

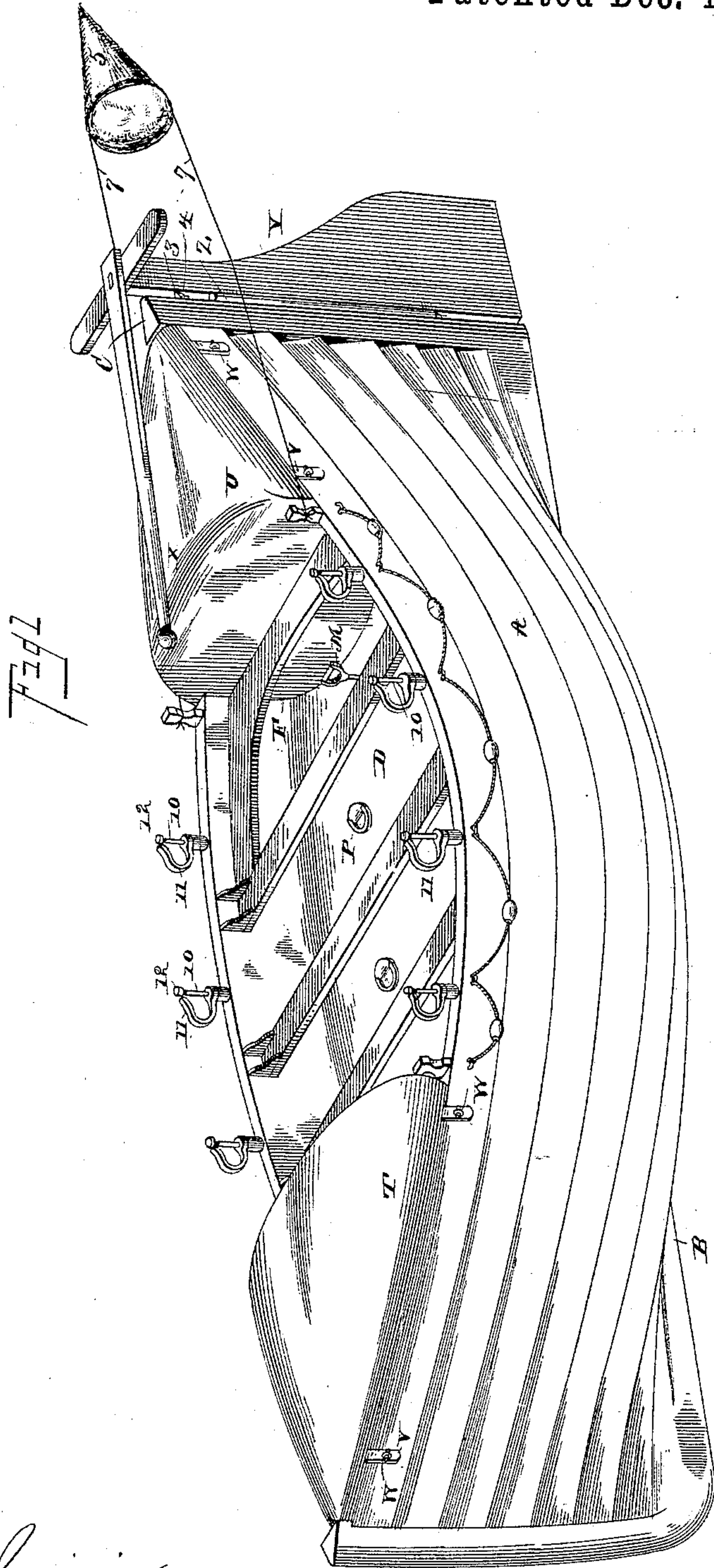
(No Model.)

3 Sheets—Sheet 1.

W. LUTH.
LIFE BOAT.

No. 417,195.

Patented Dec. 10, 1889.



