

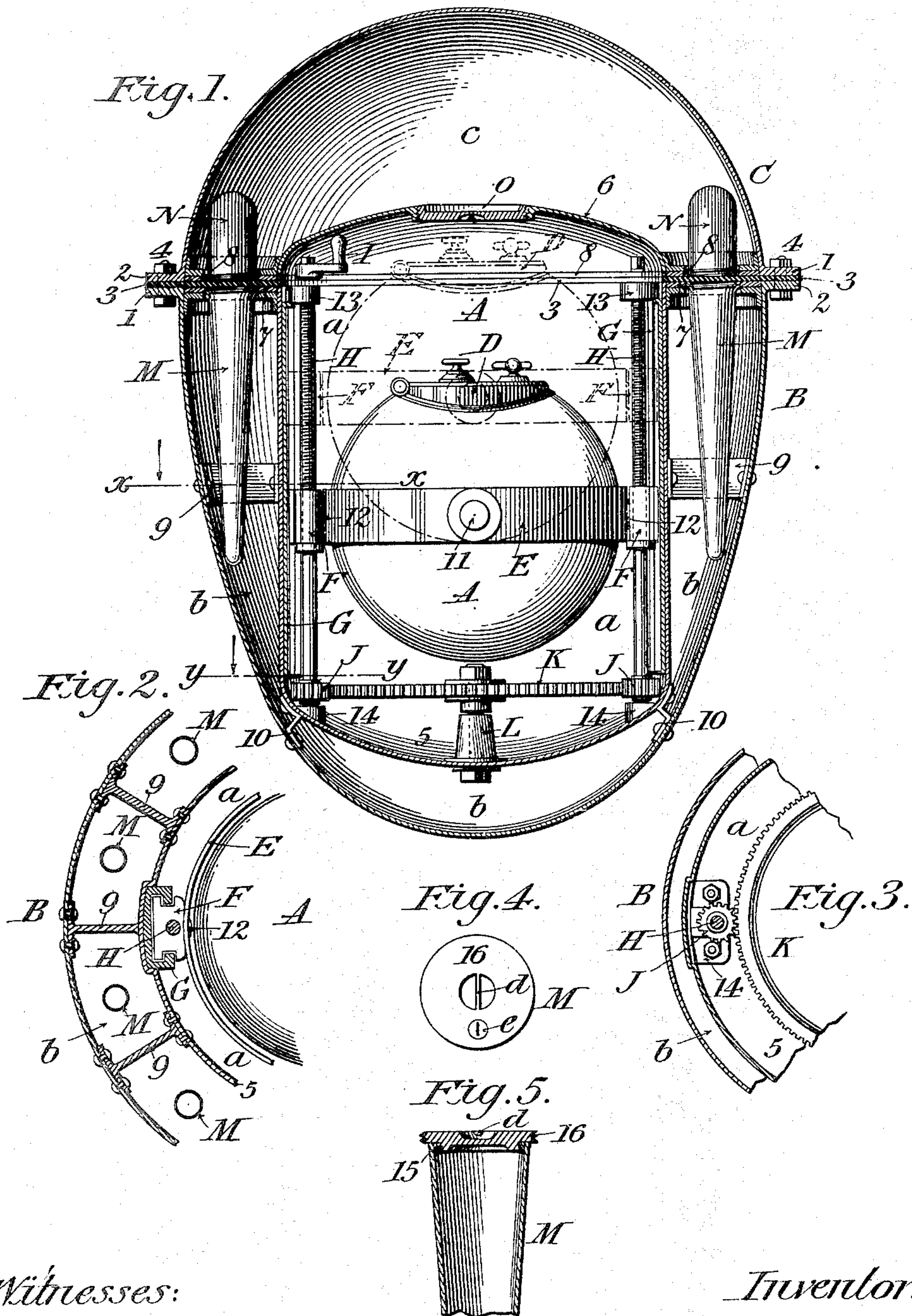
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T. G. HALL.
MARINE BUOY SAFE.

(Application filed May 18, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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MARINE BUOY-SAFE.

SPECIFICATION forming part of Letters Patent No. 640,282, dated January 2, 1900.

Application filed May 18, 1899. Serial No. 717,354. (No model.)

