

No. 656,835.

Patented Aug. 28, 1900.

J. T. BOUFFORD.
MITER BOX.

(Application filed June 23, 1900.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

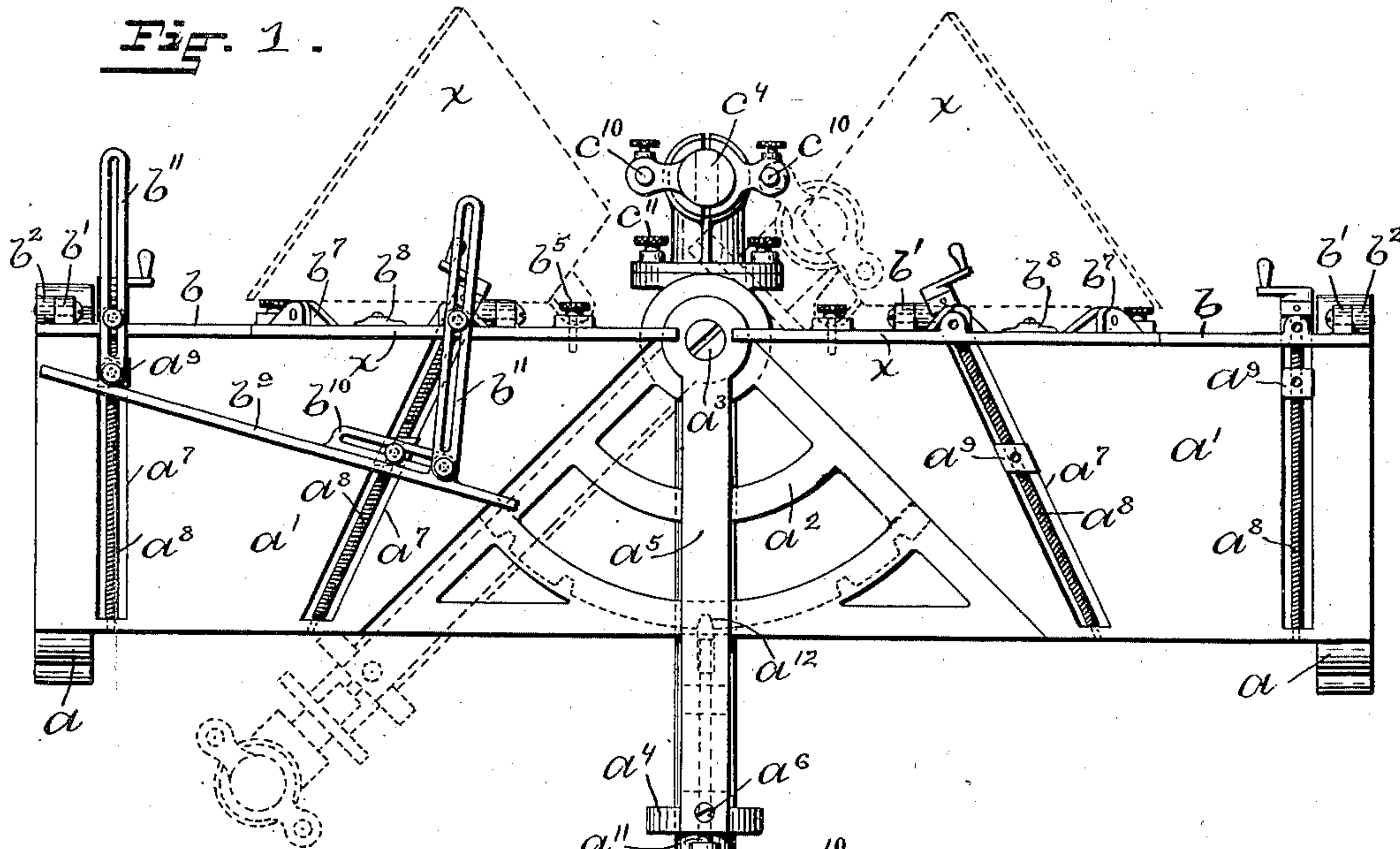
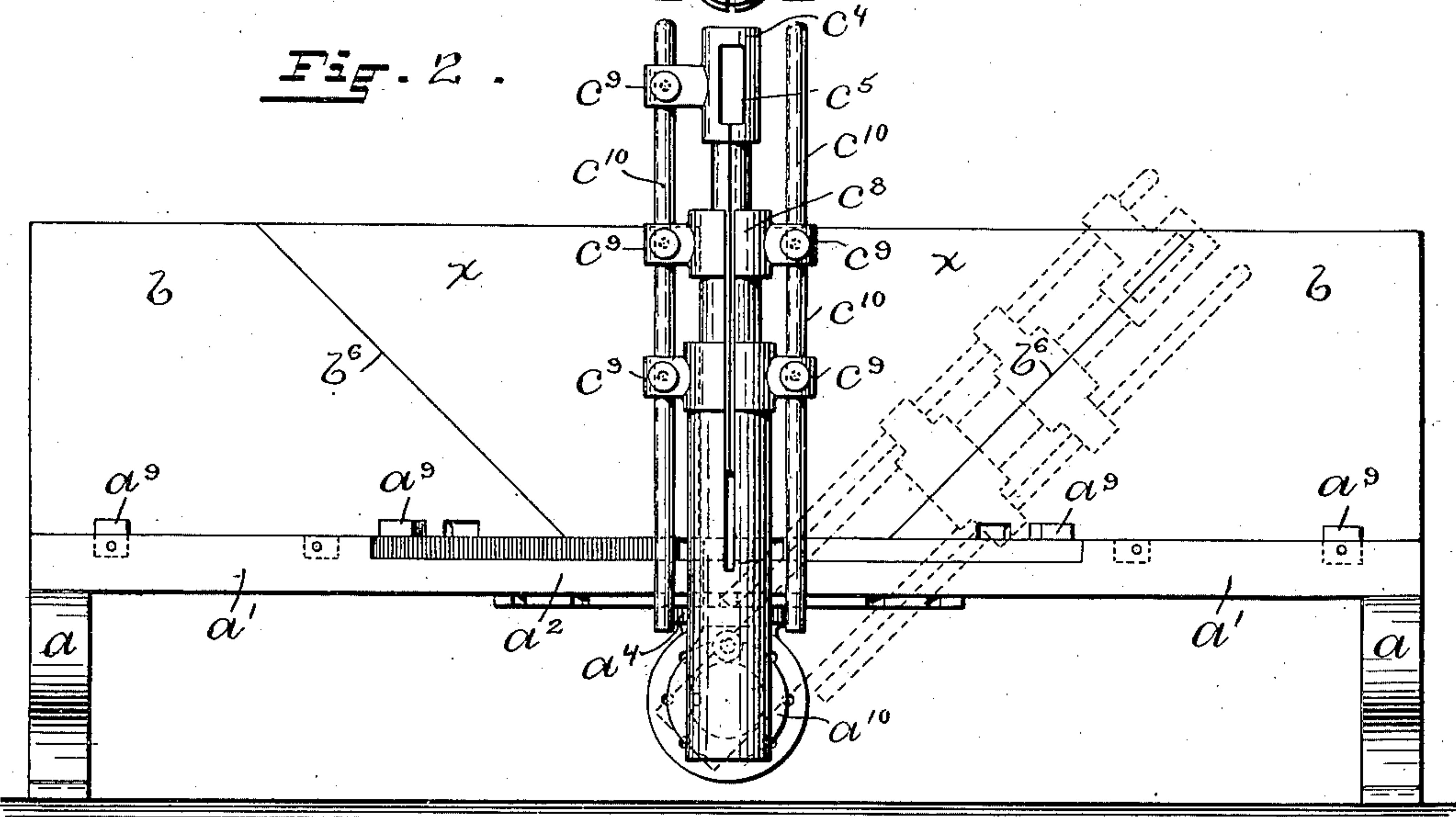


