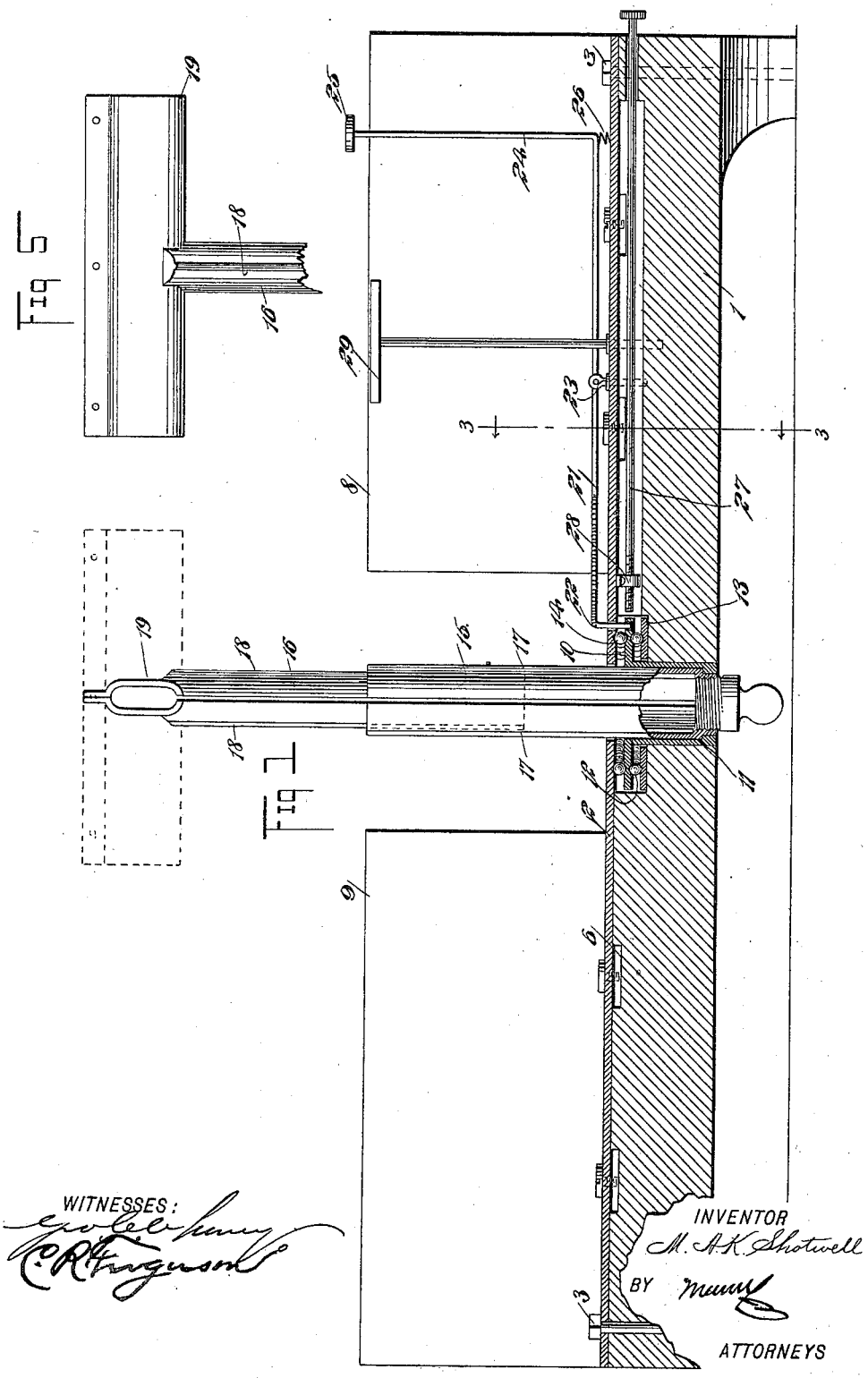
No. 649,368. Patented May 8, 1900.

M. A. K. SHOTWELL.

MITER BOX.

(Application filed Sept. 14, 1899.)

(No Model.) 2 Sheets—Sheet 1.



WITNESSES:

INVENTOR
M. A. K. Shotwell
BY
ATTORNEYS

No. 649,368.

Patented May 8, 1900.

M. A. K. SHOTWELL.

MITER BOX.

(No Model.)

(Application filed Sept. 14, 1899.)

