J. F. WINKLER.

MITER BOX.

APPLICATION FILED JUNE 4, 1908.

920,708. **Patented May 4, 1909.**

3 SHEETS—SHEET 1.

Fig. 1.

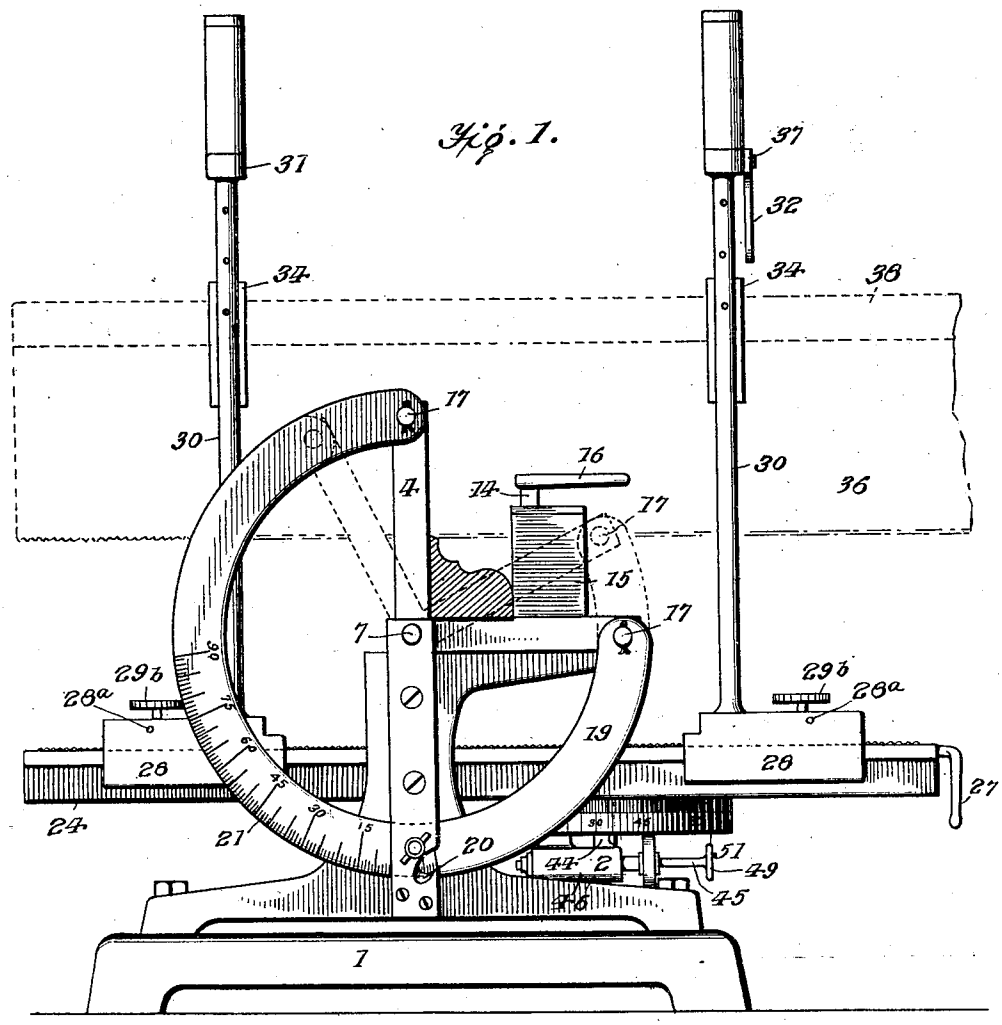
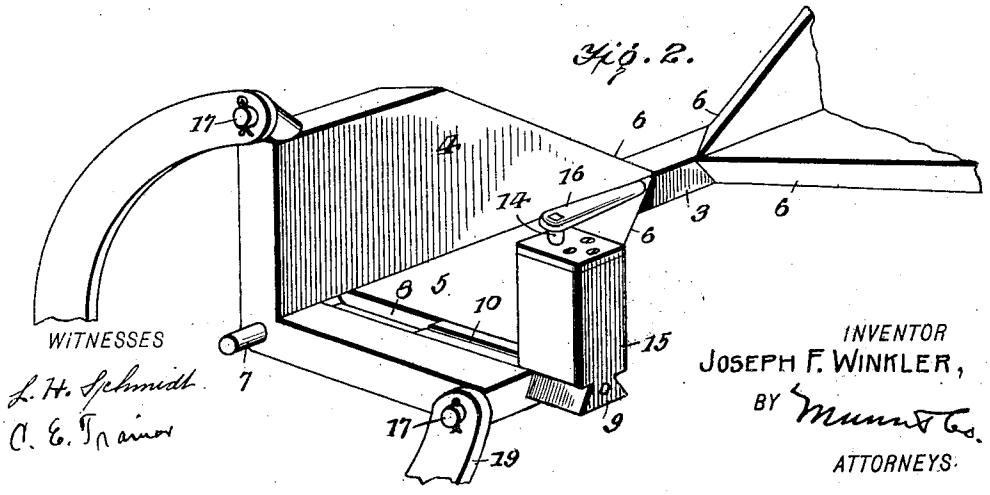


