(No Model.)

H. CORDES.

BILGE WATER VALVE FOR SHIPS.

No. 266,102. Patented Oct. 17, 1882.

Fig. 1

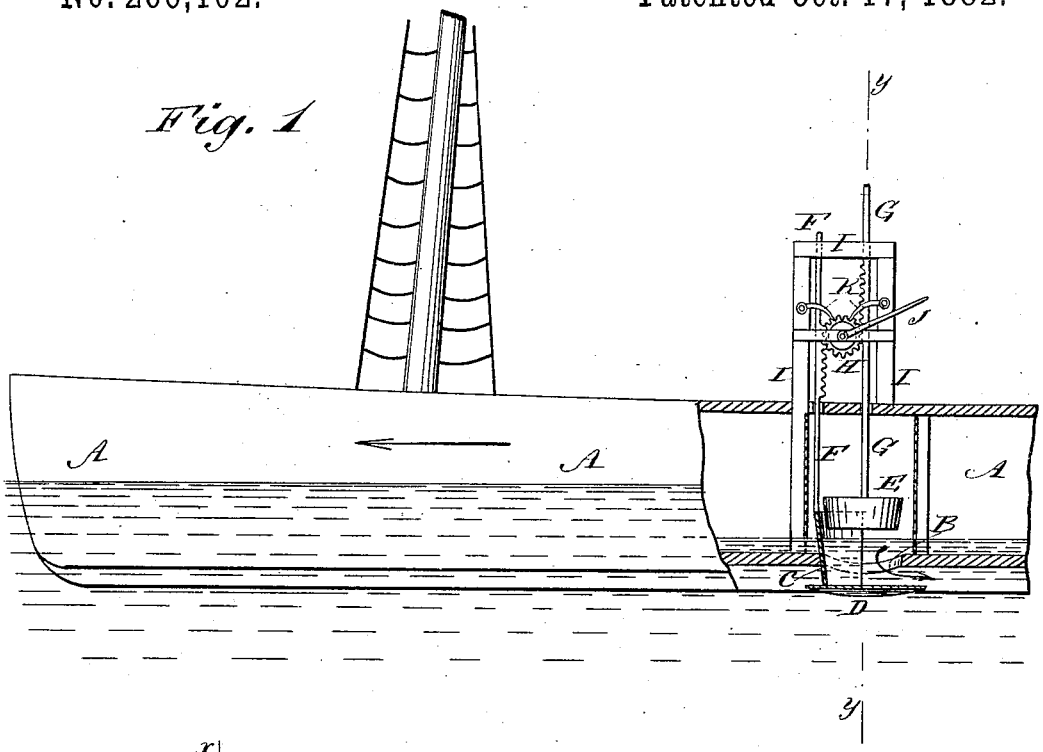


Fig. 2

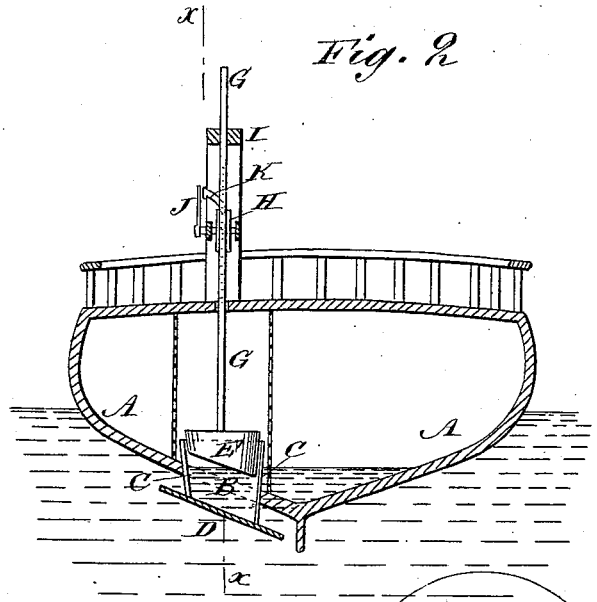


Fig. 3

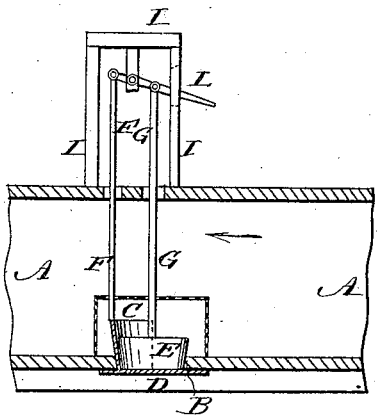
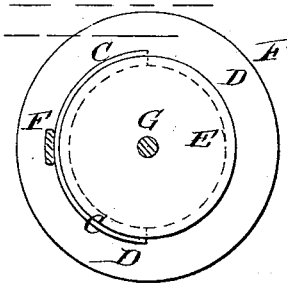


