2 Sheets—Sheet I.

J. HUTTON.

BRAKES AND AUXILIARY RUDDERS FOR VESSELS.

No. 188,368. Patented March 13, 1877.

Fig. 1.

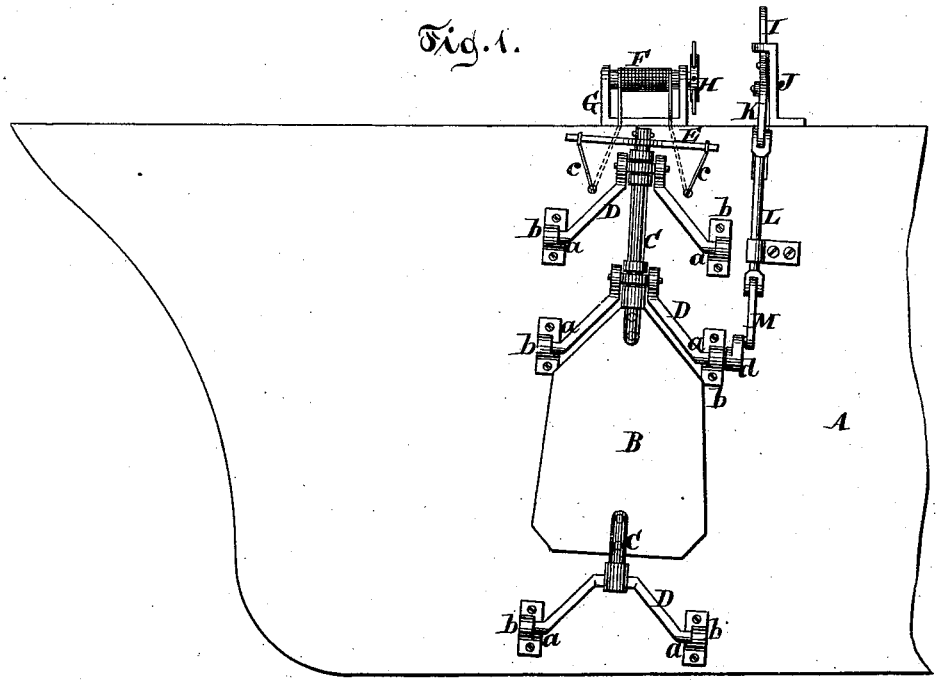
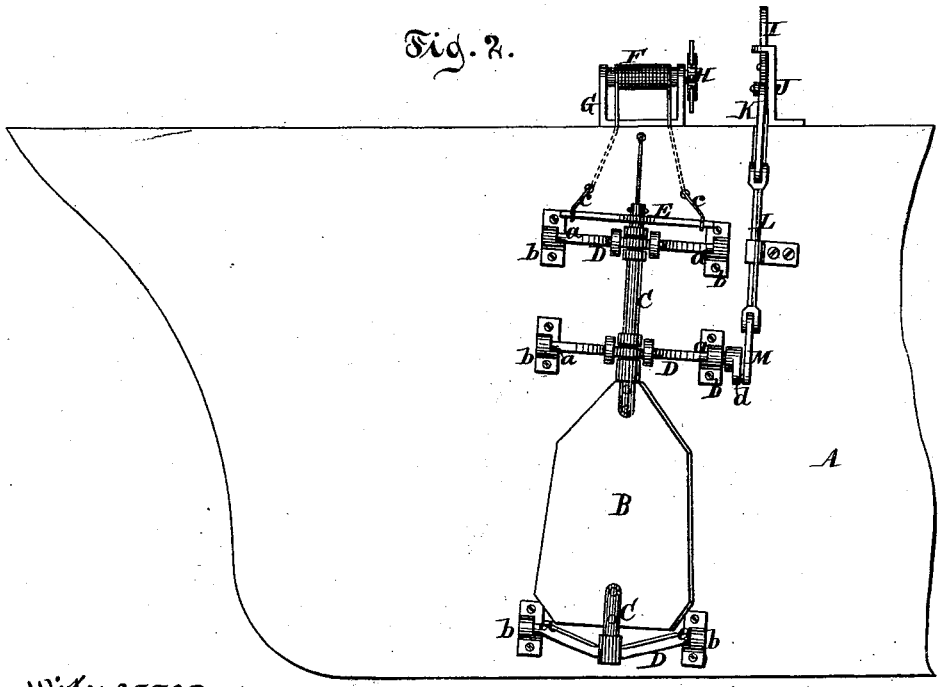


Fig. 2.



