

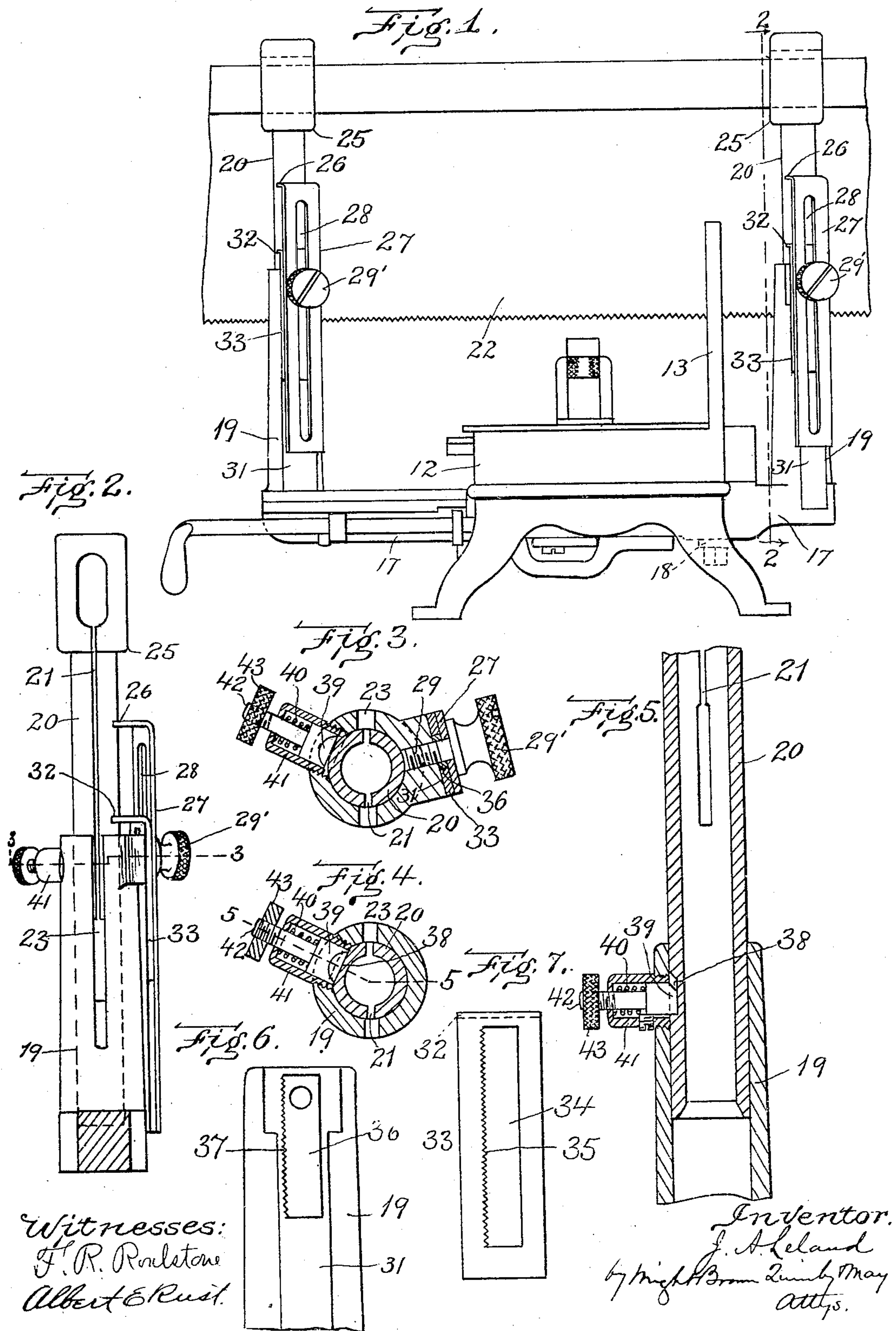
J. A. LELAND.

MITER BOX.

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935,375.

Patented Sept. 28, 1909.



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UNITED STATES PATENT OFFICE.

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MITER-BOX.

935,375.

Specification of Letters Patent. Patented Sept. 28, 1909.

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To all whom it may concern:

Be it known that I, JOHN A. LELAND, of Montague, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Miter-Boxes, of which the following is a specification.

This invention relates to a miter box of the character shown in Letters Patent of the United States No. 834,073, dated Oct. 23, 1906.

The said miter box comprises a frame having means for supporting the piece to be sawed, and a swing bar pivoted to the frame and adapted to stand at various angles relatively to the said piece, the swing bar being provided at its end portions with vertical sockets and with studs which are vertically movable in said sockets, the studs being slotted to receive and permit endwise movement of a handsaw. The studs are frictionally engaged with the sockets so that they are adapted to be moved downwardly with the saw, stop devices being provided for limiting the downward movement of the saw and preventing its teeth from striking any part of the frame, means being also provided for locking the saw-guiding studs in a raised position above the frame.

The present invention has for its object to provide improved means for adjustably limiting the downward movement of the saw and the depth of its cut into the work, and a device for locking each stud in its raised position, which device is adapted to serve also as a means for frictionally retarding the downward movement of the stud in the socket.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings forming a part of this specification, Figure 1 represents an end elevation of a miter box provided with devices embodying my invention. Fig. 2 represents a section on line 2—2 of Fig. 1 and a side view of the parts at the right of said line. Fig. 3 represents a section on line 3—3 of Fig. 2. Fig. 4 represents a view similar to Fig. 3, showing the saw-guiding stud locked in its raised position. Fig. 5 represents a section on line 5—5 of Fig. 4. Fig. 6 represents a side view of the portion of the socket shown in Figs. 1 and 2. Fig. 7 represents a side view of the adjustable abut-

ment hereinafter referred to removed from the socket.

