

No. 822,291.

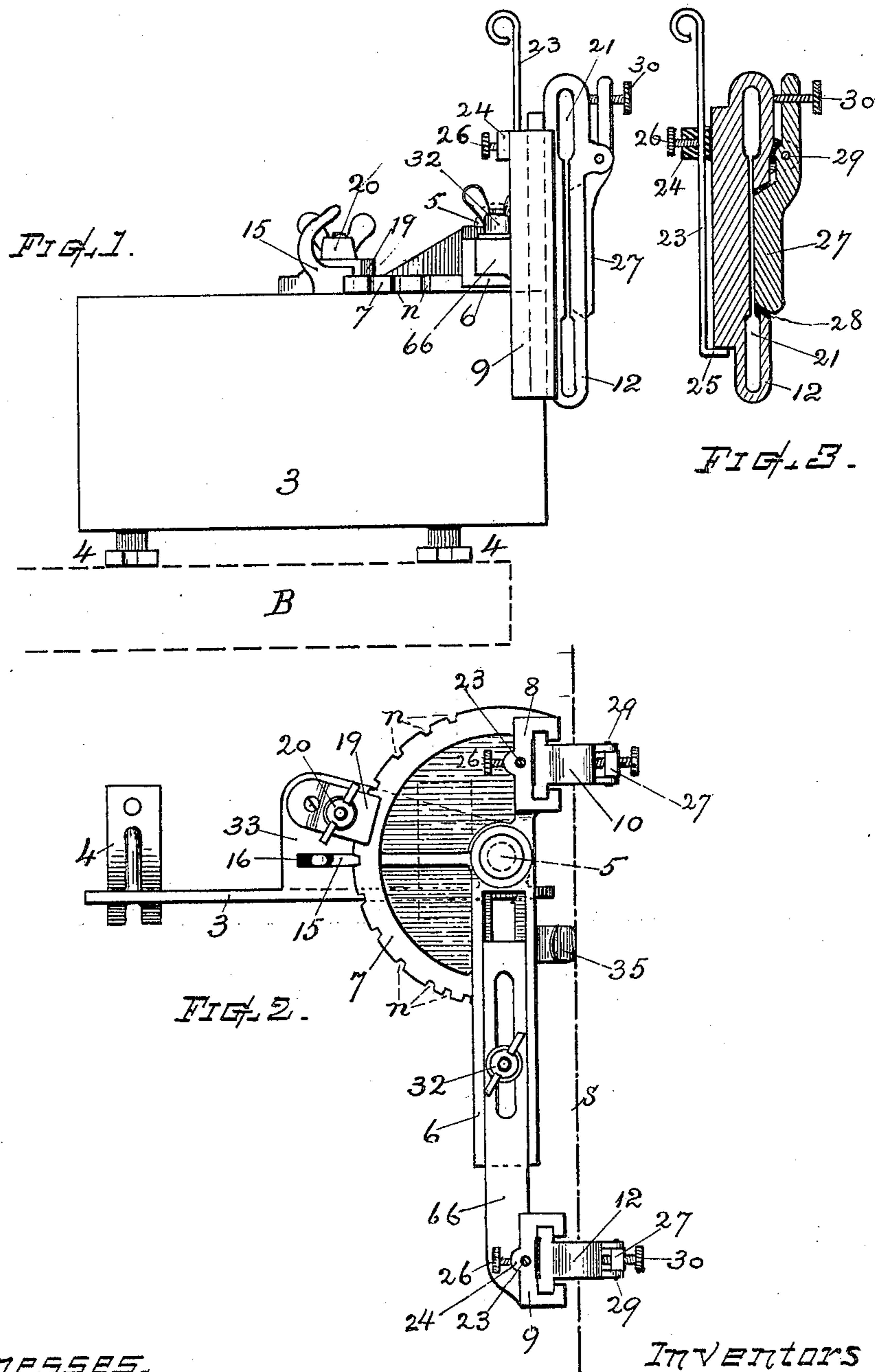
PATENTED JUNE 5 1906.

P. A. MILLET & A. M. POWELL.

ANGLE SAWING MECHANISM.

APPLICATION FILED APR. 13, 1905.

2 SHEETS—SHEET 1.



Witnesses.

