Dec. 17, 1929. J. M. ARROYO 1,740,216

HYDROBICYCLE

Filed Aug. 16, 1928

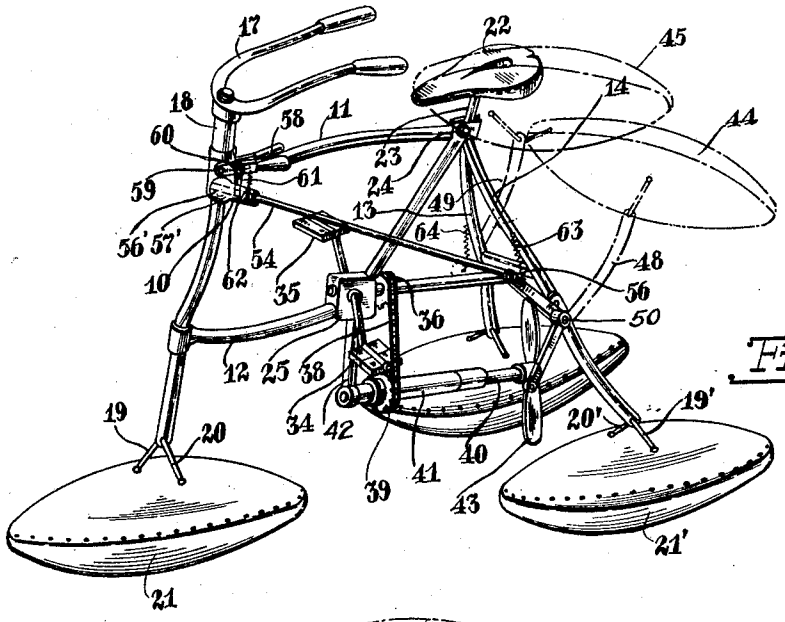


Fig. 1.

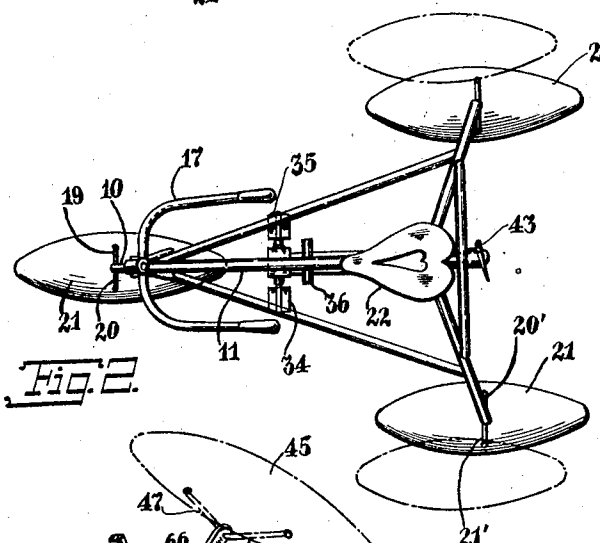


Fig. 2.

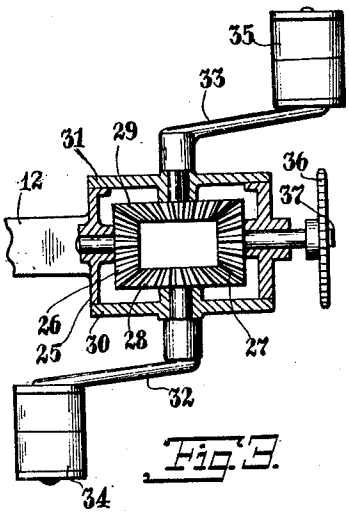


Fig. 3.

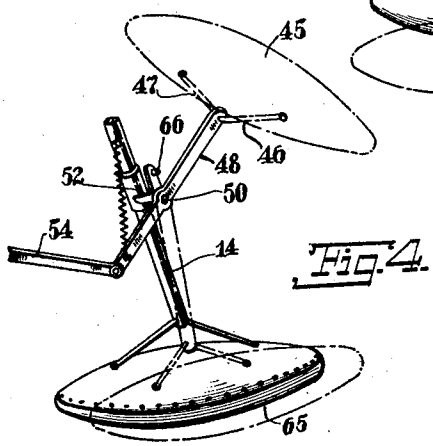


Fig. 4.

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UNITED STATES PATENT OFFICE

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HYDROBICYCLE

Application filed August 16, 1928. Serial No. 299,929.

This invention relates to a new and useful device in the nature of an aqua-bicycle especially adapted to provide a means of locomotion over the water for the purpose of pastime or as a life saving device by means of which a sinking boat may be evacuated.

The object of the invention is to provide a device of the class described of novel construction and arrangement of parts hereinafter more fully described, claimed and illustrated in the accompanying drawings.

Fig. 1 is a perspective view of my improved device.

Fig. 2 is a top plan view thereof.

