[98.]

PETER R. BEAUPRE.

Improvement in Life Boats.

No. 118,580. Patented Aug. 29, 1871.

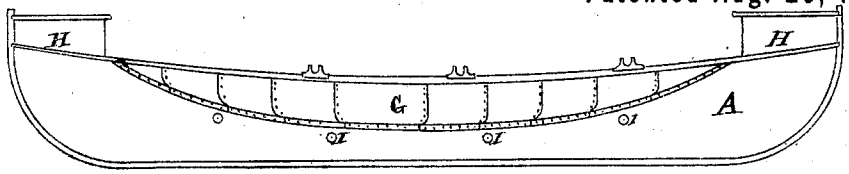

Fig. 1

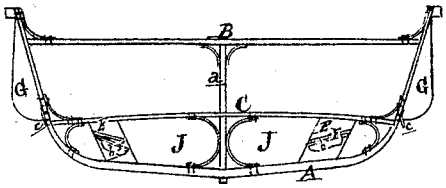

Fig. 2.

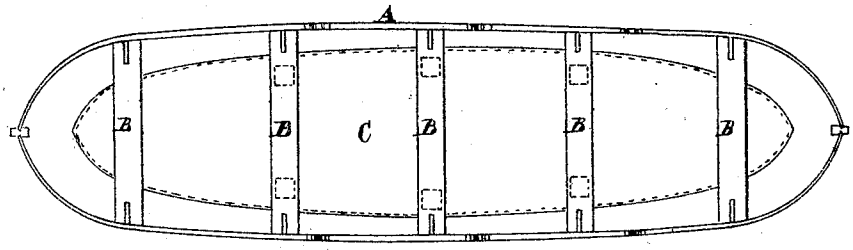

Fig. 3

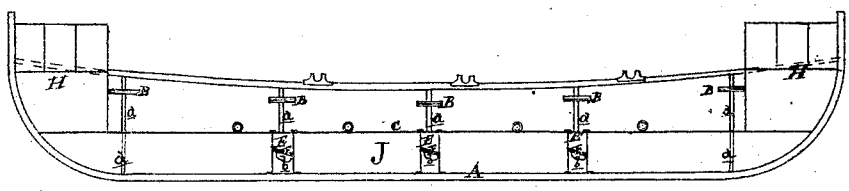

Fig. 4.

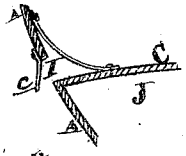

Fig. 5.

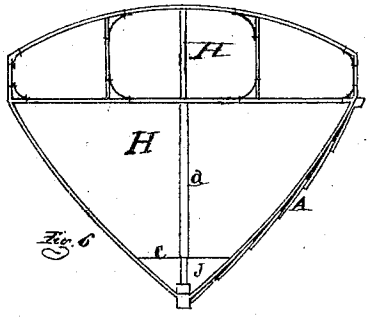

Fig. 6

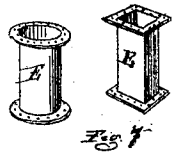

Fig. 7

ATTEST

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UNITED STATES PATENT OFFICE.

PETER R. BEAUPRÉ, OF METROPOLIS CITY, ILLINOIS.

IMPROVEMENT IN LIFE-BOATS.

Specification forming part of Letters Patent No. 118,580, dated August 29, 1871.

To all whom it may concern:

Be it known that I, PETER R. BEAUPRÉ, of Metropolis City, in the county of Massac and State of Illinois, have invented a new and useful Improvement in Life-Boats; and I do declare that the followng is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a side elevation of my improved life-boat. Fig. 2 is a midship cross-section. Fig. 3 is a plan view. Fig. 4 is a vertical longitudinal section. Fig. 5 is an enlarged section of one of the scuppers; and Fig. 6 is a cross-section of one end of the boat, showing the form of its elevated air-chamber. Fig. 7 are detached views of the discharge-pipes or shells.

Like letters refer to like parts in each figure.

This invention has for its object the construction of a life-boat in such a manner that it may be thrown in any position from the deck of a vessel, and it will automatically right and empty itself when capsized or filled, which shall have great buoyancy, and will require no skill to manage the same. The invention consists in the combination of means for automatically righting the boat and for freeing it from water by a continuous and co-operative action; in the combination of the air-chambers at the ends with those at the sides for the purpose of righting the boat when capsized; in the combination of the floor, the discharge-pipes, and their valves, for the purpose of assisting in emptying the boat of water; and, finally, in the whole boat as an entirety—the whole formed, arranged, and operating as more fully hereinafter set forth.

