

(No Model.)

F. HEATHER.
FOLDING BOAT.

No. 552,437.

Patented Dec. 31, 1895.

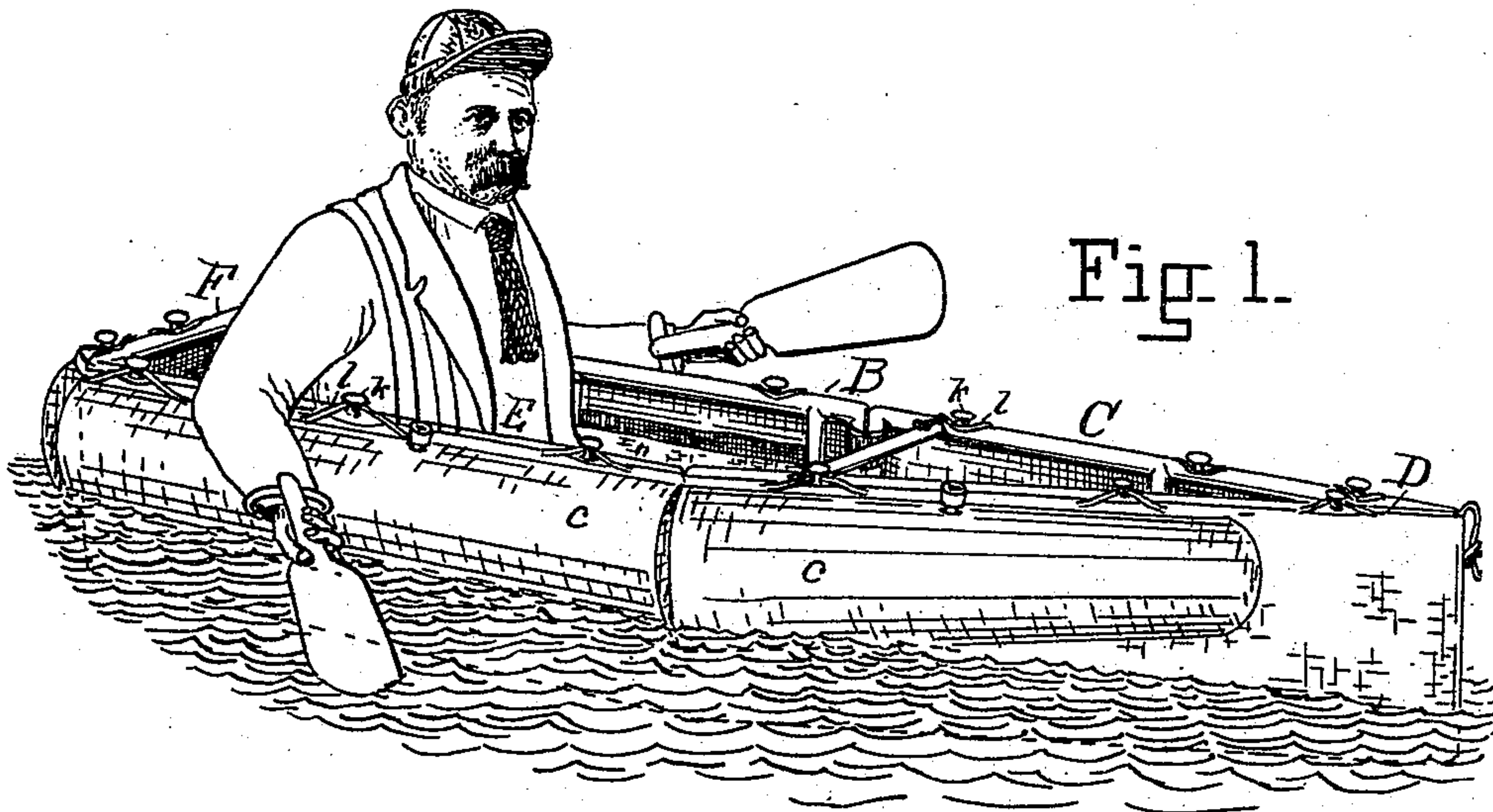


Fig. 1.

