Sheet 1. 2 Sheets

W. H. Wylly.

Life Boat.

No. 61,500. Patented Jan. 22, 1867.

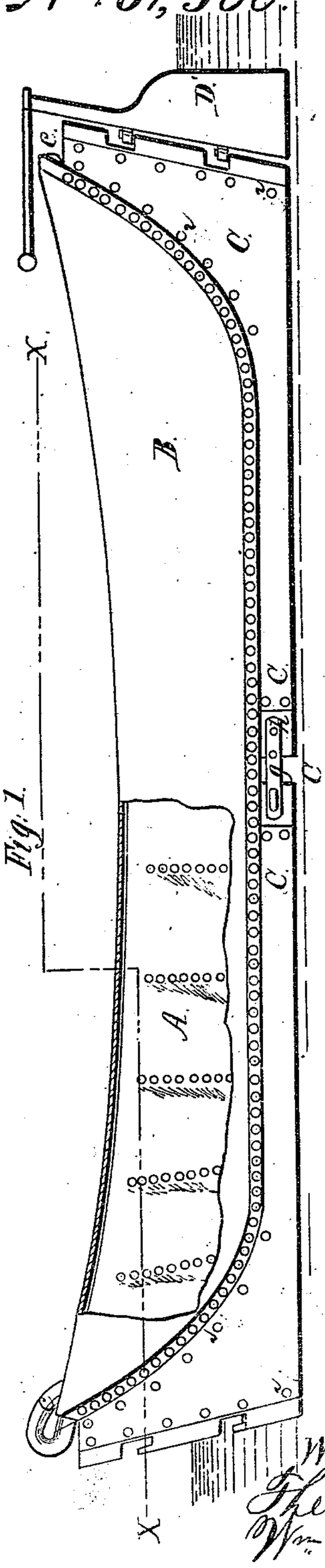

Fig. 1.

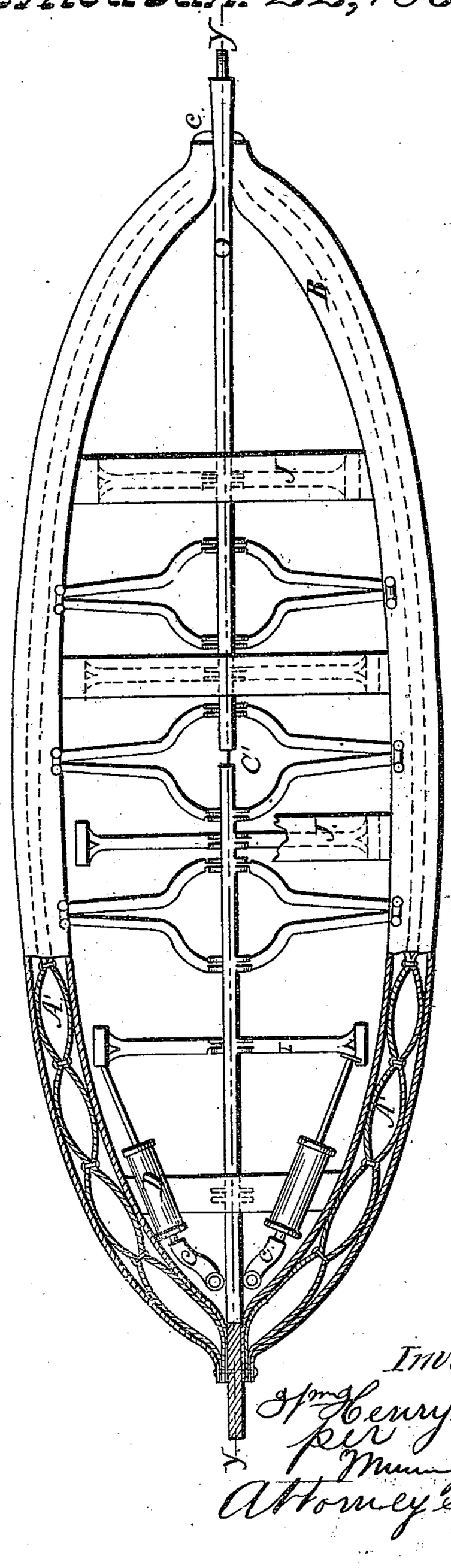

Fig. 2.

