(No Model.)

2 Sheets—Sheet 1.

S. LEVAN.

MITER BOX.

No. 542,738. Patented July 16, 1895.

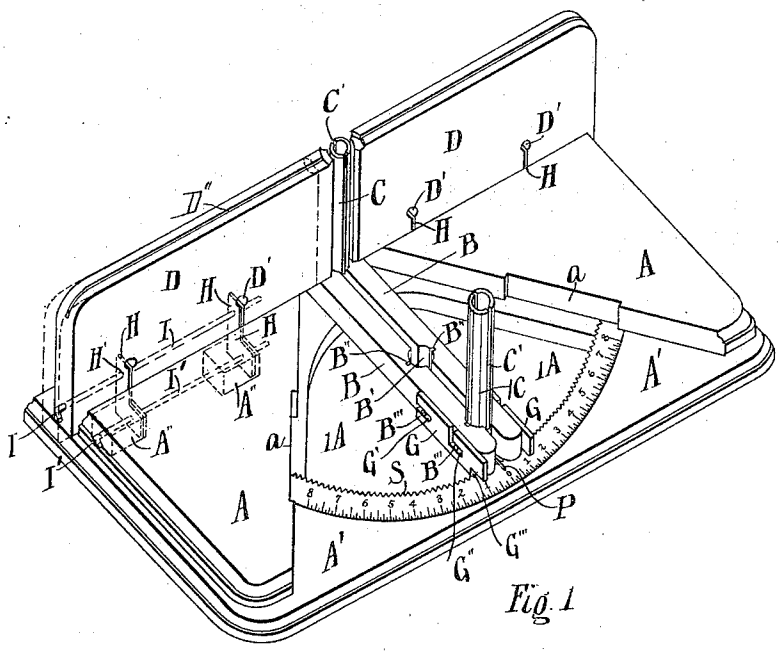

Fig. 1

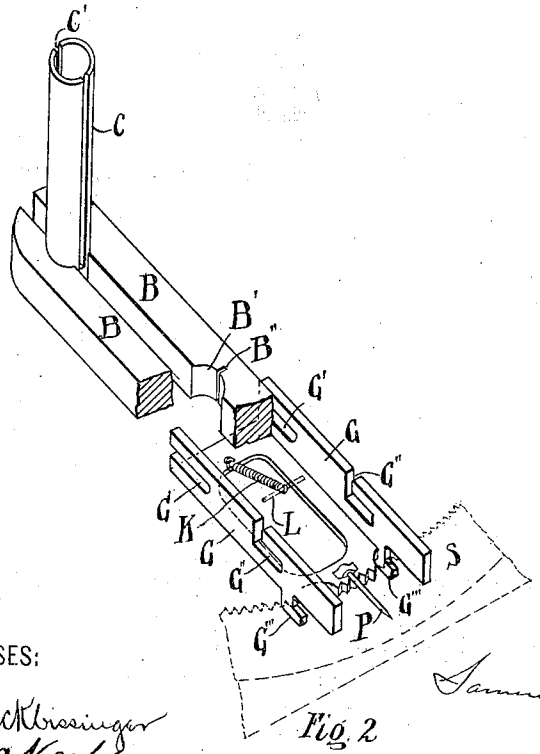

Fig. 2

WITNESSES:

J. W. Beckbissinger

J. F. O'Keefe

Samuel Levan

INVENTOR

BY

ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

S. LEVAN.

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No. 542,738.

Patented July 16, 1895.

