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SELF-PROPELLED BOAT FOR SWIMMERS

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Fig. 1

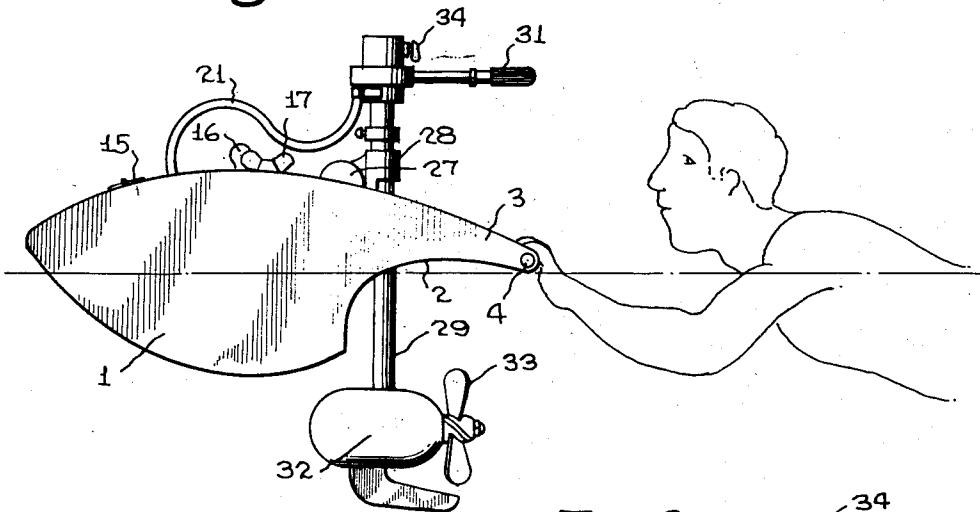


Fig. 2

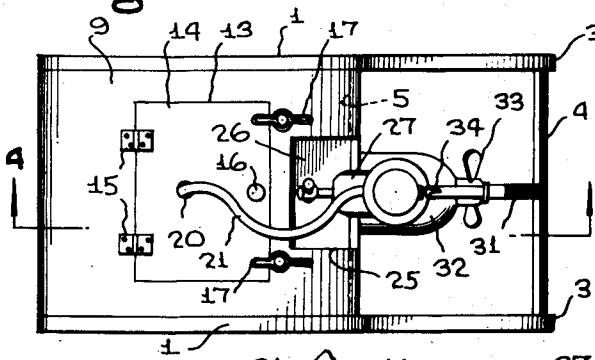


Fig. 3

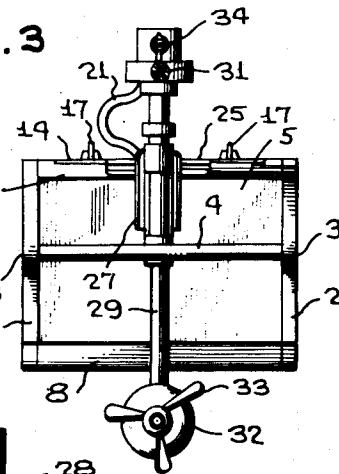
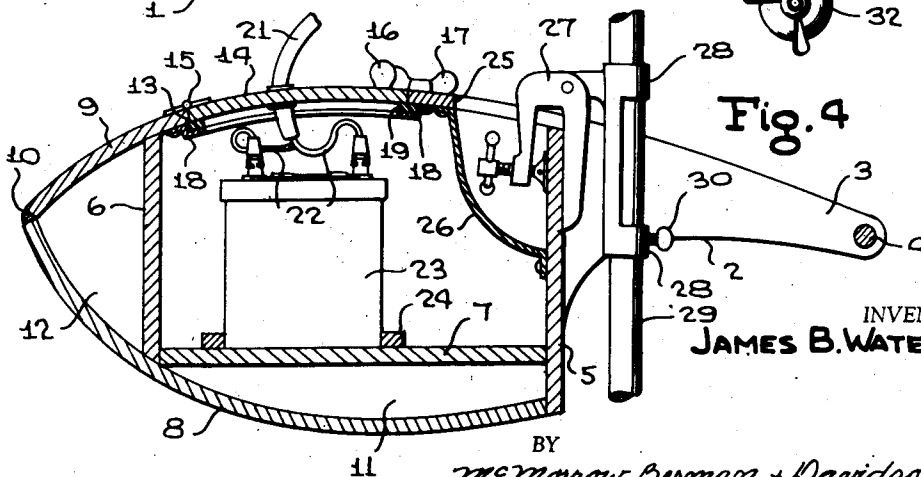


Fig. 4



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SELF-PROPELLED BOAT FOR SWIMMERS

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1 Claim. (Cl. 9—18)

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This invention relates to aquatic devices. More particularly, the invention is a self-propelled aquatic device, that is adapted to be controlled by a person whose body is disposed in the water immediately rearward of the device, in a manner whereby said person is supported and pulled rapidly through the water by the device.