2 Sheets—Sheet 2.

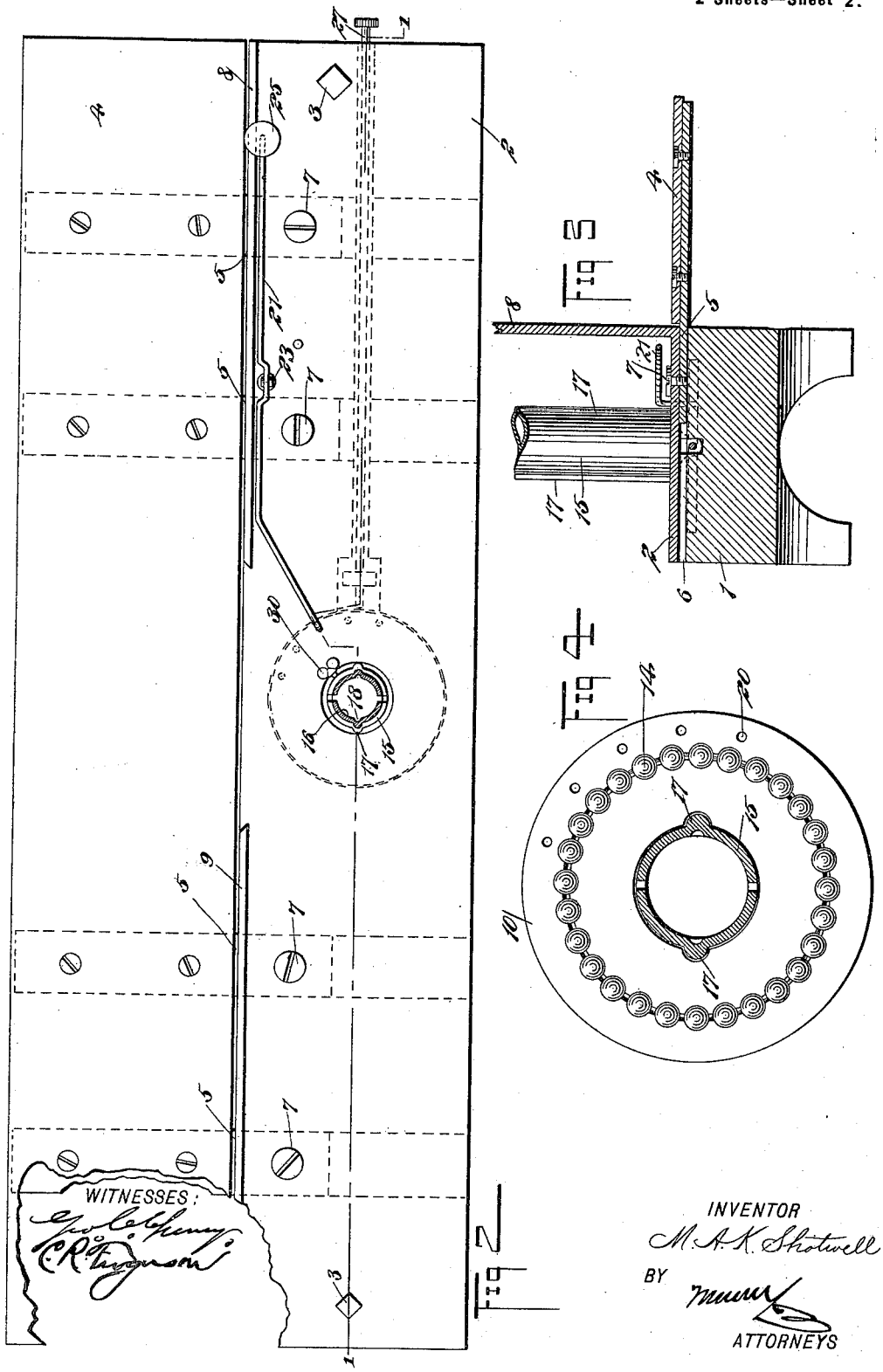


Fig. 2

Fig. 3

Fig. 4

WITNESSES:

INVENTOR

M. A. K. Shotwell

BY

ATTORNEYS

UNITED STATES PATENT OFFICE.

MARCUS ARETAR KOSSUTH SHOTWELL, OF EL PASO, TEXAS.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 649,368, dated May 8, 1900.

Application filed September 14, 1899. Serial No. 730,442. (No model.)

To all whom it may concern:

Be it known that I, MARCUS ARETAR KOSSUTH SHOTWELL, of El Paso, in the county of El Paso and State of Texas, have invented a new and Improved Miter-Box, of which the following is a full, clear, and exact description.

This invention relates to improvements in miter-boxes and the object is to provide a miter-box of simple and comparatively-inexpensive construction that may be quickly adjusted to guide a saw at any desired angle.

I will describe a miter-box embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a partial elevation and section, on the line 1 1 of Fig. 2, of a miter-box embodying my invention. Fig. 2 is a plan view. Fig. 3 is a section on the line 3 3 of Fig. 1. Fig. 4 is a plan view of a turn-table employed, and Fig. 5 is a side view of the saw-back receiver.

Referring to the drawings, 1 designates a base, of wood or other suitable material, and upon which is placed a metal plate 2, which may be secured to a bench or other support by means of screw-rods 3. Removably connected to one side of the base and serving as a support for the wood to be operated upon is a shelf 4. This shelf 4 has plates 5, which extend into openings 6, formed in the top of the base and underneath the plate 2. When the plates 5 are thus inserted, fastening-screws 7 are to be inserted in the plate 2 and the plates 5 to hold the same in place. Extended upward between the top of the base and the shelf 4 is the back plate, consisting of the two sections 8 9, spaced apart at their inner or adjacent ends to allow for the angular adjustment of a saw, as will be hereinafter described. Mounted to rotate in the base and below the plate 2 is a turn-table, here shown as a disk 10, having a socket-portion 11, which extends down and rotates in an opening formed in the base. The under side of the turn-table is provided with a channel in which bearing-balls 12 are located, the said bearing-balls also engaging in a channel formed in a plate 13, arranged in the base and surrounding the socket 11. Bearing-balls 14 engage in a channel in the upper side of the turn-table and also in a channel formed on the under side of the plate 2, as clearly illustrated in Fig. 1.

