June 13, 1967 G. FEKETE 3,324,820

APPARATUS FOR WALKING ON WATER

Filed Oct. 19, 1966

Fig. 1

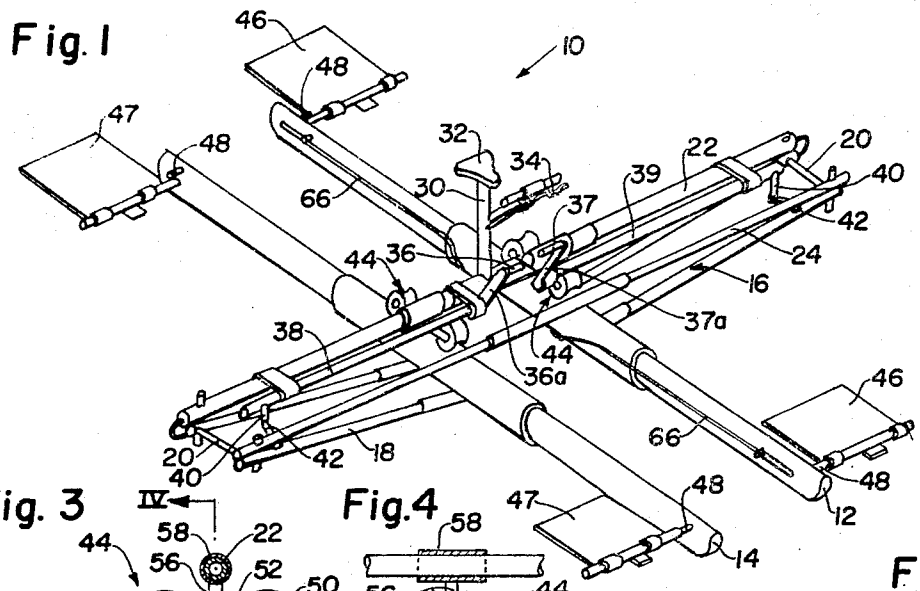


Fig. 3

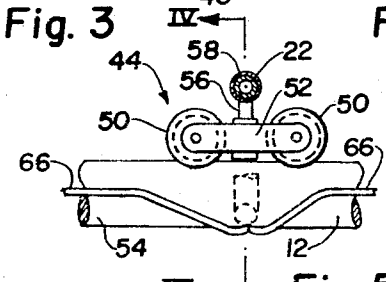


Fig. 4

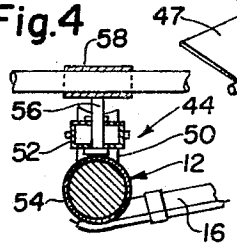


Fig. 2

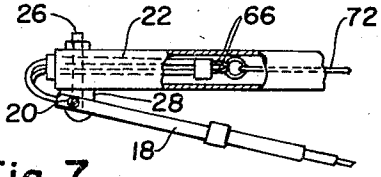


Fig. 5

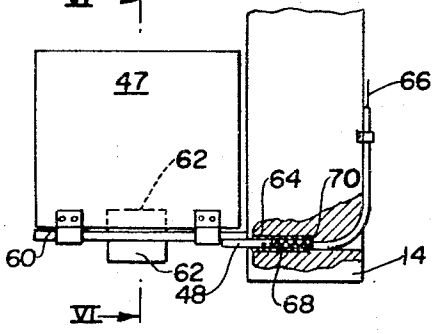


Fig. 7

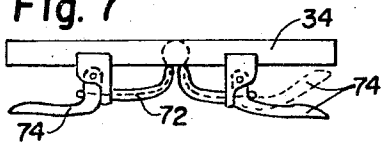


Fig. 8

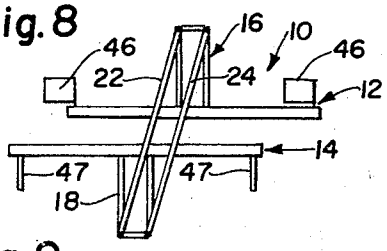


Fig. 6

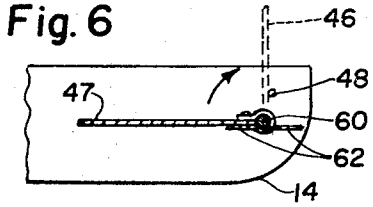
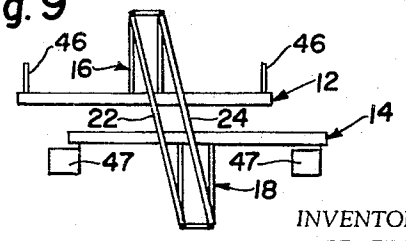


Fig. 9



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APPARATUS FOR WALKING ON WATER

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4 Claims. (Cl. 115—26)

This application is a continuation-in-part of my co-pending application Ser. No. 443,712, filed Mar. 29, 1965.

