Jan. 14, 1964 D. E. MATHEW 3,117,327

BUOYANT CHAIR

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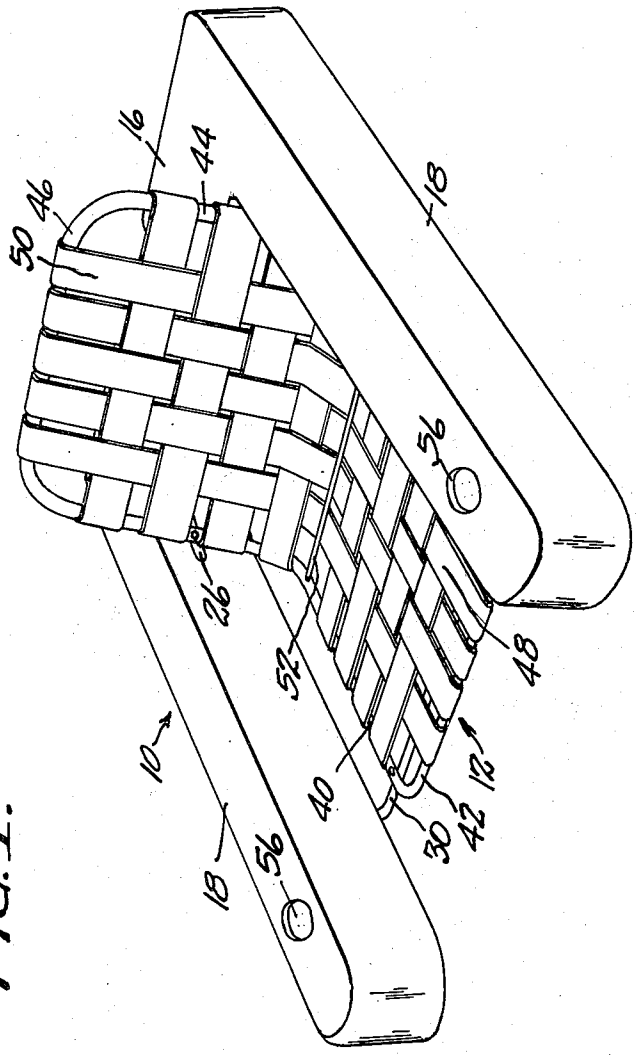


FIG. 1.

INVENTOR.
DAVID E. MATHEW
BY
Eugene C. Kuoblock
ATTORNEY.

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FIG. 2.

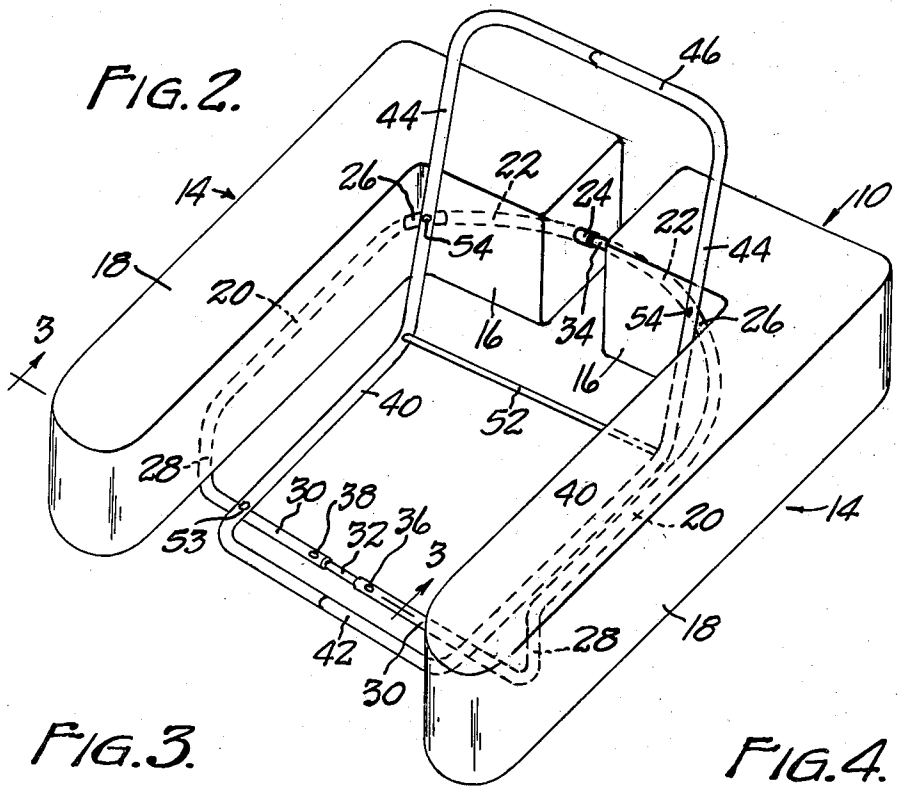


FIG. 3.

