F. A. WARREN, Jr.

STEERING DEVICE FOR POWER BOATS.

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912,215.

Patented Feb. 9, 1909.

Fig. 1.

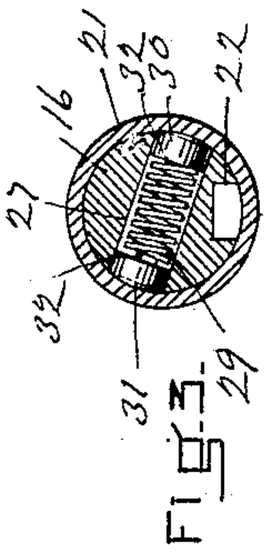

Fig. 3.

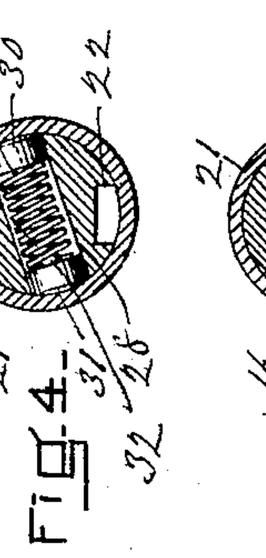

Fig. 4.

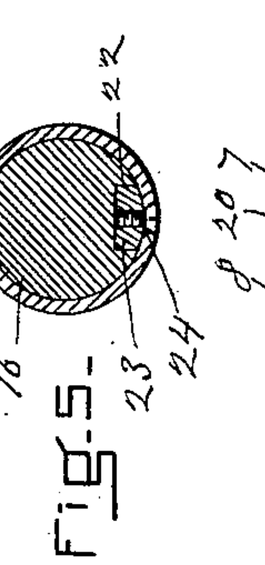

Fig. 5.

Fig. 2.

WITNESSES.

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STEERING DEVICE FOR POWER-BOATS.

No. 912,215. Specification of Letters Patent. Patented Feb. 9, 1909.

Application filed October 15, 1908. Serial No. 457,814.

To all whom it may concern:

Be it known that I, FRED A. WARREN, JR., a citizen of the United States, residing in Peabody, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Steering Devices for Power-Boats, of which the following is a specification.

This invention relates to an improved steering-mechanism for power-boats or motor-boats, the mechanism being of the general class to which the steering-mechanism illustrated in Letters Patent of the United States numbered 792,121 and dated June 13, 1905, belongs; and the present invention or improvement relates specifically to a means or construction whereby the steering-mast or spindle is capable of longitudinal adjustment.

The object of this improvement is to render the steering-mast extensible, thus enabling the operator to lift or lower the steering-wheel, whereby the wheel may be conveniently grasped and operated whether he is in a sitting or a standing position, and whereby he can rise from a sitting to a standing position and lift the steering-wheel at the same time without releasing it as, for example, in "picking up" a buoy.

The nature of the invention is fully described in detail below, and illustrated in the accompanying drawings, in which:—

Figure 1 is a view partly in side elevation and partly in section of an adjustable steering-mechanism embodying my invention. Fig. 2 is a front elevation of the same, a small portion being represented as broken out. Figs. 3, 4 and 5 are enlarged horizontal sections taken on dotted lines 3, 4 and 5 respectively.

Similar numerals of reference indicate corresponding parts.

Reference numeral 6 represents a toothed rack rigid on the upper side of a rack-rod 7, the ends of which are adapted by means of holes 8, or other suitable means, to be connected with cords or chains leading to the rudder-post. The rack-rod is adapted to be longitudinally reciprocated in the sleeve 9 whose ends are journaled in blocks 10 secured to the deck 11, or other suitable portion of the boat. Integral with the sleeve 9 are curved flanges 12 and 13 which with the removable dust-shield 14 constitute a housing for a toothed pinion 15 rigid on the lower end of a spindle 16 and in engagement with the rack 6, the spindle 16 having its bearings in boxes 17 and 18 integral with the flanges 12 and 13 respectively on the sleeve 9. A binder-screw 19 is fitted on the box 18 for holding the rudder in a central position when desired, and stops 20 limit the movements of the rack-rod. All the above parts, as far as described, are constructed and operate substantially as set forth in the Letters Patent above referred to.

The steering-mast comprises two parts, viz., the spindle 16, and the tubular sleeve 21 arranged telescopically on the spindle. The spindle 16 is provided with a longitudinal groove or key-way 22 preferably, but not necessarily, rectangular in cross section, and in this key-way there fits slidingly a key or feather 23 which is secured at 24 longitudinally to the inner surface of the sleeve 21. A steering-wheel 25 is secured in any suitable manner to the upper end of the sleeve 21, which, with the spindle 16, constitutes the adjustable and extensible steering-mast. A stop-pin 26 extends from the upper portion of the spindle 16 into the key-way 22 and serves to limit the upward movement of the key 23, thus preventing the two parts of the steering-mast from separating. At the dotted lines 3 and 4 there are two holes 27 and 28 extending through the spindle 16, preferably non-parallel with each other. In these holes are similar spiral springs 29 whose opposite ends bear against friction-bolts 30 and 31, said springs being centered by pins 32, forcing the bolts outward against the inner surface of the sleeve 21, and serving to hold the sleeve and spindle stationary and firmly at any point of extension, the springs however, not being sufficiently stiff to prevent the steersman from moving the sleeve on the spindle when it is desired to extend and lengthen, or to shorten, the steering-mast.

It is evident that by means of this improvement the steersman can rise from a sitting to a standing position and return to the sitting position carrying the wheel 25 up and down with him and retaining complete control of the steering-mechanism, and that at whatever height the wheel is left it will remain until it is raised or lowered by the steersman. It is for the purpose of distributing somewhat the frictional connection between the portions 16 and 21 over the area

of the inner surface of the portion 21 that I have arranged the springs 29 on non-parallel lines, thus producing four different lines of contact between the bolts 30, 31, and the inner surface of the sleeve 21. This serves to approximately equalize the frictional contact produced by the bolts pressing in different radial lines whereby there is less tendency to bind and the wear is distributed along four different lines.

Having thus fully described my invention, what I claim, and desire to secure by Letters-Patent is:—

1. In a steering device of the general character described for power-boats, a steering-mast comprising a spindle provided with a longitudinal key-way or groove, a sleeve provided on its inner surface with a longitudinal key or feather adapted to fit slidingly in said groove, springs arranged in the spindle, bolts intermediate of said springs and the inner surface of the sleeve, a steering-wheel mounted on the sleeve, and mechanism connected with the spindle and adapted to transmit rotation to the rudder-post, whereby the steering-mast is rendered extensible and adjustable as to length while the steering-mechanism is being operated.

2. In a steering device of the general character described for power-boats, a steering-mast comprising a spindle provided with a plurality of approximately radial non-parallel holes and a longitudinal key-way or groove, a sleeve provided on its inner surface with a longitudinal key or feather adapted to fit slidingly in said groove, springs arranged in said holes, bolts arranged in said holes at the opposite ends of the springs and adapted to bear against the inner surface of the sleeve, a steering-wheel mounted on the sleeve, and mechanism connected with the spindle and adapted to transmit rotation to the rudder-post, whereby the steering-mast is rendered extensible and adjustable as to length while the steering-mechanism is being operated and the frictional contact of the bolts with the sleeve is distributed on a plurality of substantially longitudinal lines.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRED A. WARREN, Jr.

Witnesses:
HENRY W. WILLIAMS,
M. A. ATWOOD.