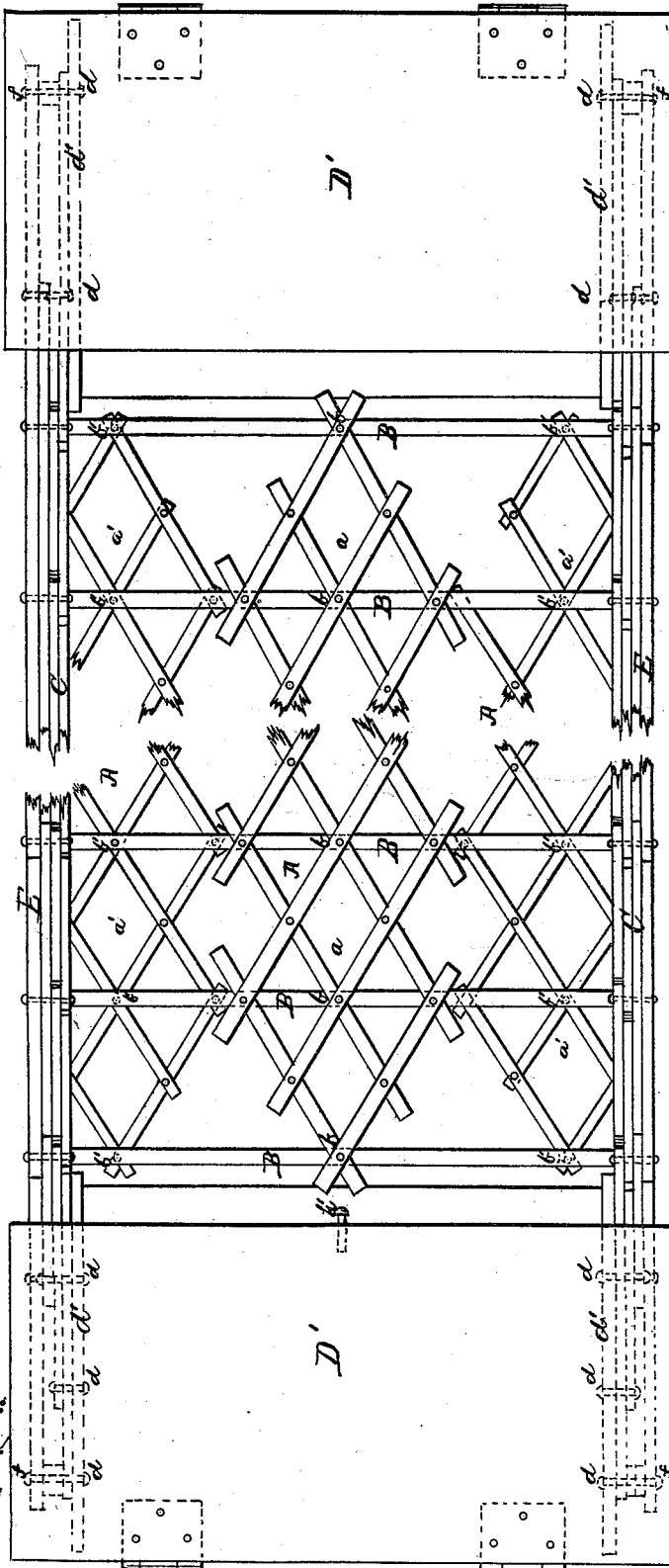


C. A. FENNER.
PORTABLE FOLDING BOATS.

No. 176,849.

Patented May 2, 1876.

Fig. 1.



