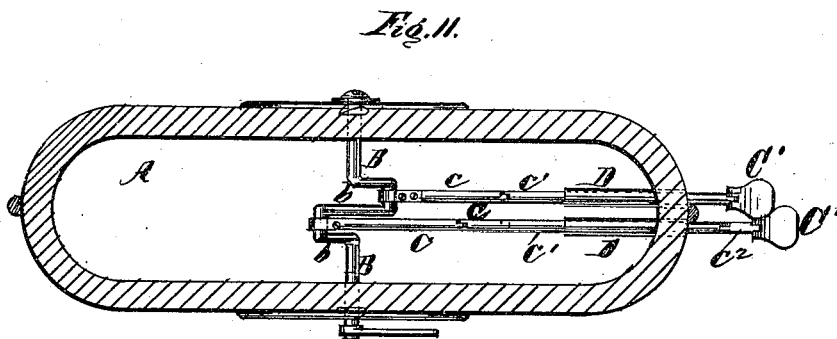
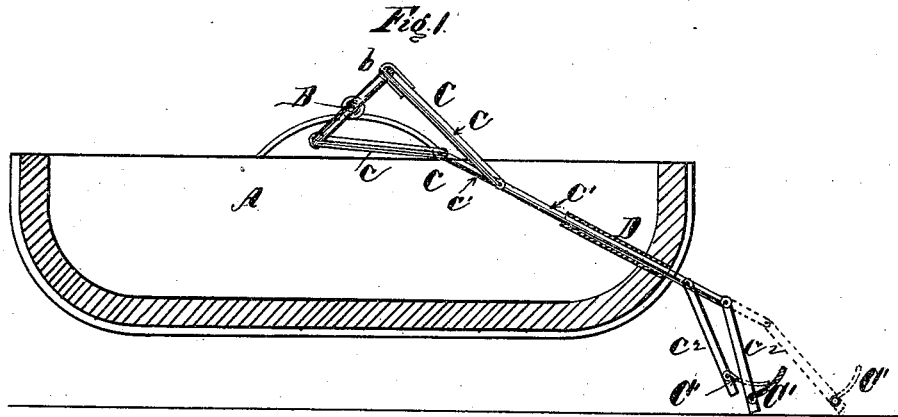


J. TASCHER.
CANAL-BOAT PROPELLER.

No. 193,196.

Patented July 17, 1877.



Witnesses:
J. Barrett
Richard Lerner

Inventor:
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UNITED STATES PATENT OFFICE.

JACOB TASCHER, OF CENTRAL CITY, COLORADO.

IMPROVEMENT IN CANAL-BOAT PROPELLERS.

Specification forming part of Letters Patent No. **193,196**, dated July 17, 1877; application filed June 8, 1877.

To all whom it may concern:

Be it known that I, JACOB TASCHER, of Central City, in the county of Gilpin and State of Colorado, have invented a new and useful Improvement in Device for Propelling Canal-Boats, of which the following is a specification:

This invention has for its object the construction of a propelling apparatus for moving canal-boats, the said apparatus consisting of a series of setting-poles of peculiar construction, so arranged in and attached to the boat that their forward or inner ends may be connected with a driving-shaft which shall operate them, and their rear or outward ends be arranged to push against the bottom of the canal, and thus push the boat forward.

The invention will be readily understood by reference to the drawings, of which—

Figure 1 is a longitudinal sectional elevation of a boat fitted with the improved propelling apparatus. Fig. 2 is a plan of the same.

The boat A may be of the usual or any approved form of construction for navigation on canals.

Across this boat will be placed a driving-shaft, B, which will be rotated by any suitable motor. This shaft will be provided with a series of two or more cranks, *b*, to which the propelling-rods C will be coupled by means of suitable wrist-joint connections.

The rods C will be two or more in number, and each of them will consist of three pieces, *c* *c*¹ *c*². The first of these, *c*, forms a connecting-rod, which couples the inner end of the rod *c*¹ with the crank *b* of the driving-shaft.

The rod *c*¹ forms the principal part of the length of the rod C, and passes through the guides D, which are fixed in the stern of the boat. These rods *c*¹ are given a direct reciprocating motion by means of the shaft B and the connecting-rods *c*¹, and the guides D hold them properly in their positions relatively to the boat.

The guides D, with their inclosed rods, are set at an inclined angle with the longitudinal axis of the boat, as shown in Fig. 1, so as to cause their outer ends to project downwardly toward the bottom of the canal.

The guides D are preferably made cylindrical in form and water-tight circumferentially, and fixed water-tightly to the stern of the boat, through which they pass, so that should they become submerged no water will enter through or around them to the interior of the boat.

To the exterior end of the rod *c*¹ is jointed the propelling-piece *c*², which is jointed to the piece *c*¹, so it may be moved, as indicated by the dotted lines of Fig. 1, so as to accommodate itself automatically to the asperities of the bottom of the canal.

On the lower end of the pieces *c*¹ are jointed foot-pieces *C'*, arranged to press flatwise against the canal-bottom, to prevent the rods sinking into the soft earth. The jointing of these pieces to the rods *c*² permits them to be withdrawn readily through the water without unnecessary friction.

In operation these rods will be successively placed against the canal-bottom, as in the act of walking a person's feet are moved.

The foot-pieces *C'* are intended to be made broad and flat, somewhat like a duck's feet, and when the depth of the water in the canal is too great to permit their touching the bottom they will press against the water like a paddle, and so act to propel the boat forward.

Having described my invention, I claim—
The propelling-rod C, formed in sections *c* *c*¹ *c*², and having a broad foot-piece, *C'*, at its outer end, while the rod C passes through the guide D in a sloping direction, and receives a reciprocating motion from the driving-shaft B, as and for the purpose described and set forth.

JACOB TASCHER.

Witnesses:

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