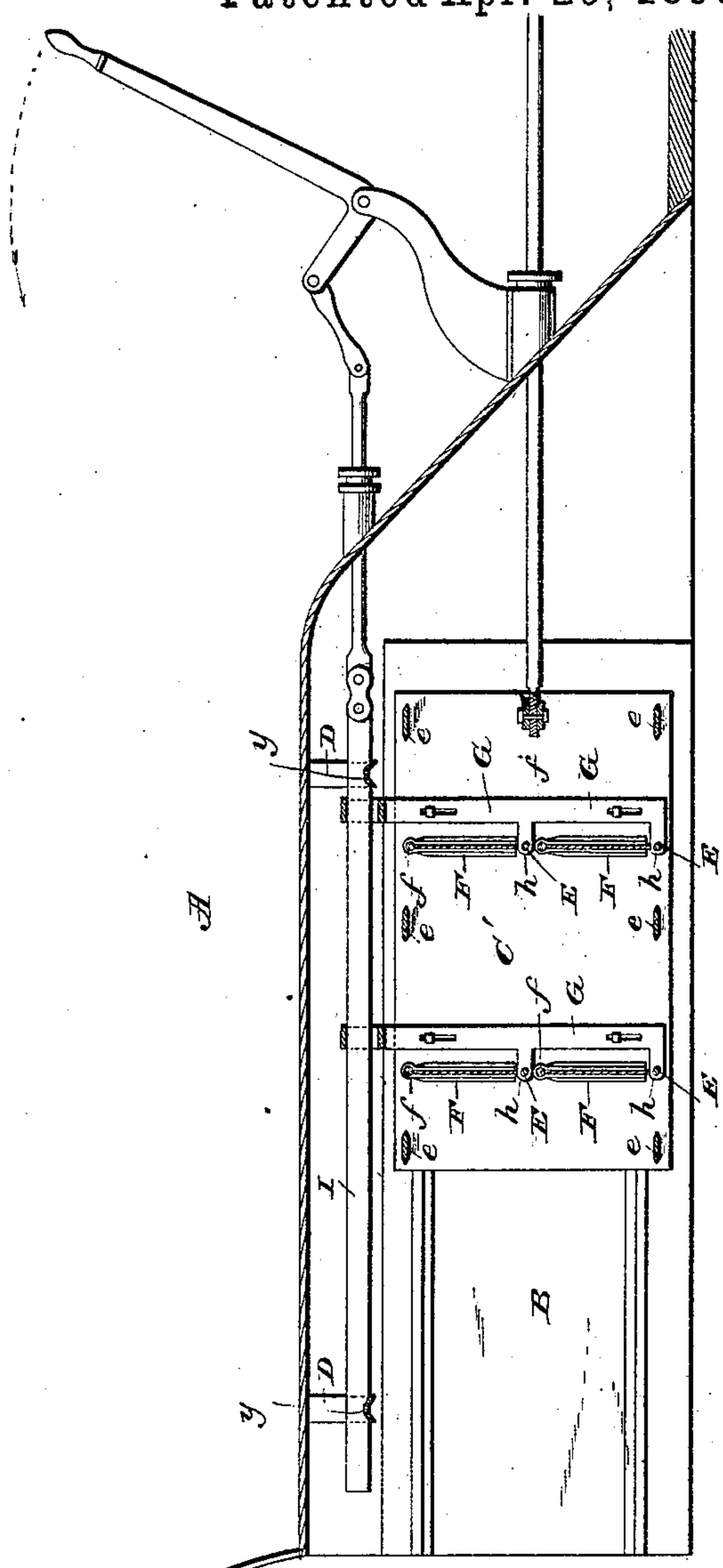
(No Model.) 2 Sheets—Sheet 1.

S. SNELLENBURG.

RECIPROCATING PROPELLER FOR VESSELS.

No. 426,871. Patented Apr. 29, 1890.

Fig. 1.



Witnesses
G. S. Elliott.
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(No Model.) 2 Sheets—Sheet 2.

