Sheet 1, 2 Sheets.

J. G. Niecum.

Wood Bending.

No. 101,302. Patented Mar. 29, 1870.

Fig: 1.

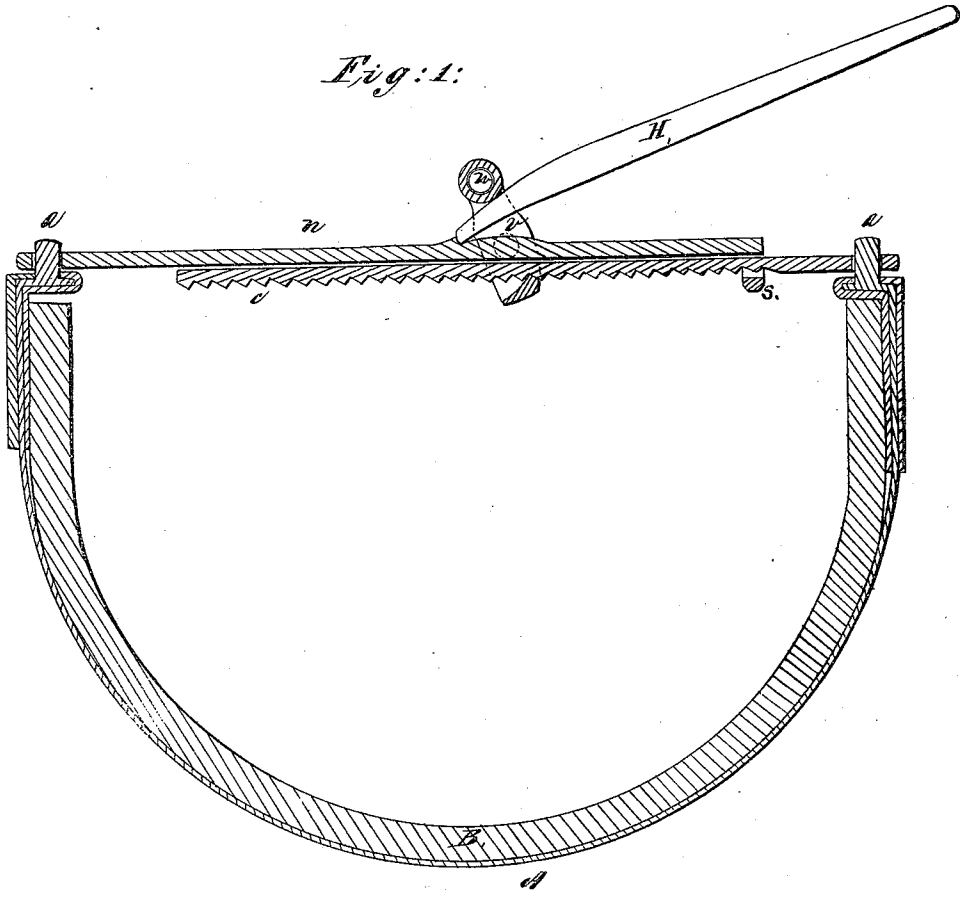
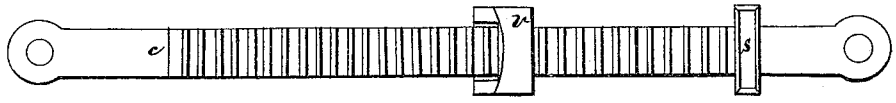


Fig: 2.



Witnesses:

E. W. Anderson

James P. Grears

Inventor:

J. S. Niecum.

Chapman, Hosmer & Co
attys

Sheet 2, 2 Sheets.

J. G. Niccum.

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No. 101,302. Patented Mar. 29, 1870.

Fig: 3.

