

May 21, 1963

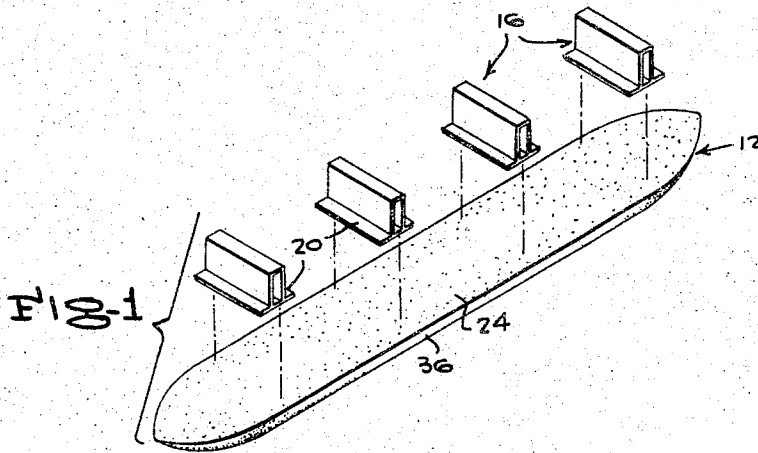
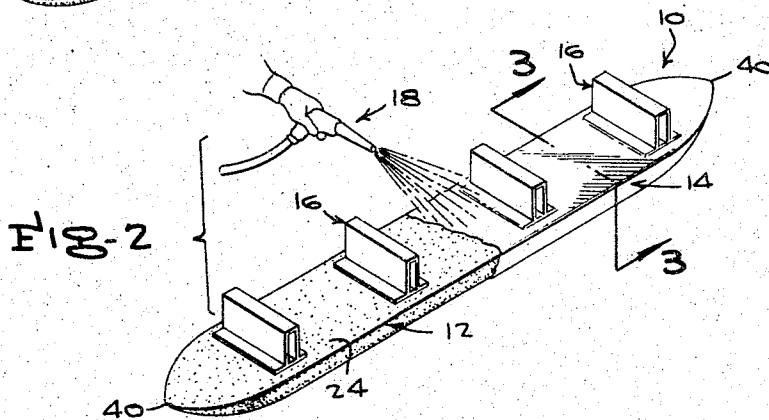
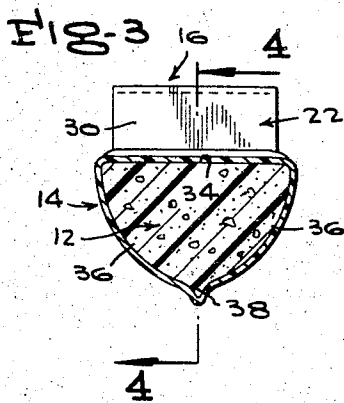
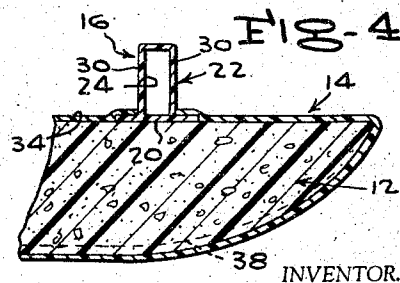
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3,090,339

