

J. J. & J. McCausland.
Ship Building.

N^o 21,572.

Patented Sept. 21, 1858.

Fig. 1.

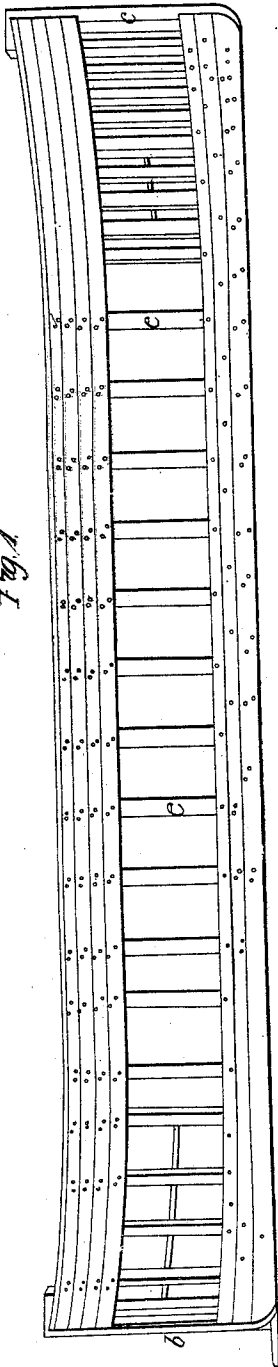


Fig. 2.

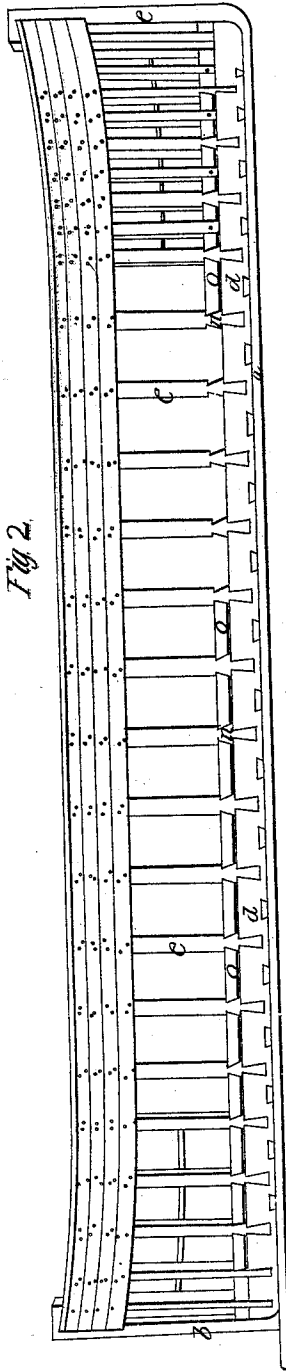


Fig. 3.

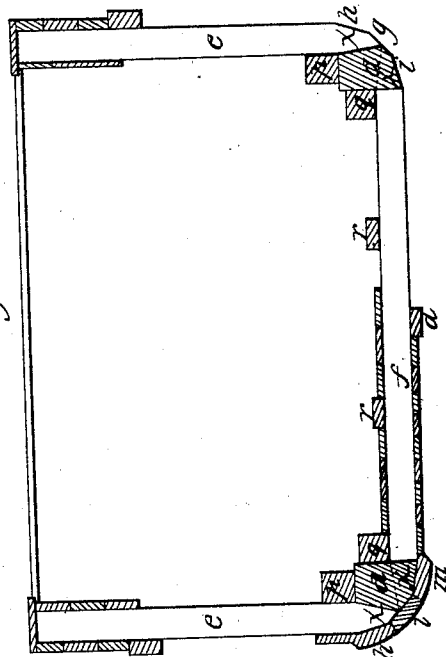


Fig. 4.



UNITED STATES PATENT OFFICE.

JOHN McCAUSLAND, OF KINGSTON, AND JEFFERSON McCAUSLAND AND JAMES McCAUSLAND, OF ESOPUS, NEW YORK.

CANAL-BOAT.

Specification of Letters Patent No. 21,572, dated September 21, 1858.

To all whom it may concern:

Be it known that we, JOHN McCAUSLAND, of the town of Kingston, county of Ulster, and State of New York, and JEFFERSON McCAUSLAND and JAMES McCAUSLAND, of the town of Esopus, in the same county and State, have invented certain Improvements in the Construction of Canal-Boats and other Flat-Bottomed Vessels; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, and to the letters and marks thereon.

