J. Macdonough.

Life Boat and Raft

No. 53,461. Patented Mar. 27, 1866.

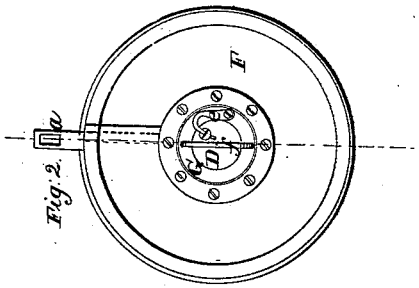

Fig. 2.

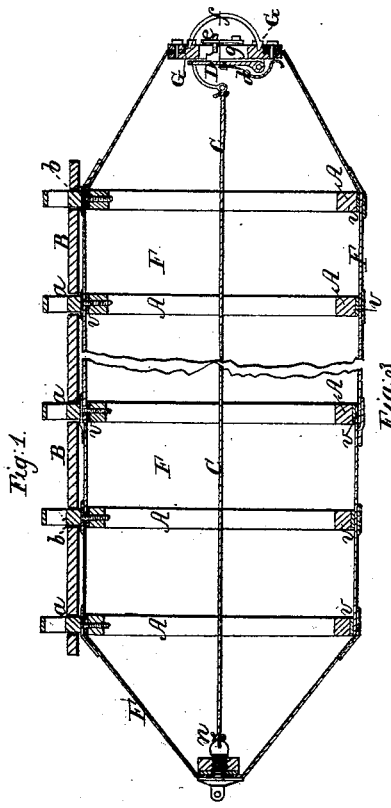

Fig. 1.

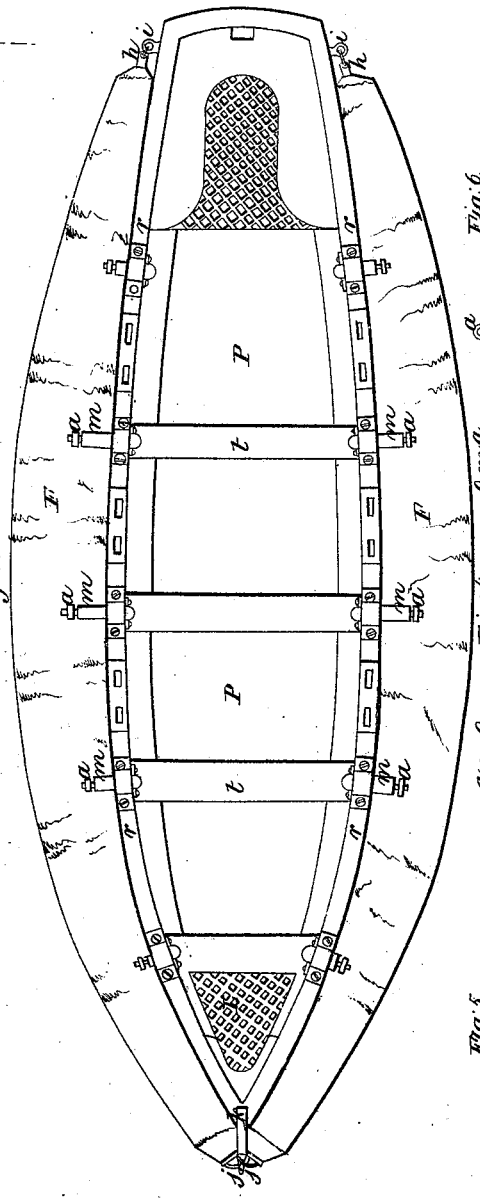

Fig. 3.

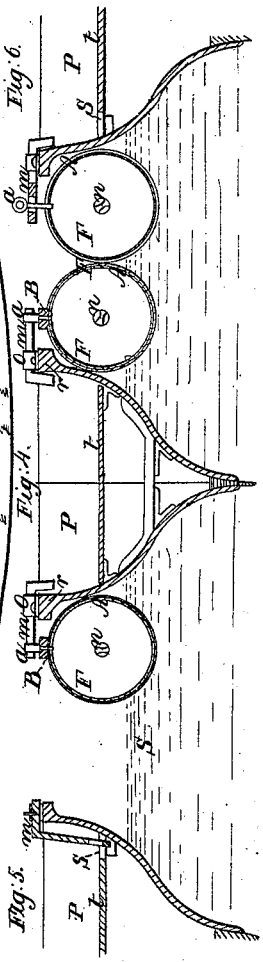

Fig. 6.

Fig. 4.

Fig. 5.

Witnesses;

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UNITED STATES PATENT OFFICE.

J. MACDONOUGH, OF NEW YORK, N. Y.

IMPROVED COLLAPSIBLE FLOAT FOR BOATS.

Specification forming part of Letters Patent No. **53,461**, dated March 27, 1866.

To all whom it may concern:

Be it known that I, J. MACDONOUGH, of the city, county, and State of New York, have invented new and useful Improvements in Floats; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 in the accompanying drawings is a vertical longitudinal section of a ponton, and Fig. 2 is an end view of the same. Fig. 3 shows a top view of a boat having gunwale-floats of my improved construction and mode of attachment. Fig. 4 is a cross-section of the same. Figs. 5 and 6 are detail views, showing my improved method of attaching gunwale-floats to boats.

