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Class XXI. Report on cutlery and edge-tools.

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CLASS XXI.

REPORT ON CUTLERY AND EDGE-TOOLS.

[The figures after the Names (between parentheses) refer to the Exhibitors' Numbers and to the Pages in the OFFICIAL DESCRIPTIVE AND ILLUSTRATED CATALOGUE.]

Jury.

Right Hon. Lord WHARNCIFFE, *Chairman and Reporter*, 28 Lower Brook Street.
 JOSEPH B. DURHAM, *Deputy Chairman*, 456 Oxford Street; *Cutler*.
 C. KARMARSCH,* *Zollverein*; *Director of the Polytechnic Institution*.
 NUBAR BEY, *Egypt*.
 Alderman CHARLES PEACE, *Sheffield*: *late Cutlery and Edge Tool Manufacturer*.
 J. LE PLAY, *France*; *Engineer-in-Chief of Mining School, and Professor of Metallurgy, Paris*.

Associates.

THOMAS DE LA RUE, 110 Bunhill Row; *Ornamental Stationery Manufacturer*. (*Juror in Class XVII*).
 THOMAS HETHRINGTON HENRY, F.R.S., 18 Lincoln's Inn; *Analytical Chemist*.
 JAMES RAGG, *Sheffield*; *Scissors Manufacturer*.
 C. VENABLES, *Plomer Hill House, High Wycombe*; *Paper Manufacturer*. (*Juror in Class XVII*).

* Dr. SCHAFHÄÜTL; *Professor of Metallurgy*. (*Proxy for M. Karmarsch*).

THE Jury for Class XXI. think it desirable to preface their Report by some remarks on the extent and general characteristics of the Class submitted to their judgment, and to offer such general comment and analysis as may serve in some degree to present a connected view of the information therein conveyed, with respect to the progress and position of this species of industry among the countries whose contributions compose it.

There is one point upon which an explanation should be given at the outset. Two important sections of those articles which would ordinarily be comprehended under the designation of "Cutlery," are not here included—those of *surgical instruments* and of *weapons of war*. The objects therefore referred to this Jury consist of such as are designed either for common and domestic use, or for various manufacturing operations.

It appears, according to the information laid before the Jury, that there are altogether about 368 Exhibitors in this Class, distributed, very unequally, among twenty-two of the geographical divisions contained in the Official Catalogue. The United Kingdom, as was to be expected, has furnished a proportion amounting to not less than 45 per cent. of the whole list; and among these are to be found many contributors, on so extensive and varied a scale, that its share in the total display of these articles is much larger than the above numbers would imply. The second place is occupied by Austria, whose Exhibitors constitute 27 per cent. of the entire sum. After her the Zollverein States of Germany, furnishing about 8 per cent.—France about 3 per cent.—Sweden and Norway in nearly the same proportion. A very small number of Exhibitors from the remaining countries complete the list, though some of these national collections, however confined to few individuals, contain objects well worthy of attention.

These results must not be taken as any certain indication of the comparative proficiency of the respective countries in the production of commodities of this kind, or of the value of their contributions. It is probable that in some degree they may show the character and nature of the manufacture as carried on in these different states, and correspond with its subdivision among more or less numerous hands in comparison with its total extent. In Austria, for instance, we find by the Catalogue that the collections specified as assignable to each Exhibitor consist for the most part of one kind of manufactured article, scarcely any of more than two or three; and we may therefore perhaps venture to infer that the high number of these, as compared with some departments where they

are individually more comprehensive, arises from a very different distribution of capital among their separate establishments in this branch of industry.

But this is not to be considered as a disparagement to their contributions. Such a condition of the manufacture may be best adapted to the supply of the particular demand for which it exists; and, as regards the present occasion, even apart from such considerations, the appearance of a numerous list of exhibitors from any one country may be reasonably taken as a gratifying evidence of the interest and activity awakened there by the invitation to co-operate in a display of the works of universal industry, and of an active desire to share in its honours.

The characteristics of the different national collections are, however, interesting in more than one point of view. We may detect in various instances indications of the peculiar condition and habits of the people whence they come, of their social and industrial wants and aims, as well as of their natural or acquired advantages.

In England the close proximity of coal and iron, together with abundant facilities for converting the latter into steel, gave, at an early epoch, to this branch of its manufactures remarkable energy and importance. Its steel wares had a wide-spread reputation even in the middle ages. The authority of Chaucer assures us that in the fourteenth century the "Sheffield whittle" was an article of choice estimation; and, within their respective spheres, the blades of Toledo and Damascus were scarcely more valued than the more homely cutlery of England. This pre-eminence the Jury can have no hesitation in pronouncing that she still retains to a very remarkable degree in the present Exhibition; though the general statement must now admit of modification, and it would be untrue and unfair to make it without adding, that she has in certain branches of the manufacture some formidable rivals. Still, the long-established trade of this country in steel goods of every description, and her ancient practice of forging them for the supply of all markets, are shown in the great variety as well as excellence of her contributions, which comprise specimens of almost every conceivable article of this description. But in other countries, where the manufacture has been of more recent growth, it is evident that the energies of their artisans have been directed, by a natural consequence, to the production of those particular article more especially called for by their individual position or exigencies. One of the chief objects of the German Customs Union, for instance, has been to encourage the supply from their own workshops of those commodities

