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R. H. DORN.

ATTACHMENT FOR MITER BOXES.

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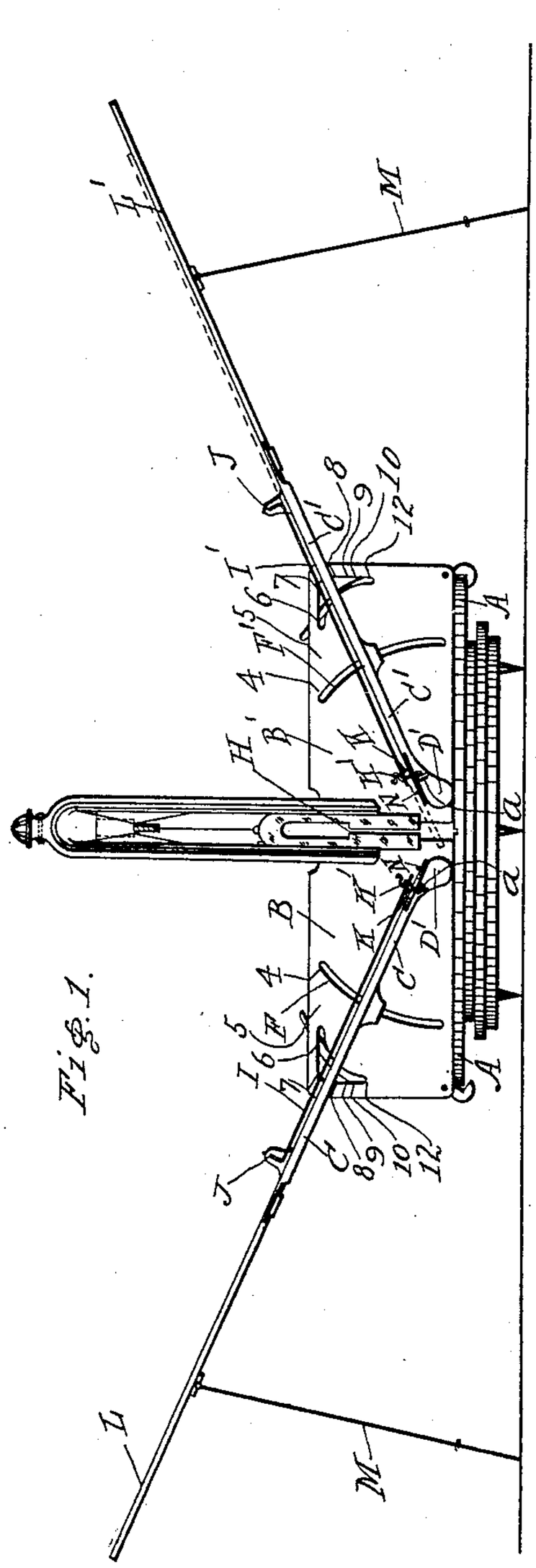

Fig. 1.

