

(No Model.)

2 Sheets—Sheet 1.

A. McDOUGALL.  
STEAM PASSENGER BOAT.

No. 500,411.

Patented June 27, 1893.

Fig. 1.

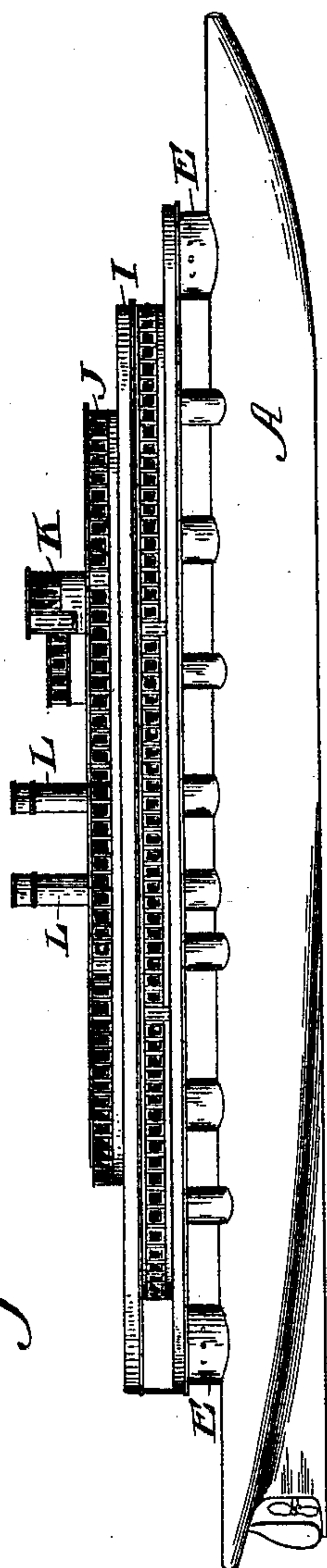


Fig. 2.

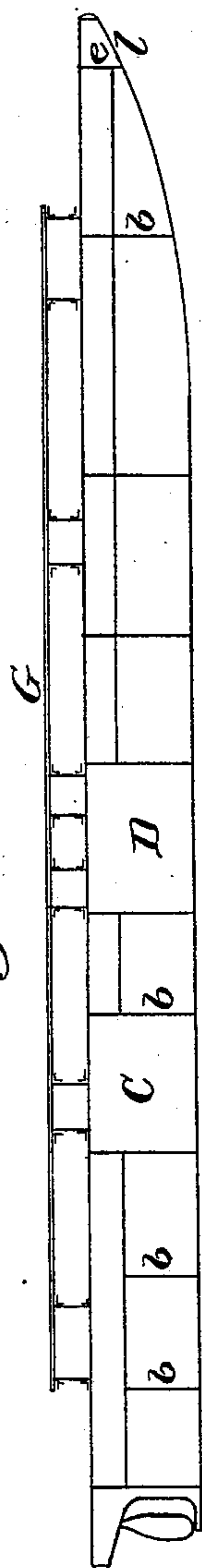
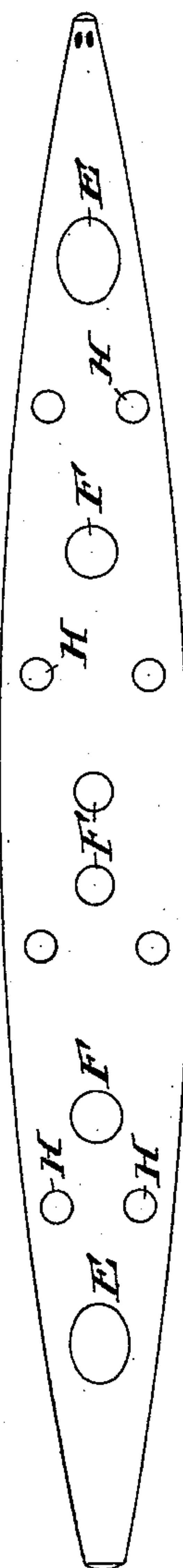


Fig. 3.



