

(Model.)

C. M. DOUGLAS.  
FOLDING BOAT.

No. 285,981.

Patented Oct. 2, 1883.

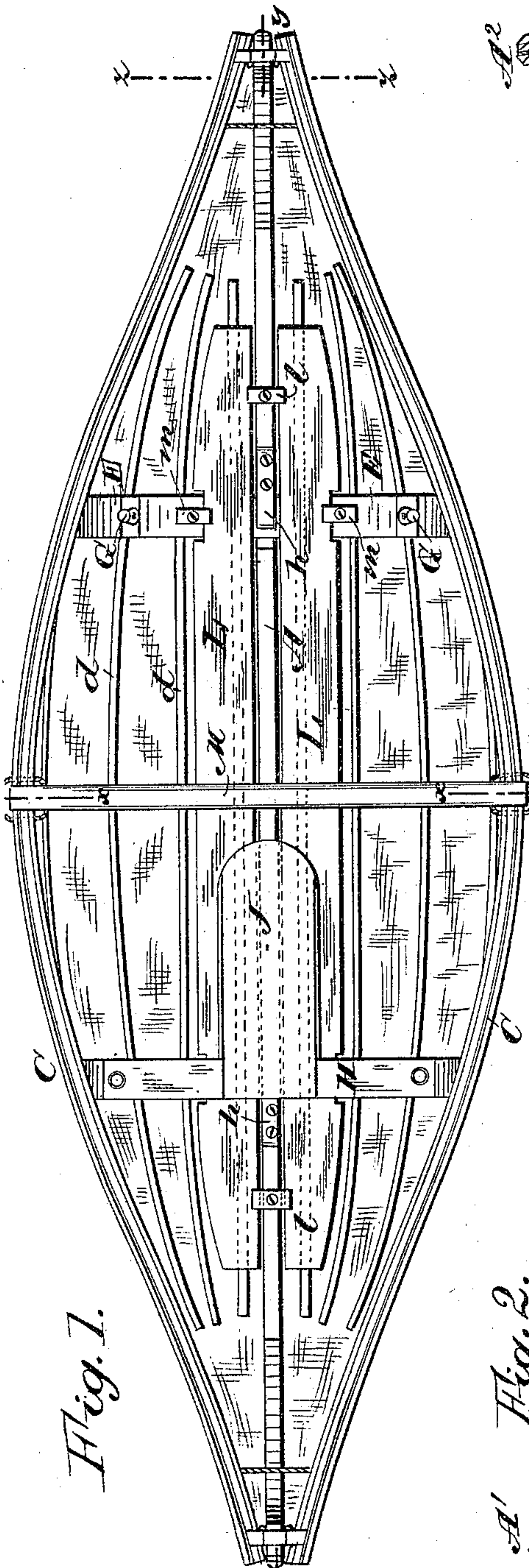


Fig. 1.

WITNESSES  
*Hotcher*  
*C. Sedgwick*

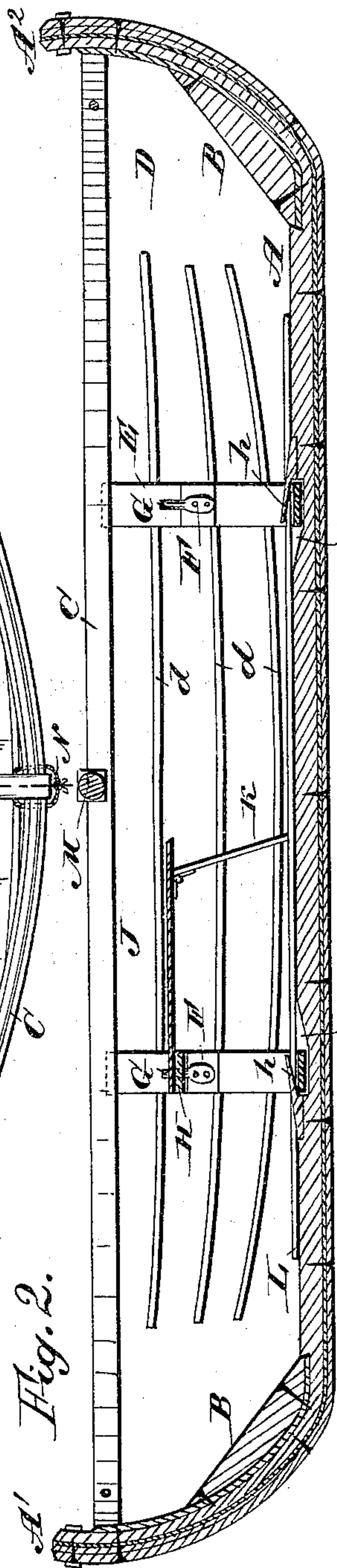


Fig. 2.

