(No Model.)

G. W. RENTON.

BOAT PLUG.

No. 275,270. Patented Apr. 3, 1883.

FIG. 1.

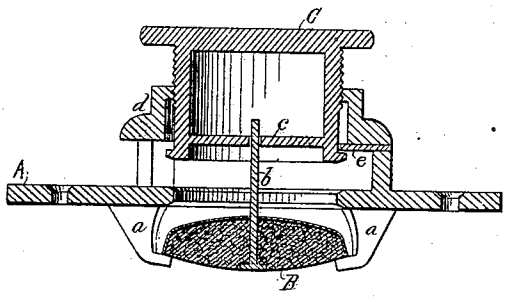


FIG. 2.

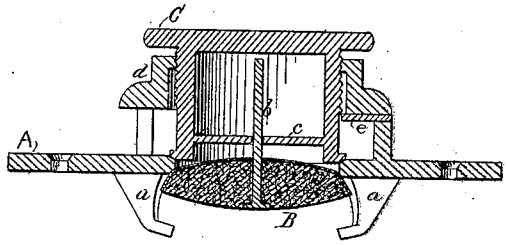


FIG. 3.

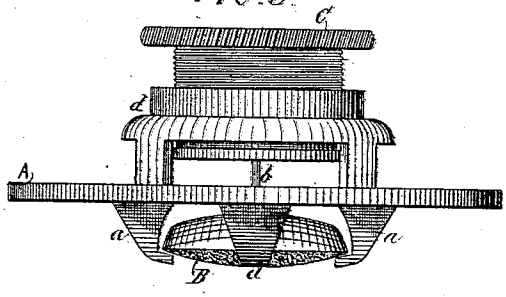


FIG. 4.

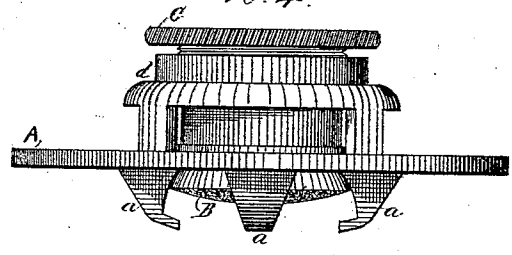
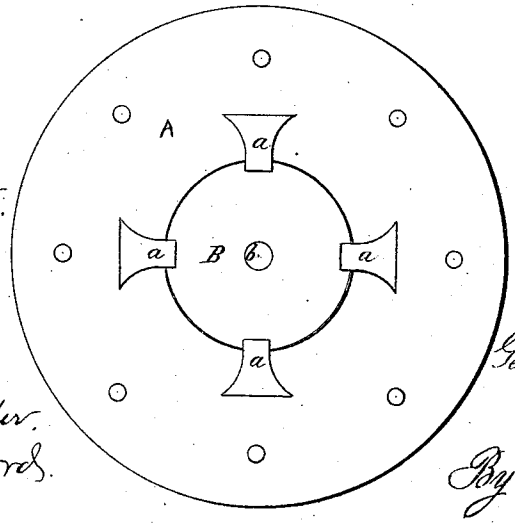


FIG. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE W. RENTON, OF BROOKLYN, ASSIGNOR TO GERTRUDE E. RAYMOND, OF NEW YORK, N. Y.

BOAT-PLUG.

SPECIFICATION forming part of Letters Patent No. 275,270, dated April 3, 1883.

Application filed January 15, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. RENTON, of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Boat-Plugs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has relation to that class of devices now known as "boat-plugs," and employed upon the bottoms of life and other boats for the purpose of allowing water to drain from the interior of the boat when it is swung upon davits, or otherwise elevated, and to close the opening when the boat is lowered into the water.

The objects of my improvements are to provide a simple, durable, and efficient boat-plug in which the valves and valve-seats are not so liable to become clogged as in former constructions, in which the automatically-moving valve is guided to its seat accurately when the boat is lowered into the water, and in which the upper or screw valve shall have a conical bearing and a protected seat, so as to effectually prevent incoming of water which may leak past the automatic or gravity valve, and in which the working parts shall be protected against damage during ordinary use.

