

# A. Van Order Canal Boat.

N<sup>o</sup> 2,268.  
33,272.

Patented Sept. 10, 1861.

Fig. 1.

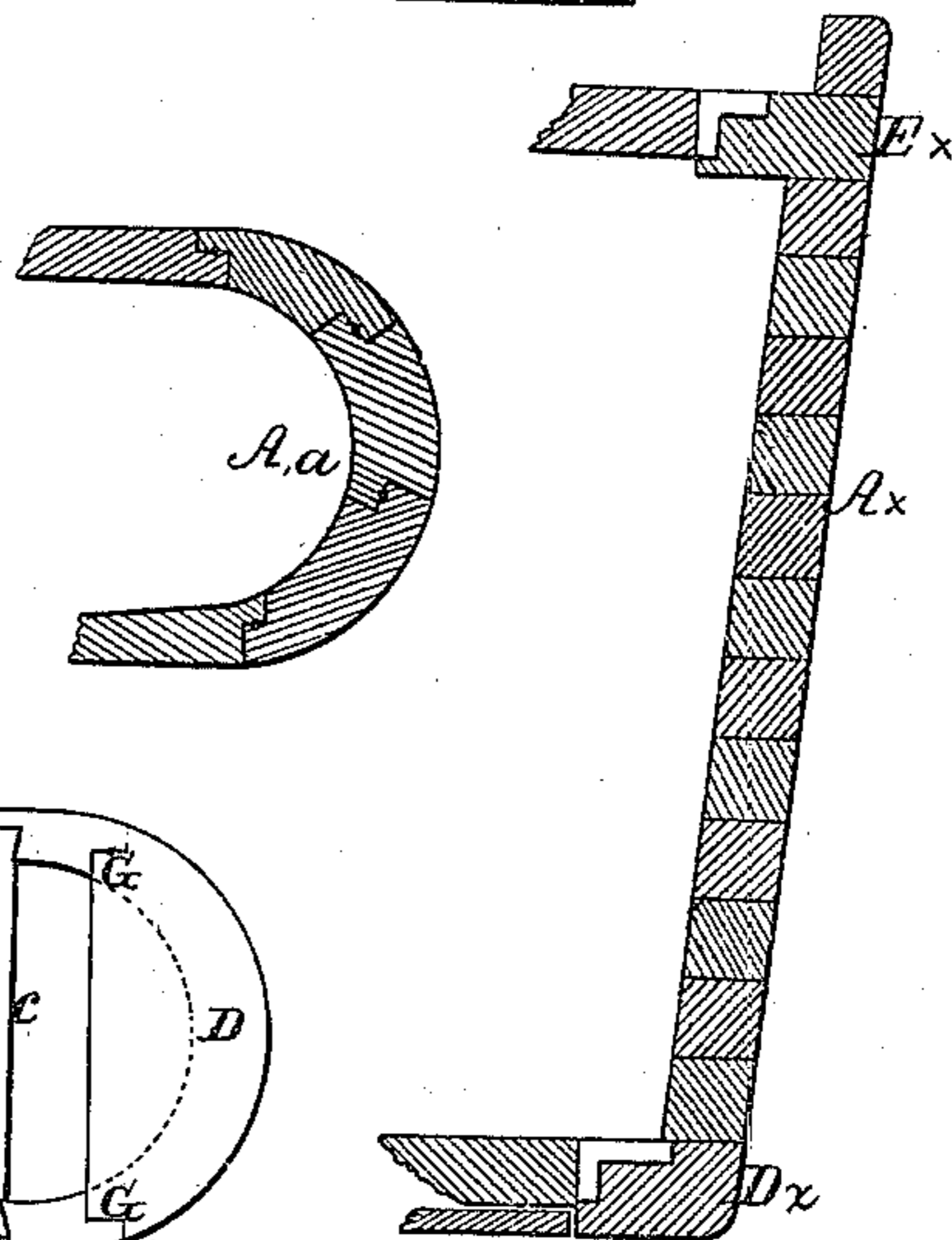
