

Oct. 19, 1943.

A. PERRI

2,332,009

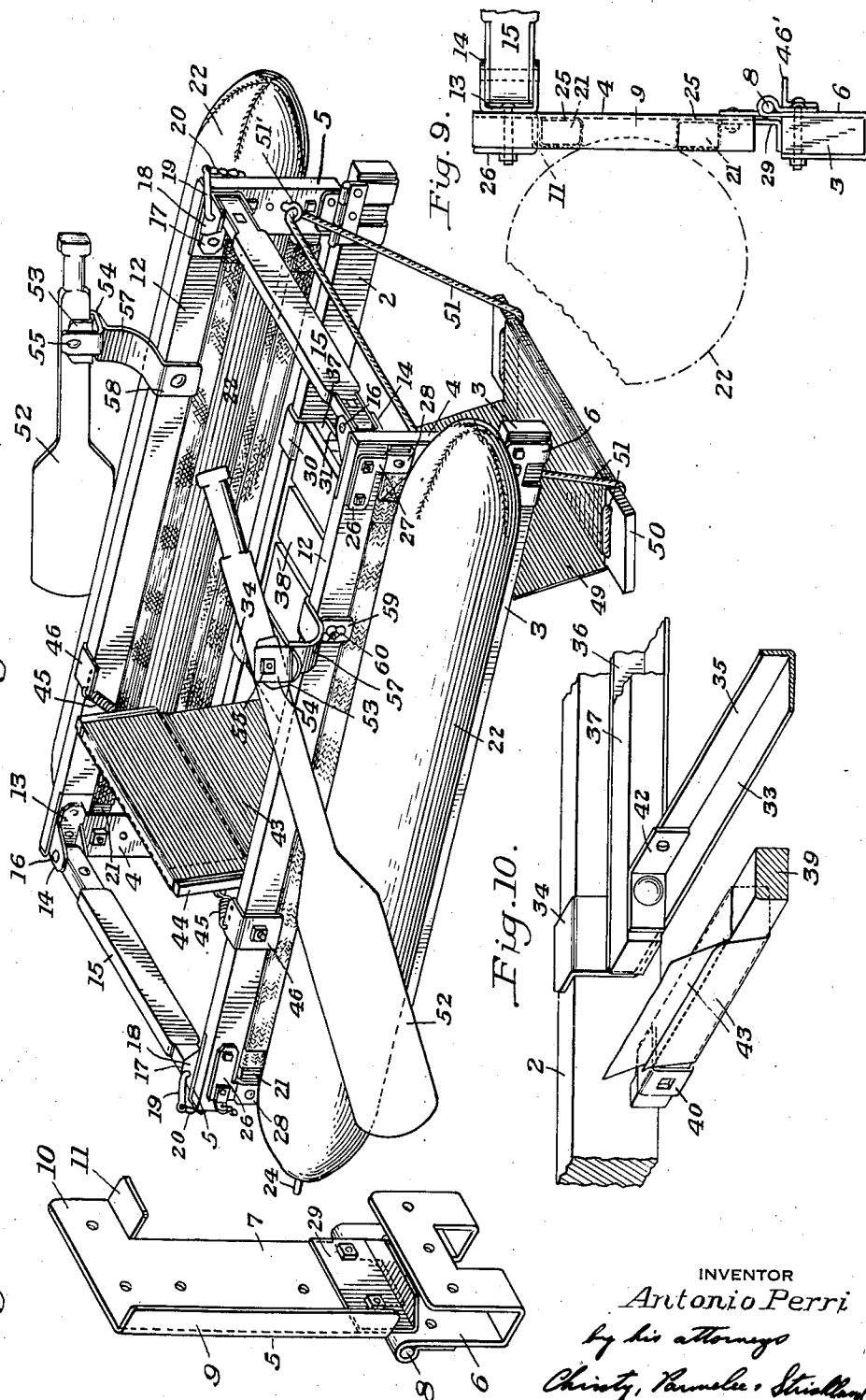
FLOAT

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4 Sheets-Sheet 1

Fig. 1.

Fig. 8.



INVENTOR
Antonio Perri
by his attorneys
Christy, Parmelee, Strickland

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A. PERRI

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Fig. 2.

