

J. C. Raymond.
Steering.

N^o 36,109.

Patented Aug. 5, 1862.

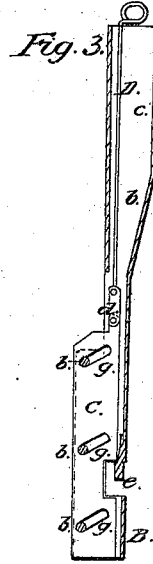
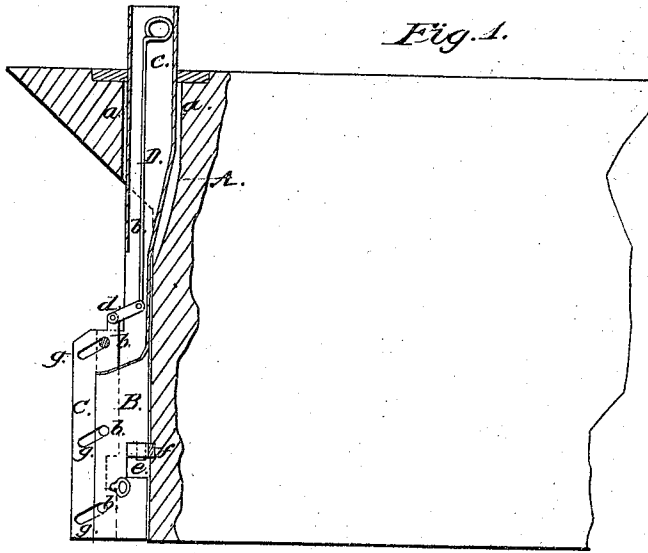


Fig. 2.

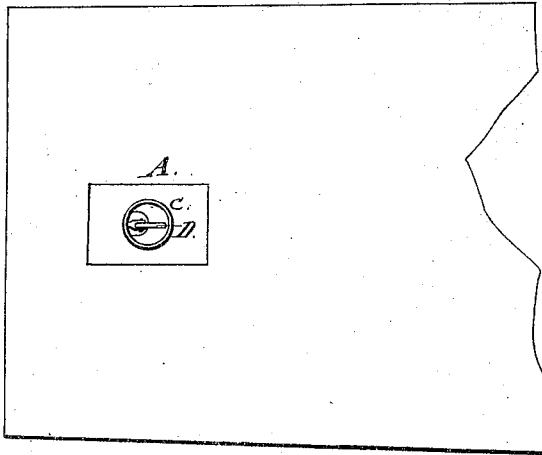


Fig. 4.



UNITED STATES PATENT OFFICE.

JOHN C. RAYMOND, OF BROOKLYN, NEW YORK.

IMPROVED RUDDER.

Specification forming part of Letters Patent No. 36,109, dated August 5, 1862.

To all whom it may concern:

Be it known that I, JOHN C. RAYMOND, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Rudders for Ships and other Vessels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, partly in section, of the stern of a vessel having my invention applied. Fig. 2 is a plan of the same. Fig. 3 is a vertical section of the rudder in condition for being lowered through the rudder-port of the vessel; Fig. 4, a horizontal section of the same.

Similar letters of reference indicate corresponding parts in the several figures.

One of the most serious accidents that can befall a ship or other vessel at sea is the loss or disablement of the rudder, owing to the extreme difficulty of applying a new one constructed on the usual plan, which has to be applied from outside the vessel, and of the no less difficulty of repairing the disabled one.

The object of this invention is to provide a remedy for such an accident; and to this end it consists in the construction of the blade of a spare rudder to be carried on board of the vessel, or of the proper rudder of the vessel, of two separate parts, one of which is capable of being drawn into the other in such manner as to permit the blade to be lowered or raised through the port provided in the deck and stern of the vessel for its stem and head to work through, without making the said port of larger size than is necessary for the head and stem, the said separate parts of the blade being combined by oblique slots and pins, and the part which is drawn into the other being operated by a rod passing through the stem and head, substantially as hereinafter specified.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the stern of the vessel; *a*, the port ordinarily provided therein for the stem *b* and head *c* of the rudder to work through. B C is the blade of the rudder, made of two

parts, of which B is permanently and rigidly attached to the stern like the blade of the ordinary rudder, but is no wider than the diameter of the head, and C is fitted into a straight parallel-sided cavity provided for it in B, said cavity being open all along the back of and extending the whole length of B. The piece C has provided in it transversely two or more parallel slots, *g g*, for the reception of pins *b b*, which are inserted and secured in holes provided for their reception in the sides of B, the said pins being transverse to the blade and to the upper end of the said piece C. A rod, D, is attached by a link, *d*, the said rod passing up through the interior of the stem *b* and head *c*. The part B is furnished with one or more pintles, *e*, like those of the ordinary rudder, to be received in eyes or bearings *f*, secured to the stern-post of the vessel.

In constructing a rudder according to my invention I propose, generally, for the sake of convenience and proper strength, to make the whole of wrought-iron, making the head and stem tubular for the passage of the rod D.

To apply a spare rudder constructed according to my invention in case of the loss of the proper rudder of the vessel, the rod D is drawn upward or inward and so caused to draw the portion C into the portion B of the blade, as shown in Fig. 3, by the movement of the oblique slots *g g* upon the pins *b b*, and the blade being then capable of passing through the port *a*, the rudder is lowered into its place. On releasing the rod D the portion C of the blade descends by its own weight, and in its descent the downward passage of the oblique slots upon the pins *b b* carries out the portion C of the blade from the portion B, as illustrated by Fig. 1. To enable the rudder to be taken on board for repair, whether it be the proper rudder of the vessel or a spare rudder applied as above described, the rod D is first drawn up to draw the part C of the blade into the part B, as shown in Fig. 3, and the rudder is then drawn up bodily through the port *a*.

I do not claim, broadly, the construction of the blade of a rudder of two pieces, one of which is movable relatively to the other, as I am aware that rudders have been so con-

structed to enable one part to be raised and lowered in passing into shallow and deep water; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The construction of the rudder-blade of two parts, B C, one of which is capable of being drawn into the other in such manner as to allow the blade to pass through an ordinary rudder-port, substantially as and for the purpose herein specified.

2. Combining the inner portion, C, of the blade with the outer portion, B, and with the stem and head by means of oblique slots *g g*, pins *b b*, and a rod, D, passing upward through the stem and head, substantially as herein specified.

JOHN C. RAYMOND.

Witnesses:

JAMES LAIRD,
TIMOTHY SHINE.