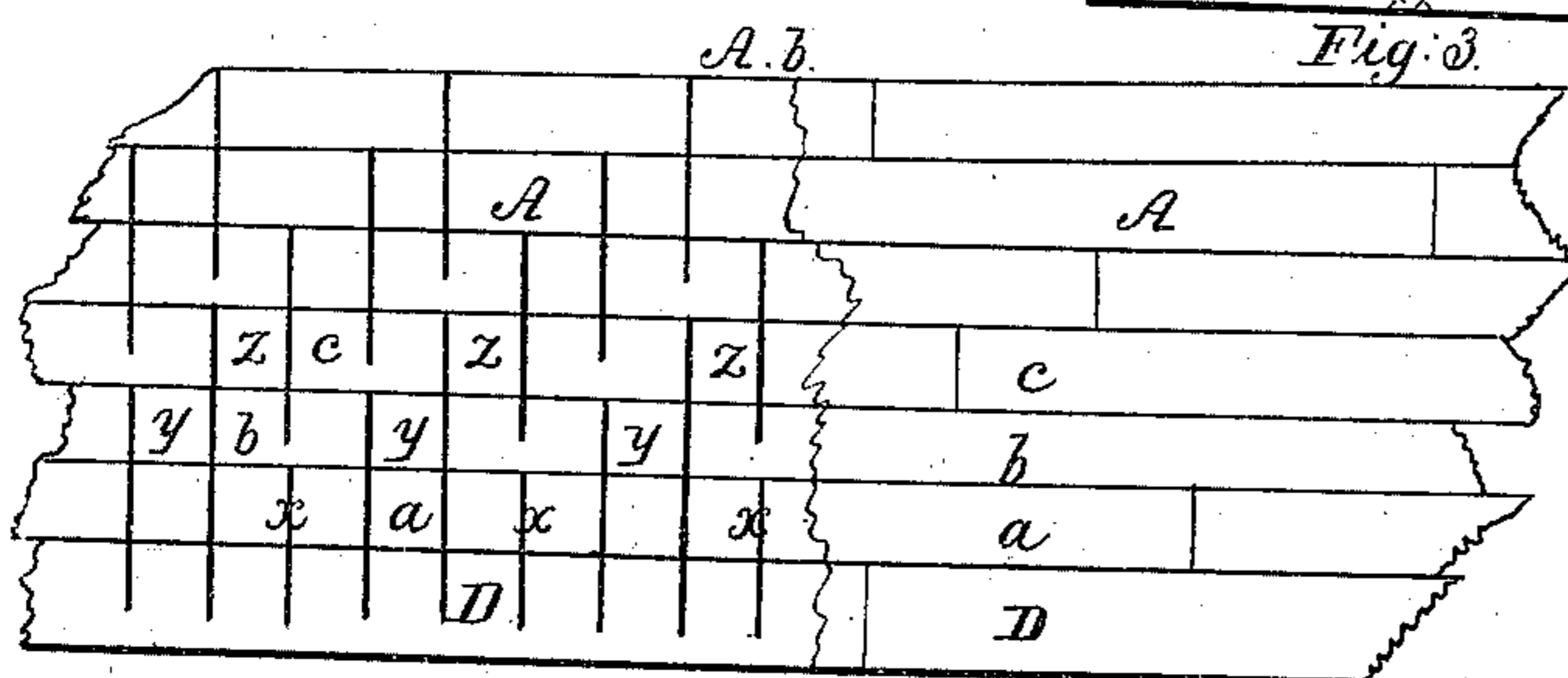
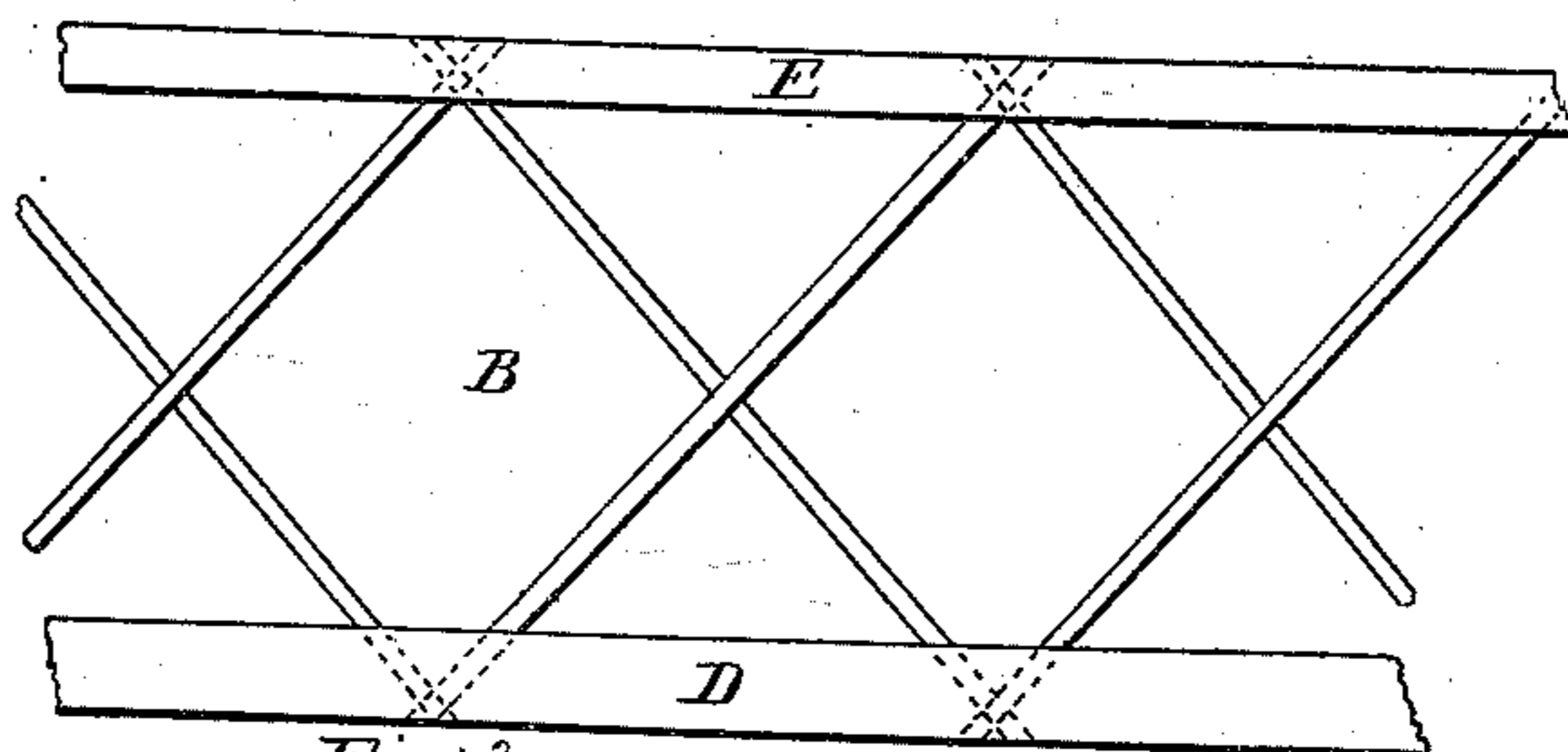
