

FOR A SECTIONAL DOCK

STILE BEST SUITED TO CONDITIONS PORTLAND.

Description of a 10,000-Ton Dock Which Has Been Successfully Operated in New York.

It is reasonably certain that the drydock which the Port of Portland Commission will build will be sectional in pattern, large enough to handle a vessel of at least 10,000 tons.

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The pumps are arranged in duplicate sets on opposite sides of the dock, each composed of two 12-horsepower vertical boilers operating engines with cylinders 20 inches diameter and 24 inches stroke.

The sections are coupled together by what are known as locking logs, which connect the sections through the keel blocks.

The essential principle embodied in the Lang balanced sectional drydock is that which has made a floating dock of this size possible.

The truss proper is composed of a lower chord of 10 1/2 inch yellow pine timbers. There are three diagonals or braces of 10 by 10 inch timber.

The arch passes through the keel blocks, and fits into the lower chord near each end. Above the arch and forming a deck beam is the upper member of the truss.

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solidity. The boiler question was limited to such types as could be handled in the extremely limited room on the top of each wing.

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due to the total weight of the ship distributed along the keel blocks at the center of the dock.

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the maximum lifting power of the dock. As a result, the maximum net load which the dock will carry is borne by that part of the truss between the wings.

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than could be obtained in single lengths of yellow pine timber, it was necessary to go very carefully into the matter of scarfing and splicing of the trusses.

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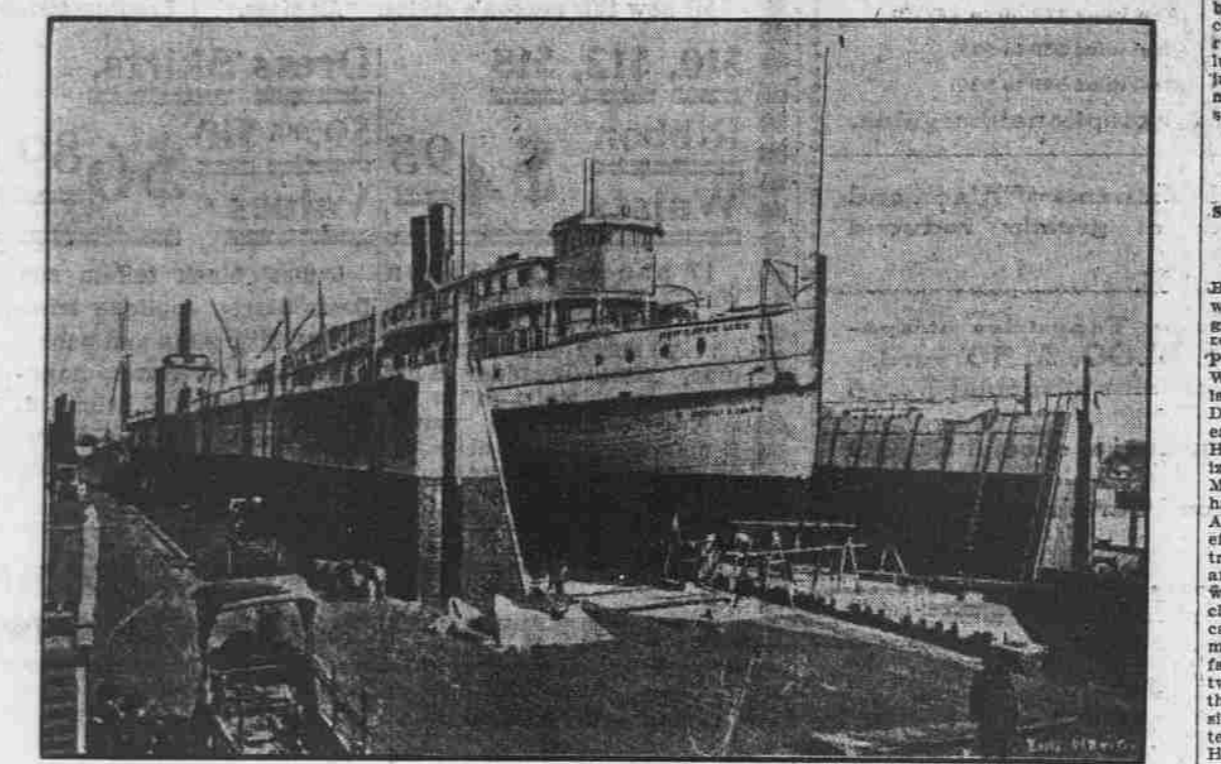
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SECTIONAL FLOATING DRYDOCK IN USE.

as will be readily understood from the drawing. The foot valve drops into a taper seat near the bottom of the pump barrel, and the plunger is attached to the lower end of the pump rod.

