

C. H. CROSSMAN.

Means of Attaching Rudders to Vessels.

No. 152,217.

Patented June 23, 1874.

Fig. 1.

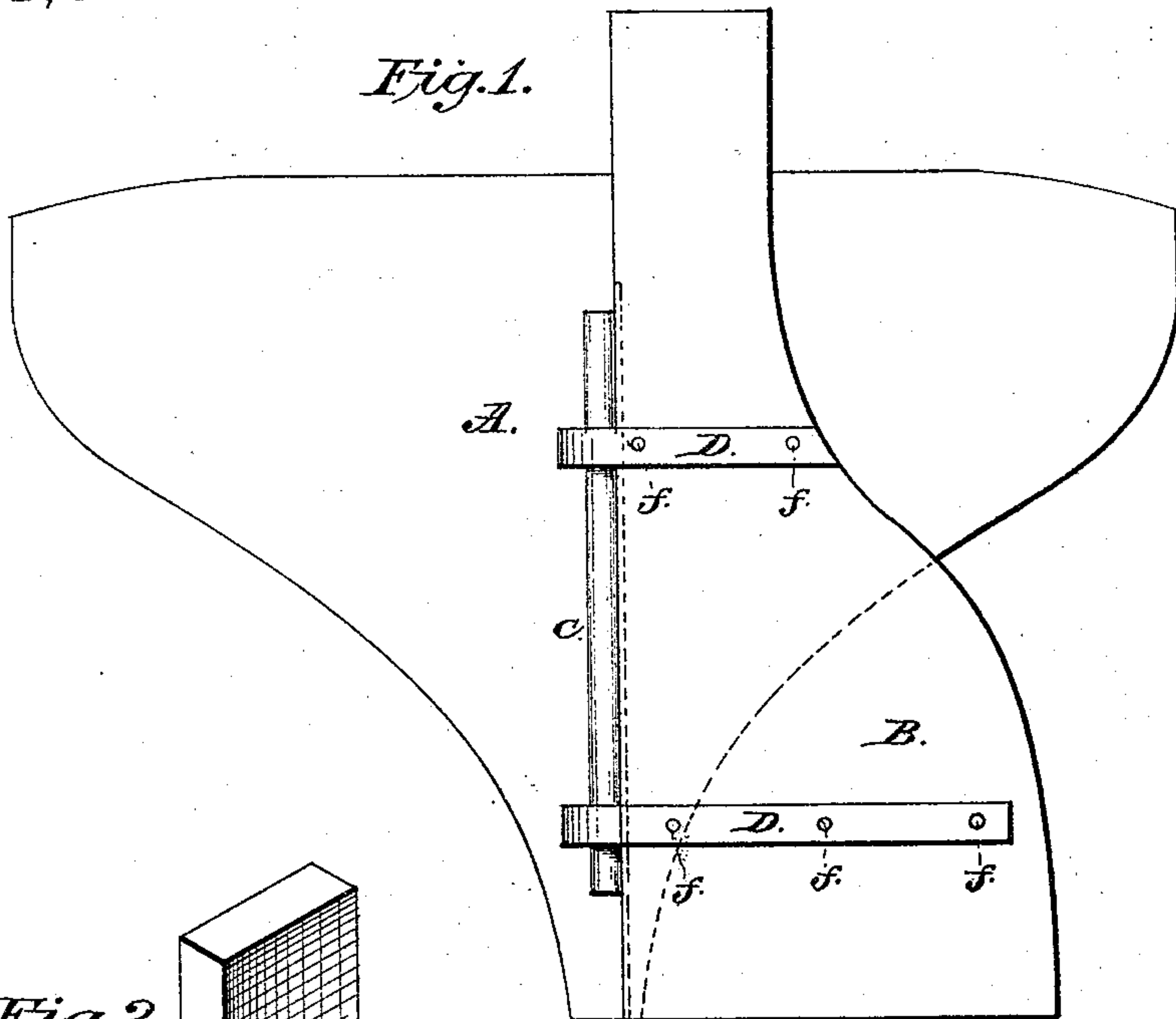


Fig. 2.

