

G. M. STEVENS.

Improvement in Mitering-Machines.

No. 126,588.

Patented May 7, 1872.

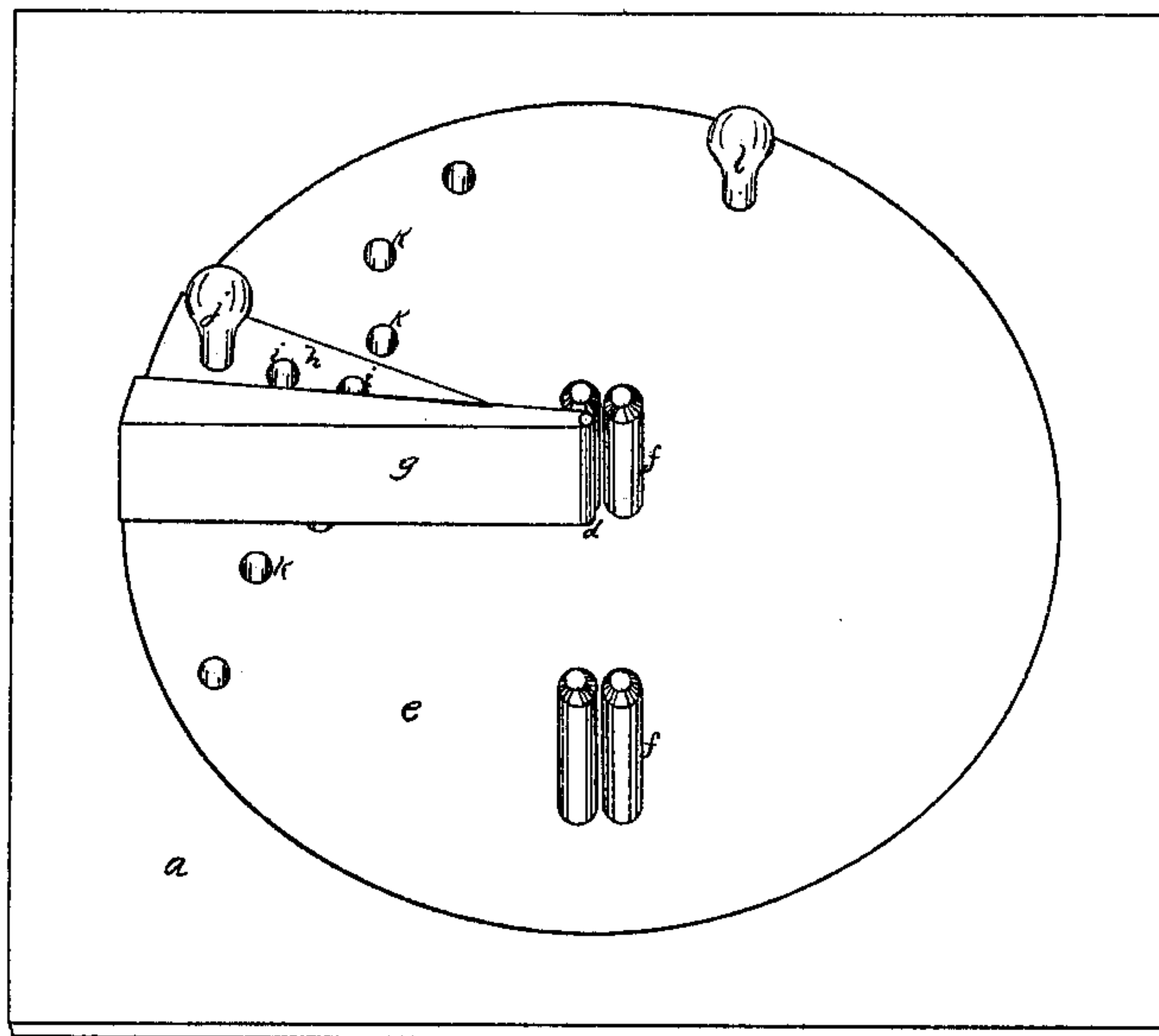


Fig. 1.