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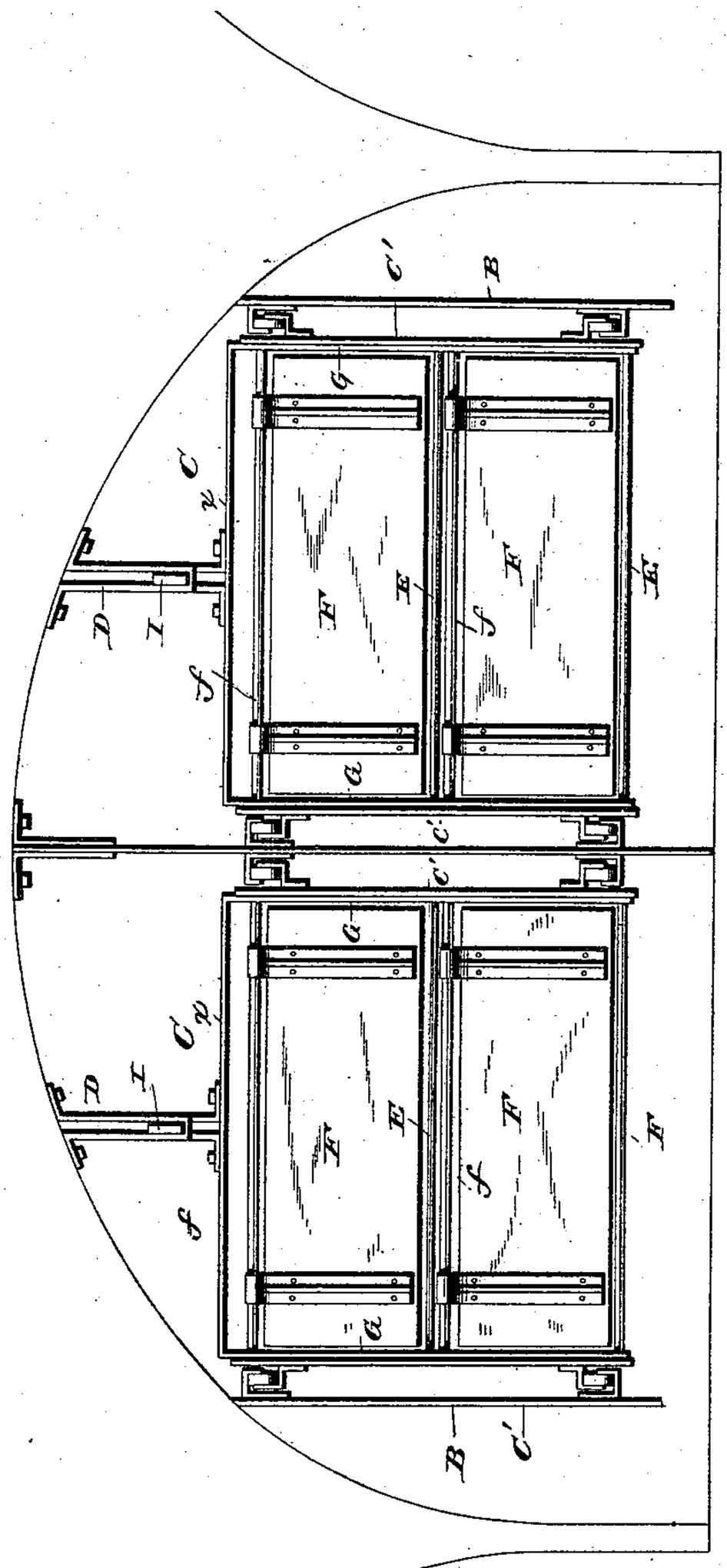
Fig. 2.



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Samuel Snellenburg.
Inventor
by
Attorney

UNITED STATES PATENT OFFICE.

SAMUEL SNELLENBURG, OF PHILADELPHIA, PENNSYLVANIA.

RECIPROCATING PROPELLER FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 426,871, dated April 29, 1890.

Application filed January 11, 1890. Serial No. 336,696. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL SNELLENBURG, a citizen of the United States of America, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Reciprocating Propellers for Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in reciprocating propellers for vessels, and is designed more especially as an improvement upon my patent dated November 19, 1889, No. 415,584, which can be referred to for a better understanding of the present invention.