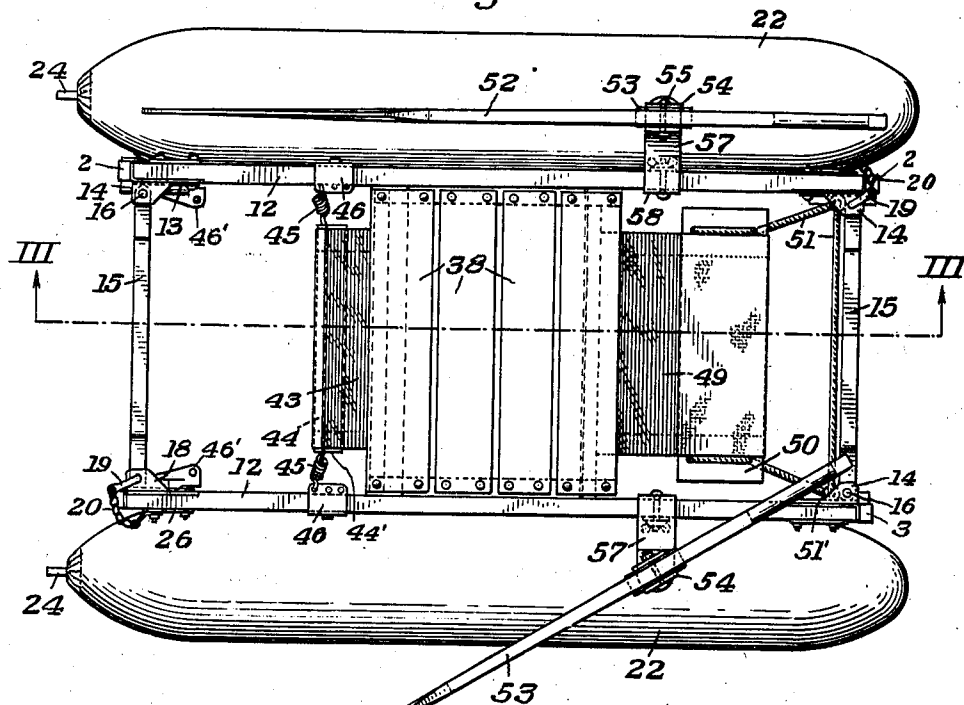


Fig. 3.

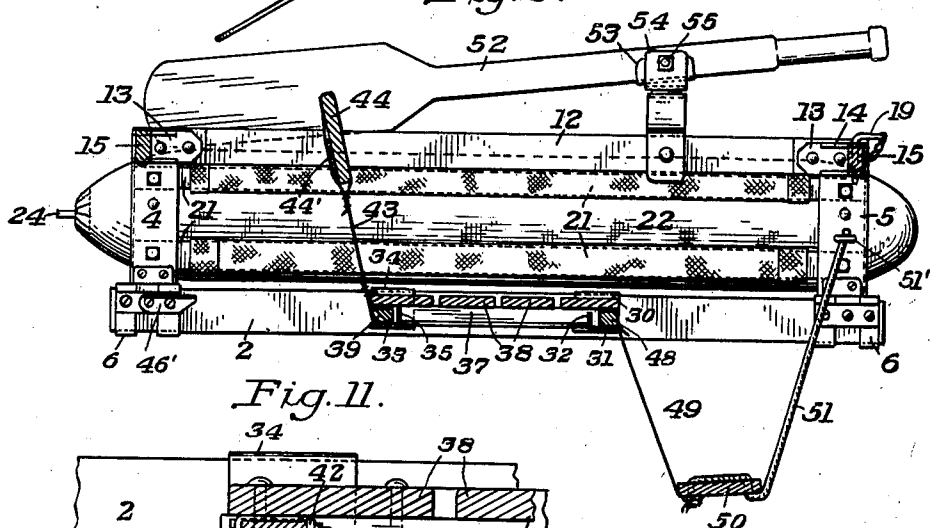
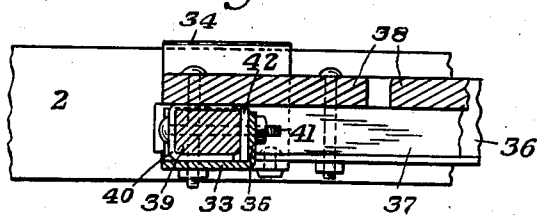


Fig. 11.