Fig. 2.



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Fig. 3.

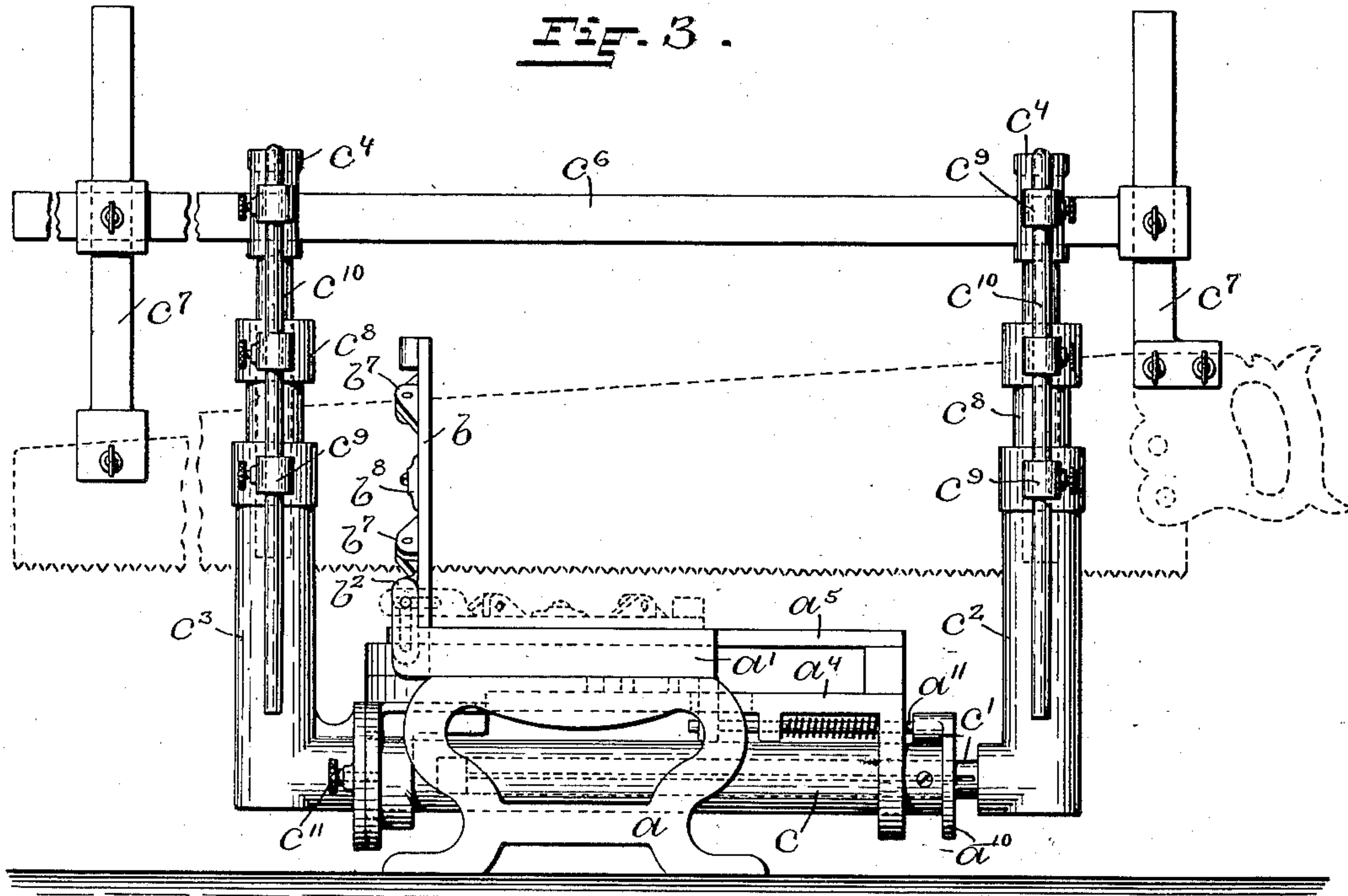
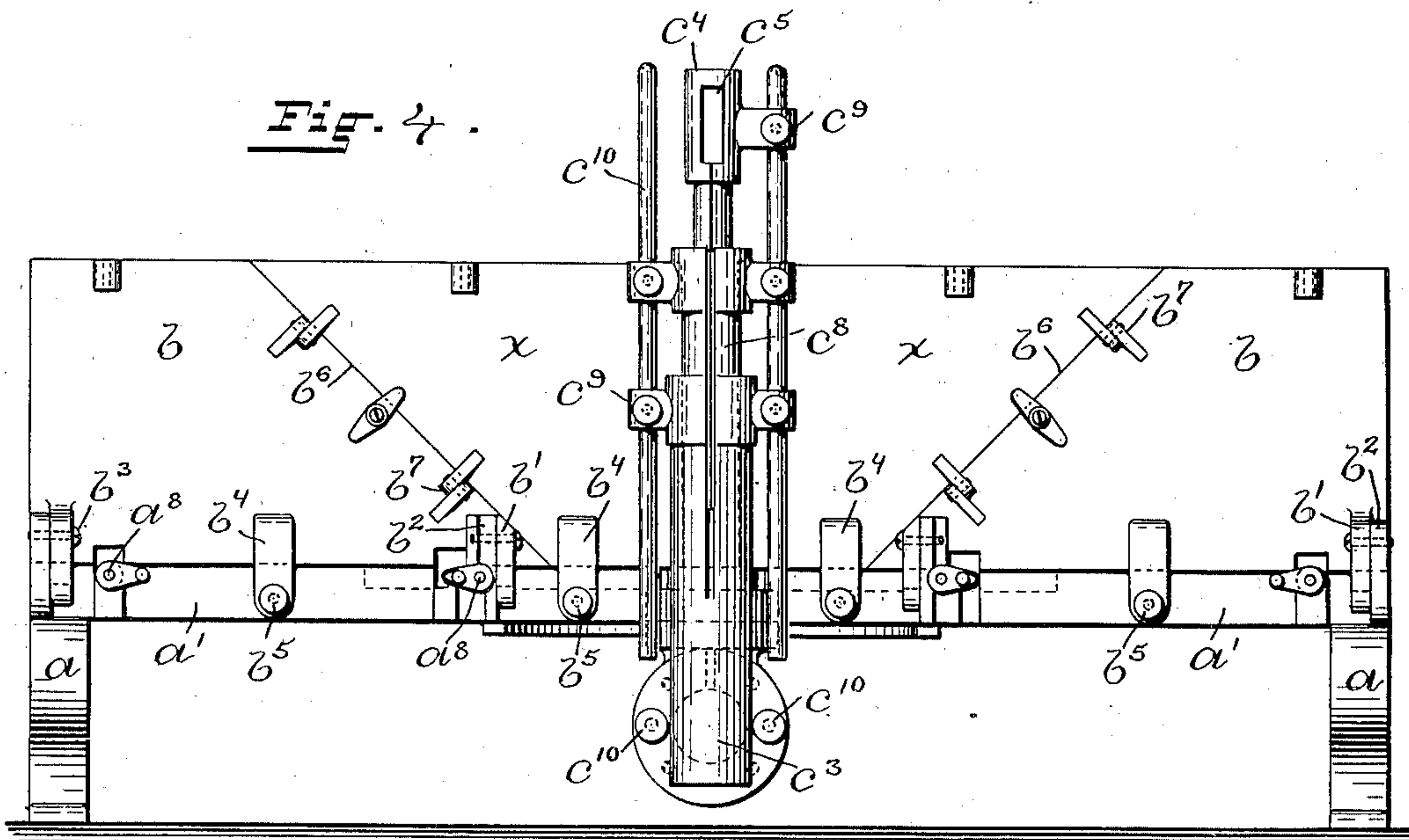


Fig. 4.



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3 Sheets—Sheet 3.

Fig. 6.