To all whom it may concern:

Be it known that I, THOMAS G. HALL, a citizen of the United States of America, and a resident of the borough of Brooklyn, in the city and State of New York, have invented a new and useful Improvement in Marine Buoy-Safes, of which the following is a specification.

This invention relates to the safe keeping of money, jewelry, and other valuables on shipboard in closed receptacles that will float if thrown overboard in case of fire or permitted to disengage themselves from sinking vessels.

The present invention consists in an improved marine buoy-safe preferably and conveniently ovoidal in external shape, with its larger end uppermost, containing a vertically-movable safe proper or inner receptacle to hold the principal store of valuables and to facilitate access to them at all times while the safe is in use on shipboard and to provide at the same time for the location of this principal load of the structure below its center of gravity and to securely retain the same in the position in which it is left; also, in certain novel combinations of parts whereby the outer shell is relieved from excessive strains due to the inertia of the relatively heavy inner receptacle and the motions of the waves, and provision is made for simultaneously working two or more elevating-screws from one or more points, and, finally, in means to utilize the buoyancy-spaces of the structure for the accommodation of safe-deposit lockers, so constructed and held in place as to render them supplemental safeguards against sinking in case the outer shell should in any manner be punctured, as by pounding on rocks.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 of the drawings is an axial vertical section of an improved marine buoy-safe embodying the invention. Fig. 2 is a fragmentary horizontal section on the line xx , Fig. 1. Fig. 3 is a fragmentary horizontal section on the line yy , Fig. 1; and Fig. 4 is a top view, and Fig. 5 a fragmentary longi-

tudinal section, of one of the supplemental lockers, detached, on a larger scale.

Like letters and numbers refer to like parts in all the figures.

The improved marine buoy-safe comprises as its main parts a central safe proper or inner receptacle A, normally below the center of gravity, and an outer shell, preferably and conveniently ovoidal in shape, composed of a body B and a cover or cap C, having circumferential joint-flanges 1 and 2 in a horizontal plane, with an interposed annular gasket 3 and clamping-bolts 4 or equivalent means for closing said outer shell water-tight and for opening the same at will. An inner chamber a for the accommodation of the receptacle A is concentric with the longitudinal axis of the outer shell B C and preferably of a substantially cylindrical shape, with its bottom and top in the form of flat arches. On all sides of said inner chamber air-spaces b and c are formed within the body B and cap C, respectively, sufficient to render the structure buoyant with its maximum load, as with the receptacle A full of gold, said air-spaces being so disposed as to insure an upright position of the structure in the water, with the cap C uppermost and the parting-joint between the body B and cap C at or above the water-level. The walls 5 and 6 of the inner chamber a are united with the outer walls of the body B and cap C by plate-rings 7 and 8, Fig. 1, immediately below and above said parting-joint between the body and cap, held in place by angle-bar or like tight seams, together with radial struts 9, Figs. 1 and 2, at mid-height, and knees 10, Fig. 1, at bottom, or equivalent stays within said air-space b .

The receptacle A is spherical or spheroidal in shape, with a door D at top having the customary or any suitable locking and opening and closing appliances, and is mounted by horizontal trunnions 11 in a gimbal-ring E, which is in turn pivoted by horizontal pivots 12, at right angles to said trunnions, to a pair of sliding screw-nuts F, Figs. 1 and 2. These nuts are guided by vertical ways G, attached to the inner wall 5, and coact with rotary screws H, having top bearings 13, Fig. 1, and

steps 14, Figs. 1 and 2, fixedly attached to said inner wall 5. A crank or cranks I provide for turning the screws H by hand. To provide for simultaneously turning both

5 screws by one or a pair of cranks, they are provided at bottom with pinions J, and a spur-wheel K, in mesh with both pinions, is mounted on a stud-shaft L, supported by the bottom of the inner shell 5 within the chamber *a*.

10 To further utilize the air-spaces *b* and *c*, supplemental receptacles or safe-deposit lockers M and N, in the form of water-tight capsules of sheet-copper or the like, open at one end and provided at this end with internal

15 screw-rings 15, Fig. 5, and screw-caps 16, Figs. 4 and 5, are inserted into said air-spaces *b* and *c*, respectively, through holes in said plate-rings 7 and 8, and fastened in the latter by interlocking screw-threads on the outer

20 periphery of each cap 16 and within the matching hole in either plate-ring. Each of the caps 16 is intended to be provided with a central flush cross-bar handle *d*, Figs. 4 and 5, by which to manipulate it, and a lock *e*,

25 Fig. 4, by which to secure it in place, and the series may be numbered or otherwise identified so that individual lockers or capsules may be rented to passengers for a voyage. To further utilize said air-spaces, the crown-sheet 6 of the walls of the inner chamber *a* is

30 provided with a central hand-hole O, having a removable cap which may be interchangeable with the cap of one of the lockers or capsules M or N, or a like receptacle, or may

35 simply afford access to the air-chamber of the cap C for the insertion of captured colors on a war vessel or other light articles of special value.

