

H. B. Meech

Propeller.

No. 112,369.

Patented Mar. 7. 1871.

Fig 1

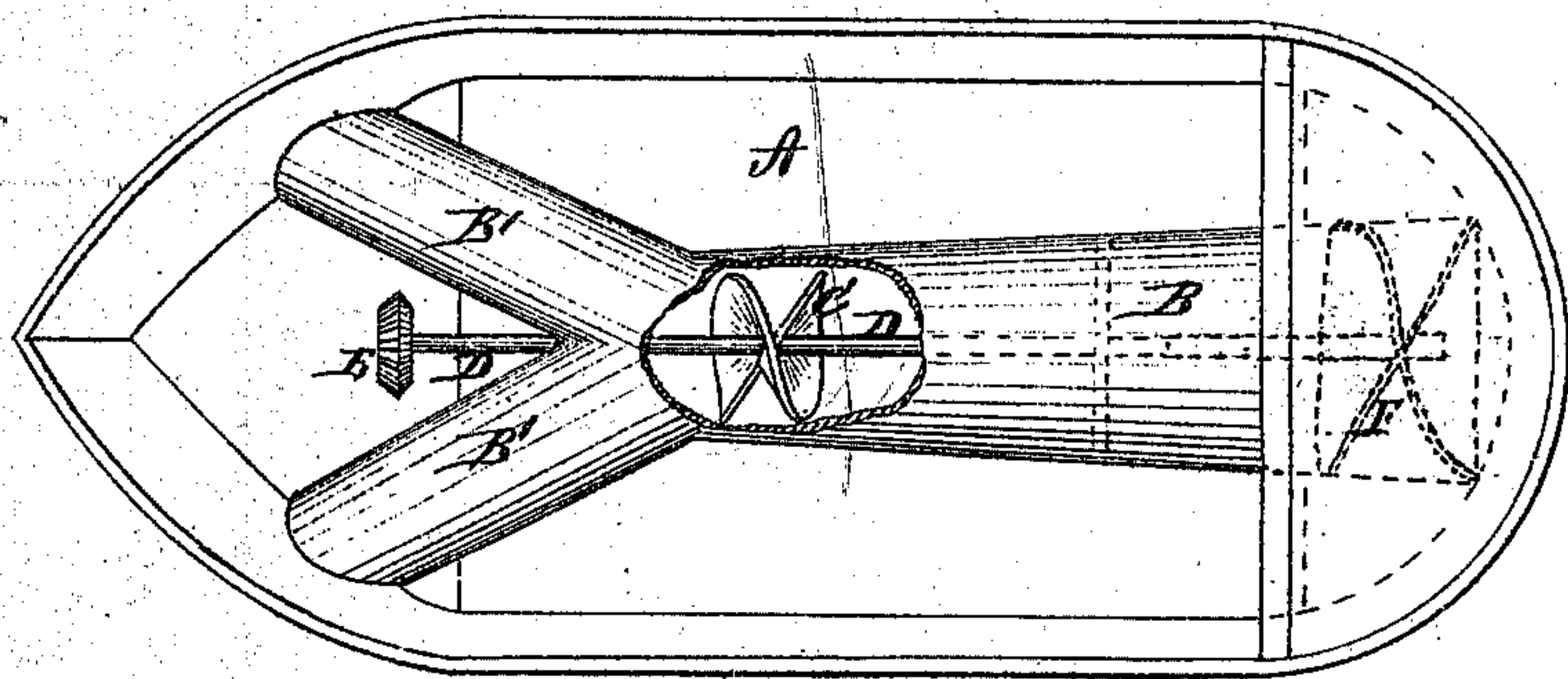
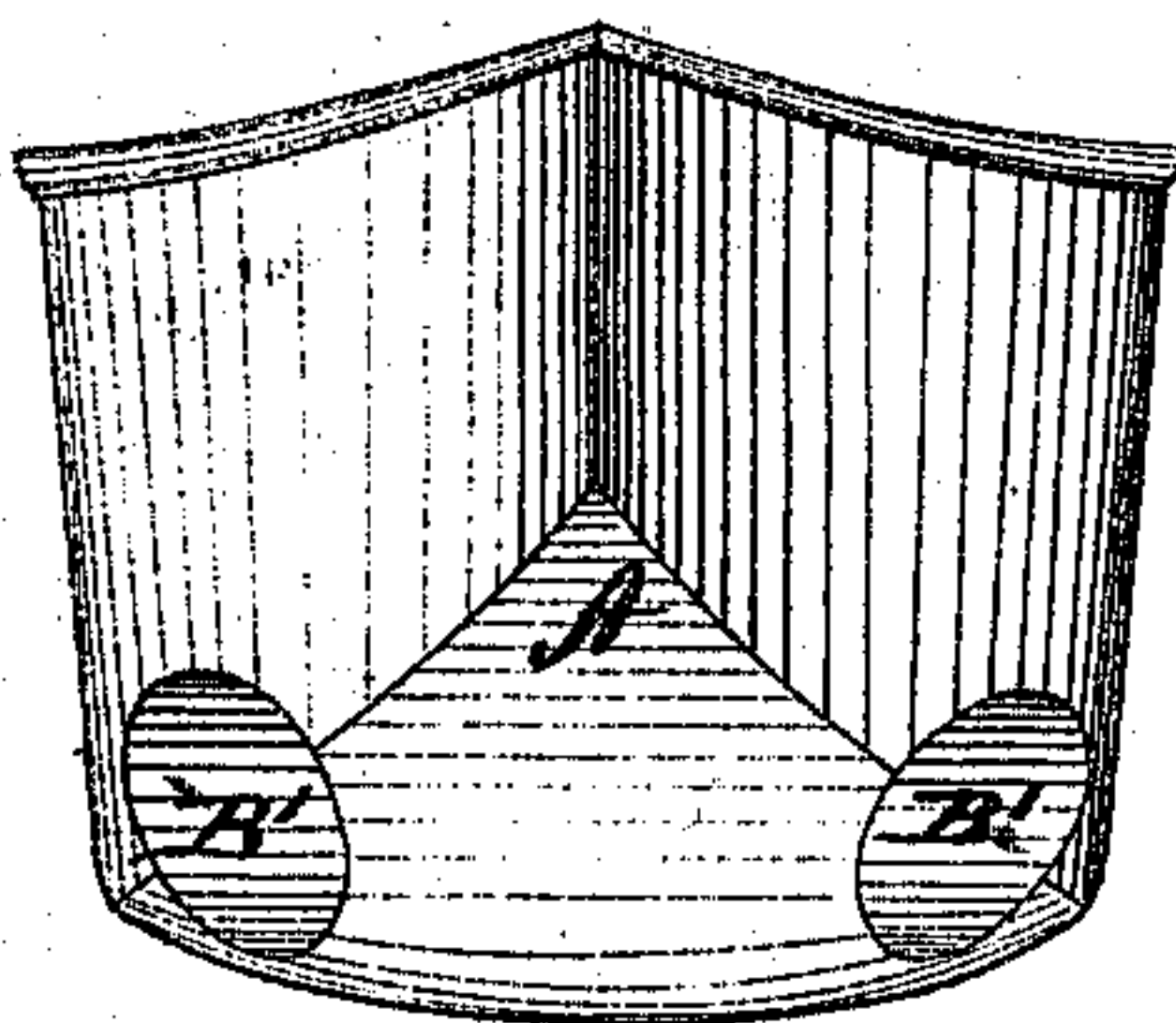


