

W. DAVENPORT.
PADDLE PROPELLER.

No. 179,528.

Patented July 4, 1876.

Fig. 1.

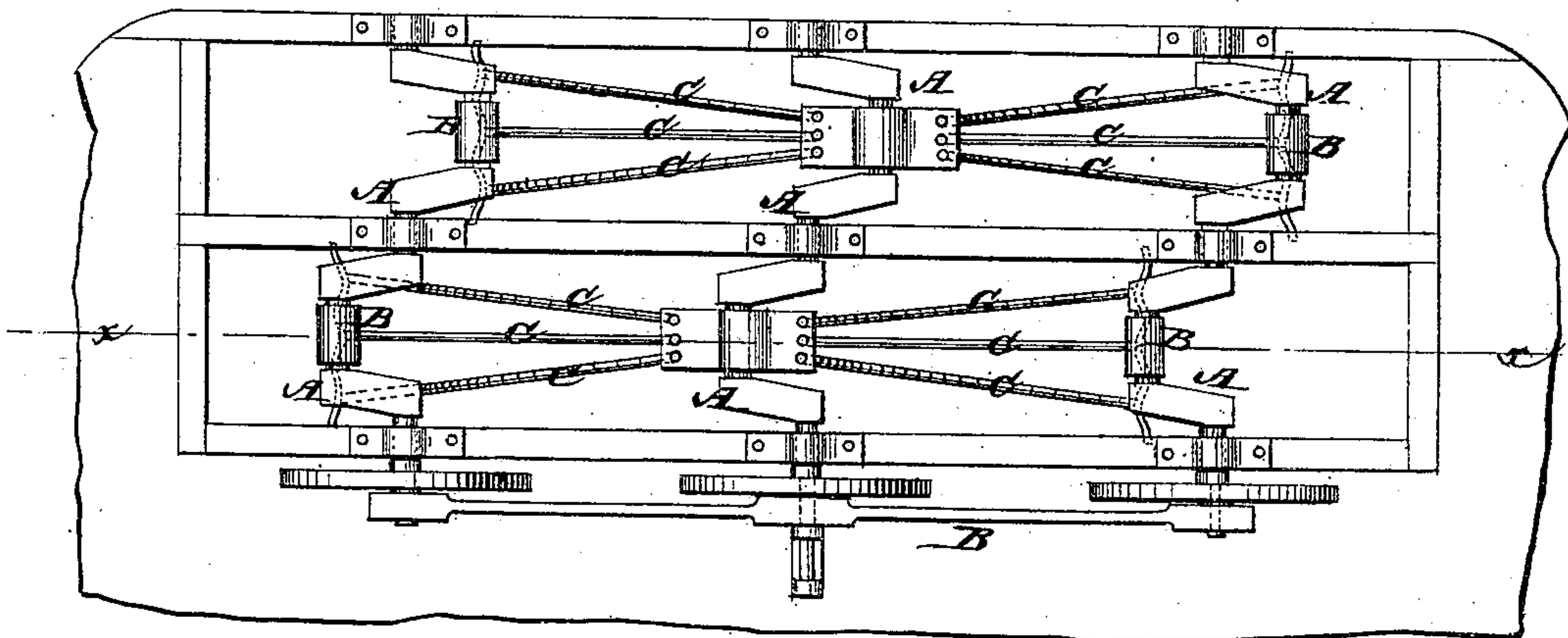
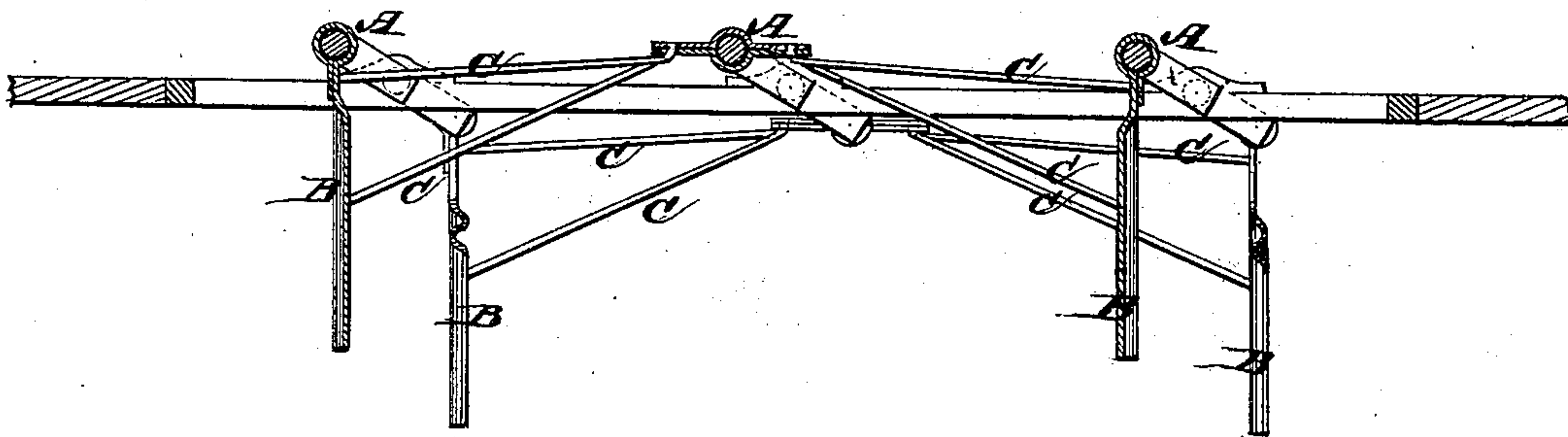


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM DAVENPORT, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PADDLE-PROPELLERS.

Specification forming part of Letters Patent No. **179,528**, dated July 4, 1876; application filed June 6, 1876.

To all whom it may concern:

Be it known that I, WILLIAM DAVENPORT, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Paddle-Propeller, of which the following is a specification:

My invention relates to paddle-propellers in which the paddles are worked so as to be at all times at right angles to the water, to enter and escape from it vertically, for avoiding the loss of revolving paddles, by beating diagonally on the water when entering it, and lifting it when escaping; also, for making lighter, simpler, and cheaper constructions.

The invention consists of two or more parallel cranks, from which the paddles are suspended and braced by a simple, cheap, light, and substantial contrivance of stays or braces, supported by one crank and connected to the paddle of another, and the paddles are fluted or corrugated to enable them to hold the water better than flat ones do.

Figure 1 is a plan view of a paddle-propeller contrived according to my invention; and Fig. 2 is a longitudinal section on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents three cranks, arranged side by side at suitable distances apart, and being coupled, so as to revolve in unison, by rod B, and to be turned by the driving-engine, which will be connected in any approved way. The

outside cranks have one or more paddles, B, suspended from them, and they are braced by the rods C, which couple them to the middle crank in such manner that the expensive, heavy, and cumbersome frames usually employed to carry the paddles are not required.

The middle crank may also carry paddles which may be braced from the outside cranks, and the same plan of bracing the paddles may be carried out with only two cranks.

The cranks are, in this example, represented as being double and reversed, so that some paddles are carried in the water while the others are out, which is the best arrangement; but good results may be had with single cranks, when the driving-shaft extends through the boat and connects with the propellers of both sides.

This improved propeller may be employed in all conditions in which paddle-wheels are applicable.

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

Two or more parallel cranks, having vertical paddles B suspended from one shaft and braced from the other, substantially in the manner described.

WILLIAM DAVENPORT.

Witnesses:

HENRY WADDINGTON,
C. LEECH.