Fig. 2.



WITNESSES

L. H. Schmidt

C. E. Trainor

INVENTOR

JOSEPH F. WINKLER,

BY Munn & Co.

ATTORNEYS.

THE NORRIS PETERS CO., WASHINGTON, D. C.

J. F. WINKLER.

MITER BOX.

APPLICATION FILED JUNE 4, 1908.

920,708.

Patented May 4, 1909.

3 SHEETS—SHEET 2.

Fig. 6.

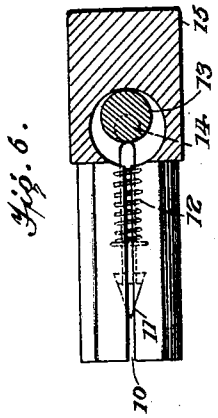


Fig. 3.

WITNESSES

L. H. Schmidt.

C. E. Grainer

INVENTOR

JOSEPH F. WINKLER,

BY Munn & Co

ATTORNEYS.

THE NORRIS PETERS CO., WASHINGTON, D. C.

J. F. WINKLER.

MITER BOX.

APPLICATION FILED JUNE 4, 1908.

920,708.

Patented May 4, 1909.

3 SHEETS—SHEET 3.

Fig. 4.

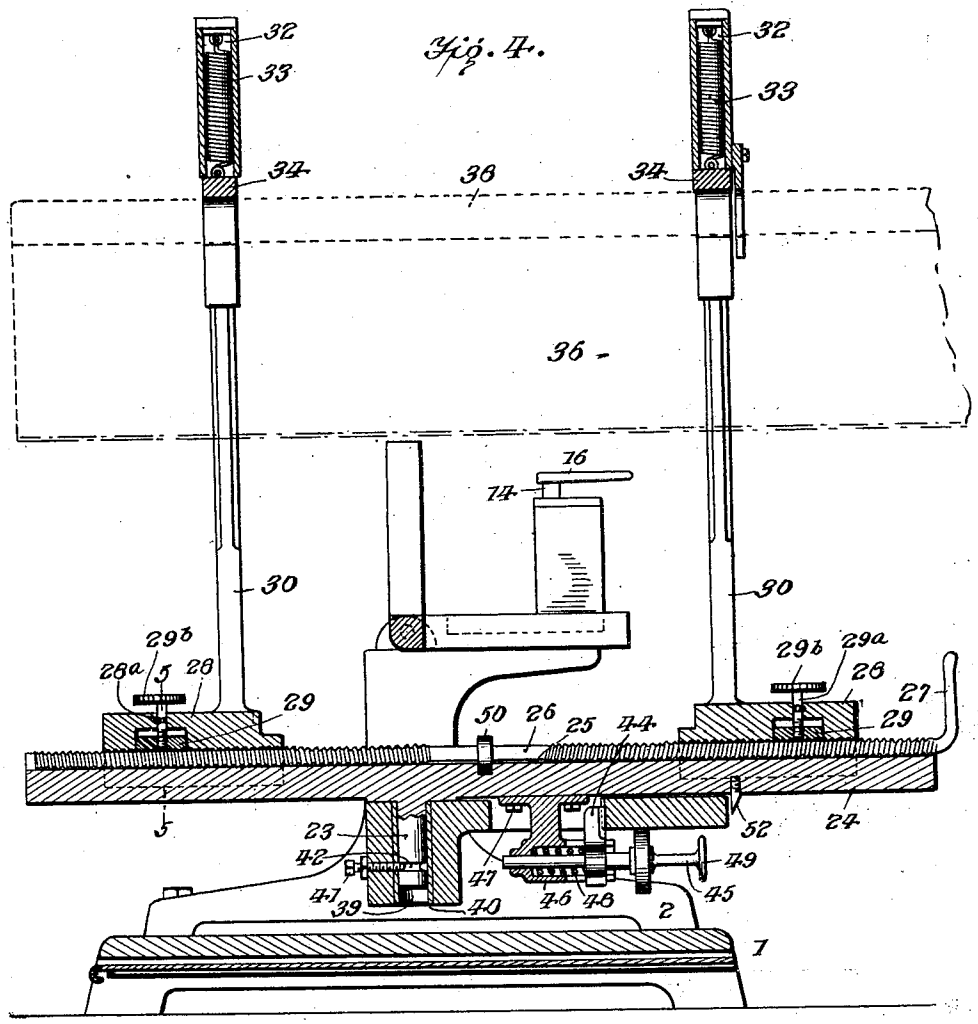
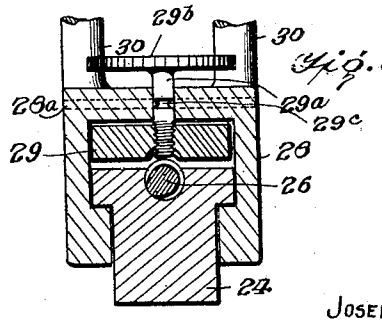


Fig. 5.



WITNESSES

L. H. Schmidt.

C. E. Tranor

INVENTOR

JOSEPH F. WINKLER,

BY Munn & Co.

ATTORNEYS.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH F. WINKLER, OF MARQUETTE, MICHIGAN.

MITER-BOX.

No. 920,708. Specification of Letters Patent. Patented May 4, 1909.

Application filed June 4, 1908. Serial No. 436,620.

To all whom it may concern:

Be it known that I, JOSEPH F. WINKLER, a citizen of the United States, and a resident of Marquette, in the county of Marquette and State of Michigan, have invented certain new and useful Improvements in Miter-Boxes, of which the following is a specification.

My invention is an improvement in miter boxes, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings forming a part hereof Figure 1 is an end view of the improvement. Fig. 2 is a detail perspective view of a part of the miter box proper. Fig. 3 is a plan view. Fig. 4 is a section on the line 4—4 of Fig. 3. Fig. 5 is a section on the line 5—5 of Fig. 4, and Fig. 6 is a plan view of the slide partly in section.

The present embodiment of my invention, comprises a base 1, having at each end a bracket 2, secured thereto in any suitable manner, and the box proper 3 is journaled between the brackets by means of trunnions 7 traversing the brackets and extending from the ends of the box, the said box consisting of side members 4 and 5, arranged at right angles to each other, and cut-away at their central portion as shown at 6, in the usual manner to permit the passage of the saw.

One of the sides 5 is provided with transverse guide ways 8, in which is movable a slide 9, whose end is split as at 10. The split ends are adapted to be forced apart by a wedge 11, normally retained in inoperative position by a spring 12, and forced into operative position by a cam 13, on the lower end of a shaft 14, journaled in a casing 15 supported by the slide, the shaft being provided with a handle 16 for convenience in manipulating the same, and the casing cooperating with the side 4 of the box to clamp the work there-between.

