No. 697,203. Patented Apr. 8, 1902.

R. H. DORN.

MITER BOX.

(Application filed June 5, 1901.)

(No Model.)

Fig. 1.

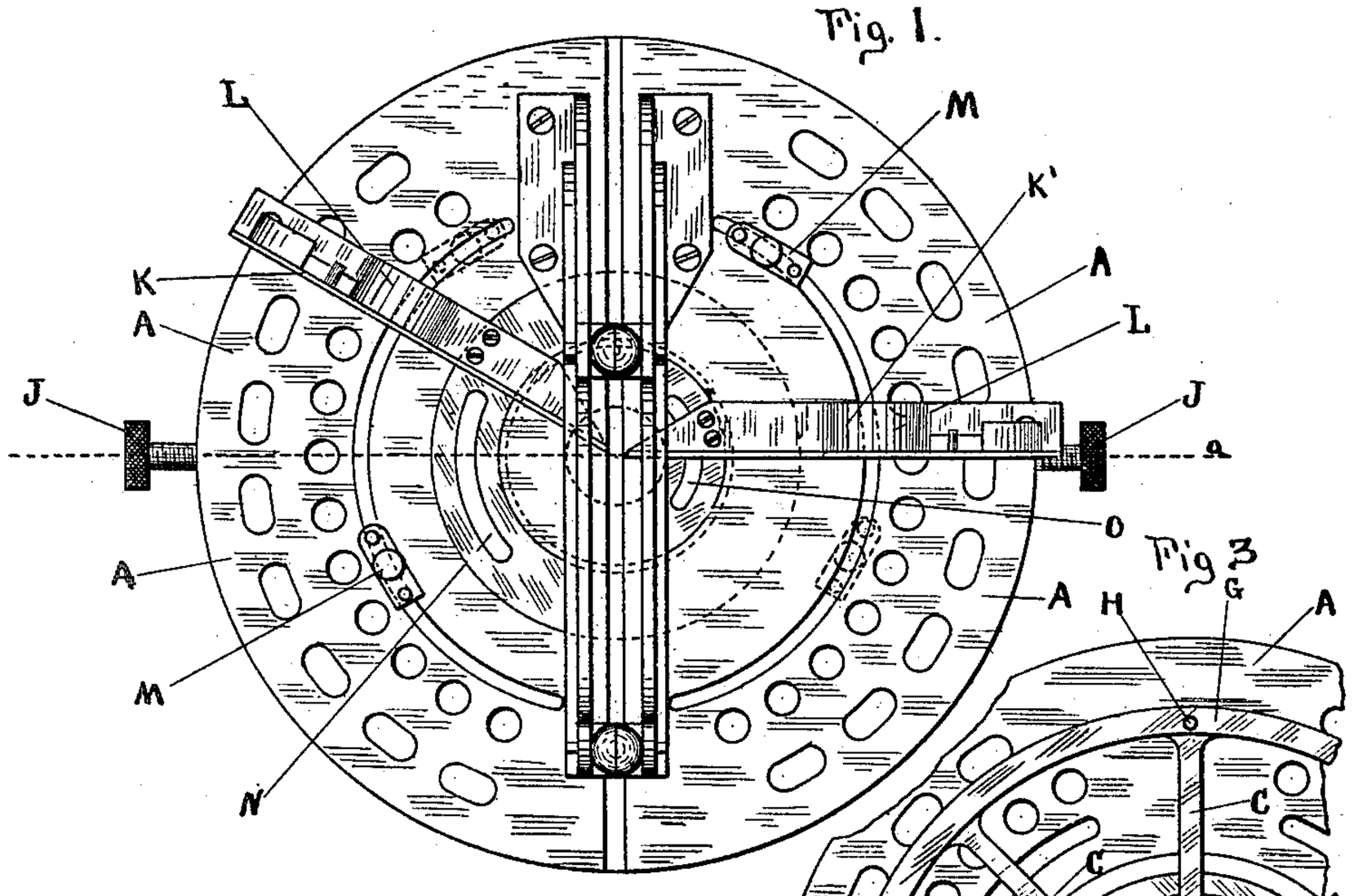


Fig 3

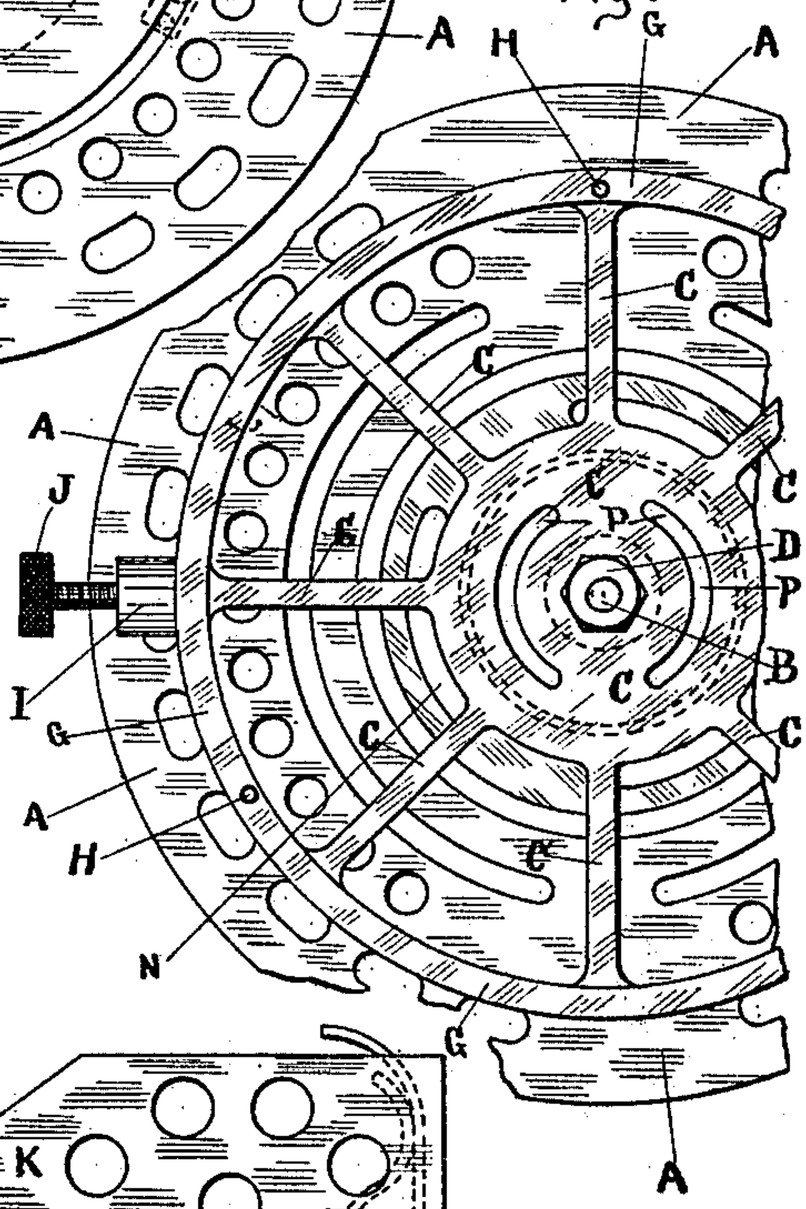


Fig 4

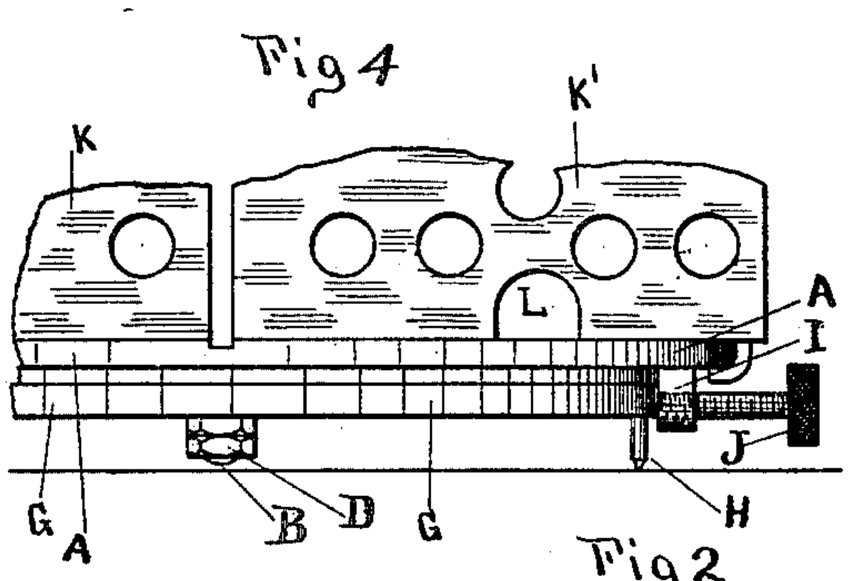
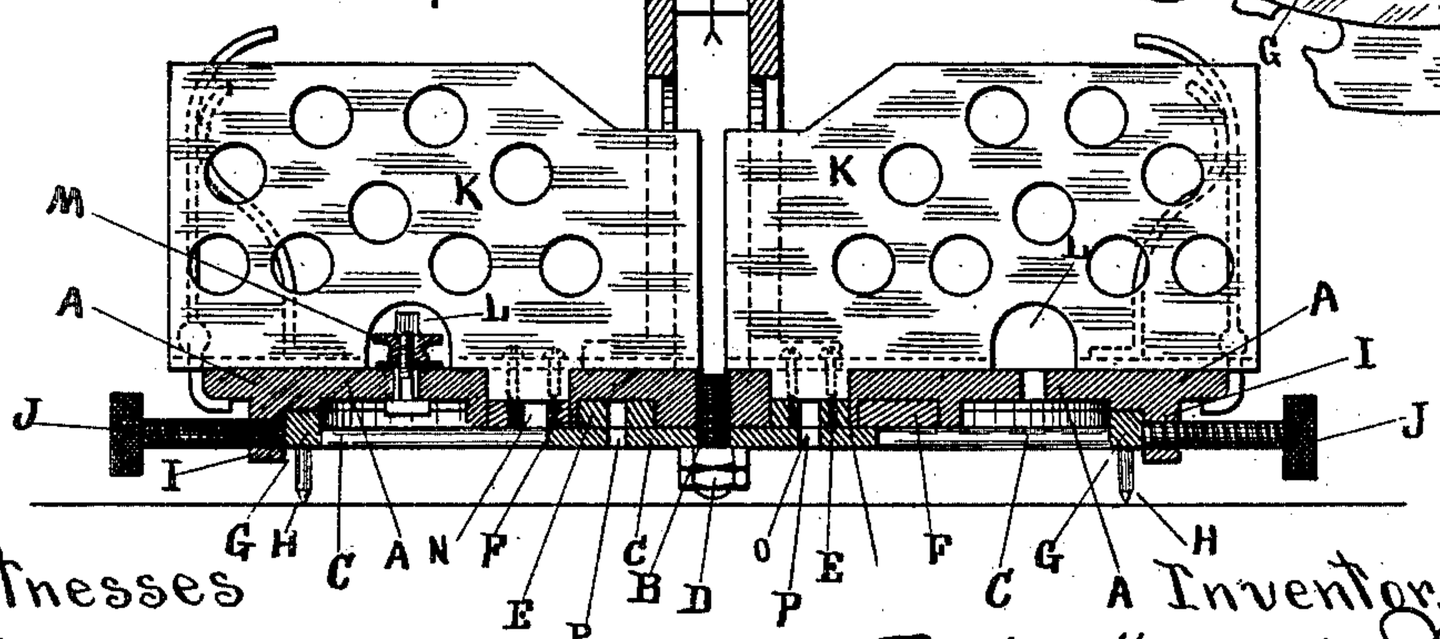


Fig 2



Witnesses
Chas. Herrmann. Jr.
Chas. D. Robbins.

Inventor.
Rufus Herrick Dorn
By Sol. John Day
Attorney.

UNITED STATES PATENT OFFICE.

RUFUS HERRICK DORN, OF LOS ANGELES, CALIFORNIA.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 697,203, dated April 8, 1902.

Application filed June 5, 1901. Serial No. 63,333. (No model.)

To all whom it may concern:

Be it known that I, RUFUS HERRICK DORN, of the city of Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in 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 invention relates to certain new and useful improvements