No. 651,319. Patented June 5, 1900.

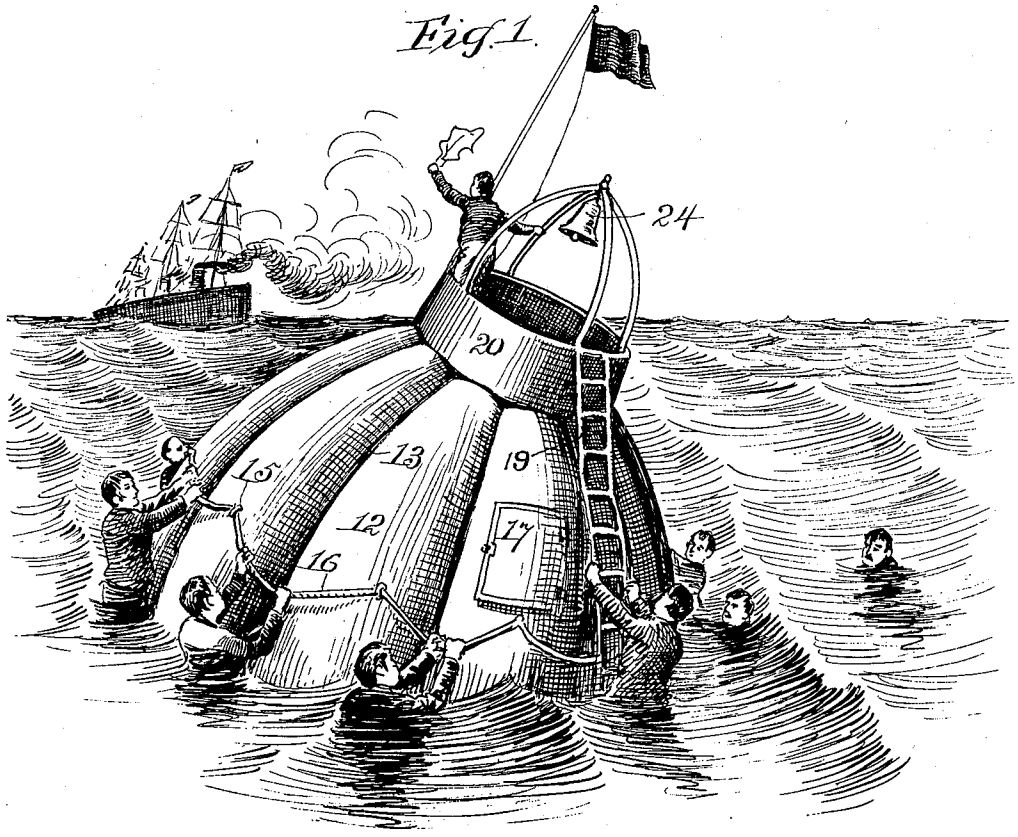
G. F. ABRAHAM.

MARINE SAFE AND LIFE BUOY.

(Application filed Sept. 7, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



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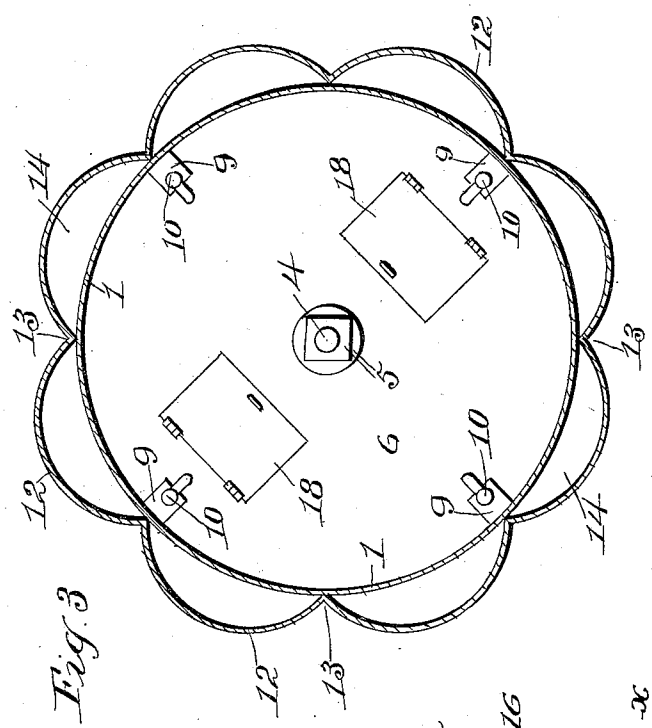


Fig. 3

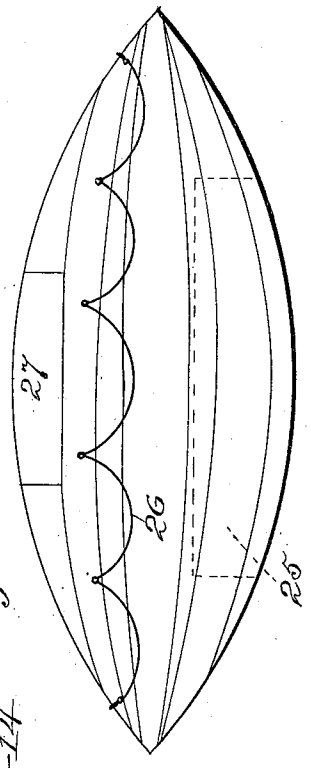


Fig. 4.

