natural Philosophy, Berne.—Proceedings 1843–1874. 311

65 Society for the Advancement of Natural Philosophy of the Canton of Graubünden.—Annual reports, statutes, papers on natural sciences. 311

66 Society for the Advancement of Natural Philosophy of the Canton of St. Gallen.—Reports and proceedings 1858–1874, and speech at the 50th anniversary by Dr. Wartmann. 311

67 Observatory, Neuchatel.—Reports and divers papers, photographs of astronomical instruments. 311

Scientific and Philosophical Instruments and Methods.

68 Gysi, Fr., Aarau, Ct. Aargau.—Complete collection of mathematical drawing instruments. 320

69 Herman & Pfister, Berne.—Polaristrobometers, hair-hygrometers, metallic thermometer. 320

70 Hipp, M., Neuchatel.
- *a* Chronoscope and chronograph with auxiliary apparatus. 320
- *b* Registering apparatus. 321
- *c* Regulators, tower, double dial, and electric clocks. 323
- *d* Telegraph apparatus, Morse's system. 326

71 Kern, J., Aarau, Ct. Aargau.—Swiss drawing instruments, transits, theodolites, leveling instruments. 320

72 Amsler-Laffon, J., Schaffhausen.—Planimeters, integrators, Woltmann's current meter with electrical indication. 321

73 Aebi & Landry, Madretsch, near Bienne, Ct. de Berne.—Watches and pieces showing the successive phases of the fabrication. 323

74 Watch-makers' Union (J. B. Gondy & Co.), Chaux-de-Fonds, Ct. Neuchâtel.—Gold and silver watches. 323

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Watches, Jewelry, Musical Instruments, Engineering Designs.

75 Antony-Bovy, J. E., Chaux-de-Fonds, Ct. Neuchâtel.—Watch-hands, stems, rings, detached parts for stem-winders, steel cogwheels. 323

76 Aubert Bros., Savagnier, Ct. Neuchâtel.—Springs for watches. 323

77 Audemars, Ls., Brassus, Ct. Vaud.—Watches and chronometers. 323

78 Badollet, J. M., & Co., Geneva.—Watches and pocket chronometers. 323

79 Bæhni Bros., Bienne, Ct. Berne.—Hairsprings of steel, tempered. 323

80 Berlie, Edouard, Geneva.—Lamina of hardened steel for lithographic pens and springs of watches. 323

81 Besancet-Blanc, Eug., Travers, Ct. Neuchâtel.—Ruby jewels for watches, cap jewels, jeweling of a repeating watch, two bridges with jewels set in gold, duplex rollers, English style; impulse jewels for chronometer escapements, cylinders and plugs. 323

82 Bitterlin-Schmidt, J. B., Locle, Ct. Neuchâtel.—Precious stones and jewels for jewelers and watch manufacturers, diamant powder. 323

83 Borel & Courvoisier, Neuchatel.—Chronometers, watches, and movements of watches. 323

84 Breting Bros., Locle, Ct. Neuchâtel.—Pocket chronometers, lever escapement, spring, with Philipp's system of double-curve. 323

85 Fleischmann, Fritz, Piguet, & Co., Geneva.—Tempered steel for spirals. 323

86 Huguenin, A., & Son, Locle, Ct. Neuchâtel.—Watches, chronometers, and detached pieces. 323

87 Colliot Désiré, St. Imier, Ct. Berne.—Silver watches. 323

88 Corcelle, J., & Co., Geneva.—Enamel watch-dials. 323

89 Didisheim, Gabriel, St. Imier, Ct. Berne.—Watches. 323

90 Ducommun, D., Gorgier, Ct. Neuchâtel.—Movements of watches, stem-winders and key-winders. 323

91 Dufaux, Lutz, & Son, Geneva.—Watch spirals. 323

92 Ekegrén, Hr., Geneva.—Chronometers. 323

93 Favre Bros., Neuveville, Ct. Berne.—Watches of silver and German silver. 323

94 Francillon, Ernest, & Co., St. Imier, Ct. Bernei (Longines Watch Co.).—Watches, watch movements, detached pieces for key and stem-winders. 323

95 Frankfeld, Louis, & Co., Geneva.—Chronographs, star-watches, movements, patent stem-winders. 323

96 Grandjean, Hry., & Co., Locle, Ct. Neuchâtel.—Marine and pocket chronometers, watches. 323

97 Grandjean-Perrenoud, Henry, Chaux-de-Fonds, Ct. Neuchâtel.—Engravings for watches. 323

98 Honegger, G., Bienne, Ct. Berne.—Movements of platina, nickel, and parts of watches. 323

99 Humbert, Ernest, Locle, Ct. Neuchâtel.—Watches. 323

100 Jacot Bros., Locle, Ct. Neuchatel.—Pocket chronometers. 323

101 Jeanjaquet, Chs., Neuchatel.—Springs for watches, steel for lithographic pens. 323

102 Klein, E., Geneva.—Springs for watches. 323

103 Ingold, P. F., Chaux-de-Fonds, Neuchâtel.—Cutters for giving the teeth of watch wheels the true form. 323

104 Martin, Ch., & Co., Geneva.—Geneva watches, stem-winders. 323

105 Matile, H. Ls., Locle, Ct. Neuchatel.—Precision watches. 323

106 Leuenberger & Son, Summiswald, Ct. Berne.—Clocks and regulator. 323

107 Montandon, C., Gentil-Lutz, Servette, near Geneva.—Tempered steel for spirals. 323

108 Nardin, James, Locle, Ct. Neuchatel.—Pocket chronometers, precision watches. 323

110 Patek, Philippe, & Co., Geneva.—Pocket chronometers and watches. 323

111 Perrenoud, Aimé, Terreaux, Geneva.—A constant force escapement for chronometers, assortment of spirals of gold and tempered steel. 323

112 Perret's, D., Son, Neuchatel.—Watches. 323

113 Rauss, Ami, Geneva.—Enameled dials for watches. 323

114 Rigtrup, R. S., Locle, Ct. Neuchâtel.—New mechanism for Lepine watches without fusee. 323

117 Stahl, Maurice, Chaux-de-Fonds, Ct. Neuchâtel.—Chronometers and watches. 323

118 Taglieb, Carl, Zurich.—Watch in a finger-ring. 323

119 Jaques, Adank J., & Co., Ste. Croix, Ct. Vaud.—A musical box, mandoline, with zither. 327

120 Brémond, B. A., Geneva.—Musical boxes. 327

121 Karrer & Co., Teufenthal, Ct. Aargau.—Musical boxes and fancy articles. 327

122 Karrer, S., Teufenthal, Ct. Aargau.—Musical boxes. 327

123 Paillard, C., & Co., Ste. Croix, Ct. Vaud.—Musical boxes with vocal attachments. 27

125 Trost, J., & Co., Zurich.—Upright piano forte. 327

(Machines and tools pertaining to watch-making are also exhibited in this department, but classified under Class 535.)

Engineering, Architecture, Charts, Maps, etc.

127 Building Department of the Canton of Basle-Stadt.—Plans for the enlargement of the city of Basle. 330

128 Building Direction of the Canton of Aargau.—System of roads, wooden bridges, canals, water-power. 330

129 Building Inspection of the Canton of Graubünden.—Correction of the Rhine in the Grisons. 330

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Engineering and Architectural Designs.

130 Department of the Interior, Swiss Confederation, Berne.—Measures taken to correct and regulate the rivers and waters of Switzerland. 330

131 Department of Public Works, Canton of Vaud.—Public works, cost of various roads, drawings of objects of art. 330

132 Department of Public Works of the Canton of Berne.—Plans, maps, atlases, literary works, bridges for public roads, correction of rivers of the Jura mountains. 330

133 Swiss Society of Engineers & Architects.—The Swiss system of roads, iron bridges, water supply and canalization in Swiss towns. 330

134 Municipality of Chaux-de-Fonds, Ct. Neuchâtel.—Plans of the town of La Chaux-de-Fonds, 1794-1841, and for its enlargement. 330

135 Government of the Canton of St. Gallen.—System of roads and highway bridges, correction of the Rhine. 330

136 Rothenbach, Director of the City Gas and Water Works, Berne.—Gas works of Berne. 330

137 Rieter, Joh. Jacob, & Co., Winterthur, Ct. Zurich.—Photographs of turbines, with accessories, and of wire-rope transmissions. 331

138 Weissenbach, W. C. E., Zurich.—The water-powers of Switzerland. 331

139 Department of Railroads & Commerce, Swiss Confederation, Berne, Bureau of Statistics.—Statistics of Swiss railways. 332

140 Department of Railroads & Commerce, Swiss Confederation, Berne, Scientific Bureau.—Standard drawings, forming part of the government regulations for Swiss railways. 332

141 Department of Railroads & Commerce, Swiss Confederation, Berne, Gothard Inspection.—Report of the Gothard railway, geological tables and sections. 332

142 Railroads of Jura-bernoise.—Photographs of railway works, general plan and longitudinal sections, railway construction, Zimmeregg tunnel. 332

143 Gothard Railway Co.—Longitudinal sections of the line and tunnel, plans, collection of specimens of the most important rocks found in the great tunnel. 332

144 Swiss Society of Engineers & Architects.—Development and longitudinal sections of the Swiss railways. 332

145 Swiss National Railway Co., Winterthur, Ct. Zurich.—Drawings of bridges. 332

146 Swiss Northeast Railway Co., Zurich.—Plans, photographs, etc., of railway construction, its lines, rolling stock, etc. 332

147 Swiss Locomotive & Machine Works, Winterthur, Ct. Zurich.—Photographs of locomotives. 332

148 Tobler, Chief Engineer of the Utliberg Railway, Zurich.—Description and drawings of the Utliberg railway and its rolling stock. 332

149 Tössthal Railway, Winterthur, Ct. Zurich.—Surveys and plans, sections, bridges, carriages with two stories, etc. 332

149*a* United Railroads of Switzerland.—Plans for railroads across the Splügen and the Lukmanier passes. 332

150 Würthenau, Von, Chief Engineer of the Swiss Central Railway, Basle.—Plans and drawings for the construction of the new lines. 332

151 Department of Forests & Streams, Canton Berne.—Plans of the new military buildings at Berne. 332

152 Federal Topographical Bureau.—Maps and atlases of Switzerland. 335

152*a* Beck, Edward, Bern.—Relief map of Switzerland and the Jura. 335

153 Leuzinger, R., Berne.—Section of "Grono," from the topographical atlases of Switzerland. 335

154 Wurster, Randegger, & Co., Winterthur, Ct. Zurich.—Atlases and maps, scientific works on geography and natural history. 335

Physical, Social, and Moral Condition of Man.

156 Brunner, Ad. & Fr., Zurich.—Centralhof at Zurich (reconstruction of the old post-office sketches and photographs of Swiss villas). 342

159 Department of Public Works, Canton Berne.—Plans of new, and photographs of existing public buildings. 342

161 Gladbach, Professor at the Federal Polytechnic School, Zurich.—Wood architecture of Switzerland. 342

162 Goss, J. E., Geneva.—Plans of the theatre in Geneva. 342

163 Guyer, Eduard, Zurich.—Modern hotels, their architecture, arrangement, and management. 342

164 Hartmann, Nicolaus, St. Moritz, Ct. Graubünden.—Plans of the villa Schickler in St. Moritz (Engadin), plans of Hof St. Moritz and of the hotels du Lac and Victoria. 342

166 Jeuch, Caspr., Baden, Ct. Aargau.—Plans of the barracks in Aarau. 342

167 Jung, E., Winterthur, Ct. Zurich.—Photographs and ground plans of existing dwellings. 342

168 Koch, Alex., Zurich.—Plans for private residences and a school-house. 342

169 Maring, Basle.—Plans of the hall for the federal singing festival, 1875. 342

171 Moser, Robert, Baden, Ct. Aargau.
a Churches. 342
b Houses of correction. 345

172 Municipality of Geneva.—Gallery Rath, school-house at Geneva. 342

173 Parquetry Factory, Interlaken, Ct. Berne.—Plans of Swiss cottages. 342

175 Town Council of Winterthur.—Plans of the town hall. 342

176 Stehelin, Basle.—Plans of the theatre and Bernoullianum in Basle. 342

178 Zurich Joint Stock Co. (Benevolent society for cheap dwellings).—Plans of cheap dwellings. 342

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Architectural Designs, Reports, Statistics.

179 Kunz, Heinrich, Zurich (Cotton Manufactories).—Workmen's dwellings at his cotton mill at Windish. 342

180 Rieter, Joh, Jacob, & Co., Winterthur, Ct. Zurich.—Workmen's dwellings. 342

181 Rittmeyer, B., & Co., St. Gallen.—Workmen's dwellings. 342

182 Sarasin & Co., Basle.—Workmen's dwellings. 342

183 Sulzer, Bros., Winterthur, Ct. Zurich.—Workmen's dwellings. 342

184 Direction of the Zoological Gardens at Basle.—Plans of the zoological garden in Basle. 342

185 Swiss Society for Penitentiary Reform.—Plans and views of the principal houses of correction in Switzerland, regulations of organization, documents upon the management of prisons. 345

186 Swiss Society for Promoting the Public Welfare.—History, Swiss periodical for public utility. 346

186*a* Society for the Education of the Poor, Lenzburg, Ct. Aargau.—Reports and statutes. 346

187 Society for Promoting the Public Welfare, Ct. Appenzell, Inner Rhodes.—Annual reports. 346

187*a* Ernst, Heinrich, Zurich.—Plans of the children's hospital at Zurich. 346

188 Society for Promoting the Public Welfare, Basle.—Historical reports, statutes, and pamphlets. 346

188*a* Evangelic Missionary Association, Basle.—Annual report. 346

189 Society for Promoting the Public Welfare, Ct. Glarus.—Reports. 346

190 Society for Promoting the Public Welfare, Ct. St. Gallen.—Proceedings. 346

190*a* Aid Society, Herisau, Ct. Appenzell.—Reports and statutes. 346

191 Society for Promoting the Public Welfare, Canton Zurich.—Statutes, reports, catalogue of popular works. 346

192 Geneva Society for Public Utility. —Proceedings, reports. 346

192*a* Richter-Linder's Institute, Schoren, near Basle.—Report on the house of refuge. 346

193 Vaudoise Society for Public Utility.—Reports. 346

193*a* Swiss Reformatory Institute for boys, Bächtelen, near Berne.—General report. 346

194 Department of the Interior, Swiss Confederation, Federal Statistical Office. —Statistics of the Swiss establishments for the education of orphans and abandoned children, also for the deaf, dumb, and blind, by J. Wellauer and J. Müller. 346

195 Swiss Society for Instructing the Poor.—Descriptions of the asylums for the poor, minutes, report of the Society of Teachers for the Poor. 346

196 Society for Instructing the Poor, District of Aarau, Ct. Aargau.—Statutes, programmes, contracts, annual reports. 346

196*a* Building Direction, Canton Aargau.—Plans of the lunatic asylum at Königsfelden. 346

197 Institution for Instructing the Poor, Canton Basle-Land.—General report. 346

197*a* Department of Public Works of the Canton Vaud.—Plans of the lunatic asylum at Lausanne. 346

197*b* Department of Public Works, Canton Zurich.—Plans of the lying-in hospital at Zurich. 346

198 Institution for Instructing the Poor, Zurzach District, Ct. Aargau.—Statutes, annual reports. 346

199 Home Industry Society for Zurich and Vicinity.—Report, statutes, regulations. 346

200 Aid Society, St. Gallen.—Annual reports. 346

201 Aid Society, Zurich.—Reports, etc. 346

202 Mutual Aid Society, Val de Travers, Ct. de Neuchâtel.—Statutes, regulations, general report. 346

203 Wellauer, J., St. Gallen.—Report of the Society for the Education of the Poor, Swiss schools for the poor, by J. C. Zellweger. 346

204 Blösch, Eduard, Berne.—Reports of his orphan asylum in Klein-Wabern, Berne. 346

205 Orphan Asylum, Neuchatel.—Reports, contracts, formulas; notes about Belmont. 346

206 Orphan Asylum, Daillens-Cossonay-Penthaz, Ct. Vaud.—Regulations and reports. 346

207 French Orphan Asylum, Wabern, Ct. Berne.—Report. 346

208 Orphan Asylum, Basle.—Description and history, annual reports, publications, plans, and views. 346

209 Orphan Asylum, St. Gallen.—The orphan asylum in St. Gall by F. von Tschudi, reports, statutes, plans of buildings, etc. 346

210 City Orphan Asylum, Zurich.—Reports, statutes, regulations, photographs, samples of pupils' clothing. 346

211 Aargau Reformatory, Olsberg, Ct. Aargau.—Reports. 346

212 Grube Institution for Instructing the Poor, Ct. Berne.—Specimens of pupils' work. 346

213 Institution for Instructing Poor Girls, Steinhölzli, near Berne.—Report, 1874. 346

214 Hosang Foundation, School for the Poor, near Chur.—Regulations for the admission of pupils into the establishment. 346

215 Bundner Reformatory, Foral, near Chur, Ct. Graubünden.—Annual reports of the orphan asylum. 346

216 Friedeck Reformatory Home, Buch, Hegau, Ct. Schaffhausen.—Historical report, specimens of pupils' work. 346

217 Swiss Reformatory, Sonnenberg, near Lucerne.—Statutes, circulars, reports, specimens of pupils' work, etc. 346

218 Toggenburg Reformatory, Hochsteig, near Wattwyl, Ct. St. Gallen.—Statutes, annual reports. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Art, Watch-making Machinery.

219 Victoria Institute for Poor Girls of the Canton of Berne, Klein-Wabern, near Berne.—Regulations for admission, organization, report. 346

219*a* Young Merchants Union of Switzerland.—General report of proceedings. 347

Sculpture.

220 Abegglen-Perrin, Iseltwald, Ct. Berne.—Chalets, with and without music and clocks. 405

221 Abplanalp, J., Brienz, Ct. Berne.—Wood-carvings. 405

222 Baumann, A., Vater & Son, Brienz, Ct. Berne.—Wood-carvings. 405

223 Bergen, C., von, & Co., Interlaken, Ct. Berne.—Wood-carvings. 405

224 Eggler, Jakob, Brienz-Oberdorf, Ct. Berne.—Wood-carvings. 405

225 Eggler, Johann, Brienz, Ct. Berne.—Wood-carvings. 405

226 Flück, J., Fluhberg, near Brienz, Ct. Berne.—Wood-carvings. 405

227 Germann & Eggler, Brienz, Ct. Berne.—Wood-carvings. 405

228 Grossmann, Joh., Ringgenberg, near Interlaken, Ct. Berne.—Wood-carvings. 405

229 Jäger, Jb., & Co. Brienz, Ct. Berne.—Wood-carvings. 405

230 Imboden Bros., Ringgenberg, near Interlaken, Ct. Berne.—Wood-carvings. 405

231 Klein, J. F., & Son, Meiringen, Ct. Berne.—Wood-carvings. 405

233 Sterchi, Fritz, Interlaken, Ct. Berne.—Wood-carvings. 405

234 Zumbrunn, Schmoker, & Co., Ringgenberg, Interlaken, Ct. Berne.—Wood-carvings. 405

Painting.

235 Glardon, C. L., Geneva.—"The Morning" (after Greuze); enamel for a watch, of Badollet's exhibition. (See No. 78, p. 355.)

Engraving and Lithography.

236 Rieter-Biedermann, J., Winterthur, Ct. Zurich.—Printed music and engravings. 421

237 Bonnet, Charles, & Co., Geneva.—Types, borderings, ornaments cut in wood, for printers and lithographers. 422

238 Bonfantini, G. A., Basle.—Typographical album, dedicated to the printers of Philadelphia. 422

239 Meyer, Theodor, Schaffhausen.—Wood-cuts. 422

240 Westfehling, J., Winterthur, Ct. Zurich.—Catalogue, Swiss section. 422

241 Orell, Füssli, & Co., Zurich.—Letter-press plates, chemical engraving, wood engravings reduced, plates for paper money, sample sheets and books. 423

242 Hindermann & Siebenmann, Zurich.—Chromo-lithographs. 424

243 Knüsli, Caspar, Zurich.—Chromo-lithographs. 424

Photography.

244 Charnaux, F., Geneva.—Photographs of the glaciers of Switzerland. 430

245 Ganz, J., Zurich.—Photographs. 430

246 Gut, Jean, & Co., Zurich.—Photographs. 430

247 Linck, J., Winterthur, Ct. Zurich.—Photographs. 430

248 Nicola-Karlen, Emil, Berne.—Swiss photographs. 430

249 Richard, T., Son, Männedorf, Ct. Zurich.—Album of photographs, Swiss costumes, Swiss myths and traditions, Swiss landscapes. 430

250 Simona, Giorgio, Locarno, Ct. Tessin.—Photographs. 430

251 Tæschler Bros., St. Fiden, near St. Gallen.—Photographs. 430

252 Zacher, C., Zurich.—Photographs. 430

Machines for Making Watches.

253 Servet, J. Marc, Son, Geneva.—Tools and instruments for watchmakers and jewelers. 535

254 Borel-Petitpierre, Ls., Couvet, Ct. Neuchâtel.—Tools and instruments for watch manufacturing. 535

255 Grobet, François Louis, Vallorbes, Ct. Vaud.—Tools and instruments for watch manufacturing. 535

256 Keigel, Auguste, Couvet, Ct. Neuchâtel.—Equalizing machine, lathes, tool for forging wheels, deepening tool. 535

257 Leresche-Golay, Jules, & Co., Vaulion, Ct. Vaud.—Files, tools, and instruments for watch manufacturing and for jewelers. 535

258 Vautier, Sl., & Sons, Carouge, near Geneva.—Tools and instruments for watch manufacturing and for jewelers. 535

259 Berlie, Edouard, Geneva.—Tools and gravers. 535

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

BELGIUM.

(*North of Nave, Columns 54 to 59.*)

Educational Books and Appliances, Scientific Instruments.

Educational Systems, Methods, and Libraries.

1 **Arens, Antoine, Namur.**—School books. 300

2 **Crevecœur, Henri Stanislas Joseph,** Orp-le-Grand (Brabant).—Statistical lists for school teachers. 300

3 **Genonceaux, Louis, Bruges.**—School books. 300

4 **Belgian Government Educational** Department.—Type of school furniture approved by the Belgian government. 300

5 **Happel, J., Antwerp.**—Adjustable desk, perambulators. 300

6 **Landrien, Bernardin, Mechlin.**—School books. 300

7 **Licot, Feuillien, Nivelles (Brabant).**—Work on drawing. 300

8 **Lory-Delaet, Pierre, Brussels.**—Writing method adopted by the Belgian government. 300

9 **Petry, Adolphe, Mons (Hainaut).**—Arithmometer. 300

10 **Stebert, Pierre, Tongres, Limbourg.**—Essay on education, etc. 300

11 **Van Havermaet, Henry, Brussels.**—Furniture used in orphan asylums. 300

12 **Claesen, Ch., Liége.**—Works on art. 302

13 **Colinet, Ed., Brussels.**—Work on art. 302

14 **Stroesser, Jean-Pierre, Brussels.**—Solids represented in profile by metallic wire. 302

15 **Van der Molen, A., & Co., Brussels.**—Works on architecture and sculpture. 302

16 **Lebon, Leon, Brussels.**—Educational works. 306

17 **Dessain, H., Mechlin, Province of Antwerp.**—Prayer, liturgy, and other books. 306

18 **Du Fief, J., Brussels.**—School books on geography. 306

19 **Callewaert Bros., Brussels.**—School books, Callewaert's dictionaries. 306

20 **De Cuyper, C., & Noblet, A., Liége.**—Works on mining, etc. 306

21 **De Koninck, Laurence Wm., Liége.**—Works on paleontology. 306

22 **Destexhe, A. M. T. J., Modave, Province of Liége.**—Works on instruction. 306

23 **Dujeux, J. B. C., Brussels.**—Special collection of patents. 306

24 **Landrien, Bernardine, Mechlin.**—School books. 306

25 **Manceaux, Hector, Mons (Hainaut).**—School books. 306

25*a* **St. Nicolas, Ch., East Flanders.**—School books. 306

26 **Meeus, Jules, Brussels.**—Belgian "Industrial Monitor" (newspaper). 306

27 **Van Holsbeek, Henry, Brussels.**—Works on hygiene. 306

Institutions and Organizations.

28 **Educational Union, Brussels.**—Works on instruction. 310

29 **Doings of Popular Evening Parties of Verviers, Verviers.**—Publications, etc. 310

30 **Toekomst Society, Antwerp.**—Reports, etc. 310

31 **Maelen, Joseph van der, Molenbeek** St. Jean, near Brussels.—Geographical works. 310

32 **Namur Artistic Literary Club,** Namur.—Annals of the Club. 311

33 **Entomological Society of the Royal** Museum of Natural History of Belgium, Brussels.—Reports, etc. 311

34 **Limbourg Scientific & Literary** Society, Limbourg.—Publications. 311

35 **Artists' Union, International Club** of Fine Arts, Liége.—Statutes, etc. 311

36 **Morning Star Royal Society, Brussels.**—Dramatic, literary, and choral works. 313

37 **Meerens, Charles, Brussels.**—Music and musical works. 313

Scientific and Philosophical Instruments and Methods.

39 **Le Boulengé, Paul Emile, Liége.**—Telemeter for the battle-field. 321

40 **Linglin, Edward, Charleroi.**—Centrifugal power regulator. 321

41 **Majolini, Francis, La Louvière** (Hainaut).—Platform scale for railroads. 322

42 **Carette Dobbels, D., Meulebeke,** near Courtrai, West Flanders.—Lightning rod without joints. 336

44 **Mahillon, C., Brussels.**—Wind instruments. 327

Engineering, Architecture, Maps, etc.

47 **Tellier, Adolphus Le, Saint Gilles,** near Brussels.—Filters. 330

51 **Malaise, C. H. G. L., Gembloux.**—Agricultural chart. 335

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Physical Development, Benevolent and Industrial Associations.

Physical, Social, and Moral Condition of Man.

52 **Dries, Lois Francis, Saint Gilles,** near Brussels.—Gymnastics at primary and ward schools, etc. 340

53 **Schmitz, Peter, Liège.**—Treatises on gymnastics. 340

54 **Brussels Gymnastic Association,** Brussels.—Statutes. 340

56 **Relief Association for the Needy.**—Statutes and annual reports. 346

57 **Boniotti, Peter, Brussels.**—Document relating to the association for free medical assistance. 346

58 **Royal Society for the Prevention of** Cruelty to Animals, Brussels.—Publications, etc. 346

59 **Warlomont, Dr., Brussels.**—Vaccine and its distribution to physicians. 346

59*a* **Manufacturers' Joint Stock Co., St.** Nicholas, East Flanders.—Statutes. 347

60 **Permanent Commission of Mutual** Relief Associations, Belgium.—Reports, etc. 347

61 **Laurent, Francis, Ghent.**—Works on the improvement of the working classes. 347

62 **Mechlin Savings Bank, Mechlin.**—Reports, etc. 347

63 **Schoenfeld, H., Brussels.**—Reports, etc., of the Belgian Medical Profession Pension Fund. 347

64 **Grivegnée Co-operative Expenditure** Society, Grivegnée, near Liége.—Reports, etc. 347

65 **Mutual Commercial Co., Brussels.**—Reports, etc. 347

66 **Commercial & Industrial Mutual** Co., Ghent.—Reports, etc. 347

67 **Mutual Benefit Association, Xhendremael,** near Liége.—Reports, etc. 347

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68 **Roelens, Désiré, Ghent.**—Plan of a hot-house heating apparatus, with thermosyphon. 715

69 **Smits, Constantine, Forest, near** Brussels.—Model of a park, bird's-eye view, leveling, etc. 730

NETHERLANDS.

(*North of Nave, Columns 60 to 65.*)

Educational Books and Appliances, Statistics.

Educational Systems, Methods, and Libraries.

1 **Tjeenk-Willink, H. A., Arnhem.**—Earth globes with zinc balls. 300

2 **The Book Trade, Amsterdam.**—Books, school books, newspapers, and periodicals. 300

3 **Deutgen, L., Groningen.**—Paper blackboard. 300

4 **Artisans' School, Rotterdam.**—Drawings and designs. 300

5 **Kolkow, F. J. von, Groningen.**—Photographs on glass. 300

6 **Workmen's Artisans' School, Amsterdam.**—Drawings. 302

7 **Verhaar, A. T., Utrecht.**—Plaster casts of cattle that died of murrain in 1865. 302

8 **Workmen's Society, Amsterdam.**—Drawings by pupils. 302

9 **Deaf & Dumb Institute, Groningen.**—Reports, 1790-1875. 303

10 **Blind Institute, Amsterdam.**—Means of instruction for the blind, and articles made by pupils. 303

11 **Serraris, P. A., jr., Geertruidenberg.**—Writing apparatus for weak-sighted. 303

12 **Mulder, L., Arnhem.**—Periodicals. 306

Institutions and Organizations.

13 **Dutch Scientific Society, Haarlem.**—Treatise on natural science; archives of the Netherlands. 310

14 **Teyler's Foundation, Haarlem.**—Archives of the Teyler von der Halst Museum. 310

15 **Society for the Promotion of Architecture, Amsterdam.**—Works on architecture. 311

16 **Dutch Association for the Encouragement of Industry, Haarlem.**—Periodicals published by the Association. 311

18 **Krelage, J. H., Amsterdam.**—Pamphlets. 312

19 **Dutch Horticultural & Botanical Association, Amsterdam.**—Pamphlets. 312

20 **Amersfoordt, Mrs. H. M., Badhoeve.**—Oratorio—"God's Ubiquity." 313

21 **Gelder, G. M. van, Schaerbeek.**—Piano forte method. 313

22 **North Netherlands Musical & Historical Association, Amsterdam.**—Publications. 313

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Scientific Instruments, Engineering, Benevolence, Machinery.

23 Roothaan, L., Amsterdam.—Music. 313

Scientific and Philosophical Instruments and Methods.

24 Harting-Bank, H. J., Utrecht.—Scientific instruments. 320
25 Ministry of Finance, Hague.—Scientific instruments. 320
26 Olland, H., Utrecht.—Meteorological instruments. 320
27 Kerbel, G. H., Amsterdam.—Model of a steam engine. 320
28 Wetteren, M. van, Haarlem.—Magnets. 320
30 Muller, J. A., Amsterdam.—Water gauge. 321
31 Betou, P. J. in de, Delft.—Instrument measuring 100th part of a millimetre. 321
32 Hohwü, A. & T., Amsterdam.—Chronometers and astronomical clock work. 323
33 Casseres, A. de, Amsterdam.—Chronometers and astronomical clocks. 323
34 Cuypers, J. F., Hague.—Piano. 327

Engineering, Architecture, Maps, etc.

35 Ministry of the Interior.—Collection of public works of the Netherlands. 330
36 Amsterdam Canal Co., Amsterdam.—Chart of the channel to the North Sea. 330
37 Chambers of Commerce & Industry, Middleburg & Flushing.—Relief chart of harbor. 330
38 Polytechnic School, Delft.—Models of lock gates. 330
39 Morre, G. J., Delft.—Drawings. 330
40 Simon, M., Flushing.—Copper model of lock gates. 330
41 Stang, T., Hague.—Drawings of aqueduct. 330
42 Dutch Railroad Co., Amsterdam.—Model of railroad bridge, and drawings. 332
43 Nierstrasz, N. H., Bois-le-Duc.—Plans and drawings. 332
44 Zimmerman, G. P. H., Gouda.—Chart of Suriname river. 335

Physical, Social, and Moral Condition of Man.

45 Boer, F. N., Rotterdam.—Model of cheap boarding-house. 342
46 Tjeenk Willink, W. E. J. Zwolle,—Drawings and statutes of Workmen's Association. 342
47 Association for Improvement of Workmen's Buildings, Leuwarden.—Drawings and statutes. 342
48 Association for Improvement of Workmen's Buildings, Hague. — Model of lodgings for workmen. 352
50 Help Yourself Association, Leuwarden.—Statutes, plans, etc. 342
51 Beneficial Association.—Models, drawings, writings, and photographs. 346
52 Gori, M. W. C., Amsterdam.—Work on hospitals. 346

The "Red Cross."

53 Dutch Association for Assisting Sick and Wounded Soldiers in War Time.—Publications. 346

Machines and Tools for Working Metal, Wood, and Stone.

54 Haverkamp, Begemann E., Helmond.—Gutter bore machines. 551

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

55 Rennes, D. W. van, Utrecht.—Sewing machine. 531

Motors, Power Generators, etc.

56 Prakke, J. E. & H., Eibergen.—Leather straps; belting. 553
57 Naeff, G. & M., Lochem.—Leather straps; belting. 553

Hydraulic and Pneumatic Apparatus.

58 Rennes, D. W. van, Utrecht.—Machine for moving liquids by heat. 560
59 Rietschoten, van, & Houwens, Rotterdam.—Model of engine for deepening rivers, etc. 563
60 Bikkers & Son, Rotterdam.—Fire extinguishers. 564
61 Burger, H., Deventer.—Velocipedes. 571
62 Heshuijsen, W. F., Sandpoort.—Railroad switch. 572
63 Bens, A., Deventer.—Coffee and bean mills. 585

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

SWEDEN.

(*North of Nave, Columns 6 to 11.*)

Educational Publications and Appliances.

Educational Systems, Methods, and Libraries.

1 **Abrahamson, Aug., Nääs, Floda.**—Work by pupils of Nääs School of Home Industry for Boys and Girls. 300

2 **Alard, A. F., Simtuna.**—Musical staff table. 300

2*a* **Anderson, N. J., Stockholm.**—Animals, plants, and minerals. 200

3 **Bagge, G. B., Paris, France.**—Geographical maps. 300

4 **Berggren, A. N., Stockholm.**—Method of penmanship. 300

4*a* **Brunell, J. E., Stockholm.**—Penholders. 300

5 **Cervin, C. G., Hesselby, Stockholm.**—Model of a school-house. 300

6 **Glömsta Manufactory, Huddinge.**—Universal school form. 300

7 **Royal Swedish Commission,** Stockholm.

a A primary school house, with accessories of furniture, books, maps, and apparatus for instruction. (*In the Park, Building No. 107.*) 300

b Newspapers at present published in Sweden. 306

8 **Erdman, Edward, Stockholm.**—Geographical diagrams. 300

8*a* **Lewenhaupt, Count C. M., Clacstorp.**—Toys, split shavings for mats, etc. 300

9 **Lindblad, M. A., Stockholm.**—Dried plants and cryptogamic types. 300

10 **Winslow, A. P., Göteborg.**—Herbarium for schools. 300

11 **Nordlund, K., Gefle.**—Apparatus for instruction in arithmetic. 300

11*a* **Technical Elementary Schools** (collective exhibit).—Work of pupils. 300

11*b* **Hennings, R. T., Orebro.**—Methods and means of instruction. 300

11*c* **Svensson, A., Stockholm.**—Stuffed mammals, birds, and fishes. 300

11*d* **Wiman & Co., Stockholm.**—School stoves. 300

11*e* **Zanders, H., Nowkoping.**—Drawings of gymnastical apparatus. 300

14 **Fries, Th. M., Stockholm.**—Spitzbergen herbarium. 301

15 **Ramsay, Ebba, Mrs., Göteborg.**—Drawings of Spitzbergen plants. 301

16 **Windrufva, Sven, Stockholm.**—Scandinavian herbarium. 301

16*a* **Vrana National High School,** Vrana.—Samples of pupils' work. 301

17 **Alnarp Agricultural Institute,** Alnarp.—Maps and drawings of the farm buildings of the agricultural high school, photographs of its domestic animals, and a collection of plants grown on the farm of the school; works by pupils. 302

19 **Royal War Department, Stockholm.**—Works and drawings by pupils at the military school of Carlberg and military high school of Marieberg. 302

26 **Staaf, P. O., Stockholm.**—Agricultural and sylvicultural text books. 302

27 **Wulff, H. A., Applerum, Kalmar.**—Scheme of the agricultural school, drawings of farm buildings and implements, with specimens of soil and agricultural products. 302

28 **Borg, O. E., Manilla, Stockholm.**—Combined apparatus for speaking and hearing, for half deaf and dumb; symbolical vocabulary, used for the instruction of deaf and dumb. 303

29 **Holm, F. J. W., Stockholm.**—Model of the gymnastic hall at the institute for deaf and dumb of Manilla, in Stockholm. 304

30 **Working Home for the Blind** Stockholm.—Basket work by blind pupils. 303

31 **Public Institute for the Deaf, Dumb,** & Blind, Stockholm.—Pupils' works. 303

32 **Olsson, Magnus (blind, deaf, &** dumb), Malung, Lima.—Willow furniture. 303

33 **Klemmings Antiquarian Stock Co.,** Stockholm.—Books printed in Sweden in the 16th, 17th, and 18th centuries, with accounts of the earliest Swedish settlements in America. 306

33*a* **Brunius, A. W., Stockholm.**—Books. 306

33*b* **Royal Statistical Central Bureau,** Stockholm.—Statistical diagrams. 306

33*c* **Sidenbladh, Elis, Stockholm.**—Statistical accounts of Sweden. 306

34 **Central Printing Stock Co.,** Stockholm.—Typographical productions. 306

35 **Gumaelius Arvid, Orebro.**—The newspaper "Allehanda för Folket." 306

36 **Key, Axel, Stockholm.**—Anatomical treatise, periodical papers upon medicine and popular science. 306

38 **Key, A. & Retzius G., Stockholm.**—Studies in anatomy; periodical devoted to popular science. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Institutions and Organizations.

39 Hammer's Museum, Stockholm.—Photographs, catalogues, etc. 312

40 Royal Economical Society, Lulea.—Laplanders' costumes and utensils. 312

40*a* Schlyter, G. R., Stockholm.—Roman costumes. 312

40*b* Nordenskiöld, A. E., Stockholm.—Meteorite from Greenland. 312

Scientific and Philosophical Instruments and Methods.

41 Royal Agricultural Society of the Lan of Goteborg & Bohus.—Apparatus for deep-sea soundings and marine evaporimeters. 320

42 Gundberg, J. W. L., Stockholm.—Copper vessels for preserving zoological specimens; zoological sieves. 320

43 Leja, Joseph, Stockholm.—Thermometer. 320

44 Lindahl, Jos., Lund.—Apparatus for deep-sea soundings and dredgings. 320

45 Ljungström, J. P., Stockholm.—Geodetic and surveying instruments. 320

47 Rose, J. L., Upsala.—Magnet and needle-compasses for mines. 320

48 Theorell, A. G., & Sörensen, P., Stockholm.—Meteorograph. 320

49 Wiberg, Martin, Stockholm.

a "Bull-dog apparatus" for deep-sea soundings. 320

b Logarithmetical tables, calculated and printed by a counting machine; controlling apparatus for railway trains. 321

50 Brehmer, E. F. A., Stockholm.—Railway ticket registering apparatus, paging machine, etc. 321

54 Petterson, C. J., Carlshamn.—Calculating machine. 321

55 Linderoth, G. W., Stockholm.—Clocks. 323

57 Unge, V. T., Stockholm.—Apparatus for measuring distances for military purposes. 323

58 Otter, Baron C. G. von, Stockholm.—Signal lantern. 324

59 Kuntze & Co., Stockholm.—Air telegraphs. 326

61 Ahlberg & Ohlsson, Stockholm.—Wind instrument of metal. 327

63 Lundholm, C. A. V., Stockholm.—School organs and harmoniums. 327

64 Malmsjö, J. G., Göteborg.—Pianos. 327

Engineering, Architecture, Maps, etc.

66 Norrman, C. G. V., Stockholm.—Model of a pontoon bridge. 333

67 Bagge, G. P., Paris, France.—Geographical maps. 335

68 Erdmann, Edward, Stockholm.—Geological maps and models. 335

69 Royal Swedish Staff General, Stockholm.—Topographical maps. 335

69*a* Nordenskiöld, A. E., Stockholm.—Maps. 335

69*b* Roth, M., Stockholm.—Geographical maps. 335

69*c* Sahlbom, W., Stockholm.—Maps. 335

73 Economical Survey of Sweden, Stockholm.—Economical and agronomical maps. 335

74 Geological Survey of Sweden, Stockholm.—Geological maps, collections of minerals, rocks, and soils. 335

Physical, Social, and Moral Condition of Man.

74*a* Zander, G., Stockholm.—Apparatus for mechanical gymnastics. 340

75 Royal Swedish Commission, Stockholm.—Collection of current coins and bank notes in Sweden. 344

75*a* Lindhen, H. A. W., Stockholm.—Letter box. 345

Other educational exhibits from Sweden are installed in the Swedish School House, No. 107, and are enumerated on page 362.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

NORWAY.

(North of Nave, Columns 4 to 7.)

Educational Books and Appliances, Scientific Instruments, Statistics.

Educational Systems, Methods, and Libraries.

1 **Bergen Common School Board, Bergen.**—Collection of materials for a free school. 300

2 **Sandberg, Andreas, Christiania.**—Models of handwriting. 300

3 **Boeck, W., & Danielssen, D. C.,** Christiania and Bergen.—Treatises on skin diseases and elephantiasis. 360

4 **Bentzen, B. M., Christiania.—Books** and other specimens of printing. 306

5 **Norwegian Association of Tourists,** Christiania.—Books, maps, photographs, etc. 306

6 **Jensen, H. J., Christiania.**—"The Illustrated News," and other illustrated works. 306

Scientific and Philosophical Instruments and Methods.

7 **Wedel-Jarlsberg, Ferd., Commodore** of the Norwegian Navy, Christiania.
a Patent control compasses, log machine. 320
b System of night signals. 326

8 **Petersson, A. J., Christiania.**—Calculating machine. 321

9 **Mostue, Thv., & Co., Christiania.**—Scales. 322

13 **Aarestrup, J., Bergen.—Piano.** 327

14 **Brantzeg, P., Christiania.**—Pianos. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

16 **The Director of the Public Roads of** Norway, Christiania.—Maps, drawings, books. 330

18 **Geographical Institute of Norway,** Director of, Christiania.—Maps and topographical sections. 335

20 **Collett, Robert, Assistant of the Zoo**logical Museum, Christiania.—Zoo-geographical map of Norway, containing a complete list of the vertebrate animals of the country. 335

21 **Schubeler, F. C., Professor of Bot**any at the University of Christiania.
a Botanico-geographical map of Norway. 335
b Plants of Norway. 701

21*a* **Pettersen, Karl, Tromsö.**—Geological map with descriptions. 335

Physical, Social, and Moral Condition of Man.

22 **Statistical Bureau, Christiania.**—Collection of official statistical publications relating to Norway; collection of cartographical representations. 345

23 **Hagen, J., Christiania.—Leather** and skins. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ITALY.

(*North of Nave, Columns 1 to 5.*)

Educational Books and Publications, Scientific Instruments.

Educational Systems, Methods, and Libraries.

1 Angelini, Prof. Rodolfo, Rome.—Specimens of penmanship. 300

2 Maineri, Carlo, Milan.—Geographical map in relief. 300

3 Ben, Michelangiolo, Verona.—Mathematical maps. 300

4 Villa, Cav. Prof. Ignazio, Milan.—Geographical maps. 300

5 Palizzolo Gravina, Baron Vincent, Palermo.—Scientific books. 301

6 Filopanti, Dr. Prof. Quirico, Bologna.—Book on philosophy. 301

7 D'Italo, Enrico F. T., Milan.—Map of the world in the form of a globe, and objects for the study of geography and other sciences. 301

8 Giordano, Prof. Scipione, Turin.—Materia medica. 302

9 Perelli, Prof. Luigi, Milan.—Album, with specimens of stenography. 302

10 Vigano, Francesco, Milan.—Scientific books. 302

11 Claus, Cav. Prof. Niccolo, Milan.—Didactic and linguistical treatises. 302

12 Volante, Alessandro, Turin.—Pamphlet on mechanics. 302

13 Strazza, Giannina, widow Lucca, Milan.—Collection of music. 302

14 Tito di G., Ricordi, Milan.—Collection of music. 302

15 Bratti, Seiatilli, & Co., Florence.—Collection of music. 302

16 Crotta, Giannina, Milan.—Album of music. 302

17 C. Cam. Theophilus, Florence.—School books. 306

18 Brigola, Gaetano, Milan.—Scientific and miscellaneous books. 306

19 Maino, Antonio, Piacenza.—Books and maps. 306

20 Morandi, Feliesta, Milan.—Educational books. 306

21 Maltese, Dr. Felice, Vittorio, Sicily.—Book on philosophy. 306

22 Guida, Prof. Francesco, Naples.—Book on night signals. 306

23 Beccari, Gualberta Alaide, Bologna.—Newspaper, "La Donna." 306

24 Barra, Prof. Luigi, Ottajano, Naples.—Didactic book. 306

25 Gargiulo, Francesco, Naples.—Descriptive book. 306

26 Gravina, Domenico, Palermo.—Illustrated books. 306

Institutions and Organizations.

27 Director of the Anatomical & Pathological Museum of Florence.—Microscopic, normal, and pathological anatomical preparations. 311

28 Scaraviglia, Torquato, Gualdo Tadino, Umbria.—Album and pictures. 312

Scientific and Philosophical Instruments and Methods.

29 Sollima, Giacomo, Messina.—Mill scales. 322

29*a* Gasparini, Giacomo, Rome.—Meter for measuring grain. 322

30 Villa, Cav. Prof. Ignazio, Milan.—Universal clock. 323

32 Gennari, Cav. Dr. Enrico, Milan.—Optical instruments. 324

33 Ponti, Carlo, Venice.—Camaziale and megalithoscope (optical instruments). 324

34 Figatner, Enrico, Milan.—Electric batteries. 325

35 Gerosa, Edoardo & Emilio, Milan.—Telegraphic instrument. 326

36 De Lorenzi, Cav. G. Batta, Venice.—Violins, Stradivarius style. 327

37 Bedini, Giuseppe & Sons, Venice.—Harmonic strings. 327

38 Venturini, Luigi, Padua.—Harmonic strings. 327

39 Giuliano, Ditta, Naples.—Cylindrical piano. 327

Engineering, Architecture, Maps, etc.

40 Linari, Eng. Antonio, Rome.—Plan for a tunnel. 330

Physical, Social, and Moral Condition of Man.

41 Acquadro, Paolo, Turin.—Postal box. 345

42 Aurineta, Cav. Marco Aurelio, Naples.—New system of disinfection. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

BRAZIL.

(North of Nave, Columns 58 to 61.)

Educational Books and Publications, Scientific Instruments.

Educational Systems, Methods, and Libraries.

1 **Municipal School Boards, Rio de** Janeiro.—Text books, specimens of writing, drawing, and needle work. 300

2 **Santa Candida School for Girls, Rio** de Janeiro.—Specimens of penmanship. 300

3 **Faculty of Medicine, Rio de Janeiro.** —Text books and theses on medical and chirurgical subjects. 302

4 **Naval School, Rio de Janeiro.**—Educational books, specimens of drawings, models, etc., made by the cadets; maps, charts, etc. 302

5 **Commercial Institute, Rio de Janeiro.** —Specimens of drawing, writing, and book-keeping. 302

6 **Academy of Fine Arts, Rio de Ja**neiro.—Specimens of drawing and pupils' work. 302

7 **Public Instruction Board, Rio de** Janeiro.—Educational books, specimens of writing and needle work. 302

8 **Arts & Trades Lyceums, Rio de** Janeiro.—Drawing and pupils' works. 302

9 **Artistical Institute, Rio de Janeiro.** —Chromo-lithographic engravings, printed books, maps and charts, specimens of book-binding. 302

10 **Military Archives, Rio de Janeiro.**— Maps and charts. 302

11 **Faculty of Medicine, S. Salvador da** Bahia.—Collection of theses on medical subjects. 302

12 **Institute for Deaf & Dumb, Rio** de Janeiro.—Educational books, specimens of drawing and dactylological painting; shoes made by pupils. 303

13 **Imperial Institute for Blind Boys** & Girls, Rio de Janeiro.—Apparatus used in teaching; books, geometrical figures, musical compositions; specimens of needle work. 303

14 **Home Department, Rio de Janeiro.** —Educational reports, laws, regulations, statistics, and catalogues. 304

15 **Gaveao, Coronel J. M., & Paes de** Barros, San Paulo.—Newspapers. 306

15*a* **Laemmert, Edward & Henry, Rio** de Janeiro.—Books. 306

16 **Leuzinger & Sons.**—Specimens of printing. 306

17 **Moreira, Nicoláu J., Rio de Janeiro.** —"The National Industry Guide Review," treatise on colonization. 306

18 **National Printing Office, Rio de Ja**neiro.—Various typographical objects. 306

19 **Commission-General for the National** Exhibitions, Rio de Janeiro.—Collection of Brazilian newspapers. 306

20 **Silva, Pessanha da, Rio de Janeiro.**— Brazilian medical annals. 306

22 **Villeneuve, J., & Co., Rio de Janeiro.** —"Journal of Commerce." 306

23 **Roxo, Monteiro, & Lemos, Rio de** Janeiro.—"Direito Mercantil." 306

24 **Possolo, E. Germack, Rio de Janei**ro.—Books. 306

25 **Alves, S. José, Rio de Janeiro.**— Books. 306

26 **d'Azevedo, J. G., Rio de Janeiro.**— Books. 306

Institutions and Organizations.

27 **Leuzinger & Sons, Rio de Janeiro.**— Collection of articles for museums. 312

28 **Brant, J. Ferreira d'A., Minas Geraes.** —Collection of insects. 312

29 **Napoleao, Narcisó & Arthur, Rio de** Janeiro.—Music printing and engraving. 313

30 **Santos, áQuintino dos, Rio de Ja**neiro.—Musical compositions. 313

31 **Silva, Francisco Manuel da, Rio de** Janeiro.—Musical compositions. 313

32 **d'Araujo, Gomes, Rio de Janeiro.**— Musical compositions. 313

33 **Lago, Emilio do, Rio de Janeiro.**— Musical compositions. 313

34 **Goyano, J. J., Rio de Janeiro.**—Musical compositions. 313

35 **Silva Callado, J. A. da, Rio de Ja**neiro.—Musical compositions. 313

36 **Amat, José, Rio de Janeiro.**—Musical compositions. 313

37 **Menezes, Cardoso de, Rio de Ja**neiro.—Musical compositions. 313

38 **Campos, A., Rio de Janeiro.**—Musical compositions. 313

39 **Ribas, Edward, Rio de Janeiro.**—Musical compositions. 313

Scientific and Philosophical Instruments and Methods.

40 **Army Arsenal of Rio Grande do Sul.** —Metal meridian. 320

41 **Saldanha, Luiz de, Brazilian Navy.** —Nautical repeating compass. 320

41*a* **Pinheiro, A. Pereira, Brazilian** Navy.—Sandagraph or automatic deep-sea sounding apparatus. 320

42 **Garrid.**—Apothecaries' scale. 322

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

43 **General Commission from Rio de Janeiro.**—Piano; large guitar (viola), and small guitars (machetes). 327

44 **Lins, Lamenha, Sancta Candida.**—Guitars. 327

45 **Couceiro, J. do Santos, Rio de Janeiro.**—Violin and bow. 327

46 **General Commission for Brazil.**—Piano. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

47 **The Board of Directors of the "Pedro II. Dock Works" Co.**—Drawings showing the "Pedro II. Dock Works" at Rio de Janeiro, and samples of the wood employed in the works, submarine constructions, wharves, and warehouses. 330

48 **Rebouças, André & Castro, Borja,** Rio de Janeiro.—Photographs of custom-house dock works, plans containing details of work, etc. 330

49 **Public Works Office, Rio de Janeiro.**—Project to improve the harbors of Brazil, by Sir John Hawkshaw. 330

50 **Liais, E., Rio de Janeiro.—Surveys** and profiles of the rivers Das Velhas and San Francisco, with reports. 330

51 **Hydrographic Department, Rio de Janeiro.**
a Surveys of the Amazonas river for 2240 miles. 330
b Charts of the coast and harbors of Brazil. 335

52 **Speir, W., Province of San Paulo.**—Drawings of the railroad from Santos to Jundiahy, San Paulo. 332

53 **Fox, Engineer, Province of San Paulo.**—Plans and drawings. 332

54 **Public Works Office, Rio de Janeiro.**
a Drawings, showing the bridges of the Pedro II. railway. 332
b Charts and topographical maps of the various provinces, etc. 335

55 **Penna, Ferreira, S. Pedro du Sul.**—Plans, estimates, and reports on the projected railway from Porto Alegre to Uraguayana. 332

56 **Loyd, Engineer, Rio de Janeiro.**—Project of a railway to the Province of Matto Grasso, with plans, estimates, etc. 332

57 **Bulhoes, Engineer, Rio de Janeiro**—Railway plans, illustrations, estimates, etc. 332

58 **Coutinho, Silva, Rio de Janeiro.**—Project to lengthen the railway line to the Province of Pernambuco, with plans, etc. 332

59 **Garceix, Prof.—Geological map of** the province of Minas-Geraes. 335

60 **Commission-General for the National Exhibitions.**—Maps of the Province of San Paulo; elements for the organization of a physical chart of Brazil, by Homen de Mello. 335

61 **Mendes, C., Rio de Janeiro.—Atlas** of the Brazilian empire. 335

62 **Rohan, General de Beaurepaire,** Rio de Janeiro.—General chart of the Brazilian empire. 335

Physical, Social, and Moral Condition of Man.

63 **National Mint, Rio de Janeiro.**—Collection of medals stamped by the mint; collection of Brazilian coins. 344

64 **Suplicy, J. F., Province of Paranà.**—Collection of medals obtained by galvano-plastic method, galvano-plastic pile. 344

(*For Naval Engineering, see Machinery Hall.*)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ARGENTINE REPUBLIC.

(*South of Nave, Columns 2 to 5.*)

Books, Maps, Statistics.

Educational Systems, Methods, and Libraries.

1 **Gonzalez, Meliton, Province of Entre-Rios.**—Map of the province. 300

2 **Chapeaurouge, C. de, Province of Santa Fé.**—Map of the province. 300

3 **Grousae, Paul, Province of Tucumen.**—Map of the province. 300

4 **Monguillot, E., Province of Buenos Ayres.**—Sheet music. 302

5 **Scapatura, A., Province of Buenos Ayres.**—Sheet music. 302

6 **Yorge, Faustino, Province of Buenos Ayres.**—Statistical register of the province. 305

7 **Rosseli, Peter, Province of Buenos Ayres.**—Periodical—"Correo Argentino." 306

8 **Bridma, Martin, Province of Buenos Ayres.**—Books of typographical samples. 306

9 **Costa, Angel F., Province of Buenos Ayres.**—Work on finance. 306

10 **Navarro, Samuel, Province of Buenos Ayres.**—Work on immigration. 306

11 **Navarro, Mardogueo, Province of Buenos Ayres.**—Statistics of the epidemic of 1871. 306

12 **Zuiny, Antonio, Province of Buenos Ayres.**—Books. 306

13 **Espineyro, Mariano T., Province of Buenos Ayres.**—"The Judicial Periodical." 306

14 **Chucco, Manuel C., Province of Buenos Ayres.**—Books. 306

15 **Ledesmo, Justiniano A., Province of Buenos Ayres.**—Books. 306

16 **Minister of the Interior.**—"Memoirs of the Governor of Chaco." 306

17 **Gelderen, A. van, Province of Buenos Ayres.**—Encyclopedia. 306

18 **Argentine Rural Society.**—Annals of the Society; official bulletin of the National Exhibition of Córdoba. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

SPAIN.

[*The exhibit of Spain in the Department of Education and Science is installed in the Spanish Pavilion, and catalogued in Part III., pages 132 to 141.*]

PORTUGAL.

(*South of South Avenue, Columns 13 to 17.*)

Publications, Statistics, Scientific Instruments, Engineering Designs.

Educational Systems, Methods, and Libraries.

1 **Brito Aranha, Pedro W. de, Lisbon.**—Elementary books. 300

2 **Perry, Gerardo A., Lisbon.—Atlas** with statistics of Portugal and colonies. 305

3 **Association for the Encouragement** of Manufactures, Lisbon.—A frame with diplomas, statutes and elementary books. 306

4 **Direction of the Public Works of** Mondego, Figueira.—"Memoir on the River Mondego;" "Catalogue of Plants in the Forest of Choupal." 306

5 **Ferraz, José L. M., Ega.—Work on** pharmacy. 306

6 **Infante Dom Luiz Observatory, Lis**bon.—Scientific publications. 306

7 **Magalhaes & Moniz, Oporto.—Text** books and other works. 306

8 **Mengo, Francisco da Silva, Oporto.**—Books. 306

9 **Nepomuceno, Manuel, Oporto.**—Books. 306

10 **Silva, Joaquim Possidonio Narcizo** da, Lisbon.—Memoirs on archæological and architectural subjects. 306

11 **National Printing Office, Lisbon.**—Printed works. 306

12 **Portuguese Civil Engineers' Society,** Lisbon.—Copies of the "Revista d'Obras Publicas e minas." 306

13 **Sarmento, Anselmo Evaristo de** Moraes, Oporto.—Copies of the "Actualidade" journal. 306

14 **Department of Finance, Lisbon.**—Commercial statistics of Portugal. 306

14*a* **Queiroz, G. J. de, Lisbon.—Com**mercial statistics of Portugal, graphically arranged. 306

15 **Prostes, H., Lisbon.—Bound copies** of Portuguese newspapers and journals. 306

16 **Costa, Godolphim, Lisbon.—Literary** work. 306

17 **Chardron, Ernest, Oporto.—Diction**ary of the Portuguese language. 306

17*a* **Lallement Bros., Lisbon,—Typo**graphical works, printing on satin. 306

Institutions and Organizations.

18 **Industrial Institute of Oporto.—His**tory, organization, and course of studies. 310

Scientific and Philosophical Instruments and Methods.

19 **Board of Public Forests, Lisbon.**—Maps. 320

20 **Industrial Institute of Lisbon.**
a Levels and planimeter. 320
b Pantometers. 322
c Pendulum. 323
d Topo-photographic camera. 324

21 **Infante Dom Luiz Observatory, Lis**bon.—Meteorological and magnetic registers. 320

22 **Bastos, Antonio Pinto, Lisbon.—Hy**drometer. 320

23 **Continho, D. Martinho da Franca,** Lisbon.—Goniometric, goniographic and telemetric compass, pyramidal compass. 321

24 **Pereira, Verissimo Alves.—Hydro**meter. 321

27 **Oliveira, Justino Gomes de, Villa** Nova de Gaia.—Gold watches. 323

29 **Motta, José Maria, Lisbon.—Electric** bells. 326

30 **Cabral, Affonso do Valle Coelho.** Oporto.—Violin. 327

31 **Araujo, Joaquim G., Braga.**—Stringed instruments, guitars. 327

32 **Ribeiro, Domingos Candido d'Al**meida, Oporto.—Violin. 327

33 **Pereira, Custodio Cardozo, Oporto.** —Musical instruments. 327

34 **Sanhudo, José Ferreira, Oporto.**—Stringed instruments. 327

Engineering, Architecture, Maps, etc.

35 **Silva, Silverio Augusto Pereira da,** Aveiro.—Bridge model. 330

36 **Administrative Board of Works for** the artificial port of Ponta Delgada.—Plan of artificial port at Ponta Delgada, with description and views of same. 330

37 **Lecrenier, Nicolas Joseph, Lisbon.** —Model of rail. 332

38 **Bayao, F. A. P., Lisbon.—Plan of a** portable railway. 332

39 **Perry, Gerardo A., Lisbon.—Geogra**phical, physical, and orographical maps of Portugal. 335

40 **Industrial Institute of Oporto, Opor**to.—Topographical charts of the river Douro, and of the wine producing district. 335

41 **Geodetical Department, Lisbon.**—Geographic, geological, trigonometrical, and hydrographic maps and charts, and other graphic representations, books, atlases, matrices, etc. 335

42 **Infante Dom Luiz Observatory, Lis**bon.—Marine charts, etc. 335

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Physical, Social, and Moral Condition of Man.

42*a* **General Direction of the Mint &** Stamped Paper, Lisbon —Coins and medals. 344

Sculpture.

43 **Rio Junior, J. do, Oporto.**—Statuettes. 400

44 **Campolini, Miguel, Oporto.**—Clay statuettes representing the costumes worn in the vicinity of Oporto. 400

45 **Almeida, José J. d'A., Lisbon.**—Stone figure. 400

46 **Silva & Santos, Oporto.**—Clay statuettes, representing national costumes. 400

47 **National Printing Office, Lisbon.**—Medals and plates. 402

48 **Industrial Institute of Oporto, Oporto.**—Specimens of Guillocher work in wood. 405

49 **Oporto Commercial Association,** Oporto.—Wood carvings. 405

Engraving and Lithography.

51 **National Printing Office, Lisbon.**—
a Ornamental engravings, plates, etc. 421
b Lithographs. 423

52 **General Direction of the Mint and** Stamped Paper, Lisbon.
a Copies from engravings. 421
b Copies from lithographs. 423

52*a* **Oporto Commercial Association,** Oporto.—Lithography. 423

53 **Reis & Monteiro, Oporto.**—Lithographs. 423

54 **Mendes, Malaquias José, Lisbon.**—Impressions from seals. 423

Photography.

55 **Infante Dom Luiz Observatory, Lisbon.**—Photographs of the sun. 430

56 **General Direction of the Mint and** Stamped Paper, Lisbon.—Copies from photographs. 430

57 **Department of Mines, Lisbon.**—Photographs. 430

58 **Superintendency of Live Stock of** the District of Beja.—Photographs showing races of live stock. 430

58*a* **Industrial Institute of Oporto,** Oporto.—Guillocher turning lathe. 510

59 **Guerra, Joaquim Baptista da Silva,** Oporto.—Jacquard weaving machine. 520

60 **National Printing Office, Lisbon.**—Type. 542

61 **Continho, Antonio R. da S., Ponta** Delgada.—Model of a propeller. 554

62 **Cruz, Luiz F. de S., Oporto.**—Hydraulic machine. 560

63 **Castro, Joao V. az Pacheco, Ponta** Delgada.—Stone hand mill. 585

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

TURKEY.

(*South of Nave, Columns 14 to 17.*)

Publications, Scientific Instruments, Art.

Educational Systems, Methods, and Libraries.

1 School of Medicine, Constantinople. —Books, treatises, etc., on medicine and natural sciences. 306

2 Herzmainska de Slupno, Madame, Constantinople. — Turkish sheet music, bound and unbound. 306

Scientific and Philosophical Instruments and Methods.

3 Kiamil Effendi, Koniah, Koniah.—Wooden sextant. 320

4 Moustapha, Constantinople.—Scale and weights. 322

5 Sulleiman, Constantinople. — Steelyards. 322

6 Boch Kirkor, Aleppo.—Flute. 327

7 Casmani, David, Damascus.—Musical instrument. 327

8 Dimitri, Yanina, Yanina.—Shepherd's flute, etc. 327

9 Giorgi, Antaki, Aleppo.—Flute. 327

10 Giorgi, Kara-Keni, Aleppo.—Mandoline, drum, and kettle drum. 327

11 Giorki Rizzo, Yanina, Yanina.—Guitar. 327

12 Moustapha Agha, Constantinople.—Flutes and haut-boys. 327

13 Manoli (shepherd), Lachite, Crete.—Bag pipe. 327

14 Mehemed Nablus, Damascus.—Kettle drum. 327

15 Théophani, Nicoforaki, Canea, Crete.—Violin. 327

16 Théophani, Nicolaki, Canea, Crete.—Shepherd's flute. 327

Physical, Social, and Moral Condition of Man.

18 Constantinople, Government of.—Turkish gold, silver, and metal coins, commemorative silver medals. 344

19 Terzibalion, Hadji Agop, Constantinople.—Collection of Greek, Roman, Byzantine, and Arabian coins, in gold, silver, copper, lead, and stone. 344

Paintings.

20 Ludovic & Vallauri, Constantinople. —Portrait of the late Sultan of Turkey. 410

21 Ottoman Commission. — Oil paintings. 410

a Scutari.
b The Bosphorus.
c Turkish lady.
d Landscape.

Engraving and Lithography.

22 Mazloum Aghiah, Constantinople.—Design. 420

Photography.

23 Granda, Canea, Crete.—Album containing views. 430

24 Mikahilidês, Adrianople. — Photographic view of Adrianople, the Imperial palace, mosque of Selim, etc. 430

25 Sebah, Constantinople. — Photographic views of Athens and the interior of the mosque of St. Sophia. 430

Industrial and Architectural Designs.

26 Constantinople, Government of.—Ottoman architecture. 441

Ceramic Decorations, Mosaics, etc.

27 Vaisse, Martin, & Co., Constantinople.—Brick and tile. 451

28 Ana Sebat, Jerusalem.—Tomb and sepulchre of Christ, in mother-of-pearl. 454

29 Riza Effendi, Constantinople.—Imitation fruits in wax, etc. 453

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

RUSSIA.

(*South of Nave, Columns 19 to 23.*)

Educational Publications and Appliances, Scientific Instruments.

Educational Systems, Methods, and Libraries.

1 Strookoff, St. Petersburg.
a School furniture and other educational appliances. 300
b Apparatus for mathematical studies. 301

1*a* Laus, Theodore, Revel.—Practical apparatus for setting arithmetical problems. 300

3 Strembitzki's Laboratory, St. Petersburg.—Appliances illustrating different branches of natural philosophy for school and scientific museums. 301

4 Shinhelm, St. Petersburg.—Ethnographical and zoological models. 301

5 Sihieldknecht, St. Petersburg.—Apparatus for mathematical studies. 301

6 St. Petersburg Workshop for Educational Appliances and Games.—Articles adapted for school instruction, gymnastics, and games. 301

7 Reinbot, St. Petersburg.—Technical collections for schools. 301

8 Pik, Jacob, Warsaw.
a Working model of Bramah's hydrostatic press; model of a steam engine. 301
b Mineralogical collection.

9 Pedagogic Museum, St. Petersburg.—Collection of educational appliances. 301

10 Lapshenko & Mickhaeloff, St. Petersburg.—Collection of educational appliances and apparatus. 301

11 Kressten, St. Petersburg.—Apparatus for physical experiments. 301

13 Kowalski, St. Petersburg.—Appliances for the study of geography. 301

14 Kochowski, St. Petersburg.—Appliances illustrating geography. 301

15 Givotovski, St. Petersburg.—Apparatus, illustrating botany. 301

16 Fenoult & Co., St. Petersburg—Text books and appliances for the study of different branches of knowledge. 301

17 Female Workshop of Educational Appliances, St. Petersburg.—Ethnographical models. 301

18 Brucher & Bauler, St. Petersburg.—Apparatus for physical experiments. 301

19 Practical Technological Institute, St. Petersburg.—Systematical collection for practical instruction in working metal. 302

20 Karlowicz, John, Warsaw.—New method of writing music. 302

21 Strogonoff Central School of Technical Drawing, Moscow.—General and ornamental drawings executed by the pupils; text books. 302

22 Krasinski, Dr. Hubert Novo, Mirgarod, Government of Kherson.—Microscopic preparations of human tissues in sound and pathological state. 302

23 Kotomin, Anthony, St. Petersburg.—Models for teaching comparative anatomy. 302

24 Imperial Technical School, Moscow.—Collection of furniture, apparatus, instruments, and models for technical instruction, specimens of pupils' work. 302

24*a* Grigorieff, St. Petersburg.—Apparatus for teaching the blind. 303

25 Helsingfors Stenographic Society, Finland.—Treatises and periodicals on stenography. 306

26 Krassoski, Alexander, Viatka.—Books. 306

27 Khitroff, Jrbit, Government of Perm.—Typographical work. 306

28 Wolf, Morice, St. Petersburg.—Text books, illustrated books, and other editions. 306

29 Unger, Gracian, Warsaw.—"Tygodnic illustrowang" (illustrated periodical). 306

31 Marks, A. F., St. Petersburg.—"Nieva" (illustrated periodical). 306

31*a* Jurgenson, Peter, Moscow.—Music, exhibitor's edition. 306

Scientific and Philosophical Instruments and Methods.

33 Pik, Jacob, Warsaw.
a Double-barreled air-pump, Cagniard Latour's sinene with clockwork. 320
b Pyrhameter for measuring the linear expansion of various metals: Wallaston's camera-lucida spectroscope. 324

34 Milewski, Joseph, St. Petersburg.—Telemeter instrument for measuring distances without chains or rods. 320

35 Imperial Technical School, Moscow.—Apparatus for drawing parabolic lines, and scale for finding the radius of a given arc. 320

36 Jagn, Nicolas, St. Petersburg.—Pulse-pump apparatus adapted for accelerating the filtering process. 320

37 Zevecki, C., St. Petersburg.—Self-registering nautical instruments. 320

38 Ezerski, E., St. Petersburg.—Counting apparatus for multiplication and division. 321

39 Diakoff, George, St. Petersburg.—Arithmometer, new system. 321

40 Alexandroff.—Apparatus for verifying cartridges, exhibitor's system. 322

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific Instruments, Engineering Designs, Maps.

41 Gootkooski, St. Petersburg. — Mechanical scales for verifying cartridges, exhibitor's system (photographs). 322

42 Chief Intendancy of War, St. Petersburg.—Method of testing flour, also apparatus for testing the quality and strength of cloth. 322

44 Palenoff, Constantine, Niji Tagil, Government of Perm.—Photometer, specially adapted for thermatics. 324

45 Martisheff, Wladimir, St. Petersburg.—Optical indicator. 324

46 Workshop of the Direction of the Baltic Lighthouses, Revel.—Lamps for lighthouses. 324

47 Workshop for Making and Repairing Nautical Instruments, Yermolin, St. Petersburg.—Fresnel's lamp for lighthouses; slides for the magic lantern. 324

48 Tabulevitch, T. R. N., St. Petersburg.—Naval signal light. 324

49 Starkoff, Eugene, St. Petersburg.—Albumen paper specially prepared for photography. 324

50 Koolikoff, Nicolas, Moscow.—Russian national musical instruments. 327

Engineering, Architecture, Maps, etc.

51 Municipality of the City of St. Petersburg.—Plans of various town institutions and buildings. 330

52 Municipality of the City of Warsaw. —Cast iron plate for street pavement. 330

53 Paszepny, Charles, Warsaw.—Album containing plans of breweries and distilleries. 331

54 Dinaburg Arsenal.—Sapping instruments, and model of pontoon bridge. 333

55 Blach, John, Warsaw.—Statistical essay on the construction, management, and revenue of Russia; railways and graphic chart. 333

56 Military Engineering Department, St. Petersburg.—Armor plate, plans, and special editions. 333

57 Antonoff, Philip, St. Petersburg.—Plan in relief of Sebastopol during siege. 335

58 Hydrographical Bureau, St. Petersburg. — Marine charts and coast maps. 335

59 Department of Agricultural & Rural Industry, Statistical Bureau of St. Petersburg. — Statistical maps, showing the soil, climate, produce of corps, and cattle breeding in Russia. 335

60 Vassilieff, John, Pskoff.—Maps of Russia. 335

61 Topographical Bureau of the Gener-al Staff, St. Petersburg. — Maps and charts; photo, helio, lithographic works, and electrotype plates. 335

62 Timiriazeff, Demetrius, St. Peters-burg.—Statistical atlas. 335

63 Municipality of the City of St. Petersburg. — Orographic plan of St. Petersburg. 335

64 Kittarg, Modest, St. Petersburg.—Statistical charts. 335

65 Flyin, Alexis, St. Petersburg.—Maps, charts, etc. 335

Physical, Social, and Moral Condition of Man.

66 Anikeyeff, James, Moscow.—Swimming apparatus. 340

67 Kittarg, Modest, Garetooka, Govern-ment and District of Moscow.—Disinfecting fluid and powder for dwellings and stables. 342

68 Menard, St. Petersburg.—Appliances for stopping up the chinks of window-frames in cold climates. 342

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ANNEX TO MAIN BUILDING.

No. 106.—ANNEX TO MAIN BUILDING. (CARRIAGE ANNEX.)

Architect, H. J. SCHWARZMANN.

(SIZE, 346 x 231.)

This structure is built of corrugated iron, wood, and glass; a one-story building, with sky-lights, situated on Avenue of the Republic, immediately north of the Main Building, and east of the Department of Public Comfort.

Chemical Manufactures, Furniture.

Chemical Manufactures.

1 **Rogers, Duck & Lewis, Fort Wayne, Ind.**—Miller's elastic surfacing liquid, applied to the bare wood of carriage and car bodies. 202

1*a* **Rosenburg, D. & Son, New York, N. Y.**—Varnishes. 202

Furniture, etc.

1*b* **Mason, John L., Camden, N. J.**
a Soap cup. 213
b Fruit jars and nursing bottles. 215

2 **Stewart, S. N., Philadelphia, Pa.**
a Models of relief chair and mattress. 217
b Movable partition and balcony; stair rail. 227

2*a* **Lawrence, Lewis P., Philadelphia, Pa.**—Swing and nursery chair. 217

3 **Pennsylvania Working Home for Blind Men, Philadelphia, Pa.**—Mattresses. 217

3*a* **Covert, Lewis B., New York, N. Y.**—Extension step-ladder. 217

4 **Wunderlich, John N., Philadelphia, Pa.**—Adjustable table. 217

4*a* **Wagner Drug Milling Co., Philadelphia, Pa.**—Refrigerators. 217

4*b* **Williams & Co., Nashua, N. H.**
a Soapstone slabs, table tops, and shelves. 217
b Soapstone stoves, register frames, and foot warmers. 222
c Soapstone wash trays, sinks, griddles, etc. 224

5 **Clark, I. D. & Co., Gloversville, N. Y.**—Cradle, and baby's walking-table. 221

6 **Thomas, Roberts, Stevenson, & Co., Philadelphia, Pa.**—Coal and wood stoves, hot-air furnaces, cooking ranges. 222

6*a* **Simonds' Manufacturing Co., New York, N. Y.**—Furnace, ranges, registers, and apparatus for ventilating buildings. 222

7 **Burnham, Chas., & Co., Philadelphia, Pa.**
a Gas cooking and heating stoves. 222
b Weather strips. 227

7*a* **Bissell & Co., Pittsburg, Pa.**—Grates, ranges, and car heaters. 222

8 **Cooey, J. G., Hyde Park, Mass.**—Lamp cooking apparatus. 222

8*a* **United States Soapstone Furnace Co., Boston, Mass.**—Soapstone furnace. 222

9 **Stuart, D. W., Philadelphia, Pa.**—Stove. 222

10 **Orr, Painter, & Co., Reading, Pa.**—Ranges, heaters, stoves. 222

10*a* **Westland, C. O., Troy, N. Y.**—Parlor stove. 222

11 **Spear, James, & Co., Philadelphia, Pa.**—Stoves, heaters, ranges, low-down grates, etc. 222

11*a* **Thatcher Heating Co., New York, N. Y.**—Furnaces. 222

12 **Reid & Cooper, Elmira, N. Y.**—Cooking stove. Direct draft six-hole cooking stoves and ranges, constructed by new application of principles; warranted to give satisfaction in every instance. 222

12*a* **Sheeler, Buckwalter, & Co., Royer's Ford, Pa.**
a Parlor and cooking stoves, ranges, and heaters. 222
c Cherry seeder. 224

13 **Swett, Quimby, & Perry, Troy, N. Y.**—Parlor stove, cooking and heating ranges. 222

13*a* **Richardson, Boynton & Co., New York, N. Y.**—Furnaces, ranges, heaters, stoves, etc. 222

14 **Thomas & Joerns, New York, N. Y.**—Base-feeding parlor coal vases, movable base-feeding coal bins. 222

14*a* **Rand, A. W., Philadelphia, Pa.**—Heater and range. 222

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Heaters, Ranges, Household Utensils.

15 **McDougall, S. T., New York, N. Y.**—Gas stoves and cabinets, petroleum stoves, cooking apparatus, oil lamps and fixtures, gas burners. 222

15*a* **Open Stove Ventilating Co., New** York, N. Y.—Open grate, close stove, and warm air furnace combined. 222

16 **Monitor Oil Stove Co., Cleveland,** O.—Cook stove. 222

17 **Henis, Chas. F., Philadelphia, Pa.**—Adjustable elbow for stovepipes. 222

18 **Leibrandt & McDowell Stove Co.,** Philadelphia, Pa.—Stoves, etc. 222

18*a* **Florence Sewing Machine Co.,** Florence, Mass.—Stoves. 222

19 **Bentley, Jeffrey O., Philadelphia,** Pa.—Hollow metallic steam-radiating base-board for heating rooms. 222

19*a* **Langstrath, Thomas, Philadelphia,** Pa.—Furnaces. 222

20 **Dripps, Isaac, Philadelphia, Pa.**—Safety ventilating heaters for railroad passenger cars. 222

21 **Stuart, Peterson & Co., Philadel-**phia, Pa.—Stoves, hollow ware, and hardware goods. 222

22 **Perkins & McFarland, Philadel-**phia, Pa.—Heaters and ranges. 222

23 **Reynolds, J., & Son, Philadelphia,** Pa.—Wood and coal furnaces, cooking range. 222

25 **Morris & Haines, Philadelphia, Pa.**—Heaters and range. 222

27 **Hayes, Coulter & Co., Philadelphia,** Pa.—Hot-air furnace, cooking range. 222

28 **Grossius, John, Cincinnati, O.**—Stove for school-houses, etc. 222

29 **Barry & Lane, New York, N. Y.**—Oven range and cast-iron setting. 222

30 **Creamer, Wm. G., & Co., New** York, N. Y.—Railway car ventilators, lamps, and car trimmings; house registers. 222

31 **Nixon, George, & Son, Philadel-**phia, Pa.—Hotel range and boiler. 222

32 **Bartlett, Job, & Sons, Philadel-**phia, Pa.—Furnaces, kitcheners, low grates. 222

33 **Gale, D. A. T., Syracuse, N. Y.**—Metallic bed bottom. 222

33*a* **Weare Bros. & Co., Cincinnati, O.**—Stove. 222

34 **Barstow Stove Co., Providence, R.** I., New York, N. Y., and Boston, Mass.—Stoves, ranges, furnaces, heaters, hollow ware, etc. Awarded Grand Medal of Merit at Vienna Exposition, 1873. 222

35 **Hopkin, William, jr., Philadel-**phia, Pa.—Furnace, range, and boilers. 222

37 **Sheppard, Isaac A., & Co., Phila-**delphia, Pa.—Stoves, ranges, furnaces, hollow ware. 222

39 **Tuttle & Bailey Manufacturing** Co., New York, N. Y.—Hot-air registers, ventilators, ornamental screens for steam coils, etc. 222

40 **Resor, Wm., & Co., Cincinnati,** O.—Cooking stoves. 222

41 **Caldwell & Mather, Philadelphia,** Pa.—Cooking ranges and heating furnace. 222

42 **J. L. Mott Iron Works, New York,** N. Y.—Ranges, heaters, stoves, and grates. 222

43 **McCoy & Roberts, Philadelphia,** Pa.—Portable hot-air furnaces. 222

44 **Barker, Geo. R., Philadelphia, Pa.**—Combined heating and ventilating flue apparatus and double register. 222

45 **Gold's Heater Co., 47 Cliff street,** New York, N. Y.—Heaters. Constructed on the principle of extensive radiating surfaces, which has the effect of reducing the temperature, so as not to injure the quality of the air warmed. Produces same result as heat made by steam or hot water—a pure and healthful atmosphere. 222

46 **Williams, Charles, & Co., Phila-**delphia, Pa.—Heaters, ranges, ventilators. 222

47 **Rathbone, Sard & Co., Albany, N.** Y.—Stoves and ranges for coal or wood. 222

48 **Abendroth Bros., New York, N.** Y.—Stoves, ranges, plumbers' ironware, vases, fountains, hot-house and stable fittings. 222

50 **Giles, H. G., & Son, Troy, N. Y.**—Portable furnace and range, and parlor stoves. 222

51 **Myers, George, Philadelphia, Pa.**—Bath boilers and tanks. 222

52 **Whitehead, Thomas J., South** Paris, Me.—Combined cooking stove and hot-air furnace. 222

53 **Chatain, Henry, Washington, D.** C.—Baking oven. Patent for sale. One in operation at 713 Eleventh street, Washington, D. C. 222

54 **National Stove Works, New York,** N. Y.—Heaters and ranges. 222

55 **Doyle, William, Albany, N. Y.**—Stoves, furnaces, and ranges. 222

56 **Comstock, Castle, & Co., Quincy,** Ill.—Heating stove. 222

57 **Keystone Hardware Manufactur-**ing Co., Reading, Pa.
a Hot-air registers, and ventilators. 222
b Hardware, apple parers, fruit presses. 224

58 **Detroit Stove Works, Detroit,** Mich.—Cooking and coal and wood heating stoves. Manufacturers of the celebrated Crown Jewel Base Burner, Tefft's Wood Cook, and a full assortment of wood and coal cooking and heating stoves. 222

59 **Johnson, Black, & Co., Erie, Pa.**—Stoves, furnaces, and heaters. 222

60 **Mitchell, Stevenson, & Co., Pitts-**burg, Pa.—Stoves. 222

61 **Hessenbruch, Theophilus, Philadel-**phia, Pa.—Combination damper and ventilator. 222

62 **Michigan Stove Co., Detroit, Mich**—Stoves, hollow ware, stove furniture, etc. Manufacturers of cooking, parlor, and heating stoves, from a mixture of Lake Superior and other first-class brands of iron. Our motto: "Everything made first-class, and to sell at reasonable prices." 222

63 **Lesley, Alex. M., New York, N. Y.**
a Gothic furnace. 222
b Refrigerators and coolers. 224

64 **March, Brownback & Co., Lime-**rick Station P. O., Pa.—Heaters, ranges, and hollow ware. 222

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

65 Boyd, David, New York, N. Y.—Flue radiator, flue and diaphragm attachment. 222

66 New Haven Steam-Heating Co., New Haven, Conn.—Radiators and screens for low-pressure steam-heating. 222

67 Miller, William, Cincinnati, O.—Ranges. 222

68 Corey, Jas. H., New York, N. Y.—Culinary boiler and steam and exhaust valve combined. 222

69 Duparquet, L. F., & Huot, New York, N. Y.
a Ranges, broilers. 222
b Coffee and tea urns, cooking utensils. 224

71 Shepherd, Chas. H., Philadelphia, Pa.—Refuse of cork prepared for kindling fires. 222

72 Belson, R. W., Philadelphia, Pa. —Warm-air furnace. 222

73 Williams & Co., Nashua, N. H.—Stoves, washtrays, sinks, griddles, etc., of Francetown soapstone. 222

76 Ferris, Geo. H., New York, N. Y. —Domestic boiler, coffee still. 222

77 Gardner, M. W., Green Island, N. Y. —Combination knobs for stoves, ranges, etc. 222

78 Birkey, John Q., & Co., Philadelphia, Pa.—Gas heaters. 222

80 Masser, H. B., Sunbury, Pa.—Coffee roaster. 222

81 Garrison, W. S., Volga City, Iowa. —Tubular heating stove. This stove will warm from five to twenty rooms without extra fuel. Send for engraving and circular to Tubular Stove Co., Clear Lake, Iowa. 222

82 Magee Furnace Co., Boston, Mass. —Furnace, ranges, parlor stoves. Magee's Standard Hot-air furnace, cased with a patent non-conducting material. Same furnace for sheet iron casing. Same furnace for setting in masonry. The radiators of these furnaces are manufactured of heavy plate iron, and all warranted gas- and dust-tight. Their durability, economy, and successful operation have been fully demonstrated, and are guaranteed. Three samples of Magee's Standard Portable Ranges. Magee's Standard Brick Range (also exhibited in operation at the New England log cabin). Two samples of Magee's Standard Parlor Stove. Two samples of Magee's Standard Base Burner. Two samples of Standard Portable Low Down Grate. Magee's Standard Hall Stove. Magee's Standard Dining-Room Heater. Magee's Standard Cook Stove. Magee's Advance Cook Stoves. Magee's goods are eminently popular wherever used, and are warranted in every particular by the manufacturers. 222

83 Read, Josiah M., Boston, Mass.—Cooking range, stove dampers, lifters, and broilers. 222

83*a* Croll, Benj. P., 639 Arch street, Philadelphia, Pa.—Rhind's Patent Safety Lamp. Rhind's Patent Kerosene Safety Lamp has been placed upon the market, and the public is invited to test it. Its qualities are: First, it extinguishes itself when overturned; second, it extinguishes itself when dropped from the hand; it cannot be filled when lighted, and can be carried about at pleasure. It is so constructed that blowing down the chimney or turning down the wick to extinguish the light is unnecessary. The New York board of underwriters have endorsed and recommended its use. Sample price, $1.25, sent free upon receipt of P. O. order. Merchants supplied at reasonable prices. 222

83*b* Beam, A. F., Philadelphia, Pa.—Oil tanks and cans. 224

84 Barrows, Savery & Co., Philadelphia, Pa.—Hollow ware, irons, porcelain refrigerator, etc. 224

84*a* Dunglison, Richard J., Philadelphia, Pa.—Corn grater. 224

85 Farson, E. S., & Co., Philadelphia, Pa.—Refrigerators and coolers. 224

85*a* Reidle, E. G., & Co., Philadelphia, Pa.—Seamless tin boxes. 224

86 Gravenstine, John, Philadelphia, Pa.—Sideboard, refrigerator, and water-cooler combined. 224

86*a* Perkins, Eliab, Sterling, Ill.
a Refrigerator. 224
b Shutter. 227

87 Soggs, C. W., Carbondale, Pa.
a Fruit and vegetable parer and slicer. 224
b Folding adjustable ironing table and skirt-board. 225

88 Lacy, Walter, Milwaukee, Wis. —Steamless cooking shell. 224

90 Kimball, Wm. S., Philadelphia, Pa.—Refrigerator, filter, and cooler. 224

91 Parker, Chas., Meriden, Conn.—Coffee mills. 224

92 Berney, Alfred, Boston, Mass.—Teakettle, boiler, and steamer; dry, wet, and weighing measure combined; coffee cone. 224

93 Patent Keg Co., Philadelphia, Pa. —Paint and other cans. 224

94 Keller Manufacturing Co., Harrisburg, Pa.—Graduated quart measure. 224

95 Hess, Abram, Philadelphia, Pa. —Cooking apparatus. 224

97 Shepard, Sidney & Co., Buffalo, N. Y.—Japanned and stamped tinware, coal vases, stove boards, ice cream freezers, spice caddies. 224

98 Stites & Co., Cincinnati, O.—Iron measures, buckets, and paint pails. 224

99 Broch, Isidor, Philadelphia, Pa. —Water filter. 224

100 Acquackanauk Manufacturing Co., Passaic, N. J.—House furnishing woodenware; stepladders, hat racks, knifeboards, etc. 224

101 Rohrer, Jeremiah, Lancaster, Pa. —Refrigerator and water cooler combined. 224

101*a* Beach, E. R., New York, N. Y.—Match safe base for lamps. 224

103 Ford, F. G., Philadelphia, Pa.—Flour and ash pails and sieves combined; toys. 224

105 Polhemus, J. H., New York, N. Y.—Refrigerating cupboard, upright and chest refrigerator. 224

106 Newark Tea Tray Co., Newark, N. J.—Tea trays, children's trays, stove platforms, dustpans, and brushes. 224

107 Dowst, Frank, Manchester, N. H. —Refrigerator. 224

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Household Utensils.

108 Allegretti Refrigerator Co., New York, N. Y.—Refrigerators, railroad refrigerator car, undertakers' preserving casket. 224

110 Olmsted, S., jr., Galesburg, Ill.—Sifter, cullender, and strainer combined. 224

111 Silver, W. H., New York, N. Y.—Egg beater, tin churns, and ice cream freezers. 224

112 Consolidated Fruit Jar Co., New Brunswick, N. J.—Fruit in Mason's glass jars. Manufacturers of Mason's fruit jars, oilers, can screws, and sheet metal wares. 224

112*a* Ketcham, E., & Co., New York, N. Y.—Tin ware, kitchen goods. 224

113 Scheider, J., & Co., Portland, Conn.—Stamped and japanned ware; house furnishing goods. 224

114 Cull, Henry, Philadelphia, Pa.—Combination sink and dish cupboard and toilet stand; kitchen and dining room furniture. 224

115 Missouri Valley Novelty Works, St. Joseph, Mo.—Combination kitchen safe. A money saving, labor saving, household convenience. With this safe a person need not move one step in making bread, cakes, or pastry, for all the necessary machinery and ingredients are centered within reach. 224

116 Simes & Tate, Philadelphia, Pa.—Water filter. 224

117 Randle, Wm. H., Baltimore, Md.—Water coolers and refrigerators. 224

120 Shaw, Charles A., 110 Tremont street, Boston, Mass.—Spice box. 224

121 Wilson Manufacturing Co., Philadelphia, Pa.—Clothes dryer, rack, nursery cup. 224

122 Rasin, William J., Philadelphia, Pa.—Water coolers, restaurant coolers. 224

124 Union Manufacturing Co., Toledo, O.—Washboards, churns, lawn hose carts, kitchen woodenware. 224

125 Vignal, Carl, New York, N. Y.—Ice cream refrigerator. 224

127 Schaum, John P., Lancaster, Pa.—Copper kettles and copper ware. 224

128 St. Louis Stamping Co., St. Louis, Mo.—Granite iron cooking and household utensils. 224

130 Bollenbacher, Geo. W., Bloomington, Ind.—Kneading table, with flour and meal chest combined. 224

132 Gem Soldering Iron Co., Philadelphia, Pa.
a Soldering casket. 224
b Portable shower bath. 226

133 McDonald, T. E., New Brunswick, N. J.—Washing machine and wringer. 225

134 Moore, Henry, & Son, Philadelphia, Pa.—Washing machine. 225

134*a* Caldwell, M. A., North East, Pa.—Combination brush and rollers for washboard. 225

135 Dugdale, Jas. K., White Waters, Ind.—Clothes wringers and washers, garden cultivators. 225

135*a* Gilbert, A. C., Philadelphia, Pa.—Ironing board. 225

136 American Machine Co., 430 Walnut street, Philadelphia, Pa.—Crown clothes wringers, frames of galvanized malleable iron, self-adjusting, pressure released from rolls, automatically, when out of use; efficient, practical, and durable. "Crown Fluters and Star Fluters," latest improved construction, celebrated for variety and perfection of work and ease of operation. 225

137 Chalfant Manufacturing Co., 507 North street, Philadelphia, Pa.—Proprietor and manufacturers of Mrs. Potts's patent cold-handle sad irons, polishing, laundry, and tailors' irons. 225

138 Vant, Aremas B., & Cheney, Henry O., Hopkinton, Mass.—Washer and wringer combined. 225

139 American Lever Wringer Co., Springfield, O.—Clothes wringer. 225

140 Applegate, Robert O., Philadelphia, Pa.—Ironing table. 225

141 Duncan, W. A., Syracuse, N. Y.—Washing machine. 225

142 Worden, A. E., Smyrna, Del.—Washing machine. 225

143 Colby Wringer Co., Waterbury, Vt.—Clothes wringer, little washer. 225

144 Bless & Drake, Newark, N. J.—Self-heating smoothing irons, tailors' geese, sad, laundry, and polishing irons. 225

146 Calver, Dr. G. W. H., Columbus, N. J.—Household ironing machine, heated by gas or cook stoves. Patent for sale. 225

147 Bailey Wringing Machine Co., New York, N. Y.—Clothes wringers. 225

149 Jennings, A. W., Bedford, O.—Clothes washers. 225

150 Gove, John C., Cleveland, O.—Fruit and provision preserving house, washing machine, adjustable index writer. 225

151 Lash, J. S., & Co., Philadelphia, Pa.—Washing machine, bench wringers. 225

154 Lamb, Geo. D., New Haven, Conn.—Little washer, iron holder. 225

155 Metropolitan Washing Machine Co., New York, N. Y.—Clothes wringers, washing machine, mangle. 225

157 Myers, A. G., New York, N. Y.—Water closets and plumbers' material. 226

157*a* Eisenmann, E., New York, N. Y.—Back and head support for the bathtub. 226

158 Blessing, C. A., 44 North Fifth street, Philadelphia, Pa., dealer in bath tubs, copper boilers, and plumbers' copper and cabinet ware in general.—Bath tubs, washstand, bidet. 226

158*a* Blakemore & Sherman, Philadelphia, Pa.—Washstand. 226

159 Carr, Wm. S., & Co., New York, N. Y.—Water closets, brass pumps, cabinet woodwork, and bathroom. 226

159*a* Pease, Charles A., Boston, Mass.—Washstand. 226

160 Wakefield Earth Closet Co., New York, N. Y.—Earth closets, combined commode and slop pail. 226

161 Carrigan, Peter, Philadelphia, Pa.—Tinned and nickel-plated copper bathtubs, bidet, footbath, pantry and bar sinks, drainer, and liquor cooler. 226

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Parts of Buildings, Hardware, etc.