in miter-boxes of the kind for which Letters Patent have been granted to me, the said RUFUS HERRICK DORN, No. 651,457, dated June 12, 1900, and for which I have made application for Letters Patent for certain additional improvements in filed June 29, 1900, Serial No. 22,095.

The object of my present improvement in miter-boxes is twofold.

My improvements consist, in the first place, in mounting the entire miter-box upon a ring or circular stand fastened by means of a pivot at or to the center of the bottom of the circular table of the miter-box. The pointed feet upon which the miter-box rests in place of forming part of or being fastened to the bottom of the circular table itself are under my present improvements fastened to or form part of the aforesaid ring or stand, the purport of mounting the said miter-box pivotally being that a person desiring to use the same may readily turn it upon the pivot into any position required and securely hold it in that position by means of one or more clamping-screws which pass through one or more lugs on the under side of the table, which clamping-screws being turned so as to press against the ring fix the miter-box in any required position. The central part of the aforesaid circular stand is so constructed that it contains at its center the hole whereinto the pivot passes, and for some distance the central part extends outward toward the ring, so as to constitute a flat circular plate which maintains in their respective positions the two rings in their corresponding recesses at the bottom of the table to which the movable backs of the miter-box are fastened, and the ring itself and circular central part are connected together by arms, thereby forming a structure commonly known in practical mechanics as a "spider."