INVENTOR

Antonio Perri

by his attorney

Christy, Kunkle & Strickland

Oct. 19, 1943.

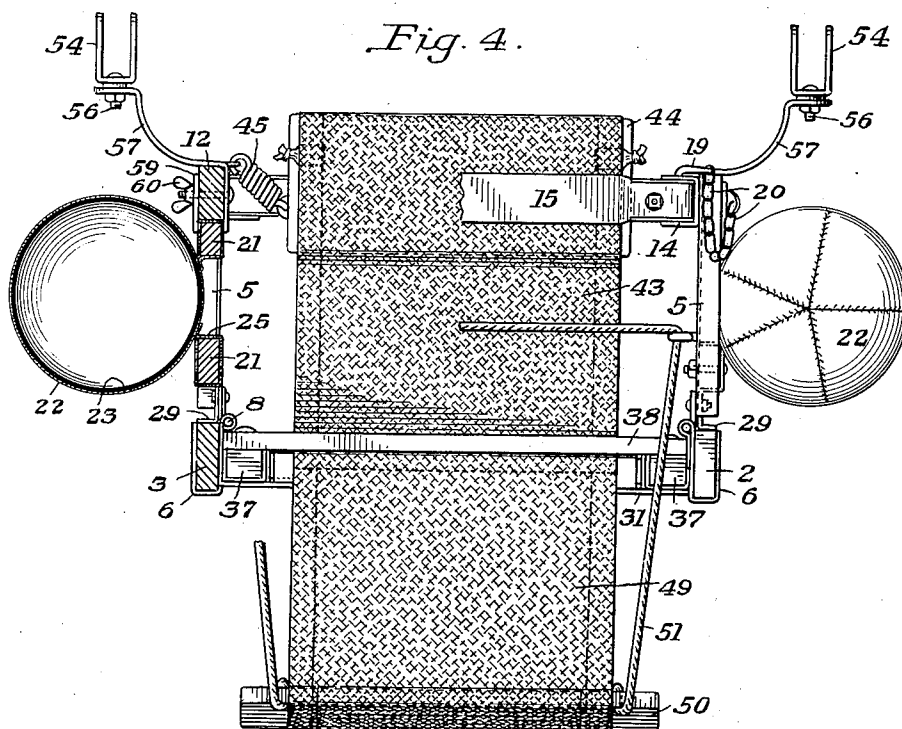
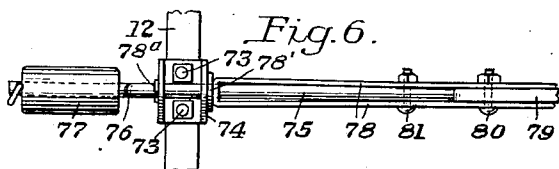
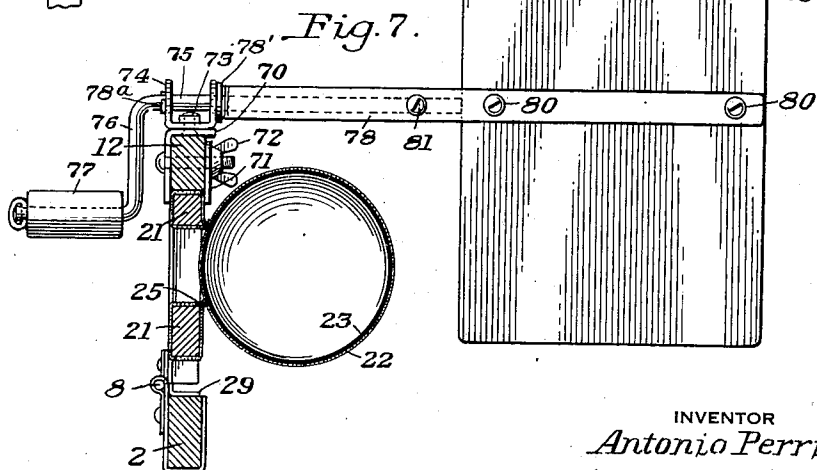
A. PERRI

2,332,009

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INVENTOR
Antonio Perri
 by his attorney
Christy, Thomas & Smith

Oct. 19, 1943.