This invention relates to apparatus adapted to float on water, and more particularly to floating apparatus which enables a person to move across the water.

As an overall object, the present invention seeks to provide floating apparatus of the type described, having improved construction and operation.

A further object of the present invention is to provide floating apparatus which enables a person to skate or glide upon the surface of a body of water.

A further object of the present invention is to provide floating apparatus of the type described which is powered by the rider and provides exercise which is conducive in maintaining good health.

In accordance with the present invention, floating apparatus is provided comprising a pair of floats each having a rigid frame secured thereto and extending outboard thereof. A pair of connecting bars extend transversely across the floats and have their opposite corresponding ends pivotally connected to the ends of the rigid frames. The arrangement is such that movement of either of the floats in one direction compels movement of the other float in the opposite direction. A seat and handlebar arrangement is provided at the center of the connecting bars. Foot pedals are provided each of which is connected to one of the rigid frames whereby movement of either of the pedals causes movement of the associated rigid frame in a direction opposite to the movement of the foot pedal.

Fins are supported at the ends of the floats for free swinging motion about horizontal axes. The arrangement is such that when one of the floats is submerged, the fins associated therewith will be displaced into a vertical position. Stop means is provided for stopping the fins in the aforesaid vertical position wherein the fins act on the water and resist backward motion of the float. Simultaneously, the opposite float glides on the surface of the body of water and is moved forward. Repetition of this operation, that is, sequential submersion of the floats will cause the apparatus to move forward across the water.

The above and other objects and advantages of the present invention will become apparent from the following detailed description by reference to the accompanying drawings, in which:

FIGURE 1 is an isometric view of the present floating apparatus;

FIG. 2 is a front view, on an enlarged scale, illustrating a pivotal connection between a rigid frame and connecting bars;

FIG. 3 is a fragmentary side view of carriage means for slideably supporting the connecting bars on the floats;

FIG. 4 is a cross-sectional view taken along the line IV—IV of FIG. 3;

FIG. 5 is a fragmentary plan view of a fin supported on a float and illustrating stop means associated with said fin;

FIG. 6 is a cross-sectional view taken along the line VI—VI of FIG. 5;

FIG. 7 is a plan view of handlebars provided on the present floating apparatus; and

FIGS. 8 and 9 are schematic plan views of the present floating apparatus illustrating its operation in moving forward across a body of water.

Referring now to FIG. 1, there is illustrated a floating apparatus **10** which, in accordance with the present invention, comprises a pair of spaced, substantially parallel floats **12, 14** having rigid frames **16, 18** secured at a central location thereon and extending outboard thereof. The rigid frames **16, 18** have frame ends **20** which are remote from the floats **12, 14**. A main connecting bar **22** and a secondary connecting bar **24** extend transversely across and above the floats **12, 14** and have their opposite corresponding ends pivotally connected to the frame ends **20**.

As shown in FIG. 2, the connecting bar **22**, for example, may be pivotally connected to the frame **18** by means of a fastener **26** and preferably has a wedge **28** interposed between the ends of the frame **18** and the connecting bar **22** to maintain the angular relation between the connecting bar **22** and the frame **18**. It is to be understood that the secondary connecting bar **24** will be pivotally connected to the rigid frames **16, 18** in a similar manner.

A post **30** is secured at a central location on the connecting bar **22** and projects thereabove to support a seat **32** adapted to carry a rider and a pair of handlebars **34**. Below the handlebars **34** and the seat **32** is a pair of foot pedals **36, 37** which are carried on lever arms **36*a*, 37*a*** connected to the inner ends of separate shafts **38, 39**, respectively. The shafts **38, 39** are journaled to the main connecting bar **22**. The opposite ends of the shafts **38, 39** are provided with stub shafts **40** depending at right angles thereto. A flexible cable **42** connects each of the stub shafts **40** to one of the rigid frames **16, 18**. The shafts **38, 39** provide generally horizontal axes about which the pedals **36, 37** are pivotal. As will be more fully described later, the overall arrangement is such that when either of the foot pedals **36, 37** is forcibly pushed in a downward direction, one of the rigid frames, for example, the rigid frame **18**, will tend to move in a backward direction while, simultaneously, the other rigid frame, that is, frame **16**, will be compelled to move in a forward direction.