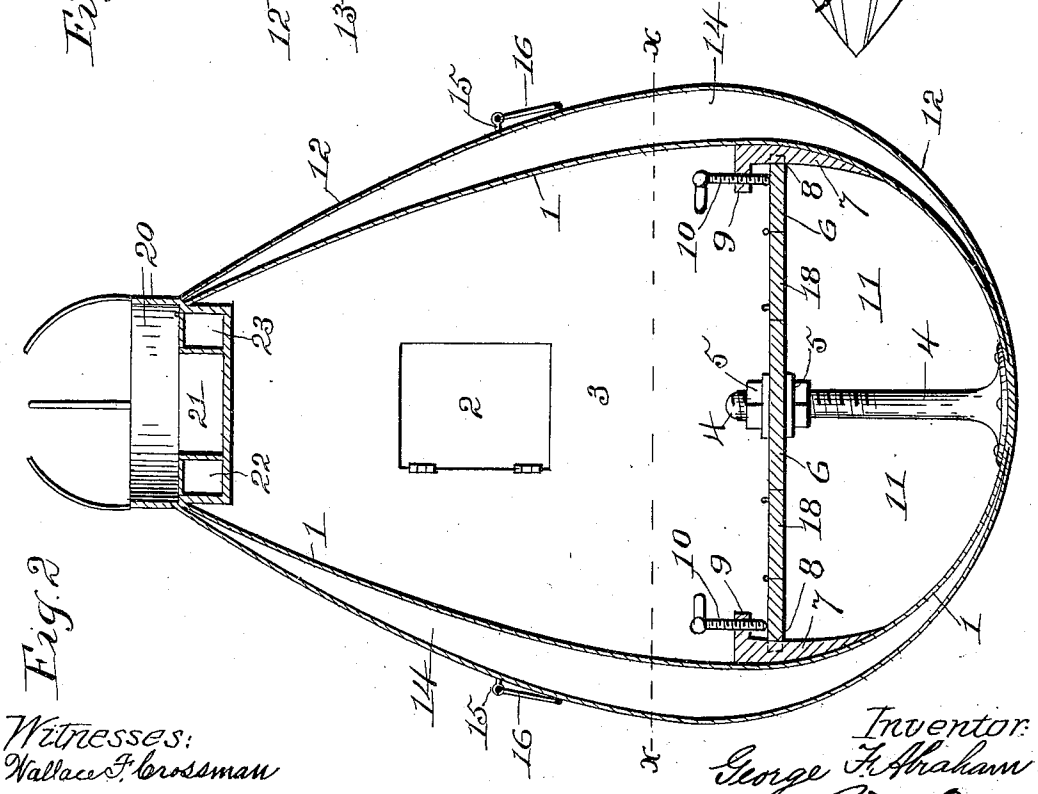


Fig. 2

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UNITED STATES PATENT OFFICE.

GEORGE F. ABRAHAM, OF BALTIMORE, MARYLAND.

MARINE SAFE AND LIFE-BUOY.

SPECIFICATION forming part of Letters Patent No. 651,319, dated June 5, 1900.

Application filed September 7, 1899. Serial No. 729,745. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. ABRAHAM, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Marine Safes and Life-Buoys, of which the following is a specification.

This invention relates to marine safes and life-buoys and is designed as an improvement on my patent issued May 13, 1873, No. 138,832.

The prime object of the invention is to provide an improved sea safe and life-buoy having an exterior shell of novel and peculiar shape, which when joined to the interior shell will form a series of separate and independent air-chambers. It is my purpose, therefore, in carrying out my invention to provide two shells of elliptical shape, the outer one of which is composed of a series of ribs which are curved, convexed, or arc-shaped at right angles to their length, the juncture of the several ribs forming a series of corrugations where they are joined to the inner shell to form a series of arc-shaped or concaved air-chambers, each of which is separate and independent of the other and from the interior of the inner shell, so that the outer surface of the safe is formed into an undulatory surface transverse to the length of the ribs extending from one end of the safe to the other, with the deepest concavity of the ribs at or about the water-line of the safe, thus making the air-chambers of greater resistance at or about where the ribs would most likely be struck.

In the accompanying drawings, forming part of this application, Figure 1 is a perspective view of the device in operation. Fig. 2 is a vertical sectional view. Fig. 3 is a cross-section on the line $x\ x$, Fig. 2. Fig. 4 is an elevation of a modification.

