

(No Model.)

A. H. SOUKUP.

MITER BOX.

No. 346,240.

Patented July 27, 1886.

Fig 1

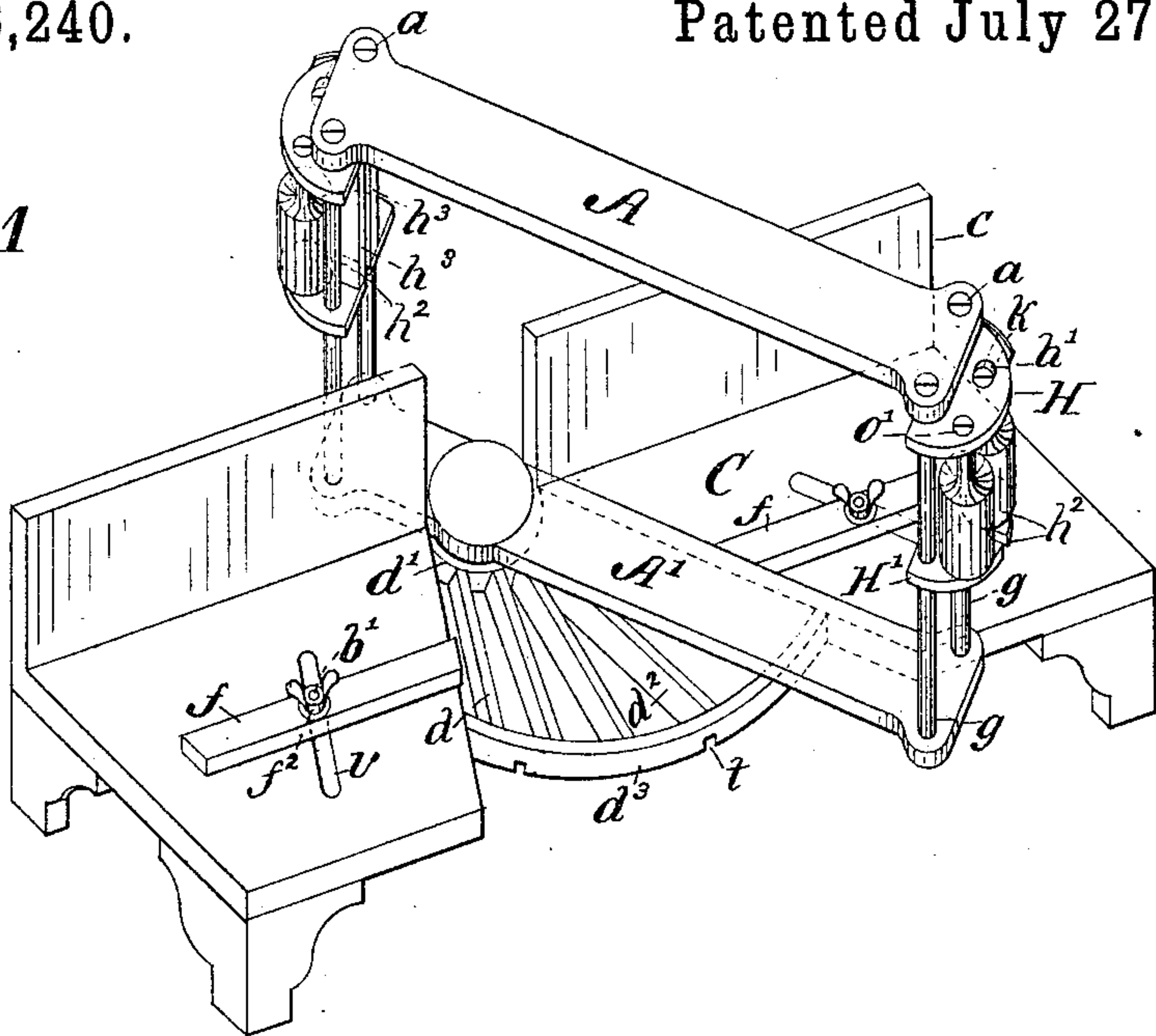


Fig. 2.