One end of the box is provided with pins 17 received in openings, in the ends of an arc-shaped segment 19 which slides through a slit 20 in the bracket, and whose outer face is provided with a scale 21 for a purpose to be presently described.

Between the brackets, a plate 22 is supported in a horizontal position, the said plate being substantially semi-circular in shape, and the saw guide to be presently described is mounted for oscillation on a vertical axis, 23, the axis corresponding to the center of a circle upon which the semi-circular plate is formed.

The saw guide comprises a base 24 having a longitudinal furrow 25 on its upper face, in which is arranged a threaded rod 26, the free end of the rod being provided with a handle 27 for convenience in rotating the same. A slide 28 is movable upon each end of the base, and each of the slides 28 is provided with a nut 29 through which the rod is threaded. It will be noticed that one end of the rod is provided with a right hand thread, and the other with a left hand thread, so that when the rod is rotated the slides will be moved toward or from each other in unison depending upon the direction of rotation of the rod.

A pair of standards 30 is connected with each of the slides, the standards being connected at their upper end by a bracket 31, having a longitudinal opening 32 between the standards, and a coil spring 33 has one end secured within the opening, the other being connected with a slide 34 movable between the standards, the sides of the slide being grooved to receive the standards whereby to guide the slide in its movement. The said slide is longitudinally slotted as at 35 for receiving the back of the saw 36, and a catch 37 is secured to the bracket 31, the catch being provided with spring arms 32, having projections 33 on their opposite faces for engaging beneath the stiffening bar 38 of the saw to retain the saw in inoperative position.

The nut 29 is a half nut as shown in Figs. 4 and 5, and is incased in the slide 28, the nut engaging the top of the rod 26 as shown in Fig. 5.

The nut is provided with a threaded opening, in which engages a threaded stem 29^a, provided at its upper end with a thumb piece 29^b for convenience in manipulating the same, and the stem is provided with an annular groove 29^c, engaged by a pin 28^a in the slide whereby to prevent longitudinal movement of the stem. It will be obvious that by turning the thumb piece 29^b, the nut may engage and disengage from the rod, whereby to engage or disengage the corresponding slide.

The vertical axis 23 of the saw guide is in the shape of a pin engaging an opening 39 at the center of the semi-circular plate, a bushing 40 being provided and the said guide is retained in place by a set screw 41 traversing

an opening in the bearing, and engaging an annular groove 42 in the pin. The inner surface of the semi-circular plate is notched at spaced intervals as at 43 and a catch 44 is adapted to engage the notches, the said catch being mounted on a pin 45 slidable in bearings in a casing 46, secured to the bottom of the slide as at 47, the pin being encircled by a spring 48 within the casing, which normally acts to force the catch into engagement with the notch, and the pin is provided with a handle 49 for convenience in manipulating the same. The handle 49 is threaded on to the pin 45 as shown in Fig. 4, whereby to permit the locking of the catch 44 with a notch.

It will be noticed that the rod 26 is provided at its center with a collar 50, the collar being fixed with respect to the guide. The outer face of the semi-circular plate is provided with a scale 51, and a pointer 52 is connected with the saw guide for coöperating with the scale.

I claim:

1. A miter box comprising a base, provided at each end with standards, a trough comprising sides arranged at right angles to each other, the ends of the trough being provided with trunnions journaled in the standards, the sides of the trough being cut-away at their centers, one of the sides being provided with transverse guide-ways, slides movable, in the guide-ways, and having an angular portion for coöperating with the other side to clamp the work there-between, means for fixing the slides with respect to the plate, a segmental bar having its ends connected with the ends of the sides near the free edges thereof, said bar being provided with a scale, one standard being provided with a slot through which the bar passes, the edge of the standard acting as an indicator for the scale, a set screw traversing the standard and engaging the bar for retaining the trough in its adjusted position, a semi-circular plate secured between the standards, the diameter of the plate co-inciding with the longitudinal center of the base, the outer surface of the curved portion being provided with a scale, and the inner surface with spaced notches, a saw guide comprising a bar pivoted at the center of the diameter of the semi-circular plate, pairs of spaced saw supporting standards at each end of the bar, means for adjusting said standards toward and from each other, a spring operated catch coöperating with the notches for retaining the bar in its adjusted position, and an indicator on the bar for coöperating with the scale.