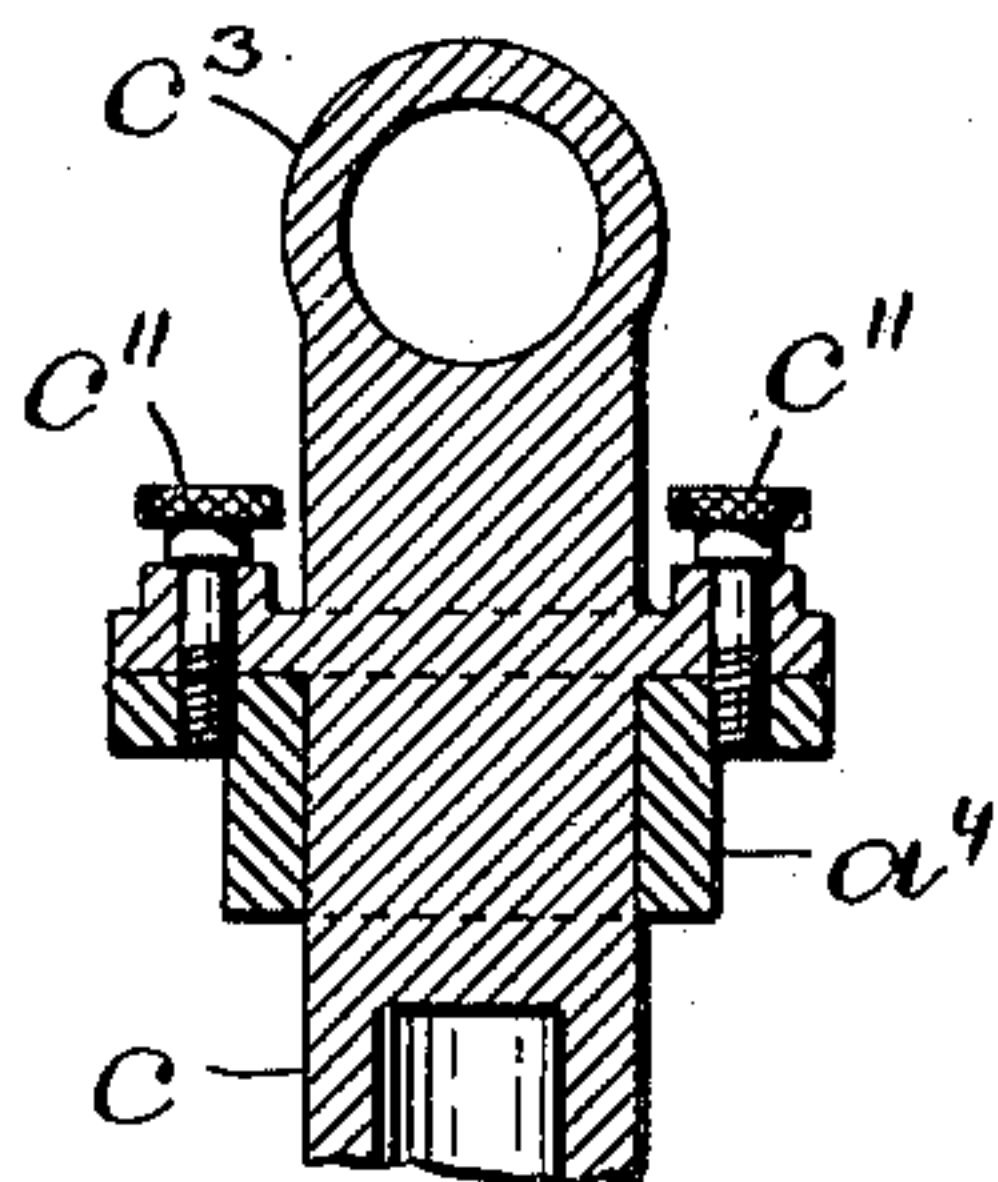


Fig. 7.

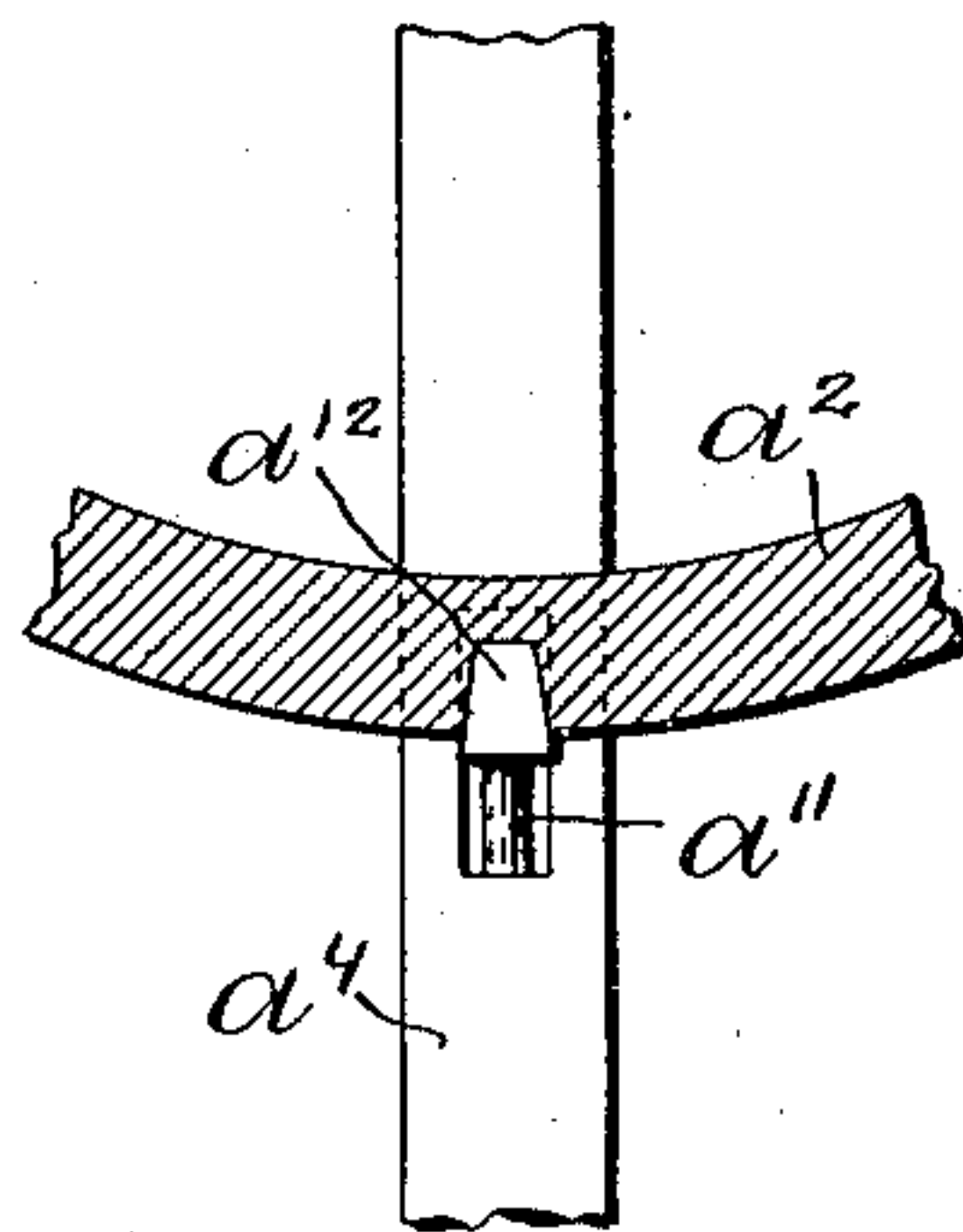


Fig. 5.

