No. 716,384. Patented Dec. 23, 1902.

M. D. CONVERSE.

MITER BOX.

(Application filed Oct. 28, 1901.)

(No Model.) 2 Sheets—Sheet 1.

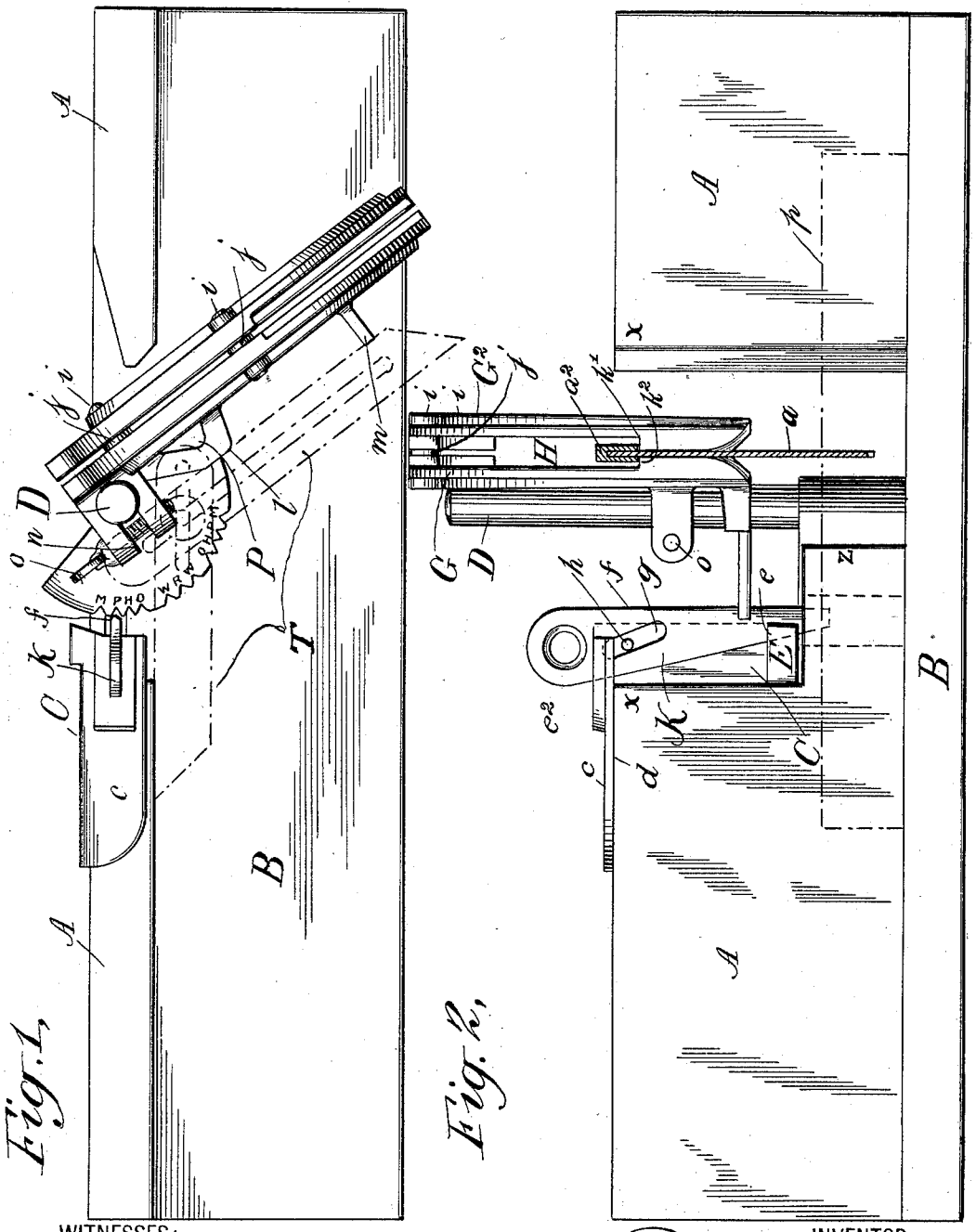

Fig. 1.

Fig. 2.

