June 12, 1945. L. E. RABJOHN 2,377,963

COLLAPSIBLE BOAT

Filed July 26, 1944

Fig. 1

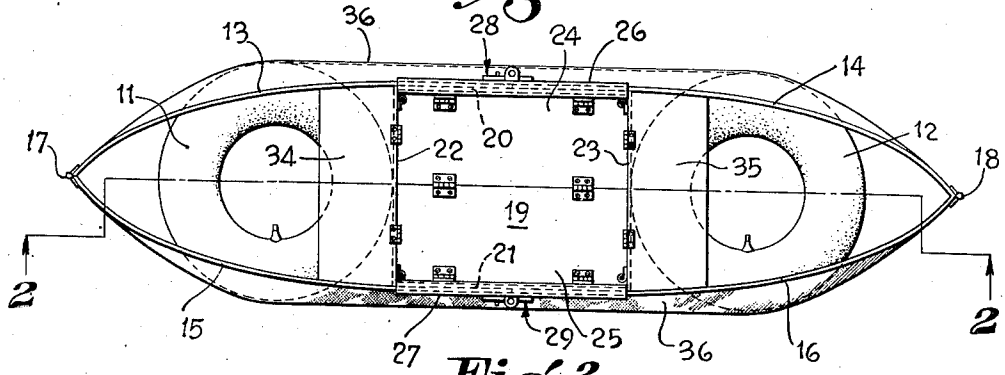


Fig. 2

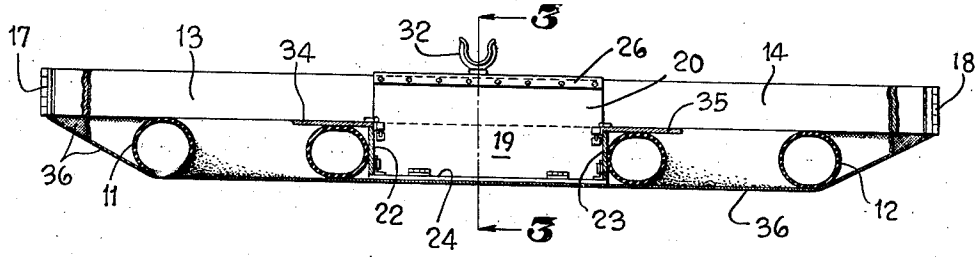


Fig. 3

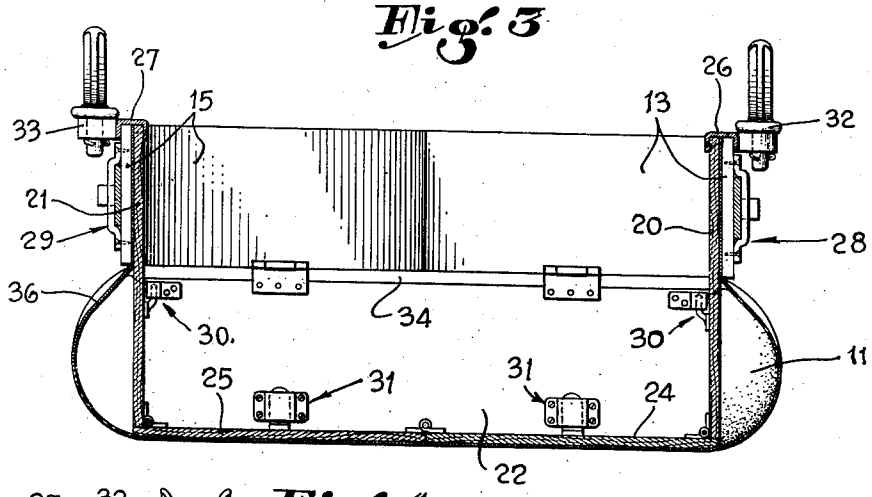
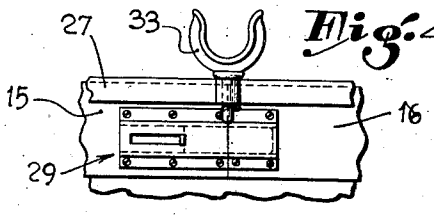


Fig. 4



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COLLAPSIBLE BOAT

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7 Claims. (Cl. 9—2)

My present invention relates to collapsible boats and has for a general object the provision of a boat which, when collapsed and folded, can be readily transported by a single person and yet is capable of carrying several people.

