

(No Model.)

2 Sheets—Sheet 1.

H. T. WRIGHT.

LIFE BOAT.

No. 389,915.

Patented Sept. 25, 1888.

Fig. 1.

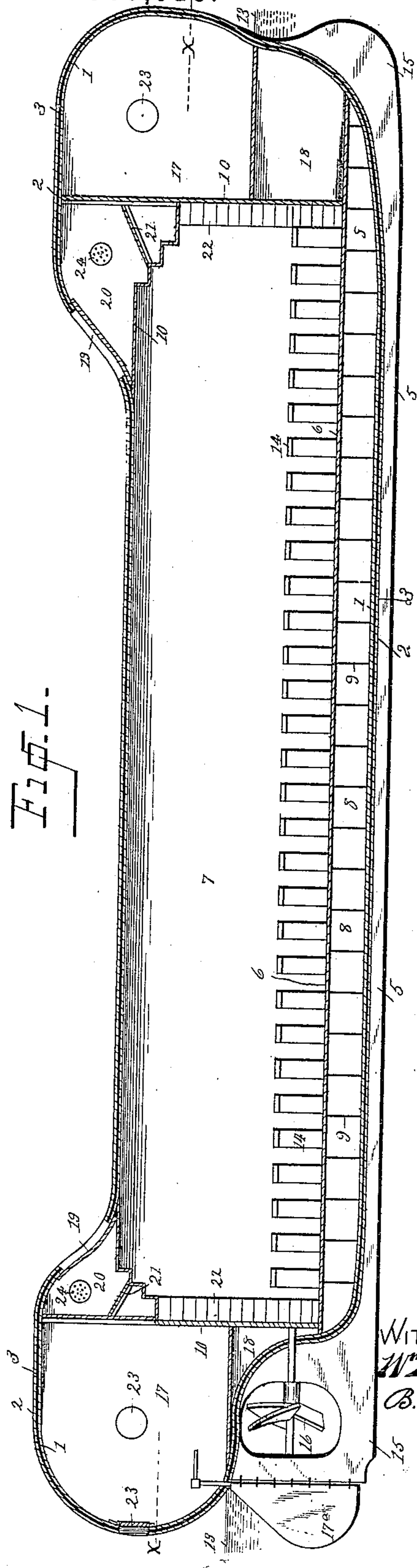
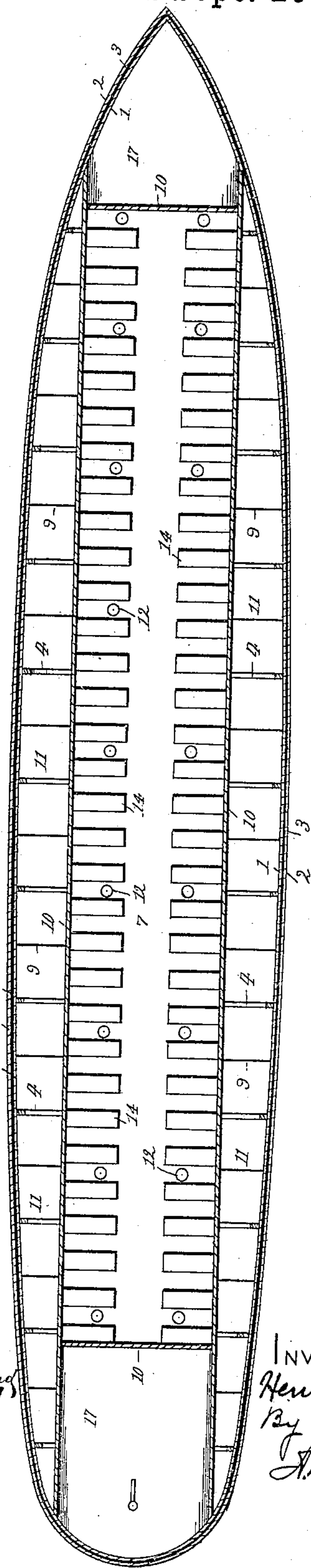


Fig. 2.