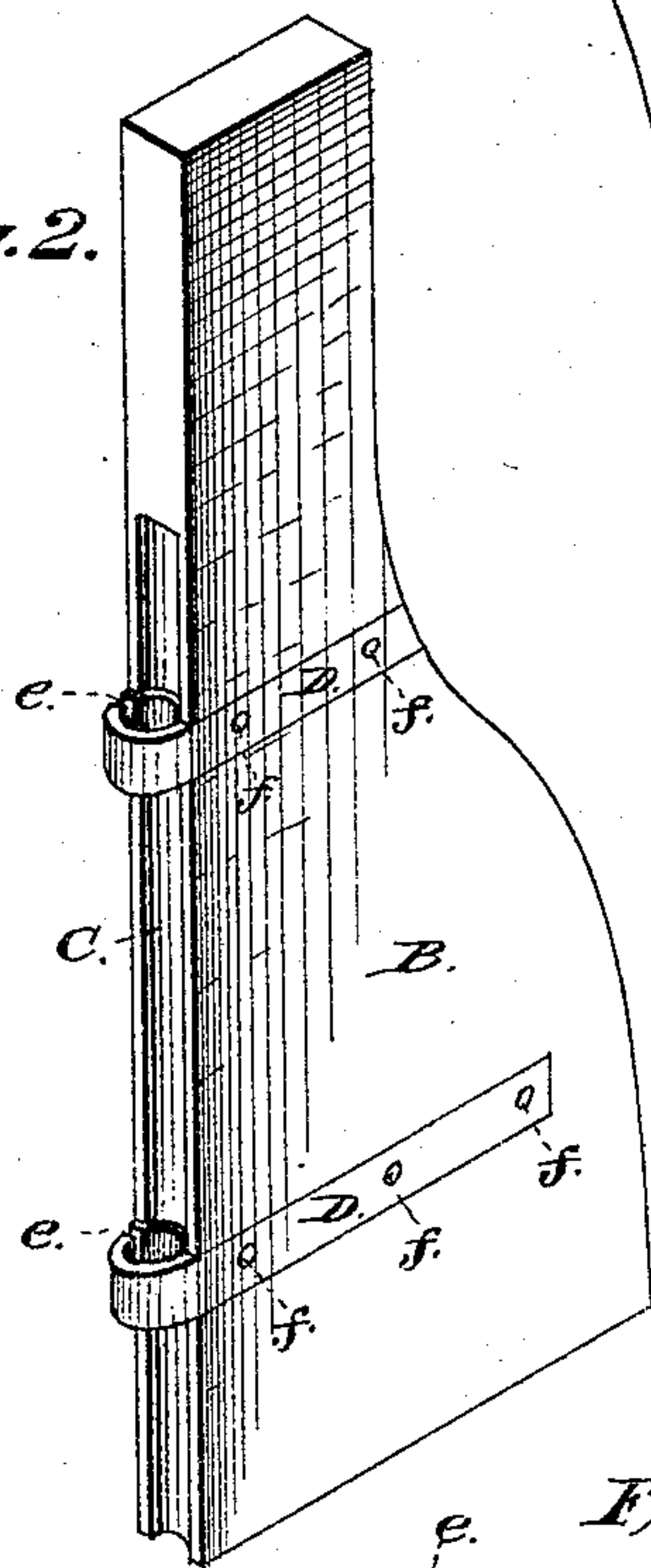


Fig. 3.

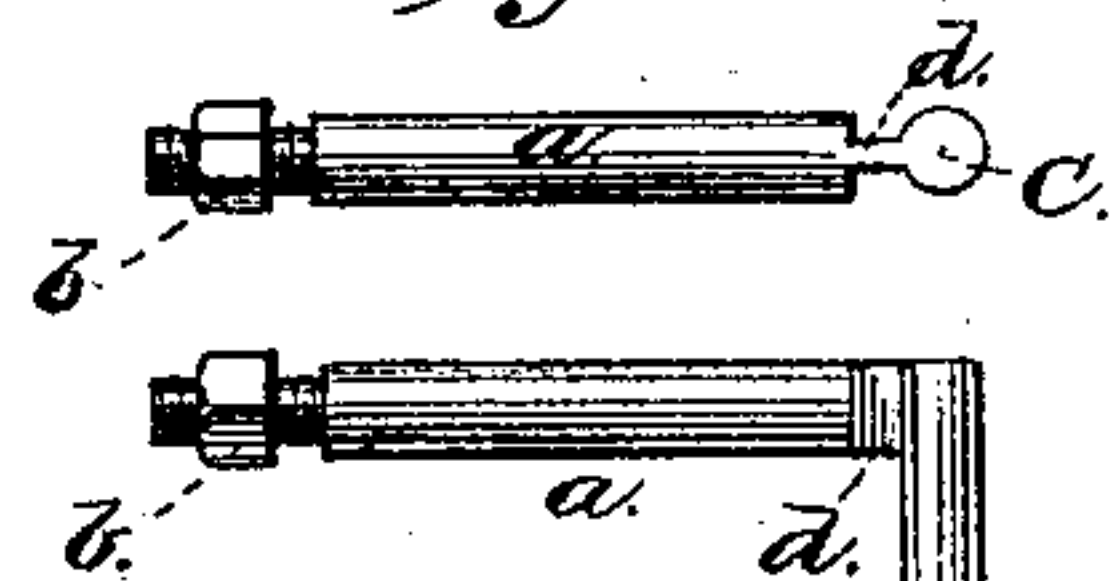


Fig. 4.