In my prior patent the floats are hinged or pivotally secured to bars carried by the sides of the reciprocating frames, so that in reversing they can move beyond the stops located above the same.

In my present invention the floats are hinged to rods carried by the reciprocating frames, so as to depend from the bars upon which they are secured, and the floats are arranged in a vertical series.

My present invention also embodies the special construction of the shifting mechanism.

In the accompanying drawings, Figure 1 is a longitudinal section of a reciprocating propeller constructed in accordance with my invention, and Fig. 2 is a rear elevation.

A refers to the hull of the vessel, and B the frames in which the operating mechanism reciprocates, said propelling mechanism consisting of two or more reciprocating frames C, which are made up of side pieces C′, connected to each other and attached to the piston-rod. These side pieces are provided with transverse plates *e e*, which serve to connect said side pieces to each other.

G refers to the vertical bars, which have rearwardly-projecting offsets *h*, which serve as supports for transverse rods E, with which the lower ends of the floats F are adapted to engage when the bars G are raised. The floats F are arranged in a vertical series, and are hinged at their tops to transverse bars or rods *f*, from which they normally depend and contact with the rods E on either side thereof when propelling the vessel. Each pair of the vertical sliding bars or hangers G are connected together at their upper ends by a transverse bar *x*, looped centrally, through which the shifting-bar I passes, said shifting-bar being supported in suitable hangers D, the lower bearing portions *y* of which have downwardly-inclined ends and a central horizontal portion, the under side of the shifting-bar being correspondingly recessed, so that when the lever occupies the position shown in full lines, Fig. 1, the hangers G and the bars E carried thereby will be lowered beneath the ends of the floats, so that the said floats will swing upon their pivots and have no effect as to the propulsion of the vessel. When the lever is thrown in the direction indicated by the arrow, the bar I will be moved and the hangers raised, so that the rods E will contact with the lower ends of the blades or floats F, thus permitting them to swing in one direction and hold them against movement in an opposite direction, so as to propel the vessel according on which side of the bars E the floats are. In my piror patent the floats were hung so that when they were not in use they would rest almost horizontally upon suitable supports; but by the present construction such supports are dispensed with. I also dispense with the double notches on the shifting-bar. The reciprocating frames are supported upon interlocking ways having anti-friction rollers, as shown, which are located at the centers of said frames and upon the centers of the sides of the frames B.

I claim—

1. In a reciprocating propeller for vessels, constructed substantially as shown, and having floats permanently mounted in horizontal reciprocating frames, said floats being arranged in vertical series, so as to depend from their supporting-bars, and vertically-moving frames carrying stops, against which the free ends of the floats or paddles abut, substantially as shown, and for the purpose set forth.

2. In combination with the horizontally-sliding frame carrying a series of paddles or floats which are pivoted or hinged to bars to

depend therefrom, said bars being permanently seated in said frames, vertically-moving frames carrying stops or cross-bars, against which the floats are adapted to abut, a longitudinally-moving bar I, for maintaining the vertically-moving frame raised or lowered, said bar I being supported in loops having inclined ends, and a central horizontal portion within which correspondingly-notched portions of the bar I lie, substantially as shown, and for the purpose set forth.

3. The combination, in a reciprocating propeller for vessels, of horizontally-sliding frames having permanently secured thereto a number of floats F, which are arranged in vertical series, vertically-movable frames G, with offsets which carry stops or rods E, which are located beneath the hinged or pivoted portions of the floats, a sliding bar I, for raising and lowering the vertically-moving frames G, said bar being supported in hangers the base of which is shaped to correspond with the notches formed in said bar, substantially as shown, and for the purpose set forth.

4. The combination, in a reciprocating propeller, of a casing constructed as shown, horizontally-reciprocating frames carrrying paddles or floats arranged in vertical or horizontal series so as to depend from their supporting-bars permanently seated in said frames, movable stops adapted to engage with said paddles or floats, means for operating said stops so as to raise and lower the same, the sliding frame being mounted centrally upon interlocking ways attached to the frame B, and the reciprocating frames, a double row of anti-friction rollers being interposed between the interlocking ways, substantially as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL SNELLENBURG.

Witnesses:
CHARLES P. BOOTH,
S. DESSAUER.