

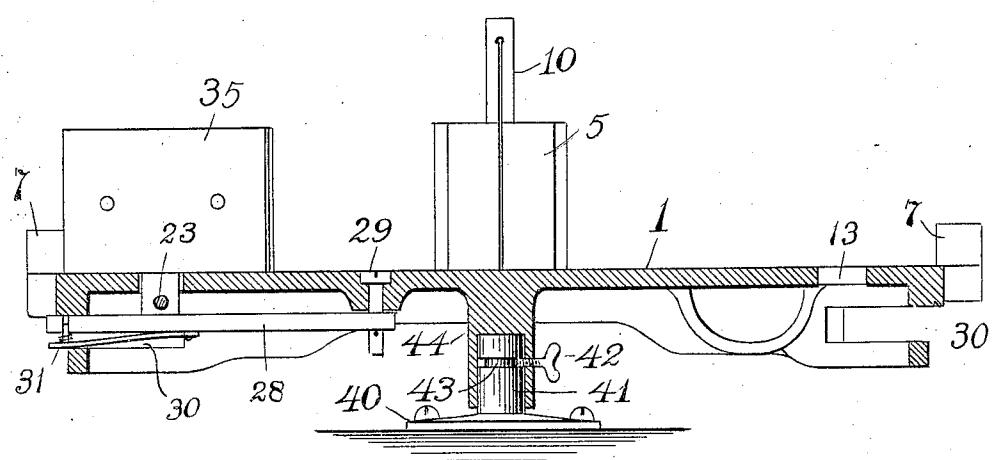
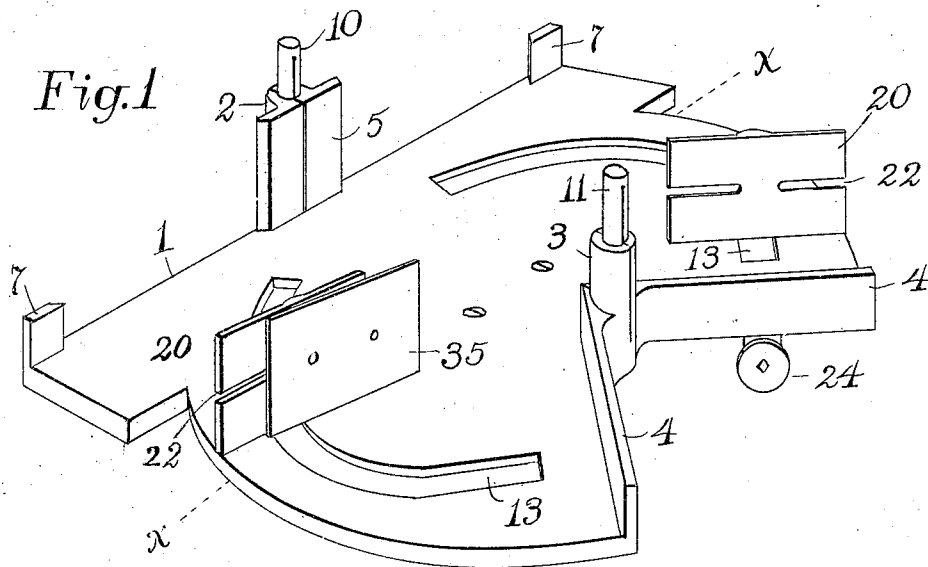
No. 831,277.

PATENTED SEPT. 18, 1906.

A. GARLAND.
MITER BOX.

APPLICATION FILED OCT. 6, 1905.

4 SHEETS—SHEET 1.



Attest;
Ralph C. Barnstead
J. A. Savage
H. H. Tilton

Fig. 2

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By A. B. Upham,
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4 SHEETS—SHEET 2.