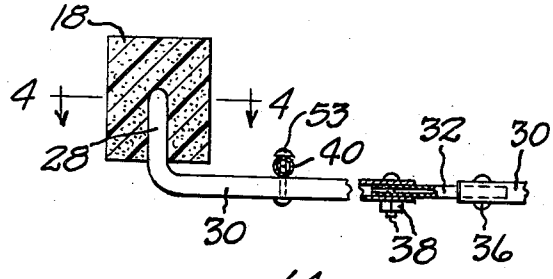
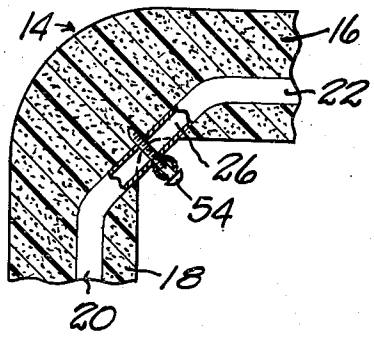


FIG. 4.



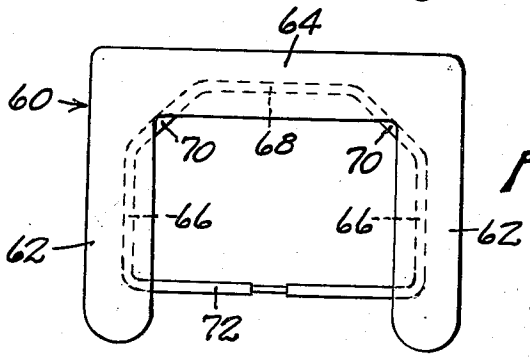


FIG. 5.

INVENTOR.
DAVID E. MATHEW
BY
Eugene C. Knoblock
ATTORNEY.

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BUOYANT CHAIR

David E. Mathew, Elkhart, Ind., assignor to Formex Corporation, Elkhart, Ind., a corporation of Indiana

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3 Claims. (Cl. 9—347)

This invention relates to improvements in buoyant chairs, and more particularly to a chair, lounge or support which may be used by bathers and swimmers as a means to float upon water in a comfortable seated, reclining or lounging position.

The primary object of this invention is to provide a device of this character which is simple in construction, sturdy, safe from loss of buoyancy during use, comfortable to use, and stable in use so that a user may move about thereon and may propel himself while seated or supported therein.

A further object is to provide a device of this character which may be constructed from preassembled component parts and readily assembled and disassembled for storage and shipment.

A further object is to provide a device of this character having a buoyant section of novel shape and construction formed of unicellular buoyant material and reinforced by a rigid frame to which a supporting seat or part may be secured easily and conveniently without danger of impairment of the buoyant properties of the device and without sacrifice of strength of the connection of the buoyant part and the seat or part supported thereby.

Other objects will be apparent from the following specification.

In the drawing:

FIG. 1 is a perspective view of one form of the device;

FIG. 2 is a perspective view of the device illustrating the buoyant unit and the frame only of the seat unit;

FIG. 3 is a fragmentary sectional view taken on line 3—3 of FIG. 2, and illustrating some of the parts in elevation;

FIG. 4 is a fragmentary horizontal sectional view taken on line 4—4 of FIG. 3; and

FIG. 5 is a top plan view of the buoyant section of the unit, illustrating a modified embodiment of the invention.

