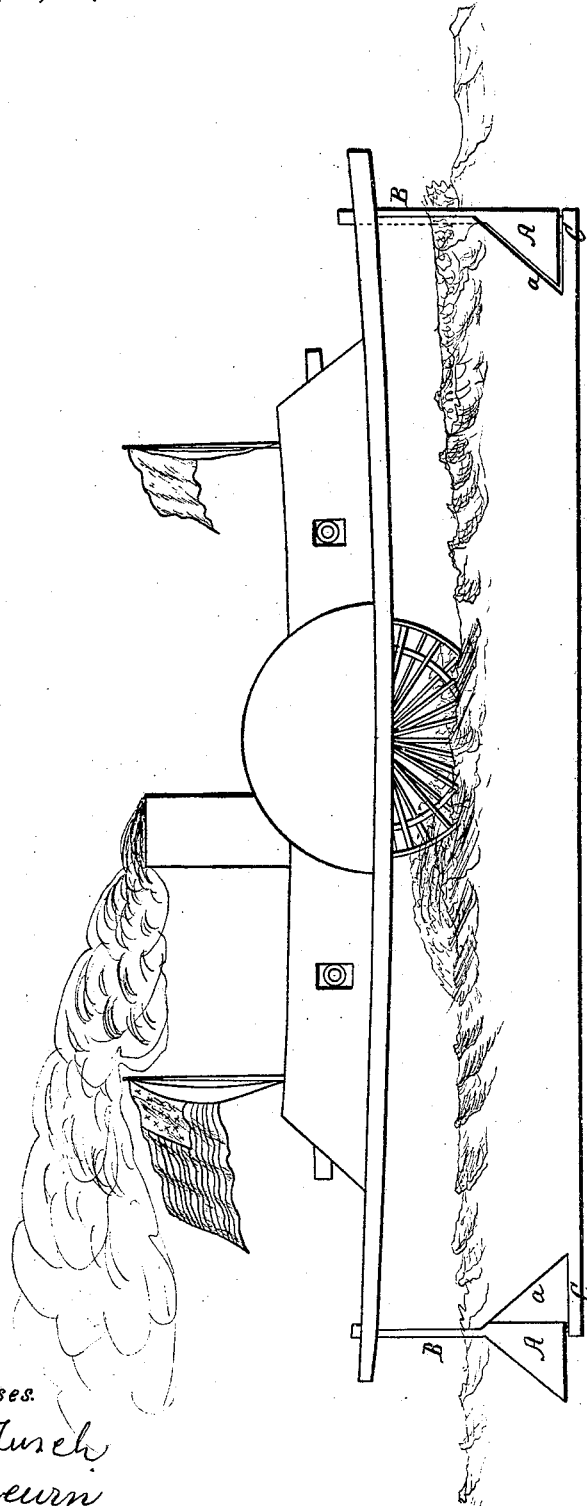


*J. Higbee,
Steering.*

N^o 48,940.

Patented July 25, 1865.



Witnesses.

*Thos. Trench
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UNITED STATES PATENT OFFICE.

JONAS HIGBEE, OF NORTHPORT, NEW YORK.

IMPROVED RUDDER.

Specification forming part of Letters Patent No. 48,940, dated July 25, 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 Improved Universal Rudder; 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 drawing, forming part of this specification.

The drawing represents a side view of a war-vessel (double-ender) with my invention applied to it.

This invention relates to a new and improved rudder, which may be used either at the bow or stern of the vessel, and is so arranged or applied that it will be capable of being reversed and used as a stern-rudder, and when not reversed used as a bow-rudder.

The rudder A is of tri-lateral or V form, and has the lower journal of its post B stepped in a prolongation, C, of the keel, while the upper part of the post has its bearing in the upper part of the guard or framing of the vessel. Both rudders—there being one represented at each end of the vessel in the drawing—are precisely alike, and when turned inward fit snugly in recesses or openings *a* at the ends of the vessel. When a bow-rudder is used it is thus adjusted, and when a stern-rudder is used it is reversed or turned out of the recess or opening *a*. Both of these adjustments are shown in the drawing.

For sail-vessels I design that the rudder shall be used at the stern like any ordinary

one. It possesses the advantage over those hitherto devised and used in having an open space behind it for the water to pass through, which renders the rudder far more efficient than usual.

For ferry-boats I propose to use the bow instead of the stern rudder, the latter being secured in an inward position by any suitable fastening. The boat can be turned in half the space with the bow-rudder, and it acts much more efficiently, in consequence of the water at the bow not being in such a confused state as it is at the stern, especially when the water is shoal.

I am aware that rudders for vessels have been constructed of a form similar to mine and placed at the bow; but they have not been so applied as to be capable of being reversed, (turned outward,) so as to operate at either end.

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

The applying of rudders to vessels, either at the bow or stern, or at both said places, in the manner substantially as shown, so that the rudders will be capable of being reversed, turned outward from the recess or openings *a*, when necessary, as when used as a stern-rudder, or turned inward, so as to fit in said openings when used as a bow-rudder, as set forth.

JONAS HIGBEE.

Witnesses:

M. M. LIVINGSTON,
C. L. TOPLIFF.