One important object of the present invention is to provide a device of the character described that will be small and compact in construction so as to be capable of manufacture at relatively low cost, but will nevertheless be wholly efficient in discharging its intended functions.

Another important object is to provide an aquatic device of the type stated which will be so constructed as to allow a user to remain fully within the water except for his head and shoulders, thus to impart to said user the pleasurable sensation of swimming at a rapid pace.

Still another important object is to provide a construction in a device of this type which will allow the device to be readily steered by the user, merely by the user shifting the rear end of the device, which rear end he will grasp while being pulled through the water, to the right or left.

Another important object is to provide a construction that will allow the use of a conventional, electrically powered, water propulsion means, thereby to eliminate the need for specially designed propulsion mechanisms.

Referring to the drawings:

Figure 1 is a side elevational view of an aquatic device formed in accordance with the present invention, a user being illustrated in proper position to control and be pulled by the device.

Figure 2 is a top plan view.

Figure 3 is a rear end elevational view.

Figure 4 is a longitudinal sectional view, portions being broken away, taken on line 4—4 of Figure 2, on an enlarged scale.

Referring to the drawings in detail, the aquatic device constituting the present invention includes a pair of transversely spaced, identically formed, side walls 1. The side walls taper forwardly to points at their front ends and are preferably disposed in parallel, vertical planes.

At the rear ends of the side walls, the bottom edges thereof are arcuately cut away as at 2, to eliminate resistance to steering of the device and also to provide ample clearance for a propulsion mechanism to be described hereinafter.

The arcuate cutting away of the side walls defines a pair of rearwardly tapering rear end portions 3 of reduced width, and extending between and rigidly connected to said end portions is a bar 4 constituting a handle to be gripped by the user so that he may be pulled through the water by the device, the handle also constituting means whereby the user may shift the rear end of the device to right or left as the case may be, for the purpose of steering the same.

At the inner ends of said rear end portions 3, a vertically disposed rear end wall 5 is provided, that extends transversely between and is rigidly

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secured at its opposite sides to the respective side walls 1. A front wall 6 also extends transversely between and is rigidly secured to the respective side walls, the front wall also being vertically disposed and being spaced a short distance rearwardly of the front ends of said side walls.

Extending between the front and rear walls is a horizontal platform 7, that is fixedly secured to the side and end walls in any suitable manner. A longitudinally curved bottom wall 8 underlies and is spaced from the platform 7, and is fixedly secured along its back edge to the bottom edge of the rear wall 5, said bottom wall 8 extending forwardly beyond the front wall 6 as readily seen from Figure 4.

A top wall 9 is also of longitudinally curved formation, and is secured fixedly along its respective side edges to the side walls and along its back edge to the upper edge of the rear wall 5. The top and bottom walls are extended in forwardly converging relation, to meet at the front end of the device. The convergent front ends of the top and bottom walls are sealably joined, as at 10.

The construction so far described provides a buoyant frame, a sealed chamber 11 being defined between the bottom wall 8 and the platform 7, and a sealed front chamber 12 being defined between the front wall 6 and the convergent front end portions of the top and bottom walls. Said chambers may be left empty if desired. Alternatively, the chambers may be filled with cork or other material of buoyant characteristics, not shown.

Formed in the top wall 9 intermediate opposite ends thereof is a rectangular opening 13, receiving a complementarily formed door or closure member 14 that is hingedly connected to one edge of the opening by spaced hinges 15. A handle or knob 16 is provided upon the door, so that the door may be conveniently swung upwardly to open position whenever desired. Additionally, pivoted latches 17 are mounted upon the top wall 9, so as to retain the door in closed position.

It is preferred that the edges of the closure opening be sealed when said opening is closed by the closure member 14. To this end, a rectangular, downwardly offset flange 18 is fixedly secured to the under side of the top wall contiguous to the edges of the closure opening, said flange supporting a rubber seal 19.

Formed in the closure member 14 is an aperture 20 through which extends a cable 21 provided with conductors 22 adapted to be clamped to the posts of a conventional storage battery 23, that is supported upon the platform 7 within the storage battery chamber defined between the side and end walls above the bottom chamber 11. The storage battery is retained in place by a seat 24 extended peripherally of and engaged against the lower end of the battery, said seat being secured in place upon the platform 7 in any suitable manner.

