

(No Model.)

3 Sheets—Sheet 1.

G. D. SANFORD & J. S. KILBY.  
WINDOW.

No. 567,661.

Patented Sept. 15, 1896.

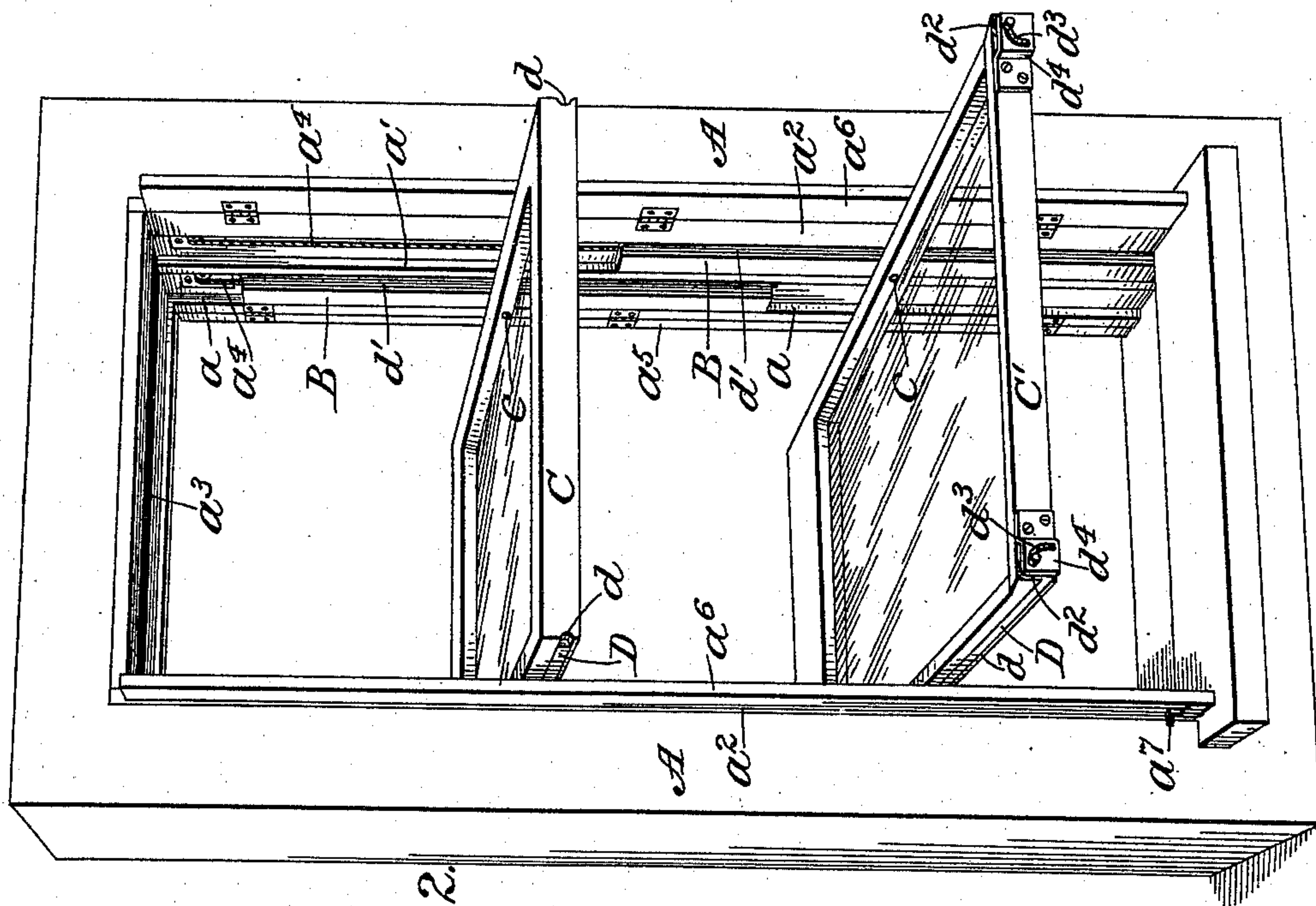


Fig. 2.

