L. W. McKENNEY.

Propelling-Mechanism for Canal-Boats.

No. 167,553. Patented Sept. 7, 1875.

Fig. 2.

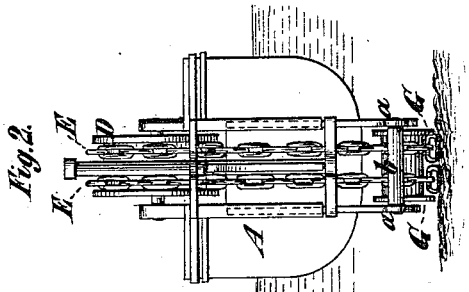
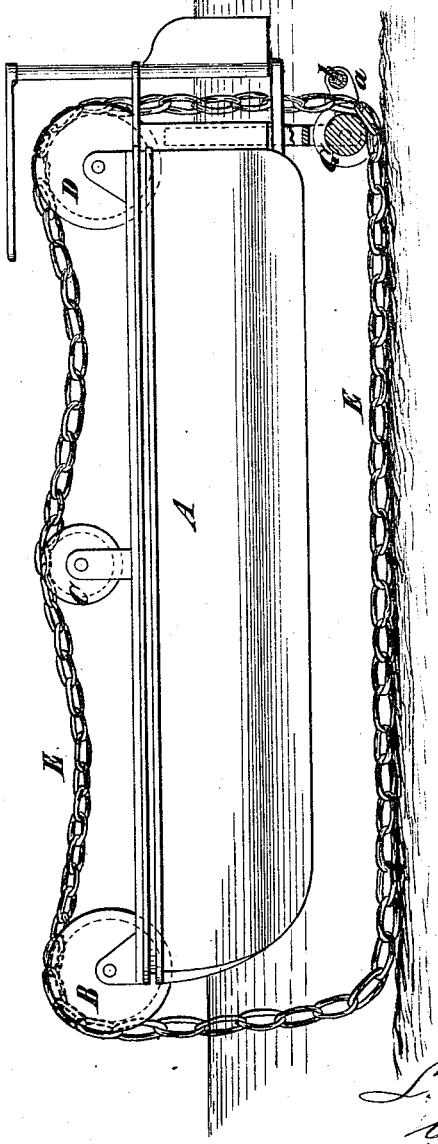


Fig. 1.



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UNITED STATES PATENT OFFICE.

LOUIS W. McKENNEY, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN PROPELLING MECHANISMS FOR CANAL-BOATS.

Specification forming part of Letters Patent No. **167,553**, dated September 7, 1875; application filed April 3, 1875.

To all whom it may concern:

Be it known that I, LOUIS W. McKENNEY, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Chain-Propellers for Canal-Boats and other vessels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention relates to a propeller consisting of one or more endless chains passing down from the bow of a boat or vessel to the bottom of the canal or other body of water, under the vessel and up over the stern thereof, the friction of the moving chains upon the bottom of the canal serving to effect the movement of the boat through the water. The inefficiency of this kind of propeller has been due in a great measure to the failure of the chains to lie upon the bottom under the entire length of the boat, and hence to obtain a good hold or purchase thereon. The object of the present invention is to obviate this difficulty; and to this end it consists in the combination, with a boat or vessel of one or more endless chains, their driving-pulley or wheel and guide pulleys upon the deck or other appropriate part of a boat, of a guide-pulley arranged so that it projects below the bottom of the boat, and preferably so that it may be adjustable up and down relative to the boat bottom, whereby the chains will be held to the bottom of the canal under the entire, or nearly the entire, length of the boat, and the efficiency of the propeller much increased.

In the accompanying drawing, Figure 1 is a side view of a boat provided with a chain-propeller, and embodying my invention, and Fig. 2 is a rear view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

A designates a boat suitable for use in canals, and provided above its deck with pulleys B C D, which support endless chains E E, and one of which drives the same. The chains pass over the pulley B at the bow of the boat downward to the bottom of the canal, lie upon the bottom of the canal under the entire length of the boat, and pass up over the pulley D at the stern of the boat. G designates a pulley arranged in a frame, H, secured to the stern of the boat so that it may be adjusted vertically relatively thereto. The lower portion of this pulley is designed always to project below the boat, and preferably as close as practicable to the bottom of the canal, in order to keep the rear part of the chain in contact therewith while being drawn up over the stern of the boat. The adjustment of this frame H, carrying the pulley G, may be effected in various ways. A serviceable mechanism for this purpose consists of toothed racks provided on the frame, and pinions arranged upon the boat. To prevent the chains from slipping off the pulley G the latter is provided with a guard, consisting of arms *a a* and a roller or cross-bar, *b*.

It is obvious that, as the roller G holds down the rear part of the chains and extends their bearing upon the canal bottom, it serves to materially increase their efficiency in propelling the boat.

I will remark that, when the boat is a "double-ender"—*i. e.*, adapted to travel either end foremost—a pulley, G, may be arranged at each end.

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

1. The combination, with a boat or vessel, a chain or chains for propelling the same, and pulleys for supporting and driving said chains, of a pulley or pulleys arranged at one or both ends of such vessel, with its periphery, or their peripheries, below the bottom of said vessel, substantially as herein set forth.

2. The combination, with the boat A and pulley G, of the frame H, carrying the latter and secured to the former, and adjustable vertically with reference to the same, substantially as herein set forth.

3. The combination, with the pulley G, of the guard *a a b*, substantially as and for the purpose herein set forth.

LOUIS W. McKENNEY.

Witnesses:

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