No. 752,978. PATENTED FEB. 23, 1904.

S. D. HOY.

MITER BOX.

APPLICATION FILED JULY 18, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

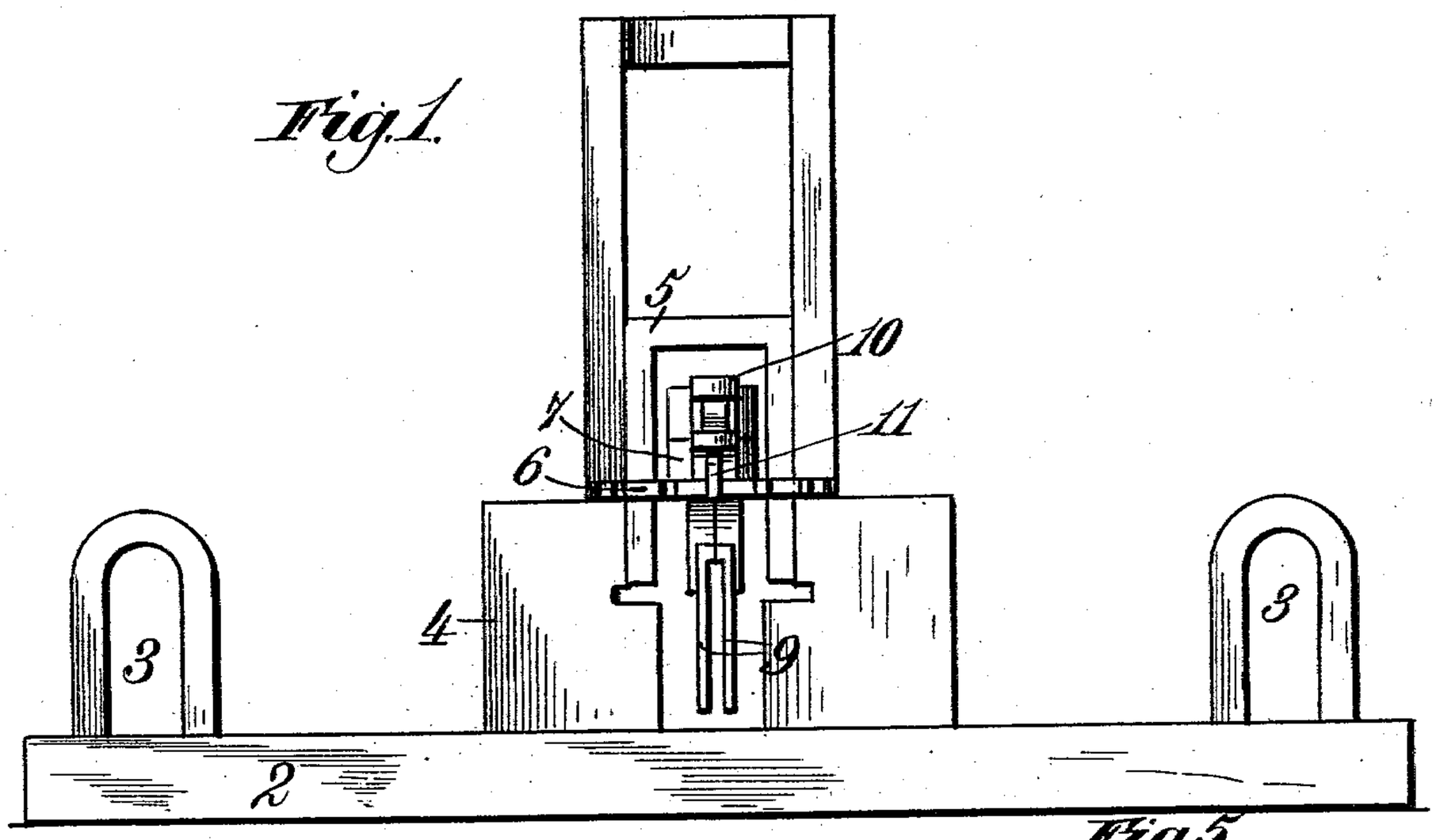


Fig. 5.

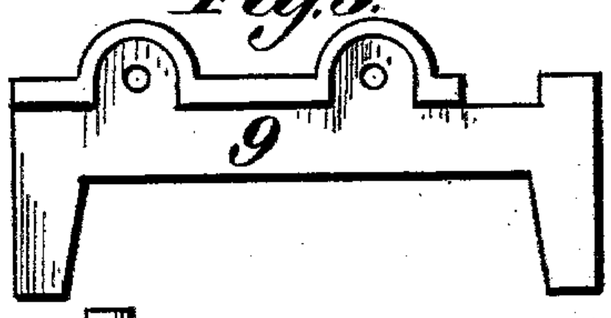


Fig. 4.

Fig. 6.