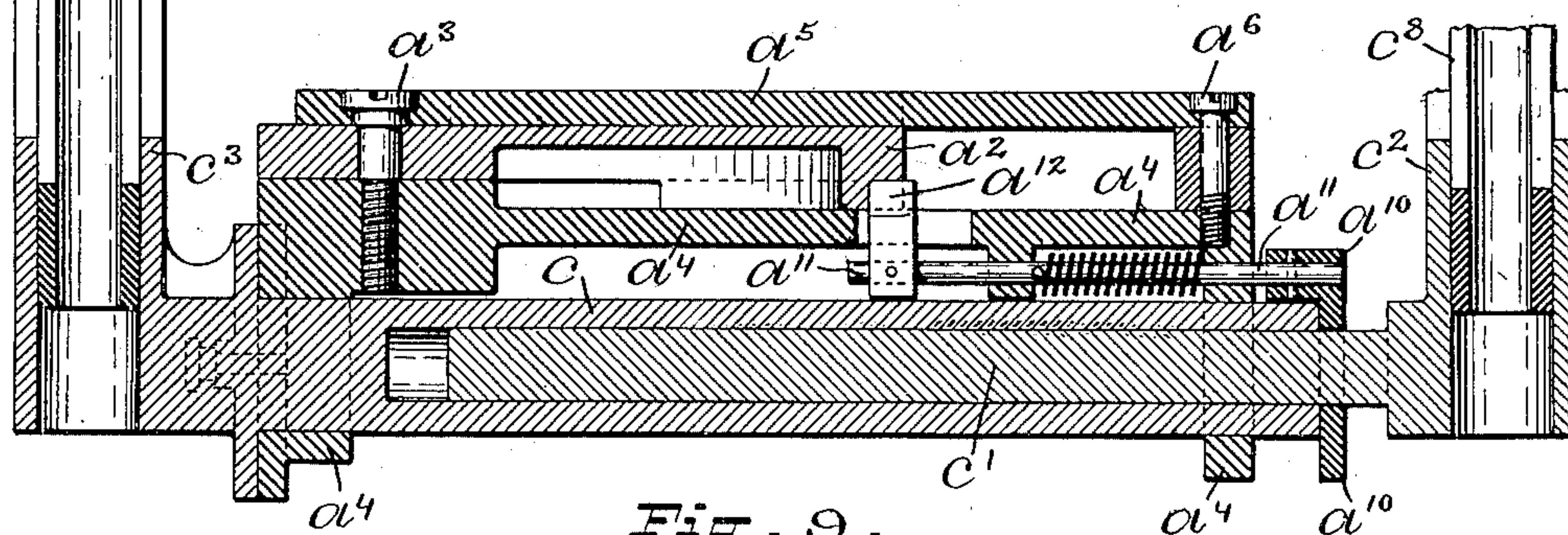


Fig. 9.

