

L. MURDOCH.

Propelling Mechanism for Vessels.

No. 143,091.

Patented September 23, 1873.

Fig. 1

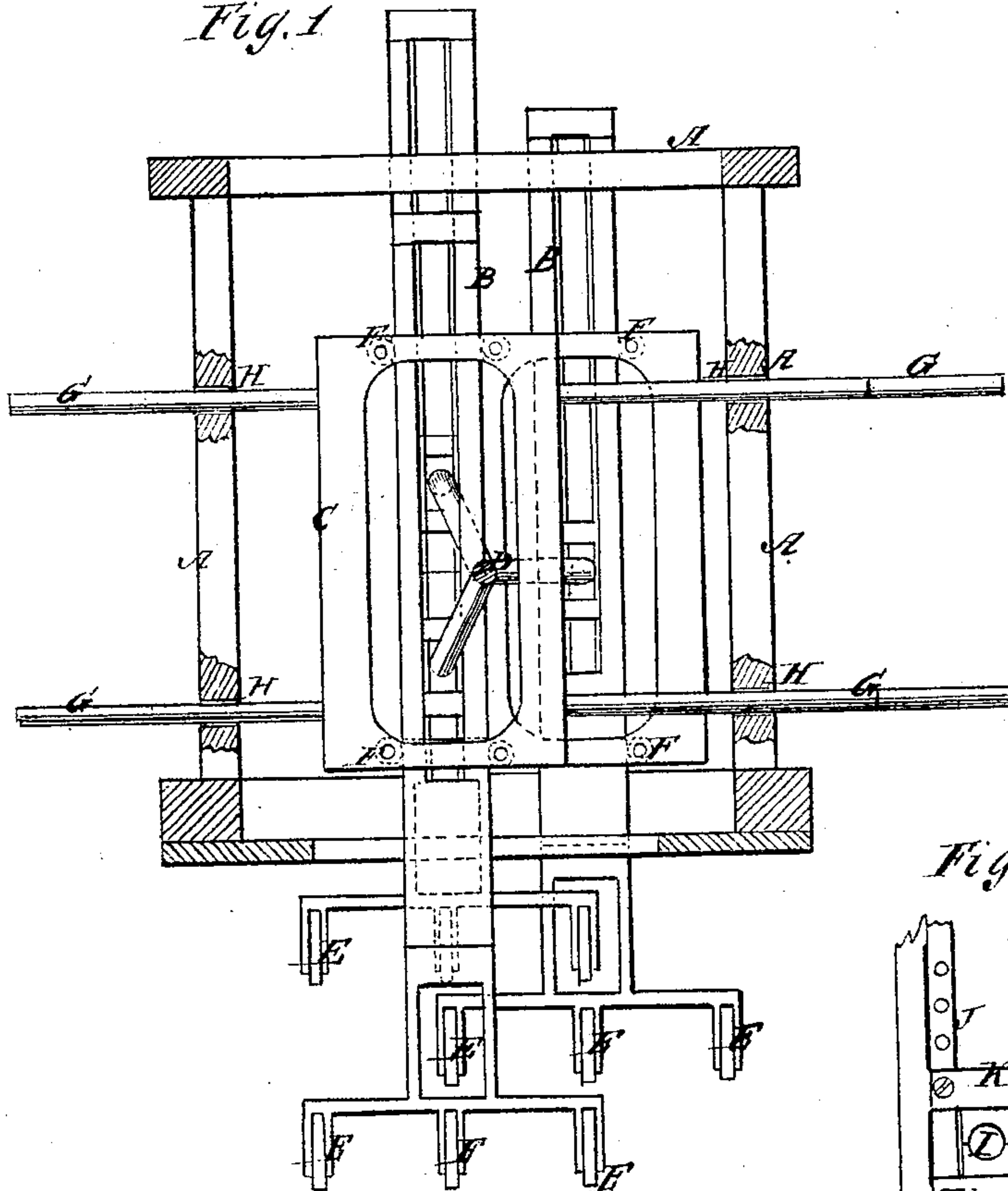


Fig. 2

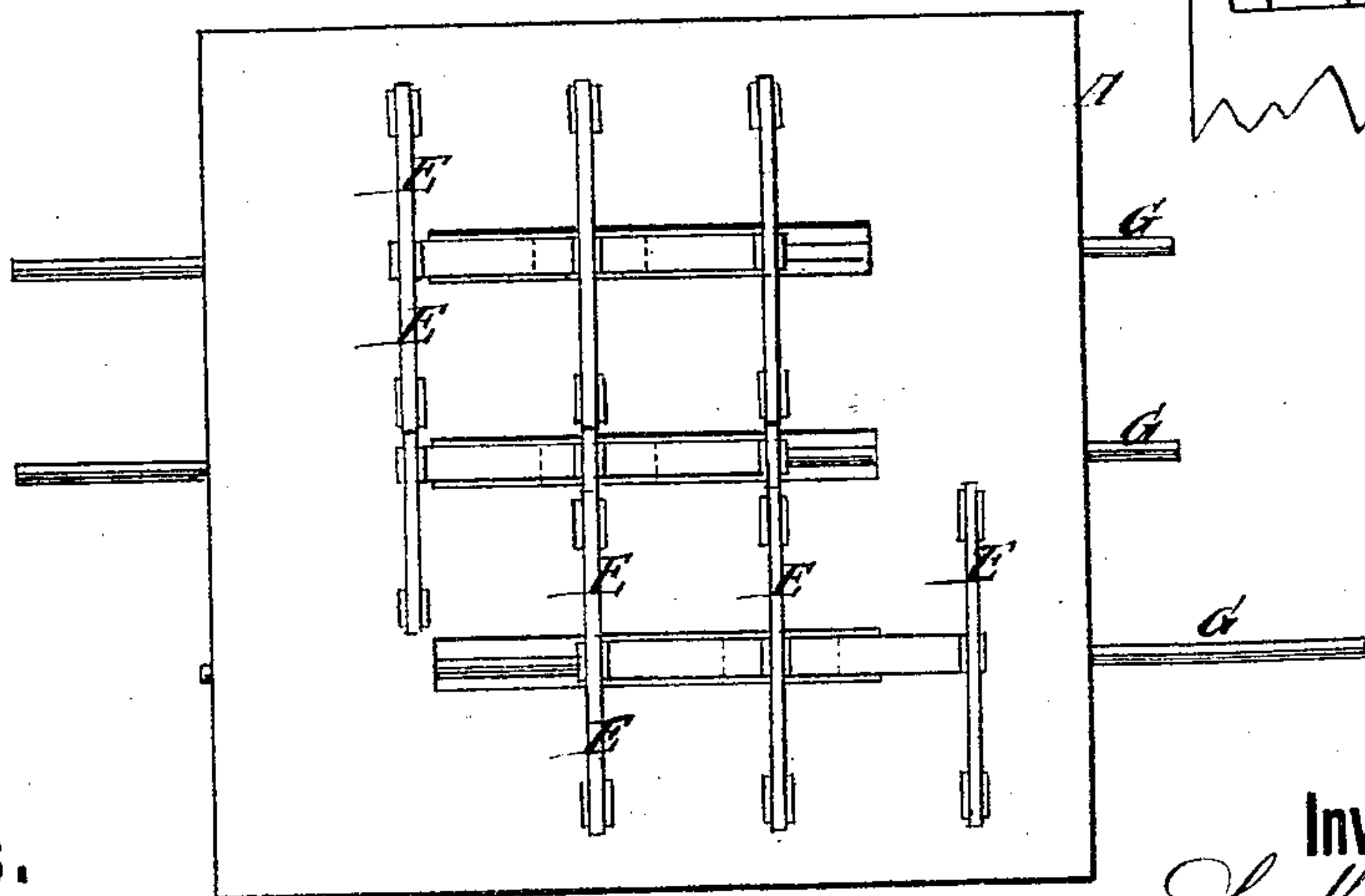
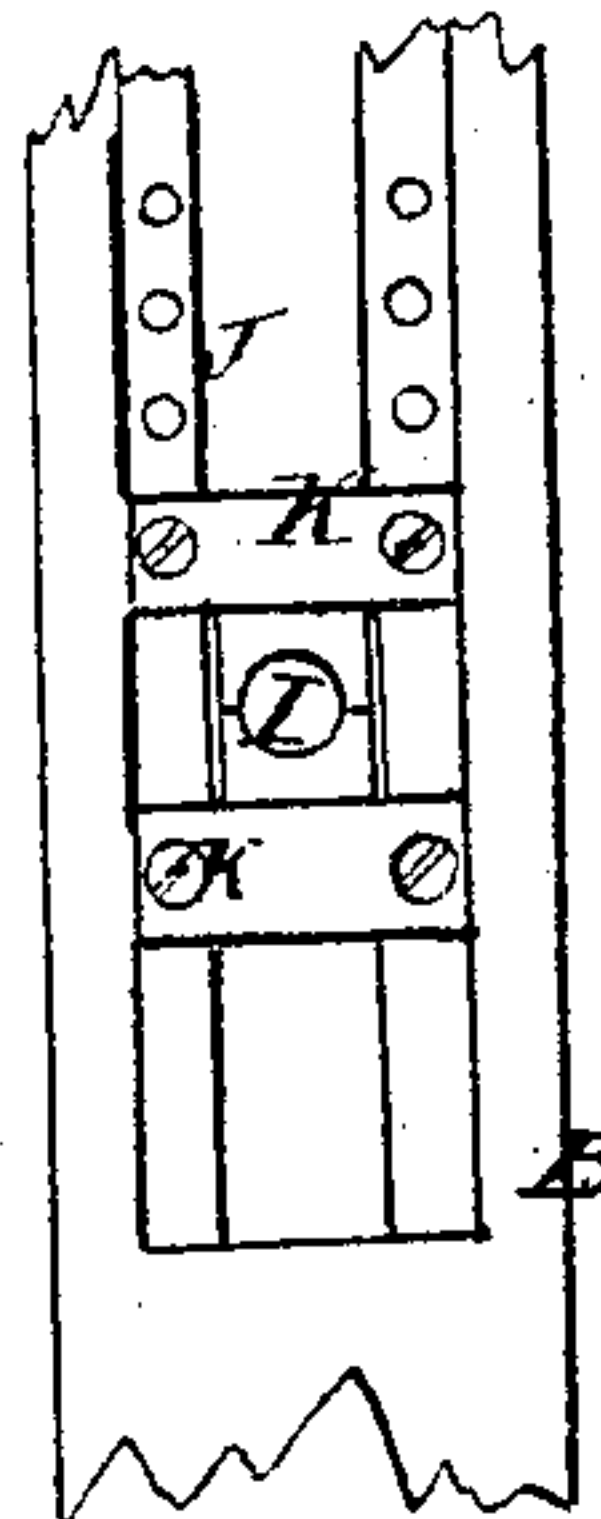