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Sheet 2. 2 Sheets

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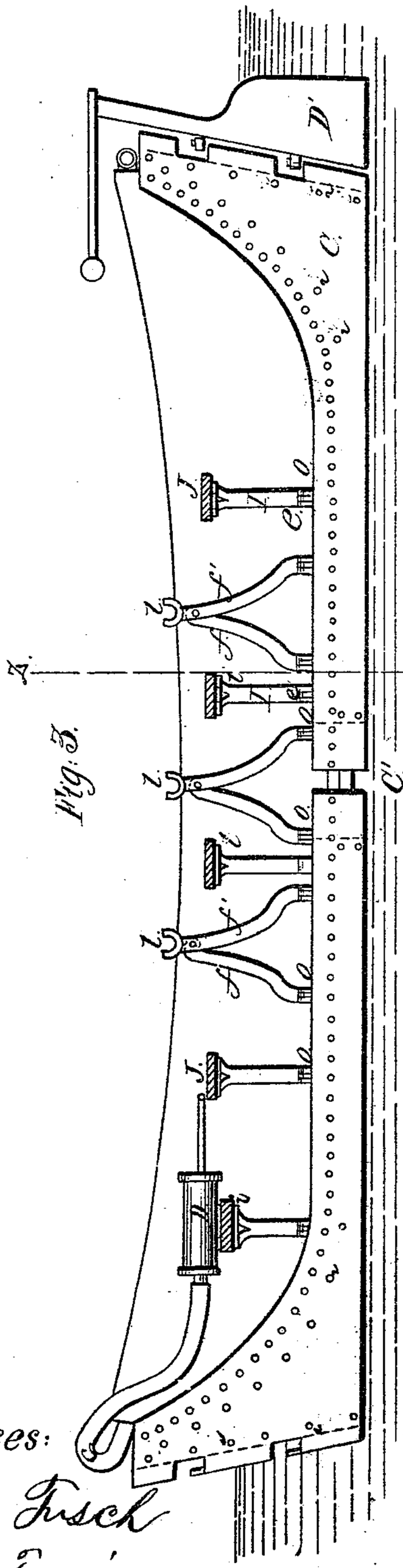

Fig. 3.