162 Weaver & Pennock, Philadelphia, Pa.—Marble lavatory. 226

162*a* Landis, S. M., Philadelphia, Pa.—Turkish bath. 226

163 Vinton, C., Hartford, Conn.—Babies' bathtub, sitz bath. 226

164 Bacharach, M., New York, N. Y.—Street urinal. 226

165 Travis, Jos. L., Philadelphia, Pa.—Water closets, brass and plated work for plumbers and steam fitters. 226

166 Steeger, Henry, New York, N. Y.—Copper boilers, bathtubs, etc. 226

166*a* Barth, Gottlieb M., Philadelphia, Pa.—Improvement in window frames. 227

166*b* Ballentine, G. H., Philadelphia, Pa.—Cottage. 227

166*c* Ross, William J., West Boylston, Mass.—House building improvements, etc. 227

166*d* Perry, Jos. R., Wilkesbarre, Pa.—Wooden house. 227

166*e* Patterson, J. E., & Co., Pittston, Pa.—Doors, shutters, newel posts, etc. 227

166*f* Winans, Geo. G., Scranton, Pa.—Wainscoting. 227

166*g* Wilson, Jas. G., New York, N. Y.—Rolling wood shutters and venetian blinds. 227

166*h* Wight, Spencer A., Philadelphia, Pa.—Dust trap for ventilating bulk windows. 227

166*i* Comstock, C. C., Grand Rapids, Mich.—Doors, blinds, mouldings, etc. 227

166*j* Wilt, A., & Son, Philadelphia, Pa.—Sash, blinds, doors, mouldings, etc. 227

166*k* Huginin Manufacturing Co., New York, N. Y.—Automatic window supports. 227

166*l* Bradford, H., Philadelphia, Pa.—Window fastener. This is the only window fastener that locks automatically at any point, by side pressure, without defacing the frame. For sale by H. Bradford, room 26, Merchants' Exchange, corner Third and Walnut streets, Philadelphia. 227

166*m* Champion Fence Co., Kenton, O.—Iron fencing. 227

166*n* Manly, M. M., & Son, Philadelphia, Pa.—Iron railing, wirework, etc. 227

166*o* Clark & Co., New York, N. Y.—Brass and iron store fronts and self-coiling shutters. 227

166*p* Lake Champlain Manufacturing Co., Ticonderoga, N. Y.—Doors, etc. 227

166*q* Ford, W. A., Greensburg, Ill.—Window fastener. 227

166*r* Hayes, Geo. S., New York, N. Y.—Roofing. 227

167 Dayton, G. E., New York, N. Y.—Iron gutters, sashes, etc. 227

167*a* Crowell, S., Philadelphia, Pa.—Iron fence. 227

167*b* Hough & Co., Indianapolis, Ind.—Cast iron griffins. 227

167*c* Darby, E., & Son, Philadelphia, Pa.—Wire work. 227

167*d* Lynex, Richard, Philadelphia, Pa.—Wire work. 227

167*e* New York Slate Roofing Co. (limited), New York, N. Y.—Paints and roofing materials. 227

167*f* Garry Iron Roofing Co., Cleveland, O.—Roofing, window shutters, etc. 227

167*g* Augustine & Stuart, Philadelphia, Pa.—Metallic roofing and spouting. 227

167*h* Belts' Roofing Co., Cincinnati, O.—Roofing. 227

167*i* Martin, W. H., & Co., Philadelphia, Pa.—Roofing. 227

167*j* Fairbanks, A. G., Manchester, N. H.—Soapstone roofing. 227

167*k* Kensett, Jas. W., New York, N. Y.—Fireproof appliance for the security of buildings. 227

167*l* Swift, Charles N., New York, N. Y.—Adjustable ventilators. 227

167*m* Bates, J. C., Philadelphia, Pa.—Ventilating apparatus. 227

167*n* Bracher, T. W., New York, N. Y.—Ventilators. 227

167*o* Wallace, S. J., Keokuk, Ia.—Fire-proof floors and roofs. 227

167*p* Penn Roofing Co., Philadelphia, Pa.—Roofing felt, etc. 227

167*q* Humboldt Iron Works, New York, N. Y.—Illuminating tiles. 227

Clothing, Jewelry, and Ornaments; Traveling Equipments.

167*r* Watts, Ethelber, Philadelphia, Pa.—Portable bath trunk. 255

Medicine, Surgery, Prothesis.

167*s* Crandall, Chas. J., New York, N. Y.—Crutches. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

167*t* Wickersham & Bro., Philadelphia, Pa.—Brass and gold pipe, etc. 283

167*u* Eckel, Herman, Cincinnati, O.—Enameled iron hollow ware. 283

167*v* Musgrove & Son, New York, N. Y.—Fancy articles for tin wedding presents, tin, japanned and copper ware. 283

167*w* Lalance & Grosjean Manufacturing Co., New York, N. Y.—Granite ware, etc. 283

168 Rowland, William, & Harvey, Philadelphia, Pa.—Carriage, locomotive, and car springs; tire, sheet, cast, machinery, and blister steel. Re-rolled Norway iron, rolled and slit Norway nail rods. 284

168*a* Mott, J. L., Iron Works, New York, N. Y.—Plumbers' cast iron ware, plain, galvanized, and enameled. 284

169 Burwell, William, & Bro., Philadelphia, Pa.—Carriage mountings in silver, oreide, and gold plated. 284

169*a* Anderson, W. W., Philadelphia, Pa.—Models for carriage shackle. 284

170 The Philadelphia Axle Co., Philadelphia, Pa.—Iron and steel axles, improved wheels. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Hardware, Parts of Carriages.

171 Hoopes, Bro., & Darlington, West Chester, Pa., & at 27 James street, Long-Acre, London, England.—Vehicle wheels of hickory and oak, fine quality and workmanship, thoroughly seasoned. Particular attention given to special styles for builders of private coaches; also Dorman patent wheels with wood hub and iron flanges, spokes secured in hub by wedges, and warranted not to become loose in service. Wheel material and shafts of all kinds to order. 284

172 Topliff & Ely, Elyria, O.—Tubular bow, shaft, and pole sockets for carriages; side-spring equalizers. 284

173 Kent, D. H., & Co., Wilmington, Del.—Iron hardware and coach material. 284

174 Benezet & Co., Philadelphia, Pa. —Carriage and wagon springs. 284

175 Dann, Bros., & Co., New Haven, Conn.—Carriage woodwork. 284

176 Shields, Thomas, Philadelphia, Pa.—Carriage bolts and clips, nuts, washers, etc. 284

177 Kunzig, Christian, Philadelphia, Pa.—Gold and silver carriage mountings. 284

178 Metal Stamping Co., New York, N. Y.—Carriage curtain loops and buckles, knob fasteners, etc. 284

179 Brown, S. N., & Co., Dayton, O.—Sulky, buggy, and coach wheels, hubs, spokes, bows, shafts, poles, and yokes. 284

180 Dexter Spring Co., Hulton, Pa.—Vehicle springs. 284

181 Seidler, Fred., Mechanicsburg, Pa.—Spokes, felloes, hubs, shafts, poles, bows, wheels. 284

182 Sheldon & Co., Auburn, N. Y.—Carriage and wagon axles. 284

183 McKnight & Rohrer, Charlestown, W. Va.—Carriage rims; axe, pick, sledge, hammer, and hatchet handles. 284

184 Advena & Heald, Philadelphia, Pa.—Carriage and wagon axles; steel boxes. 284

185 Shields, Wm., Philadelphia, Pa.—Carriage bolts. 284

186 Cowles, C., & Co., New Haven, Conn.—Carriage trimmings and hardware. 284

187 New Haven Wheel Co., New Haven, Conn.—Wheels for vehicles. All the usual styles and qualities of unpatented wheels. Original manufacturers of the celebrated "Sarven" patent wheel. 284

188 Davis, John G., & Son, Philadel-phia, Pa.—Spokes, hubs, rims, wheels, and plow handles. 284

189 Sandusky Wheel Co., Sandusky, O.—Carriage woodwork. 284

190 Woolworth, James, Sandusky, O.—Tool handles. 284

191 Smith, H. D., & Co., Plantsville, Conn.—Carriage and coachmakers' forged hardware. 284

192 Urmston, John, Rahway, N. J.—Hubs. 284

193 Crane, Samuel O., Newark, N. J.—Carriage wheels. 284

194 Jones, Phineas, & Co., Newark, N. J.—Coach and carriage wheels, spokes, hubs, rims, etc. 284

195 Kilburn, Isaac B., Newark, N. J. —Bent carriage woodwork and materials. 284

196 Smith, Alfred E., Brownville, N. Y.—Carriage axles. 284

197 Searls, Anson, Newark, N. J.—Carriage specialties. Whip sockets adapted to all kinds of carriages, with improved fasteners; style, finish, and durability. The "Centennial" top props for carriages, perfected; any joint will fit; no rattle, and no nuts lost. 284

198 Union County Manufacturing Co., Elizabeth, N. J.—Wheels and wheel stock. 284

199 Skelly, Thomas, Philadelphia, Pa.—Carriage bolts, axle clips, nuts, etc. 284

200 Lockwood, C. N., & Co., Newark, N. J.—Carriage lamps and plated carriage ware. 284

201 Silas, Rogers, & Co., Stanford-ville, N. Y.—Carriage and truck axles. 284

202 Springer, Morley, & Gause, Wil-mington, Del.—Coach and carriage wheels, hubs, spokes, and felloes. 284

203 Baker & Co., Waller, O.—Wheels, hubs, spokes, felloes, gearing, wood in rough, etc. 284

204 Sippel, Chr., Newark, N. J.—Fancy turning for carriage trimmings. 284

204*a* Rubber Step Manufacturing Co., Boston, Mass.—Carriage steps, etc. 284

205 Dalzell, D., & Sons, South Egre-mont, Mass.—Carriage axles, axle boxes. 284

205*a* Seward, M., & Son, New Haven, Conn.—Carriage hardware. 284

206 Sammes, J. B., & Co., New York, N. Y.—Hubs. 284

207 Olds, N. G., & Sons, Fort Wayne, Ind.—Wheels, hubs, buggy seats, and plow handles. 284

208 Leippe, Jacob A., Anchor Bend-ing Works, Lancaster, Pa.—Shafts and rims. 284

209 Wrigglesworth, W. J., Darlington, Wis.—Wheels for carriages, buggies, wagons, etc. 284

210 Logansport Manufacturing Co., Logansport, Ind.—Wagon and carriage spokes, bent felloes, shafts, and soles. 284

211 Cunningham, Portz, & Co., Fosto-ria, O.—Spokes, felloes, neck yokes, whiffletrees, pick and hammer handles, etc. 284

212 Strahorn, Pierson, & Co., Tough-kenamon, Pa.—Carriage wheels. 284

213 Lebzelter, Philip, Lancaster, Pa. —Spokes, felloes, shafts. 284

214 Paine Bros., New York, N. Y. —Hickory and ash handles, carriage and wagon woodwork, hardwood lumber. 284

215 Stockton Spoke Works (W. V. Case, Bro., & Co.), Stockton, N. J.—Spokes, whiffletrees, neck yokes, handles, and carriage woodwork. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

216 Woodburn Sarven Wheel Co., Indianapolis, Ind.—Sarven and common wood hub wheels. Manufacturers of the celebrated "Sarven Patent Wheel," used for all kinds of vehicles; also, common wood hub wheels. Send for our Price List. 284

217 Frohock, Wm. Thompson, Philadelphia, Pa.—Suspension steel buggy wheels, nickel-plated spokes, etc. 284

218 Hayden & Smith, Auburn, N. Y.—Saddlery, and carriage hardware; finished forgings for carriages; slot fifth wheels, Saunders' patent shaft shackles, patent iron-clad hames, Scotch hames, Concord hames, Kinne's patent trace buckles; all wrought, guaranteed, Bradoon bits. 284

219 Mosier, John L. H., New York, N. Y.—Ironwork for pleasure carriages and tools for carriage smiths. 284

219*a* Welsh & Lea, Philadelphia, Pa.—Carriage and tire bolts, nuts, axle clips, etc. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

220 Gould, C. H., Philadelphia, Pa.—Rubber steps, etc. 285

220*a* Jones, H. C., & Co., Philadelphia, Pa.—Brush stocks and handles. 286

220*b* Robinson, Fowler, & Co., San Francisco, Cal.—Brooms with metallic socket. 286

220*c* Merick, E. J., Rochester, N. Y.—Brooms. 286

220*d* Meinecke, Adolph, Milwaukee, Wis.—Ladies' baskets and willow ware. 289

220*e* French Paper Ware Co., Springfield, N. J.—Pails, tubs, etc. 289

220*f* Tower, Wm. F., & Bro., Hinsdale, Mass.—Ash baskets, for use in mills. 289

220*g* Dempsey Wicker-covered Glassware Co., Philadelphia, Pa.—Wicker-covered bottles. 289

220*h* Dodson & Roberts' Manufacturing Co., Philadelphia, Pa.—Rattan and wire goods. 289

220*i* Eberhardt, F., Philadelphia, Pa.—Baskets, cradles, workstands, etc. 289

220*j* Zinn, Chas., & Co., New York, N. Y.—Baskets, willow ware, etc. 289

220*k* Crane Bros., Westfield, Mass.—Paper baskets, buckets, cans, etc. 289

220*l* Hapgood & Smith, Athol, Mass.—Match sticks. 289

Carriages, Vehicles, and Accessories.

221 Rogers, Wm. D., & Co., Philadelphia, Pa.—Pleasure carriages. 292

222 Beckhaus, Jos., Philadelphia, Pa.—Coach, landaulet, phaeton, coupé. 292

223 McLear & Kendall, Wilmington, Del.—Phaetons, rockaway, family, park, and seaside carriages. 292

224 Petry, Geissel, Bayha, & Co., Philadelphia, Pa.—Finished and unfinished landaus. 292

225 Jacobs, S. W., & Son, Philadelphia, Pa.—Pleasure carriages. 292

226 Childs, Geo. K., Philadelphia, Pa.—Shifting top buggy, track sulky. 292

227 Lane, D. M., & Son, Philadelphia, Pa.—Extension top brett, phaeton, falling top buggy. 292

228 Haskell Bros., Philadelphia, Pa.—Road top wagon. 292

229 Brewster & Co., of Broome street, New York, N. Y.—Town and park carriages, road wagons, and sleighs. 292

230 Wood Bros., New York, N. Y.—Brougham, vis-a-vis, top wagon, landau, T and dog cart. 292

230*a* Hill, J. W. R., Brentwood, N. Y.—Carriage, with pedal driving attachment. 292

231 Stone & Kaighn, Philadelphia, Pa.—Doll carriage, boys' wagon, and wheelbarrow. 292

232 Caffrey, Chas. S., Camden, N. J.—Skeleton sulky, shifting top buggy, phaetons. 292

232*a* Oppenheim, Fred., San Francisco, Cal.—Buggies. 292

233 Townsend, Chas. T., New Haven, Conn.—Phaeton and wagon bodies. 292

234 Brewster, J. B., & Co., 25th street, New York, N. Y.—Landau town coach, demi-landau, coupé, victoria, windsor wagons. Established by our Mr. J. B. Brewster, in 1838. Sole makers of "The Windsor Wagon," with vertical steel plates in axle beds. A visit to the factory at Twenty-fifth street, New York, will repay any one. Warerooms, Fifth Avenue and Twenty-first street, N. Y. 292

235 Doland & Scherb, San Francisco, Cal.—Light carriages. 292

236 Stivers, Rufus M., New York, N. Y.—Pleasure carriages or buggies. 292

237 Bailey & Wilson, Oxford, Pa.—Trotting wagon. 292

238 Studebaker Bros. Manufacturing Co., South Bend, Ind.—Top buggy. 292

240 Hetfield & Jackson, Rahway, N. J.—Light pleasure carriages. 292

241 Cadwallader, Fitz Gibbon, & Co., Trenton, N. J.—Road wagon, top buggy. 292

242 Rech, Jacob, Philadelphia, Pa.—Phaetons, top buggy, Jenny Lind. 292

243 Scranton, L. S., Grand Rapids, Mich.—Track sulky, buggy. 292

244 Clymer, F. T., Wilmington, Del.—Hearse, phaeton, and buggy body. 292

245 Colyer, J., & Co., Newark, N. J.—Westchester, rockaway, top buggy, road wagon. 292

245*a* Crosby, Gilsinger, & Co., Rondout, N. Y.
a Light carriages. 292
b Velocipede. 293

246 Randall, Jas. V., Newtown, Pa.—Extension phaetons. 292

247 Guthrie, Jones, & Co., Wilmington, Del.—Buggies. 292

248 Cunningham, James, & Son, Rochester, N. Y.
a Landaus, landaulet, top buggy. 292
b Hearse. 293

249 Gosling, J. W., Cincinnati, O.—Brett carriage, top buggies, side bar wagon. 292

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Carriages, Cars.

250 Renick, Curtis, & Co., Greencastle, Ind.—Combined carriage and buggy; combined carriage and buggy bodies. 292

251 Wright, W. H., & Co., Wilmington, Del.—Double jump seat carriage. 292

252 Mellinger Jump Seat Co., Harrisburg, Pa.—Jump-seat bodies. 292

253 Hall, James, & Son, Boston, Mass.—Berlin coach; top and shifting top buggies. 292

254 Enders, J., & Co., Louisville, Ky.—Top buggy with side bar attachment. 292

255 Sargent & Ham, Boston, Mass.—Extension top park phaeton. 292

256 Scovill, S. S., & Co., Coldwater, Mich.—Box buggy and track sulkies. 292

257 McDermott, John, & Bros., Washington, D. C.—Shifting top buggy. 292

258 Green, John, Wilmington, Del.—Jump seat and doctors' rockaways. 292

259 McLear, Alfred, West Chester, Pa.—Shifting seat carriage and shifting top buggy. 292

260 Gilman, F. C., Montpelier, Vt.—Track sulky, open wagon. 292

261 Rodgers, S. C., Philadelphia, Pa.—Shifting top, side bar wagon; one-man wagon. 292

263 Behlen, Charles, Cincinnati, O.
a Barouche, physician's phaeton. 292
b Hearse. 293

264 Tonsend, Chas. T., New Haven, Conn.—Phaeton, road wagon, and willow shell bodies. 292

265 Killam, H., & Co., New Haven, Conn.—Pleasure carriages. 292

266 Manville, B., & Co., New Haven, Conn.—Rockaways, cabriolet, T cart. 292

267 Hub Publishing Co., New York, N. Y.—Hand drawings of carriages. 292

268 Grube, Chas., New York, N. Y.—Park phaeton, top buggy. 292

269 Goold, James, & Co., Albany, N. Y.
a Drawing-room coach, buggy. 292
b Sleighs, cutter. 295

270 Stone, Frank P., Chicago, Ill.—Porter buggy. 292

271 Pray Bros., Boston, Mass.—Goddard buggy, track sulky. 292

272 Packard, C. F., & Co., West Farmington, Me.—Side spring platform wagon, and track wagon. Given first mention and silver medal at the Maine State Fair, 1874. 292

273 Sargent, William P., & Co., Boston, Mass.
a Buggies, carriages. 292
b Sleighs. 295

274 Smith, J. T., & Co., Boston, Mass.
a Top buggies. 292
b Sleighs. 295

275 Durham & Wooster, New Haven, Conn.—Landaulet couplet, London phaeton. 292

276 Dibble, C. F., & Co., Philadelphia, Pa.—Doctors' gig, pony phaeton. 292

277 St. James, C., Pittsfield, Mass.—Single carriage, thill and pole. 292

279 Jones, Phineas, & Co., Newark, N. J.—Track sulky. 292

280 Tibbals, Lewis P., New York, N. Y.—Baby carriage. 293

280*a* New Haven Folding Chair Co., New Haven, Conn.—Child's carriage. 293

281 Abbott, Downing & Co., Concord, N. H.—Concord coaches. 293

281*a* Dare, C. W. F., New York, N. Y.—Child's carriage. 293

282 Conover, J. A., & Son, New York, N. Y.—Spring leaping-horses, baby carriages. 293

282*a* Oppenheimer, Solomon, Newark, N. Y.—Improvement in children's carriages. 293

283 Yost, T. A., Philadelphia, Pa.—Children's carriages and velocipedes. 293

283*a* Wentworth, Chas. H., Eddystone, Pa.—Child's folding carriage. 293

284 Richardson, McKee & Co., Boston, Mass.—Child's carriage. 293

285 Montpelier Manufacturing Co., Montpelier, Vt.—Children's carriages. 293

285*a* Jury, F. Hermann, New York, N. Y.—Child's folding carriage. 293

286 McIntire, J. Frank, Boston, Mass.—Children's carriages. 293

287 Cole & Ballard, Newark, N. J.—Baby carriages, velocipede, sled, and wagon. 293

288 Newgeon & Shelton Carriage Co., Birmingham, Conn.—Children's carriages. 293

289 Steinbach, Geo. P., Baltimore, Md.—Children's convertible sleeping coaches and walking and nursery chair and vehicle. 293

290 Fraley, G. W., & Co., Philadelphia, Pa.—Baby's canopy-top coach, velocipede. 293

291 Crandall & Co., New York, N. Y.—Children's carriage. 293

292 McIntire, Samuel, New York, N. Y.—Baby carriages. 293

293 Crandall, J. A., Brooklyn, N. Y.—Child's carriage and cradle combined, play goods, etc. 293

294 Youle, William, Norwalk, Conn.—Hearses. 293

295 Paris Hill Manufacturing Co., Paris Hill, Me.—Children's carriages and sleds. 293

296 Hunt, Wm., Camden, N. J.—Passenger vehicles. 293

297 Pickering, Thos. R., Portland, Conn.—Velocipede. 293

298 Smith, John, & Son, South Gray, Me.—Sleigh. 295

298*a* Mayer, John W., Rondout, N. Y.—Albany cutter. 295

299 Smith, Hugh, Gray, Me.—Double and single sleighs. 295

299*a* Wagner, Geo. W., Roxborough, Pa.—Sleigh. 295

300 Russell, Joseph, cor. Congress & Oak streets, Portland, Me.—Fine carriages and sleighs. 295

300*a* Dann Bros. & Co., New Haven, Conn.—Carriage wood work, bodies, seat backs, gearings, bows, shafts, etc. 296

300*b* Hill, J. R., & Co., Concord, N. H.—Harness. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

Scientific Instruments, Railway Cars and Appliances.

301 Pennsylvania Working Home for Blind Men, Philadelphia, Pa. — Harness. 296

301*a* Phillips, Samuel R., Philadelphia, Pa.—Four-in-hand harness on wooden horses. 296

301*b* White Manufacturing Co., Bridgeport, Conn.—Carriage trimmings and lamps. 296

302 Dohan, J. F., & Co., Binghamton, N. Y.—Carriage curtain-lights and other stamped carriage goods. 296

303 Baldwin, Jos., & Co., Newark, N. J.—Saddlery hardware, hand forged and malleable; bits. 296

304 Hayden & Smith, Auburn, N. Y. —Hames and trimmings for harness. 296

Institutions and Organizations.

304*a* Barry, Peter, New York, N. Y.— The arms of the Revolutionary patriots. 312

Scientific and Philosophical Instruments and Methods.

304*b* Keller Manufacturing Co., Harrisburg, Pa.—Graduated measure. 322

304*c* Fournier, Stanislas, New Orleans, La.—Tell-tale clock and starter. 323

Physical, Social, and Moral Condition of Man.

304*d* Curtis, Albert W., Williamsport, Pa.—Centennial swing. 340

Motors and Apparatus for the Generation and Transmission of Power.

304*e* Miller, Joseph A., Providence, R. I.—Models for locomotive boilers. 550

Hydraulic and Pneumatic Apparatus, Pumping, Hoisting, and Lifting.

304*f* Miller, A. R., & Son, Attica, N.Y. —Automatic carriage jack. 563

304*g* Miller, Joseph A., Providence, R. I.—Hose carriage. 564

Railway Plant, Rolling Stock, and Apparatus.

305 Jackson & Sharp Co., Wilmington, Del.—Ordinary and narrow gauge passenger cars. 571

306 Harlan & Hollingsworth Co., Wilmington, Del.—Parlor car, narrow gauge passenger car. 571

306*a* Clark, Geo. P., Boston, Mass.— Combined locomotive, baggage, and passenger car. 571

307 Haase, John A., Philadelphia, Pa. —Model freight car, hose shield, floor and door clamps, ratchet drills. 571

308 Pullman's Palace Car Co., Chicago, Ill.—Drawing-room car, hotel car. 571

309 Wason Manufacturing Co., Springfield, Mass.—Railway passenger car. Established 1845. Railway car builders. Particular facilities for doing foreign work. 571

311 Hayden, James, Philadelphia, Pa. —Car model, showing improvement in bumper springs, platform and draw heads. 571

312 Ustick, Stephen, Philadelphia, Pa. —Car model, showing improved coupling and journal lubricators. 571

313 Stephenson, John, & Co., New York, N. Y.—One and two horse street cars. 571

314 Towle Manufacturing Co., New York, N. Y.—Bell punches and fare registers. 571

314*a* Crosby & Hecker, Rondout, N. Y. —Car coupler. 572

314*b* Russell, H. G., Lincoln, Ill.—Car coupler. 572

314*c* World's Champion Car Coupler Co., Tiffin, O.—Car coupler. 572

315 Darling, Samuel, Providence, R. I. —Improved ventilating car window. Manufacturer of a great variety of new patent inkstands, on new principles, being so arranged that the writer can regulate, with great accuracy, the quantity of ink to be taken upon the pen. They are made in styles and at prices to suit all classes of writers. One (non-spilling) is especially adapted for home use. Pen-cleaners, on a new principle, an indispensable article. A new glass for church windows, which will keep out the sun, and let in more light than any before produced. A standard medicine-dropper, by which medicine can be dropped with facility in drops of the exact standard size. 573

315*a* Hindman, Thos., Pittsburg, Pa.— Whiffletree and shaft-coupling. 573

315*b* Blaisdell, Geo. P., North Easton, Mass.—Self-lubricating carriage axles. 573

315*c* Locke, John, Philadelphia, Pa.— Hubs for wheels. 573

315*d* Hunter, G. W., Philadelphia, Pa. —Railroad tie lifter. 573

316 Brill, J. G., & Co., Philadelphia, Pa.—Street railway car. 577

317 Morgan, Richard Price, jr., Bloomington, Ill.—Elevated railway for cities, adopted by the Rapid Transit Commission of New York, Oct. 4, 1875. This structure is designed to sustain a double track steam railway, over the centre of streets, at such height as not to interfere with their ordinary traffic. The transverse supports that carry the longitudinal trusses, which directly uphold the tracks, spring from the sidewalks, opposite each other, near the curb, meeting over the centre of the street, forming an effective pointed gothic arch. 577

317*a* Crozier, H. P., Brooklyn, N. Y.— Horse car starter. (*Outside.*) 577

318 Jones, J. M., & Co., West Troy, N. Y.—Street and excursion street cars. 577

319 Williams, R. L., Middle Granville, N. Y.—Self-coupler for cars. 577

320 Schopp, Phil. J., Louisville, Ky.— Pneumatic screw ventilator. 577

321 Crocker, L. O., East Braintree, Mass.—Conductors' railway ticket punches. 577

322 Stewart, S. N., Philadelphia, Pa.— Model of an ice boat. 594

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

GREAT BRITAIN.

323 McNaught & Smith, London.—Landau, barouche, coupé, and brougham. 292

324 Peters & Sons, London.—Park and road drags, landau, broughams, phaetons, and Whitechapel cart. 292

325 Hooper & Co., London.—Four-in-hand drag, phaetons, barouche, brougham, and landau. 292

326 Thorn, C., Norwich.—Phaetons, brougham, gig, charabanc, shooting cart, landau, and wagonette. 292

327 Roberts, John, Manchester.—Pony phaeton. 292

328 Mulliner, Henry, Leamington.—Brougham, Whitechapel cart, landau, and dog-cart phaeton. 292

329 Windover, C. S., London.—Brougham, phaetons, and landau. 292

330 Thompson, Chas., London.—Child's perambulator. 293

330*a* Haynes & Jeffries, Coventry.—Bicycles. 293

330*b* Roberts, C. D., Coventry.—Bicycles. 293

NEW SOUTH WALES.

331 Robertson, John, Sydney.—Concord buggy with canoe front; wood work and iron work entirely of New South Wales material. 292

CANADA.

332 Legaie, J. B., Quebec.—Cariole. 292

333 Ashley, Chas., Foxboro'.—Phaeton. 292

334 Knox & Wrothwell, Goderich.—Buggy. 292

335 De Wolfe, J. M., Halifax.—Phaetons. 292

336 Ledoux, B., Montreal.
a Landaulet. 292
b Double sleigh. 295

337 Kew, Wm., & Son, Beamsville.
a Top buggy. 292
b Sleigh. 295

338 Wood & Lyons, Brantford.
a Buggies. 292
b Cutter. 295

339 Conboy, Daniel, Uxbridge.—Adjustable-back sleigh. 295

GERMANY.

340 Dick & Kirschten, Offenbach-on-Main.—Axles, springs, fifth wheels, etc. 284

AUSTRIA.

341 Armbruster, S., Vienna.
a Landau. 292
b Harnesses and saddlery. 296

ITALY.

342 Locati, Alessandro, Torino.—Street cabs. 293

RUSSIA.

343 Schmidt, Edward, St. Petersburg.—Spring tester. 280

344 Nellis, Charles, St. Petersburg.—Victoria. 292

345 Wemick, Joseph, Warsaw.—Drosky. 292

346 Arbatsky, Nicholas, Moscow.
a Trotting wagon. 292
b Sledge, with robe. 295

347 Zimmerman, Roman, Moscow.—Saddlery and harnesses. 296

348 Elevin, Michael, Moscow.—Harnesses. 296

349 Brandstetler, Frederick, Warsaw.—Harnesses. 296

350 Shishkin, Stephen, Moscow.—Harnesses. 296

351 Koorikoff, P., St. Petersburg.—Harnesses. 295

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27–45.

INDEX OF EXHIBITORS, COMMISSIONERS, ETC.

DEPARTMENTS I., II., III.

A.

Aalborg Chemical Works, Soda, 223; Artificial manure, 224.
Aalborg Syrup & Spirit Factory, Liquor, 224.
Aarestrup, J., Piano, 364.
Aargau, Ass'n of the Canton of, Map, 354.
Aargau, Building Direction of, Works, 355.
Aargau Reformatory, Reports, 357.
Abad Bros., Cloth, 273.
Abad, Jeronimo, Pyrolusite, 87.
Abadji, Molagha, Divan stuff, 294.
Abas Ousta, P., Vest, etc., 300.
Abass Agha, Horseshoes, 97.
Abazar, Ketour, Ebony crutches, 305.
Abbas Riza, Silk, 298.
Abbey, C., & Sons, Foil, 136.
Abbott, Downing, & Co., Coaches, 381.
Abbott, H. L., Judge, Gr. XVI., 17.
Abbott Pavement Co., Pavement, 54.
Abdi Agha, Dishes, 292; Oats, 327.
Abdi Azadé Ali Bey, Embroidery, 302.
Abdi Bey, Chrome, 97.
Abdi Effendi, Carpet, 297.
Abdoulah, A., Morocco, 310.
Abdoulah Keire, Z., Calico, 294.
Abdoullah, Almonds, 307.
Abdoullah Arouniyé, Clogs, 301.
Abdoullah Bey, Antimony, 97.
Abdoullah Chili, Cushion cover, 304.
Abdoullah Effendi, Carpet, 297.
Abdoullah, O., Leather, 311.
Abdoullah Oglou, Hassan, Shawl, 296.
Abdoullah, T., Essence, 292.
Abdourahman, Aman, Whip, 305.
Abdourahman Effendi, Gall nuts, 306.
Abdourahman, M. O., Dinner sets, 293.
Abdourahman, T., Jacket, 300; Boots, 301; Sumac berries, 304; Peas, 307; Wax, 312.
Abdul Hahat, Towels, 294.
Abdul Hamad, Foulard, 298.
Abdul Kader, Cloth, 295.
Abdul Kader Ousta, Jacket, 300.
Abdul Keri, Boots, 301.
Abdul Medjid, Skin, 310.
Abegglen-Perrin, Chalets, 358.
Abello y Boada, P., Alabaster, 89.
Abendroth Bros., Stoves, 375.
Aberdare Mine, Coal, 67.
Abernethy, A. S., Alternate, 9.
Abhou, A., Boots, 301.
Abhou Oglou Avediz, Boots, 301.
Abil, Saucers, 292; Jewelry, 302; Cover, 303; Snuff, 309.
Abir Tarip, Cotton, 294; Silk, 298.
Aboriginal Mission Station, Hops, 163.
Abplanalp, J., Wood carvings, 358.
Abrahams Bros., Books, 221.
Abrahamson, A., Pupils' work, 362.
Abren e Lima, J. A., Cloth, 286; Work, 288.
Academy of Fine Arts, Work, 366.
Acadia Catherine Gold Mining Co., Ore, 65.
Accarisi, G., Jewelry, 234.
Accino y Vazquez de Araujo, E., Galena, 88.
Accbal y Menendez, B., Ore, 89; Stone, 91.
Acero, A., Iron, 271.
Acero, J., & Son, Hats, 276.
Achmet Agha, Skin, 311.
Achon, J., Prints, 273.
Ackens, Grand, Ry, & Co., Cloths, 203.
Ackerly, James, Dogtooth spar, 71.
Ackermann, T., Books, 347.
Acosta de Quirolo, Josefa, Crystal rock, 83.
Acquackanauk Mfg. Co., Woodenware, 376.
Acquadro, Paolo, Postal box, 365.
Adams & Co., Glassware, 108; Silks, 150.
Adams, Dan, Hat rack and chairs, 109.
Adams, J., Wheat, 163.
Adams, J. H., Ore, 47.
Adams, J. S., & Co., Jewelry, 128.
Adams, R., Hinges, 153.
Adams, R. T., Filters, 160.
Adams, S. C., Map, 321.
Adams, S. J., Texas, 14.
Adams, Walter, Books, etc., 338.
Adams White Lead Co., White lead, 105.
Adams, W. R. M., Bolt, 140.
Adana, Government of, Galena, 96; Gall nuts, 306, 310; Skins, 311.
Addis, J. B., & Sons, Tools, 153.
Addy, M., Judge, Group I., 15.
Adelaide Museum, Birds, 167.
Adelsvärd, Baron Th., Ore, 78; Copper, 79.
Adjustable Folding Chair Co., Chair, 109.
Adler, Geo., Cardboard work, 205.
Adler, R., Musical instruments, 349.
Adler, W., Jewelry, 318.
Adlischweil Silk Goods Factory, Silks, 212.
Admiralty, Lords of the, Model, 174.
Admiralty Tyora Works, Boiler plates, 98.
Adret, A., Carpets, 297.
Adrianople, Gov't of, Ores, 96; Nuts, 306.
Advena & Heald, Axles, 379.
Adver, M., Carpet, 297.
Advisory Board, Bricks, 188; Yarn, 189.
Aebi & Landry, Watches, 354.
Afong & Achuck, Sugars, 251.
Aghoba, K., Lentils, 309.
Aghop, Erzeroum, Fox furs, 304.
Aghop, Hodja, Cord, 293; Ribbons, 298; Bonnet, 301.
Aghop, Miss, Lace, 302.
Aghop, S., Calicoes, 294.
Agosti, Agnes, Embroideries, 234.
Agosti Brothers, Olive oil, 232.
Agostina Della Seta, A., Olive oil, 231.
Agregado, A., Shirting, 280.
Agricultural and Prof'l Colony, Statutes, 353.
Agricultural and Rural Industry, Department of, Maps, 373.
Agriculture and Commerce, Dep't of, Prizes, 344.
Agriculture, Industry, and Commerce, Board of, Coal, 89.
Agriculture, Provincial Board of, Ores, 88.
Aguair, J. C. da Costa, Bookstand, 253.
Agudo, A, Handkerchief, 277.
Agudo, G., Soap, 271.

Aguilar, B., Treatise, 266.
Aguilar Calvo, A., Flannel, 275.
Aguilar, Francisco D., Minerals, 83; Lime, 84.
Ahern & Walsh, Tools, 190.
Ahgme Agha, Wool, 314.
Ahido, Yataghan, 304.
Ahl, D., Splints, 135.
Ahlberg & Ohlsson, Instruments, 363.
Ahmed Agha, Thread, 294; Wool, 296; Yataghan, 304; Resin, 307; Leather, 310; Wax, raisins, 312.
Ahmed, Aintab, Honey, 312.
Ahmed, Ana, Chair, 292.
Ahmed, Antakia, Oils, 313.
Ahmed, C. C. K., Oats, 308.
Ahmed Cherif, Cartridge box, 304.
Ahmed Chibre, Inkstand, 304.
Ahmed, E., Beans, 309; Prunes, 312.
Ahmed Effendi, Towels, 295; Carpet, 297; Silk, 298.
Ahmed, Hadji, Belt, 300; Saffron, 306.
Ahmed Mehamoudik, Silk, 297.
Ahmed Moussa, Pipes, 303.
Ahmed, O., Calico, 294; Cloth, 296; Box, 303; Lock, 305; Skins, 310.
Ahmed, Tchataldja, Barley, 307.
Ahren, J. H., Clay, 73; Pottery, 188.
Ahrens, George, Extension table, 111.
Aiacha, Madame, Linen, 295, 302.
Aiché, K., Shirting, 294, 300.
Aiken, Lambert, & Co., Toothpicks, 128; Gold pens, 130.
Ainsworth, Thomas, Linen threads, 149.
Aintab, Gov't of, Mat, 293; Curtains, 294.
Aire & Calder Glass Bottle Co., 147.
Aitchison, J., Jewelry, 151.
Aiye, P., Calculus, 266.
Akerman, R., Judge, Gr. I., 15.
Akhati, Giorki, Gum, 306; Root, 309.
Ak-Hissar, Government of, Iron, 97.
Akimoff, S., Decoration, 315.
Aksenoff, P., Toys, 318.
Alabama & Georgia Mfg. Co., Sheeting, 116.
Aladdin Oil Co., Oils, 103.
Alard, A. F., Musical staff table, 362.
Albany & Rensselaer Iron & Steel Co., Bessemer steel, etc., 57.
Albay, Provincial Board of, Fabric, 281.
Alberga & Mitchell, Wine, 172.
Albergotti, Geo., & Agostino Bros., Oil, 231.
Albert, C. F., Instruments, 332.
Albert, J., Violins, 332.
Albert, J. S., Bureau of Machinery, 10.
Albert Manufacturing Co., Alabaster, 73.
Albert Toilet Soap Co., Soaps, 187.
Albertson, J. M., Window glass, 109.
Albertson, J. W., Alternate, 9.
Albion Coal Co., Coal from Ngakauau, 63.
Albion Print Works, Prints, 119.
Albrecht & Co., Pianos, 332.
Albuquerque, C. de A., Rags, 285.
Alcacer do Sal, Viscount d', Salt, 283.
Alcarar, V., Arithmetic, 266.
Alcaraz Angulo, J., Ink, 271.
Alcobia, J. T., Tinware, 284.
Alcocer, Miss Antonia, Wax work, 267.
Alcock & Co., Billiard table, 160.
Alder Bros., Embroideries, 213.
Alder & Meyer, Trimmings, 213.
Alderson & Sons, Leather, 158.
Alegre, J., Earthenware, 256; Work box, 258.
Alen, Pedro & Manuel, Tin, 92.
Aleppo, Governor of, Waters, 292; Cotton, 298; Seed, 307.
Alessi & Bonaventura, Essences, 232.
Alessi, G., Essences, 232.
Alessio Bros., Calico, 233.
Alexander, J. P., Fire brick, 106.
Alexander, J. S., Minerals, 47; Spade, 56.
Alexander, S. T., Sugars, 251.
Alexander, W. D., Map, 251.
Alexander, W. R., Coal, 67; Coffee, 180.
Alexandre, Fans, 198.
Alexandre & Son, Organs, 345.
Alexandroff, Apparatus, 372.
Alexeieff, A., Jewelry, 318; Basket, 320.
Alexia, Miss B., Hose, 300.
Ali, Vest, 300; Receivers, 303.
Ali, A., Pots, 292.
Ali Agha Bachkin, Essences, 292.
Ali Agha, R., Service, 293; Carpet, 297; Pipes, 303; Inkstands, 304; Sorbus, 306.
Ali Agha Hadji, Grain, 308.
Ali Ani, Carpet, 297.
Ali Ani, Sullé, Seed, 307.
Ali Baba, Seeds, 307.
Ali Bachakar, Clogs, 301.
Ali Bekir, Apples, nuts, 307.
Ali bin Chaban, Boots, 301.
Ali Bin Mehemed, Seeds, 310.
Ali bin Nazif, Boots, 301.
Ali Bongali, Hadji, Millet, 308.
Ali Bou Allia, Hadji, Wheat, 308.
Ali Effendi, Argil, 97; Salt, 291; Madder, 306; Wool, 314.
Ali Hadji, Diarbeker, Brimstone, 96.
Ali Hadji, Emery, 97; Calico, 294; Box, 303; Wheat, 308; Apricots, 312.
Ali Imi, Madame, Towels, 295.
Ali Marach, Straw brooms, 305.
Ali Mehemed, E., Essence, 292.
Ali Nazif, Boots, 301.
Ali Oglou Mehemed, Gall nuts, 306.
Ali Oglou Moussa, Morellas, 312.
Ali Oglou, Velz, Courier's bag, 304.
Ali Omer, Skin, 310.
Ali Osman, Knives, 304.
Ali Ousta, Pitchers, 293; Beans, 309.
Ali, S., Leather, 310.
Ali Zotte, Coral, 310; Wax, 312; Cocoons, 314.
Alia y Lopez, M., Serge, 274; Quilt, 275.
Alibalas, C., Mats, 280.
Alice Furnace, Ores, 50; Pig iron, etc., 57.
Alidjé, Madame, Clogs, 301; Baskets, 305.
Alien, P., Rods, 278.
Alil Fakildin, Silk, 298.
Alipio, D. J., Writing desk, 253.
Aljama Moreno, M., Pitchers, 272.
Allah, Tozula, Salt, 291.
Allard, Furniture, 194.
Allatorini, P., Carpet, 296.
Allegretti Refrigerator Co., 377.
Allen & Bro., Decorations, 109.
Allen Cement Co., Cement, 54.
Allen, G. W., Specimens, 328.
Allen, H., Judge, Gr. XX., 18; Instruments, 329.
Allen & Hanburys, Medicines, 144, 152.
Allen, H. S., History, 326.
Allen, J., Wool, 159.
Allen, J., & Son, Dentures, 136.
Allen, James T., & Co., Marble, 52; Rockers, 136.
Allen & Johnson, Crutches, etc., 136.
Allen, Lane, & Scott & J. W. Lauderbach, Book, 328.
Allen, Oliver, Petrifactions, 48.
Allen, Thos., Missouri, 13.
Allendale Company, Sheetings, 118.
Alllentown Iron Co., Pig iron, 57.
Allentown Rolling Mill Co., Ores, 49; Iron, 57.
Allentown Slate Mantel Co., 52.
Alli Maccarani Claudio, Olive oil, 231.
Allora Mine, Coal, 67.
Almaden, Mines of, Ores, 88; Plans, 92.
Almazan, P., Treatise, 266.
Almeida, A. L., Reins, 254.
Almeida, A. R. de, Cordage, 254.
Almeida da Costa, A. d', & Co., Pottery, 284.
Almeida, Germano, Boots, 288.
Almeida, J. J. d' A., Sculpture, 370.
Almeida, J. P., Linen fabrics, 285.
Almeida & Silva, Mats, 286.
Almen, von, & Kopp, Absinthe, 214.
Almgren, K. A., Silks, 226.
Almonacid & Parchappe, Minerals, 83.
Alnarp Agricultural Institute, Maps, etc., 362.

Alofoozoff & Alexandroff, Linen fabrics, 316.
Alonso, Casimiro, Iron ore, 88.
Alonzo Cortés, Manuel, Salt, 91.
Alric, A., Soap, 255.
Alsina, J., Velvets, 275.
Altemus & Co., Scrap books, 131.
Altenburg & Graue, Pianos, etc., 350.
Alteneder, T., Instruments, 329.
Althans, E. F., Judge, Group I., 15.
Althof, Bergmann, & Co., Toys, 128.
Altona, Association of, Model, 350.
Alvarez Otin Bros., Cloaks, 275.
Alvergniat Bros., Instruments, 344.
Alves, Antonio, jr., Pruning knives, 289.
Alves Cunha, J. & M., Ceramics, 284.
Alves, Pereira, & Co., Soap, 252.
Alves, S. José, Books, 366.
Amado Salazar, Enrique, Galena, 88.
Amassia, Government of, Fabrics, 298; Pouch, 303; Nuts, 3 7; Cotton, 314.
Amat, G., Matting, 273.
Amat, J., Music, 366.
Amazon, Department of the, Silk, 263; Coffee, 264.
Amazonas, Province of, Wreath, 254.
Amberg, Wm. A., File, 129.
Amblet & Poncet, Oil, 212.
Ambrosiussen, O. P., Model, 224.
Ambruster, John, Pressed brick work, 107.
Amelang, C. F., Books, 347.
America Hosiery Co., Underwear, 125.
American Arms Co., Shotguns, 133.
American Baptist Pub. Society, Books, 328.
American Bible Society, Bibles, 327.
American Bridge Co., Model, 334.
American Bronze Powder Manufactory, 105.
American Calcium Light Co., 115.
American Crockery Co., Table ware, etc., 108.
American District Telegraph Co., Boxes, 331.
American Gas Screen Mfg. Co., 114.
American Kaolin Co., Kaolin, 54; Brick, 107.
American Lead Pencil Co., Lead pencils, 130.
American Lever Wringer Co., 377.
American Linen Co., Printing cloths, 118.
American Linen Thread Co., Thread, 119.
American Linoleum Mfg. Co., 119.
American Machine Co., Wringers, 377.
American Mechanical Toy Co., Toys, 128.
American Missionary Ass'n, Maps, 321, 336.
American Moulded Collar Co., Collars, 125.
American News Co., Books, 328.
American Optical Co., Spectacles, 331.
American Paper Box Co., Paper boxes, 132.
American Print Works, Calicoes, 119.
American Printing House for the Blind, Books, etc., 322.
American Reflector Co., Reflectors, 114.
American Screw Co., Screws, 141.
American Shade Roller Co., Shades, 114.
American Sheet & Boiler Plate Co., Iron, 56, 115.
American Shovel Co., Shovels, 137.
American Silk Label M'g Co., 123.
American Society for the Prevention of Cruelty to Animals, Deodands, 336.
American Stair Rod Co., Rods, 140.
American Sunday School Union, Books, 327.
American Suspender Co., Suspenders, 125.
American Tract Society, Book binding, 132; Books, 327.
American Watch Co., Watches, 330.
American Wire & Screw Nail Co., Nails, 142.
Amersfoordt, Mrs. H. M., Oratorio, 360.
Ames, A., jr., Judge, Gr. XIV., 17.
Ames Manufacturing Co., Swords, 134.
Ameye Berte, R., Chiccory, 218.
Amherst Stone Co., Sandstones, 53.
Amidon's, T. H., Son, Hats, 126.
Ammirati, D., Chairs, 233.
Amores, M., Cloth, 274.
Amoskeag Mfg. Co., Shirtings, etc., 117.
Amparson, H., Skins, 311.
Amsberg, Adolphe, Door knobs, 206.
Amsler-Laffon, J., Planimeters, 354.
Amsterdam Canal Co., Chart, 361.
Ana Bini, T., Wax, 312.
Ana, Madame, Case, 295; Lace, 299.
Ana Micó, Widow of Ferrandis, Mineral waters, 92.
Ana Sebat, Pearl work, 371.
Ana, Yania, Cotton, 298.
Anaghrosti, Dascalo Paolo, Oils, 291.
Anagnosti, Fabric, 298.
Anagnosti, P., Wool, 314.
Añana, Community of Heirs of, Salt, 270.
Anastach, K., Skin, 310.
Anastasio, Giuseppe, Cigars, 214.
Anastassi, Shirting, 298.
Anastassi, A., Cocoons, 314.
Anastassi, H., Chemise, 300.
Anastassiades, G., Soaps, 292.
Ancaster Knitting Co., Fancy goods, 189.
Anchuelo, Q., Iron, 93.
Andalgala, Sub-Commission of, Soapstone, 84; Artificial flowers, 259.
Andangala, Comm. of, Salt, 255; Harness, 260.
Anderson, A. T., Map, 342.
Anderson, David, & Son, Roofing, 149.
Anderson, J., Pins, wire cloth, 226.
Anderson, J. A., Judge, Gr. XXI., 18.
Anderson, John, Judge, Gr. XXI., 18.
Anderson, M., Implements, 329.
Anderson & Murison, Wines, 171.
Anderson, N. J., Minerals, etc., 362.
Anderson, T., Clay, 73.
Anderson, W. W., Models, 378.
Anderssen, J., Judge, Gr. V., 16.
Andés & Son, Varnish, 207.
Andin Chako, N., Brandy, 313.
Andon, C., Morocco, 310; Cotton, 314.
Andon, Mitchré, Wooden casks, 305.
Andonafake, A., Silk, 297.
Andonaki, Wax, 312.
Andonaki, K., Amethyst, 302.
Andover Iron Co., Iron, 55.
Andrade, A. R. L., Bituminous coal, 82.
Andrade, Antonio P. S. de G., Wool, 286.
Andrade, J., Baskets, 254.
Andrade, J. F. de, Colored clay, 82.
Andradi, A. A. de, Instruments, 289.
Andre, J., Musical publications, 347.
André, L. A. F., Coals, 184.
Andrews, A. H., & Co., Furniture, 112; Globes, 321.
Andrews Brothers, Pig iron, 56.
Andrews, C. B., Ferns, 251.
Andrews, Henry, & Co., Coatings, 149.
Andrews, Hitchcock, & Co., Ores, 50; Iron, 58, 59.
Andrews & Hitchcock, Coal, 51
Andria, T., Skins, 310.
Andrion, Heirs of, Silk, 275.
Andris, Lambert, & Co., Glass, 215.
Androscoggin Mills, Sheeting, 116.
Andújar, Potters of, Pots, 272.
Angas, G. H., Photographs, 167.
Angas, J. H., Wool, 168.
Angeli, Candido R., Straw, 234.
Angelini, Prof. Rodolfo, Penmanship, 365.
Angelucci, G., Shoes, 234.
Anglada & Co., Carbonate of zinc, 87.
Angleur Steel Manfg. Co., Steel, 77.
Anglim, J., Annals, 326.
Anglo Australian Guano Co., Guano, 183.
Angot & Dubreuil, Instruments, 345.
Angstrom, C. A., Judge, Gr. XXI., 18.
Anguel, I., Cocoons, 314.
Anguel, Ichkodra, Leaves, 304.
Anhaia & Angelo, Cotton goods, 253.
Anikeyeff, J., Apparatus, 373.
Aniline Mfg. Co., Chemicals, 201.
Anjos & Co., Cotton prints, 285.
Anjos, Cunha, Ferreira, & Co., Prints, 285.
Ankarsrum Works, Iron, 79.
Annawan Manufactory, Printing cloths, 118.
Anon, Flowers, 174.
Anselmi & Marassi, Oils, 232.

Ansley, Fred. W., Jewelry, 129.
Ansonia Brass & Copper Co., Kettles, 140; Clocks, 330.
Antaki, G., Belt, 300.
Antakia Caimakan, A., Silk, 297.
Anthoni, G., Axles, 199.
Anthony, F., Brandies, 224.
Anthony, G. G., Kansas, 12.
Anthracite Fuel Co., Coal, 51.
Antigua, Provincial Board of, Baskets, 280.
Antimony Mining Co., Ore, 94.
Antoine's, L., Son, Inks, 192.
Antoli, Miss M., Cotton, 294.
Anton, E., Books, 347.
Antonelli, Cav. A., Essences, 232.
Antonio, Martins, Henriques, & Co., Ore, 94.
Antonoff, Harness, 320.
Antonoff, P., Plan, 373.
Antony-Bovy, J. E., Watch works, 355.
Anzotegui, E. S. de, Embroidery, 258.
Aparicio, J., Cloak, 275.
Aplin, D., Ores, 67.
Apollinaré's Co., Mineral waters, 75.
Apollo Stearine Candle Co., Candles, 160.
Appert, Lengele, & Co., Glass, 193.
Applegate, R. O., Table, 377.
Appleton Co., Cotton goods, 117.
Appleton, D., & Co., Binding, 132; Books, 327.
Arabe Mehemed, M., Wool, 314.
Aragoneses, Corp. of, Stone, 90.
Arai, H., Furniture, 245; Canes, 246; Vase, 248.
Araiyo, José Antonio, Basket work, 290.
Aranda & Cp., Covers, 279.
Aranjo, J. A. Vieyra de, Oligistic iron, 82.
Arañó, E., Yarns, 274.
Ararat Flour Mill Co., Wheat, 163.
Ararat, Shire Council of, Photographs, 162.
Araujo, J. G., Guitars, etc., 369.
Arbatsky, N., Wagon, 383.
Arbo, P. N., Judge, Gr. XXVII., 19.
Arboledas, Martin, Sulphate of lead, 88.
Archæological Society of Ohio, Map, 328.
Archer & Pancoast Manfg. Co., Gasoliers, 114.
Archer, W. H. D., Wheat, 183.
Archibald, T. D., Coal, 71.
Architecture, Society for the Promotion of, Works, 360.
Ardavissa, Madame, Thread baskets, 304.
Ardizzone, Francesco, Sulphur, 81.
Aren & Blumenheim, Embroideries, 204.
Aren, Manuel J. da S., Boots, 288.
Arens, A., Books, 359.
Ares, R., Clogs, 276.
Argandar, A., Arithmetic, 266.
Argentine Manufactory, Porcelain, 223.
Argentine Republic, Minister of the Interior of, Memoirs, 368.
Argentine Rural Society, Annals, 368.
Arguello, David, Ores, 84.
Arguello, E., Mats, 258.
Arguin, E., Webs, 281.
Arias, Hilarion, Lime, 84.
Aristide, Count, Mineral waters, 81.
Aristoff, A., Scarfs, 318.
Arles, Dufour, Raw silk, 195.
Arlington Mills, Alpacas, 121.
Armada, J. A. de, Hats, etc., 253.
Armand, E., & Sons, Wool, 317.
Armbrister, J. A., Canes, 173.
Armbruster, J. H., Weights, 140.
Armbruster, S., Coach, 211; Harness, etc., 383.
Armesto Vinuesa, F., Peat, 270.
Armington, J. H., Gas engineering, 335.
Armitage, Leather, 156.
Armitage Bros., Woods, etc., 176.
Arms, Bell, & Co., Nuts, 141.
Arms Manufacturing Co., Leather goods, 129.
Armstrong, A., Wools, 164.
Armstrong, F., Garters, 128.
Armstrong, J. B., Seeds, 156.
Arnaus, M., Elixir, 278.
Arnberg, C., Judge, Gr. IX., 16.
Arnold, E., Letters, 200.
Arnold, Geo., & Co., Wools, 164.
Arnold, L. B., Judge, Gr. IV., 16.
Arnot, S., Leather, 183.
Arntzenius, Jannink, & Co., Yarn, 220.
Arny, W. F. M., New Mexico, 13.
Arola, A., & Domenech, F., Chemicals, 270.
Arouca & Co., Cotton fabrics, 253.
Arpadji Mahmond Agha, Wax, 312.
Arriago, J., Book, 266.
Arrivillaga, Augustin, Galena, 87.
Arroniz, M., Biography, 266.
Arrosto, G., Medicines, etc., 235.
Arroyo, G., Mantas, 275.
Arroyo, Juan, Iron, 92.
Arsenjeff, F., Embroidery, 318.
Arteaga, J., Studies, 266.
Arteaga & Jáuregui, Phosphorus, 271.
Arteche, A. M., Carbonate of iron, 270.
Arthur & Dougherty, Stone, 65.
Arthur, F., Cabinet work, 147.
Artillery Corps, Gun, 278.
Artin Effendi, Madder, 306.
Artisans' School, Drawings, 360.
Artist's Union, Statutes, 359.
Artiz Antonio, M., Phosphorus, 271.
Arzalaya, R. de, Basket, 273.
Asakura, M., Toys, 246.
Asano, T., Vases, 245.
Asch, Myer, Assistant Secretary, 10.
Aschenbach & Miller, Perfumery, etc., 106.
Asco, G., Vest, 300.
Aseptin Amykos Stock Co., Aseptin, 225.
Asevedo, D. J. Santós, Diamonds, 82.
Ash & Lacy, Iron sheets, 62.
Asher & Adams, Album, 327.
Ashland Furnace, Ores, 50.
Ashley, C., Phaeton, 383.
Ashtabula Co. Historical Soc'y, Relics, 328.
Ashworth, Edmund, & Sons, Yarns, 149.
Asphaltum Co. of Maestu, Asphaltum, 89.
Assam, H. M., Pipes, 223.
Assetto di Graziani Bros., Cottons, etc., 233.
Assi Agha, Plate, 293.
Assibi, Madame, Lace, 299; Belt, 302.
Association for the Encouragement of Manfs., Books, 369.
Association for Women's Work, Rugs, 246.
Assungin, Colony of, Saponaceous clay, 82.
Astadji, N., Cotton, 314.
Astadji Oglou, N., Belt, 300.
Astardji Narssès, A., Cotton, 294.
Astbury & Maddock, Earthenware, 107.
Astolfi, C., Soap, 271.
Astor, Socks, 300.
Astudillo, J. M., Boots and shoes, 261.
Astwood, Mrs., Woods, 174.
Asylum for Girls, Reports, 353.
Asylum for the Poor, Cigars, 268.
Asylum of Mendicity, Handkerchief, 277.
Atanach, D., Skins, 310.
Atanach, Miss, Silk, 298; Slippers, 301.
Ateuf Dédé, Marmalade, 312.
Athayde, M. E. de S., Mica, 82.
Atidgé, Madame, Cotton, 294; Hose, 300.
Atkinson, E., Judge, Gr. VIII., 16.
Atkinson, Henry, Shirts, 125.
Atkinson, J. & E., Perfumery, 145.
Atkinson, W., Teazles, 164.
Atlantic and Pacific Telegraph Co., Apparatus, 331.
Atlihuayan Hacienda, Sugar, 268.
Atterbury & Co., Glassware, 108; Lamps, 114.
Atwell, Misses, Shells, 173.
Atwood, D., U. S. Commissioner, 9.
Atwood, H. W., Cologne, 106.
Atwood, J. M., Map, 327.
Atwood & Richmond, Silk thread, 123.
Aub, Hackenburg, & Co., Silk, 122.
Aubé, H., Napkin ring, 198.
Aubert Bros., Watchsprings, 355.
Aubry, J., Faience, 193.
Aubry, T., Stoves, 194.
Auckland Patent Steam Rope Co., Rope, 155.
Audemars, L., Chronometers, 355.

Audibert, Monin, & Co., Silks, 196.
Audibran, Elixir, 192.
Audsley & Bowes, Books, 338.
Audy, Mrs., Imitation pearls, 197.
Aue, F. v. d., & Kollmann, Gloves, 209.
Augener, George, & Co., Music books, 338.
Augusta, Maria da P., Toothpicks, 288.
Augustine & Stuart, Roofing, 378.
Auld, P., Wines, 168.
Auld, W., Cue, 250.
Auret, W. H., Vegetable drugs, 169.
Aurineta, Cav. M. A., Disinfection, 365.
Aurora Factory, Cottons, 265.
Ausonia Brass & Copper Co., Brass, 59.
Austagan, Fruit, 307
Austin, S. L., Sugars, 251.
Australasia, National Bank of, Notes, 341.
Australia, Commercial Bank of, Photos., 341.
Australian Museum, Birds, animals, 157, 340.
Austrian Glass Foundry Ass'n, Bottles, 207.
Automatic Swing Co., Swings, 336.
Autunes, Jeronimo J., Elastic braids, 287.
Auvray, P. E., Odontine, 171.
Auvray, P. E., Wax, 172.
Avadiz, Miss, Lace, 299; Purse, 304.
Avadjan, Wool, 314.
Avadjan, Savas, Aloe wood, 306.
Avanza, Miss T., Cover, 302.
Avaujo, Antonio J. B. de, Silk, 287.
Avedis Papazogla, T., Pitchers, 293.
Avellaneda, Nicolas, Marble, 84.
Avellaneda, Nicomeden, Embroidery, 258.
Avellar & Miranda, Toothpicks, 288.
Avesta Garpenbergs Stock Co., Iron ore, 78; Iron, 79.
Avilés y Merino, F., Syrup, 271.
Avram, Cocoons, 314.
Awo, P., Vases, 245.
Awoumi, G., Jewel cases, 247.
Awoumi, G., Utensils, 245, 247.
Ax, H., Cotton and mixed goods, 203.
Axtell, S. B., Judge, Group I., 15.
Ayacucho, Dept. of, Clothing, 263; Coffee, 264.
Ayala, Antonio, Steatite, 87.
Ayamonte, Corp. of, Lime, 90.
Ayaza Oglon Ahmed, Cotton, 294.
Aydin, Government of, Ores, 96; Juice, 292; Wheat, 308.
Ayer, J. C., & Co., Medicines, 134.
Ayliff, Mrs., Skeletonized flowers, 169.
Ayliff, Reuben, Photographs, 170.
Ayliffe, I. H., Quartz, 166.
Ayvadjik, Government of, Salt, 291.
Azar Ogli, Linen, 295.
Azevedo, J. G., Books, 366.
Azevedo Miguelinia, Julia de J., Silk, 287.
Azit Anelé, Manganese, 97.
Azmoos Weaving Mills, Figured goods, 212.
Azzimonte, L., Drinking cup, 256.

B.

Baanante, Juan, Cantharides powder, 270.
Baare, Fred., Silk, 123.
Baba Chika, Boots, 301.
Babani Azeré, Ear rings, 302.
Babey, Ch., Tulles, 197.
Babi, S., Canes, 303.
Babin, Victor, & Lepooshinsky, Well, 99.
Bablot, A. y, Books, 266.
Baccilieri, L., Gloves, 234.
Bach, Bracelets, 318.
Bach, I. G., Lithographs, 347.
Bacharach, M., Urinal, 378.
Bachiller, Guillermo, Galena, 87.
Bachman, S., Shawls, 121.
Bachmann, F., Table, 353.
Back, Publications, 347.
Backman, J. F., Safe, 225.
Bacon, B. H., Clock, 330.
Bacon, C. N., Felts, 119.
Bacon, George W., Transfers, 127.
Bacon & Karr, Pianos, 333.
Bacquet & Co., Laces, 197.
Bader, F. W., View, 211; Design, 352.
Badger, B. F., Razor strops, 138.
Badia, J., Yarns, 274.
Badiole, H., Medicines, 199.
Badish National Aiding Ass'n, Views, 350.
Badollet, J. M., & Co., Chronometers, 355.
Badon, B., Embroidery, 281.
Baedecker, J., Books, 347.
Baedeker, Carl, Books, 347.
Baedeker, G. D., Books, 347.
Baeder, Adamson, & Co., Whips, 127; Emery, 139.
Bæhni Bros., Hair springs, 355.
Baerlocher-Custer, Embroidery, 213.
Baertsoen, A. & Buyssé, A., Cottons, 216.
Bagdad, Government of, Cup, 292; Mats, 293; Textiles, 295, 297; Garments, etc., 300; Baskets, 305; Tomahawks, 305; Reins, 305; Morocco, 311.
Bagdanoff, W. T., Cushions, etc., 317.
Bagge, G. B., Maps, etc., 362, 363.
Baggott, S. & W., Rockingham ware, 108.
Bagley, John J., Michigan, 13.
Bagot, E. M., Meat, 167.
Bagwell, E. R., Alternate, 9.
Bahamas, Cent. Com. of, Fans, 173.
Bahia, Antonio José R., Hats, 288.
Bahia Blanca, Justice of, Salt, 255.
Bahia, Custodio J. R., Hats, 288.
Bahia & Genro, Cotton fabrics, 285.
Bahia, House of Correction of, Furniture, 252.
Bahmann Bros., Instruments, 329.
Bahse & Haendel, School furniture, 202.
Bailey, A., Tulles, 197.
Bailey & Co., Silverware, 113; Jewelry, 126.
Bailey, E., Paintings, 251.
Bailey, Edward H., Linings, 122.
Bailey, F. M., Ferns, 179; Flowers, 180.
Bailey, G., Coal, 71.
Bailey, H. H., Photographs, 182.
Bailey, J. T., & Co., Bags, 115; Rope, 142.
Bailey, Leonard, & Co., Planes, 138.
Bailey, W. H., Sugars, 251.
Bailey, W. & J. A., Teapots, 147; Glass, 148.
Bailey & Wilson, Wagon, 380.
Bailey Wringing Machine Co., 138, 377.
Bain, G., Finance, 11.
Bain, J., Judge, Gr. XV., 17.
Baird, H. C., & Co., Books, 327.
Baird, S. F., Judge, Gr. V., 16.
Baker, Arnold, & Co., Fixtures, 114.
Baker, C., & Sons, Furniture, 153.
Baker & Co., Jewelry, 204; Wheels, 379.
Baker, E. D., New Hampshire, 13.
Baker, G. O., Judge, Gr. VIII., 16.
Baker, H. J., & Bro., Drugs, etc., 102.
Baker, Isabella, Wines, 168.
Baker, J., Safety steps, 160.
Baker, John C., & Co., Cod liver oil, 103.
Baker Mine, Mica in plates, 71.
Baker, W., Lime, 72, 73; Awls, 153.
Bakewell, Pears, & Co., Glassware, 108.
Baktiar, Bez, Clay, 97.
Balbé, Juan C., Pen drawing, 262.
Baldirez, S., Slates, 90.
Baldwin, A. H., Magnetite, 71.
Baldwin, E. P. & W., Sheet iron plates, 62.
Baldwin, J., & Co., Saddlery hardware, 382.
Balhannah Mining Co., Ores, 166.
Balisa, Corp. of, Granite, 90.
Ballantyne, Mrs., Lime and limestone, 72.
Ballarat Woolen Co., Shawls, etc., 161.
Ballard & Galloway, Limestone, 52.
Ballard Vale Mills, Flannels, 121.
Ballentine, G. H., Cottage, 378.
Ballou, Geo. C., & Son, Cotton goods, 117.
Ballue, A., Publications, 344.
Bally & Schmitter, Elastic webs, 214.
Balny, A., Book, 344.
Balthazar, Miss, Chemises, 300.
Baltic Woolen Mills, Woolen goods, 120.
Balto Oglou Youssouf, Morocco, 311.
Balugera, A., Embroidery, 258.

Balvidares, V., Horse-hair whip, 259.
Balza Bros., Cigars, 268.
Bamble Nickel Mines, Ores, 80.
Bambula, J., Bronzes, 208, 210.
Banante, Juan, Argil, 91.
Bancroft, E. P., Kansas, 12.
Bancroft, J. S., & Co., Hats, 126.
Bandeira, A. S. B. M., Salt, 283.
Bandoux & Co., Glass, 215.
Bandoux, E., & Jonet, Glass, 215.
Banks, E. H., Cereals, 156.
Bannerman, R., Clay, 73.
Bano, A., Wine, 313.
Banouch Agha, Wheat, 307.
Banouch, Son, Cocoons, 314.
Banquells & Rascon, Mineral water, 91.
Bapterosses, F., Buttons, 198; Materials, 343.
Baptista, J. G., Linen yarns, 285; Spoons, 290.
Baras-Navaux, Woolen stuff, 216.
Barau & Colas, Jars, 194.
Barbacena, Viscount of, Coal, 82.
Barbarulo, A., Cloths, 233.
Barbarulo Bros., Cloths, 233.
Barber Match Co., Matches, 106.
Barbiere, J., Tennessee, 14.
Barbizet, Son, Faience, 193.
Barboda, Oligistic iron, 82.
Barbour Flax Spinning Co., Thread, 119.
Barbour, J. S., Finance, 10.
Barboza, Antonio José, Twines, 289.
Barboza & Costa, Desk, 284.
Barboza Marinho, V., Oil cloths, 286.
Barcena, M. J. R., Treatise, 266.
Barcena, Mariano, Rocks, 86; Livingstonite, 88; Works, 266; Maps, 267, 269.
Barclay & Morrison, Ores, 72.
Bardet, F., Wire cloths, 253.
Bardon & Ritton, Silks, 196.
Bardou, J. P., Paper, 198.
Bardou & Sons, Instruments, 345.
Barella, J., Ceramics, 272.
Barelli, F., & Son, Hats, 257.
Bargioni, F., Ropes, 235.
Bari, Chamber of Commerce of, Oil, 232.
Barinaga de Oteiza, A., Tapestry, 277.
Barker, G. R., Flue, 375.
Barker, H., & Bro., Granite pedestal, 52.
Barker, H., & Sons, Granite, 53.
Barker Mills, Sheetings, 116.
Barker, Moore, & Mein, White lead, 104.
Barkly, Sir H., Bitter barks, 169.
Barlow & Jones, Covers, 148.
Barlow, W. H., Judge, Gr. XX., 18.
Barnard, B., Furniture, 147; Baskets, 153.
Barnard, Bishop, & Barnards, Stoves, 147.
Barnard, F. A. P., Judge, Gr. XXV., 19.
Barnard, G. L., Oil, 166; Wines, 168.
Barnard Manfg. Co., Printing cloths, 118.
Barnard, S. B., Photographs, 170.
Barnes, A. S., & Co., Books, 321.
Barnes, Lewis, Iron ore, 49.
Barnes, W. E., Kansas, 12.
Barnet, J., Photographs, 157.
Barney, E. H., Skates, 138.
Barnhurst & Robinson, Stretchers, 128.
Barnum, Richardson, & Co., Drawings, 334.
Baroncelli, Baldassare, Sodium, 231.
Barra, Prof. Luigi, Book, 365.
Barran, Leoncio, Lime, 90.
Barraya, M. S., Counterpane, 285.
Barreda, C., Alcohol, 268.
Barreiros, Francisco I., Boots and shoes, 288.
Barrenechea, Paulino, Coat of arms, 263.
Barreto, Antonio Tavares, Limestone, 94.
Barrett, Arnold, & Kimball, Paper, 133.
Barrett & Co., Cordials, 157.
Barrett, Jos. W., Designs, 126.
Barriga, Antonio F., Quartz, 94.
Barrios, D., Wines, 264.
Barrios, J. M., Wines, 264.
Barrios, J. P., Brandy, 264.
Barrios, S., Wines, 264.
Barros, A. A., Canes, 254.
Barros, A. A., & Gaveao, B. A., Whips, 254.
Barros, Diogo A. de, Cotton goods, 253.
Barros, J. de A., Reins, 254.
Barros, José, Bricks, 85.
Barros, Lauro, Wool, 262.
Barrows, H. F., & Co., Jewelry, 126.
Barrows, Savery, & Co., Hollow ware, 376.
Barry, Arnold, & Co., Wheat, 170; Wool, 171.
Barry & Herdon, Aloes, 170.
Barry & Lane, Range, 375.
Barry & Nephews, Aloes, 170; Brandy, 171.
Barry, P., Revolutionary arms, 382.
Barstow Stove Co., Stoves, 375.
Bartels & Kroyemann, Chemicals, 201.
Barth, G. M., Frames, 378.
Barth & Wagner, Mechanical toys, 205.
Bartholomew, John, Maps, 338.
Bartlett, Butman, & Packer, Trusses, 136.
Bartlett, C. L., Ornaments, 328.
Bartlett, J. R., R. I., 14; Catalogue, 326.
Bartlett, J., & Sons, Grates, 375.
Bartlett, J. W., Lamps, 114.
Bartolini dott Cesare, Fossil flour, 81.
Barton, C., Ores, 47.
Barton, G. C., Nebraska, 13.
Barton, W. E., Bells, 142.
Barwon Woolen Mill Co., Tweeds, 161.
Bas y Verdera, J. B., Canvas, 273.
Bascuñan, Francisco, Minerals, 83.
Bashkoff, Basil, Ores, 98.
Basle Orphan Asylum, Annual reports, 357.
Basle Stadt, Canton of, Plans, 355.
Basquin, Hector, & Schweizer, Embroidery, 213.
Bass River Steam Saw Mills, Timber, 162.
Basra, Government of, Mats, 293.
Bassardji Maktés, Cotton, 294.
Bassett, Geo. A., Laundry gloss, 103.
Bassolini, V., Colors, 232.
Bastos, A. P., Hydrometer, 369.
Bastos, J. X., Canes, 254.
Batangas, Provincial Board of, Balsam, 280; Handkerchief, 281; Garments, 282.
Batchelder & Co., Photographs, 162.
Batenburg & Co., Lamps, 220.
Bates, J. C., Ventilators, 378.
Bates M'fg Co., Shirtings, 119; Woolens, 121.
Bates, Walker, & Co., Teaware, 146.
Batka, Franz, Glassware, 207.
Batley, J., Cradle, 114.
Batlle y Hernandez, J. P., Blanket, 280; Embroidery, 281.
Batllo Bros., Thread, etc., 273.
Battig, A., Engineer, 351.
Baucells & Co., Moleskins, 274.
Bauch, C., Teeth, 319.
Baudenbacher, C., Toys, 205.
Baudet, Pianos, 345.
Baudissin, Countess P., Artificial flowers, 209.
Baudon, Wine of antimony, 192.
Baudry, T., Works, 344.
Bauer, A., Cloth, 208.
Bauer, A., jr., Musical instruments, 349.
Bauer & Pokorny, Pipes, 210.
Bauer's Type Foundry, Type, 347.
Baugniet, T., & Co., Blood, 218.
Baumann, A., Vater, & Son, Carvings, 358.
Baumann, Senior, & Co., Silks, 212.
Baumann & Streuli, Silks, 212.
Baumgardner, Woodward, & Co., Yarns, 142.
Baumgarten, J., Egg box, 253.
Bausch & Lomb Optical Co., Lenses, 330.
Bavarian Association, Central Committee of the, for Nursing and Aiding Sick and Wounded Soldiers, Model, 350.
Bavarian Museum of Arts, Books, 349.
Baxter, B., Dolomite, 72.
Bay of Fundy Red Granite Co., Granite, 72.
Bay State Iron Co., Iron boiler plates, etc., 57.
Bayao, F. A. P., Plan, 369.
Bayer, F., & Co., Chemicals, 201.
Bayer, J., Musical instruments, 349.
Bayer, R., Designs, 351.
Bayet Bros., Fine weapons, 218.
Baylis, H., Samples of wool, 337.

Baynes Sound Mining Co., Coal, 71.
Bayview Quarry Co., Sandstones, etc., 72.
Bazan, Abel, Bricks, 85.
Bazar Publishing Co., Books, 347.
Bazzantie, F., Sculpture, 235.
Beach, E. R., Match safe, 376.
Beale, Horace A., Iron, 56.
Beall, C. N., West Virginia, 14.
Beam, A. F., Oil tanks, 376.
Bean & Jardine, Vases, 241.
Bean, Lewis U., Drugs, 102.
Bear & Ford, Wine, 164.
Beard & Bro., Burglar-proof safe, 111.
Beard, J., Ornaments, 328.
Beasten, C., Delaware, 12.
Beatty, G. D., Slides, 330.
Beatty Hosiery Mills, Hosiery, 125.
Beatty, L. J., Penmanship, 341.
Beatty & Thorne, Ornamental printing, 126.
Beaudet, H. J., Cradle, 114; Scroll work, 143.
Beaumarchey, L., Maps, 345.
Beaver Falls Cutlery Co., Cutlery, 138.
Beccari, Gnalberta Alaide, Newspaper, 365.
Becerra & Gomez, Dress, 277.
Bechmann, A. F., Bronze ware, 210.
Beck, C., Cards, 132.
Beck, C. H., Books, 347.
Beck, Dr., Dressings, 205.
Beck, E., Shirt fronts, 203.
Beck, Edward, Map, 356.
Beck, Fr., & Co., Wall papers, 133.
Beck, R. & J., Microscopes, 339.
Beckel, A., & Son, Crutches, 135.
Beckensteimer, Books, 344.
Becker, C., Jewelry, 204.
Becker, F., Jewelry, 204.
Becker, G., Regulators, 349.
Becker, I., Quartz, 166.
Beckett & Cervi, Bookbinding, 132.
Beckh, G. A., Chemicals, 202.
Beckhaus, J., Coach, 380.
Beckley, F. W., Kapa, 250.
Beckwith, A., Judge, Gr. II., 15.
Beckwith, N. M., U. S. Commissioner, 9.
Becoulet & Co., Papers, 199.
Bedichimer, Isaac, Jewels, 126.
Bedini, Giuseppe, & Sons, Strings, 365.
Bedoya, Segundo, Ore, 83.
Bedré, A., Vinegar, 313.
Bedros, A., Tobacco, 309.
Bee Culture, Society for, Honey, 214.
Been, C. A., Liquors, 224.
Beest, J. E. van Heemskerch van, Judge, Gr. XXVII., 19.
Begasse, C., Felt, 217.
Begerem, R., Lace, 217.
Beha, J. Bapt., & Sons, Clocks, 349.
Behlen, C., Phaeton, 381.
Behmer, A., Judge, Gr. IX., 16.
Beidler, G. A., Burners, 114.
Beihl, F., Bronze ware, 210.
Beirollas, Manuel A., Horse shoes, 95.
Beja, Sup. of Live Stock of, Photos., 370.
Beker, Hadji, Salt, 291.
Bekir Agha, Pipes, 303; Inkstands, 304; Morocco, 311.
Bekir Bey, Root, 309.
Bekir Effendi, Hadji, Barley and millet, 308.
Bekir, H., Cotton, 313.
Bel Air Manufacturing Co., Cassimeres, 120.
Bel Air Plantation, Sugar, 175.
Belanger, Vinet, & Dupart, Axles, 190.
Belding Bros. & Co., Thread, etc., 122.
Belfast Mills, Dress goods, 119, 120.
Belfont Furnace, Ores, 50.
Belfont Iron Works, Iron, 58.
Belgian Gov't. Educational Dept., Furniture, 359.
Beliaieff, G., Albums, 320.
Beliajeff, G., Japanned ware, 316.
Beliajeff, T., Mats, 316.
Belilla Medina, Corporation of, Ochre, 271.
Belin, Mrs., Books, 344.
Belknap, J., Judge, Gr. XX., 18.
Bell, A. G., Telegraph, 332.
Bell, August, Crinoline braids, 213.
Bell, C. R., Horse shoes, 191.
Bell, D., Tile, 73; Drain tiles, 188.
Bell, H., Oil, 158; Bone dust, 159.
Bell, I. L., Judge, Group I., 15.
Bell, Robert, Indian curiosities, 342.
Bell, R. W., & Co., Soaps, 106.
Bell, W., & Co., Cabinet organs, 342.
Bell, W. & D., Tobacco pipes, 188.
Bella Vista, Sub-commission of, Stone, 85; Salt, 255; Thread, 256; Yarns, 257; Seed, 259.
Bellefonte Furnace, Ores, 49; Iron, 59.
Belles, James, Iron, 89, 92.
Bellest, E., & Co., Cloth, 195.
Belleville, Col., Report, 344.
Bellezza, N. A., Jewelry, 234.
Belliveau Albertite Oil Co., Oil, 71.
Belson, R. W., Warm air furnace, 376.
Beltran & Lopez, Sandals, 276.
Beltran y Lopez, J., Bags, twine, 273.
Belts' Roofing Co., Roofing, 378.
Beltzikewicz, H., Cooking apparatus, 316.
Belvidere Woolen Manufacturing Co., Flannels, 121.
Bemis & Call Hardware and Tool Co., 138.
Ben, Michaelangiolo, Maps, 365.
Ben Saude, Jacob, Nails, 289.
Benas, J. P., Instruments, 199, 200.
Benavides, Mariano, Magnesian earth, 91.
Bencker, I. U., Gloves, 209.
Bencker, M., & Son, Gloves, 208.
Bender & Phillips, Wax, 130.
Bendigo Pottery Co., Worm for still, 160.
Bendissa, Government of, Mineral water, 97.
Bene, Creighton, & Co., Feathers, 127.
Benedict & Berrnham Manfg. Co., Brass, 59.
Beneficial Association, Models, 361.
Benelische, F., Blank books, 259.
Benezet & Co., Springs, 379.
Benfield, Paper, 266.
Bengtsson, B., Chemicals, 225.
Benham Organ Co., Organs, 333.
Benites, D., Cottons, 265.
Benito, Santiago de, Lock, 279.
Benjamin, E. B., Chemicals, 102; Glass, 329.
Benjamin, H., & Co., Marble, 72.
Benkofski, A., Cutlery, 319.
Bennert & Bivort, Window glass, 215.
Bennett, E., Shirts, 125.
Bennett, H., Ornaments, 328.
Bennett, J. M., Judge, Gr. VI., 16.
Bennett, Jas., Newspaper files, 188.
Bennett, T., Cutlery, 230.
Bennett, T. K., Preserved meats, 163.
Bennett, Wm., Coal, 71.
Benningfield & Son, Elephant tusks, 170.
Bens, A., Mills, 361.
Bensusan, Antonio J., Salt, 270.
Bentley, Jeff. O., Stamps, 126; Board, 375.
Bento, C. C., Ores, 47.
Bento, Dr., Lime, 82.
Benton, Lewis F., Ore, 48.
Bentzen, B. M., Books, 364.
Benucci & Latti, Vases, 233.
Beram, A., Cane, 303.
Berat, Government of, Silk, 297; Maize, 308; Cocoons, 314.
Berdie, M., Medicinal water, 259.
Berea Stone Co., Stone, 53.
Berg, Axel, Iron ores, 78.
Berg, Chr. Lud., Mineral waters, 78.
Berg, F. J., Wigs, 226.
Berg, Gottfried, Porphyry, zinc, etc., 78; Gunpowder, 225.
Berg, J. T., Yarns, 226.
Berg, S., Albumen, 209.
Bergaré, Dr., Peanut oil, 255.
Bergen, C. von, & Co., Wood carvings, 358.
Bergen Common School Board, Ores 364.
Bergen Gas Works, Ammonia, 229.
Bergen's Commercial Association, Oil, 229.
Bergen's Glass Works, Floaters, 229.

Berger, C. F., Absinthe, 214.
Berggren, A. N., Cork, 226; Method, 362.
Bergh, Van den, & Co., Gin, 219.
Berghammer, F. R., Artificial teeth, 210.
Bergmann & Co., Zephyr wool, 203.
Bergmann, F., Bronzes and gems, 209.
Bergner, Theo., Drawing boards, 130.
Bergsbro Stock Co., Fabrics, 226.
Bergslag Iron Works, Iron, 79.
Bergström, P. N., Furs, 226.
Berguillo, C., Balsam, 271.
Berkeley Co., Cambrics, 116.
Berkey & Gay Furniture Co., 111.
Berkley & Taylor, Oil, 179.
Berlie, Edouard, Springs, 355; Tools, 358.
Berlin, J. W., Looking glasses, 202.
Bermegillo, Pio, Silver, 86.
Bermejillo, P., Cottons, 265.
Bermuda, Government of, Stalagmite, 66; Tables, 174.
Bernabei, A., Syringes, 235.
Bernard, J., & Co., Papers, 198.
Bernard, J. T., Alternate, 9.
Bernardo, Daupias, & Co., Woolen fabrics, 285.
Bernardo, L., Teeth, 319.
Bernardo, M., Quartz, 166.
Bernardy, Mrs. L., Geography, 266.
Bernbal, M., Hampers, 277.
Berne, Dept. of Public Works, Plans, 356.
Bernelot, Moens, J. C., Herbarium, 222.
Berney, A., Tea kettle, etc., 376.
Bernhard, S., Perfume, 214.
Bernhardi, J., Chemicals, 201.
Bernstein Bros., H. & B., Amber, 318.
Bérr, Eugene, Gloves, 197.
Berry, J. B., Pianos, 333.
Berry, J. S., Oil, 158; Bone dust, 159.
Berthon, Shoes, 253.
Berthoud & Co., Blacking, 192.
Bertini, E., Crockery, 233.
Bertram & Co., Gold, 85.
Bertram, J. T., Arrowroot, 174.
Bertrand, Boulla, Imitation tapestries, 195.
Bertrand, Casimiro, Iron, 88.
Besancet-Blanc, Ruby jewels, 355.
Beslier, A., Pharmaceutical preparations, 192.
Bessbrook Granite Works, Granites, 61.
Besson, F., & Co., Musical instruments, 339.
Bessoni, Viscount de, Marbles, 95.
Bessonoff Bros., Bolts, 319.
Best, J., Wine, 164.
Bethell, J. P., Apparatus, 136.
Bethlehem Iron Co., Iron, 57; Drawings, 334.
Betou, J. P. de, Rifle, 221.
Betou, P. J., Instrument, 361.
Bett, T., Oil, 315.
Bettington, J. B., Wool, 159.
Bettle, E., New Jersey, 13.
Bettman & Kupfer, Toys, 205.
Bettonville, C., Woolens, 216.
Beunon, Piano, 345.
Beust, F., Books, 353.
Beutel, F., Wicker work, 208; Shoes, 209.
Bevan, Eduardo A., Ores, 83.
Bevan & Sons, Cord, 155.
Bevan, Thomas, jr., Rope, 155.
Bevin Bros. Manufacturing Co., Bells, 140.
Bevis, H., Banner, 153.
Bewley, J. H., Delaware, 12.
Beyer, E., Inks, 202.
Beyron, F., Shell, 181.
Beyroot, Government of, Cotton, 294; Fabrics, 298; Trimmings, 302.
Beysens & Beckers, Religious articles, 194.
Bezaz Effendi, Silk, 298.
Bianchi & Mellado, Laces, 277.
Bianchi & Molinari, Floor, 233.
Bibianno, Antonio Alves, Broadcloth, 286.
Bibliographic Institute, Leipsic, Maps, 348.
Bickel, August, & Son, Canes, 128.
Bickford, A. M., & Sons, Bitters, 168.
Bickford, Dana, Knitted articles, 125.
Bickford, Smith, & Co., Safety fuses, 145.
Bicknell, A. J., & Co., Books, 326.
Bicqué & Dupressoir, Feathers, 198.
Biddell Bros., Lemons, 158.
Biddle, C. M., Finance, 11.
Bidencope, J., Hats, etc., 182.
Bie, C., Arithmometer, 224.
Bierrenback & Bros., Hats, etc., 253.
Bierrengard, W., Harness, 254.
Bigdé, Government of, Salt, 291; Hemp, 295; Gum, 306.
Bigler, W., Finance, 11.
Biglow Carpet Co., Carpets, 122.
Bihn & Co., Lampblack, etc., 104.
Biké, Madame, Carpet, 297.
Bikkers & Son, Extinguisher, 361.
Bilbao Iron Ore Co., Iron ore, 89.
Bilger, C., Harmonica, 349.
Billar, S., Oil, 255.
Billerlict, Juan, Varnished woods, 262.
Billeter, C. G., Threads, 212.
Billings, Clapp, & Co., Chemicals, etc., 102.
Billings & Spencer Co., Arms, 133; Tools, 137.
Bin Cachi Mehemed, Mineral water, 97.
Binder Bros., Carriages, 200.
Binder, W., Jewelry, 204.
Bindschedler & Busch, Artificial alizarine, 212.
Bingera Mine, Coal, 67.
Biolley Bros. & Co., Woolen stuff, 217.
Biolley, F., & Son, Woolen stuff, 217.
Bion & Tschumper, Embroideries, 213.
Birch, F., Millstones, 80.
Birch, John S., Watch key, 128.
Birch Kirkor, Inkstand, 304.
Birchall, J. D., & Co., Woolen goods, 149.
Bird, Geo., Cheese, 163.
Bird, J. T., New Jersey, 13.
Birdsall & Son, Binding, 152.
Birgé & Berg, Flowers, 127.
Birindelli, Carlo, Water, 81.
Birkenbine, H. P. M., Drawings, 335.
Birkey, J. Q., & Co., Gas heaters, 376.
Birkor, Tissues, 298.
Birmingham & Lacy, Bricks, 160.
Birney, J., U. S. Commissioner, 9.
Birney, M. L., Samples of wool, 337.
Bishop, A., Magnetite, 71.
Bishop, D. E., Models, 335.
Bishop, Henry, Building sandstones, 72, 73.
Bishop, J., Crucibles, 135.
Bishop & Northrup, Robes, 121, 124.
Bisier, B., Clay, 272.
Bisresborn Mineral Spring Co., Waters, 75.
Bissell & Co., Grates, 374.
Bissinger, C., Sons, Jewelry, 204.
Bithincourt, J., Lasts, 253.
Bitterlin, P., jr., Glassware, 194.
Bitterlin-Schmidt, Precious stones, 355.
Bitterlin, Son, Glassware, 194.
Bivar, J. d'A. C. de, Salt, 283.
Bivar, Manuel d'A. C. de, Lace, 288.
Bivort Raymond, Henri, Kettles, 77.
Bizer Bros., Jewelry, 204.
Björk, J. O., Iron, 226.
Björneborgs Iron & Steel Works, Iron, 78, 79.
Blabon, G. W., & Co., Upholstery, 119.
Blach, J., Essay, 373.
Black Band Iron Co., Ores, 47.
Black Forest Clock Manufacturers, 349.
Black, L., & Co., Glasses, 330.
Black, Messrs., Sugar, 180.
Black River Stone Co., Stone, 53.
Black, W. B., Wood, 156.
Blackfellows' Creek Mine, Coal, 67.
Blackie & Charles, Hydrant, 115.
Blacklock, W., & Co., Wool shirts, 189.
Blackstone Mfg. Co., Shirtings, 116.
Blackwood, J., & Co., Inks, 145; Wax, 152.
Blackwood, R., Amethyst, 71.
Blain, C. R., Maize, 158.
Blair's, H. C., Sons, Toilet articles, 106; Food, 135.
Blaisdell, G. P., Axles, 382.
Blake Bros., Hardware, 141; Trucks, 143.
Blake, C. H. & F. D., Alpacas, 122.
Blake & Johnson, Pins, 129.