Fig. 3



Witnesses.

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LINDSAY MURDOCH, OF MARBLE HILL, MISSOURI.

## IMPROVEMENT IN PROPELLING MECHANISMS FOR VESSELS.

Specification forming part of Letters Patent No. **143,091**, dated September 23, 1873; application filed June 21, 1873.

*To all whom it may concern:*

Be it known that I, LINDSAY MURDOCH, of Marble Hill, in the county of Bollinger, in the State of Missouri, have invented a new and Improved Propeller, of which the following is a specification:

The invention consists in applying to the propeller of vessels the particular arrangement of mechanism hereinafter described and claimed.

Figure 1 is a sectional elevation of the supporting-frame and crank, and side elevation of the paddles and the bars when they are mounted. Fig. 2 is a plan of Fig. 1 reversed, and Fig. 3 is a side elevation of a section of a paddle-bar and the box for the crank-shaft, showing the arrangement for adjusting the paddle high or low.

A represents a frame projecting from the boat, preferably at the stern, but it may be at the bow or side. B represents a paddle-bar or shaft; C, a forward-and-backward reciprocating frame, in which the paddle-bar is arranged to reciprocate vertically. D represents the crank-shaft and E the paddles. In this example three cranks, paddle-bars, and sliding frames are employed, and each paddle-bar has three paddles, but more or less may be employed, as may be desired. The paddle-bars are arranged in the frames C so as to rise and fall vertically in them, and anti-friction rollers F are employed for them to slide on, so as to work as easy as possible. The frames C are fixed on rods G, which are arranged in bearings H in the stationary frame A, so as to slide

forward and backward. In practice, suitable metal bearings will be inserted in the wood frame A for these rods to work on to the best advantage. I represents the boxes for the crank-wrists. They are arranged in a long vertical slot, J, in the paddle-bar and secured by detachable bars K, bolted on so as to be shifted high or low to adjust the paddles to the water, as the draft of the boat varies by variations in the weight of the loads.

By this arrangement the paddles have parallel vertical and horizontal motions, so that they are presented to and leave the water edgewise and move against it directly in the line of the motion of the boat, thus giving the best results, and these motions are obtained by the most simple arrangement of devices.

The paddle-bars, sliding frames, and the rods of the latter will probably be made of metal, but the frames and the bars may be of wood, or partly wood and partly metal.

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

A horizontally-sliding frame, C, and a bar, B, carrying at its lower end paddle-floats sliding vertically therein and horizontally therewith, combined with the crank-shaft of a boat or vessel, as and for the purpose described.

LINDSAY MURDOCH.

Witnesses:

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