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Livaudais

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[54] **DEVICE FOR WALKING ON WATER**

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[52] **U.S. Cl.** **115/28,** 115/22, 115/26

[51] **Int. Cl.** **B63h 1/32,** B63h 16/02

[58] **Field of Search** ..... 9/310 R, 310 D; 115/22, 26, 28, 30, 31, 33, 25, 2, 21

[56] **References Cited**

UNITED STATES PATENTS

3,242,898	3/1966	Livaudais	115/26
2,165,745	7/1939	Canton	115/26
3,324,820	6/1967	Fekete	115/26

FOREIGN PATENTS OR APPLICATIONS

377,214	6/1964	Switzerland	115/26

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[57] **ABSTRACT**

A device for enabling a pedestrian to walk on water including a pair of floats supporting a frame which rigidly connects the floats one to the other in a parallel side-by-side spaced apart relationship. Left and right pendulum arms depend from the frame. At least one paddle is pivotally attached to each pendulum arm to provide propulsion to the floats as the pedestrian actuates the pendulum arms and the paddles by moving his legs in a manner similar to walking. A keel depends from the frame and extends into the water between the paddles to partially define independent channels or slips for the left and right paddles for increasing the propulsion developed by each step taken by the pedestrian, i.e., the slips further being defined by portions of the inboard sides of the floats. Forward and reverse stops are included which are attached to the paddles, enabling the pedestrian to selectively develop forward or reverse propulsion to change the direction of travel of the device.

