Dec. 19, 1967 C. E. McREE 3,358,635

SWIMMER'S TOWING DEVICE

Filed May 9, 1966

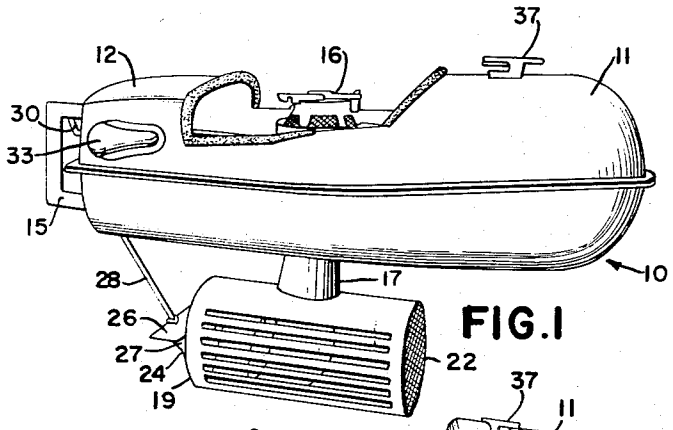


FIG.1

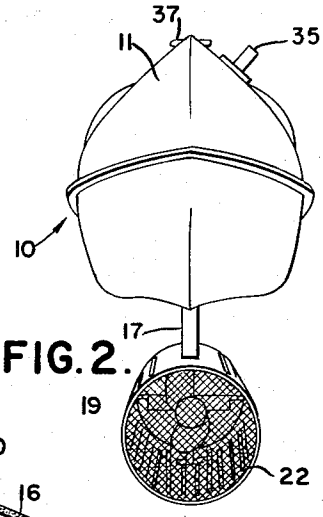


FIG.2.

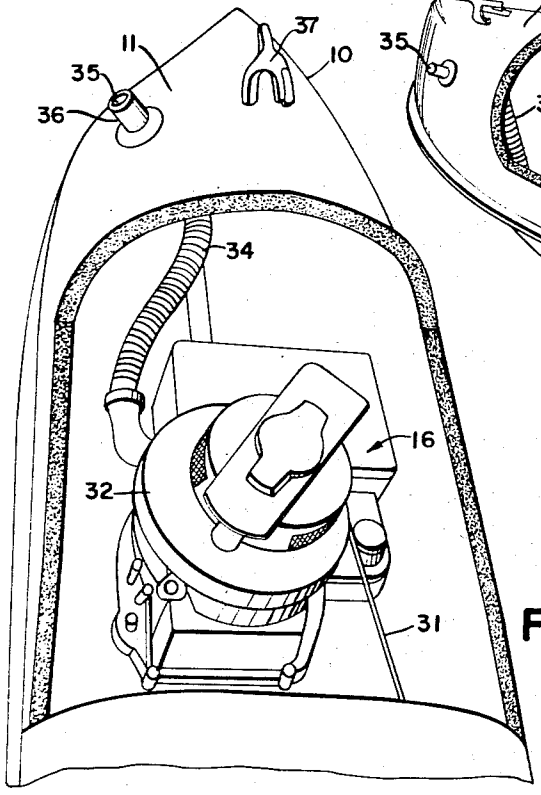


FIG.4.

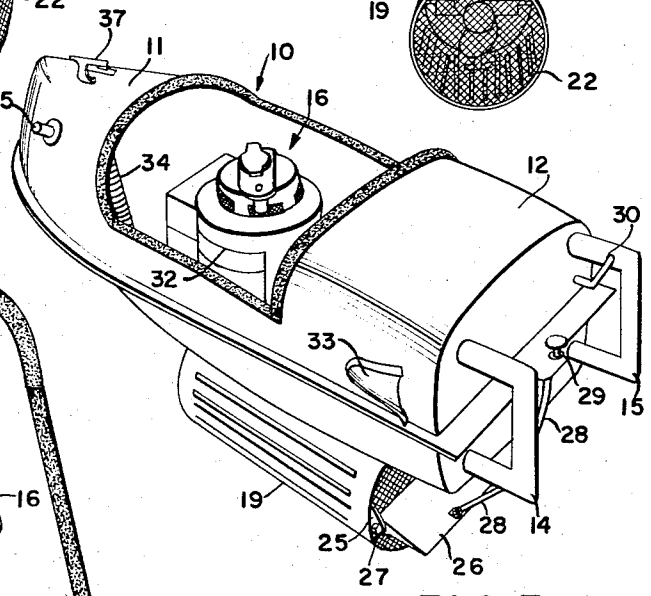


FIG.3.