Inasmuch as the floats **12, 14** will move relative to the connecting bars **22, 24** and in order to minimize the strain on the pivotal connections at the ends **20** of the rigid frames **16, 18**, carriage means **44** are interposed between each of the floats **12, 14** and the main connecting bar **22**. As will be described, the carriage means **44** are slideably connected to the main connecting bar **22** and are movable on rollers along the floats **12, 14**.

To provide motive power for the floating apparatus **10**, fins **46, 47** are supported at the ends of the floats **12, 14**, respectively, for free swinging movement about generally horizontal axes. The fins **46, 47** are normally disposed in a horizontal plane and are displaceable into a vertical position by the water when the float carrying the same is submerged. Stop means, preferably in the form of pins **48**, stop the fins **46, 47** in the vertical position wherein the fins act against the water to resist backward movement of one of the floats **12, 14**.

One of the carriage means **44** will now be described with reference to FIGS. 3 and 4. It will be understood that both of the carriage means **44** are identical in construction.

The carriage means **44** comprises a pair of rollers **50** rotatably supported on a buggy **52**. The rollers **50** are trough-shaped and conform to the circular configuration of the float **12**. The floats **12**, **14** are provided with a tubular element **54**, formed from relatively rigid material, which is engaged by the rollers **50**. Journaled to the buggy **52** for rotation about a vertical axis is a support shaft **56** having a tubular slide **58** secured at its upper end. The tubular slide **58** receives the main connecting bar **22** and is slideable relative thereto. The overall arrangement is such that, as shown in FIGS. 3 and 4, the carriage means **44** is covable along the float **12** while, at the same time, the carriage means **44** is slideable along the main connecting bar **22**.

One of the fins **46**, **47** and the stop means will now be described with reference to FIGS. 5 and 6. It is to be understood that the following description applies to all of the fins **46**, **47** and the stop means.

The fins **47** is hinged to a rod **60** which is rigidly connected to and extends from the float **14**. Plates **62** are secured to the rod **60** and project from either side thereof. The plates **62** are positioned to be engaged by the fin **47** and prevent it from swinging downwardly into the water.

The pin **48** is slideable in sleeve **64** supported within the float **14**. A cable **66** extending through a protective sheath, is connected to the pin **48** and extends therefrom, as will be described, to the handlebars **34** (FIG. 1). A spring **68** is interposed between the pin **48** and an end wall **70** of the sleeve **64**. The arrangement is such that when the cable **66** is pulled, the pin **48** is retracted into the sleeve **64** and out of the path of travel of the fin **46**. However, when the cable **66** is released, the spring **68** will urge the pin **48** into its projecting position illustrated in FIG. 5, that is, into the path of travel of the fin **46**.

Each of the pins **48** is connected to a cable **66**. The cables **66** pass along the floats **12**, **14** (FIGS. 1, 3) along one of the rigid frames **16**, **18** (FIG. 4) and into the connecting bar **22**, as shown in FIG. 2. Within the connecting bar **22**, two of the cables **66** are connected to an operating cable **72** which extends through the main connecting bar **22** to the post **30** and then to the handlebars **34**. It should be understood, at this time, but the cables **66** connected to the pins **48** carried on the float **12** have one operating cable **72** while the cables **66** connected to the pins **48** carried on the float **14** have a second operating cable **72**.

As shown in FIG. 7, each of the operating cables **72** is connected to a handle **74**. As is conventional, the handles **74** are spring-biased into the open position shown in FIG. 7. When either of the handles **74** are pulled into the position shown, for example, in dotted outline in FIG. 7, the corresponding operating cable **72** will be pulled causing the pins **48** connected thereto to be pulled into the corresponding sleeves, as described above. Consequently, the rider may render the fins **46**, **47** of the floats **12**, **14** inoperative for propelling the floating apparatus **10** in a forward direction. In this manner, only one of the floats **12**, **14** is operative and during each of its strokes, the apparatus **10** will be caused to turn.