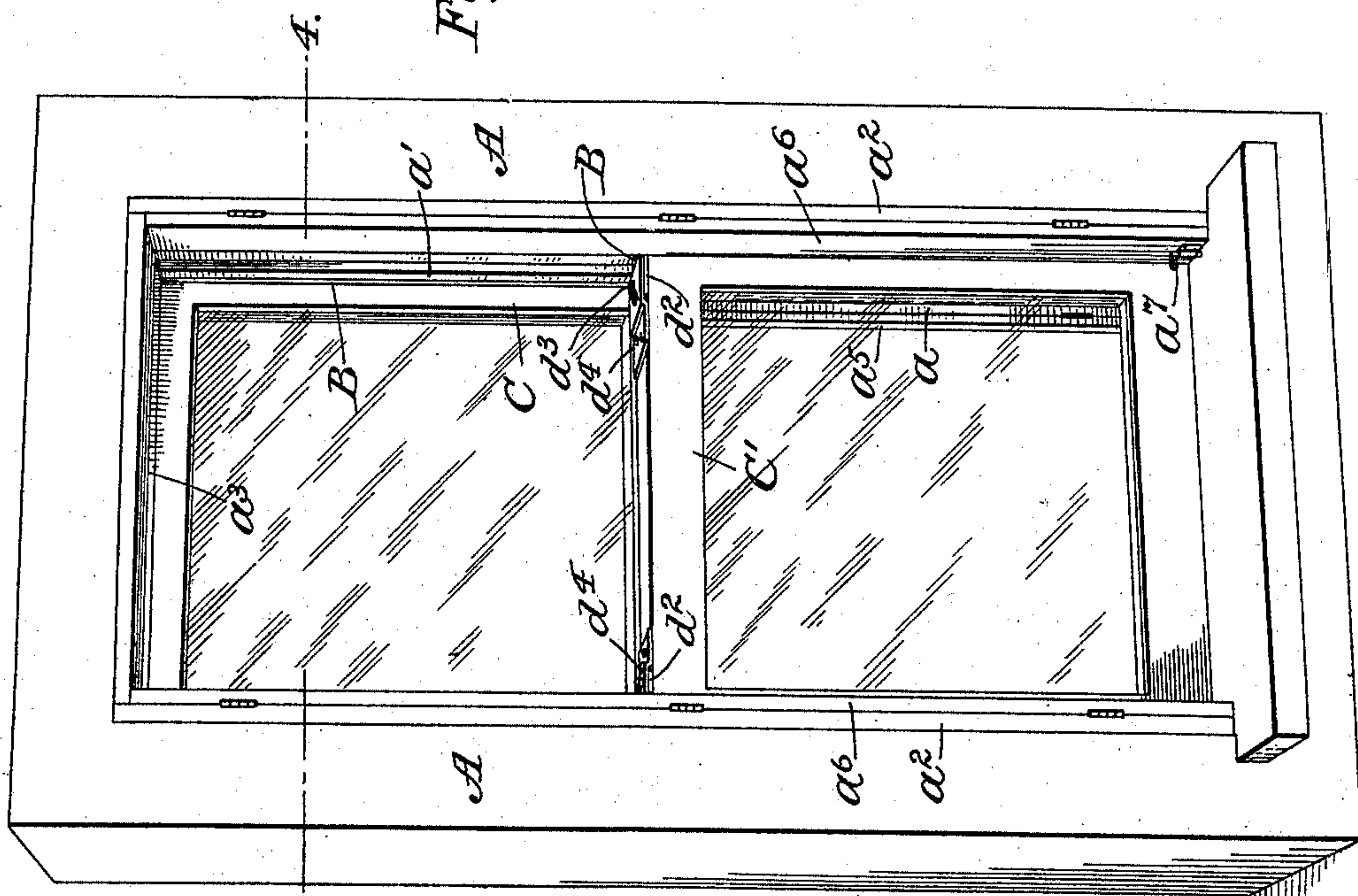


Fig. 1.

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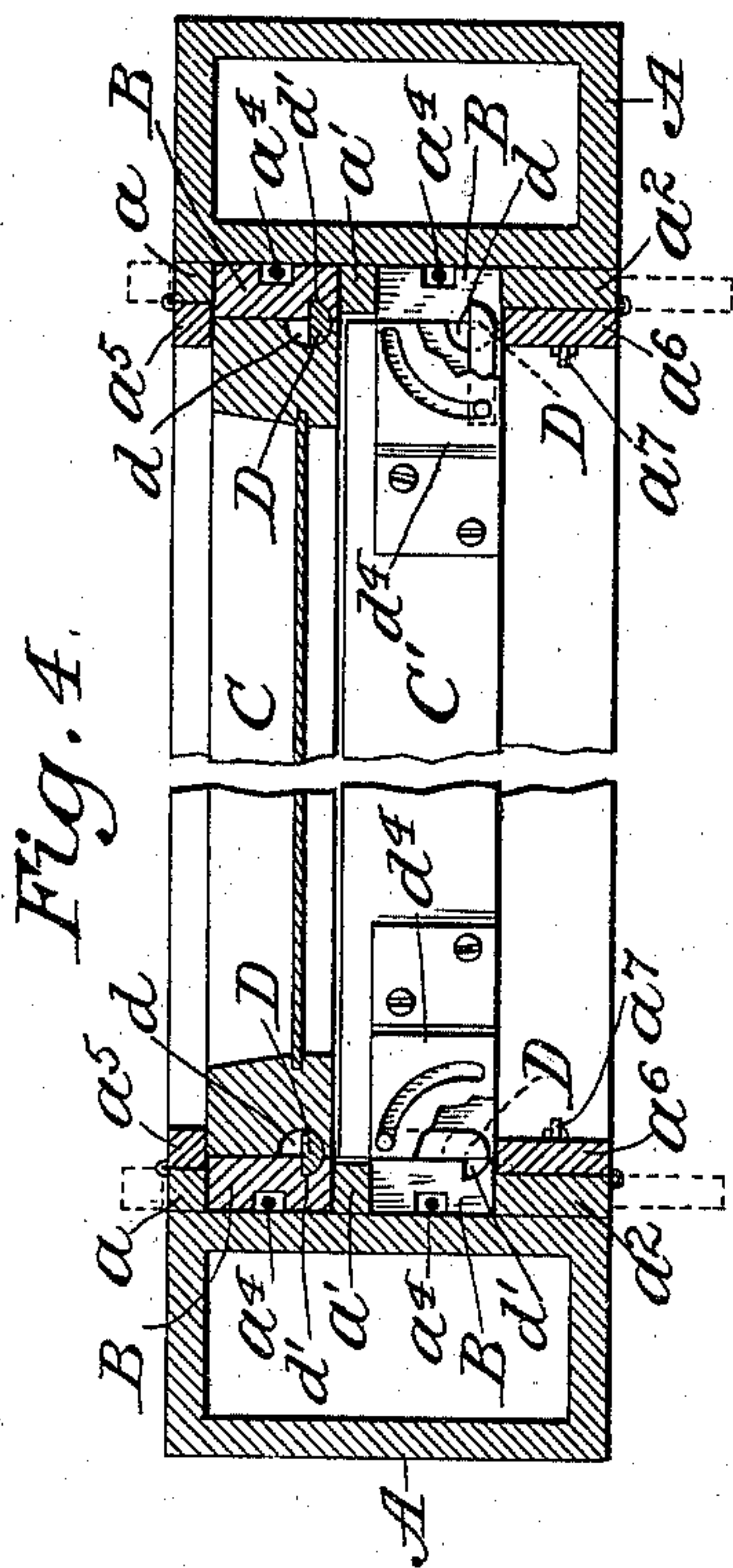


