

2 Sheets--Sheet 1.

A. G. & A. T. STERLING.
Life-Boats.

No. 149,891.

Patented April 21, 1874.

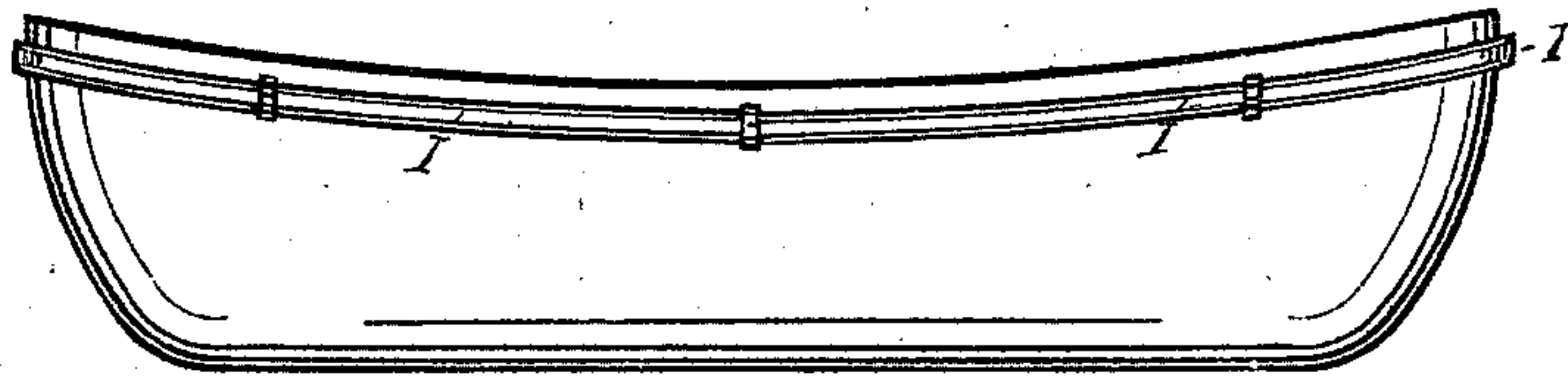


Fig. 2.

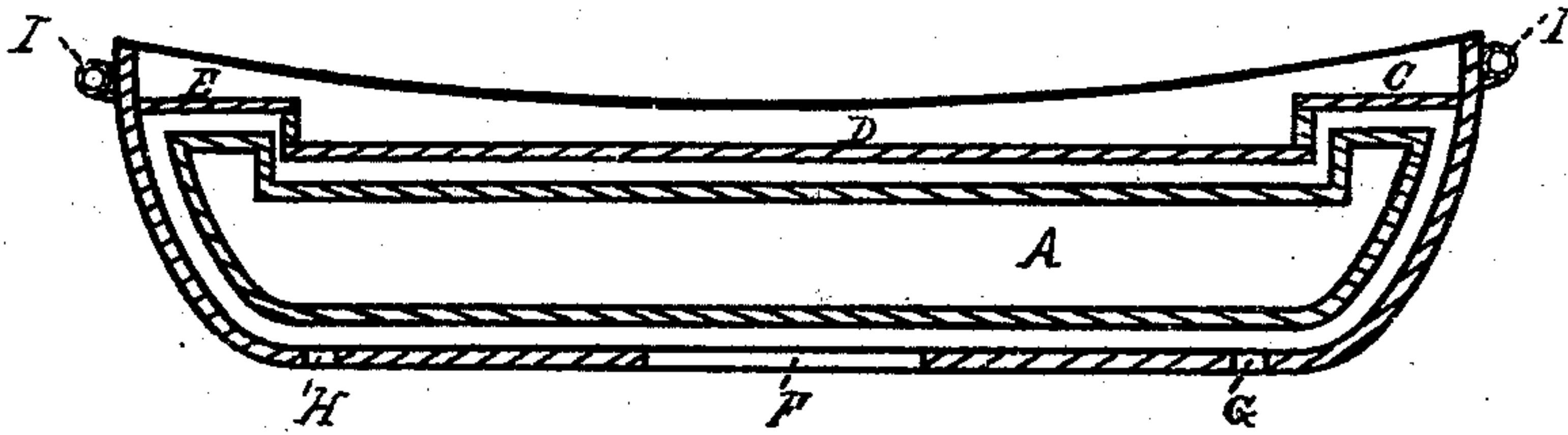


Fig. 1.

