J. HARKER.

Self-Acting Scupper-Valve.

No. 218,263. Patented Aug. 5, 1879.

Fig 1.

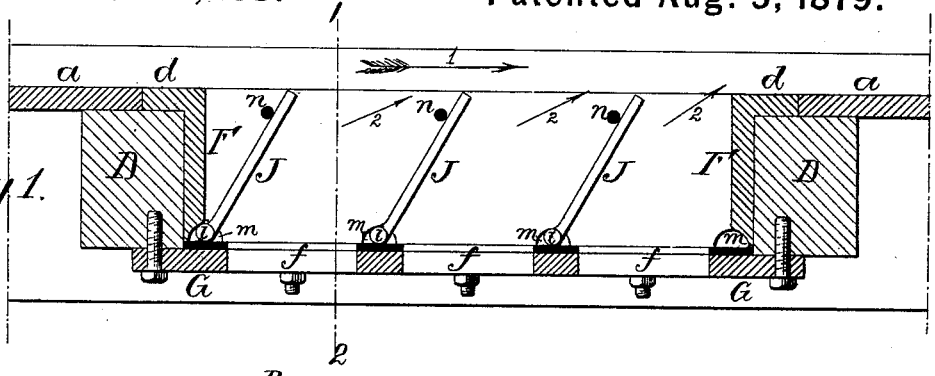


Fig 2.

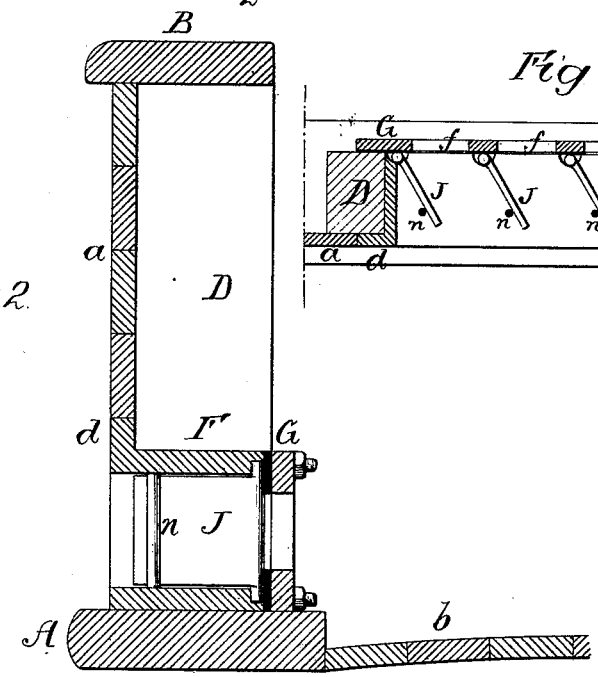


Fig 4

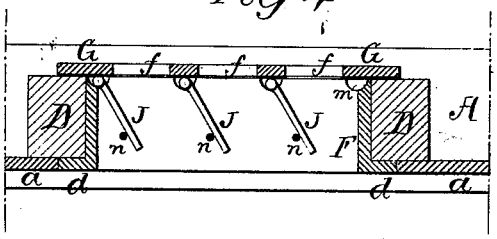
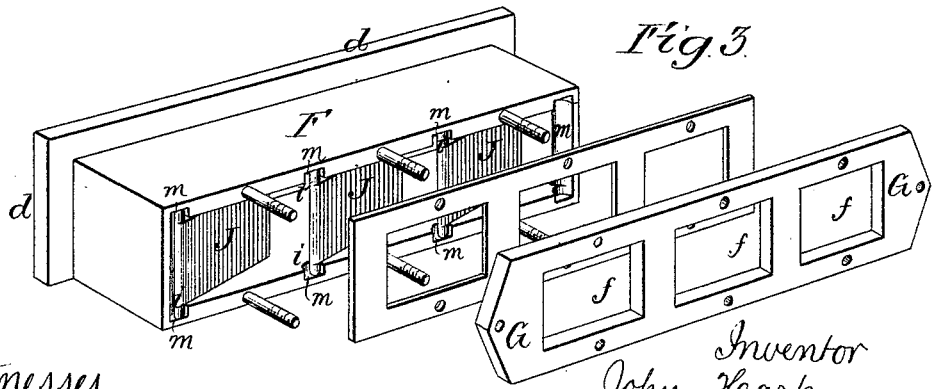


Fig 3.



Witnesses

Harry Smith

Inventor

John Harker

by his Attorneys

Howson and Son

UNITED STATES PATENT OFFICE.

JOHN HARKER, OF DORCHESTER, NEW JERSEY.

IMPROVEMENT IN SELF-ACTING SCUPPER-VALVES.