of general and ordinary use, which were formerly in great part derived from importation. From the Zollverein States, accordingly, we find a mixed collection of that character, consisting mainly of common cutlery and simple tools, together with some few objects of the plainer kind for certain foreign markets. From Austria, where the mines and manufactures are in the immediate neighbourhood of a large agricultural and pastoral population, it is to be observed that the collection consists largely of scythes, sickles, and the simpler implements of husbandry. In Switzerland the traditional manufacture of fine watch-work renders delicate files a matter of primary necessity, and there is therefore a predominance of these among the better articles in this department. The Belgian collection is distinguished by "spiral cutters" of superior quality, required in the finishing of the woollen fabrics for which that country has long been famous. In France we of course find a very miscellaneous collection; but it displays in a marked manner productions indicating, on the one hand, the highest scale of social civilization and of manufacturing skill in certain spheres and localities, and, on the other, the simplest wants of a primitive provincial population; while in the United States and Canada, where the occupation of the population is an incessant war upon the forest, the manufacture of axes and woodmen's implements assumes an importance which has raised them to the highest perfection, and renders this class the most perfect part of the transatlantic exhibition. But it appears advisable to add some more precise notices of the peculiar contents of each national collection; and for this purpose it will be most convenient to take the two great divisions in the order adopted in the Official Catalogue.

First, then, with respect to the United Kingdom, we find that articles in the Class of Cutlery and Edge-tools have been sent from a great variety of places. In England, from London, Sheffield, Birmingham, Warrington, Stourbridge, and a few other towns of less note; from Glasgow and Edinburgh, but chiefly from the former, in Scotland; and from Cork, Clonmel, and Limerick, in Ireland. Among these seats of the manufacture there is none, as might naturally be expected, which for extent, variety, and excellence of collection, can compare with Sheffield, —its most ancient home. We here find every article, from the most exquisite razor down to the plainest pocket-knife, and from the finest saw or file to the most ordinary chisel, displayed, with various degrees of merit it is true, but with a large proportion of the highest. From this collection, the Jury have thought themselves justified in awarding for one remarkable object a Council Medal. Messrs. SPEAR and JACKSON (123, Class XXII., p. 606) have exhibited, among an assortment of edge-tools of great excellence, a cast-steel circular saw, of the large size of 5 feet diameter, and of such signal beauty and perfection that it stands far above comparison with any other in the Building. The mere excellence of its quality and workmanship, however, would not, the Jury are aware, have enabled them to distinguish it by a Council Medal, if they had not been able to satisfy themselves that its merit is the result of a new and peculiar process of manufacture. But they entertain no doubt, from the information they have received, that mechanical ingenuity of a novel and special character has been employed by these manufacturers for the production of such articles, without which they could not be carried to equal perfection; and they therefore consider them justly entitled to the highest mark of distinction.

There are two other contributions to which the Jury would have felt themselves called upon to award a similar honour, if they had been at liberty to regard singular excellence of workmanship and quality as of itself a sufficient title. Messrs. TURTON and Sons, of Sheffield (190, p. 614), and Messrs. STUBBS, of Warrington, (39, p. 392), each display a complete assortment of files of various sizes,—the former, for ordinary manufacturing purposes, the latter, for the finer operations of the watch-maker,—which, the one for large dimensions, and the other for minute delicacy, combined with the utmost strength and efficiency of material, far surpass any other objects of the same class. They would have deserved

the highest assignable reward in respect of these points of merit. Prize Medals, however, have been awarded to them, in common with a number of associates not unworthy of their company. It will be found that the list of these contains a series of names of which many are of high note in the estimation of the public, and whose contributions—some extensive, and comprising in a high degree almost every variety of excellence, others limited, but of marked merit throughout—display the choicest productions in the most finished cutlery, and the finest mechanical tools.

The attention of the Jury was particularly called to one novelty exhibited by Messrs. BLAKE and PARRIN, of Sheffield, (193, p. 614–15), consisting of the union of two qualities of cast steel, hard and soft, in the same article; having carefully examined these specimens, which were manufactured with much skill, they have no reason to doubt that the process is peculiar to the Exhibitors; but they cannot satisfy themselves that it involves any clear advantage over the combinations of cast and bar steel, and of cast steel and iron, the methods of cementing which have been long known and practised.

The contribution from London is of course on a more limited scale than that from Sheffield; but it consists of that superior order of cutlery for which the Metropolis has a long-established reputation, and contains articles of high merit in this Class. Among the Exhibitors from London, Mr. DURHAM, of Oxford Street, (46, p. 593), would have been considered by his colleagues deserving of a Prize Medal, if his consent to act as a Juror had not disqualified him from accepting it.

The finer descriptions of cutlery are nearly confined, in England, to the Sheffield and London departments; but there are a few articles contributed by individual manufacturers from other places, whose names will be found in the Award List; and there are some also furnished from Ireland and Scotland, which, though not equal to the best from the chief seats of the manufacture, are still of considerable excellence.

