

No. 721,222.

PATENTED FEB. 24, 1903.

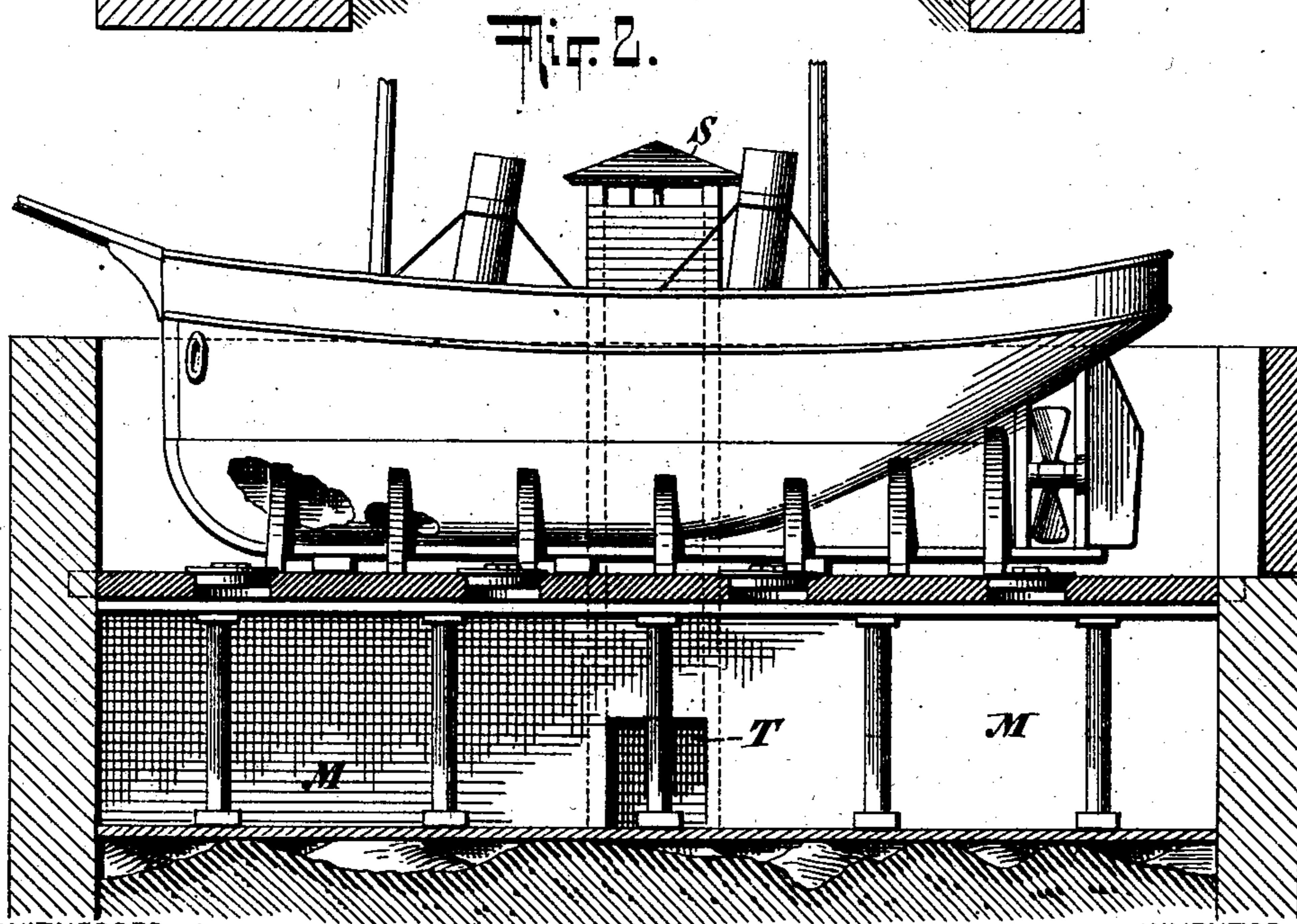