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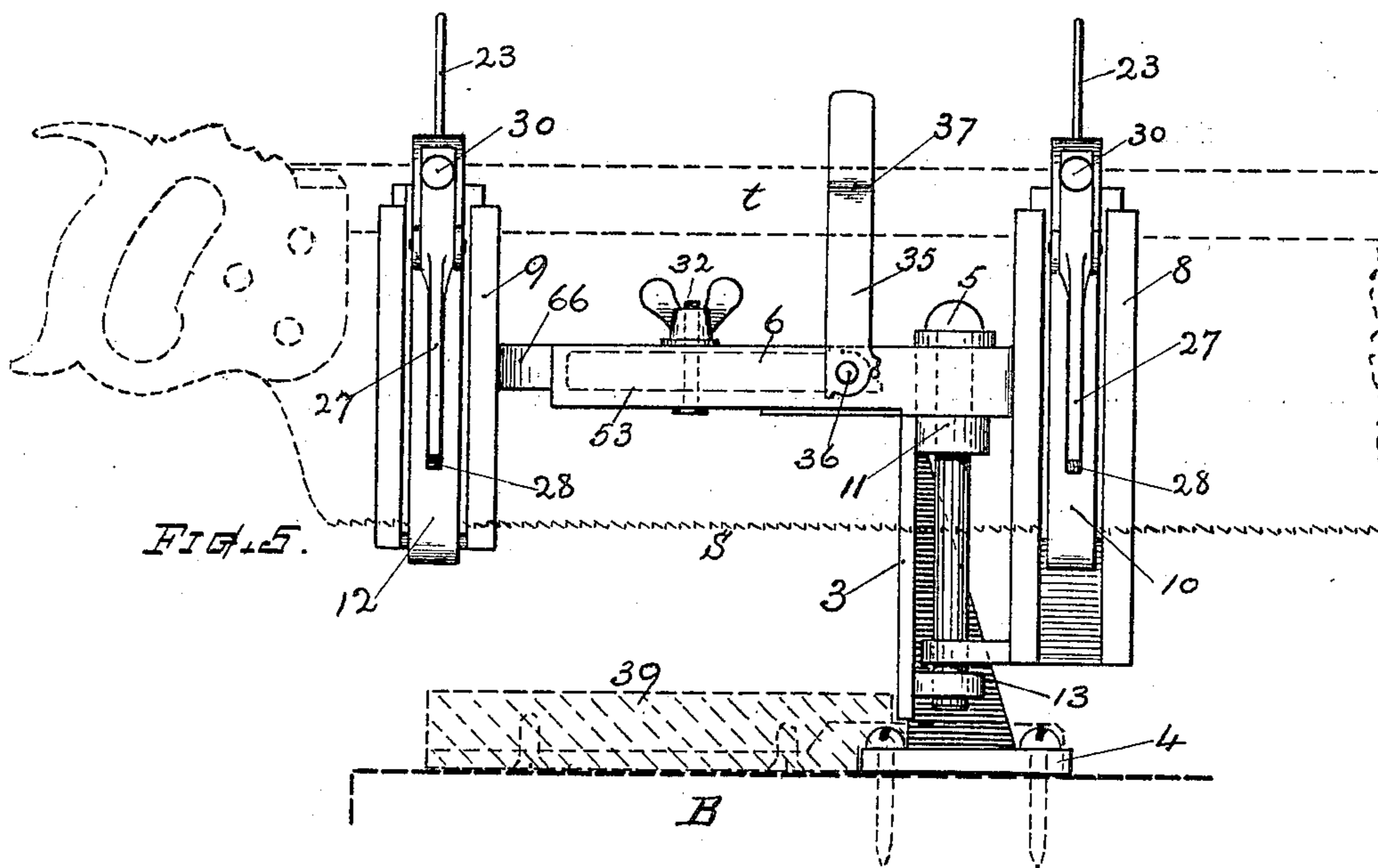
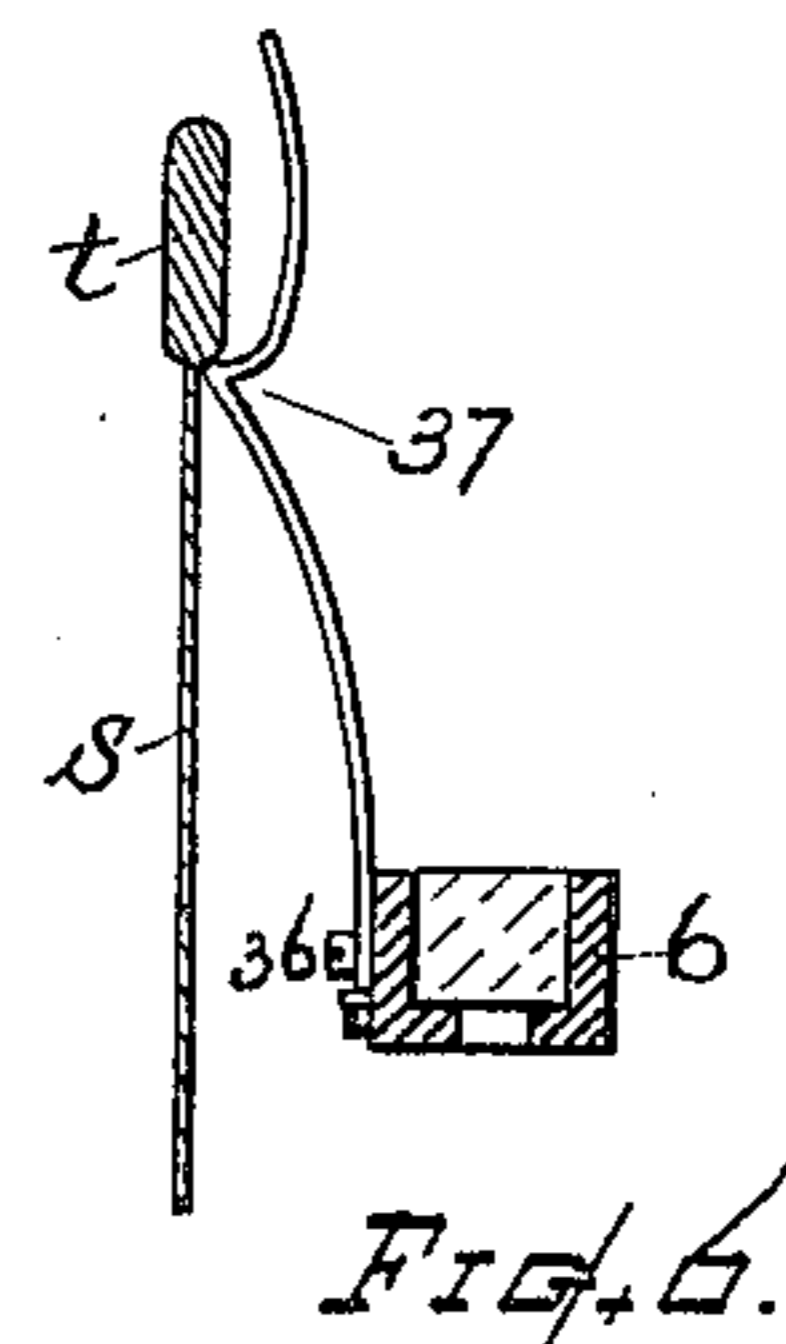