With these points in mind and by the aid of the plans, we believe the real conditions of the problem may be readily understood.

First—The interior and exterior levels of the water are about the same, as just enough ballast has been added to sink the dock to this level.

Second—The floodgates are closed and the pumps lower the interior level of the water, and the vessel is raised to a degree corresponding to the amount of water pumped out.

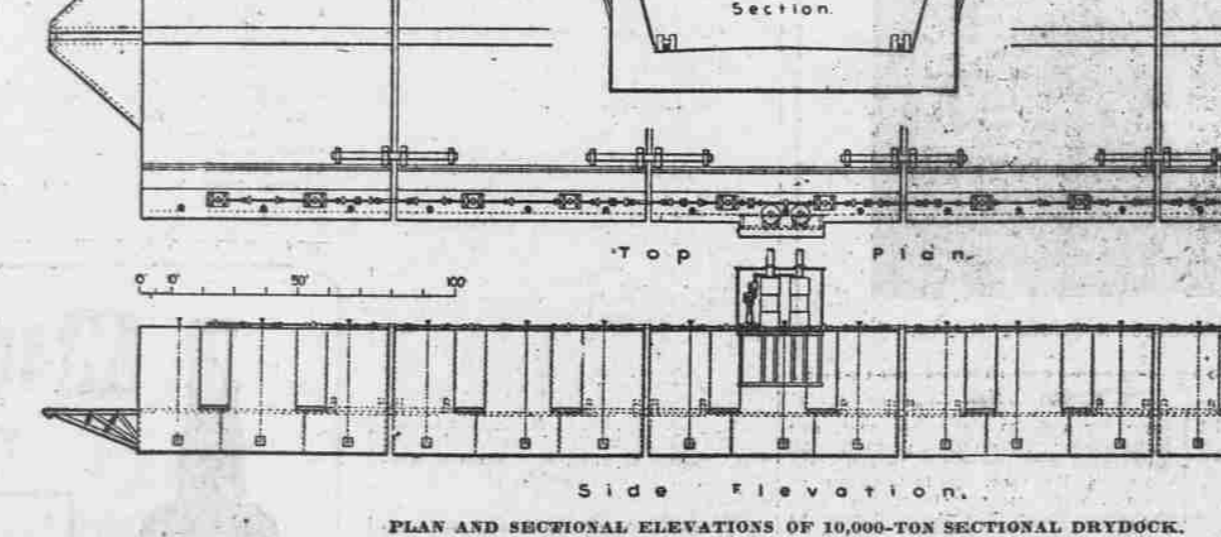
The object of going into these details is to show the study that was made to effect the greatest possible duplication of parts.

"Power is transmitted from one section to another. When it is understood that a section may have a relative movement only limited by the locking log, and that the shaft and bolt are in any direction, it will be apparent that the connection must be both a universal joint and a slip coupling.

"The floodgates have an opening 12 inches square, and the closing slide is raised and lowered by a wheel operating a bronze nut on the upper end of the gate rod.

"In operating the dock the engine and all the pumps are running all the time, and the desired lift to correspond to the weight of a vessel over any compartment of the dock is obtained by a greater or less closing of the floodgate corresponding to that compartment.

"Up to the present time all those who have had occasion to design trusses for this class of dock have proceeded upon the general theory that the maximum load to be borne by the truss was that



PLAN AND SECTIONAL ELEVATIONS OF 10,000-TON SECTIONAL DRYDOCK.

designed the following structural weights to the dock for the length corresponding to each truss: For the body of the dock to the commencement of the wings, 16 tons, and the weight for the wings are: Structure, 8 tons; pumps and machinery, 9 tons; ballast immersed, 15 tons.

