R. EARNSHAW.

AUTOMATIC OUTLET VALVE FOR SHIPS' LIFE BOATS.

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1,125,824. Patented Jan. 19, 1915.

FIG. 1.

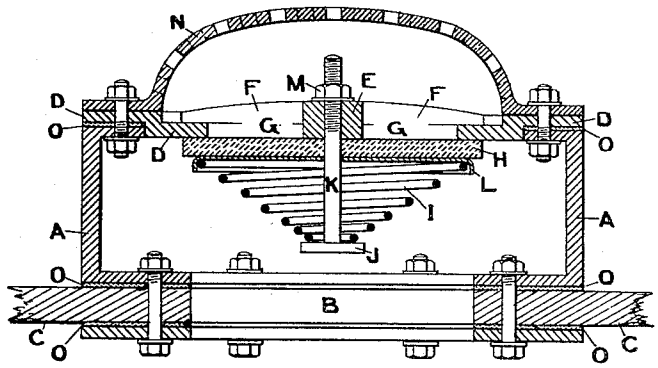
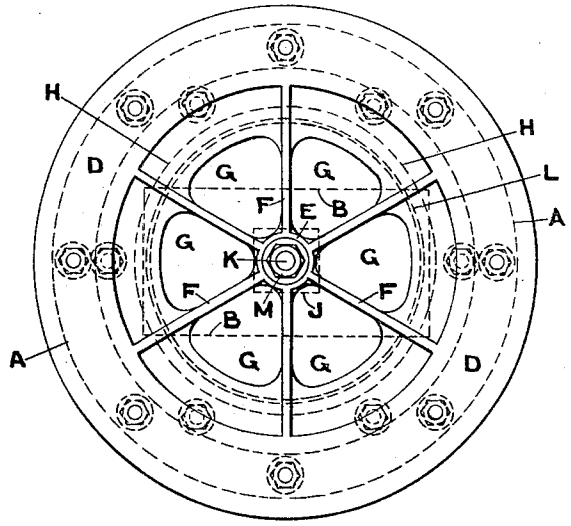


FIG. 2.



WITNESSES:

Allan Bennett.

Leslie Vernon Smith.

INVENTOR:

RICHARD EARNSHAW.

Per John E. Walsh

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RICHARD EARNSHAW, OF GOOLE, ENGLAND.

AUTOMATIC OUTLET-VALVE FOR SHIPS' LIFE-BOATS.

1,125,824. Specification of Letters Patent. Patented Jan. 19, 1915.

Application filed June 29, 1914. Serial No. 848,077.

To all whom it may concern:

Be it known that I, RICHARD EARNSHAW, a subject of the King of Great Britain and Ireland, residing at Goole, in the county of York, England, have invented a new and useful Improvement in Automatic Outlet-Valves for Ships' Life-Boats, of which the following is a specification.

This invention relates to an improvement in connection with ships' lifeboats, such improvement being designed to prevent or minimize the risk of the boat being swamped in a heavy sea.

The ordinary type of ship's lifeboat, if swamped and filled with water in a heavy sea, will float with the tanks and thwarts submerged, in which condition it is impossible to bail out the water and regain control of the boat.

The object of my present invention is to provide means whereby the buoyancy of the tanks may be utilized to expel a considerable proportion of the water within the boat, thus enabling effective bailing to be done for regaining and maintaining control of the boat.

According to my said invention the bottom of the boat is fitted with a special form of automatic outlet valve or valves, as hereinafter described and as illustrated in the accompanying drawing, in which—

Figure 1 is a sectional elevation of the appliance, and Fig. 2 is a plan of same with the perforated protecting cover removed.

An upright cylindrical casing A (say about 3¼ inches high and 11 inches wide) is first bolted down over the outlet hole B in the bottom C of the boat, this casing A having upper and lower internal annular flanges. Upon and within the upper flange is bolted a flat circular cover D having a central boss E carried by radial arms F, between which arms are a series of openings G controlled by a valve disk H seated on the underside of the flat cover. This valve disk H, which may be of india rubber or other suitable material, is fitted with a spring I, abutting at its lower end against the terminal head J of a central screw spindle K mounted in the boss E, and at its upper end against a suitably recessed loose back plate L fitted beneath the valve disk. The pressure of the spring I may be adjusted or varied according to requirements by means of the nut M.

The lifeboat is fitted with a suitable number of these automatic outlet valves, say two, four, or six, according to the size of the boat. Each valve in its normal position remains tightly closed by means of its spring. In case of the lifeboat being temporarily swamped, the buoyancy of the tanks causes the boat to rise sufficiently to automatically expel through the valves the greater part of the water contained within the boat, that is to say, the water lying above the thwarts, and above and about the upper part of the tanks, after which the valves automatically close again. The expulsion of this considerable proportion of the water from the boat renders effective bailing possible, with a reasonable chance of regaining perfect control of the boat, as the water remaining in the boat (after the opening and closing of the valves) is confined to the comparatively limited space between the lower part of the tanks.

The valve is fitted with a suitably perforated concave protecting cover N, which is correspondingly flanged for bolting on to the flat inner cover D. Suitable watertight packing rings O are provided at the various joints.

I claim:

An automatic outlet valve for ships' lifeboats, characterized by an upright cylindrical casing, a cover (having central boss, radial arms, and intermediate openings) secured upon said cylindrical casing, a valve disk seated on the underside of said cover, a spring for controlling said valve disk, a screw spindle device for adjusting said spring, and a perforated protecting cover, substantially as herein described, for the purpose specified.

RICHARD EARNSHAW.

Witnesses:
ALLAN BENNETT,
LESLIE VERNON SMITH.

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