2 Sheets—Sheet 1.

A. T. NICHOLS.

MITERING MACHINE.

No. 179,944. Patented July 18, 1876.

Fig. 1.

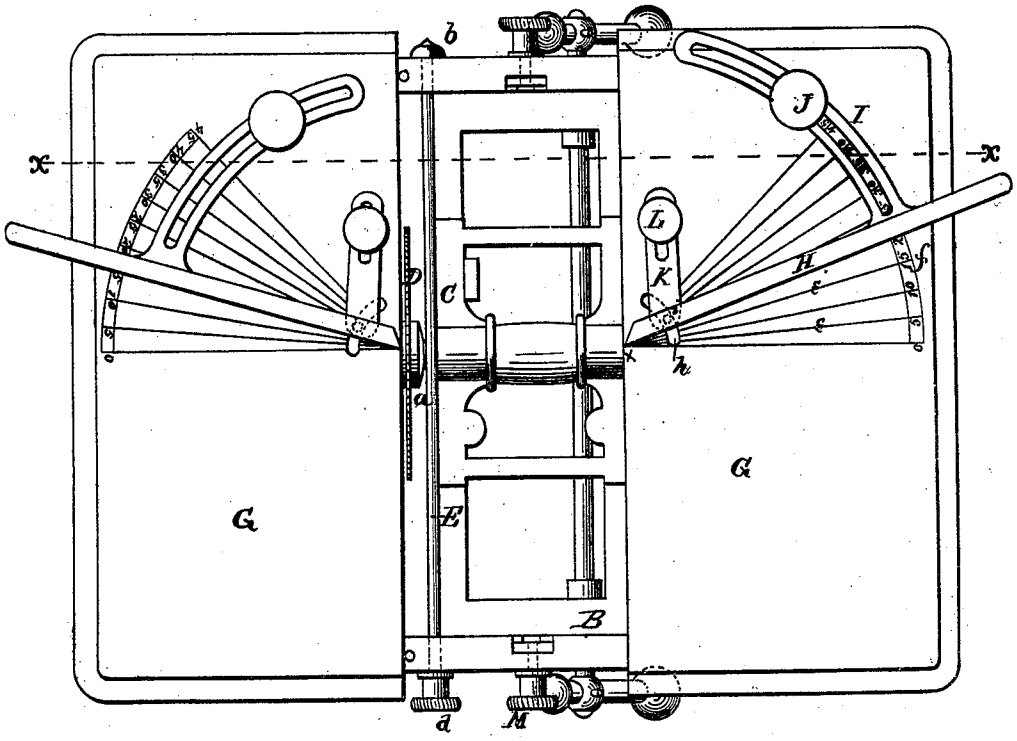
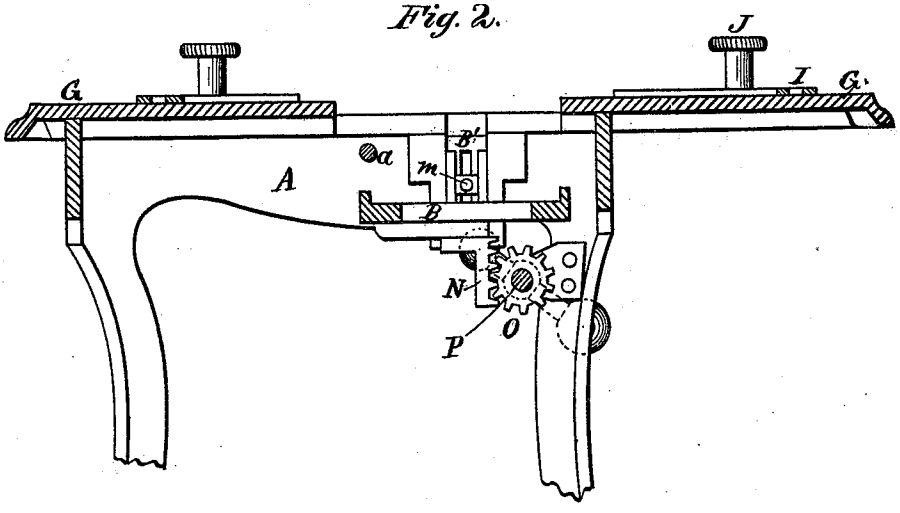


Fig. 2.



WITNESSES

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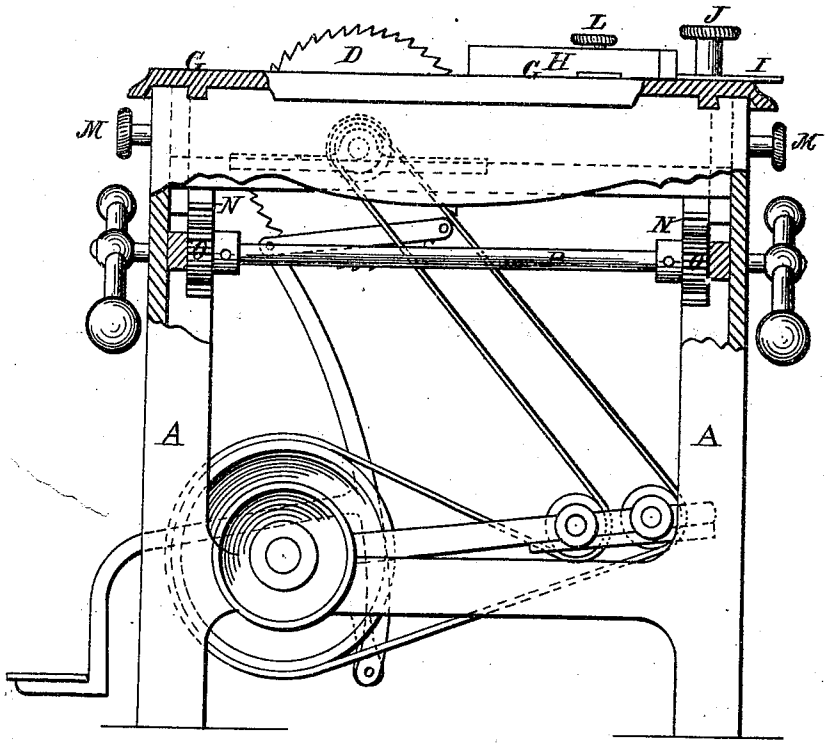
2 Sheets—Sheet 2.