Blake, W. P., Alternate, 9.
Blakemore & Sherman, Washstand, 377.
Blanche Furnace, Ores, 48; Iron, 57.
Blanchet, A. P., Plan, 345.
Blanchet Bros. & Kleber, Paper, 198.
Blanck, Carlos Frederico, Ore, 94.
Blanck, G., Rule, 329.
Blanck, W., & Son, Limbs, 135.
Blanco, B., Saddlebag, 274.
Blanco, E., Trimmings, 276.
Blanco, Prudencio, Calamine, 87.
Bland & Wright, Coal, 67.
Blandin y Carrese, Manuel, Iron ores, 88.
Blanes Bros., Paper, 277.
Blankenhorn, A., Reviews, 349.
Blanquer, Ronda, Marble, 89.
Blauvelt, J. C., Coal, 51.
Blaylock & Co., Hats, 126.
Blazincic & Sons, J., Haberdashery, 210.
Bleasdale, J. I., Precious stones, 65.
Blelock, G. H., Judge, Gr. XXI., 18.
Bless & Drake, Irons, 377.
Blessing, C. A., Tubs, 377.
Bleyberg es Montzen Stock Co., Ores, 77.
Blin & Bloch, Cloth, 195.
Blind Asylum, Lausanne, Regulations, 354.
Blind Institute, Amsterdam, Articles, 360.
Bliss, J., & Co., Chronometers, 330.
Bliss, William, & Son, Woolens, 149.
Bloch, E., & Sons, Boots, 209; Cloths, 211.
Blodget, L., Charts, 326.
Bloedner's, J. C., Son, Chemicals, 201.
Blombacka Stock Co., Matches, 225.
Bloodgood, Miss A. De Etta, Flowers, 127.
Bloodgood, Mrs. I. S., Afghans, 121.
Bloom Furnace, Iron ores, 48; Pig iron, 58.
Blösch, Eduard, Reports, 357.
Blot, Eugene, Pipes, 198.
Blot, Paul, China, 193; Glassware, 194.
Blumenau, Colony of, Cotton fabrics, 253.
Blumer & Wild, Hosiery, 213.
Blunck, C., Pumps, 230.
Bluthner, J., Piano, etc., 350.
Boada, G., & Travessa, Acids, 270.
Boada, Jeronimo Mataró, Artificial stone, 90.
Bob, L., Clocks, 349.
Bocanegra, S., Marbles, 86.
Boch Kirkor, Spoons, 293; Stirrups, 305; Flute, 371.
Bochner, T., Judge, Gr. IX., 16.
Bock, H., Photographs, 162.
Bodart, E., Sheepskins, 218.
Boddy, E., Flour, 164.
Bodington, R., Support, 165.
Bodou Agha, Wine, 313.
Bodwell Granite Co., Granite samples, 52.
Boeck, W., Jewelry, 204.
Boeck, W., & Danielssen, D. C., Books, 364.
Boeddinghaus, F., & Son, Cloth, 203.
Boeddinghaus, W., & Co., Cloth, 203.
Boehm, P., Polished stones, 204.
Boer, F. N., Model, 361.
Boericke & Tafel, Medical preparations, 134.
Boeza, Simon, Wines, 268.
Bofors Stock Co., Iron ore, 78.
Bogart, John, Engineering exhibit, 336.
Boghend, Luzzena, Benzine, 304.
Bogle, A., & Co., Shoe machines, 160.
Bohannan, Wilson, Locks, 141.
Bohland & Fuchs, Instruments, 351.
Bohm, A., Bronze ware, 210.
Bohm, L., Bronze ware, 210.
Bohol, Provincial Board of, Bags, 280.
Boim & Co., Pottery, 284.
Boissiere, E. V. de, Silk, 122.
Boiven y Senty, Adolfo, Asphaltum, 89.
Boivin & Co., Tools, 190.
Böker, H., & Co., Cutlery, 206.
Bolad, N., Cotton fabrics, 293; Silk, 298.
Boland, F., Mirrors, 113.
Bolari & Yellow Earth Co., Earth, 81.
Bolen & Byrne, Waters, 55.
Bolesse, Diarbekir, Seeds, 307.
Bolinders, J. & C. G., Stove, 226.
Bolle, L. A., Son, Absinthe, 214.
Bollenbacher, G. W., Table, 377.
Bolzani & Fussl, Chains, 209.
Bolzani, Jean, Son, Chains, 197.
Bomches, F., Designs, 351.
Bomsdorf, Oscar von, Maps, 347.
Bon Pasteur, College work, 342.
Bon Regina, Laces, 234.
Bonacina, C., Varnishes, etc., 232.
Bonafede, L., Tiles, 315.
Bonaplata, Eduardo, Galena, 88.
Bondier, Ulbrich, & Co., Pipes, paper, 198.
Bonehill Bros., Iron, 77.
Bonei, Casuccinio, Olive oil, 231.
Bonel & Sons, Cloths, 274.
Bonfantini, G. A., Album, 358.
Bonhomme, Uncle & Nephew, Doors, 195.
Bonilla, R., Cloth, 275.
Bonino, E. P., Zinc goods, 235.
Boniotti, P., Document, 360.
Bonnet, Charles, & Co., Types, 358.
Bonnet & Co., Silk, 196.
Bontems, B., Birds, 198, 345.
Bonwill, W. G. A., Instruments, 136.
Bonzano, H., Louisiana, 12.
Book Trade, Amsterdam, Books, 360.
Boolak, Mechanical Inst. of, Tools, 237.
Boon, B., Miniature field artillery, 134.
Boonin, J., Silk, 317.
Booroff, S., Wood, 320.
Boorum & Pease, Books, 132.
Boos, F., & Bro., Furs, 129.
Boosey & Co., Music, 338; Instruments, 339.
Boot Manufactory, Luxemburg, Boots, 240.
Booth, G., Wrench, 190.
Booth, J., & Son, Tools, 137.
Booth, W., Painting on glass, 188.
Boothby, C. W., Drawings, 321.
Boott Cotton Mills, Cotton goods, 117.
Boquet, J., & Co., Velvet, 195.
Borbridge, S. & H., Trunks, 189; Harness, 191.
Borddal, J., Tables, etc., 253.
Borden, William W., Fossils, 49.
Border City Mills, Printing cloths, 118.
Bordewick & Co., Cod-liver oil, 229.
Boreham, J. H., Spices, 180.
Borel & Courvoisier, Chronometers, 355.
Borel-Petitpierre, Ls., Tools, 358.
Borelli, Luigi, late Tommaso, Acids, 231.
Borg, O. E., Apparatus, 362.
Borges, J. A., Earthenware, 284.
Borges, M. da Cunha, Gross mats, 284.
Borgo Sesia, Woolen Manufactory of, 233.
Borissoff, S., & Sons, Printed calico, 316.
Borm, L., Dress suit, 125.
Bornet, P., Leather letters, 200.
Borodin, M., Silk, wool, 317.
Boronas Soler, A., Cloth, 274.
Borrás, E., Shawls, 273.
Borregan del Blanco, Mineral water, 91.
Borsig, A., Iron, 75.
Borst & Roggenkamp, Stones, 77.
Bortfeld, C., Hats, 204.
Borthen, J., Cod-liver oil, 229.
Borthwick, Alex., Varnishes, 160.
Bortolotti, P., Perfumery, 232.
Bosisto, J., Chemical preparations, 160.
Bosler, Marcus, Limestone, 52; Building stones, 54.
Bossard, H., Slide rest, 137.
Bossel, H., Hats, 253.
Bosset, Jewelry, 197.
Bossi, E., Gloves, 234.
Bossi, Gaetano L., Locks, 214.
Boston Comfort Corset Co., Corset, 125.
Boston Hydraulic Motor Co., Motors, 336.
Boston Manufacturing Co., Cotton goods, 117.
Boston Musical Instrument Manufactory, 334.
Boston & Sandwich Glass Co., Glassware, 108.
Botanic Gardens, Melbourne, Director of, Woolen cloth, paper, 161; Carpological collection, 162; Jam, 163.
Botasheff, B., Samovars, 316.

Botelberge, Gustave, & Co., Ultramarine, 215.
Boteler, A. R., U. S. Commissioner, 9.
Bothamley, A. T., Photographs, 156.
Bothwell, W., Harness, 161.
Botten, W., Wine, 164.
Bottenheim, D. & S., Yarns, 220.
Botterling & Schultze, Cotton goods, 203.
Botti, A., Olive oil, 232.
Botti, P., Gun, 235.
Boucher-Gravet, Clocks, 344.
Boucheron, Jewelry, 197.
Bouchinet, Dress goods, 196.
Boucneau, L., Marble work, 216.
Boude & Son, Sulphur, 192.
Boudon, L., Raw silk, 195.
Boudvillain, J., Flags, 200.
Bougali, Hadju Ali, Henna leaves, 306.
Bougard, A., Le Brun, H., & Co., Glass, 215.
Bougard, A. M., Crystals, 216.
Boughton, J. W., Screens, 115.
Bouhon & Co., Bronze, 194.
Bouhon, François, Wooden shoes, 217.
Boulanger, L., Violin, 332.
Boulanger, Mrs., Books, 344.
Boulenger, senior, Pavement, 193.
Boulinikon Floor Cloth Manf'g Co., 149.
Boullet, L. & I., Hats, 257.
Boulton, L., Medicinal plants, 178.
Bouquet, Miss, Tea cups, 181.
Bourcier, Ch., Imitation jewelry, 197.
Bourd, Government of, Carpet, 296; Stockings, 300; Morocco, 311.
Bourgeois & Co., Machine oils, 192.
Bourgeois, Martin, jr., Paintings, 199.
Bourgeois, N., Picture, 259.
Bourgeois, senior, Colors, 193, 198.
Bourquin, C. F., Hosiery, 213.
Bourson, Miguel, Iron ore, 89.
Boussu, Famille reux, & Blanc Misseron Glass Works Joint Stock Co., Crystals, 216.
Boutenjeun, Laces, 197.
Bouton, H. & E., Coffee, 178.
Bouvier, A., Skeletons, 344.
Bouvy, J. J. B. J., Glassware, 220.
Bowden, J. H., Drawings, 335.
Bowden, J. H., Kentucky, 12.
Bowditch, Earnest W., Plans, 336.
Bowen, Mrs. S. B., Montana, 13.
Bowen, T., Casting, 135.
Bower, Henry, Acids, etc., 102.
Bowers, James, & Co., Corsets, 125.
Bowman, C. A., & Bro., Brushes, 142.
Bowman, Charles, Stencil plates, 145.
Bowman, E. & A., Wool, 159.
Bowman, J. S., Crayons, 160; Engravings, 161.
Bowman, O. O., & Co., Terra cotta, 106.
Boyachipolani, M., Cover, 302.
Boyd, A., Tobacco, 173.
Boyd & Chase, Oilstone, 55, 139.
Boyd, D., Flue radiator, 376.
Boyd, Miss E., Ferns, 250.
Boyd, W. S., Florida, 12.
Boyden, A., Judge, Gr. VII., 16.
Boyé, M. H., & Lewis, George T., Oil, 103.
Boynton, C. W., & Co., Tile, etc., 107.
Boys' B'd'g School, Coal, 250; Woods, 251.
Boza, J., Wines, 264.
Bozzalla, A., & Bro., Woolen goods, 233.
Bozzalla, G., & Son, Woolen goods, 233.
Bracher, T. W., Ventilators, 378.
Bradbury, Agnew, & Co., Books, 338.
Bradford, A., Fastener, 378.
Bradford, H., Maryland quartz, 54.
Bradford, J., Judge, Gr. IV., 16.
Bradley & Gilbert, Blank books, 132.
Bradley & Hubbard Manufacturing Co., Chandeliers, 114; Bronzes, 128.
Bradshaw, J. D., Ship models, 191.
Bradshaw, T. H., Ship models, 191.
Brady, E. W., Window shades, 109.
Brady, Edward, Collars, 126; Models, 139.
Braff, P., & Co., Paper stock, 217.
Braga, A. J. F., Feather articles, 254.
Braga, A. P. da S., Armorial bearings, 289.
Braga, Dir. of Public Works of, Stone, 94.
Braga, Fernandes, & Co., Hats, etc., 253.
Braga, Manuel J. V., Silk trimmings, 287.
Brahim Agha, H., Bellows, 293.
Brainard, Armstrong, & Co., Silks, 122.
Brambilla, Fortunato, Shirts, 263.
Bramford Lock Works, Locks, 141.
Branca, A. D., Salt, 283.
Brandao, José Marçal, Sewing silks, 286.
Brandeis, L., & Co., Bronze powders, 104.
Brandstetler, F., Books, 347; Harness, 383.
Brandt, C., Furs, 230.
Brandt, J. de, Linen, 216.
Brann & Reich, Looking glasses, 202.
Brant, J. Ferreira d'A., Insects, 366.
Brantzeg, P., Pianos, 364.
Braquenie Bros., Carpets, 195; Tapestry, 217.
Brasche, C., Wine, 164.
Brasher, W. M., & Co., Oil cloths, 119.
Brashnin Bros., Silk, 317.
Brass, John, & Son, Harness, 172.
Brasseur, R., Syrup, 192.
Bratti, Seiatilli, & Co., Music, 365.
Braunek, E., Gloves, 209.
Bravais, Rooul, & Co., Pharmacies, 192.
Bravo, A., Handkerchief, 281.
Bravo, F., Tapestry, 280.
Bravo, Simon, Carvings, 262.
Bray, E. L., Fixtures, 140.
Brazil, Commission General of, Straw, 253; Knives, etc., 254; Piano, 367.
Brazil Ind. Cotton Mill Co., Cottons, 253.
Brearley Bros., Leather, 163.
Brecht, C. J. P., Wines, 159.
Breeden & Neike, Shears, 139.
Bréguet, Machines, 345.
Breguet & Co., Chronometers, 344.
Brehmer, E. F. A., Apparatus, 363.
Breidenbach & Baumann, Publications, 347.
Breitkopf & Hartel, Catalogues, etc., 347.
Brémond, B. A., Musical boxes, 355.
Brend 'amour & Co., Albums, 347.
Bresca & Co., Merinoes, 274.
Brese & Starke, Quartz, 166.
Bressen-Agnés & Co., Silks, 196.
Breting Bros., Chronometers, 355.
Brewer & Tileston, Books, 327.
Brewer, W. H., Judge, Gr. VI., 16.
Brewster Bros. & Co., Corsets, 125.
Brewster & Co., Wagons, 380.
Brewster, J. B., & Co., Landau, 380.
Breysacher, A. L., Arkansas, 11.
Brian, H. T., Judge, Gr. XIII., 17.
Brianchon, J., Faience, 193.
Briar Hill Iron & Coal Co., Pig iron, etc., 57.
Briard, Nuts, cotton, 181.
Brice, D. A., Cotton, 173.
Brick Enameling Co., Bricks, 107.
Bridge, Andrew, Pails, 191.
Bridge Mill Cotton Manf'g Co., Cottons, 117.
Bridma, M., Books, 368.
Bridore, Government of, Lignite, 97.
Briens, Jewelry, 197.
Briere, J., Nipples, 346.
Brigg, J. F., & Co., Drills, coatings, 149.
Brigg, M., & Son, Safes, 109.
Briggen, Charles, Tables, 316.
Briggs, J., Piano stools, 111.
Briggs, J. F., New Hampshire, 13.
Briggs, Robert, Ventilating fan, 335.
Brigham, W. T., Books, 250; Photos., 251.
Bright Bros. & Co., Ingots, 65.
Bright, H. C. R., Copper ores, 169.
Brigola, Gaetano, Books, 365.
Brill, J. G., & Co., Car, 382.
Brinkerhoff, Turner, & Co., Canvas, 117.
Brinsmead, John, & Sons, Pianos, 339.
Brinton, Joseph H., Stone, 52.
Brionde, St. Etienne, Ribbons, 196.
Brisbane Tin Co., Model, 179.
Brisbane Tin Mining Co., Ores, 67.
Brisley, W., Hook, 190.
Bristow, G. F., Judge, Gr. XXV., 19.

Brites, Augusto Pereira, Stone, 94.
Brites, Rose e M. G. do S., Lace, 287.
British & Foreign Ass'n, Blind maps, 338.
British & Tasmanian Charcoal Iron Co., 68.
Brito Aranha, Pedro W. de, Books, 369.
Brito, J., Works, 266.
Britó & Sierra, Ore, 89.
Brittain, R. J., Instruments, 331.
Britton, B. F., Judge, Gr. X., 17.
Broad Brook Co., Cassimeres, 120.
Broad, E., Axes, 190.
Broadhead, G. C., Judge, Gr. I., 15.
Brocard, P. J., Mirrors, 193.
Brocard, P. T., Glass, 194.
Broch, I., Water filter, 376.
Brochi, J., Cans, 272.
Brochocki, C. D., & Co., Javelle water, 193.
Brock, J., Wool, 183.
Brockhaus, F. A., Books, 347.
Brocklemann, Biscuit, 180.
Brockley & Co., Piano, 342.
Brodin, jr., Aerostatic articles, 198.
Brodribb, W. A., Wool, 159.
Brodure, M., Wooden work, 216.
Brohme & Co., Chemicals, 201.
Bromley, John, & Sons, Carpets, 122.
Bróndum, A., Liquor, 224.
Bronfort Bros., Wooden boxes, 216.
Bronze Foundry, Shot, 278.
Brook, J., & Bros., Cotton, 148.
Brooke, E. & G., Ores, 50; Iron, 58; Nails, 140.
Brooke, Edward, & Sons, 145.
Brookes & Crookes, Knives, 152.
Brooklyn White Lead Co., White lead, 104.
Brooks, D., Cables, 331.
Brooks & Dupuy, Cotton, 181.
Brooks, Henry, & Co., Perfumery, 145; Stoppers, 153.
Brooks, Mrs. G., Doilies, 171.
Brooks, W. B., & Son, Coal, 52.
Brookside Hosiery Mills, Shirts, 125.
Brosset, Heckel, & Co., Satins, 196.
Brot, L., Mirrors, 194.
Broussa, Government of, Opium, 304.
Brousse, Government of, Silk, 297.
Brousson, J., & Son, Nails, 206.
Brower Bros., Inkstands, 130.
Brown, A., Gypsum, 73.
Brown, A. H., Sugar, 180.
Brown & Bliss, Dining-room furniture, 110.
Brown, Bonnett, & Co., Bar iron, 56.
Brown Bros., Bookbinding, 189.
Brown & Claggett, Dresses, 189.
Brown & Co., Ores, 47; Blooms, 56.
Brown, D. S., & Co., Shirtings, 119.
Brown, E. F., Stone, 53.
Brown, E. P., Implements, 136.
Brown, Emma, Hats, 126.
Brown, Frederick, Jamaica ginger, 102.
Brown, G. W., Table, 250.
Brown, H. J., Wine, 164.
Brown, J., Pyrolusite, 71.
Brown, J. B., & Co., Netting, 148.
Brown, J. T., Frames, 188.
Brown, John, & Co., Armor plates, 62.
Brown John S., & Sons, Sheetings, yarns, 149.
Brown, L. L., Paper Co., Paper, 131.
Brown, L. P., Idaho, 12.
Brown & Owen, Iron work, 143.
Brown, R. H., Coal, 71.
Brown, R. T., Judge, Gr. IV., 16.
Brown, Robert B., & Co., Castor oil, 103.
Brown, S. C., New Jersey, 13.
Brown, S. N., & Co., Sulky, 379.
Brown, T., & Co., Wool, 159.
Brown, Westhead, T. C. Moore, & Co., Tiles, 146.
Browne & Buskewell, Harp, 334.
Browne, H. Justin, Pianos, 340.
Browne, J., Chart, 341.
Browne, T., Sandstone, 64.
Browne, W. J., Wool, 168.
Brownfield, Wm., & Son, Earthenware, 146.
Brownhills Pottery Co., Terra cotta, 146.
Browning & Brothers, Chemicals, 102.
Browning, George, Minerals, 223.
Bruce, J., Judge, Gr. XXIII., 18.
Brucher & Bauler, Apparatus, 372.
Brückner, Lampe, & Co., Chemicals, 201.
Bruffel, K., Cotton, 294.
Brugada, L. de, & Boucherville, E. de, Ramie, 178.
Brugsch Bey, Porcelain, 236.
Brugsch, E., Judge, Gr. XX., 18.
Bruhn, A., Wines, 164.
Brum, C. de, Linen duck, 285.
Bruna, E., Ashes, 255.
Brunell, J. E., Reed, 226; Penholders, 362.
Brunet, Jos., Marble monument, 72.
Brunet, P., Bronze, 194.
Brunfant, Jules de, Glassware, 207.
Brunius, A. W., Books, 362.
Brunn, Dr., Cast, 351.
Brunner, A., Bed covers, 212.
Brunner, Ad. & Fr., Sketches, 356.
Brunner, Mond, & Co., Soda, 144.
Brunning, O., Pianos, 345.
Brunnschweiler & Son, Inks, 212.
Brunnschweiler, Traugott, Caseum, 212.
Brunswick Bros., Billiard table, 109.
Brunswick, J. M., & Balke Co., Billiard tables, 112.
Brunt, Bloor, Martin, & Co., China, 108.
Brusa, G., Album, 234.
Brusewitz, Fr., Glassware, 225.
Brussels Gymnastic Ass'n, Statutes, 360.
Bruton, C. I., Photographs, 170.
Bruyneel, Lace, 217.
Bruzewitz, F., Glass, 226.
Bruzzesi, G., Shoes, 234.
Bryan, J. C., Rods, 331.
Bryant & May, Safety matches, 145.
Bryzgaloff, Jugs, 316.
Buasso, L., Boots and shoes, 257.
Bubb & Co., Woolen cloths, 149.
Buchanan, J., Fish hooks, 152.
Buchanan Mineral Co., Cement, 72; Paint, 187.
Buchsbaum, Max, Ornaments, 208.
Buchtel College, Ornaments, 328.
Buck Bros., Chisels, 137.
Buck, C., Tools, 137.
Buck, T. S., & Co., Rubber type forms, 130.
Buckeye Furnace Co., Iron ores, 48; Iron, 58.
Buckhora Furnace, Ores, 48; Iron, 58.
Buckingham Mining Co., Lime, 74.
Buckley, E., Wheat, 163.
Buckley, J. E. & G. F., Shawls, 150.
Buckley, Joseph, & Co., Shawls, 150.
Buckman, Ira, Locks, 142; Annunciators, 331.
Budan, J., Gloves, 208.
Buen Deseo Mining Society, Ores, 89.
Buena Vista Furnace, Ores, 49; Iron, 59.
Bueno, R., Earthenware, 272.
Buenos Ayres Benevolent Soc'y, Mat, 256.
Buenos Ayres Prov. Com'n, Fabrics, 257; Herbs, spurs, 259.
Buenos Ayres Water Works Com'n, Shells, 84.
Bueso Fabregad, V., Tiles, 272.
Bueso Herrando, J., Sandals, 276.
Buffalo Decorating Co., Leaves, 128.
Buffalo Furnace, Ores, 49; Iron, 59.
Buffeti & Maya, Hats, 257.
Buftam, M., Counterpane, 295.
Bühler, Emile, Hair regenerator, 212.
Building Direction, Canton Aargau, Plans, 357.
Buison, J., Mats, 280.
Buison, N., Tintarron, 280.
Bujalance, Corporation of, Mantas, 275; Jacket, 276; Gimlets, 279.
Bulacan, Provincial Board of, Knives, 282.
Bulhoes, Plans, 367.
Bulimba Tin Smelting Co., Tin, 67.
Bull & West, Cuprous pyrites, 88.
Bullivant, T., Window, 148.
Bullock, Chas., China ware, 108.
Bullock & Crenshaw, Drugs, chemicals, 102.
Bullock, G. & J. M., Warp, 118; Doeskins, 120.

Bullot, C., Stockings, 196; Millinery, 196, 197.
Bundner Reformatory, Reports, 357.
Burbach Works, Iron, etc., 75.
Burbank, J. A., U. S. Commissioner, 9.
Burchardt, C. A., Jewelry, 204.
Burdett Organ Co., Organs, 332.
Bureau of Education, Map, 263.
Burger, H., Velocipedes, 361.
Burgess, Andrew, Rifles, 133.
Bürgin Bros., Bronze, 76; Nails, 214.
Burgos, J., Table cloth, 256.
Búrgos, Provincial Commission of, Pottery, 272; Towels, 273; Woolens, 274.
Buringer Bros., Iron, 143.
Burkhardt, C. P., Oregon, 13.
Burkitt, F., Mississippi, 13.
Burleigh, J. B., Relics, 328.
Burleigh, W. A., Dakota, 12.
Burley, S. W., Books, 326.
Burlington Mfg. Co., Tiling, 53, 107.
Burlington Woolen Co., Doeskins, etc., 120.
Burlock, Saml. D., & Co., Bookbinding, 132; Bibles, 327.
Burnand, J., & Co., Cutlery, 153.
Burnay, Constant, Blankets, 286.
Burnay, V. de J. B. B., Oils, 283.
Burnett, J., & Co., Extracts, etc., 106.
Burnett, W. H. & R., Furs, 129.
Burnham, C., & Co., Stoves, 374.
Burns, B., Ohio, 13.
Burns, R., & Co., Masonry, 106.
Burpee, M., Drawing, 342.
Burton, B., Rifles, etc., 134.
Burton Bros., Views, 156.
Burton, J. P., Coal, 51; Iron, 57.
Burwell, W., & Bro., Mountings, 378.
Bury, J. A., Canes, 181.
Buscarlet, Widow, & Malo, Gloves, 197.
Busch Bros., Cotton and mixed goods, 203.
Buschor, Chas., Furniture, 111.
Busse, G., & Co., Cement, 61.
Bussey, G. G., & Co., Trunks, 151; Guns, 152.
Bussy, C. de, Judge, Gr. II., 15.
Bustamente, Abdon, Blanket, 257.
Bustos, M., Embroidery, 258.
Butchart, J. H., Tin ore, 64.
Butler, G. P., & Sons, Books, 326.
Butterick, E., & Co., Patterns, 123.
Büttner, Ed., & Co., Fancy papers, 205.
Buxeda Bros., Fabrics, 274.
Buxton, Geo., Lime and limestone, 72.
Buys, L., Car, 218.
Buzby, Albert G., Water motor, 336.
Buzzi, G., Furniture, 233.
Byron, W., Paper, 131.

C.

Caba Oglou Mehemed, Calico, 294.
Caballero, E., Graphite, 85.
Caballi, C., Embroidery, 258.
Cabello, G., Wines, 264.
Cabeza, A., Hammers, 270.
Cabezas Sarabia, J., Cloak, 275.
Cable, Bayard, & Co., Clothes rack, 188; Razor strop, 190; Halter clasps, 191.
Cabo, J. de Villa, Strings, 269.
Cabo Mondego Mining Industrial Co., Glass work, 284.
Cabot Manufacturing Co., Cotton goods, 117.
Cabra, Corporation of, Marbles, 90.
Cabra del Santo Cristo, Whetstones, 91.
Cabral, A. do V., Violin, 269.
Cabral, Frederico A. de V. P., Coal, 94.
Cabral, J. T., Tidies, 258.
Cabral y Melo, José Maria, Crystal rock, 83.
Cabrera, M., Horse medicine, 255.
Caddell, A., Tin ore, 64.
Cadelinio, P., Head-dress, 281.
Cadi Kazi Agha, Sumac berries, 306.
Cadir, S., Sheets, 295
Cadiz, José, Gypsum ornaments, 261.
Cadiz, José Gabriel, Artificial marble, 85.
Cadwallader, Fitz Gibbon, & Co., Wagon, 380.
Caesar, L., Polished stones, 204.
Caetani, Vicente, Marble, 84.
Cafak, A., Morocco, 311.
Cafak Mahmoud, Boots, 301.
Cafak Mehemeda, Shoes, 301.
Cafejedaki, J., Wines, 313.
Caffrey, C. S., Sulky, 380.
Cagliani, L., Velvets, 234.
Caguires, Frank, Antique vase, 52.
Cahy, Baron of, Bridles, etc., 254.
Caille, Miss Fanny, Faience, 193.
Caine, J. T., Utah, 14.
Cainzo, Antonio, Tobacco, 268.
Calacao, A., Fabric, 281.
Calamari, P., Soaps, 232.
Calatorao, Corp. of, Black marble, 90.
Calcined Bone Manufacturing Co., Bone, 315.
Caldara, S., Cloths, 233.
Calderara & Bankmann, Perfumery, 207.
Calderon, Pedro, Vegetable clay, 85.
Calderon Revuelta, F., Mineral water, 92.
Caldwell, J. E., & Co., Silverware, 113; Jewelry, 127.
Caldwell & Mather, Ranges, 375.
Caldwell & Tod, Building stone, 54.
Caledonia Free Stone Co., Sandstone, 72.
Caledonia New Amalgamated Co., Quartz, 166.
Calender, Vaupel, & Co., Pianos, 332.
Calheta, Maria Pereira da, Woolen caps, 288.
California Distilling Co., Oils, etc., 106.
Caligny, A. de, Report, 345.
Calise, T., Hats, 234.
Calix, J., Oil, 315.
Calle Bernardo, M. de la, Salt, 270.
Callewaert Bros., Books, 359.
Calman, Government of, Skin, 311.
Calman, L., Literature, 344.
Calmann, C., Book, 326.
Calvados Lace Manufacturers, Lace, 197.
Calver, G. W. H., Stoves, 377.
Calvert, F. C., & Co., Carbolic soaps, 144.
Camacho, J., Music, 267.
Camara, Antonio da, Nails, 289.
Camara, F. T., Gold dust, 82.
Camará; J. E. P., Hats, 253.
Camara, J. Ewbank da, Stones, 82.
Camara, M. da, Table cloth, 285; Cotton lace, 288.
Camarines Norte, Prov. Com. of, Ores, 93.
Cambria Furnace, Iron ores, 48; Iron, 58.
Cambria Iron Co., Drawings, 335.
Cambria Iron & Steel Co., Ores, 47; Iron, 55.
Camden Woolen Mills, Dress goods, 121.
Cameron, A., Alternate, 9.
Cameron, Hon. D., Wool, 183.
Cameron, Wm., & Son, Embroidering, 125.
Cameta, City Council of, Hats, 253.
Caminero, José, Ores, 88.
Cammell, Chas., & Co., Iron armor plates, 62.
Camp, J. H., Photographs, 336.
Campaspero Board of Public Works, Calcareous stones, 90.
Campbell Brick & Tile Co., Stoneware, 146.
Campbell, C. J., Coal, 71.
Campbell, D. H., Wool, 159.
Campbell, F., New York, 13.
Campbell & Fowler, Springs, 191.
Campbell, G., Shutters, 190.
Campbell, Hall, & Co., Paper, 131.
Campbell, Hugh, & Son, Granite, 61.
Campbell, J., Books, 342.
Campbell, J. L., Commissioner and Sec'y, 9.
Campbell, O. R., Painting, 161.
Campbell, S. S., Samples of wool, 337.
Campbell, Saml., Extracts, etc., 101.
Campbell & Turton, Sugars, 251.
Campbell, Wm., Window curtains, 109.
Campeche, State Gov. of, Salts, 265; Woods, 267; Caoutchouc, 268; Cotton, 269.
Campo Grande, Woolen fabrics, 286.
Campo de Mata, Mrs. J., Cushion, 266.

Campolini, M., Earthenware, 284; Statuettes, 370.
Campora Brothers, Olive oil, 261; Wines, 262.
Campos, A., Music, 366.
Campos, Fernande, Liquor, 268.
Campos, Francisco, Galena, 87.
Campos, J., Pampa girdle, 257.
Campos, Mello, & Co., Kerseymeres, 286.
Canada Cotton Mfg. Co., Domestics, 188.
Canada, Educational Dept. of, 341.
Canada Paper Co., Envelopes, 189.
Canada Plumbago Co., Plumbago, 73.
Canada Truss Factory, Limbs, etc., 190.
Canadian Titanic Co., Iron, 74.
Canales, Juan Bautista, Acid, 270.
Canas, Eduardo, Olive oil, 268.
Candela, M., Cloth, 274.
Candiani & Biffi, Acids, 231.
Cane, G., Umbrella tools, 235.
Canea, Gov't of, Salt, 291; Laudanum, 304.
Canedo, Señor, Cigars, 268.
Canfield, Frederic A., Drawings, 335.
Canopy Frame Co., Canopy frames, 115.
Canson & Montgolfier, Paper, 199.
Cantalucia, Corp. of, Marbles, 90.
Canterbury Flax Association, Cordage, 155.
Canterbury Museum, Plans, 155.
Cantlie, Ewan, & Co., Flannels, 189.
Canto, A. A., Linen yarns, 285.
Cantó, Tomás, & Sons, Cloth, 274.
Capdevila & Co., Paper, 277.
Cape Copper Mining Co., Ores, 169.
Cape Rouge Pottery Co., Crockery ware, 188.
Capponi, Conti Bros., Olive oil, 231.
Capra, J., Jewelry, 197.
Carballino, Corp. of, Medicinal waters, 92.
Carbon Iron Co., Iron ore, 49; Pig iron, 57.
Carbonneaux, F., Jewelry, 197.
Cardalda, I., Glycerine, 255.
Cardona Baldrich, J., Corsets, 276.
Cardoso, A. Nunes, Lime, 82.
Cardoso & Gonsalves, Soap, 252.
Cardozo, J. P., jr., Gold leaf, 95; Shot, 289.
Cardozo, Manuel Joaquin, Webs, 289.
Cardwell, R., Trepang, 167.
Carenzo, Nicholas, Kaolin, 84.
Carette Dobbels, D., Rod, 359.
Carey, J. M., U. S. Commissioner, 9.
Carey, J. W., Box, 180.
Carling, T., Wheat, 167.
Carlisle, Henry, & Son, Shell combs, 128.
Carlsen, P. O., Ivory, etc., 182.
Carmant, A., Jewelry, 198.
Carmara, D. H. G. da, Linen fabrics, 285.
Carmen, T. D., Oil, 255.
Carmichael, G. L. & J. B., Wines, 159.
Carmoy, C., Nails, 199.
Carné & Moreno, Soaps, 271.
Carnegie Bros. & Co., Iron, 56.
Carneiro, A. P., Counterpane, 285.
Carneiro, Francisco dos Santos, Tissue, 288.
Carneiro, S. A., Hats, 257.
Carney, Bernard L., Hats, 126.
Carnic Ali, Agha, Grapes, 307.
Carol & Co., Soap, 271.
Carominas, Salas, & Co., Fabrics, 275.
Caron, L., Cement, 193.
Carpenter, Charles, Geological rocks, 48.
Carpenter & Raymond, Monuments, 52.
Carpi, V., jr., Sandals, 276.
Carr, Crawley, & Devlin, Hardware, 141.
Carr, Isaac, & Co., Woolen cloths, 149.
Carr, James, Majolica, 107.
Carr, W. B., & Co., Base balls, 336.
Carr, W. S., & Co., Pumps, 377.
Carr & Sons, Window blinds, 160.
Carral, Widow of I., Tiles, 272.
Carranza, A. E., Counterpane, 257.
Carratraca, Corp. of, Mineral waters, 91.
Carré, E, Pumps, 345.
Carreras, R. C. de, Mat, 256; Bristle ware, 257.
Carrigan, P., Cooler, 377.
Carrillo, Blas, & Co., Silk, 275.
Carrington, De Zouche, & Co., Interior decorations, 110.
Carrol, R. E., Rope, 173.
Carroll, Francis, Model, 334.
Carson & Brown Co., Writing paper, 131.
Carson, E. J., Ebony, 170.
Carter, A. A., Screens, 113.
Carter, Dinsmore, & Co., Inks, etc., 104.
Carter, E., Planes, 137.
Carter, H., Tools, 137.
Cartiera Italiana, Paper, 234.
Cartwright, McCurdy, & Co., Iron, 57.
Carue, Ropes, 200; Gymnastic apparatus, 346.
Carvajal, A., Galloon, 266.
Carvalho, Anna C. L. da C., Embroideries, 288.
Carvalho, A. P. S., Bituminous schist, 82.
Carvalho, Antonio Raymundo, Brushes, 289.
Carvalho, D. Maria da C., Fibre articles, 284.
Carvalho, Ferreira de, & Bro., Soap, 252.
Carvalho, I. C. A., Linen fabrics, 285.
Carvalho, Joaquin José, Shoes, 288.
Carvalho, Manuel, Spurs, 290.
Carvalho e Mello, Fowling piece, 289.
Carvalho, Venceslau M. de, Marbles, 94.
Casademont, M., Pills, 278.
Casademunt, M., Bottles, 272.
Casado, M., Tiles, 272.
Casanovas, J., & Sons, Cloths, 275.
Casaramona, J., Blankets, 274.
Casariego, Cayetano, Ferruginous water, 92.
Casarir, A., & Co., Porcelain, 265.
Casas, D., Organzine, 296.
Casas, J., Hair work, 277.
Casas & Jovér, J., Prints, 273.
Case Bros., Paper boards, 132.
Case, J. I., Wisconsin, 14.
Casella, G., Shoes, 234.
Casgrain, Stoneham, Tripoli, 73.
Cashmore, T., Clay, 73.
Casmani, D., Instrument, 371.
Cassal, A., Skin, 311.
Cassegrain, F P., Arms, 237.
Cassell, Petter, & Galpin, Books, 338.
Casseres, A. de, Clocks, 361.
Cassim Bakar, Blankets, 296.
Cassinara, E., Billheads, 234.
Castamouni, Gov't of, Carpet, 296.
Castell de Pons, A., Tapestry, 275.
Castellani, A., Silver, 234.
Castellani, T., Crockery, 233.
Castello Branco, J. da S. F., Salt, 283.
Castello de Vide, Sulphur Baths of, Waters, 95.
Castellon Prov. Board of Agri., Marble, 90.
Castelo, G., Medicinal herbs, 259.
Castelvedere, L., Candelabra, 233.
Castilia, Mines of, Coal, 89.
Castilla, A. y, Book, 266.
Castillo de Locubin, Corp. of, Jasper, 90.
Castillo, V., Book, 266.
Castner, A., Castings, 206.
Castorena, Miss M., Embroidery, 265.
Castre, L., Idaho, 12.
Castro, J. V. P., Thread, 285.
Castro, Joaó Vaz Pacheco, Rope, 289.
Catalano, A., Furniture, 233.
Catamarca Provincial Commission, Quartz, 84; Rock salt, 255; Table cloths, 256; Woolen articles, 257; Crochet work, 258; Herbs, 259; Leather caparisons, 260.
Catanzaro, Giuseppe, Liquorice paste, 231.
Catara, Government of, Salep, 304.
Catasauqua Iron Co., Rolled iron, etc., 57.
Caterson, Wm. M., Bottles for poisons, 108.
Catherine, Fabrics, 302; Collars, 303.
Cathiard, C. F., Boots, etc., 253.
Cathrineholms Iron Works, Stoves, 80.
Catlin, J., Wheat, 163.
Cattaneo, A., & Bro., Paper, 234.
Cattari, Giorki, Olives, 307, 312.
Caughey, S. M., Wool, 159.
Caulier, F., Bedstead, 111.
Causey, J. W., Delaware, 12.
Cauvin's Distillery, Rum, 181.
Cavalcanti, J. S. H., Umbrella, 254.

Cavaleri, A., Album, 234.
Cavalho, José Baptista Valhe, Spun silk, 287.
Cavallaro, L. & G., Beds, 233.
Cavalry, Direction of, Equipment, 276.
Cavalry, Dir. General of, Mounting, 279.
Cavanillas, Juan, Galena, 87.
Cavaquinha, J. A., Earthen water vessel, 284.
Caveira Mining Co., Ore, 94.
Cavelles y Ferré, J., Serges, etc., 273.
Cavern & Button, Hinges, 190.
Cawood, S., Table cloth, 169; Cotton, 171.
Cayol, Mrs. T., Flowers, 181.
Cazas Abdoullah, Belts, 299.
Cazas Ahmed, Belt, 299.
Cazas, D., Silk, 297.
Cazas, D. I., Hosiery, 300.
Cazas Said, Belts, 299, 300; Garters, 303.
Cazas, T., Thread, 295; Silk goods, 297, 305.
Cazaubon, D., Pumps, 200.
Cazi, A., Cotton, 314.
Cazin & Noyon, Laces, 197.
Cedar Hollow Lime Co., Lime, etc., 54.
Celedonia, Diaz de la Vega, Perfumes, 261.
Celluloid Manufacturing Co., Brushes, 128.
Celluloid Novelty Co., Jewelry, 126.
Cenami, Count Bartolomeo, Olive oil, 231.
Centennial Commission of the American Society of Civil Engineers, Drawings, 334.
Centennial Guide Book Co., Guide, 328.
Centennial Rolling Chair Co., Chairs, 111.
Centennial Safe Deposit Co., Safes, 336.
Centeno, L., Teeth, 279.
Center Furnace, Ores, 48, 49; Iron, 58, 59.
Central Drug Store, Mineral water, 97; Resin, 307; Syrups, 313.
Central Glass Co., Pressed glassware, 109.
Central Ohio Salt Co., Salt, 101.
Central Union of Fine Arts, Albums, 344.
Cerezanian Society, Soda, 91.
Cerezuelo, Gonzalo, Galena, 87.
Cerna, D., Music, 266.
Cerquinho, Francisco A. V., Jewelry, 288.
Cervény, V. F., Instruments, 351.
Cervera & Co., Tiles and bricks, 256.
Cervera, Luis, Lime, 90.
Cervin, C. G., Model, 362.
Cesar, José Maria, Model, 267.
Cesena Sulphur Co., Sulphur, 81.
Ceva y Llorens, E., Sandals, 276.
Chaban Assiani, Belt, 303.
Chaban Hadji, Wooden cups, 305.
Chaban Hussein, Calico, 294.
Chaban Oglou, Carpet, 297; Skin, 310.
Chabin, H., Stained windows, 194.
Chace Mills, Printing cloths, 118.
Chaco, Commission of, Embroidery, 258.
Chacun, M., Teeth, 266.
Chadwick, J. T., Massachusetts, 12.
Chaffin, Staples, & Co., Ores, 48.
Chagir, Agha, Almonds, 307.
Chaigneau, Julie, Newspapers, 261.
Chaix, A., & Co., Books, 344.
Chaki-sho-sha Co., Jars, 244; Service, 245; Embroidery, 246; Bronzes, 248; Box, 249.
Chakir, Agha, Olive oil, 291; Carpets, 296; Acorn cups, 306.
Chakir, Elké, Soap, 291.
Chakir, T., Carpets, 296.
Chalamel, Alf., & Co., Fabrics, 195.
Chalfant Manufacturing Co., Irons, 377.
Chamber of Commerce, Reims, Fabrics, 195.
Chamber of Commerce & Arts, Sienna, Marble, 81; Olive oil, 231.
Chamberlin, Whitmore, & Co., Stationery, 130.
Chambers & Co., Umbrellas, 127.
Chambers, T. F., Black varnish, 145.
Chamdelon, O., Carpet, 296.
Chameroy & Co., Pipes, 200; Scales, 344.
Chamlotte, Malatia, Oil, 291.
Champion Fence Co., Fence, 140, 378.
Champion, G., Arrowroot, 158.
Champion Spouting Spring, Waters, 55.
Champromy, J. B., Foulards, 196.
Chaná, B., Cotton goods, 253.
Chance Bros., Chemical products, 144.
Chance Bros. & Co., Glass, 147.
Chandler, C. F., Judge, Gr. III., 15.
Chandler, C. H., Roofing slate, 52.
Chandler, W. H., Judge, Gr. X., 17.
Chanudet, L., Model, 345.
Chanute, Octave, Engineering, 334.
Chaouch, I., Chisels, 305.
Chaouch, M., Olives, 307.
Chaouch Mahmoud Agha, Boots, 301.
Chapeaurouge, C. de, Map, 368.
Chapelle & Co., Blankets, 233.
Chapin, C. O., Judge, Gr. XIII., 17.
Chapleau, Godfroi, Safes, 188; Tools, 190.
Chapman & Bros., Dry goods, 122.
Chapman, J. W., Teeth, 136.
Chapman, Mrs. H. M., Skirt supporter, 123.
Chapman Slate Co., Roofing slate, 52.
Chappée, A., Iron pipe, 194, 200.
Chapsal, A., Shoes, 197.
Charade, Hadji Ali, Madder, 306.
Charageat, E., Umbrella, 198.
Charbonne-Thuilliere, J., Cutlery, 199.
Charchou Akissa, Lentils, 309.
Chardin, E., Silks, 196.
Chardron, E., Dictionary, 369.
Charleroi Iron Manfg. Co., Iron, 77.
Charles, A., & Co., Gloves, 240.
Charleston Mining & Manufacturing Co., Nodules, 55; Model, 60.
Charlier, J. B., Beer, 218.
Charlotte Furnace Co., Ores, 49; Iron, 59.
Charnaux, F., Photographs, 358.
Charpentier & Co., Publications, 344.
Chase, F. & P. F., Boilers, 143.
Chase, G. W., Photographs, 329.
Chase, H., Alternate, 9.
Chase, H. M., Washington Ter., 14.
Chase, John S., Paste, 130.
Chase, M. K., Granite pedestal, 52.
Chastel & Co., Hats, 253.
Chatain, H., Oven, 375.
Chateau, L. A., Paper, 199.
Chatel, Mr., Judge, Gr. IX., 16.
Chattanooga Mineral Co., Ores, 50.
Chatten, M., & Co., Woolen stuff, 217.
Chatwood, S., Safes, 147.
Chaul Kepka, Olive oil, 291.
Chavero, A., Essays, 266.
Chaves, A. P. dos S., Iron furniture, 284.
Chavirdi, H., Vests, 300.
Chawshaw French Toilet Powder Co., 105.
Cheavin, G., Filters, 148.
Chebert, J., & Co., Raw silk, 195.
Cheik, M., Garment, 300.
Chemical Joint Stock Co., Chemicals, 201.
Chemical Laboratory, Chemicals, 252.
Chemical Technical Manf'y, Porcelain, 207.
Cheney Brothers, Silks, etc., 123.
Cherbedji Mehemed, Skin, 310.
Cheri Oglou Ahemed Agha, Yarn, 296.
Cherif Agha, Wool, 314.
Cherif Effendi, Mat, 293; Honey, 312.
Cherif Oglou Mehemed, Oil, 313.
Cherifé, Madame, Blanket, 296.
Cherisor, Government of, Linen, 295.
Cherishor, Government of, Gum, 306; Rice, 308; Skin, 311.
Cherkis Berké, Lockets, 302.
Chervin, Book, 344.
Chesebrough Manf'g Co., Perfumes, 105.
Cheshire Manufacturing Co., Buttons, 129.
Chessman, W. H., Lime, 102.
Chester Iron Co., Iron ore, 49.
Chester, Stephen, Engineering, 334.
Chevrier, Pharmaceutical preparations, 192.
Chew, J. C., Alternate, 9.
Chia & Ganga, Shoes, 276.
Chiavari, Agrarian Committee of, Soap, 232.
Chicho Zeka, Fabric, 298.
Chicho Zeko, Quilts, 294; Carpets, 296.
Chickering & Sons, Pianos, 333.
Chiclana, Corp. of, Jasper, 90; Pottery, 272.
Chicopee Manufacturing Co., Flannels, 116.

Chief Engineer of Highways, Granite, 89.
Chief Intendency of War, Equipments, 317; Wagons, 320; Tester, 373.
Chiericoni, U., Cocoons, 233.
Chiesa Bros., Braids, 213.
Chiffray, A., Fabrics, 195; Silk, 196.
Chikumaken Local Gov't., Bamboo, 247.
Childs, G. K., Buggy, 380.
Chili, Government of, Silver, etc., 85; Map, 261; Amalgamating machine, 262.
Chimalpopoca, F., Book, 266.
Ching, J., Calf, 180.
Ching, John, Oil, 179.
Chinic, Eugene, Steel, 74.
Chinoply, T., Skins, 310.
Chipman, David, Magnetite, 71.
Chipman, Geo. W., & Co., Linings, 122.
Chiraux, L., Blacking, 192.
Chiris, A., Perfumery, 193.
Chisholm, W., Ladies' trunks, 189.
Chiuji, K., Tea pots, 245.
Chivot, N., Machine oils, 192.
Chormann, E. G., Easels, 111.
Chouet & Co., Dentifrice water, 193.
Chovet, L., Pictures, 194.
Chowne, E. G., Sugars, 158.
Chrignan, Inkstands, 304.
Christen, J. J., Manuals, 354.
Christensen, Chr., Antique sleigh, 230.
Christesen, V., Table, 223.
Christiania Millstones Manf'g Co., 80.
Christiania Sail Cloth Manf'y, Yarns, 229.
Christo, Bonandji, Garments, 300.
Christo, Miss Bonandji, Waterproof, 300.
Christo, P., Beans, 309.
Christo, P., Waters, 292.
Christo, Polita, Pistol, 304.
Christo, Prevézé, Barley, 307.
Christo, Volonia, Barley, 307.
Christo, Yanina, Wheat, 307; Harrow, 314.
Christofle & Co., Goldsmiths' ware, 199.
Christy, Wm., Iowa, 12.
Chrome Steel Co., Steel, 57.
Chubb, C. F., Silk, 179.
Chubb, F. E., Beans, 180.
Chucco, M. C., Books, 368.
Chuck, T. F., Photographs, 162.
Chulan & Co., Rice, 251.
Churadé, Hadji Ali, Raisins, 307.
Church Hill Coal Co., Coal, 51.
Cibulski, C., Stoneware, 315.
Cirilo, Mingo, Coffee, 268.
Claes & Co., Show case, 109.
Claesen, C. H., Books, 359.
Claghorn, J. L., Judge, Gr. XXVII., 19.
Clara Santa Hacienda, Sugar, 268.
Clarborg, T. A., Case, 226.
Claremont, J. H., Massachusetts, 12.
Clariano Ciuró, Angé, & Co., Tarleton, 273; Fabrics, 274.
Clark, C. W., Fixtures, 113.
Clark & Co., Hardware, 141; Shutters, 378.
Clark & Crompton, Wines, 168.
Clark, Edward P., Model apparatus, 338.
Clark, F., & Sons, Ores, 166.
Clark, G. P., Car, 382.
Clark, I. D., & Co., Cradle, 374.
Clark, J., jr., & Co., Cotton, 148.
Clark, J., & Sons, Bark, 162; Leather, 163.
Clark, L. W., New Hampshire, 13.
Clark & Maynard, Books, 326.
Clark & Sneider, Shot guns, 133.
Clark Thread Co., Spool cotton, 116.
Clark, W. A., Montana, 13.
Clark, William, & Co., Scroll iron, 56.
Clarke Combination Lock Co., Locks, 142.
Clarke, David, Medicinal preparations, 179.
Clarke, F. L., Curiosities, 250.
Clarke, G. E., Wool, 180.
Clarke, R., Silver rings, 258.
Clarke, R., & Co., Lasts, 191.
Clarke, Reeves, & Co., Models, 334.
Clarke, U. E., & Co., Valises, trunks, 189.
Clarkson, C. F., Alternate, 9.
Clarós, Pablo, Jr., 91.
Claus, Cav. Prof. Niccolo, Treatises, 365.
Claus, Heinrich, & Gross, Models, 351.
Clauseau, Father & Son, Madder, 192.
Claxton, Remsen, & Haffelfinger, Books, 327.
Claxton, Robert, Chronometer jewelings, 339.
Clay, R., Tubing, 148; Converter, 152.
Clay, Randolfe, & Co., Tray, 153.
Clay, Randolph, Model, instrument, 339.
Clear, E., Wheat flour, 170.
Cleaver, C., Cocoa, 184.
Cleghorn, W., Minerals, 64.
Clément & Co., Pearls, 197.
Clement, R., Limbs, 135.
Clemons, C. H., Limestone, 53.
Cleneay, T., Implements, 329.
Cléray, E., Jewelry, 198.
Clerke & Co., Lasts, 191.
Clery, H., Pharmaceutical preparations, 192.
Cleveland, F. L., Kentucky, 12.
Cleveland, H. W. S., Design, 336.
Cleveland Lightning Rod Co., Rods, 331.
Cleveland Malleable Iron Co., Iron, 59.
Cleveland Non Explosive Lamp Co., 115.
Cleveland, O., U. S. Commissioner, 9.
Cleveland Rl'g Mill Co., Ores, 47; Steel, 56.
Cleveland Steel Horseshoe Co., 140.
Clever, J., Chemicals, 201.
Clickerman, L. M., Embroidery, 126.
Cliff, John, Fire brick, 146.
Clifton Mine, Fossils, 67.
Climent, Hernandez, Artificial stone, 90.
Clinton, E., & Co., Brushes, 142
Clinton Furnace, Iron ores, 48; Pig iron, 58.
Clinton Mfg. Co., Cotton goods, 116.
Clinton Mills Co., Blankets, etc., 120.
Clinton Wire Cloth Co., Wire goods, 115.
Clipp, G. W., Pair of horns, 170.
Clive & Hamilton, Wool, 159.
Cloete Brothers, Wines, 171.
Cloete, H., Wines, 171.
Cloete, J. P., Wines, 171.
Cloncurry Mine, Manganese, 67.
Clonetz Mining District, Iron ore, 98.
Close, Thos. J., Settees, 112.
Cloth Manufacturers' Association, Cloths, 208.
Clough-Stone Co., Stone, 53.
Clough & Warren Organ Co., Organ, 334.
Cloutier, George, Shooting boots, 189.
Clum, H. A., Storm writer, 329.
Clymer, F. T., Phaeton, 380.
Coahuila, State Gov. of, Zarapes, 265; Fruits, 268; Cotton, 269.
Coahuistla Hacienda, Wheat, 268.
Coates, H. C., King penguin, 170.
Coates, Laning, Ferns, 156.
Cobeta, Corporation of, Iron and iron ore, 92.
Cobourg & Petersboro' Iron Co., Ore, 71.
Coburn Mfg. Co., Canopy wardrobe, etc., 112.
Cocey, J. G., Apparatus, 374.
Cochran, J. M., & Co., Coal, 51.
Cochran, T., Finance, 10.
Cochrane, Robert C. E., Drawings, 340.
Cockburn, D., Carved frame, 188.
Coco & Bro., Soaps, 271.
Coco, S., Furniture, 233.
Codelia, Juan, Vermicelli, 262.
Codman & Shurtleff, Instruments, 136.
Coe, L. W., Connecticut, 11.
Coelho, F., Bricks, 284.
Coelho, Francisco, Clay, 95.
Coelho, José de Sorna, Galloons, 287.
Coenen & Wolter, Mixed fabrics, 203.
Coez, E., & Co., Paints, 192.
Coffani, M., Parasols, 210.
Coffee Surrogate Factory, Coffee, 214.
Coffin, Redington, & Co., Silica, 55.
Cohansey Glass Mfg. Co., Glass, 108, 115.
Cohen, Chas. J., Stationery, 131.
Cohen & Levy, Flour, 158.
Cohen & Risch, Books, 347.
Cohille, Guillermo B., Antiquities, 263.
Cohn, M., & Co., Corsets, 124.
Cohné, S., Soaps, 144; Bearings, 154.

Cohumer & Collet, Furniture, 198.
Coignet, Father & Son, Chemicals, 192.
Coimbra, C., Earthenware, 284.
Colac, Shire Council of, Photography, 162.
Colange, L. de, Indicator, 344.
Colas, E., & Christoff, C., Extract, 193.
Colby Wringer Co., Wringers, 377.
Coldwell, M. A., Brush, 377.
Coldwell, T. H., U. S. Commissoner, 9.
Cole, Alexander, Bedsteads, 109.
Cole & Ballard, Carriages, 381.
Cole, Rufus, Copper glance, 70.
Cole, W., & Son, Arrowroot, 158.
Coleman Eagle Bolt Works, Bolts, 141.
Coleman, J., Judge, Gr. XXIII., 18.
Coleman, W., Gypsum, 73.
Coleraine Iron Co., Coal, 50; Pig iron, 57.
Colgate & Co., Soaps, etc., 106.
Colima, State Government of, Indigo, 268.
Colima, State Government of, Woods, 267.
Colima Workingmen's Club, Cottons, 265.
Colin & Co., Books, 344.
Colinet, E., Work, 359.
Collaço, M. M., Linen fabrics, 285.
Collaço, Manuel Matheus, Woolen fabrics, 286.
College of the Immaculate Conception, Hammocks, 253.
College of Superior Works of Art in Silk, 275.
Collender, H. W., Billiard tables, 109.
Collera, Prov. Board of Agri. of, Spar, 91.
Collett, R., Map, 364.
Collignon Bros., Chairs, 109.
Collin, Ch., Watch glasses, 212.
Collins & Co., Swords, etc., 134; Sledges, 136.
Collins & Sturgeon, Reclining chair, 112.
Collins, T. E., Montana, 13.
Collinson & Lock, Furniture, 147.
Colliot, Désiré, Watches, 355.
Collison, H. C., Wines, 171.
Collmann, L. W., Pianos, 147, 359.
Colodrero, M. C. de, Table cloth, 258.
Colodrero y Pedra, M. del T., Palm, 258.
Cologne Müsen Mining Co., Iron, 75.
Colonial Co.'s Agency, Sugar, 184.
Colonial Museum, Minerals, 63; Ornaments, 155; Tan barks, 156.
Colonial Sugar Refining Co., Sugars, 198.
Colthurst, Symons, & Co., Bricks, 146.
Colton, A. J., Planes, 137.
Colton, F., Illinois, 12.
Colton, J. W., Extracts, 106.
Colton, Martha J., Signals, 332.
Colt's Patent Fire Arms Mfg. Co., Arms, 133.
Columbia Plantation, Sugar, 175.
Columbia Slate Co., Slate, 53.
Columbia Spring Co., Flannels, 121.
Columbian Marble Co., Tiling, 52.
Colunga, Corporation of, Marble, 90.
Colvin, C., Oil, 182.
Colwell, F. E., & Co., Mouldings, 113; Gloves, 126.
Colyer, J., & Co., Buggy, 380.
Comas Delgado, R., Paper, 278.
Comegys, J. P., Delaware, 12.
Comellini & Buratti, Corsets, 234.
Commercial & Ind. Mutual Co., Reports, 360.
Comminassi Bros., Gun barrels, 235.
Commission General, Brazil, Ores, 81; Perfumery, 252.
Companhia das Lezirias, Salt, 283.
Comport, H., Sauce, 164.
Comstock, C. C., Doors, 378.
Comstock, Castle, & Co., Stove, 375.
Comstock Dickinson Ivory Co., Combs, 129.
Comte, M., Cottons, 265.
Conard, A. & I., Implements, 137.
Conboy, D., Sleigh, 383.
Conceiçao, Umbelina da, Saddlebags, 289.
Concord Granite Co., Pedestal, 53.
Conde Puerto & Co., Shirts, 276.
Condell, J., & Son, Limbs, 135.
Condiot, N. W., New Jersey, 13.
Condit, Hauson, & Co., Salts, etc., 102.
Condon, T., Oregon, 13.
Conkling, F. A., New York, 13.
Conly, E., Judge, Gr. XIII., 17.
Conn & Dupont, Musical instruments, 334.
Connecticut, Educational Dept. of, 323.
Conner, Thos., & Sons, Cords, 191.
Connor, J., Oats, 163.
Connor, Mrs., Quilt, 150.
Conover, A. V., Florida, 12.
Conover, J. A., & Son, Horses, 381.
Conquis, M., Earthenware, 284.
Conrad Bros., Shirts, 124.
Conrad, Wm. C., Cane, 129.
Conradi Bors., Soap, 271.
Conradi, Sons of J. B., Soap, 271.
Consolidated Fruit Jar Co., Jars, 377.
Constancia Society, Sulphate of soda, 91.
Constant, E., Iron, 77; Bolts, etc., 218.
Constanti Giorki, Fabrics, 298.
Constanti, Miss S., Socks, 300.
Constantinople, Adm'n of Mines, Ore, 97.
Constantinople, Government of, Cottons, 294; Woolens, 295; Silks, 298; Caps, 301; Rifles, 304; Saddle, 305; Morocco, 311; Coins, 371.
Conti, E., & Sons, Soaps, 232.
Conti, J., Cottons, 273; Woolens, 274.
Continental Manf'g Co., Inks, etc., 105.
Continental Mills, Sheetings, 116.
Conto, Antonio Guilherme, Jewelry, 288.
Contucci, Eustachio, Olive oil, 231.
Con-ui, Isaac, Charcoal, 93.
Converse, John A., Gypsum, 73.
Conway, Wm., Laundry soap, 103.
Cook, Caleb, Oil, 104.
Cook, E. A., & Co., Books, 326.
Cook, I., Ores, 47.
Cook, J. F., Missouri, 13.
Cook, James Nelson, Matting, 155.
Cooke Bros., Pins, 151.
Cooke & Co., Salt, 283.
Cooke, G. K., & Co., Stamps, 130.
Cool, G. T., Mantels, 220.
Coon & Van Volkenburgh, Collars, 125.
Cooper, C. W., Finance, 11.
Cooper & Co., Inks, 145.
Cooper, Henry Prouse, Clothing, 123.
Cooper, Hewitt, & Co., Ores, 49; Iron, 56.
Cooper & Holt, Furniture, 147.
Cooper, J. L., Alternate, 9.
Cooper, J. W., & Bro., Cabinet ware, 110.
Cooper, Robert, Washing crystals, 187.
Cooper Union Evening School of Science & Art, Drawings, 322.
Co-operative Iron & Steel Works, Iron, 57.
Cooppal & Co., Charcoal, 215.
Coozong Oil & Coal Co., Coozongik, 166.
Cope, C. W., Judge, Gr. XXVII., 19.
Copeland, Geo., Cordage, 191.
Copeland & McLaren, Clay, 73.
Copenhagen Leather Man'fy, Soles, 224.
Copland, McLaren, & Co., Wire brushes, 191.
Coplay Cement Co., Cements, 54.
Copp Bros., Stoves, 188; Enameled ware, 190.
Coppen, F., Water colors, 170.
Copper Miners in England, Tin plates, etc., 62.
Corady, Julia de, Millinery, 197.
Coral, Joanna Maria Dias, Embroideries, 288.
Corbett, John, Salt, 144.
Corbin, P. & F., Hardware, 140.
Corbon, Lamps, 194.
Corcelle, J., & Co., Watch dials, 355.
Corcho, D., Nails, 279.
Corcuera, Manuel, Iron ores, 86.
Cordera, Manuel, Oil, 268.
Cordes & Ellgass, Corks, 206.
Cordoba, Province of, Prov. Com., Lead, 83; Oil, 255; Counterpanes, 256; Shoes, etc., 257; Herbs, 259; Harness, 260.
Cordoba University, Minerals, 83.
Corestine, J., & Co., Hats, 189.
Corey, J. H., Boiler, 376.
Corica, A., Shot, 235.
Coritiba Museum, Slates, 82.
Corliss, G. H., U. S. Commissioner, 9.
Corliss Safe Co., Safes, 112.

Cornejo, Melchora T., Lime, 84; Water, 256.
Cornelius & Sons, Bronzes, 114.
Cornell, A. B., New York, 13.
Cornell, J. B. & J. M., Iron work, 143.
Cornell, S. W., Compass, 342.
Cornell & Shelton, Paper boxes, 132.
Corner, Wm. H., Maryland, 12.
Cornish & Co., Life saving apparatus, 162.
Cornish, T. E., Clocks, 331.
Cornu, E., & Co., Bronze, 199.
Coromina & Antiga, Paper, 278.
Corporation of Curriers, Morocco, 311.
Corps of Mining Engineers, Ores, 88; Asphaltum, 89.
Corral, Francisco, Horseshoes, 92.
Correa, G., Clay, 82.
Correa, J. S., Tiles, 252.
Correia, J. S., Calcareous rocks, 82.
Corrello, Rafael, Galena, 87.
Corrientes, Prov. Com., Stones, 84; Delf, 256; Yarns, 257.
Corsini, Prince Tommaso, Olive oil, 231.
Corta, Basto, & Co., Stoves, 284, 289.
Corta, Braja, & Son, Hats, 288.
Cortazar, D. de, Judge, Gr. I., 15.
Cortes Pereira Antimony Exp. Co., Ore, 94.
Cortez, Agapito, Wines, 268.
Cortez, P. de Siqueira, Amethysts, 82.
Corticine Patent Floor Covering Co., 149.
Cortines, Augustin de, Sulphurous water, 92.
Coryn, J., Chignons, 217.
Cosentini & Caruso, Liquorice, 232.
Cosgriff, A., Iron ore, 48.
Coshocton Stone Co., Stone, 54.
Cossard, Laces, 197.
Costa, A. F., Book, 368.
Costa, C. J. da, Woolen fabrics, 286.
Costa, Eymael, & Co., Hides, 254.
Costa, G., Books, 369.
Costa, J. F. da, Pictures, 254.
Costa, J. S. da, Oils, 283.
Costa, José Antonio, Webs for shoes, 289.
Costa, M. F. da, jr., Artificial teeth, 254.
Costa, Netto J. da, Fossils, 82.
Costa, Prévézé, Soap, 291.
Costa, R. de C., Ink, 283.
Costanti, A., Snuff, 309.
Costas & Carvalho, Shawls, 286.
Costenoble, C., Judge, Gr. XXVII., 19.
Costenoble, Hermann, Books, etc., 347.
Costerfield Gold & Antimony M'g Co., Ore, 65.
Costermans, C., Trunks, 220.
Costermans, J., Hearth, 216.
Coston, W. F., Signals, 332.
Costro, J. V. az P., Mill, 370.
Cotta, I. G., Classics, 347.
Cottier, C., & Son, Fancy stones, 127.
Couceiro, J. do Santos, Violin and bow, 367.
Couldrey, W. H., Sugar, 180.
Coullant, Aimé, Horse collars, 254.
Coulter, E., Iron ore, 64.
Coulter, J., Clay, 73.
Court, P. W., Wool, 171.
Cousin, P., Map, 342.
Coutinho, A. R. da S., Model, 370.
Coutinho, A., & Titho, Jewelry, 288.
Coutinho, D. M. da Franca, Compass, 369.
Coutinho, José M. da C., Caps, 288.
Coutinho, Silva, Plans, 367.
Couvreur Sisters, Dresses, 217; Confections, 219.
Couvreux, W., Cutlery, 199.
Coux, Roseaux, Oils, 192.
Couyoun Oglou Andon, Wool, 314.
Covarriebias, F., Books, 266.
Cove, Jas. A., Gypsum, 73.
Coverdale, J., Clay, 68; Ochre, 182; Seaweed, 183.
Covert, L. B., Step ladder, 374.
Cowan, A., Ore, 71; Salt, 187.
Cowan, T., & Co., Flour, 167.
Cowdin, E. C., Judge, Gr. IX., 16.
Cowell, J. J., & Co., Hardware, 141.
Cowles, C., & Co., Hardware, 379.
Cowperthwait & Co., Books, 321.
Cox Bros., Twines, 148
Cox, C. C., Judge, Gr. XIV., 17.
Cox, E. K., Wool, 159.
Cox, E. T., Judge, Gr. II., 15; Drawings, 335.
Cox, F. & A., Wool, 159.
Cox, G. H., Wool, 159.
Cox, Justice, jr., & Co., Iron, 57.
Cox & Sons, Furniture, 147.
Cox, W. O., Cut tobacco, 262.
Coxen & Co., Earthenware, 107.
Coyne, Geo. S., Acids, etc., 102.
Crab Orchard Iron Co., Ore, 47; Steel, 56.
Crabb, R. S., Malachite, 166.
Cragin, I. L., & Co., Soap, 103.
Craig & Rose, Paints, 144.
Cramer, H. G. D., Pasteboard, 221.
Cramer, J. W., Chemicals, 202.
Crandall, C. J., Crutches, 378.
Crandall & Co., Carriages, 381.
Crandall, J. A., Carriage, 381.
Crane Bros., Paper, 131.
Crane & Co., Paper, 131.
Crane Iron Co., Ore, 50; Iron, 56.
Crane, L., jr., Paper, 131.
Crane, S. O., Wheels, 379.
Cranz, Joao, & Pinto, Harness, 254.
Crassier & Co., Laces, 197.
Craven, Dernill, & Co., Tiles, 146.
Crawford, G. A., Alternate, 9.
Crawford, J. D., & Co., Hematite, 71.
Creamer, W. G., & Co., Lamps, 375.
Creigh, J. D., U. S. Commissioner, 9.
Crescent Mills, Writing paper, 131.
Crespo, Melchor, Hats, 276.
Cressier, E., Watches, 344.
Cresswell, C. F., Seeds, 182; Wheat, 183.
Crest, M., & Co., Pack saddle, 260.
Crestuma Weaving Co., Yarns, 285.
Creswell & Co., Salt, 283.
Creswick, Council of, Photographs, 162.
Crevecœur, H. S. J., Statistics, 359.
Crew, Moore, & Levick, Oils, 103.
Crippa, F., Wine, 164.
Crispo, Moncada Carlo, Limestone, 81.
Croaker, Scott, & Co., Star antimony, 65.
Crocker Bros. & Co., Copper, 59.
Crocker, L. O., Punches, 382.
Croes, J. J. R., Engineering, 334.
Croll, Benj. P., Safety lamp, 376.
Crommelinck, Lace, 217.
Crompton, J., & Co., Boxes, 132.
Croon Bros., Cotton and mixed goods, 203.
Crosby, Gilsinger, & Co., Velocipede, 380.
Crosby & Hecker, Car coupler, 382.
Crossley, John, & Sons, Carpets, 150.
Crossman, A. W., & Son, Tools, 138.
Crotta, Giannina, Album, 365.
Crouch, Henry, Microscopes, 339.
Crowell, S., Fence, 378.
Crown Perfumery Co., Perfumes, 145.
Crown Surgical Instrument Manufactory, 319.
Crowther, Bishop, Mats, 177.
Crowther, D. W., Dentistry, 136.
Crozier, D. W. C., Model, 334.
Crozier, H. P., Car starter, 382.
Crozier, W., Wool, 168.
Cruickshank, J. D., Red pine, 156.
Cruz, B. A. da, Magnetic iron, 82.
Cruz, Joaó Maria, Ropes, 289.
Cruz, L. F. de S., Escutcheons, 289; Machine, 370.
Crystal Glass Co., Glass table ware, 109.
Csánk & Co., Wood work, 208.
Cuantecomatan Co., Coffee, 268.
Cuchi y Deixens, T., Arsenic, 271.
Cucurny, P., Earthenware, 272.
Cuevas Bros., Wheat, 268.
Culbert, W. H., Harness, 191.
Cull, H., Furniture, 377.
Culmer, W., & Sons, Brushes, 153.
Cumberland Nail & Iron Co., Pipe, 57.
Cumming, A., & Co., Cocoanuts, 184.
Cumming, T. F., Wools, 165.

Cummings, J., Finance, 10; Judge, Gr. XII., 17.
Cummings, J. S., & Co., Neck wear, 125.
Cummins, H., Violin, 333.
Cuña, Americo, Agate, 83.
Cunha, Augusto Mendes da, Combs, 288; Knives, 289; Snaffles, 290.
Cunha Bettercourt, M. J. da, Minerals, 81.
Cunningham, A., Alabama, 11.
Cunningham, J., & Son, Landaus, 380.
Cunningham, P., & Co., Wheat, 156.
Cunningham, Peter B., Coal table, 111.
Cunningham, Portz, & Co., Spokes, 379.
Curtin, A. G., Pennsylvania, 14.
Curtis, A. A., Nevada, 13.
Curtis, A. W., Swing, 382.
Curtis, J. W., Painting, 161.
Cus-Kuri, Government of, Seed, 310.
Cusset, N., Gloves, 265.
Custodio & Silva, Woolen fabrics, 286.
Cutler, A., & Son, Business desks, 110.
Cutler, C., Flint, 328.
Cutler Manufacturing Co., Yarns, 116.
Cutter, Ephraim, Chair, 110, 136.
Cuypers, J. F., Piano, 361.
Cyrette, Ambrose, Silver ores, 70.
Czeiger, S., Chromos, 211.
Czerminska, I., Embroidery, 209.

D.

D'Abadie, St. L., Cocoa, 184.
Dabert & Co., Fabrics, 195.
Dabney, R. L., Straw mat, 284; Hat, 288.
Dabney, S. W., Shawl, 287; Eagle, 288.
Da Costa, D. R., Tooth wash, 105.
Dagand, E., Coffee pots, 194.
Dahlerup, V., Judge, Gr. XXVII., 19.
Dahll, J., Apatite ore, 80.
Daillens Cossonay Orphan Asylum, Regulations, 357.
Daintree, R., Fossils, 67; Photographs, essences, 179; Oils, 180.
Dairy Station, Books, 353.
Dale, Dr., Wax, 170.
Dale Mfg. Co., Trimming braids, 123.
Dale, T. H., New Jersey, 13.
Dalgety, Moore, & Co., Wheat, etc., 182.
Dalinau, J. M., Flannels, 274.
Dalla Pozza, Silk, 233.
Dallmeyer, John Henry, Telescopes, 339.
Dalp, J., Manuals, 354.
Dalton Bros., Flour, 158.
Dalwood, W. F., Guano, 168.
Dalzell, D., & Sons, Boxes, 379.
Damascus, Government of, Linen, 295; Hosiery, 300; Seeds, 304; Gum, 306; Wheat, 308; Wax, 311; Hemp, 314.
Damian Garcia, José, Waters, 91.
Damiano, H., Skins, 311.
Damman, Edm., Ship biscuit, 219.
Damon, S. C., Book, 250.
Dana, E. A., Projectiles, 133.
Danberger, G., Bronze ware, 210.
Danby, G., & Co., Railings, 143.
D'Andria, Lombard, & Co., Carpets, 296.
D'Andrian & Wegelin, Chemicals, 201.
Daniell, A. B., & Son, Ornamental vases, 146.
Daninos, A., Judge, Gr. VIII., 16.
Danish Preserved Butter Co., Butter, 224.
Danks, J., Valves, 161.
Dann Bros. & Co., Wood work, 381.
Danube Regulation Com'n, Models, 351.
Danville Iron Co., Railroad iron, 57.
Danville School Slate Co., Slate panel, 72.
Danville Slate Co., School slates, 72.
D'Araujo, Gomes, Music, 366.
Darby, E., & Son, Wire, 378.
Dardalah, Mouradile, Pyrites, 97.
Dardanelles, Government of, Skin, 311.
Dardel, F. L., Judge, Gr. XXVII., 19.
Dare, C. W. F., Carriage, 381.
Darebin Shire, Council of, Photography, 162.
Darling, Brown, & Sharpe, Rules, 330.
Darling, S., Car window, 382.
Darlot, Photographs, 345.
Darnius, Count of, Waters, 91.
Darrach, S. A., Crutch, 135; Drawing, 335.
Dartmouth Ropework Co., Cordage, 191.
Dash, O., Hats, 151.
Dassi, G., Judge, Gr. VIII., 16.
Dassonville, de St. Hubert, Cements, 219.
Dassonville, Lace, 217.
Date, John, Diving apparatus, 191.
Dates Patent Steel Co., Edge tools, 190.
Daubin & Co., Fly paper, 192.
Dauli, C., Morocco, 311.
Dauphin, L., Printing, 343.
Davenierè, E., jr., Lace, 197.
Davenport, G. H., Wool, 180.
Davenport, S., Oil, 166; Woods, 167; Wines, 168.
Davey & Gooding, Sugar, 180.
Davey, W. O., & Sons, Oakum, 132.
David-Damoiseau, & Co., Chains, 199.
David, Ilias, Cotton thread, 294.
David, J. B., Ribbons, 196.
David, José de A., Portmanteau, 289.
Davids, Thad., & Co., Inks, etc., 104.
Davidson, H. A., Gypsum, 73.
Davidson, J. E., Sugar, 180.
Davidson, T., jr., & Co., Pipes, 146.
Davidson, W., Copper glance, 70.
Davies, John, Crivo work, 288.
Davies, R. H., Shells, 183.
Davies, Robert S., & Sons, Cloths, 149.
Davila, H., Cottons, 265.
Davila é higos, Brandies, 264.
Davila é hyos, Plans, 263.
Dávila, Teodora, Embroidery, 281.
Davis, C. H., & Co., Books, 326.
Davis & Chaddock, Fire bricks, 106.
Davis, E. T. C., Photographs, 335.
Davis, F. C., Bitters, 168.
Davis, I. J., Sandstone, 53.
Davis, Isaac, Crockery ware, 107.
Davis, J., Window sash, 160.
Davis, J. G., & Son, Hubs, 379.
Davis, J. T., Artificial eyes, 136.
Davis Level & Tool Co., Tools, 137.
Davis, O. W., jr., Ores, 47; Iron, etc., 57.
Davis & Wilson, Canes, 151.
Davison, Mrs., Coffee, 177.
Davoll Mills, Sheeting, etc., 118.
Dawson Bros., Books, 190.
Dawson, S. J., Silver ores, 70.
Day, A. G., Cables, 332.
Day & Frick, Soaps, 103.
Day, G., Splints, 135.
Day, H. H., Nevada, 13.
Day, J. M., Wax, 262.
Daye, F., & Co., Pressed leather, 218.
Dayton, G. E., Sashes, 378.
Daza, Francisco, Marble, 89.
Daza y Ruiz, Francisco, Minerals, 87, 91.
Daza y Ruiz, Lucar, Cobalt, 87.
Daza y Ruiz, Seron, Iron ore, 87.
Dchoban Oglou Mehemed, Skin, 311.
Deady, M. P., Oregon, 13.
Deaf & Dumb Asylum, Regulations, 354; Reports, 360.
Deakin, R. T., Syringes, 330.
Dean, Henry, Stoneware, 146.
Dean, W., Wheat, 182.
Debain & Co., Piano, 345.
Debenham & Freebody, Gloves, 151.
De Beukelaer, F. X., Antwerp elixir, 218.
De Bock, M., Cabinet, etc., 112.
Debré, Government of, Sulphate of chalk, 96.
Debrus, Leclaire (Widow), Wooden boxes, 216.
Debrus, W., Wooden boxes, 216.
De Camp, Essie, Panel, 110.
Decatur, Stephen, Colorado, 11.
Decaux, Son, Cloth, 195.
Decew, Wm., Building stones, 72.
Decker Bros., Pianos, 332.

Decker, L., & Co., Billiard tables, 112.
Declercq, C., Thread, 216; Lace, 217.
Decol, M., Medicine, 235.
De Cuyper, C., & Noblet, A., Works, 359.
Dee, José Antonio, Wood mosaic, 262.
Deeth, Jacob, California, 11.
Deetz, E., Sleeping apartment, 111.
Degerfors Stock Co., Iron ores, 78; Iron, 79.
Degotardi, John, Mechanical printing, 340.
Degraves, C. & J., Wool, 165.
Degraves, J., Malt, 183.
Dehors, A., Toys, 198.
Dejonge, L., & Co., Paper, 133.
De Koninck, L. W., Works, 359.
Delagrave, C., Books, 344.
Delahaye, V. A., & Co., Books, 344.
Delal, M., Cloak, 300.
Delalain, J., & Son, Books, 343.
Delamere, J. H., Organs, 342.
Delamotte-Mongrenier, Merinoes, 195.
De Lange, A. G., Rugs, 220.
Delannoy, N., Chocolate, 218.
Delaware Chair Co., Chairs, 109.
Delaware, State of, Ores, 51.
Delaye, Hypolite, Kid gloves, 288.
Delegny Bros., Chemicals, 283.
Delepné, Stockings, 300.
Delettrez, Adolphe, Perfumery, 193.
Deleuil, Scales, 344.
Delf Factory of Sargadelos, Peat, 270.
Delgado & Co., Waistbands, 274.
Delgado, J., Syrups, 271.
Delgado, R., Counterpane, 277.
Delhez Bros., Woolen stuff, 217.
Delhez, C., Gymnastics, 351.
Deli Mourad, Fabrics, 296, 298.
Deliguy, Ernest, Ore, 94.
Delimé, Suleimaneeyah, Saddle cloth, 305.
Delius, C., Cloths, 203.
Delivré, L., Flowers, 198.
Dell, Aquila A., Table tops, 261, 262.
Della, C. N., Cornice, 233.
Dellachi, A., Matches, 232.
Delmotte, Hippolitus, White bristles, 219.
De Lorenzi, Cav. G. Batta, Violins, 365.
Demanet, A., Forged nails, 218.
Demar, L., Dress goods, 195.
Demarest, Joyce, & Co., Opera chairs, 111.
Demartini, L., Toilet soap, 207.
Demerdji, Constantin, Silk, 297.
De Mesmaecker, Fr., Bindery work, 218.
Demestre, E., Maize, 158.
Demeuter, L., Son, Furniture, etc., 216.
Demidoff, Paul, Iron ores, 98; Maps, 99; Bricks, 315.
Demitraki, Silk, 297.
Demorest, Mme., Patterns, 124.
Dempsey Wicker Covered Glassware Co., 380.
Demuth, Wm., & Co., Pipes, etc., 128, 139.
De Nava, G. di P., Essences, 232.
Denet, E., Moulds, 194.
Denham, T. M., & Bro., Shirt bosoms, 125.
Denizet, Langres, Cutlery, 199.
Dennison & Brown, Paper boxes, 132.
Dennison & Co., Paper boxes, 132.
De Notaris, S., Shoes, 234.
Denshin-riyo, Telegraphic Dep., Map, 248.
Dent, M. F., Watches, 339.
Denton, Drake W., Slate roofing, 52.
Deny, L., Construction materials, 199.
Deplanque, senior, Whetstone, 199.
De Poli Bros., Church bell, 235.
Deppeler, J., Wine, 164.
Depuy, B., Pharmaceutical preparations, 218.
Derbabian, Pedros, Wax, 312.
Derby, Philander, Cane-seat chairs, 112.
Derby Silver Co., Cutlery, 113.
Derepas, R., Gum, 158.
Derepas, W., Timber, 158.
De Richelieu, Madam F., Ornaments, 161.
Derogy, Instruments, 345.
Derrom, Andrew, Cottage, 336.
Dervich Effendi, Handkerchiefs, 302.
Dervich, O., Linen, 295; Mohair, 296.
Dervich Oglou Kokas, Gauzes, 299; Neckties, 302.
Dervich Oglou Nacif, Writing materials, 304.
Dervich Osman, Cigarette cases, 303.
Dervich Yaya, Bowls, 303.
Dervichian, Shirt, etc., 300; Cushions, 303.
Desbarolles, Works, 343.
Deschamps, Maurey, & Co., Brushes, 198, 200.
Deschiens, Machines, 344.
Des Cressonniéres & Son, Toilet soap, 215.
Desfeux, Ph., Roofing, 199.
De Sieto Bros., Essences, 232.
Design, Collective Exhibit of School of, 110.
De Silvestri, S., Silk, 234.
Des Mares, P. T., Lace, 217.
Desmet Bros., Textile fabrics, 216.
Desnoes, P., & Son, Cordials, 172.
Desoto Alkali Co., Soda, 144.
Desouches, Carriages, 200.
Despot, Y., Hosiery, 300.
Dessain, H., Books, 359.
Dessauer, Alois, Fancy colored papers, 205.
Dessent, J., & Bros., Glass, 215.
Desteract, A., Books, 343.
Destexhe, A. M. T. J., Books, 359.
Détemmerman, P., Porcelain, 193, 198.
De Tournay, Catala, Printing, etc., 218.
Detroit Stove Works, Stoves, 375.
Deucher & Co., Works, 343.
Deut, J. R. de, & Co., Cotton canvas, 285.
Deutgen, L., Blackboard, 360.
Deutsch, A., Machine oils, 192.
Devenish, S., Woods, etc., 184.
Devesa, Dominguez J., Boots, 276.
Devine, Thomas, Galena, 71.
Devlin & Co., Clothing, 124.
Devoe Manufacturing Co., Oils, 103.
Devold, L. C., Cod-liver oil, 229.
Devos, C., & Bro., Cloth, 216.
Devosse, Blaise, Woolen stuff, 217.
Devotee, A., Ponchos, 257.
Deweidels, S., Gloves, 209.
Dewey, D. M., Plates, 327.
Dewey, O. C., West Virginia, 14.
Dewhurst, Arthur, Minerals, 64.
Dewhurst, J., & Sons, Cotton, 148.
De Wilde, F., Judge, Gr. III., 15.
Dewitt, F. J., Dakota, 12.
De Witt, Morrison, & Kelley, Augers, 137.
De Witt Wire Cloth Co., Wire work, 115.
De Wolfe, J. M., Phaetons, 383.
Dexter & Co., Mica, 48.
Dexter, J. E., U. S. Commissioner, 9.
Dexter, Lambert, & Co., Silks, 123.
Dexter Spring Co., Springs, 140, 379.
Deyhle Bros., Jewelry, 204.
D. Francisca, Colony of, Bricks, 252.
Diaba, H., Beans, 309.
Diakoff, G., Arithmometer, 372.
Diamante, Sub-commission of, Stones, 84.
Diamond Glass Co., Glass, 108.
Diamond, J., Spectacles, 331.
Diarbekir, Gov't of, Wheat, 308; Morocco, 311.
Dias, Antonio, Shoes, 288.
Dias, B., Code, 266.
Dias, D., Oils, 252.
Dias, L. F. de, Printing, 266.
Diaz, A., Harness, 279.
Diaz & Acebedo, Preservative, 271.
Diaz, Corrales, Slippers, 276.
Diaz, J., Counterpane, 257.
Diaz, J. C., Instruction, 266.
Diaz, R. A. F., Cotton fabrics, 285.
Diaz Varela, C., Silk, 275.
Diaz y Gomez de Cadiz, E., Manganese, 88.
Dibble, C. F., & Co., Gig, 381.
Dibbs, T. F., Chart, 182.
Dibra Gaza, Rice, 308.
Dick, Dundas, Tasteless medicines, 134.
Dick & Fitzgerald, Books, 328.
Dick & Kirschten, Axles, 206, 383.
Dickes, William, Engraving, 338.
Dickeson, M. W., Relics, 329.

Dickinson, A. S., Shades, 113.
Dickinson & Higham, Bible, 338.
Dickinson, Mrs. C. J., Flowers, 128.
Dickson, J. B., Corals, 250.
Dickson, J., & Co., Woodwork, 226.
Dickson, M., Photographs, 251.
Dickson, W. W., Manganese, 169; Skins, 170.
Dicksons, Ferguson, & Co., Linens, 149.
Didier & Co., Books, 343.
Didisheim, Gabriel, Watches, 355.
Didout, H., Clasps, 198.
Diefenbach, Mr., Judge, Gr. XV., 17.
Diego, Vicente de, Iron ores, 89.
Diena, M. G., Silk, 233.
Dienheim, Brochocki, Disinfector, 194.
Dier & Diets, Skins, 170; Wool, 171.
Diestro y Lastra, Antonio del, Ores, 89.
Dietz-Monnin, Mr., Judge, Gr. X., 17.
Dieutegard, E. & E., Trimmings, 197.
Diez Bros., Sulphurous waters, 91.
Diez Cataluña, S., Tiles, 272.
Diggles, S., Ornithology of Australia, 179.
Dillmann, I., & Fisher, L., Furniture, 208.
Dily, Edoardo, Sulphur, 81.
Di Mauro, Francisco, Cream of tartar, 231.
Dimitri, Boots, 301; Flute, 371.
Dimitri, C., Cotton, 314.
Dimitri, G., Cotton, 314.
Dimitri, Shirting, 295; Inkstand, 304; Wooden dish, 305.
Dimo, Shoes, 301.
Dinaburg Arsenal, Instruments, 373.
Dingeldein Bros., Jewelry, 204.
Diniz, J. B., Artificial teeth, 254.
Diogo, Antonio Manuel, Umbrellas, 288.
Dios de la Quintana, J. de, Wines, 264.
Dip Notutchu, Woolen bridle, 305.
Diptou, N., Belt, 300.
Di Rosalia, A., Shoes, 234.
Di Salvo, S., Essences, etc., 232.
Dishman, J., Kentucky, 12.
Djssoire, N., Instruments, 199.
D'Italo, E. F., Atlas, etc., 346.
Ditson, J. E., & Co., Music, 321.
Ditten, H. S., Pharmacies, 230.
Dixon, A. H., Show cards, 188.
Dixon, C. A., & Co., Cards, 132.
Dixon Crucible Co., Graphite, 54; Paint, 104; Crucibles, 107; Pencils, 129.
Dixon, Frederick, Fuel, 61.
Dixon, Smith, & Co., Fastener, 190.
Dixon, Thos. S., & Sons, Grates, 139.
Djamian, G., Wool, 296.
Djbra Gaza, Cumin, 310.
Djebar Oglou Mustapha, Pottery, 292.
Djemal Ali, Figs, 307.
Djeza Hirli, M., Fan, 303.
Djeziré, Diarbekir, Coal, 97.
Djidé, Government of, Salt, 291; Fan, 303, 310; Spoons, 305.
Djorbaji, Chio, Sulphate, 291.
Djourbachi, A., Cumin, 309; Cotton, 314.
Djourbachi, Nicolas, Madder root, 306.
Djudie, Mehemed, Dates, 307.
Djupafors' Manf'g Co., Pasteboard, 227.
Dobbe, J. P., Painting, 221.
Dobbins, R. J., Contractor, 115.
Dobel, Paul, Ozocerite, 207.
Dobelmann, J. B., Engraved glassware, 108.
Dobson, Jno. & Jas., Carpets, 121.
Dobson, Mrs. L., Banjo, 333.
Docker, F. G. & J. B., Wine, 164.
Dod, S. B., Bust, 336.
Dodd, A. W., & Co., Cod-liver oil, 103.
Doderer, W., Designs, 351.
Dodge, G. C., Alternate, 9.
Dodson & Roberts Man'fg Co., Rattan, 380.
Doerffel, C. G., & Sons, Laces, 204.
Doerr & Sloan, Lacto-phosphate of lime, 101.
Dofat & Co., Acorn cups, 306.
Dognin & Co., Laces, 197.
Dogny, J. B., Balusters, 216.
Dohan, J. F., & Co., Carriage goods, 382.
Dol, Ad., & Co., Linen underwear, 253.
Doland & Scherb, Carriages, 380.
Dolge, A., Felts, 332.
Dolne, Lekeux, & Co., Woolen stuff, 217.
Dolphin Manufacturing Co., Barytes, 71.
Domingo, J., Matches, 283.
Dominguez, Celestino, Oil, 270.
Dominion Organ Co., Organs, 342.
Dominion Suspender Co., Suspenders, 189.
Domisguer, J., Geography, 266.
Domken Bros., Woolen stuff, 217.
Donadis, Count of, Judge, Gr. XXVII., 19.
Donaghy, Michael, Ropes and lines, 160.
Donaldson, J. W., Stamps, 138.
Donaldson, T., U. S. Commissioner, 9.
Donaldson, T. B., Gold in quartz, 70.
Donato, F., Child's suit, 257.
Donel Aghop, Manganese, 97.
Donis, Félipe, Syrup, 262.
Donovan, J. W., Record file covers, 131.
Dons, Henrik, Matches, 229.
Dooley & Bro., Baking powder, 102.
Dopp, Geo., Amethyst, 76.
Dor. U. Free Stone Co., Sandstones, etc., 72.
Doremus, P. C., Sofa bed and lounge, 109.
Dorfel, J., Designs, 351.
Dorlodot, L. de, & Co., Glass, 215.
Dorman Mfg. Co., Baskets, 143.
Dornam, Bros., & Co., Carpets, 122.
Dorner, E., Laces, 209.
Dornon, L., Silk, 196.
Dorsette, T., Dripstone, 173.
Dossetor Brothers, Flour, 183.
Doty, H. H., Burner, 115.
Doucet, E., Writing fluids, 255.
Dougall, J. D., Rifles, 152.
Dougherty, A., Cards, 132.
Dougherty, E. D., Marble, 52.
Douglas Axe Mfg. Co., Axes, 137.
Douglas, B. W. B., Salt, 201.
Douglass, A., Ostrich feathers, 170.
Douglass, David, Lime, 72; Grindstones, 73.
Douglass, Dr., Copper ore, 76.
Douglass Mfg. Co., Tools, 137.
Douglass, W., Slate, 64.
Doulton & Co., Stoves, 146.
Doulton, Hy., & Co., Terra-cotta, 146.
Doulton & Watts, Stoneware, 146.
Doux, E., & Co., Silks, 196.
Dover Fire Brick Co., Clay, 54; Bricks, 107.
Dow, F. N., Maine, 12.
Dowden, G. A., Alarm, 331.
Dowling, Wm., Centre flowers, 162.
Downey, Jno. G., California, 11.
Downey, S. W., Wyoming, 14.
Downs, G., Barley, 180.
Dowson, Sutherland, & Co., Papers, 338.
Dowst, F., Refrigerator, 376.
Doyle Bros., Desk, 321.
Doyle, J. F., Wines, 159
Doyle, W., Ranges, 375.
Drack, J. da S. F., jr., Pharmacies, 283.
Drag Stock Co., Fabrics, 226.
Drake, J. B., Finance, 11.
Drammen Foundry and Mechanical Works, Stoves, 229.
Draper, E., Musical game, 342.
Draper, H., Judge, Gr. XXVII., 19.
Draper, J. W., Coal, 51.
Draper & Sons, Earth closets, 160.
Drawing School of the Board of Trade, Embroideries, 213; Album, 354.
D. R. Barton Tool Co., 137.
Dreer, Smith, & Dreer, Apparatus, 114.
Dreier & Heine, Roots, 251.
Dreka, Louis, Stationery, 130.
Drescher & Kiefer, Jewelry, 204.
Dress Reform Co., Clothing, 125.
Dressel, Cuno, & Otto, Toys, 205.
Dreydoppel, Wm., Borax soap, 103.
Dreyfus, J. G., & Co., Chemicals, 102.
Dreze, H. & J., Woolen stuff, 217.
Dries, L. F., Gymnastics, 360.
Drinker, Henry S., Drawings, 335.
Dripps, I., Heaters, 375.

