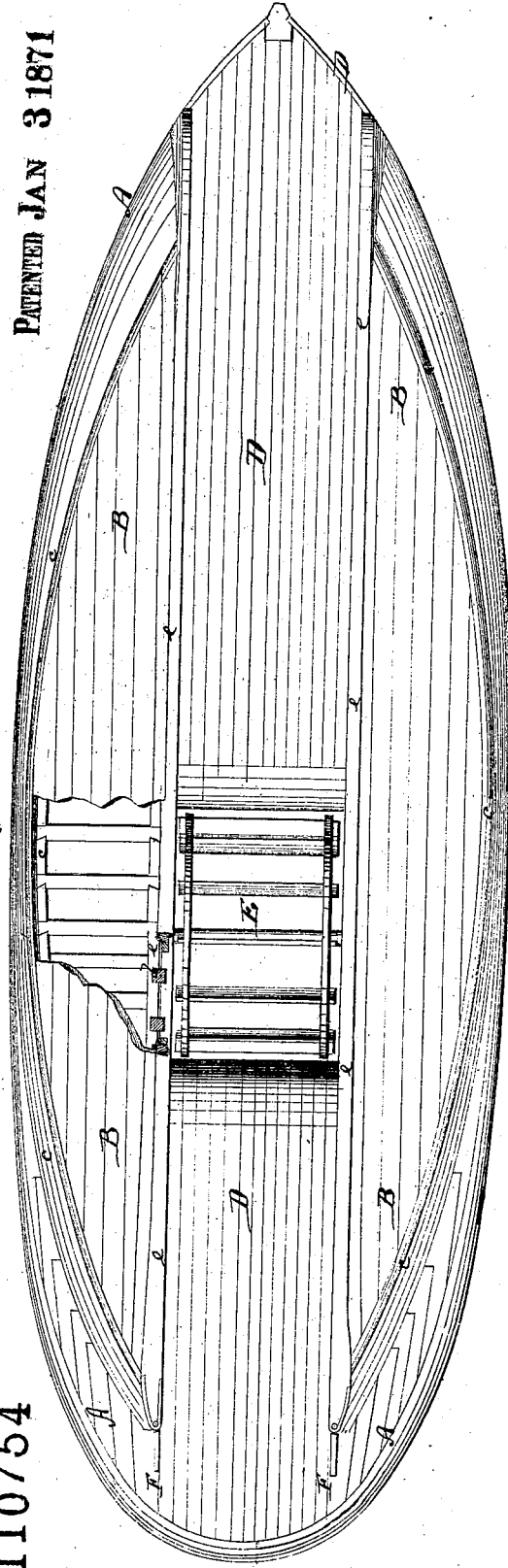


W. Erverson, Tug for towing Canal Boats.
Fig. 1.

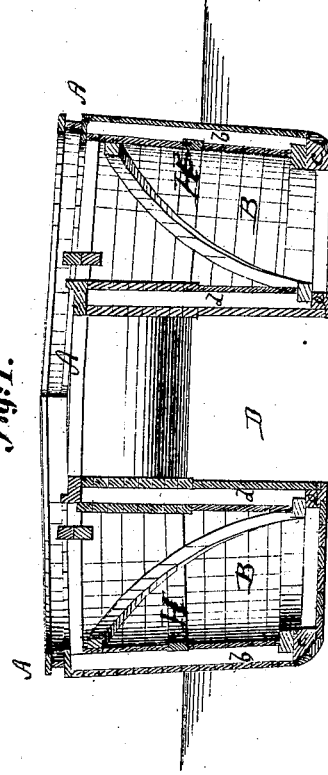
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PATENTED JAN 3 1871