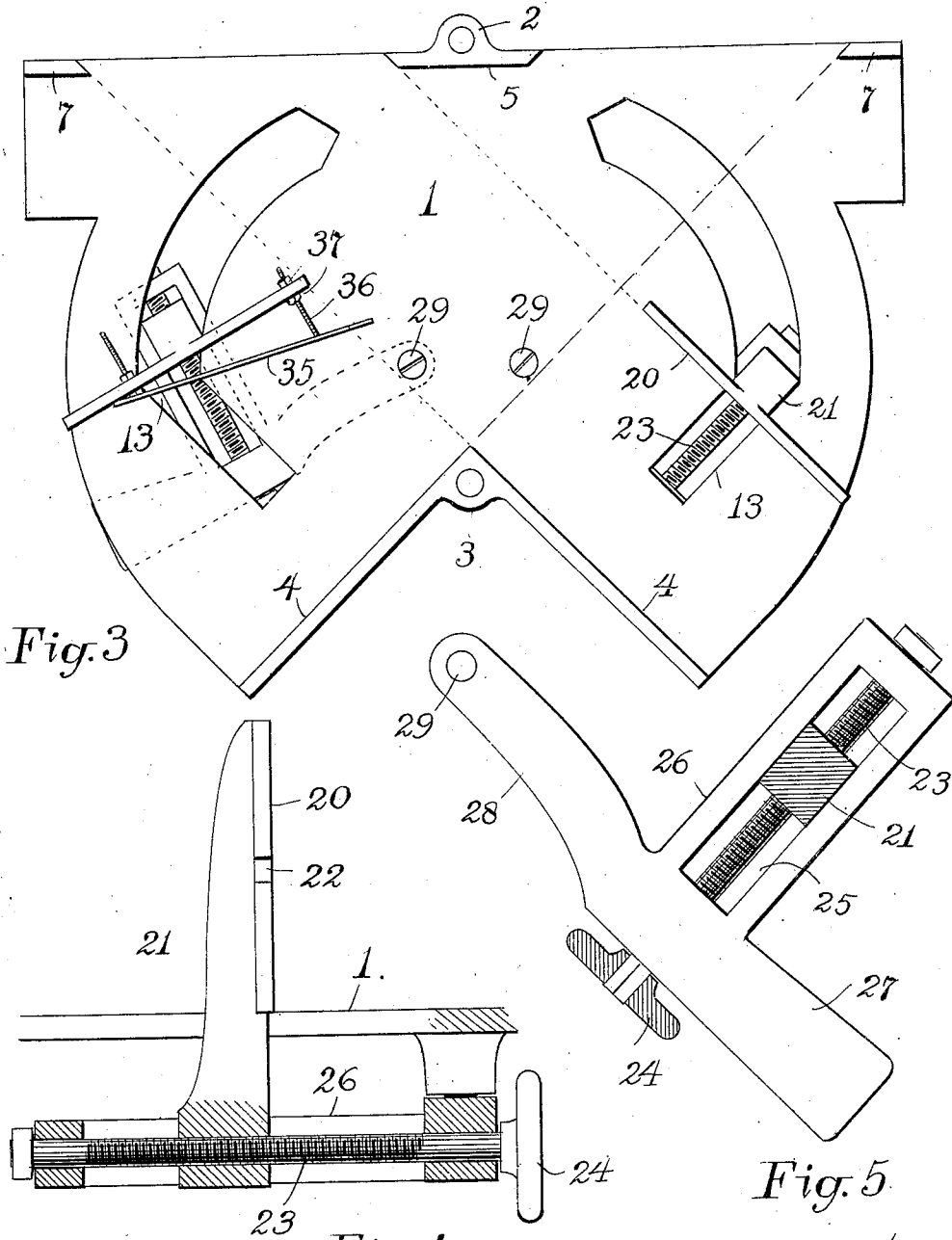


Fig. 3

Fig. 4

Fig. 5

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4 SHEETS—SHEET 3.