Referring to the drawings which illustrate preferred embodiments of the invention, and particularly to FIGS. 1 to 4, inclusive, the numeral 10 designates a buoyant unit to which is detachably secured a seat or support unit 12. In the form illustrated in FIGS. 1 and 2, the buoyant unit 10 comprises a pair of L-shaped buoyant members 14 arranged with comparatively short leg portions 16 thereof in aligned relation and with elongated leg portions 18 thereof coplanar and substantially parallel, but members 14 may be C-shaped, straight, or of any other form desired. The units 14 are formed of any desired cross-sectional shape or configuration and preferably are substantially rectangular, as shown in FIG. 3, but this shape is not necessary and may be varied as desired. The portions 16 and 18 of each of the sections 14 may be of substantially uniform cross-section throughout, although variations in the cross-sectional dimension may occur in each at selected points thereof, if desired. Each of the sections 14 is formed of a shape-retaining buoyant material preferably of unicellular or foamed type. Examples of material particularly well suited for the buoyant parts 14 are expanded polystyrene, expanded urethane resins, and expanded polyethylene. The members 14 will preferably be formed by molding.

Each of the members 14 has a reinforcing member extending therethrough with spaced parts of each projecting from said member 14. The reinforcing members are preferably of the character of metal tubes, and aluminum tubes are particularly well suited for this purpose because of their light weight and resistance to corrosion. However, non-ferrous tubing, such as copper tubing, may also be utilized and, if desired, ferrous tubing may also be employed. In the L-shaped form shown in FIGS. 1 and 2, each of the members 14 has a run 20 of metal tubing extending substantially centrally in the arm portion 18 longitudinally thereof for the major portion of the length of said arm, and a run 22 extending through the portion 16 and projecting from the end of the buoyant portion 16 at 24. A portion 26 of the tube between the runs 20 and 22 preferably extends substantially diagonally relative to the buoyant parts 16 and 18 and exterior of the outline thereof, as illustrated in FIGS. 2 and 4. From the tube run 20 adjacent the front of the buoyant part 18 extends a depending run portion 28 projecting from the bottom surface of the buoyant member 18, and from the part 28 extends a terminal tube portion 30 extending substantially parallel to the opposite terminal tube portion 24. The buoyant members 14 and their reinforcing frames are complementary so that, when they are arranged in coplanar relation with the legs 16 aligned and confronting, the tube ends 24 and 30 of each will similarly be aligned and confronting. It will be understood that the arrangement of the tube may be similar at both ends of the assembly in cases where the opposite ends of the buoyant unit are similar or substantially similar.

The aligned tube ends 24 and 30 may be interconnected by tubes 32 and 34 having a snug telescoping fit in the parts 30 and 24, respectively. The joint tubes or unions 32 may be connected to the parts in which they telescope or by which they are telescoped, as the manufacturer selects, in any suitable manner. Thus each of the tube units 32 and 34 may be secured permanently or detachably, or may be connected permanently to one of the cooperating tubes and detachably to the other. FIG. 3 illustrates the telescoped relation of the tube 32 in tube ends 30 and also illustrates the use of rivets 36 for permanently connecting one end of union tube 32 to one of the frame tubes 30 and the use of a nut and bolt assembly 38 for detachably connecting the other end of the tube union 32 to the tube end of the cooperating buoyant frame member 14. It will be apparent, however, that other fastening means well known in the art may be employed, if desired. The tube unions 32 and 34 will be of such strength and character as to rigidly unite the two frame sections 14 of the buoyant frame unit 10 in substantially U-shape as illustrated in FIGS. 1 and 2.

A removable seat or support unit 12 may assume any shape or character found suitable or desirable. In the form shown, the seat unit is provided with a tubular frame of light weight rigid construction. This frame is preferably a contoured closed loop having spaced substantially parallel side seat-supporting runs 40 and front seat-supporting run 42 interconnecting runs 40 and substantially parallel to the frame tube parts 30. The frame also includes substantially parallel upwardly projecting side members or runs 44 for supporting a back rest, and upper cross member 46 connecting the runs 44 preferably at a level above the level of the buoyant frame 10. A seat portion 48 and backrest portion 50 are secured by the tubular frame 42, 44 and 46 in any suitable manner. As here shown, such seat and backrest may consist of flexible strips or tapes formed of fabric or any other suitable flexible material preferably resistant to deterioration by moisture and by sun. Examples of such material are synthetic resin webbing woven as illustrated in FIG. 1. The webbing may be

secured to the seat frame in any suitable manner well understood in the art, as by the use of screws or other securing means (not shown). A cross brace 52 is preferably provided extending between opposite sides of the frame adjacent the junction of the runs 40 and 44 of the frame to assist in maintaining the shape or contour of both the frame and the seat and backrest.