Drogue & Monnard, Poplins, 195.
Dron, Books, 344.
Droste & Siepermann, Cotton goods, 203.
Drown, W. A., & Co., Umbrellas, 128.
Droz, Juillet, & Co., Poplins, 195; Silks, 196.
Druelle, R., Wines, 192.
Drugulin, W., Type, etc., 347.
Drum Cabinet Manf'g Co., Furniture, 188.
Dryfoos, L., & Co., Felt skirts, 120.
Dubernet, L., Furniture, 112.
Dubois, C., Chemical preparations, 192.
Dubois, G., Boots, 197.
Duboscq, J., Instruments, 345.
Dubourguet, A., Inkstands, 198.
Ducloux, Francisco Javier, Ores, 88.
Ducommun, D., Watch movements, 355.
Ducro & Co., Meat extract, 192.
Ducrocq, P., Books, 343.
Duden Bros., Lace, 217.
Dudgeon, Arthur, Peat, 61; Papers, 152.
Dudley, Dana, Gyroscopes, 127.
Dudley Hosiery Co., Hosiery, 124.
Dudley, P. H., Drawings, 335.
Dudley, T. H., Finance, 10.
Du Faur, E., Timber, 158.
Dufaux, Lutz, & Son, Watch spirals, 355.
Duffus, Mr., Judge, Gr. XVII., 18.
Du Fief, J., Books, 359.
Dufour & Co., Silk bolting cloth, 212.
Dufourmantel, Ph., & Co., Warps, 195.
Dufur, A. J., Alternate, 9.
Dugdale, J. K., Washers, 377.
Dugoujon, J., senior, Saws, 199.
Duhamel, Dr., Iron pyrites, 71.
Dujardin Bros., Hosiery, 217.
Dujeaux, J. B. C., Patents, 359.
Dumaine, J., Books, 343.
Dumas, F., Mrs., Emery paper, 199.
Dumayuga, P., Fabrics, 280.
Dumortier & Cuignet, Cloth, 195.
Dunbar, Geo., Lime and limestone, 72.
Dunbar, Hobart, & Whidden, Tacks, 140.
Dunbar, McMaster, & Co., Linen threads, 149.
Duncan, J. W., Ores, 50; Pig metal, 56.
Duncan, W. A., Washer, 377.
Duncker & Humblot, Books, 347.
Dunckley & McBride, Lines, etc., 163.
Dundas Cotton Mills Co., Cotton fabrics, 188.
Dunglison, R. J., Corn grater, 376.
Dunlap & Co., Hats, 126.
Dunn, E. I., Map, 170.
Dunn, J., & Co., Flour, 167.
Dunn, Robt., & Co., Clay, etc., 61.
Dunod, Books, 343.
Dunraven, Countess of, Embroidery, 151.
Dunton, Jacob & Co., Porous pills, 101.
Duparquet, L. F. & H., Ranges, 376.
Duplan, Harmot, & Co., Furniture, 194; Carpets, 195.
Duployé Bros., Stenography, 343.
Du Pont de Nemours, E. I., Powder, 106.
Dupont, A., Brushes, 198, 200.
Dupont, L., Furniture coverings, 195.
Dupont, P., Books, 343.
Dupuch, B., Fruits, 262.
Dupuch, J., Stone, 66; Trays, 173.
Duquet, C., Watchman detector, 342.
Duran Effendi, Cloth, 295.
Duran, Estéban, Copper, 87.
Durán, J., & Son, Fabrics, 275.
Durand, D., Mirror, 113.
Durand & Huguenin, L., Naphthaline, 212.
Durango, Government of, Iron ores, 86.
Duranti, A., Hats, 234.
Durege, Julio, Views, 92.
Durfee, W. F., Judge, Gr. XXI., 18.
Durham Iron Co., Ores, 49; Flux, etc., 57.
Durham & Wooster, Couplet, 381.
Duric, Madame, Slippers, 301.
Durieu, Oettli, & Co., Milk powder, 213.
Durkman, B., Carpet, 317.
Durner, C. F., Organ, 332.
Durr, Alphonse, Books, 347.
Durrschmidt, Whetstones, 199.
Duryee & Hallett, Furs, 129.
Dutch Ass'n of Industry, 360.
Dutch Ass'n for Soldiers, Books, 361.
Dutch Horticultural & Botanical Association, Pamphlets, 360.
Dutch Railroad Co. Amsterdam, Model, 361.
Dutch Scientific Society, Books, 360.
Dutkevicz, X., Tea pots, etc., 316.
Duval, H. H., Titanic iron ore, 71.
Dwight Manufacturing Co., Shirtings, 118.
Dyerville Mfg. Co., Cotton goods, 117.
Dyott, M. B., Lamps, 114.
Dysart & Co., Coal, 52.
Dziedzinski & Hanusch, Bronze articles, 210.

E.

Eads, J. B., Judge, Gr. XXVI., 19.
Eager, P. B., Tower, & Co., Clothing, 124, 143.
Eagle Furnace, Ores, 49; Iron, 58.
Eagle Lock Co., Trunk locks, 141.
Eagle Pencil Co., Pencils, 130.
Eagle Square Mfg. Co., Squares, 137.
Eames, Prof., Silver veinstone, 70.
Earle, J. E., Connecticut, 11.
Earle, J. S., & Sons, Gilt tables, 112.
Earnshaw, Henry, Photographs, 336.
Eastern Kentucky Railway, Coals, 51.
Easthampton Rubber Thread Co., 142.
Eastman & Brooke, Soap, etc., 103.
Easton Lock Works, Locks, 141.
Eastwood & Co., Cement, 61; Bricks, 146.
Eavenson, Jones, & Sons, Soaps, etc., 103.
Eberhardt, Carl, Flowers, 207.
Eberhardt, F., Baskets, 380.
Ebermann, A., Urethrotome, 319.
Ebou Raguel Ana, Table, 292.
Ebouker, C., Skin, 311.
Eche, J. D., & Son, Oil cloths, 229.
Echef Effendi, Morocco, 311.
Echevarria, Cecillo, Minerals, 84; Cotton, 256.
Echuca, Council of, Photographs, 162.
Eckel, H., Iron, 378.
Ecker, Alexander, Colors, 207.
Eckstein Bros., Gloves, 208.
Eckstein & Kahn, Table cloths, 203.
Ecole du Plateau, College work, 342.
Económica of Múrcia, Silk, 275.
Economical Survey of Sweden, Maps, 363.
Eddy, G. M., & Co., Saws, 137; Tapes, 330.
Eddy's, J., Sons, Woolens, 120.
Edeline, A. J., Stones, 199.
Edgar Thomson Steel Co., Steel rails, 56.
Edge & Sons, Wire ropes, etc., 62.
Edgerly, M. V. B., Alternate, 9.
Edgerton, N. H., Instruments, 331.
Edgett, W., Iron ochre, 188.
Edgren, Julius, Paper, 227.
Edile Factory, Cotton, 294.
Edison, T. A., Telegraph, 331.
Edoux, L., Plan, 345.
Edsall, D. A., Hand stamps, etc., 131.
Education, Board of, Map, 174.
Education, Dept. of, Photographs, 250.
Education of the Poor Society, Reports, 357.
Educational Union, Books, 359.
Edwards, G., Sashes, 148.
Edwards, G. W., Gum, etc., 182.
Edwards, J., China, 147.
Edwards, J., & Son, White ware, 146.
Edwards, M., Alternate, 9.
Effendi, I., Ribbon, 299.
Effimitaki, Giorgui, Oil, 291.
Egan, J., Guns, 190.
Egger, I. B., Veneer, 211.
Eggins, J., Maize, 158.
Eggler, Jakob, Wood carvings, 358.
Eggler, Johann, Wood carvings, 358.
Egli, F., Wine, 164.
Egli & Sennhauser, Silk bolting cloth, 212.
Eguiazu, L., Iron, 277.
Egypt, National Museum of, Various exhibits, 236, 237, 238.

Egyptian Silk Growing Co., Yarns, 287.
Ehret, M., jr., Roofing, 115.
Eich & Co., Braids, 213.
Eichmann & Co., Paper, 210.
Eichner, G. L., & Son, Toys, 205.
Eichorn, G., Wines, 240.
Eiermann & Tabor, Chemicals, 202.
Eisel, M., Piano movement, 332.
Eisenfuhr, Wilh., Tools, 206.
Eisenmann, E., Support, 377.
Ek, J. A., Equipments, 226.
Ekegrén, Hr., Chronometers, 355.
Ekman, C., Ores, 78; Iron, 79; Guns, 227.
Elaghin, C., Castings, 319.
Elastic Truss Co., Trusses, 135.
Eldarts, T. E., Arrowroot, 251.
Elder, W. & N. G., Wools, 165.
Eldon, Mrs. J., Orange tree, 173.
Eldridge, G. M., Stove damper, 114.
Elementary Education Society, 344.
Elevin, M., Harness, 383.
Eley Bros., Percussion caps, 152.
Elfving, C. E., Apparatus, 226.
Elgin National Watch Co., Tools, 136; Watch movements, 330.
Eliaers, A. E., Seats, 194; Chairs, 199.
Elias, D. & C., Cotton, 264.
Elias Hatti, Satins, 298.
Elias, J., Napkins, 220.
Eliott, G., & Ferreira Castello, J. H., Ores, 94.
Eliott, George, Ores, 94.
Elkins, Stephen B., Alternate, 9; New Mexico, 13.
Elkins, W. L., Oils, 103.
Elkinston & Co., Plate, 148.
El Labrador Factory, Cottons, 265.
Ellbo Götoberg Match Factory, Matches, 225.
Elli, L., Seats, 233.
Ellin, Robert, & Co., Eagle lecturn, 112.
Elliot, J. W., Stoves, 188.
Elliott, T. C., Washing machine, 188.
Ellis, C. J., Judge, Gr. IX., 16.
Ellis, Knapp, & Co., Umbrellas, 128.
Ellis Manufacturing Co., Supporters, 125.
Ellis, Theo. G., Engineering exhibit, 335.
Ellissi, Madame, Laces, 302.
Ellstätter & Urbino, Gloves, 204.
Elmira Nobles' Mfg. Co., Tools, 137.
Eloffe & Co., Books, 343.
Elordi, Louis, Copper ore, 84.
El Porvenir Mining Society, Tin, 92.
Elrick, C. G., Combs, 151.
Elson, J., Regulators, 330.
Elvadji, Y., Vest, 300.
El Veterano Mineral Society, Coal, 89.
Emaré, Gov. of, Saucer, 303.
Emaus Iron Co., Iron ore, 49; Flux, etc., 57.
Emerald Hill, Borough of, Photographs, 162.
Emerson Piano Co., Pianos, 333.
Emery, C. E., Judge, Gr. XX., 18.
Emery, Chas. E., Drawings, 335.
Emilianoff & Rochefort, Silks, 317.
Emin, A., Wheat, 308.
Emina, Madame, Handkerchief, 303.
Eminé, Tissue, 298; Shirt, 300.
Eminé, K., Shirting, 294.
Emma, Queen, Hats, 250; Implements, 251.
Emmanuele, Francesco, Cream of tartar, 231.
Empey, M. P., Judge, Gr. X., 17.
Empire China Works, Porcelain, etc., 107.
Empire City Watch Co., Watches, 330.
Empire Iron Works, Iron, 59.
Emsley, R., Lime and limestone, 72.
Emzia, I. N., Gauze, 299.
Encarnacion Company, Iron, 86.
Enderitch, H., Wheat, 180.
Enders, J., & Co., Buggy, 381.
End Ulmi Ali, Under garments, 213.
Engelbrecht, C., Skates, 223.
Engelhorn, I., Books, 347.
Engelmuller, F., Gloves, 208.
Engert, A. C., & Co., Frames, 148.
Engert & Rolfe, Felts, 148.
Engineers, School of, Minerals, 86.
Englemann, W., Books, 347.
English, Ch., Blackboard, 342.
English Heirs of Juan Carlos, Galena, 88.
English, J., & Co., Needles, 151.
Engström, Joh., Razors, 227.
Enological & Agrarian Society of Acireale, Essences, 232.
Enriguez, A. G. de, Embroidery, 258.
Enrique, Clasen, & Co., Cigars, 262.
Ensenada, Justice of Peace, Sarsaparilla, 259.
Enthoven, H. S., Kitchen utensils, 221.
Entomological Society, Reports, etc., 359.
Entz, H., Range, 194.
Epstein, J., Paper, 318.
Erassier, Laces, 197.
Erckens & Co., Cotton and mixed goods, 203.
Erckens', J., Sons, Cloths, 203.
Ercklentz, Max, & Co., Mixed fabrics, 203.
Ercklenz & Reuter, Mixed fabrics, 203.
Erdman, E., Diagrams, 362; Maps, etc., 363.
Erdman-Schmidt, J. D., Plates, 221.
Ereilli, C., Lignite, 97.
Ereutznach, E., Hosiery, 204.
Erezena, Government of, Bark, 306.
Ergain, Diarbekir, Copper ore, 97.
Erhard, Maps, 345.
Erhard & Sons, Jewelry, 204.
Eriksen, C., Honey, 224.
Eriksson, G., Doors, 226.
Erlbeck, A., Laces, 209.
Ernst & Elterich, Tools, 137.
Ernst, Ferdinand, Woolen goods, 212.
Ernst, Heinrich, Plans, 357.
Ernst & Korn, Plates, 347.
Errazuriz, M., Strata of coal mine, 85.
Ersindjan, Government of, Mineral water, 97.
Ervin, D. S., Limestone, 54.
Erwin, H., & Co., Paint, 105.
Erza, Y., Skirt, 300.
Erzeroum, Gov't of, Soap, 291; Wool, 295; Pitch, 306; Wheat, 308; Morocco, 311.
Esberard, F. A. M., Vases, 252.
Escaler, B., Dress cutting, 276.
Escales & Hatry, Silk plushes, 204.
Escandon, Pedro, Instruction in fine arts, 267.
Escarpizo, Lorenzana Augusto, Elixir, 270.
Eschebach & Schaefer, Lithographs, 347.
Escheverria, J. R., Wax, 262.
Escobar, E., Gold, 85.
Escobar, J. D., Woodenware, 256.
Escobar, J. de D., Waters, 85; Salt, 255; Harness, 260.
Escobedo, Grai, Coffee, 268.
Escobedo, M., Indian goods, 266.
Escoffier, G. G., Mechanical goods, 235.
Escrich, P., Peanut oil, 255.
Escudero, P., Bricks, 272.
Escudero, R., Stone, 85; Tiles, 261.
Esiné, Government of, Gall nuts, 307.
Eskilstuna Iron Manufacturing Co., Hinges, etc., 227.
Esmarch, F., Bandages, 205.
Esmé, A., Sheeting, 294.
Esmoriz, M., Soaps, 283.
Espahi, Pestle, 293.
"España Industrial," Fabrics, 273.
Espeja, Corp. of, Marbles, 90.
Espent, W. B., Cigars, 172.
Esperon, José, Iron, 86.
Espineyro, M. T., Periodical, 368.
Esptein, Isidoro, Books, 267.
Esseid Effendi, Wheat, 308.
Essen, Baron H. H. von, Woodwork, 226.
Essers, M., Cotton and mixed goods, 203.
Estate of the Khedive, Samples, 238.
Estéban, Cristóbal, Brimstone, 89.
Esterbrook Steel Pen Co., Pens, 130.
Estes, E. B., & Son, Smalts, 105.
Estes & Lauriat, Books, 326.
Esteves, F. R., Hat, 281.
Estevez, M. B., Slates, 90.
Estey, J., & Co., Organs, 332.
Estivill, A., Water, 271.
Estruch, A., & Co., Manure, 270.

Estur Oglou Estur, Cocoons, 314.
Etchevehére, J., Flowers, 258.
Etcheveherre, G., Embroidery, 258.
Etlép, Gov. of, Cotton, 313.
Etna Furnace, Ore, 48; Pig iron, etc., 57.
Etsenberger, R. Z., Coffee filter, 148.
Etur, A. F., Cotton prints, 285.
Euler, A. A., Flutes, etc., 349.
Eureka Manufacturing Co., Pistols, 129.
Eureka Mining Co., Silver ores, 70.
Evangelic Missionary Ass'n, Report, 357.
Evans, C. B., Mantels, 115.
Evans, D. S., Needles, 151.
Evans, E., U. S. Commissioner, 9.
Evans, Ellen, Basket, 173.
Evans, F. H., Bolts, 142.
Evans, H., Wine, 164.
Evans, Oscar C., Blinds, 188.
Evans' Rifle Mfg. Co., Rifles, etc., 133.
Evans, Sons, & Co., Perfume, 145; Drugs, 153.
Evans, W. D., & Co., Razor strops, 139.
Evanson, Jones, & Sons, Laundry soap, 103.
Evansville Cotton Mfg. Co., Drills, 116.
Everaert, Julie, & Sisters, Lace, 217.
Everaert-Leclercq, J., Lace, 217.
Everaert Sisters, Lace, 217.
Everett, B. C., Trusses, 135.
Everett Mills, Fancy cottons, 118.
Everitt, Elisha E., Furniture, 109.
Everling, Carl, & Co., Mixed fabrics, 203.
Ewart, William, & Sons, Linen fabrics, 149.
Ewing & Co., Mirrors, 188.
Excelsior Coal Mining Co., Coal, 51.
Excelsior Flint Glass Co., Glass reflectors, 109.
Excelsior School Furniture Mfg. Co., 321.
Extremoz Marble Quarrying Co., Marbles, 95.
Eyhon & Lloyd, Roughing rolls, 56.
Eyoup, O., Skins, 311.
Eyries, A., Soda, 271.
Ezerski, E., Apparatus, 372.
Ezinchan, Gov't of, Calicoes, 294; Belt, 300.

F.

Faas, A., Pianos, 332.
Faber, A. W., Water colors, 205.
Faber, Eberhard, Lead pencils, 130.
Fablet, B., Preserved blood, 255.
Fabra, C., Rods, 278.
Fagersta Iron & Steel Works, Iron ores, 78; Saws, 227.
Fagersta Stock Co., Iron, 78.
Fagioli, G., Boxes, 234.
Fairbank, Hawes, & Co., Doors, etc., 188.
Fairbanks, A. G., Roofing, 378.
Faivre, Toys, 198.
Fakari, Nigella, 304.
Faladji Imssi, M., Thread, 295.
Falck, J. A. H., Peaches, 170.
Falck-Yster, Snow shoes, 229; Sledge, 230.
Falcon, Ruiz, & Llorente, Oil, 271.
Falkenberg, Johs., Linen, 229.
Fall River Bleachery, Shirtings, etc., 117.
Fall River Merino Co., Underwear, 123.
Faller, Geo. J., Oils, 103.
Fallon, J. T., Wines, 158.
Falls Co., Duck tickings, 117.
Falstrom & Tomqvist, Cornice, 143.
Fanfarrao, J., Earthenware, 284.
Farch, J., & Sons, Alcohol, 224.
Farcot, E., Clocks, 344.
Farcy & Oppenheim, Corsets, 196.
Faria, J. B. da, Artificial teeth, 254.
Farina Crockery Society, Crockery, 233.
Farina, F. Maria, Eau de Cologne, 202.
Farina, J. M., Eau de Cologne, 202.
Farmer & Rogers, Shawls, 150.
Farniola, M. Paolo, Olive oil, 231.
Farnum, J., & Co., Tickings, 115.
Farquhar & Booth, Building sandstone, 72.
Farquhar, E. & C., Lime and limestone, 72.
Farr Alpaca Co., Alpacas, 121.
Farrar, G. H. & L. E., Clay, 73.
Farrel & Co., Safes, 112.
Farrington & Kinsey, Wool, 122.
Farriols & Sons, Silk, 275.
Farris, A., & Co., Glassware, 272.
Farrugia, Federico, Minerals, 86.
Farsky, J. F., Instruments, 351.
Farson, E. S., & Co., Refrigerators, 376.
Farwell Mills, Cottons, 116.
Fase, L., Lime, 53.
Faser, C., Mirrors, 113.
Fasmer, I. H., & Son, Feldspar, 80.
Fasoldt, C., Clock, 330.
Fatma Eminé, Napkins, 302.
Fatma, Madame, Linen, 295; Hose, etc., 300.
Fauchere, A. L., & Co., Mantel, 52.
Fauth, C., & Co., Instruments, 329.
Fauvety & De Ville Massot, Bricks, 256.
Fava, A., Furniture, 233.
Favare, Marchese della, Olive oil, 232.
Favier, A., Flowers, 198.
Favre Bros., Watches, 355.
Faxon, E., & Co., Extract, 143.
Faxon, W., Judge, Gr. XIII., 17.
Faxon & Wright, Samples of wool, 337.
Fay, C. J., Carpeting, 120.
Fay, de, Plans, 345.
Faye & Thevenin, Silks, 196.
Fayett & Battcher, Pantaloons, 253.
Fazio, D., Olive oil, 232.
Feced, J., Fabrics, 281.
Federal Gov't, Mexico, Books, 267.
Federal Polytechnical School, Report, 354.
Federal Statistical Office, Books, 354.
Federal Topographical Bureau, Maps, 356.
Fedoroff, J., Tureens, 319; Hampers, 320.
Feefik, Mamor, Cherries, 307.
Feetham, Mark, & Co., Stoves, 148.
Fegan, Wax, 172.
Fehr, J., Compound talcum, powder, etc., 134.
Feil, C., Instruments, 345.
Feizoulah, Perfumery, 292.
Felge, P., Jewelry, 204.
Fellner, F., & Hermann Helmer, Models, 351.
Felsing, C., Castings, 206; Regulators, 349.
Felton, Rau, & Sibley, Varnishes, 104.
Felton, S. M., Finance, 10.
Female Workshop of Educ'l Appliances, 372.
Fenerty, E. L., & Co., Skates, 190.
Fenneysey, C. D., Photographs, 170.
Fenoult & Co., Books, 372.
Fenton, Connor, & Co., White linens, 149.
Fenton, J., Buttons, 151.
Fenton, J. H., & Bro., Hats, 126.
Fenwick & Scott, Wool, 180.
Ferguson Bros., Satteens, 149.
Ferguson, T. B., Judge, Gr. V., 16.
Ferguson & Urie, Stained glass, 160.
Fergusson & Co., Silks, 241, 242; Hemp, 243.
Feriyé, Madame, Lace, 302.
Ferlund, E. F., Clothing, 226.
Fernandes, Manuel, Cloth, 286.
Fernandez Castañeda, T., Lignite, 89; Glass, tiles, 272.
Fernandez Bros. & Co., Mats, 273.
Fernandez, Diego, Galena, 87.
Fernandez, Francisco, Asphaltum, 89.
Fernandez, Gertrude, Embroidery, 265.
Fernandez, Gervasio, Gypsum, 90.
Fernandez, J., Earthenware, 272.
Fernandez, Laza M., & Sons, Manta, 275.
Fernandez & Toscano, Shoe patterns, 276.
Ferniani, Count A., Crockery, 233.
Ferrad, K., Cases, 303.
Ferrad, O., Tumblers, 292; Office furniture, 304.
Ferrari, Giuseppe, Cabinet, 109.
Ferraz, J. L. M., Pharmacies, 283; Book, 369.
Ferrazas, J. J., Arithmetic, 266.
Ferré's, General, Widow, Embroidery, 258.
Ferreira da Silva, A., & Co., Soaps, 283.
Ferreira, D. F., Diamonds, 82.
Ferreira, J. J., Toweling, 285.
Ferreira, Joanna E., Hats, 287.
Ferreira, José Bento, Boots, 287.

Ferreira, L. G., Canes, 254.
Ferreira, M. J., & da Silva, Hardware, 289.
Ferreira, M. S., Sieves, 284.
Ferreira & Souza, Gold leaf, 95.
Ferrer & Battle, Chemical preparations, 270.
Ferrer & Co., Silk goods, 275.
Ferrer, E., Flowers, 259.
Ferrer, Ignacio, Chocolate, 268.
Ferrer & Roca, Paper, 278.
Ferrer & Son, Paper, 277.
Ferrer, V., Medicinal herbs, 259.
Ferrer y Vidal, J., Cretons, etc., 273.
Ferres, J., Reports, 341.
Ferri, F., Tables, 353.
Ferrino, C., Nitrate, 231; Sand paper, 235.
Ferris, G. H., Domestic boiler, 376.
Ferrouch, M., Slippers, 301.
Ferslew, C., & Co., Register for cars, lithographs, 224.
Ferssouz, A., Wheat, 308.
Ferstel, H. R. von, Designs, 351.
Feser, P., Clocks, 349.
Feti, M., Pipe stems, 303.
Fetou, A., Beans, 309.
Feu, P., Medals, 279.
Feu, P., & Sons, Buttons, crosses, 277.
Feuchtwanger, L., & Co., Chemicals, 101.
Feulgehete, Gov. of, Skin, 311; Cotton, 313.
Feuntes & Ponte, Part of coach, 279.
Feurheerd, F. D., & Cruickshank, W., Ores, 94.
Feust & Rice, Cabinet ware, 112; Toys, 128.
Fevfik, E., Woolen yarn, 296.
Fezli Ogli Samy, Soaps, 291.
Fialho & Bro., Mineral waters, 95.
Fialkowski Bros. & Twerdy, Writing paper, 210.
Fialont, Mrs., Tapes, 344.
Fiddeman, H. B., Delaware, 12.
Field, A., & Sons, Buttons, 128; Nails, 142.
Field & Aydon Patent Smelting Co., Iron, 74.
Field, F. K., Blue stone, 52; Tiles, 107.
Field-Haviland, Ch., China, 193, 194.
Field, J. C. & J., Candles, 144; Lights, 148.
Field, J. C. & J. F., Gloves, 126.
Field, W. W., Wisconsin, 14.
Fierz, Henri, Cotton goods, 212.
Fifield, J. B. M., Magic bed sofa, 111.
Figatner, Enrico, Batteries, 365.
Figueiredo, J., Pharmacies, 283.
Figueredo & Co., Army boots, etc., 253.
Figueredo, D. J., Argil, 82.
Figueroa, Ignacio, Galena, 88; Lead, 92.
Filimonoff, A., Caps, 317.
Filopanti, Dr. Prof. Quirico, Book, 365.
Finance, Ministry of, Instruments, 361.
Finch, Pruyn, & Co., Marble, 52.
Finger, Hare, & Co., Annunciator, 331.
Fink, H., Cinchona, 266.
Fink, M., Skins, 163.
Finkheim, W., Teeth, 319.
Finland, Adm'n of Mines, Reports, 99.
Finlayson, T. A., Asphalt, 184.
Finnegan, J. H., Building stone, 54.
Finnigan, M., Buena Vista stone, 52, 54.
Fiolet, L., Pipes, 193.
Fireland Historical Society, Pottery, 328.
Fireproof Building Co., Bricks, etc., 54.
Firmin Didot & Co., Books, 343.
First Ordinary Civil Social Union, 352.
Fisch Bros., Embroideries, 213.
Fischer, August, Wines, 164.
Fischer & Co., Tables, 250.
Fischer, F., Hats, etc., 253.
Fischer, J. G., Toys, 205.
Fischer, Samuel, China, 207.
Fischer & Schmitt, Chemicals, 201.
Fischer, T., Maps, 347.
Fish, W., & Co., Stone, 52.
Fishblatt, Lewis, Furs, 129.
Fisher & Bird, Mantels, 52, 115.
Fisher, Concrete, 172.
Fisher, C. B., Wool, 180.
Fisher, H., Swing, 114.
Fisher, Leather, 172.
Fisher, T. S., Shirts, 189; Yarns, 189.
Fisher, W., Tripoli, 73.
Fisse, T., & Co., Clasps, 194.
Fitch, E. A., Coal, 52.
Fitts, C., & Son, Oil, 160; Glue, 163.
Fix, A. J., Nails, etc., 218.
Fjeldskov, V., Carving, 224.
Flagstone Creek, Coal, 67.
Flamant, Mrs. C., Snuff, flour, 184.
Flattich, W. & W. F., Models, 351.
Flauraud & Son, Laces, 197.
Flechoso, G., Key, 279.
Fleischel, E., Judge, Gr. XXIV., 18.
Fleischer, E., Books, 347.
Fleischman, Fritz, Piguet, & Co., Steel, 355.
Fleisher, S. B. & M., Alpaca braids, 123.
Fleming, F. N. & J. S., Minerals, 47.
Fleming & Talbot, Instruments, 331.
Flemming, Carl, Maps, 347.
Fletcher, H. L., Arkansas, 11.
Fletcher, R., & Son, Papers, 152.
Flinsch Type Foundry, Printing, 347.
Flint Mills, Printing cloths, 118.
Flor Carenou & Tur, Liquorice, 271.
Florand, J., Shirts, 317.
Flore, Mauricienne, Vanilla, 178.
Floreffe Co., Mirrors, 193; Glass, 215.
Florence, Agrarian Committee of, Oil, 232.
Florence, Director of the Anatomical & Pathological Museum of, Preparations, 365.
Florence Mfg. Co., Mirrors, 113; Brushes, 142.
Florence Sewing Machine Co., Skates, 139; Stoves, 375.
Florenz, J., Scales, 351.
Flores, S., Saya fabric, 281.
Flück, J., Wood carvings, 358.
Fluminense Agricultural Inst., Hats, 254.
Flyin, A., Maps, 373.
Focké & Son, Pianos, 345.
Fodolali, N. A., Barley, 308.
Foering, Geo. W., Ochres, 105.
Foerster & Kraenter, Tools, 137.
Fogt, Pictures, 318.
Fokat, Government of, Seed, 307.
Foley, James, Magnetite, 71.
Foley, John, Gold pens, 130.
Foliatis, Joseph, Soap, 291.
Follett, O. S., Chemicals, 102.
Folsa, M. José, Quicksilver ores, 86.
Folwell, W. W., Alternate, 9.
Fominsky, B., Boots, 317.
Fondu, J. B., Locksmiths' work, 218.
Fonseca, Manuel da Motta, Serges, 287.
Font, Chambeyron, & Benoit, Velvets, 196.
Fontaine, J., Windows, 188.
Fontana Brothers, Flagstones, 81.
Fontein, R., Tiles, 220.
Fontes, V., Medicinal herbs, 259.
Fontes, V. M., & Negra, S., Clay, 85.
Fonteyn Bros., Silk goods, 217.
Fonzo, Domenico, Cream of tartar, 231.
Foote, A., Ores, 67.
Foote, A. E., Minerals, 47.
Foote, H., Wines, 168.
Forbes, R. W., Gum, 156.
Force, W. F., Implements, 328.
Ford Bros., Pith hats, 161.
Ford, F. G., Pails, etc., 376.
Ford, O. D., Stone, 53.
Ford, W. A., Fastener, 378.
Ford Works Co., Maize, 152.
Forehand & Wadsworth, Fire arms, 133.
Forest City Stone Co., Stone flagging, 52.
Forests & Streams, Dep't of, Plans, 356.
Forge & Rolling Mill Co., Iron, 77.
Formiga, District of, Argil, 82.
Formiguera, G., Syrups, 270.
Fornara, Gio, & Co., Wire, 81.
Fornari, A. G. B., Paper, 234.
Fornasari, R., & Facino, H., Cement, 84.
Forner Sales, Domingo, Flower water, 270.
Fornitcheff, A., Silk, 317.
Forsell, D., & Co., Furs, 226.

Forster, E. R. von, Designs, 351.
Forster, S. R., & Son, Tacks, 190.
Forsyth, J., & Sons, Leather, 158.
Forsyth, Robt., Red granite monument, 72.
Forte, E., Silver work, 234.
Fortenbach & Sons, Cases, 330.
Fortin Bros., Felts, 195, 200, 345.
Fortuny Bros., Oil, 270.
Foruch, A., Jewelry, 197.
Forzano Bros., Sideboard, 272.
Fosher, J., Wyoming, 14.
Foshick, E., Clay, 73.
Foster Coal Co., Coal, 51.
Foster, J. A., Limbs, 136.
Foster, S. R., & Son, Fire-proof shutters, 188.
Foster, W. A., Clay, 73.
Foster, Wilbur F., Model, 335.
Foubert, A., Dyes, 193.
Foucaud, Mme. Vve., Slippers, 178.
Fouchet, sr. & jr., & Hulme, Cloth, 195.
Fouet, Mrs., Underwear, 196.
Fountain, John G. B., Iron ore, 64.
Fourcault-Frison, A., & Co., Glass, 215.
Fouret, R., Judge, Gr. XXVIII., 19.
Fournier, Dondel, & Co., Bronze, 199.
Fournier, J., Cream of tartar, 192.
Fournier, S., Clock, 382.
Foustdale Manf'g Co., Cottons, 116.
Fow Loong, Porcelain, furniture, 241.
Fowler, Charles E., Plans, 334.
Fowler Fly Fan Co., Fan, 129.
Fox, Plans, etc., 367.
Fox, D. M., Finance, 10.
Fox, H. C., & Sons, Glassware, 108.
Fox, Henry, & Co., Cassimeres, 120.
Foy & Harmon, Skirt-supporting corset, 125.
Fraenkel, W., Designs, 351.
Fraga, J., Clogs, 276.
Fragneiro, José M., Lead, 83.
Fraley, F., Sec'y & Treas. Board Finance, 11.
Fraley, G. W., & Co., Coach, 381.
Fralick, H., Michigan, 13.
Frame, P., Delaware, 12.
Franaszek, T., Paper, 319.
Francati & Santamaria, Brooches, 151; Jewelry, 234.
France, James, Wyoming, 14.
Frances Bros., Tulle, 197.
Francillon, Ernest, & Co., Watches, 355.
Francis, C., Wines, 164.
Francis & Co., Cements, 61.
Francis & Loutrel, Inks, 105; Manifold writers, 131.
Francis, T., & Co., Nails, 153.
Franck Bros., Woolen stuff, 217.
Franco, L. A., Cloak, 257.
Franco, P. A., Pharmacies, 283.
Frank, J., Bronze ware, 210.
Frank, Louis, Silk, 122.
Franke, Carl, Chemists' fixtures, 207.
Frankfield, Louis, & Co., Chronographs, 355.
Frankl, J. G. & L., Wood, 211.
Frankl, L. A., Models, plans, 352.
Franklin Coal Company, Coal, 52.
Franklin Manufacturing Co., Cottons, 118.
Franklin, Mrs. E. P., Stencils, 138.
Franklin, W. B., Judge, Gr. XXVI., 19.
Franzheim, G. W., West Virginia, 14.
Franzi Bros., Silk, 233.
Fraola, J., Bottles, 277.
Fraser, J. W., Coal, 71.
Fraternal Association of Weavers & Correlative Trades, Yarns, 285.
Frazer Lubricator Co., Axle grease, 103.
Frebitsch, S., & Son, Silk articles, 208.
Fredriksvorn Rope Manufactory, 230.
Free, A., Wheat, 180.
Free, Geo., Wheat, 180.
Free School for Apprentices, Report, 353.
Freeman, L. R., Ornaments, 329.
Frees, C. A., Artificial limbs, 136.
Freire, O., Essences, 252.
Freischlag, F., Harness, 254.
Freitas, Albino José, Mineral waters, 95.
Freitas, F. G. de, Writing paper, 289.
Freitas, T. Teixeira de, Lime, 82.
Freixa, S., Silk, 275.
Freixa & Son, Gaiters, 276.
Freixo, Viscount de, Ore, 94.
Frenais, Armand, Forks, 194.
Frenay Bros., Hats, 217.
French, C., Australian longicorns, 163.
French & Co., Black crepe, 150.
French, Julia B., Cabinet, 112.
French, O. C., U. S. Commissioner, 9.
French Orphan Asylum, Report, 357.
French Paper Ware Co., Pails, 380.
Frenkel, J. K., & Son, Paper, 318.
Fréres de la Charité, Books, 342.
Frese, A., Gloves, 209.
Fresson, W., Drugs, 175.
Frey-Feer, J., & Co., Satins, 212.
Frezon, sr., & Leclerc, sr., Cloth, 195.
Fricke, A., Perfumery, 106.
Friderichs, R. L., Publications, 347.
Friedeck Reformatory Home, Work, 357.
Friedman & Lanterjing, Razors, 139.
Friedmann, A., Models, 351.
Friedrich, H. O., Tin-plated ware, 202.
Friedrich, O. B., Furniture, 202.
Friedrichshall Springs, Bitter water, 75.
Friends of the Country, Society of, Cloth, 275.
Fries, Alex., & Bros., Chemicals, etc., 101.
Fries, Hermann, Books, 347.
Fries, Th. M., Herbarium, 362.
Friese, C., Statuary, 197.
Friestedt, A. W., Chemicals, 225.
Frith & Murphy, Salt, 171.
Fritsch, Ferdinand, Perfumes, 207.
Fritsch, J., Laces, 209.
Fritz, J., Terra-cotta, 106.
Fritz, John, Judge, Gr. I., 15.
Fritzsch, Schimmel, & Co., Oils, etc., 105.
Fritzsche, G., Books, 347.
Fritzsche & Zschiesche, Lithographs, 347.
Frizzoni, A. F., Silk, 233.
Froc, R., Altars, 194.
Frodsham, Charles, & Co., Watches, 339.
Frohock, W., Spokes, 380.
Frolich, F. H., & Son, Paper hangings, 230.
Frolich & Son, Apatite ores, 80.
Fromage, Lucien, & Co., Braces, etc., 196; Elastic fabrics, 200.
Froment-Meurice, Goldsmiths' ware, 199.
Fromherz, Jos., Inks, 104.
Frost, Geo., & Co., Corsets, 125.
Frost & Hanline, Thermostat, 332.
Fry's Bookbinders' Stamp and Tool Manufactory, Stamps and tools, 137.
Fryar & Strachan, Sugar, 180.
Fuchs, A., Wines, 164.
Fuchs, D., Instruments, 351.
Fuchs, F., Polished stones, 204.
Fuchs, G. L., & Sons, Metal, 201.
Fuchs, J. B., Penmanship, 351.
Fuente Heridos, Corporation of, Marble, 90.
Fuentes, A., & Bros., Palm leaf, 273.
Fuentes de Ebro, Corp. of, Alabaster, 90.
Fuentes, M., Cloth, 275.
Fuentes, Miss L., Embroidery, 265.
Fuentes & Ponte, Vases, 272; Sandals, 277.
Fuentes & Sons, Blister, 270.
Fuji-Kawa, G., Cloth, 246.
Fujisawa, H., Trays, 245.
Fukami, Suminosuke, Porcelain, 249.
Fukihara, S., Enamel, 244; Plates, 249.
Fukuda, K., Pictures, 247.
Fukushima Riuho, Picture, 248.
Fulladosa & Co., Cards, 278.
Fuller, A., Ale, 164.
Fulton, C. A., Gypsum, 73.
Fulton Furnace, Iron ores, 48; Iron, 58.
Funaki, S., Toys, 247.
Funke, Leopold, Knife, 139.
Furnas, R. W., Alternate, 9.
Furne, Jouvet, & Co., Atlas, etc., 345.
Furse Bros. & Co., Earth, 81.
Furstenau, O., Lithographs, 347.

Fusnot, Chas., & Co., Cartridges, 218.
Fuster, F., Oil, 271.
Fyler, E. W., Bedstead, 111.
Fynje, J. G. W., Judge, Gr. XXVI., 19.

G.

Gabler Bros., Jewelry, 204.
Gabran, R., Arithmetic, 266.
Gabriel, H., & Sons, Quilts, 116; Hosiery, 125.
Gabriel, P. J., Ornaments, 328.
Gabriel, S., Towels, 295.
Gache, Manuel, Gypsum, 84; Té pampa, 259.
Gadamer & Jaeger, Matches, 202.
Gadpaille, Charles, Rum, 172.
Gaertner, E., Plans, 351.
Gaffré & Caen, Pens, 198.
Gagel, Lorenz, Basket goods, 206.
Gaillard, J., sr. & jr., Laces, 197.
Gainza, Maitin de, Gold, 85.
Galapé, J. M. L., Model, 261.
Galaroza, Corporation of, Marbles, 90.
Galarraga, E. G. de, Crystal rock, 83.
Galbraith, Alex., Flowers, 127.
Gale & Co., Tents, 117.
Gale, D. A. T., Mattress, 111.
Galeano, S., Blinds, 256.
Galena Oil Works, Oil, 103; Baskets, 127; Clock, 330.
Galiano, M. d' A., Pharmacies, 283.
Galiano, Manuel da, Cigarette paper, 289.
Galindez, Clasico, Ores, 83.
Galindo, R., Hats, 276.
Gallais, A., Furniture, 194; Nails, 200.
Gallardo Bastant, L., Apparatus, 272.
Gallego, T., Hat, 281.
Galli, C., Olive oil, 232.
Gallia Furnace, Ores, 49; Iron, 59.
Gallinos, R., Sponges, 310.
Gallo, A. M., Wax, 262.
Gallo, Wine, 262.
Galloway & Graff, Terra-cotta, 106.
Galoppe & Tragin, Laces, 197.
Galton, D., Judge, Gr. XVIII., 18.
Galvan, Federico, Coal, 84.
Galvano-Faradic Mfg. Co., Instruments, 331.
Galway Lead Mining Co., Barytes, 71.
Galzy, E., Insect products, 192.
Gama, M., Geometry, 266.
Gamboa y Calvo, José, Salt, 270.
Gambrill, Sons, & Co., Cotton duck, 116.
Gamewell, J. N., Boxes, 331.
Gamez, Angel, Rock, 90.
Gandara, A. de la, Judge, Gr. VIII., 16.
Gandencio, José, Toothpicks, 288.
Ganeshin, W. & N., Bros., & Co., Yarns, 317.
Gans & Leonhardt, Chemicals, 201.
Ganthier, O., Titanic iron ore, 71.
Gantz, G. F., & Co., Baking powder, 101.
Ganz, J., Photographs, 353, 358.
Garabet, T., Calico, 294.
Garatoéla, A., Soap, 292.
Garau, S., Extracts, 235.
Garceix, Prof., Map, 367.
Garces, Vicente, Soap, 263.
Garcia, A. Antonio, & Co., Cloths, 274.
Garcia, Antonio, History, 267.
Garcia, Aranda, & Co., Cloaks, 276.
Garcia, B., Cable, 273.
Garcia, C., Picture, 277; Fabrics, 280; Purses, 281.
Garcia, Cayetano, Marbles, 90.
Garcia de los Rios, Pit coal, 89.
Garcia, F., Chairs, 265.
Garcia, Gabriel, Ferruginous water, 91.
Garcia & Garcia, Embroidery, 276; Flowers, 277.
Garcia, Hilario, Skins, 268.
Garcia, M., Cloth, 275.
Garcia, M. F., Teeth, 278.
Garcia, Martin, Paper, 278.
Garcia Martinez, F., Ether, 271.
Garcia Montalvan, F., Delft, 272.
Garcia, V., Grammar, 266.
Garcia, V. J., Linen, 273.
Garcia y Cubas, A., Geography, 266.
Gardam, W., & Son, Plates, 137.
Gardida, Thomas, Tobacco, 268.
Gardiner, S., Apparatus, 331.
Gardner & Co., Chairs, 109.
Gardner, Dorsey, Asst. Secretary, 10.
Gardner, J., & Sons, Lamps, 148.
Gardner, M. W., Combination knobs, 376.
Gardner & McKenzie, Skins, etc., 183.
Gardner, P., Tea pots, 147.
Gardner, Wm., Breech-loading cannon, 133.
Garelin, J., Cloth, 316.
Garelin, Nikon, & Sons, Cotton yarn, 316.
Garfias, Miss M., Music, 266.
Gargiulo, Francesco, Book, 365.
Garjeanne, A. G., Carpets, 220.
Garland, Benj., Iron bridge, 139.
Garlive, N., Stone, 84.
Garner, Mrs. M. E., Basket, 173.
Garnier, P., Pharmaceutical preparations, 192.
Garofoli, O., Sculpture, 235.
Garratt, A., Disc, 331.
Garretson, T., Coal, 51.
Garrid, Scale, 366.
Garrid, J. F. da S., Scales, 254.
Garrison, W. S., Stove, 376.
Garry Iron Roofing Co., Roofing, 115, 378.
Garsed Bros., Awnings, 115.
Garvies, C. A., Lime and limestone, 72.
Garvin, T. E., Indiana, 12.
Gasau, J. A., Soap, 271.
Gascandil, Coverlet, 298.
Gasco, G., Cotton, 294.
Gascou, L. R., Silk, 196.
Gaskell, Deacon, & Co., Soda ash, 144.
Gaskell, J., Animals, 163.
Gaskell, Mrs., Flowers, 166.
Gasko, G., Fabrics, 298.
Gaspar, M. R., Table, 284.
Gasparini, Giacomo, Meter, 365.
Gasse, F., Lead foils, 82.
Gastaldo, Dr. José, Blepharotome, 278.
Gates, E. E., Organs, 342.
Gatling Gold Mining Co., Ore, 70.
Gatling, R. J., Guns, 134.
Gaudichet, V. C., Carriages, 200.
Gaujot, E., Maps, 335.
Gauthier, O., Iron, 74.
Gauthier, Villars, Books, 343.
Gautier, Bellon, & Co., Velvets, 196.
Gauvreau, P., & Co., Cement, etc., 72.
Gavaarro, M. J., Paper, 278.
Gavarra & Son, Paper, 278.
Gaveao, C. J. M., & Paes de Barros, Newspapers, 366.
Gavioli, C., jr., Pianos, 345.
Gavioli & Co., Organs, 345.
Gay, Jean, Watch chains, 213.
Gaylord Man'fg Co., Swords, 134; Locks, 141.
Gazette des Beaux Arts, Newspapers, 343.
Geary, E. R., Oregon, 13.
Gebbie & Barrie, Publications, 327.
Gebens, E., Chemicals, 201.
Gebhard & Co., Satins, 203.
Gebhard, G., Judge, Gr. VIII., 16.
Gebhart, I. M., Manuals, 347.
Geddes, J. W., Skylight, 115.
Gee, J. N., Mineral water, 74.
Gehrig Brothers, Necklaces, 205.
Gehrling, C., jr., Movements, 345.
Geissel & Hartung, Jewelry, 204.
Gelabert, R. y Hermano, Models, 279.
Gelder, G. M. van, Piano method, 360.
Gelderen, A. van, Encyclopedia, 368.
Gell, P. H., Wool, 159.
Gelos, Martin, Minerals, 83; Salt, 255; Spurge, 259.
Gely Bros. & Co., Gloves, 276.
Gem Soldering Iron Co., 377.
Gemrig, J. H., Instruments, 135.
Gemunder, A., Bass, 333.
Gemunder, G., Violin, 332.

Gener, P., Syrups, 278.
Generés, José, Alabaster, 90.
Generois, Felice, & Sons, Soaps, 232.
Genest, P. M. A., Map, 342.
Geneva Society, Reports, 357.
Genkinger, A., Tools, 137.
Gennari, E., Optical instruments, 365.
Genonceaux, L., Books, 359.
Gentesse, C., Head conformateur, 189.
Genth, F. A., Judge, Gr. III., 15.
Gentile, Grassini, Cream of tartar, 231.
Gentiluomi, I. V., & Co., Cotton goods, 233.
Geodetical Department, Maps, etc., 369.
Geographical Inst. of Norway, Maps, 364.
Geographical Institute, Weimar, Maps, 348.
Geological Commission, Photographs, 82.
Geological Survey, Great Britain, Maps, 339.
Geological Survey Dep't., Ores, 70; Plans, 155; Sketches, 156; Salt, 187; Bricks, 188.
Geological Survey of So. Norway, Stones, 82.
Geological Survey of Sweden, Minerals, 78; Maps, 363.
George, J. S., Stone, 66; Woods, 173.
Geraldini, E., Jewelry, 234.
Gerber & Co., Condensed milk, 214.
Gergi Melouk, Fabric, 298.
German Associations for Soldiers, Berlin, 350.
German Sewing Mach. Factory, Furniture, 202.
Germania Mills, Doeskins, 120.
Germann & Eggler, Wood carvings, 358.
Gerosa, A. E., Embroidery, 234.
Gerosa, E. & E., Telegraphic instruments, 365.
Gerrard, A. W., Pharmacies, 144; Plasters, 153.
Gerth, R. J., Furniture, 252.
Gervais, A., & Co., Kettles, 194.
Gerwig, A., Jewelry, 204.
Gesrichvouz, Gov't of, Mineral water, 97.
Gessler-Zeller, J., Leckerly of Basle, 214.
Gessrick & Woerfel, Stones, 98.
Gesswein & Reichhelm, Implements, 139.
Gest & Atkinson, Oils, etc., 103.
Gettysburg Katalysine Co., Water, 55.
Gévelot, Guns, 199.
Gevers & Schmidt, Carpets, 203.
Gevin Bros, Books, 326.
Geyer, W. & Ed., Bros., Buckskin, 350.
Ghilbellini Bros., Varnish, 232.
Giacomazzi, Favare Salvatore, Sea salt, 231.
Giacomazzi, Rocco, Liquorice, 231.
Giacomini, Luigi, & Co., Brushes, 235.
Giannotti, G., Silk, 233.
Gianoli Bros., Soaps, 232.
Giauque, F., Ornaments, 329.
Gibb & Co., Rag carpet, 122.
Gibbon, J. M., Cochineal, 170.
Gibbs, G., & Co., Nuts, 190.
Gibert & Soler, Essences, 278.
Gibson, J., Wool, 183.
Gibson, P., Minnesota, 13.
Gibson, Robert L., Building sandstones, 71.
Gibson & Sons, Sugar, 180.
Gibson & Tyler, Blankets, 121.
Gibson, W., Wheat, 183.
Gibson, W. H., Wool, 183.
Gibson, W., & Son, Wool, 183.
Gibson, William, Jewelry, 151; Watches, 339.
Gien Pottery Mfg. Co., Faience, 193.
Giers, C. C., Tennessee, 14.
Gifford, Señor, Silver ore, 83.
Gifuken Local Government, Paper, 247.
Gigena, J., Horse cloth, 260.
Gil, R., Brooms, 280.
Gilbert, A. A., Saddlebags, 135.
Gilbert, A. C., Ironing board, 377.
Gilbert, A. N., Wools, 159, 165.
Gilbert, F. A., Table, 108.
Gilbert, G. H., Mfg. Co., Blankets, 121.
Gilbert, J., Wine, 167.
Gilbert, L. N., Massachusetts, 12.
Gil de Muro, Isidoro, Soaps, 271.
Giles, H. G., & Son, Stoves, 375.
Gilkinet, C. J., Ink, 215.
Gill, J., Engraving, 148.
Gill, W. F., & Co., Books, 328.
Gillard, J., Wines, 168.
Gillet & Son, Chemicals, 193; Silk, 196.
Gillmore, Q. A., Judge, Gr. II., 15.
Gillon-Steyaert, Lace, 217.
Gilman, D. C., Judge, Gr. XXVIII., 19.
Gilman, F. C., Wagon, 381.
Gilman, J. H., Lava, 250.
Gilman, J. N., Fibre, 251.
Gilmour, A., Oats, 163.
Gilmour, G., Augers, 190.
Gilmour, John, Hams, 156.
Gilpin, Edwin, Sandstone, 72.
Gilroy & Hurst, Powders, 157.
Gimenez, J., Embroidery, 258; Box, 277.
Gimenez, L., Writing desk, 256.
Gioiuzza, G., Jewelry, 234.
Giordano, Prof. Scipione, Materia medica, 365.
Giordano, S., Legal blank, 234.
Giorgi, A., Flute, 371.
Giorgi, Kara-Keni, Drums, 371.
Giorki, Seeds, 309.
Giorki, A., Sesame, 308.
Giorki, B., Pitchers, 293.
Giorki, Miss B., Hosiery, 300.
Giorki, Rizzo, Guitar, 371.
Giorki, V., Rice, 308.
Giovan, Siros, Gold dust, 97.
Giralt, Nicolas, Lime, 91.
Girard, C., Cutlery, 199.
Girart, N., Chemicals, 271.
Giraud, Alex., Silks, 196.
Giraud & Josserand, Muslins, 197.
Giron, D. José, Ore, 94.
Girona y Mato, R., Delft, 272.
Girondeau, F., Bronzes, 198.
Girou Bros., Ribbons, 196.
Gisbert Pascual, C., Cloth, 274.
Gisbert & Soler, Powder, 271.
Gisbert y Pujals, Manuel, Mineral coal, 89.
Giuffrida, L. G., Almond oil, 232.
Giuliano, Ditta, Piano, 365.
Giulivo, B., & Co., Knives, etc., 235.
Givotovski, Botanical apparatus, 372.
Gladbach Joint Stock Spinning & Weaving Mills, Cotton and mixed goods, 203.
Gladbach, Prof., Architecture, 356.
Gladwin, J. P., Ivory earrings, 169.
Glano, G., Skin, 311.
Glardon, C. L., Enamel, 358.
Gläsel, Moritz, Violins, etc., 350.
Glaser, L., Lithographs, 347.
Glasgow Apothecaries Co., Dressings, 153.
Glasgow Company, Shirtings, etc., 118.
Glasgow & Port Washington Iron & Coal Co., Ores, 50.
Glasgow & Port Washington Iron & Steel Co., Iron, 55.
Glasgow Pottery Co., Decorated ware, 108.
Glashütte United Clockmakers, Clocks, 349.
Glass Works Joint Stock Co., Glass, 215.
Glassware & Plate Glass Manfg. Co., 216.
Glazier, J. J., Bro., & Co., Hose, 123.
Gleason, W. B., & Co., Ornaments, 113.
Gledhill, Bottles, 160.
Glendale, A., Montana, 13.
Glendale Elastic Fabrics Co., Fabrics, 142.
Glendenning & Truitt, Whips, 127.
Glendon Iron Co., Iron ores, 49; Flux, etc., 57; Drawings, 335.
Glenister, W. A., Axles, 161.
Glenn, Frank, American buffet, 112.
Glick, G. W., Kansas, 12.
Glier, K. A., jr., Instruments, 349.
Glinka, P., Frames, 316.
Glinkin Bros., Horn, 318.
Globe Furnace, Iron ores, 48.
Globe Iron Co., Iron, 58.
Globe Nail Co., Nails, 140.
Globe Rolling Mill Co., Iron, 57.
Globe Woolen Co., Cassimeres, 120.
Glömsta Manfg. Co., Furniture, 225; Form, 362.
Glookhoff, N. G., Japanned ware, 316.
Glorud Nickel Co., Ores, 80.

Gloucester Gingham Mills, Shirtings, 118.
Gnocchi, G., Inks, 232.
Gobert, A., Son, Judge, Gr. XXI., 18.
Gobetsky, Josef, Quinine, 207.
Gobright, L. A., Alternate, 9.
Godchaux, A., & Co., Books, 343.
Godché, E. P., Leather, 311.
Goddard, Thos., Judge, Gr. XVII., 18.
Goddard, Wm., Rhode Island, 14.
Gödecke, Carl, Plans, 75.
Godfredsen, R., Belting, 224.
Godfrey, B. J., Fibres, 175.
Godfrey, C. J., & Son, Thimbles, 129.
Godfrey, F. R., Animals, 163.
Goebel, J., & Co., Clay, 107.
Goedecke & Co., Chemicals, 201.
Goedwaagen, P., Stoves, 220.
Goertz & Kirch, Cotton and mixed goods, 203.
Goes, J. T., Minerals, 82.
Goff, D., & Son, Skirt braid, 123.
Goggin, Jeremiah, Mirrors, 147; Jewelry, 151; Time pieces, 339.
Goggin, Jas., Jewelry, 127.
Gogly, A., Flowers, 198.
Gois, Francisca Emilia de, Lace, 288.
Golaksiz Oglou Nicolas, Buttons, 302.
Gold Coast, Colonial Govt. of, Woods, 177.
Gold Coast, Colonial School of, Knitting, 177.
Gold Working Co. of Oporto, Plate, 284; Jewelry, 288.
Golden Stream Claim, Quartz, 166.
Goldmark, J., Percussion caps, 133.
Gold's Heater Co., Heaters, 375.
Goldsborough, John, Machine, 130.
Goldsbrough, R., & Co., Wools, 165.
Goldschmidt, H., Razor strops, 138.
Goldschmidt, Louis A., Opals, 76, 209.
Goldschmidt's Sons, Ornaments, 209.
Goldsmith, J. G., Piano, 333.
Goldsmith, M., U. S. Commissioner, 9.
Goldsmiths' Stock Co., Silver, 226.
Goldy, A., Judge, Gr. VIII., 16.
Göldy, A., & Co., Embroideries, 213.
Gomes, Alonso, Ores, 94.
Gomes, M. M., Boots, etc., 253.
Gomes, T. G. C., Argil, 82.
Gomez, A. A., Cloth, 275.
Gomez, Crisanto de, Carbonate of lead, 87.
Gomez, José M., Pyrites, 89; Alabaster, 90.
Gomez, N., Cottons, 280; Handkerchiefs, 281.
Gomez, P. J., Cotton yarn, 265.
Gomez, Ruiz, Widow & Sons, Lead ore, 88.
Gomez, S., Earthenware, 272.
Gomez & Sons, Boots, 287.
Gomez, Z., Agrometre, 269.
Gonçalves, A. D., Sculpture, 290.
Gonçalves, Joao, Card, 287.
Gonçalves, Manuel Joao, Woolen girdle, 287.
Gonçalves, Rivas, & Co., Buttons, 288.
Gondard, Cirlot, & Martel, Foulards, 196.
Gondy, J. B., & Co., Watches, 344.
Gong Bell Manufacturing Co., Bells, 141
Gonsalves, J., Calcined kaolin, 82.
Gonssan, Government of, Pyrites, 96.
Gonthier, Dreyfus, & Co., Engravings, 198.
Gonzaga, E. J., Clays, 82.
Gonzalez Alegre, José, Thermal waters, 92.
Gonzalez, B., Cloak, 276.
Gonzalez, D., Wreath, 258; Horse cloths, 260.
Gonzalez, Diego Bibiano, Phosphates, 87.
Gonzalez, Domingo Cecilio, Ammonia, 270.
Gonzalez, Fermin, Hats, 276.
Gonzalez, Gabriel, Galena, 87.
Gonzalez, J., Plants, 259; Handkerchiefs, 281.
Gonzalez, M., Varnish, 280; Map, 368.
Gonzalez, M. C., Sunshade, 277.
Gonzalez, Maceda P., Webs, 273.
Gonzalez Molada, J., Building materials, 90.
Gonzalez, R., Tiles, 272.
Gonzalez Sanz, L., Cloths, 274.
Gonzalez, Ugalde, Reports, 261.
Goodall, Backhouse, & Co., Food, 153.
Goodall, C., & Son, Cards, 152; Printing, 154.
Goodell Company, Cutlery, 139.
Goodfellow, Jos., Building sandstones, etc, 72.
Goodier, J., Trusses, 135.
Goodrich, D. W., Books, 327.
Goodspeed, H. C., Utah, 14; Judge, Gr. XIX., 18.
Goodwin, A. J., Sanitary bedstead, 111.
Goodwin, W. C., Toys, 127.
Goold, J., & Co., Buggy, 381.
Gootchkoff, E., Woolen goods, 316.
Gootkooski, Scales, 373.
Gorceix, H., Minerals, 81; Map, 82.
Gordon, A. D., Felts, 132.
Gordon, W. J. M., Chemicals, etc., 101.
Gore & Co., Wool, 180.
Gorham, J., Finance, 11; Rhode Island Comr., 14.
Gorham Manfg. Co., Silverware, 113.
Gori, M. W. C., Conveyances, 221; Book, 361.
Goribar, Faustino, Sugar, 268.
Gorobladodati, Administration of, Ores, 98.
Gorodetzki, A., Embroideries, 318.
Goroshkoff, P., Household utensils, 316.
Gorter, D. & S., Soap, 220.
Goshorn, A. T., Director-General, 9.
Gosling, J. W., Buggies, 380.
Goss, J. E., Plans, 356.
Gosse-Perier, Flowers, 198.
Gossieaux, F., Hair picture, 217.
Gossin, F., Terra-cotta, 106.
Gostcho, Djivaré, P., Wine, 313.
Göteborgs Mechanical Works Co., Flue, 79.
Goth, H. J., Paper, 133.
Gotha, Shirts, 299; Vest, 300.
Gothard Railway Co., Plans, 356.
Gottesleben, P., Judge, Gr. XI., 17.
Gottland Grindstone Co., Grindstones, 78.
Gottschalk, I. C., Essences, 224.
Götzinger, Dr. E., Drawing, 353.
Goudie, Thomas, Hydraulic cement, 72.
Goudle, Thomas, Lime and limestone, 72.
Gough, Edward, Turned rolls, 57.
Gould, C. H., Steps, 380.
Gould's, M., Sons, Stair rod, 141.
Goumas, P., & Co., Instruments, 345.
Gourd, Croizat, Son, & Dubost, Silks, 196.
Govaert Bros., Canvas, etc., 216.
Gove, J. C., Machine, 377
Government Arm Mfy., Rifles, 221.
Government Lithographic Est., Maps, 179.
Government Penal Est., Cocoons, 180.
Government Printing Est., Books, 179.
Government Printing Office, Books, 64, 157, 340.
Government Survey, Dept. of, Map, 251.
Goyano, J. J., Music, 366.
Goyard, F., Crucibles, 193.
Goybura, J. B., Coffee, 264.
Goyena, J. Z. de, Flowers, 258.
Goyers, J. A. & H., Bros., Pulpit, 216.
Gracian, Andrés, Sulphur, 88.
Gracie, W., Malt, 183.
Graf, E., Trunk, 217.
Gragera, A. M. M., Pharmacies, 283.
Graham, A. J., Book, 326.
Graham, P., Judge, Gr. XXVII., 19.
Graham, T., Wool, 168.
Gram, Wm., Furniture, 229; Weapons, 230.
Gramignani, L., Dentals, 235.
Gramme's Magneto-Electric Machine Co., 345.
Grand Rapids Brush Co., Brushes, 142.
Grand Tower Mining, Mfg., & Trans. Co., Ores, 49; Iron ore products, 57.
Granda, Album, 371.
Grandaki Ahmed Effendi, Belts, 302.
Grandaki, Madame A. E., Napkins, 302.
Grande, R., Gold necklace, 258.
Grandjean, Hry., & Co., Watches, 355.
Grandjean-Perrenoud, H., Watch engraving, 355.
Grandpierre, J., Vermouth, 214.
Granducontagne, Richard, Argil, 91.
Granholm, J. P., Rectified amykos, 225.

Granite Mills, Printing cloths, 118.
Grant, C., Lime, 171; Beeswax, 172.
Grant, C. B., Alternate, 9.
Grant & Co., Cordage, 155.
Grant Furnace, Iron ores, 48; Pig iron, 58.
Grant, Misses Julia & Mary, Ornaments, 173.
Grant, Mrs., Sauce, 164.
Grant, Wm. A., Map, 335.
Graphic, Proprietors of the, Process, 338.
Grappin, G., Model of mine, 92.
Grappin, G. de, Phosphate of lime, 87.
Grassi, F., Press, 234.
Grasso, Giuseppe, Juice of liquorice, 231.
Gratcheff, J., Woolen shawls, 316.
Grattarola, C., Frames, 233.
Grau y Puig, J., Bitumen, 271.
Graubünden, Building Insp., Plan, 355.
Grava, Frei L. da, Shirt, 253.
Gravenstine, J., Sideboard, etc., 376.
Graves Bros., Stone, 53.
Graves, J. W., Bread, 183.
Gravier, Clement, Carpets, 195.
Gravina, Domenico, Books, 365.
Gray, A., Kansas, 12.
Gray, A., & Co., Tweeds, 161.
Gray & Barton Western Electric Telegraph Co., Instruments, 331.
Gray, Daniel H., Sulphur, 102.
Gray, E., Telegraph, 332.
Gray, F. W., Drawings, 342.
Gray, Young, & Spalding, Brine, 74.
Grayling, W. S., Extract, 155; Bark, 156.
Grays Chalk Quarries Co., Chalk, etc., 61.
Grazalema, Corporation of, Marble, 90.
Great Diamond Plantation, Ornaments, 175.
Great Falls Mfg. Co., Sheeting, 116, 118.
Great North of Scotland Granite Co., Monumental pedestal, etc., 61.
Great Western Iron Co., Pig iron, 61.
Green, C. H., Wool, 180.
Green & Daniels, Cotton yarns, 117.
Green, E. C., Guns, 152.
Green, E. K., Wines, 171.
Green, F. F., Ohio, 13.
Green, J., Seat, 381.
Green, J., & Nephew, Glass, 147.
Green, R., Cradles, 157.
Green, S. H., & Sons, Calicoes, 119.
Green, W. S., Judge, Gr. IV., 16.
Greenbank Alkali Co., Chemical products, 144.
Greener, John, Coal, 71.
Greener, W. W., Guns, 152.
Greenfield Plantation, Sugar, 175.
Greenfield & Stewart, Panel door, 155.
Greening, N., & Sons, Wire, 148.
Greenmount Spinning Co., Cottons, 148.
Greenway, Henry, Drawings, 340.
Greenwood Pottery Co., Ironstone china, 108.
Greer & Co., Wines, 164.
Greeves, E. G., Wool, 165.
Gregory, A. C., Ores, 67.
Gregory & Co., Cast steel, 56; Carpets, 150.
Gregory, G. W., Judge, Gr. XXII., 18.
Gregory, J. M., Judge, Gr. XXVIII., 19.
Gregory, V. R., & Co., Monument, 73.
Greiner, E., Enameling colors, 202.
Greiner, G., Piano, 332.
Gressard & Co., Silks, 204.
Grest, M., & Co., Trunk, 259.
Grewar, John W., Wool, 171.
Griaznoff, A., Pistols, 319.
Gribanoff, J., & Sons, Linens, 316.
Grice, J., & Sons, Wrappers, 132.
Grieffenhagen, W., Wines, 164.
Griendling, J., Barber's chair, etc., 111.
Griffin, A. B., Box, 128.
Griffin, R. A., Peat, 71.
Griffith, C., Kentucky, 12.
Griffith & Co., Locks, 190.
Griffith, J. W., Judge, Gr. XIX., 18.
Griffith, W. W., Alternate, 9.
Griffiths, John W., Works, 327.
Griffiths, W. K., Quartz, 166.
Grigorieff, Apparatus, 372.
Grikooroff, Ornaments, 318.
Grillo, A. D., Vases, 252.
Grillon, E., Dates, 192.
Grimaldi, Giovanni, Extract of liquorice, 231.
Grimes, S. & G., Arrowroot, 180.
Grimm, B., Coins, 242.
Grimwood, T., Quail, 163.
Grinnel, J. S., Judge, Gr. XXIII., 18.
Grison, T., & Co., Cloth, 195.
Grissi, J., Plaster, 266.
Griswold, Catherine A., Corsets, 124.
Grivegnée Co-operative Soc'y, Reports, 360.
Grivolat, L., Clock, 344.
Grobet, François Louis, Tools, 358.
Grohmann & Kessler, Glass articles, 207.
Grolman, C. W., Frames, 220.
Groom, F., Coal, 68.
Groom, W. H., Book, 179.
Groote, V. de, Lace, 217.
Grootes, M., Blueing, 220.
Gropengiesser, J. L., Clock, 330.
Gros & Co., Corsets, 204.
Gross, E., Reports, 351.
Grosse, F., Wine, 164.
Grossius, J., Stove, 375.
Grossmann, Joh., Wood carvings, 358
Grote, F., & Co., Ivory goods, 129.
Grote, G., Photographs, 347.
Grothe, H., Apparatus, 349.
Groton Mfg. Co., Bleached goods, 118.
Grottenthaler, V., Pipes, 128.
Grousac, P., Map, 368.
Grove Hill Co., Quartz, 166.
Groveland Mills, Flannels, 121.
Grube, C., Buggy, 381.
Grube Institution for Instructing the Poor, Pupils' work, 357.
Grumbach, C., Books, 347.
Grunes & Co., Bricks, 256.
Grunow, F. W., Publications, 347.
Grunwald & Klei, Mixed fabrics, 203.
Grünwald, M., Furs, 318.
Gruppe, G., Drugs, 280.
Guadalupe Co., Iron, 86.
Guarro, W., Paper, 278.
Gué, G., & Co., Silk, 275.
Gueiroz, A. G., Cotton prints, 285.
Gueiroz, J. S. P. de, Oil, 283.
Guelpa-Piazza Bros., Gimlets, 235.
Güemes, D., Cup, 256.
Guerard, E. von, Painting, 161.
Guerin, C., Child's carriage, 191.
Guerin, L., & Co., Books, 343.
Guerra, Antonio José de Soura, Hinges, 289.
Guerra, J. B. da S., Linen, 285; Poplins, 286; Silks, 287; Machine, 370.
Guerreo, Y., Bricks, 265.
Guest, T. B., & Co., Biscuits, 164.
Guesta Match Manufactory, Matches, 225.
Gueudjehan, O., Fabrics, 298.
Guevara, S., Fabric, 281.
Guglielmini, Andrea, Olive oil, 231.
Guibelalde, C., Embroidery, 277.
Guibert, jr., Gloves, 197.
Guida, Prof. Francesco, Book, 365.
Guiet, Mr., Judge, Gr. XVII., 18.
Guild, C., Massachusetts, 12.
Guilherme, Maria, Blankets, 286.
Guillaumet, A., Sons, Fabrics, 195.
Guillaumin & Co., Books, 343.
Guillemin, R., Cutlery, 199.
Guillery, H., Sanitary report, 218.
Guimaraes, A. da Costa, Linen fabrics, 285.
Guimaraes, A. J. A., Soap, 252.
Guimaraes, B. J. P., Linen woof, 285.
Guimaraes, J. A. da S., Varnishes, 252.
Guimaraes, Joaó Carvalho, Spurs, 290.
Guimaraes, Joaquim M. da S., Scissors, 289.
Guimaraes, M. M. R., Table cloths, 285.
Guimaraes, T. T. A., Saddles, 254.
Guimera Bro., Wool, 275.
Guimet, L., Blue, 193.
Guinet, Ant., & Co., Silks, 196.
Guinon's Son & Co., Chemicals, 193.

Gujer-Brunner, Table cloths, 212.
Gulberg Stock Co., Sulphuric acid, 225.
Gulbin, O., Skin, 311.
Gulbing, O. K., Wine, 313.
Guldberg, C. Hoegh, Varnish, 223.
Gulden, H., Gloves, 204.
Gulland & Co., Coal, 67.
Gulliver Brothers, Tree seeds, 182.
Gulmaraes, A. A. A., Saddle, 254.
Gumaelius, A., Newspaper, 362.
Gumuch, Hané, Galena, 96.
Gun Foundry, Iron, 98.
Gundberg, J. W. L., Copper vessels, 363.
Gundlach Bros., Crucibles, 202.
Gundlach, J., jr., Crucibles, 202.
Gunn, D., Wool, 180.
Gunn, J. H., Quartz, 166.
Gunning, T. B., Plates, 136.
Guntsche, J., & Schröeder, Saddles, 259.
Gurd, J. R., Broom, 190.
Gurley, W. & L. E., Instruments, 329.
Gurney, H. D., Granite, 52.
Gurney, W., U. S. Commissioner, 9.
Gustafsberg Mfg. Co., China, 225, 226.
Gustafson, G., Knives, 227.
Gut, Jean, & Co., Photographs, 358.
Guthrie, G. D., Pottery ware, 160.
Guthrie, Jones, & Co., Buggies, 380.
Gutierrez de Ceballos, J., Mineral waters, 92.
Gutierrez, J. Enrique, Fan, 277.
Gutierrez, Julian, Yellow ochre, 87.
Gutierrez, Julian, & Co., Marble, 86.
Gutierrez, Rodriguez, Mineral water, 91.
Gutierrez, S., Books, 266.
Gutte, L., Wood carvings, 202.
Guyaux Bros., Black marble mantelpiece, 216.
Guyer, Eduard, Hotel architecture, 356.
Guyot-Lupold, A., Enamels, 212.
Guyot & Migneaux, Birds, 198.
Gysae, R., Chemicals, 201.
Gysi, Fr., Drawing instruments, 354.
Gysinge Iron Works, Iron, 79.

H.

Haarmann, W., Chemicals, 201.
Haas, B., jr., & Co., Clocks, 344.
Haas, Jas. A., & Co., Jewelry, 127.
Haas, Ph., & Sons, Clocks, 349.
Haase, J., Matches, 315.
Haase, J. A., Car, etc., 382.
Hab Usu, S., Aléanus, 304.
Hababutskuwan Museum, Animals, 248.
Habel, C., Publications, 347.
Haberkorn, G., Gloves, 209.
Habig, P., & Co., Hats, 208.
Hache, Ad., & Le Halleur Bros., China, 193, 194.
Hachette & Co., Books, 343.
Hachmet, Cartridge box, 304.
Hackfeld, H., & Co., Coffee, 251.
Hadank & Son, Bell, etc., 349.
Hadj, T., Trowsers, 300.
Hadji, Wool, 314.
Hadjidli Ousta, Cases, 303.
Hadley Co., Threads, 117.
Haenle, L., Metal leaf, 201; Papers, 205.
Haensel, H., Chemicals, 201.
Haessel, H., Books, 347.
Haffner, B., sr., Safes, 194.
Hagen, J., Skins, etc., 364.
Hagner Drug Milling Co., Grinding mills, 102.
Hagstoz & Thorpe, Cases, 330.
Hague Association for Improvement of Workmen's Buildings, Model, 361.
Hahl, A., & Co., Clocks, 330.
Hahn, Baron, Cartridges, 319.
Hahn, C., Polished stones, 204.
Hahn, Gottlieb, Toys, 205.
Hahn, P., Polished stones, 204.
Haho, B. H. A., Morocco, 311.
Haibara, N., Paper, 247.
Haicha Agha, Carpet, 296.
Haidar, M., Garment, 300.
Haido, Garment, 300.
Hailey, J., Idaho, 12.
Hainaut Glass Mfg. Co., Plate glass, 216.
Haines Bros., Pianos, 333.
Haines, J. W., Alternate, 9.
Hake, Mrs. von, Ladies' underwear, 204.
Hakim Bros., Silks, 298; Garments, 300.
Hakim, H., Bros., Cotton, 294.
Hakin Hadji Bros., Silk, 297.
Haktar, Mehemed, Wax, 312.
Haldeman Paper Co., Paper, 131.
Halderman, L., & Son, Stone, 53.
Haldji, O., Belts, etc., 300.
Hale, B. S., & Co., Fish lines, 117; Wire, 332.
Hale, I. P., West Virginia, 14.
Hale, Kilburn, & Co., Folding bed, etc., 112.
Hale & Parshall, Oils, 106.
Haler, O. H., Hosiery, 300.
Halkier, P. A., Timber, 224.
Hall, A., & Sons, Bricks, 107.
Hall, Elton, & Co., Spoons, 113.
Hall, F. R., Nevada, 13.
Hall, G. B., Ochres, 187; Machines, 188.
Hall, J., & Son, Coach, 381.
Hall, P. W., Holders, 130; Locks, 141.
Hall, Wm., Coal, 71.
Hall's Safe & Lock Co., Safes, 112; Locks, 141.
Hallet, Davis, & Co., Pianos, 332.
Halling, A., Knives, 227.
Halm, Bellows, & Buttler, Furniture, 111.
Halon, Alphonse, Marble, 72.
Halsey, W. J., Oregon, 13.
Hamadaken, Local Government, Paper, 247.
Hamblet, Joseph, Bricks, 145.
Hambleton, J., & Son, Toilet articles, 106; Decorated porcelain plates, 108.
Hamden Furnace, Ores, 49; Pig iron, 58.
Hamelin, A., Silks, 196.
Hamerli, J., Gloves, 209; Leather trusses, 210.
Hamid Moustapha, Boots, 301.
Hamie & Booth, Silks, 122.
Hamilton, G. A., Judge, Gr. XVI., 17.
Hamilton, Homer, Stone, 54.
Hamilton Mfg. Co., Tickings, 119.
Hamilton, P., Alabama, 11.
Hamilton, P. Hunt, Chains, 127.
Hamilton Woolen Co., Prints, etc., 119, 121.
Hamlin, E., Violins, 332.
Hammer's Museum, Catalogues, 363.
Hammond, W., Bismuth, 68.
Hamparssoum, Carpets, 296.
Hampton, C. F., Augers, 137.
Hampton, Cutter, & Sons, Clays, 54; Fire brick, 107.
Hampton Normal & Agricultural Inst., 322.
Hana Meti, Calico, 294.
Hance Bros. & White, Extracts, etc., 101; Drug mill, 135.
Hance, R. A., Fluid extracts, 101.
Hanckar, J. H. H., Ore, 65.
Hancock, E. C., Louisiana, 12.
Hand, J. C., & Co., Corundum, 59.
Handy & Boland, Trusses, 136.
Haneborg, A. O., Wood pulp, 230.
Hanford, Theodore, Gold strata, 60.
Hangard, Springs, 344.
Hanging Rock Iron Region, Ores, 49; Iron, 56, 59; Map, 335.
Hanhart-Solivo, J., Cambrics, 212.
Hanke, Reinhold, Pottery, 202.
Hannibal & St. Joseph Railroad, Minerals, 48.
Hans, L., Prints, etc., 347.
Hans, Octave, & Co., Glass, 215.
Hansen, C., & Co., Extract, 223.
Hansen, R. M., Tachygraph, 224.
Hansen, T. R. von, Photographs, 351.
Hanson, C. B., Furniture, 223.
Hanson, Carl, & Co., Pasteboard, 223.
Hanson, G. A., Maryland, 12.
Hanssen, F., Cod-liver oil, 229.
Hantke, B., Hardware, 319.
Hapgood & Smith, Match sticks, 380.

Häpke, A. B., Knit goods, 123.
Häppel, J., Desk, 359.
Haranı Oglou, Skin, 311.
Haranlar, Boyorki, Soap, 291.
Harboe, C., Minerals, 223.
Harcourt, J., Ores, 68.
Harder, J., & Son, Guns, 134.
Hardie, J., Biscuits, 159.
Harding, J. A., Montana, 13.
Harding, W. W., Albums, 326.
Hardman, H., Pianos, 333.
Hardy, A., Cork, 167.
Hardy, M., Colors, 193.
Hardy, T., Wine, 167.
Hargreaves & Nusseys, Coatings, 149.
Harkness, A., & Co., Disk, 162.
Harkness, N. W., Oils, 103.
Harlan & Hollingsworth Co., Cars, 382.
Harleigh Coal Co., Coal, 51.
Harline, Merzifoun, Towels, 295.
Harling, Mrs., & Field, H. H., Ferns, 158.
Harman, G., Petrifaction, 241.
Harmon, J. C., Checker board, 109.
Harper & Bros., Books, 326.
Harper & Moores, Fire clays, 146.
Harrap, A., Wood, 68; Wheat, 183.
Harrington, J., & Co., Boxes, 151.
Harrington & Richardson, Fire arms, 134.
Harris, H. G., Signals, 106.
Harris, J., & Co., Iron mantels, 188.
Harris, J. W., Missouri, 13.
Harris Manufacturing Co., Shirtings, 118.
Harris, P. S., Minnesota, 13.
Harris, S., & Sons, Combs, 129.
Harrison Brothers & Co., Chemicals, etc., 101.
Harrison, George King, Fire clays, 61.
Harrison & Kellogg, Wrenches, 138.
Harrison, W. H., & Bros., Fire grates, 139.
Hart, A. H., & Co., Yarns, 142.
Hart, Bliven, & Mead Mfg. Co., Tools, 130, 138.
Hart, C. A., Equipments, 109; Banners, 142.
Hart, Son, Peard, & Co., Fixtures, 147.
Hartel, Andreas, & Co., Prints, 119.
Hartell & Letchworth, Glass globes, 108.
Hartford Carpet Co., Carpets, 122.
Hartin, Calico, 294.
Hartine, Scissors, 305.
Harting-Bank, H. J., Instruments, 361.
Hartknoch, J. F., Books, 347.
Hartman, C. H., Fruits, etc., 179.
Hartman, W., Oils, 315.
Hartmann, L. & Edam, Pipes, etc., 210.
Hartmann, Laist, & Co., Glycerine, 103.
Hartmann, Moritz, Glass pearls, 207.
Hartmann, Nicolaus, Plans, 356.
Hartmann, P., Medical dressings, 205.
Hartshorn, Stewart, Rollers, 112.
Hartung, H., & Son, Books, 347.
Haruna, S., Vases, 245.
Harvey & Adamson, Drain pipe, etc., 106.
Harvey & Baird, Shirts, 124.
Harvey & Ford, Umbrellas, 128.
Harzabel, T., Sword, 278.
Hasegawa Settei, Water color, 249.
Hashimoto, S., Stones, 244.
Haskanorich, Ali, Tobacco, 309; Prunes, 312.
Haskell Bros., Wagons, 380.
Haskell, C. H., Alternate, 9.
Haslwanter, J., Citherns, 350.
Hassan, Silk, 297.
Hassan, A., Trowsers, 300.
Hassan Agha, Wheat, 308.
Hassan Ali, Curtains, 294; Fabrics, 298.
Hassan, C., Underskirt, 300.
Hassan Chaban, Cotton, 294.
Hassan Effendi, Silk, 297; Belts, 300.
Hassan, H., Carpet, 296.
Hassan, O., Cotton, 294; Morocco, 311.
Hassan Oglou Ahmed, Skins, 311.
Hassan Reiss, Shoes, 301.
Hassan Sali, Clogs, 301.
Hassan Usine, Canes, 303.
Hassebroucq Bros., Thread, 195.
Hassenforder, C., Safes, 111.
Hasslauer & de Champeaux, Pipes, 193.
Hastings & Co., Bronze, 55.
Hastings, Cunningham, & Co., Wool, 165.
Hatch, J., Minerals, 47.
Hatna Gros, Handkerchiefs, 295.
Hattersley, J., Aerated waters, 65.
Hatton, Sons, & Co., Charcoal sheet iron, 62.
Hattori, C., Mortars, 244.
Hauber, G., Jewelry, 204.
Hauboldt, O., Publications, 347.
Hauer, C., Gloves, 209.
Hauf, Dr., Brandy, 171.
Häusler, Carl S., Cement, 75.
Hausmann, W., Cords, 211.
Havana, Central Com. of, Hats, 276.
Haverhill Hat Co., Hats, 126.
Haverkamp, Begemann E., Machines, 361.
Havermyer, H., New York, 13.
Haviland & Co., China, 193.
Havnven's Works, Tiles, 229.
Havret, Government of, Galena, 96.
Hawaii, Native of, Idols, 251.
Hawaiian Museum, Minerals, 250.
Hawkes, Geo. F., Gold pens, 130.
Hawkins, A. W., Ornaments, 328.
Hawkins Bros., Stirrups, 154.
Hawkins, John, & Sons, Calicoes, 149.
Hawkshaw, Sir J., Judge, Gr. XXVI., 19.
Hawksworth, Ellison, & Co., Steel, etc., 62.
Hawley, J. R., U. S. Commissioner, 9.
Hawley, R. E., Ornaments, 329.
Haws, A. J., Fire-brick, 107.
Hawsky, Adalbert, Balloons, 205.
Hawzeur-Gerard, Son, Thread, 216.
Hay, G., Salts, 265.
Hay, R., & Co., Sideboard, 188.
Haycock, W., Magnetite, 71.
Hayden, J., Car model, 382.
Hayden, J. H., & Son, Silk thread, 123.
Hayden, James, Shirts, 125.
Hayden, P., Coal, 51.
Hayden & Smith, Harness, 380, 382.
Haydon, W., Alternate, 9.
Hayes, Coulter, & Co., Slate mantels, 52; Range, 375.
Hayes, G. S., Roofing, 378.
Hayes, J. L., Judge, Gr. IX., 16.
Hayes, R. B., Ohio, 13.
Hayes, W. H., Citron, 180.
Haymann Bros., Papers, 198.
Haynes & Jeffries, Bicycles, 383.
Hays, Crossley, & Co., Needles, 151.
Hays, Daniel, Gloves, 126.
Hays, Miss Anna, Sketch, 170.
Hayslip, Jno., Limestone, 72.
Hayward, Armstrong, & Co., Wool, 168.
Haywood, J. S., Belts, 153.
Hazard, R., Rhode Island, 14.
Hazard Powder Co., Powder, 106.
Hazeltine, B. P., Nevada, 13.
Hazleton Bros., Pianos, 332.
Hazrou, Bastard saffron, 304; Seed, 309.
Headlam, C., Wool, 183.
Health Lift Co., Lift apparatus, 336.
Health, Military Park of, Material, 279.
Heap, G. H., Judge, Gr. XI., 17.
Heaps, John Knowles, Violin, 339.
Heaps & Wheatley, Stoves, 148.
Heard & Sons, Design, 336.
Hearne & Harrison, Surveying insts., 342.
Heathcote, T. S., Painted panels, 162.
Hebron, J. L., California, 11.
Hechelman, H. W., Anatomical models, 135.
Hecla Iron & Mining Co., Ores, 48; Iron, 57.
Hector, J., Model, 155; Proceedings, 156.
Hector, T., Map, 342.
Hedengrén, A. F., & Son, Stove sets, 226.
Hedlund, J., Metal work, 226.
Hedlund, Joh., Locks, 227.
Heering, Peter F., Cherry cordial, 224.
Heffermehl, L., Carriages, 230.
Hegle, Fortuné, Kid gloves, 126.
Hègle-Glandines & Corbeau, Gloves, 197.

Heidegger, W., & Co., Jewelry, 204.
Heidegger, Wegmann, & Co., Cloth, 212.
Heilbronn, L., Looking glasses, 202.
Heinisch's, R., Sons, Shears, 139.
Heinitz & Seckelson, Fancy papers, 205.
Heinrichshütte, Iron ore, 75.
Heintzmann & Co., Piano, 342.
Heisinger, L., Instruments, 349.
Heister & Gans, Umbrellas, 128.
Hekizan, T., Vases, 245.
Helene, Miss B., Cloak, 300.
Heleni, Fabric, 298.
Héleni, Madame, Laces, 302.
Heleni, P., Hosiery, 300.
Helguero, Genaro S., Sulphur, 263.
Heljestrand, Christoffer, Razors, 227.
Hellendall & Steinberg, Cotton, etc., 203.
Heller & Brightley, Instruments, 329.
Heller & Merz, Ultramarine, 104.
Heller's Sons, Buttons, 209.
Hellmich, F. A., Glass, etc., 209.
Helmer, H., Models, 351.
Help Yourself Association, Plans, 361.
Helsingfors Stenographic Society, Books, 372.
Hematite Iron Works, Ores, iron, 68.
Hémery, Ed., Jewelry, 197.
Heminé, Madame, Cap, 302.
Heminway, M., & Sons Silk Co., Thread, 123.
Hemmings, F. & W., Cocoanut, sea weed, 158; Cotton, 159.
Hemple, J. C., Rubber diaper, 124.
Hemptinne, A. de, Son, Plan, 215.
Hems, H., Statue, 147.
Henderson & Co., Durham axminster, 150.
Henderson & Farrah, Ale, 156.
Henderson, J. P., Ornaments, 328.
Henderson, James, Iron, 56.
Henelly, J., Ale, 164.
Henis, Charles F., Elbow, 375.
Henke Bros., Canes, 254.
Henkels, Geo. J., Furniture, 109.
Hennecart & Co., Papers, 198.
Hennes, A., Method, 347.
Henninger, D., & Co., Soaps, 252.
Hennings, R. T., Methods, 362.
Hennuyer, Books, 343.
Henny, C. O., Glue, 220.
Henny & Moullet, Absinthe, 214.
Henrichs, C. F. A., Lamp, 114.
Henricksen, H., Sewing machine, 224.
Henricksen, J. H., Cod-liver oil, 229.
Henrion, J. J., Woolen stuff, 217.
Henry, A., Rifles, 152.
Henry, Captain, Ores, 67.
Henry, D. F., Meter, 331.
Henry, J., Judge, Gr. XXV., 19.
Henry, J. A., Silk, 196.
Henry, Lepaute, Lenses, 345.
Henry, T. C., Kansas, 12.
Henty & Balfour, Wool, 159.
Henty, E., Wools, 165.
Hepworth, B., & Sons, Wrappers, 150.
Hera, V. de la, Mantas, 275.
Heras, Elena de las, Dress, 277.
Herbelot & Devaux, Laces, 197.
Herbert, Franz Paul, White lead, 207.
Herczinski, W., Harness, 320.
Herczinski, W. O., Cordage, 320.
Herder, L., & Son, Shears, 139.
Heredia, Sons of M. A., Iron, 92.
Herisau Aid Society, Reports, 357.
Herman & Pfister, Hygrometers, 354.
Hermann, Bernhard, Lexicon, 347.
Hermann, L., Materials for perfumery, 193.
Hermann, W., Paintings, 170.
Hermansson, Count C. F., von, Ores, 78; Iron, 79.
Hermant, E., Treatise on ambulances, 218.
Hermes, W., Drawings, 349.
Herminghaus & Co., Cloth, 203.
Hermosa, J., Geography, 266.
Hernandez, D., Cases, 277.
Hernandez, Mrs. A., Shirts, 265.
Hernandez Osa, J., Cloth, 274.
Hernandez, Secundino, Iron ore, 87.
Hernandez, T., Fabric, 281.
Herr, J. C., Ores, 47.
Herreborg, Otto, Fruit, 224.
Herrera, Alfonzo, Fibres, 269.
Herrera, M., Cochineal, 255.
Herrera, Nicolas, Slate, 84.
Herring & Co., Bank vaults, etc., 112.
Herring, Rudolph, Plans, 334.
Herringer, J., Polished stones, 204.
Herrmann, G., Judge, Gr. VIII., 16.
Herrmann, L., jr., Wire goods, 203.
Hertel, C., & Son, Jewelry, 204.
Herth, Henry, Boots, 197.
Herting, C., Paper hangings, 205.
Herts & Co., Chamber suite, 110.
Herve, F., Woolen stuff, 217.
Herzmainska de Slupno, Madame, Music, 371.
Heshuijsen, W. F., Railway switch, 361.
Hess, A., Cooking apparatus, 376.
Hess, Gebr., Colored shirts, 213.
Hess, Math., Toys, 205.
Hesse, George W., Terra-cotta vases, 223.
Hesselbein, S., Embroideries, 204.
Hessenbruch, T., Damper, 375.
Hessenbruch, T., & Co., Cutlery, 206.
Hessrich & Woerffel, Furniture, 316; Jewelry, 318.
Hetfield & Jackson, Carriages, 380.
Hetley, J., & Co., Glass, 147.
Hetoulat, Oil, 313.
Hetsch, Chr., Designs, 224.
Hetzel, J., & Co., Books, 343.
Hetzer, Carl, & Sons, Silk ribbon, 208.
Heully, M., Bonnets, 257.
Heurlin, G. U., & Co., Clothing, 226.
Heuse, E., Gun barrels, 218.
Heustis, R. B., Building sandstones, 72.
Hevvera, Antonio M., Antiquities, 263.
Hewitt, A. S., Finance, 10.
Hewitt, T. G., Oil, 158.
Hewitt, W., Swing, 114; Gun, 152.
Hews, A. H., & Co., Earthenware, 107.
Hewston, G., Judge, Gr. X., 17.
Heyd, Theodoro, Grindstones, 82.
Heydenrych, B. G. P., Starch, 170.
Heydt, F., Polished stones, 204.
Heyl, J. F., & Co., Chemicals, 201.
Heymann & Alexander, Nets, 150; Laces, 151.
Heymann, C., Books, 347.
Heymann, P. W., Butter, 224.
Heywood, Brothers, & Co., Chairs, 112.
Heywood, C. L., & Bruce, J. M., Lamp, 114.
Hibbard, F., Antimony ore, 71.
Hickisson, Mrs. M. A., Ink, 145.
Hickman, James S., Saline water, 74.
Hickory Coal Co., Coal, 51.
Hicks, Geo. C., & Co., Terra-cotta pipe, 107.
Hicks, James Joseph, Instruments, 339.
Hidalgo, State Government of, Argils, 86; Fibres, 265; Woods, 267; Cereals, 268; Cotton, 269.
Hidalgo y Berjano, Eduardo, Salt, 270.
Hieke, A., Buttons, 209.
Hiélard, L., & Co., Flowers, 198.
Hieronimus, W., Cornices, 148.
Hiess, F., Turners' articles, 210.
Hiester, Chas. Edward, Clubs, 336.
Hietel Bros., Lever, 330.
Higgin, Thomas, & Co., Salt, 144.
Hildebrand & Wolf, Locks, 140.
Hilditch, G. & J. B., Silks, 150.
Hildreth, Milo, & Co., Jewelry, 129.
Hilgard, J. E., Judge, Gr. XXV., 19.
Hill, Albert J., Selenite, 72.
Hill, C. P., Photograph, 342.
Hill, Edwin P., Folding table, 111.
Hill, H. H., Ornaments, 329.
Hill, J. R., & Co., Harness, 381.
Hill, J. W., Clock, 339.
Hill, J. W. R., Carriage, 380.
Hill, M. J., Idaho, 12.
Hill Mfg. Co., Sheetings, 116.
Hill, Walter, Bark, 179; Tobacco, 180.