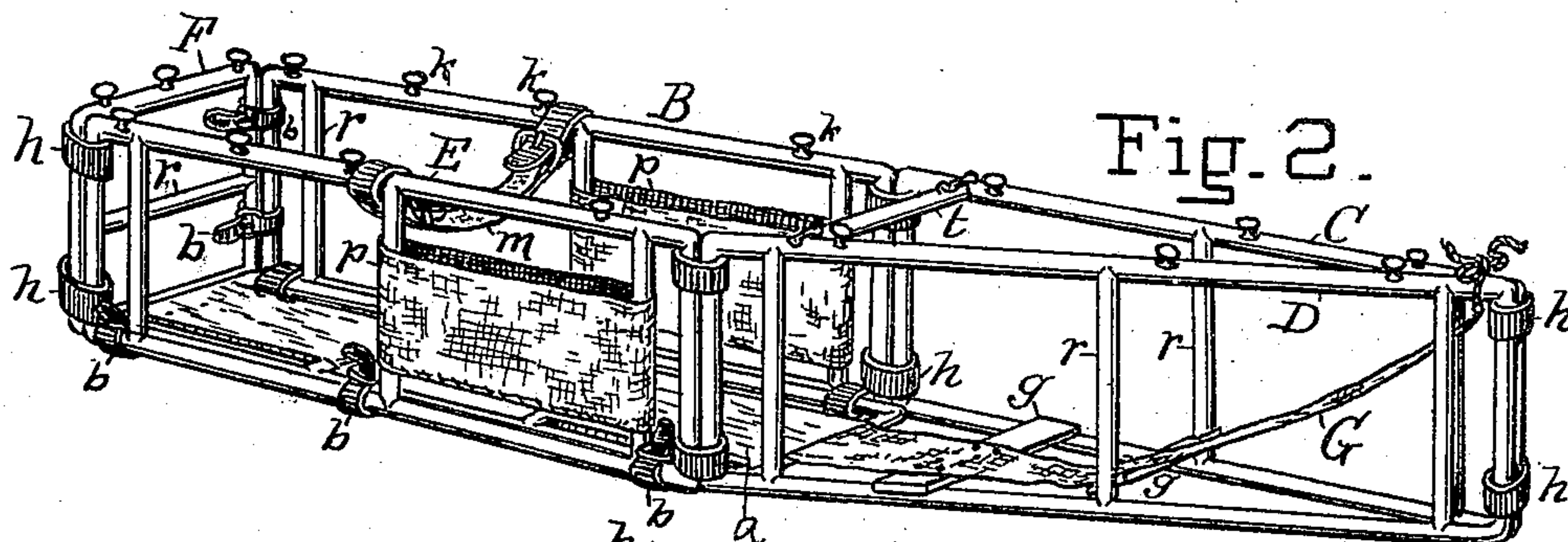


Fig. 2.

