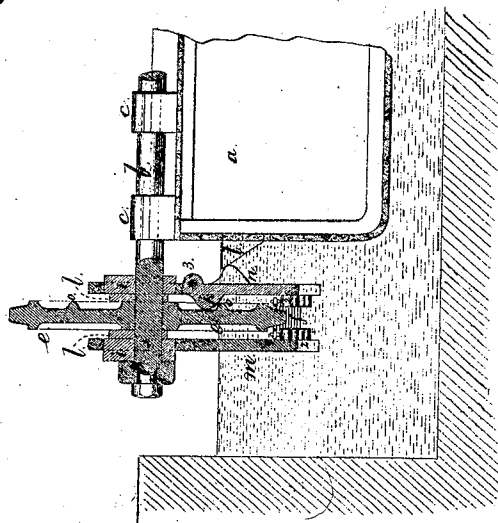
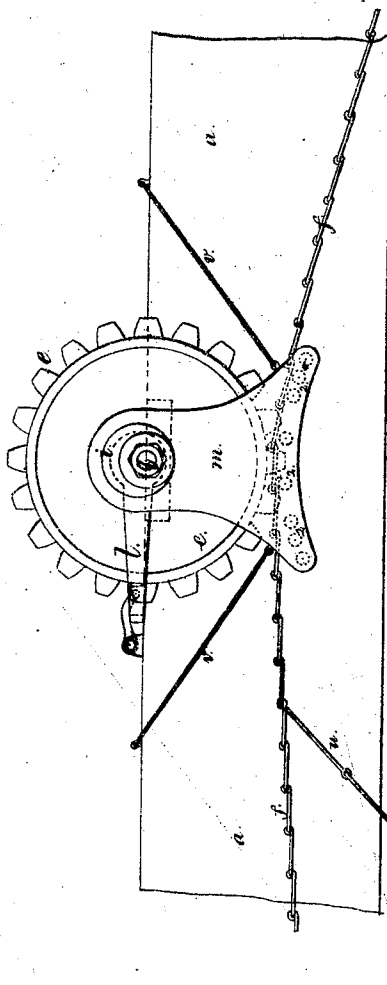


Propelling Canal Boats.

PATENTED AUG 8 1871

Fig. 1.



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UNITED STATES PATENT OFFICE.

MICHAEL N. CUMMISKEY, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN PROPULSION OF CANAL-BOATS.

Specification forming part of Letters Patent No. 117,869, dated August 8, 1871.

To all whom it may concern:

Be it known that I, MICHAEL N. CUMMISKEY, of Paterson, in the county of Passaic and State of New Jersey, have invented an Improvement in Propellers for Canal-Boats; and the following is declared to be a correct description thereof.

This invention relates to a means for connecting and disconnecting the motive power from a chain that lies in the water, and is connected at intervals to the bottom of the canal, especially where the canal is in a curved line. I make use of a chain-wheel driven by suitable power, and adapted to gearing into the links of the chain, and the chain is held up into contact with the said wheel by two-part suspending-jaws that are provided with rollers or ways for the chain, and between which the connections of the chain to the bottom pass as the boat moves along, and these jaws can be lowered when the chain is to be disconnected and simultaneously opened, so that the chain-wheel and chain separate and the chain is dropped whenever necessary. By this construction the chain can be attached to the bottom of the canal at any desired distance apart without the attachment interfering with the movement of parts that propel the boat and use the chain as the resistance, and the chain can be dropped in passing other boats or in entering locks.

In the drawing, Figure 1 is a side view illustrating the said invention, and Fig. 2 is a cross-section of the chain-wheel and suspending-jaws.

The portion *a* represents part of a canal-boat. The shaft *b* is mounted upon the boat and driven by any competent power. I prefer that the shaft *b* should be mounted in journals *c c*, and that these be in a swinging frame, so as to be swung over upon the deck when the entire apparatus is not required for use, a crane or other device being employed for lifting the apparatus. When the parts are in position for propelling the boat the end of the shaft *b* projects over the side and carries a wheel, *e*, having recesses or spurs adapted to take the links of the chain *f*. Around the shaft *b*, at each side of the wheel *e*, there are eccentrics *i*, connected by a yoke and handle, *l*, so that said handle can be easily used for turning the eccentrics half a revolution upon the

shaft *b*, and thereby raising or lowering the jaws *m n* that hang below said eccentrics, and have rollers 2 2 or guides for the chain to rest upon. If these jaws were only fitted to raise and lower, the chain *f* might be brought into contact with or relieved from the chain-wheel *e*, and thereby the chain-wheel *e* would be operative thereon, or not. I, however, give to the jaw *n* an additional movement as it is drawn up or down by the eccentric *i*. This jaw is hinged at 3, so that it may move laterally, and as the jaw is moved downwardly by the eccentric *i* the cam *k* takes against a rib, *o*, upon the wheel *e*, and opens the jaw so as to drop the chain; and upon the eccentrics being turned to draw the jaws up toward the wheel *e* (and hold the chain that is drawn up between the jaws *m n*, by hooks or otherwise) the cams or inclines *t* swing the jaw *n* toward the jaw *m*, and beneath the chain, so as to hold the same in a condition for the wheel *e* to operate upon it in propelling the vessel. The chain *f* is connected by the wire ropes or links *u* with stakes or other means of attachment at the bottom of the canal, and as the boat passes along the said rope or link *u* will not obstruct the movement, in consequence of the opening for the same between the jaws *m* and *n*.

The chains *v* may be employed for keeping the jaw *m* in its position. Links attached to the jaw *m*, and hooking into eyes in the sides of the vessel, may be employed for sustaining the jaw *m* against lateral strain, and these may take the place of the chains *v*, or be used in addition.

I claim as my invention—

1. The jaws *m n*, suspended from the eccentrics *i* upon the shaft *b*, and provided with rollers 2 or guides for the chain *f*, in combination with the chain-wheel *e*, substantially as and for the purposes set forth.

2. The hinged jaw *n* and cams *k* and *t*, in combination with the jaw *n*, eccentrics *i*, and chain-wheel *e*, for the purposes and as set forth.

Signed by me 1st day of June, A. D. 1871.

M. N. CUMMISKEY.

Witnesses:

CHAS. H. SMITH,
GEO. T. PINCKNEY.