Specification forming part of Letters Patent No. **218,263**, dated August 5, 1879; application filed June 23, 1879.

To all whom it may concern:

Be it known that I, JOHN HARKER, of Dorchester, Cumberland county, New Jersey, have invented a new and useful Self-Acting Scupper-Hole Closer, of which the following is a specification.

The main object of my invention is to so construct self-acting scupper-hole closers as to insure a full and free discharge irrespective of the depth of water on deck, further objects being to simplify the construction of the device and to facilitate the ready application of the same to or its removal from the vessel.

These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional plan view of a portion of the starboard side of the vessel, showing the valved box or casing adapted to the scupper-hole; Fig. 2, a vertical section on the line 1 2; Fig. 3, perspective views of the parts of the scupper-hole casing detached from each other, and Fig. 4 a sectional plan view of the valved casing adapted to a scupper-hole on the port side.

A is the plank-sheer of the vessel; B, the rail; D, stanchions; *a*, waist-planks, and *b* deck-planks. The planks *a*, between the stanchions and adjacent to the plank-sheer A, are cut away for the reception of the box or casing F, which rests upon the plank-sheer, extends from one stanchion to the other, and has an outer flange, *d*, bearing against the stanchions. The inner end of the casing F is closed by a cover-plate, G, bolted to the said casing and to the stanchions D, and having a series of ports, *f*. A plate of rubber or other elastic material, having openings corresponding with the ports in the plate G, is interposed between the latter and the casing, and forms an elastic seat for the valves J, the latter consisting of plain flat plates, each having, at the front end, lugs *i*, which are adapted to recesses *m* formed in the top and bottom plates of the casing F. The lugs *i* thus form pintles, on which the valves swing, the outward movement of each valve being limited by a vertical rod, *n*, in the box or casing F. There are in the present instance three ports in the cover-plate G and three valves, J, in the casing F; and in order that the casing may be adapted to a scupper-hole in either the starboard or port side of the vessel, I make in said casing an extra set of recesses, *m*, so that the valves may be adapted to the casing either in the manner shown in Fig. 1 for a scupper on the starboard side, or in the manner shown in Fig. 4 for a scupper-hole on the port side.

In operation, the valves J will open and permit the escape of water from the deck whenever the level of water in the latter is higher than the level outside, and when the level of the water outside is higher than that on deck the valves will be closed and the entrance of water prevented.

When the valves are open the water escapes from all of the ports, whatever the depth of water on deck may be, and in this respect my invention differs materially from that class of scupper-hole closers in which the valves are arranged vertically one above another, so that when there is but a slight depth of water on deck but one valve is open, the next valve not opening until there is an increase in the depth of the water.

It will be evident that with my improved arrangement the deck of the vessel will be freed of water much more rapidly than with the arrangement just described.

Another feature of my invention is the pivoting of the valves J at the front ends, so that, even when the scupper-hole is submerged, or partially submerged, the rapid flow of water past the scupper-hole in the direction of the arrow 1 in Fig. 1 will tend to induce the valves to open to some extent and permit the passage of currents in the direction of the arrows 2, thus aiding in freeing the deck of water.

But little of the planking *a* need be cut away in order to accommodate the casing F, and the waist is not, therefore, materially weakened.

Although I have shown a detachable cover-plate, G, in connection with an open box or casing, F, and although I prefer this construction, the inner end of the box may be closed, and the ports *f* formed in this closed end of the box, if desired.

I am aware that scupper-hole closers, as I have already said, have been heretofore made with valves; but in such scuppers the valves have been arranged vertically one above

another, hung at their upper edges, and arranged to swing open at the lower edges. In my scupper-hole closer the valves are hung at their front ends, so as to insure the quick closing of the valves in the case of a sea striking the same, and to provide for the escape of water when the scupper-holes are submerged to some extent, such escape being induced by the rapid flow of water past the scuppers outside in the direction in which the valves open.

I claim as my invention—

1. The combination of the horizontal box or casing F, adapted to the scupper-hole, and having ports *f*, with the valves J, hung to the casing at their front ends and arranged in line longitudinally, so as to open at the after ends, as and for the purpose specified.

2. The combination of the casing F and its valves with the detachable cover-plate G, having the ports *f* formed therein, as set forth.

3. The combination of the casing F, having recesses *m*, the valves J, having lugs *i*, and the detachable cover-plate G, as specified.

4. The combination of the valves having lugs *i* with the casing F, having an extra set of recesses, *m*, whereby it is adapted for use either on the port or starboard side of the vessel, as set forth.

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

JOHN HARKER.

Witnesses:
WILLIAM J. COOPER,
HARRY SMITH.