J. W. SANBORN.

JOINT FOR BOAT KNEES.

No. 184,265. Patented Nov. 14, 1876.

Fig. 1.

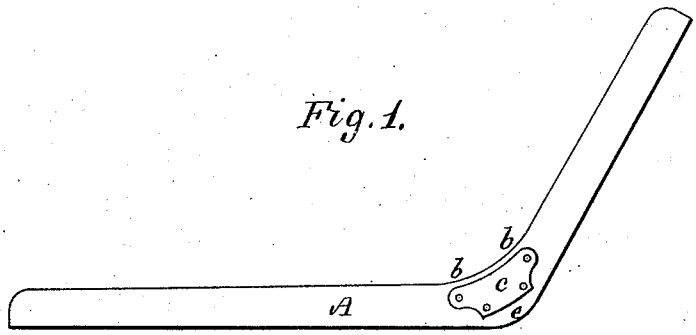

Fig. 3.

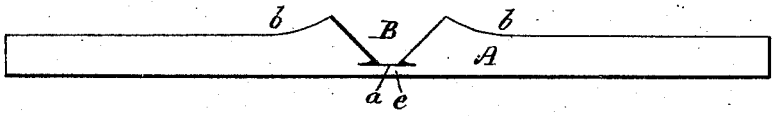

Fig. 4.

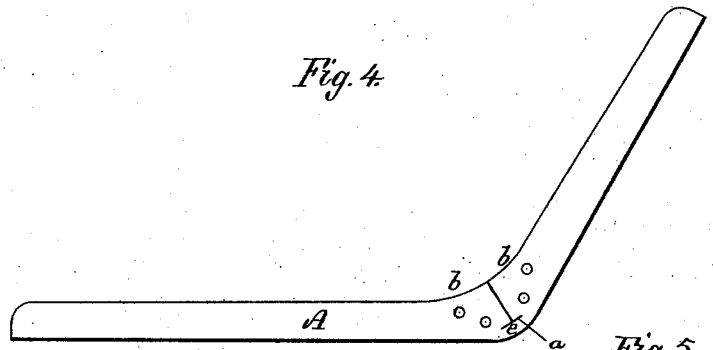

Fig. 2.
Enlarged.

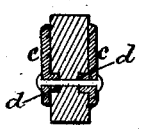

Fig. 5.

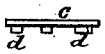

Fig. 6.

Witnesses.
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JOSEPH W. SANBORN, OF KINGSTON, NEW HAMPSHIRE.

IMPROVEMENT IN JOINTS FOR BOAT-KNEES.

Specification forming part of Letters Patent No. **184,265**, dated November 14, 1876; application filed July 22, 1876.

To all whom it may concern:

Be it known that I, JOSEPH W. SANBORN, of Kingston, Rockingham county, New Hampshire, have invented certain Improvements in Boat-Timbers, of which the following is a specification:

My improvements relate to a method of constructing timber for boats, by which I obtain great strength, with lightness and durability, and consist as hereafter explained.

The drawings accompanying this specification represent, in Figure 1, a side view, and in Fig. 2 a section, of a timber embodying my invention. Fig. 3 is a view of the strip of wood prior to being bent. Fig. 4 is a like view after being bent, and showing the pockets for receiving the teat of the stay-plates, (to be explained.) Figs. 5 and 6 are views of one of the said stay or clamp plates.

In carrying my invention into practice, I provide a strip, A, of wood, of a thickness to produce one or more timbers, and of a width equal to the widest part of such timber; and I cut from one side of such strip of wood, at the point where the bend is to be under, an obtuse-angled notch, B, of such form that when the strip is bent to the destined shape the side of the notch shall meet and form a perfect miter, as shown in Fig. 4 of the drawings. The slope of the sides of the notch will, of course, vary with the angle of the sides of the bent timber, and will be determined by trial. At the corner or point of connection of each side of the notch with the bottom thereof I cut in the strip A, and longitudinal therewith, a short saw-kerf, *a*, in order to permit of the requisite slip of the parts as the sides of the notch approach each other.

I next, by preference, steam the strip A, and then bend it about the mold or form from which it is to receive its ultimate shape, as shown in Fig. 4, the curved portions *b b* of the edges of the strip being produced before or after bending, as may be deemed best.

It will be observed that I leave a small portion, *e*, of wood intact below the saw-kerf *a a*. This is to obtain strength, and I leave so much of the wood at this point as can be bent with safety and not produce too large a corner.

To strengthen and stiffen the joint above described I employ two metallic plates or ears, *c c*, and I place them upon opposite sides of the strip and covering joint, and rivet them together, as shown in Fig. 2 of the drawings.

To greatly strengthen the parts I prefer to cast upon the inside of each plate *c* a series of teats, *d d*, &c., which extend a short distance into the wood, but not entirely through, lest too much of the latter should be taken away. When the teats *d* are employed the rivets should pass through them, as shown in Fig. 3.

Boat-timbers formed as above described are superior to natural-bend timbers, for the reason the grain of the wood follows its length throughout, and the corner or bend is equally strong.

I claim as my invention, and desire to secure by Letters Patent, the following:

1. The joint herein described, produced by the notch B and saw-kerfs *a a*, substantially as and for purpose stated.

2. In combination with the timber formed with notch B and saw-kerfs *a a*, and bent as described, the strengthening-plates *c*, fitted to the joint on opposite sides of the timber, provided with teats *d*, let into the wood, and united by rivets which pass axially through the teats, as shown and set forth.

JOSEPH W. SANBORN.

Witnesses:

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W. E. BOARDMAN.