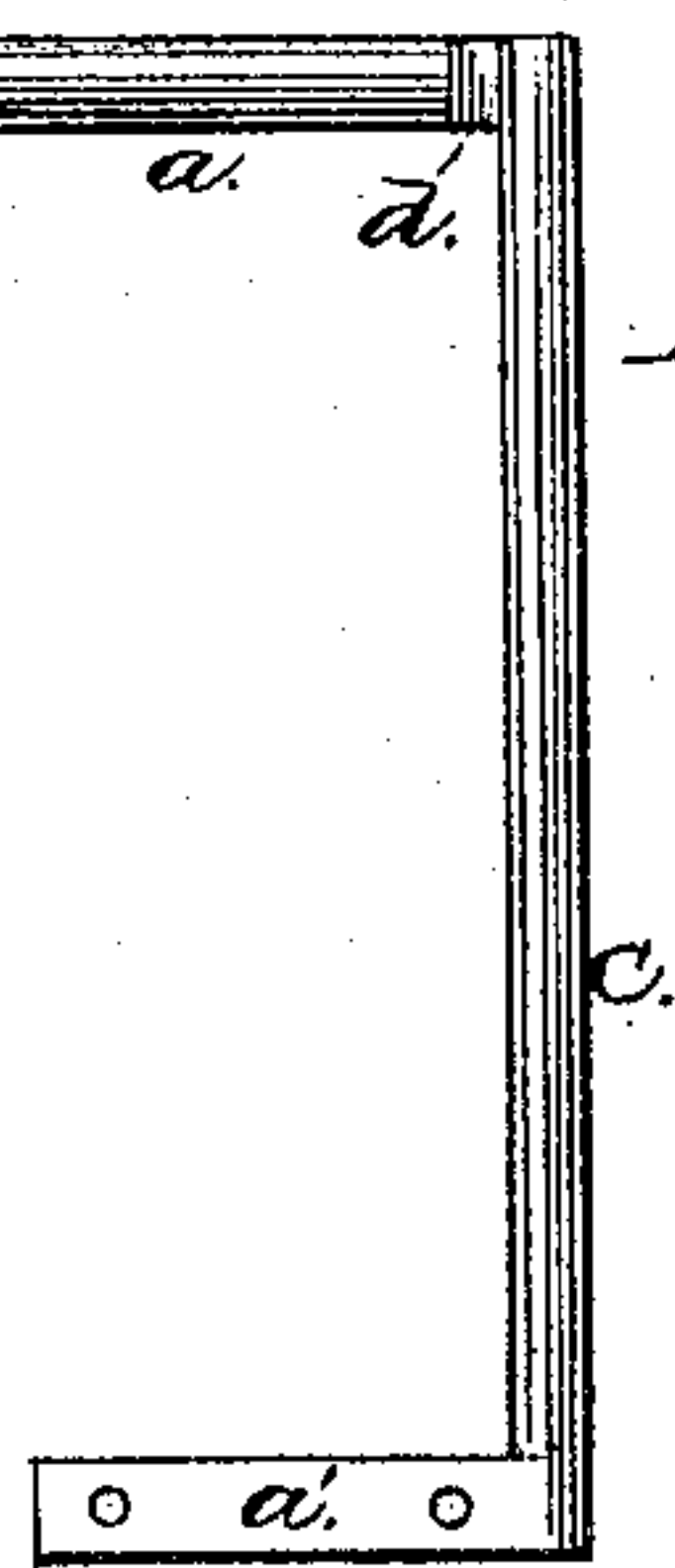


Fig. 5.

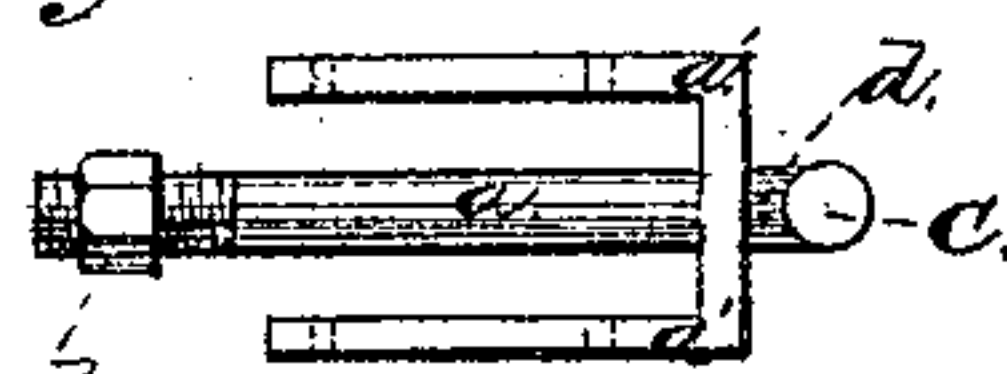


Fig. 6.