Hille & Dietrich, Linen cloth, 316.
Hiller, Otto, Mastic roofing, 75.
Hilligmann & Bro., Carvings, 110.
Hillyer, G., U. S. Commissioner, 9.
Hilversumsche Spinning & Weaving Manufactory, Cottons, 220.
Hime, H. L., Copper pyrites, 70.
Hime, L. H., Ores, 71.
Himrod Furnace Co., Iron, 58.
Hinderager Mining Co., Copper ore, 80.
Hindermann & Siebenmann, Method, 353; Lithographs, 358.
Hindman, T., Whiffletree, 382.
Hinds & Sons, Pianos, 333.
Hine, Mrs., Cocoons, 180.
Hinkle & Mayon, Trusses, 135.
Hinks, Wells, & Co., Pens, 152.
Hinrichs, I. C., Publications, 347.
Hinrichsen, W., Toys, 205.
Hinsdale Bros., Kerseys, 120.
Hinsdale, Doyle, & Co., Monuments, 52.
Hinsdill, H. M., Books, 132.
Hinson, Dr., Yacht model, 174.
Hinton, David, Limestone, 52.
Hintrager, M., Plans, 351.
Hinvest, Robt., Hollow bricks, 107, 336.
Hinzen & Rosen, Piano, 333.
Hiogo-ken Local Government, Bamboo, 247.
Hipp, M., Registering apparatus, 354.
Hippisley, A. E., Paintings, 242.
Hipwood & Sutton, Bells, 179.
Hirai Ikkan, Coffee sets, 245.
Hirano, T., Type, 248.
Hirn, A., & Co., Jewelry, 197.
Hirsch, Aron, & Son, Brass tubes, 75.
Hirsch & Merzenich, Chemicals, 201.
Hirschberg, M., & Co., Embroideries, 204.
Hirschfeld Bros. & Co., Lace curtains, 213.
Hirschman, I. M., Labels, etc., 348.
Hirschmann, W. A., Apparatus, 349.
Hirsh & Bro., Umbrellas, 127.
Hirsh, Joseph M., Chemicals, etc., 101.
Hirt, F., Books, 348.
Hirt & Son, Publications, 348.
Hirzel, S., Books, etc., 348.
His Highness Sidi Mohammed Essadok, Minerals, 239.
His Majesty the King of Spain, China, 272; Tapestry, 275; Locks, 279.
Hisern, Joaquin, Hematite of iron, 88.
Hisgen, G. C., Chemicals, 201.
Historical Society, St. Gallen, Reports, 354.
Hitchcock Bros., Sugars, 251.
Hitchcock, D. H. & E. G., Ferns, 251.
Hitchcock, H. R., Ores, 250; Fern, 251.
Hitchcock Lamp Co., Lamps, 114.
Hitchcock, Williams, & Co., Costumes, 150.
Hitz, Chur, Manuals, 354.
Hiyochiyen-sha, Manfy. of porcelain, 245.
Hlawatsch & Isbary, Shawls, 208.
Hlubek, P., Designs, 351.
Ho A Ching, Fans, 242.
Hō Kan Cheu, China, 241; Silks, 242.
Hobart Town Cemetery, Chart, 182.
Hobart Town, Corp. of, Photographs, 182.
Hobbs, J. H., Glassware, 108.
Hobbs, S. M., Alternate, 9.
Hobson, E. H., Kentucky, 12.
Hochstätter, H., Matches, 202.
Hockanum Co., Cassimeres, 120.
Hocker, J. H., Tobacco, 180.
Hockings, A. J., Garden manual, 179.
Hockings, A. T., Seed catalogue, 179.
Hodgson Bros., Blinds, 160.
Hodgson, G., Timber, 158.
Hodgson, Richard, Lead, 65.
Hodjaieff, K., Embroideries, 318; Dagger, 319; Harness, 320.
Hoe, R., & Sons, Portmanteaus, 151.
Hoel, J., Spectacles, 345.
Hoemmighaus & de Greiff, Silk velvets, 204.
Hoeppe, C. J., Pianos, 333.
Hofer, J. J., Books, 353.
Hoff, C., Cotton, 159.
Hoff, M. C., Indigo, 157; Coffee, 158.
Hoffman, A. O., Stone, 53.
Hoffman, J., Gloves, 209.
Hofmeister, F., Publications, 348.
Hofors & Hammarby, Blooms, 79.
Hofors & Hammarby Iron Works, Ores, 78.
Hofrichter's Son, J., Imitation stones, 209.
Hofrichter's Sons, Paintings, 211.
Höganäs Coal, Mineral coal, 78.
Höganäs Coal Mining Co., Tiles, 225.
Hogarth, D., Wheat, 183.
Hogg, S. P., & Co., Curry, 160.
Hohner, M., Harmonicas, 349.
Hohwii, A. & T., Chronometers, 361.
Holbrook, J. D., Wines, 168.
Holder, A., Models, 351.
Holdsworth, Edmund W. H., Book, 338.
Holland, B. H., Timber, 170.
Holland, J. C., Needles, 129, 137.
Holland, John, Toothpicks, 128; Pens, 130.
Holland Manufacturing Co., Silk, 123.
Holland, William Thomas, Bricks, 156.
Höller, J. S., & Co., Cutlery, 206.
Holley, A. L., Judge, Gr. I., 15; Mining, 60.
Holley Manufacturing Co., Cutlery, 139.
Hollick & Co., Cement, 61.
Holliday, F. W. M., U. S. Commissioner, 9.
Holm, F. F. W., Furniture, 225.
Holm, F. J. W., Model, 362.
Holman, A. J., & Co., Binding, 132; Bibles, 326.
Holmberg, Eric, Matches, 225.
Holmblad, L. P., Candles, 223.
Holmen's, G. R., Technical Works, Blacking, 229.
Holmes, Booth, & Haydens, Brass, 59; Silver, 113.
Holmes Burglar Alarm Telegraph Co., 331.
Holroyd, Kennedy, & Co., Jams, etc., 183.
Holst, Chr., Chairs, 229.
Holstein, H., Cotton, 251.
Holt, R., Dusters, 119.
Holtermann, B. O., Photographs, 157.
Holton, E. D., Alternate, 9.
Holyoke Paper Co., Paper, 131.
Holzer, William, Glassware, 108.
Homberger Bros., Silk bolting cloth, 212.
Home Dept., Rio de Janeiro, Reports, 366.
Home Industry Society, Report, 357.
Homer, Colladay, & Co., Ladies' wear, 126.
Honegger, G., Movements of watches, 355.
Honeyman, Dr., Rocks, 71; Map, 342.
Honigman, M., & Co., Chemicals, 201.
Honma Takusai, Vases, 248.
Honolulu Iron Works, Drafts, 251.
Hood, A. W., & Son, Soap, 187.
Hood & Co., Chemical preparations, 160.
Hood, F. & J., Malt, 164.
Hook, E. & G. G., & Hastings, Organs, 333.
Hooper, Charles, & Co., Woolens, 149.
Hooper & Co., Carriages, etc., 154, 383.
Hooper & Dodson, Hops, 156.
Hooper, W. E., & Sons, Duck, 117; Twine, 142.
Hoopes, Bro., & Darlington, Wheels, 379.
Hoorickx, G., Chests, 218.
Hooving, W., Dresses, 317.
Hope Co., Shirting, 116.
Hope Furnace, Iron, 58; Ores, 74.
Hope Plantation, Sugar, 175.
Hopewell Quarry Co., Sandstones, etc., 72.
Hôpital de Sacré Cœur, College work, 342.
Hôpital Général, College work, 342.
Hopkin, W., jr., Range, 375.
Hopkins, C., Tools, 138.
Hopkins, J. N., Arizona, 11.
Hopkins & Robinson, Pipes, 128.
Hopkins & Robinson Mfg. Co., Pokes, 143.
Hopkins, W. T., Corsets, 124.
Hoppe, E., & Co., Chromos, 348.
Hopper, C. C., Chamber furniture, 111.
Hopper, J. A., Calabashes, 250.
Horler, John, Soap, 155.
Horn, G., Bandages, 205.

Horn, W. H., & Bro., Trusses, 135.
Hornabrook, C. A., Wines, 168.
Hornbostel, C. G., & Co., Silk goods, 208.
Horne, J., Native woods, 178.
Horner, A., Laces, 209.
Hornig, E. J. R., Models, 351.
Hornig, Julius, Model, 335.
Horsford, E. N., Judge, Gr. X., 17.
Horstmann, Wm. H., & Sons, Yarns, 120; Upholstery, etc., 123; Military goods, 124.
Hosang Foundation School, Regulations, 357.
Hosea, L. M., Ornaments, 329.
Hosford, H., Massachusetts, 12.
Hoskins, J. A., Mississippi, 13.
Hoskins, W. H., Envelopes, 130.
Hosoda, Z., Silk, 246.
Hotchkiss, H. G., Essential oils, 105.
Hotchkiss, L. B., Essential oils, 106.
Hotchkiss's Sons, Shears, 138.
Hotham, Town Council of, Photographs, 162.
Hotta, Z., Bamboo, 247; Tray, 249.
Hottot, A., Pepsin, 192.
Hotz, T., jr., Harmonicas, 349.
Hough & Co., Cast-iron griffins, 378.
Houghton, E. F., & Co., Oils, etc., 103.
Houghton, H. O., & Co., Books, 132, 327.
Houghton, W. D., Wire, etc., 62.
Houlle, Government of, Lentils, 309.
Houpin, E., Merinoes, 195.
Houran, Govt. of, Seed, 307; Sesame, 308.
Hourareau, S., Tobacco, 181.
Houry, T., Furniture, 194.
House & Davidson, Doors, 115.
House of Correction, Boots, 287.
Hover, H. F., Wardrobe, 111.
Hover, J. E., & Co., Inks, 104.
Hovey, F. S., Silks, 122.
Hoving, W., Dolls, 318.
Howard Furnace, Ores, 48; Iron, 58.
Howard, J., Cocoons, 165.
Howard, Jno., Antimony, 64.
Howard, R., & Son, Yarns, 120.
Howard & Sons, Furniture, 147.
Howe, E. C., Florida, 12.
Howell & Bourke, Paper hangings, 133.
Howell & Bros., Papers, 133.
Howell, C. M., Marble monuments, 52.
Howell, S. J., Tweezers, 137.
Howells, Anthony, Coal, 52.
Howes Cave Association, Cement and lime, 54.
Howlett, Onderdonk, & Co., Paper, 131.
Howley, James, Sandstones, 72.
Howry, J., China, 193.
Hoyem, Andr., Iron ore, 80.
Hoyer, J., Plates of crystal, 208.
Hoyt, E. W., & Co., Cologne, 106.
Hoyt, H., Books, 326.
Hoyt, J. W., Judge, Gr. XXVIII., 19.
Hoyt, Jesse, Coal, 71.
Huard, L., Boots, 197.
Hub Publishing Co., Drawings, 381.
Hubbell, J. A., Michigan, 13.
Huber, Allen, Mirrors, 188.
Huber Bros., Organ, 350.
Huber, E., & Co., Silk, 196.
Huber, Jacques, School books, 354.
Hübner, B., Chemicals, 201.
Hubner, N., Boots, 317.
Huckel Sons, I., Hatters' articles, 208.
Huddell & Seitzinger, Coal, 51.
Hudson Bay Co., Furs, 189.
Hudson Bros., Sashes, 157; Timber, 158.
Hudson, James, Coal, 71.
Hudson, R., New Mexico, 13.
Hudson, S., Buckles, 154.
Hue & Co., Crystals, 193.
Huelin & Son, Extract, 271; Baskets, 273; Hats, 276.
Huelva, Mining Engineers of, Copper, 92.
Hüffer, H., Worsted for weaving, 203.
Huffman, Wm., Building stones, 54.
Huggenberger, U., Hosiery, 213.
Hugh, J. B., Drugs, 174.
Hughes, J. C., Kentucky, 12.
Hughes, Thos., & Co., Hosiery, 125.
Huginin Mfg. Co., Supports, 378.
Huguenin, A., & Son, Chronometers, 355.
Hu Kwang, China, 241.
Hu Kwang-Yung, Silks, 242.
Hull, H. J., Ore, 68.
Hull, H. M., Woods, 182.
Hulse, W. W., Judge, Gr. VIII., 16.
Humbert, Ernest, Watches, 355.
Humbert, H., Hats, 151.
Humbert & Heylandt, Jewelry, 204.
Humboldt Iron Works, Tiles, 378.
Humboldt Society, Annals, 267.
Hume, E. B., Wool, 159.
Hume, W. C., Ores, 67.
Hummel, A., Clock, 330.
Humphreys, Ella, Illumination, 110.
Hunderstund & Pries, Engravings, etc., 348.
Hunnewell Furnace, Ores, 49; Iron, 59.
Hunt, A. M., & Co., Powders, 157.
Hunt, R. M., Judge, Gr. XXVI., 19.
Hunt, S. B., New Jersey, 13.
Hunt, T. S., Judge, Gr. I., 15.
Hunt, W., Vehicles, 381.
Hunter, G. W., Tie lifter, 382.
Hunter, James, Monument, 61.
Hunter, Rose, & Co., Books, 189.
Huntingdon & Broad Top R.R. Co., Ores, 50; Iron, 55.
Hurd Coal & Iron Co., Coal, 51.
Hurdal Biri, Glassware, 229.
Huret, N., Carriage, 200.
Hurlbut Paper Co., Paper, 131.
Hurley, Tomás, Granites, 84; Herbs, 259.
Hürlimann, J. J., Swiss honey, 214.
Huron Furnace, Iron ores, 48.
Huron Iron Co., Iron, 58.
Hurst, I. R., Stone, 53.
Hurst, J., Coal, 68.
Hurtado, H., Lead, 265.
Husqvarna Arms Mfg. Co., Arms, 227.
Hussein, Planes, 305; Maize, 308.
Hussein Agha, Carpet, 296; Cane, 303; Cotton, 313.
Hussein Chaban, Z., Jackets, etc., 300.
Hussein Dédé, Honey, 312.
Hussein Effendi, Opium, 304; Hides, 311.
Hussein, Gaat, Prunes, 312.
Hussein, Hadji, Pipes, 303; Hair, 314.
Hussein, O., Pitcher, 292; Toys, 303.
Hussein, Saret, Soap, 291.
Hussey, C. G., & Co., Kettles, 140.
Hussey & Howe Mining Co., Ores, 47.
Hussey, Wells, & Co., Tools, 55.
Hutching & Co., Mattresses, 188.
Hutchings, E. W., & Son, Sideboard, 111.
Hutchinson, A. A., & Bro., Coke, 51.
Hutchinson, John C., Gloves, 126.
Hutchinson, John, & Co., Soda ash, 144.
Hutchison, J. & H., Rugs and mats, 122.
Hutinet, D., Cards, 199.
Hveisel, G., School maps, 223.
Hydrographic Department, Surveys, 367.
Hydrographic Office, Publications, 261.
Hydrographical Bureau, Maps, 373.
Hygienic Products Mfg. Co., Chemicals, 192.
Hyman Bros., Fibre, 251.

I.

Iakob, A., Woolens, 208.
Iaruschka, J., Buttons, 209.
Ibach, R., & Son, Piano, 350.
Ibañez, P., Lime, 84.
Ibañez Palenciano, F., Poplins, 275.
Ibarra & Co., Iron, 92.
Ibarra, José María de, Iron pyrites, 88.
Ibarzabal de Eibar, Iron, 277.
Iborna, M., Hats, 276.
Ibrahim, Cotton, 293.
Ibrahim Agha, Cotton, 293; Suit, 299.
Ibrahim Effendi, Carpets, 296.
Ibrahim Effendi, Hadji, Cocoons, 314.

Ibrahim, H., Morocco, 311.
Irbahim Hadji, Pistol holders, 304.
Ibrahim, Miss, Cotton, 293.
Ibrahim, Oglou Ali, Knapsack, 305.
Ibrahim Ousta, Canes, 303.
Ibrahim Ousta, Gimlets, 305.
Ibrahim, T., Table, 292; Scraper, 305.
Ibrahim, U., Morocco, 311.
Ibrahima, Fabric, 298; Handkerchief, 303.
Ichdora, Government of, Ore, 96.
Ichel, Government of, Olives, 307.
Ichida, R., Crapes, 246.
Ichkloura, Government of, Brimstone, 96.
Icrahima, C., Wool, 296.
Ide, Z., Statuettes, 249.
Idiers, E., Cotton fabrics, 216.
Idrissi Agha, H., Cord, 299.
Iglesias, Angel, Book, 267.
Iglesias, J., Soaps, 255.
Iglesias, José Maria, Documents, 267.
Igualada, F., Saddle bag, 273.
Igualadina, A., Linens, 273.
Igualeja, Mining Engineers of, Graphite, 91.
Iida, T., Vases, 245.
Ikebe, N., Crapes, 246.
Ikibe, S., & Oquyama, K., Paper, 247.
Iklé Bros., Embroideries, 213.
Ilagan, G. & L., Feathers, 282.
Ileuriques, A. A., Elastic webs, 289.
Ilias Hatti, Tissue, 293.
Ilias, Hodja, Cottons, 294; Silks, 297.
Illanes, Manuel I., Minerals, 83.
Illias, Manou, Poppy heads, 304; Resin, 306.
Illias, Téné, Madder, 306.
Illinois, Educational Dept. of, 323.
Illustrated London News, Specimens, 338.
Ilustre, G., Beads, 281.
Ilustre, T., Flowers, 282.
Imai Rihei, Images, 249.
Imboden Bros., Wood carvings, 358.
Imboden, J. D., Judge, Gr. XV., 17.
Imhauser & Co., Detector, 330.
Imperial Administration, Tobacco, 309.
Imperial Institute for Blind Boys & Girls, Rio de Janeiro, Books, etc., 366.
Imperial Maritime Customs, Ceramics, 241; Silks, 242; Cereals, 243.
Imperial Rifle Mfy., Rifles, 319.
Imperial & Royal Metallurgy Dir., Ores, 76.
Imperial Technical School, Apparatus, 372.
Inagaki, T., Crape, 246.
Incerti Anselmo, Goods, 234.
Inclán, R., Card-boards, 278.
Ind, G. F., Wines, 168.
Independent Comb Co., Combs, 128.
Indermühle, E. Th., Straw hats, 213.
India Rubber Comb Co., Combs, 127.
India Rubber, Gutta Percha, & Telegraph Works Co., Cables, 339.
Indiana, Educational Dept., State of, 322.
Indian Museum, Ores, 69; Various articles, 185, 186, 187.
Indiana, State of, Ores, 51; Iron, 55.
Industrial Institute of Lisbon, Levels, etc., 369.
Industrial Institute of Oporto, Tools, 289; Charts, studies, 369; Wood, 370.
Industrial School, Albums, 344.
Industrial School Association, Report, 353.
Industry Asso., Krain, Iron and steel, 76.
Industrial Union Co., Coal, 94.
Ineboli, Gov't. of, Yarn, 295; Silk, 297.
Infante Dom Luez Observatory, Charts, publications, etc., 369; Photographs, 370.
Infante, Manuel, Whisky, 262.
Infant School, Knit stockings, 288.
Ingalls, W. G., & Co., Reeds, 332.
Ingersoull, C. R., Connecticut, 11.
Ingham University, Paintings, 321.
Ingold, P. F., Cutters, 355.
Ingram, Wm., Red granite, 72.
Ingoviz, A., Ore, 76.
Inguaggiato, Baron C., Olive oil, 232.
Iniguez, D., Medicinal herbs, 259.
Iñiguez, Manuel A., Limestone, 84.
Innes, J. H., Ore, 68.
Innes, W. M., Cod-liver oil, 155.
Innis, G. S., Limestone, 52.
Inspection General of Woods & Forests, 280.
Inspection of Mines, Minerals, 93.
Inspector-General of Penal Dep't., Boots, 161.
Institute for Deaf & Dumb, Books, etc., 366.
Institution for Deaf Mutes, Report, 354.
Institution for Feeble-minded Children, Reports, 354.
Institution for Instructing Poor, Report, 357.
Institution for Instructing Poor Girls, Report, 357.
Interior, Dept. of, Coat of arms, 251.
Interior, Ministry of the, Public works, 361.
International Bandage-shiff Factory, Bandages, 214.
International Works, Brine, 74.
Inventors' Protective & Benevolent Association of the U. S., Models, 336.
Iowa, Educational Dept. of, 323.
Iowa, State of, Ores, etc., 49.
Ipsamarki, Y., Brandy, oil, 313.
Ipsilanki & Co., Leather, 311.
Irmenbach's successor, Gloves, 209.
Iron Clad Paint Co., Paints, 104.
Ironton Furnace Iron & Steel Co., Ores, 50; Iron, 58.
Irving Bros., Paper, 115.
Irwin Bros., Wine, 180.
Irygoyen, C. O. de, Mat, 258.
Isaac, Shoes, 301.
Isaac, A., Skin, 311.
Isaac Agha, Curtain, 292; Stand-cover, 302; Saws, 305.
Isaac, H., Lentils, 309.
Isaac, M., Garment, 299.
Isaacs, J. C., Idaho, 12.
Isaacs, M. C., & Co., Brushes, 142.
Isaura, F. de Paula, Apparatus, 272.
Isella, P., Painting, 211.
Ishioka, S., Trays, 245.
Iskilechina, Ticking, 294.
Iskilidjan, Cottons, 293; Towels, 295.
Iskilidjan, Napkins, 302.
Isklip, Government of, Scammony, 306.
Isler, Aloyse, & Co., Hair plats, 213.
Isler, Jacob, & Co., Straw goods, 213.
Ismael, A., Vest, 300.
Ismail, Cup, 303.
Ismail Agha, Counterpane, 299; Barley, 308; Vetch, 309; Leather, 311.
Ismail, Cherishor, Gum, 306.
Ismail, E., Barley, 308; Skin, 311; Cotton, 314.
Ismail Hadji, Wheat, 308; Leather, 311.
Ismail Irahim, Pipe, 303.
Ismail Ousta, Goblets, 292; Bowls, 303.
Ismail, Tchataldja, Wheat, 308.
Ismaila, Pipe, 303.
Ismaila Hadji, Barley, 308.
Ismyrnopola, Héleni, Cloth, 302.
Isnardi, P., Olive oil, 232.
Isphakanopola, Aspasia, Cloth, 302.
Ispiro, Syrups, 313.
Issleib & Rietzschel, Books, 348.
Issmayer, J. A., Toys, 205.
Istiphanidja, Gauze, 299.
Itabapoana, Baron of, Chair, 252.
Ith, Cups and saucers, 292.
Ithaca Calender Clock Co., Clock, 330.
Ito, T., Silk dress, 246.
Iturbe, F., Pharmaceutical preparations, 259.
Ivanhoe Manufacturing Co., Paper, 131.
Ivanoff, N., Silver plate, 316.
Ivanoff, T., Photograph, 319.
Ivers, W. H., Piano, 333.
Ives, Blakeslee, & Co., Toys, 128; Garters, 129.
Ives, H. R., Hardware, 190.
Ives Patent Lamp Co., Lamps, 114.
Ives, W. A., & Co., Augers, 138
Ivins & Bro., Walnut bed, 111.
Ivins, Dietz, & Magee, Carpets, 122.
Ivison, Blakeman, Taylor, & Co., Books, 326.
Iwada, H., Bamboo, 247.

Iwahashi, K., Household ware, 245.
Iwai, Z., Fans, 246.
Izu-kura, K., Watch guards, 246.

J.

Jaap, John, Essence, 145.
Jaccard, Eugène, Engraved plate, 213.
Jack, J., Wheat, 163.
Jackfish Lake Gold Mining Co., Quartz, 70.
Jackson, C., Clay, 73.
Jackson Co., Cotton goods, 117.
Jackson Furnace, Ores, 48; Iron, 58.
Jackson, Samuel C., Silverware, 127.
Jackson & Sharp Co., Cars, 382.
Jackson, Wm. H., & Co., Grates, 139.
Jacobini, Raffe, & Giobbe, Jewels, 234.
Jacobs, C., Idaho, 12.
Jacobs, Poelaert, & Co., Blankets, 217.
Jacobs, S. W., & Son, Carriages, 380.
Jacobs, Strouse, & Co., Corset clasps, 124.
Jacobsen's, O., Mech. Works, Mangle, 229.
Jacobson & Anderson, Gloves, 226.
Jacoby, M., & Co., Curtains, 151.
Jacoby, Theo., Hats, 126.
Jacot Bros., Chronometers, 355.
Jacquand, Father & Son, Glue, etc., 192.
Jacquemin, Costumes, 198, 343.
Jacquot & Co., Blacking, 193.
Jäenecke Bros. & F. Schneemann, Inks, 202.
Jaeschke, G., Tobacco, 158.
Jager, G., Harmonicas, 349.
Jager, J., Harmonicas, 349.
Jäger, Jb., & Co., Wood carvings, 358.
Jagn, N., Apparatus, 372.
James, J. O., Finance, 10.
James, Samuel, Color stand, 130.
Jamison, W. W., Wool, 337.
Jamme, A., Thread, 217.
Janentzky & Co., Artists' materials, 130.
Janeway, H. L., New Jersey, 13.
Janin, Magnets, 345.
Jansen, Bodek, & Hertz, Satins, 212.
Jansen, J. W., Cloths, 203.
Janson, J. H., & Co., Soda water, 95.
Jaques, Adank J., & Co., Musical box, 355.
Jarboe, J. W., Paint composition, 105.
Jarves & Hooper, Charcoal, 55.
Jatta, A., Olive oil, 232.
Jaubert, Audras, & Co., Silks, 196.
Jaudin & Duval, Foulards, 196.
Jaumandreu & Co., Prints, 273.
Jean, E. de, Iron and tools, 218.
Jeandron-Ferry, Shoes, 197.
Jeanjaquet, Chs., Watch springs, 355.
Jeannisson, Lewis, & Son, Gloves, 126.
Jeantaud & Co., Wheels, 199.
Jefferson Furnace Co., Ores, 48; Pig iron, 58.
Jeffords, J. E., & Co., Lava wares, 107.
Jeffrey & Co., Decorations, 152.
Jeffreys, C., Mirrors, 147; Cases, 152.
Jemmapes Forge, Foundry, & Rolling Mill Co., Tramway rails, 77.
Jenkinson, A., Glass, 147.
Jennings, A. W., Washers, 377.
Jennings Bros., Paper, 143.
Jennings, G., Pipes, 146; Lavatories, 148.
Jennings, P. A., Rug, 157; Platypus, 158.
Jennings, T., Calcined magnesia, 144.
Jennings, Wm., Utah, 14.
Jennison, W. A., Violin, 333.
Jenny, Miss, Farina, 184.
Jensen, H. J., Books, 364.
Jernberg, S., Latches, 227.
Jersey City Crucible Mfg. Co., Crucibles, 54.
Jervis, John B., Engineering drawings, 335.
Jessop, Wm., & Sons, Steel, etc., 62.
Jessup & Moore, Paper, 131.
Jesus, M. V. de, Pharmacies, 283.
Jeuch, Caspar, Plans, 356.
Jevleff, A., Frames, 316.
Jewett, John, & Sons, Oil, lead, 103.
Jgoomnoff, Furniture, 316.
Jiami Joyen, Fans, 247.
Jimenez de Garcia, A., Pitchers, 272.
Jirnenez, Julio, Treatise, 267; Wood, 268.
Joachimsthal, Metallurgy and Mining Administration, Meteoric specimens, 76.
Joao, A., Ceramics, 284.
Jo-Ami Heishiro, Fans, 247.
Jobst, F., Chemicals, 201.
Johann, A. F., Chemicals, 201.
Johansson & Carlander, Calicoes, 226.
Johns, H. W., Roofing, 115; Tacks, 142.
Johnson, Black, & Co., Stoves, 375.
Johnson Bros., Varnishes, 145.
Johnson, C. J., Galena, 71.
Johnson, Chas. Eneu, & Co., Inks, 105.
Johnson & Co., Terra-cotta, 145.
Johnson, A., & Co., Springs, 227.
Johnson, E., Twines, 116.
Johnson, E. S., Toothpicks, 127; Pens, 130.
Johnson, Edmund, Catalogues, 339.
Johnson, F. C., Alternate, 9.
Johnson, Henry M., Kalsomine, 105.
Johnson, J., Drawings, 334.
Johnson, J., & Co., Boxes, 151.
Johnson, J. M., Implements, 329.
Johnson, J. M., & Sons, Tablets, 338.
Johnson, J. R., Nevada, 13.
Johnson, Jabez, & Fildes, Fabrics, 148.
Johnson & Lund, Teeth, 136.
Johnson, Matthey, & Co., Platinum, 61.
Johnson, T. & J. W., & Co., Books, 327.
Johnson, W., Tools, 137.
Johnston, E. S., Cornices, 113.
Johnston, H. J., Painting, 161.
Johnston, J., Sugar, 180.
Johnston, J. S., Wines, 164.
Johnston, W. & A. K., Maps, 338.
Johnstone Bros., Ore, 63; Umber, 155.
Johnstone, J., Drawings, 342.
Johnstone, O'Shannessy, & Co., Photographs, 162.
Joint Stock Association for Mining, & Lead & Zinc Manufacture, Ores, 75; Iron, 75.
Joint Stock Association of Looking Glass Manufacturers, Looking-glass plates, 202.
Joint Stock Co. for Manufacturing Bronze Goods, Bronze chandelier, 202.
Joint Stock Co. for Telegraph Supplies, 349.
Joint Stock Playing Card Mfy., Cards, 205.
Joliette Collége, College work, 342.
Jolivet, L., Wax tapers, 192; Candles, 194.
Jolsens, H., Matches, 229.
Joly, H. G., Judge, Gr. IV., 16.
Jones, F., Ashes, 255.
Jones, G. W. C., Fern, 251.
Jones, H. C., & Co., Handles, 380.
Jones, J. A., Refrigerator, 115.
Jones, J. M., & Co., Cars, 382.
Jones, P., & Co., Wheels, 379; Sulky, 381.
Jones, Pryce, Shawls, 150.
Jones, T. R., & Co., Copper ore, 70.
Jongh, S. J. de, Snuff, 170.
Jönköping Match Mfg. Co., Matches, 225.
Jordan, C., Cod-liver oil, 229.
Jordán, J., & Sons, Cloth, 274.
Jordana & Morera, Apparel, 282.
Jorge de la Peña, Peat, 270.
Jorn, E., Sauces, 164.
Joseph, V., Oil for burns, 192.
Joslin, Palmer, & William, Jewelry, 129.
Joslyn, J. H. L., Roofing, 73.
Jossa, N., Judge, Group I., 15.
Jottrand, A., Judge, Group I., 15.
Jouaust, D., Books, 343.
Joubert, W. A., Wine, 171
Jourvie, J. A., & Co., Waters, 74.
Jouvin & Co., Gloves, 197.
Jouvin, Mrs. Xavier, Gloves, 197.
Joveneau, A., Cocoa, 218.
Jovér, Francisco, Building stone, 89.
Joy, C. A., Judge, Group III., 15.
Juarez, T., Hemp, 269.
Juarreña Society, Coal, 89.
Judd, Hubert L., Hardware, 141.

Judge, J. F., Ornaments, 328.
Judice, V. A. J., Chemicals, 283.
Judson Bros., Shirts, 124.
Judy, W. W., Game birds, 337.
Jugla, D., Gloves, 197.
Jujui, Government of Prov. of, Silver ore, 84.
Jujui, Prov. Commission of, Salt, 255; Wool fabrics, 257; Hats. 258; Harness, 260.
Julià y Garcia, Nuñez, Soaps, 271.
Julien, A., & Co., Chemicals, 192.
Julien & Son, Dyed stuff, 255.
Jullien & Gauthey Bros., Cartridges, 199.
Jumeau, F., Dolls, 198.
Jung, E., Photographs, 356.
Jung, O., Wines, 164.
Jung & Simons, Cloth, 203.
Junge, A., Spring mattress, 111.
Jungfer, A., Amber, 75; Coins, etc., 350.
Juparana, Baron of, & Nogueira da Gama, Calcareous specimens, 82.
Jurgenson, P., Music, 372.
Jurie, A., & Co., Silks, 196.
Jury, F. H., Carriage, 381.
Just, T. C., Ores, 68.
Justi, H. D., Tools, 136.
Justice of Peace, Patagones, Gypsum, 84.
Justice of the Peace of Ensenada, Lime made from shells, 84.
Justice of the Peace of Zarate, Clays, 85
Juta, J. C., & Co., Books, 169.
Juvet, L. P., Globe, 330.
Jvanitzki, L. J., Flooring, 316.

K.

Kaberg, C. A., Paper, 227.
Kachoken, A., Vases, 245.
Kachomla, C., Beans, 309.
Kachpi, Z., Calicoes, 294.
Kadir Oglou Abdul Kader, Cover, 298.
Kaehler, Otto, Skins, 129.
Kaeseberg, H., Wood cuts, 348.
Kaeser, P., Engravings, 211.
Kafemann, A. W., Books, 348.
Kaffel Bros., Furniture, 194.
Kaga Association for the Encouragement of Manufactures, China, 245.
Kahlbaum, C. A. F., Chemicals, 201.
Kaines, J. H., Wines, 168.
Kaiser, Dr., Table, 353.
Kaiser & Herzog, Decorative painting, 110.
Kaiserslautern Ultramarine Works, Chemicals, 201.
Kaisparexeko & Co., Cotton, 293.
Kaitakushi Department, Ores, 244.
Kalden, Baron of, Linen goods, 253.
Kaldenberg, Fred. Julius, Pipes, 128.
Kaliakin, J., & Sons, Knives, 319.
Kallinge Iron Works, Nails, etc., 228.
Kaltenbach, L., Clocks, 349.
Kama Armor Plate Works, Armor plates, 98.
Kamaipelekane, E. P., Bed, 250.
Kamaroff, M., Embroideries, 318.
Kamenstchikoff, T., Embroidery, 318.
Kamil, Gauze, 299.
Kamile, Madame, Napkin, 302.
Kämpffe, G., Musical instruments, 349.
Kamps, O., Woolen fabric, 295.
Kanaya Gorosaburo, Vases, 249.
Kandi Bros., Snuff, 309.
Kandilaphtaki Mehemeda, Silk, 297.
Kane, J. K., U. S. Commissioner, 9.
Kanitz, E., Judge, Gr. X., 17.
Kann & Sons Mfg. Co., Spoons, 113.
Kanokoshosha, The, Crapes, 246.
Kanzan Denshichi, Pitchers, 244.
Kapena, J. M., Sugar cane, 251.
Kappel & Bro., Furniture, 252.
Kaps, E., Piano, 350.
Kara, P., Skin, 311.
Karabet, Belt, 299; Inkstands, 304; Seeds, 307; Brandies, 313; Cocoons, 314.
Karabet Agha, Skins, 311.
Karabet, K., Carpet, 296.
Karabet, M., Thread, 295.
Kara-Hissar, Government of, Galena, 96; Iron, 97; Alum, 291; Spoons, 293; Belt, 299; Sumac leaves, 306; Wheat, 308.
Kara Issalé, Govt. of, Plant, 304.
Kara-Issali, Gov. of, Skin, 311; Leaves, 306.
Karasch Oglou, Thread, 295.
Kara-Tach, Government of, Poutargue, 304.
Karcher's, Dan. M., Sons, Sideboard, 110.
Karelin, T., Embroidery, 318.
Karkali, D., Fabrics, 298.
Karlowicz, J., Method, 372.
Karlskrona Galvanizing Stock Co., Iron, 228.
Karlson, Gust, & Martin, Grindstone, 78.
Karraissalo, Government of, Cotton, 294.
Karrer & Co., Musical boxes, 355.
Karrer, S., Musical boxes, 355.
Karssendi, Govt. of, Galena, 96; Iron, 97.
Kashiu, S., Vases, 244.
Kasseudje, G., Pipe, 303.
Kasson, W. M., 336.
Kataloff, B., Brassware, 319.
Katayama, G., Ornaments, 247.
Kater, Th., Pianos, 342.
Kato Gosuke, Cups, 244.
Kaufmann, A. & C., Collars, 204.
Kauffmann, C., Coverlets, 203.
Kavilian, Stépan, Wheat, 308.
Kawaiahao Female Seminary, Necklaces, 250.
Kawamoto Masukichi, Vases, 245.
Kawamura, Y., Cloths, 245; Cup, 249.
Kawanabe Giosai, Picture, 249.
Kawara-bayashi, Hidekuni, Jug, 249.
Kay & Bro., Books, 328.
Kayod, H., Seed, 310.
Kazejeff, S., Army cloth, 316.
Kazikli, Government of, Anise seed, 310.
Keach, G. W., Wool, 183.
Kealoha, Kapa, 250.
Kearney, E. S., Washington Ter., 14.
Keasbey & Mattison, Pills, etc., 101.
Keates, F., Wheat, 180.
Kees, E., Fans, 198.
Kehoe, L., Books, 328.
Keigel, Auguste, Equalizing machine, 358.
Keizer, C., & Son, Furs, 189.
Keller, A., Silk, 233.
Keller & Alt, Clothing, 208.
Keller, Conrad, Toys, 205.
Keller, F., Linen goods, 253.
Keller, H., Jewelry, 204; Map, 353.
Keller, Heinrich, Son, Herbarium, 349.
Keller Mfg. Co., Quart measure, 376.
Kelley, Ezra, Machine oils, 103.
Kelley, G., Implements, 328.
Kelly, Dr., Wines, 168.
Kelly, J., Stones, 73.
Kelly, M., Wheat, 163.
Kelly, S. S., Pendants, 114.
Kelly, T., Bibles, 327.
Kelsey, J. E., Hops, 167.
Kelty, G. L., & Co., Gimps, fringes, etc., 123.
Kemer Kirkor, Almonds, 307.
Kemp, G., Wheat, 183.
Kemp, W., Mats, 167.
Kemperling, H., Turners' articles, 210.
Kemperling, J., & Sons, Ribbons, 208.
Kendi Oglou Trantchi, Fabrics, 295, 298.
Kenidje, Govt. of, Tobacco, 309.
Kennard, M. P., Judge, Gr. XI., 17.
Kennedy Bros., Coal, 63; Fire bricks, 155.
Kennedy, J. M., Alabama, 11.
Kennedy, Thos., & Bro., Wax figure, 126.
Kensett, J. W., Fireproof appliance, 378.
Kent, D. H., & Co., Hardware, 379.
Kent, G., Knife cleaner, 148.
Kent, G. B., & Co., Mirrors, 148; Knives, 151; Brushes, 153.
Kent Woolen Co., Cassimeres, 120.
Kentucky Geological Survey, Minerals, 48.
Kenzo, E., Judge, Gr. IV., 16.
Kenzo, H., Judge, Gr. IX., 16.
Keppler & Bro., Chairs, etc., 253.

Keranche Oglou, Wax, 312.
Kerbel, G. H., Model, 361.
Kerbella, Government of, Cotton, 294; Fans, 303; Opium, 304; Rice, 308; Cotton, 313.
Kerénié, Government of, Wool, 296.
Kerim, S., Carpet, 296.
Kerkhoven, R., Painting, 221.
Kerl's, F. A., Heir, Plated ware, 208.
Kermode, W. A., Freestone, 68; Salt, 182.
Kern, Clara, & Lang, Chair, 252.
Kern, H. G., Instruments, 136.
Kern, I. U., Books, 348.
Kern, J., Drawing instruments, 354.
Kerr, Hugh S., Brushes, 142.
Kerr, N. M., & Co., Paper boxes, 132.
Kerr, W. C., Judge, Gr. IV., 16.
Kersch, M., Garnet articles, 209.
Kerschove, Government of, Iron, 97.
Kesban, Madame, Cotton, 293; Holder, 303.
Kessiar, Pipe, 303.
Ketcham, E., & Co., Tin, 377.
Ketchum, E. K., Shale, 71.
Ketterer, B., Sons, Clocks, 349.
Keuffel & Esser, Instruments, 329.
Keur Ali, Pitcher, 293.
Kew, W., & Son, Buggy, etc., 383.
Key, A., & Retzius, G., Periodical, 362.
Key, Alex., Treatise, 362.
Keyes, W. S., Judge, Gr. I., 15.
Keyless Padlock Co., Locks, 142.
Keynes, J., Wool, 168.
Keys, J., Coal, 51.
Keystone Bridge Co., Iron columns, 56.
Keystone Flint Glass Co., Glassware, 108.
Keystone Furnace Co., Ores, 49; Iron, 58.
Keystone Hardware Mfg. Co., Hardware, 141.
Keystone Paint Co., Paint filler, 104.
Khalil, Agha, Wool, 314.
Kharlamoff, M., Statuary, 315.
Khitroff, J., Book, 372.
Khrenoff, P., Frame, 316.
Kiamil Effendi, Sextant, 371; Spoons, 305.
Kicho, Dimitri, Linen, 295.
Kidder, J., Apparatus, 331.
Kiehnle, A., Jewelry, 204.
Kiendl, A., Citherns, 351.
Kier Bros., Fire clay, 54; Bricks, 107.
Kikuchi-Kuhei, Chairs, 245.
Kikuchi Yosai, Picture, 249.
Kilburn, I. B., Woodwork, 379.
Kilby, R. H., Rifle, 190.
Kilgore, D. Y., Blinds, 113.
Kilgoren Bros., Paper bags, 189.
Kilian Bros., Easels, etc., 110.
Killam, H., & Co., Carriages, 381.
Killgore, J. L., Bedstead, 111.
Kilner Bros., Glass, 147.
Kilner, J., Pianos, 341.
Kimball, C. P., Alternate, 9.
Kimball, W. S., Refrigerator, 376.
Kimbel & Cabus, Decorations, 110.
Kimbel, M., Furniture, 202.
Kimes, J. B., & Co., Slate mantels, 52.
Kimpton, Thomas, Sound communicator, 339.
Kimura, G., Crapes, 246.
Kimura, H., Tableware, 245; Tablets, 247.
Kimura, T., Fans, 247.
Kindergarten, Reports, 353.
King, Alexander, & Co., Rum, 172.
King Bros., Gas retorts, 146.
King & Brown, Boots and shoes, 189.
King Iron Bridge & Mfg. Co., Bridge, 334.
King, J., & Son, Tools, 137.
King, J. M., & Co., Stock and dies, 142.
King, P. G., Ores, fossils, 64; Wool, 159.
King Phillip Mills, Sheetings, 116.
King, T. H., Stones, 53.
King, William, Cloths, 149.
King, Wm., Son, & Co., Petroleums, 102.
Kingsbury, F. J., Connecticut, 11.
Kinkozan-Sobei, Vases, 244.
Kinross & Co., Cordage, 155.
Kinsley, E. W., Massachusetts, 12.
Kipling's, R., Sons, Jewelry, 127.
Kirby, Beard, & Co., Pins, 151.
Kirchhof's, C. F., Sons, Refrigerators, 208.
Kirchner, Wines, 180.
Kirchner Bros., Strings, 351.
Kirio, Buttons, 302.
Kiriu-Kosho-Kuwaisha, Ink, 244; Porcelain, 245; Silk, 246; Brushes, paper, 247; Music, 248; Bronze, 249.
Kirkman, J., Doeskins, 120.
Kirkor, Pincers, 305.
Kirkor, A., Terra-cotta, 292.
Kirkor, Avakir, Mulberry paste, 312.
Kirkor Effendi, Alcohol, 313.
Kirkor, M., Fabrics, 298.
Kirkor, T., Earthenware cup, 292.
Kirkora, Wool, 314.
Kirkpatrick Quarry, Limestone, 72.
Kirkwood, Hon. S., Iowa, 12.
Kirmayer, M., Map, 348.
Kirschwasser Company, Liquor, 214.
Kishi Seppo, Picture, 249.
Kisin, Government of, Chrome, 292.
Kitaizteff, W., Boots, 317.
Kitchen & Sons, Candles, 160.
Kithil, A., Toys, 205.
Kittaning Coal Co., Coal, 51.
Kittarg, M., Fluid, 373.
Kittary, M., Judge, Gr. X., 17.
Kittelsen, Jens, Valises, 230.
Kittle, S. P., Spring mattresses, 110.
Kittredge Cornice & Ornament Co., 143
Kiyork, Dellale Oglou, Wool, 314.
Kiyoto, Chemical Laboratory of, Water, 244.
Kiyoto-Fu, Paper, 247.
Kjerulf, T., Judge, Gr. I., 15.
Klammerth, Alois, Earthenware, 207.
Klappenbach, S. de, Embroidery, 258.
Klautsheck, Thomas, & Stewart, Glass, 108.
Kleeberg, Leather, 318.
Kleeberg, H., Books, 319.
Kleeman, C. A., Lamps, 202.
Klein Bros., Models, 351.
Klein, E., Watch springs, 355.
Klein, J. F., & Son, Wood carvings, 358.
Klein, Logan, & Co., Picks, 138.
Klemetsen, Chr., Fittings, 229.
Klemmings Antiquarian Stock Co., Books, 362.
Klingenberg Bros., Publications, 348.
Klintberg, J. W., & Co., Jewelry, 226.
Klippel & Bro., Hides, etc., 254.
Kluge & Pöritzsch, Chemicals, 201.
Klunzinger, P., Plans, 351.
Knabe, W., & Co., Pianos, 333.
Knapp, A. E., Bible, 328.
Knauff, T. O., Organs, 333.
Knell, George, Chairs, etc., 109.
Knepper, W., Cigarette paper, 210.
Kniaz Mikhaeloff's Crown Copper Works, 319.
Kniaze Michailoffi Steel Works, Ores, 98.
Knight, B. B. & R., Cotton goods, 118.
Knight, E., Maine, 12.
Knight, E. H., Judge, Gr. XXII., 18.
Knight, H. G., Massachusetts, 12.
Knight, J. G., Ornaments, 166; Weapons, 167.
Knight, Miss M., Bedstead, 147.
Knight, W. A., Health lifts, 336.
Knight & Widden, Plaster, 55.
Knipp, T. F., Album, 205.
Knodchen, J. A., Clay ware, 202.
Knops, A., Cloths, 203.
Knott, J., & Son, Piano, 342.
Knowles, J. A., Baskets, 173.
Knox & Shain, Instruments, 329.
Knox Woolen Co., Feltings, 119.
Knox & Wrothwell, Buggy, 383.
Knüsli, Caspar, Lithographs, 358.
Kobu-sho, Bricks, 244.
Koch, A., Harmonicas, 349.
Koch, Alex., Plans, 356.
Koch & Bein, Castings, 206.
Koch & Bergfeld, Jewelry, 204.
Koch, M., Shawls, 208.
Koch, Sons, & Co., Albums, 128; Cases, 131.
Kochaf Ajediz, Cocoons, 314.

Kochi-ken, Local Government of, Paper, 247.
Kochowski, Educational, 372.
Kochs, Gustav, Rope, 206.
Kodan, Bed covers, 295.
Kodja Osman Agha, Knife, 305.
Koechling, B. H., Chairs, 110.
Koehler, C., Chromos, 348.
Koening, R., Apparatus, 345.
Koepp, R., & Co., Chemicals, 201.
Koester, C. F., Kansas, 12.
Kohl, A., Hose, 211.
Köhler & Co., Playing cards, 227.
Kohler, I., Publications, 326.
Kohler, Ignatius, Bookbinding, 132.
Kohler, M., Knee rest, 137.
Kohn, J. & J., Furniture, 208.
Kohn, Tobias, Braids, 123.
Kojimo, T., Thread, 246.
Kokosing Oil Co., Lampblack, 104.
Kolb, G. F., & Sons, Cases, 129.
Kolb & Schüle, Fustian, 203.
Kolbe, D. W., Artificial limbs, 136.
Koliopoula, Maria, Embroidery, 302.
Kolkow, F. J. von, Photographs, 360.
Komaroff, M., Covers, 317.
Komaroff, N., Dress, 318.
Kommichau, G., Woolen goods, 316.
Kompff, Ph., Drums, 334.
Komura, S., Model, 248.
Kondour, Hadji, Syrup, 312.
Kondrasheff Bros., Silk, 317.
Kondratoff, D., Knives, 319.
Kongsberg Silver Mines, Ores, silver, 80.
Koniah, Government of, Brimstone, 96; Inkstands, 304.
König, J. C., & Ebhardt, Account books, 205.
Konshin, J., Cotton yarn, 316.
Koolemans-Beijnen, C. J. L., Pottery, 220.
Koolikoff, N., Musical instruments, 373.
Koomanin, N., Books, 319.
Koorikoff, P., Harness, 383.
Kooser, B. P., Alternate, 9.
Koovajeff, C., Printed goods, 316.
Koozmin, G., Weapons, 319.
Koozmin, T., Cutlery, 319.
Kopsch, H., Porcelain, 241.
Koraczewski, G., Shoes, 204.
Koran-Sha Porcelain Mfy., Cups, etc., 244.
Korb, V., Silk laces, 209.
Körner & Co., Lamps, 202.
Korniloff Bros., China, 315.
Koroleff, A., Potassa, 315.
Koroleff, B., Embroidery, 318.
Koroleff, L., Embroidery, 318.
Kortkampf, F. R., Books, 348.
Koseki, I., Braids, 246.
Koshima, J., Oil, 244.
Kotomin, A., Models, 372.
Kottmann, J., Cigars, 214.
Kotzmann, E., Umbrellas, 318.
Koudour Hadji, Oils, 291; Pipes, 303.
Koular Oglou Mehemed, Poutargue, 304.
Kournik Ala Agha, Apricots, 312.
Koussou Kirkor, Sheeting, 293.
Kouyoumdjou, Epsso, Box, 303
Kouyoun Oglou, Gum, 306; Seeds, 310.
Kowalski, Educational, 372.
Koyondja, Govt. of, Marble, 94; Plant, 304.
Koyoun, Andonik, Brandy, 312.
Kozan-riyo, Mining Dept., Ores, 244; Report, 248.
Kozon, A., Cotton, 313.
Kraft, E., & Son, Instruments, 351.
Kramar, J. H., Lanterns, 114.
Kramsta von Sosnowee Zinc Works, 315.
Kranich & Bach, Pianos, 334.
Krasinski, H. N., Preparations, 372.
Krasnostchekoff, P., Faience, 315.
Krassoski, A., Books, 372.
Kratova, Government of, Coal, 97.
Kratzschmar, F., Lithographs, 348.
Kraul & Bier, Jewelry, 204.
Krauliz, M., Photograph frames, 208.
Krause, Frederick W., Gothic chairs, 109.
Krause, H., Maps, 336.
Krebs, F. E., Gloves, 204.
Krehan, I., Buttons, 210.
Kreidl, A., Apparatus, 351.
Kreischer, B., & Son, Clay, 54; Bricks, 107.
Kreitzer, M. C., Perfumery, etc., 101.
Krelage, J. H., Pamphlets, 360.
Krémer, C., Furniture, 188.
Kressner, L., Pathological tables, 348.
Kressten, Apparatus, 372.
Krestovnikoff Bros., Candles, 315.
Kreuger, P. E., & Jennings, Matches, 225.
Kreuter, F., Tachometer, 351.
Krider, J., Guns, 134.
Krider, P. L., Silverware, 113.
Kriegelstein & Co., Pianos, 345.
Krins, E., Wood carvings, 216.
Krishtafovich, P. C., Bricks, 315.
Kroedel, F., Chronometer, 329.
Krogstad Society, Nails, 230.
Krol, W., Bandages, 221.
Kropp, J. B., Cotton and mixed goods, 203.
Krug, J. M., Jewelry, 204.
Krull, E., Tallow, 251.
Krumbügel, O., Jewelry, 318.
Krupp, Fr., Ores, 75; Cannon, 205.
Kubik, J., Gloves, 209.
Kubli, G. G., Straw, 234.
Kudelsky, Helen, Gloves, 317.
Kuebler, W., Instruments, 329.
Kuehn, F., Wisconsin, 14.
Kuehn, H., Patterns, 204.
Kuhlmann, J. F., Judge, Gr. III., 15.
Kühn's Wire Factory, Metal leaf, 202.
Kuhne, W., Basket ware, 230.
Kuhnel, P., Globe, 329.
Kullberg, Victor, Chronometers, 339.
Kullgren's, C. A., Widow, Granite, 78; Presses, 226.
Kumagai, K., Halberds, 247; Vases, 249.
Kunheim & Co., Chemicals, 201.
Kuntze & Co., Refrigerators, 226; Telegraphs, 363.
Kunz, Heinrich, Dwellings, 357.
Kunzig, C., Carriage mountings, 379.
Kupka, P. F., Judge, Gr. XXV., 19.
Kurdju, H., Skin, 311.
Kurjut Casmat, Skins, 311.
Kurlbaum & Co., Chemicals, 102.
Kurr, Schuttner, Jewelry, 204.
Kurschu Casmad, Jacket, 299.
Kursheedt & Co., Embroideries, 126.
Kutchuk Ali Agha, Wheat, 308.
Kuwangiyo-jo, Silk, 246; Fans, 247; Photographs, 249.
Kuwangiyo-Riyo, Clay, 244; Lanterns, 245; Crystal, 246; Paper, 247.
Kuwangiyo-Riyo-Shi-ken-jo, Table, 245.
Kuwappankiyoku Government, Plates, 249.
Kuzel, J., & Jankowski, C., Turners' articles, 210.
Kyle Coal Co., Coal, 51.
Kyshe, J., Mauritius almanac, 178.

L.

La Belle Glass Co., Glassware, 108.
La Beneficencia Factory, Cottons, 265.
Labisky, Mrs., Water color, 267.
Labonia, B. G., Liquorice, 231.
La Bonne Intention Plantation, Sugar, 175.
Laboratory of Egypt, Chemicals, 236.
Laboulaye, C., Dictionary, 343.
Labriola, L., Tortoise shell, 234.
La Buena Fé Society, Galena, 88.
Lacey, R. G., Rocket, 145; Signal, 339.
Lachard Bros., Silks, 196.
Lachenal, Favre, & Co., Stereoscopes, 345.
Lachite, Government of, Sponges, 310.
La Cierva, Corporation of, Marble, 90.
Lackawanna Iron & Coal Co., Ores, 48; Steel, 57.
Lacmann, J., & Sons, Doll bodies, 127.

La Cointe, E., Problem, 343.
Lacombe, Glasses, 345.
Laconia Co., Sheetings, etc., 117.
Lacoria, F., Essences, 232.
Lacour, G., Orthopedic apparatus, 259.
Lacroix, A., Colors, 193.
Lacroix Bros., Papers, 198.
Lacy, W., Cooking shell, 376.
Ladd, S. J., Thimbles, 129.
Laemmert, E. & H., Books, 366.
La Familia Society, Galena, 88.
Laffite & Co., Galena, 87.
Laffiteau & Rieger, Arms, 199.
Laflin & Rand Powder Co., Apparatus, 331.
Lafone Quevedo, S. A., Copper, clay, 85; Ashes, 255; Herbs, 259.
Lafquist, J. A., Irons, 226; Hinges, 227.
Lagaut, N., School materials, 343.
Lagerbäck, H., Locks, 227.
Lago, E. do, Music, 366.
Lagos, J. M., Sheep wash, 255.
Lagraña, S., Shawls, 258.
Laidlaw, A., & Co., Hollow ware, 190.
Laidlay, J., Wheat, 163.
La Innocencia Mining Society, Galena, 88.
Lair, E., Papers, 198.
Laird, W., & Co., Fabrics, 148.
Lairitz, C. & L., Oil, 201; Linen fabrics, 203.
Lake Champlain Mfg. Co., Doors, 378.
Lake George Antimony Co., Metals, 74.
Lake Superior Iron Co., Iron ore, 48.
Lalance & Grosjean, Granite, 378.
Lalance & Grosjean Mfg. Co., Iron ware, 139.
La Libertad, Dept. of, Grains, 264.
Lallement Bros., Printing on satin, etc., 369.
Lalotte Ahmed, Amethysts, 302.
La Lys Co., Thread, 216.
Lamarre, Fancy articles, 198.
Lamary, Silk watchguards, 196.
Lamb, G. D., Washer, 377.
Lamb, J. & R., Church furniture, 110.
Lamb & Roberts, Wool, 159.
Lambert, A. de, Files, 218.
Lambert, Casimir, Son, Glass, 215.
Lambert, L., & Co., Glass, 215.
Lambie & Sargent, Table, 108.
Lamborn, R. H., Alternate, 9.
Lambron, P., Chemise, 299.
Lamego, A. da C., Pottery, 284.
Lamm, A. M., Gynecological apparatus, 227.
Lamson & Goodnow Mfg. Co., Cutlery, 139.
Lanca, Francisco P. de, Linen fabrics, 286.
Lancaster, A., Guns, 152.
Lancaster, C., Cannon, 152.
Lancaster Mills, Ginghams, 119.
Lancetti, F., Furniture, 233.
Lancia di Brolo, Duke Federigo, Salt, 231.
Lancroft, C. E. & H. B., Sulphates, 59.
Landa, Sons of Salvador, Linen, 273.
Landenberger's, M., Sons, Shawls, 121; Hosiery, 125.
Landham, F., Rule, 342.
Landis, S. M., Bath, 378.
Landreth, B., Bureau of Agriculture, 10.
Landrien, B., Books, 359.
Landskrona Mfg. Co., Fabrics, 226.
Lane, D. M., & Son, Buggy, 380.
Lane, T. G., Washing crystals, 187.
Lang & Co., Soaps, 252.
Lang, Ed., Linen handkerchiefs, 203.
Lang, J., Soaps, 252.
Lang, J. D., Judge, Gr. IX., 16.
Lang, J., & Sons, Guns, 152.
Lange, A., & Sons, Watches, 349.
Lange & Co., Silk, 317; Girths, 320.
Lange, Little, & Co., Printing, 132.
Langen, Kruchen, & Borrenkott, Cottons, 203.
Langenscheid Publishing House, Books, 348.
Langdon Manufacturing Co., Shirtings, 118.
Langevin, A. B., Marble, 72.
Langfeld, J., & Sons, Satchels, 129.
Langstrath, T., Furnaces, 375.
Langwisch, B., Chemicals, 201.
Lanieri, M., Soap, 255.
Lanin, Nicolas, Mineral water, 98.
Lankovski & Likop, Inks, 315.
Lansing, H. S., Auditor Board Finance, 11.
Lanza Bros., Soap, 231.
Laos, D., Sugar, 264.
Laos, M., Sugars, 264.
Lapaine, C., Bobinets, 209.
La Peña, Paper, 278.
Laperche, Chimney pieces, 194.
La Perla Bergadana Mining Society, Coal, 89.
Lapp, C., Food for children, 214.
Lapp, F., Clock case, 330.
Lapsaki, Government of, Brimstone, 96.
Lapshenko & Mickhaeloff, Apparatus, 372.
Lapworth Bros., Carpets, 150.
Lardera, A., Perfumery, 232.
Larenaudiere, F., Inks, 193.
Largey, P. A., Alternate, 9.
Largiader, R., School bench, 353.
La Rioja, Province of, Provincial Commission, Minerals, 83; Salt, 255; Shawl, 256; Quilt, etc., 257; Crochet work, 258.
Larkins, J. F., Implements, 329.
Laroche, A., Cotton, 195; Paste, 199.
Larry Scientific Association, Reports, 267.
Larsbo Norn Stock Co., Ores, 78; Iron, 79.
Larsen, N. F., Gloves, 223.
Larsson, P. M., Iron ores, 78; Iron, 79.
Las Conchas Pub. School, Embroidery, 258.
Las Osman, Gum, 306.
Las Palmas Society of Friends, Cloth, 273.
Lasa y Elizondo, D., Tapers, 271.
Lascurain & Co., Cigars, 268.
Lash, J. S., & Co., Washer, 377.
Lastarria, Victorine, Publications, 261.
Lastborn, Iven, Cupboard, 225.
Latham, E., Ale, 164.
Latles, M., Bronzes, 279.
Latrobe Furnace, Ores, 49; Pig iron, 58.
Latrobe, J. H. B., U. S. Commissioner, 9.
Latrop, E., Publications, 261.
Latzindaki, H. Y., Almonds, 307.
Laude, P., Boots, 317.
Laughlin Bros., China ware, 107.
Laughton, J., Earth, 182.
Launceston, Corporation of, Photographs, 182.
Launert & Decker, Annunciators, 331.
Laurel Furnace, Ores, 49; Iron, 59.
Laurent, F., Books, 360.
Lauriano & Lavores, Osier baskets, 289.
Lauriano & Tavores, Pincushion, 288.
Laurie, W. & L., Arrowroot, 158.
Laus, T., Apparatus, 372.
Lausmann, J. W., Instruments, 351.
Lautier Sons, Pomades, 193.
Lavaggi, F., Matches, 232.
Lavallée, N., Lime, 72.
Lavers, Alfred H., Portland cement, 61.
Lavoie, M., Hair work, 189.
Lavoinne, Mr., Judge, Gr. XXVI., 19.
Law, J., Crucible, 73; Lubricator, 190.
Lawlor & Co., Washing machines, 188.
Lawrence, A. R., & Co., Waters, 55.
Lawrence, E., Louisiana, 12.
Lawrence Furnace Co., Ores, 48; Iron, 58.
Lawrence, G. W., U. S. Commissioner, 9.
Lawrence, John N., Ten-pin balls, 336.
Lawrence, L. P., Chair, 374.
Lawrence Manf'g Co., Cotton goods, 116.
Lawrence, Watterbury, & Co., Bagging, 116; Cordage, 142.
Lawson, J. S., Washington Ter., 14.
Lawton, Burnett, & Co., Coal, 51.
Laxa Iron Works Co., Iron ores, 78; Iron, 79.
Lay, E., Jewelry, 204.
Layton, F., Soap, 157; Wax, 158; Oil, 159.
Laz Oglou Giorki, Penknives, 305.
Laz Osman, K., Cotton, 313.
Lazar, A., Designs, 351.
Leandro, Manuel, Woolen fabrics, 286.
Leao, A. D., Minerals, 82.
Leao, A. E. de, Whip, 254.
Leao & Alves, Perfumery, 252.

Leao, D. A. E., Bricks, 252.
Learmonth, L., Wool, 159.
Learned, E., Connecticut, 11.
Le Bailly-D'Inghuem, Cereals, 218.
Lebermuth, J., & Co., Leather, 218.
Leblanc, J. H., Fancy feathers, 189.
Lebou, L., Books, 359.
Le Boulangé, P. E., Telemeter, 359.
Le Boutillier, C., Judge, Gr. IX., 16.
Le Brun, Dictionaries, 343.
Lebzelter, P., Shafts, 379.
L'Eclair Joint Stock Co., Match tapers, 216.
Leclercq, Henry, Flax, 219.
Leclerq, Widow, Lace, 217.
Lecloux, G. J., Woolen stuff, 217.
Lecomte, A., & Co., Instruments, 345.
Le Coultre, J., Razors, 214.
Lecrenier, N. J., Model, 369.
Lederer, K., Glass trinkets, 210.
Ledesmo, J. A., Books, 368.
Ledig, A., & Son, Silverware, 113.
Ledo, Agostinbo E. de, Oligistic iron, 82.
Ledoux, B., Landaulet, 383.
Ledward, J., & Son, Cassimeres, 120.
Ledyard, T. D., Magnetite, 71.
Lee, B., Spine apparatus, 135.
Lee Bros., Bricks, 188.
Lee, R. J., Inhaler, 153.
Lee & Shepard, Books, 328.
Leedom, Shaw, & Stewart, Carpetings, 122.
Leeds, Louis M., Diagrams, 336.
Leeds Paint Manufacturing Co., Paints, 187.
Leete, B. F., Nevada, 13.
Leete, I. P., Atomizer, 329.
Lefebvre, F., Green water, 192.
Lefévre, R., Agricultural works, 261.
Lefort & Chapleau, Watchman detector, 342.
Lefterimo, Aposthol, Honey, 312.
Legaie, J. B., Cariole, 383.
Legarretta, A., Cereals, 268.
Legendre, Boots, 197.
Legueurdji, Miss, Lace, 301.
Lehigh Iron Co., Iron ore, 49; Flux, etc., 57.
Lehigh Slate Co., Slate, 52.
Lehigh Valley Iron Co., Ore, 50; Iron, 57.
Lehigh Whetstone Co., Whetstones, 55.
Lehigh Zinc Co., Ore, 47; Zinc, 57.
Lehmann, A., Directory, 351.
Lehmann, H., Gloves, 204.
Lehmann, N., Chromos, 211.
Lehmann & Wentzel, Designs, 352.
Lehnert, C., Cymbals, 333.
Lehnert, H. G., Instruments, 333.
Leibrandt & McDowell Stove Co., 375.
Leidy, Francis D., Soaps, etc., 102.
Leighton, Chas., Shirt, 124; Buttons, 127.
Leiner, M., Instruments, 135.
Leinier, Moritz, Brushes, etc., 128, 142.
Leippe, J. A., Shafts, 379.
Leipsic Gazette, Newspapers, 348.
Leirens-Eliaret, Thread, 216.
Leitao & Irinao, Jewelry, 288.
Leite, F. de Paula, Salt, 283.
Leite, T. J., Yarns, 285.
Leizirias Co., Salt, 283.
Leja, J., Thermometer, 363.
Lejeune, Vincent H. J., Woolen stuff, 217.
Lellian, Ernesto, Magnetic iron, 82.
Lemaire, Eye glasses, 345.
Lemarchand, Mr., Cloves, 181.
Lemas, J. A. de, Minerals, 82.
Leme, D. R. P., Canes, 254.
Lemerre, A., Books, 343.
Lemes, R. Z., Cotton goods, 253.
Lemière, A., Salt, 178.
Lemos, Abraham, Minerals for paints, 83.
Lemos & Autunes, Pulley blocks, 290.
Le Moulnier, Pavement, 345.
Lendenberg, L. B., Lime, 82; Salt, 252.
Lenègre, A., Albums, 198.
Lennon, H., Plow, 165.
Lennon, T., Ropes, 155.
Lenoir & Forster, Apparatus, 351.
Lenoir, P., Corsets, 196.
Lenzkirch Joint Stock Co., Clocks, 349.
Leon, Provincial Institute of, Marbles, etc., 90.
Leon Ternel, José, Salt, 270.
Leon y Raigon, A., Pitchers, 272.
Leonard & Ellis, Cylinder oil, 103.
Leonardo, Q., Silver, 282.
Leone, F. M., & Lemos, P. L., Minerals, 82.
Leonhard, Theo., Beeswax, 128.
Leoni, A., Costumes, 234.
Leonisaki, D., Brandy, 313.
Leonora Plantation, Rum, 175.
Leontieff, Furniture, 316.
Leopoldshall Chemical Factory, Salts, 201.
Lepage, F. J., Essences, 252.
Lepanto, Commission of, Gold dust, 93.
Lepeshkin, N., Chemicals, 315.
Lepowski, E., Rolling chairs, 205.
Leresche-Golay, Jules, & Co., Files, 358.
Lerl, G., & Sons, Photograph frames, 208.
Leroux, G., Millstones, 73.
Leroy, A., Dictionary, 343.
Leroy, P., System, 343.
Leroy, P. N., Books, 343.
Lerra, M. J., Oil, 264.
Lesar, W., Table, 169.
Lescanor, Agriculture, 267.
Lesimple, A., Books, 348.
Lesjöfors Iron & Steel Co., Ores, 78; Iron, 79.
Lesley, A. M., Furnace, 375.
Lesley, A. V., Delaware, 12.
Leslie, F., New York, 13.
Leslie, R., Clay, 73.
Lesne, Capt., Judge, Gr. XVI., 17.
Lesser, G., & Co., Preparations, 202.
Letang, T. I. B., Moulds, 194.
Le Tellier, A., Filters, 359.
Lethbridge, G. L., Wool, 159.
Lette Association, Placard, 349.
Letterstedt & Co., Wheat flour, 170.
Leuenberger & Son, Clocks, 355.
Leukart, Books, 348.
Leur, W., Lead, 220.
Leurant, Emile, Cylinder, 215.
Leusinger Sons, Blank books, 254.
Leuwarden, Association for Improvement of Workmen's Buildings, Drawings, 361.
Leuzinger, R., Atlas, 356.
Leuzinger & Sons, Articles for museums, 366.
Levallée, N., Limestone, 72.
Levasseur, E., Judge, Gr. XXV., 19.
Level, Leon, Gloves, 217.
Level, Medical systems, 343.
Lever Spring Bed Co., Spring bed, 110.
Levesque, V., Metrical system, 343.
Levilion, Costumes, 196.
Levy, I., Imitation jewelry, 197.
Lewenhaupt, Count C. M., Toys, etc., 362.
Lewenhaupt, Count Sten., Wood pulp, 227.
Lewis, A. E., Mississippi, 13.
Lewis Bros., Wheat, 158.
Lewis, J., Quartz, 166; Curling stone, 340.
Lewis, John I., Milton carpets, 150.
Lewis, John T., & Bros., Acids, paints, 102.
Lewis, Levi, Lime, limestone, 72.
Lewis, Magnetite, 71.
Lewis, Oliver, & Phillips, Iron, 58; Hardware, 142.
Lewis & Whitty, Knife polish, 65; Oil, washing powder, 160.
Lewis, Willard, Carpet lining, 122.
Lewiston Mills, Tickings, 116.
Lewy, F., Safe, 128.
Lexington & Carter Co., Mining and Mfg. Co., Coal, 51.
Leykauf, George, Burnishing stones, 206.
Leynen-Hougaerts, J. A. H., Vestments, 217.
Leypoldt, F., Publications, 327.
Leyser, W., Polished stones, 204.
Leyte, Provincial Board of, Fabrics, 281.
Liais, E., Surveys, 367.
Liardet, H. E., Feathers, 155.
Libalon, Governor of, Fabric, 281.
Libe, John C., Yeast powder, 102.
Liberg, B. & O., Cutlery, 227.

Lichtenfelder, Seats, 194; Tools, 199.
Licot, F., Book, 359.
Lie, P. A., Silver work, 230.
Lien Shing, Furniture, 241; Jewelry, 242.
Lienard, F., Plan of Paris, 346.
Ligero, M., Stearine, 265.
Lighte & Ernst, Pianos, 334.
Ligory E., Ores, 96; Copper, 97; Sulphate, 291.
Lihue Plantation, Sugars, 251.
Liking Iron Co., Ores, 48; Iron, 59.
Likly, McDonald, & Rockett, Gun case, 129.
Liljeholmen Stearine Mfg. Co., Acid, 225.
Lilley, M. C., & Co., Masonic goods, 142.
Lillo, F., Towels, 258.
Lilpop, Rau, & Loevenstein, Steps, 319.
Lima, Botanical Garden of, Plants, 264.
Lima, C., Plaited straw, 284; Straw hats, 287.
Lima, C. A. de, & Calarans, J. M. de, Artificial flowers, 254.
Lima, F., Girths, 254.
Lima, G. A. E., Pharmacies, 283.
Lima, Municipal School of, Photographs, 263.
Limbourg Scientific & Literary Society, 359.
Limet, Lapareillé, & Co., Files, 199.
Limousin & Co., Capsules, 192.
Limousin, Machine, 199.
Linares, Clemente, Iron ore, 87.
Linares, Corp. of, Building stones, 90.
Linari, Eng. Antonio, Plan for a tunnel, 365.
Linck, J., Photographs, 358.
Lincoln, Bennett, & Co., Hats, 151.
Lincoln Furnace, Iron ores, 48; Iron, 58.
Lindahl, J., Apparatus, 363.
Lindahl, J. F., Matches, 225.
Lindberg, Lars, Iron ores, 78.
Lindblad, M. A., Types, 362.
Linde, F., Cosmetics, 315.
Lindemann, Carl, Corks, 206.
Lindemann, G., & Co., Potash, 201.
Linden Steam Mills, Velvet, 203.
Lindenbauer, O., Chemicals, 201.
Linderman, G. B., Coal, 51.
Linderoth, G. W., Clocks, 363.
Lindhen, H. A. W., Letter box, 363.
Lindley, G. W., Wool, 183.
Lindley, Robert C., Stones, 61.
Lindsay & Anderson, Terra-cotta, 146.
Lindsay & Blakiston, Binding, 132; Books, 328.
Lindsay, J. A., Gold ores, etc., 70.
Lines, Mrs., Lace, 174.
Linglin, E., Regulator, 359.
Lins, Lemenha, Guitars, 367.
Lintelo, A., Clocks, marble slabs, 216.
Linthicum, A. V., Arkansas, 11.
Linthicum, W. O., Judge, Gr. X., 17.
Linville, J. H., Bridges, 334.
Lion & Guichard, Barometers, 344.
Lipman, Hyman L., Machines, 130.
Lippincott, C., & Co., Apparatus, 55.
Lippincott, J. B., & Co., Blank books, 132; Publications, 326.
Lippitt, H., Rhode Island, 14.
Lippitt Woolen Co., Cassimeres, 121.
Lipscombe, F., Seeds, 182.
Lisbon, Board of Public Forests, Oils, 283; Maps, 369.
Lisbon Central Jail, Mats, 284; Brushes, 289.
Lisbon, Dept. of Finance, Statistics, 363.
Lisbon, Dept. of Public Works of, Candles, 283; Earthenware, 284; Cottons, 285.
Lisbon Dyeing & Cotton Printing Co., Lime, 95; Prints, 285.
Lisbon, House of Correction of, Mats, 284.
Lisbon National Printing Office, Books, 369.
Lisbon Spinning & Weaving Co., Yarns, 285.
Lithgow Valley Iron & Coal Co., Iron, 64.
Litoff, K., Costumes, 318.
Litografiska Stock Co., Playing cards, 227.
Litolu Nakous Oglon, Silk, 297.
Little, A. R., Finance, 10.
Little, E. W., U. S. Commissioner, 9.
Little, T. W., & Co., Cloth, 149.
Littleton Saranac Buck Glove Co., Gloves, 126.
Liver Alkali Works Co., Soda, 144.
Liverpool Spun Oakum Co., Oakum, 153.
Ljungström, J. P., Instruments, 363.
Llacer, A., Cloth, 274.
Llamas, G. de, Balsam, 280.
Llanos de Pedro, J., Cloth, 275.
Llanos, J. R. de, Poncho, 256.
Llanos Moreno, S., Cloth, 275.
Llanos Nuñez, P., Cloth, 275.
Llanos, R. P. Fr., A., Minerals, 93.
Llanos Valle, S., Cloth, 275.
Lledó y Gomez, Cipriano, Gypsum, 90.
Llevát & Son, A., Mosaic, 272.
Lligé & de Planell, Iron ore, 87.
Llofriu, M., Flour, 271.
Llopis & Son, Cloth, 274.
Lloyd Bros., Fixtures, 113.
Lloyd, E., Maps, 321.
Lloyd, H. C., Magnetite, 70.
Lloyd, Supplee, & Walton, Machines, 115; Locks, 138.
Lobao & Ferreira, Jewelry, 288.
Lobato, J., Book, 267.
Lobb, J., Boots, 151.
Lobmeyer, I. & L., Glass articles, 207.
Lobo, Tristan, Chalk clay, 85.
Local Com., Cape Good Hope, Costumes, 169, 170.
Locati, A., Cabs, 383.
Locati, Cav. A., Carriages, 235.
Locher Bros., Embroideries, 213.
Locke, J., Hubs, 382.
Lockwood, A. D., Judge, Gr. VIII., 16.
Lockwood, Brooks, & Co., Inks, 104; Telegraph, 331.
Lockwood, C. N., & Co., Lamps, 379.
Lockwood, Crosby, & Co., Books, 338.
Lockwood, G. R., Books, 326.
Lockwood, W. P., Model of gold nugget, 70.
Loder, A., Wool, 159.
Lodholz, F., Jewelry, 204.
Lodi, G. B., Gloves, 234.
Loeber, G., Stationery, 221.
Loeff, P., Books, 349.
Loeflund, E., Chemicals, 201.
Loera, Frenometry, 267.
Loesch, Z., Work box, 253.
Loewenberg, H., Imitation leather goods, 203.
Löfvenskiöld, Salomon, Ores, 78; Iron, 79.
Logan Furnace Co., Ores, 49; Iron, 58.
Logan, Y. E., Idaho, 12.
Logansport Mfg. Co., Spokes, 379.
Lohmann & Söding, Steel, 75.
Lohner & Co., G., Carriages, 211.
Lohr, A. R. von, Models, 352.
Lohse, G., Chemicals, 201.
Loiseau, A., Son, Toys, 198; Apparatus, 345.
Loix, F., Paper, 278.
Lolhnstein, Emilio, Galena, 88.
Lomas, Adam, & Son, Flannels, 189.
Lombard, Thos. C., Galena, 47.
Lommen, C. H., Glass, 220.
Londley, Building sandstone, etc., 72.
Longaker, H. D., Anatomical specimens, 135.
Longmire, T., Flax, 164.
Lonitz, H., Jars, 202.
Lonsdale Co., Sheetings, 116.
Lönseth, Fred., Millstones, 80.
Lontue, Department of, Wood, 262.
Lookootin, A., & Son, Papier-maché, 320.
Loomis, B., Connecticut, 11.
Loonen, F., Brushes, 198, 200.
Loones, History, 343.
Looper, de Haiden, & Co., Glass, 215.
Lopatin, P., Calico, 316.
Loper & Doughten, Naval stores, 103.
Lopez de Codes, Tomas, Guano, 270.
Lopez do Campo, A., Sieves, 284.
Lopez, F., Rings, 258.
Lopez, Feliciano, Clay, 84.
Lopez, F. J., Saltpetre, 252; Cloth, etc., 253.
Lopez, F. J. A., & Co., Bituminous schist, 82.
Lopez, J., Matting, 273.
Lopez, José M., Mineral water, 91; Iron, 92.

Lopez Losada, A., Ferruginous waters, 91.
Lopez, Miguel, Cords, 269.
Lopez, S., Tables, 233.
Lopez Seoane, Victor, Stones, 90.
Lopez, Simon, Gypsum, 90.
Lorck, C. B., Books, 348.
Lord, J. E., & Co., Spring-bed bottom, 111.
Lordello Woolen Mfg. Co., Cloths, 286.
Lorenz Bros., Perfumes, 105.
Lorenz, Gustav, Basket ware, 206.
Lorenzen, L., Bitter cordial, 224.
Loreta, Pupils of Mrs., Engraving, 267.
Loreto, Department of, Nuts, 264.
Loreto, Mrs., Embroidery, 266.
Lorilleux, Ch., Inks, 193.
Lorin, A., Glass, 194.
Lörincz, S., Boots, 208.
Loring, E., Judge, Gr. IV., 16.
Loring, G. B., U. S. Commissioner, 9.
Lortie, Bookbinding, 199.
Lory-Delaet, P., Writing method, 359.
Losada, L., Teeth, 278.
Loser Bros., Mineral water, 76.
Loth, E., Straw goods, 316; Flowers, 318.
Loth, Henry, Folding table, 109.
Loth, John Thomas, Educational books, 338.
Lott, L., Chromotypographs, 211.
Louderbach, E., Shades, 113.
Louis, J., & Bro., Oilstones, 55.
Louis, Julius, & Co., Oilstones, 139.
Louisson, T. B., Iron ore, 63; Paint, 155.
Lousbergh, V., Colors, 220.
Louvet, A., Support, 344.
Lovatt, W. N., Porcelain, 241.
Lovegrove, W., Maize, 158.
Lovell, F. H., & Co., Burners, 115.
Lovell, G. H. & M. F., Ear brush, 142.
Lovell, J. P., & Sons, Revolvers, 133.
Lovell Printing & Publishing Co., Books, 342.
Lover Manufacturing Co., Matches, 225.
Low, Son, & Haydon, Soaps, 145; Brushes, 153.
Lowe, A. C., Gilt bouquet tables, 112.
Lowe, A. H., Wool, 159.
Lowe, N. M., Hygrometer, 329.
Lowe, S. B., Tennessee, 14; Ores, 49; Map, 60.
Lowell Bleachery, Cotton goods, 117.
Lowell Carpet Co., Carpets, 122.
Lowell Hosiery Co., Hose, 125.
Lowell Manufacturing Co., Lastings, 122.
Lowenstein, A. R., Shoes, 209.
Lowentrant, P., Goods, 115; Tools, 138.
Lower Silesian & Markish R. R., Models, 206.
Lowerre & Tucker, Fluting machines, 115.
Lowery & Williams, Underwear, 123.
Lowman, J., Screen, 220.
Lowry, R., U. S. Commissioner, 9.
Lowthrop, Francis C., Photographs, 334.
Loyd, Engineer, Plans, 367.
Lozano, J. M., Treatise, 267.
Lucas, B., & Co., Flannels, 121.
Lucas Bros., Cloth, 203.
Lucas, John, & Co., Paints, 104; Glass, 108.
Lucenqui de Pimentel, Pictures, 277.
Lucy Furnace Co., Ores, 47; Pig metal, 56.
Lüder & Leidloff, Chemicals, 201.
Lüderitz, C. G., Books, 348.
Ludovic & Vallauri, Curtains, 292; Covers, 297; Fabrics, 298; Costumes, 301; Label 304; Copper pincers, 305; Portrait, 371.
Ludwig, Schmidt, & Mohl, Enamel, 136.
Lugo, Prov. Com., Pottery, 272; Fabrics, 274.
Lugsden & Barnett, Saddles, 191.
Lukasch, J., Fancy goods, 210.
Lukin & Gresley, Newspaper, 179.
Lummerzheim, M. H., & Co., Roofing, 215.
Luna, Ramon, Figure, 276.
Lundholm, C. A. V., Organ, etc., 363.
Lürssen, Carl, Corks, 206.
Lusignan Plantation, Rum, 175.
Lussy, M., Music method, 353.
Luthringer, Silk, 196.
Luttensee, George, Stone, 80.
Lutton, Am., Chasubles, 196.
Luttringer, Ch., Frames, 194.
Lux, Cl., Bronze articles, 209.
Lyell & Gowan, Ore, 68.
Lyford, S. C., Judge, Gr. XVI., 17.
Lyman Bros. & Co., Oil, 187.
Lyman, Clare, & Co., Oil, 187.
Lyman, F. S., Saddle, 250; Leather, 251.
Lyman Mills, Flannels, etc., 118.
Lyman, S. J., Perfumery, 187.
Lynch & Co., Instruments, 153.
Lynch, J., U. S. Commissioner, 9.
Lynex, R., Wire, 378.
Lyon, G., Soda water, 65; Sauce, 164.
Lyon, Sylvanus, Locks, 142.
Lyon, Washington, Calculating table, 339.
Lyonnais, T., Violin, 342.
Lyons, Cottier, & Co., Window, 157.
Lyons, Wm., Writing ink, 145; Wax, 152.

M.

Maas en Zonen, A. E., Nets, 220.
Maass, T., Wigs, 318.
Mabie, Todd, & Bard, Toothpicks, 128; Pens, 130.
Mabille, A., Books, 169.
Mabille, Valere, Manufactured iron, 77.
MacAndrews & Co., Liquorice, 271.
Macarthur, Sir W., Woods, 158.
Maccagnani, Ulisse, Earth, 81.
Macdonald, Field, & Co., Monument, 61.
MacDonald, J. L., Wool, 159.
MacDowell, N., Minerals, 83.
Machado, Julio Rodrigues, Braids, 287.
Machado, M. P., Straw fabrics, 284.
Machado, R., Hat, 257.
Machen, W. B., Kentucky, 12.
Macia & Co., Tin bar, 92.
Macia & Co., D., Tin ore, 88.
Maciel, D., Sulphurous water, 82.
MacIntosh, J., Doors, 147.
Mack, E., Chemicals, 201.
Mackay, A., Maize, 180.
Mackay, Angus, Books, 179.
Mackay, John, Varnishes, 145; Food, 153.
Mackenzie, Sugar, 180.
Mackeown, Bower, Ellis, & Co., Drugs, 102.
Mackey, T. H., Wood, 175.
MacKinlay, A. & W., Books, 190.
MacKinlay, A. & W., & Co., Map, 342.
MacKinnon, J. C., Iron ores, 71.
Mackintosh & Oakes, Kaolin, 64.
Madero, Cirilo, A., Stone, 90.
Madine, Mr., Cigars, 181.
Madini, A., & Co., Bags, 233.
Madrazos & Co., Tobacco, 268.
Maelen, J. van der, Books, 359.
Maes, G., Fabrics, 195.
Maffei, P., Cards, 278.
Mafra, M. C. G., Ceramics, 284.
Magalhaés, A. M. Barboza de, Laces, 288.
Magalhaes, F. T. S., Argil, colored clay, 82.
Magalhaés, Francisco T., Linen fabric, 286.
Magalori, H., Grammar, 266.
Magarey, T., & Co., Flour, 167.
Mage, senior, Wire, 200.
Magee Furnace Co., Furnaces, etc., 376.
Maghlé, Government of, Iron, 96.
Magnetite Iron Co., Ores, 47; Iron, 56.
Magnus, G., & Co., Billiard balls, 205.
Maguet, Stationery, 198.
Maheiro, L., Judge, Gr. XXVI., 19.
Mahillon, C., Instruments, 359.
Mahler, M., Furs, 129.
Mahmoud Agha, Boots, 301; Honey, 312.
Mahmoud Agha Djiri, Garments, 299.
Mahmoud Cozzi, Tissue, 293.
Mahmoud Deguiz, H., Coverlets, 299.
Mahmoud, E., Fabric, 293.
Mahmoud, Hadji, Calicoes, 194; Boots, 301.
Mahmoud Kabali, Decanter, 305.
Mahmoud, M., Hair, 314.

Mahmoud, T., Cap, 301.
Mahmouda, H., Felts, 295.
Mahn, L. H., Base balls, 129.
Mahoning Valley Cent. Assn., Ores, 49; Iron, 55.
Mahony, Tobacco, 180.
Mahony, Martin, & Bros., Tweeds, 149.
Maia, Ferreira, & Co., Pharmacies, 252.
Maimoun, Wool, 314.
Maine, Educational Dept. of, 323.
Maine Red Granite Co., Granite, 53.
Maine Slate Co., Roofing slate, 52.
Maineri, Carlo, Geographical map, 365.
Mainetti, F., Carriage, 235.
Maino, Antonio, Books, 365.
Mains Manufacturing Co., Lamps, 115; Dice box, 128; Tester, 330.
Maiquez y Tomás, T., Fabrics, 275.
Maires & Reed, Iron chairs, 111.
Mairlot & Heuse, Gun barrels, 218.
Maison, Rustique, Books, 343.
Maisonneuve & Co., Books, 343.
Maitrepierre, Books, 343.
Maitrise, St. Pierre, Scholars' work, 342.
Maize & Schwartz, Uniforms, 123.
Majalhaes & Moniz, Books, 369.
Majervsky, T., & Stochelsky, M., Coal, 98.
Majevski, T., Drops, 319.
Majira, Mrs. G., Paintings, 267.
Majolini, F., Scale, 359.
Major, Dr., Nutmegs, 172.
Makboubi, Towels, 299.
Makee, J., Sugars, 251.
Maki Yani, Comfitures, 312.
Maktès, Bagdo, Sheeting, 293.
Maktès, Heron, Saddle cloth, 305.
Maktis, Extracts, 291, 292; Manna, 306.
Makudsu, Kozan, Porcelain, 249
Makudzu, K., Vases, 245.
Mala Noche Company, Minerals, 86.
Malaga, Corps of Mining Engineers, Stone, 90; Slag, 92.
Malaise, C. H. G. L., Chart, 359.
Malcher, A. J., Straw goods, 253.
Malcolm, R., Harness, 191.
Malcom & Stevenson, Fruit extracts, 105.
Malfait, F., & Co., Clocks, 344.
Malhada Mining Co., Copper ore, 94.
Mali, Henry W. T., Fabrics, 195.
Mallah Ahmed, M., Fabrics, 298.
Mallet, J. W., Judge, Gr. III., 15.
Malligand, E. D., jr., Tester, 344.
Mallory, R., U. S. Commissioner, 9.
Mallory, Wheeler, & Co., Locks, 141.
Malmö Porcelain Mfg. Co., Porcelain, 225.
Malmö Wood Pulp Mfg. Co., Pulp, 227.
Malmö Woolen Mfg. Co., Yarn, 226.
Malmsjö, J. G., Pianos, 363.
Malone, Duny, California, 11.
Maltby, Curtiss, & Co., Nail puller, 137.
Maltese, Felice, Book, 365.
Maltète, Toys, 198.
Malvehy, B., Silk, 275.
Mame, A., & Son, Book, 343.
Manapola, C., Carpet, 296.
Manceaux, H., Books, 359.
Manchester Mills, Prints, 119; Fabrics, 121.
Mandené, Diarbekir, Ore, 96.
Manderson, C. F., Nebraska, 13.
Maneza, Government of, Flax seed, 310.
Mangeri, A., Cloths, 233.
Manhattan Brass Co., Brass, 59.
Manhattan Piano Forte Co., Pianos, 333.
Manik, H., Skin, 311.
Manila Economical Society, Arms, 282.
Manila, Provincial Board of, Hats, 281.
Manilha, F. dos S., Stones, 95; Slates, 289.
Manly, M. M., & Son, Rails, 139; Railing, 378.
Mann, Wm., Blank books, 131.
Manning, Bowman, & Co., Nickel ware, 113.
Manol Veledidinko, Basket, 303.
Manoli Boyadjaki, Barley, 308.
Manoli Calergui, P., Tobacco, 309.
Manoli, L., Pipe, 371.
Manoli Musé, Vinegar, 313.
Manoli Prizi, Brandy, 313.
Manoli Toraki, Miss C., Crochet, 301.
Manouk, Plate, 292; Chain, 302.
Manouk, Y., Tobacco, 310.
Mansfield Shire Council, Marble, 65.
Mansilla, Manuel, Quartz, 83.
Mansour, H., Cotton, 293; Sponges, 310.
Mansuy-Dotin, J., Enamels, 194.
Mantero & Asuero, M., Boots, 276.
Mantilla, C., Counterpane, 256; Shawls, 258.
Mantilla, F., Embroidery, 258.
Manual de la Vega, Wire bust, 263.
Manuel, Antonio da S., & Sons, Shot, 289.
Manuel, C., Lessons, 266.
Manuel, J. de L., & F., Velvet, 287.
Manuel, Leita P., & Bro., Pottery, 284.
Manufactory of Arms, Cartridges, 278.
Manufactory of Side Arms, Arms, 278.
Manufacturers' Joint Stk. Co., Statutes, 360.
Manuvilling, J. J., Matches, 188.
Manville, B., & Co., Rockaways, 381.
Manville Co., Cotton goods, 117.
Manzanares, Josefa, Embroideries, 263.
Manzano, Juan, Charcoal, 93.
Maorad, Benito, Manganese, 89.
Maplestone, C., Wines, 164.
Marabella, District of, Steatite, 91.
Marach, Government of, Mineral waters, 97.
Marais, H. H., Brandy, 171.
Marais & St. Marie Paper Mills, Paper, 198.
Maralha, P., Pitcher, 284.
Maranesi, G., & Masetti, B., Ink, 232.
Maranhao, Prov. of, Pharmacies, 252; Cups, 254.
Maravedo, S., Military manœuvring, 267.
Marbaix, Auguste de, Essential oil, 215.
Marbeau, Plans, etc., 346.
Marble, Jerome, & Co., Indigo blue, 105.
Marca, S., Soap, 271.
Marcal, J. L., Bricks, 284.
March, Brownback, & Co., Ranges, 375.
Marchand, I., Furniture, 194.
Marchand, L. L., Bronzes, 194, 199.
Marchesini, P., Hats, 234.
Marchini, C., Straw works, 235.
Marco, Spoons, 305.
Marcotte, L., & Co., Furniture, 110.
Mardili, O., Cotton, 313.
Marfà, Cayetano, Cotton, 276.
Marga, Eugene, Chimney piece, 194.
Margani-Valenti, G., Medicines, 235.
Margarido, M. d'O., Bottle, matting, 284.
Margues, José Antonio, Umbrellas, 288.
Maria, Joaquim, Tree, 288.
Maria, José, Toothpicks, 288.
Maria & Silvia, F., & Gonçalves, Hats, 287.
Marie, François, Arrowroot, 178.
Marie, G., Woolen coverlet, 296.
Marie, Gauze, 299.
Marie, Madame, Ribbon, 295; Carpet, 296; Purses, 303.
Mariel, H. de, Book, 343.
Marietta, Pittsburg, & Cleveland Railway, Minerals, etc., 49.
Marin, J., Judge, Gr. XXVIII., 19.
Marin, M., Water, 91; Essences, 270.
Maring, W., Plan, 356.
Marinha Grande Royal Glass Mfy, 284.
Marini, Marq. P., Olive oil, 232.
Marion Blind Co., Window shades, 115.
Marionga, Counterpane, 298.
Maripa, Golopo, Cloth, 295.
Mark, Raisins, 312.
Mark, G. L., Brandy, 313.
Markham, A., Pyrolusite, 71.
Markora, S., Cheese, 310.
Markowitsch & Scheid, Trinkets, 209.
Marks, Arrowroot, 180.
Marks, A. A., Limbs, 135.
Marks, A. F., Periodical, 372.
Marks, T., & McKellar Bros., Silver ores, 70.
Marling & Co., Woolens, 149.
Marlor, T. L., Connecticut, 11.

