L. L. HALL.

FOLDING MITER BOX.

APPLICATION FILED AUG. 7, 1915.

1,208,150.

Patented Dec. 12, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

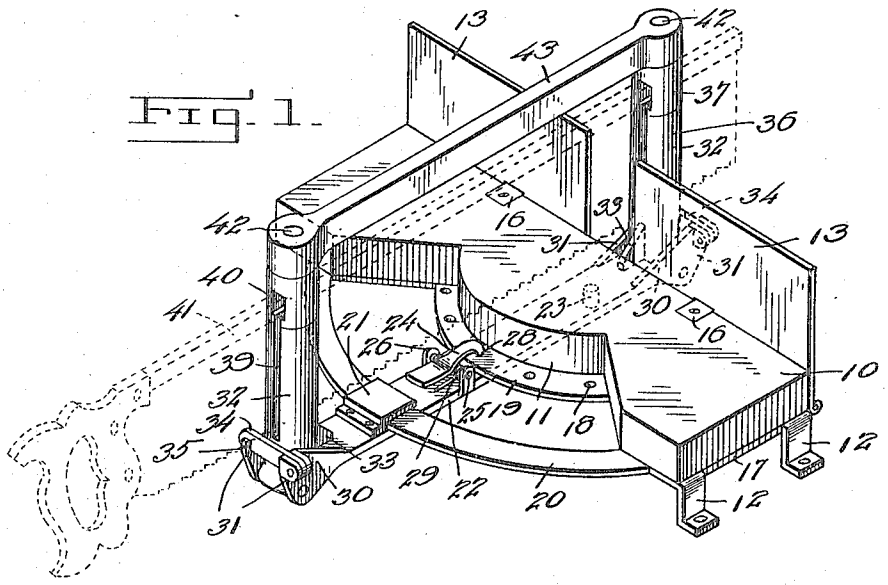



Fig. 2.

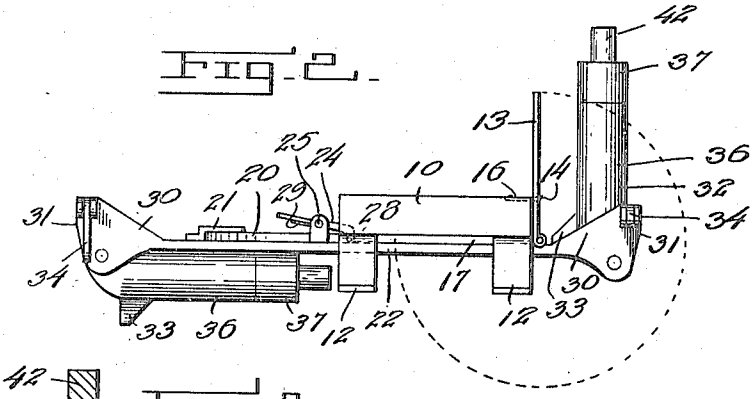
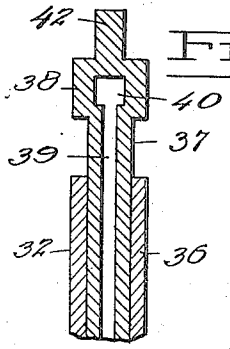



Fig. 3.



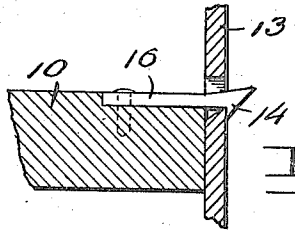




Fig. 4.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 5.

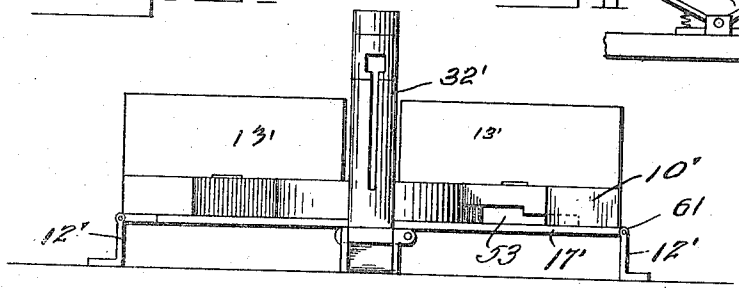



Fig 11

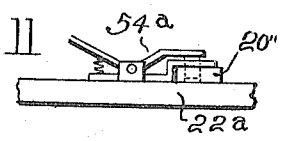



Fig 10

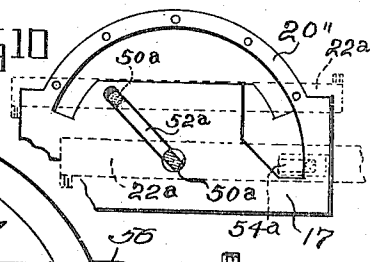



Fig. 6.