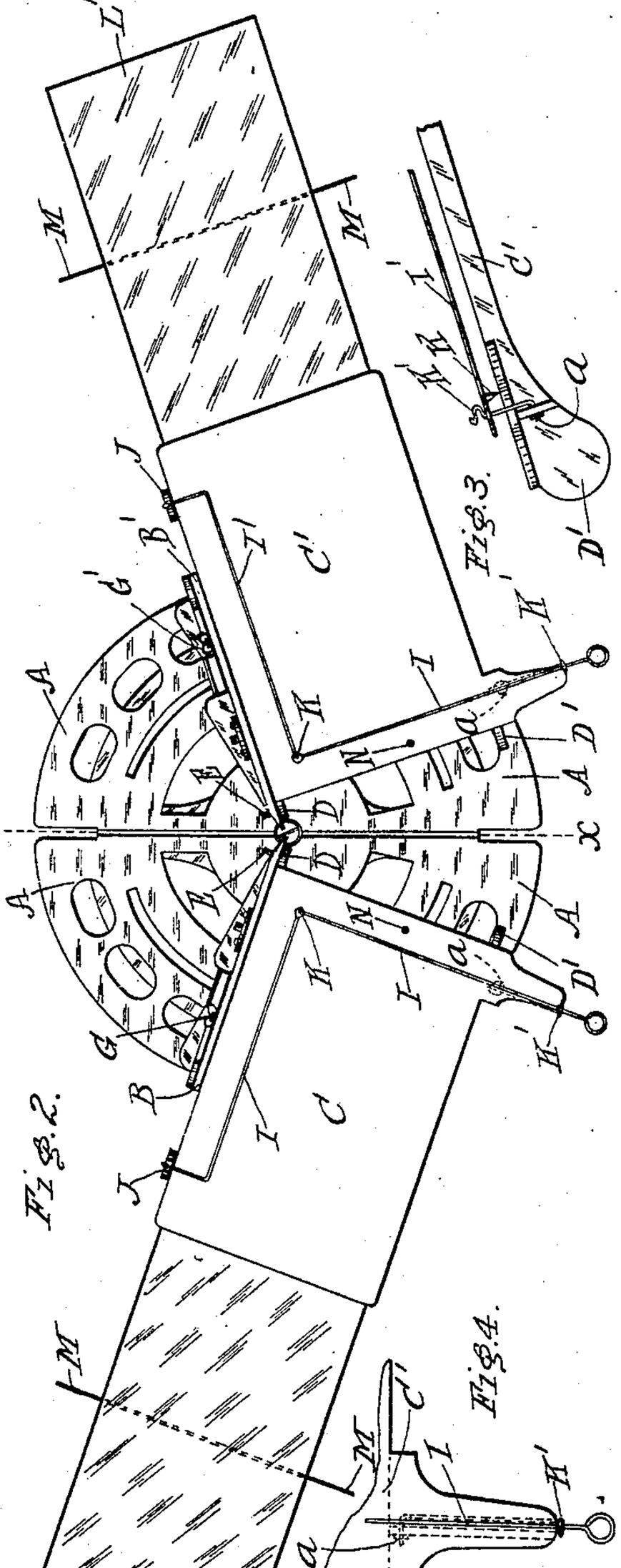

Fig. 2.

Fig. 4.

WITNESSES

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RUFUS HERRICK DORN, OF LOS ANGELES, CALIFORNIA

ATTACHMENT FOR MITER-BOXES.

No. 831,940. Specification of Letters Patent. Patented Sept. 25, 1906.

Application filed February 2, 1905. Serial No. 243,840½.

To all whom it may concern:

Be it known that I, RUFUS HERRICK DORN, a citizen of the United States, and a resident of the city of Los Angeles, in the county of Los Angeles, in the State of California, have invented a certain new and useful Attachment for Miter-Boxes, of which the following is a full, clear, and exact description or specification, reference being had to the annexed drawings and to the letters marked thereon.

My said invention relates to an attachment to miter-boxes, wherein one or a pair of radially movable and adjustable leaves are used, more especially that class of miter-boxes for which Letters Patent have been granted to me, the said Rufus Herrick Dorn, No. 651,457, dated June 12, 1900; No. 733,823, dated July 14, 1903, and No. 769,307, dated September 6, 1904.

Under my present improvements I apply to either or to both of the vertical angularly movable and adjustable leaves of a miter-box against which the wood to be cut to a miter rests while being cut another leaf at right angles to the vertical leaf or to each vertical leaf. This second leaf or each of the second leaves is pivoted at its lower inner corner to the lower part of the vertical leaf, so that the second leaf can be moved pivotally upward or downward at any required angle with the horizontal and fastened at any such required angular position by means of a pinching nut and screw. This attachment enables boards, moldings, or other forms of timber to be cut not only square with the length of the timber and at any angle required, but it furthermore enables the timber to be cut tapered in form and at any required angle, so as to construct tapered forms, as hereinafter more fully described.

Upon the annexed drawings, Figure 1 is a front elevation of my miter-box, showing the attachment constituting my present improvements attached thereto. Fig. 2 is a plan corresponding with Fig. 1 and showing the leaves set backward at an angle from the center. Figs. 3 and 4 are details on an enlarged scale and hereinafter referred to.

As the miter-box itself, consisting of the circular table A and the two angularly-movable leaves B and B′ and the means of carrying the said leaves, is the same as that set forth in the specification, covered by the claims, and shown in the drawings, all forming parts of my aforesaid Letters Patent No. 733,823, dated July 14, 1903, these parts of the drawings need not be herein further referred to, excepting to explain that to the two leaves B and B′, respectively, are attached the other leaves C and C′, which with their connections do constitute the essential features of my present invention. The leaves C and C′ are each provided with a lug D, from which a horizontal pivot E projects rearward and enters a corresponding hole in the lower part of each leaf B and B′. The lug D, at the rear of each leaf C and C′, and the lug D′, at the front of each leaf C and C′, respectively, rest or bear upon the top surface of the table A and being of circular contour, as shown in Figs. 1 and 2, constitute a constant support on the table A of each leaf C and C′ at whatever angle the leaves C and C′ may be situated. In the leaves B and B′, respectively, circular segmental slots F and F′, respectively, are formed, and through each of these a screwed stud projecting rearwardly from each leaf C and C′ passes, each such stud having a winged nut G or G′ thereon, by tightening which the leaves C and C′ are fastened at any angle required, corresponding to the number of sides of the figure for which the lumber placed or to be placed in the miter-box is to be cut. The saw by which the lumber is cut or to be cut is carried in the saw-guide H in the same manner as in my aforesaid Letters Patent and when in the miter-box has its cutting edge of teeth diametrically across the box—that is to say, in the direction of the groove *x x* in the circular table A.