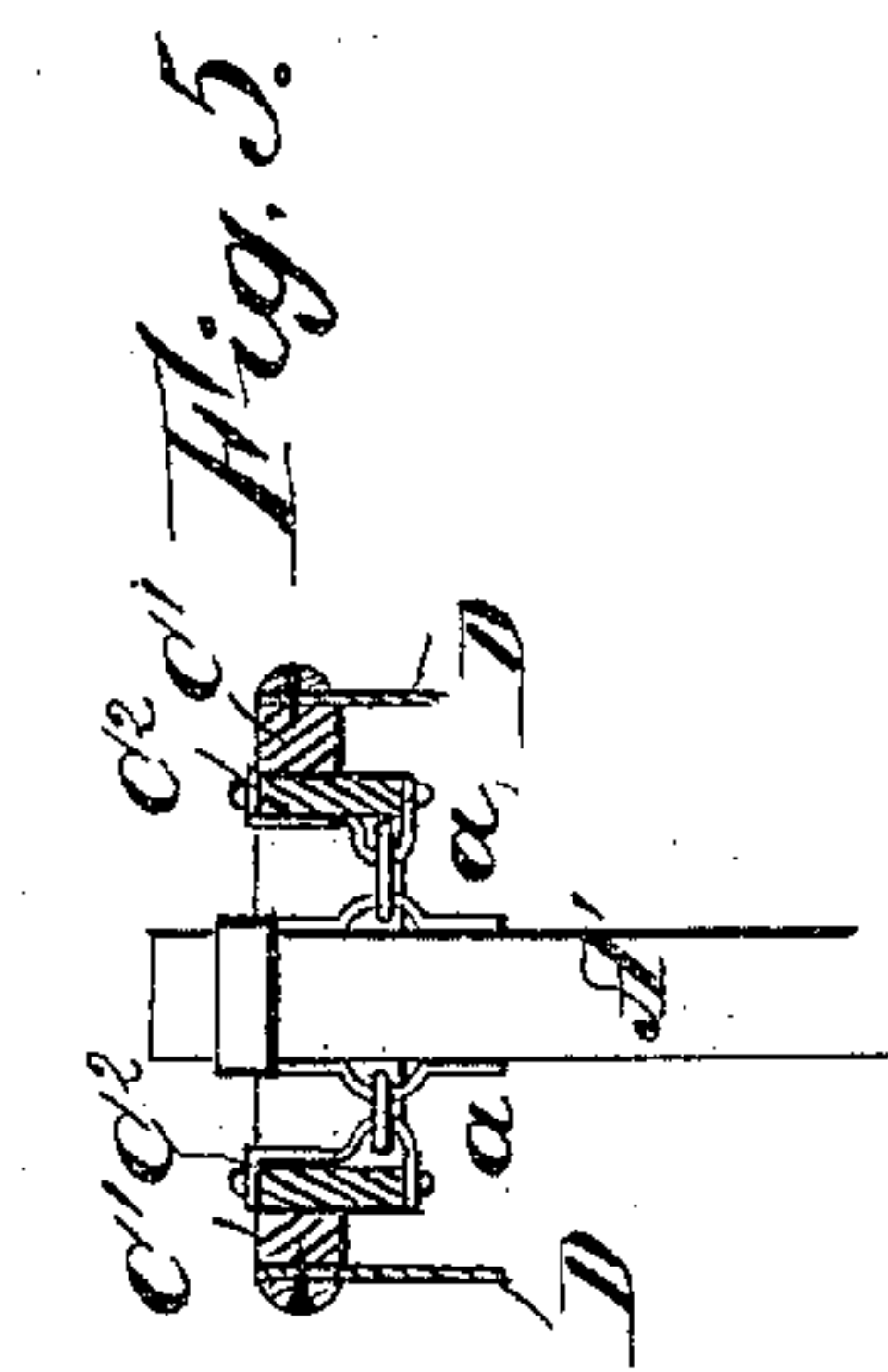


Fig. 3.

