

J. Higbee Steering

N^o 46,753.

Patented Mar. 7, 1865.

Fig. 1.

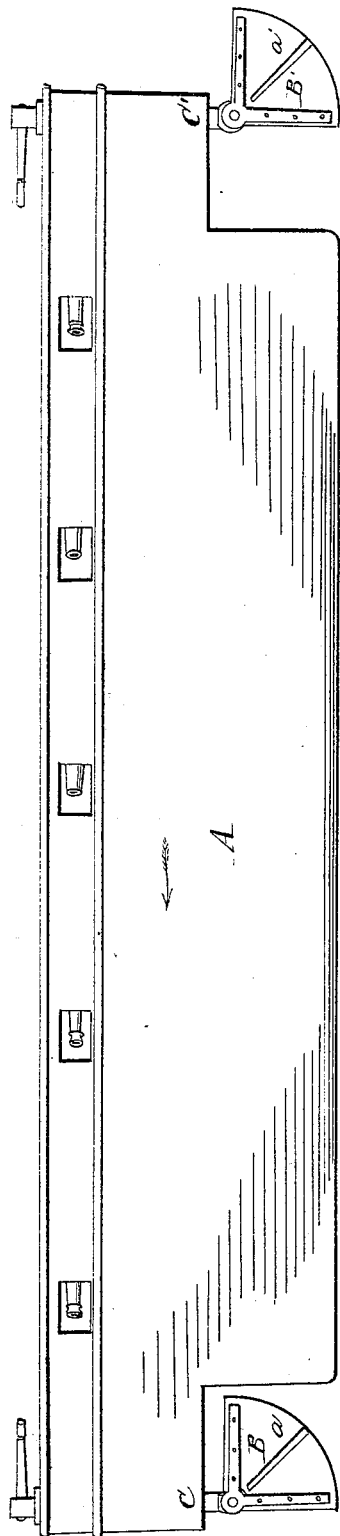


Fig. 3.

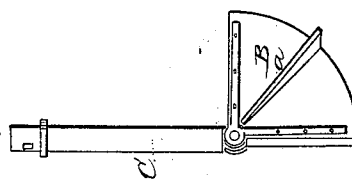
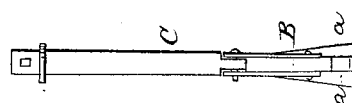


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JONAS HIGBEE, OF NORTHPORT, ASSIGNOR TO HIMSELF AND JOSEPH B. DENTON, OF NEWTON, NEW YORK.

IMPROVED RUDDER.

Specification forming part of Letters Patent No. 46,753, dated March 7, 1865.

To all whom it may concern:

Be it known that I, JONAS HIGBEE, of Northport, in the county of Suffolk and State of New York, have invented a new and useful Improvement in Rudders; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side elevation of a vessel provided with my improved rudders. Fig. 2 is an end elevation of one of the rudders detached. Fig. 3 is a perspective view of the same.

Similar letters of reference indicate corresponding parts.

This invention consists in the employment or use of two segmental rudders—one at the bow and one at the stern, and hinged to the lower ends of the rudder-posts—in combination with fins attached to the surfaces of each rudder in such a manner that said rudders adjust themselves automatically, according to the direction in which the vessel moves, that at the rear end or stern of the vessel being turned out in its working position and that at the bow or forward end being turned in out of harm's way, below the surface of the water.

A represents a vessel or boat intended to run in either direction, such as an ordinary ferry-boat. These boats are generally provided with two rudders—one at each end—and if the boat is in motion that rudder which is situated in the forward end has to be secured by a suitable stop to prevent it from turning. In this case the rudder forms the bow, or a part of the bow, of the boat, and if the same comes in contact with a piece of ice or with any other body floating in the water the rudder is liable to be knocked off or to sustain

some injury. Furthermore, the operation of locking and unlocking the rudders at the end of each trip, or whenever the boat changes its direction, requires particular attention.

In order to overcome these difficulties, I have made my rudders B B' in the form of segments, which are hinged at their corners to the lower ends of the rudder-posts C C'. Each rudder is provided with two fins, *a a'*, which are secured to the same and project above its flat surfaces, as clearly shown in the drawings, and if the boat moves in the direction of the arrow marked on it in Fig. 1, the rudder B turns in by the action of the water on its fins, and the rudder B' turns out automatically and assumes its working position. Whenever the boat changes the direction in which it moves, and as soon as it begins to move in the direction opposite the arrow marked on it, the rudder B turns out and the rudder B' in, without requiring any attention. When turned in, the rudder is under the bow of the vessel and out of harm's way, and when turned out it is in full working position.

My rudders are operated in the usual manner by suitable steering-gear, and they are particularly intended for ferry-boats or for such vessels which run backward and forward, and are known by the general term "double-enders."

I claim as new and desire to secure by Letters Patent—

The hinged segmental rudders B B', provided with fins *a a'*, and applied in combination with the posts C C', in the manner and for the purpose substantially as herein shown and described.

JONAS HIGBEE.

Witnesses:

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