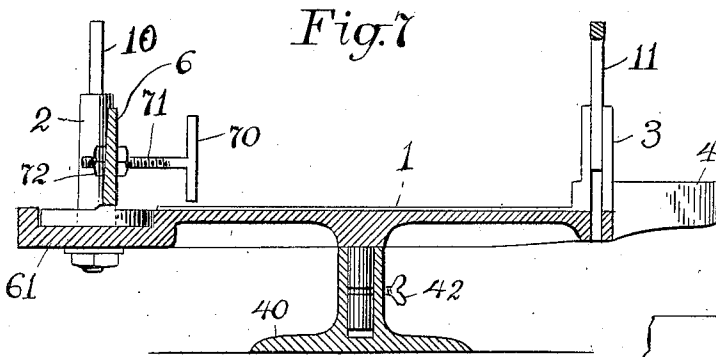
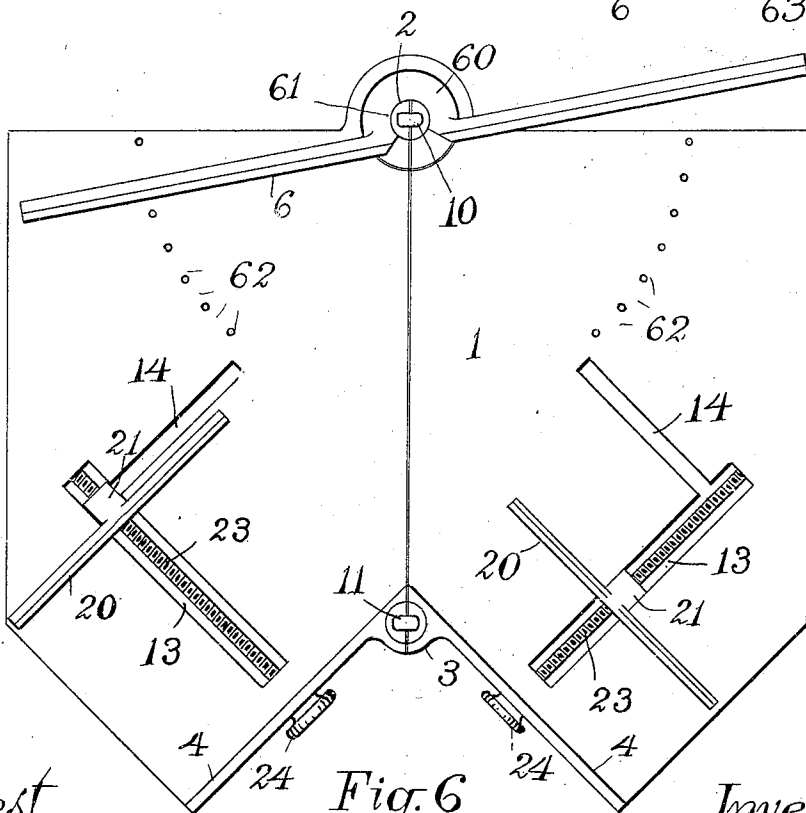
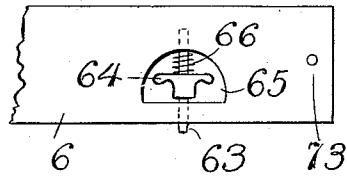


Fig. 8



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Fig. 6

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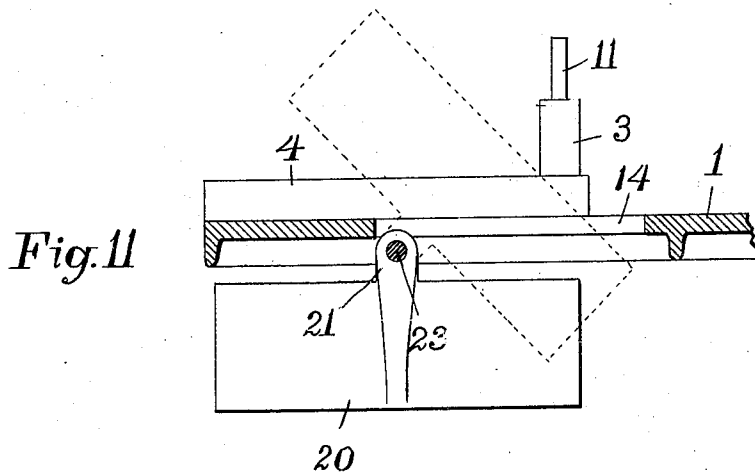
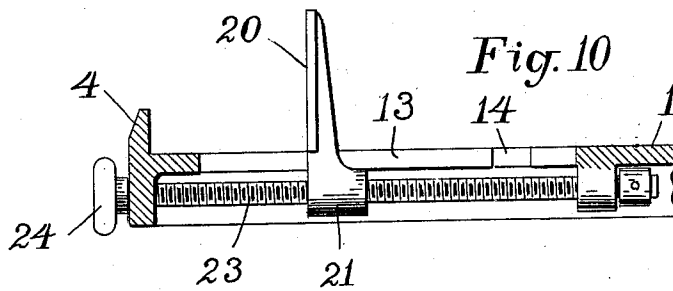
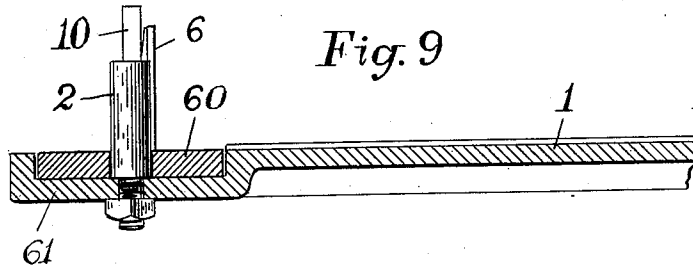
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MITER BOX.