Fig. 6.

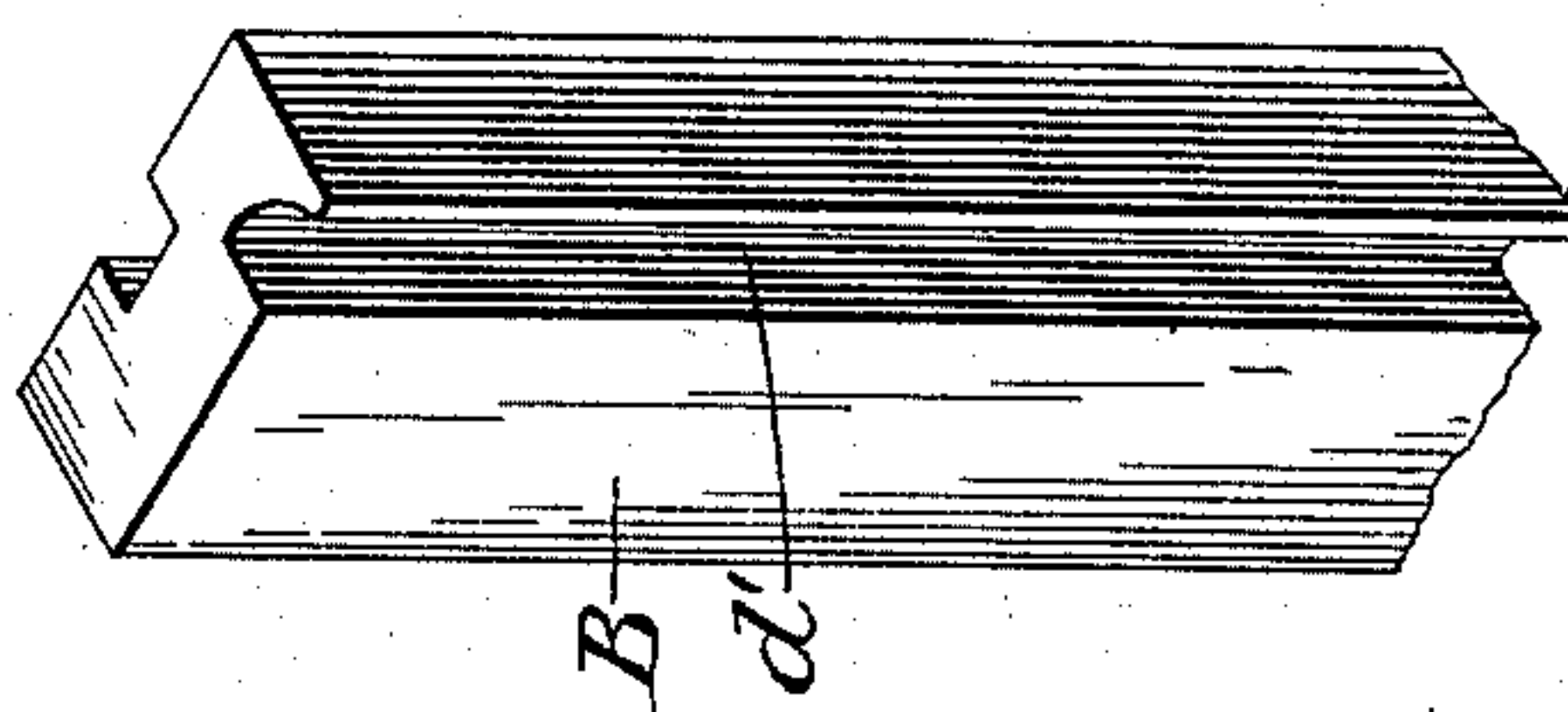
