

(No Model.)

3 Sheets—Sheet 1.

M. A. ANDERSON.
LIFE BOAT.

No. 532,627.

Patented Jan. 15, 1895.

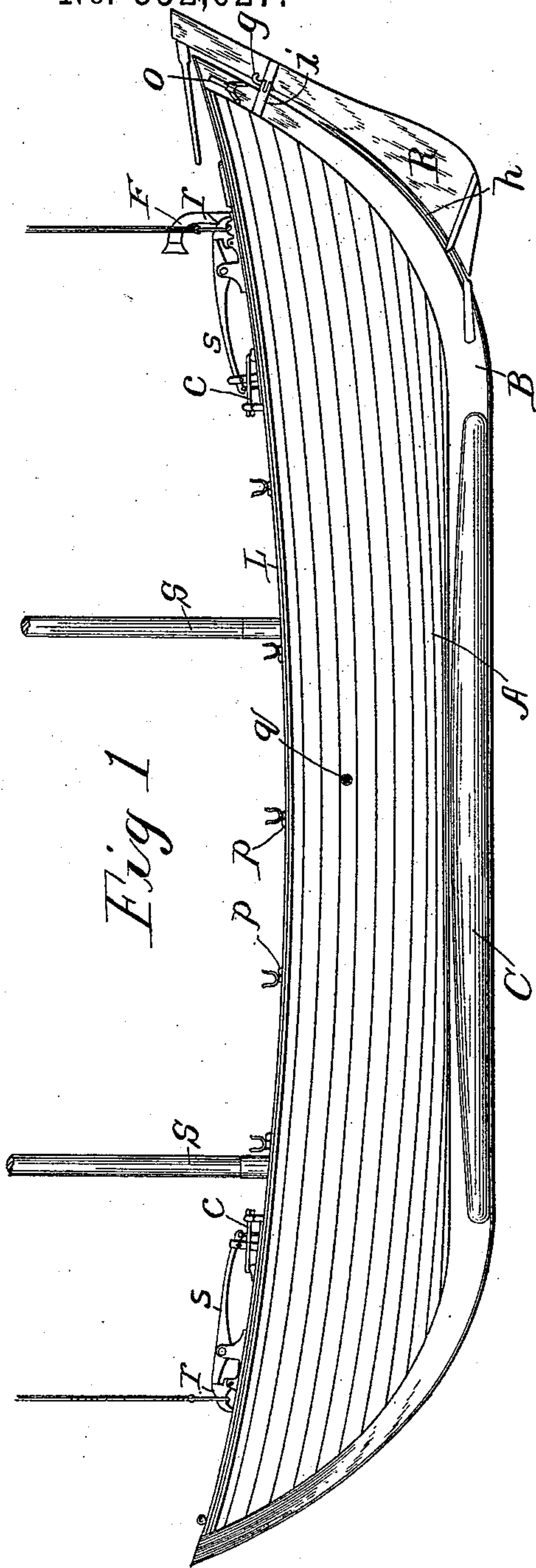
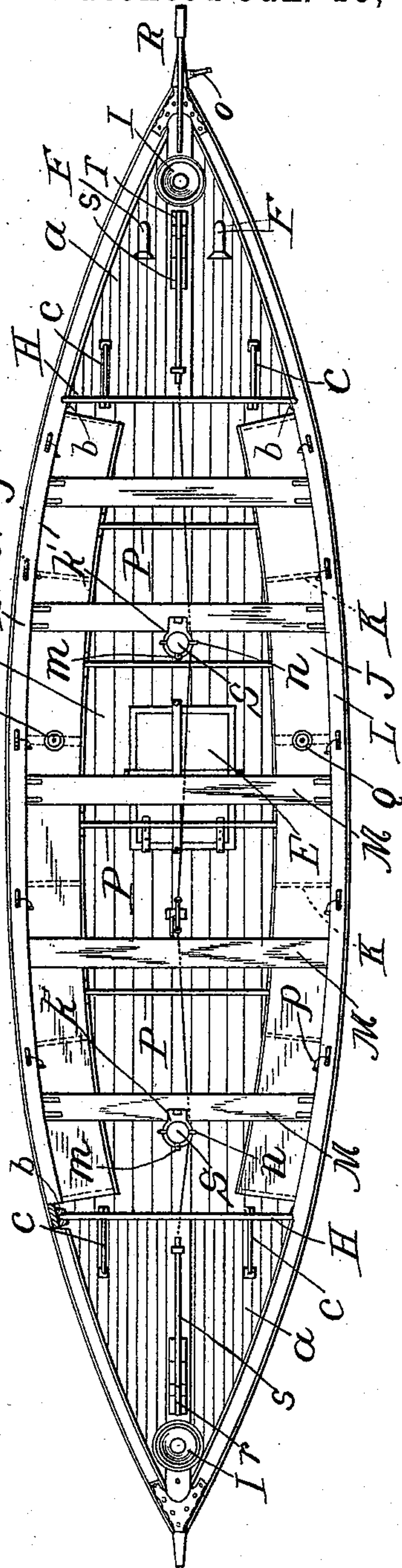