2. A miter box comprising a base, provided at each end with standards, a trough comprising plates, secured together at right angles to each other, the ends of the trough being provided with trunnions journaled in the standards, the sides, of the trough being cut-away at their centers, one of the plates being provided with transverse slide-ways, slides movable in the slide-ways, and having an angular portion for coöperating with the other plate to clamp the work there between, means for fixing the slides with respect to the plate, a segmental bar having its ends connected with the ends of the plates near the free edges thereof, said bar being provided with a scale, one standard being provided with a slot through which the bar passes, the edge of the standard acting as an indicator for the scale, a set screw traversing the standard and engaging the bar for retaining the trough in its adjusted position, a saw guide rotatable on a vertical axis, the axis coinciding with the center of the base, means for locking the guide in adjusted position, a scale, and an indicator in connection with the guide for coöperating with the scale.

3. A miter box comprising a base, provided at each end with standards, a trough journaled between the standards, clamps slidable transversely of one of the sides of the trough, and coöperating with the other side to clamp the work therebetween, a segmental bar provided with a scale having its ends connected with the end of the trough, one of the standards being provided with a slot through which the bar passes, the edge of the standard acting as an indicator for the scale, a saw guide arranged transversely of the trough and rotatable on a vertical axis, means for locking the guide in adjusted position, a scale, and an indicator in connection with the guide for coöperating with the scale.

4. A miter box comprising a base, provided at each end with standards, a trough for containing the work, journaled between the standards, means for clamping the work in the trough, a segmental bar having its ends connected with the end of the trough, one of the standards being provided with a slot through which the bar passes, the edge of the standard acting as an indicator for the scale, a saw guide arranged transversely of the trough, and rotatable on a vertical axis, means for locking the guide in adjusted position, and a scale in connection with the guide.

5. A miter box comprising spaced standards, a trough mounted for rocking movement on the standards, means for clamping the work in the trough, a scale for indicating the angle of inclination of the trough, means for fixing the trough in adjusted position, a saw guide arranged transversely of the trough, and rotatable on a vertical axis, means for indicating the angle of inclination of the guide with respect to the trough, and means for locking the guide in adjusted position.

6. A miter box comprising a rocking trough for receiving the work, means for indicating the angle of inclination of the trough, a saw guide arranged transversely of the

trough, and mounted for swinging movement in a horizontal plane, means for indicating the angle of inclination of the guide with respect to the trough, and means for locking the trough and guide in their adjusted position.

7. A miter box comprising a rocking trough for receiving the work, means for indicating the angle of inclination of the trough, a saw guide arranged transversely of the trough, and mounted for swinging movement in a horizontal plane, and means for indicating the angle of inclination of the guide with respect to the trough.

8. In a miter box, a trough comprising sides arranged at right angles to each other, and cut-away at their center to permit the passage of the saw, one of the said sides being provided with transverse guide ways, slides movable in the guide-ways, said slides having angular portions coöperating with the other side for clamping the work therebetween.

9. In a miter box, a trough comprising plates secured together at right angles to each other, one of the plates having transverse guide-ways, slides movable in the guide ways, said slides being split longitudinally, a wedge movable between the split sides for forcing them apart whereby to clamp the slide in the guide way, a cam for moving the wedge in one direction, a spring for returning the wedge, each of the slides having an angular portion coöperating with the other plate for clamping the work therebetween.

JOSEPH F. WINKLER.

Witnesses:
SAM. E. BYRNE,
F. J. SCHWEITZER.