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Fig. 4,

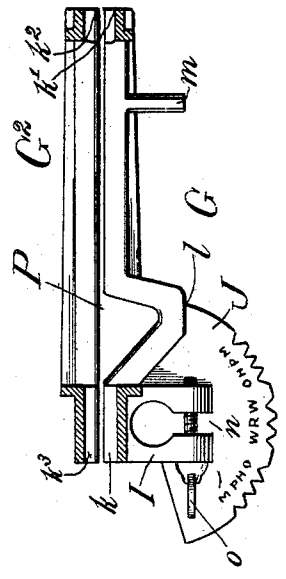


Fig. 5,

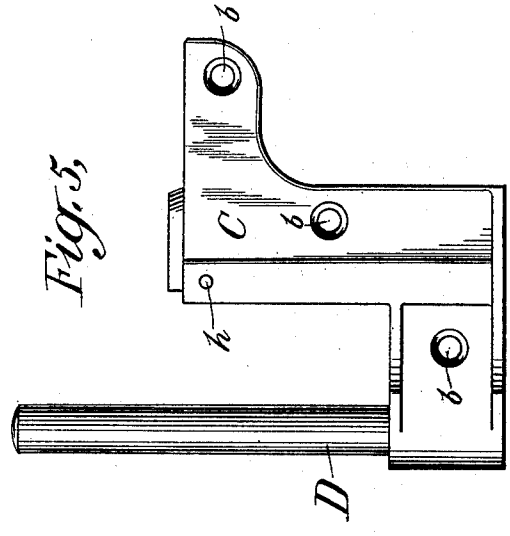
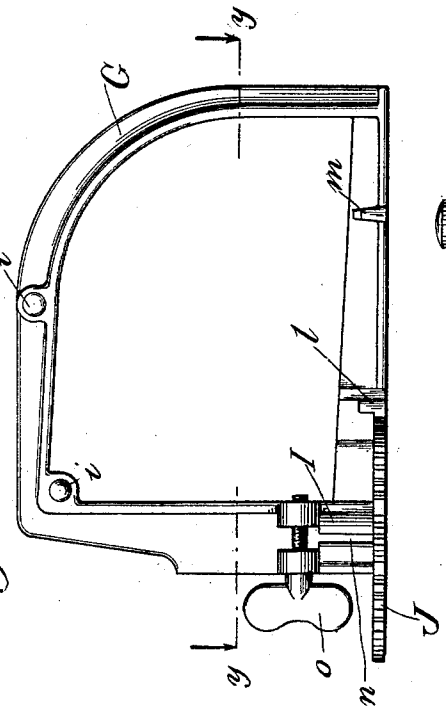


Fig. 3,



WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

MASCHIL D. CONVERSE, OF NEW YORK, N. Y., ASSIGNOR TO JOHN J. TOWER, OF MONTCLAIR, NEW JERSEY.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 716,384, dated December 23, 1902.

Application filed October 28, 1901. Serial No. 80,318. (No model.)

To all whom it may concern:

Be it known that I, MASCHIL D. CONVERSE, a citizen of the United States, residing at New York, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Miter-Boxes, of which the following is a specification.

My invention relates to miter-boxes in which a radially-swinging saw-guide is secured by means of a bracket and pivotal post to an upright right-angular member of the box proper or, more definitely, relates to what are termed "miter-box attachments;" and my invention is comprised in the several devices, combinations, and arrangement of parts hereinafter particularly described and claimed.

The objects of my invention are to provide an accurate, convenient, durable, and inexpensive miter-box complete or as an attachment readily carried in kit.

In the drawings, Figure 1 is a plan view of my invention complete, showing its construction and operation in part. Fig. 2 is a front elevation further showing construction and operation thereof and with a back-saw *a* (sectionized) in place, hereinafter referred to. Fig. 3 is a left-hand side view of the swinging saw-guide, and Fig. 4 is a sectional plan view thereof on line *y y* of Fig. 3, both removed from the pivotal post. Fig. 5 is a rear side elevation of the bracket and its cylindrical pivotal post detached from the box proper, all which show the construction, arrangement, and details of my invention, which I will now proceed to describe.

Like letters indicate corresponding parts throughout the several figures.

A is an upright member (usually of wood) one edge of which is secured to a horizontal floor or base B, (also usually of wood,) so as to be in a fixed and accurate right-angular relation to the latter. This upright is cut away between the points *x x* and *z* in order that the bracket C (clearly shown in Fig. 5) may be mounted upon the stepped portion thereof by screws for reception of which the holes *b b b* are provided.

The pivotal post D, which is cylindrical, is secured rigidly in a socket in the base of the bracket in a position centrally the longitudinal plane of the upright A. (See Fig. 1.) This bracket has a flange *c*, which projects forward from its uppermost edge, and the under face *d* of the same is at exact right angles to the pivotal post D, while the latter is socketed, so as to be perfectly in line with the vertical longitudinal center of the upright A.