Witnesses

John Smiric
Wm. Bagger

By his Attorneys,

C. A. Snow & Co.

Inventor

William Luth.

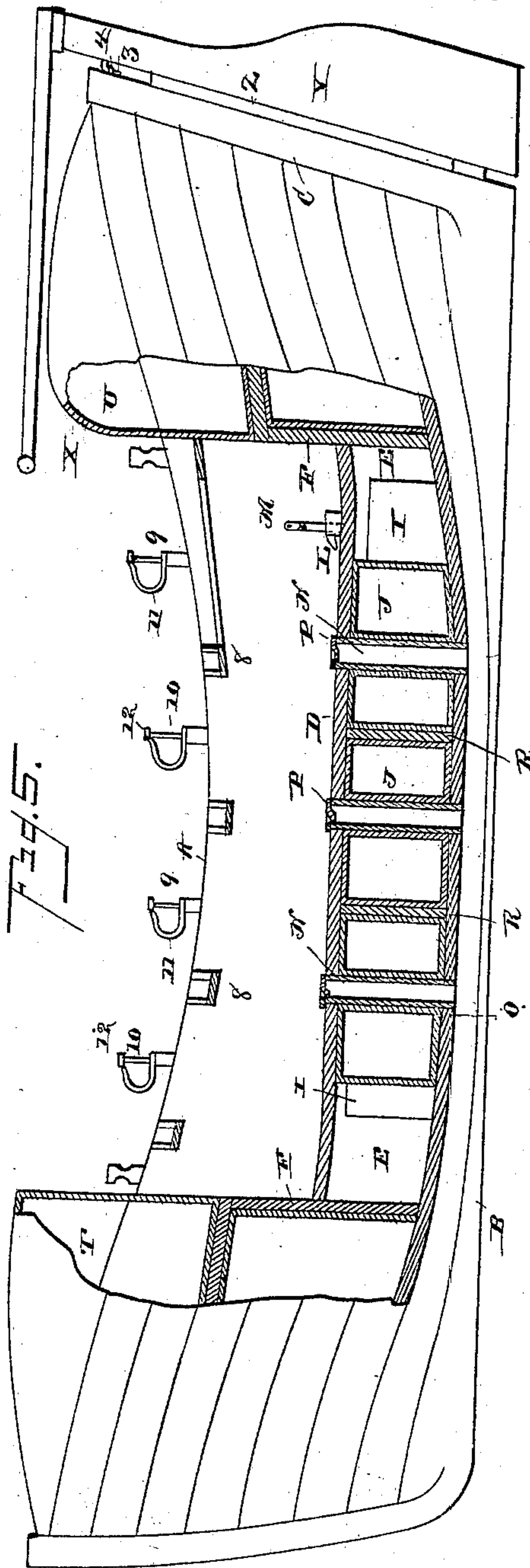
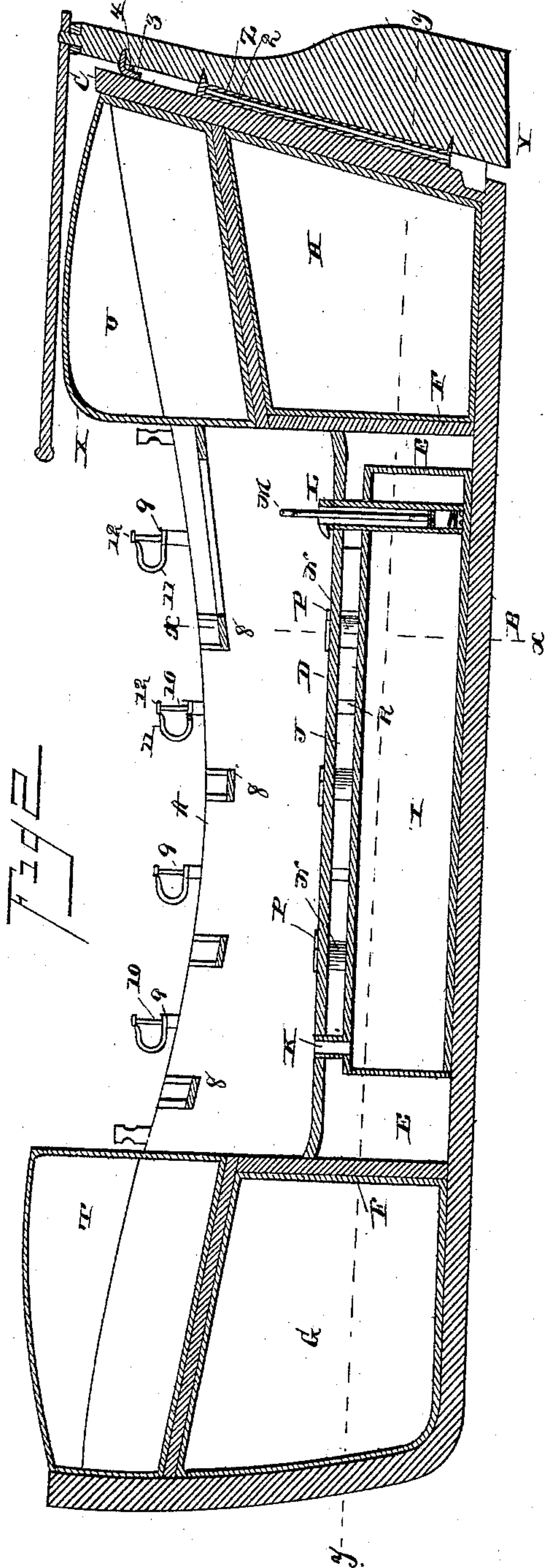