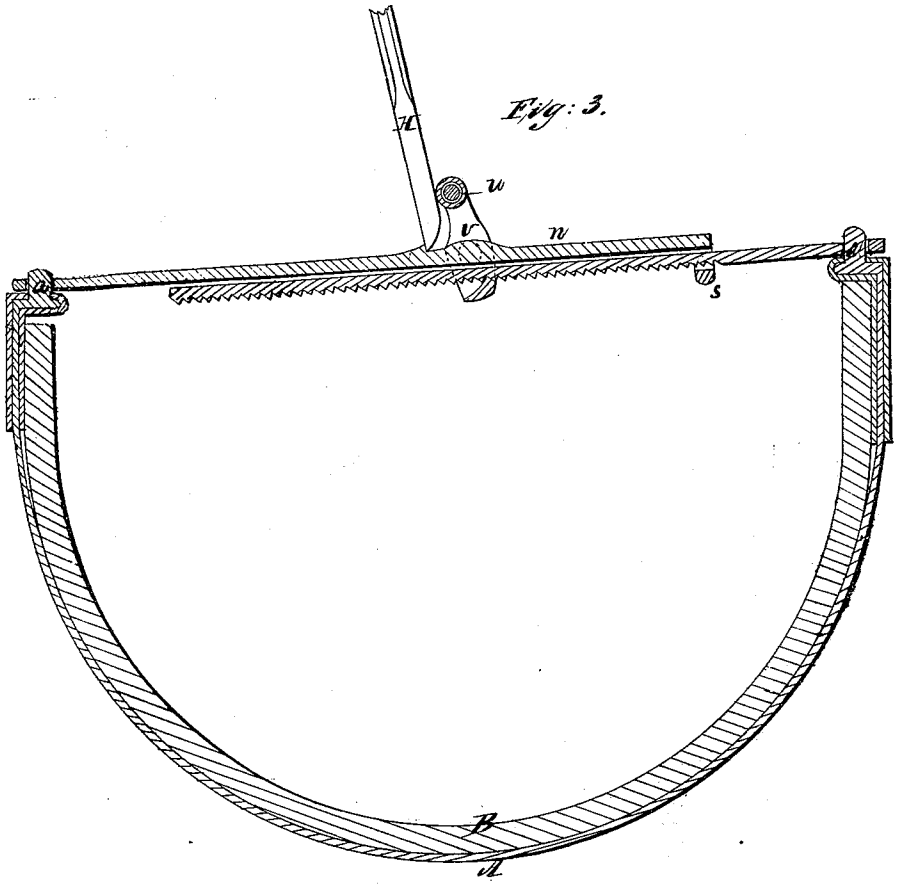
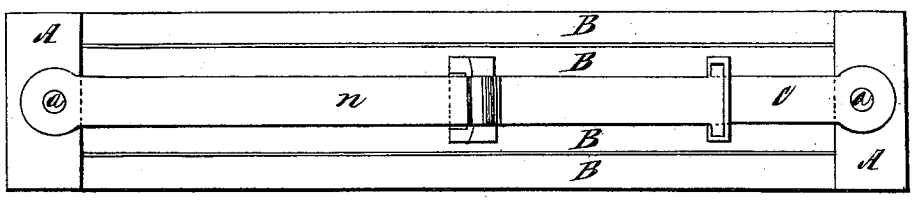


Fig: 4.



Witnesses:
E. W. Anderson
D. C. Kane,

Inventor:
J. G. Niccum
Chipman Fosmer & Co
Attorneys.

United States Patent Office.

JOEL G. NICCUM, OF INDIANAPOLIS, INDIANA.

Letters Patent No. 101,302, *dated March* 29, 1870.

IMPROVEMENT IN TIE-BAR FOR HOLDING BENT WOOD.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOEL G. NICCUM, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and valuable Improvement in Methods for Bending Wood; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 is a representation of a central vertical section of my invention, with lever in position to secure the catch.

Figure 2 represents a bottom view of the tie, showing teeth of rack-bar.

Figure 3 is a representation of a central vertical section, with lever in position to loosen the catch.

Figure 4 represents a top view of my invention.

My invention relates to means for securing the ends of bent wood in position, and consists, mainly, in the construction and novel arrangement of an adjustable tie, whereby the ends of the bent timber, or of the band or upset in which it is contained, may be secured in position in an efficient manner.

The letter A, of the drawings, designates an ordinary band or upset, whereof the ends are reinforced, and arranged to hold securely the pins *a a*. B designates the timber therein.

Heretofore, the ends of these plates or upsets have been held together by links, or sometimes, single bars having in each end an eye.

It will readily be perceived that such a method necessitates a separate tie for each of the different sizes used in the factories.

On account of the inequality of demand for the different sizes of work, a necessity exists for a fastening which would answer for any size.

The letter *n* designates the upper bar of my fastening, provided with an eye, to fit over either pin of the upset, a loop, *s*, through which the under or rack-bar *c* slides, and having pivoted at or about its center the catch or stirrup *v*.

The lower bar *c* is toothed on the under side, and is provided with an eye, to fit over the opposite pin of the upset.

The stirrup *v* is arranged in the form of a loop, with a beveled catch arranged to fit into the notches of the rack-bar, in such a manner that any force which tends to increase the distance between the eyes of the bars will cause it to bite into the nearest notch, while the rack-bar will slide easily through it in the opposite direction.

To effect this object the catch is formed with a double bevel, the long face of which makes nearly a right angle with the short face at the point of intersection, and is turned, as are the long facets of all the teeth of the rack-bar, toward the free end thereof.

Above the bars, the checks of the stirrup *v* are connected by a small round cross-bar, which serves as the journal of the anti-friction roller *u* thereon.

The bar *n* is provided with a step just in front of the stirrup *v*, to serve as a purchase for the toe of the operating-lever H.

The operation is as follows:

When the wood has been bent the tie is attached, the eye of each bar being placed over its corresponding pin in the end of the upset, the lever being placed as in fig. 1, to hold the catch securely in the proper notch, the compressing force is removed, and the catch is set firmly.

When it is desired to remove the timber from the compress or upset, the tie is loosened by applying the lever on the other side of the roller *u*, in the manner indicated in fig. 3 of the drawings.

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

The adjustable fastening herein described, for securing the ends of bent timber, consisting of the rack-bar *c* and bar *n* with its pivoted catch *v*, all constructed and arranged to operate as specified and shown.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOEL G. NICCUM.

Witnesses:
W. T. JONES,
AARON JOHNSON.