Fig 1

Fig. 2



Witnesses
C. C. Burdine
C. B. Bull.

Inventor:
Magnus A. Anderson
by Dodge and Sons,
Attorneys.

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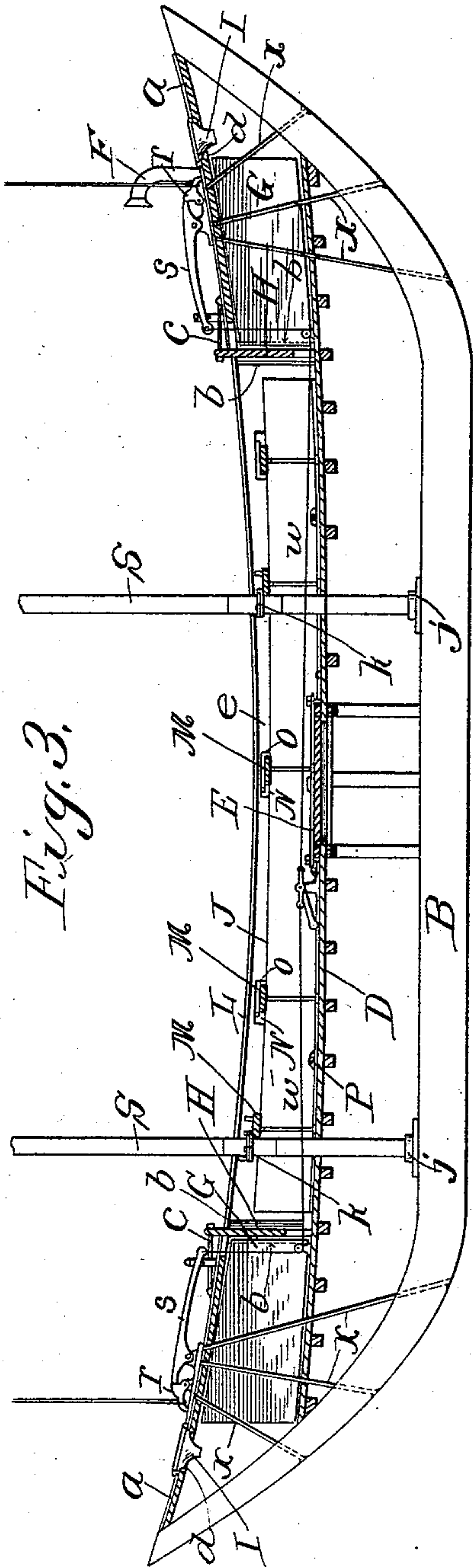


Fig. 3.



Fig. 5.

