J. Reed.

Steering.

No. 12,488. Patented Mar. 6, 1855

Fig. 4.

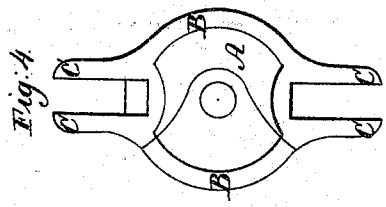


Fig. 2.

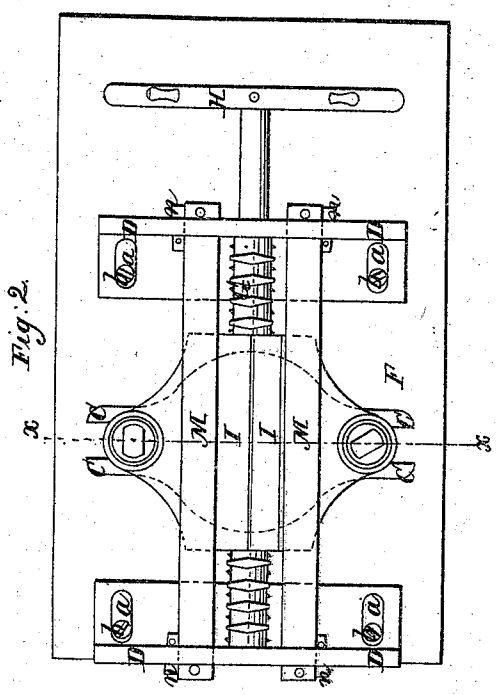


Fig. 1.

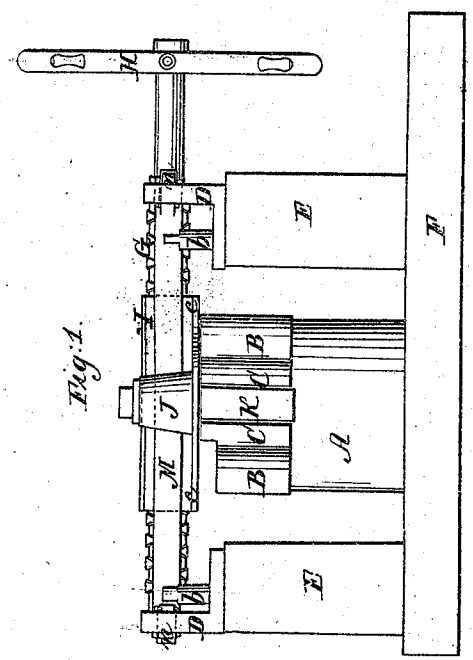
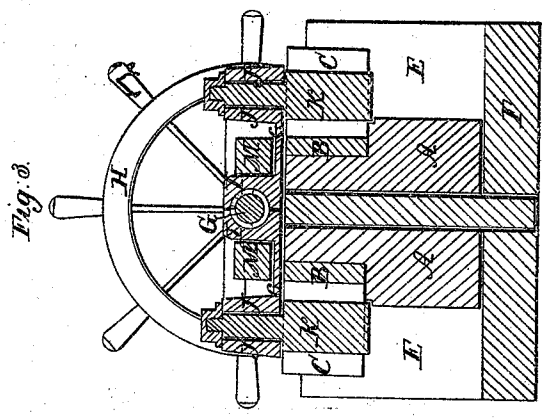


Fig. 3.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JESSE REED, OF MARSHFIELD, MASSACHUSETTS.

STEERING APPARATUS.

Specification forming part of Letters Patent No. 12,488, dated March 6, 1855; Reissued December 4, 1860, No. 1,089.

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 certain new and useful Improvements in Steering Apparatus for Vessels, and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1, represents a side elevation. Fig. 2, represents a top plan. Fig. 3, represents a vertical section taken in the line *x x*, of Fig. 2, and Fig. 4, represents a top view of the rudder head and the hoop on it.

Similar letters where they occur in the several figures denote like parts.

