T. J. WHEEDEN.

FLOATING-DOCK.

No. 181,021. Patented Aug. 15, 1876.

Fig. 1.

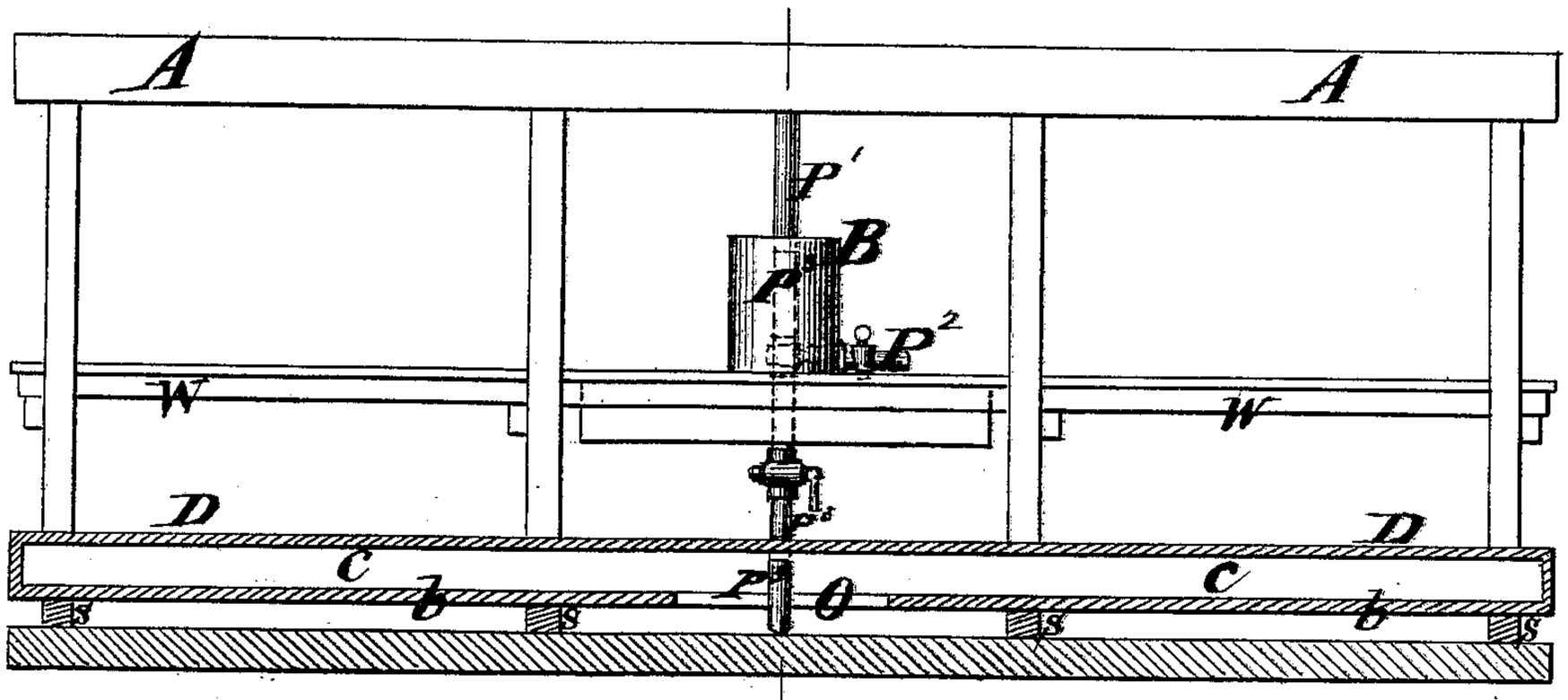
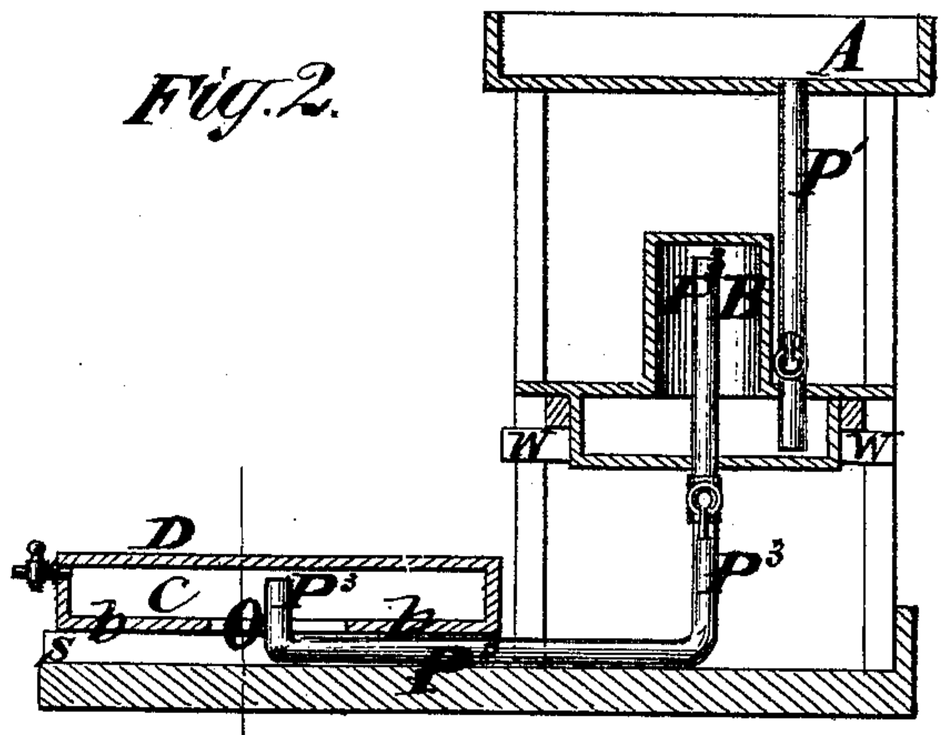


