June 11, 1935. R. R. SEFT 2,004,475

COLLAPSIBLE MITER BOX

Filed Oct. 15, 1934

Fig. 1.

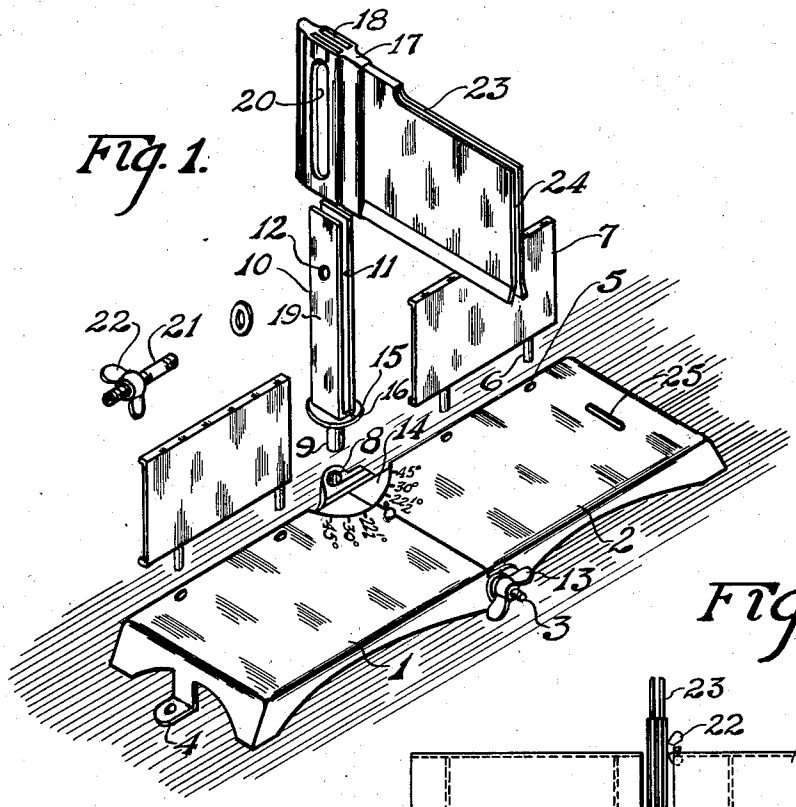


Fig. 2.

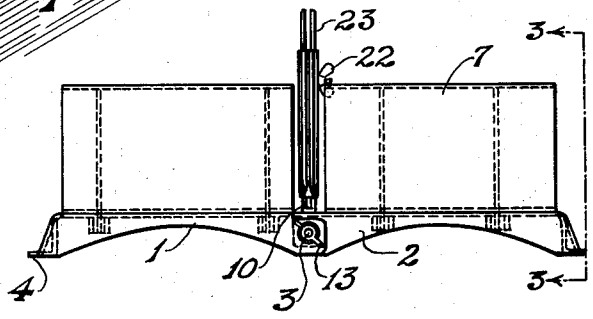


Fig. 3.

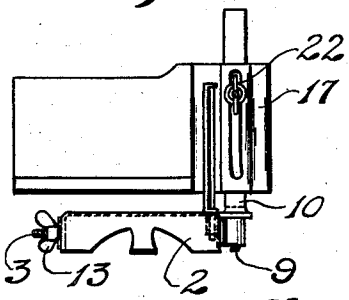


Fig. 4.

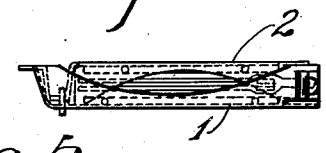
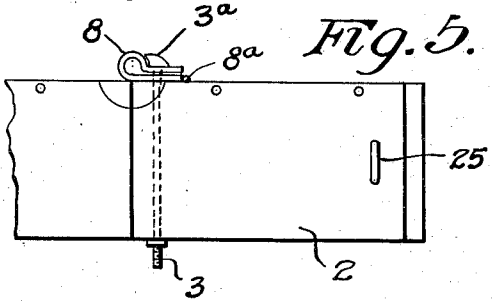


Fig. 5.



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COLLAPSIBLE MITER BOX

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Application October 15, 1934, Serial No. 748,274

2 Claims. (Cl. 143—86)

This invention relates to new and useful improvements in miter boxes and it is among the objects thereof to provide a miter box of simple, compact, mechanical construction which shall be collapsible and foldable to be conveniently packed in a workman's tool kit.

Another object of the invention is to provide a miter box which shall be adapted for sawing boards or the like in a flat or upstanding position and which shall be adjustable to various angles.

