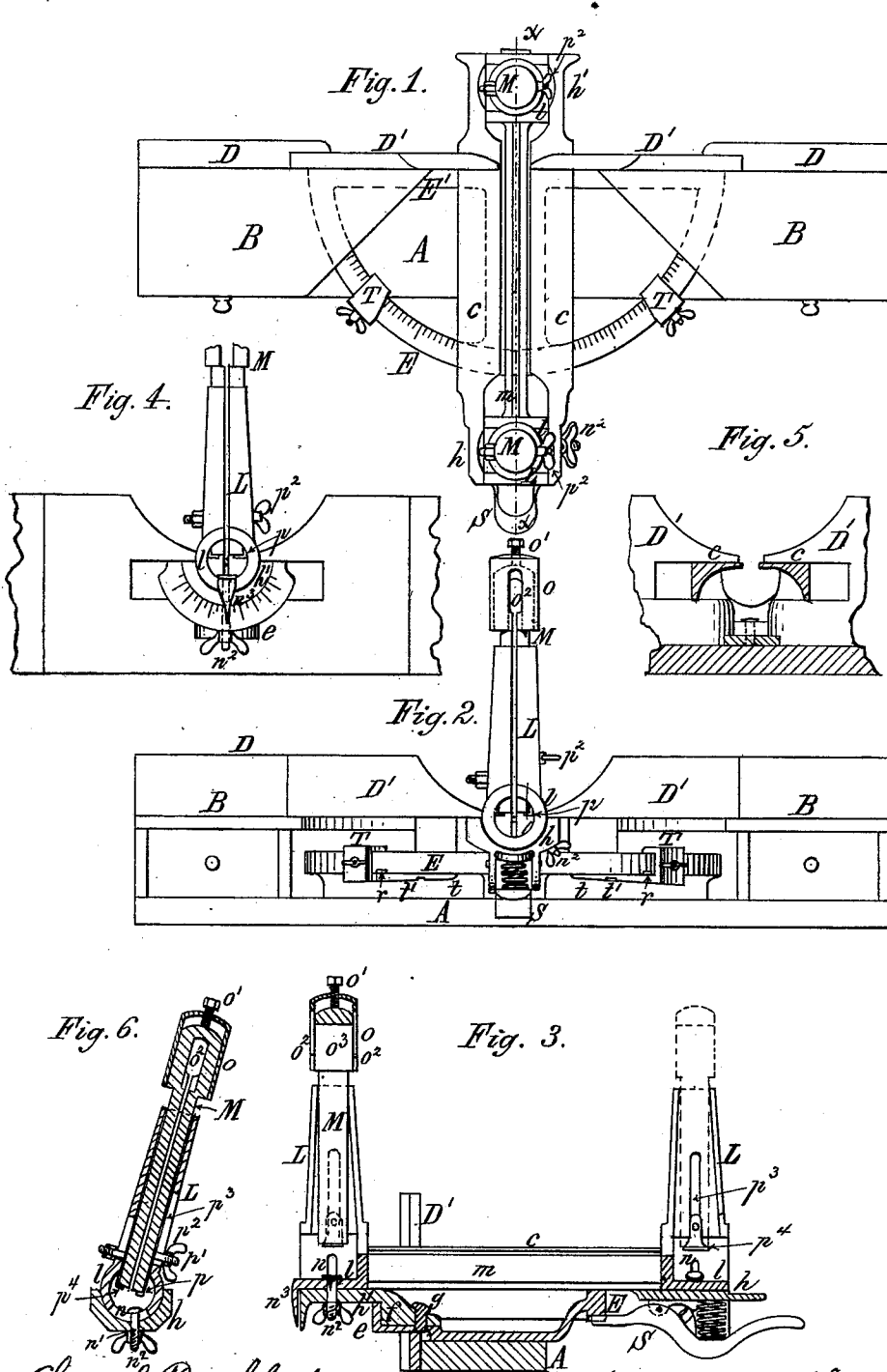


L. C. STRONG & O. S. GARRETSON.
Mitering-Machine.

No. 198,472.

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IMPROVEMENT IN MITERING-MACHINES.

Specification forming part of Letters Patent No. **198,472**, dated December 25, 1877; application filed May 1, 1877.

To all whom it may concern:

Be it known that we, LEVI C. STRONG, of Friendship, in the county of Allegany and State of New York, and OLIVER S. GARRETSON, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Miterring-Machines, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings.

Our invention relates to a miterring-machine in which the pivoted bed is readily set at any desired angle, and in which the saw-guides are made adjustable with reference to the pivoted bed, so that the saw can be made to cut any desired bevel.

Our invention consists of the particular construction and arrangement of the parts, as will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a top-plan view of a machine provided with our improvements. Fig. 2 is a front elevation thereof. Fig. 3 is a cross-section in line *x x*, Fig. 1. Fig. 4 is a fragmentary rear elevation of the machine. Fig. 5 is a cross-section of the pivoted bed. Fig. 6 is a cross-section of one of the saw-guides.

Like letters of reference refer to like parts in each of the figures.

A represents the base-plate of the machine, and B B the two portions of the stationary bed, arranged above the former and on opposite sides of the pivoted bed C. The base A and stationary bed portions B B are connected at the rear by a vertical plate, D, provided with guide-plates D', overlapping the pivoted bed C.