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS J. WHEEDEN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN FLOATING DOCKS.

Specification forming part of Letters Patent No. **181,021**, dated August 15, 1876; application filed February 3, 1876.

To all whom it may concern:

Be it known that I, THOMAS J. WHEEDEN, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Means for Operating Floating Docks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to that class of docks which are lowered into the water to receive vessels to be raised, and then raised, together with the vessels, to permit access to any part of the hulls of such vessels.

The invention consists in the combination, with such a dock, having an open bottom or suitable opening in its bottom, of an elevated water tank or reservoir, and one or more intermediate air-compression chambers, in which air is compressed by the water from said tank or reservoir, and from which the air so compressed is forced into the dock to displace the water from its interior, and so produce its flotation.

Figure 1 is a central, longitudinal, and vertical section. Fig. 2 is a central and vertical cross-section of the same.

D is the dock, having a chamber, C, in the interior. The bottom *b* of the dock is preferably closed with the exception of an opening, O, in the center. The closed part of the bottom *b* is designed mainly for strength; but it assists in confining the contents of the chamber C, so that, when said dock is tilted to one side, the contents of the said chamber C do not readily escape. Instead of one chamber, I may divide the interior of the dock D into compartments communicating by passages with the central opening O, or I may have more than one opening in the said bottom *b* for the passage of air and water alternately. The dock has also a cock near its top for allowing escape of air when it is desired to sink. A is a tank or reservoir, designed to hold water delivered into it by any suitable means. Said tank or reservoir A may be made open at the top, and it communicates by a pipe, P^1, with an intermediate air compression chamber, B, placed between the said dock D and the said reservoir A. The pipe P^1 has its upper end inserted in, or near to, the bottom of the reservoir A, and the lower end of the said pipe P^1 is inserted into, or near, the bottom of the air-compression chamber B. The air-compression chamber has a cock inserted in, or near, its top, to admit air when desired. The pipe P^1 is also provided with a cock. In the bottom of the intermediate air-compression chamber B is formed an outlet, preferably a pipe, P^2, also provided with a cock or valve. The air-compression chamber B communicates with the interior of the dock D through the opening O by a pipe, P^3, provided with a cock. The reservoir A and the air-compression chamber B are supported on a pier or wharf, W, by suitable frame-work, care being taken to have the height of water-column measured from the bottom of the air-compression chamber B to the bottom of the reservoir A somewhat greater than the height of a water-column measured from the bottom of the dock D to the surface of the water in which said dock is sunk, plus the height of a water-column measured from the bottom of the air-compression chamber B to the upper end of the pipe P^3.

The dock D is moored alongside the wharf W in such a way that the opening O will be over the lower end of the pipe P^3, and will remain over the end of said pipe during its ascent. When sunk in the water to its lowest position, as shown in Fig. 1, the said dock may rest upon suitable supports *s*.

The operation is as follows: When the dock D is sunk so as to rest upon the supports *s*, and the reservoir A is supplied with water, and the air-compression chamber B filled with air, the cock in the pipe P^1 is opened, the cock in the pipe P^2 is closed, and the cock in the pipe P^3 is opened. The water then flows from the reservoir A down through the pipe P^1, and compresses and displaces the air in the air-compression chamber B, and said air being forced down the pipe P^3 rises through the opening O into the interior of the dock D, displacing an equal volume of water from the interior of said dock. The cock in the pipe P^1 is then closed, and the cock in the pipe P^2 opened. The cock in the air-compression chamber B is also opened. Water will then flow out of the air-compression chamber B, and air will flow into the same through the cock

in said air-compression chamber till it is again filled with air. The cocks in the air-compression chamber and the pipe P^2 are then closed and the cocks in the pipes P^1 and P^2 opened. Water will again flow down through the pipe P^1 and displace the air in the air-compression chamber B, which, issuing from the pipe P^3, will enter the chamber C through the opening O, as before. The operation repeated as often as necessary finally fills the chamber C with air, and the dock rises, lifting whatever load, placed upon it, its buoyancy is competent to raise.

By opening the cock in or near the top of the said dock D, the air will escape through the said cock from the chamber C, and water will fill the said chamber through the opening O. The dock D will then sink till it rests upon the supports *s*.

I claim—

The combination of the open-bottomed dock D, the tank or reservoir A, the intermediate air-compression chamber B, the pipes P^1 and P^3, and the waste-outlet P^2, substantially as and for the purposes herein described.

THOS. J. WHEEDEN, M. D.

Witnesses:

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