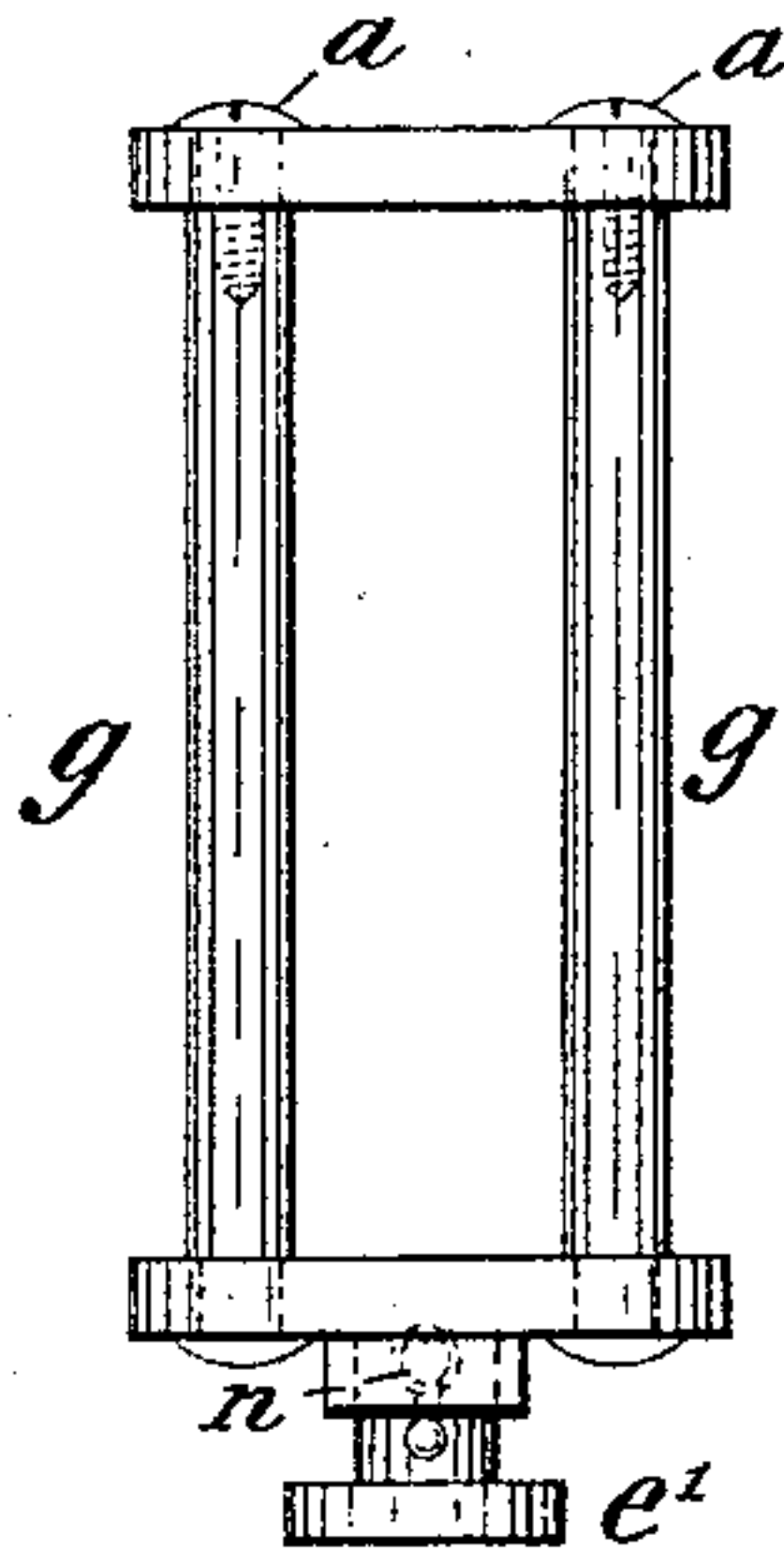


Fig. 3.