E represents a horizontal circular segment, arranged upon the base-plate A, for supporting the outer end of the pivoted bed C. The segment E is provided at the rear with a cross-bar, E', fitted against the back D, and provided with a socket or bearing, *e*, projecting through an opening in the back D, and receiving a hub, *f*, cast on the under side of the pivoted bed C, for the reception of the pivot *g*. The segment E is described from the pivot *g* as a center, and firmly secured to the base A and back D. The pivoted bed C is composed of two parallel plates or bars, *c c*, arranged in the same plane with the stationary bed por-

tions B B, with a slot or space between the bars *c c*, through which the saw works. The pivoted bed C is provided at its ends with journal-bearings *h h'*, having their axis arranged in the plane and center-line of the bed.

The saw-guides are each composed of a hollow sleeve, L, and an inner portion, M, made vertically adjustable therein. The sleeves L are provided at their lower ends with a cylindrical portion, *l*, fitting in the bearings *h h'*, respectively, so as to turn therein, the portions *l* of both saw-guides being connected by a bar, *m*, cast in one piece with the sleeves L, and arranged centrally between the portions *c c* of the pivoted bed.

n represents a segmental slot arranged in the journal portion *l* of each saw-guide, and *n*¹ a set-bolt passing through this slot and the bearings *h h'*, respectively, so that the saw-guides may be adjusted to any desired inclination when the bolts *n* are loosened, while they are readily secured in the desired position by tightening the thumb-nuts *n*². *n*³ is an index or pointer, secured to one of the journals *h h'*, so as to indicate the inclination of the saw-guides on a graduated arc arranged on the respective bearing.

o represents an adjustable sleeve secured to the upper end of the inner saw-guide M, and held thereon by a set-screw, *o*¹. It is provided with two openings, *o*², arranged in line, and made of the proper size to receive the back of the saw. The upper portion of the inner saw-guide M is provided with an opening, *o*³, made of similar form, but of greater length than the opening *o*², so that, by raising and lowering the sleeve *o* on the inner guide M, the saw can be raised or lowered. This construction permits the edge of the saw to be lowered as it wears by lowering the sleeve *o*, in the opening *o*² of which the back of the saw is guided.

p is a stop arranged in each of the sleeves L, and made vertically adjustable therein by a bolt, *p*¹, provided with a thumb-nut, *p*², and passing through a slot, *p*³, for the purpose of supporting the inner guide M at any desired height. Upon placing the stop *p* in its lowest position the saw is enabled to cut entirely through the board operated upon, while, by

raising the stop p above this position, the saw is permitted to penetrate the board only to a certain distance, as may be desired.

A secondary stop, p^4 , may be provided for supporting the saw-guides in the proper position for cutting through the board, said stop being made slightly adjustable to compensate for the wear of the saw; but this secondary stop p^4 need not be used when the sleeve o is employed. The inner guides M and sleeves L are provided with longitudinal slots for the passage of the saw in the usual manner.

It will be seen that in inclining the saw-guides the cutting-edge of the saw will always remain in the same position with reference to the bed C , as the axis of the bearings $l h h'$ forms a continuation of the surface center-line of the table C .

$r r$ represent several notches formed in the under side of the segment E , and S a spring-latch, arranged on the under side of the front bearing h of the table C , so as to engage with one of said notches when released. The notches r are so arranged on the segment that the saw will cut the miters most frequently required by engaging the latch S with one of these notches.

$T T$ are two adjustable stops, arranged on the segment E on opposite sides of the bed C , so as to be readily secured in any desired position on the segment. The stops T are each provided on the under side of the segment with an inclined projection or lip, t , provided with a notch, t' , adapted to receive the spring-latch S . The upper surface of the segment E is graduated with reference to the notches t' , so that, by properly adjusting the respective stop T and engaging the latch S with its notch t' , the bed C may be placed at any desired angle.

Our improved mitering-machine permits of

all necessary adjustments of the different parts in the most complete and correct manner, and is nevertheless very simple in construction, and produced at comparatively small expense.

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

1. The combination, with the bed C , pivoted as described, and provided with two semicircular bearings, $h h'$, having their axles arranged in the surface center-line of the pivoted bed, of the slotted saw-guides $L L$, provided with slotted journals $l l$, turning in the bearings $h h'$ of the pivoted bed, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the pivoted bed C , composed of two parallel parts, $c c$, forming a central slot, of the journaled saw-guides $L L$, cast with a connecting-bar, m , arranged between the two parts $c c$ of the bed, substantially as and for the purpose hereinbefore set forth.

3. The combination, with the sleeve L and inner adjustable saw-guide M , provided with elongated opening o^3 , of the sleeve o , made vertically adjustable on the upper end of the guide M , and provided with openings o^2 , coinciding with the opening o^3 , substantially as and for the purpose hereinbefore set forth.

4. The combination, with the sleeve L , provided with vertical slot p^3 , of the inner guide M and stop or support p , arranged within the sleeve L , and held adjustably within the slot p^3 by a set-screw, $p^1 p^2$, as and for the purpose set forth.

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