

D. S. Merritt. Crank Paddle.

N^o 89,231.

Patented Apr. 20, 1869.

Fig: 1.

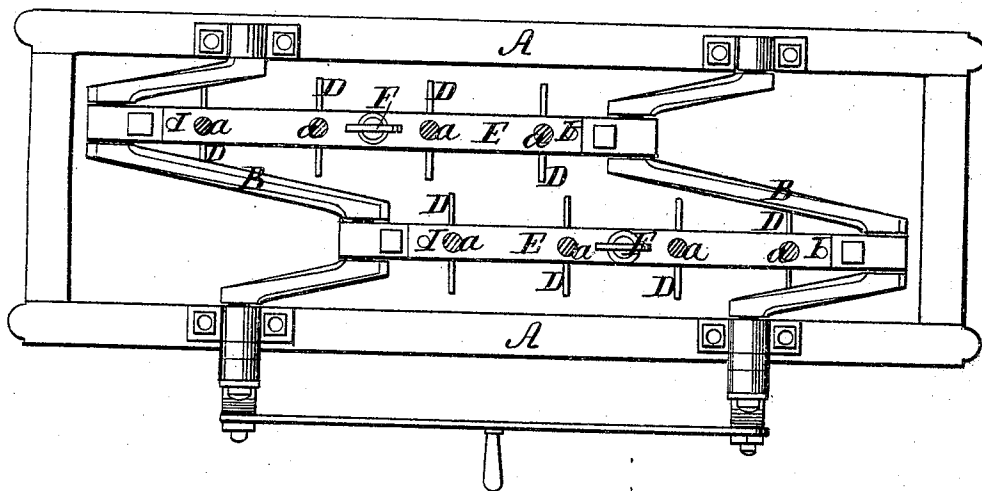
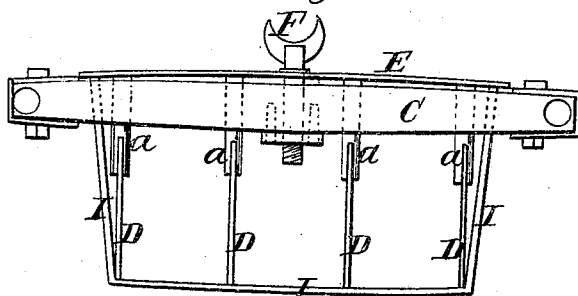


Fig: 2.



Witnesses;

Leopold Gush
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per Alexander Mason
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United States Patent Office.

DANIEL S. MERRITT, OF MOUNT MORRIS, MICHIGAN.

Letters Patent No. 89,231, dated April 20, 1869.

IMPROVEMENT IN PROPELLING-APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, DANIEL S. MERRITT, of Mount Morris, in the county of Genesee, and State of Michigan, have invented certain new and useful Improvements in Means and Machinery for Propelling Vessels; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the construction and arrangement of a series of perpendicular and adjustable paddles to bars which connect crank-shafts on each side 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 drawings, which form a part of this specification, and in which—

Figure 1 is a plan view, and

Figure 2, a side view.

A represents a frame, across which are placed two double cranks, B B, each pair of said cranks being connected by bars c c.

On the under side of these bars is placed any desired number of perpendicular paddles, D D, which paddles are provided with tenons or shanks, a a, passing up through the bar C, and are, on the upper side of said bar, attached to a metal bar, E, of suitable length.

A rod, I, is placed under the centre of the paddles D D, and, being bent, passes up through the bar C, and is attached to the ends of the metal bar E, thus, as it were, completely enclosing the paddles in a frame formed of this rod, as more plainly shown in fig. 2.

Through the centre of the metal rod E, a set-screw, F, passes, down into or through the bar C, and, by the use of said screw, the metal bar E can be brought closer to or further from the bar C, thus raising or lowering the paddles at will, and regulating the depth to which they will enter the water.

Instead of having all the paddles attached to one bar, E, and regulated by one screw, I may provide each one of the tenons or shanks with a screw, or other suitable device for lowering and raising the paddle at pleasure.

I intend to place one or more sets of such double

cranks on each side of a vessel, the paddles being placed at such distance from each other as not to break the water when they enter the same.

By this arrangement of the paddles, the swell caused by the motion of the boat through the water is avoided, as the action of the paddles tends to draw the water to the sides of the boat, and to close the vacuum at the stern.

The double cranks act as a counterbalance to each other, and, when they are in a horizontal position, all the paddles are out of water.

If two or more pairs of these cranks are attached to a boat, and so hung that their centres are opposite to each other, they act as a balance to the power which drives them, provided the power is attached at quarter distance, or midway between the opposite centres of the cranks.

By this arrangement, I save power, make an equal displacement of water at the sides of the vessel, increase motion, gain power, and can run the propelling-engine (if properly constructed) about one hundred and fifty revolutions per minute, without breaking the water, or making it foam.

The paddles can easily be adjusted, to suit the draught of different vessels, or the variations of draught in the same vessel.

By setting the cranks, as above, on each side of a vessel, and attaching the power, as described, it leaves one set of paddles always in the water, making a steady strain upon the propelling-power.

No swell is caused by these paddles, rendering them particularly applicable to the propulsion of vessels upon canals.

Having thus fully described my invention,

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

The arrangement of the perpendicular paddles D D, provided with tenons or shanks a a, rod I, metal bar E, and set-screw F, whereby the paddles can be raised or lowered, substantially as and for the purposes herein set forth.

DANIEL S. MERRITT.

Witnesses:

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