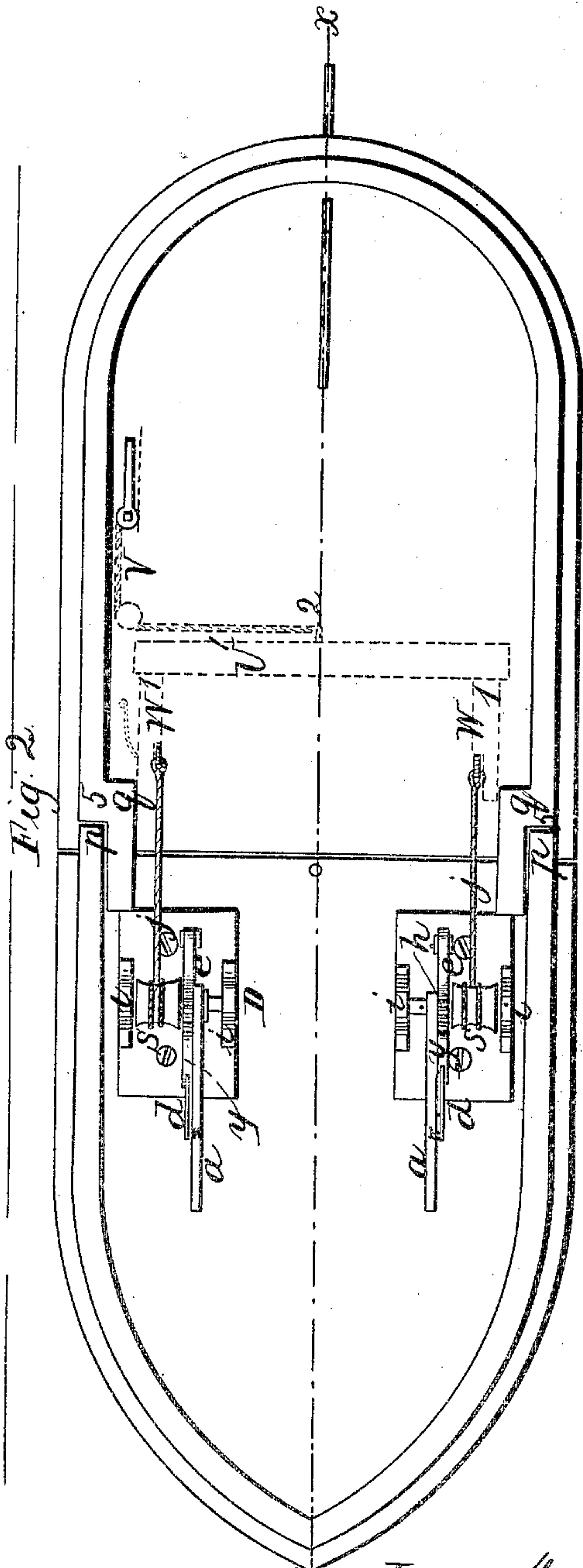
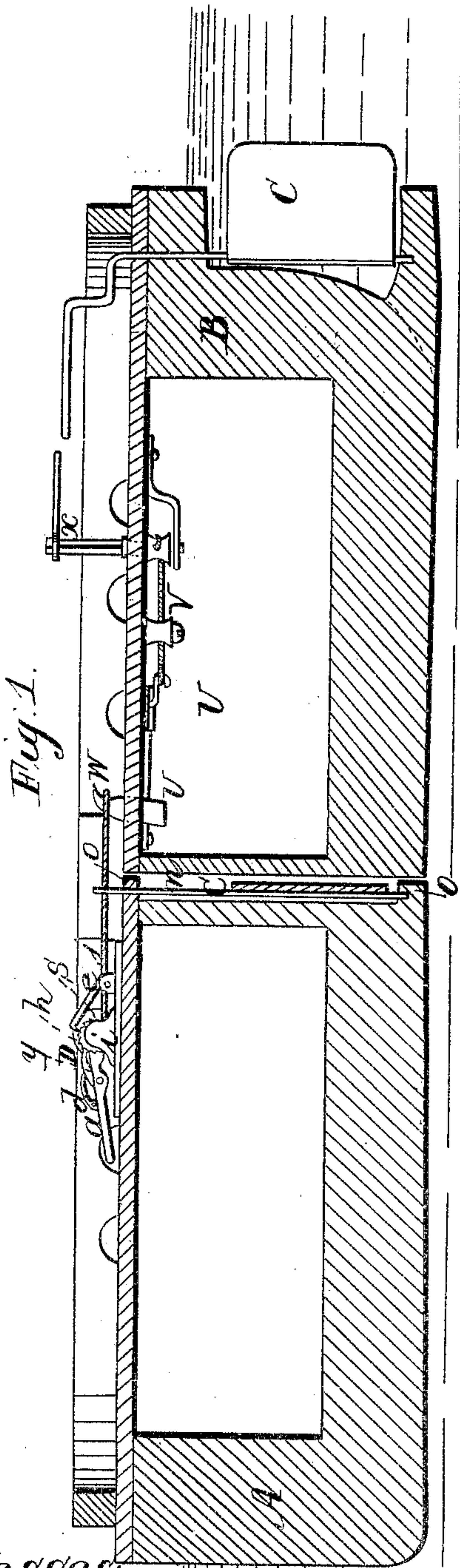


# E. Heath. Towing.

No. 45,039.

