J. Macintosh.

Life Boat.

No. 462. Patented Nov. 11, 1837.

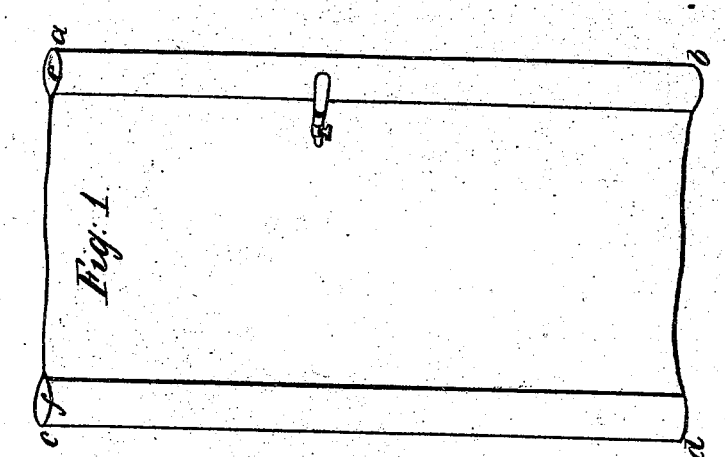

Fig. 1

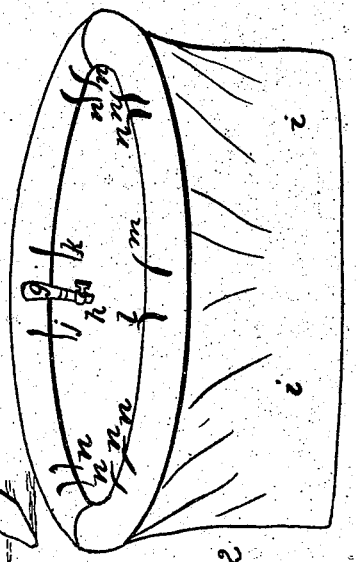

Fig. 2

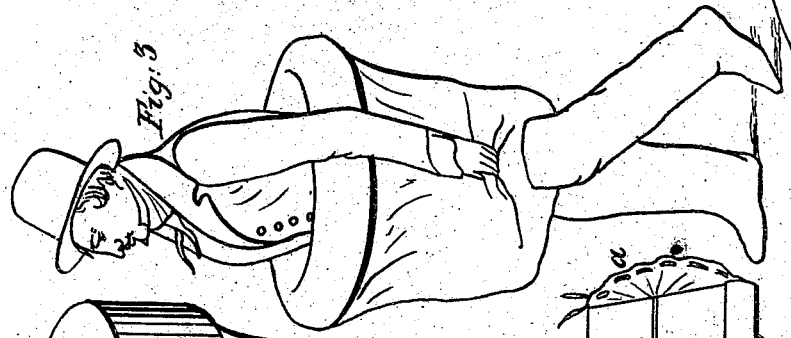

Fig. 3

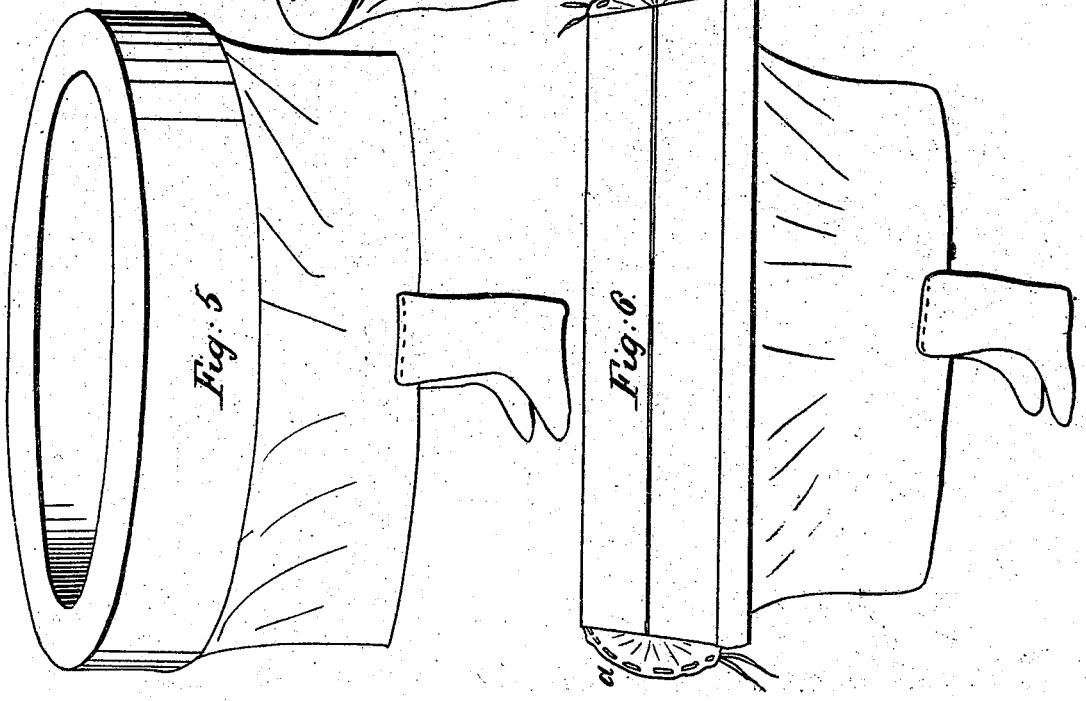

Fig. 5

Fig. 6

UNITED STATES PATENT OFFICE.

JOHN MACINTOSH, OF NEW YORK, N. Y.

MODE OF CONSTRUCTING VESSELS TO BE USED AS LIFE-PRESERVERS AND FOR OTHER PURPOSES.

Specification of Letters Patent No. 462, dated November 11, 1837.

To all whom it may concern:

Be it known that I, JOHN MACINTOSH, of the city of New York, county and State of New York, have invented a new and improved apparatus which may be used as a life-boat, for the saving of persons and property, for the conveyance of troops, baggage, and other articles across rivers, &c., and for various other useful purposes, and do hereby declare the following is a full and exact description thereof.

I take canvas, of other flexible material, and render it impervious to water by means of a solution of caoutchouc, or in any other of the known ways of effecting this object; and of this flexible materal, so saturated, I make my vessel which is to contain the persons, or things intended to be buoyed up, and conveyed upon the water. Such a vessel may be made to assume a variety of forms dependent upon the purpose for which it is to be used, whether for one or more persons, the transportation of troops and baggage, or for other objects. The manner in which I intend, most commonly to construct such a boat, or vessel, is the following.

I take a square piece of canvas, or other material, saturated as above stated, which material may be represented by *a*, *b*, *c*, *d*, Fig. 1, in the accompanying drawing. The edges *a*, *b*, and *c*, *d*, are each turned over, in the manner of forming a wide hem, so as to leave what, when filled with air, will become a tube, or air-chamber, shown at *e*, *f*, the turned-over edges being cemented down, taking care that the juncture is air-tight. The material is then doubled over, so as to bring the edges *a*, *b*, and *c*, *d*, together, and the edges of the doublatures *a*, *c*, and *b*, *d* are united by cementing, or otherwise as are also the edges of the tubes or air-chambers so as to cause them to form a continuous air-tight rim, when, if the sides *a*, *b*, and *c*, *d*, are separated to some distance apart, it will constitute a vessel resembling that shown at Fig. 2.

A small hose, or tube, *g*, furnished with a stop-cock *h*, leads into the air-chamber, which may be inflated in a few moments by applying the mouth to the stop-cock.

Instead of a single air-chamber, there may be two or three, one immediately under the other; when, should one be accidentally ruptured, no inconvenience would result therefrom.

