

(No Model.)

B. ROY.  
CHAIN PROPELLER.

No. 272,159.

Patented Feb. 13, 1883.

Fig. 3.

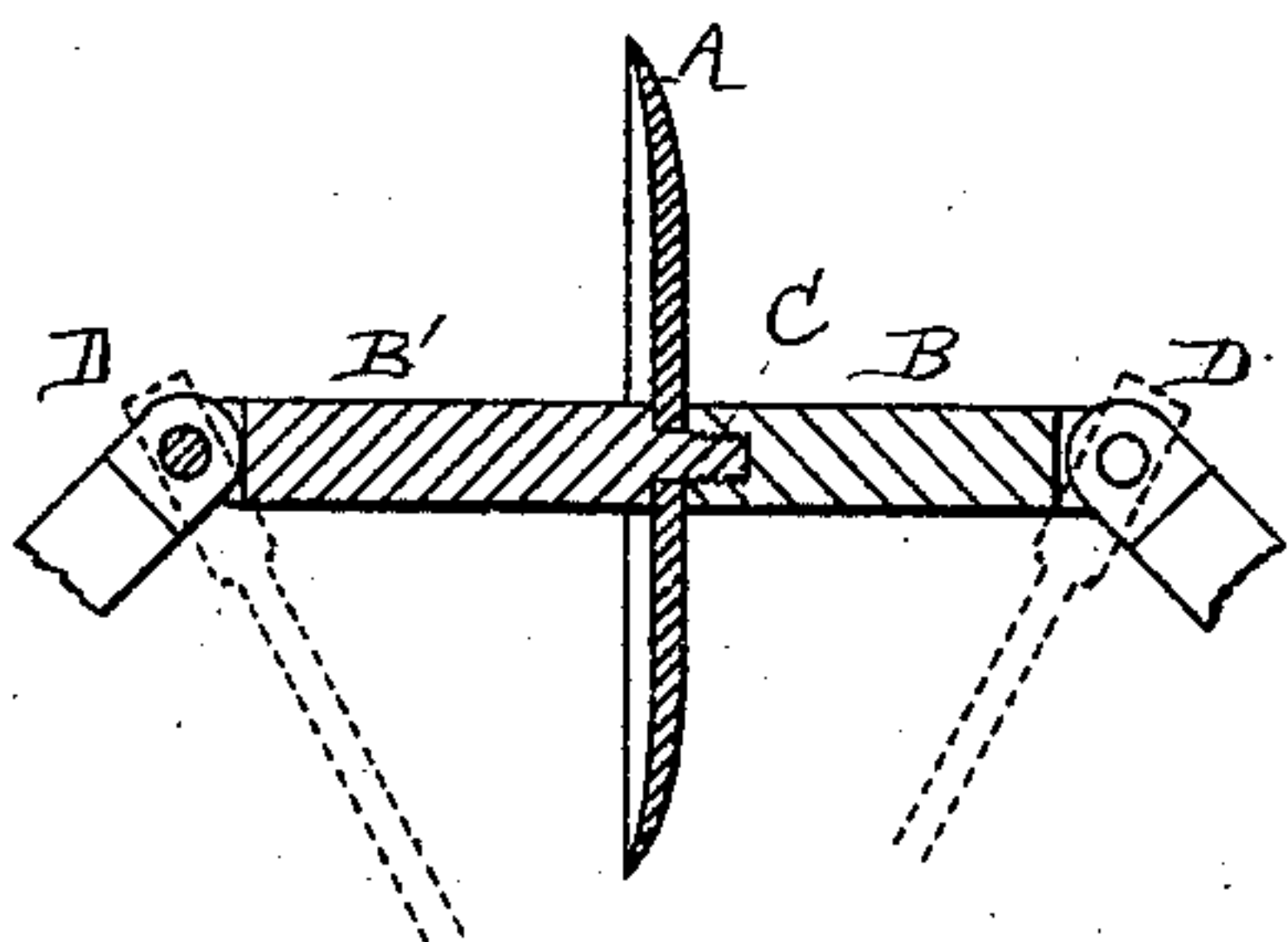


Fig. 1.

