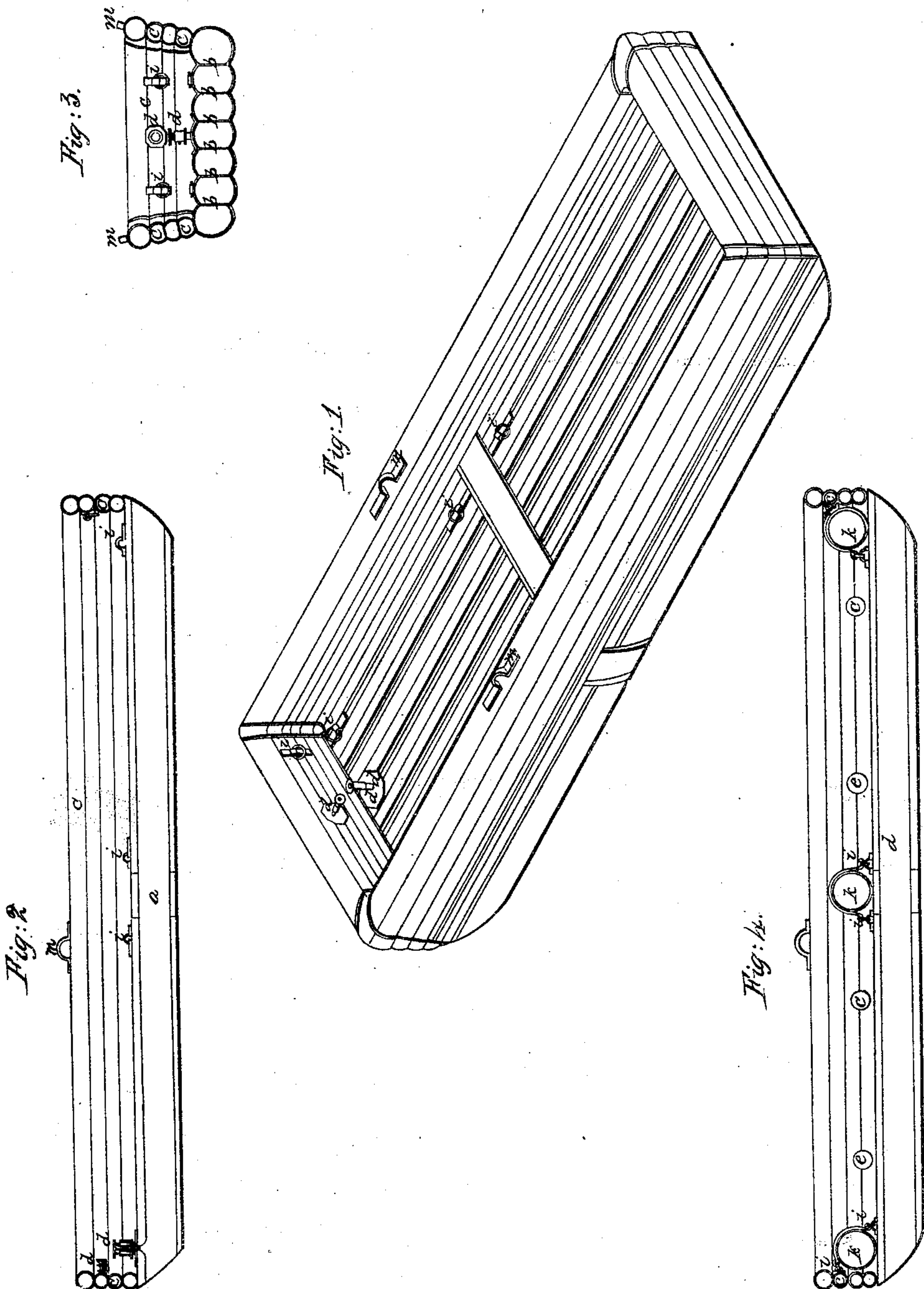


E. T. Starr, Life Raft.

N^o 6,363

Patented Apr. 17, 1849.