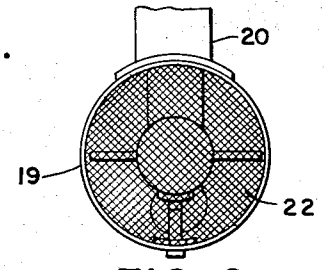


FIG.6.

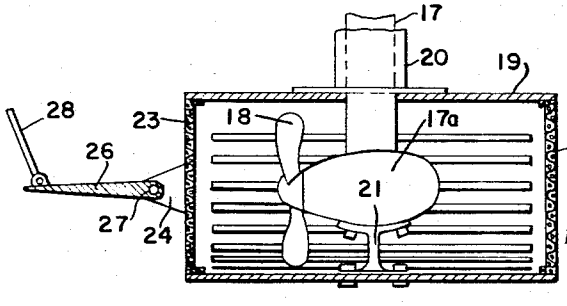


FIG.5.

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SWIMMER'S TOWING DEVICE

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ABSTRACT OF THE DISCLOSURE

The present invention is directed to swimmer's towing device and more particularly to the type having a buoyant body adapted to be propelled over the surface of a body of water and having a motor carried within the buoyant body which motor has a propulsion shaft extending through and beneath the body with the propeller directed rearwardly thereof, which propeller is surrounded by a foraminous cylindrical cage having screened intake and discharge. A weight compensating plane is pivotally secured to the rear of the cylindrical cage and the propulsive fluid stream of the propeller so that the buoyant body may be trimmed dependent upon the weight of the swimmer being towed and also in accordance with variations in speed of the craft.

The present invention relates to Swimmer's towing device and has for an object to provide a buoyant structure movable through the water by a motor enclosed within the buoyant structure for towing a swimmer under motive power at a speed in excess of that attainable by an ordinary swimmer.

Another object of the present invention is the provision of a device of the character described which may be used as a life-saving device to immediately advance a life guard to a troubled area for rendering assistance to a swimmer in trouble.

A still further object of the present invention is the provision of the character described having a throttle control accessible at the swimmer's grasping point at the stern of the vehicle at which point the swimmer lets go of the throttle letting the engine stop and rendering the vehicle powerless so that it will not run away from the swimmer, for example, when a life guard reaches the area of the swimmer in trouble, the device may be stopped until he takes the troubled swimmer in tow and thereafter the device may be used to tow the life guard and the swimmer to safety.

A still further object of the present invention is to provide a weight compensating plane on a swimmer's towing device which will compensate for the different weights of swimmers using the vehicle.

With the foregoing and other objects in view, the invention will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views:

FIGURE 1 is a perspective view of a swimmer's towing vehicle constructed in accordance with the present invention and having the motion access hatch removed.

FIGURE 2 is a front elevational view of the device of FIGURE 1.

FIGURE 3 is a top perspective view of the device of FIGURES 1 and 2 with the engine access hatch removed.

FIGURE 4 is a view similar to FIGURE 3 taken on a magnified scale.

FIGURE 5 is a longitudinal section through the motor propulsion column showing the protective cage and weight compensating plane.

FIGURE 6 is a front elevational view of FIGURE 5.

Referring more particularly to the drawings and for the moment to FIGURES 1 and 2, **10** designates a buoyant body of sufficient buoyancy to support an out-board motor and being hydrodynamically faired for motion through the water. The buoyant body **10** has a closed in top bow portion **11**, a closed stern portion **12** and a motor access hatch **31**. At the stern **12** are provided two swimmers' grasping handles **14** and **15**. Mounted in the buoyant body **10** beneath the access hatch **13** is a motor **16** of the air-cooled type having a power column **17** projecting through thte bottom of the buoyant body **10** in water-tight relation therewith.

The power column **17** at its base has a housing **17*a*** for making a right angle drive connection to a propeller **18**. Arranged about the housing **17^a** and propeller **18** is a foraminous protecting cage **19** provided with a securing collar **20** for securing the cage **19** to the power column **17** and a support bracket **21** for securing the bottom of the housing **17^a** to the bottom of the cylindrical cage **19**. The intake and discharge of the cage **19** is provided with protective screens **22, 23** to protect the swimmer from having any part of his body coming into contact with the high-speed propeller **18** during any time of the use of the device.