Manufacturing tools are supplied largely from Birmingham, and sparingly from Scotland; scythes and files from Stourbridge and Warrington; which latter place furnishes the beautiful collection of watch-files by Messrs. Stubbs, already mentioned.

On the whole it appears that the British manufacture of cutlery remains still, as heretofore, mainly seated at Sheffield, though it has been established also to a limited extent in some other quarters. The same gradual change of circumstances which has operated to transfer, in a great degree, the silk and some other trades from London to the provinces, has had the effect of withdrawing much of this branch of industry from the capital; though a portion, chiefly directed to the production of the higher order of articles, still retains its footing there, and sustains its reputation. On the other hand, the manufacture of the coarser goods, such as tools and mechanical implements, is now extensively shared by several localities which afford the requisite facilities for its successful prosecution, and where the various other forms of industry which surround it create a continued demand for its productions.

Extending our survey beyond the limits of the United Kingdom, from its provinces to its dependencies, it will be found that these present aspects so very different, that certain distinctions are indispensable, with reference to a proper estimate of their position as exhibitors.

It is not to be expected that in infant communities, such as most of the Colonies, properly so called, a manufacture of this kind could have attained any considerable growth or perfection; though the greater progress and development of some few have enabled them to meet their peculiar local exigencies with considerable success. We find in this category a small contribution from the Cape of Good Hope, by the Missionary Station at Gnathendal, consisting of various forms of knives adapted to the uses of that country; and from Nova Scotia another, of cutlery made of Nova Scotia steel, though manufactured in Sheffield: both are creditable to these colonies. While from Canada (West) there is a larger assortment, consisting entirely of axes and tools,

the former especially of excellent quality, and proving the skill and power of her artisans to supply those particular articles to which her physical exigencies give the highest importance.

On the other hand, there are contributions from dependencies which are to be considered in a very different light, not newly-peopled, but ancient communities, variously advanced in civilization, and having their own established and characteristic industrial pursuits, often of the highest order of manual dexterity. In this division there are some from the vast territories of the East India Company, which well deserve notice; and a small contribution from Jersey. The Indian department contains various Hindoo and Malay tools for the use of carpenters and workers in metals; and among them are found, from Moorshedabad, in Bengal, a set of the implements employed by the native artificers in carving the beautiful ivory articles which have so long been admired in the western world, and which present such rare examples of ingenuity, taste, and, skill.

Articles of this kind, however, are of so peculiar a nature, and of so limited an application, that they can scarcely be considered as bringing into play any principle of general competition or comparison. It is not so with the foreign neighbours of Great Britain, whose productions come next under notice. They will be found to extend, with various degrees of excellence, through all the class of commodities which proceed from the workshops of the United Kingdom, and to include some, also, of a peculiar and distinctive character.

Looking first to Europe, its foreign exhibitors may be classed under certain great subdivisions, which are naturally suggested by the position and relations of its different members, and may conduce to the clearness and convenience of the survey. Thus the several national departments, contained in the total list, may be advantageously connected as follows:—

1. France, Belgium, and Switzerland;
2. Austria, and the Southern States of Germany;
3. The Zollverein, and Northern States;
4. Denmark, Sweden, and Norway;
5. Russia;
6. Spain and Portugal;
- and finally,
7. Turkey, Egypt, and Tunis;
8. China; and
9. The United States of America, will complete the distribution over the remainder of the world.

1. From France there is an extensive assortment, ranging from the finest ornamental cutlery down to the rudest and cheapest articles for domestic use, which in general character is very good, and in some instances of superior quality. The greater portion appears to be supplied from Paris; but there are a few exhibitors also from the provinces—from Moulins (an ancient seat of this manufacture), from St. Etienne, and from places in the districts bordering on the Rhine.

In cutlery, the best specimens are those of razors, pen-knives, scissors, and table-knives, many of which are very highly finished and elaborately ornamented, and display great skill as well as superior quality. Among the tools and implements are to be found a very excellent circular saw, showing high proficiency in this branch of the manufacture; and assortments of files, also of considerable merit as to workmanship, though found, after a careful trial, to be not quite perfect as to the quality of the steel. On the other hand, they mention particularly the samples of "web-saws," which are of the very highest class, and, indeed, superior to anything of the same description contained in the English collection.

Belgium supplies cutlery, together with files, scythes, "ledger blades," and "spiral cutters." These last articles are portions of the machinery used in the dressing of cloth, and are of a high degree of merit. The cutlery, principally of the table kind, is well finished, but the metal is somewhat soft, and unequal to the workmanship. The same must be said of the scythes and files.

From Switzerland, the articles consist mainly of razors,

and of small files adapted to the use of the watchmaker. The former are of fair quality; the latter of the most delicate workmanship, and well suited to the trade for which they are designed, and which has been long successfully pursued in that country.

The attention of the Jury was called, in the French department, to a collection of articles, as examples of remarkable cheapness, which they would not have deemed worthy of mention on any other grounds. These are a certain description of extremely rude pocket-knife, said to be in very universal use among the peasantry of France, for cutting their provisions, and other purposes. They are formed of a rough blade of soft iron, folding into an equally rough turned cylindrical handle of wood. It is obvious that, with such materials, their utility must be very limited; but they are sold for *five centimes*, or about *one halfpenny*, each, and are therefore in general use among the poorer classes.