A. PERRI

2,332,009

FLOAT

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4 Sheets-Sheet 4

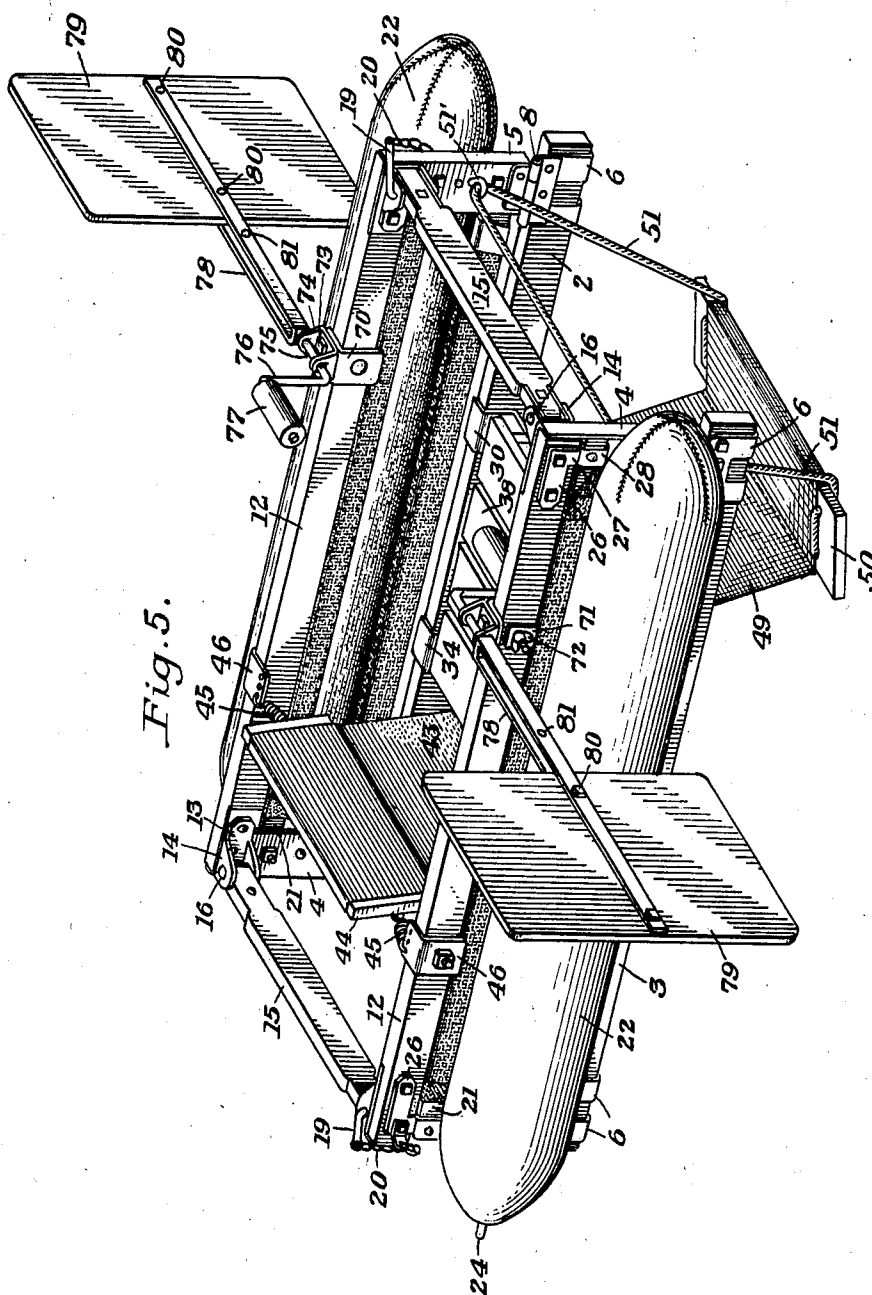


Fig. 5.

INVENTOR

Antonio Perri

by his attorneys

Christy, Threlkeld & Strickland

UNITED STATES PATENT OFFICE

2,332,009

FLOAT

Antonio Perri, McKees Rocks, Pa.

Application November 12, 1940, Serial No. 365,163

3 Claims. (Cl. 9-11)

This invention is for an improvement in floats, and is particularly for an improvement in floats of the type disclosed in my prior Patent No. 2,010,371, dated August 6, 1935.