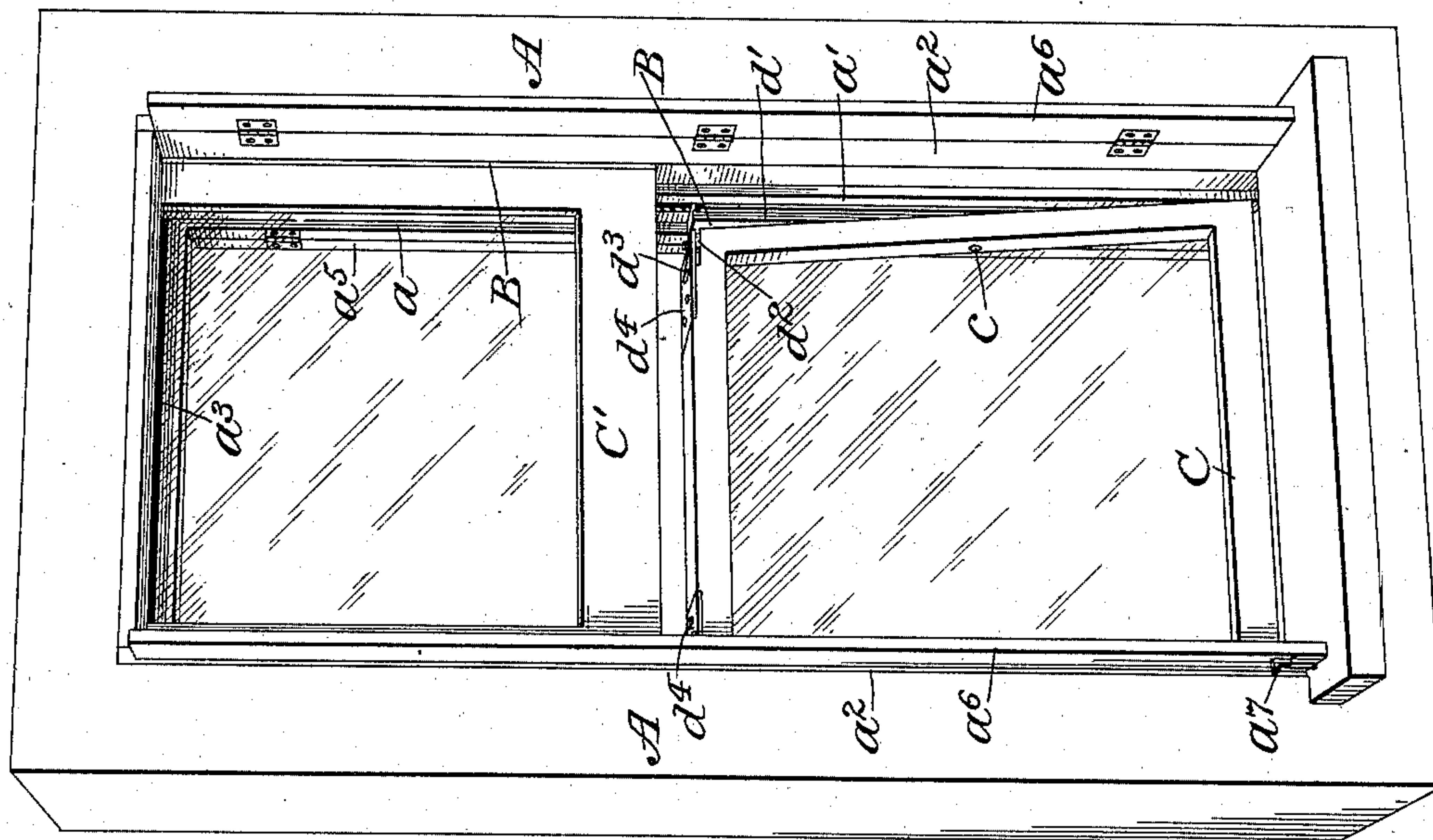
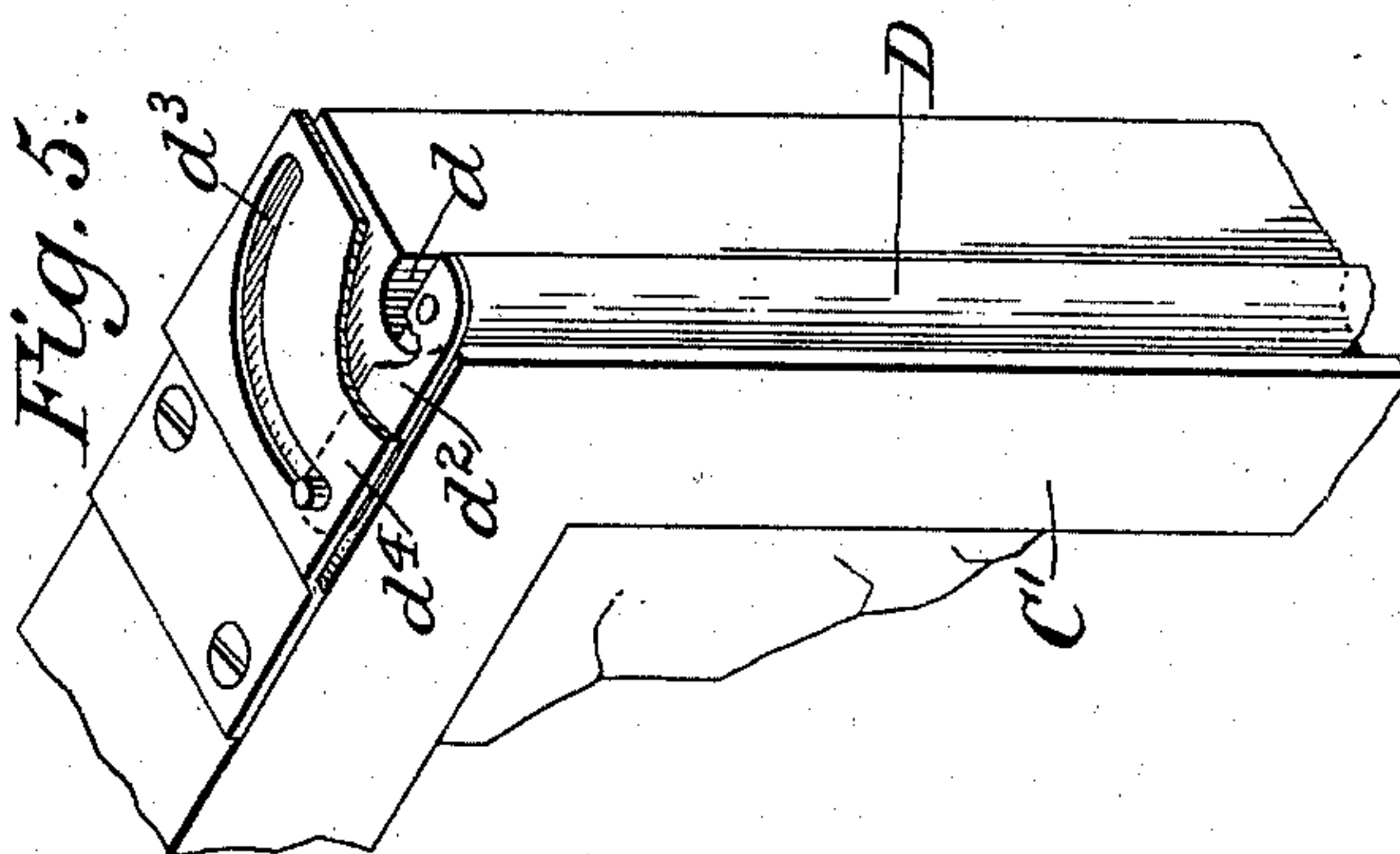