In France, Belgium, and Switzerland, the manufacture of cutlery and edge-tools has greatly improved, and seems likely to continue to do so.

2. Of the subdivision of States which we have placed next in order, the same improvement may, to a considerable extent, be observed. If we include therein Austria, Wurtemberg, and Saxony, we find that the two latter, at least, exhibit specimens of general knife cutlery, and of hunting-knives, which, though they cannot be pronounced equal to the best English, are of very good quality, we finished (especially in the Saxon portion), and mounted with much costly ornament. From Austria the display is not of so high a class; the cutlery from that country is of a very ordinary description, chiefly the produce of Styria, and is stated to be exhibited, in a great measure, as an example of cheapness. After such consideration, however, as the Jury have had the means of giving to this point, they conclude that the price is not below what goods of the same quality might be produced for in other countries. The articles are very deficient in merit of any other kind, many of them not even being of steel.

These remarks apply in a great measure to the tools and implements in this department. There are some from Wurtemberg of fair quality; but the assortments of files and other such objects from Austria are indifferent, and not, apparently, very low in price. There is here, however, one description of article deserving of notice, as a curious example of the modification which all tests of merit must undergo when judged by the peculiar uses for which the production is designed. There are from the southern provinces of Austria assortments of scythes, worked thin, and with a concave surface, very difficult to forge, and therefore requiring much skill in the workmanship, but of metal so soft and inferior, that they would not have been considered worthy of any notice were it not that they are so made purposely to suit the particular habits of an agricultural population, who mow all crops, whether of grain or others, close to the surface of a soil generally abounding in stones. A scythe of hard steel, with a fine edge, though it might perform its work better where unimpeded, would be liable to constant injury, very difficult of repair, under such circumstances; whereas these Tyrolese or Styrian scythes yield at once to the blows which they receive upon their edge. The labourer carries with him a small hammer; and whenever the blade has so far lost its shape as to need renewal, he beats it out in a few moments to its original form; hence the softness of the metal, in most cases considered wholly inconsistent with excellence in this branch of manufacture, becomes an essential property.

3. From the States of the Zollverein, and from Hamburg and Mecklenburg-Schwerin, in Northern Germany, there is a collection of articles of almost every description. The two latter States contribute only on a limited scale; Mecklenburg some razors, and Hamburg also, together with a small collection of tools, of fair quality. The former commodities are not good of their kind, and those from Mecklenburg apparently very high in price. Of the cutlery from the Zollverein, much, though highly finished, is of an ordinary description, consisting of table and pocket knives in considerable variety; but there are also certain "spear knives," designed for fishing by the

natives in the South American rivers, and adapted for their markets, which deserve notice as of superior manufacture. Among the tools the same character prevails as in the cutlery, though there are certain "web-saws" which evince higher skill. There is an assortment of scissors, chiefly from Solingen in West Prussia, worthy of attention as being manufactured in great numbers from an ore producing a "natural steel," which is of such quality as to suffice for the purpose to which it is here applied, and to save the manufacturer the cost and labour of the converting process, thereby enabling him to produce such goods at a price much lower than would be profitable with the ordinary methods. The workmanship of these scissors appears to be fair; but the Jury were unable, after much attention to the point, assisted by the judgment of Mr. Ragg, an experienced workman, to satisfy themselves entirely as to the real quality of the metal, although the material from which they are said to be manufactured has been examined by Mr. Henry, and was pronounced by him to be steel.

4. The collections from Denmark, Sweden, and Norway are small, and contain little that requires notice. From the two latter countries the number of exhibitors bears a large proportion to the extent of the contributions, indicating establishments on a very limited scale; and although Sweden has long produced the most valuable iron, as the raw material of the finest steel and of the most finished cutlery, it does not appear that the manufacture itself has made any great advance. The collection consists of some razors, spring-knives, and other cutlery tools of an ordinary kind. From Denmark there is one singular article, a set of files, hollowed, and made to fit within each other: they are curious, and difficult of manufacture, but of no apparent utility.

5. Of the three contributions from Russia, one only is from a private individual, the other two are from imperial establishments. The former contributes a varied assortment of cutlery of all kinds, and of fair quality; the latter some tools, which cannot be ranked very high, and some scythes of the same kind as those whose peculiarities were described in the Austrian Department. The Russian implements of this description are the best.

6. From Spain and Portugal the contributions are very small. The former exhibits only an assortment of files from Placenzia, of very fair quality: the latter, some "agricultural implements," consisting of pruning-knives and scissors, probably adapted to the vine cultivation, but of little merit as manufactured goods.