Witnesses:
Henry Cushing
B. S. Clark

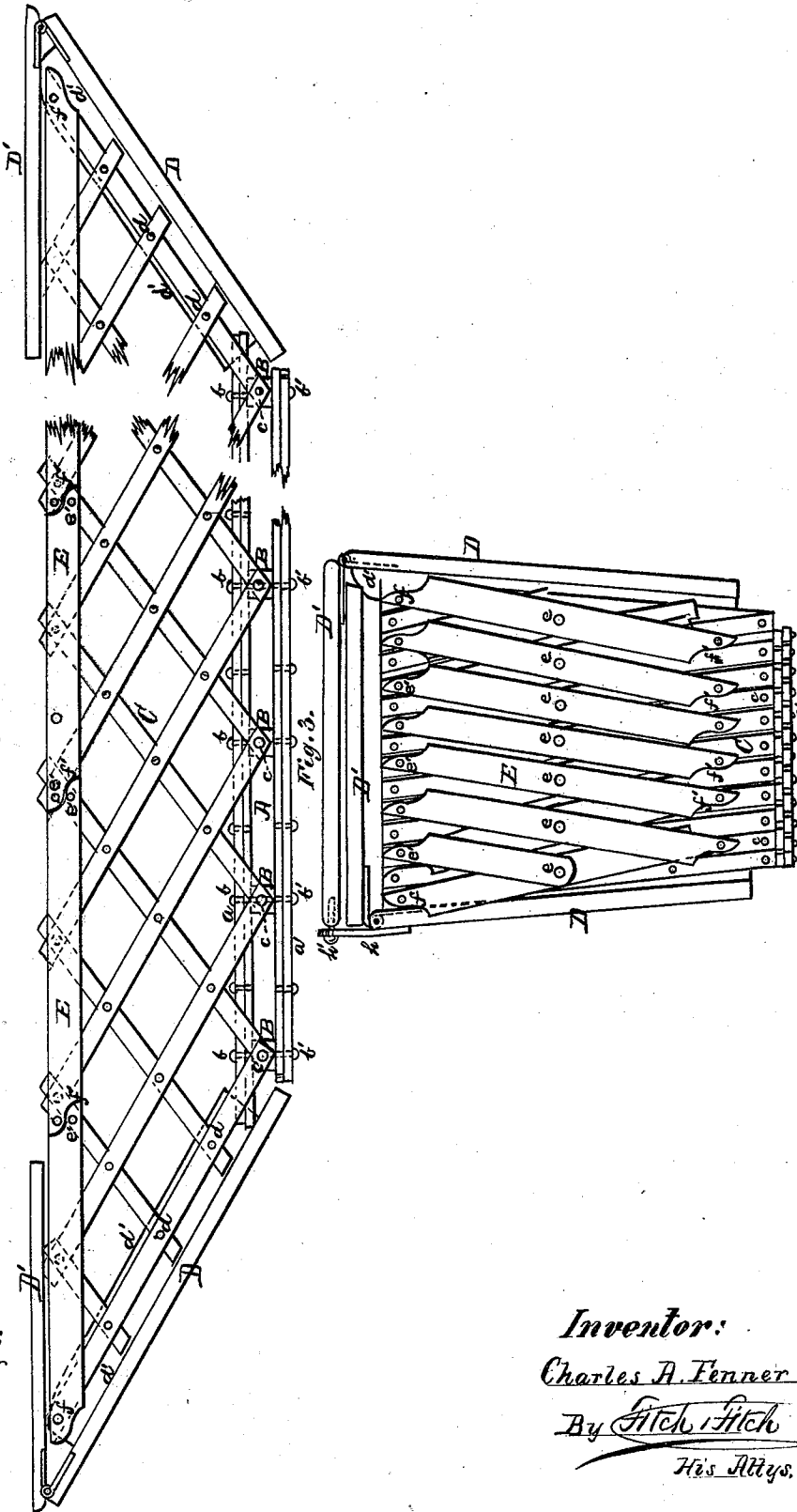
Inventor:
Chas. A. Fenner
B. Fitch
His Atty.

C. A. FENNER.
PORTABLE FOLDING BOATS.

No. 176,849.

Patented May 2, 1876.

Fig. 2.



Witnesses:
Henry Eichling
B. B. Clark

Inventor:
Charles A. Fenner
By *Fitch & Fitch*
His Attys.

UNITED STATES PATENT OFFICE.

CHARLES A. FENNER, OF MYSTIC RIVER, CONNECTICUT.

IMPROVEMENT IN PORTABLE FOLDING BOATS.

