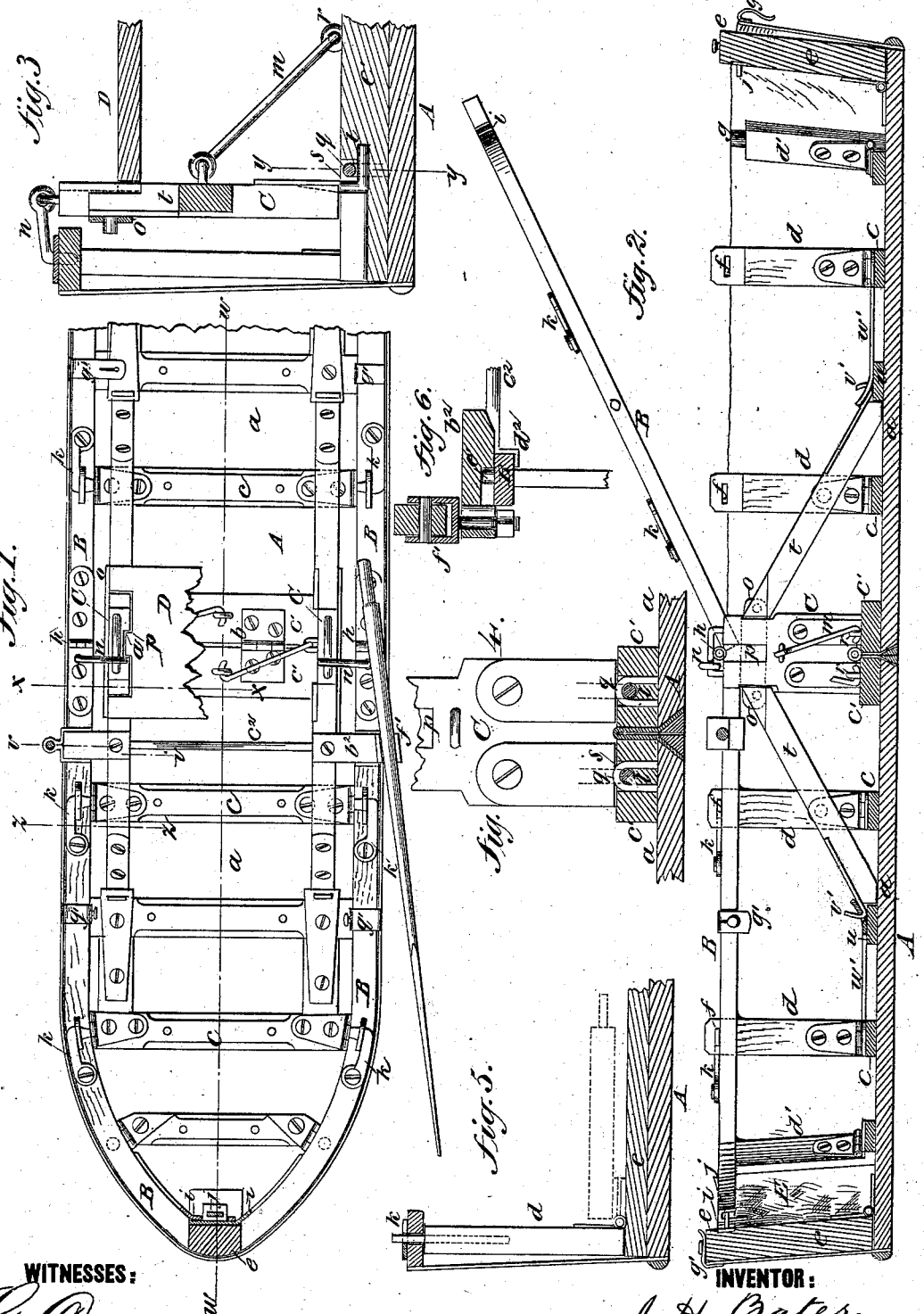
J. H. BATES.

FOLDING BOAT.

No. 189,913. Patented April 24, 1877.



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JOHN H. BATES, OF NANTICOKE, PENNSYLVANIA.

IMPROVEMENT IN FOLDING BOATS.

Specification forming part of Letters Patent No. **189,913**, dated April 24, 1877; application filed March 12, 1877.