Marmolejo, Corporation of, Water, 91.
Maroli, Crape, 299.
Maroquin, Morocco, 311.
Marouli, Mrs. G. S., Gauze, 299.
Marquar, Apron, 294.
Marquart, L. C., Chemicals, 201.
Marques, J. da Rosa, Earthenware, 284.
Marques, Manuel Martius, jr., Jewelry, 288.
Marques, P. A., Earthenware, 284.
Marquise Iron Co., Pipes, 199.
Marrel, J. E., Clocks, 344.
Marrin Bros., Parlor organ, 342.
Marrogui, J. M., Catechism, 266.
Marsh & Co., Gypsum, 55.
Marsh, Jas. P., & Co., Health lift, 336.
Marshall, B. F., jr., Book, 326.
Marshall Bros. & Co., Iron work, 143.
Marshall & Co., Sewing threads, 149.
Marshall, J., Ale, porter, 159.
Marshall & Slade, Wool, 180.
Martell, E., Judge, Gr. IV., 16.
Marter, F. B., Chest, 190.
Marthaus, A., Felt goods, 203.
Marti de Detrell, Cushion, 277.
Martilaro, Mar. C., Olive oil, 232.
Martin & Bros., Cover, 279.
Martin, C., Polish, 73.
Martin, C. F., & Co., Guitars, 332.
Martin, Ch., & Co., Watches, 355.
Martin, Charles, Crucibles, 187.
Martin, D., Cloth, 275.
Martin, F. O., Granite, 53.
Martin, G., Sugar, 158.
Martin, H. F., Slate mantels, 52.
Martin, J., Wines, 168.
Martin, J. A., U. S. Commissioner, 9.
Martin, J. B., Silks, 196.
Martin, L., Sheet iron, 199.
Martin, L., & Co., Lampblack, 104.
Martin, P. J., Malt, ale, 164.
Martin, R., Cutters, 154.
Martin, W. H., Whips, 151.
Martin, W. H., & Co., Roofing, 378.
Martinelli & Bro., Marble fixtures, 253.
Martines, F., Olive oil, 232.
Martinez, A. S., Cup, 256.
Martinez, Benito, Trunks, 277.
Martinez, C., Pharmacies, 278.
Martinez, D., Bag, 281.
Martinez de la Forre, Cigars, 268.
Martinez, Del Rio, Book, 267.
Martinez de Santa Maria, Iron ore, 87.
Martinez, F., Silk, 275.
Martinez, J. M., Wines, 268.
Martinez, Joaquin, History, 267.
Martinez la Llana, Work basket, 273.
Martinez, Lopez F., Paper, 278.
Martinez, M., Fabrics, 280.
Martinez, R., Grapes, 277.
Martinez, R., Silk, 276.
Martinez, Victor, History, 267.
Martinotti, L., Furniture, 233.
Martins, A. C., Pottery, 284.
Martins, Jeronymo, & Bro., Toothpicks, 288.
Martins, Jeronymo, & Son, Toothpicks, 288.
Martisheff, W., Indicator, 373.
Martius, W., Gloves, 209.
Martorana, Paladino S., Sea salt, 231.
Marunaka, M., Vases, 249.
Marvin Bros. & Bartlett, Cod-liver oil, 103.
Marvin's Safe Co., Safes, 112; Locks, 141.
Marx Bros., Scissors, 139.
Marx, G., Judge, Gr. IV., 16.
Marx & Rawolle, Glycerine, etc., 103.
Maryland, Educational Dept. of, 323.
Marzi Bros., Olive oil, 232.
Mas, M., & Son, Fabrics, 273.
Mas, Ramon, Soda, 270.
Masbate, Provincial Board of, Baskets, 280.
Masbate, Prov. Com. of, Gold dust, 93.
Mascarenhas & Bros., Cotton goods, 253.
Maschado, M. A., Horse-hair goods, 253.
Maseurand Bros., Pearls, 197.
Mashimidzu, Zoroku K., Vases, 244.
Maslin, T., West Virginia, 14.
Masloum Agha, Morocco, 311.
Masoliver, Bartolomé, Chalk, clay, 91.
Masoliver Bros., Silk, 276.
Mason & Barry, Ores, 94; Gold, silver, plans of mines, 95.
Mason, C., Illinois, 12.
Mason, C. F., & Co., Cassimeres, 120.
Mason & Co., Engraving, 130.
Mason & Hamlin Organ Co., Organs, 332.
Mason, J. L., Soap cup, 374.
Masonic Publishing Co., Books, 327.
Massachusetts, Commonwealth of, Educational exhibit, 324.
Massachusetts Cotton Mills, Drillings, 117.
Massachusetts Institute of Technology, 322.
Massaguer & Lledó, Fans, 277.
Masser, H. B., Coffee roaster, 376.
Massing Bros. & Co., Silk plushes, 204.
Massmann, F., Gold cornices, 202.
Masson, G., Books, 343.
Massoudjou, Ochre, 292; Bark, 306.
Masury, J. W., & Son, Painting, 104.
Mata, Mrs. J., Towel, 266.
Mataix, C., Cloth, 274.
Mateos y Morato, Sulphate of lead, 87.
Mather's, Geo., Sons, Inks, 104.
Matheson & Gilice, Hematite ore, 71
Matheu, Antonio, Spanish white, 91.
Mathijsen, A., Bandages, 221.
Mathushek Piano Mfg. Co., Pianos, 334.
Matié, Lady, Fabric, 298.
Matier, Henry, & Co., Printed linens, 149.
Matile, H. L., Watches, 355.
Matlack, H. S., Paper hanging, etc., 111.
Matlos, Antonio José de, Basket work, 289.
Matros, E., Blanket, 296.
Matson, J. S. B., Ornaments, 328.
Matsumoto, T., Paper, 247.
Matsuo, I., Bazar, 248.
Matsu-zaki, S., Soap, 244.
Mattaldi, E., Harness, trunk, 259.
Matteissen, N., Potash, 315; Medicine, 319.
Matthes, W. E., Ammonia, 220.
Matthews, E., & Son, Tiles, 146; Windows, 147.
Matthews, F. L., U. S. Commissioner, 9.
Matthews, John, Terra-cotta, 145.
Matthias, Mrs. C. E., Umbrellas, 128.
Matthiessen & Hegeler Zinc Co., Zinc, 59.
Mattmann Bros., C. & J., Pastry, 214.
Mattos, F. C. Perreira de, Flails, 290.
Mauch, D., Wine, 180.
Mauke, W., Book, 348.
Maurer, Henry, Tiles, 107.
Maurer & Höfler, Instruments, 349.
Mauser & Haid, Stone, 54.
Mauvernay & Co., Silks, 196.
Mavrillis, E. E. G., Silk, 297.
Maw & Co., Terra-cotta, 146.
Mawson, Ed. S., & Sons, Skins, 129.
Máximo, I. & E., Flowers, 282.
Maxton, R., & Co., Laces, 197.
May, J. M., Silk, 159.
May, J. P., Models, etc., 342.
May, James S., Clothing, 189.
Mayall, Miles, Linings, 122.
Mayaud Bros., Ornaments, 194; Medals, 198.
Maydole, D., & Co., Hammers, 137.
Mayer & Co., Linen goods, 203.
Mayer, E. H., Books, 348.
Mayer, G., Gloves, 240.
Mayer, J. W., Cutter, 381.
Mayer, M., Envelopes, 205.
Mayer & Meltzer, Galvanic batteries, 339; Instruments, cutlery, 153.
Mayer, Moses, Collection of coins, 336.
Mayer's Art Institution, Statues, 202.
Mayet-Tissot, M., Regulators, 344.
Maylasky, S., Girth, 254.
Maynard & Noyes, Writing ink, 105.
Mayo, M. C., Plane, 138.
Mazalaki, Dimitri, Oil, 291.
Mazaroz, R., Furniture, 194.

Mazarrasa, G., Basket, 273.
Mazloum Aghiah, Pastes, 312; Design, 371.
Mazullo, Cav. Agostino, Rock salt, 231.
Mazzullo, Cav. L., Olive oil, 232.
McAdam, Miss V., Baskets, 184.
McAlpine, Wm. J., Engineering exhibits, 335.
McAusland, J., Stained glass, 188.
McBride, R., & Co., Fabrics, 148.
McCallum, Iron ore, 64.
McCallum, Creas, & Sloan, Carpets, 122.
McClees, J. E., & Son, Chairs, tables, 112.
McClement Bros., Cards, 132.
McCloskey, Bro., & Co., Paints, 105.
McCollough Iron Co., Blooms, 56.
McCook, G. W., Ohio, 13.
McCormick, J., Alarm, 331.
McCormick, R. C., U. S. Commissioner, 9.
McCoy, Prof., Animals, 163.
McCoy & Roberts, Ranges, 375.
McCoy, W. W., U. S. Commissioner, 9.
McCrae & Co., Knit goods, 189.
McCrossan & Farr, Linen, 119.
McDermott, F., Globes, 301.
McDermott, J., & Bros., Buggy, 381.
McDermott, J., & Co., Stone, 54.
McDonald, Alex., Rustic rock work, 52.
McDonald, Charles, Drawings, 334.
McDonald, D., Photographs, 162.
McDonald, Geo. J., Stone, 72, 73.
McDonald, J., Pianos, 333.
McDonald, R. A., Coal, 71.
McDonald, R. N., Gypsum, 73.
McDonald, T. E., Wringer, 377.
McDonnell, Kline, & Co., Shirts, 125.
McDougall, J., & Sons, Sandstone, 73; Iron, 74.
McDougall, John, Ore, 71; Blooms, 74.
McDougall, S. T., Stoves, 375.
McEachem, Daniel, Chain, 141.
McElroy, P. J., Syringes, 136.
McEwan, J., Sideboard, 160.
McEwen, G., Jams, 167.
McFadden, G., Cornets, 333.
McFarlane, Peppers, 180.
McFarlane, A., Wool, 168.
McGee, J. G., & Co., Shawls, etc., 150.
McGie, James, & Co., Ore, 65.
McGill, Geo. W., Fasteners, 129.
McGill University, Calendars, etc., 342.
McGregor, D., Clay, 73.
McGregor, L., Sandstones, 72.
McHardy, D., Judge, Gr. XV., 17.
McIlroy, T., Furniture, 135.
McIlvain Bros., Drugs, 102; Facings, 107.
McIlwraith, J., Gas pipe, 161.
McIntire, J. F., Carriages, 381.
McIntire, S., Carriages, 381.
McKay, F. C. D., Rollers, 113.
McKay, William, Cement, 72; Ink, 187.
McKee, J. D., Woolen goods, 121.
McKeen, David, Coal, 71.
McKellar Bros., Ores, 70.
McKellar, D., Gold in quartz, 70.
McKenney, T., Relics, 328.
McKensie, Clothing, 189.
McKensie, J. F., & Co., Coffee, 163; Oatmeal, 164.
McKenzie, M., Locks, 190.
McKeone, Van Haagen, & Co., Soaps, 103.
McKesson & Robbins, Drugs, etc., 102.
McKinley, John, Chairs, 109.
McKnight & Rohrer, Rims, 379.
McLanachan, J., Wool, 183.
McLean, G. C., Oils, 251.
McLear, A., Carriage, 381.
McLear & Kendall, Phaeton, 380.
McLennan, Jos., Gypsum, 74.
McLintock, James, & Sons, Quilts, etc., 150.
McLoughlin Bros., Books, 326.
McMann, G. N., Clay, 73.
McMichael, M., Pennsylvania, 14.
McNally, J., Idaho, 12.
McNally, W. G., Stone, 53.
McNaught & Smith, Carriages, 154, 383.
McNeil, Irving, & Rich, Paper, 131.
McNeil, J., U. S. Commissioner, 9.
McPherson, A., Fibres, 180.
McPherson, T., Corn sacks, 161.
McPherson, T., & Co., Jute, 164.
McQuarrie, John, Marble, etc., 72.
McQueen, William, Coal, 71.
McTear & Co., Roofing, 148.
McVicar, George, Amethyst, 71.
Meadows, J. G., Salt, 173.
Mechanics' Institute, Platinum, 70.
Mechanics' Mills, Printing cloths, 118.
Mechanics' School of Arts, Wax seal, 340.
Mechlin Savings Bank, Reports, 360.
Meda, B., Calico, 233.
Medicine, Faculty of, Theses, 366.
Medina, Government of, Crystals, 96; Kena, 292; Plants, 304; Basket, 305; Dates, 307; Wheat, 308; Honey, 312.
Medina, Luis R., Whetstones, 85.
Medinaceli, Duchess, Sal gemma, 270.
Medinaceli, Duke of, Ferruginous water, 91.
Mee, C., & Co., Melodeon, 342.
Meeker, D. M., & Son, Iron bronzes, 141.
Meeker, N. C., Alternate, 9.
Meerens, C., Music, 359.
Meeus, J., Newspaper, 359.
Meeus, M. & J., Sulphur, 215.
Megargee Bros., Paper, 131.
Megata Kaian, Picture, 249.
Mehadani, A., Boots, 301.
Mehamed Bin Adoura, Tissues, 293.
Mehamed Mousseri, Caps, 301.
Mehamed Tourmae, Belt, 303.
Mehamoud Dekiz, Silk, 297.
Mehanedji, F., Brandy, 313.
Mehemed, Salt, 291.
Mehemed, A., Wool, 314.
Mehemed Abdul Hamid, Garments, 299.
Mehemed Agha, Coal, 97; Fabrics, 294, 295; Carpet, 296.
Mehemed Aiché, Paste, 312.
Mehemed Ali, Calicoes, 294; Boots, 301; Smokers' articles, 303.
Mehemed Ali Agha, Beans, 309.
Mehemed bin Abdoulah, Spoons, 305.
Mehemed, Cumin, 309.
Mehemed Dervich, Fan, 303.
Mehemed Djebali, Flour, 312.
Mehemed, E., Skins, 311.
Mehemed Effendi, Linen, 294, 295; Almonds, 307; Indian corn, 308.
Mehemed Emin, Fabrics, 298.
Mehemed Galz Effendi, Marshmallow, 307.
Mehemed, H., Vases, 292; Fabrics, 295, Carpet, 296; Clogs, 301; Peas, 309.
Mehemed, K., Skin, 311.
Mehemed Kirkit, Carpets, 296.
Mehemed, Larik, Saddle cloth, 305.
Mehemed, M., Boots, 301.
Mehemed, M., Hemp, 314.
Mehemed, M., Towels, 295.
Mehemed, Malatia, Paste, 312.
Mehemed, Mosul, Saddle bag, 304.
Mehemed Nablus, Drum, 371.
Mehemed, O., Leather, 310.
Mehemed Oglou Alichan, Carpets, 296.
Mehemed Ousta Hadji, Cup, 292; Jacket, 299; Ropes, 305; Sheets, 307.
Mehemed, Piseren, Soap, 291.
Mehemed Rechio, Pistachio nuts, 307.
Mehemed Seid, Beans, 309.
Mehemeda, Morocco, 310.
Mehemeda, Cus-Kuri, Rye, 308.
Mehemeda, Marach, Horse shoes, 97.
Mehemeda, N. du T., Fabric, 293.
Mehemet Agha, Sumac leaves, 306.
Mehr, G., Dials, 330.
Mehulourt, S., Coverlet, 296.
Meidel, F., Safes, 223.
Meier, J. C., Chemicals, 202.
Meighen Bros., Phosphate of lime, 74.
Méilot, A., Music method, 343.
Meinecke, A., Wisconsin, 14; Baskets, 380.
Meinhold, C. C., & Sons, Atlas, 348.

Meirelles, A. M. de, Salt, 283.
Meisel, C. J., Manuals, 354.
Meissner & Buch, Lithographs, 348.
Meissner, C. F., & Son, Papers, 205.
Meissner, O., Books, 348.
Mejias Moreno, José, Gypsum, 91.
Mekon, K., Shawls, 296.
Melbourne, City of, Photographs, 162.
Melbourne, Com. for, Boxes, etc., 162; Wheat, etc., 163.
Melbourne Glass Bottle Works Co., 160.
Melbourne, Lands & Agri. Dept., Woods, 162.
Melbourne Meat Preserving Co., Meats, 164.
Melbourne, Penal Dept., Leather, 163.
Melendez, Carvajal, & Co., Hats, 276.
Méliès, L. S., Boots, 197.
Melillo, G., Jewelry, 234.
Melindre, J. d'Oliveira, Matting, 284.
Melissari, G., Essences, 232.
Melkior, P. J., Liquors, 218.
Mellin, G., Food, 153.
Mellinger Jump Seat Co., Seats, 381.
Mello, A. J. T., Wax candles, 283.
Mello, Antonio M. de S., Beadwork, 288.
Mello, G. C. de, Urn, 254.
Mello Gil Tavares, Yarn, 286.
Mello, J. C. de, Cotton fabrics, 285.
Mellon, F. D., Wines, 164.
Mellor & Rittenhouse, Extracts, etc., 101.
Melton, W., Starch, 177.
Melville, James, Wine, 172.
Memla, Memour, Salt, 291.
Menard, Weather strips, 373.
Mender, Railway, 267.
Mendes, C., Atlas, 367.
Mendes, J. O., Sulphur, 82.
Mendes, M. J., Impressions, 370.
Mendez, B. A., Fabric, 280.
Mendheim, G., Plans, clay, 202.
Mendiola & Co., Cloth, 274.
Mendona, T. A. de, Blue, 283.
Mendonca, Manuel Fernandez de, Spools, 290.
Mendoza, P., Cushion, 281.
Mendoza, Prov. Com. of, Minerals, 83; Mat, 256; Herbarium, 259.
Menehoz, Priest of Mount Athos, Spoons, 305.
Meneses, N., Claret, 262.
Menezes, C. de, Music, 366.
Mengo, F. da Silva, Books, 369.
Menici, A., Baths, 233; Appliances, 235.
Mennesson, E., Instruments, 345.
Menshikoff's, W., Sons, Calico, 316.
Menteché, Gov. of, Incense, 292.
Mentefek, Gov. of, Garment, 300; Wheat, 308.
Mentzel, A., Books, 348.
Menzel, W. E., Garnets, 209.
Menzeurlé, Fathma, Gauze, 299.
Mer Allah, Shirt, 299.
Mercer Pottery Co., Earthenware, 108.
Mercer, R. W., Pottery, 329.
Mercer, Thomas, Marine chronometers, 339.
Merchants' Mfg. Co., Printing cloths, 118.
Merchants' Salt Co., Brine, 74.
Merchants' Shot Tower Co., Shot, 133.
"Mercurio" Printing Office, Books, 261.
Merdik, Mardin, Sesame, 308.
Merick, E. J., Brooms, 380.
Meriden Britannia Co., Table ware, 113.
Meriden Curtain Fixture Co., Fixtures, 109.
Meriden Cutlery Co., Cutlery, 139.
Meriden Silver Plate Co., Glass, 113.
Meriden Woolen Co., Cassimeres, 120.
Merino & Co., Surgical instruments, 254.
Merkelbach & Wick, Pottery, 202.
Merkioss, Mamor, Mulberries, 312.
Merlini, Alfonso, & Enrico Bros., Oil, 231.
Merlo, Baron V., Olive oil, 232.
Merriam, G. & C., Books, 326.
Merrick Thread Co., Bobbins, 116.
Merrill, S., Panel centre, 110.
Merrille, A. H., Slate, 53.
Merrimac Mills, Calicoes, 119.
Merriman, J., Crayfish, gooseberries, 170.
Merritt, J. P., Chronotable, 341.
Mersereau, W. T. & J., Hardware, 141.
Merssine, Government of, Pitch, 306.
Mervine, S. P., jr., Apparatus, 135.
Merwe, J. H. van der, Grapes, 170.
Merwin, Hulbert, & Co., Fire arms, 133.
Meskout, Serros, Earrings, 302.
Mesnier, Raul, Cigarette paper, 289.
Mesquita, P. J. de, Linen fabric, 285.
Mesrouhout, Bracelets, 302.
Messner & Co., Harmonicas, 349.
Mestra, P., Drilling, 273.
Mestre, A. de, Apparatus for corking, 194.
Metacomet Mills, Printing cloths, 118.
Metal Stamping Co., Buckles, etc., 379.
Metallic Cartridge Mfy., Cartridges, 319.
Metallurgical Co., Bolts, 279.
Metallurgical Coal Pit Co., Coal, 89.
Metcalf, D. H., Sheets, 136.
Metcalfe, J., Clay, 73.
Met-en-Meerzorg Plantation, Sugar, 175.
Methodist Book Concern, Books, 326.
Methuen Mill, Bagging, 118.
Metropolitan Washing Machine Co., 377.
Metrouge, B., Tissue, 298.
Mets & Willse, Bookbinding, 131.
Metz, F., Metal, 201.
Metzler, A., Minerals, 83.
Metzner, B., Laces, 209.
Meunier & Co., Linen, 195; Curtains, 197.
Mexican Mining Society, Minerals, 86; Newspapers, 266.
Mexican Scientific Society, Books, 267.
Mexico, State Gov. of, Salts, 265; Woods, 267; Coffee, 268; Botanical collection, 269.
Mey & Widmayer, Art publications, 348.
Meyenberg, S. M., Satins and silks, 123.
Meyer, A. F. W., Apparatus, 342.
Meyer, Behn, & Co., Various products, 176.
Meyer Bros., Silk bolting cloth, 212.
Meyer, C., & Sons, Pianos, 332.
Meyer & Co., Silk, 234.
Meyer, F. W. A., Gun, 190.
Meyer, Heinrich, Ivory goods, 205.
Meyer & Henckel, Butter coloring, 223.
Meyer, J., Damask goods, 203.
Meyer, James, jr., & Co., Disinfectant, 102.
Meyer, Jonasson, & Co., Skirts, 123.
Meyer, L., Music, 322.
Meyer, Wæspi, & Co., Undergarments, 213.
Meyers, Simon S., Stove polish, etc., 104.
Meylan & Mertens, Ed., Gold chains, 213.
Meyr's Nephew, A., Glassware, 208.
Mez, C., & Son, Sewing silks, 203.
Miakotih, J., Hats, 317.
Miasky Gov. Gold Mines, Ores, etc., 98.
Michael, F. M., Limestone and lime, 54.
Michaelis, F., Vinegar, 240.
Michaelis & Kaskel, Shirts, 124.
Michel, L., Decorations, 194.
Michel, P., Chemicals, 192.
Michels, I. C., Book, 327.
Michelsen, John B., Cutlery, 230.
Micheré, Government of, Lignite, 96.
Michigan, State of, Minerals, etc., 51; Iron, etc., 59; Educational, 322.
Michigan Stove Co., Stoves, 375.
Michon, André, Cotton fabrics, 285.
Micka, K., Gloves, 208.
Middleburg & Flushing Chamber of Commerce & Industry, Chart, 361.
Middlesex Co., Woolen goods, 120.
Middleton, C. W. & H. W., Iron, steel, 56.
Middleton, Thomas J., Magic lanterns, 339.
Middletown Plate Co., Plated ware, 113.
Middletown, T. D., Laces, 174.
Middletown Tool Co., Hardware, 141.
Midgley, Mrs., Flowers, 157.
Midnight Yarn Co., Yarns, 120.
Miedel, D., Ventilator for chimneys, 216.
Mier, A., Salts, 265.
Migliaccio, R., Paper, 234.
Miguel, Garcia Manuel de, Salt, 270.
Mihalgazi, Government of, Leaves, 306.
Mihali, S., Cocoons, 314.

Mijas, Corporation of, Marbles, 90.
Mikael, K., Skin, 310.
Mikahil, Seboul, Garments, 299.
Mikahili, H., Garments, 300.
Mikahilidés, Photographs, 371.
Mikahl Agha, Jacket, 299; Skins, 310.
Mikail, Lace, 301; Earrings, 302.
Mikail Antiki, Saucer, 303.
Mikali, H., Coverlets, 299.
Mikali, Nicoladi, Oranges, 312.
Mikali, R., Fabrics, 298; Prunes, 312.
Mikhaeloff, B., Wood, 320.
Mikhaeloff, Mrs., Tureens, 320.
Mikhailoff, A., Costume, 318.
Mikhailoff, T., & Son, Wool, 317.
Mikiani, I., Cocoons, 314.
Milaki, N., Gauze, 299.
Miles, Bros., & Co., Brushes, 142.
Miles, E. T., Massachusetts, 12.
Milewski, J., Telemeter, 372.
Miliani, C., Crockery, 233.
Military Engineering Dept., Plans, 373.
Military Pyrotechny, Fusees, 271.
Militinous, Government of, Yellow earth, 96.
Millar, J., & Co., Glass, 147.
Millas, Gimps, 197.
Miller, A. R., & Son, Carriage jack, 382.
Miller Bro. Cutlery Co., Cutlery, 139.
Miller Bros., Microscope, 331.
Miller, C. H., Bureau of Horticulture, 10.
Miller, D. K., Lock Co., Locks, 141.
Miller, E., & Co., Bronzes, 114; Oilers, 138.
Miller, E. W., Dakota, 12.
Miller & Eastmead, Lanterns, 114.
Miller, Geo. F., Hats, 126.
Miller, H. F., Pianos, 332.
Miller, Hugh, & Co., Pomade, 188; Tick destroyer, 190.
Miller, J. A., Models, 382.
Miller, J., & Co., Ropes, 161.
Miller, J. S., Trusses, 136.
Miller, J. W., Plumbing, 115
Miller, Jeremiah, Nevada, 13.
Miller, James, Books, 326.
Miller & Krips, Bronze, 139.
Miller, L. H., Safes, 109.
Miller, Metcalf, & Parkins, Steel, 55.
Miller, T., Hats, 204.
Miller, Thos., Umbrellas, 127.
Miller, W., Ranges, 376.
Miller, William J., Engravings, 336.
Miller, William P., & Co., Lubricants, 103.
Miller, Wm. D., Fire arms, 133.
Miller's Bible & Publishing House, 328.
Miller's Falls Co., Tools, 138.
Millet, J. G., Graphite, 73.
Milliani, P., Paper, 234.
Milliken, Eugene, Polish, 104.
Million, Guiet, & Co., Carriages, 200.
Million & Servior, Silks, 196.
Mills, E., & Co., Braces, 138.
Mills & Hutchinson, Tweeds, 189.
Mills, J. D., Birds, 251.
Mills, J. M., Michigan, 13.
Mills, M. A., Inks, 220.
Millville Mfg. Co., Cambrics, 119.
Millward, H., & Sons, Needles, 151.
Milner & Herd, Stone, 73.
Milner, J. F., Alabama, 11.
Milner, Wm., & Sons, Sewing silks, 150.
Milton Furnace & Coal Co., Ores, 50; Iron, 58.
Minassian Miguerdji, Cheese, 310.
Mindanao, Provincial Board of, Fabrics, 280; Arms, 282.
Mindoro, Provincial Board of, Basket, 280.
Mindovsky, B. & B., Yarn, 316.
Miner, J. G., Lamps, 114.
Mineral Water Stock Co., Mineral water, 78.
Mines, Dept. of, Ores, etc., 64, 94; Iron, plans, 95; Photographs, 370.
Mineur, C. G., Paper, 227.
Minglanilla, Corporation of, Sal gemma, 270.
Mingori, Vincenzo, Olive oil, 231.
Minheimer, L., Buttons, 318.
Mining Department, Periodicals, 99.
Mining Engineers, Ores, 88.
Mining Union, Lignite, 89.
Minnesota, Educational Dept. of, 325.
Minns, A. C. J., Necklaces, 173.
Minoda, C., Ornaments, 244; Porcelain, 245; Albums, 247; Vases, 248; Pictures, 249.
Minodoro, S., Wool, 296.
Minong Mining Co., Copper, 48.
Minot, Hooper, & Co., Cotton goods, 116.
Mint and Stamped Paper, General Direction of, Engravings, etc., 370.
Minton China Works, Enameled tiles, 146.
Minton, Hollins, & Co., Tiles, 146.
Mintzer, S. J. W., Steel, 57.
Mira, J. P. de, Bricks, 284.
Miran Moumdjia, Frame, 293.
Miranda & Sons, Salt, 283.
Mirkovski Paper Mill Co., Paper, 318.
Miro Cerdá, Ores, 88.
Miró y Cerdá, C., Coal, 89.
Miró & Corominolo, J., Dye, 271.
Miró, Sons of Gabriel, Cloth, 274.
Mirrada, José Pedro Meudas, Fabrics, 286.
Missa Yian, Seeds, 307.
Missenharter, C., Musical instruments, 334.
Mission Woolen Mills, Blankets, 121.
Missir, J., Wine, 313.
Mississippi Mills, Yarns, etc., 118; Cassimeres, 120.
Missouri, Educational Dept. of, 323.
Missouri, State of, Ores, 51.
Missouri Valley Novelty Works, Safe, 377.
Mitchell, A., Judge, Gr. IX., 16.
Mitchell, D. G., Judge, Gr. XXVII., 19.
Mitchell, F. W., Pennsylvania, 14.
Mitchell, G. E., Cologne, 106; Plasters, 134.
Mitchell, Henry L., Coal, 71.
Mitchell, J. E., Oilstones, 139.
Mitchell, Mrs. S., Gum, 182.
Mitchell, R., Judge, Gr. VII., 16.
Mitchell & Rammelsburg Furniture Co., Furniture, 109.
Mitchell, S. A., Atlases, 321.
Mitchell, Stevenson, & Co., Stoves, 375.
Mitchell, Vance, & Co., Gas fixtures, 114; Bronzes, 128; Clocks, 330.
Mitchell, Wilson, Tiles, etc., 54.
Mitcheson, Mrs. M. J., Spoon, 113.
Mitchez, Y., Cotton, 293.
Mitscheré, Marie, Hose, 299.
Mitsui, Pictures on silk, 247.
Mix, G. I., & Co., Spoons, 113.
Miyagawa, T., Vases, 244.
Miye-ken, Local Gov't of, Gauze, 245.
Mneff, J., Chests, 320.
Moat, E., Springs, 344.
Moberg Machine Co., Range, 226.
Mochan, Albert, Clay, 73; Bricks, 188.
Mockridge, E., & Co., Azumea, 102.
Moco, S., Photographs, 178.
Moedas, J., Building materials, 283.
Moeller, A., Piano, 333.
Moeller, C. H., Underwear, 123.
Moeller, P. W., Frame, 321.
Moeser, W., Books, 349.
Moestue, Thv., & Co., Slate, 80; Iron safe, 229; Pasteboard boxes, 230.
Moffitt, S. J., Virginia, 14.
Mohadjeri Nahe, Skin, 310.
Mohamed, Hair, 314.
Mohammed, H., Thread, 295; Carpet, 296.
Moir, J., Shot, 182.
Moiraghi, A., Shoes, 234.
Moisant, A., Frame, 195.
Moisic Iron Works, Iron, 74.
Moitrier, L. B., Baskets, 200.
Molah Ahemed, Beans, 309.
Molás & Co., Clay, 272.
Molfino, Luigi, Lithographic stone, 81.
Mölier, C., Clothing, 223.
Molina, A., Medicines, 259.
Molina & Carranza, Ore, 83.
Molinari, J., Arm chair, 256.

Mollah Youssouf, Wooden mortar, 305.
Mollat Ahmed, Wool, 295.
Moller, Peter, Cod-liver oil, 229.
Mollina, Corporation of, Mineral waters, 91.
Mollins, J., Curtains, 272.
Moltchanoff, W., Faience, 315; Lace, 318; Tureens, 320.
Molto y Sanz, J., Satin, 274.
Molto y Valor, F., Cloth, 274.
Mombjian, K., Embroideries, 301.
Mombusho, Department of Public Education, Educational exhibit, 247.
Mon, C., Soaps, 271.
Monadnock Mills, Quilts, etc., 117.
Monastery of the Good Shepherd, Handkerchief, 261.
Monastir, Government of, Wines, 313.
Moncrieff, J., Wheat, 163.
Mondego, Direction of the Works of, Salt, 283; Tools, 289; Mats, 290; Book, 369.
Mondoñedo, Institute of Secondary Instruction of, Marbles, 90.
Mondron, Leon, Glass, 215.
Moneo & Mirat, Soap, 271.
Monge & Sanz, Essences, 271.
Monges Iron Co., Iron ore, 94.
Monguillot, E., Music, 368.
Monitor Furnace Co., Iron ores, 48; Iron, 58.
Monitor Oil Stove Co., Stove, 375.
Monk, D. J., Malt liquors, 159.
Monllor & Sons, M., Cloth, 274.
Monner, Francisco, Ores, 89.
Monnoyer, J., & Son, Glass, 215.
Monouk, Plate, 292.
Monriz, Gabriel, Horse bit, 92.
Monroe Furnace, Ores, 49; Iron, 58.
Monroe Organ Reed Co., Reeds, 332.
Montagnac, E. de, & Son, Velvet, 195.
Montagnon, A., Faience, 193.
Montandon, C., Spirals, 355.
Montane, R., Claret, 262.
Monteil & Cassaynes, Report, 345.
Monteil, Duart, Book, 267.
Monteiro & Co., Inks, 252.
Montes de Oca, Miss B., Embroideries, 266.
Montes, M. A., Glass, 284.
Montessuy & Chomer, Crapes, 196.
Montez, R. Oca, Essays, 267.
Montgomery, R. M., Stone, 54.
Montiel, José, Boots, 276.
Montinho, Luiz Pinto, Jewelry, 288.
Montinho, Souza F. de, Jewelry, 288.
Montllor Bros., Cloths, 275.
Montoro, Corp. of, Sulphurous water, 91.
Montoro, Francisco, Galena, 87.
Montoux, Emil W., Pictures, 129.
Montpelier Mfg. Co., Carriages, 381.
Montreal Plumbago Mining Co., Stove polish, 73, 187.
Moodie, D., Oyster shells, 170.
Moody, H. S., U. S. Commissioner, 9.
Moody & Nelson, Native copper, 70.
Mook, John Peter, Extracts, 227.
Moonta & Wallaroo, Ores, 166.
Moore, C., Woods, 158; Fibres, 159.
Moore, C. F., Porcelain, 241; Jewelry, 242.
Moore, C. W., Alternate, 9.
Moore & Co., Tin ingots, 64.
Moore, D., & Co., Tubular lanterns, 188.
Moore, G., Clay, 73; Neck cutter, 124.
Moore, H., & Son, Washer, 377.
Moore, Hon. W., Map, 182.
Moore, J., Judge, Gr. XX., 18.
Moore, Jos. H., Earthenware, 107.
Moore, Leopold, Wrappers, etc., 123.
Moore, Th., Models, 189; Handles, 190.
Moore, York, & Howell, Furniture, 109.
Moorhead Clay Works, Pipes, 106.
Moorhead & Co., Iron, 56.
Mora, D., Extract, 232.
Mora, M., Matting, 273.
Moraes, J. C. de, Hats, 254.
Moraes, José Goncalves, Ores, 94.
Moraes Rozeira, M. G. de, Pyrites, 82.
Moraes, T. C., Saddle, 254.
Moragrega & Soldevila, T., Vessel, 272.
Moral, F., Geography, 266.
Morales, L., Embroidery, 281.
Morán, R. S., Cross, 277.
Morand, A., Bowl, 316.
Morand & Tourneur, Harmoniums, 345.
Morandi, Feliesta, Books, 365.
Morandi, G. M., Dress, 234.
Morandi, P., Ink, 232.
Moratski, A., Plaster of Paris dressings, 205.
Moravia Ironware Industry & Trade Co., 211.
Morawitz, M., Plans, 352.
Moreira, A. B., & Bro., Cast iron pots, 284.
Moreira, F. J., & Co., Chairs, 253.
Moreira, M. J., Counterpane, 285.
Moreira, N. J., Judge, Gr. IV., 16; Treatise, 366.
Moreira, V. de M. Custodia, Damask, 287.
Morel, A., Bronze, 194, 199; Glass, 215.
Morel, Chas., & Sons, Silks, 122.
Morel, Mrs. A., & Co., Books, 343.
Morelos State Gov., Vases, 265; Woods, 268.
Moreno, Widow of, Flannels, 274.
Moreno y Sanchez, F. T., Cloth, 274.
Morewood, E., & Co., Tin plates, etc., 62.
Morgan & Headley, Jewelry, 127.
Morgan, M. C., Implements, 328.
Morgan, R. P., jr., Elevated railway, 382.
Morgan's, Enoch, Sons, Sapolio, 103.
Mori, Y., Vases, 244.
Morita, B., Silks, 246.
Morley, J. & R., Gloves, 150.
Morley, V., Mallets, 190.
Morning Star Royal Society, Books, 359.
Moron, Corp. of, Stone, 90; Bricks, 272.
Morre, G. J., Drawings, 361.
Morreale, E., Medicines, 235.
Morrell, D. J., U. S. Commissioner, 9.
Morril, A., Extracts, 266; Oils, 268.
Morris, E., & Co., Hats, 126.
Morris & Haines, Heaters, 375.
Morris, J. G., Maryland, 12.
Morris, J. W., Clock, 342.
Morris, R. C., Plans, 334.
Morris, T. A., Judge, Gr. XVIII., 18.
Morris, Tasker, & Co., Iron, 59.
Morris, Thomas, Saddle, 156.
Morrison, Arthur B., Solution, etc., 101.
Morrison, E. H., Model, 334.
Morrison, L. K., Tube wells, 162.
Morrison, W. A., Precious stones, 71.
Morse, B. F., Judge, Gr. XVII., 18.
Morse Bros., Stove polish, 54.
Morse, Geo. D., & Co., Soap, 187.
Morse, Kaley, & Co., Cotton, 116.
Morse, L., & Son, Folding settee, 112.
Morson & Son, Chemicals, 144.
Mortimer, J. R., Organ palate, 333.
Morton, Geo., Pig lead, 70; Chronometer, 339.
Morton, J., Gold articles, 131.
Morton, J. S., Nebraska, 13.
Morton, Thos., Sash chain, 141.
Morton, W. Scott, & Co., Furniture, 147.
Moser, Chas., & Co., Artists' colors, 105.
Moser, L., Glass articles, 208.
Moser, Robert, Churches, 356.
Mosier, J. L. H., Iron work, 380.
Mosla Mahmoud, Sheet, 296.
Moss & Co., Stationery, 131.
Moss, Geo. A., Inks, etc., 105.
Moss Manufacturing Co., Shirtings, 118.
Mossop & Garland, Barks, 170.
Most, J. H., Furniture, 111.
Mostardini, A., Perfumery, 232.
Mostue, T., & Co., Scales, 364.
Mosul, Government of, Coal, 97; Shawls, 296; Boots, 301; Mint, 304; Madder root, 306; Maize, 308; Cotton, 313.
Mota, C. S. da, Rose-colored argil, 82.
Motala Mechanical Co., Iron, 79.
Motala Mechanical Works, Hoops, 227.
Mott, J. L., Fountains, 139; Iron, 378.
Motta, Augusto Antonio da, Silk, 287.

Motta, J. M., Bells, 369.
Mottett, J., & Co., Chemicals, 193.
Mottie, L., Tobacco and cigars, 218.
Mottl Sons, M., Men's clothing, 208.
Mottura, I. O., Pasteboard, 234.
Moulton, R., Work box, 169.
Mounidjian Kirkor, Traveling bag, 304.
Mounouk Ozlou, Fabric, 299.
Mount Bischoff Tin Mining Co., Tin, 68.
Mount & Co., Glassware, 160.
Mount Holly Paper Co., Paper, 131.
Mount Marley Co., Fire brick, 179.
Mount Marley Tin Mining Co., Tin, 67.
Mount Perry Copper Mining Co., Copper, 67.
Mount Savage Furnace, Ores, 49; Iron, 58.
Mount Vernon Co., Ducking, etc., 117.
Mount Vernon Furnace, Ores, 50; Pig iron, 56.
Mount Washington Glass Wks., Fountain, 108.
Mountain Engineers, Madrid, Ropes, 273.
Mountain Engineers, Corps of, Oil, 271.
Moura, J. C. de, Cassimeres, 253.
Mourad Agha, Fabrics, 298.
Mourad Kasson, Carpet, 296.
Mourad Oglou Ali, Scammony, 304.
Mourazedé, Aleppo, Rice, 308.
Mourès & Co., Books, 237.
Mouret, Globe, 343.
Mourouk, O., Towels, 294.
Mourouk Oglou Ohanis, Gauzes, 298.
Moury, Bey, Madder, 292.
Moussa Agha, Skin, 310.
Moussa Chaouch O. I., Shirt, gauzes, 299.
Moussa Oglou Veli, Rye, 309.
Moussa, P., Cotton, 313.
Mousse Kapsal, Woolen, 295.
Moussin Effendi, Cereal, 309; Wax, 312.
Moussin Oglou Seid, Barley, 308.
Moustapha, Salt, 291; Holders, 303; Cocks, 305; Coffee, 313; Scale, 371.
Moustapha Agha, Garment, 299; Vest, 300; Box, 303; Peas, 308; Barley, 309; Raisins, 312; Flutes, 371.
Moustapha, Ahmed Oglou, Pitch, 306.
Moustapha Ahmoud, H., Skins, 311.
Moustapha Ani, Couriers' bags, 304.
Moustapha, Bandjak, Seed, 307.
Moustapha Bey, Sheeting, 293; Napkins, 301.
Moustapha, Effendi, Chalk, 96; Brazier, 293; Silk, wheat, 297; Organzine, 298; Madder, 306; Leather, 310.
Moustapha, Hadji, Iron stone, 96; Iron, 97; Slippers, 301; Opium, 304; Gum, 306; Scammony, 309; Skins, 311; Wool, 314.
Moustapha, Malatio, Peaches, 312.
Moustapha, Miss, Trousseau, 299.
Moustapha, Mosul, Pistol cases, 304; Saddle cloths, 305.
Moustapha, Nevrekop, Casks, 305.
Moustapha Oglou, Purses, 303.
Moustapha, Omer, Halter, 305; Leather, 310.
Moustapha Ousta, Cane, 303.
Moustapha, S., Coverlet, 296.
Moustapha, T., Wool, 295.
Moyle, Edward, Cord, 155.
Mozjookhin's, T., Sons, Silk, 317.
Mozoncillo, C., Fan, 277.
Mt. Union College, Implements, 328.
Müek, W., Bridles, 320.
Mucury, Colony of, Precious stones, 82.
Mueller, J. M., Stone, 53.
Mühlbacher, Carriages, 200.
Muhr's, H., Sons, Rings, 126.
Muir, R., Sugar, 180.
Muirhead, R., Cigars, 158.
Mujica, E. S., Guano, 255.
Mulder, L., Periodicals, 360.
Mullan, C. da la Elguera, Hair flowers, 259.
Müllender, S., Wool, 219.
Müller, C. A., Gutstring, 349.
Müller, C. E., Books, 348.
Muller, E., & Co., Enameled tiles, 193.
Müller, H., Woolens, birds, 223.
Muller, Hermann, Glass articles, 207.
Muller, J. A., Gauge, 361.
Müller, Johs., Playing cards, 213.
Müller, L., Artificial eyes, 205.
Muller, N., Meteoric iron, 86.
Müller, P. A. E., Honey, 224.
Muller's, Nicholas, Sons, Stationery, 130.
Muller's Sons, N., Thermometers, 329.
Mulliner, H., Phaetons, etc., 383.
Mulliner, H., & Co., Carriages, 154.
Multesim Abdoulah, Pyrites, 96.
Multesim Oulah, Sediment, 96.
Multesim Tireboli, Pyrites, 96.
Munday, G., Implements, 328.
Mundy, D. L., Views, 156.
Muneaki, K., Coffee sets, 245.
Munger, John W., Soap, 103.
Munich-Dachau Paper Mill, Papers, 205.
Municipal Athenæum, Marble, 93.
Municipal School Boards, Books, 366.
Municipality of Chaux-de-Fonds, Plans, 356.
Municipality of Geneva, School house, 356.
Muniré, Lace, 299.
Muniz, Ramon, Paintings, 263.
Munkedal Manufacturing Co., Paper, 227.
Munksjö Paper Factory, Paper, 227.
Munktell, J. H., Paper, 226.
Munn, A. L., Maizena, 158.
Munn & Cochner, Clay, 73.
Muñon, Coal Pit Society of, Coal, 89.
Munoz, B., Cover, 279.
Munro, A., Wines, 158.
Muñoz Bello, Francisco, Phosphate of lime, 87.
Muñoz Iñigues, J., Rockets, 272.
Muñoz, Marcelino, Salt, 270.
Munson, D., Rods, 331.
Munson Manf'g Co., Undershirts, 123.
Muntaner & Bermudéz, Shirts, 257.
Munzinger, Conrad, Felt, 212.
Murakami, T., Canes, 247.
Murat & Co., Jewelry, 197.
Murcia, Province of, Corps of Mining Engineers, Marble, stone, 90; Waters, 92.
Murcia, Prov. Dep. of, Delft, 272; Esparto work, 273; Shawls, 275; Sandals, 276.
Murdock, J., New York, 13.
Murguria, Books, 266.
Muricy, J. C. da S., Tiles, 252.
Muricy, J. C. da Silva, Coal, etc., 82.
Murga, N., Salt, 255.
Muro, A., Inks, 255.
Muro, Froilan, Ore, 83.
Murphy, A. A., Stools, 188.
Murphy, E., Centre flowers, 162.
Murphy, P., Missouri, 13.
Murphy's, W. F., Sons, Blank books, 132.
Murray, A., Jams, 167.
Murray, Andrew, Illustrations, 338.
Murray, Edmund W., Phosphate of lime, 74.
Murray, J., Wool, 168.
Murray, Wm., California, 11.
Murtaza, Hadji, Box, 305.
Murtazi, H., Secretary, 292.
Murtro y Turello, Widow of A., Cloaks, 274.
Muschialli, L., Pier glass, 160.
Museum of Artillery, Gun, 278.
Museum of Fine Arts, Porcelain, 315.
Museum, South Kensington, Objects, 339.
Musgrove & Son, Tin, 378.
Muskett, E. B., Galena, 169.
Muspratt Bros. & Huntley, Soda crystals, 144.
Muspratt, James, & Sons, Soda, 144.
Mussa Soleiman, Pernécone, 305.
Musulmé, Madame, Cloth, 294.
Musumeci, Gulli Gaetano, Liquorice, 231.
Mutual Aid Society, Statutes, 357.
Mutual Benefit Asso., Reports, 360.
Muzet & Co., Hair work, 198.
Myagawa, C., Fans, 247.
Myburgh, N., Wheat, 170.
Myers, A. G., Plumbers' materials, 377.
Myers, A. J., Ores, 50.
Myers, G., Tanks, 375.
Myers, Uhl, & Co., Marble, 53.
Myring, J., Barley, 163; Malt, 164.
Myteline, Government of, Graphite, 97.

N.

Nabeshima, S., Crapes, 246.
Nabinho, J. da Fonseca, Twine, 285, 286.
Nachet, A., Microscopes, 345.
Nachtmann, J., Aquariums, 211.
Nacken, G. H., Cotton, mixed goods, 203.
Nadporosky, M., Laces, 318.
Naeff, G & M., Belting, 361.
Næss, H. S., Boots, shoes, 229.
Nagasaka Suiho, Water color, 249.
Nagata, Y., Rattan, 247.
Nageon, Mr., Oil, 181.
Nagle, Cook, & Ewing, Paper hangings, 133.
Nairn, David, Tomato sauce, 156.
Nairn, Michael, & Co., Oil cloths, 149.
Nakach, D., Cocoons, 314.
Nakagawa Joyeki, K., Vase, 249.
Nakagawa, Y., Silk, 246.
Nakamura, H., Bowls, 245.
Nakamura, M., Crapes, 246.
Nakashima, R., Vases, 244.
Nakatsu-ji, Braids, 246.
Nakayama, M., Vases, 244.
Nakos, M., Silk, 297.
Namei, G., Metallic goods, 235.
Namik Effendi, Purse, 303.
Namikawa, S., Toys, 247.
Namiwaka, Yasi-u-ki, Vases, 249.
Namur Artistic Literary Club, Annals, 359.
Naoomoff, B., Candlesticks, 319.
Naoum Cassam, Argil, 97.
Naoun, Miltelete, Tissues, 299.
Naples Mineralogical Society, Sulphur, 231.
Napoleao, Narcisó & Arthur, Engraving, 366.
Nara, Y., Instruments, 247.
Nara-ken, Local Government of, Cloth, 246.
Naranjo y Garza, Felipe, Ores, 88.
Nardin, James, Chronometer, 358.
Narragansett Mills, Printing cloths, 118.
Nash, H., & Co., Tin plates, 62.
Nash, Mrs., Hats, ornaments, 171.
Nashawannuch Mfg. Co., Suspenders, 124.
Nashua Card Glazed Paper Co., Boxes, 132.
Nashua Manufacturing Co., Cotton goods, 117.
Nasli, Government of, Figs, 312.
Nasmi Effendi, Madame, Gauze, 298.
Nassou Tarrouchan, Tobacco, 309.
Natanson & Hurwitz, Boots, 204.
National Button Co., Buttons, 128.
National Exhibition, Commission-General for the, Gold, etc., 82; Charts, 367.
National Fire Alarm Telegraph Co., 331.
National Glass Works, Glass, 215.
National Manufactory of Fire Arms, 278.
National Museum, Minerals, 81, 86; Iron, 82; Garments, 155; Skeleton, 156.
National Printing Office, Playing cards, 283.
National Rope Yard, Yarn, 286; Ropes, 289.
National School Furniture Co., 321.
National School of Engineering, Reports, 343.
National School of Mines, Reports, 343.
National Silk Spinning & Weaving Manufactory, Silk, 286.
National Society of Agriculture, Herbs, 262.
National Stove Works, Heaters, 375.
National Surgical Institute, Splints, etc, 135.
National Suspender Co., Suspenders, 124.
National Temperance Society, Books, 326.
National Wire Mattress Co., Mattresses, 111.
National Wood Mfg. Co., Floors, etc., 115.
Natté, Miss, Fancy articles, 254.
Natural History, Society of, Minerals, 81; Plants, 266; Scientific newspaper, 267; Gums, 268; Silk, 269.
Naudet & Co., Barometers, 344.
Naumann-Burkhardt, Extract honey, 214.
Naumann, C. G., Job printing, 348.
Naumann, Justus, Biblical pictures, 348.
Naumkeag Steam Cotton Co., Sheetings, 117.
Navajun, Corporation of, Mineral waters, 91.
Naval Artillery, Guncarriages, etc., 319.
Navarro, Antonio, Stone, 90.
Navarro & Co., Soap, 283.
Navarro, Pedro, Hats, 263.
Navarro, S., Book, 368.
Navassa Phosphate Co., Fertilizers, 55.
Navvarez, J. M. C., Cotton, 264.
Nawa, S., Silks, 246.
Nax, Kuhn, & Silberman, Pipes, 128.
Nazar Kezork, Saucers, 292; Goblet, 303.
Nazareff, E., Helmet, 318.
Neal, J., Tableware, 147; Jewelry, 151.
Neal, J., & Co., Cutlery, 153.
Neal, John, Chronometers, 339.
Neall, D. W., Teeth, 136.
Neame & Co., Sugar, 180.
Nebraska, University of, Views, 322.
Neden Bros., Flour, 180.
Nedjep, Government of, Garments, 300.
Nedwied & Son, Red chalk, 76.
Needham, Daniel, Massachusetts, 12.
Needham, J., Daggers, 152; Knives, 153.
Needham, J. & G. H., Guns, 152.
Needham, Sir J., Cocoa, 184.
Neeschourrer, Bellesfrod, & Co., Ores, 89.
Neeser, J. G., Judge, Gr. IX., 16.
Neff, J., Instruments, 333.
Neff, J. R., California, 11.
Neff, P., Implements, 328.
Nefissé, Madame, Shirts, 298; Napkins, 301.
Negishi, Manzo, Furniture, 249.
Negretti & Zambra, Instruments, 339.
Neher, Chas., Hair jewelry, 127.
Neilson, George, Model, 337.
Neilson, Storer, & Sons, Yarns, 148.
Neitsche, R., Designs, 352.
Nekervis, Wm., Parrott gun, 134.
Nell, Federico, Gold, 85.
Nellis, C., Carriage, 383.
Nelson Bros., Wheat, 158.
Nelson Committee, Iron, etc., 63.
Nelson, H. A., & Sons, Brooms, 190.
Nelson, Matter, & Co., Chamber suites, 111.
Nelson, R. M., U. S. Commissioner, 9.
Nely, A., Morocco, 310.
Nemiloff, C., Yarn, 320.
Nemoz, P., Hats, 197.
Nenedés, Gov. of, White marble, 97.
Nepomuceno, M., Books, 369.
Nerssez, M., Sheeting, 293.
Nes, Chas. M., Silicon steel, etc., 57.
Ness, Miss C., Lace, 174.
Ness, P., Stones, 66.
Nessibo, Madame, Silk, 297.
Nestlé, Henry, Farina, 214.
Netherlands Commission, Minerals, etc., 221; Weapons, etc., 222.
Nett Chemical Factory, Potash, 201.
Netto, A. E. B., Woolen fabrics, 286.
Neuchatel Asphalte Co., Asphalt, 76.
Neuchatel Orphan Asylum, Reports, 357.
Neuhusen, J., Billiard table, 202.
Neukumet, P., Fire bricks, 106.
Neuman, H., Wire cloth, 316.
Neumann Bros., Hunting guns, 218.
Neumann, F. L., Piano, 350.
Neumann, R., & Co., Trimmings, 141.
Neustadtl, M. H., Garnet jewelry, 209.
Neuvialle, J. B., Heater, 194.
Neuville, Louis, Kaolin, 95; Ceramics, 284.
Neve, E., Teeth, 136.
Neves, B., Woolens, 286; Saddlebags, 289.
Neves, Casumiro de Castro, Yarns, 285.
Nevins Mill, Jute bagging, 118.
Nevossiltzeff, M., Lace, 318.
Newark Coal Company, Coal, 52.
Newark Tea Tray Co., Trays, 376.
Newbauer, W. G., Medical plaster, 135.
Newberry, J. S., Judge, Gr. VI., 16.
Newberry, R., Artificial teeth, 259.
New Britain Lock Co., Locks, 142.
Newcastle Chemical Works, Soda, 144.
New Dominion Organ Co., Organs, 342.
New England Bunting Co., Bunting, 142.
New England Co., Wool, 119.
New England Glass Co., Glassware, 108.
New File Manufactory, Files, 227.

New Gellivara Co., Ores, 78; Iron, 79; Nails, 228.
Newgeon & Shelton, Carriages, 381.
New Hampshire, State of, Educational, 323.
New Haven Clock Co., Clocks, 330.
New Haven Folding Chair Co., 109, 381.
New Haven Organ Co., Organs, 333.
New Haven Steam Heating Co., Radiators, 376.
New Haven Wheel Co., Wheels, 379.
Newichawanick Co., Blankets, 143.
New Jersey, Educational Dept. of, 326.
New Jersey, State of, Minerals, 51; Ores, 56; Maps, 60; Pipe, 107; Wood, 337.
Newman, E. G., Pianos, 333.
Newman, G. C., Mirrors, 113.
Newmann, Joseph, Silks, 122.
New Marble Works, Marble, 78.
New Match Manufacturing Co., Matches, 225.
New River Railroad, Mining, & Manufacturing Co., Minerals, 48.
New South Wales Com., Copper, 64; Candles, etc., 157; Sugars, 158; Birds, 340.
New South Wales Shale & Oil Co., Oil, 157.
New Telegraph Co., Quartz, 166.
Newton, C. C., Reamers, 138.
Newton & Co., Fire brick, 107.
Newton, I., Judge, Gr. XIX., 18.
Newton, J., Coal, 51.
New York Button Co., Buttons, 127.
New York Catholic Protectory, Shoes, 126; Printing, 132; Photographs, 336.
New York Knife Co., Cutlery, 139.
New York Woven Label Co., Labels, 123.
N. Y. Institution for the Blind, Maps, 321.
N. Y. Lamp Co., Lamps, 114.
N. Y. Silicate Book Slate Co., 321.
N. Y. Slate Roofing Co., Paints, 378.
New Zealand Commissioners, Gold, etc., 63; Garments, 155; Pictures, 156.
New Zealand, Government of, Gold, etc., 63; Fabrics, 155; Census, etc., 156.
New Zealand Provision & Produce Company, Preserved meats, 156.
Nhorinho, J. S. da Silva, Lime, 82.
Niantic Woolen Mills, Suitings, 120.
Nibbinger, E., Paste, 55.
Nicaise, C., Bolts, screws, etc., 218.
Nicaise, P. & N., Bolts, etc., 218.
Nich, Government of, Coal, 97; Wool, 295.
Nichan, S., Skins, 310.
Nicholls, R., Organ, 333.
Nichols, G. W., Judge, Gr. XXVII., 19.
Nichols, H. K., Model, 335.
Nichols, W., Book rack, 111.
Nicholsky, L., Judge, Gr. I., 15.
Nicholson, Hamlet, Cricket balls, 340.
Nickle, Robt., Toys, 127.
Nicoforaki, Theophane, Oil, 291; Yellow ware, 292; Belt, 303; Parchment, 304.
Nicola, Karlen, Photographs, 358.
Nicolaide, Miss Azulfi, Lace, 301.
Nicolai's Publishing House, Books, 348.
Nicolaki, J. O., Cement, 97; Resin, 306.
Nicolaki, Y., Organzine, 296.
Nicolas & Chamon, Meters, 344.
Nicolas, F., Boots, 257.
Nicolas, O., Cup holder, 292.
Nicolas, Prévézé, Poutargue, 304.
Nicole, Nielson, & Co., Watches, 339.
Nicolet, College, Educational, 342.
Nicoloreuzi Bros., Wine, 313.
Niera, Gayoso, D., Sulphurous waters, 91.
Nierstras, Z. N. H., Plans, 361.
Nieulant, Count of, Bayonet, 278.
Nieuwenhuizen & Van Stratum, Towels, 220.
Nievergelt, Joh., Kirschwasser, 214.
Ni-i-gata-ken, Local Govt., Cloth, 246.
Nikitin, Gorjaieff, & Co., Wool, 317.
Nikogos, Cuffs, 301.
Nimetoulah, Kurelli, Pyrites, 96.
Nimetoulah, Mouradite, Galena, 96.
Nims, H. B., & Co., Globes, 321.
Nin & Mañé, B. & L., Embroidery, 276.
Nishigori, K., Crapes, 246.
Nishijin Weavers, Silks, 246.
Nishimura, S., Embroidery, 246; Pictures, etc., 249.
Nishimura, S. J., Wood, 249.
Nissen, W., Leather, 318.
Nitch, Government of, Prunes, 312.
Nitedals Match Manufactory, Matches, 229.
Nitschke, W., Cordials, 168.
Nitscke, W., Vase, 166.
Nittinger, Edward, Paste, 139.
Nitzschke, W., Books, 348.
Nixon, G., & Son, 375.
Nixon, G. W. C., Tools, 138.
Noailles, A., Canes, 277.
Noble, F. W., Michigan, 13.
Noble, W. H., Judge, Gr. XVI., 17.
Nobre, J. R. F., Linen yarns, 285.
Nobreza, Francisco A. da S., Lozenges, 289.
Nock, G. W., Lock, 140.
Noel-Winderling Bros., Dentures, 235.
Nogho, U., Apron, 299.
Nogueira, Antonio Marques, Jewelry, 288.
Nogueira, M. A., Cotton canvas, 285.
Nolan, L., Drain pipes, 160.
Nolla & Son, M., Flagstones, 272.
Nolte, E., Tooth powder, 256.
Nonnenbacher, J., & Co., Mouldings, 113.
Nonnenberger, C., Tools, 126.
Nonotuck Silk Co., Silk thread, 123.
Nooijen, L. J., Furniture, 220.
Noordendorp, J., Photographs, 222.
Nord & Son, M. E., Refrigerator, 229.
Nordahl, Petter N., Boots, 229.
Nordenskiold, A. E., Judge, Gr. II., 15; Maps, 363.
Nordlund, K., Apparatus, 362.
Nordström, M. S., Stamps, 226.
Norfolk & New Brunswick Hosiery Co., Underwear, 124.
Normand, James, & Sons, Shoe linings, 149.
Normann, J. G., Moulds, 202.
Nörr, Eugene, Drawings, 75; Valve, 201.
Norris & Co., Silk, 150.
Norrköping Match Mfg. Co., Matches, 225.
Norrman, C. G. V., Model, 363.
Norrmann, J., Toys, 205.
Norrström, C. A. & C. H., Knives, 227.
North British Australian Co., Wool, 180.
North Chicago Rolling Mill Co., Drawings, 334.
North Netherland Musical & Historical Association, Books, 360.
North Pittsford Marble Co., Monuments, 53.
North Yelta Mine, Ores, 166.
Northampton Furnace, Ores, 49; Iron, etc., 57.
Northeastern Pastoral & Agricultural Society, Wheat, 163.
Northfield Knife Co., Cutlery, 139.
Northrup, W. S. & M. S., & Co., Gloves, 126.
Norton Iron Works, Ores, 50; Iron, 59.
Norwalk Lock Co., Hardware, 141.
Norway, Dir. of Public Roads, Maps, 364.
Norway Plains Co., Blankets, 120; Flannels, 121.
Norwegian Asso. of Tourists, Books, etc., 364.
Noske, H., Felts, 119.
Notomi, K., Judge, Gr. II., 15.
Nottingham Lace Works, Laces, etc., 123.
Nougai Baitimour, Millet, 309.
Noury Bey, Sumac, 306.
Noury Eddin Ousta, Scissors, 305.
Nova Petropolis, Colony of, Linen goods, 253.
Nova Scotia Advisory Board, Gypsum, 73.
Nowell, E. C., Books, 182.
Noyes, E. F., Ohio, 13.
Noyes, W. F., Combs, 127.
Nuchterlein, F., Metal, 201.
Nugent, Mr., Arrowroot, 177.
Nuisho-sha, Embroidery, 246.
Numado Masa-u-ki, Picture, 249.
Nunes, Robert, Rum, 172.
Nunez, Angel, Geography, 267.
Nuñez, José Maria, Marbles, 90.

Nunez Ramos, F., Cloth, 274.
Nydalens Co., Sail cloth, 229.
Nye, J., U. S. Commissioner, 9.
Nye, Wm. F., Oils, 103.
Nynäs Pasteboard Factory, Pasteboard, 227.

O.

Oacalco Hacienda, Sugar, 268.
Oahu College, Shells, 250.
Oakden, J. J., Coal, 63.
Oakey, John, & Sons, Emery stone, 61.
Oakville Co., Pins, 127.
Oannès, S., Lady's companion, 303.
Oaskoff, P., Dress goods, 316.
Oaxaca, State Gov. of, Minerals, 86; Indigo, 268; Vegetable fibres, 269.
Obach, T., Designs, 352.
Oberg, C. O., & Co., Files, 227.
Obookhoff Steel Foundry, Ordnance, 319.
Observatory, Neuchatel, Reports, 354.
Ocampo, Miss J., Botanical collection, 269.
Ocampo, V., Shawl, 257.
Ocean Mills, Bleached cottons, 117.
Ochagavia, Silvestre, Claret, 262.
Ochao, J. M. de, Bricks, 272.
Ochva, Gasper Sanchez, Sulphur, 86.
Ocreman, L., & Witdoeck, E., Skins, 218.
O'Daly, Olimpia Vallcareara, Iron ore, 87.
Odberg, C. R., Boots, 226.
Odense Match Factory, Matches, 223.
Odin Distillery, Brandy, 224.
Odling, W., Judge, Gr. III., 15.
Odnoooshefsky, M., & Sons, Muffs, 318.
Odriozola, Corp. of, Stones, 90.
Oechelhauser, Cotton, mixed goods, 203.
Oehme, J. D., & Sons, Toys, 205.
Oehmigke's Publishing House, Books, 348.
Oetiker, M. R., Table cloths, 212.
Offergeld Bros., Paint, 215.
Official Gazette, Publications, 347.
Ogden, I., Drain pipe, 106.
Oghan, Sivas, Pitch, 306.
Ogle Plantation, Sugar, 175.
Ohan, Thread, 294.
Ohanès Agha, Skins, 311.
Ohanna, A., Carpet, 296.
Ohannès, A., Pillow case, 294; Woolen, 295; Hosiery, etc., 300; Wheat, 309.
Ohannés Agha, Skins, 310.
Ohannés, Son of Varcha, Honey, 312.
Ohannes, Syrup, 313.
O'Hara, Charles M., Chairs, 109.
Ohio Agricultural College, Map, 328.
Ohio Coal Co., Coal, 49.
Ohio, Educational Exhibit of, 322.
Ohio Furnace, Ores, 48; Pig iron, 58.
Ohio River Salt Co., Salt, 101.
Ohio, State Archæological Assn., Relics, 329.
Ohio, State of, Minerals, 50.
Ohio Stone Co., Stone, 54.
Ohio Tool Co., Tools, 138.
Ohio Valley Piano Co., Pianos, 333.
Ohlton Coal Co., Coal, 50.
Oil Cloth Factory, Sand, 73.
Ojea Porras, José, Iron, 92.
O'Keefe, A., Wheat, 163.
Okurasho, Scales, 248.
Olago, J., Earthenware, 272.
Olah, Artin, Oats, 309.
Oldach & Mergenthaler, Bookbinding, 132.
Oldendorf, H., Drums, 333.
Oldendorff, E., Judge, Gr. IV., 16.
Olds, N. G., & Sons, 379.
Olea, Segundo of, Cards, 278.
Oleophine Oil Co., Oils, 103.
Oliden, T., Medicinal herbs, 259.
Oliva, S., Soap, 271.
Olive Furnace, Iron ores, 48; Pig iron, 58.
Oliveira, A. C. de, Oligistic iron, 82.
Oliveira, Balthasar, Ropes, 289.
Oliveira, Bento Rodriques d', Ore, 94.
Oliveira & Bro., Soaps, 252.
Oliveira, J. F. de, Caps, 288.
Oliveira, J. G. de, Watches, 369.
Oliveira, Joao Correia, Tin ore, 94.
Oliveira, S. M. de, Bricks, 284.
Oliver & Co., Shirts, 276.
Oliver, F., Canvas, 273.
Oliver, George, Pyrites, 70.
Oliver, H. K., Judge, Gr. XXV., 19.
Oliver, Thomas, Measure, 124.
Oliveros, M., Mats, 280.
Olivier, J. J., & Son, Woolen stuff, 217.
Olivieri, L., Fancy articles, 234.
Olivieri, L., Hardware, 235.
Olland, H., Instruments, 361.
Ollive, A., Pavements, 193.
Olmeda, F., Cloth, 275.
Olmo, José del, Berja, Galena, 87.
Olmos, José V., Minerals, 83; Marble, 84.
Olmsted, S., jr., Strainer, 377.
Olonetz Mining District, Guns, 98; Projectiles, 319.
Olsen, Th., Silver ornaments, 230.
Olsson, M., Stand, 228; Furniture, 362.
O'Malley, E., Safety cage, 162.
Omer Agha, Carpets, 296; Chains, 302; Morocco, 311.
Omer Djerbali, Vermicelli, 312.
Omer Effendi, Galena, 96.
Omer, O., Morocco, 310.
Omer Oglou Kassan, Tobacco, 309.
Omer Oglou Osman, Galena, 96.
Omeraki, I., Gauze, 298.
Oñate, Sons of, Silk, 275.
Onderwater, H. F., Stones, 77.
Oneto, Agostino, & Co., Soap, 231.
Ono, G., Cloths, 245.
Onondaga Pottery Co., Decorated ware, 108.
Ontario Advisory Board, Copper pyrites, 70.
Ontario Lithographic Stone Co., Stone, 73.
Ontario Plaster Co., Gypsum, 73.
Onzy, Types, 237.
Ooshkoff, P., Chrome, 315.
Open Stove Ventilating Co., Stoves, 375.
Ophir Furnace Co., Ores, 50; Iron, 58.
Opitz & Son, C., Paper, 210.
Oporto Commercial Association, Wood, 300.
Oporto Glove Manufacturing Co., Gloves, 287.
Oporto Industrial Institute, Silverware, 284.
Oporto Weaving Co., Yarns, 285.
Oppenheim, F., Buggies, 380.
Oppenheimer Bros., Gold nugget, 70.
Oppenheimer, S., Carriages, 381.
Opsahl, P. J., Iron safes, 229; Locks, 230.
Optical Society, Instruments, 344.
Orange Free State, Various products, 240.
Orange Furnace, Ores, 48.
Orange Iron Co., Iron, 58.
Orange Judd Co., Blocks, 128; Books, 337.
Orasco, Manuel Berra, Geography, 267.
Orbeton, W. W. S., Hinges, 140.
Ord, J. L., California, 11.
Ordnance Dept., Gun carriage, 319.
Ordnance Survey, Maps, 339.
Orduna, C., Capsules, 278.
Oregon, State of, Paints, 105; Woolens, 120.
O'Reilly, T., Wheat, 163.
Orell, Füssli, & Co., Books, 354; Plates, 358.
Orellana, E., Book, 266.
Oria, Eugenio, Oxide of iron, 87; Coal, 89; Bricks, 91.
Oriental Powder Mills, Powder, 106.
Oriol, Son of J., Fans, 277.
Orive, S., Chemicals, 271.
Oropera, Guillermo, Sensible scales, 267.
Orozco, A., Book-keeping, 266.
Orr, Painter, & Co., Boats, 374.
Ortiz, Anastacio C., Tobacco, 268.
Ortner & Houle, Engraving, 152.
Osaka fu, Rugs, 245.
Osborn, Bennett, Paper boxes, 132.
Osborn Mills, Printing cloths, 118.
Osborn, T. H., U. S. Commissioner, 9.
Osborn, Wm. J., Arizona, 11.
Osgood, J. R., & Co., Books, 328.

O'Shausey, P. A., Timbers, 179.
Osman Agha, Carpets, 296; Leather, 310.
Osman Bin Mohamed, Emery, 97; Prunes, 312.
Osman Effendi, Lace, 301; Girth, 305.
Osman, H., Belt, 300.
Osman Hadji, Raisins, 312.
Osmeña, Rita, & Co., Harness, 282.
Osorio, Fernando, Pistols, 278.
Osterberg, C. G., Furniture, 226.
Osterby & Strömbacka, Iron works, 78, 79.
Osternack, Chas., Virgin lime, 82.
Osterritter, J., Leather articles, 210.
Ostersetzer Bros., Screens, 208; Lace, 210.
Osthaus, Luis, Cordage, 261.
Ota, M., Furniture, 245.
Otamendi, Carlos, Shells, 85.
Otis Company, Denims, 117; Hosiery, 125.
Otis Iron & Steel Co., Steel, 56.
Ott, B., & Co., Jewelry, 204.
Ott & Brewer, Porcelain, etc., 107.
Ott, Gebhard, Toys, 205.
Ottaviani Bros., Essences, 232.
Ottawa Iron & Steel Co., Iron ore, 71.
Ottawa Iron & Steel Mfg. Co., Iron, 74.
Ottenheimer, J. M., & Sons, Corsets, 204.
Otter, Baron C. G. von, Lantern, 363.
Otterbourg, Jewelry, 197.
Otto, F. G., & Sons, Instruments, 136.
Otto, J. W., Piano, 332.
Ottoman Commission, Paintings, 371.
Oudjou Christo, Sorghum, 309.
Oule, Government of, Carpets, 296.
Oulfrouch, M., Boots, 301.
Oulmia, H., Wool, 296.
Ounedji, O., Duck, 293.
Ousta Ahmed, Coverlet, 296.
Ousta Bachou, Hose, 299.
Ousta, H., Vases, 292.
Ousta, Jacob, Vase, 293.
Ousta Mehemed, Hemp, 295; Woolens, 296.
Ousta Mehemed Tournous, Harness, 305.
Ousta, T., Pots, 292.
Ousta Yano, Hose, 299.
Oustour, Canes, 303.
Oustour, P., Silk, 297.
Ovakim, Lantern, 293.
Ovalle, D. & E., Wines, 262.
Over Agha, Nuts, 307; Raisins, 312.
Oviedo, Mining District of, Ores, 89.
Oviedo, P., Books, 266.
Ovre, Mrs., Artificial flowers, 223.
Owen Paper Co., Papers, 131.
Oxford Iron Co., Drawings, 335.
Oxford Woolen Mills, Woolen goods, 189.
Oyama, K., Limestone, 244.
Oyarzabal, J., Ice cream apparatus, 273.

P.

Paarl Wine & Brandy Co., Wines, 171.
Pabst, Chas., Sofa bed, 109.
Pabst, Danl., Walnut sideboard, 111.
Pabst, G. J., Toys, 205.
Pacchiani, E., Olive oil, 232.
Pace, E. M., Virginia, 14.
Pacheco, A. V., Counterpanes, 285.
Pacheco, F. J., Linen fabrics, 285; Flannels, 286.
Pacheco, Francisco Gomez, Nails, 286.
Pacheco, J. V., Counterpanes, 285; Wool fabrics, 286.
Pachistizzi, V., Maize, 309.
Pacific Mills, Calicoes, 119; Alpacas, 12
Packard, C. F., & Co., Wagon, 381.
Packer, Asa, Alternate, 9.
Padilla, Francisco N., Calamine, 87; Lead, 270.
Padilla, J., Tincture, 271.
Padronello Woolen Mfg. Co., Fabrics, 286.
Paetel Bros., Books, 348.
Page, Kidder, & Fletcher, Coal tar, 103.
Page, S., Wool, 183.
Pagés & Co., Linen, 273.
Paget, F. A., Judge, Gr. XXII., 18.
Pagliacetti, R., Statues, 232.
Pagliaro, A. M., Gelatines, 235.
Pagliaro, D., Medicines, 235.
Paillard, C., & Co., Musical boxes, 355.
Paine Bros., Wood work, 379.
Paine's Furniture Manuf., Furniture, 112.
Paiva, Manuel J. de, Boots, 287.
Paixao, Antonio Aug. da, jr., Clothing, 287.
Pajares, J., Earthenware, 272.
Palacios, F., Wines, 264.
Palacios, P., Woolen fabrics, 257.
Palassé, Madame, Gown, 299.
Pale, T. Ch., Cloths, 316.
Palenoff, C., Photometer, 373.
Palizzolo Gravina, Baron V., Books, 365.
Pallares, Count of, Sabots, 276.
Pallu, Eug., Fibres, 195.
Palmcrantz, Mitrailleuse, 227.
Palme, Elias, Glass lustre, 207.
Palmer, B. F., Artificial limbs, 136.
Palmer & Kendall, Nets, 126.
Palmer Mills, Dress goods, 117.
Palmer, Samuel, Index, 338.
Palmer, Theo. J., Reclining chair, 110.
Palmer, W. F., Tools, 138.
Palmer & Williams, Corsets, 125.
Palme's Son, F. E., Glassware, 207.
Palomar & Co., Paper, 266.
Palonka, Government of, Iron nippers, 305.
Palz, E., Tageblatt, 348.
Pampanga, Prov. Board of, Tapestry, 281.
Pampin, C., Cloth, 258.
Panada, J. L., Woven goods, 284.
Panaloko, Government of, Coal, 97.
Panayote, Petron, Oil of flowers, 291.
Pando, Acha y Garcia, Frame, 279.
Pandoy, J. Maria, Wines, 264.
Paniagua, C., Lessons, 266.
Panier, E., Instruments, 198, 344.
Pano Mamatti, Salt, 291; Gall nuts, 306; Cotton, 313.
Panor Mamatti, Wool, 314.
Panoucha, Y., Belt, 303; Leather, 310.
Pansein, Y., Silk shirting, 297.
Pantrepant Estate, Lace bark, 172.
Paoli Belt Co., Belt, 331.
Papa Giorki, Carpet, 296.
Paparanhos, B. J., Bricks, 284.
Papaz, Avediz, Copper, 292.
Papaz Oglou, Wine, 313.
Papaz, Oglou Bros., Oil, 292.
Papazaki, M., Counterpane, 294.
Papazoupola, Annetta, Cloth, 301.
Pape Bros. & Kügemann, Mouldings, 113.
Paper & Chemical Manufactory, Plaster, dressing materials, 205.
Papini, L., Truss, 235.
Pappazaki, Dimitri, Argillous talc, 97.
Pappazaki, Nicola, Lignite, 96.
Para, Province of, Oils, 252.
Parabet, Basket, 292.
Paradeiser, W., Models, 352.
Paraiso Factory, Whisky, 268.
Paraná, Benevolent Society of, Spun cotton, 256; Crochet work, 258.
Parana, Commission of, Stones, 84; Tiles, 256; Berros waters, 259.
Parana, Province of, Ores, 81; Gold veins, 82.
Paraná, Province of, Soaps, 252; Yarns, 253.
Parapara Iron & Coal Co., Ore, 63.
Pardo Montero, R., Sulphurous water, 91.
Parellada, Flacquer, & Co., Velvet, 273.
Parfonry & Lemaire, Chimney pieces, 194.
Paris, City of, Models, 344; Reports, 345, 346.
Paris Hill Mfg. Co., Carriages, 381.
Paris, Isaac Joseph, Iron beams, 77.
Paris, Society of Comparative Legislation, Books, 346.
Parise, A., Sons, Lock, 235.
Park, Bro., & Co., Steel, 55.
Parker, C., Coffee mills, 376.
Parker, Chas., Shot guns, etc., 134.
Parker, J., Son, & Co., Paper, 131.
Parker & Whipple Co., Attachment, 141.

Parkhurst & Gridley, Strap, 129; Stationers' goods, 130.
Parkhurst, V. P., Stand, 114.
Parkinson Bros., Yeast, 144; Vinegar, 154.
Parkinson, J. B., Wisconsin, 14.
Parkinson, W. S., Kansas, 12.
Parks, M., Virginia, 14.
Parks, W., & Son, Cotton yarns, 189.
Parma, J., Piqués, 208.
Parmentier, Gosset, & Co., Mantels, 216.
Parmentier, Van Hoegarden, & Co., Cotton fabrics, 216.
Parnell, M., Wine, 159.
Paroni, Andrés, Cement, 84.
Paroz, J., History, 353.
Parquetry Factory, Plans, 356.
Parr, B. le, Wool, 180.
Parramore, T., Wool, 183.
Parras, A. E. de, Embroidery, 258.
Parrot, T. S., Instrument, 340.
Parsons, J. H., & Co., Shirts, 125.
Parsons, John, Inks, etc., 104.
Parsons Paper Co., Writing paper, 131.
Parsons, W. H., U. S. Commissioner, 9.
Partridge & Co., Brackets, 148.
Parvis, Mr., Furniture, 236.
Pas, Gerard, Bronzes, etc., 216.
Pascal Iron Works, Iron work, 58.
Pascual & Co., Cloth, 274; Velvets, 276.
Pascual & Co., A., Silk fabrics, 275.
Pascual, S., Cloth, 274.
Pascual y Granés, P., Window, 272.
Pashkoff, B., Wire cloth, 316.
Pashroff, Basil, Bogoiavlensk & Vennihotoorji Copper Works, Copper, 98.
Passaic Rolling Mill Co., Iron, etc., 57.
Passaic Zinc Co., Ingots, 47, 59.
Passolo, E. Germack, Boots, 366.
Passos, Augusto Fructuoso, Combs, 288.
Pastor, Moltó, & Co., Cloth, 274.
Pastore, Gio, late Filippo, Liquorice, 231.
Paszepny, C., Albums, 373.
Patagones, Justice of the Peace of, Salt, 255.
Pateguazza Bros., N. & A., Perfumery, 232.
Patek, Phillipe, & Co., Chronometers, 355.
Patent Keg Co., Paint cans, 376.
Patent Nut & Bolt Co., Nuts, etc., 153.
Patent Plumbago Crucible Co., Crucibles, 146.
Patent Selenitic Cement Co., Cement, 61.
Paterno, E., Judge, Gr. III., 15.
Paterno, F., Drawings, 211.
Patience, J., Wheat, 163.
Paton Manufacturing Co., Cloths, 189.
Paton, Robt., & Son, Furniture, 110.
Patricio, Francisco Antonio, Silk cocoons, 286.
Patrick & Carter, Bells, 331.
Patriotismo Factory, Cloths, 265.
Patron Bros., Mineral waters, 85.
Patten, F. H., Quartz, 55.
Patterson Bros., Fabrics, 162.
Patterson, J. E., & Co., Doors, 378.
Patterson, J. M., Wheat, 163.
Patterson, J. S., Vermont, 14.
Patton, J. D., Drawings, 335.
Patton, R. M., Finance, 11.
Patury, J. J. S., Clay pots, 252.
Paugger, F., Instruments, 351.
Paul, D., Implements, 328.
Paul, J., & Co., Stone, 53.
Paul, J. M., U. S. Commissioner, 9.
Paul, William, Works on horticulture, 339.
Paula, Antonio José, Cork hats, 287.
Paulding, Kemble, & Co., Model of gun carriage, 134; Drawings, 335.
Pauli, F., Essences, 225.
Paulo Alfonso, District of, Hats, 253.
Paulsen, J., Wines, 262.
Paulus, A., Musical instruments, 349.
Paulus, E., Watches, 330; Musical instrument, 349.
Paulus & Schuster, Musical instruments, 349.
Pauly, Boothon, & Co., Vinegar, 240.
Paupier, L., Scales, 344.
Pausacker, Evans, & Co., Portmanteaus, 161.
Pauw, F. de, Trimmings, 197.
Pawtucket Hair Cloth Co., Cloths, 122.
Paxon, Comfort, & Co., Zinc monuments, 139; Robes, 143.
Paxton, W. G., Mississippi, 13.
Payá & Gisbert, Paper, 277.
Payne, G., Arrowroot, 158.
Payno, M., Geography, 266.
Paz, E., Gymnastic apparatus, 346.
Peabody Mills, Cotton goods, 117.
Peace Dale Mfg. Co., Cassimeres, 121.
Peacock, H. H., Cases, 129.
Peacock, W., Cricket bats, 191.
Peak Downs Copper Mfg. Co., Copper, 167.
Peake, Thomas, Bricks, 145.
Pears, A. & F., Soap, 144.
Pearse Bros., Hides, 163.
Pearse, J., Penmanship, 341.
Pearse, J. B., Drawings, 334.
Pearson, Thomas, & Son, Quilts, 149.
Pearsons, G. W., Model, 334.
Pease, C. A., Washstand, 377.
Pease, F. S., Oils, 103.
Pechar, J., Designs, 352.
Pechar, J., & A. Peez, Statistics, 351.
Peck & Greene, Underwear, 125.
Peck, Henry, Show cases, 111.
Peck, Kennedy, & Co., Tile, 107; Radiator, 115.
Peck & Snyder, Skates, 139.
Peck, W., Montana, 13.
Peckham Mfg. Co., Jeans, 116; Doeskins, 121.
Pecora Paint Co., Paints, 104.
Pedagogic Museum, Educational, 372.
Peden, M. J., Maize, 158.
Pedro, Carmen de, Jet, 91.
Pedro II. Dock Works Co., Plans, 367.
Pedros, Diarbekir, Oils, 291.
Pedros, Mihalgazi, Raisins, 312.
Pedros Salgadas Mineral Water Co., 95.
Pedroso Mines & Manf'y, Ores, 89; Iron, 92.
Pedroza, D. J. L., Salt, 283.
Pedruncini, Juan, Shell lime, 84; Bricks, 256.
Peel, T. W., Clay, 73.
Peet, S. D., Ornaments, 328.
Pefkiades, J., Wine, 313.
Peguero, Andrés, Coal, 89; Jet, 91.
Peine, Edward, Cuff buttons, 205.
Peirce, C. W. & J., Skirts, etc., 120.
Peirce, I., Desks, 321.
Peirce's Union Business College, 326.
Peixoto, Rodrigo José, Brass nails, 289.
Pelaez, R., Balsam, 278.
Pellas, G., Ornaments, 233.
Pellet, A. P., Silk, 195.
Pelletier, M. A., Glass, 193; Windows, 194.
Peloubet, Pelton, & Co., Organs, 333.
Peltier, E., Labels, 194.
Peltzer & Son, Thread, 217.
Pembedge, Oglou Moustapha, Prunes, 312.
Pemno Petcha, T., Cocoons, 314.
Peña, P., Hair, 277.
Penal Dept., Uniform, 341.
Penal Plantations, Supt. of, Sugar, 180.
Peñalva, B., Horse belt, 259.
Penasson, A., Printing, 237.
Penco, J., Cocoa, 184.
Penfield, E. C., & Co., Trusses, 135.
Penington, E., Alternate, 9.
Peninsula Stone Co., Building stone, 52.
Peniston, J. T., Arrowroot, 174.
Penitentiary of Lima, Shoes, 263.
Penn Gas Coal Co., Coal, 51.
Penn Roofing Co., Felts, 378.
Penna, A. G. d'A., Tinctures, 252.
Penna, Ferreira, Plans, 367.
Pennini, Baron of Floristallo, Sulphur, 81.
Pennise, Baron di F., Essences, 232.
Pennsylvania, Educational Dept. of, 356
Pennsylvania Furnace, Ores, 49; Iron, 59.
Pennsylvania Geological Survey, Ores, 48.
Pennsylvania Globe Gaslight Co., Lanterns, 114.

Pennsylvania Lead Co., Lead, 59.
Pennsylvania Marble Co., Tiles, 53.
Pennsylvania Salt Mfg. Co., Salts, 102.
Pennsylvania Working Home for Blind Men, Work, 374; Harness, 382.
Penrose & Richards, Fuel, 61.
Pensado, Mrs., & Sisters, Flowers, 266.
Pensel, H., & Co., Slates, 205.
Penssimo, Laces, 301.
Penton, Thos., Engine, 188.
Pen-yr-orsedd Slate Quarry Co., Slates, 61.
Penzer, J., Timber, 158.
Peon, José Contreras, Romances, 267.
Pepper, Geo., Plasterers' models, 162.
Pepper, W., Medical Director, 10.
Pepperill Mfg. Co., Sheetings, etc., 117.
Pequinot, C. & A., Watches, 330.
Pérachipolani, K., Cover, 301.
Perafita Gavigola, F., Carbonic water, 91.
Peralta, Mrs. A., Music, 266.
Pérard, V., Machines, 199.
Percussion Cap Factory, Caps, 210.
Percy, John, Horse shoes, 191.
Perdigao, D. F. Z., Pharmaceutics, 252.
Perdigao, Miguel Salvado, Woolen cloth, 286.
Perdiguero, G., Mantas, 275.
Pereda, Blas, Cotton, 269.
Pereira, Antonio de la Velha, Silk, 286.
Pereira Bros., Straw hat, 287.
Pereira, C. C., Instruments, 369.
Pereira, Luiz Maria, Boots, 287.
Pereira, V. A., Hydrometer, 369.
Pereire, Isaac, Coal, 89.
Perelli, Prof. Luigi, Album, 365.
Pereno Papa, Brandy, 313.
Perepelkin, J., Silk, 317; Umbrellas, 318.
Peres, J. M. de Mattos, Soaps, 283; Linen fabric, 285; Woolen fabrics, 286.
Peretti, Santiago, Dressed stone, etc., 84.
Perez, A. G., Tonic, 255.
Perez, Bernardo, Ore, 89.
Perez, E. Juan, Almanacs, 267.
Perez, Francisco, Calamine, 89.
Perez, Hernandez, Dictionary, 267.
Perez, Juan José, Whisky, 262.
Perez, Luisa, Mineral water, 85.
Perez, M., Printing, 263; Cloak, 277.
Perez, Norverto, R. P. Fr., Rock argil, 93.
Perez, Romero, Varnish, 271.
Perez & Son, Cloth, 274.
Perez, Sons of J., Cloth, 274.
Perez Villamil, J., Soaps, 271.
Periana, Corporation of, Mineral waters, 91.
Perichon, F., Embroidery, 258.
Perier, F., Judge, Gr. XXI., 18.
Perkins, A. M., & Son, Oven, 148.
Perkins, E., Refrigerator, 376.
Perkins & McFarland, Heaters, 375.
Perks, Samuel, Extract, 145.
Perl, J., Teeth, 210.
Perm Gun Foundry, Crucibles, 315.
Permanent Commission of Mutual Relief Association, Reports, 360.
Pernambuco, Prov. of, Iron, 82; Matches, 252.
Pernod, Ed., Absinthe, 214.
Pero & Baxeda, Textiles, 273.
Perrault, L., & Co., Account books, 189.
Perreaux, Velocipede, 200.
Perreaux, L. G., Model, 195; Instruments, 344.
Perrenoud, A., Chronometer escapement, 355.
Perret, E. F., Judge, Gr. XXV., 19.
Perret's, D., Sons, Watches, 355.
Perrin Brothers, Gloves, 197.
Perrin, W., jr., Malt, 164.
Perrot, A., Melodeon, 333.
Perrot, Henry, Bronzes, 193, 199.
Perry, Davis, & Co., Gratings, 162.
Perry, G. A., Atlas, etc., 369.
Perry, Hunter, & Co., Safety fuse, 160.
Perry, J. R., Organs, 333; House, 378.
Perry, M., Pyrites, 67.
Perry, Miss C., Embroidery, 265.
Perry, Mrs., Necklaces, 169.
Perry, V., Bandages, 135.
Perseverança Co., Ore, 94; Tin ingot, 95.
Person, A., Wire cloths, 253.
Perthes, J., Atlases, 348.
Peru, Government of, Guano, 264.
Peru Steel & Iron Co., Ore, 50; Blooms, 56.
Peruvian Industry Society, Grains, 264.
Pesquera, A. M., Paper, 278.
Peters, C. F., Music, 348.
Peters, Henry S., Building sandstone, 72.
Peters, J. L., Music, 326.
Peters, R., jr., Alternate, 9.
Peters & Sons, Carriages, 383.
Peters, T., & Sons, Carriages, 154.
Peterson, A. J., Machine, 364.
Peterson, C. E., Table, 225; Portrait, 226.
Peterson, J. A., Cape, 250.
Peterson, T. B., & Bros., Books, 327.
Petit, Pierre, & Bryson, Jewelry, 213.
Petro, B., Almonds, 307; Rice, 309.
Petro, Volonia, Gall nuts, 306.
Petroff & Medvedeff, Shawls, 317; Furs, 318.
Petroff, N., Judge, Gr. XX., 18.
Petroli, P., Shoes, 234.
Petropolitan Co., Cotton goods, 253.
Petry, A., Arithmometer, 359.
Petry, Geissel, Bayha, & Co., Landaus, 380.
Pettersen, Andr., Perfumery, 229.
Pettersen, C. J., Machine, 363.
Pettersen, Gunerius, Valises, 220.
Pettersen, Karl, Granite, 80; Map, etc., 364.
Pettigrew, William, Axe handles, 179.
Pettingill & Sawyer, Oil cloths, 126, 143.
Pettit, Henry, Chief of Bureau of Installation, 10; Buildings, bridges, 334.
Pettit, Henry, & Wilson, Jos. M., Exhibition buildings, 334.
Peyton & Peyton, Bedsteads, 147.
Pfaff, F., Instruments, 349.
Pfaff, J., Clarionets, 332.
Pfeiffer, Carl, Design, 336.
Pfizer, Chas., & Co., Chemicals, 102.
Pfretzschner, G. A., Instruments, 349.
Pharmaceutical Society, Pharmacopœia, 267.
Phelps, Doremus, & Corbett, Furniture, 109.
Philadelphia Architectural Iron Co., 143.
Philadelphia Axle Co., Axles, etc., 378.
Philadelphia Galvanizing Co., Railing, 143.
Philadelphia Iron & Steel Co., Iron, 57.
Philadelphia Quartz Co., Silicate of soda, 102.
Philadelphia & Reading Coal & Iron Co., Iron ores, 49; Stone, 53; Rails, 57; Bridge models, 334; Cereals, 337.
Philadelphia Truss Co., Trusses, 136.
Philadelphia Worsted Spinners' Asso., 119.
Philippe, C., Cloth, 195.
Philippe, Emile, Jewelry, 197.
Philips, J. jr., Worsted goods, 120.
Philips, W. J., Instruments, 331.
Phillips, C. C., & Co., Varnishes, 104.
Phillips, E. F., Tubing, 331.
Phillips, H. M., Massachusetts, 12.
Phillips & Jacobs, Chemicals, 102.
Phillips, Nimick, & Co., Iron, 55.
Phillips, S. F., U. S. Commissioner, 9.
Phillips, S. R., Harness, 382.
Philosofoff, Basil, & Co., Chemicals, 315.
Phinney, S. B., Massachusetts, 12.
Phipson, Miss E., Sideboard, 147.
Phœnix Foundry Co., Photograph, 162.
Phœnix Furniture Co., Bedroom suites, 111.
Phœnix Iron Co., Drawings, 334.
Phœnix Match Mfg. Co., Matches, 225.
Phœnix Mfg. Co., Crucibles, 54.
Phosphor Bronze Co., Tools, 62, 153.
Photographic Association, Berlin, Books, 347.
Photo-Lithographic Inst., Weimar, Maps, 348.
Pi & Solanes, Laces, 277.
Piacente, F., Olive oil, 232.
Pichler, H., Table cloths, 203.
Pichot, E., Labels, 200.
Pickering, T. R., Connecticut, 11; Velocipede, 381.
Pickett, R. O., Alabama, 11.