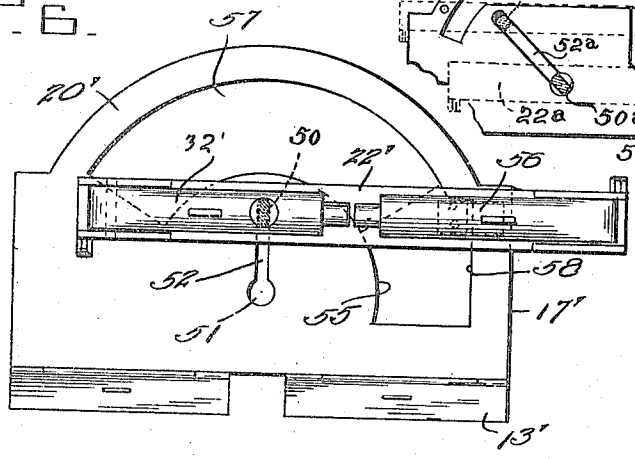



Fig. 7.

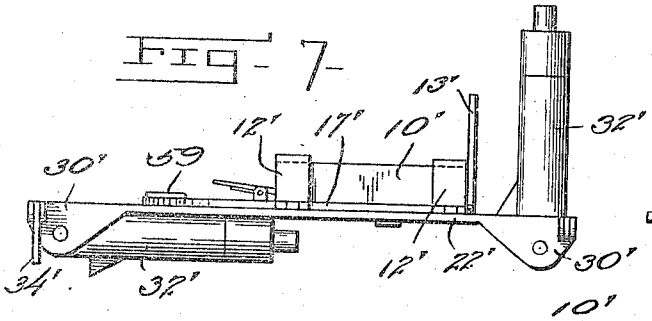



Fig. 8.

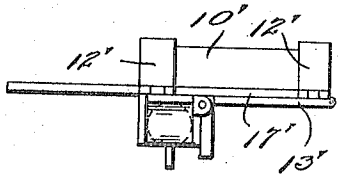
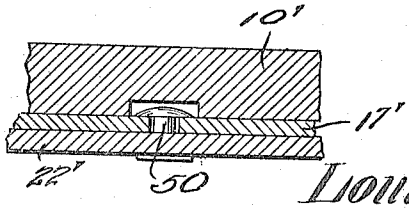



Fig. 9.




Witnesses

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# UNITED STATES PATENT OFFICE.

LOUIS L. HALL, OF DULUTH, MINNESOTA.

## FOLDING MITER-BOX.

1,208,150. Specification of Letters Patent. Patented Dec. 12, 1916.

Application filed August 7, 1915. Serial No. 44,358.

*To all whom it may concern:*

Be it known that I, LOUIS L. HALL, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Folding Miter-Boxes, of which the following is a specification.

The invention has for an object to provide an improved construction in folding miter boxes particularly designed to attain as far as possible the advantages of rigid boxes without folding parts while attaining great efficiency in compact folding.

A purpose is to provide such a device which is adapted to be fastened to a bench, having supporting legs for that purpose and so arranged that the legs will lie within the bounds of the folded parts, without requiring to be themselves foldable.

Additional objects and advantages will appear from the construction, arrangement and combination of parts hereinafter set forth to enable the practice of my invention, by specification and drawing, the latter showing in—

Figure 1 a perspective view of one of the possible embodiments of the invention. Fig. 2 is a side view thereof, Fig. 3 is a detail longitudinal section of one of the saw guides, Fig. 4 is a detail of a latch device, Fig. 5 is a front elevation of a modification, Fig. 6 is a bottom view thereof, Fig. 7 is an end view thereof, partly open, Fig. 8 is a similar view showing the device folded, Fig. 9 is a detail of the pintle in the modification, Fig. 10 is a detail of a further modification, Fig. 11 shows the latch in the last named modification.