MOLDED PLASTIC PONTOONS

Filed April 6, 1962

2 Sheets-Sheet 1



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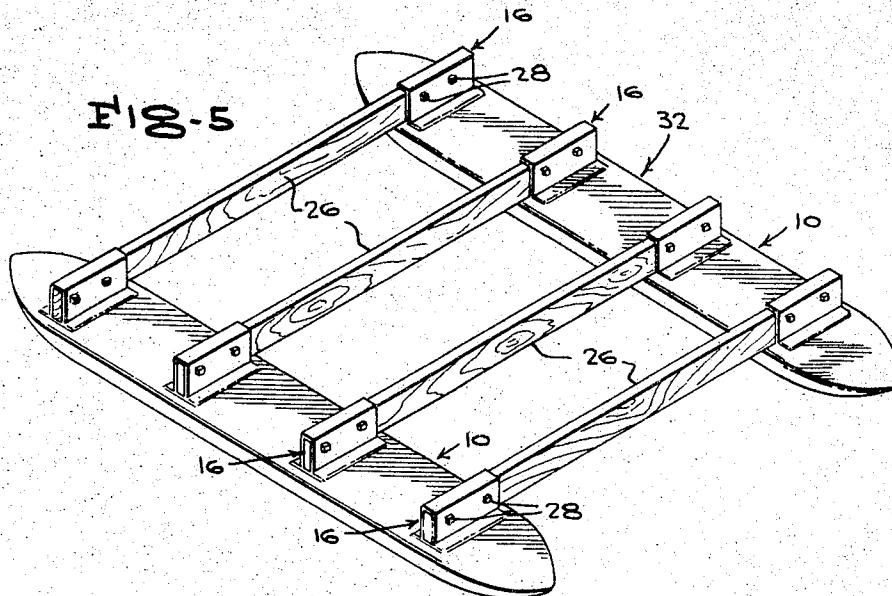
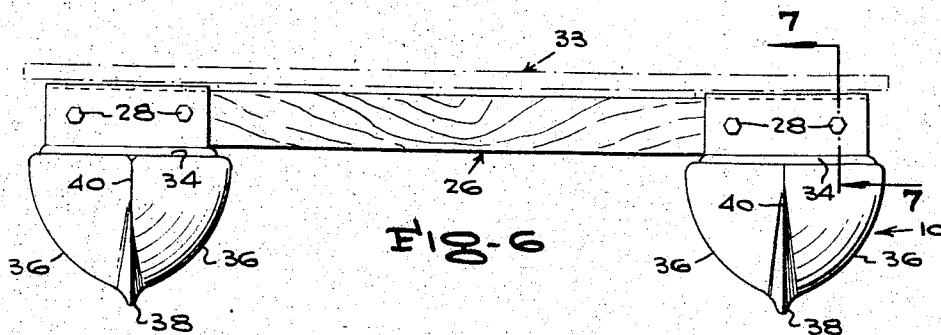
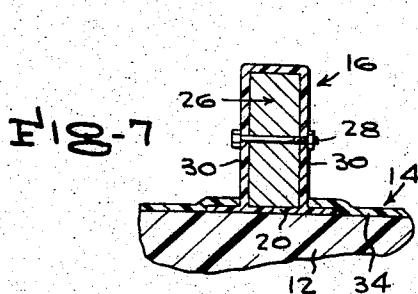
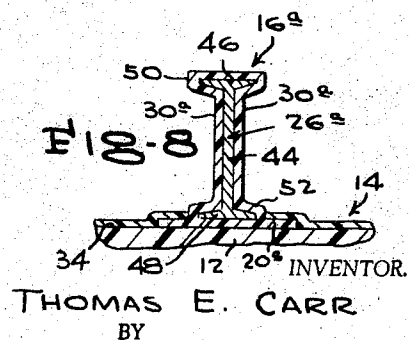
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MOLDED PLASTIC PONTOONS

Filed April 6, 1962

2 Sheets-Sheet 2



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3,090,339

MOLDED PLASTIC PONTOONS

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1 Claim. (Cl. 114--66.5)

This invention relates to improved molded plastic pontoons for use in constructing water craft, rafts, floats, and other structures useful for water sports, and for other uses, such as military pontoon bridges and aircraft.

The primary object of the invention is the provision of molded plastic pontoons of the kind indicated, which are lighter in weight, cheaper, more durable, and hence safer and more reliable in service than existing pontoons of comparable utility.

Another object of the invention is the provision of improved pontoons of the character indicated above, which comprise bodies of molded plastic, which constitute the buoyant components of the pontoons, and hollow plastic covers for the bodies, which constitute the rigidifying and stress resisting components of the pontoons.