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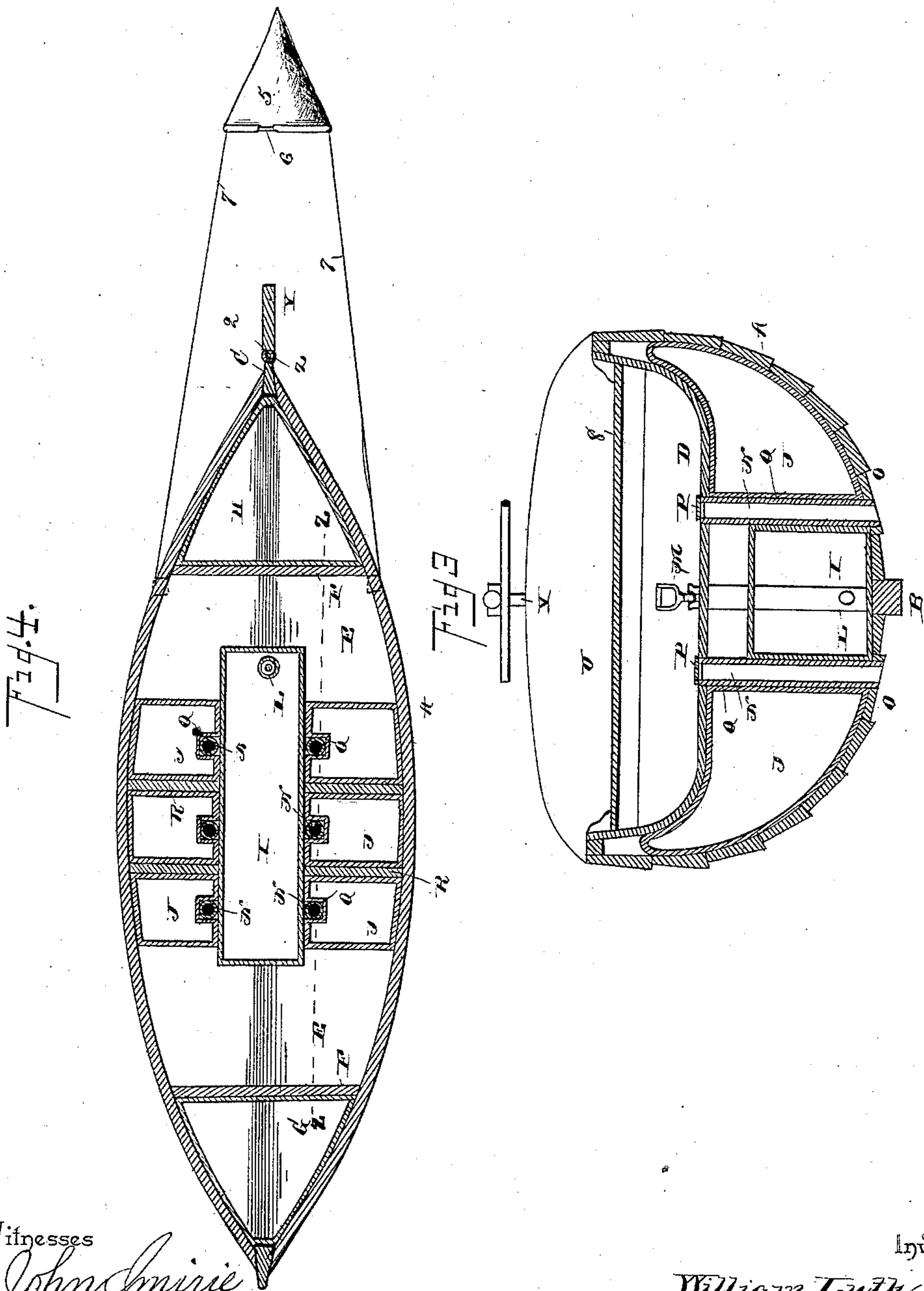
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UNITED STATES PATENT OFFICE.

