W. J. ADAMS.

BOAT PLUG.

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1,079,627.

Patented Nov. 25, 1913.

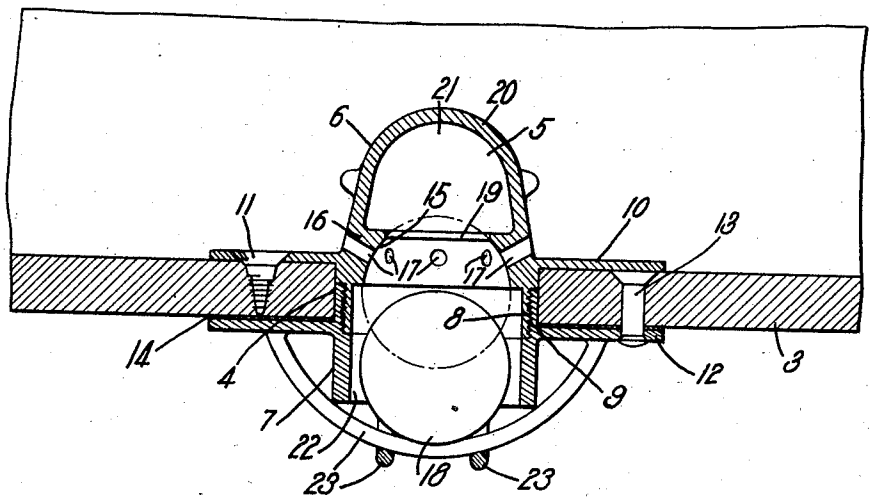


Fig. 1.

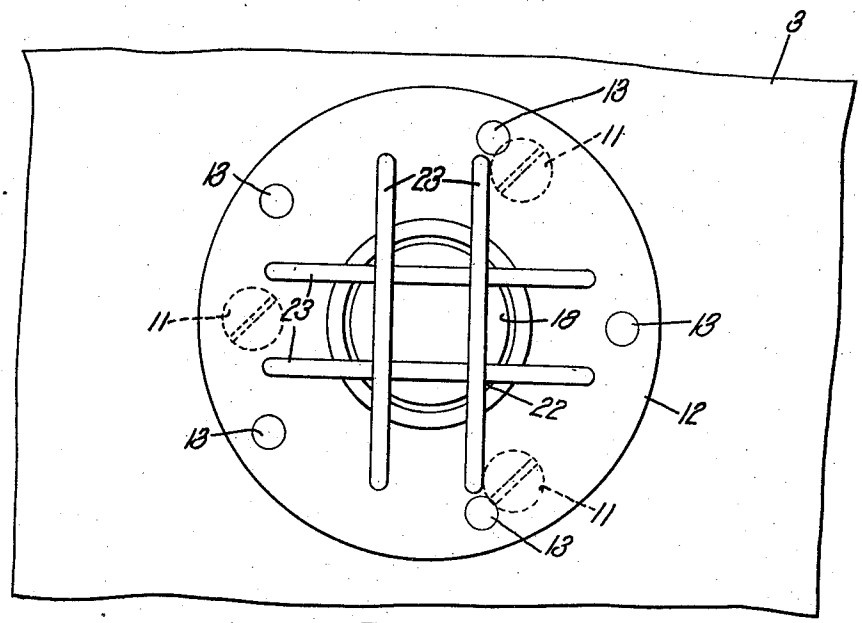


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

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BOAT-PLUG.

1,079,627. Specification of Letters Patent. Patented Nov. 25, 1913.

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To all whom it may concern:

Be it known that I, WILLIAM J. ADAMS, a citizen of the United States, residing at Newtonville, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Boat-Plugs, of which the following is a specification.

This invention relates to improvements in boat plugs of the self-acting type and has for its object to provide a plug which will be automatically closed immediately upon the touching of the water by the boat, when the same is launched, and remain closed until a certain amount of pressure is brought to bear upon the upper side of said plug or from the interior of said boat after said boat has been removed from the water, thus permitting any water which may be deposited in said boat either by rain or otherwise to be discharged immediately.

The object of the invention is further to provide a device which will permit dirt to be discharged therefrom without danger of clogging or rendering the device inoperative.

Still another object of the invention is to provide means for holding the float in its closed position against its own weight or for preventing said float from opening the discharge outlets of said device until a certain amount of water has collected in said boat.

The invention consists in the combination and arrangement of parts whereby the above objects and certain other objects hereinafter appearing may be attained, as set forth in the following specification and particularly pointed out in the claims.

Referring to the drawings: Figure 1 is a sectional elevation of a boat plug embodying my invention. Fig. 2 is an underneath plan view of the same.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 3 represents a portion of the planking of the bottom of a boat and 4 an opening extending therethrough. A casing 5 is formed in two parts, 6 and 7, which are arranged at opposite ends of said opening and secured in proper relation thereto by screw-threaded male and female members 8 and 9 on said members 6 and 7, respectively, engaging each other within said opening 4. The member 6 of said casing is preferably arranged within the boat and is provided with a flange 10 which engages the inner surface of the planking 3 and is prevented from being unscrewed from the member 7 by screws 11. The member 7 is also provided with a flange 12 which lies adjacent to the outer surface of the planking 3 about said hole 4, said flange 12 being permanently secured to the planking 3 by rivets 13, suitable packing 14 being interposed between the flange 12 and the outer surface of the planking 3 to prevent water from leaking therebetween.

