Nov. 6, 1923. 1,473,049

L. B. ROBERTS

FOOT PROPELLING DEVICE FOR BOATS

Filed May 6, 1922

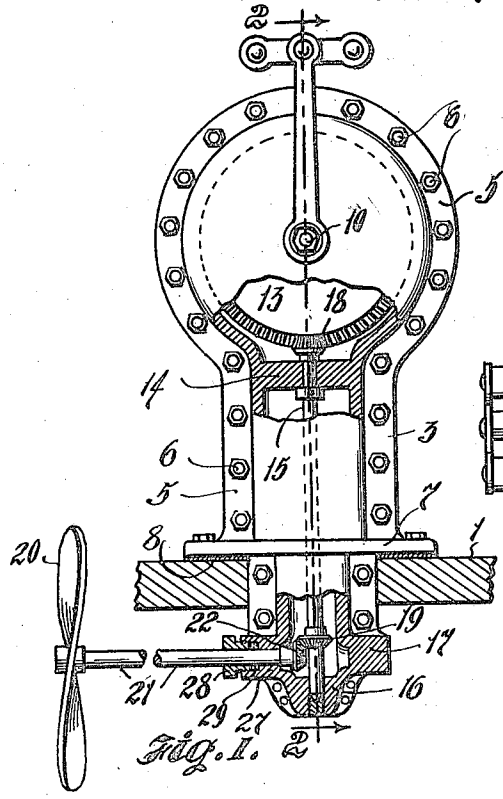


Fig. 1.

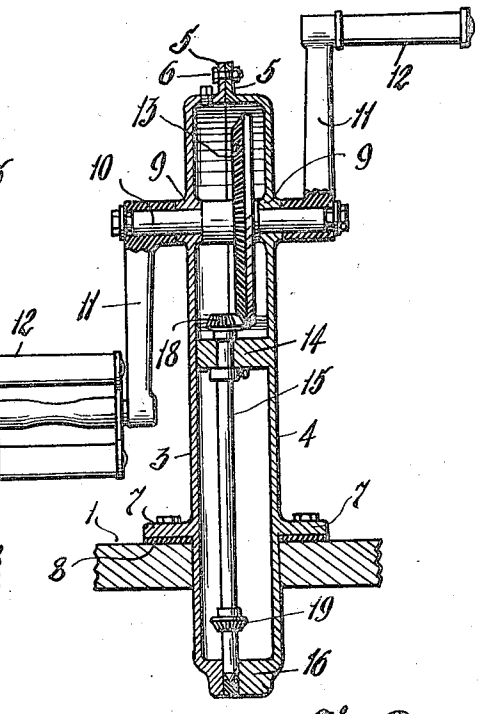


Fig. 2.

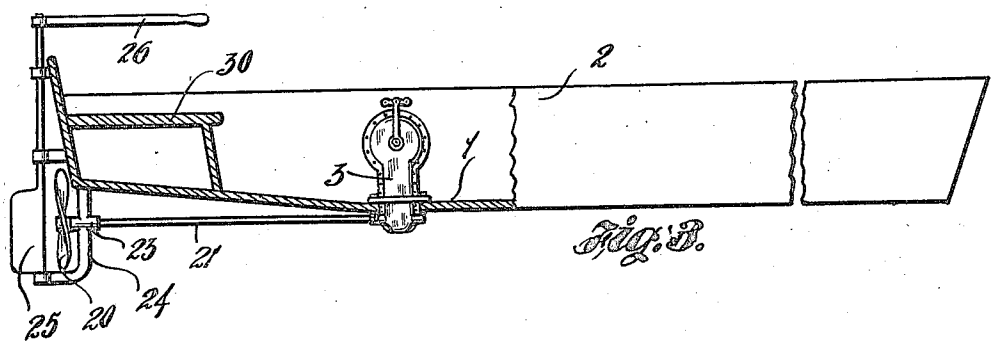


Fig. 3.

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UNITED STATES PATENT OFFICE.

LUTHER B. ROBERTS, OF SWEETWATER, TEXAS.

FOOT PROPELLING DEVICE FOR BOATS.

