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A. F. MARSHALL.
Improvement in Machines for Bending Wood.
No. 118,736. Patented Sep. 5. 1871.

Fig. 1.

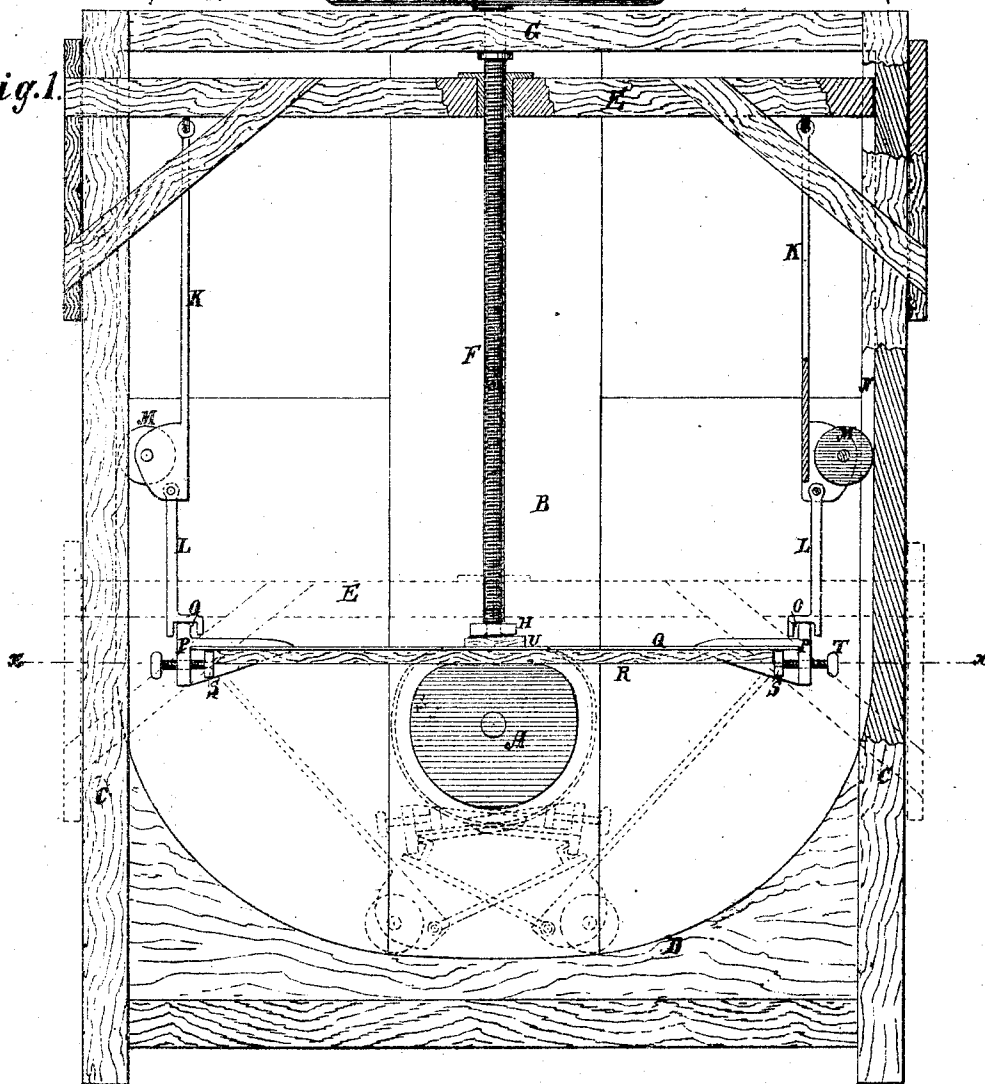


Fig. 2.



Witnesses:

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AUGUSTUS F. MARSHALL, OF BLACK RIVER, NEW YORK.

IMPROVEMENT IN MACHINES FOR BENDING WOOD.

Specification forming part of Letters Patent No. 118,736, dated September 5, 1871.

To all whom it may concern:

Be it known that I, AUGUSTUS F. MARSHALL, of Black River, in the county of Jefferson and State of New York, have invented a new and Improved Bending-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention relates to improvements in machines for bending wood for chairs, &c.; and it consists in a novel arrangement of devices with a former, metal spring-band, and attachments to the band confining the ends of the bar, for bending the latter around the former, all as hereinafter described.

Figure 1 is a plan view of my improved machine with some parts sectioned; and Fig. 2 is a section of the same on the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A is a block or former, around which the wood bar is to be bent. It is detachably connected to the bed B of the machine equidistant from the sides C and a short distance from the concave guide or way D fixed in the end of the frame, and fronting it. At the opposite end of the frame is a cross-head, E, arranged to slide on the sides C toward and from the former, being actuated by the screw F, mounted in bearings G and H, the latter being a projection rising up from the bed a short distance from the former. This cross-head carries jointed push-bars K L near each end ranging parallel with the sides C of the frame, and extending nearly as far as the former when said cross-head is at the end of its movement from the former. At the joint of these bars with each other they have a roller, M, connected, which works in a guiding-groove, N, in the frame. The bars L are notched in their outer ends, as at O, or may be otherwise arranged to engage blocks P attached to the ends of the band Q, employed for confining the bars R while being bent. The said blocks have a movable block, S, and an adjusting-screw, T, for confining the wood piece endwise, and causing it to bend snug-

ly against the band in all parts alike. The screws are used to relieve the pressure against the ends slightly during the latter part of the operation, as the stick increases in length to some extent. The dotted lines show the positions of the several parts when the bending has been completed, the operation of which generally will be clearly understood by inspection of the drawing.

The blocks P on the end of the band Q, being pushed around the former by the jointed push-bars K L, are to be so guided as to pass each other when they meet, as indicated, when it is intended to have the ends of the piece of wood bent, meet.

In practice the former A will be arranged so that the bent piece of wood may be secured to it to be held until it becomes dry and "set" in its bent form, so that it will not spring back again, the former being detached from the machine and removed with the piece, and another put on for the next piece to be bent; or, instead of having to remove the whole of the former, detachable rims or yokes may be employed which will fit on its periphery, to have the wood pieces bent and secured to them, and then be removed with the bent pieces.

Before bending the wood piece it is clamped at the center to the former by a key or wedge, U, driven between the spring Q and the projection H, to confine it against springing away from the former thread.

The machine will work with tolerable results without the rollers M, the joint being fitted to slide on the ways N D, but is much better with them.

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

The former A, screw F, spring Q, adjusting-blocks S, screws T, blocks P, push-bars L and K—the latter provided with rollers M—the cross-bar E, and grooved guide-ways C D, arranged and operating as shown and described.

AUGUSTUS F. MARSHALL.

Witnesses:

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