Witnesses

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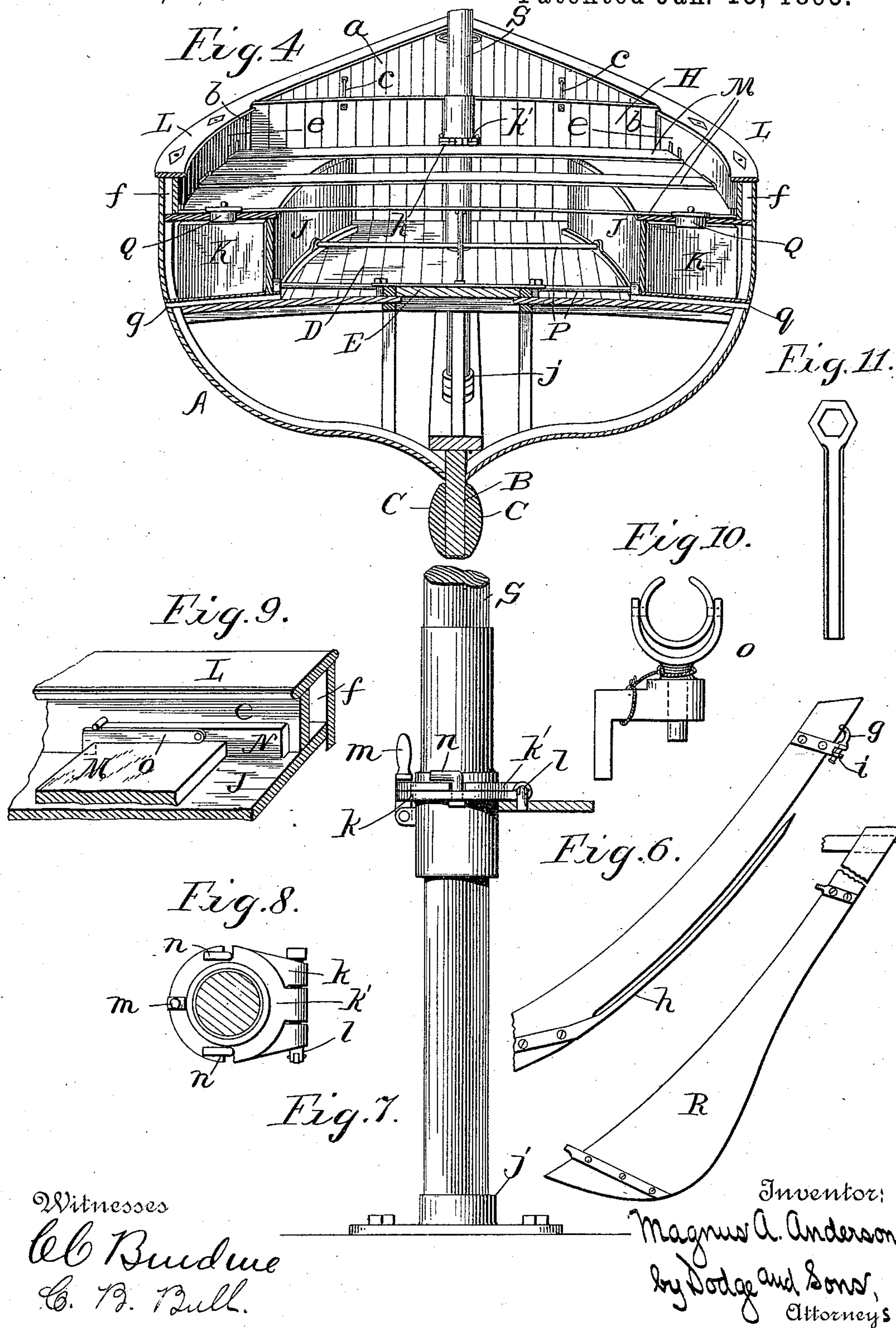
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UNITED STATES PATENT OFFICE.

MAGNUS A. ANDERSON, OF HOBOKEN, NEW JERSEY.

LIFE-BOAT.

SPECIFICATION forming part of Letters Patent No. 532,627, dated January 15, 1895.

Application filed October 6, 1893. Serial No. 487,347. (No model.)

To all whom it may concern:

Be it known that I, MAGNUS A. ANDERSON, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Life-Boats, of which the following is a specification.

My invention relates to life-boats, and consists in various features and details of construction hereinafter set forth, whereby the boat is rendered capable of ready handling under all conditions and circumstances likely to arise, and safety and comfort of the occupants are insured.