3 Claims, 3 Drawing Figures

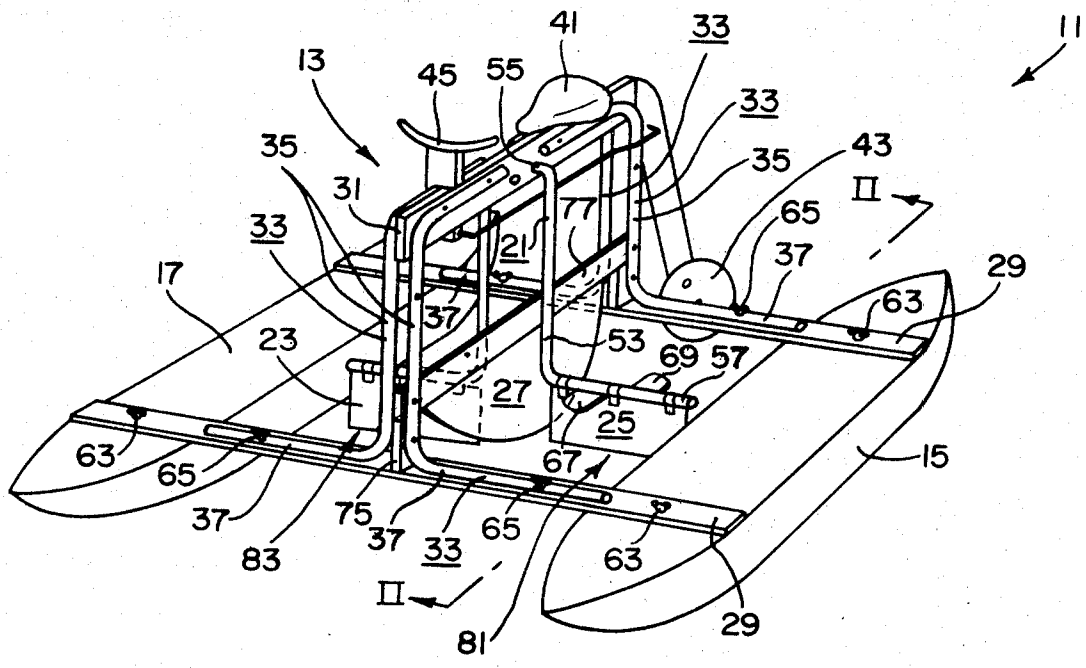


FIG. 1

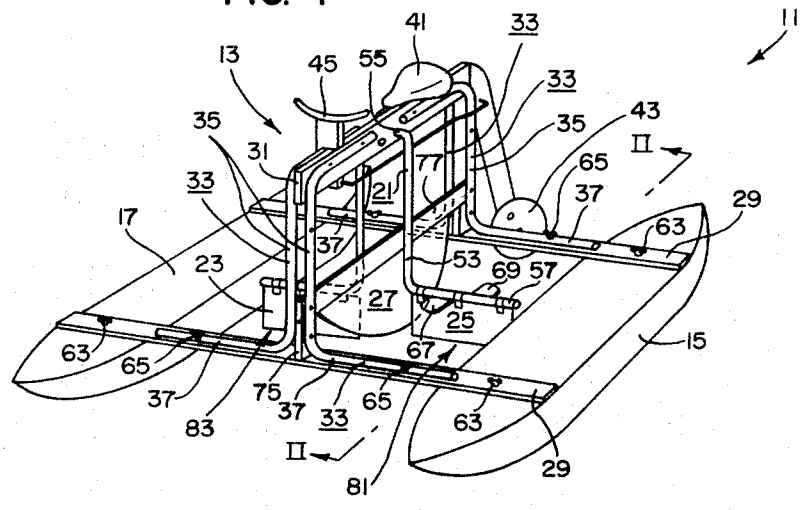


FIG. 2

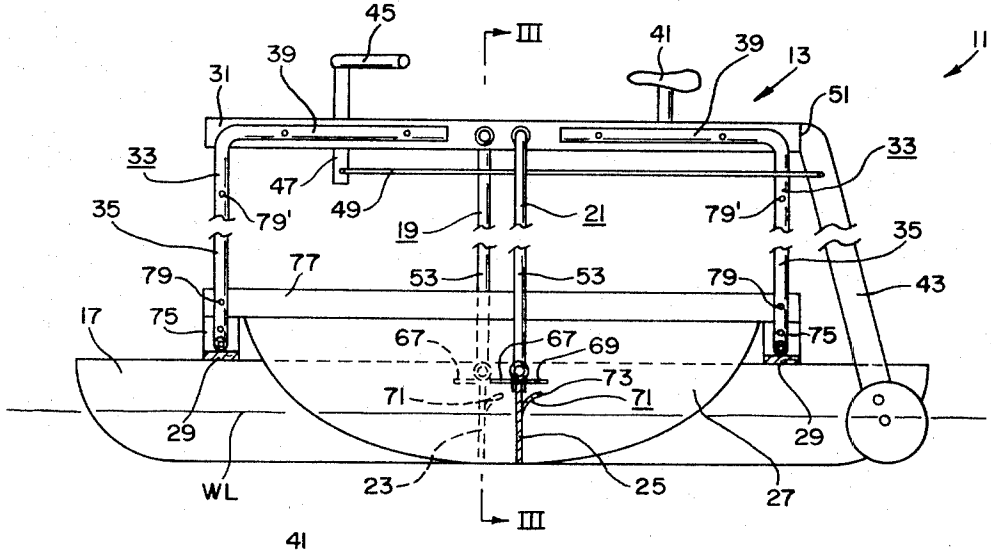
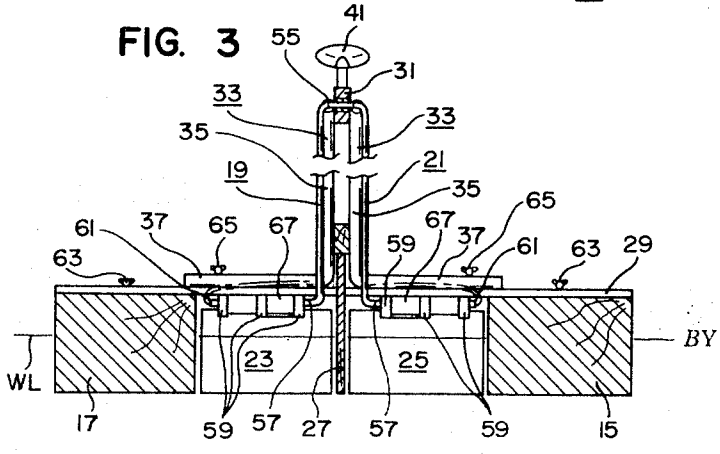


FIG. 3



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DEVICE FOR WALKING ON WATER

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to apparatus enabling a person to walk on water.