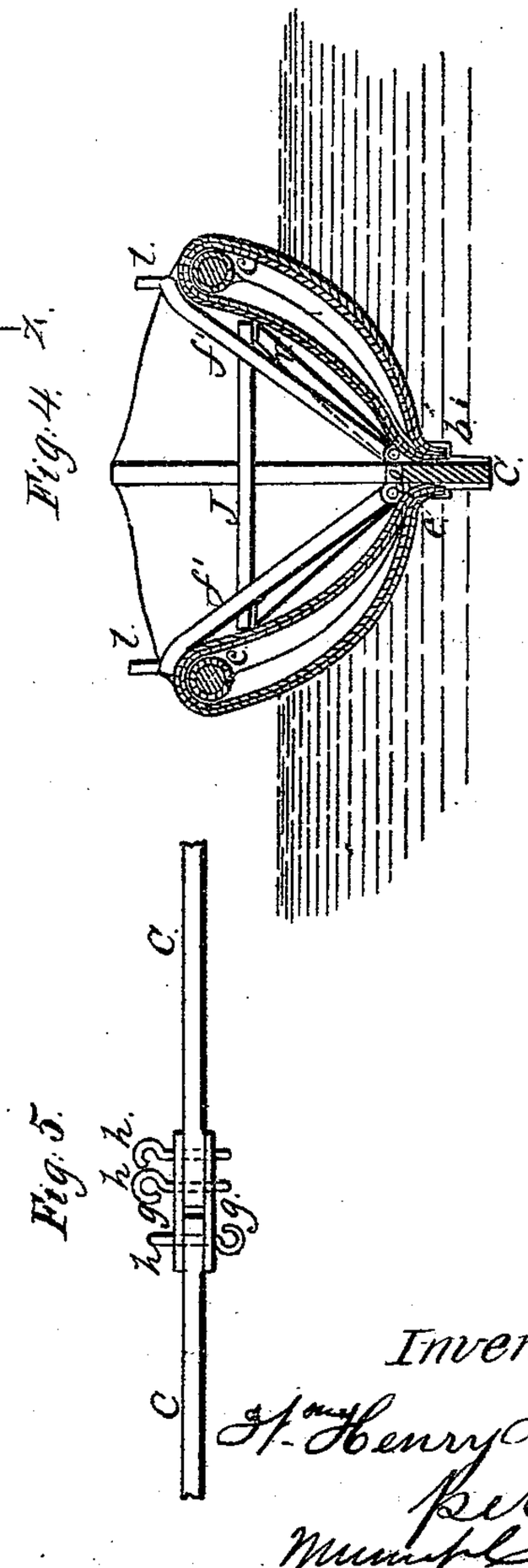

Fig. 4.

Fig. 5.

Witnesses:

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United States Patent Office.

WILLIAM H. WYLLY, OF SAVANNAH, GEORGIA.

Letters Patent No. 61,500, *dated January* 22, 1867.

IMPROVED LIFE-BOAT.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM HENRY WYLLY, of Savannah, in the county of Chatham, and State of Georgia, have invented a new and useful improvement in Life-Boats; and I do hereby declare that the following is a full, clear, and exact description thereof.

The object of this invention is to provide a life-boat which shall not only combine lightness, strength, and durability with safety, but be so constructed that it can be easily transported from place to place, overland or on ship-board; and the invention mainly consists in constructing the sides of the boat of gutta-percha cloth, forming air-chambers therewith; and also in constructing the keel of the boat in two separate parts, which allows it to be folded up for transportation.

And to enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part of this specification, and to the letters of reference marked thereon.

Figure 1 is a side view, partly sectional.

Figure 2 is a top view, party sectional, as through the line *x x* of fig. 1.

Figure 3 is a longitudinal vertical section, through the line *y y* of fig. 2.

Figure 4 is a transverse section of fig. 3, through the line *z z*.

Figure 5 represents a view of a portion of the keel, showing the joint or place of separation.

Similar letters indicate like parts in the drawings.

The sides of the boat are formed entirely of gutta-percha cloth, (or its equivalent,) in four layers or thicknesses. The first or inner portion, represented in the drawing by the letter A, is composed of two thicknesses on each side of the boat, which are firmly riveted together at suitable distances apart, forming air-chambers, as seen in figs. 1 and 2, and represented in the drawing by A′. The upper portion is a fold, and the edges of the cloth come together below and are securely riveted to the keel. A flexible tube, *c*, of gutta percha or India rubber, is enclosed in this upper fold, which has holes through it, connecting with the chambers already mentioned. This tube extends entirely around the gunwale of the boat, the ends coming together at one end of the boat, and having air force-pumps, D, attached to each. D′ represents the rudder. B is the outside covering, of much thicker gutta-percha cloth. This outer covering is also folded over at its upper portion, enclosing the chambers in A, and the tube *c* and the edges are brought together below and riveted to the keel the same as A, as seen in fig. 4. In this figure the yellow color represents the outside, B, and the brown represents A. C represents the keel of the boat. It is formed of copper, or its equivalent, and is of sufficient strength to support the sides of the boat. The ends extend, at each end of the boat, a little beyond the sides, and the ends are broad enough to nearly reach the top of the gunwale. The end supports the rudder. The ends of the keel are exactly alike, each being arranged to attach the rudder, as the boat is designed to run with either end as bow or stern. When the rudder is attached to one end, the other end forms the cut-water, and *vice versa*. There is a piece of copper, *b*, folded over the bottom of the keel nearly the whole length, which extends up far enough to cover the edges of the gutta-percha covering. This sheet-copper cap is riveted to the keel, and is designed to present a smooth surface to the water, while it protects the covering. This cap, and its form around the keel, and on the lower edges of the gutta-percha covering, is seen at *b*, fig. 4. But one of the principal features of the keel, and, in fact, one of the principal features of the invention, is that it is formed of two separate pieces, (as seen at C′,) which are connected together at the middle of its length by a clamp, leaving the ends separated. This clamp is formed of two separate pieces, one piece on each side of the keel, and both are fastened at one end by bolts to one portion of the keel. The other ends of the pieces lap over on to the other portion of the keel, covering the joint or space left between the two portions of the keel. To this other portion the clamp is bolted fast when the boat is ready for use. At other times these bolts are removed from one end, allowing the boat to be folded up. This joint and clamp arrangement is seen at fig. 5. C C is the keel, *g g* the clamp, and *h* represents the bolts. At the bottom of the boat, (inside,) the keel rises high enough above the gutta-percha covering to allow fixtures to be attached to it for supporting the seats and the row-locks. For this purpose short flat pieces or bars of copper, having half joints on their upper ends, are attached to the keel, one on each side in pairs and opposite each other, by a single bolt. This bolt is a pivot on which the pieces