My prior patent discloses a float having a frame with hinged sides. Each side has secured thereto an elongated inflatable pontoon or buoy. The construction is such as to enable the float to be collapsed when not in use so as to require very little room for transportation or storage. As pointed out in my said patent, floats of this character are intended primarily for recreational and pleasure purposes, although they are also adapted for practical and utilitarian purposes. Being primarily intended, however, for recreational use, they are likely to be roughly if not abusively handled. Moreover, it being collapsed and set up and in being frequently transported from place to place they are also subjected to abusive treatment.

The present invention is intended primarily to improve the construction of a float embodying the general principles of my earlier patent and to provide a float of this general character which is more rugged, less likely to be damaged by rough handling and abusive treatment, and wherein provision is made for the protection of parts which otherwise might be easily destroyed or would be subject to deterioration. A further purpose of the present invention is to provide a float of this character wherein parts which have to be replaced may be renewed with greater facility. The invention further provides a float of the character referred to which is more convenient to collapse or to set up than the construction shown in my earlier patent.

The present invention further contemplates the provision of improved propelling means for use in connection with floats of this kind whereby added pleasure may be derived from the use of the float.

My invention may be readily understood by reference to the accompanying drawings in which Figure 1 is a perspective view of a float embodying my invention;

Figure 2 is a top plan view of the float shown in Figure 1;

Figure 3 is a longitudinal vertical section through the float, the view being in substantially the plane of line III-III of Figure 2;

Figure 4 is an end view of the float looking toward the right as viewed in Figure 3, part of the structure being shown in section;

Figure 5 is a view similar to Figure 1 showing the float provided with a novel propelling means;

Figure 6 is a fragmentary view of a portion of the propelling means embodied in the float shown in Figure 5;

Figure 7 is a transverse vertical section through one of the side frames showing one of the propelling units in elevation;

Figure 8 is a perspective view showing one of the hinge elements through which the folding side frames are attached to the main frame of the device;

Figure 9 is an end view showing one of the corner assemblies, the hinge shown in Figure 8 being shown in elevation;

Figure 10 is a perspective view showing a portion of the main frame assembly; and

Figure 11 is a detail view showing a longitudinal section through a portion of the main frame assembly.

Referring to the drawings, the float has a main frame comprised of two parallel longitudinally extending wooden frame members 2 and 3. Secured to the frame members adjacent the opposite ends thereof are hinge units 4 and 5. The two hinge units 4 are of identical construction and the two hinge units 5 are of identical construction; and both units 4 and 5 are of nearly similar construction. These hinge units are shown in detail in Figures 8 and 9.

As shown in the drawings, and particularly Figure 8, each hinge unit has a yoke-shaped bottom piece 6 to which is pivotally secured plate member 7. A pintle 8 passing through ears provided on the member 6 and through a cooperating ear provided on the member 7 forms the pivotal connection between the two pieces. The lower member 6, being of a U-shape form, receives an end of one of the frame members 2. The end of the frame member is set into the yoke 6 and is secured by transverse fastening means passing through the wood and through registering holes in opposite sides of the yoke. The plate 7 is provided along its outer edge with an upstanding flange 9. This flange stiffens the plate 7 to prevent it from bending so that the plate has the requisite strength to form a corner-post. The top portion of the plate 7 has a longitudinally projecting lug 10 thereon and bent inwardly from the bottom of this lug is an ear 11.

The corner members 5 are identical with the members 4 except for certain accessories which are attached thereto and corresponding reference numerals indicate corresponding parts of both units.

Extending between the two corner members at each side of the float are side rails or bars 12.

These bars abut against the flange portion 9 of the member 7 and they rest on the inwardly turned lugs 11.

Secured to the inner face of the members 7 of the two corner units 4 are metal plates 13 having spaced ears 14 thereon. The end of the cross-bar 15 projects between the two ears 14 and a vertical pin 16 provides a hinged connection for securing one end of the cross-bar 15 to the corner-post. Correspondingly located on the upper portions of the members 7 of each of the corner units 5 is a similar metal plate 17 having parallel ears 18 thereon. The free end of the cross-bar 15 is adapted to extend between the ears 18. There is a removable pin 19 that passes through holes in the ears 18 and through a registering hole in the cross-bar 15 for detachably securing the end of the cross-bar 15 and the ears 18.