Fig. 5.



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Fig. 3.

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(No Model.)

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Fig. 8.

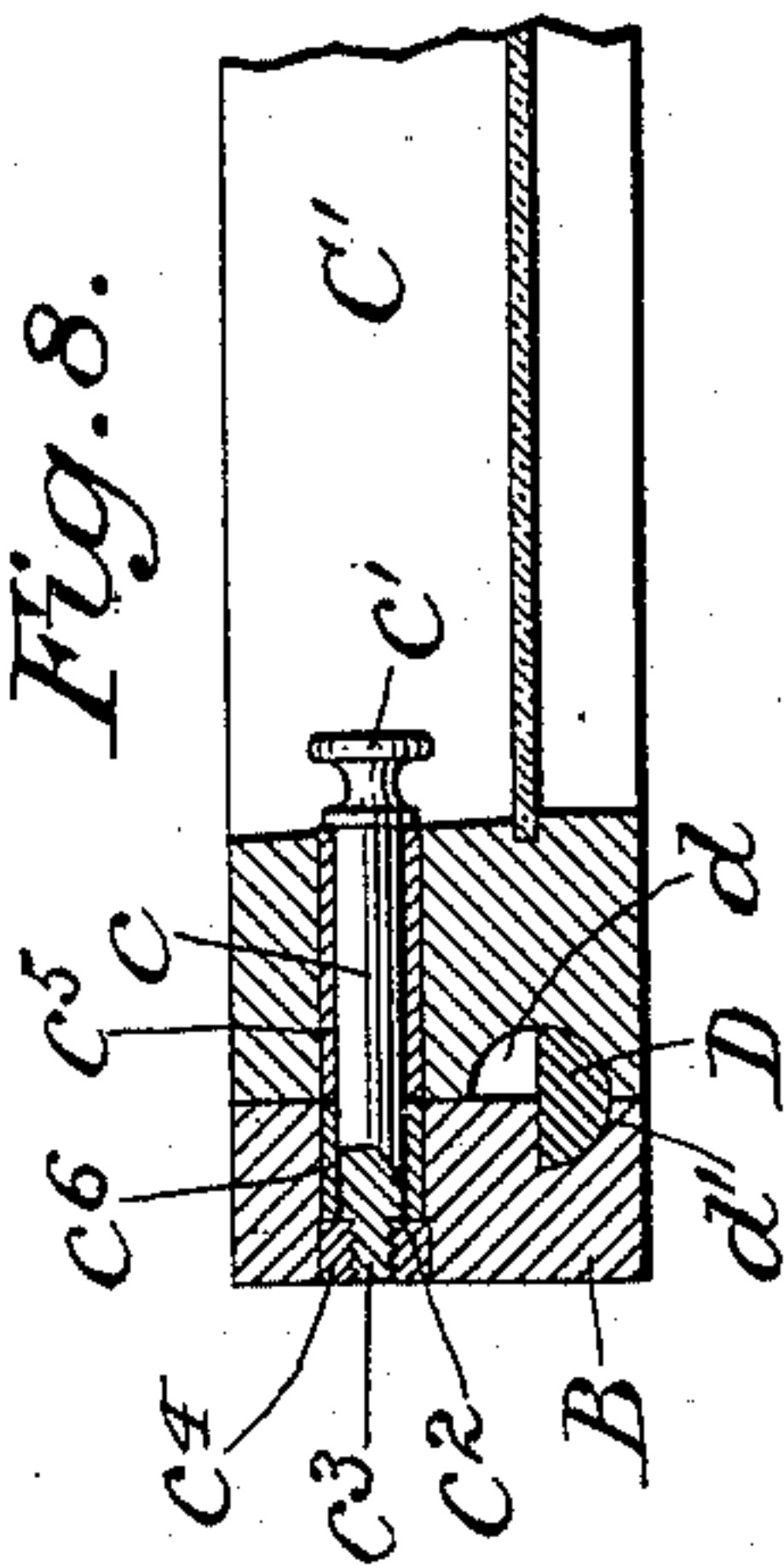
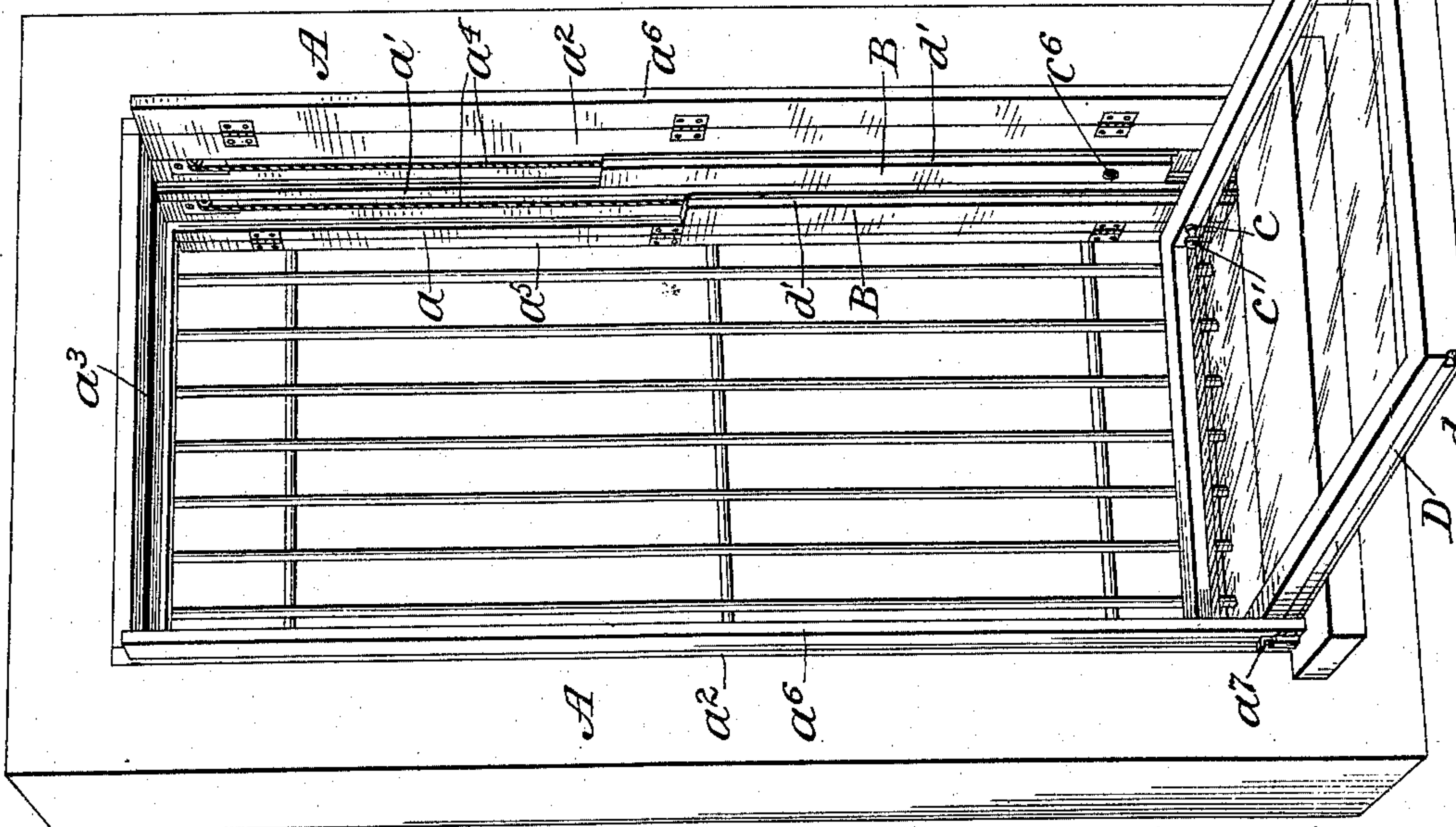
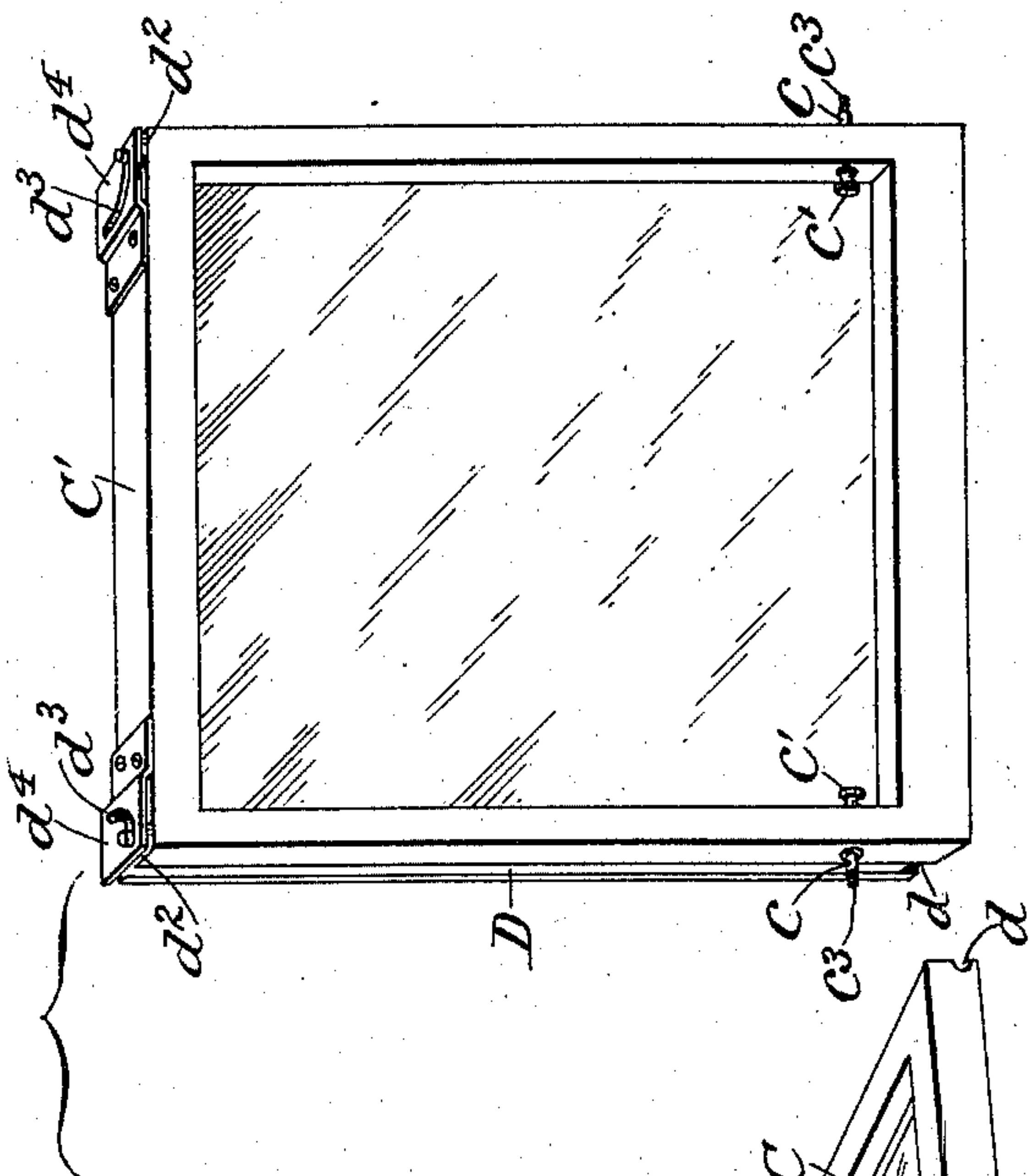