Witnesses:-

Frank H. Jordan.
Edwin W. Haskell

Inventors:-

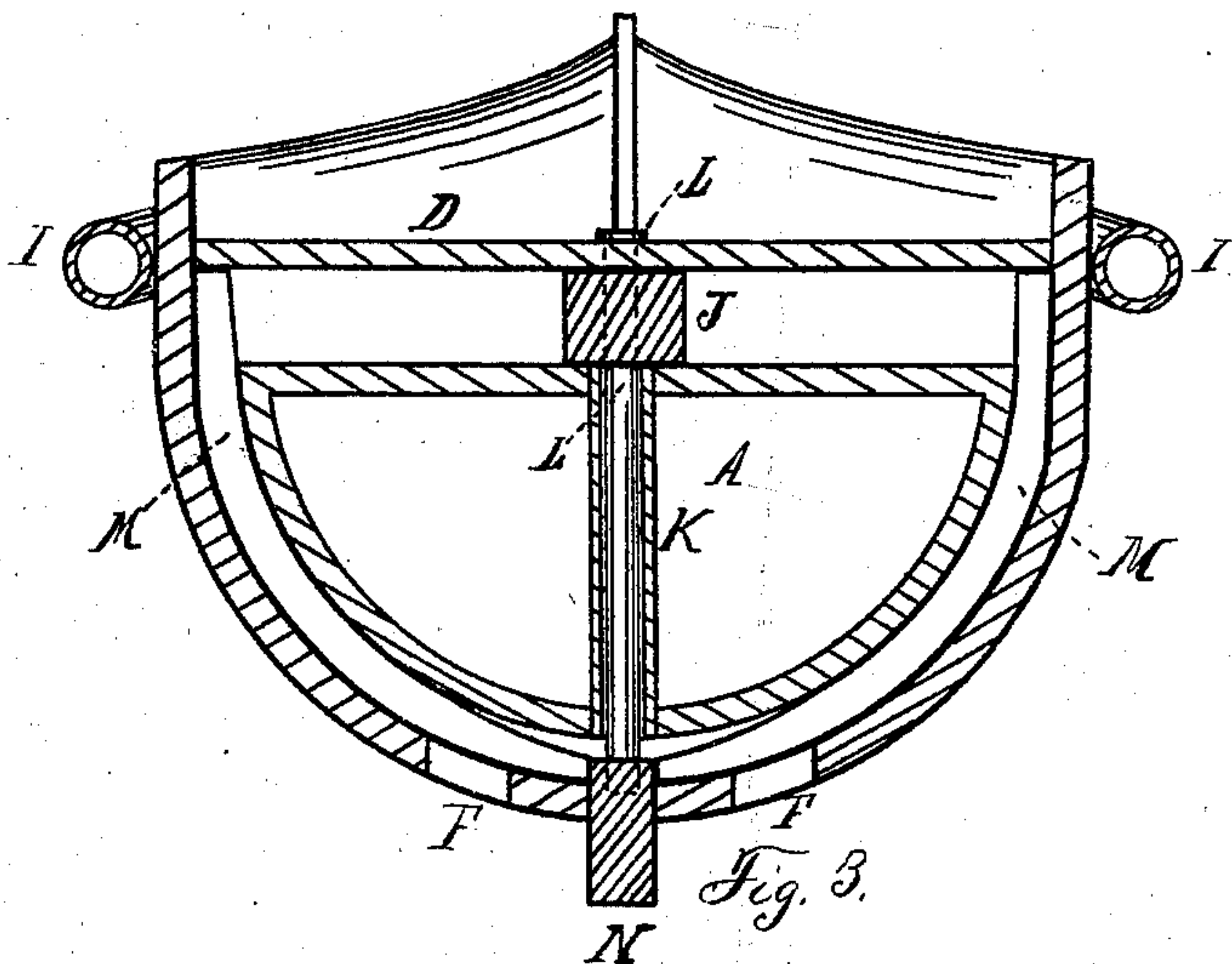
Alpheus G. Sterling
Abram T. Sterling
per Wm. Henry Clifford
att'y.

