G. James.

Life Boat.

No. 1,071. Patented Jan. 21, 1839.

Fig: 1.

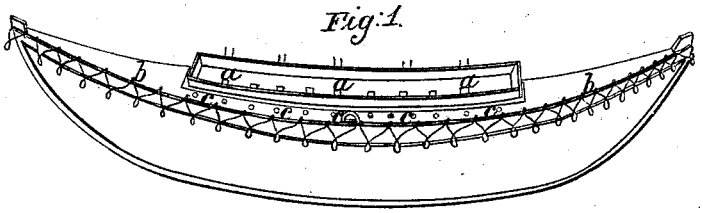


Fig: 2.

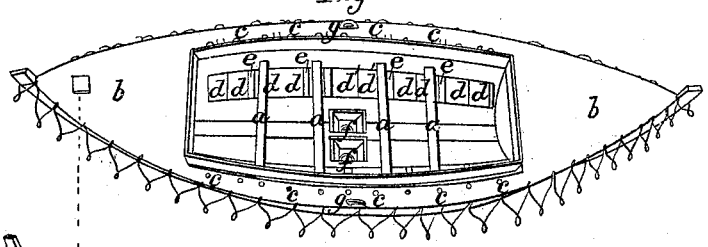


Fig: 3.

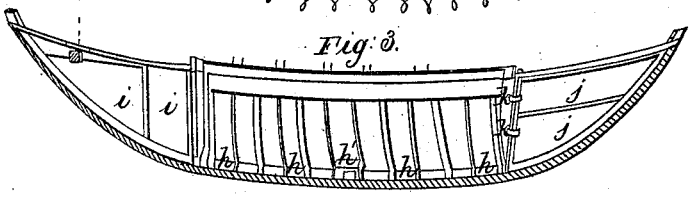


Fig: 4.

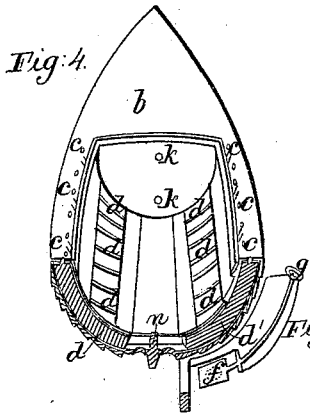
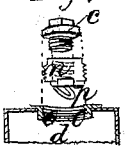


Fig: 5.

Fig: 7.



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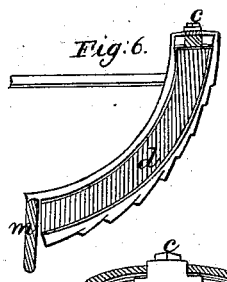

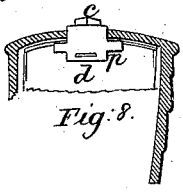

Fig: 8.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE JAMES, OF PHILADELPHIA, PENNSYLVANIA.

MODE OF CONSTRUCTING LIFE-BOATS.

Specification of Letters Patent No. 1,071, dated January 21, 1839.

To all whom it may concern:

Be it known that I, GEORGE JAMES, boat-builder, of the city of Philadelphia, State of Pennsylvania, have invented a new and improved mode of employing tubes and tanks of copper or other metal in the construction of boats which are to be employed as life-boats; and I do hereby declare that the following is a full and exact description thereof.

Tubes, or tanks of copper, made water tight, and filled with air, have been applied along and below the gunwales of boats, for the purpose of giving them buoyancy, and preventing their sinking when filled with water, but in applying this principle of obtaining buoyancy by the aid of such tubes, or tanks, I have adopted a mode of applying them which renders them more secure, more easily managed, and more readily applied than by those heretofore employed.

