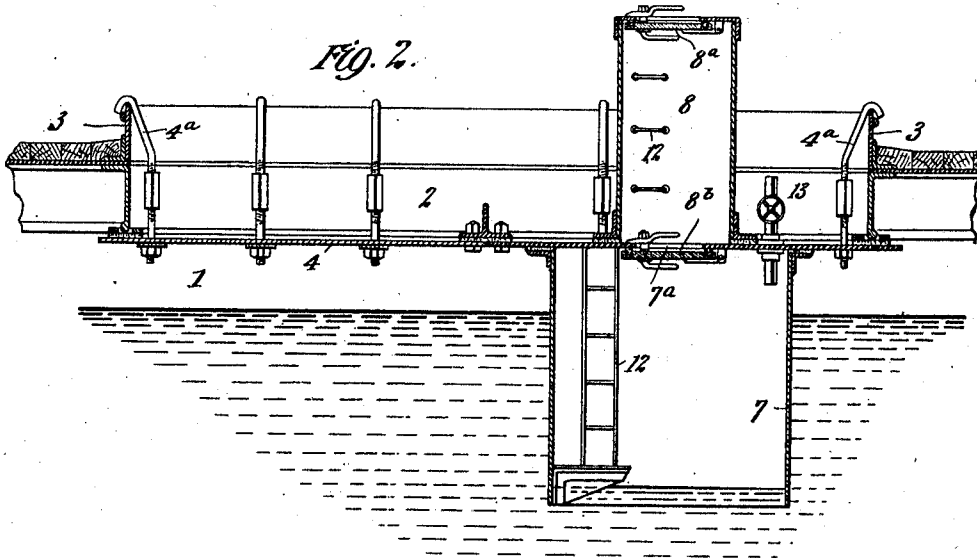
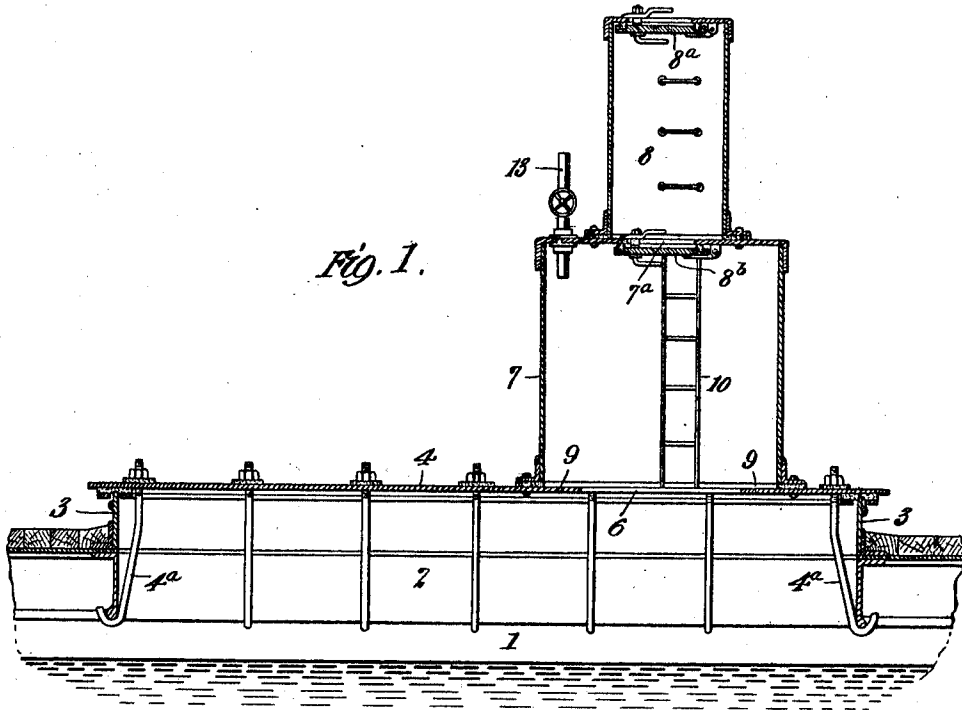


W. W. WOTHERSPOON.
AIR LOCK.
APPLICATION FILED SEPT. 17, 1909.

988,614.

Patented Apr. 4, 1911.



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UNITED STATES PATENT OFFICE.

WILLIAM WALLACE WOTHERSPOON, OF NEW YORK, N. Y.

AIR-LOCK.

988,614.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed September 17, 1909. Serial No. 518,125.

