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3,405,677  
**MOTORIZED SURFBOARD**  
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**ABSTRACT OF THE DISCLOSURE**

The device comprises a motorized surfboard which is relatively inexpensive and light in weight. The float body is preferably largely filled with foam plastic for buoyancy. A hollow fin extends downwardly from the body centrally thereof forming a cockpit to enclose a battery and electric motor. The motor drive shaft extends longitudinally through the rear of the fin to drive a propeller. A cover acts as a seal for the cockpit. A control cable extends through the top of the float body near the forward end and serves as a means of controlling the motor and stabilizing the rider when in a standing position.

This invention relates to an improvement in Motorized Surfboard and deals particularly with an elongated float designed to support a person in an upright position, and which includes a self-contained source of power to move the surfboard over the water.

Surfboard riding is an extremely popular sport at various points along the coastline of the country. The surfboards are driven toward the shore by the force of incoming waves, the rider maintaining a position near the crest of the wave. However, the sport of surfboard riding is normally confined to persons residing in the coastal areas, as most inland lakes are not large enough to provide the type of waves required for surfboard riding with any degree of regularity.

It is a purpose of the present invention to provide an apparatus which simulates a surfboard to the extent that it rides upon the surface of the water, and is designed to support a rider in an upright position. However, in order to propel the device, a self-contained power unit is provided which is controlled by the operator and which will permit the device to travel along the surface of the water without being propelled by the movement of the water.

A feature of the present invention resides in the provision of an elongated hollow body made of fiberglass or other durable plastic material, and which is of sufficient depth to support a human body when filled with a foam plastic or the like. On the under surface of the body, preferably rearwardly of the center thereof, a hollow downwardly projecting fin is provided. This fin is narrow, relative to the width of the body of the device and is of sufficiently large size to contain a storage battery, and an electric motor. The hollow fin is shaped with a tapered rear end portion through which the shaft of the motor extends. A seal is provided encircling the shaft to prevent the water from flowing into the interior of the fin. A small propeller is mounted upon the motor shaft capable of propelling the float. By operation of the motor, the float will move along the surface of the water at a speed controlled by the size of the power unit.

A further feature of the present invention resides in the provision of a removable hatch which covers the top of the hollow fin and through which the battery and motor are accessible. This hatch is securely closed when the float is in use, but may be easily removed when it is desired to recharge the battery.

A further feature of the present invention resides in the provision of a control switch which is mounted upon the end of a flexible cable issuing from the upper surface of the surfboard or float near the forward end thereof.

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The cable is designed as an assistance in maintaining the balance of the operator, and the switch is employed for controlling the circuit to the drive motor.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of the specification:

FIGURE 1 is a perspective view of the motorized surfboard, showing the general arrangement of parts therein.

FIGURE 2 is a bottom plan view of the motorized surfboard shown in FIGURE 1.

FIGURE 3 is a vertical sectional view on a longitudinal plane through an intermediate portion of the motorized surfboard and the motor and battery containing fin extending downwardly therefrom.

FIGURE 4 is a vertical sectional view through the surfboard rearwardly of the fin, the position of the section being indicated by the line 4—4 of FIGURE 2.

The motorized surfboard is indicated in general by the letter A. This structure includes an elongated float body indicated in general by the numeral 10, and having a substantially square rear end 11 and preferably a pointed front end 12. For the purpose of simplifying the construction, the elongated float body 10 includes an upper section 13 having peripheral downwardly extending side flanges 14 which extend from the rear end 11 and taper to the front rounded or pointed end 12, and a downwardly extending rear flange 15 which is integral with the side flanges 14. In other words, a continuous downwardly extending peripheral flange completely encircles the upper section 13.

The elongated float body also includes a lower section 16 which includes, throughout the major portion of its length, a substantially flat bottom panel 17 having upwardly extending side flanges 19 which merge together at the forward end to form the front end of the lower section, and a rear flange 20 extending upwardly across the rear of the lower section. In other words, the lower section includes a continuous peripheral flange about its entire periphery, and the edges of the flanges 14 are sealed as indicated at 21 to provide side seams, and are sealed together at the rear of the body to form a rear seam 22. The sealed seams are watertight to prevent water from entering the space between the upper and lower sections.

The bottom section 16 is tapered in depth at its forward end as indicated at 23 so as to lower the resistance of the float to movement through the water. The lower section 16 is also formed to provide a downwardly projecting fin which is indicated in general by the numeral 24. This fin 24 is defined by a downwardly and rearwardly inclined forward edge 25, a substantially horizontal bottom portion 26, and an upwardly and rearwardly extending portion 27. The portions 27 and 29 of the fin form a substantially conical rearward extension on the fin, the forward end of the upwardly and forwardly inclined portion 29 being connected to the bottom panel 17 by an upwardly and rearwardly extending connecting portion 30.