In the drawing, A represents the hull of the boat, preferably of sheet metal, sharp at both ends, and provided with the usual thwarts B. C is a deck or floor in the boat, above the light-load line, below which is an air-chamber, J, extending the length and breadth of the hull. *a* are stanchions extending, from keel to thwarts, through the floor to support the thwarts, which are further stayed with suitable knees and braces, as is also the deck or floor, above and below. E are discharge-pipes leading through floor and hull near the bilge, each having hung in it a clack-valve, F, opening downward from its seat, and provided on its under side with an air-chamber, *b*, whose buoyancy closes it, being below the water-line, except when the boat has shipped water, which, by gravitation, opens the valves and passes out. The discharge-pipes should be under each end of the thwarts. G are fore-and-aft bustles or air-chambers on the outside of the hull proper, in the form shown, a cross-section of which is pear-shaped, with the larger end downward, and extending nearly the whole length of the boat upon each side, with the upper lines of each at the gunwale and corresponding with the line of sheer of the boat. H are other air-chambers, somewhat in the form of bisected inverted cones, occupying the extremities of the boat and projecting above the gunwales, as shown. I are scuppers in the sides of the boat at the floor-line, and provided with outward-opening valves *c*.

This life-boat, as shown in the drawing, is intended for use upon rivers, and is consequently constructed so as to give the greatest buoyancy with the least weight. For use, however, on sea-going vessels, or on those which navigate the great lakes, I make a boat having more nearly the external lines of a whale-boat, with great sheer, in which case I am enabled to construct my end chambers so that they will not rise above the gunwales, and yet will be capable of righting the boat whenever capsized.

In my boat the operation in use will be as follows: Suppose the boat to be rolled or thrown from the deck of a vessel in such a position that she enters the water end first, and comes upon the surface bottom upward, the end chambers extending below the central line of buoyancy will turn the boat upon her beam ends, the buoyancy of the side chambers assisting partially in this work, at which point the broad base of the lifting side chamber being acted upon will continue the revolution of the boat and bring her upon an even keel. The first inclination of the boat, however, when righted by the momentum of the water which fills her, will be to roll over to the opposite side, which movement, however, is checked by the striking of the broad base of the air-chamber upon that side, the effect of which is to give the boat a rocking motion, which discharges directly a considerable portion of the water over the gunwales and through the scuppers. At the same time, the bottom air-chambers having lifted the whole boat so that the deck is above the surface of the water, the discharge-pipes begin to

operate, the weight of the water pressing down the valves in them until the boat is entirely free from water, which operation will be found to occupy about half a minute. The boat being then loaded with passengers and depressed in the water below the line of the deck the buoyancy of the air-chamber upon the under sides of the valves will cause them to close, and all water will be prevented from entering the boat through the discharge-pipes.

The peculiar form of the side air-chambers or bustles will then be found to give great stiffness and stability to the boat; but to accomplish all these results the positions, forms, and proportions of the air-chambers must be so calculated that each will do the work for which it is designed. To illustrate, suppose the bustles or side chambers were too large in proportion to the capacity and buoyant power of the end chambers, should the boat capsize the latter would not be able to bring her to a beams-end position so that the submerged side chamber could right her. Hence the necessity of proportioning each chamber with the work it has to do, as well to the power and capacity of the others; in fact, their size, form, capacity, and weight must be considered as a whole and with relation to each other.

I am aware that life-boats have been constructed with internal end chambers and with external side chambers, with scuppers and with emptying-valves, and therefore do not claim such, broadly; but as I believe that I am the first to make a life-boat with such a construction and arrangement of air-chambers and of valves that the boat will both right and empty itself automatically by one continuous operation, and also that my side chambers are novel in construction and in operation, serving not only the purpose of righting the boat but of giving her great stiffness when upon even keel, therefore,

What I do claim as new, and desire to secure by Letters Patent, is—

1. In a life-boat, the combination of the end air-chambers H, the side air-chambers G, the bottom air-chambers J, the deck C, and the discharge-pipes E provided with valves, substantially as described and shown, for the purpose of automatically righting the boat and freeing it from water at the same time.

2. In a life-boat, the combination of the air-chambers H and G, both constructed and arranged substantially as described and shown, and operating in aid of each other in righting the boat when capsized.

3. The combination of the floor C, the discharge-pipes E, the valves F provided with an air-chamber, *b*, and the air-chambers J, all constructed and arranged, substantially as described and shown, for the purpose of freeing the boat from water.

4. The life-boat A provided with the air-chambers H, G, and J, the deck C, and the discharge-pipes E with valves F, the several pipes being constructed, arranged, and operating substantially as described and shown.

PETER R. BEAUPRÉ.

Witnesses:

GEORGE HOUSTON,

his
ALFERD × MATHENEY.
mark.