To all whom it may concern:

Be it known that I, WILLIAM WALLACE WOTHERSPOON, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Air-Locks, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to air locks, and is designed with special reference to the use of air locks in connection with the holds of vessels, to permit workmen to enter the hold while a pressure of air is maintained
15 therein to expel leaking water. Under such conditions the pressure of the air acts to force the water out through the leak in the hold, against a hydrostatic head created by the water on the outside, so that the
20 workmen entering through the lock may repair the leak or make an inspection of the hold. In the event of the supply of air being interrupted, or the pressure reduced for any cause, the water will rush back into
25 the hold and drown the workmen before they have had time to escape through the air lock.

It is the aim of the present invention to avoid this danger, and the invention consists in the combination with an air lock,
30 of a safety chamber into which the workmen may take refuge in the event of the backrush of the water.

The invention consists also in the details of construction and combination of parts hereinafter described and claimed.

Referring to drawings: Figure 1 is a sectional elevation through a hatch opening in the hold of a vessel, showing an air
40 lock applied and embodying my invention in its preferred form. Fig. 2 is a similar view of a modification.

In the accompanying drawings: referring to Fig. 1, 1 represents the hold of a vessel
45 provided with the usual hatchway 2, formed with a hatch coaming 3 extending above the deck level, as usual. 4 represents a cover-plate applied to the coaming to close the hatch opening air tight at its edges, and
50 firmly held thereon by any appropriate means, in the present instance by clamping bolts or hooks 4^a, engaged at their lower ends along the edge of the hatch opening on the inside and extending upwardly
55 through the cover-plate, where they are provided with tightening nuts. Seated on and

firmly secured to the cover-plate over an opening 6 therein, is a casing or chamber 7, preferably of cylindrical form in cross section and provided in its upper end with an
60 opening 7^a communicating with an air lock 8. The air lock is in the form of a casing or cylinder seated on and secured to the top of the chamber 7 around the opening therein, the upper end of the lock being
65 closed by the usual door 8^a and its lower end, where it communicates with the chamber by a similar door 8^b. It will thus be seen that the chamber 7 forms an enlarged
70 lower continuation of the air lock, and constitutes a safety chamber between the air lock and the highest water level in the hold, so that in the event of the back-rush
75 of water in the hold, the workmen who may have entered therein may quickly escape to the safety chamber through the opening 6 in the cover-plate, which opening is surrounded by a platform 9 on which the
80 workmen may stand. From this point they may ascend by means of a ladder 10 supported by the platform and leading to the lower door of the air lock, and emerge through the lock.

In Fig. 2 I have shown the air lock and safety chamber sustained by a cover-plate
85 applied to the hatchway within the hold, the lock extending above the plate and the safety chamber below the same some distance into the hold. In this instance, the opening in the plate forms a communication
90 between the safety chamber and lock, the said opening being closed by the lower door of the lock. In the event of the back-rush of water in the hold, a body of air will be confined in the safety chamber and will prevent the water from rising therein, so that
95 the workmen may enter the chamber, a platform being provided on which they may stand. Like in the first instance described, a ladder 12 leads from the platform to the
100 lower air lock door. Suitable provision will, of course, be made for the introduction of air under pressure into the hold, a pipe 13 being shown in Fig. 1 for this purpose as entering through the top of the safety chamber,
105 which pipe may be connected with a suitable source of pressure. In Fig. 2 a similar pipe is shown entering through the cover-plate and extending into the top of the safety chamber.

I have illustrated and described my invention as embodied in two forms, both of

which are well adapted for the ends to be attained, but it is understood that the invention may be modified and changed within the skill of the mechanic without departing from the limits of the same.

Having thus described my invention, its construction and mode of operation, what I claim and desire to secure by Letters Patent of the United States is as follows:

10 1. In combination with a ship's hold provided with a hatchway, a cover-plate adapted to substantially close the hatchway and provided with an opening, a safety chamber sustained by the cover-plate and surrounding said opening, and an air lock communicating with said safety chamber.

2. In combination with a ship's hold having a hatchway, a cover-plate adapted to be applied to the same and provided with an opening, a casing sustained by the cover-plate over the opening and forming a safety chamber, an air lock sustained by said casing and communicating with the safety chamber, and an air lock door controlling the communication between the two.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM WALLACE WOTHERSPOON.

Witnesses:

GEO. R. PHILLIPS,
GRACE B. PERRY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
