

J. FORGIE, Sr. & J. B. FORGIE, Jr.

VIBRATING PROPELLERS.

No. 178,364.

Patented June 6, 1876.

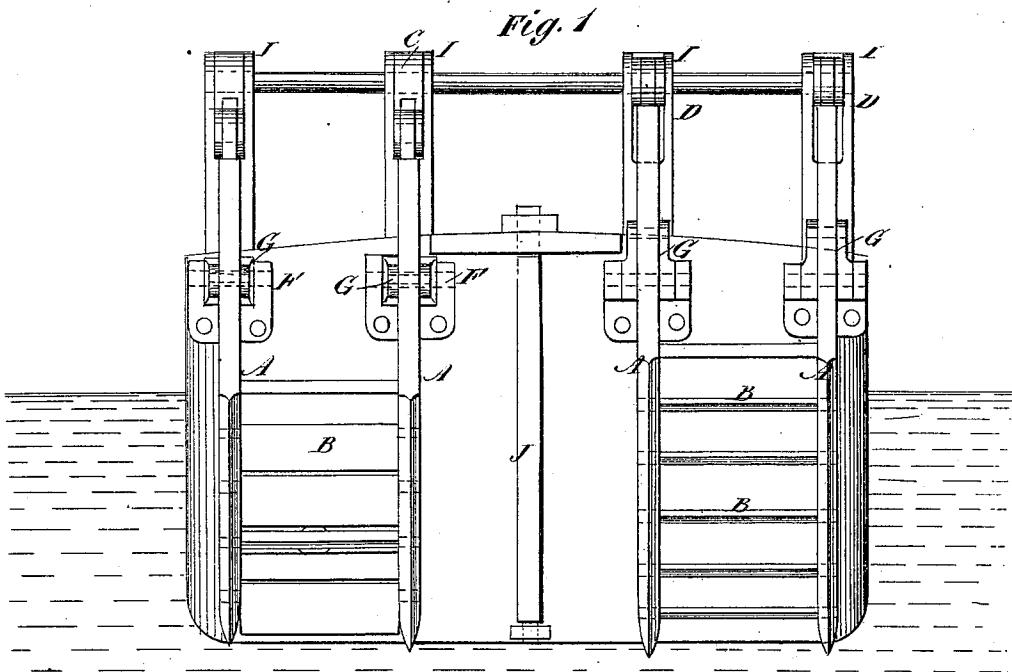
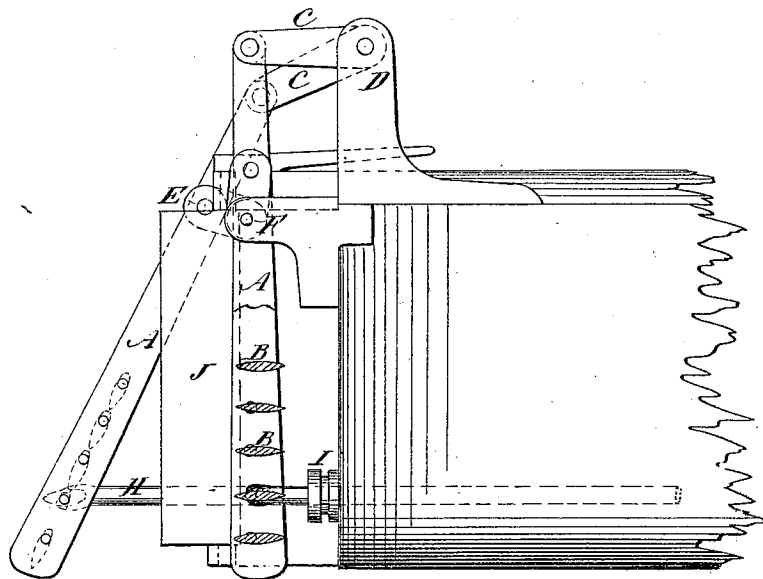


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN FORGIE, SR., AND JOHN B. FORGIE, JR., OF HICKSVILLE, NEW YORK.

IMPROVEMENT IN VIBRATING PROPELLERS.

Specification forming part of Letters Patent No. **178,364**, dated June 6, 1876; application filed May 22, 1876.

To all whom it may concern:

Be it known that we, JOHN FORGIE, Sr., and JOHN B. FORGIE, Jr., of Hicksville, in the county of Queens and State of New York, have invented a new and Improved Parallel Propeller, of which the following is a specification:

Our invention consists of one or more frames, preferably two, carrying paddles in the form of the slats of a window-blind, and working alternately sidewise and edgewise to the water as the frames swing backward and forward, the said frames being pivoted at the upper end in such manner that the lower end works parallel with the engine-rod, to which it is connected, to be worked by the steam-power applied directly to the rod, making a simple and efficient arrangement of propelling apparatus.

Figure 1 is a stern elevation of a boat having our improved propeller applied to it, and Fig. 2 is partly a side elevation and partly a sectional elevation.

Similar letters of reference indicate corresponding parts.

A represents the frames carrying the paddles B, said frames being pivoted at the top by links C to the supports D, attached to the stern of the boat; also pivoted at E by the links G, said links and pivots being so contrived that the frames swing parallel to the motion of the piston-rods H, working out through stuffing-boxes I in the stern of the boat, and being operated by steam inside.

The paddles B are pivoted near the upper edge to the frames, so that they turn edgewise to the water when they go back toward the boat, and turn down sidewise when going the other way.

In practice, suitable stops will be employed to hold the buckets sidewise to the water; but they are not represented, as they do not constitute an essential part of the present invention.

By preference two of these propellers will be used, in order that one may be applying the power while the other is returning, and in this case one rudder, J, will be used; but one propeller may be employed with good results for slow freight-boats, in which case two rudders will be used, one at each quarter, and we may use two rudders with two propellers.

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

The paddle-carrying frames A, pivoted to supports D and F at the upper end by links C and G, and connected at the lower end directly to the piston-rod, substantially as specified.

JOHN FORGIE, SENR.
JOHN B. FORGIE, JUR.

Witnesses:

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