The back edge of the top wall 9 is medially re-

cessed as at 25, and to prevent communication between said recess and the interior of the storage battery chamber, there is mounted in the storage battery chamber a cup-like closure member 26 having an arcuate web as seen from Figure 4 and spaced vertical side walls extending upwardly to the side edges of the recess.

To propel the device through the water, there is provided an electrically powered outboard motor, the motor illustrated being of conventional design and being of a type adapted to be readily purchased on the open market.

The motor includes a clamp 27 straddling and releasably secured to the rear end wall 5, said clamp extending into the recess 25. Carried by the clamp are vertically spaced guide sleeves 28, in which is mounted a vertically disposed tubular shaft 29. The motor is of a type wherein the shaft may be either rotated within the guide sleeves for the purpose of controlling the direction of movement of a boat on which it is mounted, or fixed against rotation through the provision of a set screw 30 threadable through one of the guide sleeves against the shaft.

If the set screw is threaded out of engagement with the shaft 29, steering is accomplished by means of a tiller 31 provided as conventional equipment on such a motor, and rigidly secured to the shaft for the purpose of rotating the same. At its lower end the shaft is rigid with the housing of an electric motor 32, said housing being rigidly connected to a steering rudder and having a shaft on which is provided the propeller 33. An electric switch 34 is mounted upon the upper end of the motor, for controlling the supply of electrical current to the motor.

It is preferred that the shaft 29 be fixed against rotation, since the steering of the aquatic device illustrated is readily accomplished without the use of the tiller 31. In other words, the user merely grasps the handle bar 4 in the manner seen in Figure 1, and when he switches on the motor 32, will be pulled rapidly through the water, with only his head and shoulders disposed above the surface of the water. If it is desired to change direction, the user merely applies pressure tending to shift the handle bar endwise to the right or left, as the case may be, and this swings the rear end of the device laterally within the water, so as to change the direction of movement. In this way, it is not necessary to reach upwardly and control the direction of movement by use of the tiller 31.

I believe it is sufficiently obvious that the motor can be modified if necessary, to place the switching mechanism within closer reach of the user, and this is also true of the tiller 31.

It is believed important to note that the entire device is very small and compact, and can be manufactured independently of the propulsion means illustrated, said propulsion means being clampable to the device in the manner that any outboard motor is clamped in position upon a boat.

It is also of importance that the design of the device is such that the person using the same is enabled to remain in the water, so that said person will be given the pleasurable sensation of being pulled at a rapid pace directly through the water.

It is of further importance that the device is capable of being readily steered merely by shifting of the rear end portion thereof laterally in a direction opposite to the direction in which it is desired that the device move, this being achieved

entirely through the medium of a handle bar which is already being grasped by the user. When said change in direction is to be effected, the cut away portions 2 aid in the changing of direction, since they provide minimum resistance to the water when the rear end portion of the device is moved laterally.

What is claimed is:

An aquatic device including a body, said body comprising a pair of transversely spaced, parallel side walls of forwardly tapered formation, said side walls being disposed in vertical planes and having their top and bottom edges curved longitudinally from end to end of said edges, said edges being oppositely curved and extending into convergence at opposite ends of the side walls to form each side wall to an elliptical configuration, said side walls being arcuately cut away along their bottom edges adjacent the rear ends thereof to define rear end portions of reduced width, said rear end portions being formed as longitudinal extensions of the top edges portions of the respective side walls and being disposed wholly above the longitudinal center of the side walls, longitudinally curved top and bottom walls extending between and rigidly connected to the respective side walls, said top and bottom walls converging toward the front end of the body and being sealably joined at their convergent front ends, front and rear end walls extending between and rigidly connected to the side walls and the top and bottom walls, said end walls being spaced longitudinally of said body inwardly from the front and rear ends of the body, the rear end wall being disposed forwardly of the arcuately cut away portions of the side walls, a platform extending between the end walls and spaced above the bottom wall, there being defined sealed chambers respectively located forwardly of the front end walls and below said platform to impart the characteristic of buoyancy to the body, the platform cooperating with the end and side walls to define immediately thereabove a storage battery compartment, and means in the top wall providing access to said compartment; a storage battery mounted in the battery compartment; an electrically powered water propulsion mechanism mounted upon said body immediately rearward of the rear end wall, said mechanism including a clamp engageable with the body and the body having a recess proportioned to receive the clamp, said mechanism being electrically connected to the battery so as to be driven thereby; and a handle rigid with and extending between said end portions of the side walls, said handle being located rearwardly of the propulsion mechanism to afford a hand grip for a person disposed in the water in back of the body, said handle being shiftable laterally to provide means under the control of said person for changing the direction of movement of the body through the water.

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