My improvements in miter-boxes consist, in the second place, in constructing the bottom part of each movable back with a passage or short tunnel through it, which enables each back to be swung around over the stops which hold the molding in position for being cut in the miter-box and also enable these movable stops to be put as far as possible toward the rear of the miter-box, thereby leaving the table unencumbered therewith.

On the annexed drawings, Figure 1 is a plan of my improved miter-box with the saw omitted. Fig. 2 is a transverse section of the same on the line *a a*, Fig. 1. Fig. 3 is an inverted plan showing portions of the bottom of the miter-box and the pivoted spider-ring with the clamping-screws. Fig. 4 is a front elevation showing a part of the table, the pivoted ring, the clamping-screws, and portions of the backs of the miter-box.

In all the figures the table of the miter-box is marked A, at the center of which the pivot B, Figs. 2, 3, and 4, is fastened, as shown. The pivot B passes through the hole in the center of the spider C, and the spider C is fastened thereto by means of the nuts D. The central part of the spider C is formed flat, as more particularly shown at Figs. 2 and 3, this flat portion being of such diameter as to hold the two rings E and F, respectively, in their circular recesses at the under side of the table A, as shown in section at Fig. 2. The ring G constitutes the outer part of the spider, and into it the pointed feet H H are fastened. The table A has one, two, or more lugs I, fitted with clamping-screws J J. By releasing the clamping-screws J J the entire miter-box is free to be turned upon the pivot B, while the spider part thereof remains stationary upon any supporting-surface whereon the miter-box is for the time being carried, and by tightening the clamping-screws J J the miter-box is conveniently fixed in any position.

In each of the movable backs of the miter-box K K′, respectively, an opening or short tunnel L is formed for enabling the backs K K′ to be swung around radially without interference from the stops M M, Figs. 1 and 2—that is to say, that the arrangement is such that the backs K K′, which are fastened to the rings E F, respectively, after the man-

ner described in my aforesaid application for Letters Patent, Serial No. 22,095, filed June 29, 1900, can be moved into any position irrespective of the position of the stops M M, the openings L permitting the passage of either of the backs K or K′ over either of the stops M M, while when it is desired to have the table A of the miter-box free from encumbrance or impediment by the stops M M the backs K K′ admit of the stops M M being moved to the rear of the miter-box, as shown more especially at Fig. 1.

The openings N O in the rings F E, respectively, and the openings P P in the central part of the spider are for the purpose of allowing the sawdust produced in sawing the material in the miter-box to fall through.

Having now described the nature of my said improvements in miter-boxes of the class referred to 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. A circular miter-box mounted by means of a pivot at its center upon a circular spider whose outer ring or periphery constitutes a clamping-surface for enabling the circular miter-box to be clamped thereto in any angular position required, and by releasing the clamping-screws, to be readily rotated on the pivot into any required position, the central part of said spider constituting the means for holding in their operative position the rings to which the radially-movable backs of the miter-box are fastened, the ring of the spider being provided with feet, all operating in the manner and for the purposes, substantially as hereinbefore described.

2. In combination with a miter-box table or base and with stops adjustable in slots therein, the movable backs against which the molding or timber being cut rests with passages or short tunnels therein for enabling the said backs to be moved over and without impediment by the stops whereby the molding or timber being cut is maintained against the movable backs, whereby also the stops are enabled to be moved in their grooves or slots to the rear of the movable backs, substantially as hereinbefore described.

3. The combination of a circular miter-box, the pivot at the center of the circular miter-box, the spider carried upon said pivot, the lugs and clamping-screws attached to the table of the miter-box and operating in conjunction with the ring of the spider, substantially as hereinbefore described.

4. The combination of the circular miter-box, the pivot, the spider, the lugs, the clamping-screws, the feet in the clamping-ring of the spider and the movable backs with passages or short tunnels therein, all operating together in the manner and for the purposes substantially as set forth.

In witness whereof I have hereunto set my hand, this 22d day of December, A. D. 1900, in the presence of two subscribing witnesses.

RUFUS HERRICK DORN.

Witnesses:

ST. JOHN DAY,

C. M. BURKE.