WILLIAM LUTH, OF NEWPORT, RHODE ISLAND, ASSIGNOR OF ONE-HALF TO
LAURITS C. THERKILDSEN, OF SAME PLACE.

LIFE-BOAT.

SPECIFICATION forming part of Letters Patent No. 417,195, dated December 10, 1889.

Application filed June 20, 1889. Serial No. 314,936. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LUTH, a citizen of the United States, residing at Newport, in the county of Newport and State of Rhode Island, have invented a new and useful Life-Boat, of which the following is a specification.

This invention relates to life-boats; and it has for its object to provide a boat of this class which shall combine the essential elements of lightness and strength, and which shall for this purpose be provided with suitably-located air tanks or compartments and with a ballast-tank, which may be filled or partially filled with water for the purpose of keeping the boat from capsizing. Means are furthermore provided for discharging a part of the ballast when the boat gets into shoal water, and for automatically discharging any water which may be shipped by the boat.

The invention consists in the improved construction of the said boat, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a perspective view of a life-boat equipped with my improvements. Fig. 2 is a central longitudinal vertical sectional view of the same. Fig. 3 is a vertical transverse section taken on the line $x x$ of Fig. 2. Fig. 4 is a horizontal sectional view taken on the line $y y$ of Fig. 2. Fig. 5 is a longitudinal sectional view taken on the line $z z$ in Fig. 4.

The same letters refer to the same parts in all the figures.

A designates the hull of the boat. B is the keel, and C the stern-post.

D designates the deck, and E the hold, near the front and rear ends of which are vertical partitions F F, between which and the bow and stern of the boat are constructed the tanks or air-tight compartments G and H.

Arranged centrally and longitudinally in the hold is the water-tank I, and adjacent to and on both sides of the said water-tank are arranged the series of air-tanks J J, of which there may be any desired number on each side of the centrally-located water-tank. The latter is provided at one end with a vent-

opening K, extending through the deck of the boat, and at the opposite end of said tank is arranged a suitably-constructed pump L, having an operating-handle M, attached to the upper end of the piston-rod, which, likewise, as well as the discharge-tube, extends through the deck of the boat.