Fig. 4



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BILGE-WATER VALVE FOR SHIPS.

SPECIFICATION forming part of Letters Patent No. 266,102, dated October 17, 1882.

Application filed April 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY CORDES, of Hoboken, Hudson county, New Jersey, have invented a new and useful Improvement in Vessels, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of my improvement, taken through the line *x x*, Fig. 2, and shown as applied to a vessel. Fig. 2 is a sectional rear elevation of the same, taken through the line *y y*, Fig. 1. Fig. 3 is a sectional side elevation of a modified form of the same; and Fig. 4 is a plan view of the improvement, the operating-bars being shown in section.

The object of this invention is to facilitate the removal of water from the holds of vessels.

The invention consists in the combination, with a vessel's hull having an opening in its bottom, of a semi-cylindrical case fitting into the said opening, and having a plate attached to its lower end, a plug fitted into the said case and opening, and rack-bars attached one to the said bars and one to the said plug, and engaged by a pinion or gear wheel having a crank and itself engaged by pawls, whereby an aperture through the vessel's bottom can be opened and closed, as will be hereinafter fully described.

A represents the hull of a vessel, in the bottom of which, at one side of the keel, is formed an opening, B, into which is fitted a semi-cylindrical or slightly-tapering case, C. The lower end of the case C is beveled to correspond with the inclination of the vessel's bottom, and to the said lower end is attached a plate, D, a little larger than the opening B, and so formed as to be flush with the vessel's bottom when the case C is drawn upward.

E is a block or plug of such a shape and size as to fit into the case C and close the opening B water-tight.

To the case C and plug E are attached respectively the lower ends of the bars F G, which have gear-teeth formed upon their adjacent sides to mesh into the teeth in the gear-wheel H, placed between the said bars F G, so that by turning the wheel H in one direction the case and plate C D will be lowered and the plug E raised to open a passage through the vessel's bottom, and by turning the said wheel in the other direction the case and plate C D will be raised and the plug E will be lowered to close the opening B. The gear-wheel H is journaled to a supporting-frame, I, and to one of its journals is attached a crank, J, by means of which the said wheel is operated. The gear-wheel H is locked in place, holding the case and plate C D and the plug F securely in any position into which they may be adjusted, by two pawls, K, pivoted to the frame I in such positions as to engage with the said wheel H in opposite directions. The case C is arranged with its open side toward the stern of the vessel. With this construction, when the vessel is in motion and the case and plate C D and plug E are adjusted to open a passage through the vessel's bottom, the movement of the case C through the water will tend to form a vacuum at the open rear side of the said case, which will draw the water out of the vessel's hold. When the water has been discharged the case and plate C D and the plug E are adjusted to close the opening B.

In the case of small vessels the upper ends of the bars F G can be pivoted to a lever, L, upon the opposite sides of and equally distant from its fulcrum. In this case the lever L is fulcrumed to a support attached to the frame I, and one or both its ends project for convenience in operating it.

The case C and plug E are surrounded with a perforated casing, M, or other screen, to prevent any solid substances that may be floating in the vessel's hold from entering the opening B and clogging it. With this construction, also, in case of a fire in a vessel at anchor or at a wharf, the case and plate C D

and plug E can be operated to admit water and submerge the vessel to such a depth that the fire will be extinguished.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a vessel, the combination, with the hull A, having opening B in its bottom, the semi-cylindrical case C, having bottom plate, D, and the plug E, of the rack-bars F G and the gear-wheel H, having crank J and pawls K, substantially as herein shown and described, whereby the said case and plug can be readily operated and will be securely held in place, as set forth.

HENRY CORDES.

Witnesses:
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C. SEDGWICK.