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## **The naval dry docks of the United States**

**Stuart, Charles B.**

**New York, 1852**

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Persistent Link: <https://doi.org/10.3931/e-rara-23949>

California Dry Dock.

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# CALIFORNIA DRY DOCK.

## HISTORY.

By an act of Congress of the United States, approved on the 28th of September, 1850, entitled, "An Act, making appropriations for the Naval Service, for the year ending 30th June, 1851," the Secretary of the Navy was authorized to enter into a contract, for the construction of a Sectional, or Balance, Floating Dry Dock, with basin and railways on the coast of California.

By a subsequent act, approved March 3d, 1851, entitled, "An Act, making appropriations for the Naval Service, for the year ending 30th June, 1852," the first act was so far modified and repealed, as to authorize the Secretary of the Navy to confine the sums appropriated (two hundred and fifty thousand dollars) to the construction of a Floating Dock alone, without the basin and railways, provided the Secretary of the Navy considers the estimates made by the department for the construction of said work, to be "fair and reasonable."

Previous to the passage of the last act referred to, the Bureau of Yards and Docks had furnished estimates for the construction of a Floating Sectional Dock, with basin and railways, for California, based upon the cost of materials and labor at the Pensacola Navy Yard, as required by the first act. After the passage of the Act of March, 1851, the Secretary of the Navy referred the estimates submitted to the department, to the Engineer-in-chief of the Navy, with instructions to examine the same, and to estimate the probable cost of a Floating Dock, of ten sections, of a capacity to raise and sustain for repairs, a ship of the line, of five thousand three hundred tons displacement, or a war steamer of the largest class, of not less than three hundred and fifty feet in length.

The Engineer-in-chief (C. B. Stuart) submitted to the Secretary of the Navy, in April,

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1851, the plans, specifications, and estimates of cost, for the proposed Dock, delivered ready for use, in the Bay of San Francisco.

Hon. Wm. A. Graham, Secretary of the Navy, in the month of May following, selected from the two Docks included in the first-named law, the "Sectional Floating Dock," as preferable for the coast of California, to the "Balance Floating Dock;" also some suitable place within the waters of the Bay of San Francisco, as the location for the Dock; approved of the plans and specifications, and entered into a contract on the 19th May, 1851, in behalf of the Government, upon terms he considered fair and reasonable, for the construction of the Sectional Floating Dock, with Samuel D. Dakin, Rutherford Moody, John S. Gilbert, and Zeno Secor, all of the City and State of New York, to be constructed in accordance with the plans and specifications submitted by the Engineer-in-chief, at such places or points on the coast of the Atlantic or Pacific Oceans, as they might prefer; but all the parts of the Dock are to be delivered to the United States, put together complete and in every respect ready for use, in raising vessels of the capacity and dimensions named in the specifications, and sustain them for repairs, at such point in the Bay of San Francisco, as the Secretary of the Navy shall hereafter, and before the Dock shall be ready to set up, designate.

The work to be commenced forthwith, and completed in all respects, within two years from the date of contract, and to progress in its several stages and periods of construction, in proportion to the time stipulated for its entire completion.

The contract price was six hundred and ten thousand dollars, payable in the following manner, to wit:—

When bills certified by the Superintendent Engineer on the part of Government, and approved by the Commandant of the station where the work or any portion of it shall be prepared on the Atlantic, or by the Superintendent of the work in California, and approved by the Commander of the Pacific Squadron, or such other person as the Secretary of the Navy shall from time to time appoint, shall be presented, showing that each or any section is framed, and the whole of the materials of every description for such section, except the machinery, are prepared or ready for shipment, there shall be paid the sum of fourteen thousand dollars:—that the whole of the machinery to make each, or any section complete, has been prepared, or is ready for shipment, there shall be paid the further sum of thirteen thousand four hundred and fifty dollars:—that the whole of the materials, including machinery, iron, copper, etc., for each or any section, shall be received at the point designated in California by the Government, and the truss-frames ready to be set up; there shall be paid the further sum of eighteen thousand, three hundred dollars:—that each or any section shall have been launched and fully completed in every respect, machinery set up, and all ready

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for immediate use, there shall be paid the further sum of fifteen thousand, two hundred and fifty dollars.

