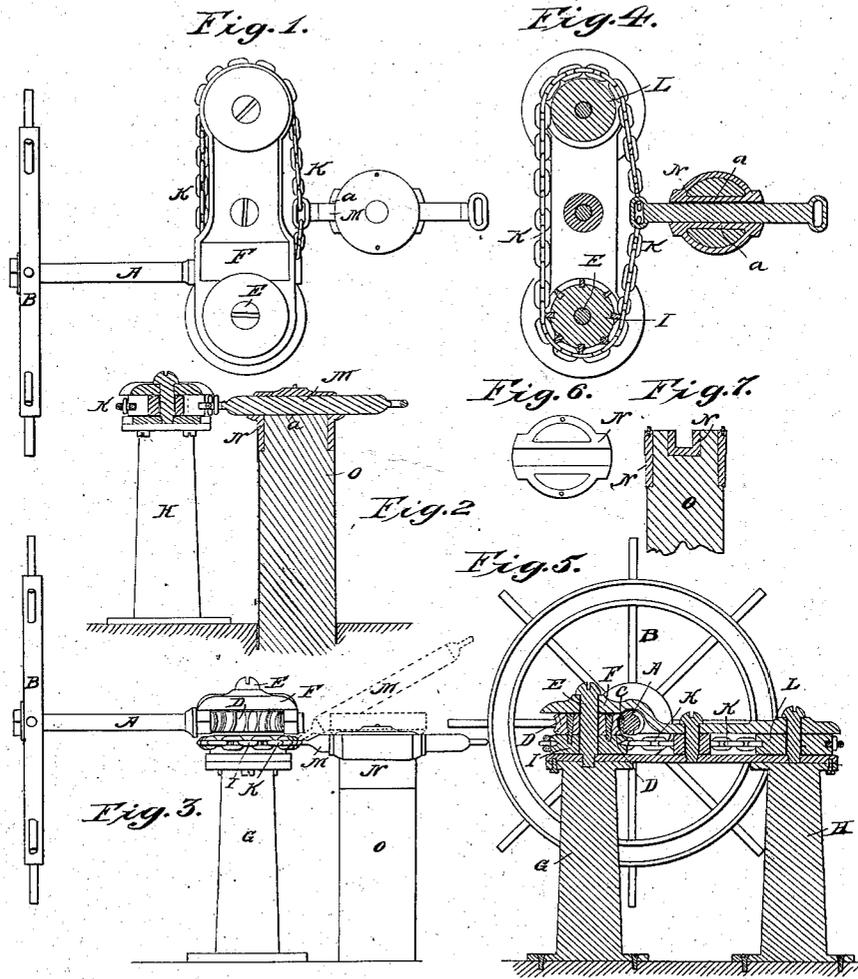


A. SWINGLE & N. HUNT.
STEERING APPARATUS FOR VESSELS.

No. 8,914.

Patented Apr. 27, 1852.



UNITED STATES PATENT OFFICE.

NEHEMIAH HUNT AND ALFRED SWINGLE, OF BOSTON, MASSACHUSETTS.

STEERING APPARATUS.

Specification of Letters Patent No. 8,914, dated April 27, 1852.

To all whom it may concern:

Be it known that we, NEHEMIAH HUNT and ALFRED SWINGLE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Vessels' Steering Apparatus; and we do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings Figure 1 denotes a top view of our improved steering apparatus. Fig. 2 is a central, vertical, and longitudinal section of it taken through the rudder head. Fig. 3 is a side elevation of it. Fig. 4 is a horizontal section taken through the tiller. Fig. 5 is a vertical and transverse section taken through the supporting columns and looking toward the wheel.

In the said drawings A represents the wheel shaft and B the steering wheel. The said shaft is supported in suitable bearings and has an endless screw C, fixed on it between them, such screw being made to operate in a worm gear D that rotates horizontally on an axle or pin E which is supported by a frame F, that is confined on the top of two metallic columns or posts G, H.

The worm gear D is fastened to a sprocket wheel I which rotates on the pin E. Around the periphery of such sprocket wheel and that of another and similar one L or plane wheel, a chain K is made to extend, both ends of the said chain being linked, fastened, or connected to the inner end of the tiller M. Such tiller consists of a straight bar of metal made square in cross section and laid within a diametrical and corresponding recess made down in the rudder head N of the rudder O. Fig. 6 denotes a top view, and Fig. 7 a cross section of the rudder head in which the said recess is shown at *a*. This recess is to be entirely open at top, or only to be covered by a cap plate simply made to rest on it without being fastened down to it. The recess so made has a two-fold object, that is to say, it not only is to permit the tiller to slide freely through it back or forth in longitudinal directions, but it is to allow the tiller to rise up out

of the recess, whenever the rudder is thrown or moved upward as is often the case at sea. Tillers are usually firmly confined to the rudder head so that any rise of the rudder when such tillers are so connected at their front ends to a mechanism that will not permit of any corresponding rise of such front end, generally either strains or breaks the tiller or some other part of the mechanism or rudder head.

By laying hold of the spokes of the wheel and turning the wheel the helmsman can produce such a movement of the chain K as to cause the rudder to turn in the direction that may be required. In Fig. 3 we have represented by dotted lines the rise of the tiller, or the position it and the rudder head takes when the latter is elevated, which latter is liable to take place during a storm at sea or when a vessel gets ashore or aground. The arrangement of the mechanical parts composing our steering apparatus is one highly convenient and useful, so much so that it is deemed by mariners to be one of the most practical and efficient contrivances of the kind in use.

We are aware that the steering gear and rudder head have been connected together and the tiller made to rise and fall with them and therefore we do not claim such an arrangement. But

What we do claim as our invention, and desire to secure by Letters Patent, is—

The construction and arrangement of the tiller and rudder head as described, in combination with steering gear entirely separate from the rudder-head; the tiller being connected with the latter and attached to the former in such manner that when the rudder is unshipped or raised unusually high by striking the bottom the tiller will be disconnected therefrom without danger of breaking either the steering gear or the rudder-head, or being itself broken.

In testimony whereof we have hereto set our signatures, this twelfth day of February A. D. 1852.

NEHEMIAH HUNT.
ALFRED SWINGLE.

Witnesses:

R. H. EDDY,
G. W. CUTLER.