Witnesses.

Otto Hufeland.

Robt. E. Miller.

Inventor.

John Hutton

by Van Santvoord & Hauff,

his attys.

2 Sheets—Sheet 2.

J. HUTTON.

BRAKES AND AUXILIARY RUDDERS FOR VESSELS.

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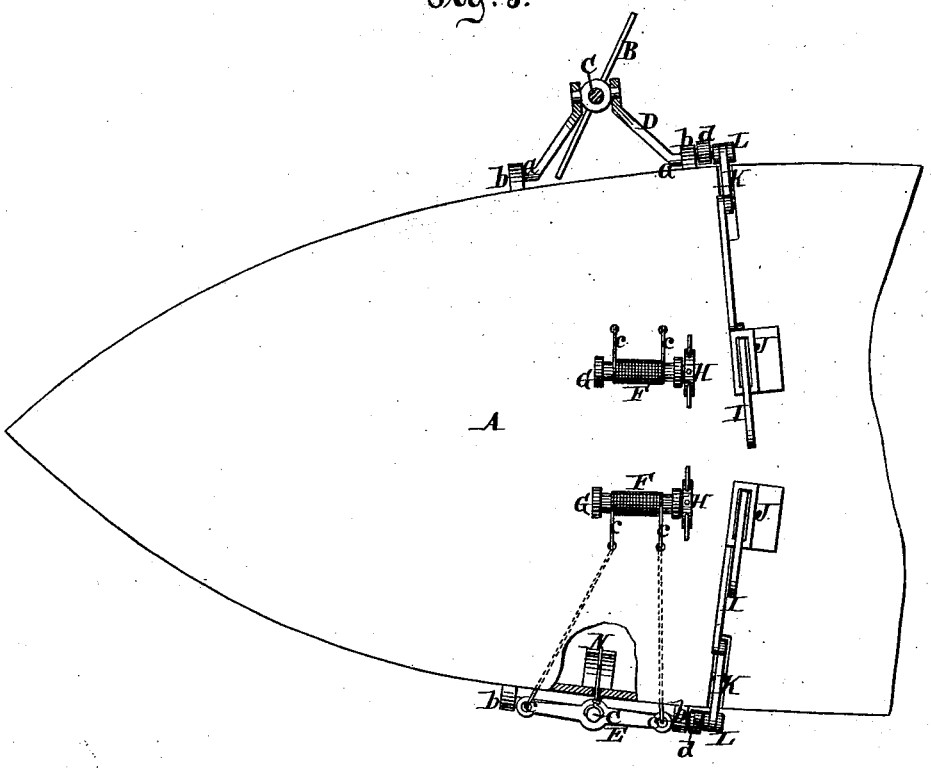
Fig. 3.



Witnesses.
Otto Hufeland
Robt. E. Miller.

Inventor.
John Hutton
by
Van Santwood & Hauff
his attorneys.

UNITED STATES PATENT OFFICE.

JOHN HUTTON, OF NEW YORK, N. Y.

IMPROVEMENT IN BRAKES AND AUXILIARY RUDDERS FOR VESSELS.

Specification forming part of Letters Patent No. **188,368**, dated March 13, 1877; application filed January 24, 1877.

To all whom it may concern:

Be it known that I, JOHN HUTTON, of the city, county, and State of New York, have invented a new and Improved Brake and Auxiliary Rudder for Vessels, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a side elevation of the bow of a vessel provided with my brake and auxiliary rudder when the same is raised out of action. Fig. 2 is a similar view of the same when the brake and rudder is in action. Fig. 3 is a plan or top view.

Similar letters indicate corresponding parts.