7. Of the three States in the next division, Turkey, Egypt, and Tunis, the two latter are only slender contributors in this Class. One or two articles contained in the list furnished by the Egyptian Government, and a few pairs of Tunisian scissors of the roughest workmanship, constitute the entire collections. Turkey, however, appears with articles of greater interest, such as scissors and hunting-knives; few in number, but well made. The knives have blades of Damascus steel; the scissors are of a singular form, and well deserve notice. They are so fashioned that each blade is half of a hollow cone, and

the two therefore produce an entire cone when closed. The sides of each of these halves form the cutting edges. They are well finished, and must have required much skill and great labour in their fabrication, rendering their cost high; but it does not appear that they possess any superior utility. It is not stated that they are so made for any special purpose; and if not, they involve considerable waste of toil and skill.

8. From China there are only a very few articles; but one of them is a singular instrument, and should be noticed, as characteristic of the people from whose workshops it proceeds. It is a small blade of a triangular form, $2\frac{1}{2}$ inches long, $1\frac{1}{4}$ inches wide, and $\frac{1}{4}$ inch thick, folding upon a slender wooden cylindrical handle, and is used as a razor for shaving a part of the head, according to general practice among the Chinese. It is not easy for us to comprehend how the operation can be successfully performed with such an implement; but it is said to be in common use among the natives, and to effect its purpose in their hands with the utmost nicety and despatch, and it cannot, therefore, be ill-adapted to its object. The workmanship is, to European eyes, of a very rude description, and even the surface of the metal displays none of the finish which is so diligently bestowed on many Chinese productions; but the edge it carries is certainly good, and its quality, no doubt, surpasses its appearance.

9. Lastly, the opposite hemisphere supplies, from the United States of America, a collection which, though not very extensive, contains some signal proofs of proficiency in such manufactures, and is strongly characteristic of the natural and social exigencies of the people from whom it comes. It consists of a few articles of the finer cutlery, but mainly of assortments of the larger edge-tools and implements, such as scythes and axes, and other objects of that nature. The former are finished with great care, and decorated with much costly ornament; but the Jury cannot pronounce them to be of the first degree of excellence in workmanship, and their temper is wanting in the hardness proper to the best cutlery. With respect to the other articles, however, the case is different. There is a set of joiner's tools, which, though few in number, are excellent; and the same may be said of the scythes, which are of the best quality. Good as these productions are, they are perhaps surpassed by the axes, to which nothing of the kind can be superior; they are admirably finished, and at the same time display all those more valuable qualities which are the necessary conditions and evidence of perfection in such commodities. It is evident that the great prevailing want of the population has created and encouraged to perfection, in its own neighbourhood, the trade which was to supply it.

The Jury believe that in the above general survey of the contributions presented by this Class of the Exhibition, they have left nothing unmentioned of any note or merit; and having thus endeavoured to point out the several interesting features which belong to it, it only remains for them to add a list of the awards.

AWARDS IN CLASS XXI.

1. RECOMMENDATION FOR COUNCIL MEDAL, CONFIRMED BY THE COUNCIL OF CHAIRMEN.

Nation.	No. and Page in Catalogue.		Name of Exhibitor.	Objects Rewarded.
	No.	Page.		
United Kingdom -	113	608	Spear and Jackson (Cl. XXII.) - -	For exhibition of circular saws, particularly one 60 inches in diameter, of marked and very superior excellence, manufactured by a process of peculiar merit, the result of a novel application of mechanical ingenuity recently effected by themselves.