Pickman & Co., China, 272.
Piedrola, J. de D., Silk, 275, 279.
Piel, A., Jewelry, 197.
Pierce, G. G., Cheese, 163.
Pierce, I. Newton, Enamel colors, 105.
Pierpont, F. H., Judge, Gr. XII., 17.
Pierson & Herman, Tools, 126.
Pignatelli, José da Cunha, Blanket, 286.
Pigou, Wilks, & Lawrence, Powders, 145.
Pik, J., Instruments, 319; Ores, etc., 372.
Pike, Wm. J., Clays, 61.
Pilat, A., Gloves, 208.
Pile, W. H., & Sons, Hydrometers, 108.
Pilling, G. P., Jewelry, 127; Instruments, 135.
Pillow, Hersey, & Co., Nails, 190.
Piloña, Corporation of, Marbles, 90.
Pim Bros. & Co., Poplins, 150.
Pimental, Francisco, Sketch, 267.
Pimentao, A. A., Pottery, 284.
Pimentel & Queiroz, Silks, 287.
Pine Grove Furnace, Ores, 48; Iron, 58.
Pineda, Corporation of, Iron, 87.
Pineiro, A., Soap, 255.
Pinell, Corporation of, Refractory earth, 91.
Pinet, F., Boots, 197.
Pingree, L. F., Limbs, 136.
Pinheiro, A., Apparatus, 366.
Pinho, Guithermina d'Oliveira, Flowers, 288.
Pini & Co., Glass cruet stand, 256.
Pinó, Manuel, Gloves, 263.
Pinon & Guérin, Cloth, 195.
Pinson, Ivory, 198.
Pintado y Morales, L., Hat, 276.
Piqua Woolen Mills, Felts, 121; Jackets, 124.
Piquée, F., & Bros., Velvets, 195.
Piqueras, C., & Co., Books, 259.
Piquet, Alfonzo Emilio, Ores, 88; Plan, 92.
Pires, J. de J., Patent medicines, 283.
Pires, J. L., Salt, 283.
Pirie, A., & Sons, Papers, 152.
Pirik Oglou, Tissues, 293.
Pirrone, Antonino, Liquorice, 231.
Pisco, Province of, Raisins, 263.
Piserekeu, Government of, Wax, 312.
Piseren, Govt. of, Cloth, 297; Caps, 299; Belt, etc., 300; Pitcher, 305; Morocco, 311.
Piteira, Filipe, Blankets, 286.
Pitet, senior & junior, Brushes, 200.
Pitkin, P. P., Vermont, 14.
Piton, C., Trophies, 143.
Pittanti, Adriano, & Co., Washstand, 253.
Pitton & Co., Sandstone, 72.
Pitz, G., Gelatine, 227.
Placht Bros., Instruments, 351.
Plajeman & Co., Beer, 262.
Plambeck, N., Model, 206.
Planas, Sons of M., Fabrics, 274.
Planche, Edouard, Son, Writing ink, 215.
Planche, Melchior, Writing ink, 215.
Planella Roure, A., Colors, 271.
Plank, E., Toys, 205.
Planteijdt, L., Canvas, 220.
Planten, H., & Son, Gelatine capsules, 134.
Plate Glass Mfg. Joint Stock Co., Glass, 216.
Plateau, E., Inks, 193; Stationery, 198.
Platt Bros. & Co., Buttons, 129.
Plaza, Nicanor, Gypsum bust, 261.
Plaza, S. de la, Pins, 277.
Pleuer & Co., Jewelry, 204.
Plimpton, J. L., Parlor skates, 139.
Plon & Co., Books, 344.
Ploss, S., & Co., Instruments, 351.
Plumber, B., Copper pyrites, 70.
Plumber, McIntyre, & Russ, Silver ores, 70.
Plunket, G. T., Massachusetts, 12.
Poblet, A., Cloth, 274.
Poblete, T., Medicinal seeds, 259.
Poel, A., Oils, 315.
Pohl, C., Wines, 164.
Pohlmann, Moritz, Piano strings, 350.
Poiret & Son, Soap, 192.
Poirrier, A., Chemicals, 193.
Poirrier, Mortier, & Muller, Fabrics, 195.
Poissonniez, J. B., Jewelers' cases, 218.
Poiteling, P., Varnish, 315.
Pokorny, K., Gloves, 208.
Poland Mining Districts, Ore, etc., 98.
Polhemus, J. H., Refrigerator, 376.
Poliakoff, N. & A., Bros., Wool, 317.
Policard, R., Stands, 200.
Polidori, Count A., Green weed, 233.
Politzer, A., Anatomical preparations, 210, 351.
Pollak, Jacques, Essences, 207; Ether, 210.
Pollock, S., Apparatus, 154.
Pollock & Son, Brushes, 142.
Polo, Leoncio, Iron ore, 88.
Polo, Miss L., Shirt, 265.
Polooshin, N., Calico, 316.
Polson, A., Wheat, 163.
Polychroite Veneer Co., Wood fibre, 104.
Polytechnic School, Delft, Models, 361.
Pomeroy Coal Company, Coal, 52.
Pommerais, L., Imitation marbles, 253.
Ponce, D., Table cloth, 256.
Ponce, Juan, Minerals, 86.
Poncet, senior & junior, Silks, 196.
Ponemah Mills, Cotton goods, 116.
Ponferrada, Bathing Est. of, Waters, 91.
Pons, Bartolome, Cream of tartar, 270.
Ponsard & Gigli, Iron, 81.
Ponta Delgada, Administrative Board, Plan, 369.
Ponta Delgada, Board of Works, Stone, 95.
Ponta Delgada, Committee of, Mineral waters, 95; Straw hats, 288; Lock, 289.
Ponte, José Caetanoda, Woolen fabrics, 286.
Ponti, Carlo, Optical instruments, 365.
Ponti, Rovera, & Co., Buttons, 234.
Pontif. Oleographic Society, Frames, 233.
Pontoosuc Woolen Mfg. Co., Blankets, 121.
Pontzen, E., Judge, Gr. XVIII., 18.
Ponzoni, L., Medicines, 235.
Poole, H. S., Ores and rocks, 71.
Poole, James, & Co., Chronometers, 339.
Poore, L. D. F., Judge, Gr. XXII., 18.
Pootiloff Iron Works Co., Ores, 98; Projectiles, 319.
Pope, Cole, & Co., Copper, 59.
Pope Manufacturing Co., Pistols, 127.
Poplar Creek Mineral R. R. Co., Ores, 49.
Popovits, L., Models, 352.
Popp, J., Hats, 317.
Porcinai, A., Sculpture, 235.
Pork Packing Co., Lard, 224.
Poron Bros., Millinery, 197.
Port, A., Gloves, 209.
Port, Dr., Dressing for fractures, 205.
Port Henry Iron Ore Co., Ore, 47.
Porta, Felix, Stones, 83.
Portalegre, Army Arsenal of, Secretary, 252.
Portalegre, Government of, Lime, 95.
Portalegre National Wool Manufacturing Co., Cloths, 286.
Porte Delgada, Government of, Building materials, 94.
Porter & Bainbridge, Cardboard, etc., 132.
Porter Brothers & Co., Buttons, 129.
Porter, C. T., Judge, Gr. XX., 18.
Porter & Coates, Books, 326.
Porter, R. K., California, 11.
Portilla de la Sierra, Corp. of, Marbles, 90.
Portland Brown Stone Quarries, Stoops, 53.
Portocalaki, M. A., Wheat, 309.
Pórtugol, F. P. de A., Gold dust, rocks, 82.
Portuguese Civil Eng. Society, Books, 369.
Portuguese Copper Mining Co., Ore, 94.
Portuguese Mining Co., Tin ore, 94.
Possilin, A., Cotton stuffs, woolen shawls, 316.
Postawka, L., & Co., Piano taboret, 110.
Postle, Sydney, Ice machine, 340.
Postles, J. P., Judge, Gr. XII., 17.
Poto Yani, K., Woolen, 296.
Pottecher, B., Covers, 199.
Potter, Ainsworth, & Co., Books, 327.
Potter, J. E., & Co., Books, 327.
Potter, T., Sons, & Co., Oil cloths, 119.
Potter, W. K., Shell goods, 127.
Pottier, Enamels, 194.

Pottier & Stymus Mfg. Co., Bedstead, etc., 111.
Pottin Register Mfg. Co., Parlor billiard table, 109; Registers, 330.
Potts, Robert, Educational books, 338.
Pouehan, A., & Co., Cigars, 264.
Pound, T. C., Wisconsin, 14.
Pourtier, M., Fountain, 190.
Poussielgue, R. P., Decorations, 193; Bronzes, 199.
Povan, Parrtaleon, History, 267.
Powel, R., Hare, & Co., Ores, 50.
Powell & Bishop, Dinner services, 147.
Powell, E., Wines, 159.
Power, J. L., Mississippi, 13.
Power, T. C., Montana, 13.
Powers, D., & Sons, Oil cloths, 119.
Powers & Weightman, Chemicals, 101.
Powhattan Mills, Muslins, 116.
Powre, Gillot, O'Kelly, & Co., Pens, 198.
Powrie, E., Leaf tobacco, 170.
Poydebard, St., Silk, 196.
Pozoblanco, Corporation of, Flannels, 275.
Pozoritta, Chief Mountain & Mining Administration, Pyrolusite, 76.
Pozuelo & Canto, F., Apparatus, 278.
Practical Technological Inst., Collection, 272.
Prado, M., Towel, 280.
Prado Paper Manufacturing Co., Paper, 289.
Pradoluengo Prov. Com., Flannels, 274.
Praechter Bros. & Co., Corkware, 206.
Prahran, Town Council of, Photographs, 162.
Prakke, J. E. & H., Belting, 361.
Prat, A., Dyed wool, 255.
Prats, Widow & Sons of José, Cards, 278.
Pratt, C., Clay, 73; Pottery, 188.
Pratt, Chas., & Co., Petroleum, 103.
Pratt, D. G., Ivory goods, 127.
Pratt, J. T., & Co., Tools, 137.
Pratt, Mrs., Brushes, 250.
Pratt, Read, & Co., Combs, 332.
Pravotoroff, G., Umbrellas, 318.
Pray Bros., Buggy, 381.
Prentice, J., Instruments, 329.
Preparatory School, Wax, 268; Botany, 269.
Presbyterian Board of Publication, Books, 326.
Prescott, G. S., Utah, 14.
President of the Women's Catholic Association, Church ornaments, 277.
Prestoe, H., Woods, 184.
Preston, J. E., Texas, 14.
Preston & Merrill, Yeast, 102; Boxes, 143.
Pretta, Pedro, Extract of coffee, 262.
Pretty, Grime, & Co., Prints, 119.
Prévézé, Government of, Dishes, 293; Carpet, 296; Cedras, 307.
Price & Browne, Wool, 168.
Price & Co., Books, 338.
Price, J. & C., & Bros., Bottles, 146.
Price, Jennings, Kentucky, 12.
Price's Patent Candle Co., Candles, 144.
Priest, W., Wool, 171.
Prieto, F., Fabric, 281.
Prieto, Guillermo, Publications, 267.
Prime, F., jr., Judge, Gr. I., 15.
Prince, Franklin, & Bullock, E. L., Model, 60.
Prince's Metallic Paint Co., Paints, 105.
Prindle, F. C., Drawings, 335.
Prindle, G. H., Muffs, 124.
Prins, M., Carpets, 220.
Prison, Director of, Rugs, 220.
Private Blind Asylum, Statutes, 354.
Probst, Gottfr., Toys, 205.
Prochoska, F., Pomades, 207.
Proctor, Wm., jr., & Co., Pepsin, 101.
Proprietors Queensland Journals, Papers, 179.
Prosser, W. F., Alternate, 9.
Prostes, H., Journals, 369.
Protestant Missionaries, Publications, 242.
Prouvost, Amédée, & Co., Wools, 195.
Providence College, Work, 342.
Providence Forge Co., Iron wheels, 77.
Providence Franklin Society, Minerals, 47.
Providence Gas Burner Co., Stoves, 114.
Providence Tool Co., Rifles, etc., 134.
Provincial Commission, Stalactites, 87; Calcined bone, 270; Basket, 277; Paper, 278.
Provincial Convent, Cloth, 276.
Pruckner, D., Toys, 205.
Prugue, E., Soap, 263.
Prunier, Pierre, Chemicals, 104.
Przibram & Co., Adrianople red, 207.
Public Comfort, Dep't of, Stationery, 336.
Public Education, Dep't of, Books, 344.
Public Institute for the Deaf, Dumb, and Blind, Pupils' work, 362.
Public Instruction Board, Books, 366.
Public Instruction, Ministry of, Maps, etc., 237.
Public Welfare, Society for Promoting the, Reports, 357.
Public Works, Dept. of, Sketch, 267; Yarns, 286; Shoes, 288; Hardware, 289; Plans, 345, 357.
Public Works Office, Drawings, 367.
Publishers', Printers', & Stationers' Club, 344.
Publishing and Printing House of the Orphan Asylum, Books, 347.
Pucci, Sansedoni Aless., Olive oil, 231.
Puebla, City of, Silks, 265.
Puebla, State Government of, Woods, 267; Sugar, skins, 268.
Puerta, Gabriel de la, Emetic tartar, 270.
Puertas, L., Medicine, 255.
Pugh, J. T., Auger bits, 137.
Puig, Felipe, Salt, 91.
Puig, J., & Co., Fabrics, 273.
Puira, Dept. of, Towels, 263; Cigars, 264.
Pujol, L., Hair flowers, 258.
Pujol, Nicanor, Iron ore, 83.
Pullman's Palace Car Co., Model, 337; Car, 382.
Pullna, Mineral Water Dir., Water, 76.
Pulvermacher Galvanic Co., Batteries, 331.
Pulvermacher, I. L., Instruments, 153.
Purdey, J., Guns, 152.
Purvis, G. E., Tennessee, 14.
Puschner, F. A., Buttons, 210.
Pusey, Jones, & Co., Iron work, 59.
Pusey, P., Minnesota, 13.
Putnam, G. P., & Sons, Books, 326.
Putnam Mfg. Co., Cottons, 116.
Pyachou, J. H., Wyoming, 14.

Q.

Quaker City Organ Co., Organs, 333.
Quarré, V., & Co., Shades, 114.
Quebec Advisory Board, Lime, 72.
Quebradella Company, Minerals, 86.
Queen, J. W., & Co., Microscopes, 329.
Queensland, Commissioners for, Views, 179.
Queensland, Govt. of, Ores, 67; Saddlery, 179.
Queensland Smelting & Assaying Co., Tin, 67.
Queirel, J., Depurative solution, 255.
Queiroz, G. J. de, Statistics, 369.
Queiroz, José de Sequeira Pinto, Raw silk, 286.
Quesada & Garcia, Soap, 271.
Quesnal, Sheriff, Lime, 72.
Quiamson, L., Fabric, 281.
Quick, H. C., Wines, 168.
Quigley, Albert, Wool, 337.
Quigley, P., Construction of Mach. Hall, 115.
Quigley, W. E., Horseshoes, 141.
Quijano, A., Cotton goods, 265.
Quinn, H. S., Mats, 163.
Quinn, P. T., New Jersey, 13.
Quint, S. H., & Son, Stencils, 137.
Quintana, Juan de, Sand, 277.

R.

Raccoon Furnace, Ores, 49.
Raccoon Mining and Manfg. Co., Iron, 59.
Radieri Bros., Flannel, 233.
Radiguet, Toys, 198; Mirrors, 345.
Raff, G., Rum, 180.

Raffin, Mrs. C. M., & Son, Muslins, 197.
Raffl & Co., Statues, 193.
Rafoul, H., Skins, 311.
Raftopoulos, N., Liquors, 313.
Ragosloosky Crown Copper Works, 99.
Rahari, Boots, 301.
Rahimé, Madame, Carpet, 296.
Rahimin, David, Cumin, 309.
Railroads of Jura-Vernoise, Photographs, 356.
Raimondi, Antonio, Map, 263.
Rainer & Son, Piano, 342.
Rakinié, Madame, Carpet, 296.
Ralero, E., Shoes, 276.
Ralston, J., Wool, 183.
Ramalho, José da Cunha, Hats, 287.
Ramazan, E., Tobacco, 309.
Rambach, C., Chair, 225.
Ramires & Ramires, Woven silks, 287.
Ramirez & Cuataparo, Maps, 267.
Ramirez, Luis, Cobalt, 87.
Ramirez, Miss Soledad, Cottage, 267.
Ramnäs Iron Works Co., Iron ores, 78.
Ramnäs Stock Co., Iron, 78.
Ramos, J., Mats, 280.
Ramos, Joaquin Antonio, Bottles, 289.
Rampal, J., Mats, etc., 273.
Rampazzini, Frederico, Chemicals, 231.
Ramsay, A., & Son, Paints, 187.
Ramsay, D., Wool, 159; Boots, 189.
Ramsay, Mrs. Ebba, Drawings, 362.
Ramsay, T., Paints, 187.
Ramsden, S., Paper, 161.
Ramsey Bros., Wine, 180.
Ramsing, T., Chocolate, 224.
Ramsing, Th., Linen fabrics, 223.
Rand, A. W., Heater, 374.
Randall, A., Chart, 182.
Randall, J. V., Phaetons, 380.
Randle, W. H., Medicines, 134; Coolers, 377.
Rania, T. de la, Fabric, 281.
Rankin, John, Building stone, etc., 72.
Ranney, T., Idaho, 12.
Ranniger, J. L., & Sons, Gloves, 204.
Ranny, R. P., Ohio, 13.
Ransford, H., Brine, 74.
Ransom, D. L., & Co., Adjustable desks, 111.
Rap, Eugenio, Collection of minerals, 84.
Rapalo, José, Galena, 87.
Rapate, M., Necklace, 302.
Raphaelian, G., Collars, 299.
Raphaélion, Gabriel, Brooches, 302; Tomahawk, 304.
Rasca Cement Exploring Co., Cement, 95.
Rasch, Clemens, Glass articles, 207.
Rasin, W. J., Coolers, 377.
Raskazoff, Stand, 319.
Rastergaeff, G., Iron, 99; Chemicals, bricks, 315.
Rath, Paul, Bay-window curtain, etc., 112.
Rathbone, Sard, & Co., Stoves, 375.
Rato, Antonio Moreira, Marbles, 94.
Raumer, C. V., Book, 349.
Rauss Ami, Dials, 355.
Ravenet, senior, Combs, 198.
Ravenstein, Ernest George, Maps, 338.
Ravesteijn, H. F., Stone, 220.
Ravon, H., Names, 237.
Rawbone, J. L., Guns, 190.
Rawbone, Thos., Cartridge creaser, 133.
Rawlins & Son, Smalts, 145.
Raybaud, D., Reading method, 343.
Raymond, Hipolito, Collection of minerals, 83.
Raynald, John, Inks, 104.
Raynor, E., Limestone, 68.
Raz Oglou Hussein, Coffee pots, 293.
Razakoula, A., Fabric, 293.
Razoula, Marble, 97.
Reach & Johnston, Base balls, 336.
Read, A. N., Implements, 328.
Read Carpet Co., Carpets, 122.
Read, J. C., Mats, 157.
Read, J. M., Cooking range, 376.
Read, M. C., Ornaments, 329.
Read, R. B., Berries, 157.
Read, Stevenson, & Co., Stone, 73.
Read, Wm. H., Perfumeries, etc., 106.
Real Del Monte Company, Minerals, 86.
Real, José, Carbonate of lead, 87.
Rebello & Co., Cotton fabrics, 253.
Reboucas, A., & Castro, Photographs, 367.
Rech, J., Buggy, 380.
Rechid Effendi, Lace, 298; Coverlet, 301.
Rectem, J., Embroidered picture, 217.
Redding, R. B., California, 11.
Reed, A., & Co., Bookbinding, 132.
Reed & Barton, Silverware, 113.
Reed, G. L., Judge, Gr. XV., 17.
Reed, H., & Co., Vinegar, 164.
Reed, S. G., Oregon, 13.
Reed, Sir C., Judge, Gr. XXVIII., 19.
Reefton Committee, Quartz, etc., 63.
Reese, Graff, & Woods, Steel, 56.
Reeve, R. H. & B. C., Oil cloths, 119.
Reeves & Eastburn, Furniture, 111.
Reeves, I. G., Wool, 165.
Reeves, S. H., & Co., Bed, 109.
Regad, A., jr., Diamonds, 197.
Regenhart, Raymann, & Kufferle, Table linen, 208.
Reggio Brick Manf'g Co., Bricks, 232.
Regis, Cisneros, Cream of tartar, 270.
Regnier, Ridge, 194; Gauze, 298; Wooden roofing, 346.
Rego, A. P., Clothing, 287.
Regordosa & Co., Cotton, 273.
Rei, J. J., Pharmaceutical preparations, 283.
Reich, Federico, Cordage, 261.
Reich, H. & Chr., Chemicals, 202.
Reichart, A., Shoes, 208.
Reichel, J., Colors, 315; Cotton stuffs, 316; Silk, 317; Embroideries, 318.
Reichert's Sons, F., Silks, 208.
Reid, A. W., Coal, 63.
Reid & Cooper, Stove, 374.
Reid, R., Marble mantelpiece, 188.
Reid, William, Ornaments, 172.
Reidle, E. G., & Co., Tin boxes, 376.
Reif, J., Jewelry, 209.
Reifer, F., Judge, Gr. XXI., 18.
Reiffenstein & Rösch, Chromos, 211.
Reiff-Huber, Bolting cloth, 212.
Reifschneider, F., Frames, 113.
Reig & Co., Silk, 276.
Reig, R., Cloth, 274.
Reilly, E. M., & Co., Rifles, 152.
Reimandi, Giuseppe, Cream of tartar, 231.
Reimer, Dietrich, Maps, 348.
Rein, F. C., & Son, Electric machines, 339.
Reinbot, Educational, 372.
Reinhardt, C., Bedstead, 188.
Reinwald, E., & Co., Books, 344.
Reis, H. F. dos, Canes, 254.
Reis, José Antonio, Raw silk, 286.
Reis, M. J. B., Judge, Gr. IV., 16.
Reis & Monteiro, Printing, 289; Lithographs, 370.
Reisinger Manf'g Co., Ink, 104; Locks, 115.
Reisky, N. C., Furs, 129.
Reissbarth, G. C., & Son, Brushes, 206.
Rekanié, Government of, Carpet, 296.
Relief Ass'n for the Needy, Reports, 360.
Remaggi Bros., Linen, 233.
Remigio, R., Grammar, 266.
Remington, E., & Sons, Fire arms, 133.
Remmey, R. C., Chemical apparatus, 106.
Remy & Co., Starch, 218.
Renau, A., Soap, 271.
Renen, S. van, & Co., Wines, 171.
Renfrew, G. R., & Co., Furs, 189.
Renfrew Manf'g Co., Ginghams, etc., 118.
Renick, Curtis, & Co., Buggy, 381.
Renner & Buchler, Jewelry, 204.
Rennes, D. W. van, Machine, 361.
Repetti, Joseph, Model, 179.
Repper, J., Gloves, 208.
Requiao, F. P., Hats, 253.
Resoagli, Luis, Quartz, 83.
Resor, W., & Co., Stoves, 375.

Resse, V., jr., & Bros., Decorations, 254.
Retchani, Government of, Silk, 297.
Retimo, Government of, Gall nuts, 306; Olives, 307; Wine, 313.
Rettig, C. A., Iron ores, 78; Iron, 79.
Rettig, J., Design, 110.
Reukauff, G. C., Bouquet tables, 112.
Reuleaux, Prof., Judge, Gr. XX., 18.
Reus, N., Brushes, 221.
Revere Copper Co., Bronze cannon, 59.
Revillon Bros., Furs, 198.
Revuelta, Carrillo, & Montes, Uteroscope, 278.
Rey Gomez, A., Box, 277.
Rey, senior, Linen fabrics, 216.
Reyburn, Hunter, & Co., Vanes, 139; Rods, 331.
Reyes, J., Shirting, 280.
Reyes, J. de los, Pantaloons, 281.
Reyes, L., Ornaments, 281.
Reyhner, F., Silk goods, 253.
Reymann, O., Essences, 280.
Reymyre Glass Factory, Glassware, 225, 226.
Reynal, L., Pharmacies, 192; Case, 199.
Reynante y Cancio, Manuel, Ores, 88.
Reynaud, Flannel, 195.
Reyner, F., Cotton goods, 253.
Reynolds, C. T., & Co., Paints, 104; Brushes, 142.
Reynolds, J., & Son, Range, 375.
Reynolds, J. P., Illinois, 12; Judge, Gr. XXIII., 18.
Reynolds, J. P., & Co., Escutcheons, 142.
Reynolds, John N., Salt, 171.
Reynolds & Volkel, Furs, 189.
Rezende, C. Xavier, Stalactites, 82.
Rezendes, B., Counterpane, 285.
Rezendes, Francisco de, Petticoat, 287.
Rheims, A., Screws, 199.
Rheingantz & Vater, Woolen goods, 253.
Rhenish-Nassau Co., Lead ores, 75.
Rhode Island Board of Education, Books, 322.
Rhode Island Cardboard Co., Cards, 132.
Rhodes & Co., Ores, 49; Iron, 56.
Rhodes, I. M., Chair, 135.
Rhoner, Frank, & Co., Reclining chairs, 112.
Riba Bros., Buttons, 277.
Ribas, E., Music, 366.
Ribas, Limas, Silk wefts, 287.
Ribas, M. de Sa, Alum, 82.
Ribe, F., Hats, 318.
Ribeiro, D. C. d'Almida, Violin, 369.
Riber & Co., Paper, 278.
Ribot & Bros., Hemps, etc., 273; Sandals, 276; Portmanteau, 277.
Ricart & Co., Prints, 273.
Ricasoli, Baron Bettino, Olive oil, 231.
Ricci, L., & Sons, Hats, 234.
Ricci, P., Sculpture, 235.
Rice, D., & Co., Books, 327.
Rice, H. T., Nevada, 13.
Rice, J. D., Rods, 331.
Rice, S. W., & Co., Base balls, 336.
Rich, F. H., Judge, Gr. XIX., 18.
Richard, B , Floor, 194.
Richard Borden Mfg. Co., Printing cloths, 118.
Richard & Granducontangne, Hematites, 87; Gravel, 90; Soft iron, etc., 92.
Richard, T., Son, Album, 358.
Richards, C. H., Delaware, 12.
Richards & Hartley Flint Glass Co., 108.
Richards, J. J. & J. M., Jewelry, 127.
Richards, Kearne, & Gasquoine, Soda, 144.
Richards, T., Lithographs, 157; Photos., 340.
Richards, W. S., Coffee, 172.
Richardson, Boynton, & Co., Furnaces, 374.
Richardson, C. D., & Co., Tents, 117.
Richardson, E., Judge, Gr. VIII., 16.
Richardson, G., Stone, 54; Stone pipe, 107.
Richardson, J. N., Playing cards, 132.
Richardson, J. N., Sons, & Owden, Linen goods, 149.
Richardson, McKee, & Co., Carriage, 381.
Richey, M. S., Stone, 53.
Richland Furnace Co., Ores, 48; Iron, 58.
Richland, G., Butterflies, 180.
Richlin, J., Leather, 254.
Richman, J. W., Wines, 168.
Richmond, Backus, & Co., Ticket case, 111.
Richmond, Geo. Q., Colorado, 11.
Richmond Marble Co., Pedestal, 53.
Richmond Mfg. Co., Calicoes, 119.
Richter, C. W., Instruments, 351.
Richter, E. A., Embroidery, 209.
Richter, F., Ultramarine blue, 192.
Richter, I., & Sons, Cotton velvets, 208.
Richter-Linder's Institute, Report, 357.
Rickards, Charles, & Ayscough, Silks, 150.
Ricker, R. E., Judge, Gr. XVIII., 18.
Ricla, Corporation of, Marbles, 90.
Riddle, G. W., New Hampshire, 13
Riddle, J., Cheese, 163.
Riddle, J., Son, & Co., Tickings, 116.
Riddle, L. F., Delaware, 12.
Ridgway, J., Heirs of, Revolving battery, 134.
Riedl von Ridenstein, D. & F., China, 207.
Riefler, C., Instruments, 349.
Rieken y Gerdes, George, Sulphur, 88.
Riera, L. A., & Co., Corks, 272.
Rieter-Biedermann, J., Music, 358.
Rieter, J. J., & Co., Photographs, 356; Plans, 357.
Rietschoten, van, & Houwens, Model, 361.
Rigand & Dusard, Chemical preparations, 192.
Rigaud & Co., Soaps, 192.
Rigby, J., & Co., Guns, 152.
Riggins, G., Clay, 73.
Riggs & Bro., Clocks, 329.
Riggs, J., Wheat, 167.
Righini Bros., Umbrella, 234.
Rigl, R., Bed, 208.
Rigollot, Meters, 344.
Rigollot & Co., Poultice, 192.
Rigtrup, R. S., Mechanism for watches, 355.
Riha, Ernst, Water colors, 207.
Riise, A. H., Bay spirit, 223.
Rijperman, C. J. F., Painting, 221.
Rikanié, Government of, Mineral water, 97.
Rikli, C., Tables, 353.
Rikogunsho, Imp. War Dept., Litters, 247.
Riley & Lynch, Trimmings, 128.
Riley & May, Billiard tables, 188.
Rimmel, E., Perfumery, 145; Valentines, 152.
Rina, Chemise, 299.
Rinaldo, Raffaele, Olive oil, 231.
Rin-ami Hanzo, Fans, 247.
Ringerige's Nickel Works, Ores, 80.
Rinko, P., Hose, 299.
Rio de Janeiro Artistical Inst., Engravings, 366.
Rio de Janeiro Arts and Trades Lyceums, Drawings, 366.
Rio de Janeiro Com. Inst., Drawings, 366.
Rio de Janeiro Faculty of Med., Books, 366.
Rio de Janeiro, Gen Com. from, Guitars, 367.
Rio de Janeiro House of Correction, Boots, 253.
Rio de Janeiro National Mint, Coins, 367.
Rio de Janeiro National Printing Office, 366.
Rio de Janeiro Naval School, Books, 366.
Rio de la Loza, M., Chemicals, 265.
Rio de la Plata Indus. Society, Cloth, 257.
Rio, Eustaquio, Arseniate of cobalt, 87.
Rio Grande do Norte, Province of, Boxes, 274.
Rio Grande do Sul, Army Arsenal of, Metal meridian, 366.
Rio Junior, J. do, Tiles, 284; Statuettes, 370.
Rio, Rafael del Peñaranda, Bridles, 279.
Riosa, J., Fabric, 281.
Rio Tinto Co., Ores, 88.
Rio Vizella Weaving Co., Yarns, 285.
Ripka & Elton, Cotton goods, 119.
Ripley & Co., Glassware, 108.
Riquieri & Co., Brandy, 262.
Riscal de Alegre, Marquis of, Clay marl, 91.
Rischbieter, C., Window shades, 203.
Risdon Iron & Locomotive Works, Drawings, 335.
Riso, Isidoro, Soapstone, 84.
Ritch, W. G., New Mexico, 13.
Ritchie, E. S., & Sons, Instruments, 329.

Ritchie, J., Wine, 164.
Ritchie, J., & Sons, Brass, 190.
Ritter & Co., Jewelry, 204.
Rittmeyer, B., & Co., Dwellings, 357.
Ritze, P., Washington Terr., 14.
Riu-Kiu-han, Cloths, 245; Paper, 247.
Rivas & Co., Prints, 273.
Rivas, José, Book, 267.
Rivera, T. R., Book, 266.
Riverside Iron Works, Nails, 142.
Rives, Furniture, 343.
Riza Effendi, Candles, 291; Fruits, 371.
Rizzi, A., Blinds, 233.
Rizzo Giorki, Frame, 293.
Rizzuto Carmelo, Essences, 232.
Roach, J. C., Bedstead, 110.
Roache, A. L., Indiana, 12.
Roballo, J. J., Coat, 253.
Robb, J. M., Finance, 11.
Robbi & Co., Chocolate, 214.
Robbins & Appleton, Cases, 333.
Robbins, Clark, & Biddle, Silverware, 113; Jewelry, 127; Cutlery, 139; Clocks, 330.
Roberst, E., Frame, 272.
Robert, G., Widow & Son, Merinoes, 195.
Roberts, A. & P., Iron, 59.
Roberts, C. D., Bicycles, 383.
Roberts, Ch. W., Maine, 12.
Roberts & Co., Building sandstones, etc., 72.
Roberts, D., Bicycle, 154.
Roberts, Henry, Steel, 58.
Roberts & Herell, Metal goods, 126.
Roberts, J., Phaetons, 154, 383.
Roberts, Rev. H., Manuscripts, 327.
Robertson, Almanac, 179.
Robertson Bros., Photographs, 162.
Robertson, J., Buggies, 157, 383; Fleece, 161.
Robertson, Mrs. S. E., Epergne, 173.
Robertson, P., Tools, 190.
Robertson, Robt., Model of gold fields, 70.
Robertson, W. W., Birds, 163.
Robinot, Ch., Gas fixtures, 194.
Robinson Bros. & Co., Soaps, 103.
Robinson, Fowler, & Co., Brooms, 380.
Robinson & Pratt, Inks, 105.
Robinson, R., Nevada, 13.
Robinson, Savage, & Co., Books, 132.
Robinson, Vincent, & Co., Carpets, 150.
Robion, J., Hair flowers, 259.
Robitaille, Dr., Limestone, 72.
Robitsek, H., Instruments, 351.
Robledo, L. P., Clogs, 276.
Robles, Miss R., Embroidery, 265.
Robson, Albert, Spikes, 228.
Roca Bros., Fishing line, 278.
Roca, J. E. de, Fabric, 281.
Rocandio, Jorge, & Sharby, Phosphate, 87.
Rocco, F., Olive oil, 232.
Rocha, Francisco José da Silva, Pouches, 28.
Rocha, J. P. da, Buttons, etc., 254.
Rocha, Miss A., Music, 266.
Rocha, Polybio da, Furniture, 253.
Rochambeau, Le Marquis de, Judge, Gr. VII., 16.
Rochester Tumbler Co., Glass tumblers, 109.
Rockhill Iron & Coal Co., Ores, 48; Iron, 57.
Rockhill & Wilson, Clothing, 125.
Rockland Slate Quarry, Slates, 72.
Rockville Manufacturing Co., Cassimeres, 120.
Rockwood, Geo. F., Photographs, 334.
Rodanet, A. H., Watches, 345.
Rode, C. N., Ink, 229.
Rodek Bros., Jewelry, 209; Leather goods, 210.
Röder, C. G., Prints, 348.
Rodgers, S. C., Wagon, 381.
Rodman, R., Doeskins, 120.
Rodney, J. H., Alternate, 9.
Rodoreda, F., Indigo, 280.
Rodrigues de Vasconcellos, M., Judge, Gr. VI., 16.
Rodriguez, A., Cloth, 274; Satin, 275.
Rodriguez, A. A., Writing desk, 253.
Rodriguez Bros., Cloths, 274.
Rodriguez, J., Indigo, 280.
Rodriguez, L., Tintarron, 280.
Rodriguez Mambillar, M., Cloth, 275.
Rodriguez, R., Boots, 276.
Rodriguez, S., Mustard, 259; Spurs, 260.
Rodriguez & Sangronis, Boots, 257.
Rodriguez, V., Flax seed, 259; Harness, 260.
Rodriguez, Zurdo, Saddles, 279.
Rodriques, José Pereira, Pharmacies, 289.
Roe, W. A., Boots, 151.
Roelens, D., Plan, 360.
Roger & Montlouis, Papers, 199.
Rogers, C., & Bros., Trimmings, 143.
Rogers, Duck, & Lewis, Liquid, 374.
Rogers, J. & J., Iron Co., Iron, 57.
Rogers, Salamanca F., & Co., Claret, 262.
Rogers Upright Piano Co., Piano, 333.
Rogers, W. A., Machines, 329.
Rogers, W. D., & Co., Carriages, 380.
Rogoslooski Crown Copper Works, Ores, 98.
Rogul, A., Teeth, 266.
Rohan, General de Beaurepaire, Chart, 367.
Rohr, Walter von, A., Combs, 213.
Rohrbeck & Goebler, Air pump, 135.
Rohrer, J., Refrigerator, 376.
Rohrman, J. Hall, & Son, Caddies, 140.
Roibon, E., Herbarium, 259.
Roibon, F., Fabric made by Indians, 256.
Roiz de la Parra, G., Cotton, 273.
Rojas, J. M., Mats, 280.
Rojas, J. M. de, Hats, 281.
Rokopolani, H., Cloth, 301.
Rola, Vincent, Music method, 338.
Rolandi, G. B., Crystals, 233.
Rolando, G., Ink, 232.
Rolffs & Co., Cotton and mixed goods, 203.
Rolhle, Louis, Knobs, 206.
Rolin, H., Son, & Co., Shawls, 217.
Rollins, G. D., Burner, 114.
Roman, Gabriel, Coal, 84.
Roman, Medardo, Wild fennel, 259.
Romani, E., & Wife, Embroidery, 234.
Romani & Puigdengolas, Paper, 277.
Romani & Tarres, Sons of, Paper, 278.
Romano, Gaetano, Sulphur, 81.
Romay, Gabriel, Ores, 83.
Romer & Co., Locks, 141.
Romeu & Barella, Bricks, 272.
Romier, Cuatafraro T., Book, 267.
Romirez, S. & C. J., Rocks, 86.
Rommel, W., Works, 342.
Römmler & Jonas, Prints, 348.
Rom Nickel Works, Ores, 80.
Ronchetti Denti, B., Gloves, 276.
Rondeau Bros., Instruments, 199, 200.
Roos, P., Drawings, 321.
Roosevelt, H. F., Organs, 332.
Root, R. C., Anthony, & Co., Stationery, 131.
Roothaan, L., Music, 361.
Roots, L. H., Arkansas, 11.
Roozin, T., Harness, 320.
Rörstrand Stock Co., Feldspar, 78; China, 226.
Rosa & Carin, Tools, 279.
Rosa, J., Napkins, 285.
Rosa, M., Cassimeres, 265.
Rosa Martinez, J. de la, Syrup, 270.
Rosa, Vicencia, Woolen fabrics, 286.
Rosales, G., Hats, 281.
Rosamond Woolen Co., Cassimeres, 189.
Rosario Hacienda, Cottons, 265.
Rosas, J., Books, 266.
Rose, J. L., Magnet, 363.
Rose, Katie, Kapas, 250.
Rose, S. C., Porcelain, 241.
Rose, W., & Bros., Tools, 137.
Rosell, P. A., & Co., Wall paper, 227.
Rosenbach & Co., Shirts, 124.
Rosenberg & Cohen, Cotton goods, etc., 203.
Rosenberg, D., & Son, Varnishes, 104, 374.
Rosenberg, S., Brandy, 171.
Rosendahl Mfg. Co., Paper pulp, 227.
Rosengarten & Sons, Chemicals, etc., 101.
Rosenlunds Spinning Co., Yarns, 226.
Rosenstein, W., Chemicals, 201.
Rosetti, C. G., Album, 234.

Rosewood Mine, Coal, 67.
Rosier, J., Boots and shoes, 161.
Rosillo, Don F., Judge, Gr. XXIII.,18.
Rospigliosé, Prince Clemente, Olive oil, 231.
Rosquellas, J., Medicines, 255.
Ross, A., Petroleum, 63; Odonmeter, 342.
Ross & Co., Microscopes, 339.
Ross, John L., Cotton goods, 117.
Ross, R. D., Wines, 168.
Ross, W. J., Building, 378.
Rosseli, P., Periodical, 368.
Rosselli Del Turco, Olive oil, 231.
Rossi, A., Idaho, 12.
Rossi, L. C. C., Soaps, 232.
Rossi, T., Wheat, 163.
Rosso, L. Cav. C., Ropes, 235.
Röstranda Stock Co., Porcelain, 225.
Rotali, F., Olive oil, 232.
Roth, F., Gloves, 209.
Roth, J., Jewelry, 204.
Roth, M., Maps, 363.
Roth, Wm., Judge, Gr. XX., 18.
Rothenbach, Gas works, 356.
Rothschild, Bros. & Gutman, Shirts, 125.
Rothschild, J., Books, 344.
Rouault, Ch., Syrup, 192.
Roucheu, Skins, 311.
Roulleaux du Gage, M., Judge, Gr. XI., 17.
Roullies & Co., Brushes, 200.
Roure, B., Son, Materials for perfumery, 193.
Rous, E., Inkstand, 198.
Roussel, E., Fabrics, 195.
Roussio, T., Ochre, 292.
Routlege, Wm., Coal, 71.
Roux, Charles, jr., Soaps, 192.
Roux, L., Heaters, 194.
Rowand, J. R., Apparatus, 136.
Rowland, B., & Co., Shovels, 137.
Rowland, J., & Co., Iron, 55.
Rowland, Joseph S. C., Ink, 105; Pad, 130.
Rowland, W. & H., Springs, 378.
Rowlands & Lewis, Tonics, 65.
Rowley, Wilson, & Co., Coal, etc., 63.
Rowney, George, & Co., Varnishes, 145.
Roxbury Carpet Co., Carpets, 122.
Roxo, Monteiro, & Lemos, Book, 366.
Roxo, Viuva de A., Hats, 287.
Roy & Co., Mechanical chair, 188.
Roy, J., & Co., Yarns, shawls, 120.
Royal Agricultural Society, Apparatus, 363.
Royal Baking Powder Co., Yeast, 101.
Royal Carpet Manufactory, Hangings, 220.
Royal Economical Society, Yeast, Costumes, 363.
Royal Porcelain Manufactory, Bas-relief, 223.
Royal Porcelain Works, Porcelain, 202.
Royal Prussian & Ducal Brunswick Smelting Works, Ores, 75; Chemicals, 201.
Royal Prussian Ministry of Commerce, Trade, & Public Works, Books, 350.
Royal Salt Works, Salt, etc., 201.
Royal School of Art Needlework, 147.
Royal Society for the Prevention of Cruelty to Animals, Publications, etc., 360.
Royal Society of Tasmania, Tables, 182.
Royal Staff, Denmark, The, Maps, 224.
Royal Swedish Commission, Books, 362, 363.
Royal Swedish Commissioner, Figures, 226.
Royal Swedish Staff General, Maps, 363.
Royal War Office, Sweden, Arms, etc., 227.
Royo, Remegio, Wines, 268.
Rubaton, Ges, & Co., Carbonate of soda, 192.
Rubber Step Manufacturing Co., Steps, 379.
Rubidge, C., Wool, 171.
Rubio Perez, Juan, Serpentine, 90; Syrups, 278.
Rubolti, C., Meter, 344.
Ruddenklau, J. G., Wheat, 156.
Rudder, E. W., Linens, 157; Fibre, 159.
Rudolph & Walter, Buffet, 336.
Rudy, C., Book, 344.
Rue, Mrs. S., Furniture polish, 104.
Rue, T., Stencils, 138.
Rueda, Manuel, Iron, 89.
Ruedas y Pedraza, Soap, 271.
Ruffer & Co., Sheet zinc, 75; Chemicals, 201.
Ruffin, J. B., Hats, 197.
Rufus, Fr. Wilh., Account books, 205.
Rui & Tolon, White metal, 92.
Ruis & Co., Paper, 278.
Ruis, D., Book, 266.
Ruiz, Vincent F., Sandals, 276.
Rul, Miguel, Photographs, 269.
Rull, Miguel, Minerals, 86.
Rumieri, G., Hats, 234.
Rumpelmayer, V., Models, 352.
Rumpp, C. F., Leather goods, 129.
Rumpp, Chas., Leather goods, 129.
Runcorn Soap & Alkali Co., Soda, 144.
Rundell, Joseph B., Maps, 339.
Rupertus, J., Revolvers, 133.
Rusch, P. O., Furniture, 225.
Rush & Co., Oils, 103.
Rush, E. L. G., Texas, 14.
Rusk, T. J., Swing, 114.
Rusque, Juan, Claret, 262.
Russell, Grand Manan, Copper glance, 70.
Russell, H. G., Car coupler, 382.
Russell, J., Sleighs, 381.
Russell, John, Cutlery Co., Knives, 139.
Russell, S., Clay, 73.
Russell, T., Wool, 165.
Russell, W. P., & Co., Show case, 110.
Russell, W. W., Gold in quartz, 70.
Russell, Willis, Antimony ore, 71.
Russian American India Rubber Co., 320.
Russian Navigation & Trade Co., Coal, 98.
Russian Rail Mfg. Co., Ore, 98; Needles, 319.
Russo, C., Olive oil, 232.
Rustad, A. S., Norwegian furs, 230.
Rustem Effendi, Judge, Gr. IV., 16.
Rutherford, A., Wool, 165.
Rutland Marble Co., Marble, 53.
Rutledge, W., Fleeces, 165.
Rütschi, S., & Co., Silks, 212.
Ruyter, C. de, Carriages, 218.
Ryckere, E. de, Brushes and pencils, 218.
Ryder Bros., Maize, 158; Cotton, 159.
Ryder, W. H., Tackle, 152; Taps, 153.
Ryffel & Co., Silks, 212.
Ryn, J. H. van, Wines, 170.
Rziha, F., Designs, 351.

S.

S. Joao d' El Rei Commission, Plaster, 82.
Saal, F. O., Model of larynx, 206.
Saame & Co., Chemicals, 201.
Saavedra Ramirez, Alejo, Magnesia, 91.
Sabacheira, Parochial Board of, Limestone, 95.
Sabate, Brunet, Instruments, 92.
Sabato Bros., Belting, 277.
Sabin, J., & Sons, Dictionary, 327.
Sabis, B., Foot rule, 342.
Sabro, I. C., Bitters, 224.
Sabut, G., Fancy articles, 254.
Sachs, Joseph, & Co., Umbrellas, 205.
Sachse, E., & Co., Chemicals, 201.
Sachse, F., & Son, Dress shirts, 123.
Sacken, Boetticher, Schmidt, & Ooss, Millinery, 317.
Sacquelen, F., Samples of stone, 77.
Sacré, L., Lace, 217.
Sado, J., Linens and towels, 273.
Saenz Martinez, J. B., Candles, 271.
Safarana, J., Candles, 252.
Safford, J. M., Tennessee, 14; Judge, Gr. I, 15.
Safonoff, S. A., Toys, 320.
Safran Bolu, Morocco, 310.
Sagamore Mills, Printing cloths, 118.
Sagarminaga, G., Clay, 272.
Sage, F., Show cases, 147.
Sagoundjaki, L., Gauze, 298.
Sahak Ousta, Woolen, 295.
Sahalim, Bacbac, Honey, 312.
Sahlbom, W., Maps, 363.
Said Effendi, Carpets, 296.

Saint George, W. H., Book, 353.
Saito, Z., Vase, 249.
Saiz, J., Armor, 279.
Sakaguchi, S., Emb'd'y, 246; Pictures, 249.
Sakai, T., Photographs, 249.
Sakaiken, Local Government of, Cloth, 245.
Sako, Bracelets, 302.
Sak-Volders, J., Bed ticking, 216.
Sala, Baladia, & Coll, Cotton hosiery, 276.
Saladrigas Bros., Prints, 273.
Salamanca Mining Society, Tin ore, 89.
Salas, Corporation of, Marble, 90.
Salas de los Infantes, Prov. Com. of, Costumes, 276.
Salas, Manuel M., Marble, 84.
Salas & Terry, Rum, 264.
Salazar, Miss, Photographs, 267.
Salbé, D., Rice, 309.
Salcedo, L., Bogota, Oil of wood, 261.
Salcedo, Uladislas M., Ore, 83.
Saldanha da Gama, Capt. L. F., Judge, Gr. XVI., 17.
Saldanha, J. de, Judge, Gr. VI., 16.
Saldanha, José de, Judge, Gr. XXIII., 18.
Saldanha, L. de, Compass, 366.
Saldne, Erzeroum, Salt, 291.
Salé Agha, Madame, Pillow case, 295.
Salé, Z., Indigo, 292.
Salem Shade Roller Co., Rollers, 113.
Salerno, Special Committee of, Linen, 233.
Salga, Maria da, Hat, 287.
Salgado, Rodriquez R., Jackets, etc., 276.
Salgueiro, N. F. D., Pharmacies, 283.
Sali Agha, Madame, Bag, 296.
Sali Djestine, Trimmings, 301.
Sali Hadji, Wheat, 308.
Sali Ichkodra, Poutargue, 304.
Sali Kamber, Silk, 297; Cord, 299.
Saliaz, J. V., Cosmetic, 271.
Saliceto, Correction Dept. of, Cloths, 233.
Saligo, Vandenberghe, Lace, 217.
Salih, Tissue, 293.
Salih, I., Barley, 309.
Saline de Coniah, Salt, 291.
Salinella, Baron Michele, Rock salt, 231.
Salisbury & Co., Flags, 142.
Sallandrouze, S. P., Glass, 108; Mirrors, 113.
Sallares & Son, Juan, Fabrics, 274.
Salles, Germano José de, Marbles, 95.
Salles, Joaquim José de, Marbles, 94.
Salmon Com. of Tasmania, Trout, 183.
Salobanoff, D. A., Crosses, 319.
Salomó & Co., Canvas, 273.
Salomon, Soap, 291; Olives, 307.
Salomon, Wheat, 309; Skins, 311; Cotton, 313.
Salonica, Government of, Oil, 291.
Salta, Prov. Com. of, Galena, 83; Salt, 255; Goblets, 256; Cuirass, etc., 257; Boots, 258; Medicinal herbs, 259; Harness, 260.
Salter, J. G., Console tables, 112.
Salter, Samuel, & Co., Coatings, 149.
Salter, W., & Son, Wines, 168.
Saltinski Crown Iron Works, Ores, 98.
Saludares, W., Hats, 281.
Salva, de Pelle, Claret, 262.
Salvi y Don, Antonio, Combs, 277.
Salvo, C., & Sons, Gold work, 234.
Samakon Factory, Iron ore, 97.
Samar, Provincial Board of, Fabric, 281.
Samarina Yani, Knife, 305.
Sammes, J. B., & Co., Hubs, 379.
Samora Correa, Baroness, Salt, 283.
Samos, Government of, Galena, 96; Zinc, 97; Soap, 291, 297; Resin, almonds, 307; Seeds, 309; Honey, 312; Cocoons, 314.
Samos, J. Goncalves de, Paper, 289.
Samuelson, S. H., Peat, 78.
San Carlos, Sub-commission of, Clay, 85.
San Juan de Alcaráz Metallurgical Soc'y, Brass articles, 272.
San Juan, Govt. of the Prov. of, Minerals, 83; Cloaks, 257; Hats, 257; Harness, 259.
San Juan, Metallurgical Co. of, Cartridges, 278; Metal articles, 579.
San Juan Provincial Com., Stone, 84.
San Luis, Ladies' Commission, Cups, 256.
San Luis, Provincial Commission of, Minerals, Indian articles, 83; Gold from La Carolina mine, 85; Crockery, 256; Mattress, 257; Hats, 258; Herbs, 259; Bristle, horse-cloth, harness, etc., 260.
San Manuel, Asylum of, Bag, 277.
San Paulo House of Correction, Bridles, 254.
San Paulo, Province of, Iron ores, 81.
San Paulo, Province of, Pharmaceutics, 252; Straw furniture, 253.
San Pedro do Sul, Province of, Coal, 82.
San Pedro do Sul, Province of, Bricks, 252.
San Pedro, Governor of, Fabrics, 280.
San Rafael Company, Minerals, 86.
San Roman, P., Wax, 271.
Sanchez, F., Stone, 85; Trimmings, 276.
Sanchez, Miguel, Salt, 270.
Sancta Catherina, Province of, Coal, 82; Furniture, 253.
Sanctis, G. de, Judge, Gr. XXVII., 19.
Sand, M., Flowers, 127.
Sandberg, A., Penmanship, 364.
Sandberg, A. Cook, Writing chair, 225.
Sandberg, C. P., Drawings, 335.
Sande, Olivares G. de, Ore, 88.
Sandeman, F. S., Yarns, 148.
Sanders, W., Cotton goods, etc., 203.
Sandford & Co., Books, 132.
Sandford Mills, Robes, 121.
Sandhurst, City of, Photograph, 162.
Sandrot, José, Stones, 84.
Sandusky Tool Co., Planes, 138.
Sandusky Wheel Co., Woodwork, 379.
Sandvikens Iron Works, Iron, 79.
Sandy Creek Claim, Quartz, 166.
Sandy Creek Puddling Co., Quartz, 166.
Sangalan, M., Towels, 282.
Sangster & Co., Umbrellas, 151.
Sanhudo, J. F., Instruments, 369.
Sanóvikens Stock Co., Iron ores, 78.
Sans de Mardevall, Fans, 277.
Santa Candida School for Girls, Penmanship, 366.
Santa Cruz, Simon de, Sand, 84.
Santa Ella, Corporation of, Waters, 91.
Santa Fé, Provincial Commission of, Embroidery, 258; Horse cloths, etc., 260.
Santa Rosa, House of, Embroideries, 263.
Santa Teresa, House of, Artificial flowers, 263.
Santain, E. T., Judge, Gr. XXVII., 19.
Santander Mining & Foundry Co., Ores, 89.
Santi, A. A., Perfumery, 232.
Santiago del Estero Prov. Com., Stones, 84.
Santiago del Estero, Prov. Com. of, Ashes, 255; Counterpanes, 256, 257; Embroidery, 258; Herbs, 259.
Santiago Fuentes, I., Acid, 271.
Santiago, Villa, Coffee, 268.
Santiagós & Co., Tiles, 272.
Santillan, J. C., Cuffs, 258.
Santini Bros., Straw, 234.
Santo Thirso, Antonio dos Reis, Shoes, 287.
Santos, A. M., Mats, 285.
Santos, á Quintino dos, Music, 366.
Santos & Bro., Mirrors, 284; Hats, 288.
Santos, Francisco A., de los, Stone, 84.
Santos, J. A. dos, Marble, 94; Marble bath, 284; Counterpanes, 285; Woolen fabrics, 286; Nails, 289.
Santos, J. M., Matting, 285.
Santos, Manuel Moreira, Tools, 289.
Santos, P. C. dos, Hats, 253.
Santos, Rocha, & Morena, Tubes, 289.
Sanz, Manual, Cloth, 274.
Sanz, Mariano, Jet, 91; Cloths, 274.
Sanz & Sons, Cloth, 274.
Sapojnikoff, A. & W., Silk, 317.
Saracini, Alessandro, Olive oil, 231.
Sarak, Salif, Saddles, 305.
Sarasin & Co., Dwellings, 357.
Saratoga Victory Mfg. Co., Cambrics, 116.
Saravin, Pablo, Sulphate of lime, 84.

Sarchet, J. W. & J. T., Sand, kaolin, 54.
Sarettiere, G., Lamps, 233, 235.
Sarg, F. A., Son, & Co., Wax candles, 207.
Sargadelos Foundry & Delft Factory, Clay, 91; Ingot, 92.
Sargent, D., Salt, 173.
Sargent & Greenleaf, Locks, 142.
Sargent & Ham, Phaeton, 381.
Sargent, W. P., & Co., Buggies, 381.
Sarmento, A. E. de, Journal, 369.
Saronkhan, Government of, Ore, 97; Opium, 304; Gall nuts, 306, 309; Cotton, 313.
Sarradj Moustapha, Saddle girth, 305.
Sarral, Lokhia, Pyrites, 96.
Sarral, Mouradite, Galena, 96.
Sartain, J., Chief of Bureau of Fine Arts, 10.
Sarton, G., Hats, 276.
Sartorious, F., Analytical scales, 349.
Sassi Nahil, Bracelets, 302.
Sauberlich, A., Chemicals, 201.
Saucon Iron Co., Ore, 50; Pig iron, 57.
Sauders & Co., Soaps, 220.
Sauerländer, H. R., Manuals, 354.
Saumillan, M., Cloth, 275.
Saunders, S., Walking canes, 189.
Saunders, S. P., Shells, etc., 173.
Saunders, Wm., Perfumery, 187.
Sauter, A., Cigars, 214.
Sauvage & Ruck, Bronzes, 194, 199.
Savage, A., Idaho, 12; Judge, Group I., 15.
Savage, Alfred, & Son, Oil, 187.
Savage, Keyser, & Stovell, Acids, etc., 102.
Savary & Rondeleux, Jewelry, 197; Watches, 344.
Savery, J., Massachusetts, 12.
Savi Faki, Moustapha, Morocco, 310.
Savournin, W. H., Toilet powders, etc., 105.
Sawin, L. H., Cane-seat chairs, 112.
Sawyer & Buckley, Tables, 109.
Sawyer, R. H., & Co., Woods, etc., 173.
Sawyer Woolen Mills, Cassimeres, 120.
Saxlehner, Andreas, Mineral water, 76.
Saxon Thuringian Co., Chemicals, 201.
Sayas Karabetli, Silk, 297.
Sayo, Veja de la, Oil, 268.
Says, J., Boots, 276.
Sbertoli, Giuseppe, Carbonate of lead, 231.
Scammano, Cav. Michele, Cedrats, 81.
Scanian Cement Co., Cement, 78.
Scapatura, A., Music, 368.
Scaraviglia, Torquato, Album, 365.
Scarselli, B., Gruma, etc., 232; Hats, 234.
Scattergood, W. W., Drain tile, 107.
Scavo Vita Brothers, Sulphur, 81.
Schaar, E. E. A., Judge, Gr. XVIII., 18.
Schachner, F., Plans, 352.
Schadelbauer, V., Buttons, 209.
Schaefer & Co., Cloth, 203.
Schaerer, Emil, & Co., Silks, 213.
Schaetzler, G. E., Metal leaf, 202.
Schafft, Fridolin, Sideboard, 111.
Schakal, A., Silk, 297.
Schalck, H., Buttons, 288; Nails, 289.
Schaller, J., Looking glasses, 202.
Schalton, Pierry, & Co., Mineral waters, 219.
Schantz & Kats, Jewelry, 204.
Scharf, J. T., Maryland, 12.
Scharlach, Louis, jr., Roofing, 75.
Schastey, George A., Furniture, 110.
Schaum, J. P., Kettles, 277.
Schedler, J., Globes, 321.
Scheehan, Diogo Jorge, Kid gloves, 287.
Scheffer, E., Pepsin, 101.
Schehl, C. W., Jewelry, 204.
Scheidecker, Ch., Machines, 199.
Scheider, J., & Co., Goods, 377.
Scheidl, A., Gold frames, 208.
Scheitlin & Widmer, Embroideries, 213.
Scheitlin & Zollikofer, Manuals, 354.
Scheller, Ferdinand, Malt preparations, 205.
Schenck, J. H., Clock, 330.
Schenck, J. V., Mattress, 110.
Scherer Bros., Kirschwasser, 214.
Schermerhorn, Chas., Stand and rack, 112.
Schermerhorn, J. W., & Co., Books, charts, school material, 321.
Schickendantz, F., Medicinal herbs, 259.
Schikendantz, M., Quilt, 257.
Schidebalaki, H. N., Oil, 291.
Schiedmayer, J., Piano, etc., 350.
Schiedmeyer, J., Judge, Gr. XXV., 19.
Schier, H., Mirror, 113.
Schilizzi, E. F., Silk, 297.
Schiller, Jos., & Co., Hats, 126.
Schilling, V. Chr., Military weapons, 205.
Schimmel & Co., Essential oils, 202.
Schimmelpfing, A., Kaolin, 82.
Schirin Agha, Pyrites, 96.
Schisshyte-Molnebo Iron Works, Ores, 78.
Schisshyttan-Molnebo Mfg. Co., Iron, 79.
Schit Mohammed, Gall nuts, 306.
Schlaepfer, J. U., Muslin, 212.
Schlafhorst & Brüel, Cotton goods, etc., 203.
Schlegel, E., Plates, 348.
Schlegel, J., Toys, 205.
Schleife Tanneries, Leather, 214.
Schlenk & Lutzenberger, Toys, 205.
Schlesinger, C., Judge, Gr. XXVII., 19.
Schlesinger, Martin, Paper letters, 205.
Schlessinger & Lummer, Leather, 350.
Schleuerpflug, E., Toys, 205.
Schlieper & Baum, Calico, 203.
Schlimp, C., Designs, 352.
Schloglmuhl Paper Factory, Paper rolls, 210.
Schlotterbeck, A. S., Thermometer, 329.
Schlyter, G. R., Costumes, 363.
Schmid, Jos. Ed., Concave glass articles, 207.
Schmidl Sons, W., Passementerie, 208; Haberdashery, 209.
Schmidt, A., Mineral waters, 85.
Schmidt, A., & Co, Glass, 215.
Schmidt, Brothers & Sisters, Window glass, 215.
Schmidt, C., Cement, 98; Oil, 315.
Schmidt, Devillez, & Co., Glass, 215.
Schmidt, E., Axles, 320; Spring tester, 383.
Schmidt, Emile Schaerbeck, Cordial, 219.
Schmidt, F., Cosmetic, 315; Models, 352.
Schmidt, H., Designs, 351; Models, 352.
Schmidt, H. W., Books, 348.
Schmidt, Heinr., & Gunther, C., Books, 348.
Schmidt, J. Ph., & Sons, Woolens, 208.
Schmidt, Joseph, Bitters, 214; Apparatus, 351.
Schmidt, Major, Rifle, 213.
Schmitt, F., Wine, 164.
Schmitt, H., Music, 351.
Schmitt, L., Wheat, 163.
Schmitt, Nicolau, & Co., Harness, 254.
Schmitz, F. A., & Co., Skins for hats, 218.
Schmitz, P., Books, 360.
Schmoll, A. von, Models, 352.
Schmoranz, F., Designs, 351.
Schnabl, J., Laces, 209.
Schneelock, O., Target, 133.
Schneider, B., Embroideries, 204.
Schneider, C. F., Lint, 212; Knives, 214.
Schneider, W., Toilet articles, etc., 210.
Schnek & Kohnberger, Rubber, 211.
Schnidel, John Adam, Stones, 75.
Schnidler, C. A., Piano stools, 334.
Schnyder, J. J., Bristles, 212.
Schoenfeld, E., jr., Jewelry, 204.
Schoenfeld, H., Reports, 360.
Schoenhof, J., & Co., Skirts, 124.
Schoenner, G., Instruments, 349.
Schoffel, A., Papier-maché boxes, 210.
Schoffer & Budenberg, Gauges, 349.
Schofield, Seville, Blankets, etc., 121.
Schokking, J. A. J., Tube, 221.
Scholfield, J. H., Stoneware, 284.
Schöller, J. P., Cloths, 203.
Schöller, L., & Son, Cloths, 203.
Scholler, Ph. J., & Sons, Wire goods, 203.
Scholz, P., Yarns, 203; Hosiery, 204.
Schomacker Piano Co., Pianos, 332.
Schon, J. G., Maps, 352.
Schönfeld, G., Books, 348.
Schopp, P. J., Ventilator, 382.

School for Poor Girls, Worsteds, 261; Weaving frame, 262.
School of Medicine, Books, 371.
School of Mines of Columbia College, Drawings, 335.
Schött, Hermann, Fancy papers, 205.
Schotte & Co., Maps, etc., 348.
Schöttle, G., Furniture, 202.
Schough, Robert, Iron ores, 78.
Schoverling & Daily, Rifles, 133.
Schrabetz, E., Plans, 352.
Schrebler, Federico, Card-baskets, 261.
Schreck, Maximiliano, & Kemp, Ore, 94.
Schreiber, I. F., Books, 348.
Schreiber, S., Glassware, 207.
Schreiber, W. A. H., Clay, etc., 54.
Schreiner, A., Drinking utensils, 202.
Schrenkeisen, M. & H., Rocking chair, 110.
Schroder, J., Models, 349.
Schroeder, C., Wines, 164.
Schröeder, Theodore, Ore, 83.
Schrœder, Wilhelm, & Co., Silks, 213.
Schroyer, J. C., Ornaments, 328.
Schubeler, F. C., Map, etc., 364.
Schubert & Co., Music, 348.
Schubeuter, J., Show case, 109.
Schucani & Wegman, Liquors, 224.
Schuchardt, T., Chemicals, 201.
Schultz, C. H., Waters, 55.
Schultz, J. S., New York, 13.
Schültz, Thurebyholm, Model, 224.
Schultze, G. A., Apparatus, 349.
Schulz, O. A., Book, 348.
Schulze, Books, 348.
Schum, Philip, Quilts, etc., 118.
Schunemann, L., Dolls, 205.
Schurman, A., Patent medicines, 283.
Schuyler, Hartley, & Graham, Costumes, 123.
Schwabe, Salis, & Co., Cotton prints, 149.
Schwan, W., Buttons, 210.
Schwanhäuser, Pencils, 205.
Schwann, L., Publications, 348.
Schwarz, J. von, Gas burners, 202.
Schwarz & Son, J., Hat bands, 209.
Schwarzenbach, Landis J., Silks, 213.
Schwarzenhorn, Fr. von, Porcelain, 229.
Schwarzmann, H. J., Designs, 336.
Schwarzmann, D., & Co., Men's clothing, 208.
Schwechten, G., Pianos, 350.
Schweigert, Auguste, Sauce, 214.
Schweigert, W., & Co., Cigars, 158.
Schweinberg, G., Carpets, 208.
Schwer, B., jr., Clocks, 349.
Sciacca della Scala, Oil, 232; Silk, 234.
Sciaccaluga & Co., Fish, 262.
Scioto Fire Brick Co., Fire bricks, 107.
Scioto Furnace, Iron ores, 48; Pig iron, 58.
Sci-shi-jo Silk Reeling Estab., Silk, 246.
Scocchiolini, A., Pomatum, 232.
Scorgie, Wight, & Co., Granite fountain, 52.
Scott, G., Pennsylvania, 14.
Scott, G. B., Photograph, 167.
Scott, J., Wheat, 163.
Scott, J. M., Judge, Gr. XXI., 18.
Scott, J. W., & Co., Stamp albums, 336
Scott, Q. A., Dentifrice, 136.
Scott, Robson John, Blocks, 338.
Scott, T. S., & Bro., Paper carpet, etc., 132.
Scott, W. & C., & Sons, Fire arms, 152.
Scott, W. D., Nebraska, 13.
Scovill Manufacturing Co., Brass, 59.
Scovill, S. S., & Co., Buggy, 381.
Scranton, L. S., Buggy, 380.
Scribner, Armstrong, & Co., 327.
Scribner, D., Salmon, 191.
Scuderi, Giuseppe, Cream of tartar, 231.
Scurati, M. de G., Cotton, 233.
Seabra, José dos Santos, Jewelry, 288.
Seabury & Johnson, Plasters, 134.
Seaman & Co., Grindstones, 73.
Seaman, L. L., Percussor, 135.
Searle, C., Wool, 183.
Searls, A., Sockets, 379.
Seavy, Foster, & Bowman, Silk, 122.
Sebah, Photographs, 371.
Sebou, N., Silk, 297.
Secchi de Casali, G. F., Judge, Gr. IV., 16.
Seckler, J., Specimen work, 254.
Secombe, R., Milk, 158.
Secor, Jerome B., Automaton birds, 334.
Secrétan, Instruments, 345.
Secretan, E., Copper, 195.
Sedj Agha, Purse, 302.
Seefeldt, W. F., Instruments, 332.
Seeley, J. B., Trusses, 136.
Seelhorst, G., Judge, Gr. II., 15.
Seemann, E. A., Books, 348.
Seewald, M., Leather ware, 210.
Seffarlen & Fritz, Warps, 122.
Segant, Shoemakers' tools, 199.
Segelche, T. R., Judge, Gr. IV., 16.
Segovia, Carolina, Hides, 264.
Segueira, D. A., Painting, 290.
Séguin, Althocinum, 193.
Seguin, Bordeaux, Dyes, 193.
Segura, Rufino, Soapstone, etc., 84.
Sehi Tassane, Cases, 302.
Seid Abdul Hamid, Silk, 297.
Seid Alil, Silks, 298.
Seid Alip, Tables, 292.
Seid Chaban, Z., Maize, 309.
Seid Cherif, Tissues, 293.
Seid Hadji, Grapes, 307.
Seid Hassan, Garment, 299.
Seid Hussa, Mahaleb, 307.
Seid Mehemed, A., Wheat, 309; Apricots, 312.
Seid Ragui, Plate, 292.
Seid Yayia, Silk, 297.
Seidler & May, Sofa bed, 111.
Seidler, T., Spokes, 379.
Seifu, Y., Vases, 245.
Seigert, Dr., Bitters, 184.
Seikan, S., Jars, 245.
Seiler, E., Piano, 350.
Seilles lez Andenne Bouffoulx Co., Clay, 215.
Seit, Hadji, Potash, 291.
Seitz, G. W., Judge, Gr. XIII., 17.
Sekitei, I., Vases, 245.
Seki-yu Kuwaisha Petroleum Co., Oils, 244.
Selim Agha, P., Waters, 292.
Selim Arikili, Smokers' articles, 302.
Selim Kohi, Wool, 314.
Selim, M., Cord, 299.
Selim Zeutekli, Pipe stems, 302.
Selim Zia Effendi, Canes, 302.
Seliverstoff, N., Woolen cloths, 316; Hair, 317.
Sell, Charles P., Soap, 207.
Sellers, Chas. P., Brooms, 142.
Sellers, W., Finance, 10.
Sellers, William, & Co., Iron, 59.
Selma & Alabama R. R., Ore, 48; Iron, 56.
Selma, Rome, & Dalton Railroad, Ores, 50; Pig iron, etc., 57.
Selsor, G., & Co., Hammers, 137.
Semare, Govt. of, Carpet, 296; Garment, 300.
Semenoff, Silver plate, 316.
Séminaire Ste. Thérèse, College work, 342.
Semple, S., & Sons, Thread, 116.
Sensfelder, A., Pomades, 193.
Sequeira, Francisco Pinto, Boots, 287.
Sequeira, T., & Carneiro d'Andrade, E., Ore, 94.
Serdar, Hassan Oglou Hussin, Raisins, 312.
Serdukoff, B., Cosmetics, 315.
Sere, Edouard, Minerals, 85.
Serebrenikoff, S., Tureens, 320.
Serfiché, Government of, Wheat, 308.
Sergeant, B. M., California, 11.
Sergeieff, P. W., Paper, 318.
Sergent, Th., Faience, 193.
Serkiz, Marble, 97.
Serra, Felippe José, Boots, 287.
Serra & Font, Liquor, 278.
Serra, J., Ink, 271.
Serrana, Florencia, Waistcoat, 287.
Serrano, B., Cloth, 275.
Serrano, Cardona, & Co., Tubing, 89.
Serraris, P. A., jr., Apparatus, 360.

Serravalle, C., Chemical preparations, 255.
Serres, A. de, Models, 352.
Serret & Turull, Shawls, 274.
Serrinha Tin Co., Ore, 94.
Sert Bros. & Solá, Woolens, 274.
Serta, G. N., Ventilation, 216.
Sertorio & Pinho, Kid gloves, 254.
Servant, C. J., & Co., Velvets, 196.
Servet, J. Marc, Son, Tools, 358.
Serzedello & Co., Chemicals, 283.
Sestroretzk Rifle Mfy., Arms, 319.
Seth Thomas Clock Co., Clocks, 330.
Setzuzan, A., Vases, 245.
Seurin, J., Varnish, 193.
Séve, E., Books, 261.
Sévène, Barral, & Co., Failles, 196.
Seventh Day Adventist Pub. Assn., 328.
Several Contributors, Woods, 174.
Severino, Perez, Pipitza-huina, 268.
Severt, Wm. A., Drawings, 335.
Sevey, J. A., Bone, 129.
Sevilla & Perez Bros., Baskets, etc., 273.
Seward, M., & Son, Hardware, 379.
Sewill, J., Chronometers, 339.
Seychelles, Chief Com. of, Woods, 181.
Seydoux, Sieber, & Co., Threads, 195.
Seyfoullah, R., Leather, 310.
Seymour, Henry, & Co., Shears, 139.
Seymour Paper Co., Paper, 131.
Sfakia, Government of, Lime, 97; Pitch, 306.
Shadrin, E., Embroideries, 318.
Shaffner & Stringfellow, Wool, 119.
Shalter, R. M., Iron ore, 48; Pig iron, 57.
Shanahan & Jennings, Wool, 159, 180.
Shannon, J. B., Locks, 140.
Shantz, J. Y., Mirror, 188; Ivory buttons, 189.
Sharland, W. C., Hops, 183.
Sharland, W. S., Wool, 183.
Sharp, H. E., Son, & Colgate, Windows, 113.
Sharp, Jos. S., Salt, 187.
Sharpless, J. M., & Co., Extract, 104.
Sharpless & Sons, Costumes, 125.
Sharp's Rifle Co., Rifles, 133.
Sharswood, W., Coal, 47.
Shaw, A., Iowa, 12.
Shaw, A., & Co., Brooms, 160.
Shaw, A. F., Dakota, 12.
Shaw, C. A., Box, 377.
Shaw, F., Wool, 183.
Shaw, F. E., Maine, 12.
Shaw, F. K., Wine, 164.
Shaw, J. G., Warps, 116.
Shaw, J. H., & Co., Mirrors, 113.
Shaw, P., Copper pyrites, 70.
Shaw, Thomas Ogg, Mineral paint, 105.
Shearer, Smith, & Co., Granite, 61.
Shedd, J. Herbert, Engineering, 335.
Sheeler, Buckwalter, & Co., Stoves, 374.
Shelajiff, S. & G., Bros., Silk, 317.
Shelby Iron Co., Iron ores, 48; Pig iron, 57.
Sheldon & Co., Books, 327; Axles, 379.
Sheldon & Fenton, Silks, 150.
Sheldon, H. L., Newspaper, 250.
Sheldons & Slason, Marble, 53.
Shenandoah Gold Mining Co., Quartz, 65.
Shepard & Dudley, Instruments, 135.
Shepard, S., & Co., Japanned ware, 376.
Shepardson, H. S., & Co., Gimlets, 137.
Shepherd, C. H., Refuse of cork, 376.
Shepherd, H. E., Drawings, 321.
Shepherd & Lloyd, Scales, 137.
Sheppard, Arrison, & Sheppard, Curtains, 110.
Sheppard, I. A., & Co., Stoves, 375.
Sheppard, W., Bible, 342.
Sheppard, W. G., Violoncello, 342.
Shepperd, E., Quartz, 166.
Shereshevsky, N., Shirts, 317.
Sherman, B. R., Iowa, 12.
Sherwood, G., & Co., Books, 326.
Shetucket Co., Fancy stripes, etc., 117.
Shibata, Y., Silks, 246.
Shibe, J. D., Base balls, 336.
Shichijo Yasunori, Statuettes, 249.
Shields, King, & Co., Sands, etc., 54.
Shields, T., Bolts, 379.
Shields, W., Bolts, 379.
Shiga-ken, Local Government, Mats, 247.
Shii-no, S., Silks, 246.
Shikki-Shosha, Furniture, 245; Toys, 246.
Shiloff, A., Harness, 320.
Shimidzu, J., Bamboo, 247.
Shimidzu, K., Tea sets, 244.
Shimidzu, Rokubei, Vases, 244.
Shimidzu, S., Bowls, 244.
Shinhelm, Models, 372.
Shinn, Wm. P., Engineering exhibit, 335.
Shinoda, K., Vases, 245.
Shinoyama, A. U., Bronze, 249.
Shi-o-kawa Bunrin, Picture, 249.
Shipley, Howard W., Cutlery, 139.
Shippen, W. W., Portraits, 336.
Shippo-Kuwaisha, Enamel, 245; Fans, 247; Caddy, 249.
Shiromidzu, Ch., Silk dress, 246.
Shishkin, S., Harness, 383.
Shitomi Sohei, Y., Vases, 244.
Shiu-shi-kiyoku, Map, 248.
Shlippe, Chemicals, 315.
Shmidt, Dr. von, Plaster, 319.
Shoemaker, J. L., Solicitor, 10.
Shoemaker, R., & Co., Fluid extracts, 101.
Shoemaker, S. M., Alternate, 9.
Shoemakers' Co-operative Soc'ty, Shoes, 234.
Shoemakers' Society, Boots, 197.
Shoenburger, J. H., Pennsylvania, 14.
Shoenhof, J., & Co., Felt skirts, 127.
Shokkojo Weavers, Dress silks, 246.
Shomi, Y., Vases, 249.
Shoninger, B., Organ Co., 332.
Shoobert, J., Bark, 158.
Shoobridge, E., Hops, 183.
Shoolbred, J., & Co., Furniture, 147.
Shootoff, Arm chair, 316.
Shorey & Co., Clothing, 189.
Shorey, J., & Co., Fixtures, 113.
Shortridge, N. P., Finance, 11.
Shove Mills, Printing cloth, 118.
Shoza, T., Cups, 245.
Shrader, Table, 315.
Shrader, A., Woolen goods, 317.
Shroder, F., & Co., Cotton drills, etc., 117.
Shroeder, F. & H., Pulpit, 109.
Shubert, L., Hats, 317.
Shuler & Benninghofen, Felts, 120.
Shulthess, Friedr., Manuals, 354.
Sibalon, Gov. & Municipality of, Fabric, 281.
Sibeth, Otto, Map, 336.
Sibley, A. H., Silver ores, etc., 70.
Sibley, Col., & McIntyre, J., Galena, 71.
Sibley, F. K., Emery cloth, 55.
Sicard, Juana G. de, Stone, 83.
Siddall Bros., Book printing, 132.
Sidenbladh, E., Statistics, 362.
Sidmaki, S., Beans, 309.
Sidoroff, Michael, Ore, 98; Costumes, 318.
Siebenhüner, A., Violins, 332.
Siebenpfeiffer, C., Jewelry, 204.
Siegenthaler, Sl., Boots, 212.
Sieger, E., Lithographs, 211.
Siegerland, Mine Owners of the, Ores, 75.
Siegismund & Volkening, Literature, 348.
Siegl, C., Linen, 208.
Siegmund, W., Woolens, 208.
Siemens Bros., Gutta percha, 339.
Siemens, C. W., Iron, 62; Pyrometers, 339.
Siemsen, J., Hemp goods, 203.
Sieperman, C. F., & Son, Chemicals, 201.
Sierra, Francisco, Coal, 89; Jet, 91.
Sierra, Justo, Book, 267.
Sigler, C. & J., Signs, 113.
Sihieldknecht, Apparatus, 372.
Silas, Rogers, & Co., Axles, 379.
Siles, I., Essences, 232.
Silicate Paint Co., Paints, 145.
Silicon Steel Co., Steel rails, 56.
Sillery, Convent de, pupils' work, 342.
Silliman Chemical Works, Chemicals, 102.
Silva, A. J. de L. e V., Cocoons, 286.

Silva, A. J. P. da, & Alves, Sewing silk, 286.
Silva, Antonio Moreira, Hats, 287.
Silva, B. da, Mats, 285.
Silva, Bernardino Antunes, Kid gloves, 287.
Silva, Callado J. A da, Music, 366.
Silva Continho, J. M. da, Judge, Gr. XXVI., 19.
Silva, David Jose da, & Sons, Figured silk, 287.
Silva, F., Cotton, 256.
Silva, F. J. X. da, Cups, etc., 254.
Silva, F. M. da, Compositions, 366.
Silva, Guimaraes, Shoes, 287.
Silva, H. J. da, Shoes, 253.
Silva, J. B. C. da, Hats, 253.
Silva, J. Baptista da, Horse bits, 290.
Silva, J. P., Linen stuffs, 285; Shoes, 287.
Silva, J. P. N. da, Memoirs, 369.
Silva, Joaó d'Oliveira, Furniture, 290.
Silva, Joaquim da, Toothpicks, 288.
Silva, José Francisco, Brown woolen cloth, 286.
Silva, José Goncalves, Bird cages, 288.
Silva, L., Prisms, 82.
Silva, M., Napkins, 258.
Silva, M. A. Machado da, Iron, 82.
Silva, M. da, Pottery, 283.
Silva, Manuel José Francisco da, Silk, 287.
Silva, Miguel Manuel da, Military boots, 287.
Silva, Pessanha da, Annals, 366.
Silva, S. A. P. da, Salt, 283; Model, 369.
Silva, S. A. P. da, & F. A. Marques de Moura, Plan, 95.
Silva, S. S. G. da, Ink, 252.
Silva & Santos, Statuettes, 370.
Silvas, M. D. da, Matting, 285.
Silver Islet Co., Ingot of silver, 74.
Silver, Jno., Marble, 72.
Silver Lake Co., Braided cords, 123.
Silver Spring Bleaching & Dyeing Co., Cotton cloth, 117.
Silver, W. H., Churns, 377.
Simaes, Rosa Clara, Blanket, 286.
Simerell, C. B., Ornaments, 329.
Simes & Tate, Filter, 377.
Simes, Wm. F., & Son, Camphor, 101.
Simmons, W. C., Wool, 183.
Simms, T. S., & Co., Brushes, 190.
Simon Bros., Embroidery, 258.
Simon, M., Model, 361.
Simon, May, & Co., Shawls, 150; Curtains, 151.
Simon, P., Carpet, 297.
Simona, Giorgio, Photographs, 358.
Simonds' Manufacturing Co., Ranges, 374.
Simonin, L., Judge, Gr. I., 15.
Simonis, I., Woolen stuff, 217.
Simons & Co., Mosaic tiles, 193.
Simons & Malcolm, Door mats, 155.
Simons, Opdyke, & Co., Jewelry, 127.
Simons, P., Bindings, 221.
Simonsen, C., Punch, 223.
Simpson & Co., Pianos, 333.
Simpson, John, Manganese, 70.
Simpson & King, Cotton fabrics, 149.
Simpson, Robert, Coal, 71.
Simpson, W. H., Maine, 12.
Simpson, W., & Son, Prints, 119.
Simson, A., Fabric, 280.
Singer, J. W., & Son., Metal work, 147.
Singer, Max, Aniline products, 215.
Singer, Nimick, & Co., Steel, 56.
Singer & Talcott Stone Co., Stone, 53.
Sinigaglia, S., Heir of, Silk, 233.
Sinsz, P., Tools, 137.
Sintz, Geo., Limestone and lime, 54.
Sippel, C., Turning, 379.
Siqueira, P., Agates, 82.
Sirch, O., Skins, 310.
Sirkilé, O., Skins, 310.
Sirletti, F., Sets of teeth, 235.
Sirot, C. & L., Nails, 200.
Sisters of Charity, Embroideries, 242.
Sitnoff, G., Boots, 317.
Sittig, J., Buttons, 210.
Sjoberg, A. P., Soaps, 225.
Skead, Building sandstone, 72.
Skead, W., Judge, Gr. VI., 16.
Skellington, S., Whip lashes, 191.
Skelly, T., Bolts, 379.
Skelton & Co., Lamps, 148.
Skelton, Tooke, & Co., Shirts, 189.
Skinner, G. M., Fishing tackle, 191.
Skorniakoff, E., Wood, 320.
Skrivàn, J., & Son, Hats, 209.
Skultuna Stock Co., Copper, 79.
Slade Mills, Printing cloths, 118.
Slataper, F., Judge, Gr. XVIII., 18.
Slater Cotton Co., Cotton goods, 116.
Slater & Perry, Boots and shoes, 189.
Slater, W. S., Cotton goods, 115.
Sloan, W. B., Ornaments, 328.
Sloter, Geo., & Co., Almanac, 179.
Smart, Dr., Gold, 68.
Smart, W., Oven, 148.
Smedley, Samuel L., Drawings, 335.
Smet, E. de, & Co., Thread, 216.
Smiley, T. J. L., California, 11.
Smirnoff, N., Felt, 317.
Smith, A. E., Axles, 379.
Smith, Alex., & Sons Carpet Co., Carpet, 122.
Smith, B. N., & Co., Piano legs, 334.
Smith, Borthwick, Chronometers, 339.
Smith Bros., Engraving, vases, 108.
Smith & Campion, Furniture, 109.
Smith, Chas. K., & Co., Oils, 103.
Smith, David, Book, 338.
Smith, E. J., Desk, 112; Envelope, 130.
Smith, Edward, & Co., Varnishes, 105.
Smith & Egge, Chairs, 140.
Smith, Estéban G., Petroleum, 263.
Smith, F. H., Judge, Gr. XXVII., 19.
Smith, Frederick, & Co., Iron, etc., 62.
Smith, G. J., Lace, 151.
Smith, G. S., Wine, 164.
Smith, Geo., Wheat, 163; Portable organ, 339.
Smith, H., Sleighs, 381.
Smith, H. D., & Co., Hardware, 379.
Smith, H. E., & Co., Cotton yarns, 117.
Smith, H. H., Canadian goods, 189.
Smith, H. J., & Co., Stained glass window, 108.
Smith, Hanway, & Co., Baking powder, 102.
Smith, J., Bismuth, 68.
Smith, J. C., Illinois, 12; Minerals, 48.
Smith, J. L., Judge, Gr. III., 15; Maps, 321.
Smith, J. & S., Tools, 153.
Smith, J., & Son, Needles, 151; Sleigh, 381.
Smith, J. T., & Co., Buggies, 381.
Smith, J. W., Needles, 151.
Smith, J. Y., Rhode Island, 14.
Smith, J. Y., Sheetings, 116.
Smith, James Nelson, Fruit wines, 156.
Smith & Kaye, Bricks, 188.
Smith, Marshall L., Mineral paint, 105.
Smith, Mrs. R. T., Lace, 174.
Smith, R. H., & Co., Saws, 190.
Smith, S. A., Chairs, 143.
Smith & Sayre, Drawings, 335.
Smith & Son, Biscuits, 164.
Smith, W. B., Counter show-case, 109.
Smith, W. M., Ornaments, 143.
Smith & Wesson, Fire arms, 133.
Smith & Wilby, Flannels, cotton, 189.
Smith, Wm., Peat, 71; Knives, 230.
Smith, Wm. Sooy, Engineering exhibits, 335.
Smithers, J. & G., Soap, 169; Wax, 170.
Smithers, Mrs. G. H., Flowers, 128.
Smith's Homœopathic Pharmacy, Homœopathic preparations, 134.
Smits, C., Model, 360.
Smucker, I., Ornaments, 329.
Smuts, Miss G., Articles of flowers, 171.
Smyrna, Government of, Lignite, 96; Salt, 291; Towels, 295, 296, 297; Jalap, 304; Pitch, 306; Almonds, 307; Wheat, 308; Wax, 312; Wool, 314.
Smyth & Co., Stockings, 151.
Smyth & Pennington, Files, 138.
Smyth, R. Brough, Maps, 65.
Snell Mfg. Co., Augers, 137.

Snow, C., Massachusetts, 12.
Snow, J. H., Model ship, 337.
Snowden, E. G., Wine, 164.
Snyder, C. Ridgway, Work table, 111.
Snyder, Jacob R., California, 11.
Snyers, Rang, & Co., Walnut furniture, 216.
Snyers, T., Judge, Gr. VII., 16.
Soares, José Nogueira, Shoes, 287.
Social Manufacturing Co., Cotton goods, 117.
Society of Friends, Jasper, 90.
Soden, Smith R. H., Judge, Gr. II., 15.
Soderen, F. W., Knives, 227.
Soenneken, F., Books, 348.
Soergel & Stollmeyer, Jewelry, 204.
Soggs, C. W., Vegetable parer, 376.
Sohmer & Co., Pianos, 333.
Sohn & Delabre, Porcelain, 198.
Sohn, L., Jewels, 193.
Solá, Ramon, Gypsum, 84.
Solanas, A., Shirts, 276.
Soldan, L. P., Oil, 264.
Soldevilla, E., Pistols, 278.
Soldiers, Com. on Wounded, Book, 221.
Solé, E., Cotton, 273.
Soleiman, Guengine, Galena, 96.
Solenhofen Joint Stock Co., Tiles, 75.
Solf, A., & Co., Rice, 264.
Soliman, Pocket knife, 305.
Solinas, Arras Giuseppe, Olive oil, 231.
Sollima, Giacomo, Scales, 365.
Solmans, Alden, Hats, 126.
Solo, Emilio de, Peroxide of manganese, 88.
Solomayor, P., Counterpane, 256.
Solomon, C., Map, 169.
Solomon, Saul, & Co., Bookbinding, 169.
Solomonoff, P. Z., Chests, 320.
Solvay & Co., Chemicals, 192, 215.
Somers, D. M., Penholders, 130.
Somerset, F., Photographs, 174.
Somerville, P. T., Marble monuments, 72.
Somes & Co., Oil, 184.
Sommelet, C., Cutlery, 199.
Sommerschuh, W. I., Earthenware, 208.
Somoza, Juan Manuel, Iron, 92.
Somoza Piñeiro, Ramon, Iron, 89.
Sonderegger, Y. Y., Manuals, 354.
Sonto, Antonio M. G., Silk cocoons, 286.
Sonto, José Sebastiao, Horse shoe, 290.
Sonto, Rodrigo Alves Martius de, Boots, 287.
Soorin, P., Carpet, 318.
Sooviroff, V. N., Woolen cloths, 316.
Soper, W., Rifles, 152.
Sopwith, Tomas, Galena, 88.
Sordoillet, J. F., Jewelry, 197.
Sorensen, C. P., Clothing, 223.
Sorensen & Kloostad, Carriage, 230.
Soriano, Aniceto, Salt, 270.
Sorokin, T., Gloves, 317.
Sosa, R., Ostrich feather caparison, 260.
Sossoolnikoff, J., Caps, 317; Crosses, 319; Harness, 320.
Soto & Barrera, Baskets, 277.
Soto, Mayor C., Minerals, 86.
Soto, O. & M., Stuffed condor, 262.
Soto y Tello, M., Tiles, 272.
Souchet & Co., Enamel, 193; Flowers, 198.
Souké, Government of, Ores, 97.
Soutar & Co., Tobacco, 172.
South Australian Commissioners, Marble, 166; Skins, 167.
South Boston Mfg. Co., Cannon, etc., 134.
South & North Alabama R.R., Ores, 48; Iron, 56.
Southworth Co., Writing paper, 131.
Souza, B. J. J., Ink, 283.
Souza, José da Cunha Alves, Boots, 287.
Souza, Luiz Augusto de, Small bells, 289.
Souza, Maria Magdalena, Aloe fibres, 288.
Souza & Silva, A. J., Cotton yarns, 285.
Sovetoff, Mary, Shirt, 318.
Sower, Potts, & Co., Maps, 321.
Soyer, Paul, Jewelry, 197.
Sozeiriyo, Nat. Rev. Dept., Stamps, 248.
Spadaro, Grassi P., Citrates, 235.
Spafford, A. C., Illinois, 12.
Spahn, C. C., Jewelry, 204.
Spalhareon, Government of, Ore, 304.
Spamer, O., Books, 348.
Sparks, T. W., Drop-shot, 133.
Sparks, Westwater, & Co., Coal, 51.
Spaulding, D. S., Jewelry, 129.
Spear, J., & Co., Stoves, 374.
Special Commission to the Exhibition, Woods, minerals, 263; Silk, 264.
Spedalieri, Ba Felice, Sulphur, 81.
Speeler Pottery Co., Crockery ware, 108.
Speir, W., Drawings, 367.
Spellier, L. H., Regulator, 330.
Spemann, W., Works, 348.
Spence, John C., Stained glass window, 188.
Spence, Peter, Alum, 144.
Spencer, J., Dentistry, 157.
Spencer, O. B., Painting, 251.
Spencer Optical Mfg. Co., Lenses, 331.
Spencer, T., Sugars, 251.
Speth, K. L., Fancy cabinet ware, 112.
Spiegelberger, L., Chemicals, 202.
Spill, D., Ivoride, 153.
Spiller Bros., Cutlery, 190.
Spiller, Ph., Books, 348.
Spillman, H., Trusses, 136.
Spillmann, Heinrich, Tools, 214.
Spinelli, R., Soaps, 187.
Spink, S. L., Alternate, 9.
Spiral Elliptic Spring Works, Springs, 109.
Spitzer, Geo. W., Jewelry, 129.
Spofford, Jennie H., Bracket holder, 109.
Spooner, W. B., Alternate, 9.
Sprague, E., Maine, 12.
Spranger, N., Jewelry, 204.
Springer, J., Books, 348.
Springer, Morely, & Gause, Wheels, 379.
Spurr, C. W., Wood hangings, 133.
Squires, E., Fruits, 158.
St. Amand, A., Indian curiosities, 342.
St. Arnaud Pastoral & Agricultural Society, Oats, 163.
St. Gallen Aid Society, Annual reports, 357.
St. Gallen, Government of, Plans, 356.
St. Gallen Orphan Asylum, Report, 357.
St. Gobain, Chauny, & Cirey, Glass, 193: Mirrors, 194.
St. Hubert's Vineyard Co., Wine, 164.
St. Hyacinthe College, 342.
St. Isabel, College of, Sandals, 281.
St. James, C., Carriage, 381.
St. John, F., Ducks, fish, 163.
St. John Stone Chinaware Co., Stoneware, 188.
St. John's Stone Chinaware Co., Fire brick, 73.
St. Johnsbury Granite Co., Tablets, 53.
St. Louis & Iron Mountain R. R., Minerals, 48.
St. Louis Stamping Co., Utensils, 377.
St. Maria da Soledade, Colony of, Linens, 253.
St. Nicolas, C., Books, 359.
St. Petersburg Arsenal, Harness, 320.
St. Petersburg Mining School, Minerals, 98.
St. Petersburg, Municipality of, Plans, 373.
St. Petersburg Workshop for Educational Appliances & Games, Gymnastics, 372.
Staaf, P. O., Books, 362.
Staafff, Book, 344.
Stacoupola, Madame H., Cover, 301.
Stadtbauamt of Vienna, Plans, 352.
Staes, Sproelants, Oils, 215.
Stafford & Co., Yarns, 116.
Stafford Manufacturing Co., Stencils, 140.
Stafford Mills, Printing cloths, 118.
Stäheli-Wild, C., Embroideries, 213.
Stahl, Maurice, Chronometers, 355.
Stählberg, L. F., Cutlery, 227.
Stahlecker, C. F., Piano, 350.
Staiger, C., Ores, 67.
Stamadi Marneraki, Wines, 313.
Stambach, John A., & Co., Furs, 129.
Stampa Bula, F., Gloves, 276.
Standiford, E. D., Kentucky, 12.
Stang, T., Drawings, 361.

