J. SUPPLE.

Rudder for Canal-Boats.

No. 203,859. Patented May 21, 1878.

Fig. 1.

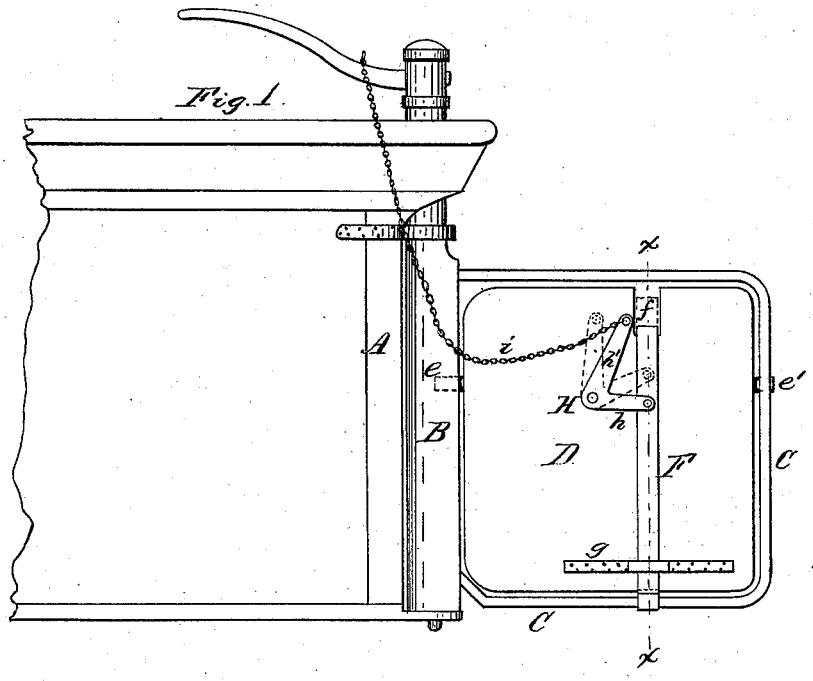


Fig. 3.

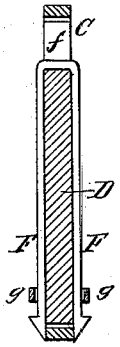
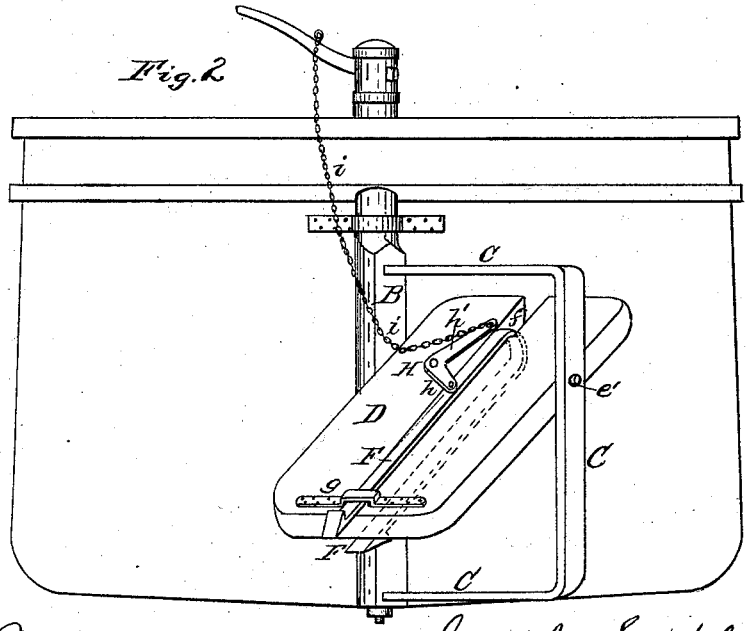


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH SUPPLE, OF BUFFALO, NEW YORK.

IMPROVEMENT IN RUDDERS FOR CANAL-BOATS.

Specification forming part of Letters Patent No. **203,859**, dated May 21, 1878; application filed March 6, 1878.