2. Description of the Prior Art

Prior devices enabling a person to walk on water, e.g., the applicant's U.S. Pat. No. 3,242,898, have certain disadvantages which probably adversely affect their marketing capability. Some of these disadvantages are: (1) The devices are not very efficient, i.e., the propulsion of these devices usually depend upon paddles which are moved through the water as the person moves his legs in a manner similar to walking. A considerable amount of slippage is evident as the paddles moves through the water, thus the propulsion is less than desirable. (2) The weight of certain of these devices is excessive. This also adversely affects the propulsion. (3) Excessive linkage which increases the amount of resistance. Thus, the operator easily becomes fatigued. (4) The devices are complicated in structure, which makes them expensive to manufacture, resulting in the purchase price being unreasonable.

A preliminary patentability search revealed the following U. S. Pat. Nos. 1,344,225; 1,475,031; 1,692,055; and 3,112,504. None of the above references, including the applicant's U.S. Pat. No. 3,242,898, show or suggest certain structure peculiar to the appliant's present device.

SUMMARY OF THE INVENTION

The present invention is directed towards overcoming the disadvantages and problems relative to previous devices for walking on water and is an improvement on the applicant's U.S. Pat. No. 3,242,898. The concept of the present invention is to provide a device for walking on water which is considerably more efficient than prior known devices. Additionally, the present device is lightweight in construction, has minimum linkage for the actuation thereof and is simple in construction which should considerably reduce the construction costs thereof.

The device includes a pair of floats supporting a frame which rigidly connects the floats one to the other in a parallel side-by-side spaced relationship. A left and right pendulum arm depends from the frame, i. e., the pendulum arms have outwardly directed portions which the pedestrian places his feet upon and which will be more fully disclosed later in the specification. At least one paddle is pivotally attached to each pendulum arm to provide propulsion to the floats as the pedestrian actuates the pendulum arms and the paddles by moving his legs in a manner similar to walking. A keel depends from the frame and extends into the water between the paddles to partially define independent channels or slips for the left and right paddles, thus increasing the propulsion developed by each step taken by the pedestrian, i. e., the slips further being defined by portions of the inboard sides of the floats. The inboard edges of the paddles are in close proximity to the keel and the outboard edges thereof are in close proximity to the inboard sides of the floats, thus minimizing the passage of water on either side of the paddles. Forward and reverse stops are included which are attached to the paddles, enabling the pedestrian to selectively develop forward or reverse propulsion to change the direction of travel of the device.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of the device of the present invention.

FIG. 2 is a sectional view taken as on the line II—II of FIG. 1.

FIG. 3 is a sectional view taken as on the line III—III of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The device **11** of the present invention generally includes a frame assembly **13**, a pair of floats **15, 17** for providing buoyancy to support the frame assembly **13** and a pedestrian upon a body of water, right and left pendulum arms **19, 21** depending from the frame assembly **13**, right and left paddles **23, 25** pivotally attached respectively to the pendulum arms **19, 21**, and a keel **27** depending from the frame assembly **13** for reasons yet to be disclosed.

The device **11** is so constructed that when the device **11** is placed in a body of water and a pedestrian is supported thereon, the combined weights thereof cause the device **11** to draw sufficient water to establish a preferred waterline character referenced by the letters WL. The frame assembly **13** includes a pair of transverse beams **29** or bridge members which rigidly interconnect the floats **15, 17** in a parallel side-by-side spaced apart relationship. Additionally, a fore and aft extending beam **31**, disposed substantially midway between the floats **15, 17** is included and clearly illustrated in the drawings.

