

No. 708,430.

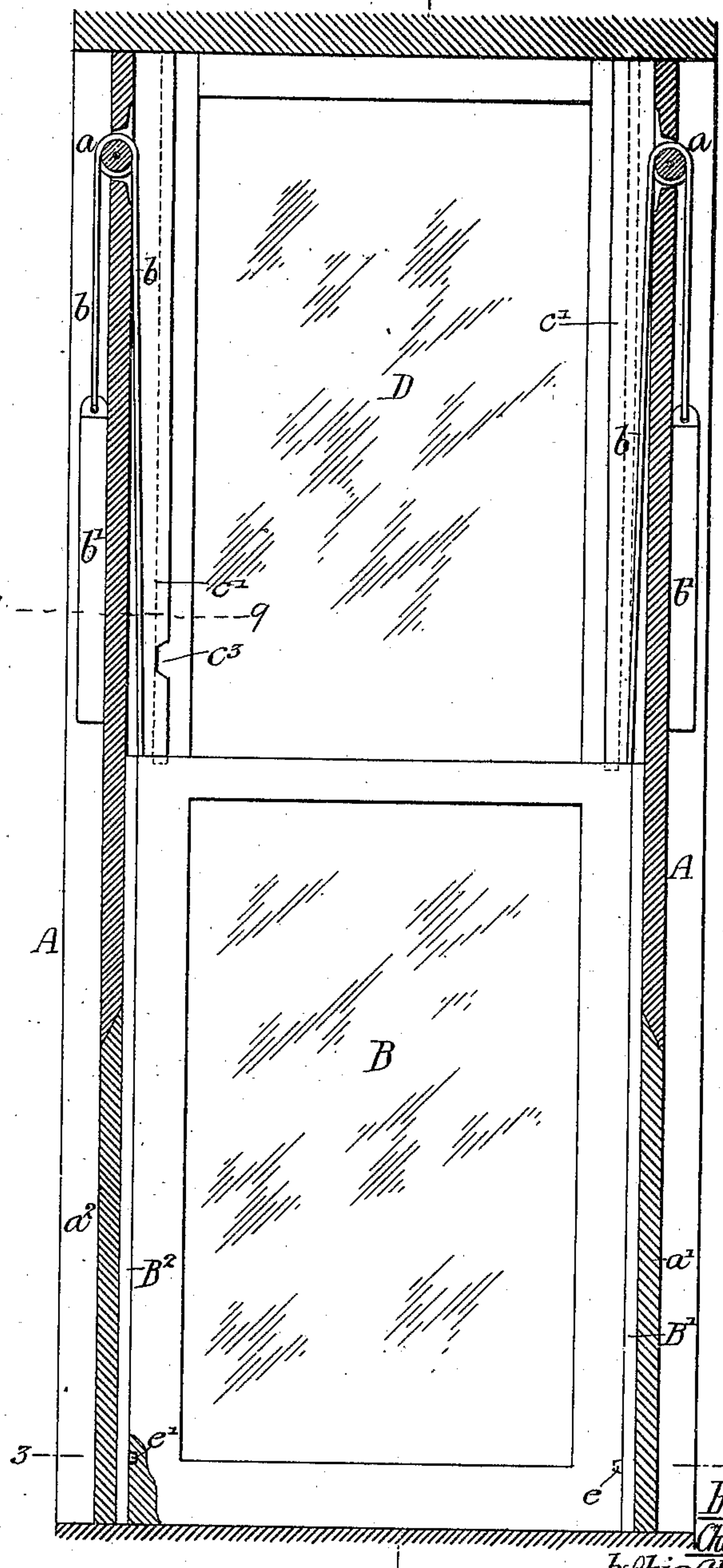
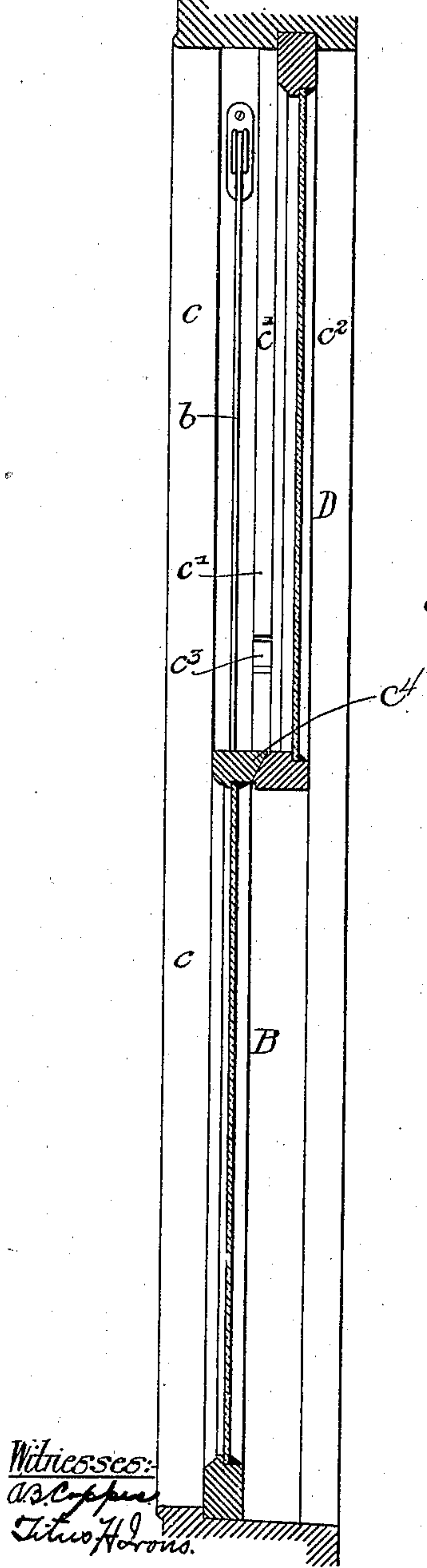