Specification forming part of Letters Patent No. 176,849, dated May 2, 1876; application filed January 6, 1876.

To all whom it may concern:

Be it known that I, CHARLES A. FENNER, of Mystic River, county of New London, in the State of Connecticut, have invented an Improvement in Frames for Portable Boats, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof.

The object of my invention is to provide a frame-work for a boat, which may be extended to a suitable length, and retained in that position, and be adapted to be covered with a suitable facing or exterior surface of rubber or other water-proof cloth, or which may be contracted into a narrow compass, and form a box in which the external covering may be placed, folded up, and be there confined by a lid, and the whole structure thus rendered conveniently portable; and my invention consists in the combination, with a lazy-tongs device forming the bottom and sides of the boat-frame, of a set or series of bars pivoted to each other, and to the upper edge of the lazy-tongs forming each side of the boat, and forming, when the frame is extended, the gunwale of the boat, and acting as braces to keep the frame thus extended; together with slabs or pieces forming the ends of the boat, to ribs set on the inner sides of which the lazy-tongs forming the sides are pivoted, and having hinged to their upper edges slabs or pieces, which form seats at either end of the boat when the frame is extended, and also constitute the lid to the box or compartment formed by the frame when contracted, as hereinafter set forth.

In the drawings, Figure 1, Sheet 1, is a plan, and Fig. 2, Sheet 2, a side elevation extended, and Fig. 3 a side elevation contracted, of a frame for a portable boat embodying my invention.

A is the lazy-tongs forming the bottom of the boat-frame. This I prefer to make in three sections, the section *a* being pivoted at *b* to the upper faces of the transverse bars B, and thus forming a lattice-flooring to the boat when the frame is extended, as shown, and the sections *a'* being pivoted, one on either side, to the under faces at *b'* of the

said bars B. C C are the lazy-tongs forming the sides of the frame, and are pivoted at *c* to the ends of the bars B at their lower edge, as shown, and at their ends, at *d*, to the ribs *d'* fixed on the inner sides of the end pieces or slabs D of the frame. These end pieces D form the prow and stern of the boat, and have hinged to their upper edges the pieces D', which rest upon the sides of the frame when extended, and thus form seats, as shown in Figs. 1 and 2. When the frame is contracted, as shown in Fig. 3, the lazy-tongs A and C, being folded closely together, form the bottom and ends, while the pieces D and D' form the sides and lid of a box or compartment. The hook *h*, set in one of the pieces D, as shown, may be caught upon the button *h'* fixed in the edge of one of the pieces D', and the compartment or box thus securely closed. E E are sets or series of bars, which are pivoted together at *e*, as shown, and to the upper ends of the lazy-tongs C, forming the sides of the frame, on the exterior side thereof, at *e'*, as shown, and the end bars of each set, on either side of the boat, are pivoted at their upper ends, at *f*, to the upper ends of the ribs *d'* of the pieces D, as shown. The ends of these bars are beveled off or given an ogee curve, as seen at *f'*, so that when they are extended in the position shown in Fig. 2, the ends of the adjacent bars fit into each other, and the extended bars form a right line. When the frame is extended these bars constitute the gunwale of the boat, and also act as braces upon either side to hold the frame rigidly in its extended position. When the frame is contracted or folded up, as seen in Fig. 3, these bars fold together on the outside of these lazy-tongs C, and act, in folding, to bring the end pieces D of the frame from their inclined position, when extended, to a perpendicular position, to form the sides of the compartment or box hereinbefore described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a frame for portable boats, the combination, with the lazy-tongs devices A and C, forming the bottom and sides of the frame, of

the end pieces D having the ribs *d'* and the hinged pieces D', when constructed and arranged to operate as described, and for the purpose specified.

2. In a frame for a portable boat, the combination, with the lazy-tongs devices forming the bottom and sides, and the end pieces D, of the sets or series of pivoted bars E,

constructed and arranged to operate substantially as described, and for the purpose specified.

CHARLES A. FENNER.

Witnesses:

LEMUEL CLIFT,
ASA A. AVERY.