Patented Nov. 15, 1864.



Witnesses;  
C. L. Topliff  
Henry Allison

Inventor;  
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per Munroe  
attn. 90



# UNITED STATES PATENT OFFICE.

ELDRIDGE HEATH, OF ROCHESTER, NEW YORK.

## IMPROVED SECTIONAL BOAT.

Specification forming part of Letters Patent No. 45,039, dated November 15, 1864.

*To all whom it may concern:*

Be it known that I, ELDRIDGE HEATH, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Sectional Boats; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents an elevation of a vertical longitudinal section of a canal-boat, which contains my improvements, taken on the line *x* in Fig. 2. Fig. 2 is a plan view of the boat.

Similar letters of reference indicate like parts.

My improvements can be applied to any form and character of boat which is or may be used in navigating quiet waters.

I have shown a boat composed of only two sections, but my invention is equally applicable to a greater number.

A is the forward section, and B the aft section, of the boat. Each is to be provided with a steering apparatus, which is here represented by a rudder-blade, C, and stern-post and handle, fixed in the stern of each section; but in practice I prefer a wheel which I mean to place on the forward part of section B, so that the helmsman shall be nearly in the center of the boat in this example of my invention, and thus be within the reach of the lever *x*, which operates the machinery or dead-eyes for disconnecting the sections, and near at hand to assist in connecting the same.

U represents the arrangement of the ordinary dead-eyes for casting off the tow-line from canal-boats while the team is pulling, and it consists in hooks W, which are pivoted in or about the level of the deck-floor at either side of the deck, the hooks being above the deck, so as to take into the eyes of the connecting ropes or chains *j*, and their shanks, which are heavier than the hooks, extending below the deck, where they intersect latches 1, secured to the under side of the deck, their inner ends being each jointed to the horizontal connecting plate or rod U', to which the rope or chain V is fastened at 2. The chain V is carried along through pulleys to a vertical windlass or shaft, *x*, whose arbor extends through the deck, where it is operated by a

crank or other suitable device. A spring bears against the frame of the dead eyes, as at 3, where a spring is shown bearing against one of the latches 1 in a direction against the pull of the chain V, so that the latches will always be in a line at right angles to the plate or rod U', and thus be always in position to lock the shank of the hooks W.

The operation is as follows: When it is necessary to disconnect the sections, the helmsman turns the crank of the windlass *x*, which takes up the rope V and draws the plate U' to one side, and thus detaches the jointed latches 1 from the shanks of the hooks W, which will then yield to the strain of the ropes *j* and incline to the forward part of the section, so that the eyes of the ropes will slip over them. The weight of the shanks of the hooks W will assume a vertical position so soon as as the ropes *j* are cast off, so as to bring them again in position to be caught by the latches 1.

Upon the aft part of the deck of the forward section, B, I place two windlasses, D, in line with the hooks of the dead-eyes, whose shaft and pulley S are rigidly secured to a ratchet wheel, *h*. A pawl, *y*, is hinged to a pawl-arm, *a*, which is free upon the shaft of the windlass, and a spring, *d*, keeps the pawl in contact with the ratchet. On the opposite side of the windlass is a hook detent, *e*, which engages the ratchet and prevents the backward rotation of the windlass. Each windlass is constructed alike. Its operation is evident from the drawings, without further description.

A cavity or recess, *n*, is formed between any two sections of the boat, at their junction, in order to receive the rudder of the forward section and its appurtenances. It is made in this example of my invention by extending the shell of the forward section on its bottom, sides, and deck, as at O, so as to meet the shell or planking of the aft section, which is flush with the forward wall of that section; or, the shell or planking of each section may project beyond the frame of their sections so that the cavity *n* shall be formed of the sum of the recesses in each section.

The rails *p* of the forward section of the boat extend aft beyond its stern, as shown in Fig. 2, and rest upon the deck of section B. The rail *q* of that section is likewise extended so as to rest upon the deck of section A, being



enlarged at that part so as to permit a shoulder, 5, to be formed on it to receive the end of the rail *p*. Both rails may be formed with shoulders, if that plan is preferred.

The extensions of the rails *p* and *q* are to be securely locked or attached in any convenient way to each other and to the sections when they are thus lapped.

This method of interlocking the sections of a boat by extending their rails over the decks of each other in connection with the windlass and chains forms a very secure and rigid connection, sufficient for all practical and useful purposes in smooth water, and each two adjacent sections must be so trimmed that the bow of the one—say, A—and the stern of the

other—say, B—shall be a trifle deeper in the water than the ends which are joined together.

I claim as new and desire to secure by Letters Patent—

1. The recess or cavity *O* between two adjacent ends of the sections of a boat, substantially as described.

2. The combination of the windlass and chain, the dead-eye arrangement *U*, and the extended rails *p* and *q*, for the purpose of connecting adjacent sections of a boat, substantially as described.

ELDRIDGE HEATH.

Witnesses:

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