2. AWARD OF PRIZE MEDALS.

Nation.	No. and Page in Catalogue.		Name of Exhibitor.	Objects Rewarded.
	No.	Page.		
United Kingdom	23	591	Addis, J. B., jun.	Carving-tools.
France	753	1216	Arnheiter, M.	Cutlery.
United Kingdom	193	614	Blake and Parkin (Cl. XXII.)	Saws and files.
United Kingdom	110A	606	Brookes, W., and Son (Cl. XXII.)	Edge-tools.
United States	259	1452	Brown and Wells	Tools.
United Kingdom	18	591	Buck, J.	Turning and other tools.
United Kingdom	192	614	Butcher, W. and S. (Cl. XXII.)	Edge-tools and razors.
United Kingdom	240	619	Butterley, Richard (Cl. XXII.)	Sickles.
United Kingdom	115	606	Cocker and Sons (Cl. XXII.)	Files and edge-tools.
France	129	1177	Coulaux and Co.	Saws.
Württemberg	57	1117	Dittmar, Brothers	Cutlery.
United Kingdom	49	593	Eastwood, George	A plane.
United Kingdom	203	615	Eyre, Ward, and Co. (Cl. XXII.)	Cutlery.
United Kingdom	114	606	Fenney, Frederick (Cl. XXII.)	Razors.
Austria	420	1031	Fischer, A.	Files.
France	218	1184	Froely, A.	Fine files.
United Kingdom	194	615	Gibbins and Sons (Cl. XXII.)	Scissors.
France	851	1221	Goldenberg, G., and Co.	Saws and tools.
France	858	1221	Guerre, sen.	Cutlery.
United Kingdom	226A	618	Hague, S. (Cl. XXII.)	Penknives.
Austria	517	1034	Haindl, A.	Cutlery.
United Kingdom	31	592	Hannah, A.	Augers, &c.
United Kingdom	146	609	Hardy, T. (Cl. XXII.)	Dressing-case instruments.
Turkey	1553	1397	Hassan	Scissors.
Württemberg	58	1117	Haucisen and Son	Scythes.
United Kingdom	135	608	Hawcroft and Sons (Cl. XXII.)	Razors.
Sweden & Norway	11	1350	Heljestrand, C. V.	Razors.
Prussia	187	1058	Henkels, J. A.	Cutlery.
United Kingdom	188	614	Higginbotham, G. and W. (Cl. XXII.)	Scissors.
Prussia	631	1085	*Hilger and Sons	Cutlery and scythes.
United Kingdom	47	593	Hill, Joseph V.	Saws.
United Kingdom	33	592	Hilliard and Chapman	Cutlery.
Prussia	637	1085	Hoeller, A. and E.	Cutlery.
United Kingdom	181	612	Howarth J. (Cl. XXII.)	Edge-tools (engraving).
United Kingdom	228	618	Hunter, Edwin (Cl. XXII.)	Scissors.
United Kingdom	215	617	Hutton and Newton (Cl. XXII.)	Scythes and reaping-hooks.
Russia	286	1375	Iakovleff, Mme. Catherine	Cutlery.
United Kingdom	191	614	Ibbotson, Brothers (Cl. XXII.)	Cast-steel scythes, &c.
United Kingdom	209	616	Ibbotson, Richard (Cl. XXII.)	Saws.
Russia	167	1372	Imperial Artinsk Works	Scythes.
United Kingdom	109A	605	Johnson, Cammell, and Co. (Cl. XXII.)	Files.
United Kingdom	5	591	King and Peach	Planes.
United Kingdom	161	611	Kirk and Warren (Cl. XXII.)	Files.
United Kingdom	14	591	Loy, William	Skates.
United Kingdom	15	591	Loy, W. T.	Cutlery.
United Kingdom	112	606	Makin, W. (Cl. XXII.)	Rag-engine roller-bars, bottom-plates, and rag knives.
Prussia	617	1084	Mannesmann, A.	Files.
United Kingdom	139	608	Mappin and Brothers (Cl. XXII.)	Cutlery.
United Kingdom	169	611	Marsden Brothers and Co. (Cl. XXII.)	Joiners' tools.
United Kingdom	132	608	Martin, Stephen (Cl. XXII.)	Razors.
United Kingdom	32	392	Mathieson, A.	Joiners' tools.
United Kingdom	181	430	Matthews, W. (Cl. X.)	Table-cutlery.
United Kingdom	7	591	Morton, J. and G.	Table-knives.
United Kingdom	13	591	Moseley and Sons	Planes.
United States	323	1455	North Wayne Scythe Company	Scythes.
United Kingdom	149	609	Nowill, J., and Sons (Cl. XXII.)	Cutlery.
United Kingdom	233	618	Peace, H., and Co. (Cl. XXII.)	Saws.
United Kingdom	641	465 ^b	Philp and Whicker (Cl. X.)	Cutlery.
France	348	1194	Picault, G. F.	Cutlery.
France	969	1226	Proutat and Co.	Fine files.
United Kingdom	690	667	Rodgers, J., and Sons (Cl. XXII.)	Cutlery.
United Kingdom	198	615	Saynor and Sons (Cl. XXII.)	Gardeners' knives.
Prussia	673	1087	Schmolz, W., and Co.	Cutlery.
United Kingdom	10	591	Sharp Brothers and Co.	Table knives.
United States	119	1447	Simmons, D., and Co.	Edge-tools.
United Kingdom	208	616	Slack, Sellers, and Co. (Cl. XXII.)	Saws.
United Kingdom	204	615	Sorby, R., and Sons (Cl. XXII.)	Edge-tools.
United Kingdom	214	617	Staniforth, Thomas (Cl. XXII.)	Scythes and sickles.
United Kingdom	124	607	Steer and Webster (Cl. XXII.)	Scissors.
Switzerland	63	1270	Stotzer, Frederick	Fine files.
United Kingdom	39	592	Stubs, Peter	Small files.
Turkey	1550	1397	Tahir	Scissors.
France	1027	1228	Talabot and Co.	Scythes.
United Kingdom	129	608	Taylor, Henry (Cl. XXII.)	Engravers' tools.
United Kingdom	2	590	Thornhill, Walter	Garden tools.

* Awarded a Prize Medal in Class XXII.

PRIZE MEDALS—continued.

Nation.	No. and Page in Catalogue.		Name of Exhibitor.	Objects Rewarded.
	No.	Page.		
United Kingdom	33	592	Tomlin and Co. - - - - -	Sickles and shears.
Belgium - - -	128	1156	*Troupin Brothers - - - - -	Spiral cutters, &c.
United Kingdom	117	607	Turner, Thomas (Cl. XXII.) - - -	Files, saws, and cutlery.
United Kingdom	190	614	Turton, Thos., and Sons (Cl. XXII.) - -	Files.
United Kingdom	159	610	Unwin and Rodgers (Cl. XXII.) - - -	Cutlery.
United Kingdom	178	612	Unwin, W. (aged 16; Cl. XXII.) - - -	Sportsman's knife.
United Kingdom	17	591	Waldron and Sons - - - - -	Scythes.
United Kingdom	148	-	Walters, J., and Co. (Cl. XXII.) - -	Cutlery.
United Kingdom	196	615	Ward and Payne (Cl. XXII.) - - -	Edge-tools.
Austria - - -	448	1033	Weinmeister, G. - - - - -	Scythes.
Austria - - -	573	1036	Wertheim, F. - - - - -	Tools.
United Kingdom	122	607	Wilkinson and Son (Cl. XXII.) - - -	Sheep shears.
United Kingdom	175	612	Wilkinson, T. and G. (Cl. XXII.) - -	Scissors.
United Kingdom	195	615	Wilson and Sons (Cl. XXII.) - - -	Shoe and butchers' knives.
United Kingdom	125	607	Wostenholm, G. and Sons (Cl. XXII.)	Cutlery.