The inner receptacle A is normally in its

40 lowermost position, as shown in full lines in Fig. 1, and is elevated, as illustrated by the broken outlines of the nuts F, gimbal-ring E, and receptacle A, to afford convenient access to its interior. It is always lowered before re-

45 placing the cap C.

The spherical or spheroidal shape of the gimbal-supported inner receptacle precludes its direct contact with the screws H or inner walls 5 as the outer shell turns or tosses about

50 it, and the ovoidal shape of the outer shell adapts it to glance from any objects with which it may come in contact in the water, as also to spin in the water, and thus to tend to remain in the locality where it was dropped.

55 The location of its larger end uppermost provides for locating the parting-joint between the body B and cap C at or about the plane of the major transverse diameter, renders practicable the utilization of the air-spaces as

60 above described, and is otherwise preferable.

The improved safe is adapted to be made of the widest range of sizes or capacities suited for marine vessels of all grades from yachts to transatlantic steamers, with special

65 adaptation for the smaller sizes, owing to the absence of any necessity to admit a man

into the interior of the safe for its manipulation.

The inner receptacle or safe A may preferably be constructed of aluminium, so as to reduce its weight as much as possible. The material of the body B and cap C, or the former, at least, is preferably copper, so as to be at once of the requisite strength and free from liability to become fouled should the

70 safe remain afloat a long time before its recovery. The sheet metal of the bodies of the lockers M and N is also preferably copper, as aforesaid, owing to its ductility and toughness. Otherwise the various parts may be of

75 any suitable metals or alloys.

The air-spaces *b* and *c* may, if preferred, be filled with light cellulose or the like. Worm-and-gear or equivalent power mechanism may be introduced between the hand-

80 crank or hand-cranks I and the screws H, or an electric motor or the like may take the place of such hand-cranks. More than two of the screws H may be employed to further distribute the strain by uniting the nuts F

85 in the form of a second gimbal-ring, and other like modifications will suggest themselves to those skilled in the art.

Having thus described said improvement, I claim as my invention and desire to patent

90 under this specification—

1. A marine buoy-safe comprising a buoyant outer shell composed of a body portion and a cap with their parting-joint near the top of the structure and provided with a central chamber, an inner receptacle normally

100 located within the lower part of said chamber, and means for elevating said receptacle to facilitate access to its interior.

2. A marine buoy-safe comprising a buoyant outer shell, a vertically-movable inner receptacle, and means for raising and lowering said receptacle comprising parallel vertical screws, screw-nuts connected with said

105 inner receptacle, and means for turning said screws.

3. A marine buoy-safe comprising a buoyant outer shell, a vertically-movable inner receptacle, and means for raising and lowering said receptacle comprising parallel vertical screws, nuts coacting with said screws, connections between said nuts and receptacle, means for turning said screws, and connecting mechanism causing said screws to turn

110 in unison.

4. A marine buoy-safe comprising a buoyant outer shell, an inner receptacle and supports for said receptacle including a gimbal-ring with horizontal pivots at right angles to each other.

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5. A marine buoy-safe comprising a buoyant outer shell, a spheroidal inner receptacle, and supports for said receptacle including a gimbal-ring with horizontal pivots at right angles to each other.

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6. In a marine buoy-safe, the combination with a plate-ring forming an air-space bound-

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ary and provided with screw-threaded holes of lockers or capsules each comprising a body portion having an internal screw-ring and a cap which screws into said screw-ring and
5 also into one of said holes in said plate-ring.

7. In a marine buoy-safe a buoyant outer shell composed of a body portion and a cap with a substantially cylindrical inner chamber surrounded on all sides by air-chambers,

the top wall of said inner chamber forming a part of said cap, and provided with a normally-closed hand-hole, substantially as hereinbefore specified.

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