Application filed May 6, 1922. Serial No. 558,969.

To all whom it may concern:

Be it known that I, LUTHER B. ROBERTS, a citizen of the United States, residing at Sweetwater, in the county of Nolan and State of Texas, have invented certain new and useful Improvements in Foot Propelling Devices for Boats, of which the following is a specification.

This invention relates to boats or small water-craft and it pertains more particularly to a novel means for propelling boats and such small water-craft on the surface of the water.

The invention is primarily designed to replace the oars in a row boat, usually propelled by hand, and to substitute therefor a mechanism actuated by the feet of the operator to propel the boat over the surface of the water at a uniformly fair rate of speed, so as to leave the operator's hands free for the purpose of steering the boat.

The device is simple of construction, therefore of economical manufacture, having few parts which are strong and durable.

The invention will be clearly understood by reference to the following description, taken in connection with the accompanying drawing, forming part hereof, in which—

Figure 1 is a side elevational view of the device with part broken away and in section and seated upon and secured to the floor of a boat.

Figure 2 is a vertical sectional view, taken on line 2—2 of Figure 1, the propeller removed; and

Figure 3 is a side elevational view of a boat, partly broken away and in section, and illustrating the invention in position for operation.

Referring more in detail to the drawings, 1 denotes the floor or bottom of a boat 2. The boat propelling device comprises a housing consisting of two plates 3 and 4, clearly illustrated in Figure 2. These plates have each a flange 5 fastened together by bolts 6—6, the two plates forming a closure for the mechanism. Each plate has a lateral projection 7 extending along each side of the plate and bolted to the floor 1 of the boat, as shown in the drawing, to sustain the housing in an upright position. The lower end of the housing projects through a hole or opening in floor 1, the projections 7—7 resting upon a gasket or packing 8 to form a water-tight joining.

The upper part of the plates 3 and 4 has a bearing 9 for the shaft 10 upon each end of which is mounted a pedal crank arm 11 with a pedal 12 for propelling the boat. 13 denotes a relatively large miter gear wheel affixed to shaft 10 and rotated by the pedals and crank arms.

About midway between the upper and lower ends of the housing is a horizontal flange 14 which provides a bearing and support for a vertical shaft 15, the lower end of this shaft being seated to rotate in the bottom of the housing, the ends of the plates at this point being thicker as at 16, also 17.

Supported upon each end of the shaft 15 are small bevel or miter gears 18 and 19 for connecting the larger gear 13 to rotate the propeller.

The propeller 20 is carried upon a shaft 21, the inner end of the shaft carrying a bevel or miter gear 22 meshing with a similar gear 19, thus connecting the shafts 15 and 21 to receive the power, imparted by the revolution of shaft 10 through gear wheel 13.

The shaft 21 has a bearing 23 in a frame 24 secured to the stern of the boat, supplied with a rudder 25 and steering handle or tiller 26, the inner end of the shaft 21 being supported in a bearing 27. A packing nut 28 with packing 29 prevents water from leaking into the housing.

In operation, the occupant of the boat is supported upon the seat 30 and rotates the shaft 10 by means of the pedals 12—12 by the feet. The seat and pedals are in such relative positions as to enable the operator to be firmly braced on the seat and the pedals to receive the maximum muscular power exerted by feet and legs, similar to the operation of an ordinary bicycle.

What is claimed is—

In a boat propelling device, a casing having its lower end formed to project through an opening provided therefor in the bottom of the boat, a flange carried by the casing and formed to seat on and be secured to the bottom of the boat to limit the extent of projection of the said lower end of the casing through the boat bottom, a vertical shaft journaled at its lower end in the bot-

tom of the casing, means to drive the shaft, a frame formed for attachment to the stern of the boat, a horizontal shaft for disposal beneath the boat bottom journaled at one end in the frame and at its opposite end in the rear side of the lower end of the casing, a propeller on the shaft, means to drive the inner end of the horizontal shaft from the lower end of the vertical shaft, and a steering rudder journaled at one end in the frame.

In testimony whereof I have signed my name to this specification.

LUTHER B. ROBERTS.