Another object of the invention is to provide a boat, depending mainly upon inflated elastic tubes for buoyancy, which is not easily capsized; a further object being to provide, in such a boat, means supported by the inflated tubes and forming a "freeboard" which protects the interior of the boat from waves and from entrance of water when the boat is rocked.

Another object is to employ elastic tubes, of the automobile inner-tube type, for buoying the boat and for supporting the passenger compartment in an effective manner.

Other objects and advantages of the invention will be found in the description, the drawing, and the claims; and, for full understanding of the invention, reference is to be had to the following detailed description and accompanying drawing, wherein:

Figure 1 is a plan of a boat embodying the invention;

Figure 2 is a longitudinal section taken along the line 2—2 of Fig. 1;

Figure 3 is an enlarged transverse section taken along the line 3—3 of Fig. 2; and

Figure 4 is a detail view showing the manner in which the two-part side members 13—14 and 15—16 are joined.

In the drawing, the numerals 11 and 12 indicate a pair of annular rubber tubes which conveniently may be inner-tubes, of automobile tires, having a cross-sectional diameter of approximately nine inches when inflated. Resting on these tubes is a pair of longitudinal members, each comprising two equal sections 13—14 and 15—16 which form the upper side portions of the boat and are joined together at their opposite ends by hinges 17 and 18. The side members 13—14 and 15—16 are of flexible material, such as thin wood, so that they can be spread apart, in assembly, to receive between them at the middle of the boat a well-like structure generally indicated by the numeral 19 and comprising a pair of side walls 20 and 21, a pair of end walls 22 and 23, and a bottom (in two sections) 24—25. The side walls 20 and 21 extend above the end walls 22 and 23 by an amount equal to the height of the side members 13—14 and 15—16 so that, when the structure is in position, the tops of the side walls coincide with the tops of the side members and the tops of the end walls with the bottoms of these members.

Secured to the top portion of each of the side walls 20 and 21, and extending the full length thereof, are metallic channels 26 and 27 which, as best seen in Fig. 3, fit snugly over the adjacent portions of the respective side members 13—14 and 15—16. To reinforce the junctions of the side members there is provided a pair of sliding catches 28 and 29, one of which is shown in detail in Fig. 4.

Conveniently, the side walls 20 and 21 are hinged to the two-part bottom 24—25, which two parts are likewise hinged together; the end walls 22 and 23 being attached to the side walls and to the bottom by upper and lower catches identified in Fig. 3 by the numerals 30 and 31. Hinged to the top of the respective end walls are seats 34 and 35; and welded to the channels 26 and 27 are oarlocks 32 and 33. Attached to the side members 13—14 and 15—16 is a flexible waterproof covering 36, of treated canvas or other suitable material, which forms the entire outer bottom portion of the boat.

In its disassembled condition the boat consists of six units: (1) the side members 13—14 and 15—16 with cover 36 attached, the side members being folded together at their ends and again at their middles (catches 28 and 29 being opened) so that this unit is one-half the length of the boat; (2) the side walls 20 and 21 and the bottom 24—25, all folded together; (3 and 4) end wall 22 and seat 34, and end wall 23 and seat 35; and (5 and 6) deflated tubes 11 and 12.

To prepare the boat for use: the well-like structure 19 is first assembled by unfolding the side walls and bottom, and sliding the end walls and seats into position; this structure is then inserted between the spread-apart side members (after their middle junctions have been made relatively rigid by closing catches 28 and 29), channels 26 and 27 being hooked over the top edges of the side members; and, finally, the tubes 11 and 12 are inserted in position and inflated.

