

D. F. FRISINGER.
 MANUAL MOTOR.
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1,069,327.

Patented Aug. 5, 1913.

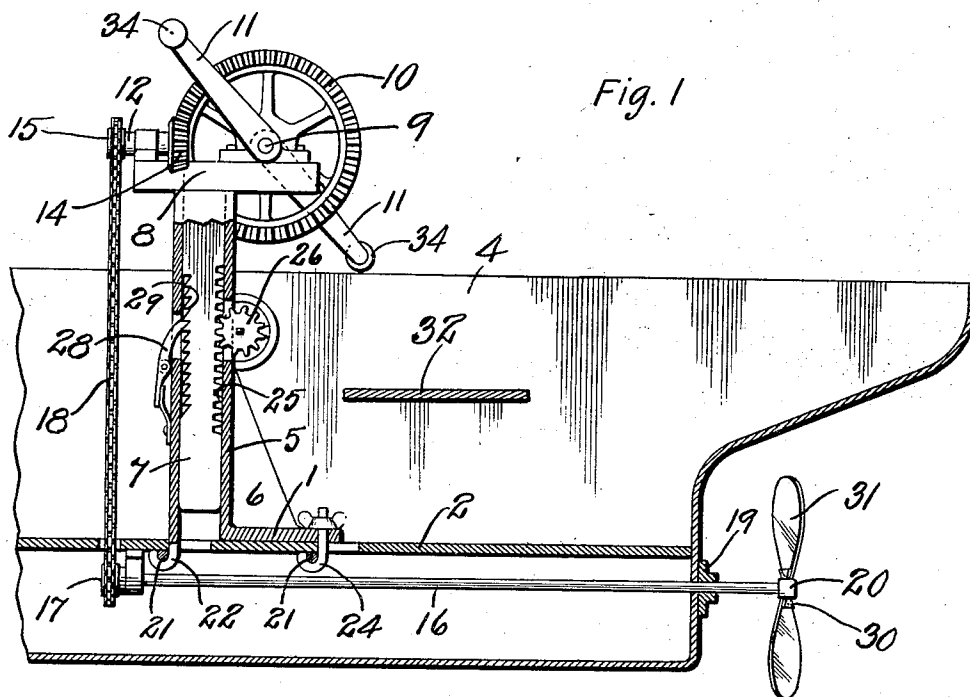


Fig. 1

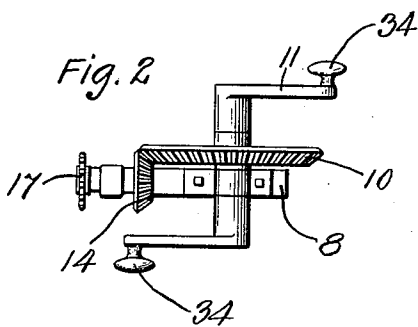


Fig. 2

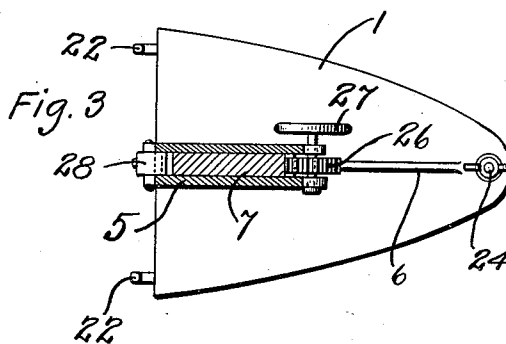


Fig. 3

Witnesses
Wm. Janus
C. Butler

Inventor
 David F. Frisinger
 By *J. R. Cornwell* Att'y.

UNITED STATES PATENT OFFICE.

DAVID F. FRISINGER, OF ST. LOUIS, MISSOURI.

MANUAL MOTOR.

1,069,327.

Specification of Letters Patent.

Patented Aug. 5, 1913.

Application filed October 12, 1912. Serial No. 725,449.

To all whom it may concern:

Be it known that I, DAVID F. FRISINGER, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Manual Motors, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation partly in section showing my device as applied to a boat. Fig. 2 is a top view. Fig. 3 is a plan view partly in section on line 3—3 of Fig. 1.

My invention relates broadly to boat propulsion and specifically to a form of manually operated propulsion mechanism adapted to be applied to small boats.

The principal object of my invention is to provide a simple and economical device for propelling small boats by hand power, which may be readily applied to divers forms of boats which may not be designed primarily for the device.

A further object of my invention is to provide such a device which includes features rendering it adjustable so as to accommodate it to the convenience of the operator.

A still further object of my invention is to provide a device for the purpose described of a construction such as renders it readily attachable and detachable.