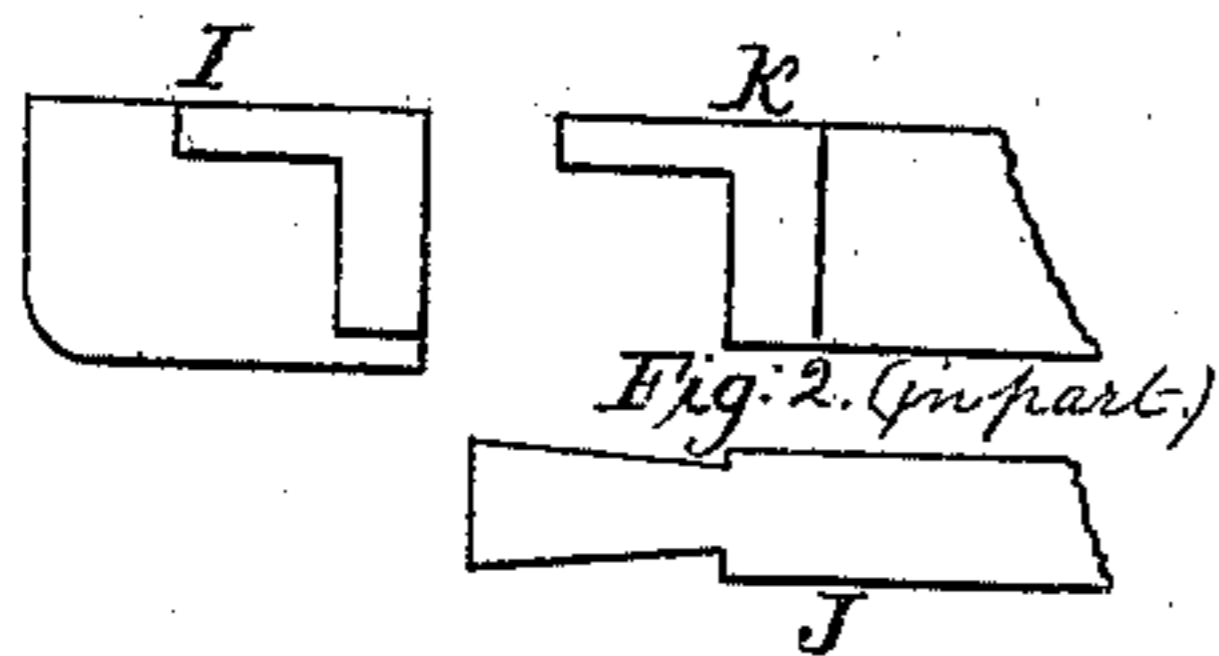
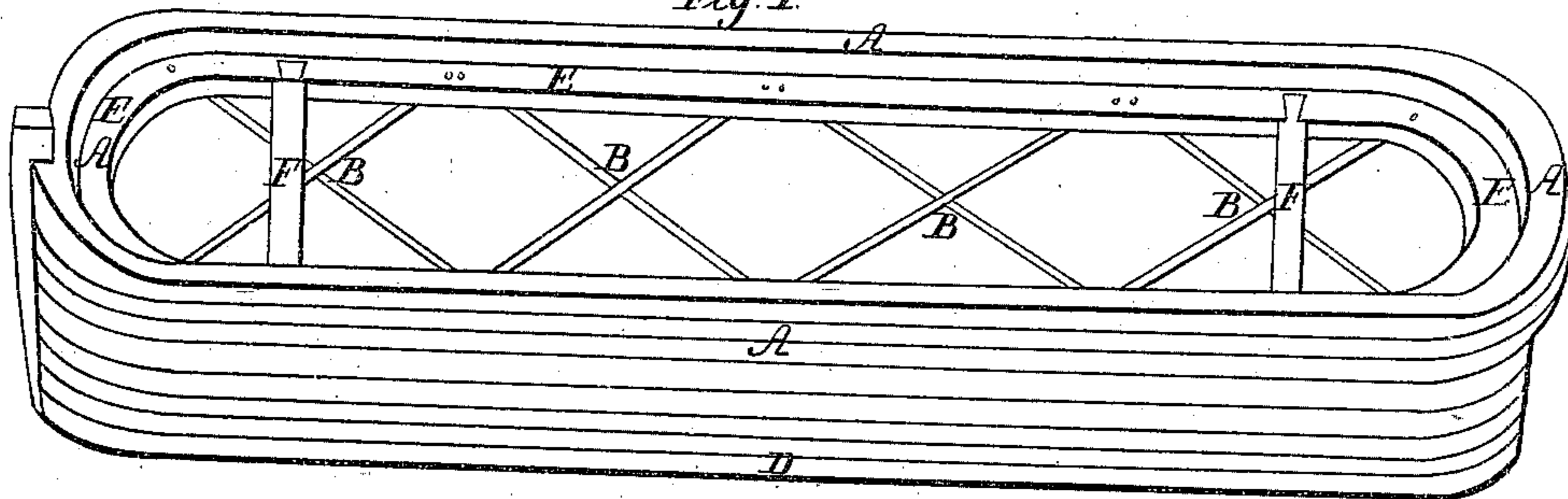