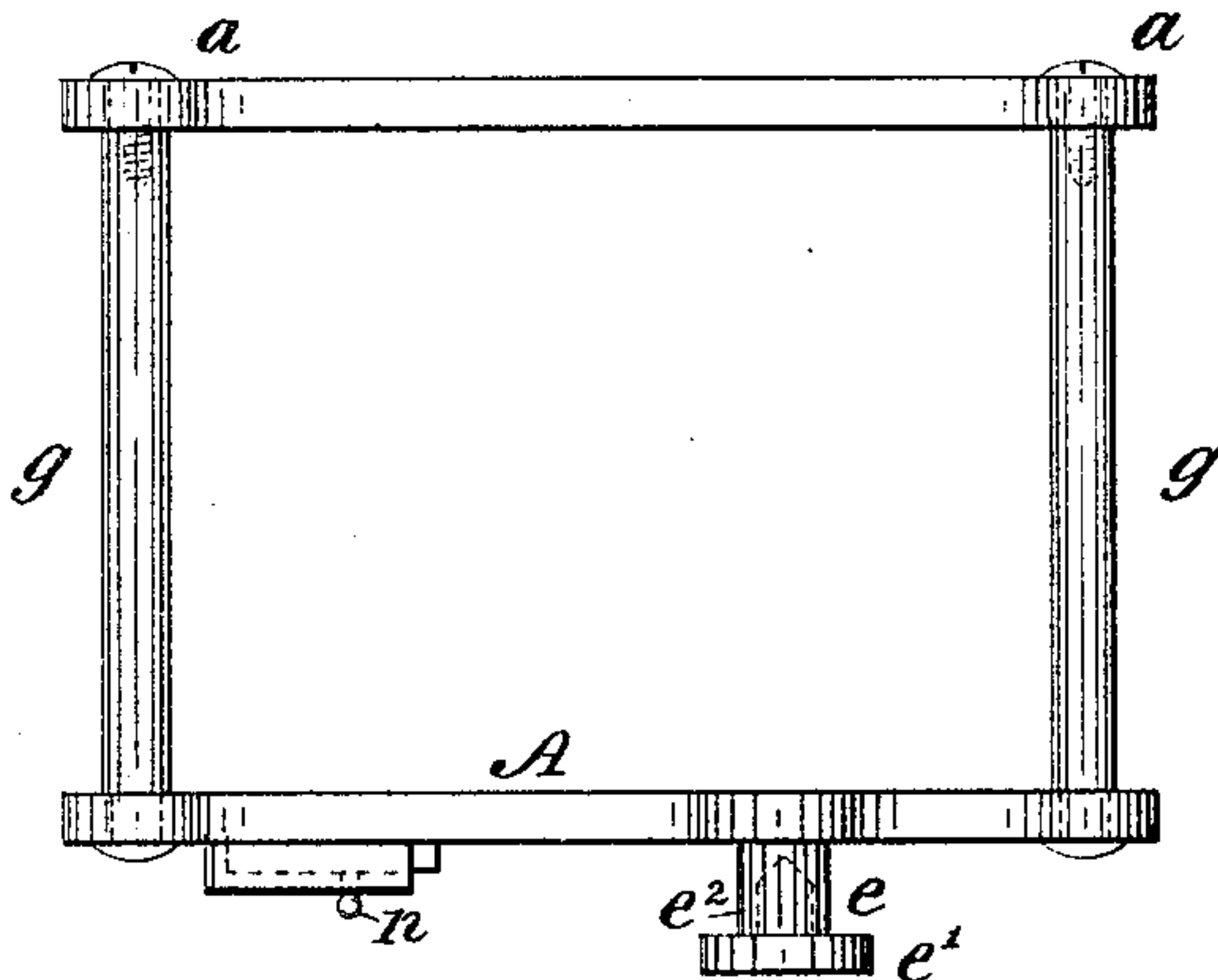


Fig. 4.