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4 SHEETS—SHEET 4.



Attest;

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UNITED STATES PATENT OFFICE.

ABSALOM GARLAND, OF MALDEN, MASSACHUSETTS.

MITER-BOX.

No. 831,277.

Specification of Letters Patent.

Patented Sept. 18, 1906.

Application filed October 6, 1905. Serial No. 281,571.

To all whom it may concern:

Be it known that I, ABSALOM GARLAND, a citizen of the Dominion of Canada, and a resident of the city of Malden, in the county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Miter-Boxes, of which the following is a full, clear, and exact description.

The object of this invention is the construction of an improved miter-box wherein the position of the saw may remain fixed while performing the operations of sawing a board or strip of molding, either at right angles, at forty-five degrees right or left, or at any other desired angles, one which in addition can be used for sawing picture-frame or other kinds of moldings.

Referring to the drawings forming part of this specification, Figure 1 is a perspective view of the miter-box embodying my invention. Fig. 2 is a sectional elevation on the line X X in Fig. 1. Fig. 3 is a plan view of the same. Fig. 4 is a detail plan view, partly in section, showing one of the adjusting devices for the miter-box. Fig. 5 is a sectional elevation of the same. Fig. 6 is a plan view of the preferred form of my invention; Fig. 7, a sectional elevation of said preferred form; and Figs. 8, 9, 10, and 11, details of the invention.

The reference-numeral 1 designates the main body of this miter-box, the same being preferably of cast-iron with a perfectly plane upper surface provided with suitable strengthening-ribs on its under surface and with certain hereinafter-described projections cast integral with the top surface. Of said projections the one at the rear edge is numbered 2 and formed with a cylindrical opening for the reception of the saw-guide 10, while the one numbered 3 is located at the front of the plate and similarly adapted for the reception of the front saw-guide 11. Said saw-guides are of usual construction, as are also the front and rear sockets 2 and 3, being formed with kerfs for the passage of the saw to be employed in the work. The front socket 3 is located at the junction of the miter-walls 4 and 4, which each form an angle of forty-five degrees with respect to the saw passing through said kerfs, as shown in Fig. 3. These walls do not require to be very high, one inch being the preferable height; but a board laid flat upon the plate 1 and held with one edge against either of said walls will present itself at the proper miter-angle to the saw recip-

rocated in the saw-guides 10 11. If such board or molding is quite long or the sections to be cut therefrom are lengthy, the same can be supported against an edge of one of the projections 7 in addition to the walls 4 4. If a square cut is desired, the board is pressed against the back 5 and the projections 7.

To cut a sharp miter, the plates 20 are provided, each formed with a base 21, projecting through a slot 13 in the miter-body and engaged by a screw 23. Each screw is turned by its hand-wheel 24 and is caused thereby to move a back plate 20 toward or from the wall 4 with which it is parallel. To use these back plates, the molding to be beveled is rested at its inner edge upon the face of the plate or body 1 at the foot of the wall 4, with its back at an acute angle with respect to said face, and then such back plate advanced until the top edge of the latter comes beneath the outer edge of the molding, and thereby supports the same in the position described. For sawing ordinary miters the back plates may be used for clamping the molding or boards firmly against the walls 4, such molding lying flat upon the miter-body and coming between the wall and plate. To enable said back plates to be used in cutting other than forty-five-degree angles, the slots 13 are extended concentric with the bolts 29, and said bolts are each made the pivot of a light frame 26 27 28, carrying the adjusting-screw 23, the plate-base 21 sliding in the slot formed in each said frame. The frame-arm 27 of each frame slides in a confining-slot 30, while a suitable fastening device 31 holds said arm where it is left. Hence by pressing up on said fastening device and sliding the said arm around the plate 20 may be brought to any one of a considerable range of angles. An additional range of adjustment can be provided by means of the false plates 35, having adjusting-bolts 36, movable in the slots 22 in the back plates 20, nuts 37 confining said false plates in the position desired, as shown in Fig. 3.