These and further objects of the invention will become more apparent from a consideration of the accompanying drawing constituting a part hereof in which like reference characters designate like parts and in which:

Fig. 1 is an exploded view of a miter box embodying the principles of this invention;

Fig. 2 a front elevational view of the miter box assembly;

Fig. 3 an end elevational view thereof;

Fig. 4 a front elevation of the box in its collapsed or folded form illustrating the disposition of the various elements when folded between the hinged base member; and Fig. 5 a plan view of one-half of the base and a portion of the other half illustrating the mounting of a bearing lug and hinge bolt thereon.

With reference to the several figures of the drawing the structure therein illustrated comprises a base consisting of the parts 1 and 2 hinged by a through bolt 3, the base being provided with perforated ears or lugs 4 for receiving a bolt or screw to secure it to a bench or the like if desired. The base is provided with perforations 5 for receiving pins or projections 6 of side plates 7 which are of channel shape as shown and which constitute alining members for boards or other objects which are supported on the base to be sawed.

One end of the base is provided with a bearing lug 8 for receiving a pivot pin 9 of a bracket 10 which is vertically slotted as shown at 11, and perforated at 12. The lug 8 is welded to one of the base members at 8a in such manner that the bearing portion is in alignment with the hinge line of the base. The lug 8 functions as a clamp so that when the wing nut 13 is drawn up on the bolt 3, the pivot element 9 of the bracket 10 will be locked in position. The bolt 3 is provided with a head 3a flat at one side to prevent its turning when the wing nut 13 is turned at the threaded end thereof.

The base is provided with an indent 14 of the diameter of a flange 15 of the bracket 10 to hinge the flange below the surface of the base and the periphery of the indented portion is graduated in angles varying from 0° at the center to 45° on opposite sides, these graduations registering with a mark 16 on the flange 15 of the bracket.

A saw guide generally designated by the numeral 17 is provided with vertical slots 18 which engage the forks 19 of the bracket 10 to render the guide vertically movable and yet rigidly secured against misalinement. The saw guide is provided with a slot 20 through which abolt 21, inserted in the perforation 12, is freely movable, the bolt being provided with a wing nut 22 which fastens the saw guide in any vertical position within the limits of the slot 20. The top of the saw guide is cut away at 23 to permit holding the saw which passes through the surface 24 of the guide in any desired angular position, the saw, of course, passing through the slots 11 of the forks 19 to permit longitudinal sawing movement.

The wide vertical guide plates 7 permit standing a board on edge for miter cutting or permits the cutting of rounds or other shapes.

In operation, the miter box is assembled as shown in Figs. 2 and 3, and the saw guide 17 is adjusted to the desired angular position by loosening wing nut 13 and swinging the guide to register the graduation 16 of the flange with the desired graduation on the base member.

It is then similarly secured by turning the wing nut 13 and a vertical adjustment is made by loosening wing nut 22 and raising the saw guide on its support a distance necessary to accommodate the thickness or height of the board to be cut.

The conventional form of miter saw is extended through the guide plates and the device is then ready for use.

The device is primarily intended to be portable and as such adapted to be conveniently folded in the manner shown in Fig. 4, this being accomplished by removing side plates 7, the saw guide 17, and the pivot bracket 10 which are placed in the space between the folded members as shown. A slot 25 or other convenient perforations may be made in the base to permit the projection of the flange member 15 of the bracket if it is of larger diameter than the space between the folded base members.

The parts hereinbefore described are preferably sheet metal of relatively light gage strengthened through the shaping of base and side plates into structural forms, and although one embodiment of the invention has been herein illustrated and described, it will be obvious to those skilled in the art that various modifications may be made in

the details of construction without departing from the principles herein set forth.

I claim:

1. A collapsible miter box comprising a hinged base having a peripheral flange forming the side walls of a compartment when the base is folded, a bracket pivotally mounted on said base at the hinge portion thereof, a saw guide for said bracket slidably mounted thereon for vertical adjustment, means for securing the saw guide in adjusted position, means for securing the pivotal bracket in different angular positions relative to the hinged base, and a plurality of abutments removably mounted in the base member to engage one edge of the work for alinement with the saw guide, said bracket, guide and abutments being separately removable for disposition in the compartment formed by the base when folded.

2. A collapsible miter box comprising a base member consisting of two parts hinged together having a peripheral flange forming the legs of the base and when the base is collapsed forming side walls of a compartment, said base having a clamp block at one end, a pivot bracket adapted to be locked in said block, a saw guide movably mounted on said bracket adapted to be locked in different vertical positions thereon, said bracket having a slotted opening in register with the guide of the saw, and movable abutments on said base for aligning the work with the saw guide, said base having graduations indicating various angles for adjustment of the saw guide and bracket, and said bracket, guide and abutments being separately removable for disposition in the compartment of the base when folded.

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