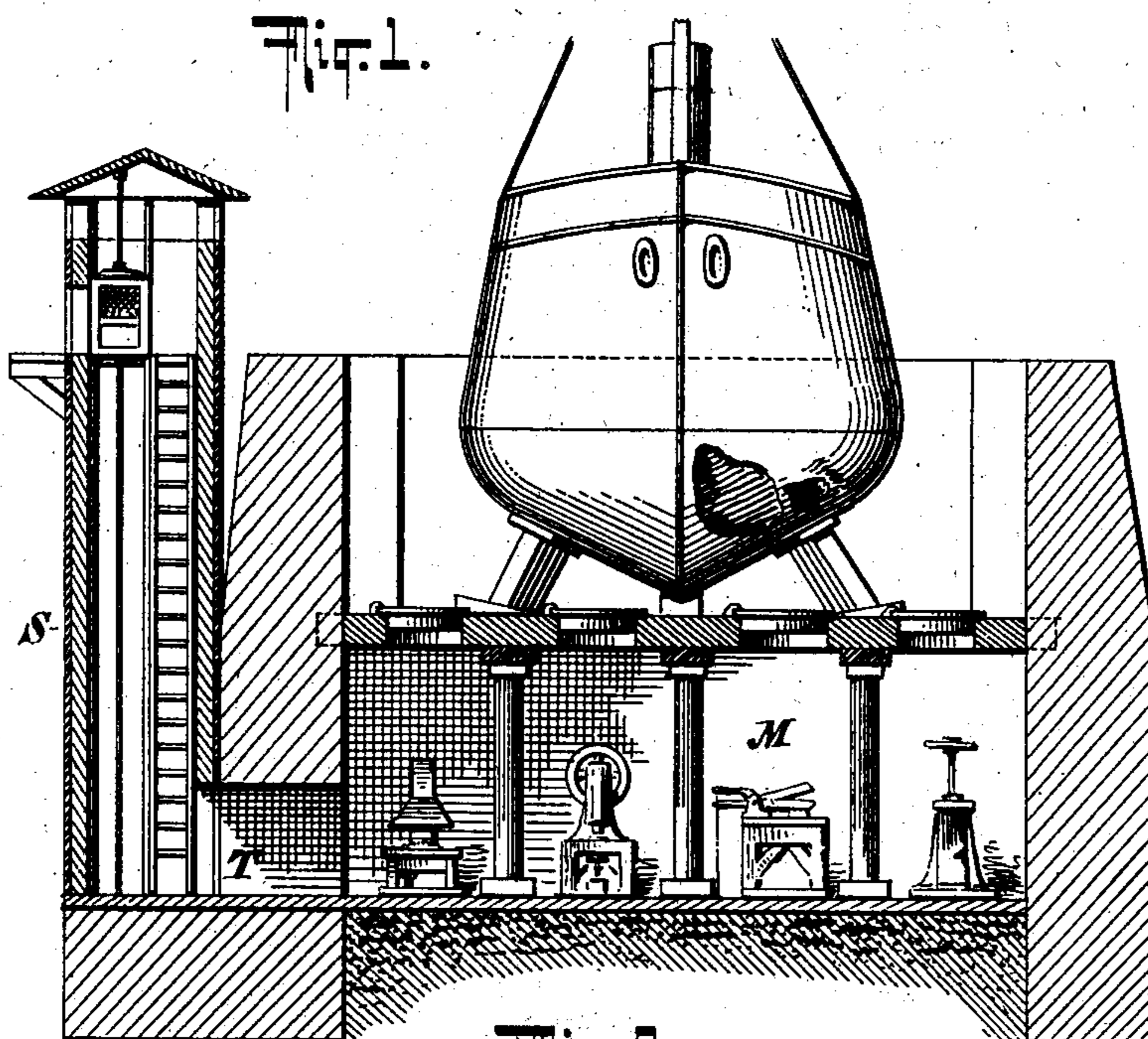
J. F. O'ROURKE.

