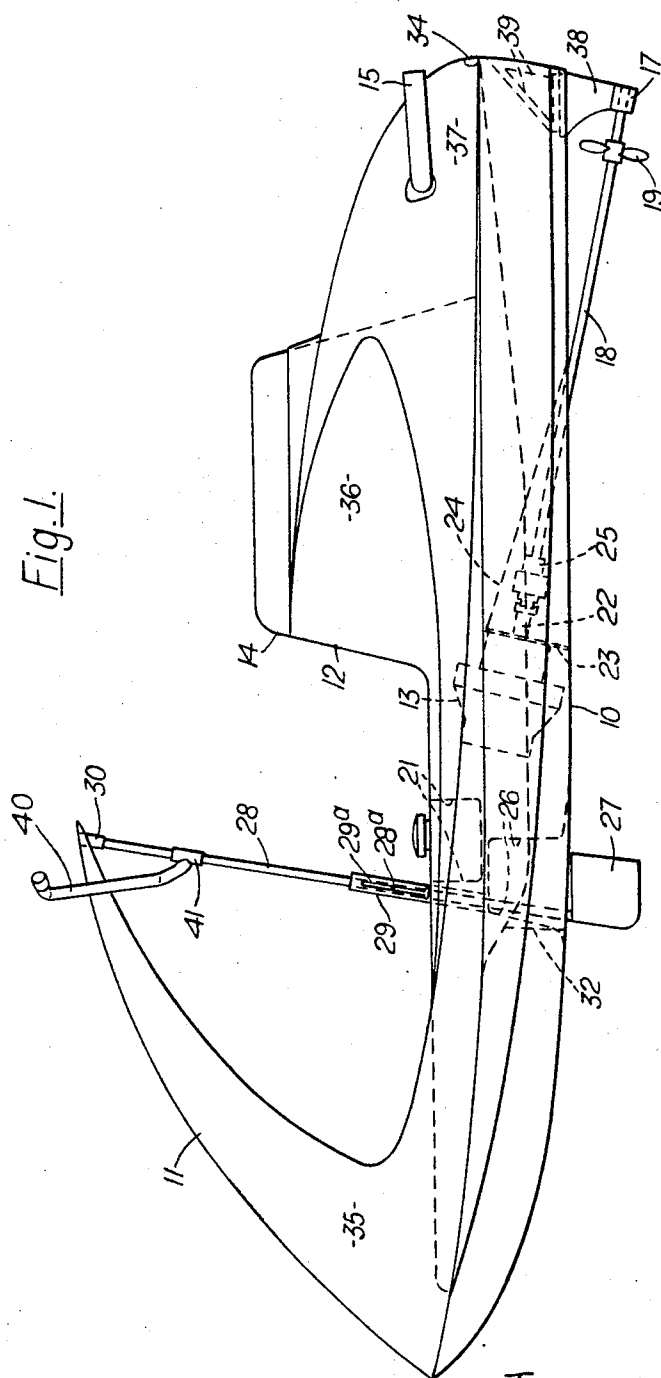


3,397,670

3 Sheets-Sheet 1

Filed Feb. 23, 1967



Inventor
TIMOTHY J. BEDFORD

By Wm. J. Bailey
Attorney

Aug. 20, 1968

T. J. BEDFORD

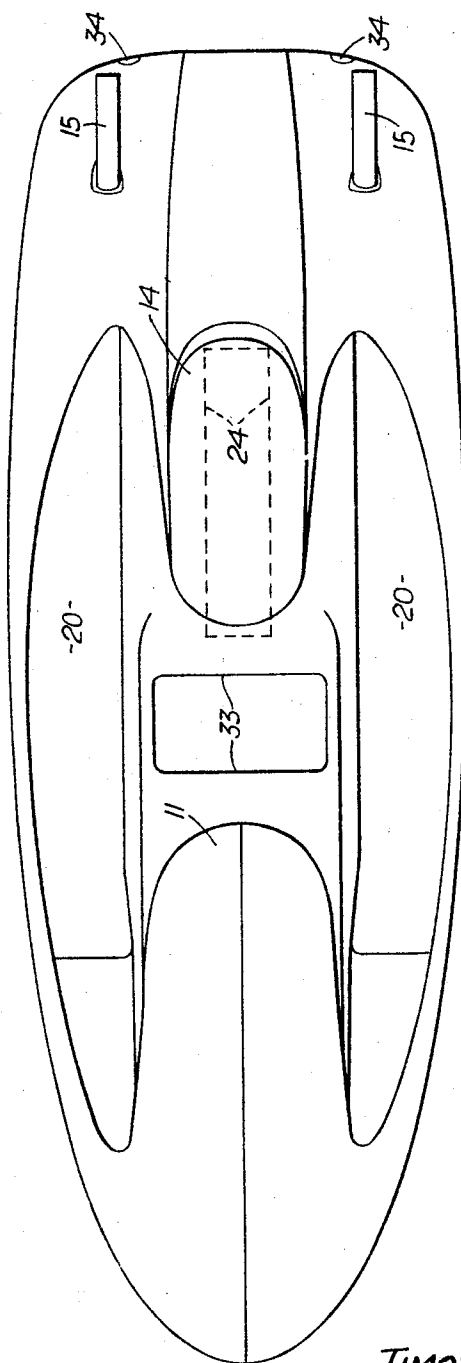
3,397,670

WATER CRAFT

Filed Feb. 23, 1967

3 Sheets-Sheet 2

Fig. 2



Inventor
TIMOTHY J. BEDFORD

By *Miner & Miner*
Attorney

Aug. 20, 1968

T. J. BEDFORD

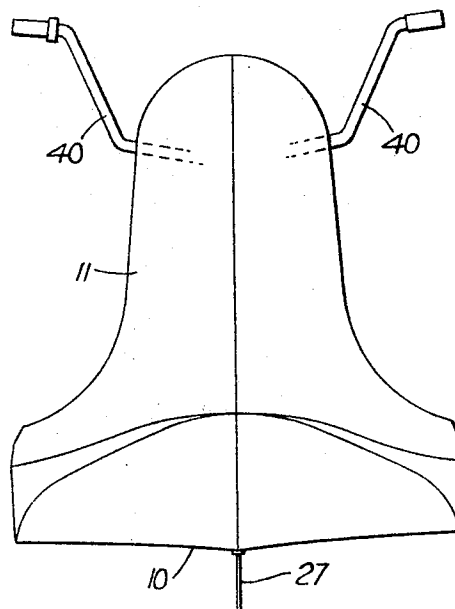
3,397,670

WATER CRAFT

Filed Feb. 23, 1967

3 Sheets-Sheet 3

Fig. 3.



Inventor
TIMOTHY J. BEDFORD
By *Wine & Wiley*
Attorney

1

3,397,670

WATER CRAFT

Timothy J. Bedford, 45 Rosliston Road, Stapenhill,
Burton-on-Trent, Staffordshire, England

Filed Feb. 23, 1967, Ser. No. 618,209

Claims priority, application Great Britain, Mar. 1, 1966,
8,810/66

7 Claims. (Cl. 115—70)

ABSTRACT OF THE DISCLOSURE

A water craft which can be balanced and steered like a cycle or motorcycle, having steering means at the front and propulsion means at the back.

Brief summary of the invention

The invention consists in a water craft comprising a hull formed to offer areas of contact with the water on the longitudinal centre line of the craft, and hence one behind another, a steering means carried by the hull at the front, a propulsion means carried by the hull at the back, and an engine mounted in the hull and connected to the propulsion means.

A constructional form of the invention will now be described with reference to the accompanying drawings in which:

FIGURE 1 is a side elevation.

FIGURE 2 is a plan.

FIGURE 3 is a front elevation.