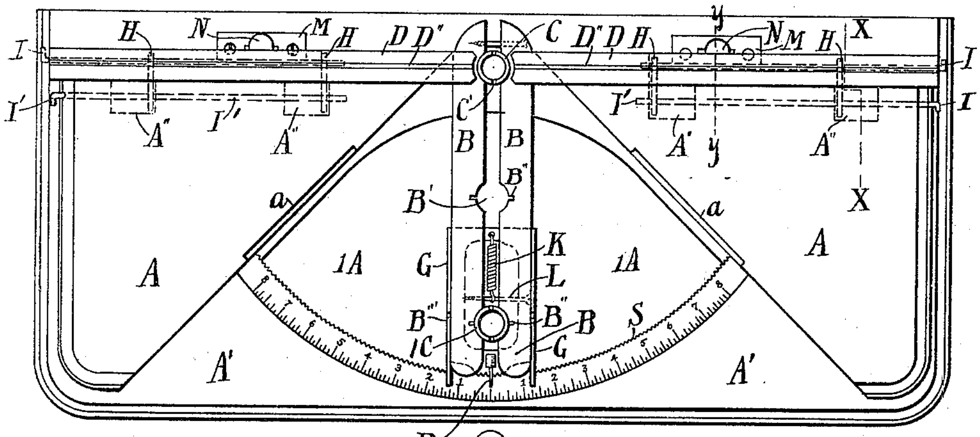

Fig 3

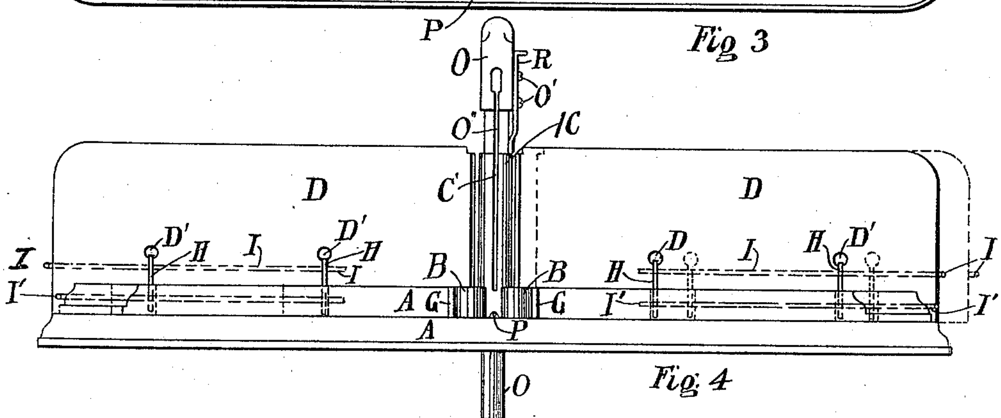

Fig 4

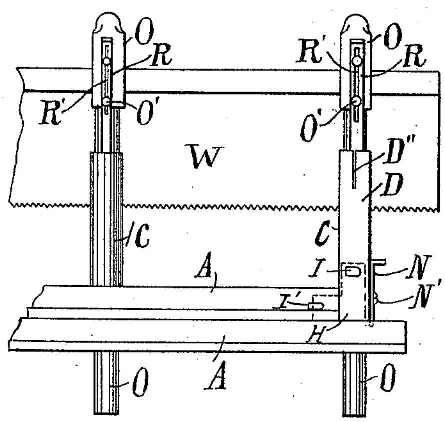

Fig 5

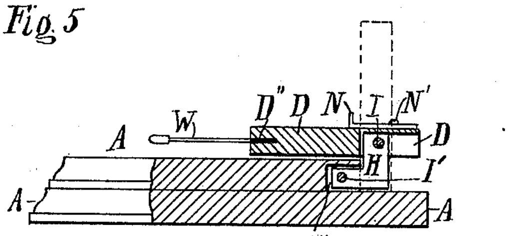

Fig 6

WITNESSES:

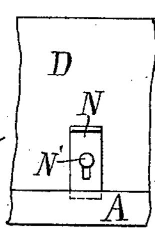

Fig 7

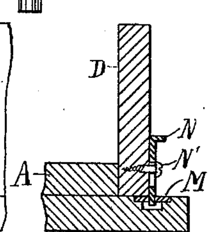

Fig 8

INVENTOR

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UNITED STATES PATENT OFFICE.

SAMUEL LEVAN, OF SAGINAW, MICHIGAN.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 542,738, dated July 16, 1895.

Application filed March 23, 1895. Serial No. 542,882. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL LEVAN, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Miter-Boxes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to miter-boxes; and it consists in the arrangement and combination described and shown.

Figure 1 is a perspective of the device. Fig. 2 is a perspective of the device by means of which the saw may be adjusted to different angles. Fig. 3 is a plan view of the box. Fig. 4 is a front elevation. Fig. 5 is an end elevation. Fig. 6 is an end elevation in part sectional, with parts in different position on line X X of Fig. 3. Fig. 7 is a detail of the back catch and support. Fig. 8 is a sectional end view of the same on line Y Y of Fig. 3.

In the drawings, A is the base or bottom of the box and may be of the width, length, and thickness desired, and has a triangular cut-away portion A′, in which is sunk the semicircular scale S.

B B are side bars constituting the base of the adjustable saw-guide which is pivoted at the rear of the box by the metal guide C, passing between the base-bars B B in the base of the box. Near the opposite ends of the base-bars is another metal guide *l* C supported between the base-bars B B. These standards are provided with the longitudinal slot C′ in which the saw moves. The ends of the base-bars B B extend to the edge of the scale S, and at this point are provided with a spring-catch G, from which protrudes the pin P on the line with the slots C′, which pin, pointing to a figure on the scale desired, indicates that the saw, if operated at that position, will cut the piece to be sawed upon the angle desired.

The front edge of the scale S is notched to correspond with the divisions of the scale, and the front edge of the spring-catch G is also notched to engage the notches on the scale and thus prevent the guide from moving laterally when it has been set upon a certain number.

The catch G is provided with side flanges upon the outside of the bars B B, each flange having slots G′ and G″ for engaging the pins B‴ on the bars B, which not only holds the catch to the bars, but provides ways for the movement of the guide as it is shoved out of disengagement with the notches of the scale S.

The spring K, placed between the bars B B and attached at one end to the rear of the catch G and at the other to a pin L through the bars, resists the backward movement of the catch as it is pressed out of engagement with the notches on the scale and throwing the catch back into engagement with the notches when released. B′ is a receptacle for a guide, as *l* C, in which the guide may be placed should it be necessary to use a shorter saw.

The grooves B″ receive a lug upon the lower ends of the guides *l* C, which prevents the guides from turning. In order that the saw may be guided and supported when sawing thick material that may be placed upon the box I place within the guides C and *l* C removable standards O provided with a saw-groove O″, which standards guide the saw within the guides C and *l* C.

