H. L. HAYFORD.

COLLAPSIBLE LIFE BOAT.

APPLICATION FILED OCT. 7, 1916. RENEWED AUG. 4, 1917.

1,265,195. Patented May 7, 1918.

FIG. 1.

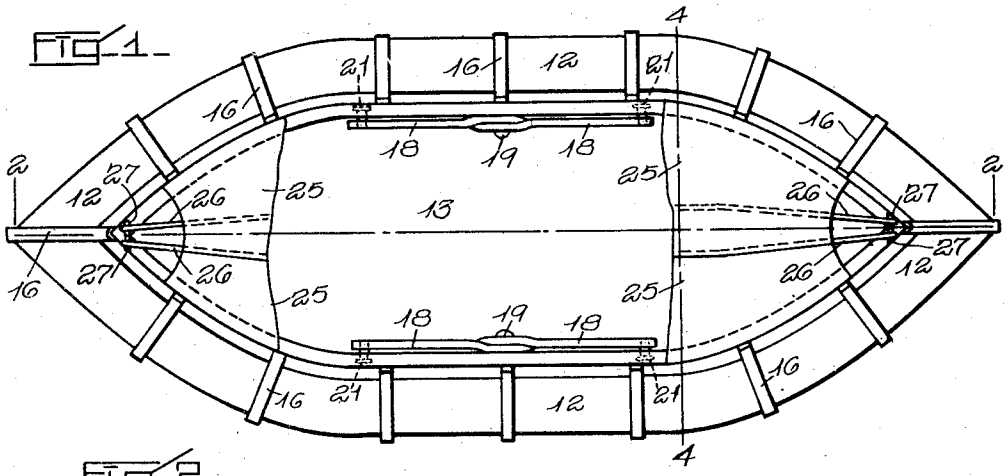


FIG. 2.

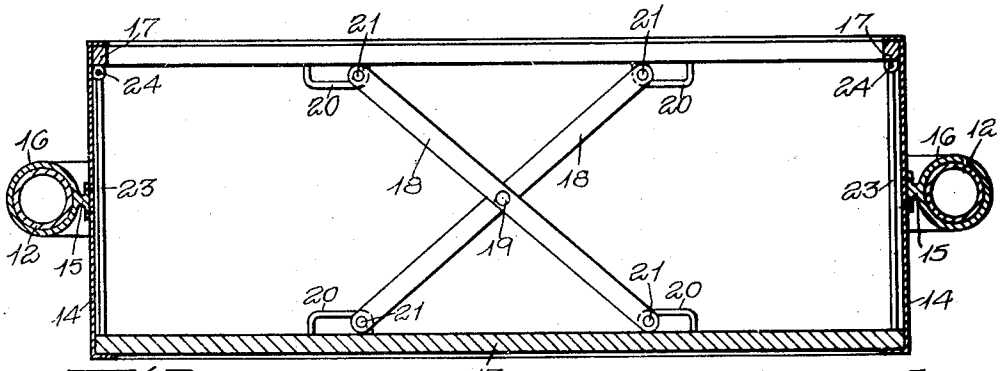


FIG. 3.

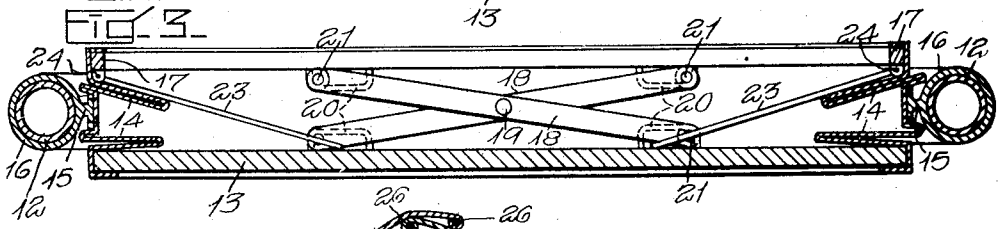
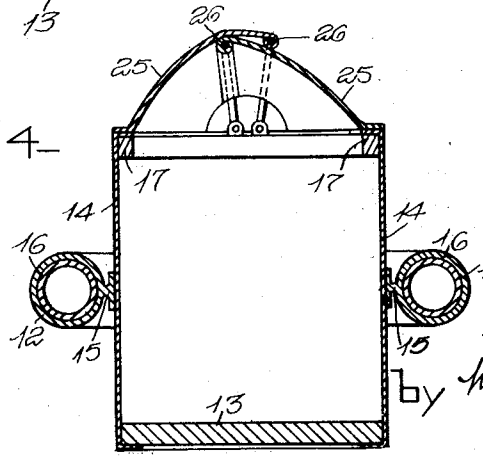


FIG. 4.



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COLLAPSIBLE LIFE-BOAT.

1,265,195. Specification of Letters Patent. Patented May 7, 1918.

Application filed October 7, 1916, Serial No. 124,284. Renewed August 4, 1917. Serial No. 184,538.

To all whom it may concern:

Be it known that I, HOWARD L. HAYFORD, a citizen of the United States, residing at Whitman, in the county of Plymouth and State of Massachusetts, have invented new and useful Improvements in Collapsible Life-Boats, of which the following is a specification.

This invention relates to life saving devices adapted to be stored in compact form on a ship and to be expanded to operative form when launched.

The invention is embodied in a life boat comprising a stiff bottom, a collapsible wall or curb attached at its lower edge to the bottom, and provided with a stiffened upper edge, said curb being adapted to be erected and form a vertical wall surrounding the space above the bottom, an open or frame-shaped float surrounding the curb and attached thereto between said bottom and the upper edge of the curb, the curb being collapsible to bring its upper edge and the bottom in close proximity to the float, and automatically acting means operable by a downward movement of the bottom due to the weight of passengers thereon to raise the upper edge of the curb. The boat is adapted to be deposited in a collapsed condition upon the water and the arrangement is such that when the float is supported by water the weight of the passengers standing on the bottom will depress the bottom and at the same time raise the upper edge of the curb, and thus form a water-tight wall surrounding the space above the bottom.

