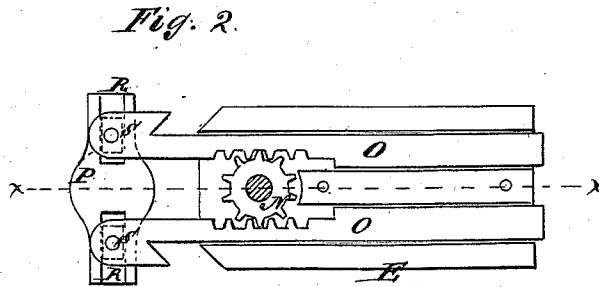
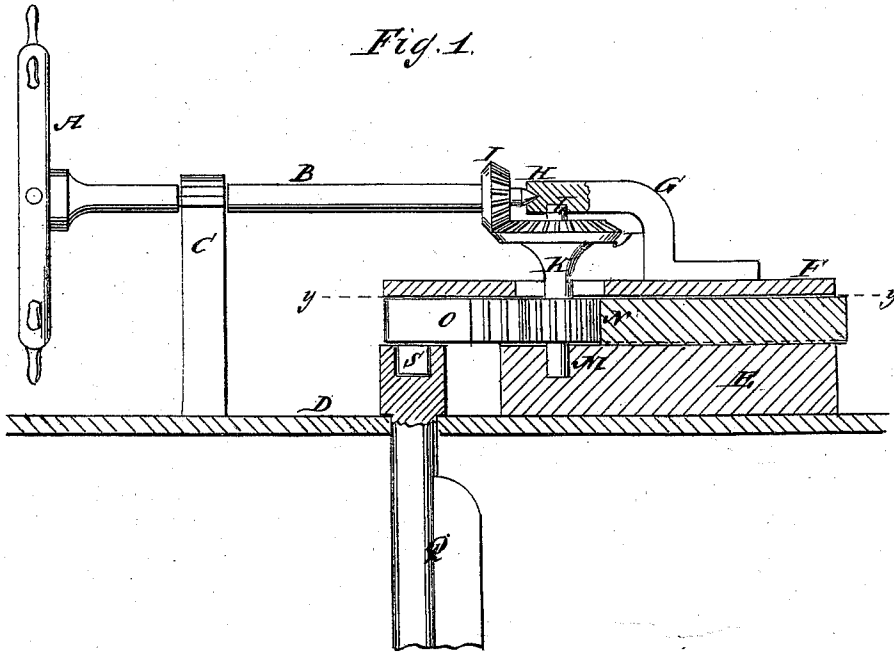


C. A. SEAVEY.
Steering Apparatus.

No. 141,958.

Patented August 19, 1873.



Witnesses:

E. Wolff.
Serguicio

Inventor:

Per *C. A. Seavey*
mmf
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES A. SEAVEY, OF HODGDON'S MILLS, MAINE.

IMPROVEMENT IN STEERING APPARATUS.

Specification forming part of Letters Patent No. **141,958**, dated August 19, 1873; application filed May 24, 1873.

To all whom it may concern:

Be it known that I, CHARLES A. SEAVEY, of Hodgdon's Mills, in the county of Lincoln and State of Maine, have invented a new and Improved Steering Apparatus, of which the following is a specification:

My invention consists in an arrangement of rack-bars and pivoted blocks with the tiller and with gearing arranged as hereinafter described, whereby the rudder may be operated more quickly than by other apparatus of this class.

In the accompanying drawing, Figure 1 is a vertical longitudinal section of Fig. 2, taken on the line *x x*. Fig. 2 is a sectional plan view on the line *y y*, Fig. 2.

Similar letters of reference indicate corresponding parts.

A is the steering-wheel. B is the steering-wheel shaft. C is the supporting-stand, in which the shaft revolves. D represents the deck of the vessel. E is a casing placed upon and attached to the deck, having a top, F. G is a bracket rigidly attached to the top F, the end of which supports the point of the wheel-shaft, as seen at H. I is the bevel-pinion on the wheel-shaft, which meshes into the bevel-wheel J of the vertical shaft K. The upper end of this shaft is supported by the bracket G, as seen at L. Its lower end revolves in a box in the lower part of the casing, as seen at M. N is a spur-pinion on the vertical shaft K. O O are horizontal rack-bars, with

which the pinion N engages, and which receive an alternate horizontal motion as the pinion is turned in either direction. These rack-bars slide in grooves in the casing E, and are confined by the top F. P is a yoke, which is rigidly attached to the top of the rudder-post. Q is the rudder. R R are slots or grooves in the top of the yoke. S S are swivel-blocks on the ends of the rack-bars, which rest in the grooves. The swivel-pins allow the yoke to vibrate without binding, while the blocks have a slight movement in the slots.

The operation is readily understood from the drawing. It will be seen that the movement of the steering-wheel is instantly imparted to the rudder. There is no slack or take-up when the motion of the wheel is reversed, and the wheelsman has a more complete control over the rudder than he has by the ordinary apparatus.

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

The combination of the blocks S S working in slots of the yoke P, the rack-bars O O, the spur-gear M, and the shafts B K and their connections, as shown and described, operating as specified.

CHARLES A. SEAVEY.

Witnesses:

ALLEN W. MURRAY,
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