Referring to Figure 1, the right-hand end of the view may be termed the front end and the opposite end the rear end. It will be noted that the cross-bar 15 at the rear end is permanently hinged to the most remote corner-post while at the front end of the float the corresponding cross-bar is permanently hinged at a point diametrically opposite. The arrangement is such that one of the cross-bars is permanently attached to each of the folding sides and detachably connected to the opposite side. The removable pins 19 are permanently attached to the float through the use of a chain or other flexible connection 20.

The two members 7 at each side of the frame of the float and the attached side rail 12 form a folding side panel. These side panels are normally held in a vertical position by the cross-bars 15 which tie them together. By removing the pins 19, however, the bars 15 are released at one end and they may fold in against the side panel to which they are permanently attached to permit two side panels to fold in toward each other as will hereinafter more fully appear.

Secured to each folding side of the float below the side rails 12 are parallel wooden strips 21. These wooden strips are attached at their ends to the plates 17 of the respective hinge members and they abut against the flanges 9 of these hinge members. The strips 21 are provided for the purpose of securing inflatable pontoons to the float. Each pontoon comprises an elongated cylindrical canvas bag 22 forming a receptacle for a rubber tube 23. Each tube is provided with a valve nipple 24 similar to that used on pneumatic tires by means of which the tubes may be inflated. When the tubes are fully inflated they completely fill the canvas bags in which they are received. The canvas bags are provided with longitudinally extending parallel folds or gathers 25 through which the parallel strips 21 extend and by means of which the canvas bags are attached to the folding sides of the float and the float is kept from bowing or bending. Because of the fact that the strips 21 are substantially coextensive with the length of the floats and because the folds or gathers 25 are substantially coextensive, and the floats are attached to the wooden side members 21 substantially throughout the length of the float, and it is for this reason that they are held straight and cannot bow, even when a float is immersed in water.

The two side strips 21 are secured to the members 7 to which they are attached by means of bolts and nuts. When it is necessary, by reason of the canvas becoming rotten or for any other cause to replace the canvas bags, it is merely necessary to unbolt the strips 21 and slide them

from the folds of the original bag into the folds of a replacement bag. This can be quickly accomplished without otherwise taking the float apart.

The upper side bar 21 is immediately below the side rail 12. In order to maintain a definite space between the side rail 12 and the canvas in which the upper side bar 21 is enclosed and thus prevent the canvas from being damaged, each of the side rails 12 has a metal plate 26. These side plates 26 have an ear portion 27 that passes downwardly under the bottom of the side rail 12. The end portion of each side bar 21 immediately under this lug 27 is provided with a U-shaped clip 28. The top of the U-shaped clip 28 lies immediately under and in contact with the lug 27. The two metal surfaces which are thus in contact keep a definite spacing between side rails 12 and the upper side bars 21 to thus prevent the pinching of the canvas and allow sufficient circulation of air for the canvas to dry out.

Secured to the outer face of each of the plates 7 near the bottom thereof are angles 29. The horizontal portions of these angles projecting laterally from the face of the member 7 provide stops adapted to contact with the top of the side frame members 2. This prevents the folding sides from opening out beyond the vertical position but it does not interfere with the sides folded inwardly toward each other.

At a point forward of the transverse center line of the float there is a cross member formed of metal having a hook-shaped end portion 30 at each end thereof. These hook-shaped end portions are set over the side rails 2. The intermediate portion 31 of this cross member is, throughout the greater portion of its length, provided with an upstanding flange 32. About the same distance rearwardly of the transverse center line of the float is a similar cross member 33 having hook-shaped end portions 34 and having an upstanding flange 35 thereon. This detail of construction is best shown in Figure 10. Resting on the members 31 and 33 close to the side frames 2 are longitudinally extending angle bars 36. Wooden side pieces 37 rest on the angles 36 and wooden cross slats 38 connected to the side members 37 provide a seat or platform in the float. The wooden seat or platform is thus set into the frame in such manner that it can be readily replaced without replacing any of the metal structure on which it rests or by which it is carried.