With these objects in view, I provide a base plate 1 which is adapted to be positioned upon the deck or foot boards 2 of a boat 4. Upon the plate 1 is supported a hollow standard 5 which may be reinforced by a brace 6. Slidably positioned within the hollow standard 5 is a bar 7 which carries at its upper end a cross arm 8. Upon the aft portion of the cross arm 8 is journaled a shaft 9 which carries a beveled gear wheel 10 and a pair of cranks 11 by which the gear wheel 10 may be rotated. Journaled upon the forward portion of the cross arm 8 and extending at right angles to the shaft 9 is a shaft 12 carrying the beveled gear wheel 14 which meshes with the gear wheel 10. Upon the forward end of the shaft 12 and normal thereto is carried a sprocket wheel 15 which extends beyond the end of the cross arm 8. A propeller shaft 16 is adapted to be journaled upon a portion of the boat structure and carries a

sprocket wheel 17. A suitable chain or belt 18 is adapted to transmit power from the wheel 15 to the shaft 16. The shaft 16 passes out of the boat through the stuffing box 19 and carries the propeller 20.

As a means for attaching the device to the boat, I provide transversely disposed rods 21 which are attached to the boat and equip the plate 1 with the lugs 22 and the clamp 24 which are adapted to cooperate with the rods 21. In attaching the device, the lugs 22 are hooked under one of the rods 21 and the clamp 24 is then hooked under the other rod and tightened so as to secure the device in place.

The bar 7 is provided with the toothed portion 25. With it cooperates the toothed pinion 26 which is suitably journaled on the standard 5. The toothed pinion 26 may be turned by any suitable means 27 and when thus turned will operate to raise or lower the bar 7 within the standard 5 by virtue of its engagement with the toothed portion 25. A dog 28 is provided to retain the bar 7 in elevated position which it may do by cooperation with the serrations 29. The elevation of the bar 7 operates to elevate the cross arm 8 and the parts carried thereby for the purpose either of taking up slack in the transmission chain 18, or for the purpose of accommodating the device to different sized operators or to different sized boats. For the purpose of accommodating the transmission chain to the adjustment, links may be removed or inserted.

The propeller which I prefer to employ is formed with a cast hub portion 30 in which are set blades 31 of some light material such as sheet steel. Such a propeller is most easily operated by the device shown, although it is obvious that other forms of propellers may be employed.

In the use of my device the operator who may be seated upon the seat 32, grasps the handles 34 of the cranks 11 and rotates the gear 10. The rotation of the gear 10 actuates the gear 14 which operates the propeller shaft by virtue of the connecting transmission gear.

By the use of my device, I am enabled to secure a very rapid rotation of the propeller with but little manual effort, as the relative size of gears 10 and 14 or 15 and 17 may be such as to cause the rapid rotation of shaft 16 with a comparatively slow operation of shaft 9.

When positioned in a boat, my device occupies but little space, is easily operated and may be easily taken down and stowed away. By virtue of the adjustable features described, one of my devices of a given size is adaptable to application to boats of greatly varying size.

It is obvious that various changes in the device illustrated may be made without departing from the spirit of my invention, and it is intended that the scope of my invention is such as to include all such modifications.

What I claim is:

- 15 1. In a device of the class described in combination with a base plate adapted to rest on the deck of a boat, a standard carried thereon, an adjustable bar supported in the standard, gearing carried by the bar, means for operating the gearing, a propeller shaft, transmission means connecting the gearing to the propeller shaft, and means for adjusting the bar relative to the base plate.
- 25 2. In a device of the class described in combination with the hull of a boat, a pair of rods supported on the hull of the boat, a standard supporting operating mechanism, a base plate upon which said standard is carried, and means carried by said base
- 20

plate adapted to removably engage said rods for the purpose of securing the operating mechanism to the boat.

3. In a device of the class described in combination, a base plate adapted to be secured in a boat, a standard supported thereon, an adjustable bar carried by the standard, a cross arm carried by the bar, driving gearing for actuating a propeller carried by the cross arm, means for adjusting the bar on the standard relative to the base plate, and means for retaining the bar in adjusted position.

4. A device for propelling boats comprising the combination of a standard, means for securing the standard in a boat, a propeller shaft, manually operable mechanism adjustably carried upon the standard and adapted to actuate the propeller shaft, and mechanism supported by the standard whereby the manually operable mechanism may be moved to adjust it relative to the propeller shaft.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 10th day of October, 1912.

DAVID F. FRISINGER.

Witnesses:

C. L. BUTLER,
FANNIE E. WEBER.