There is illustrated a miter box comprising a bed plate 10, having an inset semi-circular forward edge portion 11 intermediately of its length, the plate being supported by short foot pieces 12 fixedly carried thereby at the ends, while at its rear side thrust plates 13 are hinged adjacent the lower side of the plate 10, stopping short of the middle of the bed plate, and movable upwardly to lie against the back edge of the bed plate. The plates 13 are slotted at their lower part to receive therethrough the bills 15 of spring catches 16 secured upon the upper side of the bed plate, and operable to engage over the lower edges of the slots to hold the plates in elevated position. The catches may be disengaged by being pressed upwardly, so that the plates 13 may be swung downwardly toward the rear, then forwardly, and upwardly against the under side of the bed-plate. In the present case the bed plate comprises a block of wood or the like, and the plates 13 are hinged to the rear part of a frame plate 17, by which the legs 12 are carried, having a semi-circular forward portion concentric with the edge portion 11 of the bed plate, and projecting outwardly thereof a short distance, a series of equi-spaced apertures 18 being formed therein, whereby this edge portion will serve as an adjusting segment, as will be described. Outwardly of this segment in turn there is a concentric guide segment 20 carried by the frame plate and slidably engaged under a strap 21 on a pivot bar 22 pivoted as at 23 on the under side of the plate 17 concentrically with the guide 20. This pivotal point is immediately adjacent the rear edge of the plate 10.

Mounted on the pivot bar in the space between the segment 19 and guide 20 there is a spring pressed thumb catch 24 comprising a short lever pivoted on a pin 25 extended between two ears 26 at the sides of the bar 22 and having formed on its inner end a nib 28 adapted to engage in the apertures 18, a spring 29 being engaged under the outer broadened edge of the lever to hold it normally in engaged position. The bar projects forwardly beyond the guide 20, and a greater distance rearwardly, having formed on each end ears 30 extending rearwardly, and having diagonal upward extensions 31. Between the ears at their inner parts there are pivoted saw guides 32 having their pivoted ends off-set so that the guides may at times be folded inwardly to lie snugly against the under side of the bar 22, the lengths of the guides being such that their outer ends stop short of each other when in folded position. The guides are also provided with shoulders 33 disposed so as to strike upon the upper side of the bar 22 when they are moved to vertical position. On one extension 31 at each end of the bar 22 there is pivoted a latch arm 34 movable to swing across the space between the ears, a suitable slot 35 being formed in the opposite extension 31 to receive the latch. The latch in this position lies outwardly of the adjacent guide 32 when erected, and serves to secure it in erect position. These latch arms 34 may engage against the outer

sides of the guides 32 with some force, so that the guides will be held rigidly in vertical position thereby.

The guides 32 are formed in two parts, a lower tubular body 36 and an upper cylindrical member 37 having a reduced lower part slidable in the body 36, the enlarged head portion 38 thereof being adapted to rest snugly upon the upper end of the body 36 at times. The two parts are slotted as at 38, to receive a saw blade freely therethrough in the customary manner, while the head member 38 is formed with an enlarged passage 40 therethrough to receive the back 41 of a saw snugly therein, so that it will be supported by its back when there is no work in the miter box under the saw. The upper ends of the members 37 are formed with tenons 42, if desired, upon which respective apertured ends of a tie bar 43 are snugly engaged, by which the saw guides are securely held in parallel relation. The latch bars 34 may be found sufficient to maintain the saw guide in proper relation to each other without the use of this tie bar.

In use, the apertures 18 being properly spaced, by releasing the catch 24 the bar 22 may be moved to various angles with relation to the plates 13 when erected to give the desired miter angles. In opening the device, the spring devices 15 will snap into engagement with the plates 13 when the latter are raised and pressed forwardly. The securement of the various other elements in open position will be readily understood without detailed explanation in view of the foregoing description. In folding the device the devices 15 are released and the plates 13 folded against the under side of the device, while the latches 34 are swung to one side and the guides 32 similarly swung to folded position against the under side of the bar 22.

It will be seen that the construction of the parts is such that they may be produced at a low cost, and that its assemblage and use are attended with a minimum of difficulty.