My invention consists of a pair of rudder-shaped brakes attached to the side of a vessel near the bow, and adapted to be closed up against the side of the vessel, or to be opened for use and to be turned to any desired angle either for checking the motion of the vessel, or for assisting the rudder in turning the vessel round. With each of my rudder-shaped brakes is combined a mechanism for raising and lowering the same, and also a steering-wheel and tiller for turning the same to and retaining it in the desired position.

In the drawing, the letter A designates the hull of a vessel, to which, near its bow, are attached two blades, B B, one on each side. These blades are secured to shafts C, each of which is supported by two or more curved or V-shaped arms, D, so that it can be freely turned in either direction. From the ends of these arms extend gudgeons *a*, which have their bearings in boxes *b*, that are firmly secured to the sides of the hull A, so that the arms, together with the blades B, can be swung out to the position shown in Figs. 2 and 3, or turned up to the position shown in Fig. 1. To the upper end of each of the shafts C is secured a tiller, E, from the ends of which extend ropes or chains *c* to a drum, F, which has its bearings in standards G, secured to the deck of the vessel, and on the axle of which is firmly mounted a steering-wheel, H.

The two drums F may be detached from each other, as shown in the drawing, or they may be geared together by cog-wheels or belts, so that they turn together either in the same or in opposite directions.

The blades B B are raised or lowered by means of levers I, which have their bearings in standards J secured to the deck, and which, in the example shown in the drawing, connect by intermediate bell-crank levers K, and rods L M, each with a crank, *d*, secured to the gudgeon of one of the V-shaped arms D.

If desired, the gudgeons of the several arms on the same side of the vessel may be connected to the levers I, or said levers may be connected to the shafts C, so that by moving the same the blades are raised or lowered.

For the purpose of facilitating the operation of raising and lowering the blades, their weight may be balanced by springs N, or by weights.

When the blades are raised to the position shown in Fig. 1, they do not interfere with the motion of the vessel in either direction; but when the arms D are brought in the position shown in Figs. 2 and 3, the blades can be turned so that they act either as brakes or that they assist in turning the vessel round.

The V-shaped arms D which I have shown in the drawing consist each of three parts—that is to say, two arms and an intermediate ring or collar, which fits the shaft of the blade which said arms support, and which swivels in the arms, so that when the arms are moved down, said collar can turn and accommodate itself to the position of the arms.

By these means a firm and durable connection is produced between the blades B B and the hull of the vessel, and said blades can be readily adjusted in any desired position.

By adjusting the blades in the proper position, the forward motion of a vessel can be checked and arrested in a comparatively short space; and, furthermore, by the action of my blades, in conjunction with the rudder, a vessel can be turned in a much shorter distance than it can by the action of the rudder alone.

By these means collisions and running aground can be avoided, and a vessel can be handled with much more ease than it can with the rudder alone. Furthermore, my blades can be used for steering the vessel in case the rudder is injured or carried away.

In a fog, a vessel provided with my blades is more safe going at full speed than when going at half speed without them. My blades

are easy and useful in making dock, turning in a river, in navigating a narrow passage, in taking soundings, and they can be used with equal advantage in backing as in going ahead.

A sailing-vessel provided with my blades can sail closer to the wind, and the danger of drifting on a lee shore is materially reduced. The advantages of my blades to a man-of-war will be apparent without further explanation.

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

1. In combination with a vessel, a set of frames pivoted to the side of the vessel and having mechanism for raising them up against the side of the vessel or letting them down to a horizontal position, and a rudder-shaped brake pivoted vertically in said frames, and adapted to turn in the same to any desired angle, substantially as described.

2. The combination, with the rudder-shaped brakes B, of the V-shaped frames D, pivoted to the sides of the vessel, and in which frames the brakes B are adapted to turn at any angle, substantially as described.

3. The combination, with the rudder-shaped brake, of the frames D D, pivoted to the side of the vessel and carrying the brake, which can be turned in the frames at any desired angle, of the crank *d*, attached to one of the frames D, the link M, rod L, and bell-crank lever K, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 19th day of January, 1877.

JOHN HUTTON. [L. S.

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.