E. & J. McCREARY.

Improvement in Steering Devices for Canal Boats.

No. 125,684. Patented April 16, 1872.

Fig. 1.

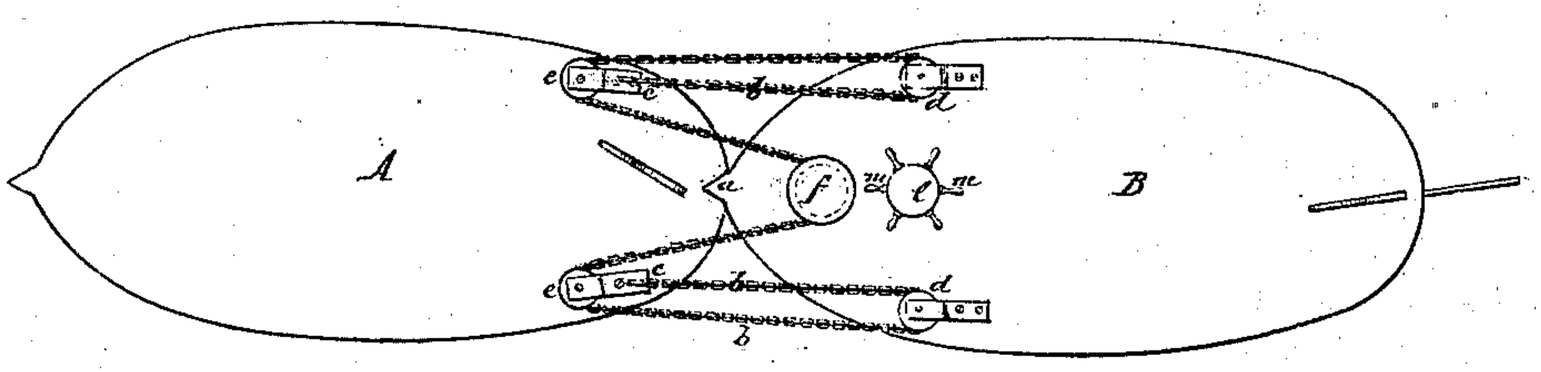
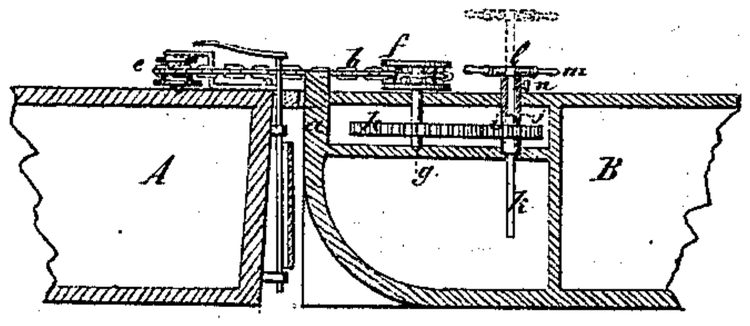


Fig. 2



Witnesses:

E. G. Siggers
Thos. D. Donald

Inventor:

E. McCreary.
J. McCreary.

Per Munn & Co

Attorneys.

UNITED STATES PATENT OFFICE.

ELIJAH McCREARY AND JOHN McCREARY, OF MIDDLETOWN, PENNA.

IMPROVEMENT IN STEERING DEVICES FOR CANAL-BOATS, &c.

Specification forming part of Letters Patent No. 125,684, dated April 16, 1872.

To all whom it may concern:

Be it known that we, ELIJAH McCREARY and JOHN McCREARY, of Middletown, in the county of Dauphin and State of Pennsylvania, have invented a new and Improved Coupling and Steering Device for Canal-Boats, Barges, &c.; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a top view, and Fig. 2 is a longitudinal sectional elevation.

This invention relates to boats, barges, scows, or any kind of craft suited for use on smooth water and coupled together, a vertical groove being formed in the stern overhanging guard or bumper of the forward boat, which groove is entered by the cut-water of the hinder boat, a chain being used for connecting the boats, which chain is so connected with a train of gear-wheels placed in the hinder boat as to enable both boats to be steered by means of a windlass connected with the aforesaid train of gear-wheels, and hence moving the chain so as to turn the forward boat to either side.

Referring to the drawing, A is the forward boat, the same having a groove in its stern overhanging guard or bumper. B is the hinder boat, whose cut-water *a* enters the aforesaid groove. *b* is a chain, both whose ends are fastened to the boat A at the points *c*, from which points the chain runs back to and around horizontal sheaves *d* secured to the deck of the boat B, from which sheaves the branches of the chain extend forward to and around horizontal sheaves *e* secured to the deck of the boat A, and from the sheaves *e* the chain runs back to and around a chain-wheel, *f*, secured to the deck of the boat B, near the bow thereof. The chain-wheel *f* is placed upon a vertical shaft, *g*, which extends downward through the deck of the boat B, and bears near its lower end, beneath said deck, a spur-gear, *h*, Fig. 2, which engages with a spur-gear, *i*, placed on a tube, *j*, that extends parallel to the shaft *g* through the deck, which tube incloses a sliding bar, *k*, that bears a wheel, *l*, at its top, said disk being armed with handles *m*. The tube *j*, bar *k*, and wheel *l* together form a windlass, by means of which the gears are turned through the instrumentality of the handles *m*. The rotating of the gears *h i* effects the turning of the chain-wheel *f* and the consequent drawing of the chain so as to turn the front boat to either side, the movements of the front boat governing those of the rear boat. Thus both boats are steered by one man stationed at the wheel *l*. The bar *k* is made sliding, in order that it may ordinarily be raised high enough to bring the wheel *l* within convenient reach of the steersman, and, when bridges are to be underrun, to be lowered so as to put the wheel out of danger of hitting the same. A set-screw, *n*, enables the bar *k* to be fastened at any required height.

It will be seen that, by placing the notch into which the projecting cut-water fits in an overhanging guard at the stern of the boat, as is shown and described, the two adjacent ends of the boats, at whatever inclination to the horizon they may lie in the water, can never come in contact except at that point, the said cut-water and notch forming a universal joint which allows the boats to assume any angle to each other, either vertically or laterally, without separating at said point of contact. It will also be seen that our coupling-chain performs the double service of coupling and holding the boats together and steering them, no other coupling device being used.

We are aware rafts have been so connected with a steering boat or barge, by means of a rigid pivoted bar and a cord or chain, as to allow of an operation in some measure analogous to that displayed in our invention.

We are also aware that an English patent was granted to one William Hammond Bartholomew, in 1862, for a device for steering a train of boats, coupled together, by means of a chain passing around a windlass on the rear boat and extending to the forward boat, and each boat in the train having a projecting cut-water on its forward end, fitting into a vertical groove in the stern of the next forward boat, from the deck to the bottom of the boats; but said boats were not coupled and held together by means of the chain alone, nor did the chain pass around a system of pulleys to increase the power applied to the steering-windlass.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. Two boats or barges, A and B, fitted together by means of a projecting cut-water fitting into a notch in an overhanging guard, as described, and coupled and steered by means of a chain or rope, having its ends fastened to the forward boat and passing around pulleys *d d e e* and the wheel *f*, substantially as herein set forth.

2. In combination with the subject-matter of the foregoing claim we also claim the chain-wheel *f*, the steering-wheel *l m*, the pinion *i*, the bar *k*, and tube *j*, all combined and arranged to operate substantially as described.

ELIJAH McCREARY.
JOHN McCREARY.

Witnesses to both signatures:
J. SCHAEFFER,
W. M. LANMAN.