Resting on the cross member 33 is a transverse wooden strip 39 having U-shaped metal clips 40 at each end thereof. The wooden cross piece 39 is attached to the member 33 by a bolt 41 that passes transversely through the piece 39 in a horizontal direction and which passes through an angle clip 42 (see Figure 10) secured to the flange 35 of the member 33. Secured about the cross-bar 39 between the clips 40 is the end of the canvas strip 43. The opposite end of the strip 43 is folded over and stitched to provide a pocket for a wooden cross piece 44. The cross piece 44 has a metal strap 44' across the back of it attached thereto terminating at each end in projecting ears to which coil springs 45 are attached. The hooked free ends of these springs 45 are adapted to be engaged in one of the holes on the plates 46 secured to the side bars 12. When the springs are so engaged, as shown for example in Figure 1, the canvas strip 43 together with the board 44 provide a back rest, and by having a number of holes in the plates 46 the

inclination of the back rest may be varied. When the float is to be collapsed the springs 45 are unhooked from the plates 46 and the back is let down, the springs then being hooked into other brackets 46' on the main side rails. Also, the user of the float may desire to have the back rest horizontal to enable him to lie flat on the float or enable two persons sitting back to back to occupy the float, which makes it also desirable to hook the springs 45 into the brackets 46'. It will be noted by reference to Figure 11 that the clips 40 hold the strip 39 out of contact with the cross member 33 of the underlying seat and that the cross member 39 cannot contact the flange 35. The canvas is thus prevented from rubbing or being pinched where it is attached to the frame of the float and air may circulate freely about the canvas to dry it out. The clips 40 provide a bearing plate for the head of the bolt so that the structure will not become loose as might be the case if the bolt had its bearing only in the wood.

Supported in exactly the same manner on the cross piece 31 is a similar strip 48. Because the construction for holding the strip 48 in place is the same as for the cross piece 39, the details are not illustrated. Passing around the cross piece 48 is one end of a strip of canvas 49. The free end of this strip of canvas is stitched about a board 50. The board 50 provides a foot-rest. Attached to each end of the board 50 is a rope 51. This rope passes twice through each end of the foot-board and it is knotted at its free ends. It passes at each side of the foot-board upwardly through eye members 51' secured to the corner posts, and extends horizontally between the two corner posts, as clearly shown in Figure 1. Normally the rope permits the foot-rest to depend from the seat and provides a support for holding the foot-rest against tilting. The length of the foot-rest may be adjusted by folding the foot-rest inwardly to wind the canvas thereabout, and by making a looped knot in the horizontal part of the rope. The rope may also hold the foot-rest in a horizontal position evenly with the seat, where one desires to use it in this fashion, or when the float is being folded for storage or transportation.

For propelling the float detachably supported oars may be used as shown in Figures 1, 2, 3 and 4. These oars or paddles, which are designated 52, have U-shaped yokes 53 fitted about the shafts thereof below the handle portions of the oars. This part of the shaft of the oar is received in a U-shaped clevis 54 and the oar is pivotally attached to the clevis by a bolt 55 which passes through both legs of the clevis and through the yoke 53 and through the shaft of the oar. This bolt provides a pivot that enables the oars to be rocked up and down, the U-shaped plates or hooks 53 merely serving to prevent the holes in the oars through which the bolts pass from becoming enlarged. Each U-shaped clevis 54 in turn is pivotally mounted by means of a bolt 56 on an arm 57 in such manner that it can turn about a vertical axis and thus provide a universal mounting for the oar. The bracket 57 extends downwardly and inwardly to rest upon the side bar 12 and it has a downwardly turned end portion 58 that fits against the inside of the side bar 12. A bolt passes through the portion 58 of the bracket, through the side bar 12 and through a plate 59 on the outside of the side bar and is provided with a wing nut 60. To remove

the oars and the mounting for the oars it is merely necessary to remove the wing nut 60 and then take out the bolt 59. The brackets 57 extend outward sufficiently that the paddles will be supported at a point not too close to the handle ends and in position to clear the pontoons.