To all whom it may concern:

Be it known that I, JOHN H. BATES, of Nanticoke, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Folding Boat, of which the following is a specification:

Figure 1 is a partial plan view. Fig. 2 is a longitudinal section on line *w w* in Fig. 1. Fig. 3 is a transverse section on line *x x* in Fig. 1. Fig. 4 is a transverse section on line *y y* in Fig. 3. Fig. 5 is a transverse section on line *z z* in Fig. 1. Fig. 6 is a transverse section on line *v v* in Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention consists in the arrangement in a boat of a folding bottom, folding ribs, and flexible sides, and a removable rail, seat, and oar-lock, as hereinafter more fully described.

In the drawing, A is the bottom of the boat, which consists of two parts, *a a*, which are hinged together at *b*, and are provided with transverse cleats or bars *c* c^1, secured to their upper surfaces. The bottom may be made from wood or other suitable material, and the joint at the hinges is covered with water-proof cloth or leather. To each of the cleats *c* a rib, *d* is hinged, and at the bow and stern of the boat posts *e* are hinged to the bottom. These posts, and also the ribs *d*, are arranged to fold inward toward the center-line of the boat. The rubber ends of the ribs *d* are provided with tenons having slots *f*, and the hinged ribs d^1 at the bow and stern of the boat are provided with plain tenons *g*. B B are rails that are each made in two parts, which are hinged together at *h*. These rails are provided with mortises that receive the tenons of the ribs *d d'*, and with hasps *i*, that are placed on staples *j*, that project from the inner sides of the posts *e*, the latter being notched to receive the hasps and also the ends of the rails. Hooks *k* are secured to the upper side of the rails B, which engage the slots *f* in the tenons of the ribs *d*. C C are posts that are provided with fixed L-shaped hooks *l* at their lower ends, and with the jointed hooks *m n*, ears *o*, and slot *p*. These posts are secured to the bars c^1 by first placing the end of the hook *m* in the staple *q*, projecting from the said bars, and then inserting the hooks *l* in the staples *r*, placed at the end of the slots *s*, formed in the bars c^1. Braces *t* are placed at each side of the posts C, and rest in notches in the posts, and are provided with studs that enter the holes in the ears *o*, and at their lower ends they abut against the cleats *u*, and are provided with hooks *v'*, that engage the slotted straps *w'*, that are secured to the cleats *u*. D is a seat that is cut away at its ends to receive the post C and the upper end of its braces *t*, and is provided with a projection, *a*, that fits into the slot *p*. The hooks *n* are inserted in holes made in the hinges of the rails B to stiffen and support the rails and to add security to the seat. The rowlocks consist of slotted blocks b^2, which are attached to the ends of a rod, c^2, which is bent downward or offset to make room for the legs of the oarsman, and is provided with clips d^2, which are hooked under the rail of the boat when the rowlocks are placed in position on the boat. The rowlock is further secured by the stud *e'*, which engages the slot in the rowlock. The oars are pivoted in a fork, f^1, in the usual way, the said fork being pivoted in the rowlock. A covering, E, of canvas or other flexible water-proof material, is attached to the boat bottom by means of nails or otherwise, and is secured to the rails at the top of the boat by straps g^1, which are engaged by buttons that project from the rails and from the posts at the bow and stern of the boat.

The boat thus constructed is light and strong, and is capable of being quickly taken apart or put together, and when taken apart it may be folded together and packed in small compass.

The operation of taking the boat apart consists in removing the rowlock and oars, unfastening the straps g^1, disengaging the hooks *k* and *n* and hasps *i*, and removing the rails B. The seat D is then removed, the braces *t* taken out, and the posts C removed. Such parts as can be packed between the cleats *c* c^1 are placed across the bottom, and the ribs *d d'*, posts *e*, and the canvas covering, are folded in, and the boat is folded together. The boat is put together by reversing the operation just described.

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

1. The combination, in a folding boat, of the centrally-hinged bottom A, having cleats c c^1 u, the hinged ribs d d', posts e, hinged rails B, and water-proof covering E, substantially as herein shown and described.

2. The combination of the standard C, having hooks l m n, slot p, and ears o, braces t, seat D, and the bottom and rail of a folding boat, substantially as herein shown and described.

3. The rod c^2, slotted blocks b^2, and forks f^2, in combination with the rail B, having the stud e', substantially as herein shown and described.

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Witnesses:
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