The beams **29, 31** may be formed from wood, or, if desired, a light metal, e. g., aluminum, may be used in the construction thereof. The frame assembly **13** additionally includes a plurality of upright support members **33** for supporting the fore and aft extending beam **31** a predetermined distance above the floats **15, 17.** The upright members **33** preferably are formed from a lightweight tubular metal, e. g., aluminum or the like. Each of the support members **33** includes a vertically disposed midportion **35,** a lower horizontally disposed portion **37,** and an upper horizontally disposed portion **39.** The lower portions **37** are directed outwardly from the midportions **35** and are supported by the transverse beams **29** as clearly illustrated in FIG. **1** of the drawings. The upper portions **39** are directed inwardly from the midportions **35,** being substantially perpendicular to the lower portions **37** and having the fore and aft extending beam **31** attached thereto as best illustrated in FIG. **2** of the drawings.

The device **11** preferably includes a seat **41** conveniently fitted to the fore and aft extending beam **31.** Additionally, the device **11** preferably includes a rubber assembly **43** which may be operated remotely by the pedestrain with a handlebar **45.** The handlebar **45** is conveniently attached to the fore and aft extending beam **31** so that a shaft **47** rotates about a vertical axis by the movement of the handlebar **45.** Connecting rod **49** has the one end thereof suitably attached to the shaft **47** and the other end suitably attached to the rudder assembly **43.** In other words, the rudder assembly **43** pivots about a vertical axis, as at **51,** and the ends of the connecting rod **49** are suitably connected to ball sockets (not shown) in a manner obvious to those

skilled in the art. The vertical axis **51** alluded to above may simply be a hinge having one leaf thereof attached to the fore and aft extending beam **31** and the other leaf attached to the rudder assembly **43** in a typical manner, as with screws (not shown).

The pendulum arms **19, 21** each includes a substantially vertical midportion **53**, an upper horizontal portion **55**, and a lower horizontal portion **57**, i. e., each pendulum arm **19, 21** resembling a crank. The upper portions **55** of the pendulum arms **19, 21** are journaled to the fore and aft extending beam **31** in any well known manner for pivot about transverse horizontal axes. It should be apparent from the drawings that the pendulum arm **19** is free to pivot independently from the pendulum arm **21** so that the pedestrian may operate the pendulum arms **19, 21** in opposite directions simultaneously in a manner yet to be disclosed.

The respective paddles **23, 25** are pivotally attached to the lower portions **57** of the pendulum arms **19, 21.** In other words, the pendulum arms **19, 21** preferably are formed from tubular steel or the like and straplike hinge members **59** are provided for pivotally attaching the paddles **23, 25** to the lower portions **57.** From FIG. **3** of the drawings, it may be seen that a stirrup-like strap member **61** is included for holding the foot of the pedestrian upon the lower portion **57** as he moves his legs in a manner similar to walking.

The floats **15, 17** preferably are removably attached to the transverse beam **29** in a manner accommodating expeditious removal thereof, e. g., as with wingnuts **63** or the like. Additionally, the transverse beams **29** are removably attached to the lower portions **37** in a manner accommodating expeditious removal thereof as with wingnuts **65,** i. e., the wingnuts **63, 65** being received by bolt structure (not shown) obvious to those skilled in the art.

