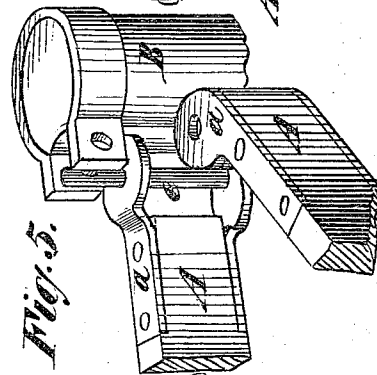
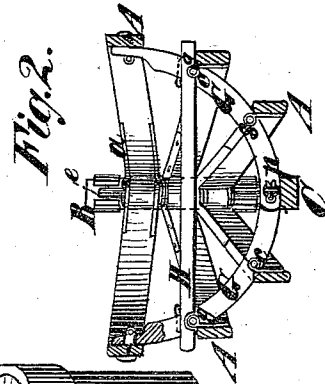
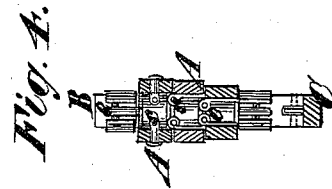
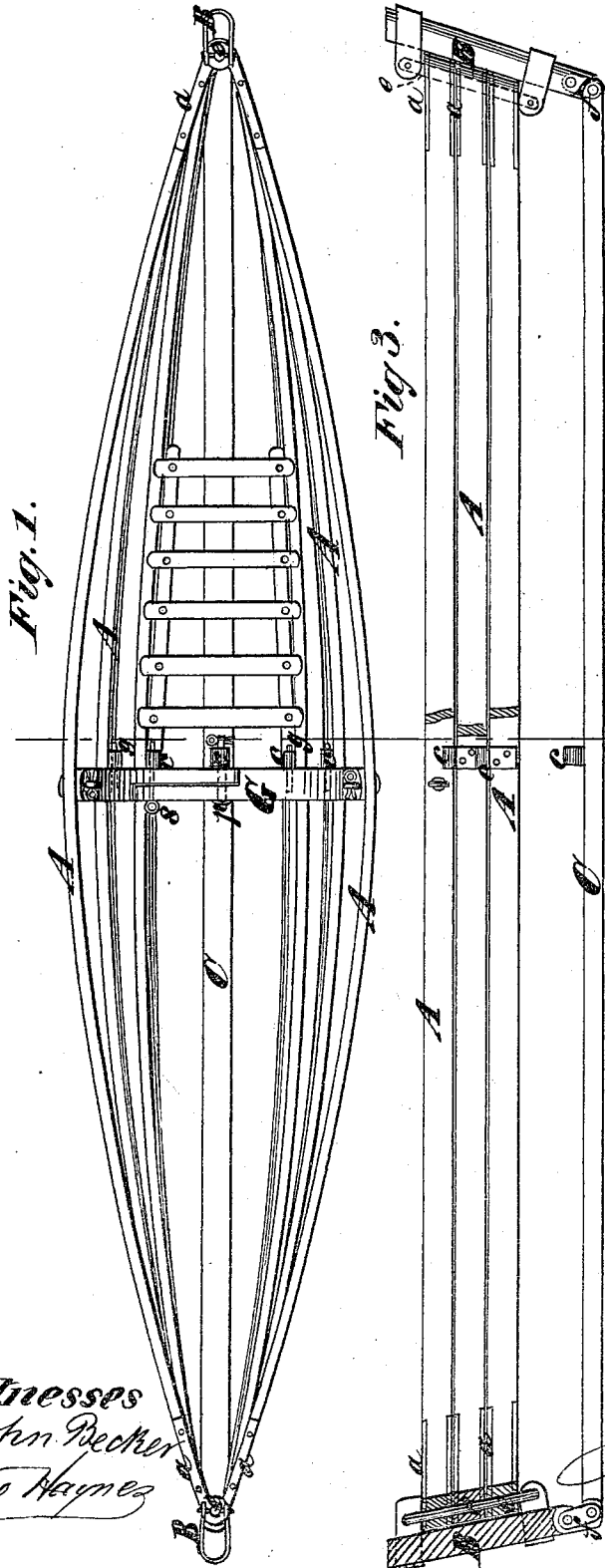


J. E. BROWNE.
Collapsible Boats.

No. 148,661.

Patented March 17, 1874.



Witnesses
John Becker
Geo Haynes

James E. Browne
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

JAMES E. BROWNE, OF RAHWAY, NEW JERSEY.