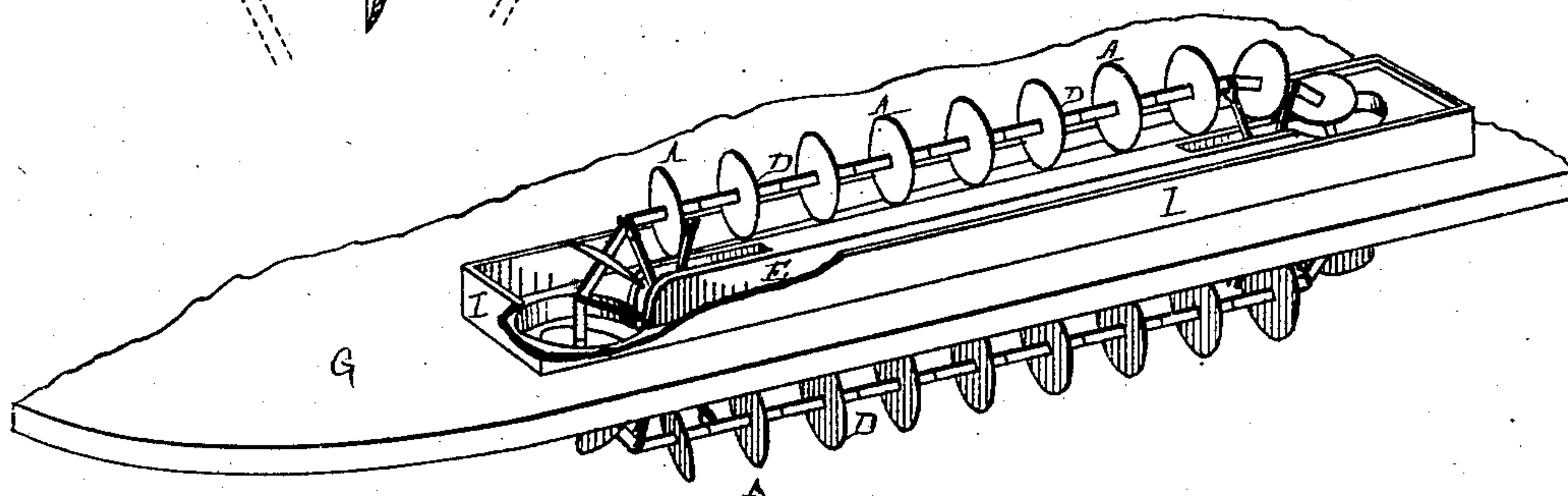
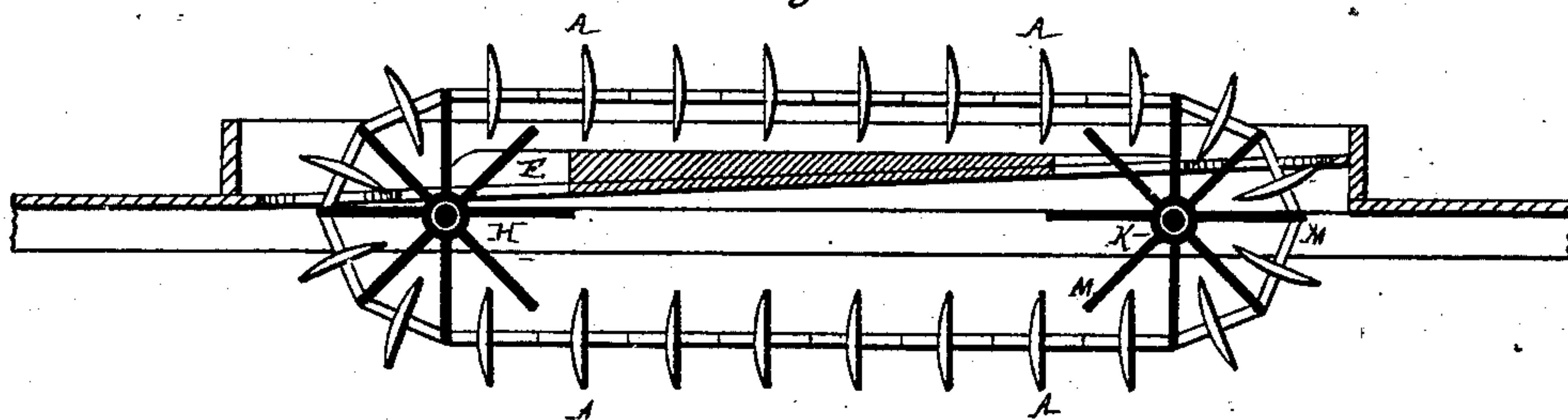


