

Aug. 15, 1950

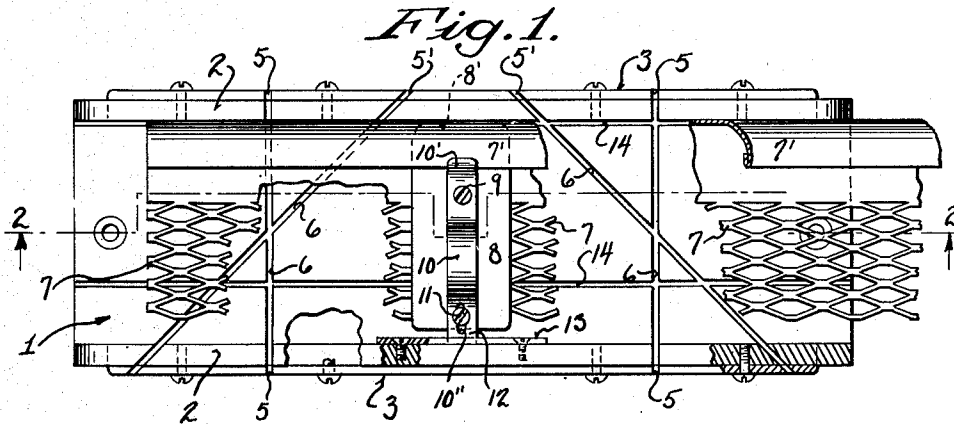
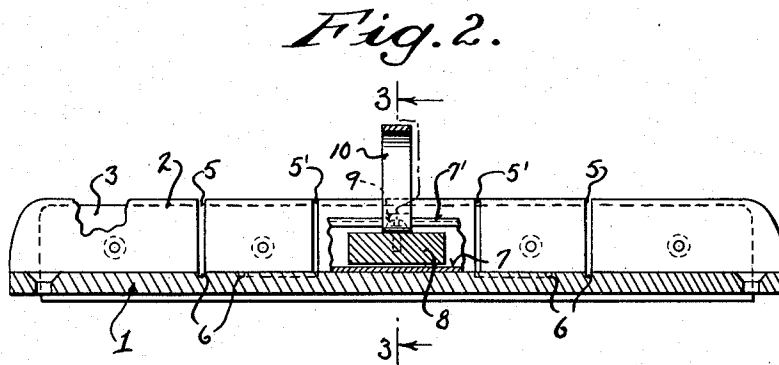
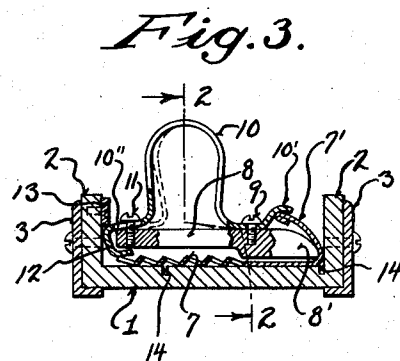
N. M. LUDWIG

2,518,801

MITER BOX

Filed Nov. 23, 1946

2 Sheets-Sheet 1



INVENTOR
NICHOLAS M. LUDWIG

BY

Young & Wright
ATTORNEYS

Aug. 15, 1950

N. M. LUDWIG

2,518,801

MITER BOX

Filed Nov. 23, 1946

2 Sheets-Sheet 2

Fig. 4.

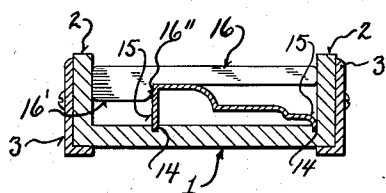


Fig. 5.

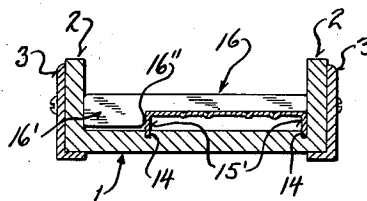


Fig. 6.