At the rear of the cage **19** are lugs **24** and **25** which carry a weight compensating plane **26** by pivots **27**. The weight compensating plane **26** is provided with a relatively large surface area and has secured at its rear portion a weight compensating controlling rod **28** for changing the plane attitude of the plane **26**. At the stern **12** of the buoyant body **10** is provided at rod limit stop **29** in the form of a notched bracket to permit the swimmer to set the attitude of the weight compensating plane **26** at any desired point dependent upon vehicle speed of the buoyant body **10** through the water.

Pivotally secured to the swimmer's handle **14** is a throttle trigger **30** connected to actuate a throttle wire **31** connected to the carburetor of the motor to thereby control its speed.

A dead man's clutch **32** is connected between the throttle wire **31** and the carburetor of the engine so that upon the swimmer releasing the throttle trigger **30** the engine will cut out and stop and the vehicle will not run away from the swimmer.

Referring now to FIGURES 3 and 4, when the craft of the present invention is operated with the access hatch **13** closed or in place, air will be supplied to the motor **16** through air intake ports **33** and as shown best in FIGURE 4 a flexible tube **34** is connected to the out-board motor exhaust line which passes through the closed-in bow **11** at an exhaust discharge tube **35**. The exhaust discharge tube **35** may be provided with a body protective heat deflecting shield **36** to protect the hot exhaust pipe from contact with the body of the swimmer to eliminate any possibility of burns.

Secured to the closed-in top bow portion **11** is a line davit **37** for tethering the vehicle at a dock by means of a line when the vehicle is not in use.

IN OPERATION

When it is desired to employ the vehicle of the present invention, the line is removed from the bow davit **37** and the spring wound or other starter is cranked up in a conventional manner. The swimmer then directs the vehicle in the direction in which the swimmer wishes to proceed, grasping the swimmer's handles **14** and **15**. When the throttle trigger **30** is grasped by the fingers of the swimmer, the motor is started which causes the propeller **18** to rotate and advance through the water. The intake air for the motor is drawn in through the engine by intake ports **33** and exhausted through the exhaust discharge tube **35**. The device is now pulling the swimmer through the water and dependent upon the weight of the swimmer, the craft will either be heavy or light at the stern.

In order to compensate for the heavy weight, the swimmer with the hand controlling the throttle trigger **30** will grasp the weight compensating control rod **28** and adjust it to control the plane attitude of the weight compensating plane **26** by engaging the weight compensating rod at the appropriate adjustment relative to the rod limit stop **29** carried by the stern **12** of the craft.

Should the swimmer for any reason by encountering an object in the water or performing life-saving functions, become separated from the craft, upon his finger releasing the throttle **30** the dead man's clutch **32** will cause the motor to stop and the vehicle will then be in a buoyant hydrostatic attitude until re-approached by the swimmer at which time the swimmer will remove the access hatch **13**, crank the spring wound starter, replace the hatch **13** and approach the stern of the craft and grasp it by the handles **14** and **15**, thereafter engaging the throttle trigger **30** to start the device and continue on his way.

Of particular importance in the present invention is the provision of the weight compensating plane carried in the rear of the cylindrical cage **19** about the propeller **18** to make proper adjustments to control the attitude of the craft when moving through the water and carrying varying loads.

Although I have disclosed herein the best forms of the invention known to me at this time, I reserve the right to all such modifications and changes as may come within the scope of the following claims.

What is claimed is:

A swimmer's towing device comprising

(a) a buoyant body hydrodynamically faired to be propelled over the surface of a body of water,

(b) a motor carried within said buoyant body having a propulsion shaft and propeller extending through and beneath the body,

(c) swimmer's grasp handles at the stern of the buoyant body and a pivoted trigger on said handles connected to the motor speed control to regulate the speed of advance of the buoyant body through the water,

(d) a foraminous cylindrical cage about the propeller, said cage being screened at its intake and discharge,

(e) a weight compensating plane pivotally carried by said cylindrical cage at its rear and in the propulsive fluid stream from said propeller so that the buoyant body may be trimmed dependent upon the weight of the swimmer being towed and the speed of the craft through the water, and

(f) weight compensating plane regulating means, one end of which is accessible to the swimmer in the area of the grasp handles at the stern of the buoyant body.

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