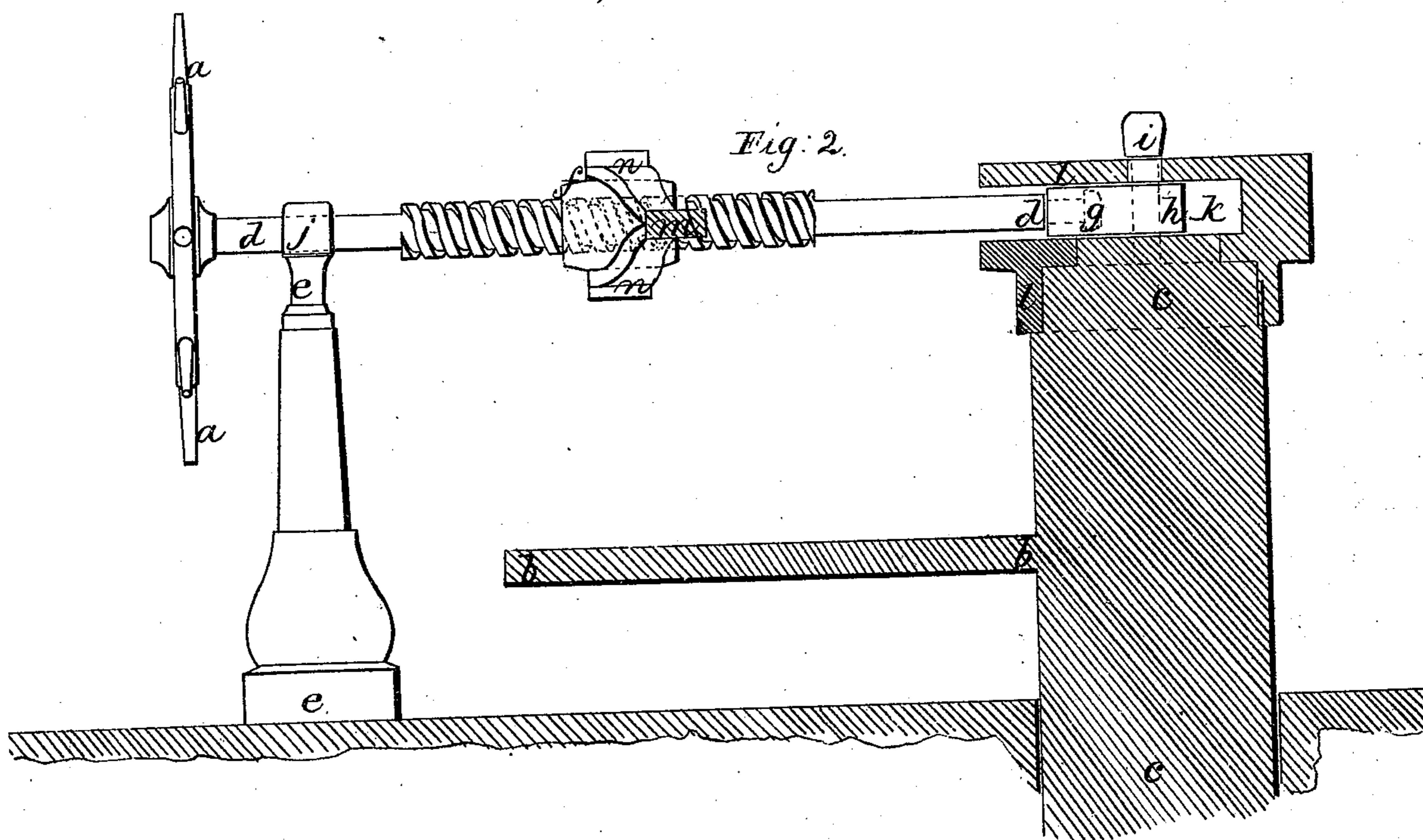