* Awarded a Prize Medal in Class VI.

3. The Jury, however, scarcely feel that they should be doing complete justice to the spirit and exertions of some other exhibitors if they did not mention, that though their contributions have not appeared to be of quite such a character as to entitle them to the distinction of a Medal, they are still deserving of HONOURABLE MENTION; and they therefore desire to append the following list of names to which such special recognition is fairly due.

Nation.	No. and Page in Catalogue.		Name of Exhibitor.	Objects Rewarded.
	No.	Page.		
United Kingdom	11	591	Addis, S. J. - - - - -	Carving tools.
France - - -	4	1169	Alean and Locatelli - - - - -	Files.
United Kingdom	118	607	Algor, J. (Cl. XXII.) - - - - -	Shoe knives.
United States - -	97	1439	Allen, A. B., and Co. - - - - -	Tools.
United Kingdom	365	638	Atkin and Son (Cl. XXII.) - - - - -	Joiners' tools.
United Kingdom	160	611	Atkinson and Marriott (Cl. XXII.) - -	Files.
United Kingdom	20	591	Baker, William - - - - -	Awl-blades.
United Kingdom	37	592	Barker, R. - - - - -	Butchers' steels.
United Kingdom	48	593	Beach, W. - - - - -	Cutlery.
United Kingdom	232	618	Bell, J. (Cl. XXII.) - - - - -	Silver knives.
United Kingdom	212	617	Biggin and Sons (Cl. XXII.) - - -	Saws.
Prussia - - -	623	1085	*Bleckmann, John Elias - - - - -	Cutlery and files.
United Kingdom	130A (or 176)	612	Bloomer and Phillips (Cl. XXII.) - -	Joiners' tools.
Prussia - - -	633	1085	†Boecker, R. and H. - - - - -	Saws, files, &c.
United Kingdom	3	590	Bradford, R. and W. - - - - -	Cutlery.
United Kingdom	26	592	Bradford, Samuel - - - - -	Cutlery.
Prussia - - -	621	1084	‡Braunschweig, J. A. - - - - -	Tools.
United Kingdom	145	609	Briggs, S. (Cl. XXII.) - - - - -	Awl-blades.
United Kingdom	171	611	Brookes, J. (Cl. XXII.) - - - - -	Dressing-case instruments.
United Kingdom	182	612	Brown and Sons (Cl. XXII.) - - -	Joiners' tools.
Austria - - -	120	1013	Bubenitseeck, J. - - - - -	Cutlery.
Switzerland - -	270	1183	Burkhardt, James - - - - -	Razors.
United Kingdom	108	605	Carr, J., and Riley (Cl. XXII.) - - -	Saws and files.
United Kingdom	142	603	Clayton, George - - - - -	Table cutlery.
Prussia - - -	628	1085	Coppel, A. - - - - -	Pen and pocket knives.
United Kingdom	165	611	Cousins and Sons (Cl. XXII.) - - -	Scissors.
United Kingdom	217	617	Cutler, John (Cl. XXII.) - - - - -	Edge-tools and shears.
United Kingdom	157	610	Deakin, George (Cl. XXII.) - - - - -	Scissors (horse).
United Kingdom	110	605	Deakin, G., and Co. (Cl. XXII.) - - -	Table cutlery.
United Kingdom	120	607	Ellin, T., and Co. (Cl. XXII.) - - -	Table cutlery.
United Kingdom	151	610	Elliott, J. (Cl. XXII.) - - - - -	Razors.
United Kingdom	156	610	Ellis, J. (Cl. XXII.) - - - - -	Cutlery.
Austria - - -	501A	1034	Fischer, G. - - - - -	Files.
United Kingdom	206	616	Fisher and Bramhall (Cl. XXII.) - -	Files.
United Kingdom	167	611	Flather, B. (Cl. XXII.) - - - - -	Joiners' tools.
United Kingdom	219	617	Garfit and Son (Cl. XXII.) - - - - -	Scythes and reaping-hooks.
Prussia - - -	551	1097	Gerresheim and Neeff - - - - -	Cutlery.
United Kingdom	(or 872)	607	Gilbert Brothers (Cl. XXII.) - - -	Razors.
United Kingdom	123	614	Jowitt and Battie (Cl. XXII.) - - -	Files.
Turkey - - -	187A	614	Kirkar - - - - -	Scissors.
United Kingdom	1304	1336	Kirkar - - - - -	Scissors.
United Kingdom	24	591	Knight and Sons - - - - -	Turning-tools.
Saxony - - -	30	1106	Krumbholz and Trinks - - - - -	Cutlery.
Canada - - -	121A (or 151)	967	Ladd, C. P. - - - - -	Axes.

