INFLATABLE FLOAT WITH STEERING MECHANISM

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References Cited
UNITED STATES PATENTS
1,610,778 12/1926 Helm

ABSTRACT
A float is provided having a journal bearing extending vertically therethrough. A shaft extends through the journal bearing which limits axial movement thereof while allowing rotational movement about the axis thereof. A pair of arms extend radially from the shaft and allow for control by the operator of a fin carried fixedly on one end thereof.

7 Claims, 4 Drawing Figures
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INFLATABLE FLOAT WITH STEERING MECHANISM

BACKGROUND OF THE INVENTION

The field of the invention relates to inflatable vehicles including rafts and water saddles and particularly to steering apparatus for directing such vehicles. The prior art includes Manthos, U.S. Pat. No. 2,894,270 issued July 14, 1959. The apparatus therein has a general similarity to the present invention but does not provide for the ease of steering which the present invention does. More specifically the apparatus therein includes merely a conventional tiller arrangement with a conventional handle therefor. It will be understood that the apparatus shown in the Manthos patent has the drawbacks in that if the conventional tiller is positioned on the front end of the vehicle it is dangerous in that the tiller handle poses a threat to the operator and if the tiller is positioned on the rear end of the vehicle, then the handle is difficult to maneuver particularly in rough water situations where it is difficult to even stay with the inflatable craft. Such apparatus has not been particularly desirable for use in rough water such as surf, or “white water” rivers where it is essential to have apparatus which may be securely held by the operator not only to control the direction of movement of the craft, but also to constrain movement of the operator with respect to the craft.

Accordingly it is a primary object of the invention to provide apparatus which will include a water craft such as an inflatable vehicle which includes means for easily controlling the direction of movement and which allows the operator to securely hold on to the craft at the same time.

Still another object of the invention is to provide apparatus which is simple and inexpensive to manufacture and which may be operated by the occupant of such a craft without danger.

SUMMARY OF THE INVENTION

It has now been found that still another object of the invention may be satisfied by a float which may be inflatable which has extending vertically completely therethrough a journal bearing cooperatively dimensioned and configured for engagement with a shaft. The shaft and the journal bearing cooperate to limit axial travel therebetween and allow easy rotational movement of the shaft. A pair of arms extend radially from the shaft which are dimensioned to allow the operator of the shaft to hold onto the vehicle and thereby insure that he is not thrown out.

Normally the arms will be spaced 180° apart and will be disposed intermediate the axial extremities of the shaft and most often with air chambers disposed above and below the arms. With this arrangement the operator thereof may bend over close to the inflatable vehicle to insure a relatively center of gravity and therefore make the vehicle more stable.

BRIEF DESCRIPTION OF THE DRAWING

While the specification concludes with claims particularly pointing out and distinctly claiming the subject matter which I regard as my invention, it is believed the invention will be better understood from the following description taken in conjunction with the accompanying drawing in which:

FIG. 1 is a plane view of the apparatus in accordance with the invention;
FIG. 2 is a perspective view to a reduced scale of the apparatus shown in FIG. 1;
FIG. 3 is a sectional view taken through the line 3--3 of FIG. 1; and
FIG. 4 is a broken away sectional view showing a portion of the apparatus shown in FIG. 3 in greater detail.

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring now to FIGS. 1 through 4 there is shown a float 10 in accordance with the invention. While the invention has particular application to inflatable floats it may also be used with floats having styrofoam and other buoyant structures. In a preferred form the float is formed in a generally U-shaped collar 12 adapted for engaging the trunk of a human being 14 beneath the arm 16. The operator 14 will have disposed for him a pair of arms 18 which have the dual purpose of providing means for directional control and also providing means for holding himself to the float 10. It is anticipated that in some cases the float may be used in very rough water for it is desirable to have the operator able to firmly hold himself to the float 10.

The arms 18 engage a shaft 20 normally by means of studs 22 which project from the inboard ends of the arms 18 for engagement with shaft 20. At the other extremity of the arms 18 are disposed handles 24. Ordinarily the operator 14 will have only a shoulder and head projecting above the arcuate opening 26 of the raft and therefore it is desirable that the handles 24 be disposed at a relatively low point. Accordingly, it will be seen that in the preferred form illustrated that the arms 18 extend through openings 28 disposed about the shaft 20. The openings 28 extend radially to the shaft 20 to permit easy angular movement of the shaft 20 about the axis thereof. It will be understood in other forms of the invention the arms may be positioned above the upper surface of the throat to reduce costs or for other reasons. When disposed as shown in FIG. 2 air chambers 30 and 32 will extend above the arms 18, 18 and additional air chambers 34, 36 will extend below the arms 18, 18.

Disposed at the upper axial extremity of the shaft 20 is a flange 38 which engages a flange 40 of the journal bearing 42 to limit axial movement downward up the shaft 20. Similarly at the lower extremity of the shaft 20 is disposed a flange 43 which engages a flange 44 which is part of the journal bearing 42 to limit axial movement of the shaft 20 in the upper direction. A bifurcated section of the shaft 20 extends beyond the flanges 43, 44 and as is apparent to those skilled in the art, will rotate therewith. The bifurcated section 46 engages a rudder 48 which directs movement of the float 10.

There will be seen that person using the float in accordance with the invention will be able to maintain a low center of gravity meeting to increase stability of the craft and that it will simultaneously be able to easily hold onto the craft and also to control the direction of movement thereof.

Having thus described the invention it is my intention that it be limited only by the appended claims.

What I claim as new is:

1. A steerable float comprising: a buoyant collar dimensioned for engagement with the trunk of an operator below the arm, a journal bearing extending through said collar, a shaft extending through said journal bear-
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3. A pair of arms extending radially from said shaft, said arms intersecting said shaft within said collar, and extending to the outside of said collar, said shaft having a rudder disposed fixedly at an extremity thereof.

2. The apparatus as described in claim 1 wherein said float is inflatable.

3. The apparatus as described in claim 1 wherein said arms are disposed at 180° increments.

4. The apparatus as described in claim 1 wherein said arms are disposed intermediate the axial extremities of said shaft.

5. The apparatus as described in claim 1 wherein said arms are intermediate air chambers disposed in axially spaced relationship above and below said arms.

6. An inflatable float which is buoyant in water comprising: a journal bearing extending vertically through the said float, a shaft extending through said journal and contacting said journal in circumferential bearing relationship, said shaft and journal cooperating to limit axial travel therebetween and allowing easy rotational movement of the shaft about the axis thereof, and a pair of arms extending radially from said shaft at 180° increments, said arms being disposed intermediate the axial extremities of said shaft, air chambers disposed in axially spaced relationship above and below said arms, said arms being intermediate said air chambers to allow the operator of the float to hold on to the vehicle and thereby insure that he is not thrown out and also to angularly move the shaft, said shaft having a rudder disposed fixedly at the lower extremity thereof.

7. The apparatus as described in claim 6 wherein said float is a collar for engagement with the trunk of an operator below the arms.

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