DRY DOCK.

APPLICATION FILED AUG. 20, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. 3.

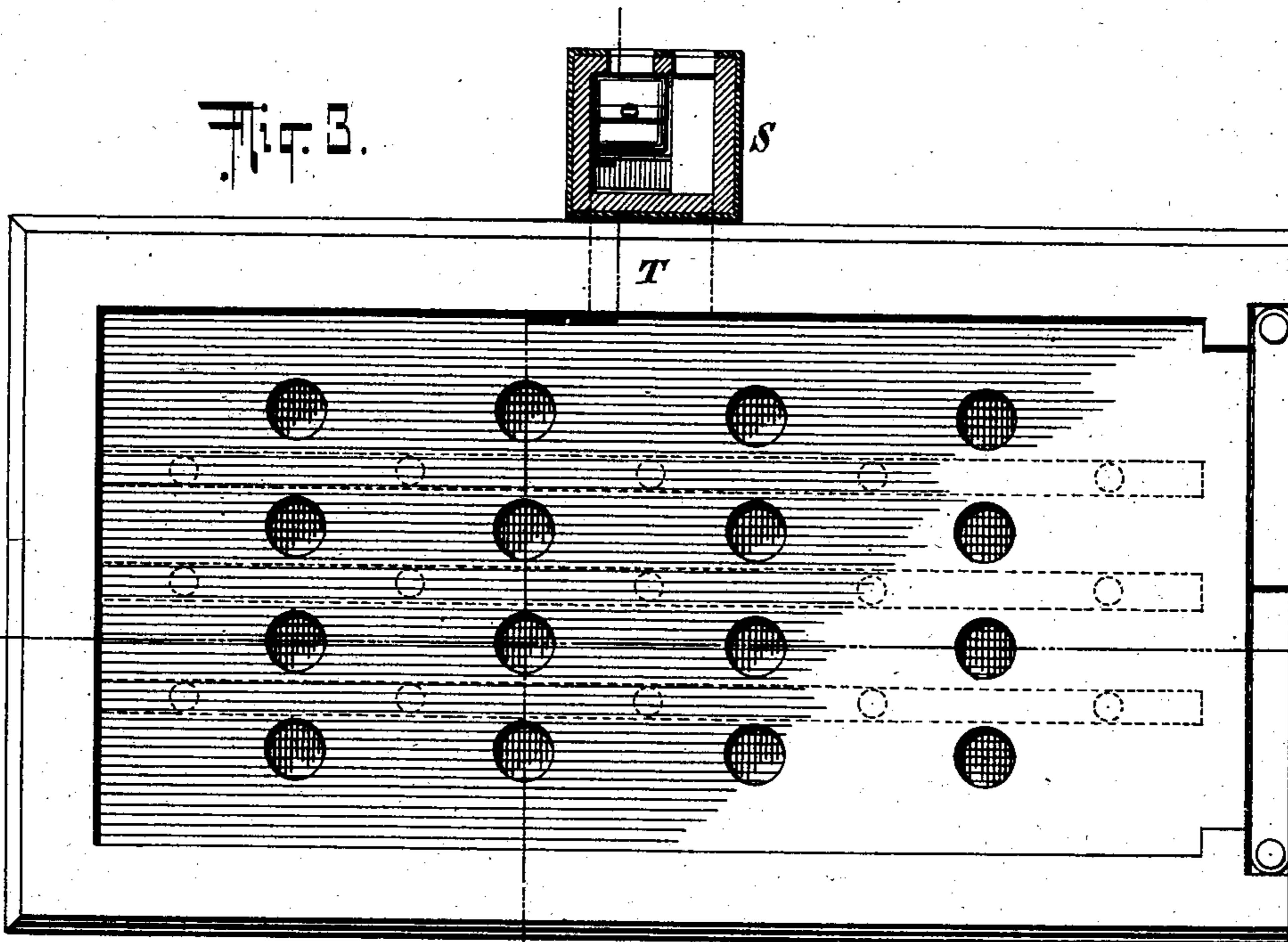
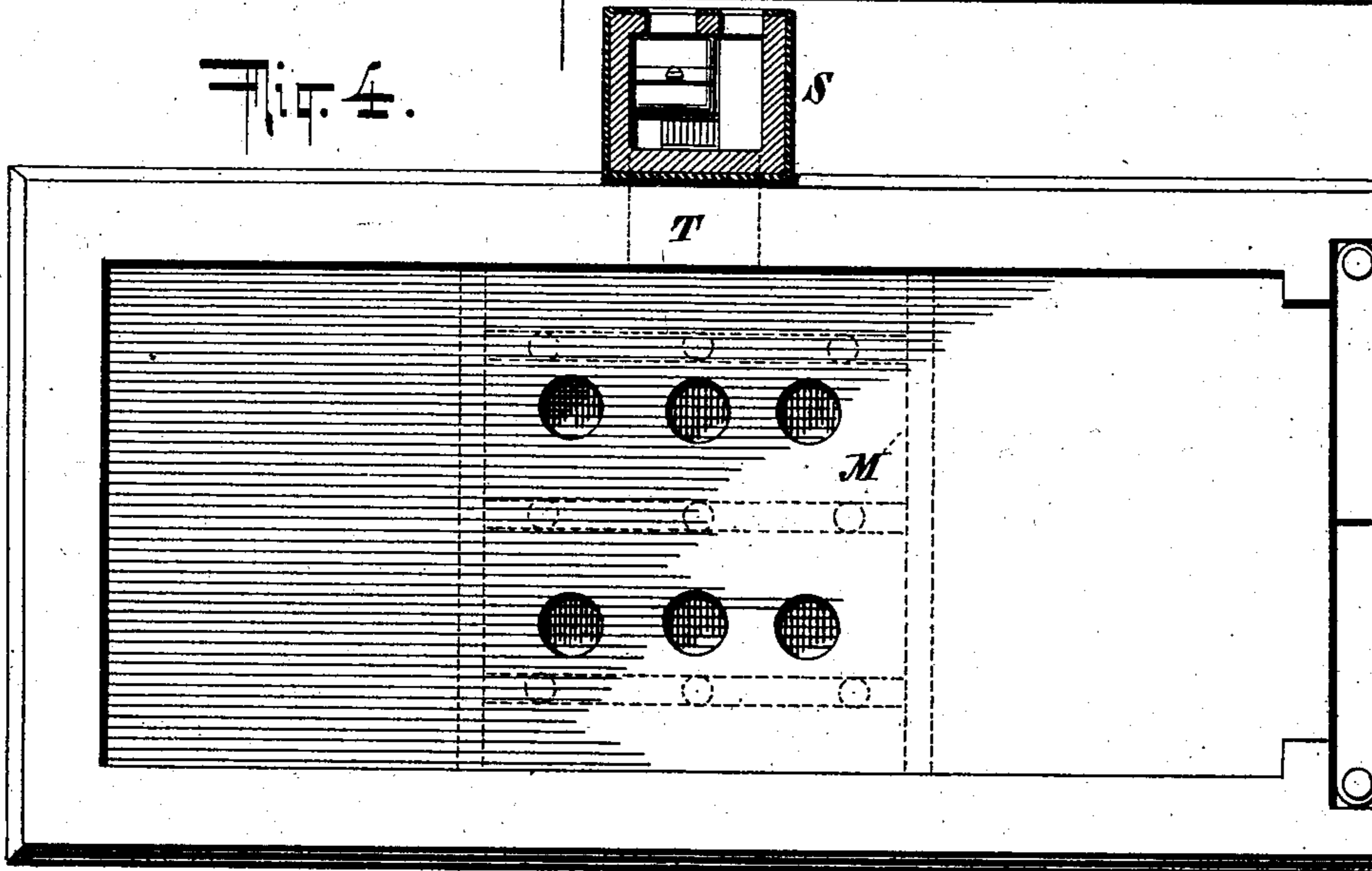