Similar letters of reference indicate corresponding parts.

This invention relates to that class of floats which are constructed of flexible air and water-proof material and capable of being folded up and collapsed into small space when not in use, and are inflated with air when they are to be used, and which in modified form are applied to various uses, such as pontons, life-preservers, life-rafts, gunwale-floats for life-boats, &c.

My improvements consist, first, in a novel mode of construction; second, in an improved method of inflating this class of floats; and, third, in the manner of attaching gunwale-floats to boats.

Having thus described the nature of my invention, I will proceed to describe its construction and operation.

F F is a flexible air-proof covering of any suitable material, which is extended laterally at intervals by the hoops A A. G D, Figs. 1 and 2, is a valve for the admission and escape of air when the float is inflated or collapsed. The door D of the valve is constructed to open inward. To the rear side of D is attached a spring, *d*, which exerts a slight force, tending to keep the door D closed at all times, but which tendency is readily overcome when the float is to be distended or collapsed. *e*, Figs. 1 and 2, is a hook or lock for securing or locking the door to prevent any accidental opening of valve D and the escape of air when the float is expanded or inflated. *f*, Figs. 1 and 2, is a handle to facilitate the extension in inflating. C C, Fig. 1, is a guard-rope to stop the extension at a certain point and relieve the covering material from unnecessary strain when full expansion has been reached. *a a a* are studs or loops which project upward from the hoops A A, and are rigidly attached to the same by screwing them to the hoops, as seen in Fig. 1.

B B is a string-piece, which has mortises *b b* to correspond to the loops or eye bolts *a a*, and fit down over same in pontons and life-rafts, &c. This string-piece holds the ponton or float extended in a more rigid manner than it otherwise would be, and also serves as a bed-timber for sustaining the platform of a raft or for ponton-bridge. In case of the ponton being used for life-raft, then the loops or eye-bolts *a a* facilitate the lashing of the sustaining-platform securely to the superstructure or pontons.

The gunwale-floats F F, Figs. 3, 4, 5, and 6, are modified in form, but in general construction are the same as the ponton, as above described. However, the string-piece B B in Fig. 1 is not of much importance in the gunwale-floats, but may be used or dispensed with, as described. The floats F F in Fig. 3 are attached to the boat P P by extending the floats along the sides of the boat and securing the ends of the float by lanyards or other suitable means to the boat, and then securing the belly of each float to the gunwale *r* of the boat by brackets *m m*, placed along at intervals and projecting outward from the gunwale of the boat.

Figs. 4 and 6 show the method of attaching the belly or intermediate part of a float to the gunwale *r* by means of brackets *m m*. Fig. 5 shows the method of stowing the brackets *m* when not in use, which is done by reversing them and placing the long arm downward into a mortise, *s*, Fig. 5, in the thwart *t*.

The hoops A A, Fig. 1, may be made of an oblong or elliptical form or may be made round, as shown. They may also be made of any suitable material, steel or wood being considered preferable. In order to prevent the cover F F from being chafed and injured by the hoops, each hoop is provided on its outer circumference with a padding or layer of cloth, felt, or other soft material, *v v*, Fig. 1.

In operation the guard-rope C C, Fig. 1, may

be attached to the valve-plate G or to the door D, as shown. An ordinary air-cock may be substituted in the place of the air-valve G G, Figs. 1 and 2.

The gunwale-buoys may be operated as follows: They are stowed in the bows of the boat or in any part most convenient in a collapsed form, and when to be used one end of each is attached to the stem *k*, Fig. 3, or to the bow of the boat, and one then thrown overboard, one on each side, and the free ends passed aft to the helmsman, who, by means of a lanyard or other suitable handle, fully extends and secures their rear ends to the stern of the boat, one on each side. The brackets *m* are then adjusted in their sockets, as shown in Fig. 4, by the oarsman, and the studs *a a* keyed or secured to the outer ends of the brackets. The brackets steady the floats in their position and prevent their being thrown up by the motion of the waves. When collapsed or closed up the floats occupy but an inconsiderable space, and if the valve is locked when the machine is closed it cannot be extended or unpacked without the exertion of a force sufficient to create a vacuum, or to rupture the covering material; but when the valve is unlocked the machine may be extended in a moment, as the act of extending it opens the valve by the pressure of the atmosphere and air rushes in and fills the machine. When the machine is at its utmost extension the valve closes by the action of the spring, or a slight back-pressure of air causes the same, and by locking the valve the air is permanently retained within the float as long as desired. By these means the inflation of such floats is more expeditiously accomplised than heretofore, and this is an important point gained in their construction, as when an emergency arises suddenly, as is generally the case, which makes a resort to these machines necessary, then the saving of time is always of great importance.

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

1. The combination and arrangement of the collapsible covering F, hoops A A, guard-rope C, and valve D G, constructed and operating in the manner as herein described.

2. The combination of the adjustable reversible brackets *m*, studs *a*, and floats F, arranged and operating as herein described.

3. The combination of the collapsible floats F, hoops A, guard-rope C, valve-box D G, adjustable brackets *m*, studs *a*, string-piece B B, constructed and arranged relatively to each other and the boat P, in the manner and for the purpose herein specified.

4. The string-piece B B, in combination with the hoops A A and flexible covering F F, substantially in the manner and for the purpose specified.

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Witnesses:
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