Fig. 3 is an enlarged fragmentary sectional view of the pedal mechanism as embodied in my improved device.

Fig. 4 is a perspective detail view of the auxiliary floats as embodied in my improved device.

As here embodied my improved device comprises a frame like structure preferably made of tubular members similar to regulation bicycle construction. This frame consists of a front member 10, vertically disposed and having secured thereto upper and lower transverse members 11 and 12, which are secured to the rear members 13 and 14. The lower member 12 terminates in a box like construction, as designated by the reference numeral 25.

A handle bar 17 is mounted on the fork 18 rotatively mounted in the first member 10. A pair of struts 19 and 20 are secured to the lower extremity of the fork 18 and secured thereto a buoyant member 21, preferably of oval hollow shape construction, fabricated from pressed steel, copper, aluminum or the like. Similar struts 19′ and 20′ are secured to the corner extremities of the rear frame members 13 and 14 and have secured thereto buoyant members 21′, similar to the hereinbefore described buoyant members 21.

A seat 22, such as ordinarily used for bicycles is mounted on the usual seat post 23, slidably mounted in the said frame, and held in any desired position by means of a threaded member 24, a set screw or the like.

The lower transverse frame member 12 is provided with an intermediately positioned box like structure 25, having rotatively mounted therein bevel pinions 26 and 27. These pinions 26 and 27 mesh with bevel gears 28 and 29, rotatively mounted in the covers 30 and 31 of the box like structure 25. Cranks 32 and 33 are secured to and oppositely extended from the bevel gears 28 and 29, and have secured thereto the usual bicycle pedals 34 and 35. A sprocket 36 is secured to the pinion shaft 37, over which a suitable chain 38 is extended. This chain 38 is also extended over a sprocket 39, secured to the propeller shaft 40, rotatively mounted in the tubular member 41 secured to the support 42 of the above mentioned frame. A propeller 43 is secured to the extended extremity of the said shaft 40.

It is obvious from the above described construction that I have provided a means of affording locomotion over the water.

In event of a rough sea or excessive loads being carried on my improved device, I have provided a pair of auxiliary buoyant members 44 and 45. These buoyant members are of similar construction to the above mentioned and described buoyant members, and are secured by means of the struts 46 and 47 to one extremity of the levers 48 and 49. The levers 48 and 49 are hinged intermediately as at 50 by pins or the like carried in the extended members 52, secured to the rear frame members 13 and 14.

Rods 54 are pivotally attached at 56 to the extremities of the levers 48 and 49, opposite the buoyant members 44 and 45, and are extended therefrom. These rods 54, terminate in openings 56′ formed in the lug elements 57′ of the front member 10, and are slidably mounted therein.

A pair of operating levers 58 are pivotally attached as at 59 to the front member 10, and have similarly attached thereto, intermediately, as at 60, a pin 61 slidably engaging in an opening formed in the lug elements 57, which intersects the first mentioned opening 56. A tension spring 62 is secured to the lever 58 and to any convenient, suitable portion of the front member 10 as a means of normally holding the pin 61 in engagement with the extended extremities of the rods 54, so as to

normally hold the auxiliary buoyant members 44 and 45 in any upper extended position.

Tension springs 63 and 64 are secured to the levers 54 and 55 and to any convenient portion of the said frame, and are adapted to urge the said buoyant members downwardly, or in an "in use" position as designated by the reference numeral 65, when the said operating levers 58 are pressed or forced downwardly, pins 66 are secured to and extended from the said extended members 52 and 53, and are adapted to engage the levers 48 and 49, so as to limit the movement of the said levers.

Having thus described my invention what I claim as new and desire to secure by United States Letters Patent is:

1. In a device of the class described, a hydro-bicycle frame, a lever intermediately pivoted to the rear of the frame, a buoyant member secured to one end of the lever, a spring attached to the lever and the frame for urging the said buoyant member into a lowered position, a rod secured to the other end of the lever and extending to the front of the frame, and a latching means secured to the front of the frame for latching the front end of the rod for holding the buoyant member in a raised position.

2. In a device of the class described, a hydro-bicycle frame, a lever intermediately pivoted to the rear of the frame, a buoyant member secured to one end of the lever, means for urging the said buoyant member into a lowered position, a rod secured to the other end of the lever and extending to the front of the frame, and a latching means secured to the front of the frame for latching the front end of the rod for holding the buoyant member in a raised position.

3. In a device of the class described, a hydro-bicycle frame, a lever intermediately pivoted to the rear of the frame, a buoyant member secured to one end of the lever, a spring attached to the lever and the frame for urging the said buoyant member into a lowered position, a rod secured to the other end of the lever and extending to the front of the frame, a latching means secured to the front of the frame for latching the front end of the rod for holding the buoyant member in a raised position, a stop pin extending from the rear of the frame adapted to engage said lever and limit the movement downwards.

In testimony whereof I have affixed my signature.

JOSÉ M. ARROYO.