After careful investigation, we as- signed the following structural weights to the dock for the length corresponding to each truss: For the body of the dock to the commencement of the wings, 16 tons, and the weight for the wings are: Structure, 8 tons; pumps and machinery, 9 tons; ballast immersed, 15 tons.

As the length of the lower and upper chord members of the truss is greater than could be obtained in single lengths of yellow pine timber, it was necessary to go very carefully into the matter of scarfing and splicing of the trusses.

EAST SIDE NEWS.

Sub-Board of Trade to be Organized in Northeastern District.

Within a week there will be five Sub-Boards of Trade on the East Side, all working to promote the welfare and growth of their districts.

We will now consider another set of struts entirely different and of equal importance. These are brought about by the fact that it is necessary, after a vessel has left the dock, to pump it up light to rearrange the keel and bilge blocks.

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Downing, Hopkins & Co. WHEAT AND STOCK BROKERS

Room 4, Ground Floor Chamber of Commerce

Allis-Chalmers Company

Organized under the Laws of the State of New Jersey. Preferred Stock, - \$16,250,000 Common Stock, - 20,000,000

MANUFACTURERS OF HEAVY ENGINES, MINING AND OTHER MACHINERY. \$8,400,000

SEVEN PER CENT. CUMULATIVE AND CONVERTIBLE PREFERRED STOCK OFFERED BY THE UNDERSIGNED FOR SALE AT 105 PER CENT

payable, with accrued dividend, at the rate of seven per cent per annum from May 1, 1901.

50 per cent May 24, 1901, 50 per cent July 1, 1901,

with the privilege of anticipating the latter payment. Negotiable receipts will be issued against payments, exchangeable for engraved certificates of stock as soon as they can be prepared.

The Allis-Chalmers Company represents the consolidation of the property and business of the following builders of heavy machinery:

The Edward P. Allis Co., of Milwaukee, Wis. Fraser & Chalmers, Incorporated, of Chicago, Ill. Gates Iron Works, of Chicago, Ill. Dickson Mfg. Co., of Scranton, Pa. (exclusive of Locomotive Works).

All property acquired is to be conveyed in fee and free from mortgage or other lien. No mortgage can be placed upon the property without the assent of seventy-five per cent of the amount of Preferred Stock outstanding.

The expert engineer, Mr. Julian Kennedy, reports, after several personal examinations of the real estate, buildings, machinery, tools, patterns, drawings and patents, together with the cost of organizing and getting into full operation, but not estimating anything for good will, at \$2,500,000.

He further reports, under date of April 5th, 1901, as follows: "I find the plants all running at their fullest capacity."

The security of the Preferred Stock, without any consideration for the advantages accruing from the consolidation, for the valuable good will of the several companies, so long and favorably known all over the world, for the carrying capacity of the united companies, will be substantially as follows:

Table with financial data: Cash Capital \$10,000,000; Total present value of tangible property \$19,935,000; Total issue of Preferred Stock against this property \$16,250,000.

all of which is issued for cash at par, or, in lieu of cash, for the plants at less than their valuation as above stated, and of which total issue there will be more than 60 per cent in cash, and the balance will be in property that produces more than the cumulative dividend to which the Preferred Stock is entitled.

The accounts of the several concerns have been examined by Messrs. Jones, Caesar & Co., chartered accountants, who certify "that the combined profits of the plants in the last year ending May 31st, 1900, were \$2,500,000."

The Board of Directors has been constituted as follows: EDWARD D. ADAMS, New York. CHARLES ALLIS, Milwaukee. MARK T. COX, Orange, N. J. WILLIAM W. ALLIS, Milwaukee.

Enough, their heat would never suffice to broil a steak or roast a chicken. And in the production of electric heat no device is so efficient as the incandescent lamp.

CHANGELESS, MATCHLESS. This is one way to go to Chicago without change of cars—the O. R. & N. "Chicago-Portland Special."

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Vermilye & Company, New York and Boston.

May 17, 1901.