Employing a pair of ordinary automobile inner-tubes for buoyancy, the boat can conveniently support as many as four people due to the distribution of their weight upon the tubes through the side members and the seats. An important feature of the invention is the protection against entrance of water afforded by the upwardly-extending side members 13—14 and 15—16.

The embodiment of the invention herein shown and described is obviously susceptible of modifi-

cation without departing from the spirit of the invention, and I intend therefore to be limited only by the scope of the appended claims.

I claim as my invention:

1. In a collapsible boat: a pair of members forming upper portions of the sides of the boat, an inflated tube for supporting said members, a well-like structure carried by and between said members intermediate their ends and extending below the members, and waterproof fabric attached to said members and extending beneath said tube and said structure to form the lower part of the boat.

2. In a collapsible boat: a pair of longitudinal members joined together at their respective opposite ends and spread outwardly from each other intermediate their ends to form the upper part of the sides of the boat, an inflated tube for supporting said members, a well-like structure carried by and between said members intermediate their ends and extending below the members, and waterproof fabric attached to said members and extending beneath said tube and said structure to form the lower part of the boat.

3. In a collapsible boat: a pair of members forming upper portions of the sides of the boat, a pair of inflated tubes upon which the opposite end portions of said members rest, a well-like structure carried by said members and disposed between the members and between said tubes, said structure extending below said members, and waterproof fabric attached to said members and extending beneath said tubes and said structure to form the lower part of the boat.

4. In a collapsible boat: a pair of longitudinal members joined together at their respective opposite ends and spread outwardly from each other intermediate their ends to form the upper part of the sides of the boat, a pair of inflated tubes upon which the opposite end portions of said members rest, a well-like structure carried by said members and disposed between the members and between said tubes, said structure extending below said members, and waterproof fabric attached to said members and extending beneath said tubes and said structure to form the lower part of the boat.

5. In a collapsible boat: a pair of longitudinal members joined together at their respective opposite ends and spread outwardly from each other intermediate their ends to form the upper part of the sides of the boat; a pair of inflated elastic tubes upon which the opposite end portions of said members rest; a well-like structure disposed between said members and between said tubes, said structure comprising side walls, end walls and a bottom, and being removably attached by its side walls to said members; a seat extending from each of said end walls so that it rests upon a portion of the corresponding one of said tubes; and waterproof fabric attached to said members and extending beneath said tubes and said structure to form the lower part of the boat.

6. In a collapsible boat: a pair of longitudinal members of substantial height joined together at their respective opposite ends and spread apart from each other intermediate their ends to form the upper part of the sides of the boat; a pair of annular inflated elastic tubes, horizontally disposed, upon which the opposite end portions of said members rest; a well-like structure disposed between said members and between said tubes, said structure comprising side walls, end walls and a bottom, and being removably attached by its side walls to said members so that the tops of said end walls are in the general plane of the bottoms of the members; a seat extending from the top of each of said end walls and resting upon a portion of the corresponding one of said tubes; and waterproof fabric attached to said members and extending beneath said tubes and said structure to form the lower part of the boat.

7. In a collapsible boat: a pair of longitudinal members of substantial height joined together at their respective opposite ends and spread apart from each other intermediate their ends to form the upper part of the sides of the boat; a pair of annular inflated elastic tubes, horizontally disposed, upon which the opposite end portions of said members rest; a generally-rectangular well-like structure disposed between said members and between said tubes, said structure comprising a pair of side walls, a pair of end walls, and a bottom; said side walls extending above the tops of said end walls to a height substantially equal to that of said members and being removably attached to the members so that the tops of the end walls are in the general plane of the bottoms of the members; a seat extending from the top of each of said end walls and resting upon a portion of the corresponding one of said tubes; and waterproof fabric attached to said members and extending beneath said tubes and said structure to form the lower part of the boat.

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