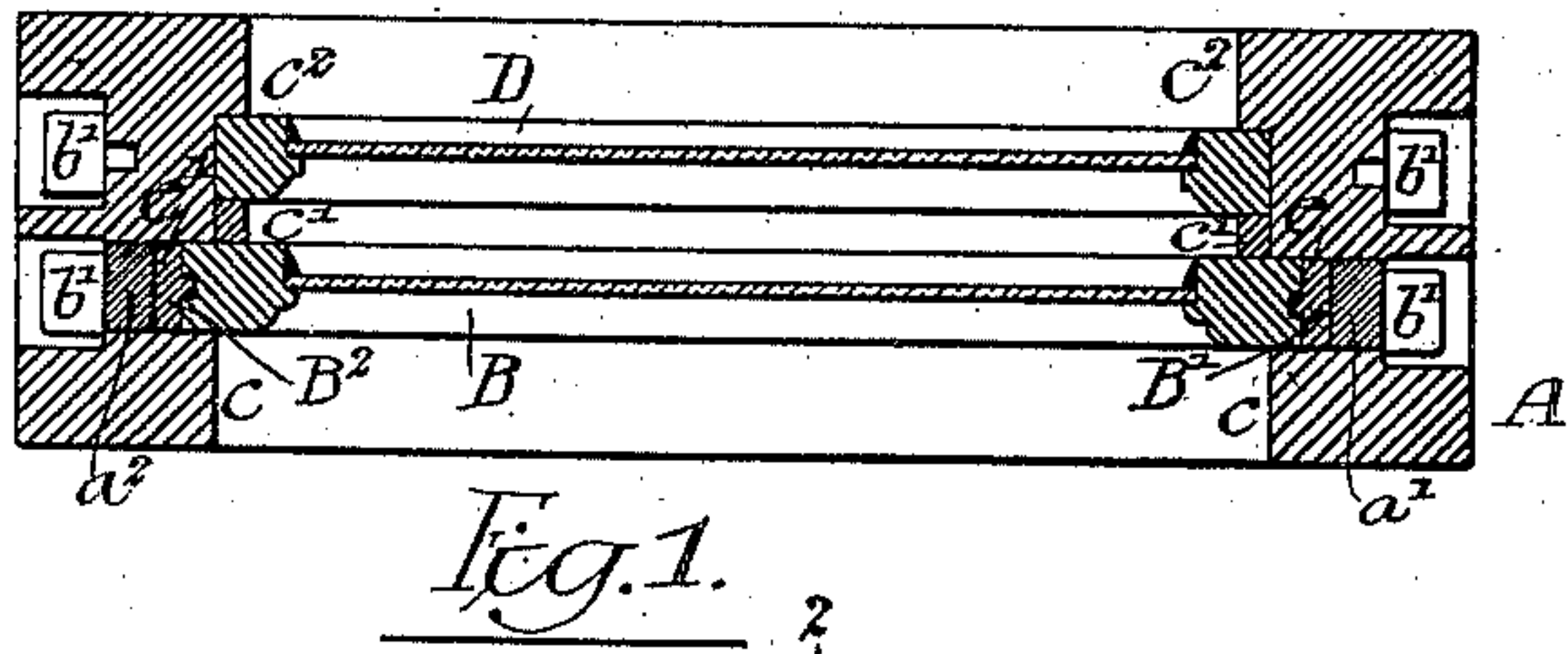
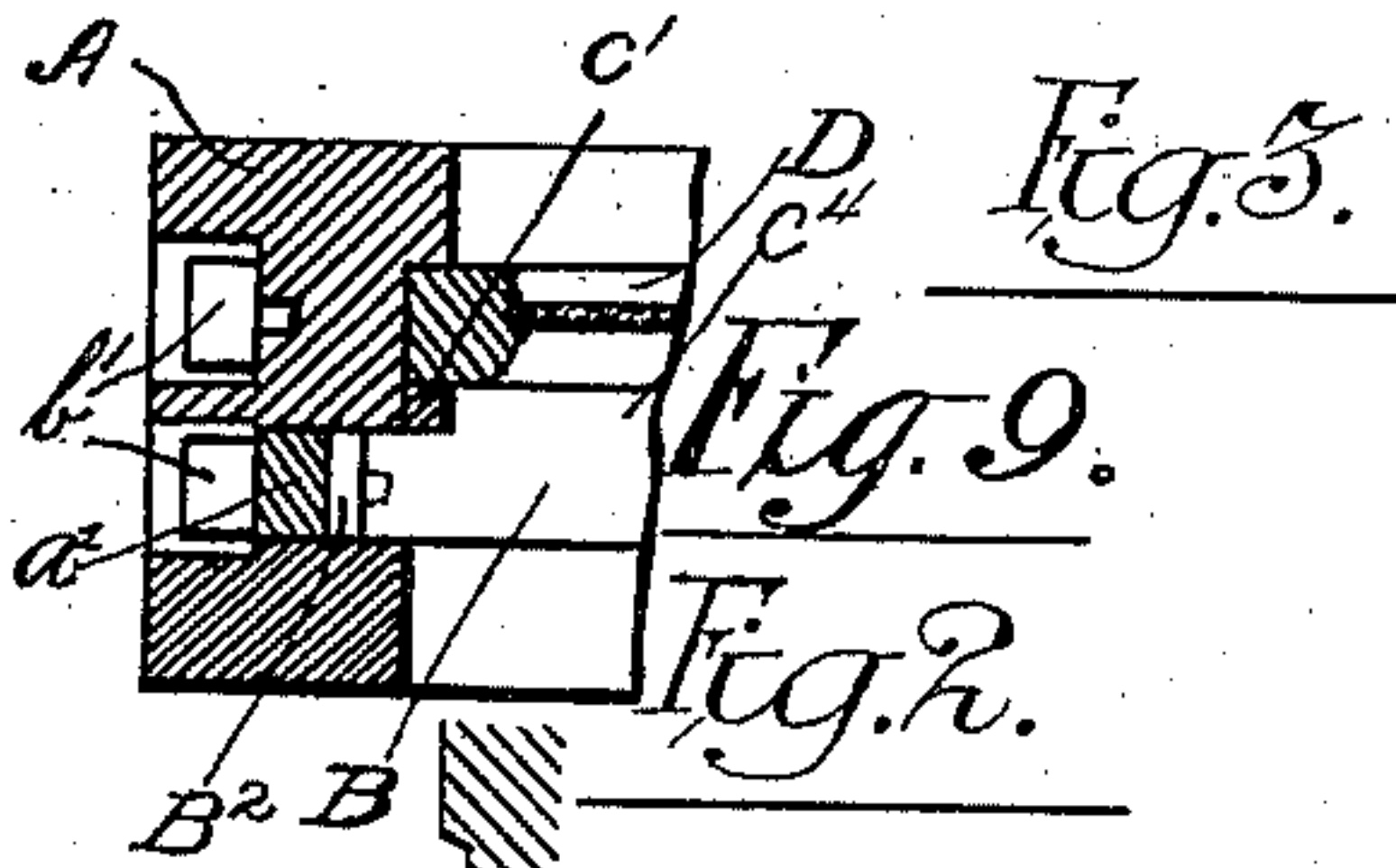
Patented Sept. 2, 1902.