Of the drawings Figure 1, is a side view of a canal-boat, with a portion of the planking omitted to show the vertical or side timbers; Fig. 2, is a like view of a canal-boat, with the lower portion of the planking omitted, so as to show the dove-tailing of the timbers into the bilge-timber, with the chucks or thrust pieces between the side timbers omitted in a section of the structure; Fig. 3, is a transverse section of the boat, on a vertical line; and Fig. 4, a transverse section of one of the fore-and-aft pieces, on top of the floor timbers, and by the side of the bilge-timber, diagonally divided, as we propose sometimes to use it.

The usual manner of constructing canal-boats is to arrange the side and floor timbers in line with each other, the curved ends of the floor timbers and the curved ends of the side timbers jutting against each other, with a futtock, or break-joint curved piece of timber, on one side of the joint spiked to both of the timbers. This plan of construction involves the necessity of obtaining pieces of timbers naturally curved, which have of late years become very scarce. The plan also has defects, such as a weak bilge; the requiring of planking to be frequently renewed; the flooring and ceiling throughout, and the early decay of the timbers and planking.

In our invention we have endeavored to overcome the difficulties arising out of the want of pieces of curved timber, by using straight timber; and to remedy the other evils of the usual structure of boats, by having bilge-timbers, and by making full provision to remedy the decay of the timbers and planking and ceiling and flooring.

In constructing our boat we have a stick of timber, marked on the drawing (a), running fore and aft, which is connected to the stem and stern posts (b, c,) by a knee or chuck extending far enough out on the bilge-timbers to get sufficient fastening through them and give ample strength to the bow and stern. The bilge-timbers (d) extend from the stem to the stern post, and may be 8 by 12 inches square or larger as the size of the vessel may demand. To the bilge-timbers, it will be seen, the side timbers (e) and the floor timbers (f) are secured by dove-tailed joints, the dove-tails tapering off as is shown by Fig. 3, at (x). The outer and lower corner of the bilge timbers is beveled (g) and an inclined face both above (h) and below (i) is also given to allow of the planking of the bilge timbers. The plank to the three faces will form a gradual turn and will fully protect the bilge timbers from exposure to the water and from being bruised and broken away. These planks are shown by Fig. 3 at the left hand and indicated by the letters (k, l, m). A second dove-tail on the side timbers is marked (n) which is formed to receive the dove-tailed chucks (o). These chucks fit in between the side timbers and are fastened by spikes to the bilge-timber and to a fore-and-aft piece (p) of the length of the bilge-timber, lying above it and inside of the side timbers. Another fore-and-aft piece (q) extends along the side of each bilge-timber and above the floor timbers being fastened to both floor-timbers and bilge-timbers. Keelsons (r, r,) are placed directly under the hatch combings so as to receive two stanchions under each beam. No ceiling is intended to be placed between the bilge and the clamps. If deemed desirable one row of ceiling may be passed above the fore-and-aft piece (p) which will form spaces for salt if it be thought best to use it, and pieces may be fitted in between the timbers as covers to each salt space. We contemplate also making provision for salt recesses by modifying the fore-and-aft piece (p), by dividing it diagonally as is represented by Fig. 4, the space between the inclined face (s) and the faces opposite to it forming the salt recesses or chamber, which may be covered or not as preferred.

In constructing boats upon our plan, the various pieces of timber can be spiked or bolted as is customary in building vessels, and transverse, diagonal, and other braces and thrust pieces may be used as may be deemed necessary.

It will be perceived that boats made on our plan will be of excellent strength, very durable, and will have very full provisions for easy repair.

The bilge, a very important part in all flat bottomed vessels, will be very strong, of good form and perfectly protected. By dispensing with ceiling between the bilge and the clamps, which we are enabled to do by virtue of the second dove-tail and chucks, the side timbers will be kept in better condition and more room exist for the cargo. Alternately attaching the floor timbers and the side timbers to the bilge-timbers is also regarded as very advantageous in this class of vessels.

Having thus fully set out our invention, what we claim as new and desire to secure by Letters Patent in the construction

of canal boats and other flat bottomed and vertical sided vessels, is—

1. Interposing the bilge-timbers between the floor timbers and the side timbers, substantially as, and for the purposes herein set forth.

2. Beveling the edge of the bilge-timbers and forming a face on either side of the beveled face, for the fitting on of the bilge plank in a gradually rounding line as herein described.

3. The second dove-tail in the side timbers, with the chuck between the dove-tailed faces and the bilge timbers, as an arrangement of means for adding strength to the vessel as herein set forth.

This specification signed at Esopus, Ulster Co., State of New York, this 18th day of Aug. 1858.

JOHN McCAUSLAND.

JEFFERSON McCAUSLAND.

JAMES McCAUSLAND.

Witnesses:

M. MORTON,

L. W. ROUSE.