In lieu of oars removable paddles, such as shown in Figures 5, 6 and 7 may be employed. Each paddle assembly comprises an angle shaped supporting plate 70 set on one of the side bars 12 and having the vertical leg of the angle against the inner face of the side bar. It is held in place by a bolt passing through the side bar and through a wear plate 71 on the outside of the side bar. The outer end of the bolt is provided with a thumb screw 72. The top flange of the angle member 70 has two bolts 73 passing vertically through it, these bolts also passing through a U-shaped bearing member 74 that sets on top of the member 70, the bolts being provided with nuts for firmly connecting the bearing member 74 to the member 70. The upstanding ears of the bearing member 74 have aligned holes there-through. The shaft 75 passes through said aligned holes in the ears of the member 74 and the inner end of this shaft is provided with a crank 76 having a handle 77 thereon. Fitted about the outer end of the shaft 75 is a strip of metal 78 which is bent to a U-form, the shaft 75 passing through the closed end of the U. A thin flat board 79 constituting a paddle is positioned between the opposed arms of the strip 78, the interior edge of the paddle abutting against the outer end of the shaft 75 as clearly shown in Figure 7. Appropriate bolts or rivets 80 pass through the arms of the strip 78 and through the paddle to hold the assembly together, an additional fastener being provided at 81 which passes through the two arms of the strip 78 into the end of the shaft. A washer 78' is positioned between the U-portion of the strip 78 and the bearing member, and a wire 78^a bent to an S-shape passes through the shaft at the opposite side of the bearing to hold the paddle shaft 45 against endwise movement.

The foregoing construction provides a rigid but light paddle construction which can be very quickly attached to and removed from the float. The paddles 79 have sufficient outboard clearance so as to be entirely free of the pontoons while the cranks 76 for turning the paddles are sufficiently short that they can be turned while a person is sitting in the float without the handles scraping the legs or the knees.

While the general arrangement of the float approaches that disclosed in my previously granted patent above referred to, the present construction incorporates several advantages and improvements. These reside in the more rigid construction of the frame through the hinged corner-post arrangement and in the attachment of the pontoons to the side frames in such manner that they can be removed without otherwise taking the float apart. These additions and improvements also make the float more convenient to use and more readily collapsible, and provide a construction in which various parts are protected from becoming loose or wearing where bolts or other fasteners are passed therethrough.

In use the float may be set up as shown in Figure 1, or the back and foot rests may be variously positioned, as hereinbefore indicated. It should be noted that when the operator is using the float, he may withdraw one of the pins 19 and swing the cross-bar 15 outwardly to enable

him to more easily move out of the float into the water or get back from the water into the float.

To collapse the float for storage or transportation the oars or paddles are first removed, the springs 45 for holding the back rest in position are then detached, and the back rest is fastened down in the horizontal position. The rope 51 is then pulled so as to lift the foot-rest up to a position where it lies between the two side frame members 2. A knot tied in the rope will shorten it to prevent the foot-rest from dropping down. The pins 19 at the ends of the cross-bars 15 are then removed and the cross-bars 15 are swung in against their respective side frames or side panels. The two side panels are then folded in toward the center. If the float is to be collapsed further the air from the pontoons may be released, collapsing the pontoons. The foregoing operations require no mechanical skill whatever and they may be easily performed by anyone very quickly.

Notice is hereby given of my copending divisional application Serial No. 501,767, filed on September 10, 1943.

While I have shown and specifically described a preferred construction and embodiment of my invention, it will be understood that various changes and modifications may be made therein.

I claim:

1. A collapsible float of the character described comprising a body having spaced side rails, a seat structure connecting the two side rails, a metal corner-post hingedly secured to each end of each side rail, and comprising a metal plate having a flange extending along one edge thereof, a connecting bar secured to the corner-post at each side of the body and forming with said corner-posts a folding panel, and an inflatable pon-

toon secured to each side panel independently of the connecting bars.

2. A collapsible float of the character described comprising parallel side rails, each side rail having a pair of metal corner members thereon, one metal member being attached to each end of each side rail, each corner member comprising a yoke member fitted about and secured to the rail and a metal plate hinged to the top of the yoke, a side frame construction parallel with the respective side rails connecting each pair of metal plates to form with the corner members folding side panels, one of the metal plates at each end of the float having a cross-bar hinged thereto, and means for detachably securing the free end of each cross-bar to the metal plate transversely opposite it to hold the panels from folding inwardly.

3. A collapsible float construction comprising two wooden side rails, a metal frame intermediate the ends of said side rails connecting the side rails in fixed parallel spaced relation, said metal frame having a seat secured thereto, a hinged metal corner-post secured to each end of each side rail in such manner that the major part of the corner-post may swing in a plane transverse to the longitudinal axes of the rails from a horizontal to a vertical position, means connecting said movable parts of the corner-post on one rail to form a folding side panel and like means connecting the movable parts of the corner-post on the other side rail to form a similar side panel, and other wooden bars secured to each side panel having canvas bags attached thereto and inflatable pontoons received in each canvas bag.

ANTONIO PERRI.