R R are gages secured to the removable standards O above the guides and are for the purpose of preventing the saw from cutting below a certain depth. R′ is a slot in the gage through which the set-screws O′ pass into the standards O, whereby the gage may be adjusted so that the saw will cut to the depth desired.

It is obvious that as the saw-guides are turned upon the pivot C the box can be adjusted to cut any angle desired. *a* is a notch cut into the base A on the line of the cut-away portion A′ to receive the catch G when the guide is moved against the side of A, so that the edge of the guide may be on the line of the cut-away portion A′. D D is the back of the box in two parts, one on each side of the guide C, each part being movable laterally and also hinged to turn down, as shown in Fig. 6, when the box and back are closed down for carrying.

Upon the top edge of the back D is a groove D″ in which the saw W may be placed for

convenience in packing or carrying. H is the hinge by which the back is secured to the base, and it is the peculiar form and construction of this hinge that permits me to not only turn the back down, as shown in Fig. 6, but to give it also the lateral movement shown by dotted lines in Fig. 4.

The hinge H is an L-shaped piece of metal provided with holes at each end for receiving the rods I and I′, one rod I passing through a hole in the back on line with the hole in the hinge H and forms the pivot upon which the back D turns down, as shown in Fig. 6. The other rod I′ passes through a hole in the base on a line with the hole in the base A, corresponding with the hole in the hinge H, and serves the purpose of holding the hinge in its place and also permits the hinge to have the lateral movement hereinafter described, viz:

A″ is a notch cut out of the base below the top surface thereof and is of sufficient width to permit the back of the hinge to have the lateral movement desired, as shown in dotted lines of Figs. 3 and 4.

The hinge H fits in the narrow groove D′ in the lower half of the back D. As the back is drawn out it is obvious that the hinge H will slide on the rod I′ to the opposite side of the slot A″, thus moving the back out of engagement with the side bars B B of the guides, and permitting it to be turned down, as shown in Fig. 6, the back turning on the upper rod I.

By extracting the rods the back D may be entirely removed from the base. To support the box and hold it in position when in use I have formed upon the back thereof a catch N secured to the back by the screw N′ passing through a slot in the middle of the catch N. The lower end of the catch engages a notch in the base A, which may be formed in a plate M sunk in the base, as shown. When the box is in position for use this catch would be in the position shown in Fig. 8.

When it is desired to move the back D pulling up on the catch N disengages it and allows the back to be moved laterally and to be turned down. *l* A is a cut-away portion of the base and is for convenience in handling the box when in position for carrying.

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

1. A miter box comprising a base, a two part movable back adjustably hinged to the base, pivoted guides for the saw adapted to be moved to any desired angle, a scale to indicate when the guides are set to the angle desired, substantially as described.

2. In a miter box the combination with the base and the guides for the saw located on a pivotal support, of a support pivoted at one end to the back of the base and provided at the other with a catch adapted to engage as desired serrations on a scale of a longitudinally movable two part hinged back in line with the pivot of the guides, substantially as described.

3. In a miter box of the class described, a longitudinally movable two part hinged back comprising a back piece on each side of a pivotal guide, the back hinged to the base by the hinge described and held in a vertical position by the catch N and adapted to move longitudinally on the rod I when desired, substantially as described.

4. In a miter box of the class described a hinge for securing the back to the base comprising L-shaped pieces H and rods I and I′ passing through the ends thereof, respectively, and the back and the base, respectively, one end of the hinge H fitting into and adapted to move on the rod I′ in the slot A″, the other end of the hinge fitting into the groove D′ in the back D and held therein by the rod I upon which the back D moves when turned down, substantially as described.

5. In a miter box of the class described, a pivotal guide for the saw comprising metal guide ways C and *l* C, supported upon the horizontal bars B, B, the guide C secured in the inner end of and passing through and below the bars B, B and into the base A, and forming a pivotal support for the bars B, B on the base, the guide *l* C being removable and adjustable to different positions in the bars B, B, the bars B, B being provided with means for receiving the guide *l* C in different places along their length in line with the guide C, and a spring catch G removably secured to the outer end of the bars B, B, having its front end serrated and adapted to engage corresponding serrations arranged upon the edge of a segment of a circle, upon which a scale is formed, the segment secured to the base, the catch G having a pointer in line with the guide ways and pointing to a figure of the scale on which the guide may be set, substantially as described.

6. In a miter box, the combination with the base, a two part laterally movable hinged back provided with longitudinal grooves D″ upon the top edge thereof for receiving the saw when turned down and not in use, of pivoted guides for the saw comprising hollow metal guides supported upon a pivoted base, the inner guide forming a pivot of the base, a spring catch on the outer end of the base having serrations upon its outer end and a pointer on the line with the saw guides, a circular scale having serrations on its inner edge adapted to be engaged by serrations on the end of the spring catch, and removable standards fitting into metal guides, and a gage upon the standards for regulating the depth of the cut, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL LEVAN.

Witnesses:
A. H. SWARTHOUT,
J. F. O'KEEFE.