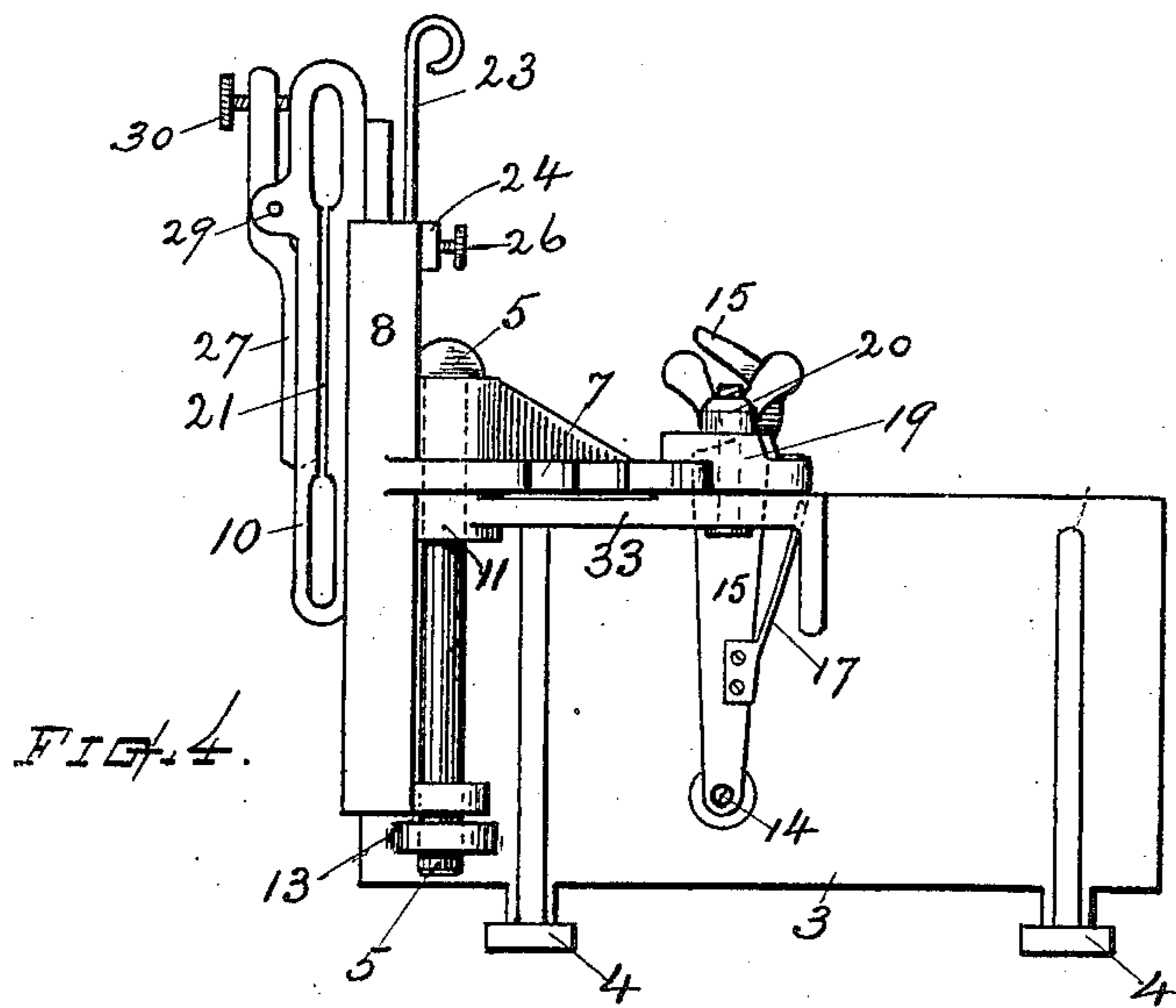
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## ANGLE SAWING MECHANISM.