Stanhope Co., Ore, 68.
Stanley Bros., Tiles, 146.
Stanley, I. N., Setting of retorts, 335.
Stanley Rule & Level Co., Lathes, 137.
Stanley Works, Hinges, 140.
Stantien & Becker, Raw amber, 75.
Stanton, M., & Co., Hangings, 190.
Stanway, W., Models, 161.
Stapfer, John, Silks, 213.
Staples, C., Judge, Gr. XV., 17.
Star Furnace Co., Ores, 48; Iron, 58.
Star Knitting Co., Shirts, 125.
Star Plate & Universal Polishing Powder Co., Polishing powder, 61.
Star Tool Co., Tools, 137.
Stark Mills, Sheetings, 119.
Starkoff, E., Paper, 373.
Starr & Co., Tacks, 319.
Starr, John, Barytes, 71.
Starr Manufacturing Co., Skates, 190.
Starr & Marcus, Diamonds, etc., 127.
Starri, K., Wool, 314.
Starri, Oglou, Salep, 304; Skin, 310.
Stassfurt Chemical Factory, Salts, 201.
Statistical Bureau, Christiania, Statistics, 364.
Stauffenegger, Chr., Absinthe, 214.
Stchelkoff, Embroidery, 318.
Steam Net Manufactory, Nets, 203.
Steam Ticking Mills, Ticking, 203.
Stearic Light Co., Soaps, 252.
Stearns, Frederick, Pharmacies, 101.
Stebert, P., Essay, 359.
Stechel, Oils, 252.
Stecher, K., Instruments, 351.
Steck, G., & Co., Pianos, 333.
Steeger, H., Boilers, 378.
Steel Co. of Canada, Ores, 71; Iron, etc., 74.
Steel, E. T., Finance, 11.
Steel & Garland, Grates, 148.
Steele, John, Chairs, 110.
Steen, C., & Son, Maps, 224.
Steen, Daniel, Soaps, 229.
Steenberg, A., Newspaper, 223.
Steffan, F., & Co., Shawls, 121.
Stefsky, J., Cords, 208.
Stéhelin, Plans, 356.
Stehr, Carl, Amber, 128.
Steidinger, J., Penmanship, 353.
Steiger & Co., Embroideries, 213.
Steiger, E., Books, 321.
Stein, C., Furniture, 208.
Steinbach, G. P., Carriages, 381.
Steindl, C., Buttons, 210.
Steiner, H., Vases, 166; Inkstands, 167.
Steiner & Kolliner, Garnet jewelry, 209.
Steinhauer & Co., Jewelry, 204.
Steinhaus, J. F., Bibles, 348.
Steinhilber, A., Gloves, 209.
Steinmetz, D., Judge, Gr. XV., 17.
Steinmetz, F., Veneer, 211.
Steinway & Sons, Pianos, 332.
Stelwagon, J., & Sons, Paper, 132.
Stenburg's, G., Widow, Fabrics, 226.
Stenman, F. A., Locks, 227.
Stenographical Society, Books, 349.
Stenstrup, Painting, 223.
Stephani, Boots, etc., 300.
Stephen, A., & Son, Secretary, 188.
Stephen, Geo., Silver ores, 70.
Stephens, H. C., Inks, 145; Inkstands, 152.
Stephens, R. E., Rifle, 190.
Stephens, T. B., Leather, 180.
Stephenson, Blake, & Co., Printing, 338.
Stephenson, J., & Co., Cars, 382.
Steraux, E., Marbles, 82.
Sterchi, Fritz, Wood carvings, 358.
Sterling, E., Coal, 71.
Stern Portland Cement Factory, Cement, 75.
Sternberger, L. & S., Shirts, 124.
Sterns, Jno. N., & Co., Silks, 123.
Stetson, John B., & Co., Hats, 126.
Stettin Fire Brick Mfg. Co., Retorts, 202.
Steubenville Coal Co., Coal, 51.
Stevens, A. J., & Co., Oil cloth, 189.
Stevens, C. A., & Alrich, W. H., Bedstead, 109.
Stevens Institute of Technology, Model, 134; Instruments, 332.
Stevens, J., & Co., Shot guns, etc., 134.
Stevens, J. G., Alternate, 9.
Stevens Linen Works, Diaper, 119.
Stevens, Thomas, Regalia, 150; Cards, 152.
Stevenson, C. C., Nevada, 13.
Stevenson & Elliott, Landau, 161.
Steward, J., Ale, 164.
Stewart, A., Indicator, 330.
Stewart, A. C., Wool, 171.
Stewart, A. C., & Co., Angora hair, 171.
Stewart & Co., Wire, 57; Photographs, 162.
Stewart & Ferguson, Wheat, 163.
Stewart, G., Books, 169.
Stewart, G., jr., Chest, 190.
Stewart & Mattson, Locks, 140.
Stewart, Moir, & Muir, Curtains, 150.
Stewart, S. N., Rail, 374; Model, 382.
Stewart, W. W., Native copper, 70.
Stiasny, F. & M., Gloves, 209.
Stief, J., Toys, 205.
Stieff, C. M., Pianos, 333.
Stieglitz, Baron A., Sail cloth, 316.
Stierling, Dr. R., Model, 353.
Stiff, James, & Sons, Terra-cotta, 146.
Stiles, Mrs. E. W., Desk, 110; File, 130.
Still, W., Book, 326.
Stille, Alb., Surgical instruments, 227.
Stillwater Woolen Mills, Cassimeres, 120.
Stilson, E., Wisconsin, 14.
Stimson & Babcock, Varnishes, 105.
Stiraki Marinaki, Almonds, 307.
Stites & Co., Iron measures, 376.
Stitt, Price, & Co., Building stone, 54.
Stivers, R. M., Buggies, 380.
Stobie, James, Iron ore, 71.
Stock Co. for Mfg. Bricks, Limestone, 81.
Stock Co. for Mfg. Laces, Laces, 234.
Stockbridge Iron Co., Iron ore, 48.
Stockenström, Axel von, Ores, 78; Iron, 79.
Stockholm Central Printing Stock Co., 362.
Stockholm Royal Statistical Central Bureau, Diagrams, 362.
Stockholm Royal War Dep., Drawings, 362.
Stockholm Woolen Mfg. Co., Woolens, 226.
Stocking, Z. S., Stone, 54.
Stockton Spoke Works, Spokes, 379.
Stockwell Self-Lighting Gas Burner Co., 114.
Stoddard, C. J., Cartridge-loader, 134.
Stoddard, Richard T., Book rack, 130.
Stoddart, J. M., & Co., Books, 327.
Stoeber & Segitz, Metal leaf, 201.
Stoger, L., Gloves, 209.
Stokes & Parrish, Passenger elevator, 336.
Stolberg, Count, Castings, 206.
Stolberg & Westfalia, Galena, 88.
Stolze, J. F. E., Toys, 205.
Stolzle's Sons, C., Glassware, 207.
Stone, F. P., Buggy, 381.
Stone & Kaighn, Carriage, 380.
Stoneman, A., Carriage springs, 161.
Stoneman, E., Railway spring, 162.
Stoner, Hitchman, & Co., Coal, 51.
Stonestreet, Samuel, Diamonds, 169.
Stora Kopparbergs Bergslag, Iron ores, 78.
Storch & Kramer, Chromos, 348.
Storck & Sinsheimer, Jewelry, 204.
Storer, David, & Sons, Colors, 145.
Stork, C. F., Goods, 220.
Stotler, D. C., Limestone, 53.
Stott, C. H. & F. H., Flannel, 121.
Stout, W. C., Arkansas, 11.
Strachan, R., Salt, 182.
Strahan, Hodgson, & Co., Collars, 125.
Strahorn, Pierson, & Co., Wheels, 379.
Stramitzer, I., Laces, 209.
Strandberg, Fr. Aug., Varnishes, 225.
Strandberg, J., Brass, 227.
Strange, Wm., & Co., Silks, 123.
Straschitz, B., Men's clothing, 208.
Stratford, Hoe, & Co., Paper, 131.
Stratton, J. F., & Co., Violins, 350.

Straub, A., Gloves, 209.
Straus, J. E., & Co., Iron, 55, 143.
Strauss, D., & Co., Embroideries, 213.
Straw, E. A., U. S. Commissioner, 9.
Straw Hat Stock Co., Braided straw, 234.
Strazza Giammia, Widow of Lucca, Music, 365.
Street, H. M., Mississippi, 13.
Stregnas Match Mfg. Co., Matches, 225.
Strelnikoff, B., Shoes, 317.
Strembitzki's Laboratory, Appliances, 372.
Stringer & Co., Yeast, 160; Pickles, 164.
Stringer, J., Locks, 190.
Strobel, J. P., Toys, 205.
Stroem, Augustus, Furniture, 316.
Stroesser, J. P., Wire, 359.
Strogonoff Central School of Technical Drawing, Drawings, etc., 372.
Strohmeier & Co., Jewelry, 204.
Strom & De Planque, Marble, 53.
Strong, J. W., Missouri, 13.
Strong, W. L., Finance, 10.
Strookoff, Furniture, 372.
Strow, Wile, & Co., Crucibles, etc., 54.
Strumper & Co., Prints, 348.
Struthers Iron Co., Pig iron, 57.
Struthers, W., & Sons, Marble, 53.
Stuart, D. W., Stove, 374.
Stuart, Peterson, & Co., Stoves, 375.
Stuart, Seymour C., Quartz, 64.
Studebaker Bros., Buggy, 380.
Stunzi & Sons, Silks, 213.
Sturges Montserrat Co., Essences, 145.
Sturzenegger & Rutz, Cravats, 213.
Successful Society, Chakopirita, 87.
Such, George, Clay, 54.
Suchard, Ph., Chocolate, 214.
Suchy, A., Gloves, 209.
Suesberger, David, Fluid extracts, 105.
Suez Canal Co., Maps, 345.
Suhr, W., Chemicals, 201.
Suiro-riyo, Charts, 248.
Sukiasian, Silk, 297; Cocoons, 314.
Suleiman, Salt, 291; Coffee grinders, 293; Receivers, 302; Files, 305; Steelyards, 371.
Suleiman, Agha, Pipe, 302.
Suleiman, Ichkodra, Pitch, 306.
Suleimaneeyah, Government of, Brimstone, 96; Beads, 302; Gum, 306; Barley, 308; Wax, 312; Wool, 314.
Sullivan, J., Poor man's filter, 160.
Sullivan, J. D., Nevada, 13.
Sulzer Bros., Workmen's dwellings, 357.
Sumii, Z., Fans, 247.
Sumiyama, I., Silk, 246.
Sunday School Union, Books, 338.
Sundström, J. O., Ores, 78; Iron, 79; Nails, 228.
Sung Sing Kung, Furniture, 241; Embroideries, 242.
Supplicy, J. F., Pyrites, etc., 82; Chairs, etc., 253; Medals, 367.
Surahammars Iron Co., Iron, 79.
Sureda & Villalonga, Chloride of sodium, 270.
Surgical Clinic, Bandages, 205.
Suriani, A., Silver, 303; Scissors, 305.
Susse Brothers, Bronzes, 194, 199; Stationery, 198.
Sussex Boot & Shoe Co., Boots and shoes, 189.
Süssfeld, Lorsch, & Co., Clocks, 194, 345.
Susuki, Y., Earthenware, 244.
Sutherland, A., Boots and shoes, 189.
Sutherland, G., Book, 157.
Sutherland, J., Indiana, 12.
Sutherland, James, Coal, 71.
Sutro Bros., Braids, 123.
Sutter-Dörig, R., Embroidery, 213.
Suydam, M. A., & Co., Coal, 51.
Suzuki, Hiyakunen, Pictures, 249.
Suzuki, M., Buttons, 247; Vase, 249.
Suzuki, Yo, Silks, 246.
Svalling, E. M., Knives, 227.
Svanberg, C. E., Shoes, 226.
Svensson, A., Stuffed birds, etc., 362.
Swain & Co., Soap, 157.
Swain, E., Sugar, 264.
Swaine & Adeney, Whips, 151.
Swainson, Birley, & Co., Fabrics, 148.
Swallow & Ariell, Biscuits, 164.
Swansea Tin Plate Co., Tin plates, 62.
Swasey, I. N., Billiard tables, 111; Chart, 327.
Swedish Iron Masters' Assoc., Minerals, 78.
Swedmark, G., Gloves, 226.
Sweeney, A. J., Alternate, 9.
Sweeney, Thomas S., Photographs, 336.
Sweet, Orr, & Co., Pantaloons, 125.
Sweet, R. J., Copper glance, 70.
Sweet, S. H., Kaolin, 73.
Swett, Quimby, & Perry, Stove, 374.
Swift, C. N., Ventilators, 378.
Swift, James, Microscopes, 339.
Swinkels, W., Yarns, 220.
Swiss Alpine Club, Annual reports, 354.
Swiss Confederation, Department of the Interior, Regulations, 356; Statistics, 357.
Swiss Confederation, Department of Railroads and Commerce, Statistics, 356.
Swiss Geodetical Com., Longitude, 354.
Swiss Historical Society, Catalogue, 354.
Swiss Locomotive & Machine Works, Photographs, 356.
Swiss Manufacturing Co., Rifles, 213.
Swiss Meteorological Com., Observations, 354.
Swiss National Railway Co., Drawings, 356.
Swiss Northeast Railway Co., Plans, 356.
Swiss Reformatory, Statutes, 357.
Swiss Reformatory Institute, Report, 357.
Swiss Society for the Advancement of Natural Philosophy, Memoirs, 354.
Swiss Society of Engineers and Architects, Plans of roads and railways, 356.
Swiss Society for Instructing the Poor, Report, 357.
Swiss Society for Penitentiary Reform, Plans, 357.
Swiss Society for Promoting the Public Welfare, History, 357.
Swiss Statistical Society, Reports, 354.
Sydney Meat Preserving Co., Meats, 158.
Sykes, H., Awnings, 116.
Sykes, Josephine, & Co., Corsets, 150.
Symonett, Mrs. M., Tree, 173.
Synnot, G., & Co., Wool, 165.
Synnot, M., Wool, 165.
Syracuse Chamber of Commerce, Ropes, 235.
Syria, Government of, Salt, 291.
Syros, Government of, Lignite, 96.
Sytenko, John, Limestone, 98.
Sytoff, John, Brocade, galloons, 317.
Szczepansky, F., Boots, 317.
Szelibeiff, T., Boots, 317.

T.

Tába, C., Bitters, 255.
Tabard, Benoit, & Co., Silks, 196.
Tabourot & Pacault, Shirts, 196.
Tabulevitch, T. R. N., Light, 373.
Tack, Loong, Vases, 241.
Tackabury, J. N., Maps, 342.
Tacony Chemical Works, Acids, 101.
Taddei, G., Straw, 234.
Tadjiché, M., Opium, 304.
Tæschler Bros., Photographs, 358.
Taft, R. C., Alternate, 9.
Tagliabue, G., Barometer, 329.
Tagliavia, Francesco, & Co., Minerals, 81.
Taglieb, Carl, Watch, 355.
Tahera, H., Carpet, 296.
Tahey, F., Arrowroot, 180.
Tahif, Gov't of, Wheat, 308; Honey, 311.
Tahir, O., Decanters, 292.
Tahlheim, G., Grease, 315; Wax, 318.
Ta-Ho-jo, Vase, 249.
Tahon, F., Plates, 199.
Tailors' Society, Clothing, 196; Dress, 265.
Tainsy, F., Mantelpieces, 216.
Taizan, Y., Tea sets, 245.

Takahashi, D., Vases, 244.
Takssim Effendi, Tobacco, 309.
Talamon, Son, & Co., Fabrics, 195.
Talep, H., Gauzes, 298.
Tallmadge & Co., Extracts, 105.
Tamai, C., Book, 248.
Tamassi, Aydonat, Oil, 291.
Tamayo, Sidney, Clays, 84.
Tambeur, M., Hunting weapons, 218.
Tamborrel, Equations, 266.
Tanach, Fabric, 293.
Tanach, T., Snuff box, 302.
Tanaka, Honi, Water color, 249.
Tanaka, R., Album, 249.
Tanasse, Y., Chandelier, 293; Bells, stirrups, door knocker, 305.
Tancrède Bros., Glue, 192.
Tanera, Maps, 344.
Tangeman, G. P., Paper, 131.
Tantardini, Mr., Judge, Gr. XXVII., 19.
Tanzan Seikai, Vases, 244.
Tapa, Daniel, Ore, 96.
Tapia, Mrs. E., Books, 266.
Tapia y Pereira, Pedro, Guano, 270.
Tapissier Sons & Debry, Silks, 196.
Tapling, Thomas, & Co., Tapestry, 150.
Taquoui, Madame, Gauzes, 298.
Taraiche Metre, Madder, 306.
Tarai, D., Seed, 310.
Tarako, Flax, 314.
Taranaki Committee, Titanic iron, 63; Views, barks, 156.
Tarassoff, J., Crosses, 319.
Tarnero, S., Chili illustrated, 261.
Tarr, H. G. H., Stove plates, 335.
Tarr, H. S., & Son, Level, 329.
Tarrat & Sociats, Cloths, 274.
Tarriba Pablos, C., Manta, 276.
Tarrout & Co., Poutargue, 304.
Tarussi, Luigi, & Bros., Olive oil, 232.
Tasmania, Royal Society of, Topazes, 68.
Tasmanian Com., Rugs, 182; Furs, etc., 183.
Tasse Kochman, Cloth, 295; Silk fabric, 297.
Tassi; Peter, Marble, 81.
Tassia Didé, Prévézé, Oil, 291.
Tassinari & Chatel, Silks, 196.
Tasté, J., Thread, 217.
Tathma, T., Woolen fabrics, 295.
Tauchnitz, B., Publications, 348.
Taulard, Book, 343.
Taulez-Bottelier, Flax, 219.
Tauriño, Juan, Remedy, 270.
Tavares, José, Willow baskets, 289.
Tavares, Rita de J., Lace, 288.
Tayabas, Provincial Board of, Cases, 281.
Tayk Pasha, Opium, 304.
Tayler, D. F., & Co., Iron, 62; Pins, 151.
Taylor, B. K., Hat, 155.
Taylor, C. F., Orthopedic apparatus, 135.
Taylor, C. R., & Co., Soaps, etc., 106.
Taylor, D., Wool, 183.
Taylor & Farley Organ Co., Organs, 334.
Taylor, G., Wool, 183.
Taylor, J., Wheat, 162.
Taylor, J. H., Paste, 136.
Taylor, Jas., & Muller, S. N., Carpet, 122.
Taylor, John, Wool, 183.
Taylor, Mrs. Richard, Table mat, 155.
Taylor, N. & G., Co., Tin plate patterns, 59.
Taylor, R. F., & Son, Overcoat, 189.
Taylor, Robert, Trunks, 189.
Taylor, Robert, & Co., Crucibles, 54.
Taylor, S. T., Cutter, 124.
Taylor, T., Reflectors, 138.
Taylor, T. G., Nevada, 13.
Taylor, W. O., & Son, Chairs, 111.
Tchelder, Government of, Borax, 291.
Tchiko, Lace, 301.
Tchistiakoff, B., Hats, 317.
Tchitcheleff, J., Jewelry, 318.
Tchobano, Dimitri, Wooden mould, 305.
Tchorbadji Serkis, Bag, 297.
Tchoula Cheyfi, Cloth, 293.
Tdomane, Government of, Galena, 96.
Technical Elementary Schools, Work, 362.
Tecumseh Iron Co., Iron, etc., 48, 57.
Tecumseh Mills, Printing cloths, 118.
Tecumseh Works, Brine, 74.
Teftif Oglou Moussa, Wool, 314.
Tegetmeyer, F., Engravings, 348.
Tehezi Agha, Blanket, 296.
Tei-Ami Tegiyo, Fans, 247.
Teixeira, Carlota Matilde, Embroideries, 288.
Teixeira, José Rodrigues, Silver jewelry, 288.
Teixeira, M. A., Thread, 285.
Tejada, A., Open work, 277.
Telegraph Construction & Maintenance Co., Cable, 339.
Telegraph Supply Mfg. Co., Porcelain, 202.
Telhadella Mining Co., Ores, 94.
Tellini, Dario, & Co., Olive oil soap, 231.
Tellini, Vincenzo, Olive oil, 231.
Tello, J., Embroidery, 258.
Temio Petcha, Silk, 297.
Temno Petcha, Silk, 297.
Templeton, J. & J. S., Curtains, 150.
Templeton, James, & Co., Carpets, 150.
Temprado, R. F., Handkerchiefs, 281.
Ten Eyck Axe Mfg. Co., Axes, 137.
Tennant & McLachlan, Penmanship, 341.
Tenner, Apparatus, 319.
Tenner, A. B., Wooden rolling blinds, 202.
Tennessee Educational Dept., Books, 323.
Tenorio, F. D., Soap, 283.
Terada, G., Pipes, 247.
Teramura, S., Embroidery, 246.
Ter-Davydoff, Jugs, 315.
Ter Horst, J. H., Linen, 220.
Terrades & Vallmana, Sulphur, 278.
Terramola, D., Salt, 255.
Terrilon, L., Shawls, 195; Handkerchiefs, 196; Trimmings, 197.
Terriza José, Galena, 87.
Terwilliger & Co., Safes, 112; Locks, 141.
Terzibalion, H. A., Coins, 371.
Teske, C., Regulator, 330.
Testi, U., Dentals, 235.
Tetlow, Henry, & Bro., Perfumery, etc., 105.
Tetoullah, D., Silk, 297.
Tetoullah Effendi, Prunes, 312.
Teufel, J. J., Instruments, 136.
Teugels, E. M., Furniture, 216.
Teyler's Foundation, Archives, 360.
Thackara, Buck, & Co., Brackets, 114.
Thalheimer & Hirsch, Shirts, 124.
Tharsis Sulphur & Copper Co., Ores, 88.
Thatcher Heating Co., Furnaces, 374.
Themeli, N., Sponges, 310.
Themudo, Maria Eduardo, Lace, 288.
Théophani, N., Seeds, 307; Wheat, 309; Cheese, 310; Wool, 313; Lupine, 314; Violin, 371.
Théophasaki Ysiako, Wine, 313.
Theorell, A. G., & Sörensen, P., Meteorograph, 363.
Theresa de Jesus, Needlework, 288.
Thevenot, F., Cutlery, 199.
Thibault, Lanthier, & Co., Furs, 189.
Thibouville, L., Instruments, 345.
Thie, W., Instruments, 351.
Thieben, E., Shawls, 208.
Thiellay, Eugene Henry, Perfumery, 145.
Thierry, Adolph, Tables, 112.
Thierry, China, 193.
Thinet, Cutlery, 199.
Thirion, C. H., Tables, 344; Tablets, 346.
Thiry, jr., Cage, 194; Locks, 200.
Thole, B., Book case, 111.
Thomachot-Thuillier, Shears, 199.
Thomar Royal Weaving Co., Yarns, etc., 285.
Thomas, Chronometric instruments, 346.
Thomas, Linen, 294; Silk, 298; Ornaments, ladies' belt, 302.
Thomas, A. W., Bustle, 124.
Thomas Bros., Chemicals, 192; Raw silk, 196.
Thomas, C. F., Index, 132; Skin, 165.
Thomas, D. H., Maryland, 12.
Thomas, F., Raw silk, 196.

Thomas, H., Fabrics, 298.
Thomas Iron Co., Ore, 47; Iron and flux, 57; Drawings, 334.
Thomas Isaac, Van, Silk, 297.
Thomas, Joel, Ruches, 126.
Thomas & Joerns, Vases, 374.
Thomas, Roberts, Stevenson, & Co., Stoves, furnaces, 374.
Thomas, W. H. B., Minerals, 50.
Thompson, Albert, Paint, 104.
Thompson, C., Perambulator, 154, 383.
Thompson, C. C., & Co., Pottery ware, 108.
Thompson, D. M., Photographs, 335.
Thompson, E. O., Garments, 124.
Thompson, G. F., & Sons, Lead, 188.
Thompson, J. H., Judge, Gr. XXIV., 18.
Thompson & Weizmann, Tobacco, 172.
Thompson, W. S., Stone, 53.
Thomson, J. S., Inks, 105.
Thomson, Robert, Bark, rulers, etc., 171, 172.
Thomson, Sir W., Judge, Gr. XXV., 19.
Thonet Bros., Furniture, 208.
Thonet, F., Judge, Gr. VII., 16.
Thorn, C., Carriages, etc., 154, 383.
Thorn, Stephen S., Brass, 141.
Thornber, U., Wines, 168.
Thorne, G., Cocoons, 159.
Thorne & Greenwell, Almanac, 179.
Thornton, E., Stove, 148.
Thornton, S., & Sons, Fabrics, 116, 120.
Thorpe, Mrs. W., Painting, 174.
Thrum, T. G., Book, 250; Stamps, 251.
Thudium, C. A., & Son, Jackets, 124.
Thun, Count v. K., China, 207.
Thurston, R. M., Engineering exhibit, 335.
Thwaits, Miss F. C., Drawings, 170.
Tibbals, L. P., Carriage, 381.
Tiburcio, Escabias, Salt, 270.
Tidström, C. W., Account books, 227.
Tiebout, W. & J., Brass, 141.
Tiefenbrunner, G., Citherns, 350.
Tiemann, G., & Co., Instruments, 135.
Tiffany & Co., Silverware, 112; Jewelry, 127; Stationery, 130; Watches, 330.
Tigour, A., Wool, 314.
Tikhomandritzky, N., Embroideries, 318.
Til, C., Caps, 317.
Tilburg Woolen Mfg. Co., Flannels, 220.
Tileston & Hollingsworth, Paper, 131.
Tillinghast, Mason, & Co., Jewelry, 127.
Tillson, Davis, Granite work, 52.
Tilp, E., Plans, 352.
Timasheff, A., Silk, 317.
Timbrell, A., Cocoons, 161; Silkworms, 163.
Timiriazeff, D., Atlas, 373.
Timms Bros., Wools, 165.
Tims, Wm., Homœopathic pellets, 134.
Tindal, E. & A., Wool, 159.
Tinogasta, Prov. Sub-com. of, Ores, 83.
Tinworth, George, Stoneware, 146.
Tippan, M. W., New Hampshire, 13.
Tiraki Selim Agha, Fabric, 293.
Tirapegui, R., Mexican saddle, 260.
Titodi, G., Music, 365.
Tittel & Krüger, Wools, 203; Emb'y, 204.
Titus, E., & Sons, Flannels, 121.
Tivoli Mine, Coal, 67.
Tjeenk- Willink, H. A., Balls, 360.
Tjeenk Willink, W. E. J., Drawings, 361.
Tletora, T., Wine, 313.
Tobella & Argila, Manure, 270.
Tobias, J. F., Judge, Gr. IV., 16.
Tobin, Jos. F., Bone, 128.
Tobique Gypsum Co., Gypsum, 73.
Tobler, Drawings, 356.
Tobler, Ulr. & A., Embroidery, 213.
Todai-riyo, Lighthouse Department, Photographs, 248.
Todd, A. M., Oils, 103.
Toekomst Society, Reports, 359.
Toggenberg Reformatory, Reports, 357.
Toin Peh Mei, Porcelain, 241.
Toiray, M. G., Stationery, 198.
Toiray, Maurin, Inks, 193.
Toit, A. L. du, Grapes, 170.
Tokatlou, Tobacco, 309.
Tolhurst, Geo. E., Models of gold ingots, 63.
Toll, Chas., Silex, 54.
Tolley, J. & W., Guns, 152.
Tolox, Corporation of, Waters, 92.
Tolrá & Co., José, Cretons, etc., 273.
Tomás, Antonio R., Barytes and lime, 90.
Tomei, A. F., Pavement, 233.
Tomita, S., Gauze, 246.
Tomochordo, P., Wine, 313.
Tompkinson & Adam, Carpets, 150.
Tondeur & Lempriere, Photographs, 182.
Tong Chock-hing, Porcelain, 241.
Tong Chou Hing, Ink, 242.
Tonsend, C. T., Phaeton, 381.
Tootchana, Gov. of, Opium, 304; Rice, 308.
Tooth & Cran, Sugar, 180.
Topart Bros., Pearls, 198.
Topchin Mulasin, Oats, 307.
Tophna, Lace, 301.
Topliff & Ely, Bow, 379.
Topographical Bureau, Maps, 373.
Topowz Oglou, Coal, 96.
Toran Costa, Wheat, 307.
Torchon, Ch., Pharmacies, 192.
Torelli, J., Crockery, 233.
Torelli, L., Sculpture, 235.
Torlades, O'Neil, Salt, 283.
Tornberg, O., Boots, 226.
Toronto, Corporation of, Photographs, 342.
Toronto Gold Mining Co., Pyrites, 70.
Toronto Tweed Co., Flannels, 189.
Torras Bros., Paper, 278.
Torre, J., Cloths, 274.
Torre, M. E. la, Fabric, 263; Liquor, 264.
Torrell, O. M., Judge, Gr. XXVIII., 19.
Torrelló & Co., Prints, 273.
Torrent, E. G. de, Embroidery, 258.
Torres, A. B. de, Lozenges, 255.
Torres, F. L., Paints and varnishes, 283.
Torres, N., Flour, 268.
Torres Novas National Spinning & Weaving Co., Cotton fabrics, 285.
Torreviega, Salt, 270.
Torrey, D., Bureau of Transportation, 10.
Tössthal Railway, Surveys, 356.
Tostrup, J., Silver work, 230.
Tosty, G., Leather, 310.
Touchard, E., Ornaments, 194, 198.
Tountcha Litché, Wine, 313.
Toup Hané c Hadji, Chain, 302.
Tourinho, F. A. M., Magnetic gold, 82.
Touron, E., Problems, 343.
Tousseano, Vinegar, 313.
Toutous, Gov. of, Nitre, 291; Gums, 306; Cereals, 308.
Tower, J. J., Planes, 138.
Tower, W. F., & Bro., 380.
Towle Mfg. Co., Bell punches, 382.
Town Council of Winterthur, Plans, 356.
Towne, A. N., California, 11.
Towns, R., & Co., Kerosene shale, 64.
Towns & Co., Kerosene shale, 64.
Townsend, C. T., Phaeton, 380.
Townsend, G. W., Slips, 327.
Townshend, Mrs. M., Clay, 73.
Toy, Bickford, & Co., Fuses, 106.
Toyo-oka-ken, Local Govt., Straw work, 247.
Traber & Aubery, Iron ores, 49; Iron, 59.
Traber, J., Limestone, 53.
Tracy, J. L., Missouri, 13.
Trail, W. J. L., Dakota, 12.
Trainer, D., & Sons, Cotton yarns, etc., 117.
Tramon, T., Boots, 257.
Tramontino, Cocoons, 236.
Transatlantic Steamship Co., Model, 345.
Transtagana Mining Co., Ores, 94.
Trapadoux, A. L., Bros., & Co., Foulards, 196.
Trapaga, Torriello, & Co., Yarns, 265.
Trasel, E. G., Pails, 143.
Tras-os-Montes Mining Co., Ore, 94; Tin, 95.
Travaglino, P. J. & W. J. P., Silks, 220.
Travanca, A., Argil, 82.

Travis, J. L., Brass, 378.
Trayser, Ph. I., & Co., Organs, 350.
Trayvou, B., Scales, 344.
Treacy, J., & Co., Ale, 164.
Trebitisch, A., Meerschaum articles, 210.
Trebizond, Government of, Galena, 96.
Treco, P. A., Shells, 173.
Tréfousse & Co., Gloves, 197.
Trell, Miguel del, Calamine, 87; Marble, 89; Gypsum, 91.
Treloar, Wm. A., Minerals, 83.
Tremain, Chas., Cement, 54; Barrels, 143.
Tremont & Suffolk Mills, Flannels, 117.
Tremouroux, N. & J., Bros., Utensils, 216.
Trent Brothers, Chiccory, 156.
Trentefil, Miss, Pants stuff, 295.
Trenton Lock & Hardware Co., Locks, 140.
Treolar, G. A., Shoes, 257.
Tress & Co., Hats, 151.
Treuendt, E., Books, etc., 348.
Trichaud, A., Tiles, 193.
Trigg Furnace, Ores, 49; Iron, 59.
Trimingham, J., Bonnets, 174.
Trindade, Joaquin Antonio, Gaiters, 287.
Trinidad, Government of, Gutta-percha, 184.
Trinidad, Maria, Embroidery, 281.
Tripp, J. P., Quartz, 166.
Triumph Truss Co., Truss, 136.
Trojani, G. B., Bas-relief, 232.
Trommsdorff, H., Chemicals, 201.
Tropic Furnace Co., Ores, 48; Iron, 58.
Trost, J., & Co., Piano, 355.
Trotomastoropolani, C., Counterpane, 301.
Trouette & Blampied, Wines, 164.
Trout, W. H., Drawings, 342.
Troy Cotton & Woolen Manufactory, Printing cloths, 118.
Trubia, National Factory of, Coal, 89; Argil, 91; Iron, etc., 92; Bricks, 272; Carriage, 278; Files, 279.
Trudeau, P., Gas burner, 188.
Truffy, Toys, 198.
Tryon, E. K., jr., & Co., Rifles, etc., 134.
Tschataldja, Olives, 307.
Tsubaki Yoshi, Sendai, Silk, 246.
Tsuboi, C., Crapes, 246.
Tsuji, Ch., Toilet service, 245.
Tsuji Katsuzo, Porcelain, 249.
Tsurugaken, Local Government of, Silk, 246; Paper, 247.
Tucci-Savo, B., Olive oil, 232.
Tucher, T., Arrowroot, 174.
Tuchfarber, F., & Co., Cards, 140.
Tucker, Carter, & Co., Bagging, 118; Wire ropes, 142.
Tucker, Geo., Tripoli, 54, 139.
Tucker, Hiram, & Co., Brackets, 114.
Tucker, Thos. S., New Mexico, 13.
Tucuman, Provincial Commission of, Limestone, 84; Sea salt, 255; Cups, 256; Wool, 257; Leather caparisons, etc., 260.
Tudicar, H., & Co., Bricks, 256.
Tufts, J. W., Fountains, 55.
Tula, Nabor, Copper ore, 83.
Tullesen, P., Braiding machine, 224.
Tunxis Mills, Yarns, 121.
Turner, Andrews, & Co., Pocket books, 129.
Turner, Archibald, & Co., Elastic fabrics, 150; Bandages, 153.
Turner, Chas., & Son, Varnishes, 145.
Turner, G., & Co., Hammock, 147; Tent, 148; Canteen, 151.
Turner, Henry A., & Co., Sofa, chairs, 110.
Turner, John, Yarns, 121; Cords, 123.
Turner, R., & Co., Needles, 151.
Turner & Seymour, Hardware, 142.
Turners' Sample Office, Cork articles, 209.
Turnwald, C., Gloves, 209.
Tuscarawas Coal & Iron Co., Ore, 50; Iron, 56.
Tuschen de Vrienden Plantation, Rum, 751.
Tuttle & Bailey Manufacturing Co., Ventilators, screens, 375.
Tuxen, Louis von, Leather goods, 228.
Tweed, H., Massachusetts, 12.
Twining & Schiedt, Fluid extracts, etc., 101.
Tygert's Valley Mining Co., Ore, 49.
Tyndale, H., Judge, Gr. II., 15.
Tyrolese Glass Painting Mfy., Glass, 207.
Tyrrell, J. de F., Ores, 67.

U.

Uddeholm Company, Iron ore, 78.
Uddeholm Stock Co., Iron, 79; Hand tools, hardware, 227.
Uebelacker, L., Toys, 205.
Uitvlugt Plantation, Sugar, 175.
Ujhely & Co., Candles, 207; Wax, 211.
Ulbrich, F., Imitation stones, 209.
Uleeschouuer, Bellefroid, & Co., Marble, 90.
Ullathorne & Co., Thread, 149; Findings, 153.
Ullmann, J. F., Laces, 209.
Ulmusrati Ahmed, Brimstone, 97.
Ultramarine Works, Chemicals, 201.
Umann, John, Flagon, glass articles, 207; Paper weights, 210.
Underberg, A. H., Bottles, 202.
Underwood, T., Paints, 157.
Unge, V. T., Apparatus, 363.
Unger, F., Portemonnaie, 210.
Unger, G., Periodical, 372.
Union County Mfg. Co., Wheels, 379.
Union Furnace, Ores, 49; Iron, 58.
Union Hardware Co., Skates, 138.
Union Iron Co., Ores, 50, Beams, 55; Model, 335.
Union Manfg. Co., Doeskins, 120; Hinges, 141; Wooden ware, 377.
Union Mercantile Co., Cotton goods, 253.
Union Metallic Cartridge Co., Shells, 133.
Union Mining Co., Coal, 51, 71; Bricks, 107.
Union Porcelain Works, Porcelain ware, 108.
Union Prospectors Co., Quartz, 166.
Union Steel Screw Co., Steel, 141.
Union Stone Co., Articles in artificial stone, 56.
Union Wadding Co., Cotton wadding, 117.
United Cutters' Soc'y, Gentlemen's goods, 196.
United Piano Makers, Pianos, 333.
United Railroads of Switzerland, Plans, 356.
United States Bunting Co., Bunting, etc., 120.
United States Cartridge Co., Cartridges, 133.
United States Centennial Commission, 9.
United States Corrugated Elbow Co., 56.
United States Corset Co., Corsets, 125.
United States Piano Co., Piano, 333.
United States Publishing Co., Books, 327.
United States Salicylic Acid Works, Acid, 102.
United States Soapstone Furnace Co., Furnace, 374.
United States Soapstone Mfg. Co., Steatite, 55; Gas tips, 115; Pencils, 130.
United States Spring Bed Co., Beds, 111.
United States Steel Shear Co., Shears, 139.
Université Laval, College work, 342.
University Publishing Co., Books, 327.
Unterstrass Modeling School, Work, 353.
Upham, Saml. C., Extracts and perfume, 105.
Urbina, M., Hampers, 277.
Urech, E., Embroidery, 213.
Uria Pinilla, Iron ores, 89.
Uria & Pinilla, Stone, 91; Iron, 92.
Urmeneta, José Tomas de, Wines, 262.
Urmenta & Errazuriez, Copper ores, 85.
Urmston, J., Hubs, 379.
Usher, R., Rhubarb, 153.
Usine Hassan, R., Chandeliers, 293.
Uskup, Government of, Aluminous earth, 96; Stockings, 300; Bellows, 303; Wheat and rye, 308; Cotton, 313.
Usni, H., Felts, 295.
Uson, A., Pipes, 281.
Ustick, S., Car model, 382.
Utica Steam Cotton Mills, Sheetings, 117.
Utschneider & Jaunez, Cement, 240.
Utsumi, K., Vases, 245.
Uxbridge Woolen Co., Cassimeres, 120.
Uyemura, S., Lacquered ware, 245.

V.

Vachette Bros., Locks, 200.
Vacquerel, P. E., Decalcomanie, 193, 198.
Vafiadi Giorki, Wine, 313.
Vagoonin Bros., Paper, 319.
Vahey, W., Collars, 191.
Vaill, E. W., Folding chairs, 110.
Vaisse, Martin, & Co., Brick, 371.
Vajani, P., Curtains, 233.
Val, A., Cloth, 275.
Valadia, C., Paper, 277.
Valah, V., Lentils, 309.
Valania, J., Machines for confectioners, 216.
Valby, Capsules, 199.
Valcarcel, Venancio, Olives, 263.
Valdemoro, Juan Francisco, Iron, 89, 92.
Valdes, E. & C., Stones, 84; Burnt brick, 256; Boots, 257; Camomile, 259.
Valdes, H., Lasso, 259.
Valdes, Nicasio, Lime, 84.
Valenca, Domingo Fernandes, Hats, 287.
Valensi, M., Pottery, 239.
Valentin, M. J., Jewelry, 254.
Valentine & Butler Safe & Lock Co., Safes, 112; Locks, 142.
Valentine & Co., Varnishes, 104.
Valentines & Co., Iron, 56.
Valentini, G., Medicines, 235.
Valenzuela, M., Teeth, 279.
Valenzuela, P. N., Leather, 262.
Valkenberg & Schoen, Wool, 203.
Vallarta, L. Y., Woods, 268.
Valleau, W., jr., Gold leaf, 136.
Vallés, J., & Sons, Crystal, 272.
Vallini, N., Paper, 234.
Vallongo Slate & Marble Quarries, Slate, 94; Tables, 284.
Valton, F., Judge, Gr. I., 15.
Van Aken, L., Carriages, 218.
Van Alen & Co., Nails, 141.
Van Bellingen, J., Son, Cassimere, 217.
Van Bellingen, J. H., & Suremont, Silk tissues, 217.
Van Bergen, A. H., Tiles, 220.
Van Calker, P. W., Glue, 220.
Van Carter, J. A., Wyoming, 14.
Vancouver Coal Co., Building sandstones, 72.
Vancouver Mining Co., Coal, 71.
Van Damme Bros., Cloth, 216.
Vandamme, P. J., Engravings, 217.
Van de Loo, J. P. H., Plaster, 221.
Van den Bergh, N. L. J., Cologne, 220.
Vandenbos-Poleman, G., Shoes, 217.
Vandendaele-Rigot, C., Syrups, 218; Steam machine, 219.
Van der Burgh, A. R. & P., Marble, 221.
Van der Burgh, M., Wood, 221.
Van der Lugt, Furniture, 220.
Van der Molen, A., & Co., Sculpture, 359.
Vanderrest, G., Machine, 216.
Van der Velden, L., Glue, 215.
Van de Wynckele Bros. & Alsberge, Linen thread, 216.
Vandezande-Goemaere, Lace, 217.
Vanduzen & Tift, Bells, 141.
Van Ginderdeuren, Wood carvings, 216.
Van Gounden, Young, & Drumm, Marble, 52.
Van, Government of, Nitre, 291; Calicoes, 294; Carpets, 295; Belt, 300.
Van Havermaet, H., Furniture, 359.
Van Henkelom, H. C., Stone, 220; Machine screws, 221.
Van Holsbeck, H., Books, 359.
Van Laer, Guillaume, Dyer's Guide, 215.
Van Leer, B., Hangings, 220.
Van Norman, Judge, Native silver, 70.
Vanoutryve, F., & Co., Damask, 195.
Van Skelline, Theo., Motto paper, 133.
Vant, A. B., & Cheney, H. O., Washer, 377.
Van Verschur & Van der Voort, Stones, 77.
Van Vliet, W. F., Chairs, 220.
Van Wagoner & Williams, Hinges, 141.
Van Wickle, Stout, & Co., Coal, 51.
Varach, Government of, Iron, 97.
Vargas, Blas, Wines, 262.
Various Provinces, Direction of the Public Works of, Building materials, 95.
Various Towns, Benevolent Societies of, Mineral waters, 91.
Various Towns, Provincial Commissions of, Argil and clay, 91.
Vasali Borbo, Morocco, 310.
Vasconcellas, Jacintha P., Raw silk, 286.
Vasconcellas, Joas da Camara, Raw silk, 286.
Vasconcelles, José da Silva P., Damask, 287.
Vaskapoli, A., Sumac, 291.
Vasquez, Diego, Quicksilver ore, 88.
Vasquez, Gulias Francisco, Oxide of tin, 92.
Vasquez, Lucrecio, Emeralds, 83.
Vasquez y Lopez, M., Peroxide of manganese, 88.
Vasseur, Mrs. V., Laces, 197.
Vassil, Postak, Cloth, 295.
Vassili, P., Silk cloth, 298.
Vassilieff, J., Maps, 373.
Vassiliki, Madame, Laces, 301.
Vatterlein, J., Gauges, 138.
Vaucher, L., Animal oil, 212.
Vaud, Dept. of Public Works, Drawings, 356.
Vaudoise Society for Public Utility, Reports, 357.
Vaughan, W. R., Trusses, 135.
Vauthier, Mrs., Clothing, 196.
Vauthier, Sl., & Sons, Tools, 358.
Vcelicka, A., Gloves, 209.
Vecchietti, C., Green-weed, 233.
Vedernikoff & Mikailoff, Costumes, 318.
Veelo, P. J., Cloths, 220.
Veetman, J. A., Scarfs, 220.
Vega, Daniel de la, Petrifaction, 83.
Vega Grande, Count of, Oil, 271.
Vegetable Creek Co., Tin ingots, 64.
Vegis, Sculpture, 237.
Veith, J., Publications, 348.
Velasco Bros., Lead bars, 92.
Velasquez, Mrs. L., Embroidery, 266.
Velazco, J. J., Flour, 262.
Velhagen & Clasing, Religious books, etc., 348.
Velho, Agostino F., and others, Ore, 94.
Velings & Co., Iron wire, 218.
Veloso, Pascal, Galena, 93.
Veltman, J. A., jr., Scarfs, 220.
Vely Bey, Socks, 299.
Venturini, Luigi, Strings, 365.
Vera Bauton, Maria, Baskets, 280.
Vera Cruz, State Government of, Wood, 267; Coffee, 268.
Verchilli y Marqués, F., Sandals, 276.
Verdé-Delisle Bros., Lace, 217.
Verdé-Delisle & Co., Lace, 197.
Verderau, L., Shirts, 276.
Vergne & Chose Bros., Instruments, 199, 200.
Vergnies, O. de, & Sisters, Lace, 217.
Verhaar, A. T., Casts, 360.
Verin, Corporation of, Mineral waters, 92.
Verrocy & Van Heusde, Dyes, 220.
Versailles Plantation, Sugar, 175.
Versé-Spelmans, B., Leather, 218.
Verviers, Doings of Popular Evening Parties of, Publications, 359.
Vessiere-Paulin, J. A., Clothing, 196.
Vester, Table, 292; Olive wood, 302; Desk furniture, 304.
Vesuvius Furnace, Ore, 48; Pig iron, etc., 57.
Vettler, J., Wines, 164.
Vianna, Antonio Martius, Plated shoes, 287.
Vianna do Castello, Direction of the Public Works of, Building materials, 94.
Viard, F., Perfumery, 193.
Vicat, Joseph H., Insect powder, 192.
Vice, G., Saltpetre, 169.
Vicedo, J., Cloth, 274.
Vico, V., Olives, 264.
Victor Navarro, P., Silks, 275.
Victoria, Advisory Board of, Indian goods, 342.
Victoria, Bank of, Notes, 341.
Victoria, Collection of minerals, 65.

Victoria, Commissioners for, Nuggets, 65, Crayons, 160; Silk cocoons, 161; Photographs, 162; Water fowl, 163; Cotton, 164; Fruits, 165; Music, 341.
Victoria, Educational Department of, 341.
Victoria Institute for Poor Girls of the Canton of Berne, Report, 358.
Victoria, J. G., Earthenware, 284.
Victoria Ladies' Sericulture Co., Silk, 161.
Victoria, Sub-commission of the Dept. of, Pottery, 256.
Victoria, Surveyor-General of, Photography, 162; Maps, 341.
Victorian Asylum and School for the Blind, Mats, 341.
Victorian Asylum for Deaf and Dumb, Photographs, 341.
Vidago Mineral Waters Co., Waters, 95.
Vidal, B., Cases, 281.
Vidal, J. M., Linens, 294; Silk, 297; Embroidery, 301; Old fire arms, 304.
Vidal, M. A., Ashes, 255.
Vidal, R., Handkerchief, 277.
Videla, J., Leggings, 257; Harness, 259.
Videla, R., Embroidery, 258.
Vie, Garnier, & Co., Pharmacy, 199.
Viego, I., Blankets, 274.
Vieira, A. J., Soap, 283.
Vienna Building Association, Plans, 351.
Vienna, Com. in, Various products, 352.
Vienna, Municipality of, Photographs, 351.
Vigano, Francesco, Books, 365.
Vignal, C., Refrigerator, 377.
Vigneron, C., Insulator, 331.
Vignon, A., Clocks, 345.
Vigon, Braulio, Coal, 89.
Vigors, P., Native weapons, 169; Skins, 170.
Viguier, Boots, etc., 253.
Viguier, Figaro water, 193.
Viguier, H., Shoes, 254.
Vila, Francisco, Tin ore, 89.
Vila Janez, Francisco, Tin, 92.
Vila & Son, Paper, 277.
Vilaret, José, Carbonic water, 91.
Villa, Cav. Prof. Ignazio, Maps, 365.
Villa del Rio, Corporation of, Cloaks, 275.
Villafañe, Tristan, Galena, 83.
Villa Franca, Baron of, Peat, 82.
Villagalijo, Prov. Com. of, Alabaster, 90.
Villalba, Gregorio, Jet, 91.
Villalobos Brothers, Sulphate, 87; Lead, 92.
Villalon, E., Waters, 271; Hair, 277.
Villalonga y Perez, Antonio, Tripoli, 91.
Villamartin, Corporation of, Jasper, 90.
Villamarzo, T., Mats, 280.
Villamen, C., Bagging, 280.
Villanova, José Genaro, Earth, 88.
Villar Cagide, Joaquin S. M. de Abades, Steatites, 91.
Villar, J., Pharmaceutics, 271.
Villard & Co., Velvet, 196.
Villarmentero Board of Public Works, Crystallized gypsum, 90.
Villaroel, A., Various publications, 261.
Villaseca & Pniggene, J., Paper, 278.
Villeasante, F., Hats, 276.
Ville de Spa, Trophy furniture, 77.
Villen, J., Shoes, 276.
Villeneuve, J., & Co., Publication, 366.
Villeroy & Boch, Tiles, 202.
Villiers, A. B. de, Wines, 171.
Villiers, A. J. J., Red wines, 171.
Villiers, Miss de, Articles of flowers, 171.
Vincent Son, Black marble, 77.
Vincenzi, P., Corks, 235.
Vinci, M., Shoes, 234.
Vinet, Troviño, & Co., Acid, 271.
Vineyards, Direction of the, Wines, 313.
Vinogradova, A., Swans' down, 317.
Vinton, C., Bath, 378.
Vinton Furnace, Ores, 49; Iron, 58.
Vinuesa, Corporation of, Chamomile, 278.
Vinva, A. J., Salt, 283.
Violet, G., & Co., Soaps, 192.
Virgili, Angelo, Olive oil, 231.
Virginia Mineral Bureau, Minerals, 48.
Virolet & Durlach, Oil cloths, 119.
Virtue & Yorston, Books, 327.
Virtue, J. W., U. S. Commissioner, 9.
Vishniakoff, J., & Sons, Papier-maché, 318.
Vissoka, Government of, 293; Cases, 303.
Vista Alegre Porcelain Mfy., Porcelain, 284.
Vital, A., Rollers, 200.
Vité, François, Leather goods, 205.
Vitigudino, Corporation of, Manta, 275.
Vitry Bros., Cutlery, 199.
Vivas Asqueros, Antonio, Iron ore, 87.
Vives & Aspiroz, R., Flags, 272.
Vo Chon, Vases, 242.
Voeltzkow, G. W., jr., Picture frames, 202.
Voeltzkow, W., Picture frames, 202.
Vogel, F. C. W., Books, 348.
Vogel, G., Looking glasses, 202.
Vogel, H., Judge, Gr. XXVII., 19.
Vogel, M. B., Colors, 202.
Vogel, Sir Julius, Handbook, 156.
Vogts, F., & Co., Furniture, 202.
Voigtlaender & Son, Telescopes, 349.
Voisin, V. C., Fancy articles, 198.
Volante, Alessandro, Pamphlet, 365.
Volart Bros. & Conill, Fabrics, 273.
Völker, O., Furniture, 202.
Vollmer, G., Furniture, 111.
Volonia, Government of, Mineral water, 97; Soap, 291; Linen, 295; Pitch, 306; Maize, 308; Honey, 312; Wool, 314.
Volsteedt, P. J., Preserves, 170.
Volta Vivé, J., Fabrics, 275.
Volz-Bier, A., Jewelry, 204.
Von Bauer, O., Woolens, 208.
Von Baumhauer, E. H., Judge, Gr. IV., 16.
Von Harrach, Count, Glass articles, 207.
Von Heyden, F., Chemicals, 201.
Vorster & Grüeneberg, Chemicals, 201.
Vorster, R. & H., Edge tools, 206.
Vosburg, J. S., Arizona, 11.
Vöslau Yarn Manufactory, Yarns, 208.
Voss, L., Books, 348.
Vossen Bros., Chemicals, 201.
Votkinsk Crown Iron Works, Iron, 98.
Vowohl Asphalt Works, Mastic blocks, 75.
Voyeikoff, D., Cloth, 317.
Vrana National High School, Work, 362.
Vrau & Co., Thread, 195.
Vraux & Co., Thread, 195.
Vreed-en-Hoop Plantation, Sugar, 175.
Vriesendorp, H. M., Oils, 220.
Vte Mondova, Oils, 270.
Vuiva Ferreira Campos, & Co., Galloons, 288.
Vulcan Match Mfg. Co., Matches, 225.
Vulcanite Jewelry Co., Jewelry, 127.
Vyse, Robt. H., Belting, 142.

W.

Wachsmuth, F. E., Pictures, 348.
Wada, Y., Indigo, 244.
Waddell, H., jr., Judge, Gr. VIII., 16.
Waddington, Wm., Brooms, 261.
Wade, J. M., Ornament on glass, 188.
Wadman, E., Vases, 241, 242.
Wadsworth Coal Co., Coal, 51.
Wagan, R. M., Chairs, 111; Rugs, 122; Fancy articles, 128.
Wage Kitei, K., Vases, 244.
Wagenmann, G., Tapers, 207.
Waggoner, Gifford & Co., Paints, 104.
Wagner Drug Milling Co., Refrigerators, 374.
Wagner, Franz, Bronze articles, 207, 210.
Wagner, G. W., Sleigh, 381.
Wagner, H., & Debes, C., Maps, etc., 348.
Wagner, J., Stone, 53.
Wagner, R., Plates, 348.
Wagner, R. von, Judge, Gr. III., 15.
Wagner & Starker, Tiles, 202.
Wahl, Emil, Jewelry, 127.
Wahlström, S. Fr., Furniture, 225.

Waihee Plantation, Sugars, 251.
Waimanalo Plantation, Rice, 251.
Wakamatsu, R., Hats, 246.
Wakefield Earth Closet Co., 377.
Wakefield Rattan Co., Furniture, 110; Mats, 115, 143.
Walch & Sons, Almanac, 182.
Walcker, A. G., Bells, 345.
Walcker, E. F., & Co., Church organ, 350.
Walcker, W., Tents, 195.
Walcott & Campbell, Shirtings, 116.
Waldheim, R. von, Plans, 352.
Waldow, A., Books, 348.
Walén, Joh., Locks, 227.
Wales, W., Photomicrographs, 330.
Walker, A. R., Gas cooking stove, 160.
Walker, Evans, & Cogswell, Blank books, 132.
Walker, F. A., Chief, Bureau of Awards, 10.
Walker Glass Importing, Silvering, Mfg. Co., Mirrors, 113.
Walker, J., Soaps, 187.
Walker, J. R., Utah, 14.
Walker, M., & Sons, Gates, 115.
Walker, N. U., Sewer pipe, etc., 107.
Walker, R. F., Wheat, 180.
Walker, Renwicks, & Co., Gum, 156.
Walker, Tucker, & Co., Stamps, 130.
Walker, W., Traveling articles, 198.
Wallace, A. C., Canes, 173.
Wallace Bros., Roots, 134.
Wallace & Keller, Fancy articles, 127.
Wallace, S. J., Roofs, 378.
Wallenstadt Fancy Cotton Goods Mills, 212.
Wallgren, A. R., Clothing, 226.
Walling, H. T., Maps, 336.
Wallis & Co., Leather, 163.
Wallis, Jno. G., Sulphate of antimony, 48; Bullion, 55.
Wall's, Wm., Sons, Cordage, 142.
Walmsley, W. H., Microscopes, 331.
Walser, Conrad, Straw hats, 213.
Walshaw, Wm., Yarns, 122.
Walter Heywood Chair Co., Chairs, 112.
Walton Bros., Lanterns, 114.
Walton, E. S., & Co., Hardware, 140.
Walton, Maison, Bonnets, 126.
Wampanoag Mills, Printing cloths, 118.
Wampum Cement & Lime Co., Cement, 54.
Wamsutta Mills, Shirting, 116.
Wanamaker & Brown, Clothing, 125.
Wanamaker, J., Finance, 11.
Wanamaker, John, & Co., Clothing, 125.
Wander, G., Malt drops, 214.
Wandly, H., Stone, 73.
Wangaratta, Council of, Photographs, 162.
Wanskuck Co., Kerseys, 120.
War Dept. of Hawaii, Flag, 250.
Ward, Anthony, & Co., Silk thread, 150.
Ward & Co., Bear, 147.
Ward, L. B., Ore, 48; Iron, 57.
Ward, M. A., Wines, 264.
Ward, M., & Co., Leather, 151; Cards, 152.
Ward & Payne, Steel, 62; Tools, 153.
Warden, David, Kaolin, 64.
Warden & Oxnard, Petroleum, 103.
Wardlaw, J., Yarns, 189.
Wardle, S., Dentistry, 136.
Wardle, T., Teeth, 136.
Ware, J. M., Feathers, 104.
Warfield, W., Kentucky, 12.
Wargöns Stock Co., Paper, 227.
Waring, G. E., jr., Judge, Gr. XXII., 18.
Warlomont, Dr., Treatise, 360.
Warner Bros., Supporters, 125.
Warner, Robert, Books, 338.
Warner, Wm. R., & Co., Pharmacies, 101; Bottles, 108.
Warnock, J., & Co., Tools, 190.
Warren, H. W., Mississippi, 13.
Warren Manufacturing Co., Cotton goods, 117.
Warrenheip Distillery Co., Whisky, 164.
Warrington Wire Rope Works, Wire ropes, 62.
Warrnambool, Statistics, 341.
Warsaw, Municipality of, Plate, 373.
Warthorst & Co., Sandstone, 53, 54.
Wartpatrikoff Bros., Insect powder, 210.
Warwick, J. G., Coal, 51.
Warwick, Wm., Books, 189.
Washbourn, W. E., Lead ore, 63.
Washburn & Moen Mfg. Co., Wire, 56.
Washington Furnace, Ores, 48; Iron, 58.
Washington Mfg. Co., Printing cloths, 117.
Washington Mills, Worsted coatings, 121.
Washington Mills Emery Mfg. Co., 55.
Wasikili, Cloth, 294.
Wason Manufacturing Co., Cars, 382.
Wassel Fire Clay Co., Terra-cotta work, 107.
Wasson, J., Arizona, 11.
Watanabe, S., Cloth, 246.
Watch-Makers' Union, Watches, 354.
Watcombe Terra-Cotta Co., Statuettes, 145.
Waterbury Brass Co., Brass, 59.
Waterbury Button Co., Buttons, 128.
Waterhouse, Thomas, Hops, 262.
Waterloo Woolen Mfg. Co., Shawls, 121.
Waterloo Yeast Co., Yeast, 102.
Waterlow, Sir S. H., Judge, Gr. XIII., 17.
Waterman Bros., Petroleum, 71; Coke, 187.
Waters, E., & Son, Barrels, 143.
Waters, H., & Sons, Organs, 332.
Waters, J., Arrowroot, 158.
Waterston, G., & Son, Wax, 152.
Wateya, G., Tea sets, 245.
Watkins, W. B., Telegraph, 332.
Watrigant, A., Shoes, 217.
Watson, A., Fleeces, 165.
Watson, Brock, Fancy articles, 127.
Watson Bros., Flour, 158.
Watson, J. C., Judge, Gr. XXV., 19.
Watson, J. J., Strings, 333.
Watson, J., & Son, Safes, 112.
Watson Manufacturing Co., Iron, 59.
Watson & Patterson, Hams, 164.
Watson, Richard H., Extracts, 106.
Watson & Son, Furniture, 147.
Wattine, Ch., & Co., Draperies, 195.
Watts & Co., Apparatus, 330.
Watts, E., Trunk, 378.
Watts, I., Judge, Gr. VIII., 16.
Waumbeek Co., Flannels, 121.
Wauregan Mills, Cotton goods, 116.
Wauters-de-Busscher, Cordials, 219.
Weare, Bros., & Co., Stove, 375.
Wearne, Capt., Galena, 71.
Weaver, J. B., Cologne, 106
Weaver, M. H., Scales, 330.
Weaver & Pennock, Lavatory, 378.
Webb, Edward, & Sons, Hair cloth, 150.
Webb, John R., Sleigh, 191.
Webb, Robert, Stove polish, etc., 54.
Webber, S., Judge, Gr. VIII., 16.
Weber, A., Pianos, 333.
Weber & Co., Pianos, 342.
Weber, J., Wine, 164.
Weber, J. J., Diaries, etc., 348.
Weber, O., & Co., Jewelry, 204.
Webley Bros., Woolen goods, 155.
Webley, P., & Son, Revolvers, 152.
Webster, G., Bible, 342.
Webster Mills, Jute bagging, 118.
Webster, S., Feather tippet, 258.
Wedel-Jarlsberg, F., Compasses, etc., 364.
Weerth, de, & Co., Cloth, 203.
Weetamoe Mills, Printing cloths, 118.
Wegeler, J., Judge, Gr. IV., 16.
Wehrle, Em., & Co., Clocks, 349.
Weichl, M., Horseshoes, 191.
Weidmann & Greppo, Silks, 123.
Weidner, J. L. & P., Chemicals, 202.
Weigel, T. O., Books, 348.
Weigert, M., Judge, Gr. IX., 16.
Weigert & Co., Furniture plushes, 203.
Weigt, T., Hats, 317.
Weineck, Ignaz, Perfumery, 207.
Weintroub, Paul, Olive wood, 127.
Weir, S. F., Judge, Gr. XXVII., 19.
Weishaupt, C. M., & Sons, Jewelry, 204.
Weishaupt & Fleig, Instruments, 349.

Weiskopf, E., Lenses, 331.
Weiss Bros., Cloths, 203.
Weiss & Grohmann, Linen thread, 208.
Weissenbach, W. C. E., Water power, 356.
Weisser Hadji, Cereals, 308.
Wekmann, M., Hosiery, 317.
Welch & Andres, Instruments, 331.
Welch, D. J., Montana, 13.
Welch, E. N., Mfg. Co., Clocks, 330.
Welch, Margetson, & Co., Rugs, 150.
Weld, W., Farmers' Advocate, 342.
Weldon, Dana, & Co., Supporters, 124.
Weldon, L., Alternate, 9.
Wellauer, J., Report, 357.
Wellenberger, J., & Ganter, Organ, 333.
Wellington Mining Co., Coal, 71.
Wellmann, Fr., Cutlery, 206.
Wellock, J., & Co., Waterproof cloth, 149.
Wells, C. B., Sandstone, 53.
Wells & Co., Window fastener, 188.
Wells & Hope Co., Signs, 140.
Wells, S. R., & Co., Books, 327.
Wells, W., Clay, 73.
Wellston Coal & Iron Co., Iron, 58.
Wellston Twin Furnaces, Iron ores, 48.
Welsh, John, Presd't Board Finance, 10.
Welsh & Lea, Bolts, 380.
Welsh, Miguel, Limestone, 84.
Welte, M., & Sons, Orchestrion, 350.
Wemick, J., Carriage, 383.
Wenck & Briesen, Parlor fountain, 105.
Wenck & Co., Perfumes, 105; Atomizers, 108.
Wendberg & Co., Ironwork, 191.
Wendrich & Son, Terra-cotta vases, 223.
Wendt, Frantz, Rye, 224.
Wendt, J. M., Inkstand, 167.
Wengström, J. O., Construction, 226.
Wentworth, C. B., & Co., Carpet lining, 122.
Wentworth, C. H., Carriages, 381.
Wentworth, Geo. E., Florida, 12.
Wentzel, Models, 352.
Werner, C. O., Bone oil, 225.
Werner, Itschner, & Co., Silk ribbon, 122.
Werner, J., Men's clothing, 208.
Werner & Schumann, Paper letters, 205.
Wertheim, Baron F., Tools, 210.
Wertheimer, J., Fans, 210.
Wesely, V., Boxes, 210.
Wessell, Nickel, & Gross, Piano, 333.
Wesson, Frank, Rifles, 133.
West, A. M., Mississippi, 13.
West Bourke Pastoral & Agricultural Society, Wheat, 163.
West Canada Mining Co., Copper, 70, 74.
West Cumberland Iron & Steel Co., Ores, 61.
West, C., & Sons, Petroleum, 103.
West, J. R., Judge, Gr. VI., 16.
Westbrook Mfg. Co., Cotton duck, 116.
Westcott, J. S., & Wisendunger, I., Quartz, 166.
Westerberg, Jefferson, & Co., Papers, 133.
Westerlund, A. F., Peat, 78.
Westermann, G., Books, 349.
Western Electric Mfg. Co., Instruments, 331.
Western Meat Preserving Co., Meats, 164.
Western Reserve College, Antiquities, 328.
Western Reserve Historical Society, 329.
Western Union Telegraph Co., Apparatus, 332.
Westernhagen, A., Essences, 280.
Westervick Match Factory, Matches, 225.
Westfehling, J., Catalogue, 358.
Westland, C. O., Stove, 374.
Westland Committee, Woods, 156.
Westmoreland Coal Co., Coal, 51.
Weston, J. A., New Hampshire, 13.
Westphalian Union Joint Stock Co., Wire, 75.
Westport Mfg. Co., Batts, 116.
Wethered, E. R., Hammock, 147.
Wetherill & Bro., Paints, 104.
Wetherill, J. P., Finance, 11.
Wetteren, M. van, Magnets, 361.
Wexelburg & Co., Elbows, 188.
Weybosset Mills, Cassimeres, 120.
Wharton, G. J., Virginia, 14.
Wharton, J., Ores, 47; Nickel goods, 59.
Wheeler, D. H., Nebraska, 13.
Wheeler, Edmund, Specimens, 339.
Wheeler, M., Chronometer, 330.
Wheeler, N., Connecticut, 11.
Wheeler, W. F., Disinfectants, 115.
Wheeling Hinge Co., Hinges, 141.
Whelpley, J. A., Skates, 190.
Whipple, H. J. P., Door knob, 141.
Whitaker & Skirm, Nails, 141.
Whitall, H., Planispheres, 321.
Whitall, Tatum, & Co., Glassware, 108.
White, A. D., Judge, Gr. XXVIII., 19.
White, C. A., Celluloid, 136.
White, C. B., Gr. XXIV., 18.
White, Chas. T., & Co., Drugs, 102.
White, D., Safety hook, 162.
White, G., Wines, 168.
White, F. R., Wool, 159.
White, H. A., Stovepipe damper, 188.
White, John & James, Potash, 144.
White Lead & Iron Paint Stock Co., 215.
White Mfg. Co., Carriage trimmings, 382.
White, Otis C., Head rests, 110.
White, Payson, & Co., Textile fabrics, 122.
White, R. T., & Co., Batts, 116.
White, S. S., Teeth, 136; Telegraph, 332.
White, T. R., Sandilene, 139.
White, W., Axes, 137.
White, W. G., Safe, 147.
Whitehead, Isaac, Painting, 161.
Whitehead, J. R., Wyoming, 14.
Whitehead, T. J., Furnace, 375.
Whitehead & Turner, Brushes, 190.
Whitelaw, E. H., Quartz, 166.
Whiteside, H., & Co., Beds, 188.
Whitfield, F. E., Yarns, 116.
Whitier, C. E., Massachusetts, 12.
Whiting Paper Co., Fine papers, 131.
Whiting, Wm. F., Massachusetts, 12.
Whitney Arms Co., Fire arms, 133.
Whitney Bros., Glassware, 108.
Whitney, H. M., Gazette, 250.
Whitney Mfg. Co., Chairs, 112; Tools, 138.
Whitson & Slater, Lime and limestones, 72.
Whittaker, Richard, Watches, 339.
Whittemore, J., Crutches, 135.
Whittemore, R. R., Laocoon, 110.
Whittenton Mfg. Co., Shirtings, etc., 118.
Whittier, R. S., Screen, 113.
Whittlesey, C., Antiquities, 328.
Whitwell, Thomas, Ores, 61; Pig iron, 62.
Wiberg, Martin, Apparatus, 363.
Wick, Ridgway, & Co., Railway iron, 56.
Wickersham & Bro., Pipe, 378.
Wickett & Bradley, Limbs, 135.
Wickizer, J. H., U. S. Commissioner, 9.
Widin, Govt. of, 296; Raspberry wine, 312.
Wiederer, N., Looking glasses, 202.
Wiegandt, Hempel, & Parey, Books, 349.
Wiegmann, A., Basket ware, 160.
Wiehe, J., Sugars, 178.
Wielander, P., Buttons, 210.
Wienbelt, W., Boots, 220.
Wier, M. A., & Co., Indicator, 339.
Wigan Coal & Iron Co., Ores, 61.
Wigand, G., Religious books, etc., 349.
Wigand, O., Books, 349.
Wight, S. A., Trap, 378.
Wihl, M., & Co., Woolen stuff, 217.
Wiki, B., Clothing, 213.
Wiklund, W., Hardware, 228.
Wilcox, Wm., Locks, 142.
Wild & Co., Jewelry, 204.
Wild, G. L., & Bro., Toy, 129.
Wild, J. C., Polished stones, 204.
Wild, J., & Co., Mats, 115.
Wild, John, Cotton plush, 150.
Wilder, C., Thermometers, 329.
Wilder, Helen, Hair, 250.
Wilder, J. T., Tennessee, 14.
Wilder, S. G., Fibres, 251.
Wildman, L. P., Violins, 333.
Wiler, W., Torches, 114; Plates, 140.
Wilford, W., Flax, 216.

Wilhelm, A., Reflectors, 114.
Wilhelm, F., Models, 352.
Wilhelm, F., & Co., Drugs, 210.
Wilhelmi, F., Chemicals, 201.
Wilke, H., & Co., Barks, 167.
Wilkens, D. S., Florida, 12.
Wilkin, L., Hats, 317.
Wilkin, Robert, Rye, 156.
Wilkins, M., Oregon, 13.
Wilkinson, H. J., Painting, 174.
Wilkinson Mine, Cinnabar, 67.
Wilkinson, Rizzo, & Co., Ore, 96.
Will & Fink, Tools, 138.
Willcox, J. M., Judge, Gr. XIII., 17.
Willems, P. J., Oils, 220.
Willemsen, P., Cotton goods, etc., 203.
Willett, G., Photographs, 162.
Willett, S. T., Flannels, 189.
Willheim & Newmann, Lanterns, 114.
Williams, C., & Co., Ranges, 375.
Williams, C. E., Case, 250.
Williams, Chas., Marble work, 52.
Williams & Co., Stoves, etc., 374, 376.
Williams, E. G., & Co., Textile fabrics, 150.
Williams, J. B., & Co., Soaps, 103.
Williams, J. F., U. S. Commissioner, 9.
Williams, J. M., & Co., Stamped ware, 188.
Williams, J. S., Indiana, 12.
Williams Marble & Slate Mantel Co., 52.
Williams, Miles, Varnishes, 145.
Williams, R. L., Car coupler, 382.
Williams, Page, & Co., Lamps, 114.
Williams & Powell, Guns, 152.
Williamson, D. D., Chemicals, etc., 101.
Willis, Aug. L., Signals, 106; Shell fuse, 133; Ice creeper, 139; Rails, 142; Coupler, 334.
Willis, E., & Co., Paper collars, 189.
Williston, A. L., Ink and pens, 104.
Willmett, Almanacs, 179.
Wills, E. S., Tool, 138.
Wilsey, L., Nevada, 13.
Wilson, A., Wool, 159; Cokes, 169.
Wilson, B., Idaho, 12.
Wilson, B. O. & G. C., Medicinal herbs, 134.
Wilson, Geo., Bedstead, etc., 112; Wool, 183.
Wilson, Gilmour, & Co., Mantels, 188.
Wilson, Hinkle, & Co., Books, 326.
Wilson & Hughes Stone Co., Stone, 53.
Wilson, J. C., & Co., Paper bags, 189.
Wilson, J. G., Blinds, 378.
Wilson, J. H., Military goods, 125.
Wilson, J. H., Regalias, 142.
Wilson, John, Canes, 127; Fire nozzle, 141; Wool, 165; Soaps, 187.
Wilson, Jos. M., Bridge, 334.
Wilson Mfg. Co., Cup, 377.
Wilson & Miller, Mantels, 52.
Wilson, Sir S., Photographs, 162; Wools, 165.
Wilson, T. A., & Co., Frames, 330.
Wilson, Thomas, Harness, 156.
Wilson, W., Limestone, 63; Fossils, 64.
Wilson, Walker, & Co., Forgings, 56.
Wilt, A., & Son, Sash, 378.
Wiltse, C., Judge, Gr. VII., 16.
Wiman & Co., Stoves, 362.
Winans, G. G., Wainscoting, 378.
Winch, Corydon, Wrought iron spikes, 57.
Winchester Repeating Arms Co., Arms, 133.
Windover, C. S., Brougham, 153; Phaetons, 383.
Windrufva, Sven, Herbarium, 362.
Wing, F. L., & Hill, F. M., Piano, 333.
Wingender Bros., Pipes, 205, 215.
Winger, H., Cloth, 189; Blankets, 189.
Winkler, A., Plates, 210; Oleographs, 211.
Winkler, C., Jewelry, 204.
Winkler, Ch., & Son, Looking glasses, 202.
Winkler, Dr. E., Designs, 352.
Winkler, M., Cast metal signs, etc., 210.
Winner, Powder, 315.
Winning, Hill, & Ware, Water, 74.
Winslow, A. P., Herbarium, 362.
Winslow, Samuel, Skates, 139.
Winsor, H., Finance, 11.
Winter, C. F., Books, 349.
Wire & Screw Factory, Screws, 206.
Wirmond, E. E., Yellow argil, 82.
Wisby Match Mfg. Co., Matches, 225.
Wisconsin, State of, Minerals, 50; Educational exhibit, 322.
Wiskott, C. T., Labels, 205.
Wiss, J., Scissors, 139.
Wissen Mining & Smelting Co., Iron, 75.
Witherbee, J. F., Drawings, 335.
Witherbees, Sherman, & Co., Ore, 47.
Wittek, A., Buttons, 210.
Witty, Calvin, Field cannon, 134.
Wobanawa, M., Fans, 247.
Wöhler, E., Jewelry, 204.
Woldemar, W., Wire ware, 202.
Wolf, A., Chromos, 349.
Wolf Brothers & Keech, Oils, 106.
Wolf, M., Text books, 372.
Wolf, S. M., Shoes, 204.
Wolff, C. H., Judge, Gr. VIII., 16.
Wolff, F., Cotton and mixed goods, 203.
Wolff, F., & Son, Chemicals, 201.
Wolff, F. A., & Sons, Pharmacy, 205.
Wolff, R. & E., Cloth, 203.
Wolle, A. & C., Glue, 262.
Woller, Fr. E., Cotton hosiery, 204.
Women's Labor, Society for the Encouragement of, Embroideries, 318.
Wong Go, Rice, 251.
Wood, A., & Co., Iron, 55.
Wood Bros., Drain tiles, 107; Wagons, 380.
Wood, C. E. P., Washington Ter., 14.
Wood & Haslam, Yarn and cloths, 122.
Wood & Ivery, Bricks, 145.
Wood & Lyons, Buggies, etc., 383.
Wood, Morrell, & Co., Cassimeres, 120.
Wood, T. M., & Co., Venetian blind, 188.
Wood, W. D., Wheat, 156.
Wood, W. D., & Co., Iron, 55.
Wood, Wm., Model, 336.
Wood, Wm., & Co., Cottonades, 118; Suitings, 122; Books, 326.
Woodburn Sarven Wheel Co., Wheels, 380.
Woodcock, F., Porcelain, 193.
Woodfield, W., & Sons, Needles, 151.
Woodman, J. J., Michigan, 13.
Woodruff, E. W., File holders, 130.
Woodruff, Jonah, Silver model, 337.
Woodruff, W. E., jr., Arkansas, 11.
Woods, G., & Co., Organs, 332.
Woods, J. T., Splint, 135.
Woods, Sherwood, & Co., White ware, 139.
Woodstock Iron Co., Ores, 50; Iron, 56.
Woodward, G., Guano, 160.
Woodward, W. W., Carving, 110.
Woodworth, C. B., & Son, Perfumery, 105.
Woodworth, J. L., Cotton yarns, 189.
Woolman, J. P., U. S. Commissioner, 9.
Woolworth, J., Handles, 379.
Woon, R. W., Paddles, 156.
Wooton Desk Co., Desks, 111.
Worcester Corset Co., Corsets, 125.
Worden, A. E., Washer, 377.
Working Home for the Blind, Baskets, 362.
Working Men's Benevolent Asso., Straw, 234.
Workman, H., Clay, 73.
Workmen's Artisans' School, Drawings, 360.
Workmen's Society, Drawings, 360.
Workshop for Making & Repairing Nautical Instruments, Lamps, 373.
Workshop of the Direction of the Baltic Lighthouses, Lamps, 373.
Worrell Bank Lock Mfg. Co., Bank lock, 141.
Worsley, T., & Co., Soaps, etc., 106.
Worsted Spinning Mills, Yarns, 203.
Wortendyke Mfg. Co., Lamp wicks, 118.
Worthington & Co., Polished marble, 72.
Worthington & Sons, Stone, 53.
Worumbo Mfg. Co., Overcoatings, 120.
Wostenholm, G., & Son, Cutlery, 153.
Wouldham Cement Co., Cement, 61.
Woven Wire Mattress Co., Wire cloth, 115.
Woven Wire Web Bed Co., Bed bottom, 109.

Wray, J., & Nephew, Wine, 172.
Wren, W. C., Model, 335.
Wrigglesworth, W. J., Wheels, 379.
Wright, Davenport, & Co., Leather, 158.
Wright, E. W., Wines, 168.
Wright & Holdsworth, Soap, 144.
Wright, J. K., & Co., Inks and varnishes, 105.
Wright, J. P., Photographic views, 179.
Wright & Mansfield, Furniture, 147.
Wright, Payne, & Co., Jams, 164.
Wright, R. & G. A., Toilet articles, 106.
Wright, R. W., Kansas, 12.
Wright, T. S., Wheat, 163.
Wright, W. H., & Co., Carriage, 381.
Wright, Wm. P., Silks and muslins, 123.
Wrigley, Wm., & Co., Soap, 103.
Wu, Gauzes, 242.
Wüflinger Machine Embroidery Estab., 213.
Wührer, L., Maps, 346.
Wulf, N., Paint, 315.
Wulff, H. A., Drawings, 362.
Wunderlich, J. N., Table, 374.
Wunsh, A., Chair, 315.
Würffbain, G., Herbarium, 259.
Wurfflein, Wm., Rifles, 134.
Wurm, F., Cocoons, 168.
Wurster, Randegger, & Co., Maps, 356.
Wurtemburg Felt Factory, Felt shabracks, 203.
Wurtz, H., Judge, Gr. II., 15.
Wurtz's, T., Successors, Chemicals, 201.
Wuste, F., Colors, 207; Coverings, 211.
Wüthenan, von, Chief Engineer of the Swiss Central Railway, Plans, 356.
Wyeth, John, & Bro., Drugs, etc., 102.
Wyndham, F., & Co., Chemicals, 144.
Wyndham, G., Wines, 159.
Wyndham, W., Wines, 159.
Wyoming Historical & Geological Society, Fossils, 47.
Wyoming Valley Knitting Co., Hosiery, 123.
Wywodzeff, Apparatus, 319.

X.

Xabregas Cotton Manufactory, Yarns, 285.

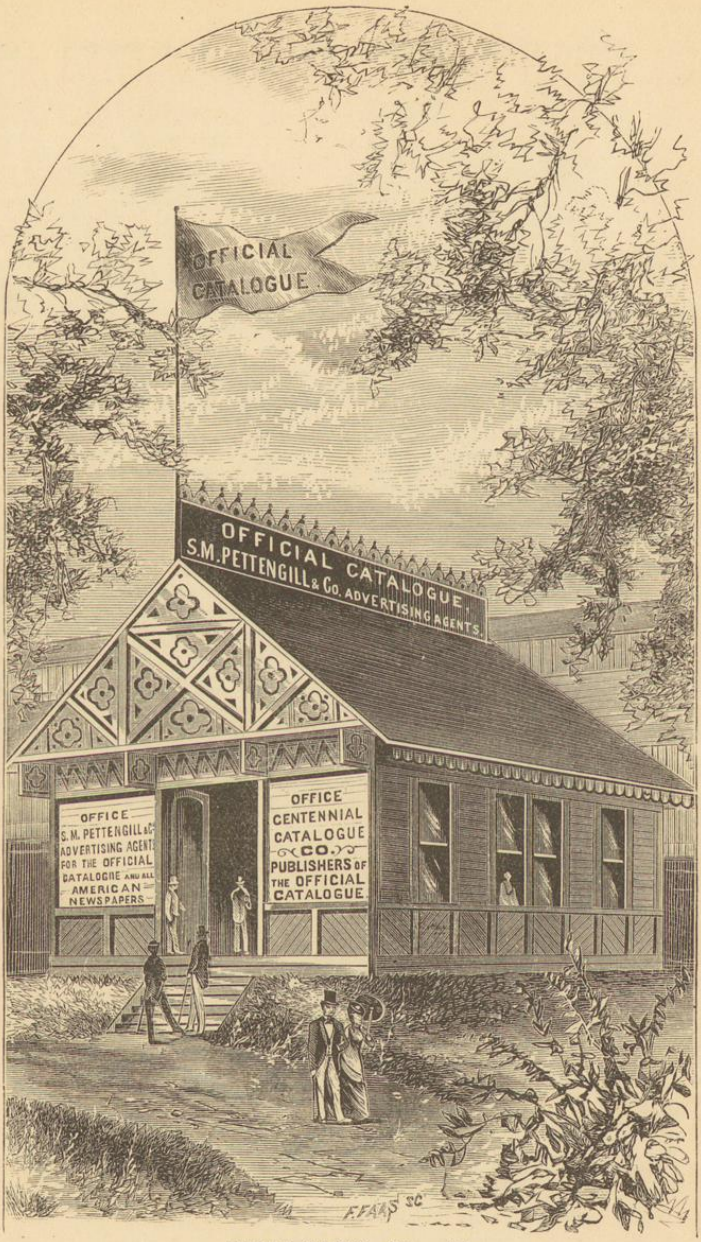
Y.

Yachimek & Sosnovski, Gun, 319.
Yakovleff, John, Ore, 98.
Yale Lock Manufacturing Co., Locks, etc., 140; Anodes, 331.
Yamakishi, K., Cups, 245.
Yamamoto Kinu, Silk, 246.
Yamamoto, Y., Furniture, 245; Cages, 247; Images, 249.
Yamazaki Tosen, Picture, 249.
Yanacoli, Almonds, 307.
Yanak, A., Cocoons, 314.
Yanaki, Box, 302; Cocoons, 314.
Yanaki, Kalviro, Skin, 310.
Yanaki, Micholi, Carpet, 296.
Yanaki, N., Wine, 313.
Yanaki, W., Basket, 292.
Yandell, C. R., & Co., Leather work, 110.
Yani, Suit, 299; Brandy, 313.
Yani, F., Woolens, 299.
Yani, O. A., Tobacco, 310
Yani, P. A., Brandy, 313.
Yani, Paoli, Olive oil, 291.
Yanina, Govt. of, Hemp, 295; Silk, 297.
Yañiz, Marbles, 90; Oil, 271.
Yarritu, Sons of, Soap, 271.
Yasmadji, M., Pillows, 294.
Yassin, H., Leather, 311.
Yates, Bennett, & Allen, Crockery ware, 108.
Yates, Wharton, & Co., Hats, 126.
Yavas, F., Toys, 277.
Yazacoula, M., Broom, 305.
Ycazbalcata & Garcia, Sugar, 268
Ychrapalaki, H. N., Brandy, 313.
Ychtip, Government of, Coal, 97.
Yconomidès, Mastic, 307.
Yehara, T., Silk, 246.
Yehrapalaki, Hadji, Oil, 291.
Yeiraku, Z., Vases, 244.
Yeisei-Kiyiku, Statistics, 244.
Yekahim, H., Silk, 297.
Yeki-tei-riyo, Post-office map, 248.
Yellowley, J. B., Mississippi, 13.
Yeni Ahmed, Wax, 312.
Yeomans, C. E., Massachusetts, 12.
Yerington, H. M., Nevada, 13.
Yerkes & Plumb, Tools, 138.
Yicara, C. P. Sa, Hammocks, 253.
Yildis-Ki, Government of, Emery, 97.
Yillela, Inks, 252.
Yiotti, E., Pharmacies, 252.
Yldis-Ili, Government of, Pitch, 306.
Ylizalituvú, Pulque, 268.
Ylo, Province of, Oil, 264.
Yoffrie, Iron, 319.
Yomo Yasunosuke, Bronze, 249.
Yoogoff Iron works, Ores, 98.
Yoogoo Copper Works, Copper, 98.
Yorgaki, Miss, Tapestry, 296.
Yorge, F., Statistics, 368.
Yorghanodhaki, Vetch, 309.
York Manufacturing Co., Shirtings, etc., 118.
York Street Flax Spinning Co., Sheetings, 145.
Yoshida, K., Paper, 247.
Yoshida, S., Crapes, 246.
Yoshida, Y., Bowls, 245; Vases, 248.
Yost, T. A., Carriages, 381.
Youle, W., Hearses, 381.
Younasse Uskup, Spoons,, 305.
Young, C. B., Wheat, 167; Wine, 168.
Young, I. T., Iowa, 12.
Young, James Kelly, Potash, 144.
Young, John, Granite, 64.
Young, Ladd, & Coffin, Perfumes, etc., 105; Atomizers, 108.
Young Men's Christian Association of North America, Map, pictures, 336.
Young Merchants' Union, Report, 358.
Young, Mrs., Mosses, 250.
Young & Strang, Gums, 145.
Young, W. A., Sharpeners, 130.
Young, Wm. J., & Sons, Hand stamp, 130; Telescopes, 329.
Young, Y. & G., Limestone, 72.
Young's, Wm., Sons, Crockery, 107.
Youngstown Rolling Mill Co., Iron, 56.
Youssouf, Jujube, 307.
Youssouf, Seeds, 310; Wool, 314.
Youssouf, C., Morocco, 310.
Youssouf, Gunki, Cloth, 294.
Youssouf, H., Foulards, 298; Pots, 305.
Youssouf, Mamor, Beans, 309.
Youssouf, Manoc, Beans, 309.
Youssoul Blouna, Yarn, 295.
Yoyan-jo, Raw silks, 246.
Ypanema Iron Works, Ores, 81; Bar iron, 82.
Yssakovitch, J. & M., Soap, 315.
Ystad Match Manuf. Co., Matches, 225.
Ytuarte, J., Music, 267.
Yucatan, State Gov. of, Shawls, 265; Woods, 267; Coffee, 268; Fibres, 269.
Yuson, P., Fabric, 281.
Yussep, T., Mastic, 313.
Yussuf Mocha, Poutargue, 304.
Yussuf Sarret. Raisins, 312.

Z.

Zaalberg, J., Covers, 220.
Zabala, Iñiguez, Syrup, 270.
Zabalo, Andres, Iron, 89.
Zacher, C., Photographs, 358.
Zacherl, J., Insect powder, 210; Sponges, 211.
Zadé Moustapha, Wool, 314.
Zæslin & Müller, Silk waste, 212.
Zaferemboli, Government of, Raw silk, 297.
Zaferampolo, Govt. of, Saffron, 306; Prunes, 312.

Zaferembolo, Inkstand, 304.
Zaferembolo Orphan School, Cloth, 295.
Zaframboio, Govt. of, Cups, 293.
Zaha, M., Shawls, 296.
Zahadji Gotcha, Vests, 299.
Zahardji Nocha, Gaiters, 300.
Zahari, Distillery of, Brandy, 313.
Zahn, R. von, Books, 349.
Zähner & Schiess, Edgings, 213.
Zaitzevski, Pottery, 315.
Zalaffi, B., Iron work, 235.
Zambrano, F., Lessons, 266.
Zamora, F., Soap, 271.
Zamorano & Bros., Gloves, 276.
Zander, G., Gymnastic apparatus, 227, 363.
Zanders, H., Drawings, 362.
Zane, C., Implements, 329.
Zanni, Pharmaceutical preparations, 291.
Zapata, L., Starch, 262.
Zaragoza Corps of Mining Engineers, Argil, 91.
Zaragoza, M., Balsams, 278.
Zargechi, L., Ore, 94.
Zasche, Joseph, Porcelain, 207.
Zäuner, Henry, Zephyr goods, 125.
Zavialoff, A., Scissors, 319.
Zayas, Pablo, Dictionary, 267.
Zech, H., Furniture, 216.
Zeckert, John, Glassware, 207.
Zeitoun, Government of, Mineral water, 97.
Zeitteles, D., Gloves, 204.
Zekiyé, Madame, Cap, 300.
Zellweger, J. C., Embroideries, 213.
Zelo, C., Morocco, 310.
Zeltner, J., Chemicals, 201.
Zempoala Factory, Wools, 265.
Zenca, J. Estrada, Map, 267.
Zennig, R. H., & Co., Matches, 106; Boxes, 132.
Zenoup, Marie, Necktie, 302.
Zenteno, Estevan, Coal, 86.
Zentmayer, J., Microscopes, 330.
Zernin, E., Books, 349.
Zeuner, H., Jewelry, 204.
Zevecki, C., Instruments, 372.
Ziadji Oglou Bolis, Sumac leaves, 306.
Ziamani, daughter of Nicoli, Case, 301.
Zieher, Ottmar, Jewelry, 204.
Ziegele & Hauck, Toys, 205.
Ziegler's Son, Andreas, Tiles, 207.
Ziegler's Son, Joh. Ant., Blown plate glass, 207.
Zievers, B., Cement, 98.
Zihlman, Jos., Glass mould, 54.
Zimber, J., Instruments, 349.
Zimdars, C. E., Apparatus, 339.
Zimin, J. M. P. & F., Cotton goods, 316.
Zimmer & Co., Salts, 201.
Zimmerman, G. P. H., Chart, 361.
Zimmerman, R., Bags, 318; Saddlery, 383.
Zimmermann, C. F., Instruments, 332.
Zimmermann, E. G., Jewelry, 204.
Zimmermann, H., Organ pipes, 345.
Zimmermann, Otto, Tiles, 75.
Zinc Roofing & Ornamenting Works, 143.
Zinn, C., & Co., Baskets, 380.
Zinserling, C., Tape, 317.
Zinsser, Wm., & Co., Varnishes, etc., 105.
Zlatoust Crown Armor Factory, Swords, 319.
Zoardji Gocha, Vest, 299.
Zohei-riyo, Imperial mint, Coins, 248.
Zokopolani, M., Wool, 295.
Zollikofer Female Seminary, Work, 353.
Zolotareff's Widow & Ribakoff, Silk, 317.
Zoobkoff, S., Silk, 317.
Zoological Gardens, Direction of, Plans, 357.
Zorié, Wife of Ahmed, Cap, 300.
Zorilla, Benjamin, Ore, 83; Hammock, 256.
Zorn, E., Sauces, 164.
Zoroku, H., Bronze, 249.
Zozié, Lace, 301.
Zsigmondy, A., Teeth, 210.
Zuccala, Carlo, Pharmacies, 305.
Zucker & Levett, Rouge, 139.
Zuelzer, Dr., Model, 350.
Zuiny, A., Books, 368.
Zumbrunn, Schmoker, & Co., Carvings, 358.
Zürcher-Banziger, J., Embroidery, 213.
Zurich Aid Society, Report, 357.
Zurich Joint Stock Co., Plans, 356.
Zwicky-Laager, C., Atlas, 353.



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