The craft comprises a hull 10 which may conveniently be moulded in fibreglass, for example in three sections bonded together. The front portion has an upstanding faring 11, the middle portion 12 accommodates a power unit 13 and an upstanding detachable seat 14, and the rear portion accommodates the exhausts 15 and provides a bearing 17 for the rear end of the propeller shaft 18 which carries a propeller 19. There are two foot-wells 20 in the hull.

The power unit may be an ordinary internal combustion engine fed with fuel from a tank 21 molded into the hull. The engine drives a crank shaft 22 which projects through an engine mounting plate 23 which is set on an angle at the front end of a sloping tunnel 24 on the underside of the hull, the crankshaft being coupled to the propeller shaft by a flexible coupling 25. The hull also has a tunnel 26 nearer the front in register with a rudder 27. The rudder 27 is mounted on the lower end of a shaft or tube 28 which passes through a fixed bush 29 attached to the hull and carried through to the top of the tunnel 26 for strength, and the upper end of the shaft or tube 28 is located in a fixed bush 30 carried by the faring 11. There is an elongated slot 29a in the bush 29 and the shaft or tube carries a pin 28a which works in the slot, so that when the rudder is in a central position it can be retracted upwards into its tunnel 26 by lifting the shaft or tube 28. In an alternative, a compression spring holds the rudder assembly up and it may be extended by light pressure on the handlebars.