The same numeral references denote the same parts throughout the several views of the drawings.

The shape of the inner shell 1 is elliptical, or substantially so, having an outwardly-opening door 2, which forms the only opening in the shell 1 and the compartment 3. The bottom of the shell 1 has an upwardly-projecting stanchion 4, screw-threaded at its top and provided with lock-nuts 5, between which a floor 6 is held for adjustment. The inner wall of the shell 1 is provided with tongues 7, which fit notches 8 in the edge of the floor, so as to guide the latter in its adjustment on the stanchion, and the said tongues have an inward projection or ear 9, through which extend set-bolts 10 to assist in holding the floor in adjusted position. The floor forms a compartment 11, in which coin and other valuables are stored, and which, with the devices above described in the bottom of the shell, acts as a balance therefor, so that the shell will float in practically vertical or upright position.

The outer shell is composed of a series of hollow ribs 12, the same being concaved or arc-shaped in cross-section and extending from one end of the shell 1 to the other. The ribs are joined together and to the shell 1 to form corrugations 13 and air-chambers 14, the concavity of the ribs increasing in depth from the ends of the ribs toward the center of their length, so as to form the deepest portion of the air-chambers at or about the water-line of the safe. The ribs are each provided with an eye 15, in which a life-rope 16 is secured and extended around the safe, so that a hand-grasping portion hangs opposite each corrugation between the ribs, thus permitting a space between the hand-grasping portions of the rope and the shell for the arm or leg of a person in the water. One of the ribs is provided with a door 17 opposite the door 2, one of said doors folding to the right and the other to the left and both being water-tight. Through these doors and through a suitable trap-door 18 in the floor 6 the compartments 3 and 11 are reached, the former compartment being used for mail-matter and other like valuables and the latter, as before stated, for valuables of heavier weight. The compartment 11 is water-tight, so that should the compartment 3 be disabled the compartment will still hold its contents intact.

A suitable ladder 19 extends from the water-line to a flange or rail 20 around the top of the safe, and a space 21 in said top is left for a person to stand. A food-compartment or locker 22 and a water-locker 23 are also formed in the said top. A bell 24 is suspended from the said top and operated by the movement of the safe.

It is obvious that the shells may be con-

structed of any suitable material and that the several doors may be provided with a suitable burglar-alarm, if desired.

Referring to the modification shown in Fig. 4, the safe-shells are the same as those hereinbefore described; but the safe, which may be used as a steamer-trunk, is made to float or set lengthwise in the water, the stanchion is dispensed with, and a compartment 25 is formed in the bottom of the safe for heavy or balancing articles, while the life-rope 26 is secured lengthwise the safe, the latter having a suitable water-tight door 27. It is obvious that this device may be used by passengers as a trunk, and in case of disaster it may be thrown overboard and there be used as a life-buoy.

I do not wish to be understood as limiting myself to any particular material or size in the manufacture of the safe nor to the number of compartments or the number of air-chambers surrounding the compartments.

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

1. An elliptical marine safe, the outer shell of which is composed of a series of convexed ribs which follow in length the curve of the safe, and the inner shell joined to the ribs to form an air-chamber in each rib.

2. An elliptical marine safe, the exterior of which is composed of hollow ribs extending the length of the safe, said ribs being arc-shaped in cross-section.

3. An elliptical marine safe having inner and outer shells, the latter being composed of a series of elliptical ribs arranged together to form an undulating surface in a direction transverse to their length.

4. An elliptical marine safe having an inner shell, and an outer shell composed of vertically-disposed hollow ribs curved from end to end and outward from the inner shell to form a series of separate and independent air-chambers between the two shells.

5. The combination, with the inner shell, of the outer shell composed of a series of hollow ribs curving from each other and from their juncture with the inner shell to form a series of separate air-chambers which increase in depth from each end of the ribs to the center thereof, for the purpose set forth.

6. In a marine safe, the combination, with the inner shell, and the outer corrugated curved ribbed shell, of the vertical stanchion secured in the bottom of the inner shell and terminating therein with a screw end, the floor carried by the stanchion, and lock-nuts on the stanchion for adjusting the floor vertically.

7. In a marine safe, the combination, with the inner shell, and the outer corrugated ribbed shell, of the stanchion secured and terminating in the bottom of the inner shell, tongues on the inner shell having inward projections or ears, the floor having notches for the tongues and carried by the stanchion, the lock-nuts for adjusting the floor, and the set-bolts in said ears for holding the floor in adjusted position.

8. The combination, with an elliptical marine safe and life-buoy, the outer shell of which is composed of a series of ribs arranged together to form an undulating surface in a direction transverse to their length, of the life-rope attached to the ribs and having hand-grasping portions depending from the ribs opposite the deepest portion of the undulations, as set forth.

In witness whereof I hereunto set my hand in the presence of two witnesses.

GEORGE F. ABRAHAM.

Witnesses:
DOUGLAS G. HANSON,
WILBUR F. GERMAN.