May 13, 1947. C. W. GILLIAM 2,420,422

PEDAL-OPERATED AQUATIC VEHICLE

Filed April 10, 1946 2 Sheets-Sheet 1

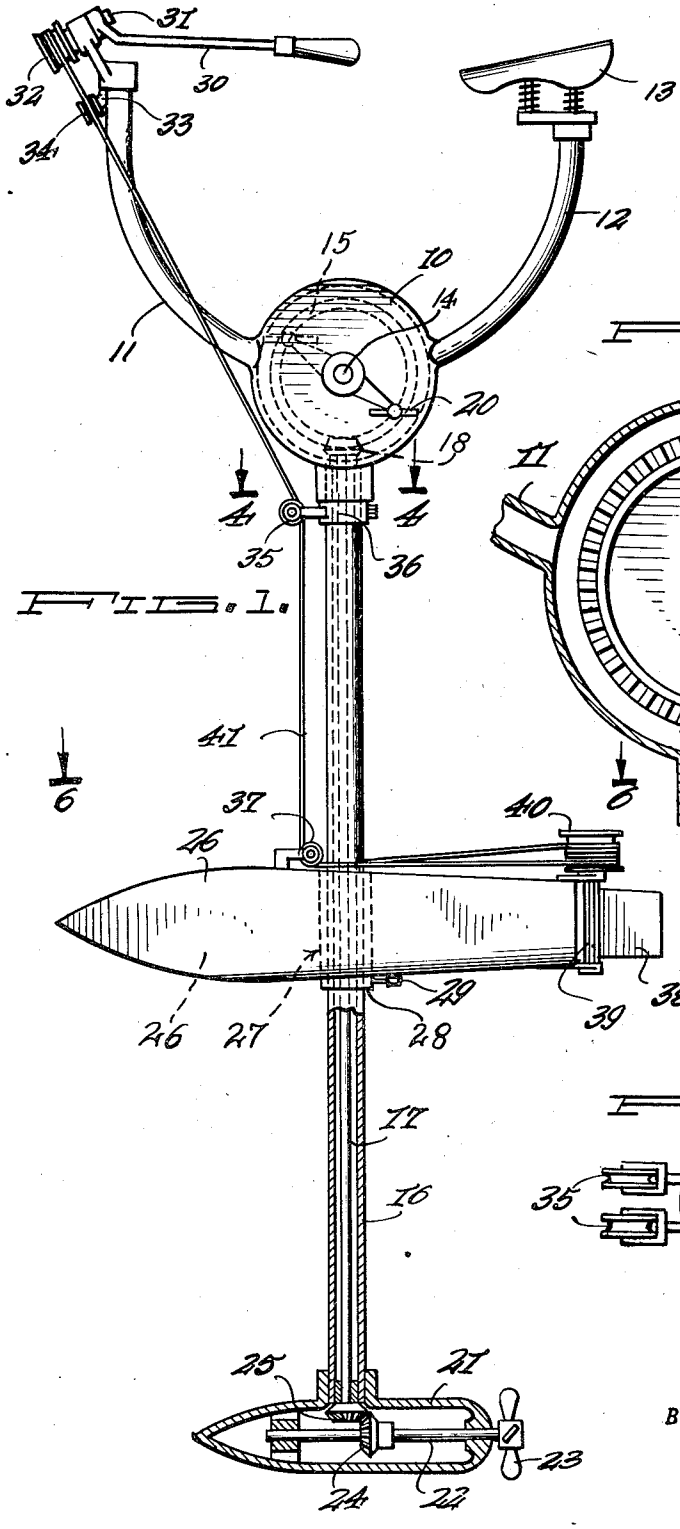


FIG. 1.

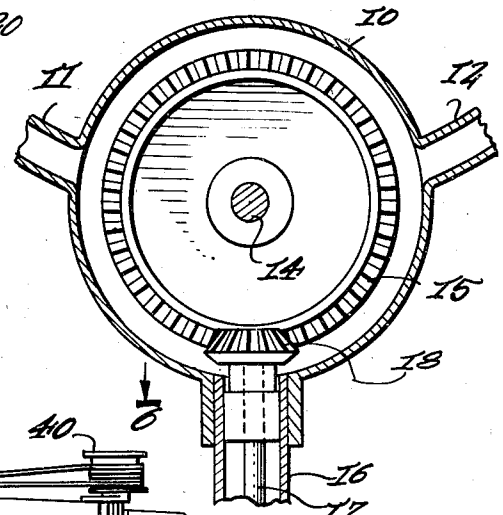


FIG. 2.

FIG. 4.