The same reference characters indicate the same parts wherever they occur.

In the drawings, 12 represents a supporting frame of a miter box, said frame having a horizontal bed 14 and vertical back rests 13 adapted to bear on the bottom and one side of a strip of material to be sawed.

17 represents a swing bar which is pivotally connected at 18 to the frame 12 and is provided at its end portions with vertical tubular standards or sockets 19 in which vertical saw-guiding studs 20 are adapted to slide endwise. The studs 20 have slots 21 adapted to receive the blade and back of a handsaw 22, each socket being provided with a slot 23 formed to receive the saw blade. The studs are frictionally engaged with the sockets so that they are adapted to move downwardly therein as the sawing progresses, the saw being reciprocated endwise in the studs by the operator as usual.

The construction above described, so far as the parts above specified are concerned, is or may be the same as that shown in the above-mentioned patent, to which reference may be made for a fuller description.

The present invention relates entirely to means for limiting the downward movement of the studs in the sockets, to limit the depth of the saw cut and to prevent the possibility of contact between the saw teeth and any part of the frame, and to the means hereinafter described for frictionally engaging the studs with the sockets and locking the studs in their raised positions.

So far as the present invention is concerned, each socket and stud is practically identical in construction and operation with the other so that a description of one socket and stud and the parts associated therewith embodying my invention will be sufficient.

The stud 20 is enlarged at its upper end to form a shoulder 25. 26 represents an adjustable stop which is secured to the socket 19 and is adapted to engage the shoulder 25 and limit the downward movement of the stud 20 and of the saw engaged therewith. The stop 26 is preferably the bent end of an elongated thin metal strip 27 which is provided with a longitudinal slot 28 and is adapted to be secured to the standard 19 by a clamping screw 29, the head 29' of which bears on the outer surface of the strip 27,

said screw being engaged with a threaded orifice formed for its reception in one side of the socket 19. The socket is provided with a flat clamping face 31 through which the clamping screw 29 passes, the strip 27 being interposed between said face and the screw head 29'.

32 represents an abutment for the stop 26, said abutment being vertically adjustable on the socket 29 and adapted to be positively secured to the latter in different positions, the object of the abutment being to prevent possibility of the depression of the stop 26 below a predetermined point. The stop 26 being secured in its adjusted position only by the pressure of the head of the clamping screw 29, there is some liability of its being accidentally moved downward from said position particularly if care has not been previously taken to properly tighten the clamping screw. The object of the abutment 32 is to prevent possibility of the depression of the stop 26 to such a point as to permit contact of the teeth of the saw with any metallic part of the frame.

The abutment is preferably the bent end of a thin metal strip 33 which is provided with a longitudinal slot 34, one vertical edge of which is serrated to form a series of regular teeth 35, Fig. 7. 36 represents a rib formed on or attached to the clamping face 31 and projecting therefrom, the rib being formed to enter the slot 34 and provided on one edge with a series of teeth 37 formed to engage the teeth 35. The rib 36 is considerably shorter than the slot 34 and is formed to occupy a portion of said slot. The slot 34 coincides with the slot 28 in the strip 27, the clamping screw 29 passing through both slots as shown in Fig. 3. When the clamping screw is tightened, it clamps the strip 27 against the strip 33 and the strip 33 against the clamping face 31, the two strips and the stop 26 and abutment 32 being thus simultaneously secured. The teeth 37 of the fixed rib 36 at the same time engage the teeth 35 of the strip 33 in such manner as to positively secure the strip 33 and the abutment 32 to the socket 19, hence there is no possibility of downward movement of the abutment when the screw is tightened. The abutment is vertically adjustable by reason of the fact that the slot 34 is of greater length than the rib 36, hence the strip 33 can be removed from the rib and replaced thereon in a different vertical position.

The stud 20 is provided near its lower end with a recess 38, Figs. 4 and 5. 39 represents a shoe which is pressed inwardly by a spring 40 inclosed in a tubular holder 41 attached to and projecting from the socket 19, the shoe having a screw-threaded stem 42 which extends through the outer end of the holder 41 and is adapted to slide therein, the stem being provided with a nut 43 at its outer end portion. The recess 38 is so arranged that, when the stud 20 is raised to its highest position to hold the saw elevated above its operative adjustment, the shoe 29 springs into said recess as indicated in Figs. 4 and 5, and thus locks the stud in its raised position. When it is desired to release the stud and permit it to be lowered in the socket, the shoe 29 is withdrawn from the recess 38. This may be accomplished by turning the nut 43 in the direction required to draw the stem 42 and shoe 39 outwardly. The shoe 39 is adapted to bear on the periphery of the stud 20, as indicated in Fig. 3, to exert a frictional hold on the stud and thus act as a brake on the stud preventing its loose downward movement.

I claim:—

1. In a miter box, a saw support and guide comprising a vertical socket having a swinging connection with the frame of the miter box and a shouldered stud movable vertically in said socket and slotted to receive a saw, the socket having an adjustable stop for the shoulder of the stud, an adjustable abutment for said stop, and means for positively securing the abutment in any position to which it may be adjusted.

2. In a miter box, a saw support and guide comprising a vertical socket having a swinging connection with the frame of the miter box and a shouldered stud movable vertically in said socket and slotted to receive a saw, the socket being provided with a clamping face, a rib thereon having a serrated edge, a stud stop and a stop abutment and a clamping screw adapted to clamp the stop and its abutment against the clamping face, the abutment having a slot with a serrated edge adapted to engage the serrated edge of the said rib.

In testimony whereof I have affixed my signature, in presence of two witnesses.

JOHN A. LELAND.

Witnesses:

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