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN F. O'ROURKE, OF NEW YORK, N. Y.

DRY-DOCK.

SPECIFICATION forming part of Letters Patent No. 721,222, dated February 24, 1903.

Application filed August 20, 1902. Serial No. 120,376. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. O'ROURKE, a citizen of the United States, residing in the borough of Manhattan, city of New York, county and State of New York, have invented a new and useful Improvement in Dry-Docks, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which this invention most nearly appertains to understand and use the same when taken in connection with the accompanying drawings, in which—

Figure 1 is a vertical cross-section of the dock, showing my improvement. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a top view of the dock, showing the doors to the chamber below. Fig. 4 is a top view showing a chamber of less area than the dock.

Heretofore and before this my invention great difficulty has been experienced in making and repairing vessels in dry-docks on account of the distance from the vessel in the dock to the machinery and machine-tools now so necessary for the proper, expeditious, and economical work and so universally used in machine-shops. To overcome this objection and to have the machinery and machine-tools of the machine-shop close at hand for use on the vessel occupying the dry-dock, I construct beneath the dry-dock proper a chamber, machine-shop, or room and provide doors or openings from the roof of the chamber or machine-shop communicating directly with the dry-dock, which doors or openings are provided with suitable water-tight covers or doors to keep the water out of the chamber when the dry-dock is full of water. The chamber may be arranged to be occupied only when the water is out of the dry-dock, when it will be unnecessary to have any other opening than those through the floor of the dry-dock. This construction will be found to be especially advantageous if the dry-dock is in a rocky formation, where it would be advisable to excavate only a portion of the space under the dry-dock. For convenience in the use of the chamber at all times it is desirable to have it provided with one or more tunnels communicating with a shaft or shafts to the outer atmosphere without passing through the dry-dock, so that access may be had to the chamber at all times by the employees, so that the

material to be used may readily and at all times be taken into the chamber and for the purposes of ventilation. Such construction is shown in Figs. 1 and 2, where the machine-shop or chamber is marked M, communicating by the tunnel T, through the extended wall of the dry-dock, with a shaft S, open at the top to the outer air. The shaft S may be round, square, or in any other convenient form and is provided with ladders, stairs, or elevators for convenience in raising and lowering materials and persons. Within the machine-shop are arranged forges, shears, bending machinery, and welding and riveting machinery, any or all of which may be arranged on platform elevators, and when the dry-dock is emptied of water they may be raised through the doors in the roof of the chamber into the dry-dock, in close proximity to the vessel therein, so that the work on the vessel may be conveniently done. To accomplish this, I prefer to operate the machinery by electric motors, compressed air, or other power, the generating machinery for which may be located outside the chamber and dry-dock.

It is manifest that great advantage will be had by the close proximity of the machinery to the work to be performed, and as the machinery and supplies necessary for the repairs to the vessel in the dry-dock may be all made ready before and during the time the vessel is being put in the dry-dock and the machine-tools are brought quickly into use the saving in time is very great. When the vessel, as is often the case, is nearly the width of the dry-dock, the possibility of getting at and supplying machinery to repair the bottom of the vessel without passing through the narrow space between the vessel and the side wall of the dry-dock and without lowering the materials and machinery from the great height of the side walls of the dry-dock is a very great advantage.

In building dry-docks I generally prefer to sink caissons in a continuous line around the edge of the proposed dry-dock for the wall by pneumatic process connecting the several caissons together, so as to make a continuous wall, as shown in Letters Patent No. 678,582, issued to me July 16, 1901, and then to dig out the earth contained in the area

within the walls making the space for the dry-dock. When, however, the dock is to have a lower chamber or room, as described in this application, I continue sinking the
5 caissons until they are low enough to make space sufficient for the chamber or room and the dry-dock, when the earth within the walls is excavated and the proper foundations arranged to support the columns, which in turn
10 support the roof of the lower chamber or floor of the dry-dock. It is to be observed that the principal weight of the vessel in the dry-dock comes on these columns, and they must be correspondingly strong.
15 If the dry-dock is built in a rock formation no floor to the lower chamber or room will be necessary other than such as may be required to stop the flow of the water through the veins of the rock. When, however, it is
20 not in a rocky formation, it may be necessary to put in a concrete floor of hydraulic or other cement to make the chamber water-tight.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a dry-dock of a 25 chamber or room below the resting-place provided for the vessel within the dock, substantially as specified.

2. The combination in a dry-dock of a 30 chamber or room below the resting-place provided for the vessel within the dock, and communicating doors connecting the chamber with the dry-dock, substantially as specified.

3. The combination in a dry-dock of a 35 chamber or room below the resting-place provided for the vessel, communicating doors connecting the chamber with the dry-dock, and an entrance to the chamber from the outside, substantially as specified. 40

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN F. O'ROURKE.

Witnesses:

FRANK L. MUELLER,
J. ADDISON KYNOR.