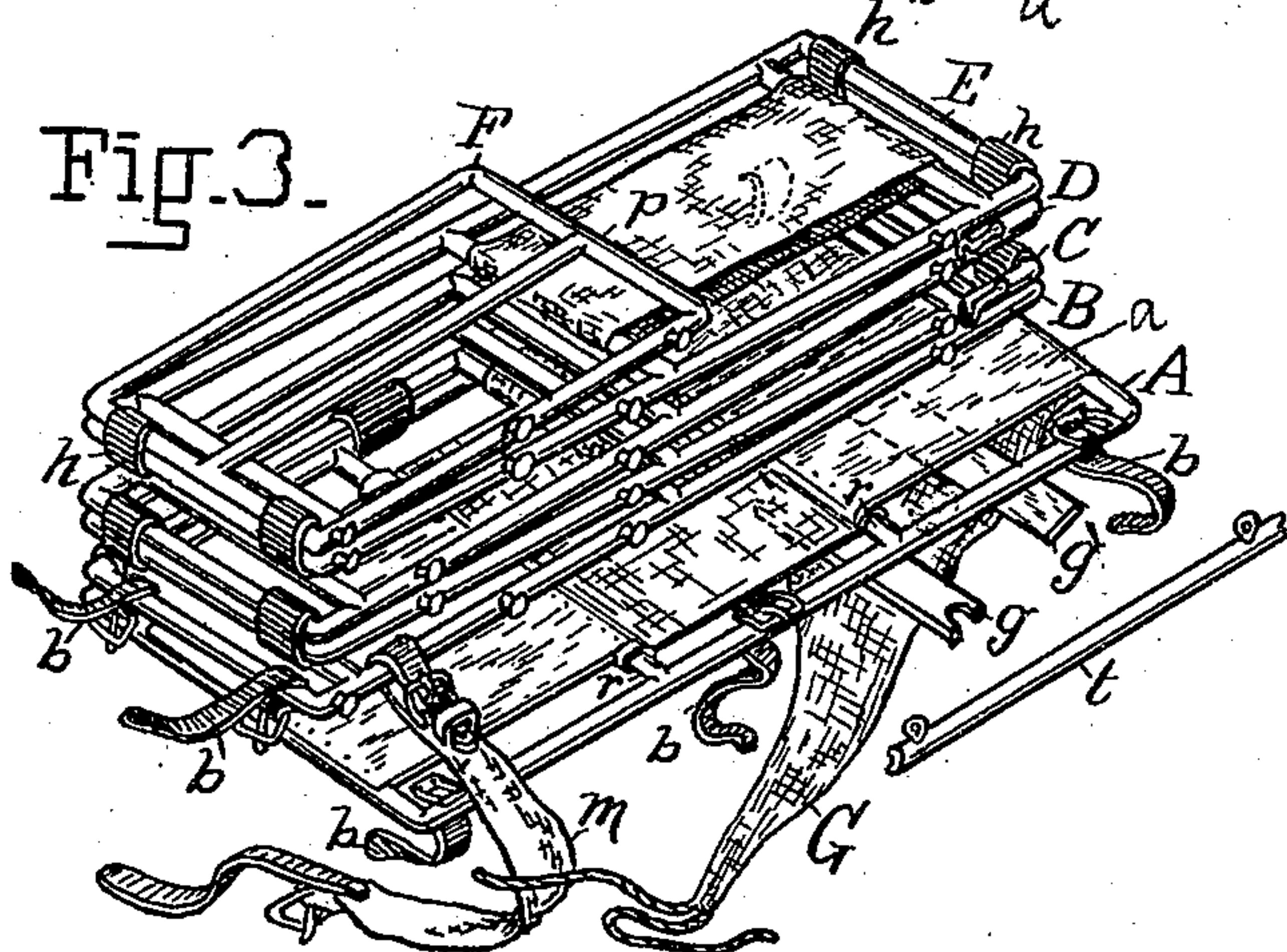


Fig. 3.