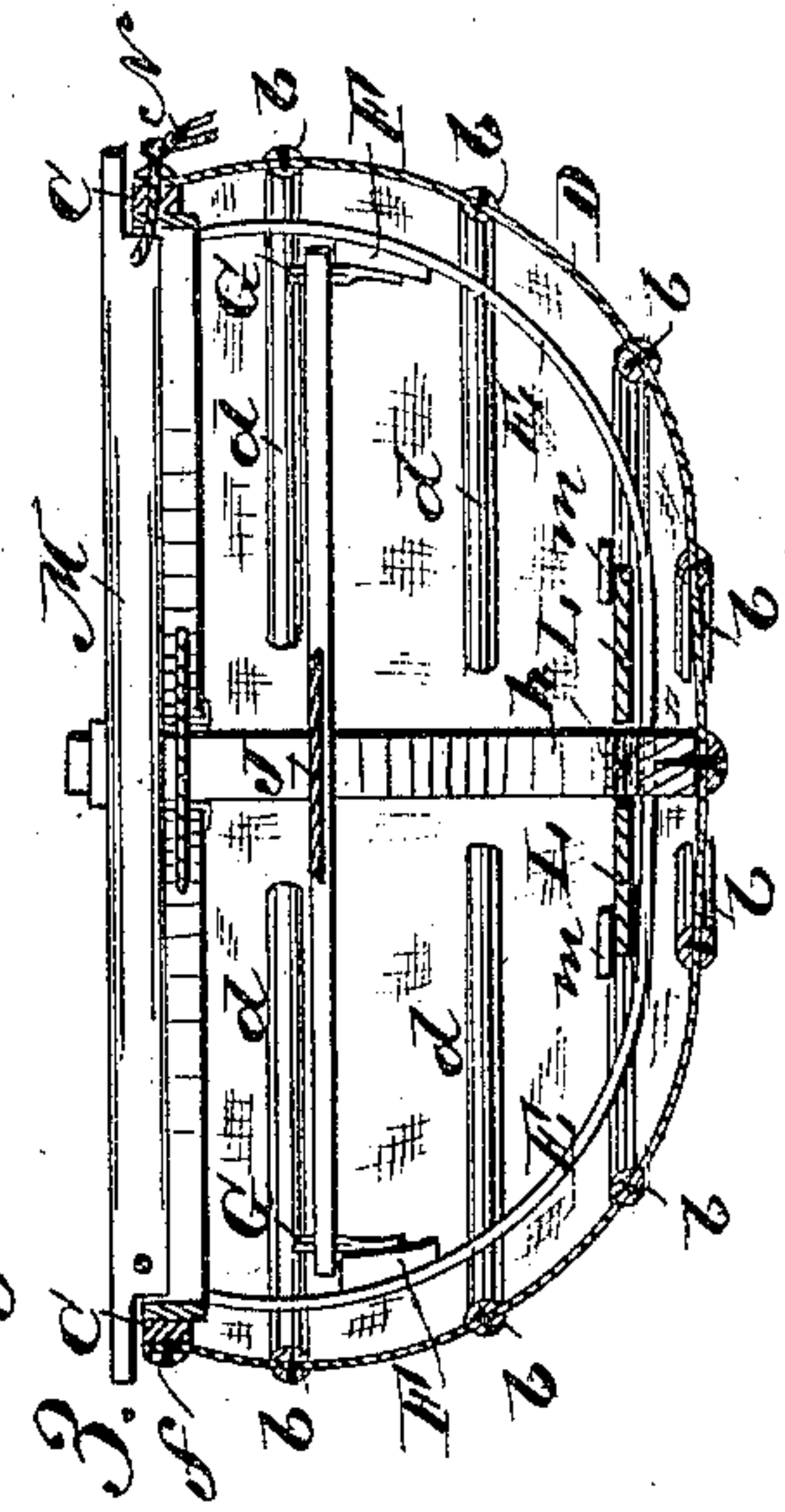


Fig. 4.

