United States Patent

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[54] **MITER BOX**
5 Claims, 3 Drawing Figs.

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—90; 145/129; 30/(Inquired); 83/(Inquired)

[56] **References Cited**
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ABSTRACT: A miter box having a single vertical wall with slits formed therein for allowing the cutting of perpendicular and miter edges. Saw guide blocks are attached to the wall on the opposite edges of each slit to support a saw blade during a cutting operation. The slits in the wall continue through the base member of the miter box thereby permitting full cutting of a workpiece. A slitted reinforcement strip is disposed along the lower end portion of the wall and provides guiding support for the serrated edge of a saw blade.

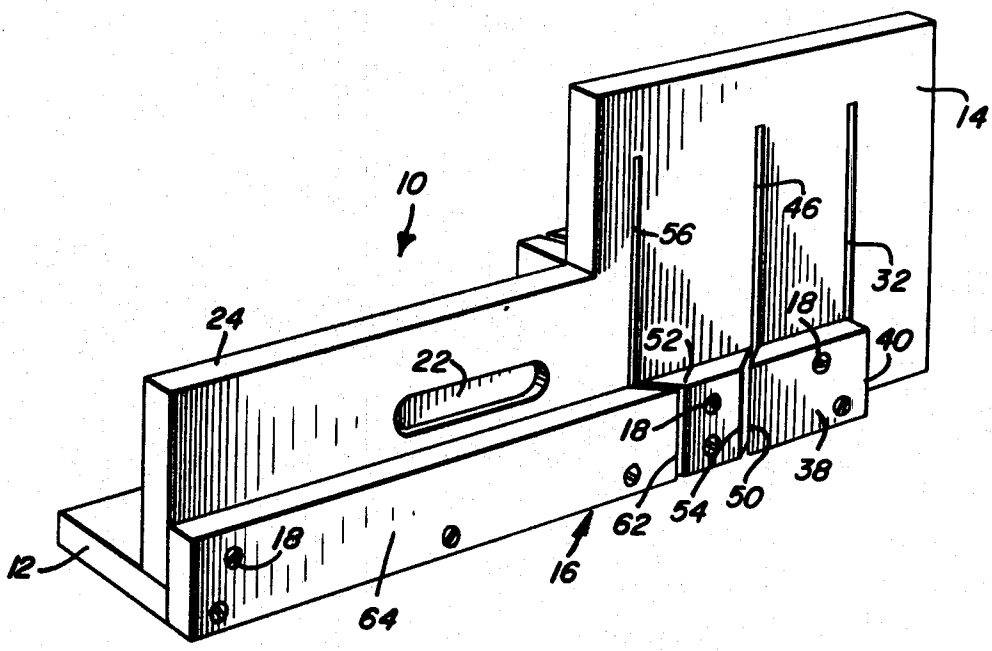


Fig . 1

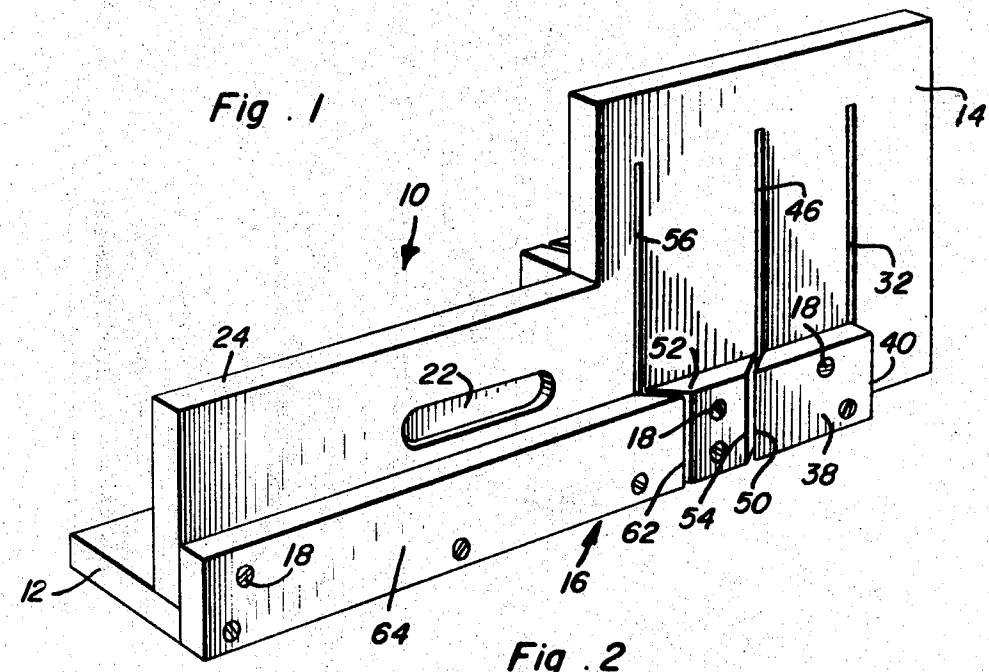


Fig . 2

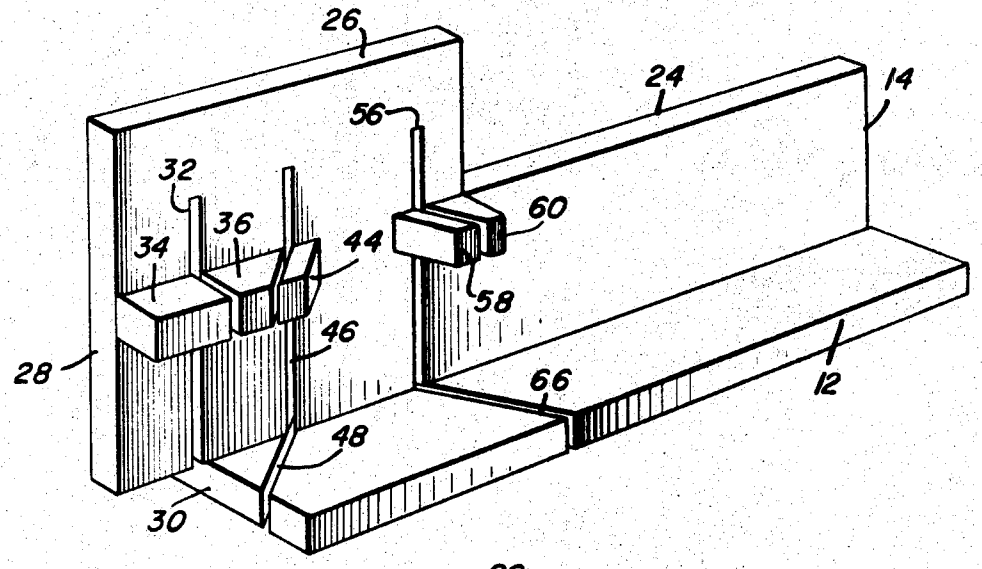
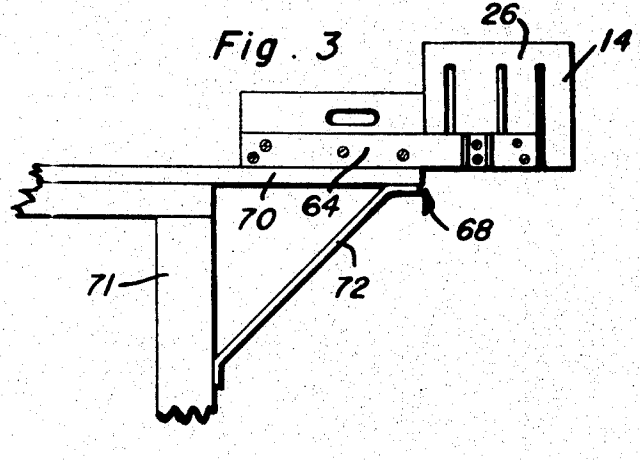


Fig . 3



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MITER BOX

This invention relates to miter boxes. A conventional miter box can take the form of an elongated channel member having slits formed therein for permitting the cutting of a workpiece both perpendicularly and at miter angles. Due to the close proximity of the parallel spaced flange of such miter boxes, manual manipulation of the workpiece along the base flange is made difficult. Further, the distance between the parallel flanges restrict the size of a workpiece which may be inserted within the miter box. Inasmuch as the parallel flanges of a conventional miter box cannot have a height exceeding that dimension which permits comfortable handgripping of the workpiece, large size stock cannot be cut in such a device. Certain prior art devices include a table mounted construction obviating the necessity of retaining a handheld miter box steady during a sawing operation. However, in the past, this type of construction has generally included the channel-type miter construction with the attendant disadvantages as mentioned hereinbefore.

The present invention is simply and inexpensively constructed from component parts including a single slotted wall resting upon a base member. By eliminating the necessity of a channel-type construction, the present miter box can handle larger sized stock than most miter boxes having the same dimensions. The single wall utilized in the present miter box is generally L-shaped having an enlarged wall portion containing the usual guide slits. The narrowed wall portion permits manual manipulation of the workpiece. The slits in the enlarged wall portion extend beyond the marginal edge of the narrowed portion so that a saw may be positioned above the narrowed portion, which is impossible to do with most conventional designs. Reinforcing means cooperate with the slitted walls to permit accurate cuts of a workpiece.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts the throughout, and in which:

FIG. 1 is a perspective view illustrating the exterior appearance of the present invention;

FIG. 2 is a perspective view illustrating the interiorly disposed component parts of the present invention; and

FIG. 3 is a front elevational view illustrating the disposition of the present miter box upon a supporting worktable top.