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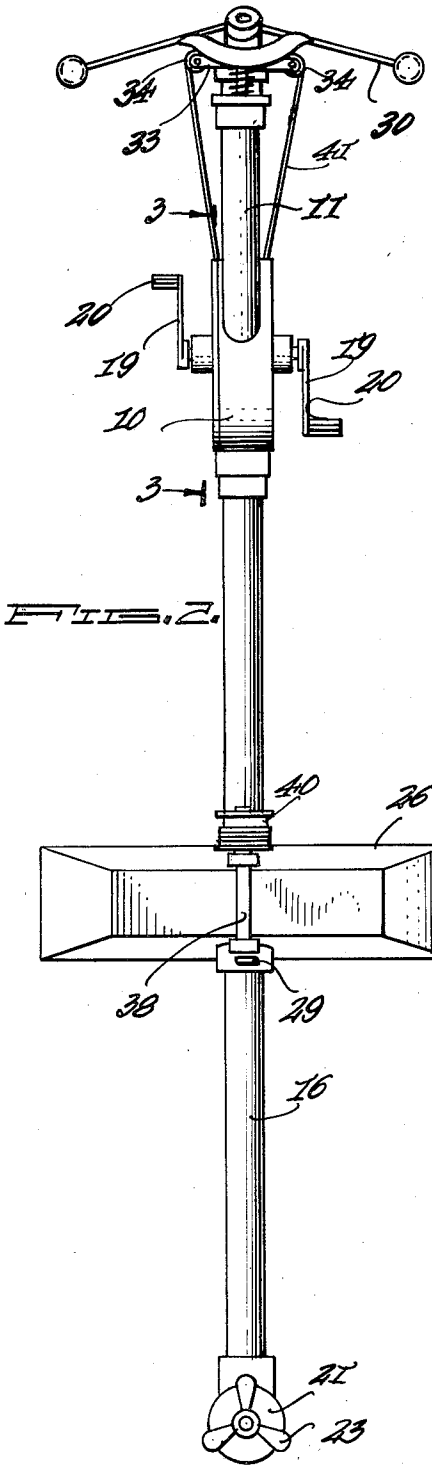


FIG. 2.

FIG. 5.

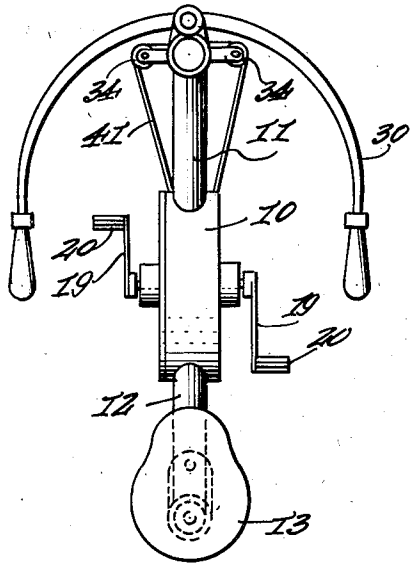
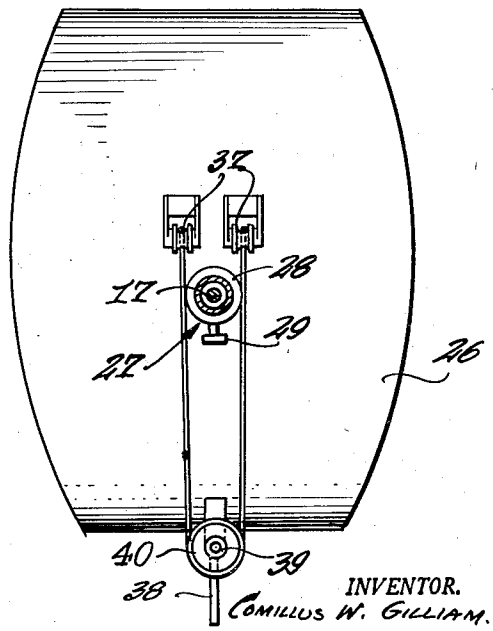


FIG. 6.



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PEDAL-OPERATED AQUATIC VEHICLE

Comillus W. Gilliam, New York, N. Y.

Application April 10, 1946, Serial No. 661,117

3 Claims. (Cl. 115—25)

1

This invention relates to aquatic amusement devices, and aims to provide a novel, practical and attractive pedal-operated and propellable aquatic vehicle on which a rider is adapted to be seated to propel and steer the machine in the water. The construction of the machine is such that a number of riders on similar machines may readily engage in a water game, such as, for instance, water polo or other game of competition or combat, with little possibility of injury to any rider in case he is shoved off balance or from the machine.

The above general as well as additional and more detailed objects will become apparent in the following description, wherein characters of reference refer to like-numbered parts in the accompanying drawings. It is to be noted that the drawings are intended to serve the purpose of illustration only, and that it is neither desired nor intended to limit the invention necessarily to any or all of the specific details of construction shown excepting insofar as they may be deemed essential to the invention.

Referring briefly to the drawings, Fig. 1 is a side elevational view of the machine.