Witnesses:

J. B. McGinnis.  
H. D. Orr.

Inventor:

Alexander McDougall  
by Francis L. Dyer  
his Attorney

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Fig. 5.

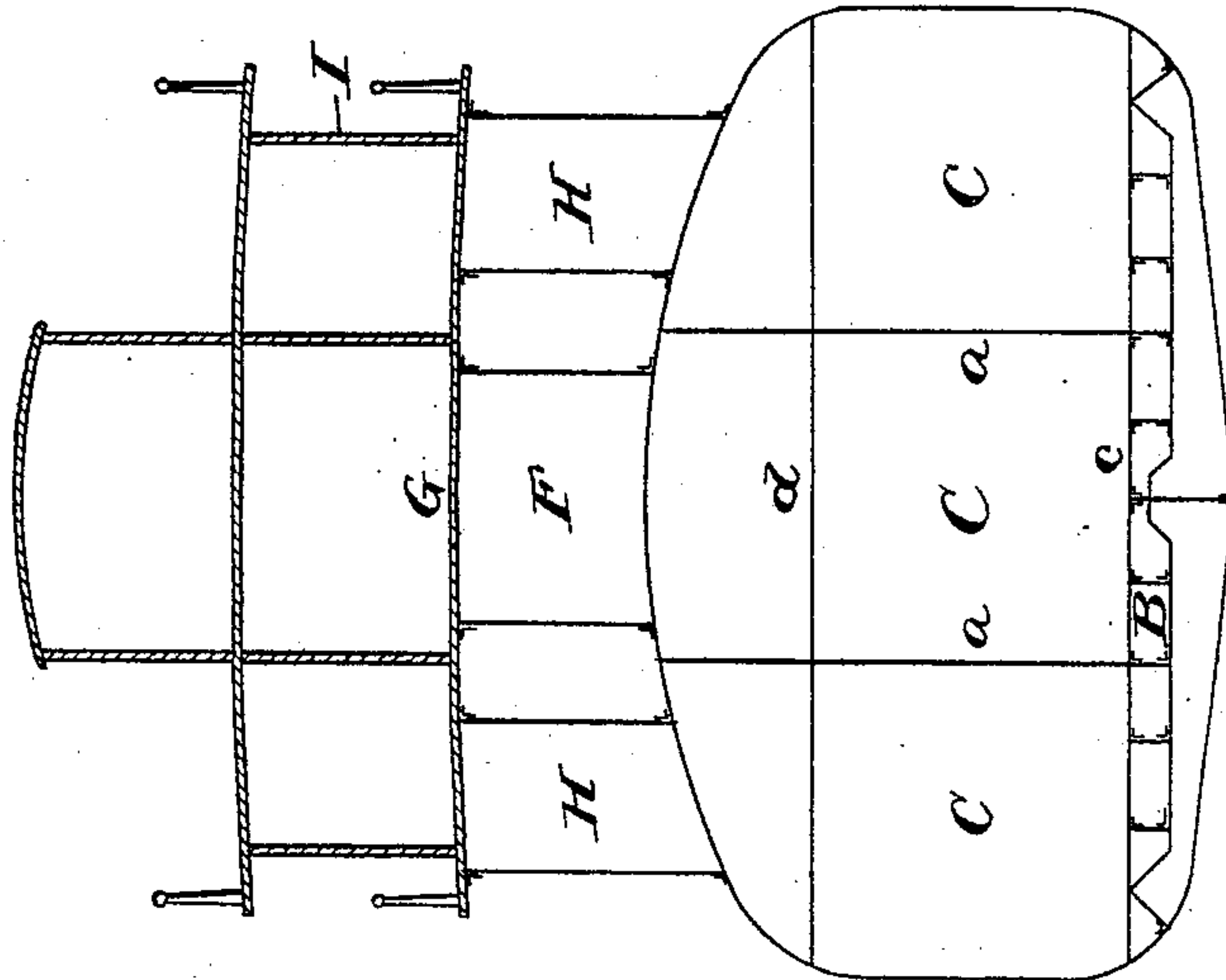
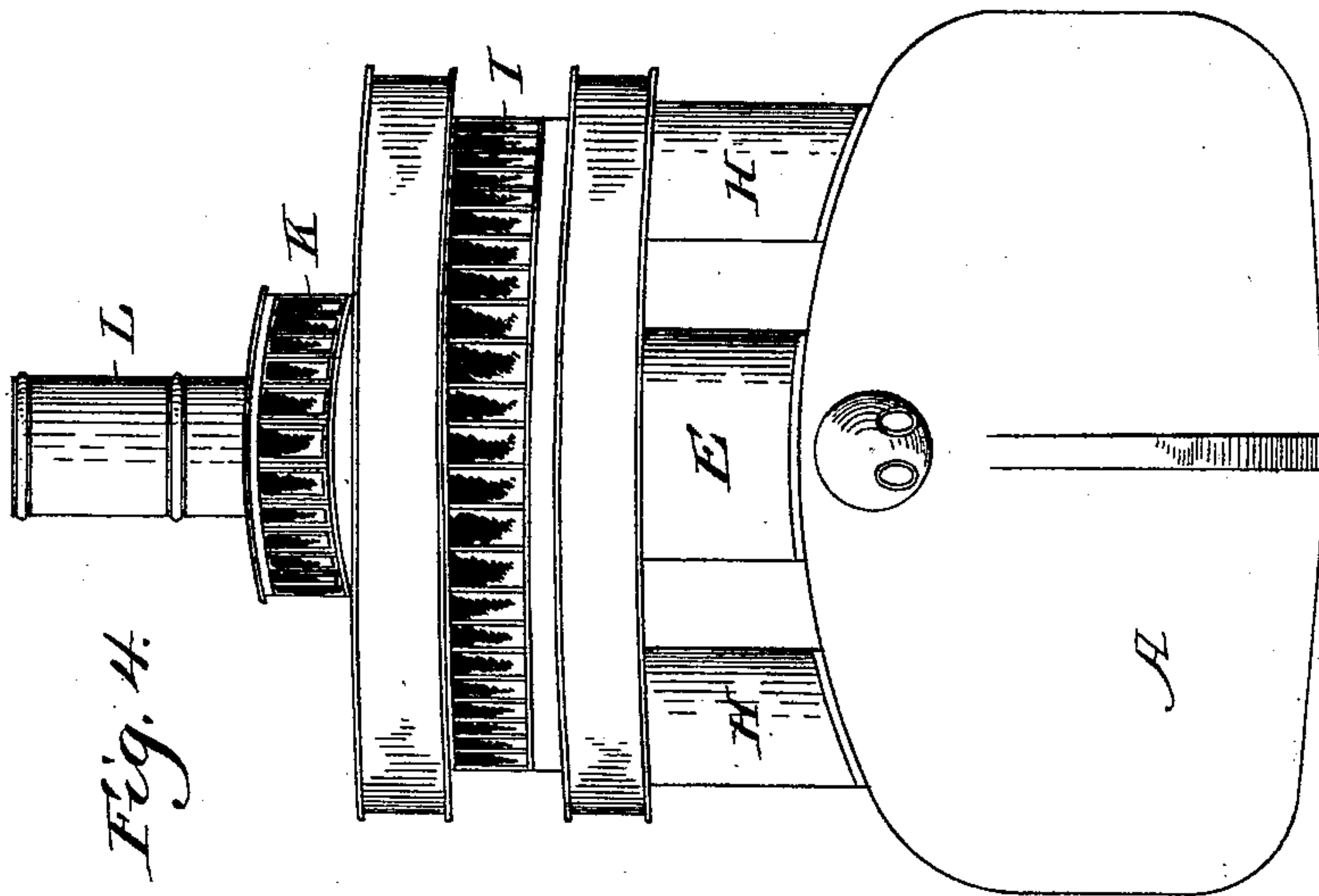


Fig. 4.