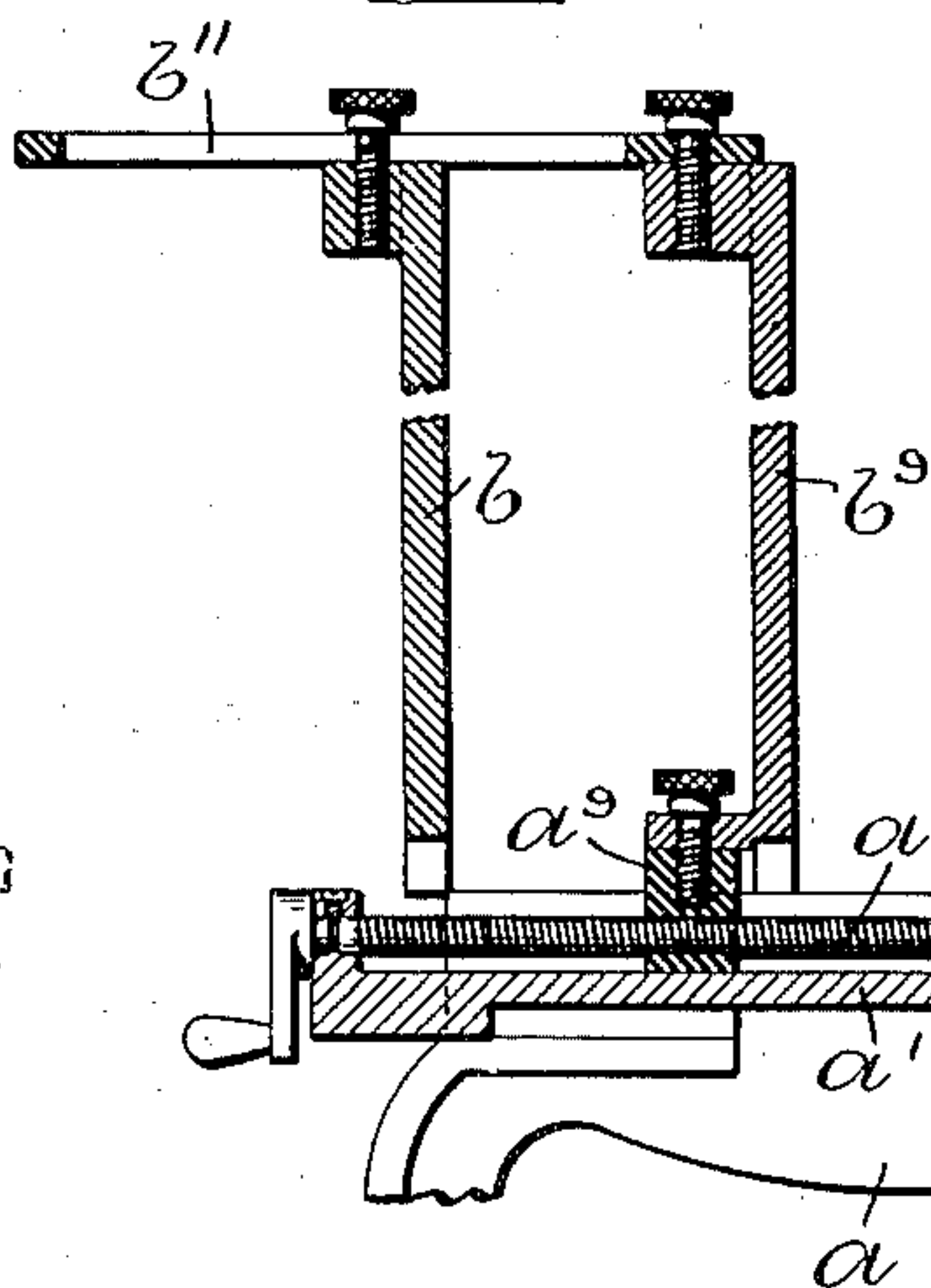


Fig. 10.