A further object of the invention is the provision of pontoons of the character indicated above, wherein mounting eyes, of the same material as the covers, are secured to the covers, for receiving and securing to the pontoons, cross members, of suitable material, in the construction of buoyant structures involving two or more pontoons.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

FIGURE 1 is an exploded perspective view showing a plurality of eyes before application to a molded buoyant body;

FIGURE 2 is a perspective view showing a part of the cover being spray applied to the body to form its cover and to secure the eyes thereto;

FIGURE 3 is an enlarged vertical transverse section taken on the line 3--3 of FIGURE 2;

FIGURE 4 is a fragmentary vertical longitudinal section taken on the line 4--4 of FIGURE 3;

FIGURE 5 is a perspective view of a float involving two of the pontoons and cross members;

FIGURE 6 is an enlarged end elevation of FIGURE 5, showing, in phantom lines, a deck imposed thereon;

FIGURE 7 is a fragmentary vertical longitudinal section taken on the line 7--7 of FIGURE 6; and

FIGURE 8 is a view like FIGURE 7, showing alternate forms of eyes and cross members.

Referring in detail to the drawings, wherein like and related numerals designate like and related parts throughout the several views, and first to FIGURES 1 through 7, the numerals 10 generally designate individual pontoons, composed of molded buoyant bodies 12, covers 14, and mounting eyes 16, secured by the covers to the bodies.

The bodies are moulded to shape of buoyant plastic foam material, such as polystyrene having expandable beads, and having a closed cell constitution, such as is commercially known as "Styrafoam," or of polyurethane rigid foam.

The covers 14 are coatings of fiber glass, impregnated or otherwise, applied to all of the surfaces of the bodies 12, as by means of a pressure spray nozzle 18, as shown in FIGURE 2, and which dries to form the rigid stress-resistant structural components of the pontoons. The fiber glass covers 14 are abrasion-, water-, and corrosion-proof, and are highly resistant to collision and other

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shock damage, and water-proof. The bodies 12, even should the covers 14 be ruptured, are non-absorbent and incapable of substantial absorption of water, so that even in a damaged condition, the pontoons retain their reliable flotation characteristics.

Inverted channel mounting eyes 16 are preferably molded of fiber glass, but can be made of other suitable plastic or other materials, and have base flanges 20 extending from both sides thereof, adapted to rest upon the upper surfaces of the bodies 12, and be covered by the material of the covers 14, as shown in FIGURES 2, 3, 4 and 7, so that the eyes are securely fixed to the covers and anchored to the bodies. The eyes 16 extend crosswise of the bodies, at spaced intervals therealong, and provide transversely elongated rectangular bores 24, for the reception of rectangular cross section cross members 26, which are adapted to be secured in the eyes, as by means of bolts 28, extended through the sidewalls 30 of the eyes, for constructing such as a two-pontoon float 32, having a flat platform 33 laid upon and suitably secured to the cross members 26.

The bodies 12 are preferably of mutilated semi-cylindrical solid cross section, provided flat top surfaces 34, and arcuate side surfaces 36, which merge, at their lower ends, into V-shaped centered keels 38. As shown in FIGURE 4, the keels and side surfaces of the bodies 12 having pointed ends 40, formed by the convergent curving of the side surfaces 36 and the keels 38, to the top surfaces 34.

In FIGURE 8 is shown an alternate form of eye 16a and cross member 26a. The cross member 26a is in the form of an I-beam 26a, of suitable material, including lightweight metal, having a vertical web 44, a top flange 46, and a bottom flange 48, which are conformably enclosed by the flat tubular web composed of sidewalls 30a, and flat tubular upper and lower pontoons 50 and 52, respectively, and a wider base flange 20a, which is overlaid by and secured to the cover 14 and rests upon the top surface 34 of the body 12.

Pontoons in accordance with the present invention, can be produced otherwise than as hereinabove described, as by forming the covers 14 with attached eyes 16, and then injecting the material of the bodies into the covers.

While there have been shown and described preferred forms of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claim appended hereto.

What is claimed is:

A pontoon comprising an elongated molded body of buoyant plastic foam, a rigid fiber glass cover conformably enclosing and covering said body, and transverse channel mounting eyes upstanding from the cover, said eyes having base flanges bearing upon the body and positioned beneath and bonded to the cover.

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