A. H. PUTNAM.

MITER MACHINE.

No. 184,725. Patented Nov. 28, 1876.

Fig. 1.

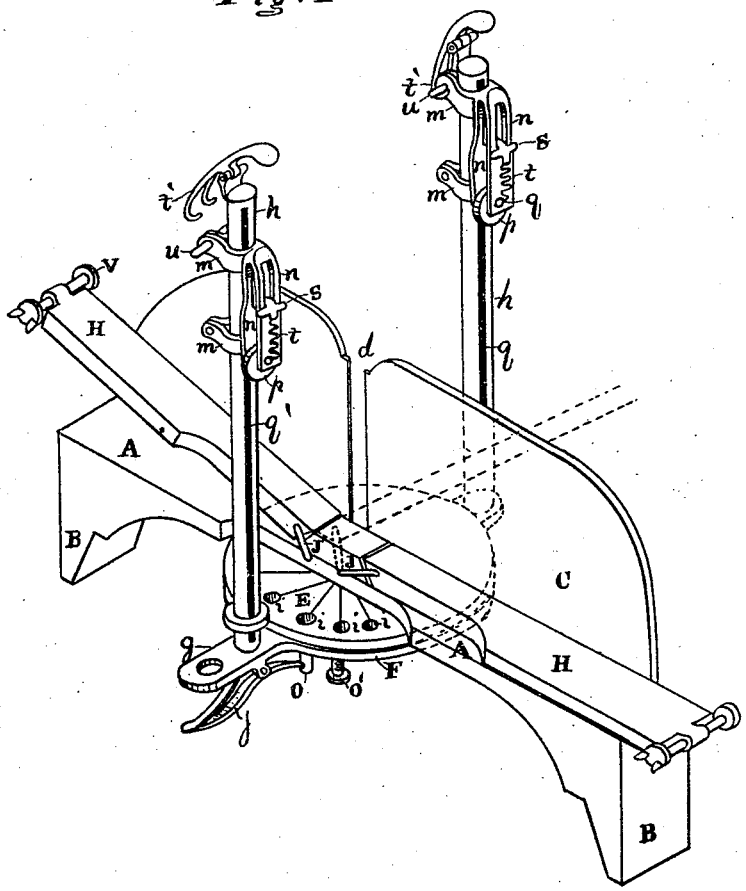
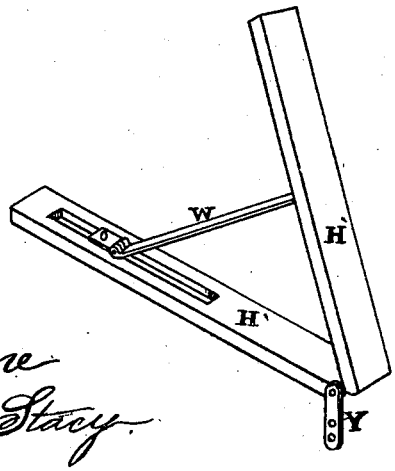


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

ALLEN H. PUTNAM, OF OAKLAND, CALIFORNIA.

IMPROVEMENT IN MITER-MACHINES.

Specification forming part of Letters Patent No. **184,725**, dated November 28, 1876; application filed September 19, 1876.

To all whom it may concern:

Be it known that I, ALLEN H. PUTNAM, of Oakland, county of Alameda, and State of California, have invented an Improvement in Miter-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to an improved machine for cutting miters and bevels; and consists in the combination and arrangement of devices hereinafter mentioned.

Referring to the accompanying drawings, Figure 1 is a perspective view of my miter-box. Fig. 2 is a view of the hinge-bars H′ H′.