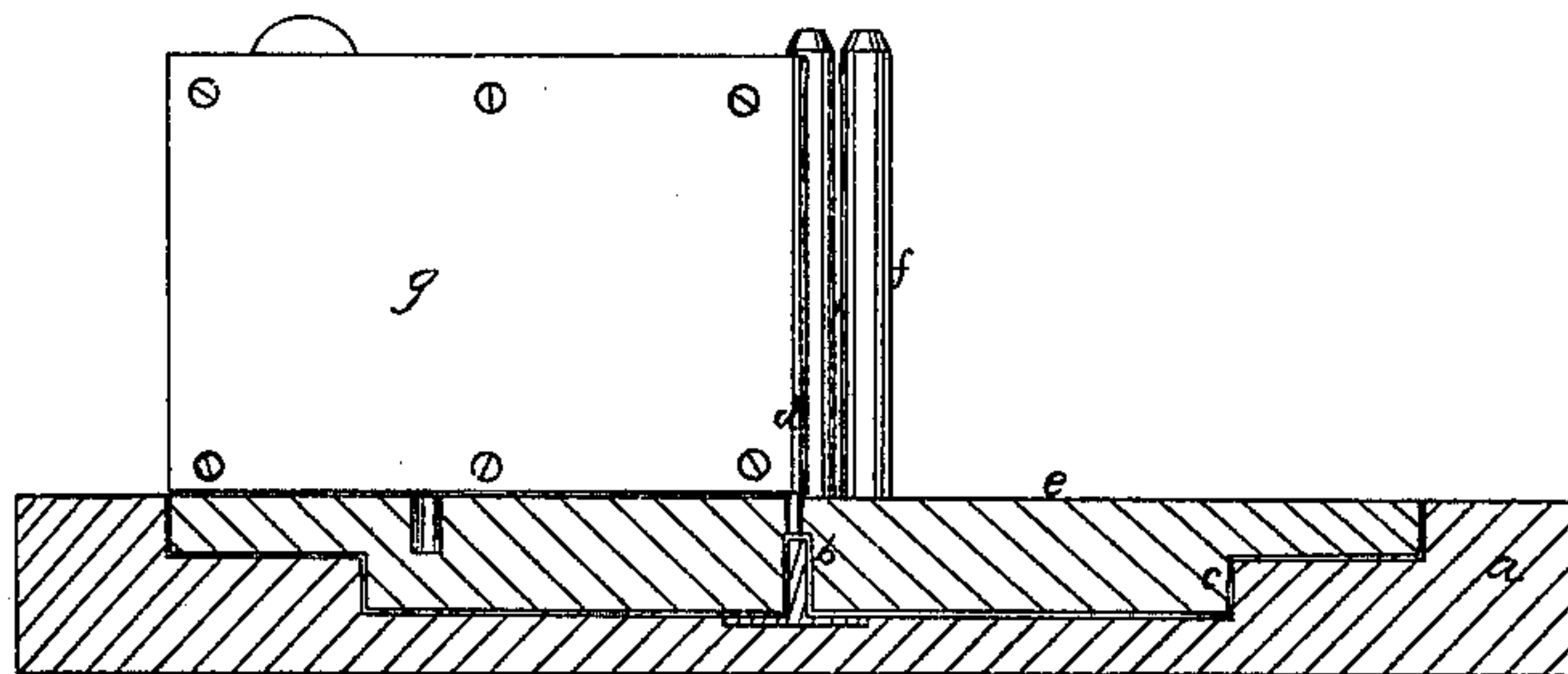


Fig. 2.