APPLICATION FILED APR. 13, 1905.

2 SHEETS—SHEET 2.



*Witnesses.*

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# UNITED STATES PATENT OFFICE.

PHILLIP A. MILLET AND ALBERT M. POWELL, OF WORCESTER,  
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## ANGLE-SAWING MECHANISM.

No. 822,291.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed April 13, 1905. Serial No. 255,327.

*To all whom it may concern:*

Be it known that we, PHILLIP A. MILLET and ALBERT M. POWELL, citizens of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Angle-Sawing Mechanism, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The prime object of this invention is to provide an efficient and practically convenient mechanism for the use of carpenters or woodworkers in the sawing of bevels, angles, and other various cuts required in the fitting of lumber and joinery, said mechanism adapted for having a more extended range of application than the ordinary miter-box.

Another object is to provide an instrument of the class specified comprising an attachable work-squaring back plate carrying an adjustable overhead saw-supporting bar seated thereon and provided with interlipped saw-guiding devices and means for effecting and securing adjustments of the mechanisms, the various parts being constructed and combined in the manner hereinafter more fully explained.

Minor objects and features of our invention are set forth in the following detailed description, the particular subject-matter claimed being hereinafter definitely specified.

In the accompanying drawings, Figure 1 represents a front elevation, and Fig. 2 a top plan view, of mechanism embodying our invention. Fig. 3 represents a vertical central section of one of the saw-guides. Fig. 4 represents a back view, and Fig. 5 a side view, in elevation; and Fig. 6 is a fragmentary sectional view showing the means and manner of retaining the saw elevated.