To accomplish these objects my invention involves certain novel and useful arrangements or combinations of parts, peculiarities of construction, and details of manufacture, all of which will be herein first fully described, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is an axial section of my improved boat-plug, the valves being shown in opened position; and Fig. 2 is a similar view, showing the valves in closed position. Fig. 3 is a side elevation of the plug, wherein the valves are shown in opened position; and Fig. 4, a similar view, showing the valves in closed position. Fig. 5 is a plan of the bottom.

In all these figures like letters of reference, wherever they occur, indicate corresponding parts.

A is the main plate of the plug, intended to cover the opening in the bottom of the boat. It is securely screwed into place, so as to make a water-tight joint, and is preferably let into the bottom, flush with the upper surface thereof, so as to permit all of the water to drain out of the boat. Upon the under side of this plate are cast or otherwise formed suitable arms, as *a a*, the lower ends of which are turned inward toward the center of the opening in the plate, which ends catch the disk when it has dropped far enough to give sufficient opening for the water to pass freely, and hold and protect it in this position, to be closed again by the first pressure from beneath. Upon the upper surface is an interiorly-screw-threaded cylinder within which the screw plug or valve moves.

B is the float valve or disk, preferably made of cork or some light material, and covered with metal to afford strength and make a perfectly-tight joint. It is more or less inclined on its upper surface, so that it will be seated easily, quickly, and accurately, and the seat in the main plate is of course made to correspond.

C is the screw-valve, made inclined or conical at bottom, so as to be capable of being forced down firmly against its seat, and so as to form a close joint therewith all around, grinding out any sediment or foreign matter which may settle on the seat when the plug is open.

The float valve or disk has a stem, *b*, passing through a bridge, *c*, in the screw-valve, and this stem guides the float-valve always accurately to its seat, whether the screw-plug is turned up or down. The cylinder *d*, within which the threaded valve moves, is supported by three or more pillars or segments of the circle, leaving five-sixths or so of the circle open as a free way for the water to pass to the center opening in the main plate. After the screw-plug has been fitted in the cylinder it is held against accidental displacement by a pin, *e*, inserted from the exterior and entering a recess cut for it in the outer surface of the screw-plug. This pin prevents the plug from being withdrawn too far, and thus insures its being in place, ready to be turned whenever required. By this contrivance it is impossible to lose the cap. When the boat is out of wa-

ter both the valves are open, as shown in Figs. 1 and 3. When lowered into water the gravity-valve automatically closes and prevents any inflow. In case, after long use, the gravity-valve is not perfectly and entirely tight, the screw-plug is turned down and the opening thus effectually closed. The device thus constructed and arranged will be found to admirably answer all the purposes and objects of the invention, as previously stated.

I am aware that boat-plugs have before been provided with a hinged gravity-valve, and also that a hollow plug has been located outside of a cylinder bearing upon a raised leather seat. To these forms I make no claim; but,

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a boat-plug, the interiorly-threaded cylinder perforated at intervals, leaving standards around and outside of the valve-seat, and the exteriorly-threaded screw-plug having a conical end, said plug being movable up and down within the perforated cylinder, all combined and arranged substantially as and for the purposes set forth.

2. In a boat-plug having a float-valve and a screw-valve governing the central opening, the interiorly-threaded cylinder perforated at intervals, leaving standards for the protection of the valve-seats, substantially as and for the purposes set forth.

3. In a boat-plug, the conical float or gravity valve provided with a central stem passing through a suitable bridge or guide located in the screw-valve, and held in proper place by the arms connected with the main plate, substantially as and for the purposes set forth.

4. In a boat-plug having the two valves, the combination, with the exteriorly-threaded screw-valve and the interiorly-threaded perforated cylinder, of the securing-pin passing through the cylinder and arranged to prevent displacement of the screw-valve, substantially as and for the purposes set forth.

5. In a boat-plug, the conical seats for the two conical valves made in the bottom or main plate for the purpose of allowing all water in the boat to pass freely out, said plate having the interiorly-screw-threaded cylinder above for supporting the plug-valve, and the arms below for supporting the float-valve, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

GEORGE W. RENTON.

Witnesses:

GEO. W. PAYNTAR,

I. W. FRASER.