E (see Fig. 2) is a lug or block on the inner face of the bracket A. In a slot cut slantingly in both this lug and in the flange *c*, respectively at *e* e^2, and which are vertically in exact alinement with the longitudinal center of the post D, a tapered key K, having a V-shaped edge *f*, is fitted to slide snugly up and down and by means of a slot *g* and pin *h* is kept from being entirely removed. The saw-guide is composed of two quite similar halves G G^2, riveted together at *i i*, and by thin washers at *j j* or otherwise are separated sufficiently to take the blade of the saw, as shown by *a* in Fig. 2. These halves are also formed so as to leave a clear space H for the back a^2 of a back-saw and to form shoulders *k* *k'* k^2 k^3, hereinafter more particularly referred to. The half G is provided with an enlargement I at the forward lower corner on the lateral side and at the same place with a laterally-extended segment J, through both which vertically a hole is bored perfectly parallel to the surfaces that act as guides to the saw and at perfect right angles, too, to the plane of the shoulders *k* *k'* k^2 k^3. In the periphery of the segment J a number of V-shaped notches or graduations are cut at positions representing the most commonly used angles in carpentry and woodworking, which I usually indicate by the first letter of the names therefor. As shown, the notch indicated by R (see Figs. 1 and 4) is at exact right angles to the saw-guiding faces of G and G^2 and likewise to a line drawn from the laterally-projecting points *l m*. There is a slot *n* vertically in the enlarged part I, and transversely thereof a thumb-screw *o* is arranged laterally of the vertical plane of and to pinch the pivotal post D to hold the swinging saw-guide in any position as to height or angle which may be required.

It frequently happens that some arbitrary angle (not indicated on the segment) is to be

cut. I therefore have provided the two projecting points *l* and *m*, which parallel the saw-guiding faces, so that by means of a bevel T-square, as shown by dotted outlines in Fig. 1, the guide can be set and fixed firmly with the thumb-screw *o*.

In Fig. 2 the saw-guide is shown raised up a short distance on the pivotal post D and secured by the thumb-screw. This position illustrates the operation of my invention when a tenon is to be cut or a cut is to be made only partially through and to a predetermined depth, as in a block, (indicated in this figure by the dotted outlines *p*,) for the saw-back a^2 then comes into contact with the shoulders k k' k^2 k^3, stopping its further action. For all except work of this character a common handsaw may be used with equal facility.

The slots *e* and e^2, respectively, in the lug E and flange C are of such depth that the line of the V edge *f* of the key K inclines slightly at the top away from the post D, so that when the saw-guide is to be set at one of the indicated angles and at an elevated position on the post the key K will wedge sufficiently to retain the saw-guide up on the post without necessity of tightening the thumb-screw. (See Fig. 2.)

At P in the lowermost arm of the part G there is a bend and return to leave a hole or opening, so that convenient sighting of the saw-teeth and any mark upon the edge of the wood to be cut may be had.

It will be understood by those skilled in the art that by detaching the bracket C from the box proper my invention may be carried as an attachment to be mounted when needed.

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

1. In a miter-box, a bracket having slanting slots, a tapered inclined slidable key to operate in said slots, and a pivotal cylindrical post, in combination with a saw-guide pivoted on said post and provided with a notched or graduated segment for engagement with said key.

2. In a miter-box, a bracket having slanting slots, a tapering inclined slidable key to operate in said slots, and a pivotal cylindrical post, in combination with a saw-guide pivoted on said post provided with a notched or graduated segment for engagement with said key and two laterally-projected setting or gaging points on a lateral side of said saw-guide having their respective extremities equidistant from the saw-engaging surface.

3. In a miter-box, a bracket having slanting slots, a pivotal cylindrical post, a tapered slidable key to operate in said slanting slots provided with an inclined V-shaped edge, in combination with a saw-guide pivoted on said post and provided with a notched or graduated segment for engagement of the V edge of said key.

4. In a miter-box, a horizontally-swinging saw-guide provided with a notched or graduated segment, in combination with a recessed sighting-hole in the lowermost left-hand arm thereof.

5. In a miter-box, a cylindrical pivotal post and a horizontally-swinging, vertically-adjustable saw-guide, in combination with a screw-clamp arranged transversely and laterally of the vertical plane of said post in a laterally-extended bifurcated member.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MASCHIL D. CONVERSE.

Witnesses:
GEO. F. BENTLEY,
PETER FLINT.