Witnesses:

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H. D. Orr.

Inventor:

Alexander McDougall  
by Frank L. Ayer,  
his attorney



# UNITED STATES PATENT OFFICE.

ALEXANDER McDOUGALL, OF DULUTH, MINNESOTA.

## STEAM PASSENGER-BOAT.

SPECIFICATION forming part of Letters Patent No. 500,411, dated June 27, 1893.

Application filed March 23, 1891. Serial No. 386,167. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER McDOUGALL, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Steam Passenger-Boats; and I do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to various new and useful improvements in steam passenger vessels, and the invention is intended to be an improvement upon the steamboat invented by me and described and claimed in Letters Patent of the United States No. 429,467, and dated June 3, 1890. From an inspection of said patent, it will be seen that the vessel embraced therein consists of a metallic hull having straight sides, with a curved top and bottom, with a spoon shaped bow and skeged stern, with a short cabin, supported upon turrets, near the stern of the vessel, and with a working deck supported upon a single turret near the bow. Such a steamboat, as mentioned in said patent, was intended principally for the transportation of freight.

The vessel which is to be described in this specification is intended principally for the transportation of passengers, but the hull, or hold, of the vessel may be used for carrying freight, or for receiving the baggage and other appurtenances of passengers.

The principal object of the invention is to provide a passenger vessel, having large, commodious and airy cabins; which will be very speedy under steam, and which will be practically unsinkable.

The principal novelties of the invention, consist of a metallic hull, made of substantially the same shape as that described in said Letters Patent, but with longer and finer lines, and a cabin mounted above the hull on preferably three rows of turrets, and extending almost the entire length thereof, in such a manner, as to effectively strengthen and brace the hull against lateral strains, as will be described hereinafter.

For a better comprehension of the invention, attention is directed to the accompany-

ing drawings forming a part of this specification, and in which—

Figure 1, is a side elevation of the vessel; Fig. 2, a longitudinal sectional view, showing the cabin and engines removed; Fig. 3, a plan view of the hull with the cabin removed; Fig. 4, a front elevation, and Fig. 5, a cross sectional view.

In all the above views, corresponding parts are designated by the same letters of reference.

A, is the hull of the vessel. This hull is made substantially like that described and claimed in said Letters Patent, with a curved top, or deck; straight sides; and curved bottom, with a long spoon-shaped bow, and a cut-away or skeged stern. This hull, as described in said Letters Patent, is to be made preferably of metal plates, riveted or otherwise secured to transverse ribs. This hull is provided with longitudinal bulkheads *a, a*, so as to divide the vessel into preferably three longitudinal sections. It will be understood however that any number of longitudinal bulkheads may be provided and that the vessel may be divided into any number of longitudinal sections, or these bulkheads may be dispensed with entirely, if desired. The vessel is also provided with cross bulkheads, *b, b*, which may be of any appropriate number. This vessel, as in the case of my improved tow boats, is provided with a water bottom B, having a heavy metallic top *c*, which forms a false bottom for the vessel. The longitudinal bulkheads extend from this false bottom *c*, directly to the top of the vessel, so as to divide the hull into a number of air-tight chambers.

I am aware that it is not new to provide a vessel with both longitudinal and cross bulkheads, but these bulkheads have heretofore extended only from the bottom of the vessel to a point near the water line, so that if the vessel is damaged so as to fill at one side, or in case of a collision is rolled a considerable distance to one side, the water will be allowed to flow over the top of the vessel and into the hull.

By providing the hull with bulkheads which extend directly from the top to the bottom of the vessel, no water will be allowed to enter the vessel, in case it is thrown out of its equi-



librium. A very desirable arrangement of these bulkheads is to provide the hull with two longitudinal bulkheads, *a, a*, running along the main portion of the hull to the extreme forward and rear cross bulkheads, so as to divide the hull into three parts at its main portion and to provide a single bulkhead running from the said cross bulkheads to or near the bow and stern, so as to divide these portions into one or two parts.