To all whom it may concern:

Be it known that I, JOSEPH SUPPLE, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Rudders for Canal-Boats, of which the following is a specification, reference being had the accompanying drawing.

My invention relates to a feathering-rudder, designed to be employed on canal and other boats which occasionally require to be moved laterally when the boat is at rest, or when moving with a current without headway. The ordinary solid rudder is not adapted to change the position of the boat except when the latter is under headway, and, consequently, if it is desired to change the position of the boat, it must be done from the bank of the water-way. This is not practicable when the boat moves with the current without headway, and many collisions take place under these circumstances, from the fact that the parties navigating the boat have no convenient means for promptly changing its course.

My invention is designed to supply this want, and its nature will be fully understood from the following description.

In the accompanying drawing, Figure 1 is a side elevation of my improved rudder. Fig. 2 is a rear elevation thereof, with the feathering-blade unlocked. Fig. 3 is a vertical section in line *x x*, Fig. 1.

Like letters of reference designate like parts in each of the figures.

A represents the stern-post of a canal-boat, and B the rudder-post, pivoted thereto in the usual manner. C is an open frame, of the form of an ordinary rudder-board, preferably made of iron, and rigidly secured to the rudder-post. D is the feathering rudder-board, arranged within the open frame C, and provided with two horizontal pivots, *e e'*, arranged above the center of gravity of the board D. The pivot *e* connects the inner end of the board D with the rudder-post, and the pivot *e'* the outer end of the board with the outer vertical portion of the open frame C, so that the board D can freely swing within the frame. F F represent an automatic locking-bolt, composed of two vertical bars, arranged on opposite sides of the rudder-board D and connected at their upper ends, the two parts of the bolt being preferably formed of a single bar of iron bent to the required shape, as represented in the drawing. The lower ends of the bolt F are made inclined, as clearly shown in Fig. 2, so as to enable each part of the bolt to ride over the lower horizontal portion of the frame C. The upper portion of the rudder-board D is provided with a notch or recess, *f*, for accommodating the upper bent portion of the locking-bolt. *g* are guides, secured to the each side of lower portion of the board D, and receiving the respective portion of the locking-bolt, which slides vertically therein. H is a bell-crank lever, pivoted to one side of the rudder-board D, and connected with one arm, *h*, to the sliding bolt F, while its other arm, *h'*, is provided with a chain or rope, *i*, leading to the deck of the boat. Upon pulling on the chain *i* the locking-bolt F is raised out of engagement with the frame C, and the lower end of the pivoted board D is thereby disengaged from the frame, and the board permitted to swing freely upon its pivots in either direction.

When the rudder is swung to either side, with its board unlocked, the resistance of the water will cause the board to turn on its pivots until the board D strikes the water nearly edgewise, whereby the rudder is enabled to pass through the water without exerting any material pressure upon the stern of the boat. Upon reversing the motion of the rudder the board D is acted upon by the resistance of the water, which tends to swing the board through the frame C and toward the opposite side thereof. During this movement the board reaches its normal position, when the bolt F descends by gravity and locks the board to the frame. The rudder now operates as an ordinary solid rudder until the locking-bolt F is again released.

When the boat is at rest, or moving with a current without headway, and it is desired to swing the stern of the boat around to either side, this is readily accomplished by putting the rudder-head over to the opposite side, then unlocking the rudder-board and swinging the rudder back, and continuing these backward and forward motions of the rudder, alternately locking and unlocking the feathering-board, until the boat has been placed in the desired position.

I claim as my invention—

1. A rudder composed of an open frame, C, rigidly secured to the rudder-post, and a feathering-board, D, pivoted within the frame C, and provided with a locking device, so that the feathering-board can be rigidly secured to the frame or permitted to swing on its pivots, substantially as and for the purpose set forth.

2. The combination, with the rudder-post B and open frame C, secured thereto, of the pivoted board D, gravity locking-bolt F F, and releasing mechanism H *i*, substantially as and for the purpose set forth.

JOSEPH SUPPLE.

Witnesses:

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