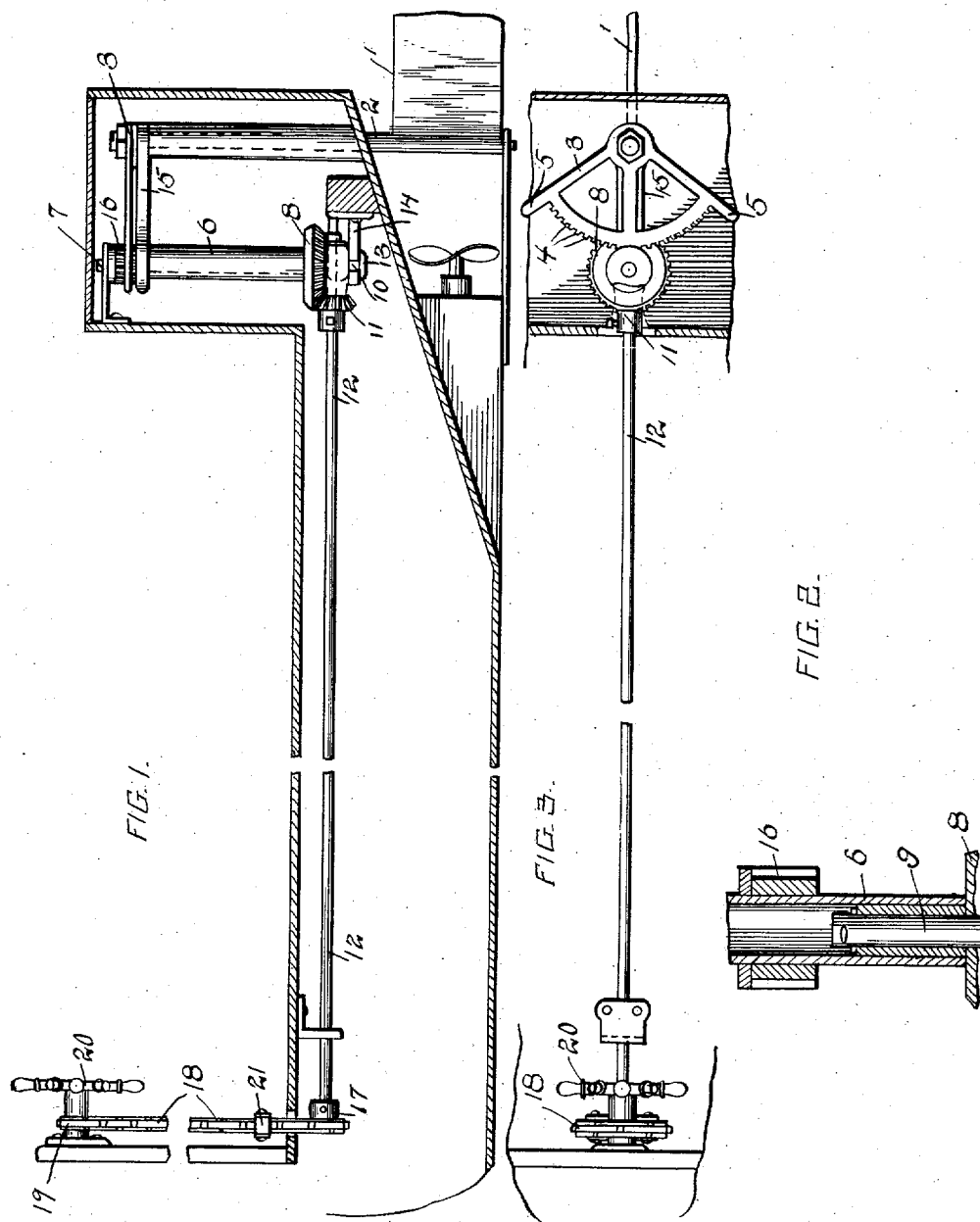


N. ROE.
STEERING DEVICE FOR MOTOR BOATS.
APPLICATION FILED NOV. 1, 1910.

1,021,267.

Patented Mar. 26, 1912.



Witnesses

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NATHANIEL ROE, OF PATCHOGUE, NEW YORK.

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1,021,267.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, NATHANIEL ROE, a citizen of the United States, residing at Patchogue, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Steering Devices for Motor-Boats, of which the following is a specification.

This invention relates to a steering device for motor boats and more particularly to a hand operated device whereby the rudder may be operated by means of certain mechanical connections from the forward end of the boat.

The object of my invention is to provide a manually operated device for the steering of motor boats and to so construct the same that it can be easily and quickly applied to any motor boat in such a manner that the rudder may be easily operated and finally held in the desired position.