Fig. 2.



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# UNITED STATES PATENT OFFICE.

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## CHAIN-PROPELLER.

SPECIFICATION forming part of Letters Patent No. 272,159, dated February 13, 1883.

Application filed July 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, BARTHOLOMEW ROY, of St. Clair, in the county of St. Clair and State of Michigan, have invented new and useful Improvements in Steamboats; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

The nature of this invention relates to certain new and useful improvements in the construction of devices for propelling steamboats without the employment of the ordinary side paddle-wheels or the screw-wheel at the stern.

The invention consists in the peculiar construction and operation of the devices, as more fully hereinafter described.

Figure 1 is a sectional perspective of one side of a boat with my improved propeller attached; but each side of the boat in practice is provided with like propellers. Fig. 2 is a side elevation with the guards and shell removed. Fig. 3 is a detached and enlarged perspective of a portion of the endless carrier.

In the accompanying drawings, which form a part of this specification, A represents a series of slightly cup-shaped metallic disks, through the center of which is a round hole or aperture to receive the shaft of the screw C, which forms one end and a part of each link or bar of the carrier. The adjacent end of the other part of the link or bar is interiorly threaded, and the parts are secured together by screwing them together, with the disk secured between their abutting ends, the shoulders thereof holding said disks firmly in position. Each pair of these links or bars thus secured together, with a disk between their adjoining ends, forms one complete section of the carrier. These sections are secured to each other by means of any suitable pivotal joint. The bar, which is interiorly threaded, is marked B, and the one provided with the screw is lettered B', and the joint by means of which each section is secured to its fellow is lettered D. Across the boat is suitably journaled, prefera-

bly below the main deck, a shaft such as usually employed in side-wheel steamers. The ends of this shaft project outboard, and to each of these ends is secured a sprocket-wheel, H. A counter-shaft, K, is also suitably journaled in rear of and at a suitable distance from the main shaft, and on each side of the boat, and these counter-shafts are each provided with a sprocket-wheel, M. The endless carrier, with its bucket-disks, runs over these sprocket-wheels. Suitable openings in the guards are provided to allow the buckets to pass freely, and the space inclosing both these openings is surrounded by a frame, I, to confine the water that may be raised as the buckets come up out of the water in which the boat floats. The floor of this water-way inclines from the counter-shaft toward the main shaft, and is divided fore and aft by a partition-strip, E. By this arrangement the power that is wasted in lifting water as the buckets revolve around the sprocket-wheels is recovered by the lifted water running down the water-way onto the descending buckets.

A boat, G, provided with my propelling device can be run in shallow water, where it would be impossible to run the ordinary side-wheelers or those propelled by screws, for my device will operate to the best advantage where there is the less displacement.

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

1. In a chain-propeller, the links D, formed of the arm B, having threaded aperture, and the arm B', having threaded arm C, combined with the dishing disks A, the latter being clamped firmly between the arms B and B', as set forth.

2. The combination, with the sprockets H K and endless chain carrying disks A, of the water-way I, having inclined bottom, as and for the purposes set forth.

BARTHOLOMEW ROY.

Witnesses:

H. S. SPRAGUE,  
E. SCULLY.