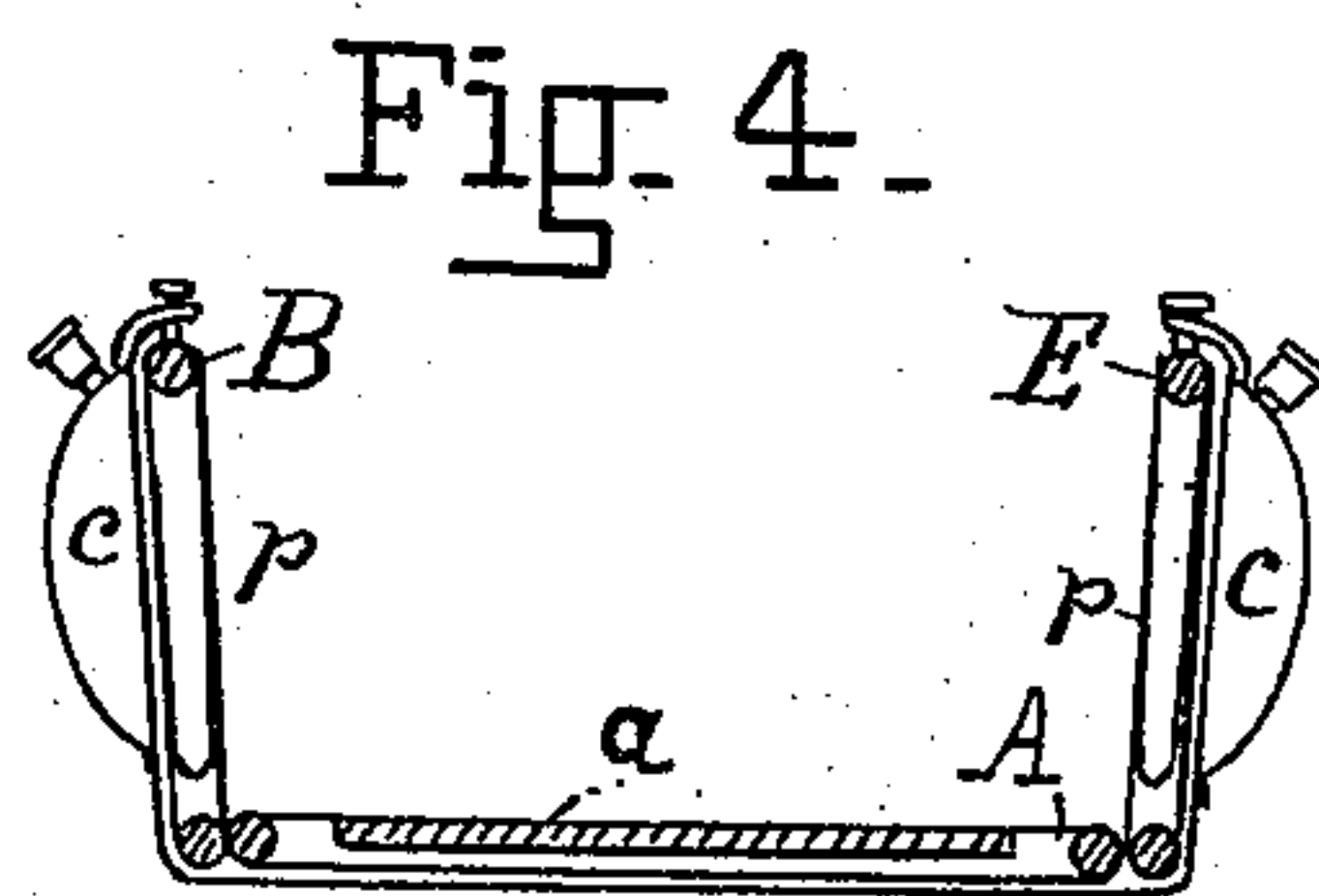


Fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

FREDERICK HEATHER, OF YONKERS, NEW YORK.

FOLDING BOAT.

SPECIFICATION forming part of Letters Patent No. 552,437, dated December 31, 1895.

Application filed July 31, 1895. Serial No. 557,716. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK HEATHER, a subject of the Queen of Great Britain, residing at Yonkers, county of Westchester, State of New York, have invented certain new and useful Improvements in Folding Boats, of which the following is a specification.

My boat has a framework composed in the main of a number of suitable sections which are flexibly or detachably connected to each other at their meeting edges. Each of the sections is a frame of wooden rods. A flexible covering of waterproof canvas formed in one piece in the shape of the boat is drawn over the framework. The construction of the framework and its combination with the covering, as hereinafter described and claimed, are believed to be new.

In the accompanying sheet of drawings, which form a part of this specification, Figure 1 is a perspective view of the finished boat in the water. Fig. 2 is a perspective view taken at the same angle and showing the framework, the canvas covering being removed. Fig. 3 is an isometric view showing how the several sections of the framework are folded upon each other when the boat is made into a package for carrying. Fig. 4 is a cross-section through the middle of the boat.

Around the circumference of the boat is a chain of sections hereinafter called "upright" sections. These are sections B and E to form the sides, sections C and D to form the bow, and a section F to form the stern. Each of these sections is connected to the adjoining section by hinges *h h*, with the exception of one meeting place where the sections are joined by straps and buckles *b b*, so that they can be detached from each other. This buckled joint is between a section for one of the sides and the section for the stern. The hinges are formed by wrapping strips of leather around the adjoining rods of the adjoining sections. The rods are round and the leather hinges are loose on both, so that the sections can be folded onto each other.

When the straps *b b* are unbuckled the upright sections can be straightened out into a flat chain. The section B which forms one of the sides will be a terminal section. Next to this will come the section C, which forms one side of the bow, then the section D for

the other side of the bow, the section E for the side opposite the section B, and lastly the section F which forms the stern. This section for the stern is also a terminal section. A section A to form the bottom is hinged to the lower edge of the terminal section B.