When a piece of lumber, molding, or other form of timber is placed upon either leaf C or C′, to be cut by the same to any angles required, it is firmly held down to either leaf C or C′ by the spring-clamp I or I′, respectively, attached to the leaves C or C′. Each of these spring-clamps I or I′ is pivoted at its upper end to the lug J on each leaf C or C′, and at its angle K a downwardly-projecting sharp point is carried, which becomes pressed into the piece of wood carried upon either of the leaves C or C′ and aids to hold the timber in place on the leaves while being sawed, the spring-clamps I and I′, as shown in enlarged side and end elevation at Figs. 3 and 4, being held firmly down on the timber by the spring-catch K′, pivotally attached at *a* to the under part of each leaf C or C′, as shown in full and dotted lines in Figs. 1 and 2, engaging with the outer end of the front arm of each spring-clamp I or I′, respectively. The lumber car-

ried upon the leaves C and C′ is indicated in dotted lines in Fig. 1 of the drawings, and in order to support long pieces of lumber adjunctive supports (marked L and L′) are provided to engage with the outer ends of the leaves C and C′, these adjunctive supports L and L′ receiving additional stability from the hinged props or legs M. The adjunctive supports L and L′ are, however, only used when the pieces of timber to be cut to a miter are of unusual length, as short pieces of timber are sufficiently supported by the leaves C and C′ and the spring-clamps I and I′.

It is here explained that by means of the attachment constituting this invention being applied to the hitherto-used vertical and angularly-adjustable leaves of a miter-box I am enabled to so carry the timber or lumber on and by the said leaves that it may readily be cut by the saw of the miter-box to all such angles as will constitute the parts of wood or lumber when placed together as parallel or tapered figures of any of the following-named shapes or forms—namely, a triangle, a square, a pentagon, a hexagon, a heptagon, an octagon, a nonagon, a decagon, or a duodecagon—besides of many more angles or sides, if required, and by means of my invention I effect these several cuts, as is obvious, with one cutting operation of the saw at a time. It is explained that all of the taper cuts of the material to be mitered are alined by moving the vertical back B or B′, by which the leaf C or C′, pivoted thereto, is carried, either toward or from the center line $x\,x$, as the taper to be cut requires.

I place an upwardly-projecting pointed pin N in each leaf C and C′, respectively, to engage with the wood pressed down thereon by the spring-clamps I and I′, respectively.

Having now described and particularly set forth my said invention and the best system, mode, or manner I am at present acquainted with for carrying the same into practical effect, I desire to observe in conclusion that what I consider to be novel and original, and therefore claim as the invention to be secured to me by Letters Patent, is as follows:

1. In a miter-box, the combination consisting of a circular table, a vertical leaf pivoted at the center of this table, by a pivot flush with the top of the table and with its axis in the vertical plane of the saw, the saw-bridge attached at one end to the table, the slides in the saw-bridge, the pivoted leaf moving and adjustable and connected to the vertical leaf by and upon a horizontal axis, said axis and leaf being also movable and adjustable with the vertical plane of the saw, and in contact with the vertical face of the vertical leaf, the screwed stud and nut whereby the horizontally-pivoted leaf is fastened at any angle in contact with the vertical leaf, the said horizontally-pivoted leaf being provided with means for holding the material to be cut upon the horizontally-pivoted leaf and in contact with the vertical leaf all operating together substantially as hereinbefore described.

2. In combination with a miter-box having a circular table and a vertically-pivoted leaf, the horizontally-pivoted leaf, means for holding the horizontally-pivoted leaf in contact with the vertically-pivoted leaf, the pivot of the second leaf being above the plane of the table of the miter-box and means for holding the timber or lumber to be mitered upon the horizontally-pivoted leaf and against or in contact with the vertical pivoted leaf during the miter-cutting operation.

In testimony whereof I, the said Rufus Herrick Dorn, have hereunto set my hand and seal in the presence of two subscribing witnesses.

RUFUS HERRICK DORN. [L. S.]

Witnesses:
A. G. Slocum,
St. John Day.