may turn towards either end of the boat. The half joint on the upper end extends above the keel, as seen at *o*, fig. 3. To support the seats, bars of copper, I, are attached to the half joint before mentioned by a pivot, as seen at *e*, fig. 4, and extending up a sufficient height, they have short transverse pieces made fast to their top ends, (seen at *i*, fig. 3,) upon which the seat J rests. The pivoted joint *e* allows these supporting bars to be extended to the sides of the boat, as seen in figs. 2 and 4. The bars I are split at the top, and the ends so split are separated a little to give a better bearing for the cross-piece *i*. The seat may be secured to this piece *i* by pins or cleats, or in any suitable manner. The arrangement for supporting the row-locks is similar to the above. The attachment to the keel is the same as that already described, but there are two supporting bars to each row-lock, indicated by *f* and *f'*. These bars are joined near the top by a mortise in *f'* and a tenon on the top of *f*, and fastened by a bolt at that point, but which bolt is removable at pleasure to allow the two bars to be separated. The lower ends of these bars *f* and *f'* are widely separated, so as to allow them, where joined by the bolt as above described, to stand in an inclined or bracing position, in order to enable them to withstand the lateral pressure of the oar when the boat is being propelled by oars. The longest one of these two bars, *f'*, has the row-lock formed on its top, as seen in the drawing at *l*, figs. 3 and 4. The joint at the bottom end allows these pairs of bars (each pair forming a row-lock,) to be thrown back on to the side of the boat; the row-locks standing opposite each other, as seen in figs. 2 and 4. The cap *b*, already partially described, is of course separated at the middle, the same as the keel. In the drawing it is represented as being fastened by the same rivets that fasten the gutta-percha sides of the boat, and also by the rivets 2. As before mentioned, the separation of the keel at *c'* allows the boat to be folded up to half its full length, in order to allow of more convenient storage or transportation when not in use. The pivot joints, by which the supporting bars of the seats and the row-locks are attached to the keel, allow those bars to be adjusted to suit the fold when the boat is doubled up as described. The clamp *g*, which connects the keel together at the middle, may be entirely removed when the boat is folded, or the bars can be left attached to the keel with only one bolt, and then they can be turned back on to that portion of the keel out of the way. The edges of the gutta-percha sides of the boat, where they come together at the space between the separated ends of the keel, are firmly riveted together, making (as all the riveted joints do) a joint, air and water tight. The keel is of course the main support of the boat, but the bars which support the seats act as ribs, and the seats themselves, with those bars, will keep the boat in shape, notwithstanding its elastic sides; but when properly made the inflated sides will naturally take a boat-like shape. When the air-chambers A' are inflated, as seen in the sectional portion of fig. 2, the boat will sit very lightly on the water and be free from all danger of sinking under any circumstances; and so large a proportion of her weight being in her keel, she would immediately regain her proper position should she be capsized or even thrown overboard from the deck of a vessel. The inside of the boat may have a light wood lining, which could be either removed when the boat is folded up or be hinged in such a manner that it would fold up with the boat.

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

The boat, consisting of the gutta-percha or elastic sides A B, keel C', copper covering *b*, flexible tube *c*, force-pumps D, bars I, seats J, supporting bars *f f'*, rudder D', when all are constructed and arranged as herein set forth and for the purpose specified.

WM. HENRY WYLLY.

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