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Witnesses:-
Frank H. Jordan,
Charles E. Clifford.

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per atty.
Hon. Henry Clifford.

UNITED STATES PATENT OFFICE.

ALPHEUS G. STERLING AND ABRAM T. STERLING, OF PORTLAND, MAINE.

IMPROVEMENT IN LIFE-BOATS.

Specification forming part of Letters Patent No. **149,891**, dated April 21, 1874; application filed February 13, 1874.

To all whom it may concern:

Be it known that we, ALPHEUS G. STERLING and ABRAM T. STERLING, both of Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Life-Boats; and we do hereby declare that the following is a full, clear, and exact description thereof, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon which form a part of this specification.

Figure 1 is a vertical longitudinal section. Fig. 2 is a side view. Fig. 3 is a vertical transverse section.

Same letters show like parts.

The purpose of our invention is to produce a life-boat of improved construction having the following essential features: First, the boat is provided with a deck, water-tight, the hold or lower portion below the deck being left open to the admission of a certain quantity of water by means of apertures to be hereinafter described; second, within the space below the deck and bottom of the boat is placed an air-reservoir, (shown in Fig. 1,) conforming in shape to the boat and the formation of the deck, the latter being also illustrated in Fig. 1; third, the apertures themselves, arranged as shown in Figs. 1 and 3; fourth, an air-receptacle running around the boat on the outside near the top of the gunwales.

A shows the air-reservoir within the boat, conforming in shape to the decks C, D, and E, and to the shape of the boat. As illustrated, the top of the air-reservoir A is placed a short distance below the bottom sides of the decks, and so as to leave an air-space between the reservoir and the bottom sides of the decks. F shows apertures on either side of the keel on the boat's bottom at the center. G and H show other apertures through the bottom and near each end of the boat.

When placed in the water, the water entering these apertures rises to a certain extent within the hollow or hold of the boat and

around the air-reservoir A. This serves for what we call a "water-ballast" to the boat. There remains between the top of the water within the boat and the bottom side of the decks a sheet or layer, so to speak, of air, which, in addition to the reservoir A, imparts buoyancy to the craft.

The location of the apertures G and H is for the purpose of speedily draining the hollow of the boat when it is taken out of the water. When inclined or tipped either way the water has free exit from one of these two sets of apertures, when from the position of the boat it might not all be able to escape at the center apertures.

With this arrangement of the air-reservoir A and with the admission of the water into the hold of the boat below the deck, the boat is made exceedingly difficult to capsize, buoyant upon the water, and quite secure against those accidents which, by breaking the boat, render it likely to sink.

The air-receptacle I may be so constructed as to serve as a protection in case of striking against other objects. It may be made of rubber or other material properly protected or incased.

We do not claim, broadly, a water-ballast to a life-boat, however arranged.

The especial purpose of our arrangement of the water-apertures and the air-reservoir, is in order that the craft has a constant tendency to resist capsizing, and that the structure may be such as highly calculated to resist blows, fractures, &c.

The manner in which the reservoir A is held in proper position in the center of the space in the boat is illustrated in Fig. 3.

This reservoir is prevented from moving laterally by the timbers M of the boat, it being of sufficient width to extend across the space between these timbers.

Through the center of the reservoir, as shown in Fig. 3, pass air-tight tubes K, at proper distances along the entire length of the reservoir. Down through the deck of the boat, the center-beam J, and these tubes K,

pass the screw or other bolts L, and extend into the keel N of the boat. The reservoir, being thus fastened, is held securely in position.

What we claim as our invention, and desire to secure by Letters Patent, is—

The life-boat herein described, provided with the interior air-tight reservoir A, as the same relative configuration of the boat, and the apertures F G H, the whole being con-

structed and arranged substantially in the manner and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 6th day of February, 1874.

ALPHEUS G. STERLING.
ABRAM T. STERLING.

Witnesses:

WM. HENRY CLIFFORD,
FRANK H. JORDAN.