Removably placed in the socket 11 is a guide-cylinder 15, in which the saw guide-cylinder 16 is vertically movable. To prevent the cylinder 15 from rotating relatively to the socket 11, the said cylinder is provided on its outer side with ribs 17 for engaging in correspondingly-shaped recesses formed in the inner side of the socket 11, and to prevent the cylinder 16 from rotating relatively to the cylinder 15 the said cylinder 16 is provided with ribs 18 for engaging the correspondingly-shaped channels formed in the inner side of the cylinder 15. Each of the cylinders is made in two longitudinal sections, with a space between the sections for the passage of a saw-blade. On the top of the saw guide-cylinder 16 is a boxing 19 to receive the back of a saw, and in the lower end of the cylinder 15 is a screw-plug which forms a closure and also forms a rest for the cylinder 16.

The turn-table or disk 10 is provided with a series of perforations 20 near its periphery, in either one of which a dog may engage for holding the turn-table as angularly adjusted. This dog consists of a rod 21, having a downwardly-extending portion 22, which extends through an opening in the plate 2 and is designed to engage in either one of said perforations 20, as before mentioned. The rod is fulcrumed on a pin 23, removably inserted in a hole formed in the plate 2, and at the outer end of this rod is an upwardly-extended portion 24, having a finger-piece 25 on its top above the upper edge of the back plate 8. The dog is held in yielding engagement with the turn-table by means of a spring 26. When the turn-table is adjusted to bring the saw to the angle required, it may be held rigidly by means of a set-screw 27, extended longitudinally of the base and having a screw-thread engagement with a lug 28, attached to the under side of the plate 2.

In operation after setting the cylinders 15 and 16 at the angle required for the saw the turn-table or disk 10 is to be engaged by the set-screw 27. Then after inserting the saw and

operating it in the usual manner it will be permitted to move downward through the wood or other material operated upon because of the sliding movement of the cylinder 16 in the cylinder 15.

When the device is not in use, the turn-table carrying the guide-cylinders is to be rotated until the part 19 is parallel with the back plates 8 and 9, as indicated in dotted lines in Fig. 1. Then the saw will not only rest in said part 19, but may also rest on a support 29, extended upward from the base, and the cylinder 16 may be held from downward movement by means of a set-screw 30. It is obvious that the angular adjustment desired may be made while the saw is in the guide-cylinders—that is, by pushing downward on the finger-piece 25 the dog will be moved out of engagement with the turn-table, so that said turn-table may be rotated by the force exerted laterally on the saw.

As the shelf 4 is removable, it may be taken out and placed up against the back plates when not in use.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a miter-box a base-block, a metal plate on the upper side of said block, a turn-table mounted to rotate in the base below said plate, and a saw-guide carried by the turn-table, substantially as specified.

2. A miter-box, comprising a base, a turn-table mounted to rotate in said base and having a downwardly-extended socket, a guide-cylinder removably seated in said socket, means for preventing a rotary movement of said cylinder relatively to the socket, another cylinder mounted to move vertically in the first-named cylinder, means for preventing a rotary movement of said other cylinder relatively to the first-named cylinder, each of said cylinders being vertically slotted at opposite sides, and a detent or dog for engaging with the turn-table, substantially as specified.

3. A miter-box, comprising a base-block, a metal plate on the upper side of said block, a turn-table mounted to rotate in the base below said plate, and a saw-guide mounted on the turn-table and consisting of two telescopic sections oppositely slotted, one of said sections having longitudinal ribs to engage in channels formed in the other section, substantially as specified.

4. A miter-box, comprising a base, a shelf removably attached to the base, a turn-table having a central socket portion extended into the base and adapted to rotate therein, a guide-cylinder having ribs on its outer sides to engage in channels formed in said socket, another guide-cylinder movable in the first-named cylinder and having ribs on its outer side to engage in channels formed in said first-named cylinder, a saw-back receiver on the upper end of said other cylinder, each of said cylinders being vertically slotted at opposite sides, a spring-pressed dog for engaging in either one of a series of holes formed in the turn-table, and a set-screw for engaging with the turn-table, substantially as specified.

5. In a miter-box, a base-block, a metal plate on the upper side of said block, a turn-table mounted to rotate in the base below the said plate, ball-bearings between said plate and the turn-table, ball-bearings for the inner side of said turn-table, and a saw-guide carried by the turn-table, substantially as specified.

MARCUS ARETAR KOSSUTH SHOTWELL.

Witnesses:
WM. H. BRUGE,
J. D. MCKIE.