* Awarded Honourable Mention by Jury of Class XXII.

† Awarded Prize Medal by Jury of Class XXII.

‡ Awarded Honourable Mention by Jury of Class XXII.

HONOURABLE MENTION—continued.

Nation.	No. and Page in Catalogue.		Name of Exhibitor.	Objects Rewarded.
	No.	Page.		
France - - -	1641	1255	Lanne, E. - - - - -	Cutlery.
Canada - - -	124	967	Leavitt, G. - - - - -	Axes.
	(or 150)			
Austria - - -	496	1034	Lechner, M. - - - - -	Files.
Switzerland - -	215	1280	Lecoultre, J. - - - - -	Razors.
United Kingdom -	225	618	Leon, A. (Cl. XXII.) - - - - -	Bowie knives.
Saxony - - -	31	1106	Levy, H. - - - - -	Pearl-handle carvers.
United Kingdom -	231	618	Linley, G. A. F. (Cl. XXII.) - - - - -	Sheep-shears.
United Kingdom -	128	608	Marples, R. (Cl. XXII.) - - - - -	Joiners' tools.
United Kingdom -	162	611	Marsh Brothers (Cl. XXII.) - - - - -	Cutlery and edge-tools.
United Kingdom -	35	592	Mathieson, T. A. - - - - -	Plane.
United Kingdom -	36	592	McPherson, C. and H. - - - - -	Braces and bits.
Belgium - - -	352	1162	Monnoyer, Joseph Peter - - - - -	Table cutlery.
Denmark - - -	22	1357	Naylor, J. W. - - - - -	Files (various).
United Kingdom -	133A	608	Newbould and Baildon (Cl. XXII.) - - - - -	Table cutlery.
United Kingdom -	137	608	Nicholson, W. (Cl. XXII.) - - - - -	Cutlery.
Austria - - -	444	1033	Offner Brothers - - - - -	Scythes.
Austria - - -	445	1033	Pamer, S. - - - - -	Scythes.
United Kingdom -	119	607	Parkin and Marshall (Cl. XXII.) - - - - -	Table cutlery.
United Kingdom -	233A	618	Peace, Henry (Cl. XXII.) - - - - -	Files.
Austria - - -	446	1033	Penz, J. - - - - -	Scythes.
Prussia - - -	619	1084	Pickardt, G. - - - - -	Files.
Portugal - - -	632	1314	Polycarpo, A. - - - - -	Garden-knives.
Hamburg - - -	43	1137	Ritter, W. - - - - -	Angers, &c.
Austria - - -	552	1035	Rossler, J. - - - - -	Cutlery.
United Kingdom -	34	592	Sanders, G. - - - - -	Razor-strop.
Prussia - - -	640	1085	Schwarte, J. D. - - - - -	Cutlery.
Canada - - -	122	967	Scott and Glasford - - - - -	Axes.
	(or 148)			
United Kingdom -	147	609	Sellers, J. (Cl. XXII.) - - - - -	Cutlery.
Canada - - -	123	967	Shaw, Samuel - - - - -	Axes.
	(or 149)			
United Kingdom -	158	610	Slagg, H. W. (Cl. XXII.) - - - - -	Sickles.
Turkey - - -	1303	1396	Sophia, Province of - - - - -	Scissors.
United Kingdom -	21	591	Stewart and Co. - - - - -	Razor-guard.
Sweden & Norway -	12A	1350	Stille, A. - - - - -	Razors, &c.
Austria - - -	559	1036	Stuckhart, John - - - - -	Cutlery.
France - - -	1496	1248	Tabourdeau, P. - - - - -	Files.
France - - -	1024	1228	Taborin, P. F. - - - - -	Saws.
United Kingdom -	205	616	Tasker, Henry (Cl. XXII.) - - - - -	Saws.
United Kingdom -	211	616	Taylor Brothers (Cl. XXII.) - - - - -	Cutlery.
Prussia - - -	671	-	Thomas, C. - - - - -	Planes.
Canada - - -	120	966	Wallace, A. - - - - -	
	(or 147)			
United Kingdom -	187	614	Warburton and Co. (Cl. XXII.) - - - - -	Angers.
United Kingdom -	631A	478	*Weiss and Son (Cl. X.) - - - - -	Cutlery.
Austria - - -	572	1036	Weiss, J., and Sons - - - - -	Tools.
United Kingdom -	134	608	Winks, B., and Sons (Cl. XXII.) - - - - -	Razors.
United Kingdom -	8	591	Wood, J. - - - - -	Razors.
Spain - - -	256A	1345	Ybarra, J. - - - - -	Files.
Austria - - -	450	1033	Zeitlinger, J. A. - - - - -	Scythes.

* Awarded Prize Medal by Jury of Class Xc.

WHARNCLIFFE, REPORTER.