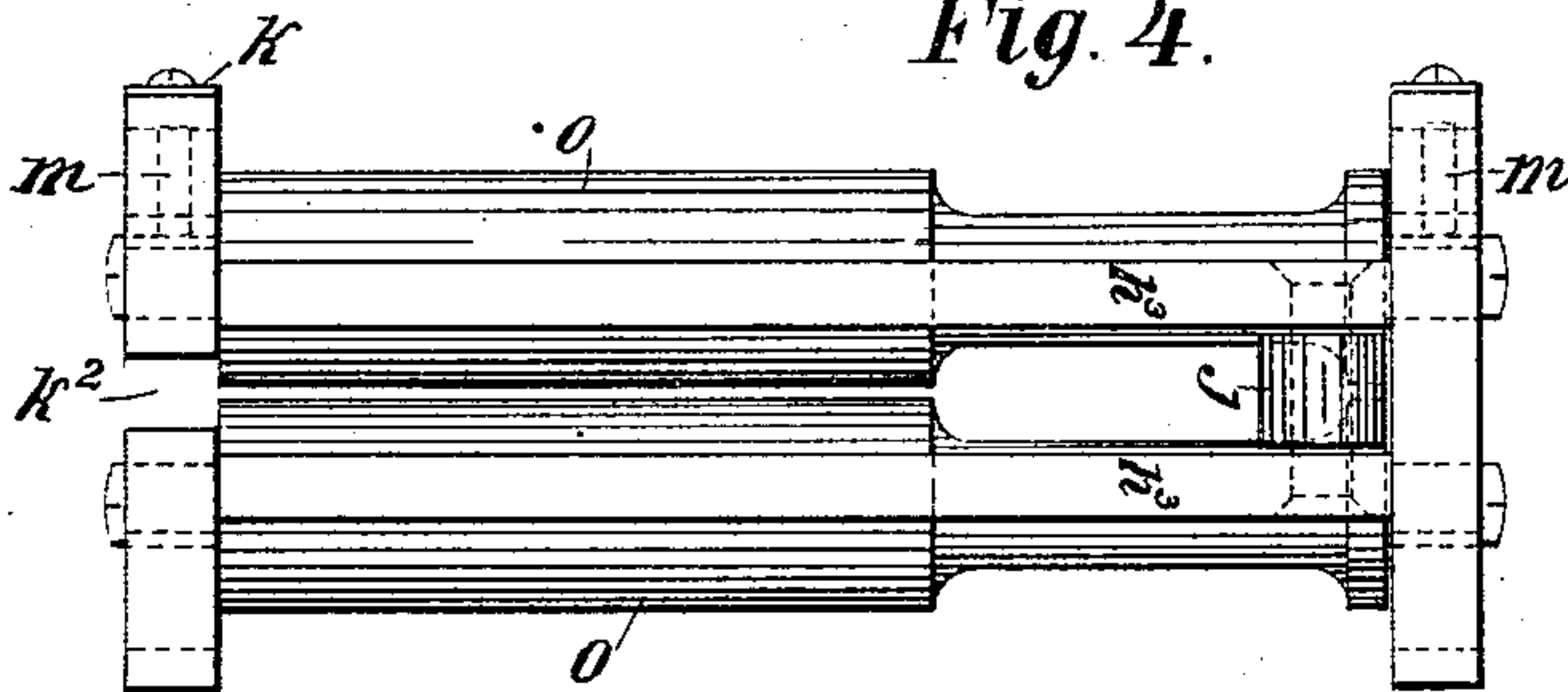
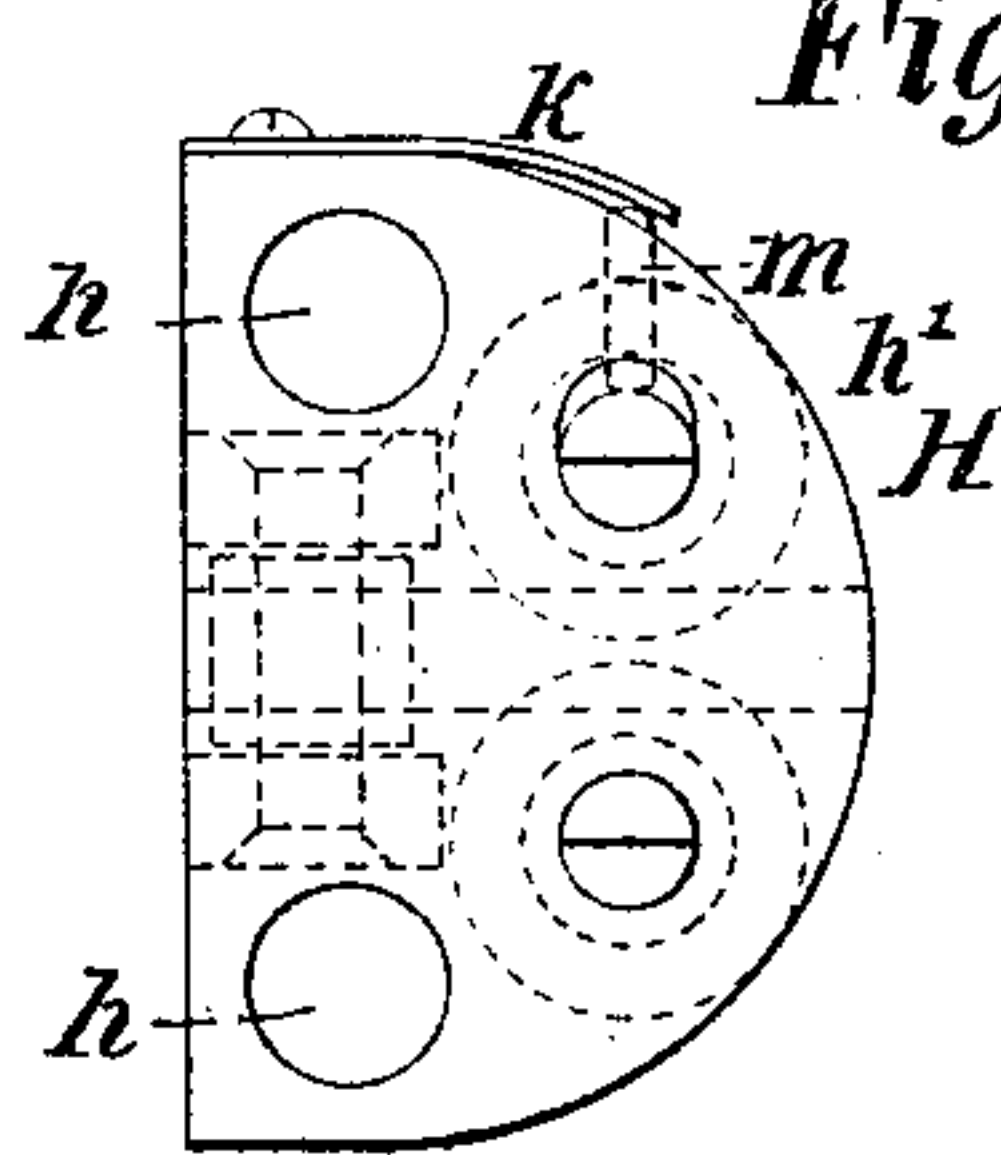