Fig 2



Witnesses.
F. Schramm
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Inventor

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HARRISON B. MEECH, OF FORT EDWARD, NEW YORK.

IMPROVEMENT IN PROPELLING CANAL-BOATS.

Specification forming part of Letters Patent No. **112,369**, dated March 7, 1871; antedated February 25, 1871.

To all whom it may concern:

Be it known that I, HARRISON B. MEECH, of Fort Edward, in the county of Washington and in the State of New York, have invented certain new and useful Improvements in the Mode of Applying Power to Canal Tug-Boats or other vessels; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in drawing the water from both bows to a converging point in the bottom or hold of a vessel, to be propelled by means of two propeller-screws, or other equivalent devices, which shall be so placed in a channel or water-way, which increases in diameter toward the stern, and connecting with two apertures leading to the bows, and which shall, by the rapid revolution of the said screws and the pitch or the obliquity of their blades, drive the water thus drawn in with a force to the rear greater than that with which it entered the bows of the vessel.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and in which—

Figure 1 is a plan view of the hull of a canal-boat, with the tube in the bottom thereof, a portion of said tube being broken away, showing the propeller-wheel within the same. Fig. 2 is an end view of the same, showing the openings into the tube.

A represents the hull of a canal tug-boat, in the bottom of which is placed the tube B, which increases in size toward the stern, and which opens into the water at the stern. A suitable distance from the bows of the boat the tube B branches or divides, so as to have an opening into the water on each bow. When the boat is immersed in the water the tube B will, of course, be filled with water.

The propeller-wheel C is so placed in the main channel B that it shall be at the confluence of the converging inductions B' B' from the bows of the vessel, and be ready to receive

whatever impact of water it may get, and transmit it to the rear by its revolution with a force equivalent to the pitch of its blades multiplied by the number of times they revolve in a given time. The receiving of the water upon one or the other of the blades equalizes the bearing of the wheel in its axle and increases its speedy and effective action.

Supplementary to the wheel C is another propelling device, F, fixed on the same axle, and placed near the stern of the vessel and near the greatest diameter of the channel B, having a larger radius, a longer pitch, and capable of displacing more water than that which is supplied to it by the wheel C, and causing a more rapid determination of water to the stern than that by which it is supplied at the bows, which tends to create a vacuum between it and the smaller wheel, C, in front, and greatly assists in drawing the water from the bows through the induction-pipes B' B'. The requisite motion is imparted to the wheels C and F through the gearing E on the shaft D by machinery inside the boat. As the propeller-wheels C and F are turned the water in the tube is forced back to the stern against the outer water, and the boat is moved forward, and at the same time, as the water in the tube is forced back, the water from the bows of the boat rushes in to take its place, relieving the pressure of the water from the bow of the boat, which gives additional power to draw the boat forward. By relieving the pressure of the water at the bow it draws the water to the center of the canal and prevents the boat from swelling the water outwardly and washing the banks of the canal. The tube B being divided and opening on bows equalizes the pressure, or rather the relief of the pressure, on both sides of the boat at the bows.

Although this device is mainly intended for tug-boats used on canals, it may be applied to other boats or vessels. For canal tug-boats it possesses the following important advantages over the old method of a wheel in the open water:

The wheel has more power in a tube than in open water; the direct pushing power of the water in the tube on the water at the stern of the boat; taking away the pressure of the

water from the bow of the boat, which of itself will tend to draw the boat forward.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The tube B, in combination with the inductions B' B' and wheels C and F, constructed and operating substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of July, 1870.

HARRISON B. MEECH.

Witnesses:

F. LEHMANN,
CHARLES H. FOWLER.