Fig. 2.

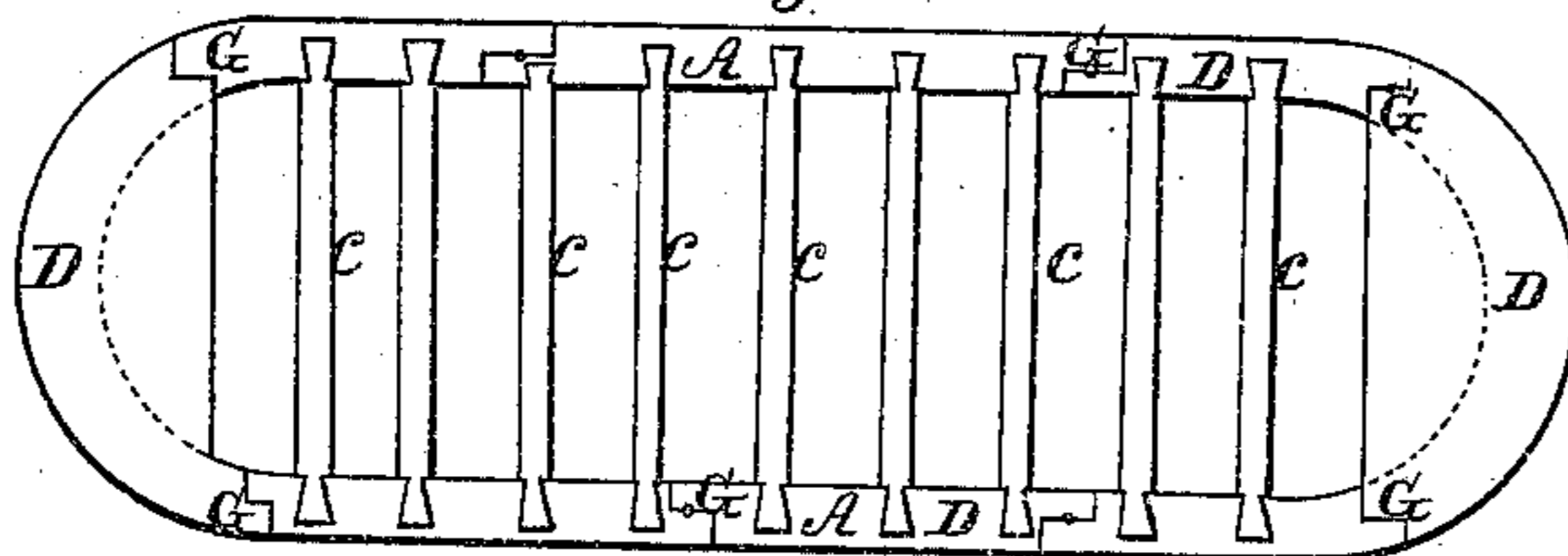