Another object of my invention is to provide a steering device for motor boats wherein the rudder is limited in its movement to the right or left to the desired position to produce the best effect, as a rudder loses its effect when it is turned too far to either one side or the other.

With these objects in view and with such others as may hereinafter appear, my invention consists in the particular construction of the various parts, and in the novel manner of combination and arrangement of the said parts, all of which will be more fully described and specifically pointed out in the appended claims.

In the drawings forming a part of this specification: Figure 1 is a side elevation illustrating my invention as applied. Fig. 2 is a detailed view illustrating the construction of the hub, and Fig. 3 is a plan view of the steering mechanism.

Referring by numerals to the drawings, 1 represents a rudder having the usual rudder post 2, keyed or otherwise secured upon the top of this post is a quadrant 3, having a series of gear teeth 4, with a projection 5 at each end thereof, the object of which will be hereinafter explained. This quadrant can be placed in any position to the rudder, the object and advantage of which is, that it could be applied to some boats better one way and to other boats other ways. In the drawings, I have shown it placed directly in front of the rudder post,

but it is obvious that it would work equally as well if placed to the side or back.

Mounted in juxtaposition and parallel with the rudder post is a hub 6, which is journaled at one end as shown at 7 and provided upon the other end with a beveled gear 8, which is mounted upon a shaft 9, formed upon a bearing 10, adapted to receive and hold in mesh with the gear 8 a smaller bevel gear 11, to which is connected a rod 12, the object of which will be hereinafter explained. This bearing 10 is provided with a lug 13 adapted to fit into a bracket 14. The barrel 6 is connected to the rudder post 2 by a brace 15 and is provided with a pinion 16 made adjustable upon the barrel so that it will mesh with the quadrant regardless as to what elevation the quadrant is placed upon the rudder post. It will be seen that since the pinion 16 is in mesh with the teeth upon the quadrant, any revolution given to the hub 6 will turn the rudder either to the right or left, according to the direction of rotation of the hub, and that upon the projections 5 coming in contact with the pinion 16, the movement of the rudder is limited. This is an important feature as the rudder loses its effect when it is turned too far and also as there is great pressure on the rudder when the boat is backing up and the rudder is turned to its limit. These projections take the whole strain and keep the rudder from turning any farther.

The shaft 12 is extended to the forward part of the boat beneath the floor or to the side as the case may be, according to the position of the barrel 6 and the quadrant 3, and is provided upon its forward end with a sprocket 17, connected by a sprocket chain 18 to a sprocket 19 mounted upon the hub of a steering wheel 20, the sprocket chain being provided with and kept tight by an idler 21, which may be so constructed as to lock the steering device in position.

The shaft 12 is extended through the bearing 10, as clearly shown in Fig. 1, the object being that the gear 8 may be reversed and placed upon the end thereof, so as to make the steering device reversible, that is; when the gear 8 is so placed, the rudder will turn in the same direction which the steering wheel is turned.

From the foregoing description in connection with the accompanying drawing, it

being understood that the bearing 10 in which the shaft 12 is journaled at one end is relatively stationary, the barrel 6, being journaled on said shaft 9, and carrying the beveled pinion 8. In the practical use of the device, a rotation of the shaft 12 will be transmitted by means of the bevel pinions 11 and 8 to the barrel 6, and thence by means of the pinion 16 and meshing quadrant 3 to the rudder post 2 and rudder 1.

Having thus described the various features of my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. In a steering device, a bracket, a bearing mounted on said bracket and provided with an upwardly projecting shaft, a longitudinally extending shaft journaled in said bearing, a barrel journaled on the first named shaft, and provided with a gearing connection with the second named shaft, a rudder provided with a post, a quadrant carried by said post, and a pinion carried by the barrel and meshing with said quadrant.

2. A steering device including a rudder provided with a post, a toothed quadrant carried by the post and formed at its ends with projections, for the purpose specified, a pinion meshing with said quadrant, a vertically disposed barrel carrying said pinion,

a bevel pinion secured to said barrel, a vertically disposed shaft on which said barrel is journaled, a bearing carrying said shaft, a support for said bearing, a longitudinally extending shaft journaled in said bearing and provided with a bevel pinion meshing with the first named bevel pinion.

3. A steering device including a rudder provided with a post, a toothed quadrant carried by said post and formed at its ends with projections, for the purpose specified, a pinion meshing with said quadrant, a barrel carrying said pinion, a bearing provided with an upwardly projecting shaft on which said barrel is journaled, a bracket supporting said bearing, a longitudinally extending shaft journaled at one end of said bearing, meshing pinions carried by said shaft and barrel respectively, a support for the other end of the longitudinally extending shaft, a sprocket wheel carried by said shaft, a steering wheel provided with a sprocket and a chain extending around said sprockets substantially as described.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."