WITNESSES

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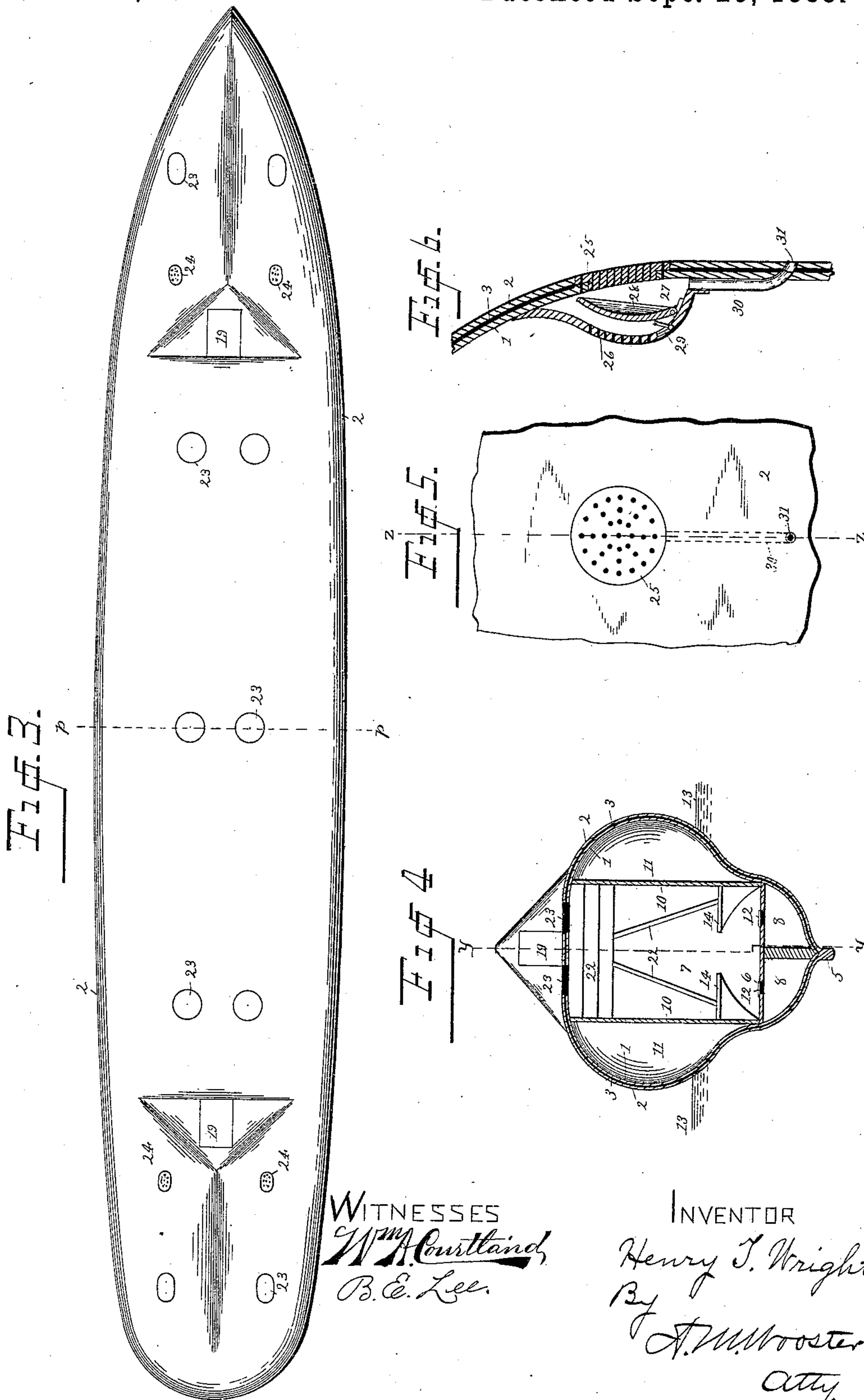
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# UNITED STATES PATENT OFFICE.

HENRY T. WRIGHT, OF WALDEN, NEW YORK.

## LIFE-BOAT.

SPECIFICATION forming part of Letters Patent No. 389,915, dated September 25, 1888.

Application filed November 2, 1887. Serial No. 254,033. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY T. WRIGHT, a citizen of the United States, residing at Walden, in the county of Orange and State of New York, have invented certain new and useful Improvements in Life-Boats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to produce a covered life-boat which shall be thoroughly water-tight and at the same time well ventilated, shall be thoroughly safe under all circumstances, always ready for use, and which shall be so constructed that when used from a vessel the passengers may take their places within it and the boat be closed before it is launched. With these ends in view I have devised the novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to denote the several parts.

Figure 1 is a vertical longitudinal section, the line being indicated by *yy* in Fig. 4, looking toward the right. Fig. 2 is a horizontal section on the line *xx* in Fig. 1; Fig. 3, a plan view of the boat closed as in use; Fig. 4, a transverse section on the line *pp* in Fig. 3; Fig. 5, an enlarged elevation of one of the ventilators, and Fig. 6 a detail section on the line *zz* in Fig. 5.