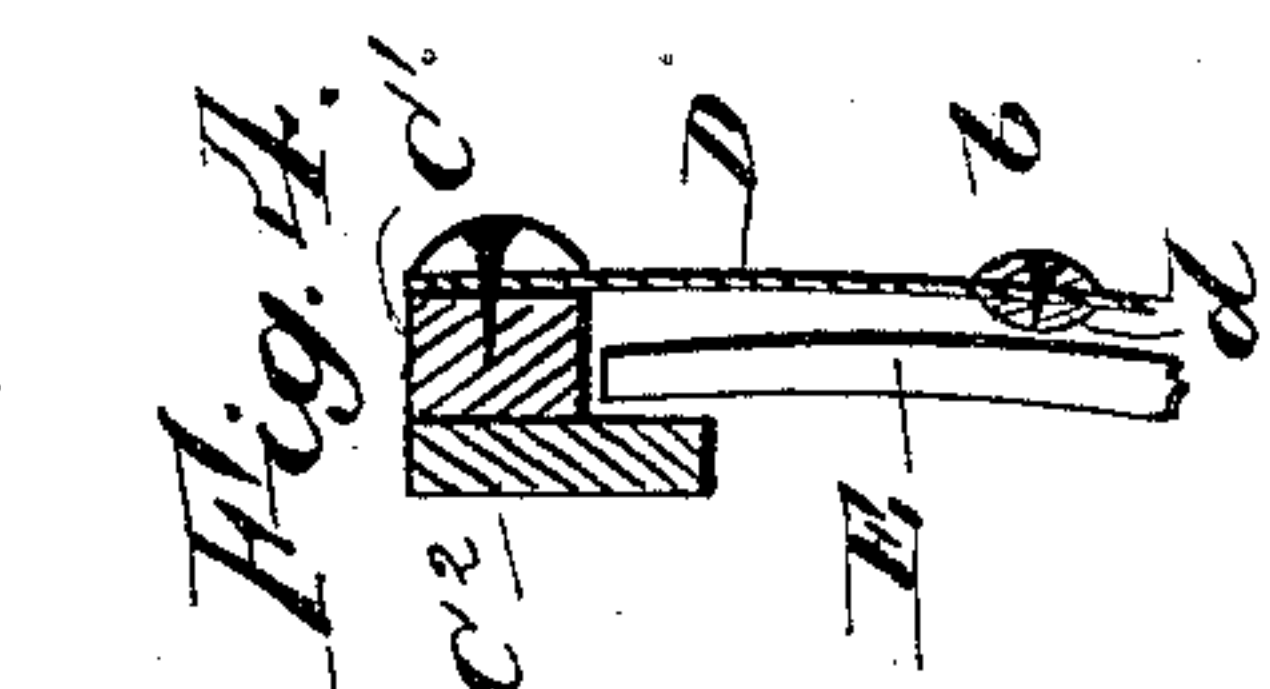


Fig. 5.

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# UNITED STATES PATENT OFFICE.

CAMPBELL M. DOUGLAS, OF QUEBEC, QUEBEC, CANADA.

## FOLDING BOAT.

SPECIFICATION forming part of Letters Patent No. 285,981, dated October 2, 1883.

Application filed March 14, 1883. (Model.)

*To all whom it may concern:*

Be it known that I, CAMPBELL M. DOUGLAS, of Quebec, in the Province of Quebec and Dominion of Canada, have invented a new and Improved Folding Boat, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved boat, which can be folded very compactly, is very light, so that it can be transported easily, can be erected for use rapidly, and is strong and safe.

The invention consists in a boat constructed with a keelson having stem and stern posts, to which the gunwales are hinged, to which gunwales and keelson canvas is attached, which forms the sides of the boat, and which canvas is stiffened by strips attached to the inner and outsides. The gunwales are held raised, and are stiffened or braced by transverse stiffeners or ribs held on the keelson and passed beneath the gunwales.

The invention also consists in various other combinations of parts and details, as will be fully described, and set forth hereinafter.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved folding boat, showing it ready for use. Fig. 2 is a longitudinal sectional elevation of the same on the line *yy*, Fig. 1. Fig. 3 is a cross-sectional elevation of the same on line *xx*, Fig. 1. Fig. 4 is an enlarged detail cross-sectional elevation of the gunwale. Fig. 5 is an enlarged detail cross-sectional elevation of the boat on the line *zz*, Fig. 1, showing the manner of hinging the gunwales to the stern-post.

To the ends of the keelson *A* a stern-post, *A'*, and a stem-post, *A''*, are secured, and are suitably braced and stiffened by blocks *B*. The gunwales *C*, which are curved in the manner that the sides of the boat are to be curved, are hinged at the ends to the stem and stern posts by suitable shackles, *a*, so that they can be folded down when the boat is to be folded for transportation. The shell of the vessel is formed of water-proof canvas *D*, rubber, leather, or any other suitable pliable material tacked to the gunwales and to the bottom of the keelson. Strips *b*, of flexible material, are

tacked or otherwise secured to the outer surface of the canvas *D*, and like strips, *d*, are secured to the inner surface of the canvas *D*, for stiffening the same. A strip, *f*, is tacked over the upper edge of the canvas to the outer surface of each gunwale for the purpose of finishing the gunwale and holding the canvas more securely to the same.