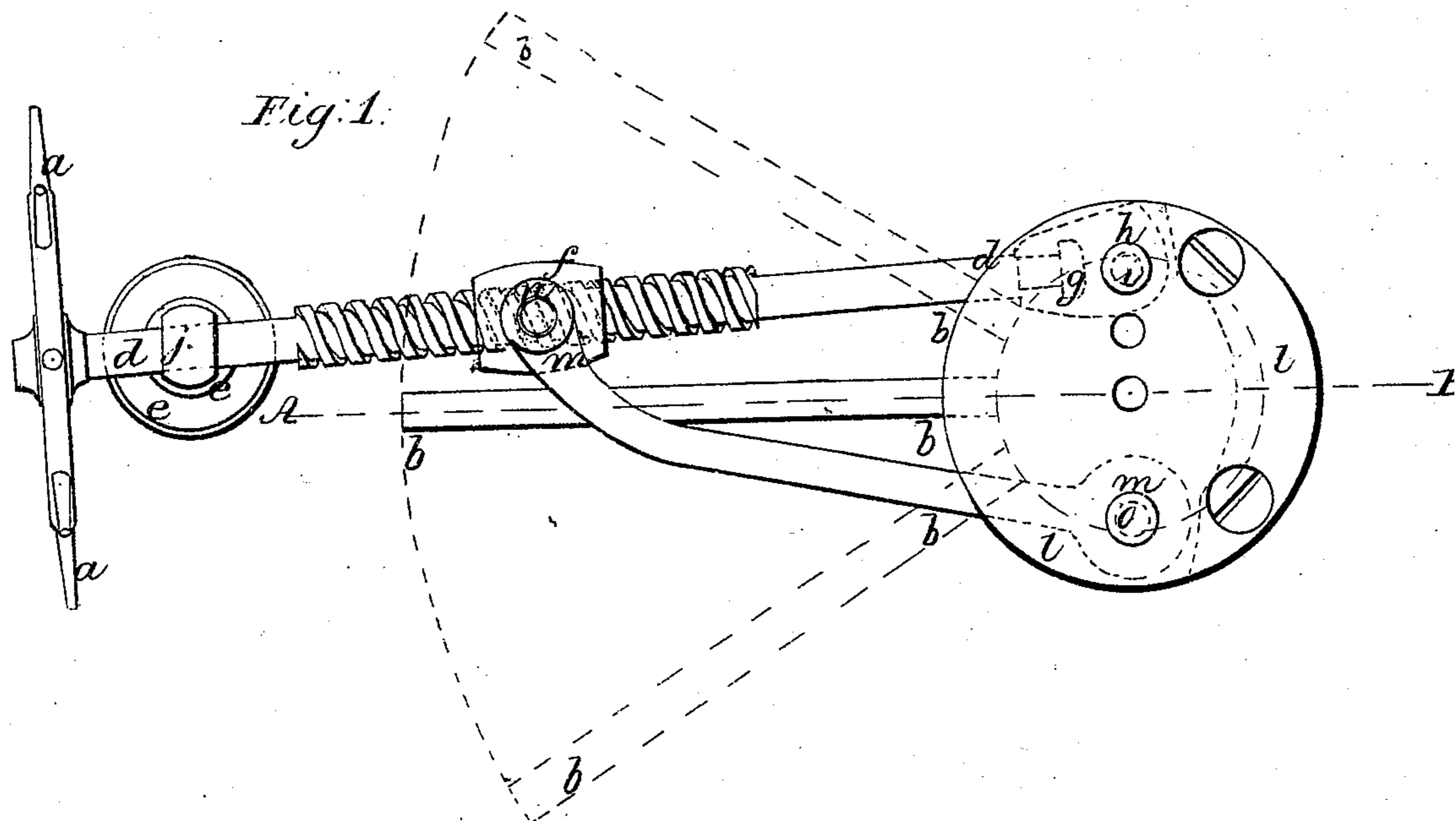