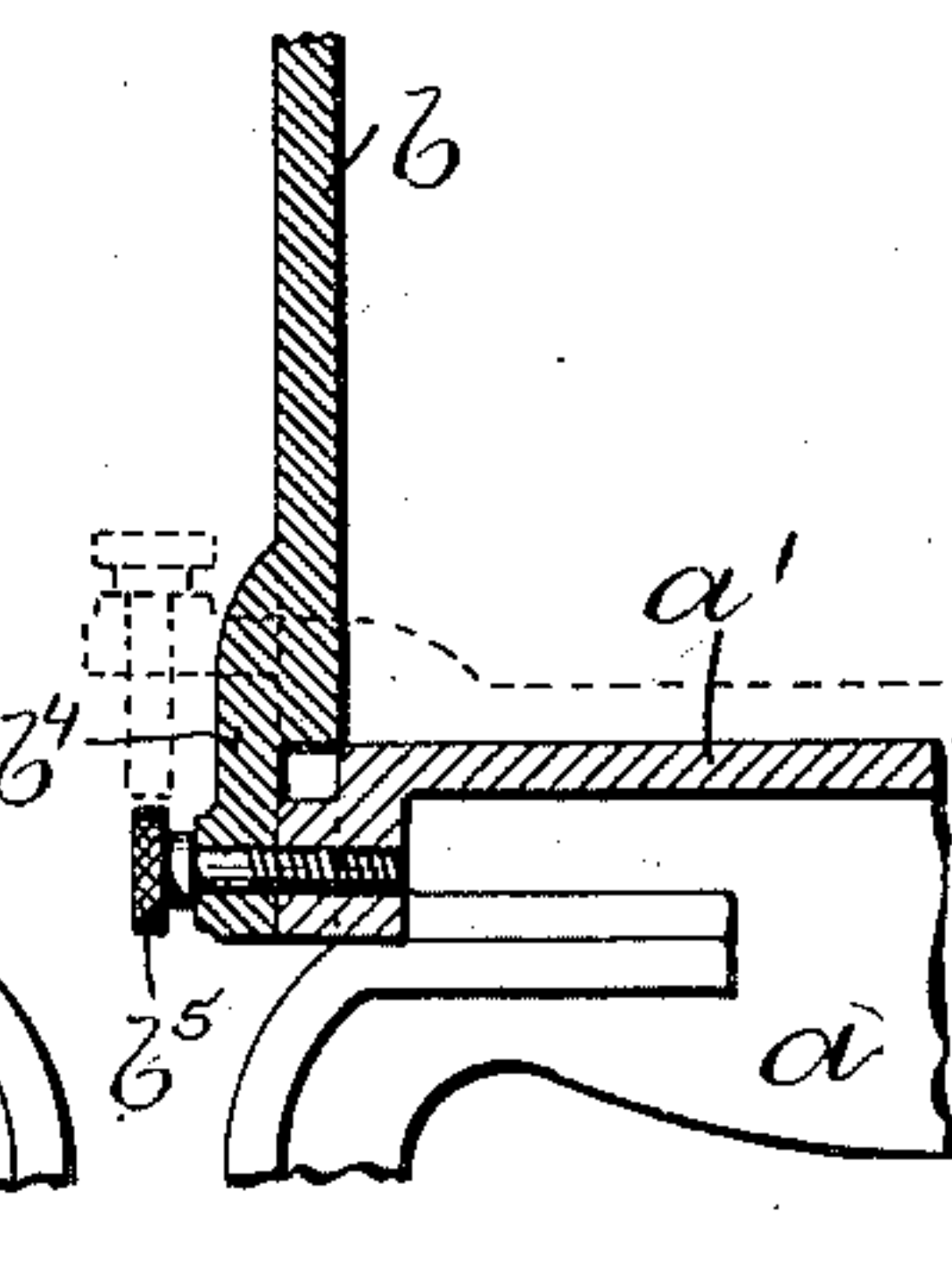
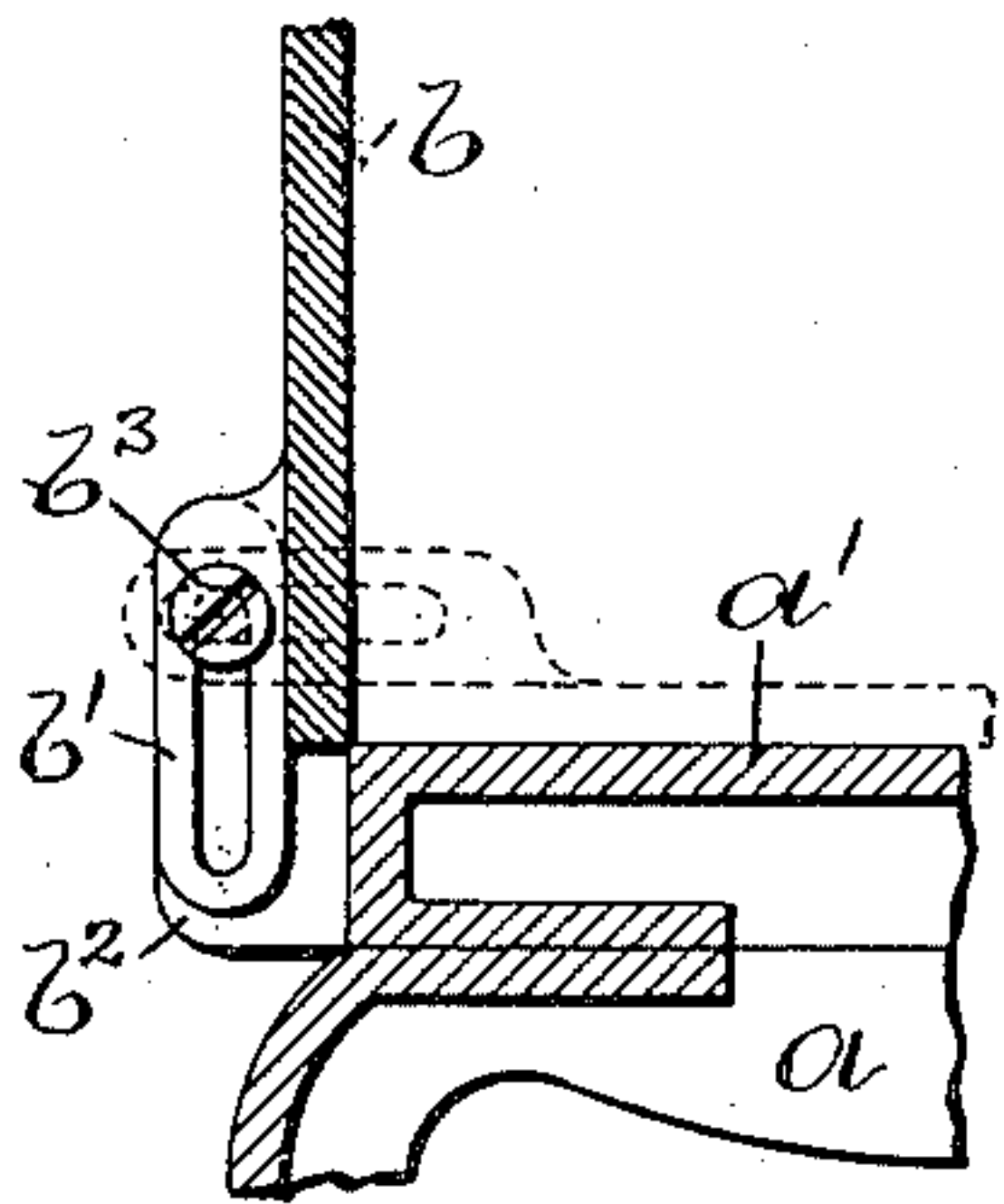