In building my improved life-boat I follow substantially the lines shown in the drawings, although I do not wish to be understood as limiting myself to any special lines of contour. The entire hull and the deck are preferably made continuous, as shown in the drawings, although, if preferred, the deck may be made of wood.

It is an important feature of my invention that with the exception of the bow, which is of course, made sharp, all angles are avoided in the contour of the boat both above and below the water-line, so that the blows of the waves in a rough sea are deflected and their full force is not felt by the boat.

I preferably form the hull from sheets of metal, ordinarily copper, an important feature being the use of an inner shell, (denoted by 1,) an outer shell, (denoted by 2,) and an interme-

diate layer, 3, of rubber or other suitable elastic water-proof material.

4 denotes ribs, of either metal or wood, which extend upward in the usual manner from the keel 5 and give strength and rigidity to the hull. The keel (see Fig. 4) extends upward within the hull, forms a support for the floor 6 of the main compartment 7, and also divides the space under the floor into longitudinal compartments 8. These longitudinal compartments are subdivided into any number of independent air-tight compartments by cross-walls 9, preferably of metal.

10 denotes the walls of the main compartment, and 11 longitudinal air-tight compartments between the main compartment and the sides of the boat. Compartments 11 are subdivided into any number of independent compartments by cross-walls 9 in the same manner as the longitudinal compartments under the floor.

In the construction of my improved life-boat I ordinarily make the side compartments, 11, without connection with each other or with the main compartment, although air-tight doors may be provided into the main compartment, if preferred. Compartments 8, under the floor, are provided with air-tight doors 12, which may be made in any suitable manner, either to lift or slide. These compartments are intended for the storage of provisions, water, and any other material that it may be desirable to place on board. Porcelain-lined water-tanks are provided in one or more of these compartments, which should be kept constantly filled, and from which water may be drawn by a simple pump or by a spigot extending into the next compartment. These are details of construction that are wholly within the province of any skillful boat-builder.

13 denotes the water-line of the boat when moderately loaded, and 14 seats in the main compartment for the occupants.

The placing of the weight below the water-line is an important feature of my invention and preserves the equilibrium of the boat under all circumstances. In building the boat a suitable lead or other ballast is placed in the keel, and additional ballast is placed in compartments 8, as may be found necessary, dependent, of course, upon the special use for which the boat is intended.



It will of course be understood that these boats are equally well adapted for use from vessels in mid-ocean or from life-saving stations, and that the details of ballast and loading the boat are matters that must be regulated to a certain extent by the circumstances of the use.

15 denotes solid projections at the bow and stern, which receive the force of the blow when the boat is driven on shore.

16 denotes a screw, which is provided for use when necessary. I have shown no motive power, as it may be operated by compressed air, an electric motor, or by hand-power.

15 In use a mast is provided, which may be rigged in the usual or any preferred manner, and from which signals may be displayed. I have not deemed it necessary to illustrate this feature in the drawings, as the details of arrangement are matters wholly within the province of the builder.

17 denotes look-out compartments at the bow and stern of the boat, which are wholly above the water-line and are intended for the storage of nautical instruments for making observations, steering, and the general use of those having charge of the boat, the rudder (denoted by 17<sup>a</sup>) being manipulated in any suitable manner from one of these compartments.

18 denotes other air-tight compartments under the floor of compartments 17, which may be used in the same manner as compartments 17, or for any purpose for which they may be required.

Passengers enter the boat from the deck through doors 19, which lead into compartments 20. These doors may either swing or slide, as may be preferred, but are necessarily made water-tight. In order to give sufficient height in compartments 17 for making observations and for convenience in entering compartments 20, I preferably raise the deck at both ends of the boat, as clearly shown, sloping it off on each side and toward the center of the boat.

21 denotes water-tight doors between compartments 20, and 22 stairs which lead down to the floor of the main compartment.

23 denotes windows, which may be suitably placed in the deck and sides of the boat above the water-line.

24 denotes ventilators, which may be suitably placed in different parts of the boat, the special construction of which I will now describe.

25 is a plate having suitable perforations, which is secured in the hull of the boat.

26 is a dish-shaped inner plate, somewhat larger than plate 25, which is provided with similar perforations, and is secured on the inner side of the hull, a chamber, 27, being formed between said plates. Air enters this chamber freely from the outside through the openings in plate 25 and passes into the vessel through the openings in plate 26, the foul air passing out in the same manner. 28 is a valve in this chamber, which is adapted to

cover closely the openings through plate 26. A spring, 29, however, acts to hold the valve away from the plate under ordinary circumstances. Should a wave strike the ventilator and water pass through the openings in plate 25, instead of passing through the corresponding openings in plate 26, it strikes the valve and closes said openings.

