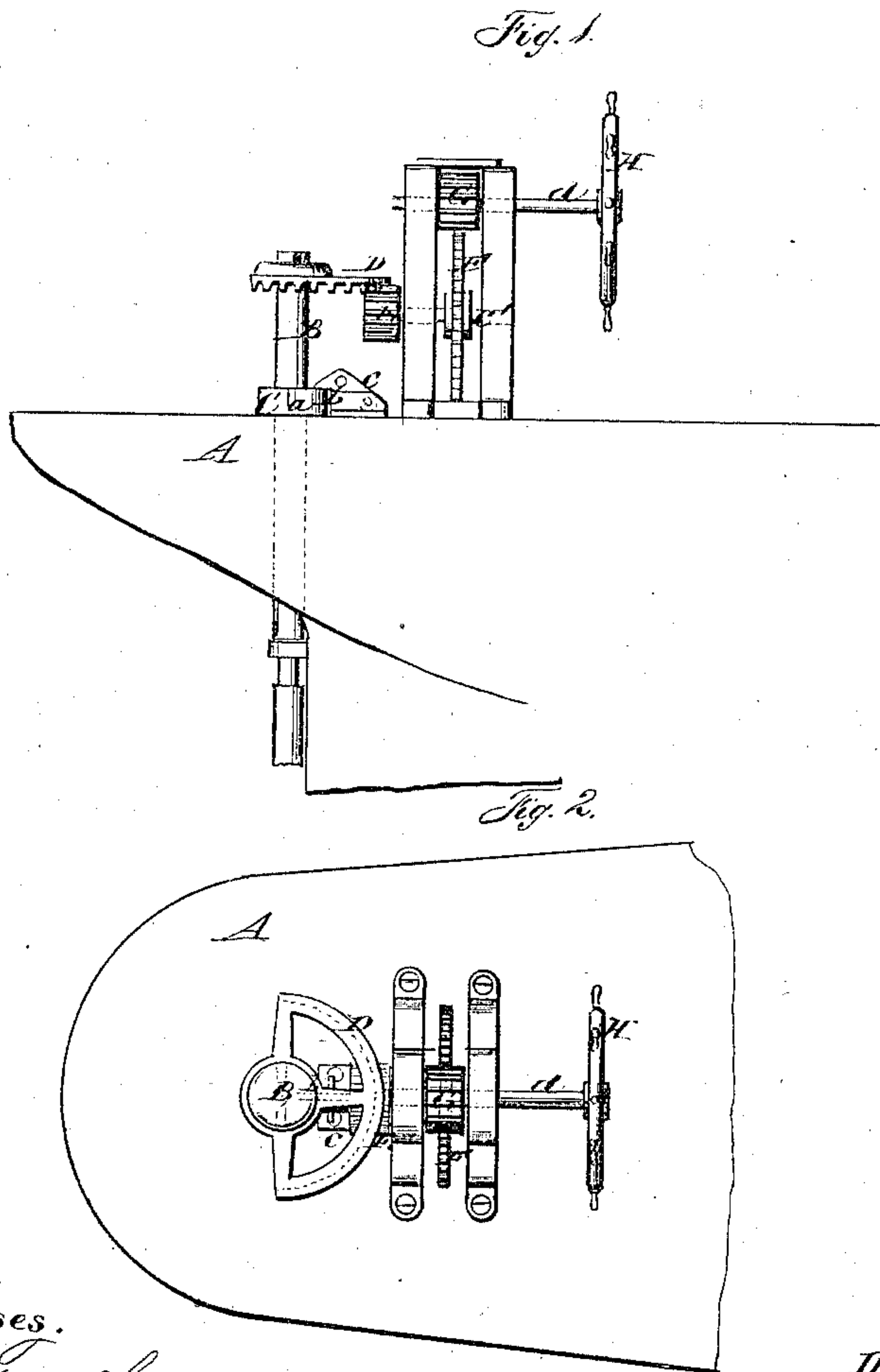


T. W. MURRAY.
STEERING APPARATUS.

No. 66,615.

Patented July 9, 1867.



Witnesses.

Thos Inseke
W. Trewin

Inventor.

Thos W Murray
Per Munnell
Attorneys

United States Patent Office.

THOMAS W. MURRAY, OF NEW YORK, N. Y.

Letters Patent No. 66,615, dated July 9, 1867.

IMPROVED STEERING APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THOMAS W. MURRAY, of the city, county, and State of New York, have invented a new and improved Steering Apparatus; and that the following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim, and desire to have secured to me by Letters Patent.

This invention relates to a new and improved steering apparatus, to be applied to the head of the rudder-post of a vessel, as hereinafter fully shown and described, whereby a very compact, simple, and powerful mechanism is obtained for the purpose. In the accompanying sheet of drawings—

Figure 1 is a side view of my invention.

Figure 2, a plan or top-view of the same.

Similar letters of reference indicate like parts.

A represents the stern portion of a vessel, and B the rudder-head or upper part of the rudder-post, on which a collar, C, is firmly secured and provided with three radial recesses, *a*, to receive a dog, *b*, which is pivoted in a plate or stock, *c*, firmly secured to the deck. When the dog *b* is raised the rudder is free to turn, but when the dog is let down and adjusted in any one of the recesses *a* of the collar C the rudder will be held firmly in position, and may be retained in any of the positions necessary in sailing a vessel, or when the same is lying in port, the three recesses *a* having such a position in the collar C that the rudder may be held in line with the axis of the vessel, or at the termination of its movement or adjustment either to the right or left, "starboard" or "larboard." To the upper end of the rudder-head there is firmly attached a toothed segment, D, the teeth being pendent or projecting downward, and into the teeth of this segment a pinion, E, on a shaft, *c'*, gears. On the shaft *c'* there is a spur-wheel, F, which gears into a pinion, G, on a shaft, *d*, the latter having a hand-wheel, H, attached.

By this arrangement of gearing a good power is obtained for operating the lever, and the mechanism is very compact and cannot be injured under any action of the rudder; for if the latter should be suddenly forced upward by coming in contact with the ground or bottom, the segment D will rise freely above the pinion E, and will drop in gear therewith without affecting any of the working parts of the steering apparatus.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

The collar C, provided with the recesses *a*, and fitted on and firmly secured to the rudder-post, in combination with the pivoted dog *b*, secured to the deck of the vessel or to a suitable plate or stock attached thereto, substantially as and for the purpose specified.

I further claim the steering apparatus, arranged with the pendent-toothed segment D on the rudder-post, with the pinion E gearing into it underneath, substantially as and for the purpose set forth.

THOMAS W. MURRAY.

Witnesses:

WM. F. McNAMARA,

ALEX. F. ROBERTS.