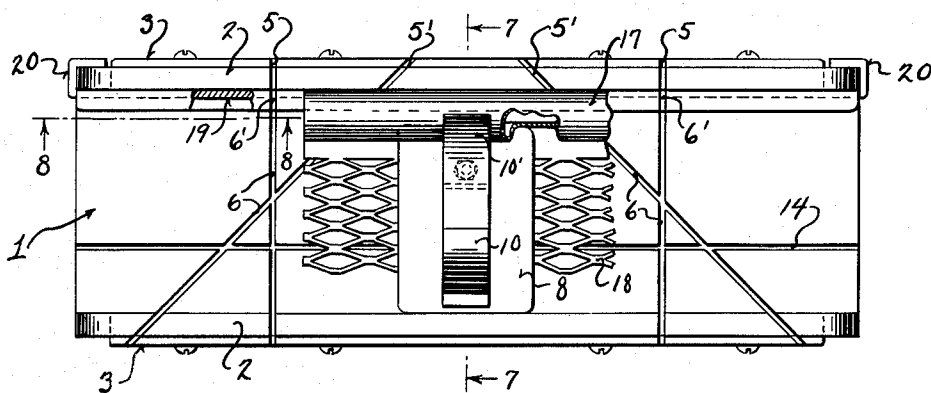


Fig. 7.

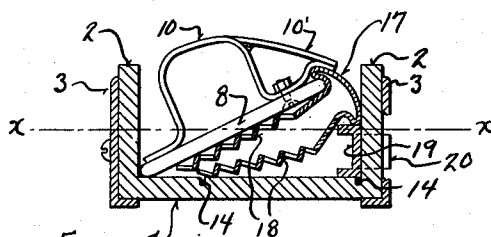
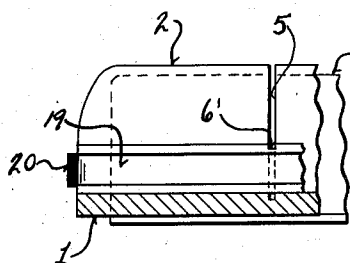


Fig. 8.



INVENTOR
NICHOLAS M. LUDWIG

BY

Wm. M. Wright
ATTORNEYS

UNITED STATES PATENT OFFICE

2,518,801

MITER BOX

Nicholas M. Ludwig, Racine, Wis.

Application November 23, 1946, Serial No. 711,978

2 Claims. (Cl. 143—86)

1

2

My invention refers to miter boxes and it has for its object to provide a simple inexpensive miter box adapted to clamp various steel trim casing designs of standard variety, such as casing beads, base beads, and bull nose beads, whereby the same may be cut by a hack saw either crosswise or mitered into desired lengths.

The box also forms a quick acting vise for clamping the strips of material laterally by means of a chucking block.

Due to the compactness and simplicity of the box, it also materially reduces the cost of saw blades due to the fact that said blades may be of approximately the 12 inches in length.

The specific object of my invention is to provide vertical walls extending from a bed having slots or saw kerfs therein for the reception of lengths of casing trims to be cut, the said trims being adjusted within the box and locked by a quick acting clamp block whereby the bead or flanged portion of the trims are securely locked to one of the box walls in a hack saw operation. Thus the metal trims may be conveniently adjusted longitudinally of the box for cutting the same in the desired lengths, it being understood that such standard trims usually embody a flat skeleton base merged into an upwardly curved flange or bead.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts, substantially as hereinafter described, and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claims.

In the accompanying drawings is illustrated one complete example of the physical embodiment of the present invention constructed according to the best mode so far devised for the practical application of the principles thereof.

In the drawings:

Figure 1 represents a plan view of a miter box embodying the features of my invention with parts broken away and other parts in section to more clearly illustrate structural features.

Figure 2 is a longitudinal sectional view through the box, the section being indicated by line 2—2 of Figure 1.

Figure 3 is a cross section of the same, the section being indicated by line 3—3 of Figure 2.

Figure 4 is a cross section of the miter box illustrating a modified form of the clamping block and solid casing trim.

Figure 5 is a similar cross sectional view showing a different character of work being held by the clamping block.

Figure 6 is a plan view of still another form of clamping block and removable channel iron rail for supporting a centrally disposed bead having skeleton end plates.

Figure 7 is a cross section of the same, the section being indicated by line 7—7 of Figure 6.

Figure 8 is a detailed longitudinal sectional view of the miter box particularly illustrating the channel iron rail, said section being indicated by line 8—8 of Figure 6.

Referring by characters to the drawings 1 indicates a bed having vertically disposed walls 2 extending from its edges. For convenience in manufacture, the box is preferably fabricated from aluminum and to add strength thereto the walls I have secured to their outer faces reinforcing steel plates 3—3. The reinforcing plates and walls of the box are provided with transversely positioned grooves or kerfs 5 and also oppositely disposed miter kerfs 5'. All of these kerfs are connected by grooves 6—6 formed in the upper face of the bed for convenience in manipulating a hack saw in cutting various materials which materials ordinarily have faces that rest flatly upon the bed.