Referring to the drawings, the numeral 3 indicates an upright straightfaced work-squaring back plate provided with suitable supporting-feet 4, having openings therein for the accommodation of ordinary screws, whereby the instrument can be attached to a bench, plank, or timber B as an improvised base at any position of use. At the upper part of the plate 3, near one end, it is provided with a rearwardly-projecting top seat portion or shelf 33, and seated thereon and

pivoted by an axis, stud, or bolt 5 there is an overhanging swinging bar or carrier 6, having at one side a segment-plate 7, integrally fixed thereon in plane with the bar concentric with the pivot. Said bar, which may be single or extendible, is provided at its respective ends with upright heads or guideway members 8 and 9, formed rectangular and open at one side and provided with undercut or lipped and grooved edges at either side of the upright inner space, in which the saw-guides 10 and 12 are fitted by interlipped countermatching edges, as shown. This interlipped engagement keeps the saw-guides firm laterally, while they are slidably supported to move up and down freely. The saw-guides and guideway members 8 and 9 are offset laterally from the bar 6, so that the line of the saw S passes clear and beyond the end of the back plate, which extends beyond the pivot center and terminates near the sawing-line, as indicated on Fig. 2. The pivot 5 is fitted in a projection or boss 11 at the upper rear part of the plate, upon the top of which the bar is mounted to swing to the right and left and adjust to the various required angles in relation to the back plate. Said pivot is preferably made long enough to engage and center in lower hinging ears, which connect the back plate and rear guideway member, as shown at 13; but such lower hinge may not in all cases be required.

The edge of the overhanging segment-plate 7 is provided with notches *n* to correspond with the principal angular cuts employed, and a latch-lever 15 is arranged at the back of the plate 3, pivotally attached thereto at 14 and projecting up through a slot 16 in the offset portion at the top of the back plate in a manner to engage any one of the notches in the segment 7, the upper end of said lever being suitably curved or formed for its convenient operation by the hand. A spring 17 is combined with the lever 15 for pressing it toward the notched segment.

A clamping-piece 19 is mounted on the shelf 33 and provided with a bolt and thumb-nut 20. The end of said clamping-piece projects over the rim of the segment, and by turning down the thumb-nut the segment can be firmly clamped and secured for holding the saw-supporting bar at any adjusted position either while the latch-lever is in a notch *n* or when the notches are out of alinement

with the latch-lever. The handle end of the lever and the clamp device being at the top of the back plate are always conveniently accessible for operation.

5 The saw-guides are each fitted with a slit or opening 21 for receiving and directing the saw, as indicated, and are arranged to move freely up and down in the guideways on the overhead supporting-bar. Combined with  
10 the saw-guides there is a means for gaging the extent of downward movement and arresting the saw-guide at any required limit. Such means consists of a gage-rod 23, having sliding support at 24 in the guideway mem-  
15 ber and provided with a lug or hook 25, that engages with the saw-guide, (see Fig. 3,) and a set-screw 26 serves for holding the rod as adjusted.

The saw-guide is preferably provided with  
20 a side bearing-finger 27, working through an upright slot or opening 28 in the side of the guide and provided with a hinging joint 29, whereby the finger is flexibly connected with the body of the guide. A set-screw 30 is ar-  
25 ranged in the upwardly-extending arm of the finger-lever, whereby said bearing-finger can be regulated for adjusting the available width of the saw-slit 21 to accommodate saws of different thickness.

30 The overhanging saw-supporting bar is provided with an extension arm or member 66, carrying the forward saw-guiding head. Said arm is best supported and guided in a groove on the main part of the bar and pro-  
35 vided with a slot and set-screw 32. The saw-supporting bar can thus be extended or contracted, as desired. This feature of extension affords facility for working upon wider stock when the saw is swung around to a con-  
40 siderable angle than could otherwise be done, while the overhead position and hanging of the bar permits wide stock to be entered beneath the saw from the front.

A flat spring 35 is shown attached to the  
45 arm by a pivot-screw 36. Said spring is made of suitable shape to engage the reinforce-back *t* of the saw *S*, as in Fig. 6, when the saw is raised out of the work for holding it elevated. To release the hold on the saw,  
50 the top of the spring is merely pressed back, disengaging its lug or bend 37 from beneath the saw-back *t*. When not in use, this spring may be turned down alongside the bar, as indicated by dotted lines 53 on Fig. 5.