UNITED STATES PATENT OFFICE.

EBEN T. STARR, OF NEW YORK, N. Y.

DIVISION BETWEEN THE TUBES OF FLEXIBLE BOATS.

Specification of Letters Patent No. 6,363, dated April 17, 1849.

To all whom it may concern:

Be it known that I, EBEN T. STARR, of New York, in the county of New York and State of New York, have invented a new and useful Boat Constructed of Flexible Materials; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a longitudinal section. Fig. 3 is a cross section. Fig. 4 is a section showing scupper and seats.

The character of my invention consists in the construction of a perfect boat of flexible water proof cloth, without the aid of wood or any other rigid material for framing, flooring, or bracing, so that when the said boat is not in use it may be folded and packed in a convenient form for transportation, and when required for use, may be resolved into a boat, with bottom, bow, sides, stern and seats, complete in every respect, by mere inflation, having all the stiffness and rigidity required for transporting any weight, it may have the capacity to carry. This complete formation of a boat without the aid of wood, iron, or any other rigid material, forms the features of novelty of my invention.

I am aware that cylinders of flexible cloth have been used to form the floating parts upon which to construct rafts; I also know of the use of waterproof cloth instead of planks, stretched over a rigid frame, and thus forming a boat; but I know of no means hitherto employed for forming a boat of flexible material which shall have all the requisite stiffness, strength, and sailing qualities, without the aid of such rigid framing, in some shape or other.

The method I use in making my boat, is to provide a suitable quantity of water proof cloth; prepared india rubber cloth I prefer; with this I form between two surfaces a series of air cells, of which the bottom and sides of the boat shall be composed; the bottom cells run longitudinal as seen at (a) in the section of Fig. 2, and which would have the appearance, if cut in cross section, as seen in Fig. 3 at letter (b). The division being made by introducing a webbing as represented; this webbing divides the bottom in

a series of air tight compartments; so that if by chance any one or more of said compartments should be cut or torn, no danger would ensue, the buoyancy remaining in the rest being sufficient. Upon a bottom of this character, I next build up the sides, bow, and stern in like manner, so that there shall be an interior space when divided into distinct compartments by cloth division as in the case with the bottom, and as shown at (c, c, c, c).

The material I have described as used by me in the construction of my invention is flexible but not elastic, or at least elastic in a very slight degree; therefore some danger might arise to the permanency of the boat from expansion of the air in the compartments. To remedy this danger in boats used in situations where this is likely to occur, I introduce instead of the non-elastic webbing for making the divisions (c c and b b), an elastic material, such as sheet india rubber, in sufficient quantity to insure the expansion required for any increase in the volume of the air contained within.

The compartments may be inflated separately or together by the tube valves (d d). The holes seen in the section Fig. 4 at (e e e e) are scuppers of cloth placed around the sides near the bottom in sufficient number, to relieve the boat of water, in the case of shipping seas. The rings (i i and c) are for the purpose of strapping down seats, composed of air tight cloth, which when inflated compose bolsters, suitable for that purpose, as seen at (k k). At (m m) are straps to act as row-locks, for the oars to work in.

I do not claim arranging or lashing together a series of inflated cylinders composed of flexible water proof material to form a raft or boat, neither do I claim the lashing of such cylinders around the gunwale or sides of a boat to insure buoyancy; nor do I claim forming a boat by stretching waterproof cloth or sheets of india rubber over an inflated frame resembling the ribs of such, or any attachment of such substances to a frame for these purposes; but

What I claim as new and of my own invention and desire to secure by Letters Patent is—

Making the interior divisions (b b and c c) (which to a certain extent confine the webs

or waterproof material forming the outer and inner surfaces of the boat) of some elastic substance, such as sheet india-rubber to allow of the expansion of the air contained in the compartments whenever the same shall occur from the exposure of the boat to a higher temperature than it was in,

at the time of its inflation, the whole construction and operation being substantially as described and set forth herein.

EBEN T. STARR.

Witnesses:

J. P. PIRSSON,

J. L. KINGSLEY.