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOSEPH T. BOUFFORD, OF UXBRIDGE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO NAPOLEON BOUFFORD, OF TAUNTON, MASSACHUSETTS.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 656,835, dated August 28, 1900.

Application filed June 23, 1900. Serial No. 21,248. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. BOUFFORD, a citizen of the United States, residing at Uxbridge, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Miter-Boxes, of which the following is a specification.

This invention has reference to an improvement in miter-boxes; and it consists in the peculiar and novel construction and the combination of parts, whereby the miter-box may be adjusted to various positions and folded, as will be more fully set forth hereinafter.

Figure 1 is a top view of my improved miter-box, indicating in broken lines the positions the hinged parts of the vertical plane and the saw-guides may assume. Fig. 2 is a front view of the miter-box, showing in broken lines the saw-guide in the inclined position. Fig. 3 is an end view showing the saw in broken lines. Fig. 4 is a rear view of the miter-box. Fig. 5 is a transverse sectional view through the center of the saw-guides. Fig. 6 is a sectional view of part of the rock-shaft support of the saw-guides, showing the means for locking the same in the adjusted vertical or inclined positions. Fig. 7 is a top view, partly in section, of the locking device by which the saw-guides are held in their adjusted angular position. Fig. 8 is a transverse sectional view of parts of the vertical and the horizontal planes of the miter-box, showing the hinge connection of the vertical with the horizontal plane. Fig. 9 is a sectional view showing the means for securing and adjusting the auxiliary vertical plane. Fig. 10 is a transverse section showing the means for securing the vertical plane to the horizontal plane.

The object of the invention is to adapt a miter-box to the cutting of a great variety of work and permit of the storage of the miter-box in the usual tool-chest.

Similar marks of reference indicate corresponding parts in all the figures.

In the drawings, a a indicate the standard on which the plates a' a' , forming the horizontal plane surface of the miter-box, are secured. The triangular frame a^2 has segmental arms, on the outer one of which locking notches are provided. The frame is secured under the plates a' a' and fills the triangular

space in the center of the horizontal plane between the plates a' a' . The fulcrum-screw a^3 is pivoted in the frame a^2 , is in screw-thread engagement with the swinging bracket a^4 , and is secured to one end of the bar a^5 , the other end being secured by the screw a^6 to the swinging bracket a^4 . In the bracket a^4 is the rock-shaft c , forming the support for the saw-guides.