55 For small miter-box work we provide a bed-board 39, (see Fig. 5,) having suitable ear-pieces for embracing the feet 4, which bed-board is placed upon the bench or timber *B* as a seat for the work at the position shown.

60 By arranging the saw-supporting bar and suspending-guides as described with a clear open space for the work below and with no obstruction at the front the mechanism can be used for working on pieces of compara-  
65 tively large dimension. The general con-

struction of the mechanism is such that it enables the instrument to be used by screwing it to any convenient support for cutting ten-  
ons, inclines, and bevels on timbers, rafters, &c., as well as for ordinary mitering-work. 70

We claim as our invention—

1. A mechanism of the character described, comprising the pivoted overhanging swinging supporting-bar, having laterally-offset guide-  
way-heads with slidable saw-guiding devices 75 thereon adjustable in relation to said bar at its front and rear ends for suspending a saw, and the single back plate disposed wholly at one side of the line of the saw, and extending underneath the supporting-bar beyond the  
80 pivot center, and terminating near the sawing-line, attaching members adapted for sustaining said back plate upright upon an improvised base, and devices for retaining the  
85 swinging bar at angular positions in relation to said back plate.

2. In an angle-sawing mechanism, a work-guiding plate, the overhanging pivoted saw-supporting bar having the upright guideway-  
heads laterally offset from the central line of 90 said bar, and formed open at the side with undercut or lipped grooves, the slitted saw-guides having flanged edges movable in said guideway-heads, and means substantially as described for retaining said bar at positions 95 of radial adjustment.

3. In an angle-sawing mechanism, the combination as described, with an attachable work-guiding plate; of the overhanging cen-  
trally-pivoted saw-supporting bar having a 100 segment integral thereon, and laterally-offset grooved guideway members with open side faces, the offset flanged saw-guides slidable therein, an extendible connection for one of  
said guideway members, means for securing 105 the extendible connection to the main part of the bar, and means for securing said bar at the positions of its lateral adjustment.

4. An angle-sawing mechanism, comprising the rectangular upright back plate forming 110 the work-squaring face and provided at its top edge with a seat at right angle with the face, for the bar and its segment, and having at its bottom edge the right-angled support-  
ing-feet adapted for temporary attachment to 115 an improvised base such as a bench, plank or timber; the upright pivot member at one end of said plate in rear of its face, the pivoted laterally-swinging saw-supporting bar having the integrally-formed segment in plane with  
120 said bar, mounted upon said top seat on the back plate, vertically-grooved guideway-heads carried on said bar, with laterally-offset saw-guides independently movable therein at  
its front and rear ends, and means for secur- 125 ing the segment, bar and guideway-heads at adjusted positions, all substantially as and for the purposes set forth.

5. In an angle-sawing mechanism, the combination as described, of the single back plate 130

having a top rearward projection near one  
end forming a seat for the bar, the laterally-  
swinging saw-supporting bar having a notched  
segment integral therewith, said saw-sup-  
5 porting bar and segment seated upon the top  
of the back plate, a center pivot connecting  
said bar and plate, the spring-pressed latch-  
lever fulcrumed on the back of the plate  
and extending up through a slot in the top  
10 projection to engage with the notches of said  
segment, the clamp-piece projecting over the  
rim of the segment, and a thumb-screw for  
tightening and loosening said segment upon  
its seat, substantially as set forth.

15 6. In a mechanism of the character de-  
scribed, the combination with the slitted saw-  
guide 10, provided with the vertical groove

or opening 28 in its side; of the adjusting side  
bearing-finger 27 arranged through said open-  
ing with its inner face adjacent to the saw- 20  
guiding slit, a hinging joint flexibly connect-  
ing said finger to the saw-guide, and a set-  
screw arranged in an extended portion of said  
finger for regulating the position of the finger  
in relation to the saw-slit, substantially as 25  
and for the purpose set forth.

Witness our hands this 10th day of April,  
1905.

PHILLIP A. MILLET.  
ALBERT M. POWELL.

Witnesses:

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