The nature of my invention consists in combining with the divided nut, adjustable bars, supported in the bearing pedestals, which may be forced up against said nut or the sections thereof, to produce friction between the nut and screw, and to prevent it from being broken or bent by the sudden action of the sea against the rudder. And also in so connecting said bearing pedestals, and the parts connected with, or supported by them, to the stanchions by means of guide pins and oblong slots through which said pins pass, that the bearing pedestals and all parts connected with them may move forward and back, and up and down in order to follow the fore and aft, and up and down movements of the rudder head.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A, represents the rudder head which may be hung in any of the usual well known ways.

B, is the metallic ring or hoop fitted around the rudder head, (as shown in Fig. 4) and having projections C, C, thereon, at opposite sides of the rudder head.

D, D, are two bearing pedestals arranged on the stanchions E, E, which are firmly connected to the deck F. The pedestals D, have in their bases, at or near each of their ends oblong slots *a*, *a*, through which pins or studs *b*, *b*, pass into the stanchions E. By this mode of connecting the pedestals to the stanchions, they have a yielding or adjusting motion to the fore and aft movement of the rudder when struck by a heavy sea, and the pedestals may rise up on said pins—they (the pins) projecting upward far enough for the purpose, so as to yield upward when struck in that direction. And thus the force of the sea is expended on the rudder, by allowing the rudder to yield to it, when by being rigid some portion would possibly break or bend enough to prevent its complete action. The screw shaft G, having a right and left screw cut upon it, is supported in the pedestals D, D, and has upon one of its ends a hand wheel H, of the usual construction.

I, is a divided nut having a female, double, or right and left screw cut in it in which the screw shaft G, works. The nut I, has upon each of its halves, a horizontal flange *c* from which rise up vertically sleeves or sockets J, J, in which the rounded part of the bolts K K, are placed and move when the rudder is worked. On the tops of these bolts are cut screws onto which a capped nut is run down, to hold it in place. The lower end of the bolt which is flattened or bar shaped passes between the jaws C, C, formed on an extended portion of the rudder head ring, and thus a connection is formed between the screw shaft, and rudder head, rigid for all the practical purposes of steering, and yet free to yield or move, fore and aft, or up and down, to the springing, or moving of the rudder head under a heavy sea.

M, M, are two guard rails, lying parallel to, and in contact one with each half of the divided nut. These bars are also supported in the pedestals D, so as to move with all the other moving parts when yielding to the spring of the rudder. These bars have wedges *n*, *n*, at their ends, driven behind them so as to press hard up against the nut I, or its divided halves. The object of this is to relieve the screw shaft from the workings of the rudder in a heavy sea, and to prevent it from being bent out of its true line, which would strip its own, or the thread of the nut, or both. Another object is to wedge up the parts of the nut against the screw shaft, should they become worn, or to produce greater friction between the nut and screw shaft.

The peculiar advantage of the socket, bolt, and open jaws in the ring or band of the rudder head is this, that while one half of

the nut is running in one direction, and the other half in a contrary direction, the bolts can freely turn in their sockets, but are always at the same distance from the center of the screw shaft as the rudder is turned by the running out of the nuts, and when "hard up," the jaws C, slip on the bolts, and thus increase, the leverage between the jaws and bolt, and in this position the rudder will move a shorter distance by a given number of turns of the hand wheel than when the nuts are midway of the shaft but the leverage is greater, and the rudder more easily managed. This was not the case in a former invention of mine, for there the leverage diminished as the nuts run out on the screw shaft, and it required more turns of the shaft to move the rudder when thus run out, than when they were in the center of the screw shaft.

Having thus fully described the nature of my invention what I claim therein as new and desire to secure by Letters Patent is—

1. In combining with the divided nut the adjustable guide and guard rails, substantially in the manner and for the purpose set forth.

2. I also claim the supporting of the pedestals upon the stanchions by means of long pins or studs passing through oblong slots in the pedestals, and into said stanchions, for the purpose of allowing the pedestals and several parts connected therewith to move fore or aft—up or down, to accommodate themselves to any rising or falling, or springing or bending of the rudder post, substantially as described.

JESSE REED.

Witnesses:
A. B. STOUGHTON,
THOMAS H. UPPEMAN.

[FIRST PRINTED 1913.]