In the drawings: Figure 1 is a side elevation of my improved boat; Fig. 2, a top plan view of the same; Fig. 3, a longitudinal sectional view; Fig. 4, a transverse section taken amidships; Figs. 5 to 11 inclusive, detail views of different parts hereinafter fully described.

In designing a boat for the important service indicated, I have availed myself of that practical knowledge of requirements gained by long experience aboard naval vessels and others, among which requirements may be mentioned, due stiffness; unsinkability; capacity to right itself if overturned; protected space wherein to carry women, children and invalids; ease and certainty of shipping and unshipping the rudder, and rowlocks; provision for steering in the event of loss of the rudder, or for supplementing the latter; masts capable of being set or lowered quickly and easily, without interference with or by the seats or thwarts; means for readily detaching the boat when lowered overboard; and provision whereby men may occupy standing positions in the bow and stern, without danger of being washed overboard, and without permitting water to enter the pits or spaces in which they stand. With these objects in view I construct and equip my boat as follows, reference being made to the accompanying drawings:

The hull A, which may be made of wood or metal, is preferably double-pointed, and rounded upward somewhat sharply from the keel at both ends, in order that it may the more readily mount and ride over waves or floating bodies, and further that it may the more easily and certainly right itself if overturned.

Both ends of the boat are elevated somewhat, to prevent the waves from breaking over, and a decking, *a*, flush with the gunwale or practically so, keeps out the small quantity of water that may come over the bow or stern.

The hull is furnished with a strong and substantial keel, B, to the sides of which are bolted or riveted heavy metal plates C, C, as shown in Figs. 1 and 4. These plates serve as weights to right the boat in the event of its being thrown upon its beam ends, or even overturned, and they also serve to stiffen, and to protect the keel B. This latter office is a very important one, since when heavily laden the boat is apt to give way when suddenly thrown upon the crest of a wave, or when unsupported at the middle, as often happens in a choppy sea. So, too, in the event of riding over a floating body, as a mast or spar, the strengthening of the keel is of great importance.

D indicates a deck, extending from end to end of the boat, and made tight to prevent water from passing into the hold or space beneath. This deck will, of course, be supported by suitable cross beams and braces, and is provided, preferably amidships with a hatch E, hinged at the end toward the bow, so that the hatch when raised or opened shall shield or guard the hatchway against any water that may wash over the bow. The space below deck is intended to receive women and children, invalids, and such passengers as might be in the way above deck. It will therefore be supplied with such conveniences as are usual, and will be ventilated, preferably by two ventilators, F, at the stern.

Above the main deck D, and beneath the housing or short decking at bow and stern, I place air-tight vessels G, advisably of copper, and these I retain in place by removable bulkheads H extending across the boat, and from the deck D, to a point somewhat above the decking *a*, as shown in Figs. 1, 3 and 4, to form guards or fenders for any water that may fall upon the deckings *a*, and to direct the same outward over the sides of the boat. The bulkheads H are seated at their ends between uprights *b, b*, and are firmly secured in place by hook-bolts *c, c*, as shown in Figs. 1, 2 and 3.

The decking *a* being flush with the gunwale

or practically so, it will be seen that it would be impracticable for a man to stand in the bow or stern unless provision be specially made to that end. I therefore cut an opening *d* through the decking *a*, near each end of the boat, and I provide the openings each with a flexible, and preferably elastic skirt *I*, shown in Figs. 2 and 3, and on a larger scale in Fig. 5. If made of elastic material, as sheet rubber, the skirt will have a relatively small opening, so that while it shall yield and expand to admit the legs and trunk of a man, it shall hug close about his body and preclude the entrance of water, at least in any material quantity. If made of canvas, rubber, cloth, or other inelastic material, the skirt will be formed with a slit or opening, and furnished with a belt and buckle, clasp, or other fastening. In practice the elastic material is preferred, because it permits ready entrance and exit, and also fits closely without excessive pressure.