Fig. 7.



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# UNITED STATES PATENT OFFICE.

GEORGE D. SANFORD, OF ALBANY, AND JOHN S. KILBY, OF NEW YORK, N. Y.,  
ASSIGNORS TO THE REMLIK COMPANY, OF NEW YORK, N. Y.

## WINDOW.

SPECIFICATION forming part of Letters Patent No. 567,661, dated September 15, 1896.

Application filed May 16, 1896. Serial No. 591,795. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE D. SANFORD, a resident of the city of Albany, in the county of Albany, and JOHN S. KILBY, a resident of the city and county of New York, State of New York, citizens of the United States, have invented certain new and useful Improvements in Windows, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

The object of our invention is to provide improved means for supporting vertically-movable window-sashes, so that they may be swung upon horizontal pivots, either for the purposes of ventilation or to permit them to be turned completely over to allow the outside of the window to be cleaned or repaired without requiring the operator to go upon the outside of the window.

Various devices have been constructed or proposed to accomplish the same purpose; but so far as they are known to us they are unnecessarily complicated, or difficult to operate, or liable to let in cold air at the side when it should be excluded, or expensive.

It is the object of our invention to provide a construction which shall be simple and inexpensive, readily applied to any window, and capable of excluding air at the sides as efficiently as an ordinary window.

We will explain the features of construction wherein our invention consists hereinafter, with reference to the accompanying drawings, in which we have illustrated the same as embodied in a convenient and practical form.

In the drawings, Figure 1 is a perspective view of a window and window-casing with both upper and lower sashes in their normal position. Fig. 2 is a similar view of the same, but with both sashes swung into a horizontal position for ventilation. Fig. 3 is likewise a similar view, but with the lower sash shoved up out of the way and the upper sash brought down and swung completely over to allow the outer surface of the glass or sash to be cleaned or repaired from the inside of the

room. Fig. 4 is a horizontal section on the plane indicated by the line 4 4 of Fig. 1. Fig. 5 is a perspective view of one corner of a sash to show details of construction. Fig. 6 is a perspective view of a portion of one of the auxiliary slides hereinafter referred to. Fig. 7 is a perspective view illustrating the application of our improvement to a barred window, one of the sashes being pushed to the bottom and swung down inwardly and the other being shown as removed and set one side, the latter being shown in rear view. Fig. 8 is a sectional detail view.

The casing A of the window is constructed substantially in the ordinary manner, and is provided at each side with the back stop *a*, the parting-strip *a'*, and the front stop *a''*, these parts forming guideways between them. The top of the casing, instead of being closed in, as usual, may be cut out, as at *a'''*, to allow the lower sash to be shoved up farther than is ordinarily possible, for a purpose to be referred to hereinafter, although this is not absolutely necessary. The window is also provided, as usual, with the ordinary sash-cords *a<sup>4</sup>* and sash weights or springs, (not shown,) the sash-cords being connected to auxiliary slides B B, which move in the guideways formed by the stop-beads and parting-strips and have a thickness at least as great as the depth of the guideways.

The upper sash C and the lower sash C' are pivoted on horizontal pivots (indicated at *c c* in Figs. 2, 3, and 7 and shown in detail in Fig. 8) between the auxiliary slides B B, fitting between them as snugly as may be without causing the parts to bind in their movements. It is with the means for preventing the sashes from swinging on their pivots except when required that our invention is more particularly concerned. We have provided two devices for this purpose which cooperate to effect the most desirable result and are preferably employed together, although, as will be apparent, either device is capable of use by itself.