In my preferred construction—that shown in Fig. 6—I have the back plates 20 adapted for but a single adjustment, that toward and from the wall 4 with which each is parallel. This simplifies the construction considerably and renders the miter-box much more economical. To provide the other miter-angles, I provide a back wall 6 separate from the miter-body 1 and centrally swinging upon its

longitudinal center. This is accomplished by means of the annular base 60, seated in the supporting-shelf 61, made integral with the miter-body and having the socket 2 fixed in said shelf and rising through said annular base. This permits said back wall to be swung in either direction upon said socket as a center and to thereby enable a board to be cut at any angle between forty-five and ninety degrees. To lock said back wall in the desired position, a series of holes or indentations 62 are drilled in the miter-body surface, as shown in Fig. 6, and two locking-bolts 63 are provided, one to be used when the back wall is adjusted to one position and the other to the opposite angle. Each bolt 63 is vertically slidable in the said wall, being given a finger-piece 64, located in the opening 65, and a spiral spring 66 for retaining the bolt in place. All that is needed to be done is for the user to seize the finger-pieces 64, thereby drawing the bolts up out of engagement with the miter-body, swing the back wall into the new position desired, then release said bolts to engage in the nearest indentations 62. To permit of a finer adjustment than is practicable with the above, a T-shaped device is employed. This device 70 is threaded upon its stem 71 and adjustably secured in place within a hole 73 at one end or the other of the back wall 6 by means of the nuts 72. (See Fig. 7.) Ordinarily this T-shaped member 70 is not used, inasmuch as all ordinary angles to which the back wall 6 can be adjusted are provided for by the indentations 62. Occasionally, however, some other angle is desired. To give this, said member 70 is inserted in one of the holes 73 and secured therein by the nuts 72. Then the back wall is adjusted until a board resting back against said member or supplemental back-rest at one point and against the edge of the end of the back wall opposite to said back-rest makes approximately the desired angle with respect to the saw in the saw-guides. The nuts on the stem 71 of said back-rest can now be turned one way or the other until the desired angle is accurately reached. Said back-rest has no connection with the plate 1 and is simply supplemental to the adjustments given to the back wall 6 by its devices 63. Whenever a board is to be mitered which is wider than the distance between the wall 4 and back plate 20, the

latter is swung over and downward upon the screw 23 as an axis to a point beneath the miter-box, as shown in Fig. 11, a branch slot 14 being provided for the passage of the back plate, as illustrated in Figs. 6, 10, and 11. In this construction the forty-five-degree angles are cut by resting the boards or molding against the proper wall 4, while right angles or any other angle is cut while resting the board or molding against the back wall 6, the latter being locked by one or the other of its locking-bolts 63 at the required angle relative to the saw in the saw-guides 10 and 11.

What I claim as my invention, and for which I desire Letters Patent, is as follows, to wit:

1. A miter-box composed of a plane-surfaced body having front and rear saw-guides, a front wall, a slot being formed in said body at right angles to said front wall and a branch slot at right angles to the first-named slot, a back plate having a base movable in said slot, and an adjusting-screw rotatably supported beneath said body and turning in said base; said branch slot serving to permit said back plate to be swung over and down to a position beneath said body.

2. A miter-box composed of a plane-surfaced body having front and rear saw-guides, a fixed front wall, and pivoted rear wall; said rear wall being formed with an annular base and said body having a recessed shelf receiving said base concentric with the rear saw-guide.

3. In a miter-box, the combination with a plane-surfaced body having a recessed shelf, a saw-guide socket rising from said shelf, an annular base resting upon said shelf and turning on said socket, and a rear wall held by said base.

4. In a miter-box, the combination with a plane-surfaced body having front and rear saw-guides, and a pivoted rear wall having a transverse hole through it, of a T-shaped member having a threaded stem entering said hole, and nuts on said stem.

In testimony that I claim the foregoing invention I have hereunto set my hand this 6th day of February, 1905.

ABSALOM GARLAND.

Witnesses:

M. U. UPHAM,
A. B. UPHAM.