In Figs. 5 to 9 inclusive, there is illustrated a modification of the device in which provision is made for adjusting the pivoted bar carrying the saw guides longitudinally beneath the device when folded. In this case the bed plate 10′ is formed with substantially the same contour as the one first described and the same is true of the frame plate 17′. The swinging bar 22′ in this case is provided with a pintle 50 flattened on two sides, as indicated in Fig. 6, engaged in a suitable circular opening 51 concentric to the guide 20′. This opening is formed with a slot 52 extending forwardly therefrom toward the guide 20′. The flattened sides of the pintle are parallel and at right angles to the bar 22′, being also spaced the same distance as the size of the slot, so that when the bar 22′ is turned into a position parallel with the back edge of the plate 17′ the pintle may be moved forwardly in the slot 52 and the bar 22 thus may be adjusted adjacent the forward side of the bed plate 10′ and extending longitudinally thereof. In order to permit this movement readily, the under side of the bed plate is cut away a suitable distance as at 53, to receive the latch member 54 thereunder when its outer part is depressed. This latch member is similar to the device 24 before described. The plate 17′ is also cut away as at 55, to permit the passage of the latch as required. The plate 17 is also formed with an enlargement 56 of the space 57 inwardly of the guide 20′ at the end of this guide adjacent the cut-away portion 55. The outer edge 58 of this enlargement is parallel to the slot 52 a distance corresponding to the radius of the inner edge of the guide 20′. A guide clip 59 is engaged upon the upper side of the bar 22′ inwardly of the guide 20′ extending over the guide and stopping short of its outer edge. The bed plate 10′ is properly cut away on its under side to receive this clip, as dotted at 60 in Fig. 6. The bar 22′ is formed with ears 30′ at each end, the upper edges of which are alined with the top surface of the bar, their major portions being extended below the bar, and pivoted between these bars at respective ends there are saw guides 32′ similar to those 32 before described, the pivots being located so as to permit the guides to swing close against the under side of the bar 22′. At their outer parts the ears at each end have pivoted latches 34′ mounted thereon in the same way as the latches 34, and having the same function. The plates 13 are of the same construction in this form and operated and held in the same way as before described. The legs 12′ may be pivoted at their upper ends as at 61, so that they may be swung up against the ends of the plate 10′ as shown in Figs. 7 and 8. In use, the device being open fully, in order to close it, the guides 32 are swung close against the under side of the bar 22′, the latch 54 released and the outer end of the bar 22′ swung to the right until the pintle 50 may be moved into the slot 52, after which the bar is moved laterally into the position shown in Fig. 6, the legs 12′ at the right hand end having first been moved out of the way. The plates 13′ may then be released as before described, and swung into position shown in Fig. 8, close against the under side of the plate 17′, in which position they will be clear of the bar 22′ and parts carried thereby.

In Fig. 10 there is illustrated a further modification of the device, in which the construction is the same as before described, in principle, the difference being that the slot 52ª corresponding to the slot 52 is extended

diagonally away from the under cut portion of the bed plate, and the pintle 50ª is disposed at a corresponding position with respect to the bar 22ª, so that when the bar is swung into initial longitudinal position beneath the bed plate it may be moved in a diagonal direction inwardly and forwardly, so that its forward end will not project outside the plate 17′ as much as in the preceding form. In this construction, also the latch 54ª corresponding to, and operating in the same way as, the latch 54 before described, is made to operate in the guide 20ª, which is apertured at proper intervals for that purpose.

What is claimed:

1. A device of the class described comprising a base element back plates carried thereby, a horizontal bar pivoted intermediately of the base element, respective saw guides pivoted on the ends of the bar, ears formed at each side of the bar at the ends and projecting outwardly of the pivots of the guides, a latch movable to lie across the ears, the ears and latches being constructed to coengage for support of the guides, and means to secure the bar in various positions in its pivotal movement.

2. In a miter box, a body portion, a pivot opening being formed therein having a slot extending therefrom, a bar having a pintle engaged in said opening, said pintle having flattened sides spaced from each other and disposed at an angle to the bar for engagement slidably in said slot when the bar is in a predetermined inoperative position, and saw guides movably mounted on the bar to clear the body member at times.

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

LOUIS L. HALL.

Witnesses:
JOHN HEITMANN,
EDNA LOFF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D C."