As has been observed already, the auxiliary



slides B B have a thickness as great as or greater than the depth of their guideways, so that the sashes may swing freely between the opposing stop-beads.

5 We hinge to each back stop  $a$  an auxiliary back stop  $a^5$  and to each front stop an auxiliary front stop  $a^6$ , the said auxiliary stop-beads being hinged to swing outward and inward, respectively, so that their surfaces  
10 may be flush with the surface of the fixed stops when it is desired to swing the sashes upon their pivots. When the sashes are to be held from swinging, the auxiliary stops are turned upon their hinges to stand against  
15 the sashes, respectively, and are held in position by suitable fastening devices, such as the bolt represented at  $a^7$ .

It is evident that the auxiliary stops, as described, will retain the sashes from swing-  
20 ing, but that the latter might spring away somewhat from the fixed stops and therefore afford an opening through which the wind might find its way. Accordingly, we prefer to employ the second device, which we will  
25 presently describe, in connection with the first. This device comprises a half-round rod D, which may be seated wholly in a half-round groove  $d$ , formed in the edge of each sash. A substantially quarter-round groove  
30  $d'$ , of the same radius as the groove  $d$  and the rod D, is formed in the outer face of each auxiliary slide B in such position with relation to the groove  $d$  that the half-round rod D can be turned partly out of the groove  $d$ ,  
35 so that its edge shall engage the groove  $d'$ .

As represented in the section of the upper sash in Figs. 4 and 5, the rod D is in position to engage the groove in the auxiliary slide B, while the rod of the left-hand portion of the  
40 lower sash in Fig. 4 and the rods for both sashes in Fig. 2 are represented as lying wholly in the half-round grooves  $d$  in the sashes, so that the sashes are free to swing upon their pivots. When the rods D D are  
45 in the latter position, they offer no interference with the swinging of the sashes, but when they are in the former position they not only hold the sashes from swinging, but effectually close the opening between each  
50 sash and its auxiliary slides and prevent the passage of air. The formation of the quarter-round groove in the auxiliary slide enables the proper movements of the rod D to be determined exactly, so as to lock the sash  
55 securely or to leave it free to be swung, the flat side of the recess or groove forming a stop in one direction and the adjacent face of the slide forming a stop in the other direction.

60 Any suitable means may be employed for turning the rods D D, and we have represented in Figs. 2, 4, and 5 each rod as having secured thereto at one end an arm  $d^2$ , carrying

a pin which travels in a slot  $d^3$ , formed in a plate  $d^4$ , secured to the sash, but any other 65 suitable means, such as a button or knob, might be employed instead. It is not necessary to provide pivots for the rods nor any means for holding the rods in place, inasmuch as they are always, for at least some portion 70 of their length, held between the sash and the auxiliary slides. It is evident that this last-described device might be relied upon by itself, but for greater security and to obviate the possibility of accidental release of the 75 sashes we prefer to employ the hinged auxiliary stops in connection therewith.

The utility of our improved construction is particularly apparent when applied to barred or grated windows for asylums, hospitals, and 80 other public institutions. We have represented such an application of our invention in Fig. 7, in which it will be seen that each sash is pivoted to the auxiliary slides near the bottom of the sash, so that it may be turned 85 to a horizontal position without striking the bars on the outside of the window. Furthermore, it is possible to remove the sashes from the window without difficulty, thereby permitting them to be taken to the yard or elsewhere to be washed. To facilitate such removal, the pivot-pin  $c$  (see Fig. 8) is provided at its outer end with a head  $c'$ , and at its other extremity is shouldered, as at  $c^2$ , and threaded, as at  $c^3$ , to engage a nut  $c^4$ , which is seated 95 in the auxiliary slide B, on the inner side thereof. Suitable bearing-sleeves  $c^5$  and  $c^6$  are inserted in the sash and in the auxiliary slide to receive the pin  $c$ , which, with a few turns, may be readily engaged with or disengaged from the nut  $c^4$  to secure the sash in place or permit its removal. 100

The mode of use of our improvement will be readily understood from the foregoing description without further explanation. 105

We claim and desire to secure by Letters Patent—

1. In a window, the combination with a casing having guideways, auxiliary slides mounted in said guideways and a sash pivoted horizontally between said slides, said sash and slides having in their proximate faces a half-round groove and a quarter-round groove respectively and a half-round rod mounted in said half-round groove and arranged to be turned to enter said quarter-round groove, the flat side of the quarter-round groove and the adjacent face of the slide forming stops to determine the movement of said rod, substantially as shown and 120 described.

2. In a window, the combination with a casing having a fixed parting-strip and a fixed stop-bead on each side to form a guideway between them, auxiliary slides mounted in 125 said guideways, a sash pivoted horizontally



between said auxiliary slides, said sash and  
slides having in their proximate faces half-  
round and quarter-round grooves respec-  
tively, half-round rods seated in said half-  
5 round grooves to be turned into engagement  
with the quarter-round grooves, the flat side  
of each quarter-round groove and the adja-  
cent face of the slide forming stops to deter-  
mine the movement of said rods and auxiliary  
10 stops hinged to the fixed stops, substantially  
as shown and described.

This specification signed and witnessed this  
14th day of May, A. D. 1896.

GEORGE D. SANFORD.

JOHN S. KILBY.

Witnesses to the signature of George D.  
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WILLIAM RANDEL.