Extending along each side of the boat and to a point within about a foot or foot and a half of the bulkheads *H*, are box-like inclosures *J*, within which are placed separate and independent air tanks or vessels *K*, preferably of copper, which being thus permanently covered in, are not liable to injury. Being independent of one another, injury to one would leave the others in good condition and effective to sustain the boat, even if the latter became filled with water. The boxings *J* form seats for passengers, and are thus doubly useful.

As shown in Figs. 4 and 9, the top of the boxing or housing *J* extends to and abuts closely against the sheathing of the boat, and a lining or inner wall *e* is carried upward therefrom to the gunwale or capstrip *L*, the ribs of the boat intervening between the sheathing and lining, and dividing the inclosed space into air-tight compartments *f*, as shown in Figs. 4 and 9.

Thwarts, *M*, extend across the boat, and are sustained at their ends by the housings *J*. To prevent them from becoming accidentally misplaced, yet permit them to be removed when necessary, their ends are passed edgewise beneath cleats *N*, cut out to receive them, and are retained by hooks *O*, which drop down in front of one edge of the thwart, as in Fig. 9. Stretchers, *P*, are also provided for the sailors or oarsmen to brace their feet against in rowing.

As shown in Figs. 2 and 4, the housings *J* are provided with hand-holes, furnished with covers or closures *Q*, by removing which latter access to the interior of the inclosed spaces may be had to bail out any water that may enter.

R indicates a rudder, and *g* and *h*, pivot pins or pintles upon which it is hung.

It is well known that considerable difficulty is experienced in shipping a rudder, hung in the ordinary way, even in still water, and this difficulty is greatly enhanced by any move-

ment of the boat. Especially is this true when the boat is of considerable size and the lower eye is at a considerable depth in the water. To avoid all inconvenience in this regard, I apply the pintles to the rudder post instead of to the rudder and I extend the lower pintle *h*, upward to a point at or above the water, where it may be readily seen and reached. This arrangement permits the lower eye of the rudder to be slipped over the end of the pintle *h*, and the rudder to be dropped and guided directly to position, its upper eye-piece being inserted between the perforated arms of a forked block or strap *i* and secured therein by the pin or bolt *g*. The pin or bolt *g* is headed sufficiently to prevent it from being withdrawn from the upper arm or fork of strap *i*, the opening in which is a trifle smaller than that in the lower arm. It may therefore be raised sufficiently to permit entrance or removal of the upper eye-piece of the rudder, but not be fully withdrawn and lost.

In boats of this class it is essential that provision be made for setting and lowering the masts with promptness, and that when lowered they shall not interfere with nor be interfered with by the thwarts. To lift the mast from a step or seat and lay it down lengthwise of the boat when coming alongside a wreck or vessel, is an exceedingly difficult and hazardous undertaking, and when laid in the boat the mast is liable to roll about and interfere with the occupants, if it does not fall overboard.

To permit convenient and safe handling of the mast or masts, *S*, of which I have shown two in the drawings, I make each in two parts, hinged together at a point somewhat above the level of the thwarts, as shown in Figs. 2, 3, 4, and 7. The lower section of each mast *S* is suitably stepped in a metallic casting *j*, secured to the keel or the keelson, and passes upward through the deck *D*, the opening in the latter being ordinarily encircled by a strengthening hoop or band, though this is not essential. Upon the upper end of the lower section of the mast there is secured a cap *k*, which fits well down over the mast, and is broadened out into a flat plate or disk, as best shown in Figs. 7 and 8. Similarly, the upper section of the mast is furnished at its lower end with a like cap, *k'*, having a broad plate or disk, which latter is formed with a perforated ear to fit between two corresponding ears on the plate *k*. A latch pin, *l*, passed through the interlocking ears, completes a hinge joint, upon which the upper section of the mast may be swung up or down at will. Locking bolts or levers *m*, *n*, carried by one of the parts, engage with the other, as indicated in Figs. 7 and 8, and retain the mast rigidly in its upright position, when desired. Being above the thwarts, the hinge or joint permits the mast to fall back above the thwarts and to lie flat, while the long hinge pin prevents lateral movement. If desired,

the latch pin *l* may be withdrawn and the upper section of the mast be wholly detached from the lower section, which latter remains always fixed in place.