The gunwale is composed of two strips, *C'* and *C''*, of which strip *C'* is at the outside and *C''* at the inside, the strip *C''* extending some distance below the lower edge of the strip *C'*, so as to form a recess between the lower part of the strip *C''* and the canvas *D*, into which recess the ends of the stretchers or transverse ribs *E* can be passed.

The stretchers *E*, of which two or more are to be used, are curved in the same manner as the ribs of ordinary boats, and are passed into recesses *g* in the upper edge of the keelson, over which recesses prongs *h*, fastened to the keelson, project, under which prongs these stretchers are passed. The upper ends of the stretchers are passed in between the strips *C'* and the canvas *D*, as shown in Fig. 4, and keep the gunwales raised and separated. The stretchers or ribs can be made of wood or steel, or as may be desired. On the inner surfaces of the stretchers blocks *F* are secured a short distance from the upper ends, from which blocks pins *G* project upward. The pins *G* are passed into holes in the ends of transverse boards *H*, which stiffen the stretchers and form a support for one end of the seat *J*, which is provided at the opposite end with a folding leg, *K*. A seat can be secured in this manner on one or both stretchers. False bottom planks, *L*, are provided with notches for receiving the stretchers *E*, and their inner edge rests closely against the sides of the keelson. Pivoted buttons *l* on the keelson and buttons *m* on the stretchers hold the false bottom planks, *L*, in place on the bottom of the vessel. The gunwales are separated at the middle by a cross-bar, *M*, which is provided at the ends with shoulders fitting against the inner edges of the gunwales, which cross-bar is held on the gunwales by ropes *N*, passed through openings in the gunwales and through openings in the ends of the cross-bar.

The boat can be built of sufficient size for



one or two persons. When the boat is to be transported, the cross-bar M, the stretchers E, the false bottom planks, L, and the cross-bars H are removed, the gunwales and the canvas 5 attached to the same and to the keelson are folded down against the keelson, and the bottom planks, the stretchers, the seat, and the cross-bars are placed in the pockets formed at the side of the keelson by the folded canvas, and 10 all the parts are tied together. The boat can then be transported very easily. I prefer to use canvas painted with a suitable water-proof mixture.

The boat can be used by explorers, hunters, 15 men, or fishermen, and is of especial service in some shallow streams in which cascades, rapids, whirls, &c., occur. The gunwales can be composed of more than two parts, if desired. The boat can be placed in a bag for transporting it, if desired. 20

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A boat having canvas sides stiffened by 25 inner and outer strips, as shown and described.

2. The combination with a keelson and gunwales, of transverse ribs held on the keelson and under the gunwales, to raise the latter and brace them, as described.

30 3. The combination, with a keelson having stem and stern posts, of gunwales hinged to the said stem and stern posts, and composed of an outer strip, C', and an inner strip, C<sup>2</sup>, the lower edge of the strip C<sup>2</sup> projecting below the edge of the outer strip, C', and stretch-

ers or ribs E, the ends of which are passed between the strip C<sup>2</sup> and the canvas D, which is attached to the gunwales and to the keelson, substantially as herein shown and described, and for the purpose set forth. 40

4. The combination, with a keelson having stem and stern posts, of the gunwales hinged to the said stem and stern posts, canvas attached to the gunwales and to the keelson, the removable stretchers or ribs E, the pins G, and 45 the cross-pieces H, held on the ribs by the pins G, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with a keelson having stem and stern posts, of the gunwales hinged to the said stem and stern posts, canvas attached to the gunwales and to the keelson, the removable stretchers or ribs E, the pins G, the cross-pieces H, and the seat J, provided with the pivoted leg K, substantially as herein shown 55 and described, and for the purpose set forth.

6. The combination, with a keelson having stem and stern posts, of the gunwales hinged to the said stem and stern posts, canvas attached to the gunwales and to the keelson, the 60 removable stretchers or ribs E, the false bottom planks, L, the buttons *l* on the keelson, and the buttons *m* on the ribs E, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:

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