Fig. 5.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALBERT H. SOUKUP, OF KANSAS CITY, MISSOURI.

## MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 346,240, dated July 27, 1886.

Application filed February 1, 1886. Serial No. 190,487. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT H. SOUKUP, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Anti-Friction Molding-Tables; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is to provide for a miter-box convenient means for the introduction of saws of different thicknesses, whereby the saw-guides are prevented from being worn and a uniform cutting-plane preserved, and also to enable moldings to be held in the box rigidly and at the proper angle; and it consists in the novel combination and arrangement of parts hereinafter fully described, and specifically pointed out in the claim.

Figure 1 is a view in perspective of a miter-box, showing my improvements applied thereto. Fig. 2 is an end view of the supporting-bars attached to the upper and lower cross-plates. Fig. 3 is a side view of the supporting-bars and cross-plates, and showing the locking device. Fig. 4 is an enlarged end view of the rear sliding guide-plates and rollers, taken from a position between the opposite end-supporting bars, and showing the rollers journaled between the shoulders in said sliding plates. Fig. 5 is a plan view of the upper or cap plate of the sliding guide-plates.

In the construction of my improved miter-box I make a horizontal bed or table, C, of a suitable length, and, in a transverse relation, I remove from the center of said table a triangular-shaped portion decreasing in width toward and extending through vertical side c. I then make a sweep or bed, d, to lie below the surface of the table C, and conforming in shape to the triangular-shaped portion removed from the table and to occupy the space thus formed. This bed d is made with a hub, d', and radial spokes d'', which extend horizontally from the hub, and around the ends of said spokes extend a curved strip, d<sup>3</sup>. The bed d is then attached to and beneath the ta-

ble C, the hub d' of which is placed beneath and in line with the side c of the table C, and the spokes d'', extending radially toward the front side of said table and against the under side of said table.

In constructing my movable guiding saw-frame I make from suitable material two longitudinal flat plates or cross-bars, A A', of equal length and width, and upon the under side and near the ends of the lower cross-bar, A', I attach the pivot e. The hub d' of the bed d is perforated in a vertical relation, so as to receive the pivot e of the lower cross-bar, A', and the said pivot e is also made with a screw-threaded perforation, e<sup>2</sup>. The cross-bar A' is then placed upon bed d, the pivot upon which enters the perforation in said hub d', and a cap-screw, e', inserted from beneath the table into the screw-threaded portion e<sup>2</sup> of pivot e. Thus it will be seen that the cross-bar A' is flush with the surface of the table C and projects beyond the back c of the table and may be swung upon the pivot to afford any desired angle in a transverse relation to the table C. From opposite ends of the cross-bar A', and extending in a vertical relation from opposite sides of said cross-bar, are rigidly attached the upright guide-bars g g. I then make two plates, H H', to slide upon the bars g g. These plates are made from a flat piece semi-elliptical in shape, and are provided with perforations h h upon opposite sides corresponding to the distance in which the guide-bars g g are placed apart upon cross-bar A' and are made toward the straight side formed in its given shape. Between the upper and lower plates H H', I place the anti-friction rollers o o. These rollers are made about one-half the length of the guide-bars g g, and are attached in a vertical relation to the upper and lower plates H H' by means of the screw-bolts o', which extend through said plates into the ends of said rollers. The rollers o o are arranged between plates H H' in an outward relation to the bars g g, and placed so as to come nearly in contact.