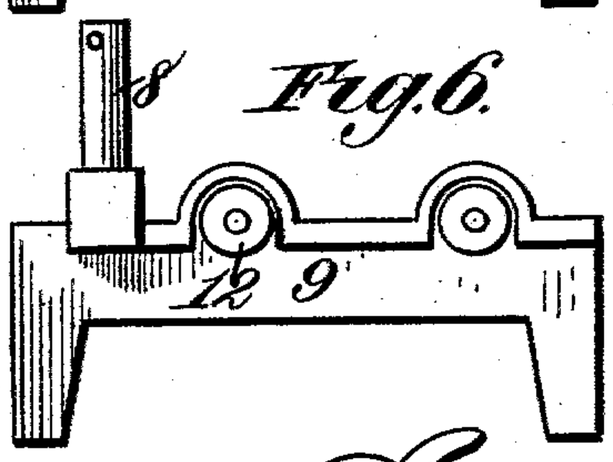
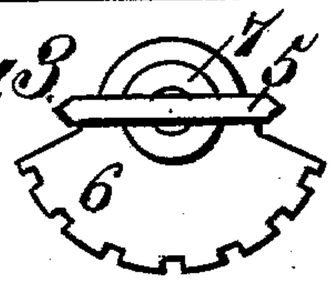


Fig. 2.

Fig. 3.



Witnesses.
Robert Orcutt.
James L. Norris, Jr.

Inventor.
Sidney D. Hoy.
By James L. Norris.
Atty.

No. 752,978. PATENTED FEB. 23, 1904.

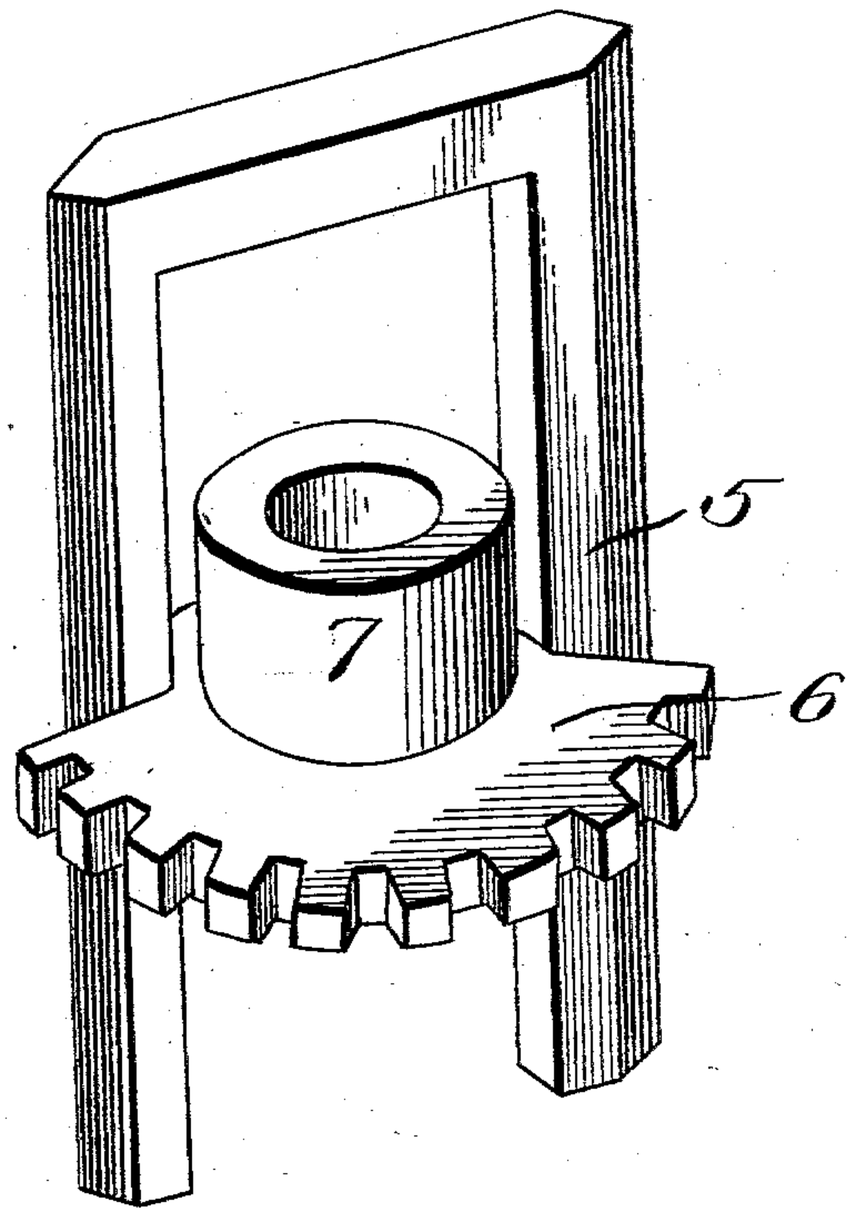
S. D. HOY.

MITER BOX.

APPLICATION FILED JULY 18, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 7.



Witnesses:
C. D. Kesler.
James L. Norris, Jr.

Inventor
Sidney D. Hoy
By James L. Norris
Atty.