In an alternative arrangement instead of having a tunnel for the rudder, there may be a step indicated at 32 in the hull so that the rudder is then retracted behind the step.

It will be seen that the crankshaft runs in the tunnel 24, in water, and there is a seal between the hull and the engine mounting plate 23 to prevent ingress of water into the engine compartment. Access to the engine and associated parts is obtained when the detachable seat is removed through an aperture in the hull indicated at 33 which is also the air intake for the engine. There are holes

2

34 in the rear end of the hull to allow for water to drain away rearwardly out of the foot-wells 20, during acceleration due to the change of inertia of the water.

Packing which may be in the form of expanded polystyrene is filled into the hull cavities at the front at 35, in the seat portion at 36 and in the rear portion at 37, in order to give buoyancy and prevent the craft from sinking in the event of mishap, while the packing under the seat protects the rider and passenger (if any) from the heat of the engine and also provides a measure of sound absorption.

The bearing 17 for the rear end of the propeller shaft may be of Tufnol or other type which may be water lubricated, and it is carried by a depending bracket 38. The bracket 38 may be moulded in nylon with the propeller shaft 18 running directly in it. This eliminates the need for a separate bush, reducing the diameter of the boss and so reducing drag. There is also a strengthening bracket 39 moulded into the hull at this rear central point. The craft is steered by handlebars 40 secured to a clamp 41 on the shaft or tube 28.

When stationary and moving slowly, the craft is of sufficient displacement to support its own weight and the weight of the rider(s). It also has sufficient beam (width) to give adequate stability to enable the rider(s) to mount it, start up and gather speed and commence planning.

In motion the craft planes on the water and will rise at the front end so that approximately the rear third of the hull is below the water line while the front two-thirds is clear, in smooth water. Obviously the angle and area of contact with the water will vary with speed.

The engine may achieve propulsion by a non-cavitating or super cavitating propeller, a semi-surface propeller, water jet or paddle wheel, the unit being selected according to the performance desired.

I claim:

1. A water craft comprising, in combination, a hull, a propeller disposed at the rearward portion of said hull, guiding means disposed adjacent the forward portion of said hull and means for rotating said propeller,

said guiding means comprising a member adapted to be manipulated by an occupant of the craft and a rudder fixed to said member so as to form an integral unit therewith, said rudder being normally disposed below said hull and said member projecting generally vertically upwardly through said hull and rotatably and slidably carried thereby,

said hull having a recess for receiving said rudder whereby the occupant may grasp said member and lift upwardly thereon to retract the rudder into said recess to prevent fouling thereof.

2. The craft according to claim 1 wherein said member comprises an elongate rod to lower end of which said rudder is rigidly affixed, a bushing carried by said hull and through which said rod extends.

3. The craft according to claim 2 wherein said bushing is provided with an elongate slot and said rod is provided with a pin for reception within said slot as the member and rudder are raised whereby the rudder is constrained to remain in a predetermined fixed position while retracted.

4. The craft according to claim 3 wherein said hull includes a fairing portion extending rearwardly and upwardly from its front, a second bushing carried by said fairing portion slidably and rotatably receiving said rod.

5. A water craft comprising, in combination, a buoyant hull for floating the craft and having a substantially horizontal bottom and provided with a seat,

power means enclosed within said hull,

3

propulsion means located at the rear of said hull adjacent said bottom thereof,
 means connecting said power means to said propulsion means for driving the latter,
 a rudder mounted on the forward portion of said hull for rotary steering motion while projected below said bottom of the hull and for movement between such projected position and a retracted position wherein the rudder lies above the undersurface of said bottom,
 manually operated means for effecting movement of said rudder between said projected and retracted positions,
 and means for rotating said rudder while in its projected position to steer the craft.

6. The craft according to claim 5, said hull having a tunnel on its underside, a mounting plate at the forward end of said tunnel, said propulsion means comprising a rotary propeller, said power means comprising a motor

4

affixed to said mounting plate and the means connecting the motor to the propeller comprising a shaft extending through said tunnel.

7. A water craft as claimed in claim 6 having an up-standing seat portion in the hull, an engine compartment below the seat, footwells in the hull at each side of the seat, the mounting plate having sealing means between itself and the hull, said sealing means serving to prevent ingress of water into the engine compartment.

References Cited

UNITED STATES PATENTS

3,158,129	11/1964	Mauer	115—70
3,311,083	3/1967	Carlson	115—70
3,326,168	6/1967	Swiggart et al.	114—128 X

MILTON BUCHLER, *Primary Examiner*.

TRYGVE M. BLIX, *Assistant Examiner*.