Instead of tubes running longitudinally, in the direction of the gunwale, or planking, I place them side by side, crosswise of the boat extending on each side from the gunwale to the keelson, where they terminate. These tubes I provide at their upper ends, with stoppers, consisting of screws, and a valve, or of a screw plug alone, as may be preferred, admitting of the tubes to be opened for the discharge of water should there be an accidental leakage in the tube, and which, when a valve is added, will allow of air being condensed therein, so as to counteract, by the internal pressure, the effect of such leak. Under the deck, at stem and stern, or rather at each end, as such boats are frequently built so that either end may become the stem, both being in the same form, I place tanks adapted to the particular form of the boat, and to be in like manner filled with air. I also make openings through the bottom of the boat, amidships, one on each side of the keel, to which openings I adapt sliding valves, or shutters, working in suitable grooves, and having curved rods attached to them, ascending up to the gunwale, by means of which they may be opened for the discharge of any water that may be accidentally shipped, and again closed, so as to allow of the complete baling out of the boat.

Figure 1, in the accompanying drawing is a view of the boat nearly in profile, *a*, *a*, *a* being one end of the thwarts, seen in the hold; *b*, *b*, the deck, and *c*, *c*, the stoppers of the air tubes; Fig. 2, the boat careened over, so as to afford a more distinct view within the hold, where a part of the interior planking is removed, for the purpose of showing portions of the copper tubes, which are marked *d*, *d;* they are made flat, and occupy the spaces between the ribs *e*, *e*. The two middle tubes *d'*, are made so as to terminate at some distance before they reach the keelson, to allow room for the two openings, and sliding shutters *f*, *f;* the rods attached to which, are seen at *g*, *g*.

Fig. 3, is a longitudinal vertical section of the boat, the keelson being removed for the purpose of showing the lower ends of the tubes *h*, *h;* the middle tube *h'* being shortened for the purpose above mentioned. At *i*, *i*, there are represented two tanks, the tops of each of which reach up to the deck, and are to have their caps at top, with openings in the deck to get at them. At *j*, *j*, there are two similar tanks, but placed one above the other, the openings into which may be at *k*, *k*, in the hold.

Fig. 4 is a cross section of the boat at midships, the same letters as are used in the other figures designating the same parts respectively.

Fig. 5, shows the valve, or shutter *f*, with its curved rod *e*, and handle *g*.

Fig. 6 is an enlarged view of one of the curved tubes, or tanks, butting against the keelson *m*, passing up between the planking, and with its stopper passing through the deck, close to the gunwale.

Fig. 7, shows the respective parts of the stopper, with its seat in the upper end of the tube, *c*, being the screw plug, screwing into the seat *m*, which is best made separate from the tube when a valve is used, as it may then be unscrewed from the collar *o*, *o*, so as to repair and adjust the valve; otherwise the seat may be soldered to the tube. The valve *p*, when air is forced into the tube will be borne up against its seat by its elasticity; it may also be supplied with a light spring for that purpose. This valve is of use in trying the tubes, or tanks, preparatory to using them, as by forcing air into them by a suitable syringe, the smallest leak in them may be detected.

Fig. 8, shows the stoppers in place. When it is thought best to use the valves, it will be necessary to have a condensing pump, or syringe, to force air into the tubes, or tanks; and to remove any water which may leak in,

an exhausting syringe, or pump, with a flexible suction hose may also be provided; this, however, is not deemed a point of great importance, as the accident of leakage into one or two of the tubes, or tanks, will not materially influence the buoyancy of the boat, and if carefully proved in the first instance, such an accident will rarely occur.

Copper tubes, or tanks, having been previously employed for giving buoyancy to boats, and other vessels, I do not claim the application of them for that purpose; but

What I do claim in the construction of a life boat, as above described, is—

1. The placing of tubes, or tanks, so as to extend from the gunwale to the keelson, as herein set forth, in combination with screw stoppers, either with, or without valves, for the purpose, and in the manner, above fully made known.

2. I claim likewise, the openings in the bottom of the boat, in combination with sliding valves, or shutters and a rod and handle for operating the same, constructed and located as described.

GEORGE JAMES.

Witnesses:
PH. CHRISTIAN,
E. H. MURRAY.