Each of the payments to be made by the Navy Agent at New York or San Francisco, within thirty days from and after the presentation of bills duly certified and approved, excepting and reserving from each of the payments, ten per centum, as security for the faithful performance of the work (in addition to two hundred thousand dollars bond), and after the completion and satisfactory trial of the Dock, as provided in the contract, the ten per centum reserved and retained, to be paid to the contractors. The Government to provide a ship of the line, or steamer of the largest class, to test the Dock, within three months after notice of its completion.

The contract also provides that all the materials and work, which may be shipped on the Atlantic coast, for California, shall be fully insured, and the policies of insurance made payable, in case of loss, to the United States.

In conformity to the contract, the construction of the Dock was commenced in the city of New York, foot of Fifteenth street, North river, in June, 1851, under the immediate superintendence of the engineer-in-chief of the Navy, assisted, in the inspection of materials and machinery, by Samuel McElroy, assistant engineer of the United States Navy, from August to January, 1852, and by Colonel Ward B. Burnett, superintending engineer of the Philadelphia Sectional Dock, from February to April, 1852.

On the 1st of January, 1852, the contractors had delivered nearly all the timber for the ten sections of the Dock, had framed, put together, and marked ready for shipment, four sections, and completed the machinery for eight sections.

On the 1st of February, they had completed the machinery for the whole Dock, including the four engines and boilers, framed six sections, and delivered all the materials for them ready for shipment; and on the 1st of March, they had two additional sections framed and ready to ship, with all the materials belonging to them; and the timber for the remaining two sections delivered and partly framed. The Dock is to be shipped to California early in the spring of 1852, around Cape Horn, in vessels of from one to two thousand tons burden, previous to which, all the machinery will be carefully covered with two coats of zinc paint, and packed in boxes, to protect it; and the frame-work of the sections, after being put together complete, will be marked and numbered in such a manner as to readily put them together again, after the timbers (many of them very large) are taken from the vessel. All the wood-work that is planed will also be covered with zinc paint, before shipping, and again painted after it is put together in California.

## DESCRIPTION.

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THE California Floating Sectional Dry Dock, is constructed in nearly the same manner as the Sectional Dock, at the Philadelphia Navy Yard, with the following important exceptions, viz:—

There are *ten* sections, each one hundred feet in length, thirty-two feet in breadth, and eleven feet nine inches in height, with two end floats to every section, each twenty-six feet eight inches long, fifteen feet wide, and eight feet high.

There is also used, in the construction of the California Dock, in *addition* to the material in the Philadelphia Dock, one hundred and seventy-four thousand pounds of sheathing copper, thirty-five thousand pounds of copper spikes and nails, and two hundred bales of Russia felt, required to protect the Dock in the waters of the Bay of San Francisco.

It being deemed advisable to reduce the width of the end floats, from those of the Philadelphia Dock, portions of the shafting and gearing of the pumps were necessarily slightly altered in their arrangements, to conform to the floats built for this Dock.

The engines, boilers, and machinery for this Dock, were constructed at the "Novelty Works," and the "Archimedes Works," in New York, and at "Burden's Works," in the city of Brooklyn. The pumps were made at "Brown's Foundry," in Water street, New York. The mechanical execution of the various parts of the machinery, reflect much credit upon the respective establishments where they were made.

The wood-work of the Dock is composed of the best quality of northern white oak and white pine, and of southern yellow pine. The two first named qualities being mostly from Canada West and western New York, and the last from the states of Georgia and Florida. No timber was allowed to be put into the work, that had not been cut over one year previous

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to being used, and the plank two years. All the timber, before being framed or used, was examined by the inspector, (Darius Peckham,) and afterwards inspected by the Government engineers, before it was marked and shipped. The working plans for the framing and putting together the sections, were furnished by Phineas Burgess, engineer, and the supervision of the framing by Nathaniel S. Wing, and Melville De Pue, master carpenters.

The displacement and lifting power of the California Dock, *exceed* that at Philadelphia, about ten per cent.

For the details of the materials and workmanship of the California Sectional Dock, reference is made to the Appendix, and Plates, accompanying the Philadelphia Dry Dock.