One of the members of the casing 5, preferably the member 6, is provided with a concaved seat 15 formed in the annular rib 16, while extending from said seat through said member 6 to the interior of said boat are passages 17 inclining downwardly into said casing. A float 18, preferably constructed of cork to make it buoyant and spherical in shape, is arranged within the casing 5 and is adapted to be moved into contact with said seat 15 and to fit said seat, whereby the inner ends of said passages 17 will be completely covered and closed, and owing to the slight resiliency of said float the entire opening 19 through said annular rib 16 will be entirely closed.

The upper end of the portion 6 of the casing 5 is closed by a dome shaped end 20 forming a chamber 21 adjacent the rib 16 and for the purpose hereinafter set forth. The lower end of the portion 7 of the casing 5 is provided with an opening 22 which is larger in diameter than the float 18 thereby permitting said float to drop somewhat below the end of said casing. A guard 23 is arranged adjacent the lower end of said casing 5 across the opening 22 for the purpose of retaining said float within said casing. This guard is also hemispherically arranged and secured to the flange 12 to act as a fender for the projecting portion 7 of said casing, preventing injury to said casing from obstructions in the water, and of such a nature that all dirt which happens to be discharged from the interior of the boat through the passages 17 into the casing 5 will not be in the least retarded, but will pass out of said casing through the opening 22 and through the perforations formed in said guard.

When the boat is in use and resting in the water, or as it is being launched in the water, the float 18, which is of cork and especially treated to make the same waterproof, will be moved upwardly in the casing 5 from the lower position illustrated in Fig.

1 to the upper position in said figure, and as said boat settles to its proper level the weight or pressure upon said float will be sufficient to firmly wedge the same against the seat 15 and slightly protrude through the opening 19 into the chamber 21. By the movement just stated the float 18 will be tightly squeezed in place against said seat with the result that a slight suction of the air in the chamber 21, created by said squeezing movement, will retain said float in place against said seat even though the water pressure from below is removed and in this position said float will remain until a sufficient pressure of water has collected within the boat to act through the passage 17 against the upper surface of said float, whereupon said float will be forced downwardly against the guard 23. The slight suction above referred to prevents said float from rattling around when the boat, to which said device is attached, is tossed about in rough water producing an intermittent pressure upon said float from the exterior of said boat.

Although I have shown and described a float constructed of cork and treated to resist the action of the water thereon, I do not wish to limit myself to this particular material as any material having a suitable resiliency and adapted to resist the action of the water to a certain extent may be employed without departing from the spirit of the invention.

Having thus described my invention, what I claim and desire by Letters Patent to secure is:

1. A boat plug having, in combination, a casing open at one end, an annular rib disposed intermediate the ends of said casing, having a seat formed therein, said casing having a plurality of inclined passages extending therethrough and terminating at said seat, a float arranged within said casing adapted to be moved toward and away from said seat to open and close said passages, and a guard arranged adjacent the open end of said casing adapted to retain said float in said casing.

2. A boat plug having, in combination, a casing provided with an opening at one end thereof and a plurality of passages extending therethrough adjacent the opposite end of said casing, an annular rib in said casing having a concaved seat at which said passages terminate, a float arranged in said casing adapted to be moved by the pressure of water against the top or the bottom of said float to move the same toward and away from said seat to open and close said passages, and means arranged exteriorly of and adjacent the end of said casing adapted to retain said float therein and to protect the outer end of said casing.

3. A boat plug having, in combination, a pair of flanged members, one of said members having a hollow screw-threaded female member, the other of said members having a hollow screw-threaded male member adapted to engage said female member, an annular rib arranged within one of said members and provided with a concaved seat with passages extending from said seat to the exterior of said member, and a spherical float arranged within said members adapted to be moved to open or close said passage.

4. The combination with a boat provided with an opening in the bottom thereof of a casing formed in two parts, screw-threaded male and female members on said parts respectively adapted to be united within said opening and to draw said flanges against opposite faces of said boat, an annular rib in said casing provided with a concaved seat with passages extending therefrom outwardly to the exterior of said casing within said boat, a spherical float arranged in said casing adapted to engage and fit said seat, said casing also having an opening extending from the interior thereof to the exterior of said boat, and means to retain said float within said casing.

5. The combination with a boat having an opening in the bottom thereof of a casing secured within said opening and protruding therefrom into the interior of said boat, said casing having an opening at the outer end thereof, an annular rib arranged within and substantially midway of said casing having a concaved seat with passages extending from said seat through said casing to the interior of said boat, a float adapted to be moved to engage and fit said seat and to close said passages, said casing also having a chamber in the inner end thereof adapted to be closed when said float is engaging said seat and to assist in retaining said float in contact with said seat.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM J. ADAMS.

Witnesses:
SYDNEY E. TAFT,
LEONARD A. POWELL.

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