No. 752,978. Patented February 23, 1904.

UNITED STATES PATENT OFFICE.

SIDNEY D. HOY, OF SIOUX CITY, IOWA.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 752,978, dated February 23, 1904.

Application filed July 18, 1903. Serial No. 166,125. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY D. HOY, a citizen of the United States, residing at Sioux City, in the county of Woodbury and State of Iowa, have invented new and useful Improvements in Miter-Boxes, of which the following is a specification.

This invention relates to a miter-box; and some of the objects of the invention are to provide a simple, compact, and inexpensive device of this character.

The invention includes other objects, which, with the foregoing, will be set forth at length in the following description, while the novelty thereof will be embraced in the claims succeeding such description.

The invention is shown in one simple embodiment thereof in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a front elevation of the miter-box. Fig. 2 is a side elevation. Fig. 3 is a detail top plan view of a sector. Fig. 4 is a detail view in elevation of a hand-lever. Figs. 5 and 6 are inside face views of the members constituting the saw-guide. Fig. 7 is a perspective view, on an enlarged scale, of the vertically-reciprocative traveler or slide and the sector carried thereby.

Like characters refer to like parts throughout the different views.

The device includes in its organization a base or bed, as 2, which may be made from wood or any other desirable material. At one edge of the base or bed and longitudinally alined with each other are the stops 3, located near the opposite ends of said bed. The work during mitering is placed solidly against the inner faces of these stops and also against the inner face of a standard 4, situated approximately centrally between and in line with said stops. The two stops and the standard are generally made from cast metal, although, of course, this is not absolutely necessary. The stops and the central standard 4 are approximately of inverted-U shape, although any other form may be adopted. The legs or branches of the standard 4 are grooved to receive a traveler or vertically-movable slide 5, said traveler being shown as of substantially yoke form. The saw-guide hereinafter described is shiftably connected with the vertically-movable traveler or slide 5.

A sector is illustrated at 6, it extending inward at approximately right angles from the traveler or slide 5, the two parts ordinarily being made integral, although, of course, they may be made separately and united in any desirable way. The upper face of the sector 6 is graduated to show different angles to insure accuracy in making different cuts and without the necessity of a separate gage. At the angle of the sector 6 is a hub 7, through which extends vertically the stud 8 upon one of the complemental plates 9, constituting the saw-guide, hereinafter more particularly described. The stud 8 projects beyond the upper side of the hub 7 and has connected to said upper end one end of the hand-lever 10, a set-screw being shown as a simple means for uniting the two parts. By manipulating the hand-lever the stud 8 can of course be turned in the hub 7 to correspondingly turn the saw-guide.

The hand-lever shiftably carries a detent or pawl 11, preferably spring-actuated, as shown, and the tooth of which is adapted to enter any one of the notches or indentations in the circular edge of the sector 6 to hold the hand-lever, and consequently the saw-guide, in a desired angular position with respect to the upper face of the base or bed 2, upon which the work to be beveled is sustained. The notches or indentations referred to correspond or coincide with the graduations upon said sector.

The saw-guide, it will be remembered, consists of complemental plates 9, one of which is provided with the vertical stud 8. These complemental plates, like the other metallic parts hereinbefore mentioned, may be inexpensively made by casting. The saw is adapted during the cutting operation to be moved back and forth between the complemental plates, and to avoid friction between the parts the back of the saw is adapted to traverse peripheral grooves in antifriction-rolls 12, rotatively carried by one of the plates near its top and fitting in annular depressions or concavities in the other plate. The two plates are shown as held in working relation to each

other by the spring-clip 13, which is adapted to straddle the same substantially midway of their length.

The complemental plates 9, constituting the saw-guide, extend at one end into the space between the legs or branches of the standard 4.

The operation of the device is as follows: Initially the hand-lever 10 and detent 11 are manipulated so as to move the saw-guide to the desired angle, following which the traveler or slide 5, carrying the mitering mechanism, is elevated upon the standard 4 a sufficient distance to permit the placing of an article under the saw-guide and against the inner alined faces of the stops 3 and standard 4. The saw is then introduced between the complemental plates 9 with its back edge in the peripheral grooves of the antifriction-rolls 12 and operated back and forth to make the desired bevel cut in the article.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the class described, a base, a standard connected to said base, a traveler on said standard, provided with a sector, a saw-guide provided with a stud, the sector having a hub to rotatively receive said stud, a hand-lever fixedly connected with said stud, and a detent carried by the hand-lever, the curved edge of the sector being notched to receive the detent.

2. In a device of the class described, a base, a standard connected to said base, a traveler on said standard, provided with a sector, a saw-guide supported by the sector, consisting of complemental plates, a spring-clip straddling the plates for holding them in working relation to each other, a hand-lever connected with the saw-guide for actuating the same, and a detent carried by the hand-lever, the sector being notched for engagement by the detent.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

SIDNEY D. HOY.

Witnesses:
C. W. TAYLOR,
A. J. HAUSER.