A. T. NICHOLS.

MITERING MACHINE.

No. 179,944. Patented July 18, 1876.

Fig. 3.



WITNESSES

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By Franck L. Durand

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UNITED STATES PATENT OFFICE.

ALBERT T. NICHOLS, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN MITERING-MACHINES.

Specification forming part of Letters Patent No. **179,944**, dated July 18, 1876; application filed December 9, 1875.

To all whom it may concern:

Be it known that I, A. T. NICHOLS, of Williamsport, in the county of Lycoming, and in the State of Pennsylvania, have invented certain new and useful Improvements in Mitering-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to wood-working machines; and it consists in sliding table-tops, and the means for adjusting and fastening the same; also, in the construction and mode of adjusting the guides for cutting miters; and, also, in adjusting the frame which holds the saw-arbor carriage simultaneously at both ends, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view of a wood-working machine embodying my invention. Fig. 2 is a vertical section of the same through the line *x x*, Fig. 1. Fig. 3 is an end elevation of the machine.

A represents the frame of a wood-working machine, containing a vertically-adjustable frame, B, upon which the carriage C is moved back and forth. This carriage contains an arbor, *a*, upon which the saw D is secured. The saw-arbor is rotated and the carriage moved back and forth in the frame B by means as described in a recent patent granted to me. The table is made in two parts, G G, connected to the top of the frame A by means of dovetails, so as to be moved easily out and in, as desired. Through the front and rear sides of the frame, at the top, is passed a rod, E, which has a square head, *b*, on its rear end, let into the frame to prevent the rod from turning, and on the front end of said rod is placed a thumb-nut, *d*, by means of which the sides of the frame may be drawn sufficiently together to bind the table-tops G G and hold them firmly in place, at whatever point they may be set. By means of the sliding table the machine may be adjusted so as to receive a plow or dado of any width, as well as a saw. The upper surface of each part G of the table has a segmental scale, *f*, with a series of radial lines, *e*, running from a center point, *x*, at the inner edge of said table, and on this is placed a guide, H, having its inner end beveled to a point, which point shall always coincide with the center point *x* of the scale. To the guide H is secured a curved slotted arm, I, which is fastened to the table by a set-screw, J. A short distance from the inner beveled end of the guide H is a pin, *i*, which enters a hole in a plate or arm, K, and passes down through a curved slot, *h*, in the table. This slot is concentric with the curved arm I, and both have their center in the point *x* or the beveled end of the guide. The plate or arm K is slotted, as shown, and a set-screw, L, is passed through the same, to fasten it to the table. By these means the guide H may be adjusted and fastened at any angle desired, with the beveled inner end of the guide always at the same point *x*, and the miter will always be true and supported close up to the saw. The movable frame B, which supports the movable saw-carriage C, is provided at each end with a slotted standard or end piece, B′, and is fastened at any desired altitude to the frame A by means of a headed bolt, *m*, passing from the inside through the slot in the standard, and through a hole in the main frame, and with a thumb-nut, M, screwed upon its outer end. From each end of the frame B depends a vertical rack-bar, N, which meshes with a pinion, O, on a shaft, P, having a hand-wheel, or its equivalent, on each end. By these means both ends of the ways or frame B may be raised or lowered at the same time, and always equally. This may also be accomplished by means of connected screws or eccentrics, as may be deemed most advantageous.

In place of the rod *c*, for fastening the table-tops, I may use set-screws, passing through lugs or ears depending from the table.

I do not claim a saw which is attached to a stationary shaft, and is raised and lowered by means of racks and pinions, as I am aware that such is not new.

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

1. The independently-sliding table-tops G G, each connected to the frame A by dovetails on the same level, in combination with the rod E and thumb-nut *d*, substantially as and for the purposes herein set forth.

2. The combination of the table-top G, having graduations *e f* and curved slot *h*, with the guide H, having its inner end beveled to a point, and provided with the pin *i*, the slotted arm K, connected to the guide H at its inner end, and the slotted and curved arm I, connected near the outer end of the guide H, and the set-screws J L, all substantially as and for the purposes herein set forth.

3. The traveling saw D, connected to the carriage C, movable on the ways B, in combination with the racks N, pinions O, and shaft P, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of December, 1875.

A. T. NICHOLS.

Witnesses:
H. A. HALL,
J. M. MASON.