Fig. 7.



Attest:

Thomas J. Dewey  
Archibald Stewart

Inventor:

Charles H. Crossman  
By his attorney,  
Stephen Ustick

# UNITED STATES PATENT OFFICE.

CHARLES H. CROSSMAN, OF CAMDEN, ASSIGNOR TO HENRY C. CROSSMAN,  
OF WEST HOBOKEN, NEW JERSEY.

## IMPROVEMENT IN THE MEANS OF ATTACHING RUDDERS TO VESSELS.

Specification forming part of Letters Patent No. **152,217**, dated June 23, 1874; application filed  
November 9, 1870.

*To all whom it may concern:*

Be it known that I, CHARLES H. CROSSMAN, of the city and county of Camden and State of New Jersey, have invented certain Improvements in Boat-Rudders, of which the following is a specification:

The plan generally adopted for shipping rudders is often attended with much difficulty and loss of time when the boat is in the water, in consequence of a chop sea or swell, the parts of connection being under water.

To overcome this difficulty is the primary object of my invention. I accomplish this end by providing the rudder with eyes, which have vertical slots, and the stern of a vessel with a vertical rod on which the eyes turn, the rod being connected with the vessel by means of elbows which are secured in the stern. The upper elbow of the rod is reduced at the side of the latter to admit of the eyes passing over it, and thus immediately connecting with the rod when brought down to its position.

The slot is at right angles to the plane of the rudder, so as to make it impossible for the latter to be disconnected from the stern without being brought to a right angle with the longitudinal plane of the vessel, and thus making it much less liable to be unshipped by a heavy sea.

To enable others skilled in the art to which my improvement appertains to make and use my invention, I will now give a detailed description thereof.

In the accompanying drawings, which make a part of this specification, Figure 1 represents an end elevation of a stern of a boat with the rudder B in position. Fig. 2 is a perspective view of the improved rudder B. Figs. 3 and 4 are a top and side elevation of the rod C. Fig. 5 is an end view of a modified form of the elbow *a'*. Figs. 6 and 7 are an edge and side views of one of the eye-irons D.

Like letters in all the figures indicate the same parts.

A represents the stern of a boat. B is the

rudder. C is a vertical rod, on which it is hung by means of the eye-irons D D. The said rod C has elbows *a a'*, one of which passes through the stern, and is confined by means of the nut *b*. The lower elbow *a'* is let into the stern-post. The upper elbow *a* has a reduced part, *d*, to admit of the vertical slots *e* of the eye-irons D D, being slipped over the same as the rudder is brought into connection with the boat. When the rudder is so connected the outer end of the lower iron D rests upon the lower elbow *a'* of the rod C. The eyes of the said irons D D turn freely upon the rod in the working of the rudder. The lower eye-iron D is shown in detail in Figs. 6 and 7, in which the slot *e* is represented in the side of the iron. This is for the purpose of making the unshipping of the rudder less liable by the action of the sea, as it would have to be turned to a right angle to the longitudinal vertical plane of the vessel to admit of the slotted eye-pieces D being disconnected from the rod C. The upper iron is of the same construction, being shorter only to suit the width of the rudder. The said irons are bifurcated, as shown in the drawings, so as to be sunk into each side of the rudder. They are confined to the same by means of rivets *f*, as seen in Figs. 1 and 2.

This improvement, it will readily be seen, admits of an instantaneous shipping of the rudder, thereby overcoming the inconvenience arising from loss of time experienced in the old mode when the boat is in the water. It also prevents the unshipping of the rudder by the action of the swell of the sea.

Instead of letting the lower elbow *a'* of the rod C into the stern, it may be bifurcated, as shown in Fig. 5, and strap the same.

I am aware that a patent was issued to John D. Brown, August 16, 1870, in which side slots are used in connecting irons similar to the irons D, but his hinge is different from mine, not permitting a ready unshipping of the rudder without unfastening some of the irons. I therefore disclaim the combination of the parts, as shown in said patent.



In testimony that the above is my invention, I have hereunto set my hand and affixed my seal this 8th day of November, 1870.

CHARLES H. CROSSMAN. [L. s.]

STEPHEN USTICK,  
THOMAS J. BEWLEY.

1. 100 word