Loosely fitted into the trough like miter box is a standard casing bead, which bead embodies a flat skeleton plate 7 terminating at one edge into a curved bead or flange 7'. The casing trim must be frictionally locked within the miter box and for this purpose I provide a clamping block 8 having a nose 8' which is seated within the casing trim. The nose of the block engages the corner of the trim from which springs upwardly the bead or flange.

Secured to the upper face of the block by a screw 9 is a U-shaped spring strap 10 having an upstanding lip 10', which lip, as best indicated in Figure 3 of the drawings, overlaps the upper edge of the bead or flange 7'.

One leg of the U-shaped strap 10 is provided with a slot 10'' for the reception of a confining screw 11. The slotted end of the strap is folded downwardly and under the block to form a gripping lug 12, which lug engages the lower edge of a steel locking strip 13 secured to the inner face of the associated box wall 1.

With this simple miter box, in conjunction with the clamping block, when it is desired to lock a strip of metal, of the trim casing variety, the metal strip is seated within the box and thereafter the operator inserts the nose 8' of said block

3

under the flange 7' of the strip to be cut. The block is then swung downwardly upon its nose portion as a fulcrum whereby the lug 12 of the spring strap will ride downwardly and snap under the lock strip 13 and owing to the yield of said strip the block will be forced towards the inner corner of the flange 7' whereby said flange and its associated plate will be securely locked in position for manipulating the hack saw in a miter cutting operation or a cross cutting operation, it being understood that the block when inserted to lock the casing strip, is positioned immediately of the miter grooves or kerfs.

Referring especially to the modified form of my invention, illustrated in Figure 4 of the drawings, the base of the miter box is provided with parallel longitudinally disposed gutters 14 adapted to engage end flanges 15—15 of a solid casing bead trim whereby said casing trim is held in parallel relations with the walls of the box.

This solid casing trim is held in place by a clamping block 16 having end edges which engage the inner faces of the box walls.

One end of the clamping block is provided with a depending tooth 16' having a shoulder 16'' which engages a corner of the casing block to firmly hold the same in position for cutting.

Figure 5 of the drawings illustrates another type of solid casing beads having a flat upper wall terminating with depending flanges 15' for engagement with the gutters 14.

This form of casing trim is locked within the miter box by the clamping block 16 which block is similar to the block shown in connection with the structure illustrated in Figure 4 of the drawings.

Figures 6 to 8 inclusive illustrate means for holding a casing trim having a centrally disposed bead 17 terminating with skeleton plates 18, which plates are folded upon themselves as best illustrated in Figure 7 of the drawings.

The corner of the bead 17 is adapted to rest upon a channel iron rail 19, which rail is faced against the inner surface of one of the box walls 2.

The ends of the rail 19 are folded over to form loops 20—20, which loops engage the ends of the associated wall whereby the rail is adjustably held in its proper position. The upper face of the rail is also provided with grooves 6' corresponding to the kerfs of the miter box.

This type of casing trim is securely held in position with the bead resting upon the upper face of the channel iron rail by a clamping block

4

8 having a handle 10 extending therefrom with one end of the handle terminating in a lip 10', which lip engages the upper corner of the bead 17.

The clamping block 8 in this instance has one end engaging the lower corner of the miter box and its upper nosed end is engaged by the looped throat of the bead whereby the casing trim is securely held in position for sawing purposes.

It is understood where the casing beads terminate with skeleton plates, the bead or flange is separated by the hack saw and the flexible end plates are thereafter cut with shears, when said plate or plates are not supported.

I claim:

1. A miter box for cutting steel trims or the like comprising a bed, walls extending upwardly from the bed edges having cross cuts and miter cuts therein communicating with bed grooves, the box being adapted to receive a flanged metal trim, a removable clamping block for engaging the trim flange and a spring strip secured to the block having an end yieldably engaging one of the box walls and the opposite end being in engagement with the trim bead and adapted to frictionally engage the casing trim flange whereby it is held against the associated box wall.

2. A miter box for cutting steel trims or the like comprising a rectangular bed, vertical walls extending from its side edges, said walls having saw guide kerfs in its walls connected by grooves in the bed, the box being adapted to receive flanged or beaded metal trims; a locking strip secured to one of the bed walls, a removable clamping block having a nose adapted to engage the throat corner of a trim bead flange, a spring strap secured to the block, having one end terminating with a lip for engaging a trim bead edge and a yieldable lug extending from the opposite end of the strap fitted under the locking strip and adapted to engage the associated edge of a trim.

NICHOLAS M. LUDWIG.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
850,873	Pringle	Apr. 16, 1907
1,718,791	Ludwig	June 25, 1929
2,046,404	Owen	July 7, 1936
2,289,142	Parsons	July 7, 1942