Accordingly, the floats **15, 17** and the transverse beams **29** may quickly be disassembled from the frame assembly **13** for compactness in portage of the device **11.** In other words, the floats **15, 17** preferably are inverted and attached to the lower portions **37** at the location of the wingnuts **65.** Further, the transverse beams **29,** after being removed from the lower portions **37** may be interposed between the respective floats **15, 17,** i. e., extending along the longitudinal axes thereof and attached to the lower portion **37** simultaneously with attaching the floats **15, 17** thereto. It should be understood that the pendulum arms **19, 21** may be rotated upwardly sufficient to accommodate the floats **15, 17** in a position adjacent the midportions **35,** i. e., beneath the paddles **23, 25.**

It should be pointed out that the paddles **23, 25** may optionally include more than one planar member. In other words, it is anticipated that further efficiency of the device **11** may be achieved by constructing the paddles **23, 25** in such a manner that a plurality of paddles are ganged into a single subassembly.

The forward and reverse stop means for limiting the pivoting rotation of the paddles **23, 25** includes a tab **67** fixedly attached to each of the paddles **23, 25** adjacent the uppermost portion thereof and disposed substantially perpendicular with the paddles **23, 25** for engagement thereof with the ball portions of the pedestrian's feet to limit the pivotal rotation of the paddles **23, 25** in one direction for forward propulsion of the device **11.** Further, a tab **69** is fixedly attached to each of the paddles **23, 25** adjacent the uppermost portions thereof. The tabs **69** are substantially diametrically disposed from the tabs **67** and displaced laterally therefrom for selective engagement thereof with the heel portions of the pedestrian's feet to limit the pivotal rotation of the paddles **23, 25** in an opposite direction for reverse propulsion of the device **11.** In other words, the tabs **67** are positioned a distance inboard on the paddles **23, 25** from the tabs **69** as best illustrated in FIG. **1** of the drawings.

From FIG. **2** of the drawings, it may be seen that forward propulsion is achieved when the pendulum arm **21** is rotated in a counterclockwise direction. In other words, the pedestrian forces the lower portion **57** (FIG. **1**) thereof rearwardly which tends to cause clockwise rotation of the paddle **25,** as viewed in FIG. **2,** thus causing the tab **67** to engage the ball of the pedestrian's foot. Obviously, the identical sequence as just described occurs when the pendulum arm **19** is rotated counterclockwise as viewed in FIG. **2.**

Conversely, reverse propulsion of the device **11** is achieved by the pedestrian urging the pendulum arm **21** to rotate in a clockwise direction as viewed in FIG. **2** of the drawings. It should be pointed out that the pedestrian would move his feet laterally or outboard so that the heels of his feet are in line with the tabs **69** prior to attempting to propel the device **11** in a reverse direction. Therefore, clockwise rotation of the pendulum arm **21** tends to rotate the paddle **25** in a counterclockwise direction which causes the tab **69** to engage the heel of the pedestrian's foot, thus keeping the paddle in an optimum position for a reverse power stroke. Obviously, the just described sequence for the pendulum arm **21** is intended to include the pendulum arm **19.**

The device **11** includes water deflecting structure for turning the direction of water splashed by the paddles **23, 25** away from the feet of the pedestrian. From FIG. **2** of the drawings, it may be seen that the deflective structure includes structure having an arcuate surface **71** thereto and attached to the paddles **23, 25.** The arcuate surfaces **71** extend upwardly from the waterline WL and curve away from the paddles **23, 25** to a terminus **73** thereof. The terminus **73** is substantially parallel with the tabs **67, 69** and is subjacent thereto which obviously makes them subjacent the feet of the pedestrian for deflecting the splashed water away from his feet.

A pair of spacing blocks **75** are included and are interposed between the upright support members **33** as clearly illustrated in the drawings. The keel **27** includes a holding member **77** extending from the forward upright support members **33** to the rear upright support members **33** as best illustrated in FIG. **2** of the drawings. Further compactness for portable preferably includes relocating the keel **27** upwardly. More specifically, the forward end of the holding member **77** is interposed between the forward support members **33** and the rearward end of the holding member **77** is interposed between the rearward support members **33.** The spacer blocks **75** preferably have a thickness greater than that of the holding member **77,** thus the holding member **77** may freely be moved up and down. Accordingly, a pair of anchoring pins **79** hold the holding member **77** for the normal positioning thereof and the anchoring pin **79'** holds the holding member **77** in a position adjacent the fore and aft extending beam **31** for compactness in portage of the device **11.**