30 is a drainage-pipe leading from the bottom of chamber 27, which carries the water off into one of the lower compartments or through the side of the vessel. If the latter construction is adopted, as shown in the drawings, a suitable flap-valve, 31, is used, which closes the pipe effectually against the entrance of water from the outside.

It should be understood, of course, that the windows are made to open when it is safe to do so, so that ample ventilation is provided at such times. The ventilators are used at all times, but are not depended upon to furnish the entire supply of air, except in very rough weather. The external air at such times, of course, enters the ventilators freely; but the entrance of water is effectually cut off, as already explained.

The operation of my improved life-boat may be briefly explained as follows: The passengers enter at doors 19 and pass into compartments 20. Doors 21 are of course open at this time, so that the persons entering can pass down stairs 22 into the main compartment. (Denoted by 7.) After the passengers have all taken their places in the main compartment and the provisions, water, instruments, &c., have been placed on board, doors 19 and 21 are closed, and all of the windows, of course, closed. The boat is then ready to be launched, which may be effected in any manner, as by lowering it from davits or shoving it off from the deck. The passengers, of course, have to hold fast when the boat is launched; but it is a matter of no consequence whatever whether it goes under water or not. Even if it passes entirely under water when launched it is impossible for any of the water to enter the boat. It comes to the surface in an instant, and is perfectly balanced at all times by the adjustment of the weight and ballast at or near the bottom of the boat. As already stated, the vessel may be propelled either by sails rigged upon a mast or by a screw, or it may be left to float in the path of passing steamers, suitable signals being exhibited both by day and night for the purpose of attracting attention.

Boats made in this manner are very light in proportion to their size. The use of an intermediate layer of rubber between the inner and outer shells of the hull gives the greatest possible strength, combined with lightness, buoyancy, and the ability to withstand rough usage and pounding upon rocks, and the longitudinal air-tight compartments on opposite sides of the main compartment render the boat able to ride the heaviest waves without danger.

It will of course be understood that the details of construction may be widely varied with-



out departing from the principles of my invention.

I claim—

1. In a life-boat, a hull shaped as described, 5 having a narrow and deep central portion for carrying the weight, and bulging outwardly at the water-line, said outwardly-extending portions being provided with air-tight compartments, as set forth.

10 2. The herein-described life-boat, having the floor 6 below the water-line, in combination with the keel 5, extending up within the hull, meeting and supporting said floor, and forming therewith and with the hull the two air-tight compartments 8 8, substantially as set 15 forth.

3. In a life-boat, the hull constructed, as described, with the central longitudinal compartment, 7, having its floor below the water-line 20 and inclosed above by the rounded deck, and the forward and after compartments 17, extending above said deck, inclosed by the raised and inclined portions of the hull, and provided with the entrance-doors 19, substantially as 25 set forth.

4. A life-boat having the central longitudinal compartment or cabin, 7, inclosed by the rounded deck and having its floor 6 below the water-line, the two series of seats 14, having 30 their tops below the water-line, and the side air-tight compartments, 11, said parts being arranged, substantially as set forth, for combined buoyancy and stability.

5. In a life-boat, the hull inclosed by the

rounded deck, substantially as described, said 35 hull and deck being constructed of the inner and outer shells, 1 and 2, of metallic plates, and the interposed elastic stratum 3, substantially as set forth.

6. In a life-boat, the combination, with the 40 hull and a perforated plate, 25, secured therein, of a perforated dish-shaped plate larger than plate 25, which is secured to the inner side of the hull, a valve between said plates adapted to cover the openings in the inner 45 plate, and a spring acting to hold the valve away from said openings, so that air is permitted to pass freely, but water from the outside acts to carry the valve against the inner openings, thereby preventing the entrance of 50 water into the boat.

7. The combination, with the hull and a perforated plate, 25, secured therein, of a perforated dish-shaped plate larger than plate 25, which is secured to the inner side of the hull, 55 a valve between said plates adapted to cover the openings in the inner plate, a spring acting to hold the valve away from said openings, so that air is permitted to enter, but the passage of water through the inner plate is prevented, and a drainage-pipe, whereby water 60 entering between the plates is conducted away.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY T. WRIGHT.

Witnesses:

THOMAS W. BRADLEY,  
JAMES G. FLOOD.