The vertical plates b b are pivotally secured on one side of the plate a' , so that they may be folded down onto the same. To this end the loop-brackets b' are secured or form part of the plates b b , and the plates a' are provided with brackets b^2 b^2 . Screws b^3 are in screw-thread engagement with the brackets b^2 b^2 . They extend through the slot in the brackets b' and serve to secure the plates b b in the vertical position, in which the plates b b are more firmly secured by means of the bracket b^4 , which extends from the plates b b , and are secured to the plates a' a' by the screw b^5 , as shown in Figs. 8 and 10.

To permit the cutting of miters at an angle to the vertical plane, the plates b b are formed each of two parts jointed at the oblique angle b^6 , secured together by the hinges b^7 and held in the vertical position by the turn-button b^8 .

Moldings and other parts are at times required to be cut at angles not within the usual ninety degrees of a miter-box. To adapt my miter-box for the cutting of such angles, I provide the vertical plate b^9 , of which there may be two, with the rearward-extending slotted bracket b^{10} and with screw-brackets. The plates a' I provide with the grooves a^7 a^7 , in which the screws a^8 , journaled on each end and provided with a crank at the rear end, serve to adjust the socket-blocks a^9 . The plate b^9 is secured to these socket-blocks and by means of the slotted arms b^{11} b^{11} to the upper part of the plate b , as shown in Figs. 1 and 9.

The shaft c is tubular and forms the support of the stem c' , which has on its outer end the sleeve c^2 . The slide a^{10} is supported on the stem c' and is connected with the spring-pressed rod a^{11} , having the locking-block a^{12} , extending through a slot in the bracket a^4 to engage with the notches in the segmental arms of the triangular frame a^2 . The slide a^{10} serves to operate the locking-block a^{12} . The sleeve c^3 is provided at its

lower end with a bracket secured to the end of the shaft *c*. The stem *c'* is connected with the shaft *c* by means of a tongue-and-grooved connection, so that while the stem, with the sleeve *c²*, may be drawn out the two sleeves *c²* and *c³* turn together in the bracket *a⁴* and swing together horizontally with the bracket.

The posts *c⁴ c⁴* have in the head of the posts the opening *c⁵*, through which the bar *c⁶*, having at the opposite ends the arms *c⁷*, adapted to be clamped to the saw, is adjustably secured, as is shown in Fig. 3. The posts *c⁴ c⁴* are slit through their axes from the opening *c⁵* to the lower end to form a passage for the blade of the saw. The posts *c⁴ c⁴* are supported in the sleeves *c⁸ c⁸*, formed each of two halves, and these are supported in the sleeves *c²* and *c³*, the upper parts of which are vertically slotted, so as to form a free passage for the set-teeth of the saw.

To secure the telescopic adjustment of the posts, the posts *c⁴ c⁴* are each provided with a clamp-bracket *c⁹*, the two halves of each of the sleeves *c⁸* with a clamp-bracket *c⁹*, and the sleeves *c²* and *c³* each with two clamp-brackets. The rods *c¹⁰ c¹⁰* extend through the holes in the clamp-bracket *c⁹*, and the brackets are secured to the rods by a thumb-screw. By this telescopic arrangement the posts may be extended to the required height and released successively, or when the saw is to cut only partly through the stock the sleeves *c⁸* may be adjusted and secured to form a stop by which the cutting of the saw is arrested when the desired depth has been cut. When parts are to be cut at vertical angles, the hinged parts *X X* of the plate *b* are swung back, as is shown in Fig. 1 in broken lines, and the posts *c⁴* and the supporting-sleeves are swung to the required vertical angle by partly turning the shaft *c* in its bearings and are secured in the adjusted position by the clamp-screw *c¹¹* engaging with an adjacent part of the bracket *a⁴*. When the saw is removed, the length of the posts *c⁴* is contracted by pushing the same and the sleeves *c⁸* as far as possible into the sleeves *c²* and *c³*. These may now be swung into the horizontal position and, with the shaft *c* and the bracket *a⁴*, swung under the plates *a'*. The plates *b b* are now folded on the

plates *a'*, and the whole, occupying no more space than the usual miter-box, may be placed into the tool-chest.

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

1. In a miter-box, the combination with the horizontal plate and standards supporting the horizontal plate, of two vertical plates pivotally connected with one side of the horizontal plate, brackets on the vertical plate, and screws for securing the brackets to the horizontal plate, whereby the vertical plate may be folded on the horizontal plate for more convenient storage, as described.

2. In a miter-box, the combination with the horizontal plate and the standards supporting the horizontal plate, of a rock-shaft, a bracket pivotally supported under the horizontal plate, saw-guides supported on the rock-shaft, and plates secured to one side of and at a right angle to the horizontal plate, said plates being divided on oblique lines and hinged together, whereby the saw guided in the guides may cut oblique vertical lines, as described.

3. In a miter-box, the combination with the horizontal and the vertical plates, of telescopic saw-guides consisting of the sleeves *c²* and *c³*, the two-part sleeves *c⁸ c⁸*, the posts *c⁴*, the clamp-brackets *c⁹*, and the rods *c¹⁰*, whereby the depth of the saw-cut may be regulated, as described.

4. In a miter-box, the combination with the horizontal plates *a' a'*, the triangular frame *a²*, the plates *b b*, the telescopic saw-guides, and means for adjusting the saw-guides to the required angle, of the grooves *a⁷* in the plates *a'*, the screws *a⁸*, the socket-blocks *a⁹*, the plate *b⁹*, and means for securing the plate at the required angle to the plate *b*, as described.

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

JOSEPH T. ^{his}BOUFFORD.
mark

Witnesses:

JOSEPH A. MILLER,
B. M. SIMMS.