The framework is brought into the shape of the boat by arranging the sections as shown in Fig. 2. The section B for one of the sides and the section F for the stern are buckled together, and the section for the bottom is buckled to the lower edge of the section E. A triangular strip of canvas is attached to one end of the bottom section, and is tied in the bow of the boat. Slats *g g* are attached to this canvas and rest on the lower rails of the bow-sections. All of the sections have rungs or braces *r r* to stiffen them. The bottom section has two rungs about equidistant from each other and the ends. These divide the bottom section into three panels. Light bottom boards *a a* are laid across two of these panels and canvas is stretched over the middle panel.

The canvas is to serve as a seat for the occupant. The two bottom boards *a a* and the slats *g g* are enough to brace the bottom of the boat and afford places on which to step in getting in or out. Canvas is used for the rest of the bottom because it is lighter than the wood. Pockets *p p* of canvas are stretched between rungs in the side frames. These are convenient for holding ammunition and bait. A top brace *t* braces the top of the framework.

To complete the boat a waterproof flexible covering of canvas H is stretched over the framework. Loops of rope *l l* are on the upper edge of the covering. These are caught over buttons *k k* on the upper rails of the upright sections which form the gunwale of the boat. Air-chambers *c c* are attached to the covering and inflated. They are on the bow, sides and stern. Those on the bow and sides are preferably placed at the water-line and not low enough down to be completely submerged. By thus locating them they will strike the water upon any unbalancing of the boat, and prevent it from overturning. There is a further element of safety in the employment of these air-chambers because they will keep the boat from sinking in event of its filling with water through puncture of the

canvas or otherwise. The strap *m*, which is buckled to the sides, serves as a back-rest.

In the construction of my boat, lightness and portability have been the principal objects in view. It is intended especially for use in hunting and fishing. For the former purpose—as, for example, in duck-hunting—narrowness and lightness of draft are particularly needed so that the boat can pass among reeds where boats which are wider or of deeper draft could not go. The occupant sits on the bottom of the boat instead of on a seat so that the weight will be lower down and give more stability.

To fold the framework into a compact package the chain of upright sections is turned over so that the terminal section B will lie upon the section A which forms the bottom. The section C is then folded back upon B and section D is folded forward upon C. Section E is likewise folded back upon D and section F forward upon E. They are thus folded upon each other in alternately opposite directions. In order that the upright sections may fold compactly together, it is necessary that no intermediate section in the line be of different length from those hinged to it at either end. It is not necessary, however, that the sections be all of equal length, for if one of the sections—as, for example, section F—is shorter than the others, it will not interfere with the compact folding together of the framework, provided that it can be made a terminal section.

Suitable dimensions for the boat are six feet in length, twenty-one inches in width, and twelve inches in height. Such a boat can be folded into a package thirty-seven inches long by twenty-one inches wide by nine inches thick. This includes both framework and covering and a case or bag in which these are contained. The case, which is not shown, can be used as a deck-cover when the boat is in

use. Within the dimensions of the package given there is also space for a gun-case and gun, game-bag, and other articles that a sportsman may need to carry.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a framework for a folding-boat, sections to form the sides, sections to form the bow, and a section to form the stern, the several sections being connected to each other at their meeting edges, and a bottom section which is hinged to one of the side sections, substantially as described.

2. In a folding-boat, the combination with a removable flexible covering, of a framework consisting of a chain of upright sections hinged together at their ends so that they can be folded together in alternately opposite directions, and a bottom section which is hinged to one of the upright sections, substantially as described.

3. In a folding-boat, the combination with a removable flexible covering, of a framework consisting of a chain of upright sections hinged to each other at their ends so that they can be folded together in alternately opposite directions, and a bottom section which is hinged to a terminal section of the chain of upright sections, substantially as described.

4. In a folding-boat, the combination with a removable flexible covering, of a framework consisting of sections to form the sides, sections to form the bow, and a section to form the stern, the several sections being connected to each other at their meeting edges, and a bottom section which is hinged to one of the side sections, substantially as described.

Signed by me, in Yonkers, this 27th day of July, 1895.

FREDERICK HEATHER.

Witnesses:

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GALUSHA B. BALCH.