N N are a series of vertical tubes connecting the deck D with the bottom O of the boat, and provided at their upper ends with suitably-constructed pivoted valves P P, which are normally closed, but which, whenever water is shipped by the boat, will be opened automatically by the weight or pressure of the water, which will thus be discharged through the vertical tubes N. One of the latter is arranged in a recess Q in the inner side of each of the air-tanks J, and the said vertical tubes thus serve to retain the said air-tanks in their respective positions.

The several air-tanks may be separated by transverse bulk-heads R R, which serve the additional purpose of strengthening the structure of the boat, while they also lessen the possibility of the air-tanks being staved in.

Upon the air-tanks G and H, at the stem and stern of the boat, are mounted the supplemental air-tanks T and U, which may be secured in position by means of straps or lashings V, attached to staples W upon the sides of the hull. The forward end of the air-tank U is rounded or beveled, as shown at X, so as to offer the least possible resistance to the wind. The said air-tanks T and U, in addition to assisting the boat in righting itself when in danger of capsizing, serve to some extent to afford shelter to the occupants of the boat.

Y designates the rudder, which is provided with a tubular bearing Z for the rudder-post or pintle 2, which is attached in the usual manner to the heel of the keel, and which extends upwardly nearly to the upper end of the stern-post. An additional bearing is formed by the pintle 3, which is attached to the upper end of the rudder, and which works pivotally in an eye or staple 4, attached to the stern-post, near the upper end of the latter. It will be seen that owing to the length

of the pintle 2 the rudder will at all times work safely and without much danger of being unshipped.

From the foregoing description, taken in connection with the drawings hereto annexed, the advantages of my improved life-boat will be readily understood. It is evident that owing to the large number of air-tanks the boat will be kept afloat, even in case of accidents to one or more of the said tanks. Water shipped by the boat will be instantly and automatically discharged through the tubes N and valves P, and the weight of the water contained in the centrally-located ballast-chamber will serve at all times, in conjunction with the air-chambers, to keep the boat even and steady. While the boat is in deep water the ballast-chamber may be kept entirely filled with water; but the contents may be gradually discharged by means of the pump when the boat gets into shoal-water, thus lightening the boat. The water discharged from the ballast-chamber will immediately escape through the valves P and vertical tubes N.

The general construction of the boat is simple and inexpensive, and its construction is such as to combine lightness with strength and durability.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a life-boat, the combination of the water-tank arranged centrally and longitudinally in the hold of said boat, the air-tanks arranged on each side of said water-tank and provided with vertical recesses in their inner sides, and the vertical tubes or passages extending through the hold of the boat connecting the deck and the bottom of the same and provided at their upper ends with pivoted valves, substantially as and for the purpose set forth.

2. In a life-boat, the combination of the centrally and longitudinally arranged water-tank, the vertical discharge-pipes provided with pivoted valves at their upper ends, the air-tanks located on each side of said water-tank and provided with vertical recesses in their inner sides to accommodate said discharge-pipes, and the transverse bulk-heads separating the said air-tanks, substantially as herein set forth.

3. In a life-boat constructed substantially as described, the combination of the water-tank arranged centrally and longitudinally in the hold of said boat, the air-tanks located on each side of said water-tanks and having vertical recesses in their inner sides, the vertical discharge-pipes extending through the recesses in the said air-tanks, the transverse bulk-heads separating said air-tanks, the air-chambers constructed at the stem and stern of the boat, a vent-opening for the water-tank extending through the deck of the boat, and a pump the discharge-tube and piston-rod of which likewise extend through the deck of the boat, substantially as herein set forth.

4. The combination, with a life-boat having the air-chambers constructed at its stem and stern, of supplemental air-tanks mounted detachably upon the said air-chambers and provided with straps or lashes, by means of which they are secured detachably to the hull, substantially as herein set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM LUTH.

Witnesses:

CARRIE A. HALL,
CLARENCE A. HAMMETT.