The invention is also embodied in a cover composed of sections hinged to the upper edge of the curb and adapted to protect the occupants of the boat.

Of the accompanying drawings forming a part of this specification:

Figure 1 represents a top plan view of a boat embodying my invention, portions of the cover being broken away;

Fig. 2 represents a section on line 2—2 of Fig. 1;

Fig. 3 represents a view similar to Fig. 2, showing the boat collapsed;

Fig. 4 represents a section on line 4—4 of Fig. 1.

The same reference characters indicate the same or similar parts in all the views.

In the drawings, 12 represents an open frame-shaped float preferably of the elliptical form shown by Fig. 1, said float being of any suitable construction. For example, the float may be of metal tubing hermetically closed, or it may comprise a shell not necessarily water-tight filled with cork or other buoyant material. 13 represents a bottom of sufficient stiffness to sustain the weight of a number of passengers without being bent or buckled thereby. 14 represents a flexible waterproof curb, which may be constructed of canvas suitably waterproofed, the lower edge of the curb having a water-tight connection with the margin of the bottom 13.

The curb is securely connected between its upper and lower edges with the float 12 in any suitable way. As here shown, I connect a narrow flange or frame 15 with the float by means of bands 16 attached to the flange and encircling the float, the flange projecting inwardly from the inner surface of the float and being firmly attached to the curb about midway between its upper and lower edges.

The upper edge of the curb is stiffened preferably by a continuous frame or stiffening member 17.

When the boat is collapsed as shown by Fig. 3, the bottom 13 and the stiffened upper edge of the curb are in close proximity to each other and to the float.

I have provided curb-erecting means which act automatically when the float is deposited in a collapsed condition upon the water to erect the curb and cause it to surround the space above the bottom, as indicated by Figs. 1, 2 and 4, said means being preferably embodied in two pairs of crossed levers 18, the levers of each pair being centrally pivoted together at 19. The lower ends of the levers are slidingly engaged with the bottom 13 and the upper ends of the levers are slidingly engaged with the stiffening frame 17. The preferred connections between said levers and the bottom of the frame are preferably embodied in members 20 attached to the bottom and stiffening frame and coöperating with said parts to form longitudinal slots and studs 21 projecting from the ends of the levers 18 into the said slots.

When the body is deposited in a collapsed condition on the water and passengers take their place on the bottom, the weight of the passengers depresses the body and at the same time causes the levers 18 to raise the upper edge of the curb, so that the curb as

a whole assumes the erect form shown by Fig. 2, the bottom 13 being depressed below and the stiffened upper edge being elevated above the float.

To maintain the curb in its erected position I provide struts 23, which are hinged at 24 to the stiffening frame 17 and are arranged to stand in a vertical position and bear on the bottom 13 when the curb is erected, as shown by Fig. 2. When the boat is collapsed the struts are inclined as shown by Fig. 3.

25 represents cover sections of flexible material, such as canvas, attached at their outer edges to the stiffening frame 17, and at their inner edges to curved metal rods 26, which are hinged at 27 to the stiffening frame 17. Said sections are adapted to be swung inwardly over the curb by the occupants of the boat, to shield the occupants from the weather.

Having described my invention, I claim:

1. A life boat comprising a stiff bottom, a collapsible wall or curb attached at its lower edge to the bottom, provided with a stiffened upper edge, and adapted to be erected to surround the space above said bottom, an open or frame-shaped float surrounding the curb and attached thereto between said bottom and upper edge, the curb being collapsible to bring its upper edge and the bottom into close proximity to the float, and erecting means operable by a downward movement of the bottom to raise the upper edge of the curb.

2. A life boat comprising a stiff bottom, a collapsible wall or curb attached at its lower edge to the bottom, provided with a stiffened upper edge, and adapted to be erected to surround the space above said bottom, an open or frame-shaped float surrounding the curb and attached thereto between said bottom and upper edge, the curb being collapsible to bring its upper edge and the bottom into close proximity to the float, and crossed levers pivoted together centrally and slidingly engaged at their ends with the bottom and with the stiffened edge of the float, and operable by the depression of the bottom to raise the upper edge of the curb.

3. A life boat comprising a stiff bottom, a collapsible wall or curb attached at its lower edge to the bottom, provided with a stiffened upper edge, and adapted to be erected to surround the space above said bottom, an open or frame-shaped float surrounding the curb and attached thereto between said bottom and upper edge, the curb being collapsible to bring its upper edge and the bottom into close proximity to the float, erecting means operable by a downward movement of the bottom to raise the upper edge of the curb, and struts hinged to the upper portion of the curb and adapted to bear on the bottom when the curb is erected.

4. A life boat comprising a stiff bottom, a collapsible wall or curb attached at its lower edge to the bottom, provided with a stiffened upper edge, and adapted to be erected to surround the space above said bottom, an open or frame-shaped float surrounding the curb and attached thereto between said bottom and upper edge, the curb being collapsible to bring its upper edge and the bottom into close proximity to the float, erecting means operable by a downward movement of the bottom to raise the upper edge of the curb, and a cover composed of two flexible sections connected with the longitudinal edges of the curb and adapted to meet and overlap above the space surrounded by the curb, and curved metal rods engaged with the meeting edges of said sections and hinged to the stiffened edge of the curb.

In testimony whereof I have affixed my signature.

HOWARD L. HAYFORD.

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