5 As the rudder is liable to be disabled at any time, or to be swept away, I provide an oarlock, *o*, at a point close to, or at the side of the rudder post, said oarlock being provided with a horizontally pivoted ring or bow
10 within the main yoke, which bow is open sufficiently to admit the blade or reduced portion of the oar, but too small to permit the loom or body of the oar to pass out through it. This construction is not new in itself, but is
15 very desirable in this connection. Rowlocks having a swivel stem are commonly furnished with a cord or chain at the lower end of said stem, and this in turn carries at its lower end a cross bar. To ship or unship the rowlocks
20 it is usually necessary therefore, to pass the cross bar endwise through the socket piece, and when withdrawn therefrom the rowlock is free, and liable to be misplaced or lost overboard. When need for the rowlocks arises
25 suddenly, it is found difficult to get them into place as promptly as is desirable, owing to the care required to pass the cross bars and chains through the holes in the socket plates. To avoid this difficulty I attach the securing
30 chains, cords or bands *p* to the oarlock *o*, and to the rowlocks along the sides of the boat, at a point just below the yoke or bow, or between that and the stem, at which point a suitable groove is formed. One end of each
35 chain or band *p*, being thus fastened to a rowlock and the other end to the gunwale or other fixture, the rowlocks may be shipped and unshipped at will, without danger of being lost overboard, and without loss of time.
40 Tubes or pipes *q*, passing beneath the housings *J*, serve to discharge any water that may wash over the sides of the boat and fall upon the deck *D*. This self-bailing construction is common in life-boats and is not claimed
45 by me.

The usual cleats, eyes, and other devices will be provided for securing the stays, braces, ropes and rigging, and these need not be described.

50 The bolts and nuts employed in and about the boat and its fittings are made of one size, as far as practicable, and a wrench, Fig. 12, is provided for turning them.

I am aware that masts have heretofore been
55 made in separable sections, and I am also aware that smoke-stacks of boats have had an upper section hinged to a lower one to per-

mit such upper section to be lowered to avoid bridges or other obstructions. I make no claim to either of these ideas; but by hinging 60 one section of my mast to the other at a point above the thwarts, I am enabled to lower the mast and sail without difficulty and without loss of time, while insuring the placing and retention of the lowered portion and its sail 65 along the center of the boat where it will not tend to tip the boat or interfere with the oarsmen. The accidental loss of the mast by rolling overboard is likewise precluded. These are matters of prime importance in a life 70 boat, where all work is performed under the greatest difficulties, and the presence of a loose or unshipped mast would cause great inconvenience and confusion.

Having thus described my invention, what 75 I claim is—

1. In combination with the hull of a life boat, a deck extending from side to side thereof and dividing the boat into an upper and a lower compartment, housings above said deck, 80 extending along each side of the boat, and independent air tanks located within the housings, said housings being covered over to retain the air tanks and form seats, substantially as set forth.

2. In combination with hull *A*, having deck *D* extending from side to side of the boat and producing a covered compartment for women and children, overdecking *a*, air-tight tanks *G*, placed between the two decks, and retaining bulk-heads *H*, secured in place substantially as set forth. 85

3. In combination with hull *A* having housings or horizontal supports *J*, recessed cleats *N* above said supports, thwarts *M* extending 95 across the boat and having their ends extended beneath the cleats *N*, and hooks *O*, adapted to engage the thwarts and retain them in place.

4. In combination with hull *A*, mast *S*, composed of two sections, furnished respectively with caps *k* and *k'*, hinge pin *t*, and fastenings *m*, *n*, all substantially as shown. 100

5. In combination with hull *A* provided with guiding pintle *h*, secured to the boat 105 and extending upward, and with movable pintle *g*, rudder *R*, provided with eyes to fit said pintles.

In witness whereof I hereunto set my hand in the presence two witnesses.

MAGNUS A. ANDERSON.

Witnesses:

JOSEPH B. BRAMAN,
CHAS. H. WOODRUFF.