Fig. 2 is a rear elevational view of the same.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a cross-sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a top view of the machine.

Fig. 6 is a cross-sectional view taken on the line 6—6 of Fig. 1.

Referring in detail to the drawings, the vehicle comprises a cylindrical housing having an upwardly extending and arched front frame member 11 and an upwardly extending and arched rear frame member 12, the latter being provided on its upper end with a saddle 13. A horizontal shaft 14 is rotatably mounted in the housing 10 and has rigid thereon a bevel gear 15.

A hollow frame member 16 extends integrally downward from the housing 10 and has rotatably mounted therein a vertical shaft 17 provided with a bevel gear 18 in mesh with the gear 15. Cranks 19 are rigid, outside the housing 10, with the extremities of the shaft 14 and are provided with pedals 20, whereby a rider seated on the saddle 13 may actuate the shaft 17 by pedalling in the fashion of a bicycle.

Secured to the lower end of the tube 16 is a closed hollow and weighted housing 21 having a horizontal shaft 22 rotatably mounted therein and extending through the rear thereof. A screw or propeller 23 is rigid on the shaft 22, and

2

the latter is in mesh with the vertical shaft 17 through the media of bevel gears 24 and 25.

A pontoon 26 is provided with an opening substantially down the center thereof, shown at 27, with the sleeve 28 rigid with the pontoon around the opening 27. A set screw 29 is provided in the projection of the sleeve 28. The pontoon is slidably mounted on the tube 16 and adapted to be releasably positioned and locked at any level within the range of adjustment, on the tube 16.

Handle bars 30 are pivoted at 31 on the upper end of the frame member 11, and at the lower end of the pivot pin 31 a pulley 32 is rigid with the pin. Secured to the frame 11 just below the pulley 32 is a lateral bracket arm 33, and on each end of the latter an idler pulley 34 is rotatably mounted. A pair of idler pulleys 35 are mounted on a collar 36 below the housing 10. A second pair of idler pulleys 37 are mounted on the pontoon 26. A rudder 38 is pivoted to the pontoon 26 at the rear of the latter by means of the vertical pin 39 rigid with the rudder, and rigid with the pin 39 at the top thereof is a winding drum, or wide pulley, 40. An endless cable 41 is trained about the pulley 32 and the drum 40, with the pairs 37 and 35 of idler pulleys having the two sides of the cable pass thereover, in an obvious manner. It is apparent that steering of the handle bars 30 causes swinging of the rudder 38 in the desired direction and to the same degree.

To adjust the vertical position of the pontoon on the tube 16, the cable 41 is removed from the drum 40 and the pontoon 26 is locked by the set screw 29 in the position desired. Then, whatever slack there may be in the cable 41 is taken up by winding turns about the drum 40. For maximum stability it is desirable that the pontoon 26 be in maximum vertical position, and vice versa. If a water game is played wherein each player is on such a machine and is provided with a pole, the object being to push the opponent off his machine into the water, the degree of stability of the machine and rider is of consequence; when a rider is thus dislodged from his machine, he will fall clear without danger of injury. Or a rider may merely wish to amuse himself by driving through the water.

No effort has been made in the drawings to provide accurate proportions of the various parts or elements of the machine, the purpose being rather to illustrate the principles of operation of the device and the purposes for which it may be used.

Obviously, modifications in form and structure may be made without departing from the spirit and scope of the invention.

I claim:

1. A machine comprising a substantially cylindrical housing having an upwardly extending frame member extending forward therefrom and an upwardly extending member extending rearward therefrom, a saddle on said last-named member, a tube extending downward from said housing, a shaft rotatably mounted in said housing, pedal cranks for rotating said shaft, a vertical shaft rotatably mounted in said tube, a bevel gear on said shaft in said housing, a bevel gear on said vertical shaft engaging said first bevel gear, a housing secured to the lower end of said tube and having a horizontal shaft rotatably mounted therein and extending out of the rear thereof, a propeller on the rear end of said horizontal shaft, a bevel gear on said horizontal shaft and a bevel gear in mesh therewith on the lower end of said vertical shaft, a pontoon slidably mounted on said tube and having a rudder thereon, handle bars pivotally mounted on said first-named member and having a pulley thereon, said pontoon having a winding drum thereon, said drum and said rudder being pivoted to said pontoon on a common axis and being integral with each other, an endless cable wound about said pulley and said drum, and idler pulleys on the machine between said pulley and said drum.

2. The machine set forth in claim 1, said pontoon having a sleeve surrounding said tube and projecting from said pontoon, and a set screw registering in the wall of said sleeve and adapted to releasably lock the pontoon in adjustable vertical position on said tube.

3. The machine set forth in claim 1, said winding drum having a width sufficient for the looping thereabout of a plurality of turns of said cable.

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The following references are of record in the file of this patent:

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