When the keel **27** is in the normal position, as illustrated in FIG. **2** of the drawings, it defines in part a left slip or channel **81** for the left paddle **25** and a right slip or channel **83** for the right paddle **23** as shown in FIG. **1** of the drawings. The left and right slips **81, 83** are further defined by portions of the inboard sides of the floats **15, 17.**

From FIG. **3** of the drawings, it may be seen that the inboard sides of the floats **15, 17** are preferably substantially vertical. The paddles **23, 25** substantially span the slips **81, 83** by having the inboard edges of the paddles **23, 25** disposed in close proximity to the keel **27** and the outboard edges of the paddles **23, 25** disposed in close proximity to the floats **15, 17.** This will minimize the passage of water between the inboard sides of the paddles **23, 25** and the keel **27** and the outboard sides of the paddles **23, 25** and the inboard sides of the floats **15, 17** as the paddles **23, 25** are caused to move to and fro within the slips **81, 83.** In other words, the keel **27** greatly enhances the propulsion efficiency of the device **11** or causes it to travel a greater distance and at a faster speed than prior devices with the same amount of work being exerted by the pedestrian.

Although the invention has been described and illustrated with respect to a preferred embodiment thereof, it is not to be so limited since changes and modifications may be made therein which are within the full intended scope of the invention.

I claim:

1. In a device for enabling a pedestrian to walk on water having frame means, float means providing buoyancy for supporting the device on the water, pendulum means pivotally attached to said frame means, and paddle means pivotally attached to said pendulum means for providing propulsion to said floats as the pedestrian actuates said pendulum means and said paddle means by moving his legs in a manner similar to walking, forward and reverse stop means for limiting the pivoting rotation of said paddle means, said stop means comprising first tab means fixedly attached to said paddle means adjacent the uppermost portion thereof and being substantially perpendicularly disposed with said paddle means for engagement thereof with the ball portions of the pedestrian's feet to limit the pivotal rotation of said paddle means in one direction for forward propulsion, and second tab means fixedly attached to said paddle means adjacent the uppermost portion thereof and being substantially diametrically disposed from said first tab means and displaced laterally therefrom for selective engagement thereof with the heel portions of the pedestrian's feet to limit the pivotal rotation of said paddle means in an opposite direction for reverse propulsion.

2. A device for enabling a pedestrian to walk on water, said device comprising frame means, a pair of floats for providing buoyancy to support said frame means and the pedestrian upon a body of water, said frame means including transverse beam means rigidly interconnecting said floats in a parallel side-by-side spaced apart relationship, fore and aft extending beam means disposed substantially midway between said floats, and upright support means for supporting said fore and aft extending beam means a predetermined distance above said floats; said upright support means including a plurality of tubular members each having the mid-portion thereof vertically disposed, the lower portion thereof being horizontally disposed and directed outwardly towards said floats and being supported by said transverse beam means, and the upper portion thereof being horizontally disposed and directed inwardly from said mid-portion substantially perpendicular to said lower portion and having said fore and aft extending beam means attached thereto; right and left pendulum arm means depending from said fore and aft extending beam means, and partially submerged paddle means pivotally attached to the lower portion of each of said pendulum arm means for providing propulsion to said floats, said paddle means alternately being caused to provide a power stroke and a return stroke respectively by pivotal movement about the lower portions of said pendulum arm means as the pedestrian actuates said pendulum arm means by moving his legs in a manner similar to walking

3. The device of claim **2** in which is included forward and reverse stop means attached to said left and right paddle means for engagement thereof by the feet of the pedestrian enabling him to selectively change the direction of the propulsion from a forward direction to a reverse direction and from the reverse to the forward direction as he moves his legs in the manner similar to walking.

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