J. WELCH.

Machine for Bending Wooden Stirrups.

No. 217,180. Patented July 1, 1879.

Fig. 1.

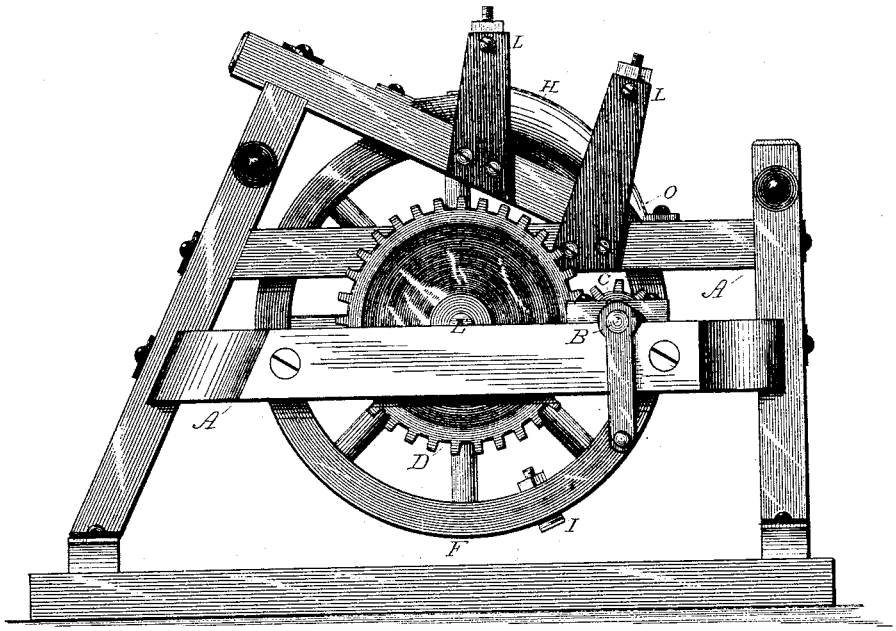
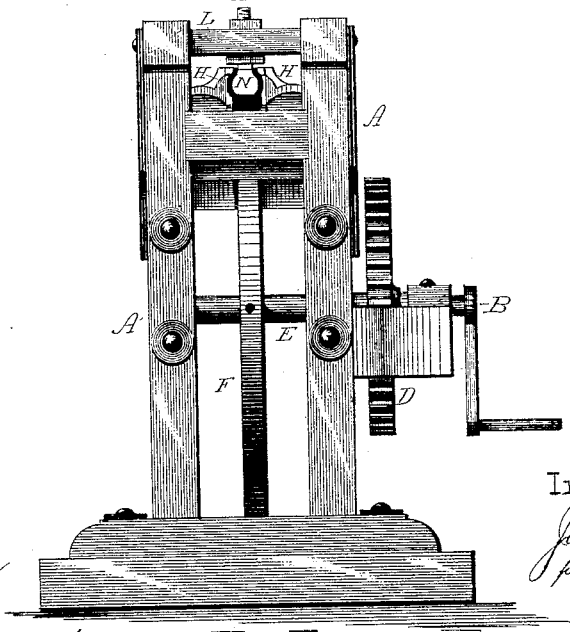


Fig. 2.



Witnesses:

J. W. Garner

W. S. D. Baines

Inventor:

Joseph Welch,

per T. A. Lehmann,

Atty.

Fig. 4.

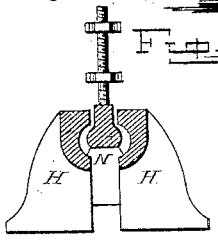


Fig. 3.

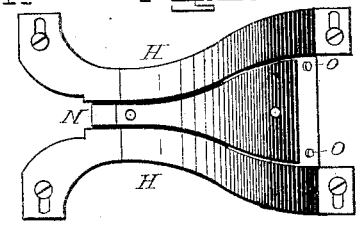
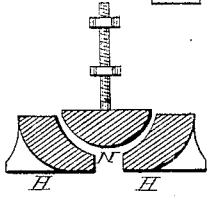


Fig. 5.



UNITED STATES PATENT OFFICE.

JOSEPH WELCH, OF DELPHOS, OHIO.

IMPROVEMENT IN MACHINES FOR BENDING WOODEN STIRRUPS.

Specification forming part of Letters Patent No. **217,180**, dated July 1, 1879; application filed November 25, 1878.

To all whom it may concern:

Be it known that I, JOSEPH WELCH, of Delphos, in the county of Van Wert and State of Ohio, have invented certain new and useful Improvements in Stirrup-Benders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in stirrup-bending machines; and it consists in the combination of two outside and one inside formers, of such a shape that the slats or pieces of wood out of which the stirrups are to be formed are fed in at one end of the formers by means of a large revolving wheel, and issue at the other end of the formers a finished stirrup, so far as bending is concerned, as will be more fully described hereinafter.

Figure 1 represents a side elevation of my invention. Fig. 2 is an end view of the same. Figs. 3, 4, and 5 are detailed views of the formers.

A represents a suitable frame of any desired construction, in which is journaled a cranked shaft, B, having the pinion C secured thereto. This pinion operates the large gear-wheel D, which is secured upon one end of the shaft E, upon which shaft the large carrier-wheel F is also secured. Secured upon the periphery of this large carrier-wheel F are a number of plates, I, which, as the carrier is made to revolve around, takes the strips or slats of wood out of which the stirrup is to be formed from the two pins O, and forces them on through the formers to be bent into a stirrup.

The formers consist of the two outside ones, H, and a central one, N, the two outside formers being made adjustable at each end by means of slots and set-screws, while the inside one can be adjusted vertically by means of the screw-bolts, which pass up through the cross-bars L. These formers are almost flat at their front ends, where the strips of wood are passed in; but as they approach toward their rear ends they are curved more and more, as shown in Figs. 3, 4, and 5, so that as the strip is forced along by the plates on the carrier, the strips are gradually bent so as to conform to the curved sides of the outside formers, and issue at their rear ends in the form of a finished stirrup. By thus having the formers shaped as shown, the bending of the strips takes place very gradually, and hence there is no, or but very little, liability of breaking or straining the wood. By adjusting the central former vertically and the two outer ones laterally, various-sized stirrups may be formed with equal facility.

Connected with the front end of the formers may be a sort of hopper, into which the strips of wood are fed, and as these strips will of their own gravity pass down upon the pins, it will readily be seen that the machine is made self-feeding, and that after the power has once been applied to it all that need be done is to keep the hopper filled.

Having thus described my invention, I claim—

1. In a stirrup-bending machine, the combination of the two outside formers and a central former, the three being flat, or nearly so, where the straight strips are fed in, and gradually curved in cross-section toward the end where the bent strips are ejected, substantially as shown.

2. In a wood-bending machine, the combination of the two formers H, laterally adjustable, the central former, vertically adjustable, and a mechanism for forcing through the strips that are to be bent, substantially as described.

3. The combination of the two outside formers, provided with the pins O, the central former, and a wheel provided with plates for forcing the strips through the formers, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of November, 1878.

JOSEPH WELCH.

Witnesses:
J. H. CAMPBELL,
GIDEON DITTO.