A represents a narrow wooden bench, which is provided with strong legs or supports B at each end. This bench I provide with a back, C, the height of which is immaterial, and which can be made of boards nailed to the back or rear side of the bench. This back I divide into two parts by making a vertical slot, *d*, in its middle, through which the saw passes, as more fully described hereinafter. To the under side of the bench A, midway between the legs or end supports, I secure a circular metallic plate, E, the horizontal front projecting portion of which is marked with radial lines, representing the principal angles used by wood-workers in mitering and beveling; and a small hole, *i*, is made through the plate, at or near the extremity of each radial line, for the purpose hereinafter described. Below the circular plate E I secure another circular plate, F, by means of a central pivot, about which it can rotate while the upper plate is stationary. This lower plate F has an arm, *g*, projecting out in front, and a similar arm on the rear side opposite it, and to these arms are secured the upright saw-guides *h h*. A spring-lever, *j*, is secured to the under side of the front arm *g*, to the inner end of which an upward-projecting pin, O, is attached. This pin passes up through a hole in the lower plate, and enters either of the holes *i i* in the upper plate, according to the position in which the lower plate is turned. By shifting or rotating this lower plate the saw-guides *h h* are adjusted to any desired angle with reference to the length of the bench A, and when this angle is represented by either of the radial lines the pin O will immovably secure the lower plate in the proper position by entering the hole *i* in the upper plate, near the outer extremity of the line. A set-screw, O′, serves to secure the lower plate in position when the adjustment required is intermediate between the radial lines. Upon each of the upright guides *h* I place a sliding saw-holder, which consists of two plates, *n n*, attached together so as to leave a space between them sufficient for the saw to move in. Ring-clasps *m m*, attached to the combined parts above and below, clasp the guide-posts loosely, and allow them to slide easily up and down along the posts. A rawhide or other equivalent roller, *p*, is secured between the lower ends of the plates *n n*, upon a pin, *q*, which passes through the plates and through the center of the roller; and to prevent the plates from becoming displaced the inner end of this pin is extended, so as to enter a longitudinal slot, *q′*, in the upright posts. When the saw is introduced between these plates its teeth will rest upon the rawhide rollers, and will thus be supported without dulling the teeth.

In this machine I use an ordinary hand-saw, and to keep it in place I slot the plates *n* vertically, and in the slots I place a slide, *s*, which is connected, by an extensible spring, *t*, with the pin *q*. This slide is thus caused to press lightly upon the back edge of the saw and keep it steady.

On the top of each post I attach, by means of a hinge-joint, a hook or hooks, *t′*, the opposite end of which is weighted, so that when the saw-holders are raised to near the top of the posts the hooks can be engaged with cross-pins *u*, and will thus support the saw above the work. By lifting the saw and saw-holders the weighted end will release the hooks, and the saw will descend upon the work.

To adjust the work to the desired angle I use either one of the two devices, which are only different in their application to the bench A. The first consists of two wooden bars, H H, one of which is placed on each side of the middle of the bench, and a link, J, connects the inner extremity of each with the bench, so that the outer end of either one can be raised to any desired angle, and secured by a set-

screw, V. The link J allows the inner end or foot of the bar to move forward past the slot *d*, so that the board to be cut can be given both the desired bevel and angle. Instead of this device, however, I prefer to connect the two bars H′ H′ together by a hinge-joint, as shown at Fig. 2, so that they can be opened out in the form of the letter **A**. A sliding cross-bar, W, serves to regulate or adjust the spread of the bars. I then attach the meeting or hinged ends of the bars with the middle of the bench by a link, Y, so that, by turning the device completely over, either of the bars can be made to lie upon the bench, while the other or angular bar serves to regulate the angle of the bevel. I thus provide an extremely simple machine for cutting miters and bevels.

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

1. The upright guide-posts *h h*, slotted as described, in combination with the sliding saw-holder, consisting of the plates *n n*, with their rawhide spacing-roller *p*, the journal of which enters the slot in the guide-posts, the whole attached loosely, by clasps *m*, to the guide-posts, substantially as and for the purpose described.

2. The slotted plates *n n*, spaced at the lower ends by the rawhide roller *p*, and having the slides *s* arranged to move in the slots of the plates, said slide being drawn against the back of the saw by the spring *t*, substantially as and for the purpose described.

3. The saw holder or slide, provided with the cross-pin *u*, in combination with the weighted hooks *t′* on the top of the guide-posts, substantially as and for the purpose described.

4. The bench A, with its slotted back C, and having the guide-posts *h h* attached to an adjustable plate, E, in combination with the bars H H, attached, by means of links J Y, to the middle of the bench, so that the outer ends of said bars can be adjusted to any desired height to give the angle of the bevel, substantially as above specified.

In witness whereof I have hereunto set my hand and seal.

ALLEN H. PUTNAM. [L. S.]

Witnesses:
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