As is indicated in FIGURE 4 of the drawings, the upper portions of the sides of the fin 24 are substantially parallel as indicated at 31, and then these sides converge downwardly toward one another toward the horizontal lowermost edge 26. As is indicated in FIGURE 2 of the drawings, the forward portion of the fin 24 is provided with sides 32 which converge forwardly and inwardly to the forward end 33 of the fin which is at the point of juncture between the fin and the bottom panel 17.

The major portion of the space between the upper and lower sections 13 and 16 are filled with a material such as foam plastic which is much lighter than water, and which provides a buoyant force for the surfboard 10. This foam plastic material is indicated in FIGURES 3

and 4 of the drawings, the rear portion 34 of the foam plastic being confined between the rear ends of the sections and overlapping flanges 35 and 36 on the top and lower sections respectively which extend transversely the width of the fin 24. The side walls 31 of the fin project upwardly as indicated at 37 into substantial contact with the top panel 39 of the upper section 13 so as to provide a closed recess for containing the operating mechanism.

It should also be noted that foam plastic or similar material is indicated at 40 filling the space between the two sections 13 and 16 forwardly of the motor recess or cockpit which is indicated in general by the numeral 41. A platform 42 extends transversely between the sides 31 of the fin 24 and supports a storage battery 43. A transverse vertical wall 44 supports the rear end of the platform 42 and is shaped to fit the interior of the lower portion of the fin 24. A second platform 45 extends from the vertical partition 44 to the upwardly and inwardly inclined wall 27 of the conical rearwardly projecting portion of the fin, the axis of the conical portion being substantially horizontal.

A motor 46 is mounted upon the platform 45, and the shaft 47 of the motor 46 extends through the apex of the conical rear portion of the fin. A suitable seal 49 is provided encircling the shaft 47 to prevent the leakage of water into the fin about the shaft. A propeller 50 is mounted upon the shaft 47 and is rotatable therewith. The propeller 50 is arranged to drive the motorized surfboard forwardly upon energization of the motor 46.

As indicated in FIGURES 1 and 2 of the drawings, a short central keel portion 51 is incorporated in the flat bottom panel 17 of the lower sections in 16 adjoining the rear end of the section. This keel 51 is narrow in height and width at its forward end as indicated in 52, and is relatively wide and deep at its rear end as indicated at 53. The keel may be employed to keep the surfboard on a desired path.

The portion of the fin 24 beneath the platform 42 and forwardly of the partition 44 may be filled with foam plastic or similar material as indicated at 54. This material also assists in floating the surfboard 10.

As is also indicated in FIGURES 1 and 3 of the drawings, a power cable 55 extends from one terminal of the battery 43 to one terminal of the motor 46. A second cable 56 leads from the other motor terminal of the motor 46 to a duplex cable 57 extending forwardly between the sections 13 and 16, the cable extending through a seal 59 and the upper panel 39 of the upper section 13. The flexible cable terminates in a switch 60 by means of which the circuit may be opened and closed. The second cable in the duplex cable 57 extends as indicated at 61 to the other battery terminal of the battery 43 to complete the circuit when the switch 60 is closed.

The upper end of the hollow cockpit is closed by means of a cover plate 62 which is bolted or otherwise secured in place as indicated at 63. This plate is normally sealed with respect to the top panel 39, but may be removed when it is desired to recharge the battery 43. The cover 62 preferably is provided with a rectangular downwardly extending flange 64 which extends through a rectangular

opening 65 in the top panel 39 to guide the cover plate 62 into its proper position.

In operation, the rider merely stands upon the top panel 39 of the upper section 13, holding the end of the cable 57 which bears the switch 60. The cable thus assists in maintaining the balance of the rider, and also provides a means of controlling the operation of the motor 46. When the switch 60 is closed, the circuit to the motor 46 is closed, energizing the motor and driving the propeller 50 in a manner to propel the surfboard forwardly.

The surfboard is steered by merely tilting the surfboard and changing the center of gravity in a manner to cause the device to turn.

In accordance with the Patent Office statutes, I have described the principles of construction and operation of my improvement in motorized surfboard and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A motorized surfboard including an elongated float body, a hollow fin projecting downwardly from the under-surface of said float body at the transverse center thereof providing a hollow cockpit, an electric motor in said cockpit, a cover plate overlying said cockpit and normally sealed with respect to said float body, a source of current supply in said cockpit, a motor shaft projecting through said fin parallel to the longitudinal axis of said float body, and a circuit including said current source in said motor, and a control switch, said control switch being accessible to a rider on said float body.

2. The structure of claim 1 and including a flexible cable extending through the upper-surface of said float near the forward end thereof and adapted to be held by a rider standing on the surface of the float body, said cable containing a portion of the conductor forming said circuit, and supporting said switch.

3. The structure of claim 1 and in which said float body comprises a hollow body of plastic material having a buoyant foam plastic material therein.

4. The structure of claim 1 and in which said shaft extends through the rear of said fin.

5. The structure of claim 1 and in which said fin includes a substantially conical rearwardly tapering portion through the axis of which said shaft extends.

6. The structure of claim 5 and including a downwardly projecting keel element on the under-surface of said float body.

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