(No Model.)

A. BOSSHARD.

VALVE FOR COLLAPSIBLE FLOATS.

No. 258,881. Patented June 6, 1882.

FIG. 1.

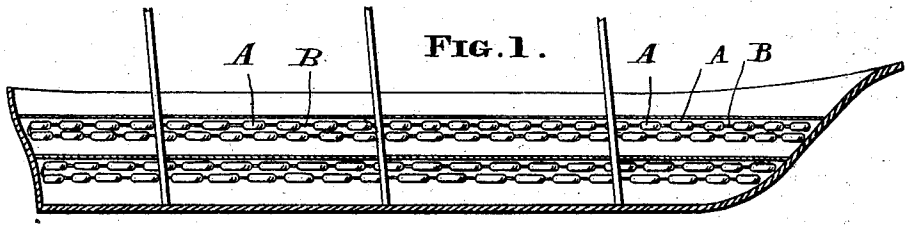


FIG. 2.

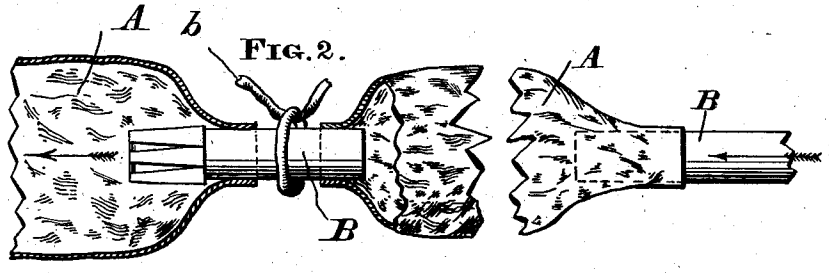


FIG. 3.

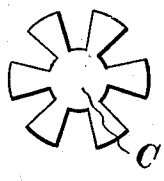


FIG 4

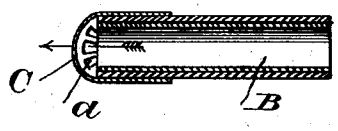
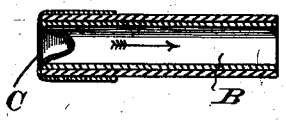


FIG 5



WITNESSES

Wilmer Bradford

Charles E. Sherry.

INVENTOR

Albert B osshard

By Lawrence Smith

Attorney.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ALBERT BOSSHARD, OF SAN FRANCISCO, CALIFORNIA.

VALVE FOR COLLAPSIBLE FLOATS.

SPECIFICATION forming part of Letters Patent No. 258,881, dated June 6, 1882.

Application filed January 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BOSSHARD, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented an Improved Means of Buoying and Preventing Ships from Becoming Water-Logged, of which the following is a specification.

The object of my invention is to provide a ready means for filling the empty spaces of a ship below the decks thereof with confined atmospheric air, so that said confined air will displace water which may have entered the ship or occupy the space which incoming water would naturally usurp when the ship has sprung a leak. I accomplish this object by the means illustrated in the accompanying drawings, in which—

Figure 1 is a central longitudinal section through a ship or vessel, showing the elastic sacks or bags in position. Fig. 2 is a sectional side elevation, partly broken away, of two adjacent sacks or bags and their connecting-tube. Fig. 3 is a plan view of the valve before being put in place. Fig. 4 is a longitudinal section through the valve and connecting-tube, the valve being shown open. Fig. 5 is a longitudinal section through the valve and connecting-tube, the valve being shown closed.

Similar letters of reference are used to designate like parts throughout the several views.

In carrying out my invention I construct a series of elastic sacks or bags, A, and connect them by means of metal or other tubes, B, the ends of each tube extending into the mouths of the opposed sacks, and thus the whole series are connected together. The inner end of each connecting pipe or tube is provided with a peculiarly-constructed valve. It consists of a fillet or piece of india-rubber or gutta-percha, C, provided with a disk or valve which is intact and of sufficient circumference to fit over the end of the bore of the connecting pipes or tubes. From this inner disk or valve extend radial arms and intermediate openings at suitable distances apart, and the whole is laid over the end of the tube and confined by the radial arms or flaps by any suitable means. The intact disk or valve C fits closely over the inner end of each of the tubes, so that when air is forced into the first tube this little sack or valve will expand inwardly and provide spaces *a* between the arms or flaps for the passage of air into the bag or sack, which, when sufficiently inflated, will open the succeeding valve, and so on to the end of the series of sacks until all have become filled with air which is being forced into the first sack of the line. It will thus be seen that as each sack is being filled the backward pressure of the incoming air will close the valve tightly over the end of the tubes and prevent any return or passage of the atmospheric air, and that each sack of the series is made independent of the others throughout the whole line.

The operation of these valves is best illustrated in Figs. 2, 4, and 5.

I prefer to arrange my air-bags in a double series or line from stem to stern along both sides of the vessel, just below the decks, as shown in Fig. 1. By this arrangement a more even keel can be kept than if a single line or series were employed, as the stem end of the lower series of buoys will be first fully inflated, which will keep the head or bow of the vessel up, and more especially would this be the case if the inflation be made by means of one pump only at the bow, or with the first one of the series of buoys of the upper line.

The pumps for inflating the buoys may be of any well-known simple construction and be connected with the first bag of the series at the bow; or several pumps may be connected along the whole line of buoys, within easy reach of the passengers or crew of the ship, the object being to effect a rapid and easy inflation of the whole system without delay. The bags are clewed up to the sides of the ship by lines *p*, so as to give room for inflation and prevent injury from the shifting of cargo.

It should here be observed that it is not my object to free a leaking or water-logged ship from water by forcing the same through the seams or other apertures through which it has gained or is gaining access to the interior of the hull or body of the ship, but by occupying with confined atmospheric air any vacant space in the vessel which would be occupied by the incoming water, and thereby preventing, for want of tenable space, the water from filling the vessel, or to displace the water after it has entered and filled, or nearly filled,

the vessel by forcing it out through the hatchways, dead-lights, or other openings by inflating the sacks or buoys, and thus keep the vessel afloat.

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

In a sack, bag, or buoy capable of being inflated with atmospheric air, the elastic valves provided with a disk or fillet fitting over the introduced ends of the pipes or tubes contained in said sacks or bags, and provided with radial holding arms or flaps and intermediate spaces, through which air is caused to pass when said valves are inflated, and adapted to be closed by the backward pressure of the air upon the said disks or fillets, substantially in the manner as herein set forth and specified.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 22d day of December, 1881.

ALBERT BOSSHARD. [L. S.]

Witnesses:
C. W. M. SMITH,
WILMER BRADFORD.