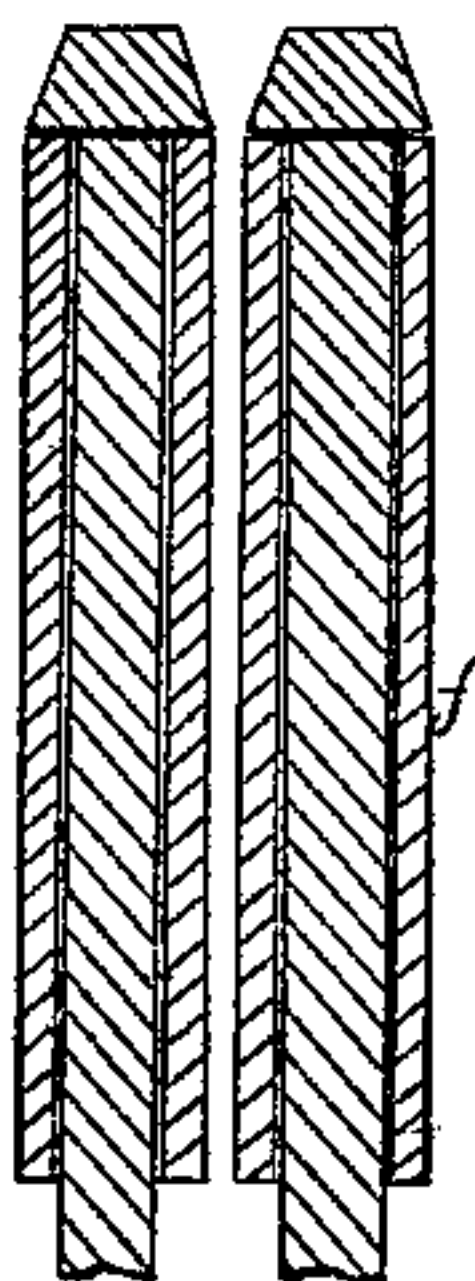


Fig. 3.

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att'y.

# UNITED STATES PATENT OFFICE.

GRENVILLE M. STEVENS, OF PORTLAND, MAINE.

## IMPROVEMENT IN MITERING-MACHINES.

Specification forming part of Letters Patent No. 126,588, dated May 7, 1872.

*To all whom it may concern:*

Be it known that I, GRENVILLE M. STEVENS, of Portland, in the county of Cumberland and State of Maine, have invented a new and useful Improvement in Mitering-Machine; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which is hereby made a part of this specification, in which—

Figure 1 is a view in perspective of my device. Fig. 2 is a section view of a part of the same. Fig. 3 is a view in section of the saw-guides.

My invention relates to an improved device for mitering or cutting lumber or other substances, as rubber, leather, "papier-maché," &c., at different angles, as desired, by means of a saw or other equivalent instrument used in connection with my device, as hereinafter described.

Heretofore the common practice has been to construct an ordinary box or trough, cut across with saw-kerfs at the various desired angles, and the material to be mitered placed within the said box, and a common saw running in said kerfs divides it, as desired. This operation, thus performed, is not only costly, by reason of the frequent wearing out of the said saw-kerfs, by the saw running in them, but also inaccurate, clumsy, and inconvenient.

By means of my improvement this work may be done cheaply, accurately, and conveniently, and in any position, where such work is required to be done—upon the roof of a house, for instance.

To do this I first take a block of wood, as shown at *a* Fig. 1, which block may be of any convenient size, or it may be one of the planks composing the workman's bench, of sufficient thickness to contain the devices, hereinafter described, in which a circular cavity is cut, and at the bottom of said circular cavity still another similar cavity is cut, both cavities having a common center at *b*, Fig. 2. Into the cavity formed by these two circular indentations, is fitted a circular block, cut with a shoulder, *c*, Fig. 2, to fit the said cavity closely, and revolving freely upon the pin *d* at the common center *b*, Fig. 2, the top of said inner block being in the same plane as the top of the square outer block *a* or plank, as

before described. Upon the said circular inner block *e* are set the two pairs or couples of pins, as seen at *f f*, Fig. 1, said pins being at such a distance apart as to contain the plate of a saw closely, and allow it to pass freely through them, forward and backward, at the same time.

Said pins or standards may be covered with caoutchouc or India rubber, or any preparation thereof, or any other similar substance possessing the required elasticity and durability to perform the required office, said rubber coverings being rotary.

There is also upon the upper circular block *e*, Fig. 1, the guide *g*, pivoted at the common center of revolution *b d*, and moving freely in the arc of a circle around said common center, said guide having the projecting wing *h* at right angles to said guide, said wing being perforated with the orifices *i i*, through which the pin *j* passes into the corresponding holes *k k k* in the block below, for the purpose hereinafter shown. Said circular block is also provided with the pin *l*, passing through a hole into the square block *a* below.

The operation of my device may be described as follows—viz.: The wood or other material to be sawn and mitered is placed upon the table and held firmly against the guide *g*, which said guide having been first rigidly fixed at the desired angles or angle with the saw-guides *f f*, by means of the pins *j l* and perforations *k k k*—which for convenience may be so marked as to show the different angles at which the guide may be adjusted in reference to the saw—a common saw placed between the two pairs of pins *f f* and the material sawn off.

From the durability, elasticity, and other well-known qualities of India rubber that material is considered the best for covering the saw-guides.

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

The combination of the disk *e* with the guide *g*, the pins *j l*, the perforations *k k k*, the saw-guides *f f*, all in the manner and for the purposes set forth.

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Witnesses:

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