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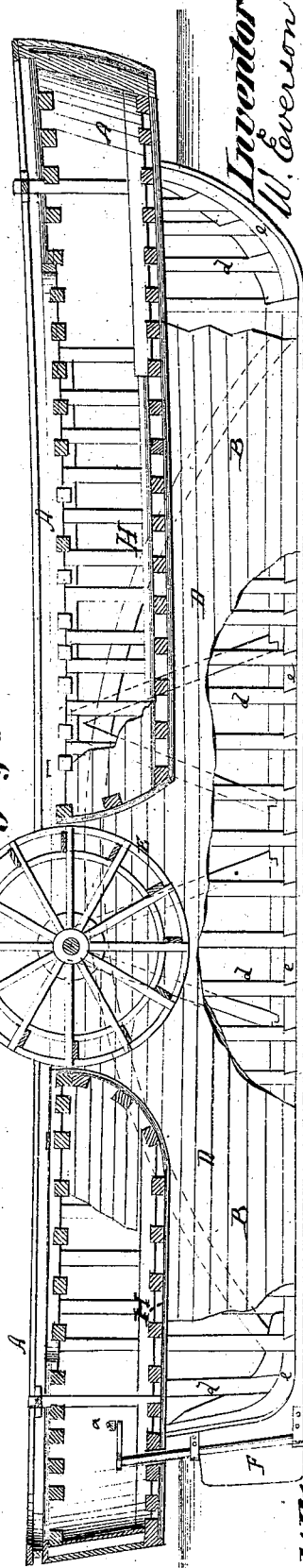
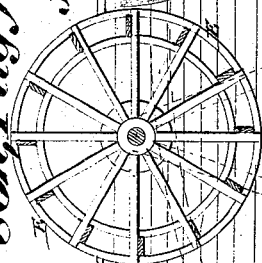
Fig. 1.



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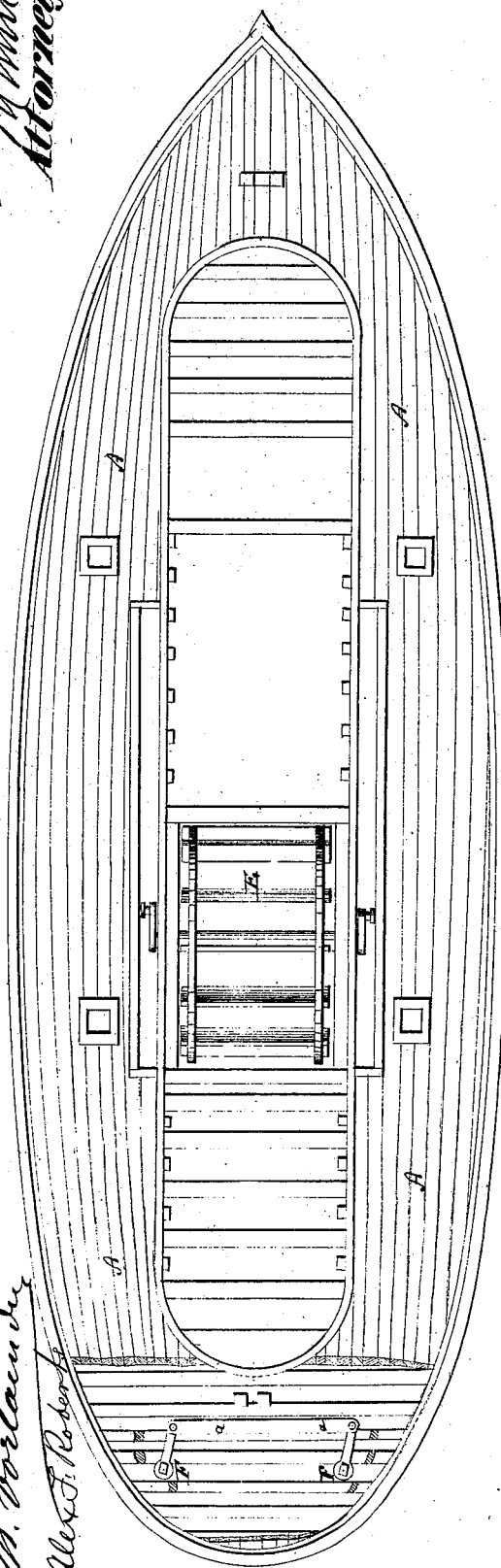
W. Everson Tug for Towing Canal Boats.