It will be evident that a vessel so constructed, will float in the water, from the buoyancy derived from the air-chamber, and that its lower, or bag, part *i*, *i*, will also remain at the surface or nearly so; but if persons, or any weighty articles are placed upon this part, it will sink so as to displace a portion of water equivalent in weight to itself, if its specific gravity be not greater than that of water, and that in this way it may be loaded, while the tubular part or air-chamber, will remain at the surface, occupying the situation of the gunwale of a boat.

To form a covering to the persons, or things contained in the vessel, pieces of air-tight canvas, or other material, may be attached around the air-chamber, and may be folded, or drawn, over the persons, or things contained in the vessel. In some cases it may be found desirable to leave an air-opening in the covering, which opening may be surmounted by a conical tube, or other device, for admitting air, and keeping out water.

Oars, or paddles, may be used to give a direction to such vessels; and where, for the conveyance of troops or for any other purpose a number of them are to cross any water a tow line may be carried by the first and employed to draw the others over. For the purpose of using oars there should be thongs, as at *j*, *k*, *l*, *m*, which, when tied together, will form loops, through which the oars may pass.

Other devices for propelling may be used as, for example, a triangular or other float board, having a line attached to it in the manner of a log line, may be thrown out by a person in the vessel, when, by drawing the line, the vessel will be propelled or drawn toward the float-board.

By means of thongs attached to the edges of the air-chamber, as at *n*, *n*, *n*, *n*, Fig. 2, the sides of the tubular air-chamber may be made to approach each other in any part desired and any required form be given to the outline of the vessel by merely tying these thongs together.

Where it is desired to apply the principle to ships, steamboats, etc., the bag part need be but little larger than will suffice to contain one or two persons only and such articles as they may desire to have with them by having the berth mattresses of any ship, steamboat, etc., cut into two parts

lengthwise and enveloped in canvas covered with caoutchouc, or with other waterproof flexible material as aforesaid, to take the place of the tubes, with the bag of the aforesaid material placed between the 2 parts of the mattress; and in this case it will be found convenient to attach flexible leggings to the bottom of the bag to receive the legs and feet as shown at Fig. 3. A person may then carry the whole in his hand, walk about readily, and jump from a vessel or wharf into the water and when there may use his feet and legs to enable him to swim backward, forward, or in any direction he pleases.

With an apparatus of this kind a covering may be used somewhat like that shown at Fig. 4, which may be drawn around the neck, over the head, or under the arms of the person, as may be desired, and indeed this and other parts of the apparatus are susceptible of numerous modifications which, as they are dependent upon the judgment or the fancy of the person using it, it would be impossible to enumerate.

When the mattress of a vessel is used to form the gunwale of the lifeboat, such mattress may be made in two thicknesses which, when used as a mattress, lie upon each other, but when opened out, as shown at Fig. 5, will form the gunwale, the bag part depending from its lower edges or the mattress may be cut into two parts, along its middle, so as to consist of two narrow mattresses of half the usual widths, which lie side by side when in the berth; but when used as a lifeboat these open out, as shown at Fig. 6; the bag, as before, depending from their edges. In this case as the two parts of the mattress are not continuous they are to be connected by waterproof ends consisting of cloth which may be drawn up in any convenient way, as shown at *a*, *a*. This mode of using the mattress I prefer, the gunwale part being in this case of half the width and double the thickness of that first described, which I find to be advantageous.

What I claim as my invention and wish to secure by Letters Patent, is—

The constructing an apparatus, or vessel, wholly of such flexible material as are herein described, one portion of which material shall constitute an air chamber or air chambers, which may be readily inflated by the mouth; or of any flexible article whose specific gravity is less than that of water such as the materials which are commonly used in ship berth mattresses and filled with air, steam, etc., while another portion thereof shall constitute a bag or receptacle to contain persons, baggage, goods, ammunition, etc., whether waterproof or not, and this I claim whatever may be the form given to such vessel, bag, or receptacle or to any covering which may be used therewith while it is so constructed as to operate substantially in the manner or upon the principle herein set forth.

JOHN MACINTOSH.

Witnesses:
W. THOMPSON,
I. E. THOMPSON.