In this connection, let us assume, for example, that the fins **46** are rendered inoperable by pulling the pins **48** associated therewith. Each time the float **12** is caused to move backward, it will move backward with relatively little resistance. However, when the float **14** is caused to move backward, the fins **47** will be raised into the vertical position causing the apparatus **10** to move forward and, at the same time, causing the apparatus **10** to execute a slight right turn. Conversely, when the fins **47** are rendered inoperable, the apparatus **10** is caused to execute a left turn.

Operation of the present floating apparatus **10** will now be described with reference to FIGS. 1, 8 and 9. In order to propel the apparatus **10** in a forward direction, the rider places his feet on the foot pedals **36**, **37**. By shifting his weight to the right side of the apparatus **10** and forcibly pushing the right foot pedal **36**, the float **14** is submerged while the float **12** rests atop the body of water. At the same time, the fins **47** will be displaced into a vertical position by the water, as schematically shown in FIG. 8. Simultaneously, the rigid frame **18** will tend to move in a backward direction. However, the fins **47** acting on the water, resist this backward motion whereby the float **12** will be compelled to move forward. At the end of the stroke, the connecting bars **22**, **24** will be angled as shown in FIG. 8, with the float **12** forward of the float **14**.

At this time, the rider shifts his weight to the left side of the apparatus **10** and forces the left foot pedal **37** in a downward direction. The float **12** will now be submerged in the water while the float **14** rests on the surface of the water. Submergence of the float **12** will cause the fins **46** to be displaced into a vertical position wherein they act against the water to resist backward movement of the float **12**. Hence, the float **14** will be compelled to move forward. At the end of this second stroke, the connecting bars **22**, **24** will be angled in the position as shown in FIG. 9 with the float **14** forward of the float **12**. Repeating these two operations in sequence, will cause the apparatus **10** to move forwardly across the water.

Although the invention has been shown in connection with one specific embodiment, it will be readily apparent to those skilled in the art that various changes in form and arrangement of parts may be made to suit requirements without departing from the spirit and scope of the invention.

I claim as my invention:

1. An apparatus for walking on water, comprising in combination: a pair of spaced, substantially parallel floats; a rigid frame secured to and extending outboard of each of said floats, said rigid frames having frame ends remote from said floats; a pair of connecting bars extending transversely across and above said pair of floats and having corresponding opposite ends pivotally connected to said frame ends for pivotal movement about axes substantially normal to said connecting bars, whereby movement of either of said floats in one direction compels movement of the other said floats in the opposite direction; a seat supported centrally above said connecting bars for carrying a rider; handlebars adjacent said seat and adapted to be grasped by a rider; a pair of foot pedals adjacent to said seat and supported for accurate movement about second axes substantially parallel with said connecting bars; means for connecting each of said foot pedals in driving relation with one of said rigid frames, said connecting means causing movement of said rigid frame in a direction opposite to the movement of said foot pedals; fins supported at the ends of said floats for free swinging movement about generally horizontal axes, said fins being displaceable into a vertical position upon submergence of the float carrying the same; and stop means carried by said floats for stopping said fins at said vertical position wherein said fins act on the water to resist backward movement of the float carrying the same.

2. The apparatus as defined in claim **1** including: carriage means having rollers engageable with said floats for supporting said connecting bars on said floats, and means for connecting each of said carriage means to one of said connecting bars for sliding movement along said one of said connecting bars, one of said carriage means being interposed between each of said floats and said connecting bars.

3. The apparatus as defined in claim 1 wherein: said stop means comprise pins projecting into the path of travel of said fins; and including means operable by a rider for displacing said pins out of the path of travel of the fins carried by either of said floats to render said fins inoperable to resist backward movement of the float.

4. The apparatus as defined in claim 1 wherein each of said means for connecting each of said foot pedals in driving relation with one of said rigid frames comprises: a shaft journaled to one of said connecting bars for rotation about an axis parallel therewith; a lever arm at one end of said shaft, carrying a said foot pedal at its

remote end; a stub shaft carried on the opposite end of said shaft and projecting transversely thereof; and flexible means for connecting said stub shaft to a forward portion of a subjacent one of said rigid frames; whereby rotation of said shaft by forced movement of said foot pedal in one direction causes movement of said subjacent one of said rigid frames in the opposite direction.

No references cited.

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