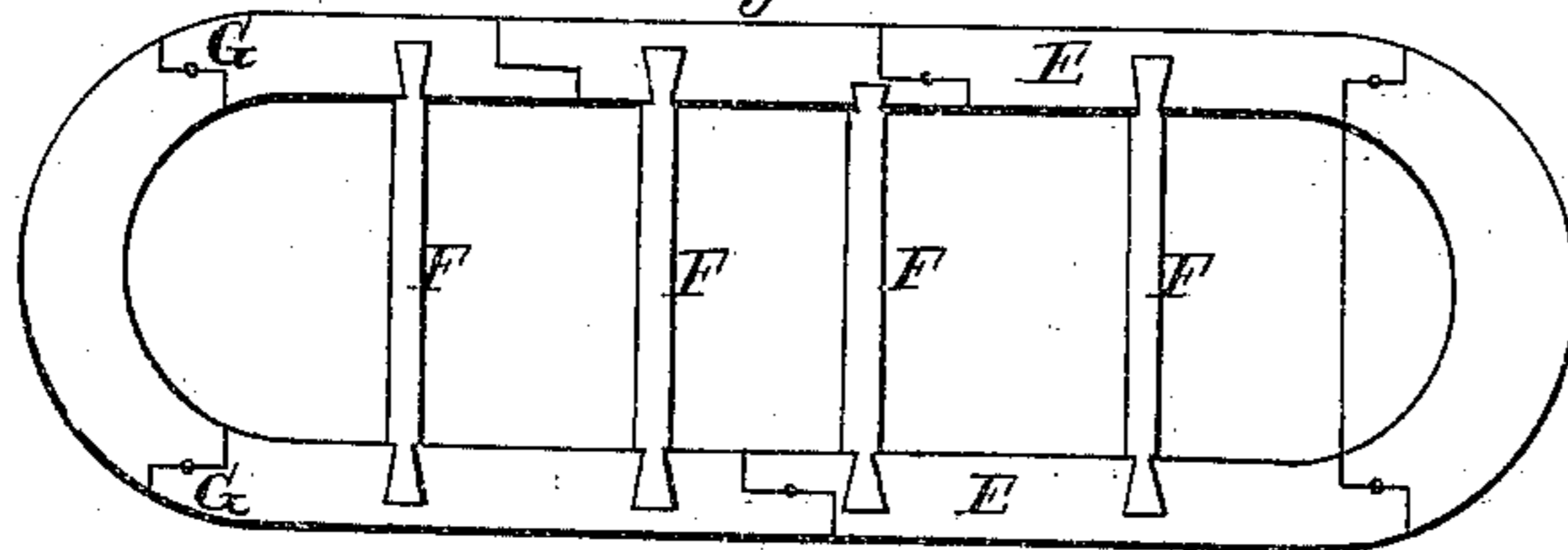