J. Reed.
Steering.

N^o 5,242.

Patented Aug. 14, 1847.



UNITED STATES PATENT OFFICE.

JESSE REED, OF MARSHFIELD, MASSACHUSETTS.

STEERING APPARATUS.

Specification of Letters Patent No. 5,242, dated August 14, 1847.

To all whom it may concern:

Be it known that I, JESSE REED, of Marshfield, in the county of Plymouth and State of Massachusetts, have invented new and
5 useful Improvements in Steering Apparatus or Wheels for Ships, &c., and that the following description taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact
10 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 others for a similar purpose, together with such parts or combinations as I claim, and desire to have secured to me by Letters Patent.

The figures of the accompanying plate of drawings represent my improvements.

Figure 1, is a plan and Fig. 2, is a longitudinal vertical section taken in the plane of the line A B, Fig. 1.

The objection urged by ship-masters against the steering apparatus, recently invented and patented by me as well as to
25 most of the steering wheels now in general use is that they hold the rudder too stiffly or rigidly when a heavy sea strikes it on the side or when the bottom touches or is lifted by passing over a bar, and also that the
30 several wheels make too much rattling or noise in moving. My improved apparatus effectually obviates these objections, and while it works the rudder by a very economical expenditure of power, sufficient (easy
35 and almost noiseless), play is allowed to the several parts to prevent any breakage from a sudden strain as above described. In the figures—

A A is the hand-wheel, b b the tiller, and
40 c c the rudder-post, all of which parts are arranged in the usual way. The movement of the rudder-post c c, is accomplished through the medium of one endless screw d, d, and the parts hereinafter described as
45 connected therewith, to the front end of which screw the hand wheel a a is attached. The shaft of the wheel end of this screw rests and moves forward and back when revolved in a loose bearing j
50 in the top of the stanchion e e, and said bearing may be made a swivel or socket bearing, if necessary to accommodate the changing positions of the screw. This screw may be doubled or triple threaded as may
55 be deemed advisable, and the threads engaged with a proper screw cut on the inside

of the nut f, which nut also is free to move forward and back when the screw d d is revolved. The rear end of the screw d d has a head g which holds it, so that it may
60 revolve in the turning button h on one side of the rubber post, against a proper shoulder in which button said head g bears as shown by dotted lines in Figs. 1 and 2. This button turns laterally either way on a pin i
65 in a space k cut or formed in the metallic cap l l, which cap is firmly secured on the top of the rudder-post c c. The said pin i passes through the plates of the cap l l and the button h as shown in Fig. 2. A curved
70 arm m m, is secured at its front end to the nut f, so as to turn horizontally on the same by means of a fork n n which clasps said nut as shown in the figures. The rear end of said arm reaches or extends into the space
75 k on the side of the rudder-post opposite to where the button h is placed, and said rear end is formed with a hole, through which a pin o passes and it turns on said pin in the same manner as the button h
80 turns on its pin i.

The operation of the above-described mechanism is apparent, for when the wheel a a or screw d d is turned to the left for instance, the front end of the screw will advance through its bearing j, and thereby
85 pull around one side of the rudder-post, while at the same time and with equal motion, the nut f will recede from said bearing toward the rudder-post, and through the
90 medium of the arm m m will press on the opposite side of the rudder-post and assist the operation of the screw.

The wheel and screw being turned to the right the rudder will be moved in a similar
95 manner in the opposite direction, and it will be evident that the several parts being joined together so as to turn freely as above described, will allow sufficient play of the apparatus to prevent any accident from a
100 sudden strain on and consequent springing of the rudder.

It will also be apparent to any skillful mechanic that the seat of action of the apparatus may be placed behind the rudder-
105 post, by continuing the screw through to the back side of the post and arranging the nut f and curved arm m m there, and bringing the wheel nearer to the front of said post. It should be observed as a distinguishing
110 peculiarity of my apparatus that it has but one bearing (and that a loose one at j),

which is not connected with the rudder-post, and for this reason more particularly when said post is raised, no breakage of the parts will occur.

5 Having thus described my improvements, I shall state my claim, as follows:

What I claim as my invention and desire to have secured to me by Letters Patent is the combination of an endless screw *d d*,
10 and its nut *f*, arranged as above described, so as to move longitudinally forward and back, with the button *h* (connected to the rudder head or a cap on the same), and the curved cam *m m* connected to said head or
15 cap and to the nut *f*, all as above set forth and the arrangement of said parts as above

described, so as to have but one bearing extraneous to the rudder post and thereby permit said post to ride without breaking or deranging the apparatus, and also any 20 mechanical devices, substantially the same, and combined substantially in the same manner for forming a steering apparatus.

In testimony that the foregoing is a true description of my said invention, I have 25 hereto set my signature, this seventh day of April, A. D. 1847.

JESSE REED.

Witnesses:

CALEB REED,

EZRA LINCOLN, Jr.