*d*, represents a horizontal deck, situated some distance beneath the top of the vessel and extending preferably from one extreme cross bulkhead to the other extreme cross bulkhead, except at the boiler and engine rooms, but it should be understood that this deck may extend a shorter distance or that it may extend from one end of the vessel to the other. Upon this deck are placed the second class cabins of the vessel and also the quarters for the crew, &c.

*C, D*, are the engine and boiler rooms.

The engines and boilers may be of any approved construction and may be of any number. I prefer however to place an engine in each longitudinal compartment, so that three screws may be operated.

In the drawings I have shown only one screw or propeller, as indicated in Fig. 1, and if need be only one screw may be used, but I prefer to use two or three screws, with preferably a large screw in the center and smaller screws on either side placed forward of the large screw. At the forward part of the vessel the cross bulkheads *b, b*, extend from the false bottom *c*, to the deck *d*, as shown. But it will be understood that these cross bulkheads may extend at all points the entire depth of the hull, or that they may extend from the false bottom *c*, to the deck *d*. As in the case of the vessel referred to in said Letters Patent, the present boat is provided at its extreme bow with a collision chamber *e*, so that in case the bow is damaged so as to admit water, the collision chamber only will be filled. Near the bow and stern are placed two large metallic turrets *E, E*, which are firmly riveted or otherwise secured to the top of the hull or upper deck. The forward turret *E*, is preferably of an oval shape in order that it may conform to the shape of the bow and the after turret *E*, is preferably of the same shape, but an elliptical shape would answer. Smaller turrets *F, F*, are centrally located in line with the turrets *E, E*, and extend along the top of the hull as shown in Fig. 3.

Extending from the forward turret *E* to the rear turret *E* and firmly secured to the intermediate turrets *F*, is a heavy metallic deck *G*, as shown in Fig. 2. This deck is supported at its outer edges upon the smaller turrets *H*,

*H*, which are arranged in pairs between the turrets *F, F*. It will be seen that the deck *G* acts in precisely the same way as the chord of an ordinary truss, so that the hull will be effectually protected against lateral strains.

Secured to the top of the metallic deck *G* are the cabins *I, J*, which are to be of any suitable arrangement.

Secured to the top of the cabin *J*, is the pilot house *K*, within which is placed the usual steering gear.

Smoke stacks *L, L* from the boilers pass up through the central turrets *F, F*, so as to be protected from the action of the waves, which sometimes pass over the lower part of the vessel.

The hull is reached from the cabin *I*, through suitable stair-cases within the turrets.

It will be evident that by mounting the cabins on turrets as I have described, they will be free from all odors of bilge water, oil, machinery, cooking, &c., and will be always cool and airy.

It will be observed from an inspection of Fig. 5, that the top of the boat and the deck *d*, constitute an arch and truss which will render the upper part of the vessel very strong, and that the bottom of the vessel and the false bottom *c*, constitute another arch and truss, which will also strengthen the bottom of the vessel. It will also be seen from Fig. 2, that the top of the vessel in a longitudinal direction and the deck *G*, constitute a double or parallel truss which strengthens the vessel longitudinally.

Having now described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

1. In a vessel, a hull, having an arched top and an arched bottom; with a deck *d*, forming the chord or base of the arched top; a false bottom *c*, forming the chord or base of the arched bottom; and longitudinal and cross bulk-heads *a*, and *b*, extending from the top of the hull to the said false bottom, substantially as set forth.

2. In a vessel, the combination with a hull, having an arched top and an arched bottom; with a deck *d*, forming the chord or base of said arched top; a false bottom *c*, forming the chord or base of said arched bottom; and longitudinal and cross bulk-heads *a*, and *b*, extending from the top of the hull to said false bottom; of a deck *G*, mounted above the hull on turrets, and cabins *I* and *J*, mounted on said deck, substantially as set forth.

ALEXANDER McDOUGALL.

In presence of—

FRANK L. DYER,  
ARTHUR A. ERB.