Fig. 4.



Witnesses;  
Samuel F. Parker  
Linn Van Order

Inventor;  
Abraham Van Order

# UNITED STATES PATENT OFFICE.

ABRAM VAN ORDER, OF ITHACA, NEW YORK.

## IMPROVED CONSTRUCTION OF CANAL-BOATS.

Specification forming part of Letters Patent No. 33,272, dated September 10, 1861.

*To all whom it may concern:*

Be it known that I ABRAM, VAN ORDER, of the town of Ithaca, in the county of Tompkins and State of New York, have invented an Improved Mode of Building Canal-Boats; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a side view of my boat. Fig. 2 is a view of the bottom of my boat. Figs. 3 are parts of the sides and ends of the same; and Fig. 4 is a view of the gunwale and deck timbers more particularly.

In Fig. 1, A is the timbered shell or hull of the boat, made of solid timber laid up horizontally by sections or pieces continuously on the sides and ends around the whole boat, the bow and stern portions being made, if considered desirable, wider, as the grain of the timber at the ends is more or less cut away so as to be cross-grained. The sizes of timber contemplated to be used are about six or seven inches wide and thick. B is the iron cross-bracing similar to that used in bridging, connecting the gunwale and bilge timbers firmly into one rigid frame just inside of the shell or hull timbering. D is the bilge, made of several parts or pieces lapped where they abut each other and water-stopped; and E is the gunwale, also lapped and stop-watered. F F, &c., are the deck-beams.

In Fig. 2 the combination or construction of the bottom of the boat is shown. In it A A are the bilge-timbers, making part of the sides and therefore marked A, and marked D also by way of distinction from the mass of the sides and ends, and said bilge-timbers are clearly seen to be lapped at the butts and stop-waters in the laps, as at G G G, &c. C C C, &c., are the floor-timbers, double dovetailed into the bilge-timbers, as better seen at I, the section of a bilge-timber; J, the top view of a floor cross-timber, and k the double dovetail for the purpose of holding by its upper portion the top of the bilge-timber and by the lower portion of the dovetail the inner side of the bilge-timbers, while not cutting away much of the bilge-timbers by the mortises in the said bilge-timbers.

By Figs. 3 the construction of the sides and

ends of the boat are shown. The sides and ends A A are of solid timber laid piece by piece on or over the bilge timbers continuously, on the side and ends of the boat and one above the other and fastened by a peculiar mode of spiking. The layering of the timber of the sides and ends and the relation of the bilge and gunwale are more clearly seen at the sectional view, where A x is the continuous layering; E x, the gunwale, and D x the bilge, and the double dovetailing of the floor and deck timbers is also exhibited. The top longitudinal view A z shows the buttlapping and the stop-water G b driven into the said lapping of the butts. At A a the bow and stern continuous layering is shown.

My method of spiking or bolting the continuous timber layering is seen at A b, where A at the right hand shows the layering as finished smooth with no bolt-heads for the action of water or air, and A at the left hand shows the layering cut away to the middle and the bolts as driven. The bilge D being in place, the layer a is laid on the bilge and the spikes x x, &c., are driven into auger-holes a little less in size than the bolts or spikes—say eighteen inches or other convenient and suitable distance apart—through a and almost through D. Upon a is laid the continuous timbers or layer b, and the spikes or bolts Y Y Y, &c., are driven through the layers b, a, and D six inches or other convenient aliquot distance from x x, &c. When the layer c c is laid upon b and fastened by the spikes or bolts z z, &c., which pass through c b a and almost through D, also six inches or other aliquot distance from the other neighboring bolts, this bilge spiking and that of the gunwale are the same, thus giving more strength to the top and bottom of the boat than in the middle where the bolts or spikes are of uniform length, as seen above the layer e e, but preserving the same aliquot distances as below. B shows the iron cross-bridge bracing of the bilge D and the gunwale E.

In Fig. 4 the structure of the gunwale and the deck timber dovetailing is shown to be similar to the bilge-timber framing. The practical construction of my boat consists in laying the bilge and floor timbers in their proper places, then laying piece by piece continuously on the sides and ends about the whole periphery of the boat one of the series

of timbers, and bolting or spiking (as described) it in place, and then add the other layers of the series one by one until the gunwale is reached, when this and the deck timbers are added, and above this the rail-timber when used, the cabins and other details being made as in ordinary use.

Having thus sufficiently described my invention, so as to enable those skilled in the art to which it appertains to build and construct the same, what I claim as my invention, and desire to secure by Letters Patent, is—

The described layers of wood placed one

above the other making the shell or sides and ends of the boat, the described method of spiking or bolting the said layers together, and the cross-rod bracing connecting the bilge-timbers with the gunwale-timbers when used in combination with each other, and the just-named combination when further combined with the water-stops, lap-butting, and double dovetailed floor and deck beams, as described.

March 25, 1861.

ABRAM VAN ORDER

Witnesses:

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LINN VAN ORDER.