To afford a lateral spreading of the rollers o o, I make in the upper and lower plates H H', at the point through which the screw-bolt o' of one of the rollers is passed, a slot, h', and extending a slight distance laterally or toward



the end of the plate H. Through the side of said plate I make a perforation extending to the slot  $h'$  and insert in said perforation a pin,  $m$ . I then fasten upon the side of said plate  
 5 a spring,  $k$ , one end of which rests upon the pin  $m$ , which extends outwardly from the slot  $h'$  a slight distance. Thus it will be seen that the pin  $m$ , which enters the slot  $h'$ , bears against the side of one of the screw-bolts  $o'$ , which  
 10 holds the rollers in place between the plates H H'. The lower plate, H', upon the bars opposite the ends of the cross-bars A A' is then cut in two portions by the slot  $h^2$ , made through said plate in the longitudinal direc-  
 15 tion of the cross-bars A A'. The rear sliding plates H H', beyond the side  $c$  of the miter-box, are provided with opposite vertical standards  $h^3$   $h^3$ , placed inwardly between the slot  $h^2$  and the bars  $g g$ , and directly in rear of the  
 20 rollers  $o o$ . Journaled horizontally between said standards beneath the top plate, H, is a roller,  $j$ .

The rollers  $o o$  are made a portion of their length, so as to nearly come in contact with  
 25 each other, and are tapered toward the top plate, H, and roller  $j$ , so as to leave an opening between said rollers for the entrance of a back-saw. The sliding plates H H with these rollers are then placed upon the bars  $g g$  and  
 30 the upper cross-bar, A', attached to the upper ends of said bars  $g g$  by the screw-bolts or journals  $a a$ .

For the purpose of securing the cross-bars A A' of the movable guiding saw-frame at any  
 35 desired angle, I attach to and beneath the lower cross-bar, A', a bolt,  $n$ , and upon the circular strip  $d^3$ , I make at suitable distances apart the notches  $t$ , which permit the bolt  $n$  to engage at the proper time therewith.

40 For the purpose of entering the rabbet, and holding a molding against the side  $c$  of the miter-box and enabling the miter to be accurately made, I make through the table C, and between the end thereof and the bed  $d$ , a slot,  
 45  $v$ , which slot is preferably formed on the table at the same angle as that described by the tri-

angular portion of the bed. I then lay upon said table C a long and narrow strip,  $f$ , and through said strip I introduce from beneath the table and through slot  $v$  a bolt,  $b'$ , and fit  
 50 a nut,  $f^2$ , upon said bolt above said strip, whereby the ready adjustment of the strip can be made at once.

In the operation of my improved frame the saw is introduced between the rollers  $o o$  at  
 55 one end of the cross-bar, and whatever thickness of saw is used the rollers adjust themselves to meet this requirement. The sliding plates are then resting upon the lower cross-bar, A', and the end of the saw upon entering  
 60 between the rollers upon the opposite end of the cross-bars comes in contact with the horizontal roller, and the elevation of the plates is not only more easily accomplished, but all friction removed from the saw. By means of  
 65 my adjustable rollers I am enabled to cut a miter with more accuracy and prevent the rollers from wearing upon the saw, which results when said rollers are unyielding.

The open spokes of the bed  $d$  permit the  
 70 sawdust to fall beneath the table C.

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

The combination, with a miter-box provided  
 75 with a movable saw-guiding frame and vertical guide-bars in said frame, of vertical sliding guide-plates provided with suitable slots and arranged on said guide-bars, and rollers jour-  
 80 naled between said guide-plates and in said slots, and a pin arranged on said guide-plate and having one end bearing against the jour-  
 85 nals of said rollers, and a spring on said guide-plate bearing against the opposite end of said pin, as and for the purpose described.

In testimony that I claim the foregoing as my own I hereby affix my signature in the pres-  
 90 ence of two witnesses.

ALBERT H. SOUKUP.

Witnesses:

RICH. M. NAKE,  
 PEARCE BODLEY.