

N. D. Le Pelley.

Steering.

N^o 46,807.

Patented Mar. 14, 1865.

Fig. 1.

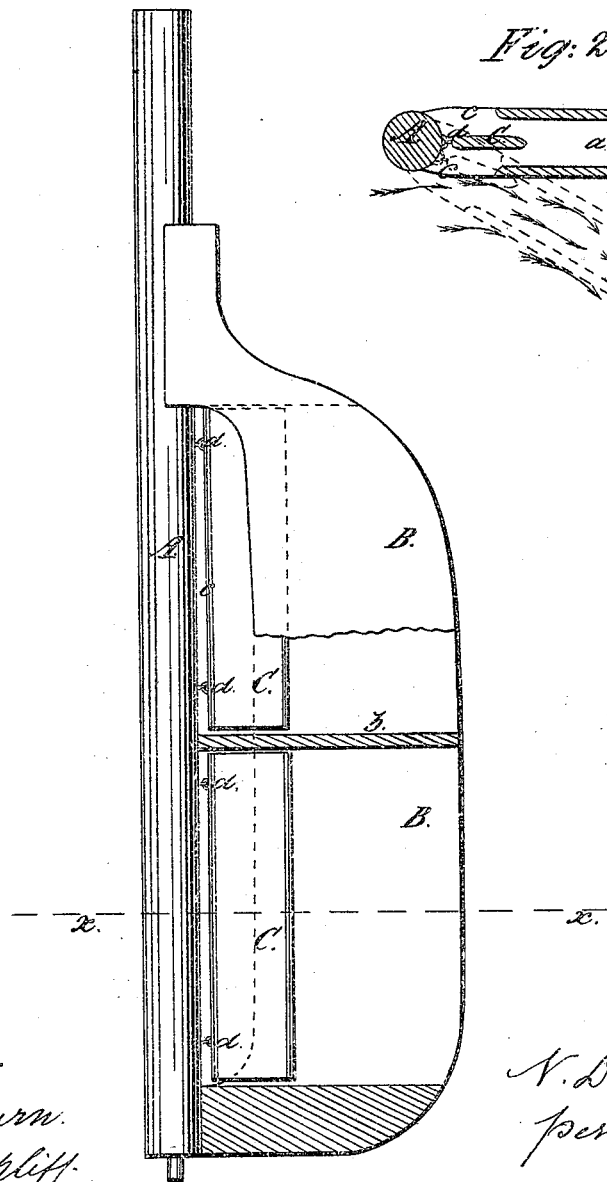
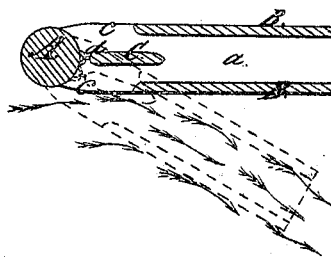


Fig. 2.



Witnesses.
Wm. F. Fourn.
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UNITED STATES PATENT OFFICE.

NICHOLAS D. LE PELLEY, OF CLEVELAND, OHIO.

IMPROVED RUDDER.

Specification forming part of Letters Patent No. **46,807**, dated March 14, 1865.

To all whom it may concern :

Be it known that I, NICHOLAS D. LE PELLEY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved 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 drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention, partly in section; Fig. 2, a horizontal section of the same, taken in the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved rudder for steering ships and other water-craft; and it consists in constructing a rudder with two or more blades arranged in such a manner that a plurality of surfaces will be presented to the water when the rudder is turned for steering the vessel, and the rudder rendered far more efficient than those as ordinarily constructed.

A represents the rudder-post, to which two rudder-blades, B B, are attached, parallel or about parallel with each other, with a space, *a*, between them. These blades may be stayed and braced by a horizontal partition-plate, *b*, and the inner part of each blade B is hollowed out to form openings *c c*, adjoining the rudder-post.

C C represent valves, which are connected by joints or hinges *d* to the rudder-post A, one valve being above and the other below the stay or partition plate *b*. These valves

are allowed to swing or work freely on their hinges, and close under certain circumstances the openings *c*, as will be presently explained.

The rear of the space *a* between the blades B B is open, and when the rudder is turned for the purpose of steering the vessel, as shown in red in Fig. 2, it will be seen that the valves C C, owing to the resistance or action of the water, will close the openings *c* of the blade B, which is at the rear of the one against which the water first acts, the openings of the latter blade being open, and the water consequently will rush through said openings, and through the space *a*, and the exterior of one blade and the interior of the other will form the steering surfaces, while the passage of the water through *a* will, as it leaves *a*, react upon the water at the rear of the rudder in such a manner as to have a tendency to force the stern of the vessel in the direction given it by the rudder.

The arrows in Fig. 2 show clearly the direction and action of the water upon the rudder while a vessel is being steered, and I would state that the rudder may be constructed of wood or metal, or of both of said materials.

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

A rudder constructed with two or more blades, having water-passages between them, and valves, all arranged to operate in the manner substantially as and for the purpose set forth.

NICHOLAS D. LE PELLEY.

Witnesses:

THOMAS DIXON,
HENRY HACKETT.