IMPROVEMENT IN COLLAPSIBLE BOATS.

Specification forming part of Letters Patent No. **148,661**, dated March 17, 1874; application filed August 21, 1873.

To all whom it may concern:

Be it known that I, JAMES E. BROWNE, of Rahway, in the county of Union and State of New Jersey, have invented a Collapsible Frame for Boats having flexible coverings, of which the following is a specification:

This improved frame is designed for boats constructed so as to be capable of collapsing into very little space to accommodate tourists and others who desire some portable means of conveyance on water. It is made up of a series of flexible ribs or poles extending from end to end of the boat, and fastened to stanchions connected with a keelson, so that the whole may be extended to form a well-shaped boat, or may be collapsed, so that the ribs are brought into proximity with the keelson near them, and may be thus secured by a strap or other means, so that they can be very conveniently carried. Oars, seats, bottom, and the lateral braces employed to preserve the form of the boat, may be contained in the boat when thus collapsed, and thus render it a very compact article.

In the accompanying drawing, Figure 1 is a top view of the frame extended to form a boat. Fig. 2 is a transverse section of it in the same condition. Fig. 3 is a longitudinal section of the same, representing it collapsed. Fig. 4 is a transverse section of the same collapsed; and Fig. 5 is a detail view of the connection between the ribs and a stanchion.

Similar letters of reference indicate corresponding parts throughout the several figures.

A A are the longitudinal ribs before mentioned. They are made of light wood, and are represented as being rectangular in their transverse section, but may be round poles, so long as they are flexible enough to be bent out to assume the shape of the sides of a boat. They are furnished at both ends with eye-plates *a a*, which are secured together by pivots or rods *e e* passing through them, whereby they are afforded liberty to turn or swivel, to prevent them from straining during their lateral flexure. The pivots *e e* are fastened to the opposite sides of two stanchions, B B, in position parallel, or approximately parallel, with their sides. These stanchions constitute the ends of the boat-frame, and are connected by links *f f* with the ends of the keelson C. These

stanchions are thus connected with the keelson for the purpose of permitting their deflection outward to accommodate themselves to the extension of the ribs longitudinally, when they are collapsed into proximity with one another. By means of the arrangement of the pivots *e e* parallel with the stanchions, the ribs, when the frame is set out to form a boat, bulge out each farther than the one below it, and thereby the transverse shape of the boat is preserved. The keelson, too, is made so that it can be bent or deflected out of line to render the collapsed frame more compact. The ribs are held out by a cross-brace, G, which is shaped to the intended transverse section of the boat. It is made in two pieces, which, at their junction, are mortised into each other, and pivoted together at the middle of the boat by a pivot, *p*, so that they can be folded together when desirable. When extended they are locked by a pin, *s*, passing through them both. It crosses the inner sides of the ribs at or about the middle, and is furnished with a number of pins or studs, *g g*, which fit into eyes *c c* provided on the several ribs, and thereby hold them in position, so as to preserve the shape of the boat. Cross-pins are applied to the ends of the aforesaid studs, beyond the eyes, to prevent them from slipping out and freeing the ribs. By this brace the ribs are not only preserved in their outward flexure, but are prevented from extending farther than the brace, and are held laterally also. The seat H is arranged across the brace and is mortised at the ends to fit it. It is secured in position by pins inserted in the brace above it, and forms a stay to the brace, and affords additional strength to the boat. The bottom of the boat consists of parallel pieces resting on two lower parallel ribs of the frame, and having cross-bars pivoted to them, so that they both may be folded together, and will occupy but little space in the boat when collapsed. The boat-frame, thus constructed, is covered with canvas, or other suitable material, and may readily be collapsed on the removal of the bottom, seat, and brace and pressure of the opposite ribs together. The oars, bottom, seat, and the brace can be all accommodated within the boat thus collapsed. It may easily be made ready for

use by removing the things from within it and forcing its ribs apart, and then adjusting its brace, seat, and the bottom.

One advantage of this frame is that the canvas is stretched tightly by the flexibility of the ribs.

The ribs might be jointed at some portion of their length, but must, of course, be connected by some device that will preserve their flexure from end to end. By this the frame will be rendered even more compact than before.

What I claim as my invention is—

The combination of the links *f f* with the keelson and the stanchions, whereby the latter can accommodate themselves to the extension of the series of longitudinal ribs *A A* when the boat-frame is collapsed, essentially as herein specified.

JAMES E. BROWNE.

Witnesses:

ROBERT BROWNE,
EDWIN H. BROWN.