Fig. 3.



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Fig. 4.



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United States Patent Office.

WALTER EVERSON, OF NEW YORK, N. Y.

Letters Patent No. 110,754, dated January 3, 1871.

IMPROVEMENT IN TUGS FOR TOWING BOATS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WALTER EVERSON, of the city of New York, in the county and State of New York, have invented a new and improved Tug for Towing Canal-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 drawing forming part of this specification.

Figure 1 represents an inverted plan view, partly in section, of my improved tug for canal-boats.

Figure 2 is a vertical transverse section of the same.

Figure 3 is a vertical longitudinal central section of the same.

Figure 4 is a plan or top view, partly in section, of the same.

Similar letters of reference indicate corresponding parts.

This invention is especially designed for use on canals; and

Its objects are to secure strength and compactness of construction, with increased efficiency in towing, and to prevent the washing of the banks by obviating the usual side swell; the two last-named results being secured by a form which is such as to confine the water acted upon by the wheel in a longitudinal channel of the hull, so that its expulsion is directly backward; and

It consists in forming the tug with a two-deck hull, with its lower hold divided by a central longitudinal water-channel having parallel and vertical sides, forming twin lobes or sub-hulls on each side, and with stanchions extending from the keel-timbers to the upper deck, both on the sides of the central channel and the outer sides of the boat.

In the drawing the construction is most clearly shown in figs. 2 and 3—

A being the upper portion, comprising the space between the upper deck and the lower or intermediate deck H;

B B, the two sub-hulls; and

D, the water-channel.

The stanchions *d d* extend from the keel-timbers *e* to the upper deck, the timbers of which and the intermediate deck H are framed thereto, and the outer stanchions *b b* are in the same manner continuous from the bottom of the sub-hulls to the upper deck.

The deck-timbers H extend from outside to outside of the hull, except where they are cut through to form a space for the reception of the wheel E, and are planked and caulked on the under side in the space between the sub-hulls.

Two rudders, F F, are employed, one to each sub-hull, their arms being connected by the rod *a a* so as to operate together.

The inner sides of the sub-hulls are straight and parallel, but may be curved on the outer side, according to approved modes of marine construction.

The channel D forms a trunk or passage-way, in which the water is set in motion by the paddle-wheel or other propeller, and escapes freely, but is confined to a course which is directly astern, whereby its force is measurably expended in driving the boat forward. The sub-hulls prevent the spreading of the currents laterally, thereby preventing the washing of the banks.

The construction greatly increases the strength of the vessel, there being a double set of stanchions in the intermediate upright timbers *d d*, which, with the planking and double keel and deck-timbers, all connected therewith, make the hull to consist virtually of five longitudinal connected trunks or tubes, whereas a two-decked vessel of ordinary construction would represent one trunk only, with a horizontal partition.

Heretofore boats have been constructed with a single deck or platform resting upon two separate hulls, each of complete form in itself; but such hulls are formed with convex inner as well as outer sides, and do not form the same parallel vertical sided water-way, and hence are not effective either in confining the currents from spreading or in aiding in the propulsion of the boat; and the hulls, being only connected by a single deck, do not possess the strength of structure or unity of plan which belongs to my invention, but are especially weak in that the action of one hull in undulatory water produces, by leverage, a strain upon the deck connection with the other, tending to dis sever them—an effect which cannot occur in my mode of construction.

The lobes or sub-hulls of my tug represent, in form, an ordinary hull bisected longitudinally and separated, but in structure they are so united by the combination of the intermediate timbers and walls as to form a unitary hull of extraordinary strength.

I claim as my invention—

A hull constructed of the body A and twin sub-hulls B B, formed by the vertical stanchions *d d*, said sub-hulls, together with the intermediate deck H H, forming a parallel water-way from stem to stern, substantially as and for the purposes set forth.

WALTER EVERSON.

Witnesses:

GEO. W. MABEE,
ALEX. F. ROBERTS.