Any suitable type of securing means may be provided to interconnect the seat and backrest frame with the frame of the buoyant unit at points at which said frames contact each other. Thus the front portion of the seat-supporting runs 40 may be secured to the frame terminal portions 30 at 53, and the backrest frames 44 may be secured to the diagonal or exposed reinforcing frame parts 26 at 54. In FIG. 3 the securing means 53 are illustrated as being rivets, and in FIG. 4 the securing means 54 are illustrated as being screws having threaded engagement in apertures in the diagonal tube portion 26. These means are understood to be illustrative only, and it will be understood that the attachment means 53 and 44 may be similar to each other and that they may be of any other conventional and well known type or character.

Assuming that the frame of the two sections of the buoyant unit 10 are detachably interconnected, and that the attachment means 53 and 54 between the frame of the seat and backrest unit and of the buoyant unit are detachable, it will be observed that the chair may be disassembled for purposes of compactness during shipment and storage. Upon interconnection of the parts, as illustrated in FIGS. 1 and 2, the seat rest and the buoyant unit serve mutually reinforcing purposes. Also, if desired, assuming that the tube unions 32 and 34 are fixedly secured at one end of each and have a telescoping fit at the other end thereof with a cooperating frame part of the buoyant unit, detachable securing means, such as illustrated in FIG. 3 at 38, may be eliminated, and the frame 42, 44, 46 of the seat and backrest may be relied upon to interconnect the parts 14 of the buoyant unit by virtue of its connections 53 and 54 with the parts of the buoyant unit frame. The parts of the device, when assembled, assume a seat-forming position, have stability when floating in the water whether occupied or empty, and provide a convenient and comfortable seat in which a user may float upon the water, and in which he may move upon the water by propelling himself by movement of either his arms or legs in the water, or by the use of paddles or oars (not shown). Also, if desired, the arm rest portions 18 may be provided with recesses 56 in the upper faces thereof to receive and retain articles which the user desires to have available and accessible as he uses the seat to float upon the water.

The formation of the buoyant unit 10 in sections is optional. Thus a buoyant unit 60 may be provided as illustrated in FIG. 5, characterized by a unitary body of U-shape or other selected shape formed of unicellular buoyant material having spaced buoyant arm rest portions 62 and one or more integral cross parts 64. Within this buoyant unit 60 may be imbedded a unitary supporting frame formed of rigid material, such as metal

tubing having projecting parts. Thus as seen in FIG. 5, the frame may be characterized by runs 66 extending through portions of buoyant arms 62, run 68 extending through the cross member 64 of the buoyant portion, diagonal partially exposed frame parts 70 located at the junctions of the buoyant arms 62 and cross part 64, and a cross frame member 72 interconnecting the free ends of the arms 62 and positioned below the level thereof, as explained previously. A seat unit 12 of the character described above will be supported upon the buoyant unit and secured thereto at parts 70 and 72 in the manner previously described.

While the preferred embodiments of the invention have been illustrated and described, it will be understood that changes in the construction may be made within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. A buoyant chair comprising a rigid buoyant unit having arm rest and rear portions formed of shape-retaining unicellular buoyant material and a tubular metal reinforcing frame having portions imbedded in said unicellular material and a portion interconnecting the free end portions of said arm rests, spaced portions of said frame projecting from said unicellular material spaced from said arm-rest connecting frame portion, and a seat unit having a rigid part secured to said arm-connecting and projecting frame portions.

2. A buoyant chair comprising a substantially U-shaped rigid buoyant unit, said unit including a body formed of unicellular buoyant material and a tubular metal reinforcing frame having portions imbedded in said body, and a cross portion extending between the free ends of said U-shaped unit, portions of said frame spaced from said cross portion projecting from the outline of said body, and a seat unit having a rigid part secured to the cross portion and projecting portions of said frame.

3. A buoyant chair comprising a substantially U-shaped rigid buoyant unit, said unit including a body formed of unicellular buoyant material and a rigid reinforcing frame having portions imbedded in said body and spaced portions projecting from the outline of said body, one of said frame portions projecting downwardly from said buoyant unit and connecting the free ends thereof, and a seat unit having a rigid part secured to said proecting frame portions, a part of said seat unit being positioned adjacent the level of the lower portion of said buoyant unit.

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