J. Allen.

Life Boat.

No. 12,473. Patented Mar. 6, 1855.

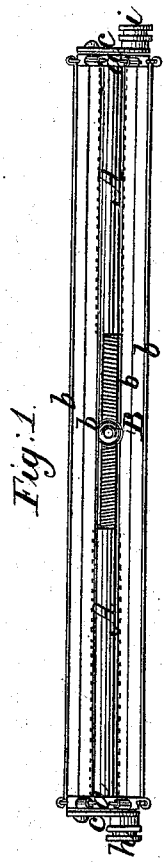


Fig: 1.

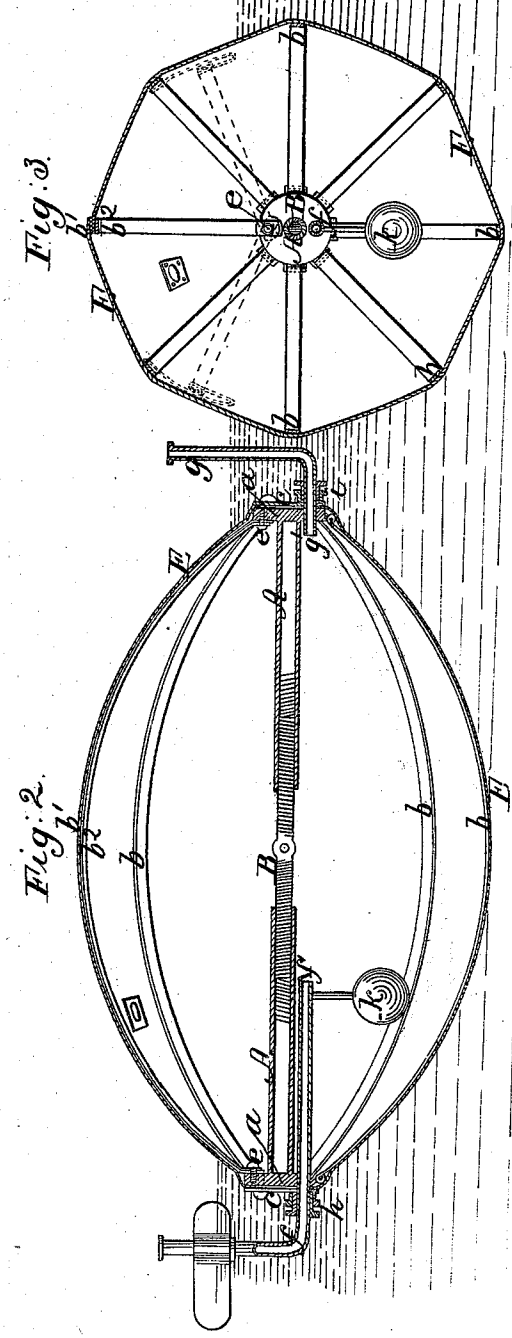


Fig: 3.

Fig: 2.

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UNITED STATES PATENT OFFICE.

JOHN ALLEN, OF NEW YORK, N. Y.

LIFE-BOAT.

Specification of Letters Patent No. 12,473, dated March 6, 1855.

To all whom it may concern:

Be it known that I, JOHN ALLEN, of the city, county, and State of New York, have invented an Improved Life-Boat; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a side view of the frame of my improved boat collapsed for stowage. Fig. 2, is a longitudinal central section of the boat extended for use, and Fig. 3, is a transverse section of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a vessel composed of india-rubber or some flexible material secured to a frame of such construction, as to keep it properly extended, said vessel being capable of being entirely closed at pleasure so as to perfectly exclude the water and protect the passengers within, and being furnished with an inlet and outlet valve, and suitable pipes through which pure air is admitted and foul air discharged simply by the water acting upon its flexible sides to reduce and enlarge its inner capacity and make it operate like a bellows pump.

The invention further consists in a certain method of constructing the frame whereby the boat can be readily collapsed for stowage or extended for service, and the tightness of the flexible sides can be properly regulated to give it efficiency as a pump to supply itself with air.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

The principal portion of the frame consists of a central shaft composed of two metal tubes A, A, connected by a right and left handed screw B, so as to be readily extended or contracted lengthwise. The tubes A, A, have at their farthest ends, heads or disks *a*, *a*, to which are attached a number of ribs *b*, *b*, of some flexible wood or other material, each rib extending from one to the other of the said heads or disks and being connected thereto by hinges or their equivalents. Outside these ribs is placed the waterproof covering E, of india-rubber or other flexible material which laps over the outside of the heads *a*, *a*, and is secured thereto by plates *c*, *c*, bolted to the said heads or disks. By turning the screw B, to lengthen the central shaft the ribs *b*, *b*, may be caused to lie parallel with the shaft, when it is desired to stow away the boat; but by shortening the shaft and drawing the heads *a*, *a*, nearer together, the ribs may be curved to any desired degree to give any required bilge or beam to the vessel. The interior of the vessel may be reached by a manhole of suitable size, but I propose to make it capable of opening the whole length in fair weather, by dividing the covering longitudinally, and attaching its edges to two ribs b', b^2, which are attached to the heads by pivots *e*, *e*, one in each head, upon which pivots they are capable of swinging aside in opposite directions as shown in red outlines in Fig. 2, and passing within the contiguous ribs on either side. When the vessel is to be closed up water tight the rib b', fits over the rib b^2, as shown in black outline in Fig. 2. The joint is made tight by a strong packing of india-rubber which is secured to one rib, and the whole made secure by suitable bolts or fastenings which I have not thought it necessary to show.

The vessel may be kept right side uppermost by weights secured to the lowest ribs. I propose however to apply the inlet and outlet air pipes *f*, and *g*, in such a way that their weight shall in some measure tend to keep the vessel in the right position, to wit by passing them through stuffing boxes *h*, and *i*, in the heads on that side of the central shaft which I intend to be below. These pipes may be bent upward outside the vessel and each kept in its proper position by a suspended weight *k*. The pipes may, however, be flexible and have floats attached to their ends to keep their mouths above water. They will of course be provided with inlet and outlet valves f', and g', like the suction and discharge pipes of a common pump.

A boat constructed on this principle large enough to contain a great number of passengers with, water, provisions, stores, &c., for several days' voyage may be stowed away in a very small compass. In fair weather it would be better to open it; but in rough weather all should be shut in closely, when the waves striking its flexible sides, and the tossing about of the boat on

the water, will keep up a constant pumping action to supply fresh air to the interior, and expel the vitiated air.

What I claim as my invention and desire to secure by Letters Patent, is—

1. A life boat composed substantially as herein described of a frame and a flexible covering, and provided with inlet and outlet pipes and valves, so that when the flexible covering is closed up perfectly water tight the action of the waves on the said flexible covering and the tossing about of the boat on the water will keep up a constant pumping action and thereby supply fresh air to and discharge vitiated air from the interior.

2. I claim the construction of the frame substantially as herein set forth, of the two tubes A, A, and right and left handed screw B, and the longitudinal ribs *b*, *b*, all combined and operating as described.

JOHN ALLEN.

Witnesses:
J. W. COOMBS,
J. G. MASON.