Referring to the drawings, and more particularly FIG. 1, the present miter box is generally indicated by reference numeral 10 and is seen to include an elongated rectangular base member 12. It is contemplated that all component parts of the miter box be fabricated from wood. The base member is adapted to be secured along a portion thereof to a worktable top as hereinafter explained, so that the miter box may be maintained in a steady position during a cutting operation. It is emphasized that the present invention is particularly adapted to such a tabletop installation and is not especially suited as a handheld miter box. A single wall member 14 is suitably attached perpendicularly to base member 12 so that the combination of the wall 14 and the base member 12 have an L-shaped cross section. A reinforcing strip generally indicated by 16 is suitably attached along the intersecting edge between the wall and base members. Suitable fasteners 18 secure the reinforcing strip 16 to the wall member 14 and the base member 12 so that a substantially rigid structure is affected. In order to assist manual manipulation of a workpiece, an oblong recess 22 is formed in the exterior surface of wall 14 along a narrowed portion 24 thereof. The recess opens outwardly in the direction of the reinforcing strip 16 and is particularly suited to receive the thumb of a workman.

Considering the particular structure of wall member 14, FIG. 1 and FIG. 1 FIG. 2 illustrate the wall member 14 as a generally L-shaped member having an elongated rectangular portion 24 integrally extending to an enlarged or heightened portion 26. In effect, the heightened portion 26 of the wall member 14 has an upper marginal edge which exceeds the height of the upper marginal edge of narrowed portion 24.

The outward transverse edge 28 of heightened portion 26 extends beyond an adjacently situated transverse edge 30 of base member 12. The vertically disposed slit 32 is formed in vertical alinement with base member edge 30, this slit permitting the cutting of a perpendicular edge on a workpiece. In order to guide a saw blade during a cutting process, guide blocks 34 and 36 are suitably fastened by gluing or the like along opposite edges of slit 32. The confronting edges of the blocks 34 and 36 are perpendicular to wall member 14 thereby insuring a perpendicular cut in the workpiece.

Referring to FIG. 1 there will be shown a portion 38 of the reinforcing strip 16 which has an outward transverse edge 40 in transverse alinement with slit 32 which serves to supplement the saw guiding function of the guide blocks.

The opposite edge of guide block 36 confronts a third guide block 44 which is positioned in horizontal alinement with the previously mentioned guide blocks. The confronting edges of guide blocks 36 and 44 are planar and formed at an acute angle with respect to the supporting surface of wall 14. A vertically disposed slot 46 parallel to the aforementioned slot 32 is formed at a slanted angle through the enlarged portion 26 of wall member 14. The slot 46 is so formed to permit the disposition of a saw blade (not shown) at a 45 degree miter angle with respect to a workpiece extending along the length of base member 12. A diagonally cut slot 48 is formed in the base member 12 and extends from the lower end of slot 46 so that a miter cut can be extended down through slot 46 and then through slot 48 thereby facilitating a completely cut miter edge. In order to further guide a saw blade through slot 46, a beveled edge 50, opposite previously mentioned edge 40 on the reinforcing strip portion 36 cooperates with an oppositely disposed parallel edge 54 on an adjacently positioned reinforcing strip portion 52. The reinforcing strip portions 52 and 38 are in horizontal alinement and the portion 52 is suitably fastened to the miter box in the same fashion as strip portion 38.

In order to cut a miter edge which is oppositely directed from that which can be cut through slit 46, guide blocks 58 and 60 are positioned along oppositely disposed sides of slit 56 and function in an identical manner to previously mentioned guide blocks 36 and 44. Referring to FIG. 1, it will be noticed that reinforcing strip portion 52 includes a first beveled edge alined with one side of slit 56 and in spaced relation thereto is a beveled edge 62 forming an outward edge of reinforcing strip portion 64. A diagonally cut slit 66 is formed in base member 12 and functions in the same manner as previously mentioned slit 48.

Referring to FIG. 3 securement of the miter box to a tabletop 70 is indicated by reference numeral 68. As will be noted in the FIG., a brace 72 connects the extending tabletop to a vertical brace or leg 71. As will be noted in the FIG., the enlarged portion 26 of wall member 14 extends outwardly from the tabletop so that a saw blade is free to pass through the base member 12.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to falling within the scope of the invention.

I claim:

1. A miter box construction comprising a base member, a single wall member only connected perpendicularly to the base member, a plurality of saw guiding slits continually formed in the wall and base members and saw guiding blocks attached to the wall member at opposite edges of the guiding slits for rendering support to a saw blade during a sawing operation.

2. The device st set forth in claim 1 wherein the wall member includes a heightened portion having the slits formed therein, and a narrowed portion integrally extending from the heightened portion, the narrowed portion permitting a user to manually clamp a workpiece against the same thereby holding the workpiece steady during a sawing operation.

3. The device set forth in claim 2 together with a reinforcing strip positioned against the outward wall member surface, the strip extending the length of the base member and terminating at one end thereof at an outwardly formed guiding slit in the wall member, the reinforcing strip having saw guiding slits therein which complement and extend from the slits formed in the wall thereby permitting passage of a saw blade therethrough.

4. The device set forth in claim 3 together with a recess formed in the outer surface of the wall member to accommodate the thumb of a workman.

5. The device set forth in claim 2 wherein one of the guiding slits formed in the heightened wall portion is disposed in vertical alinement with an associatively positioned transverse base member end thereby permitting passage of a saw blade through the slit for guiding contact of the blade by the base member end as a workpiece supported on the base is cut.