C. L. WALL.  
WINDOW FRAME AND SASH.

(Application filed May 13, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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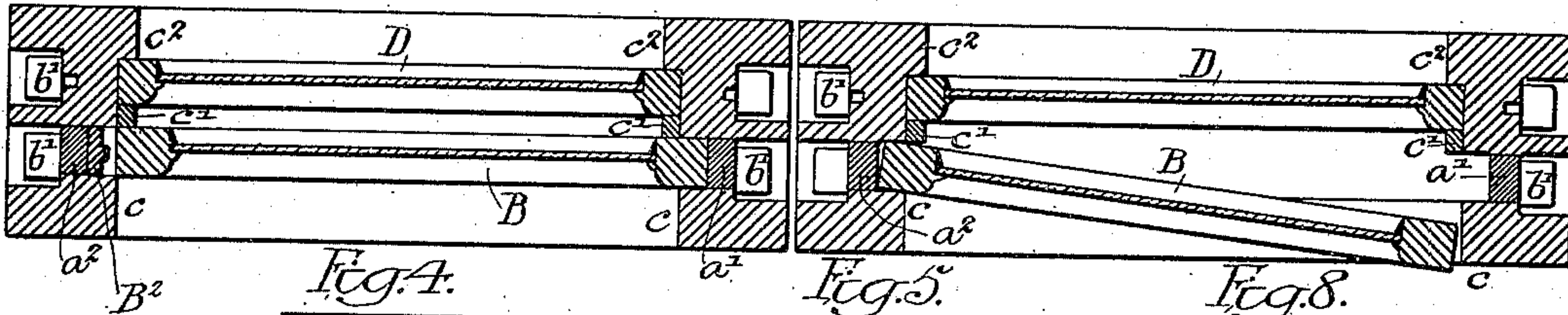
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2 Sheets—Sheet 2.

*Fig. 6.*

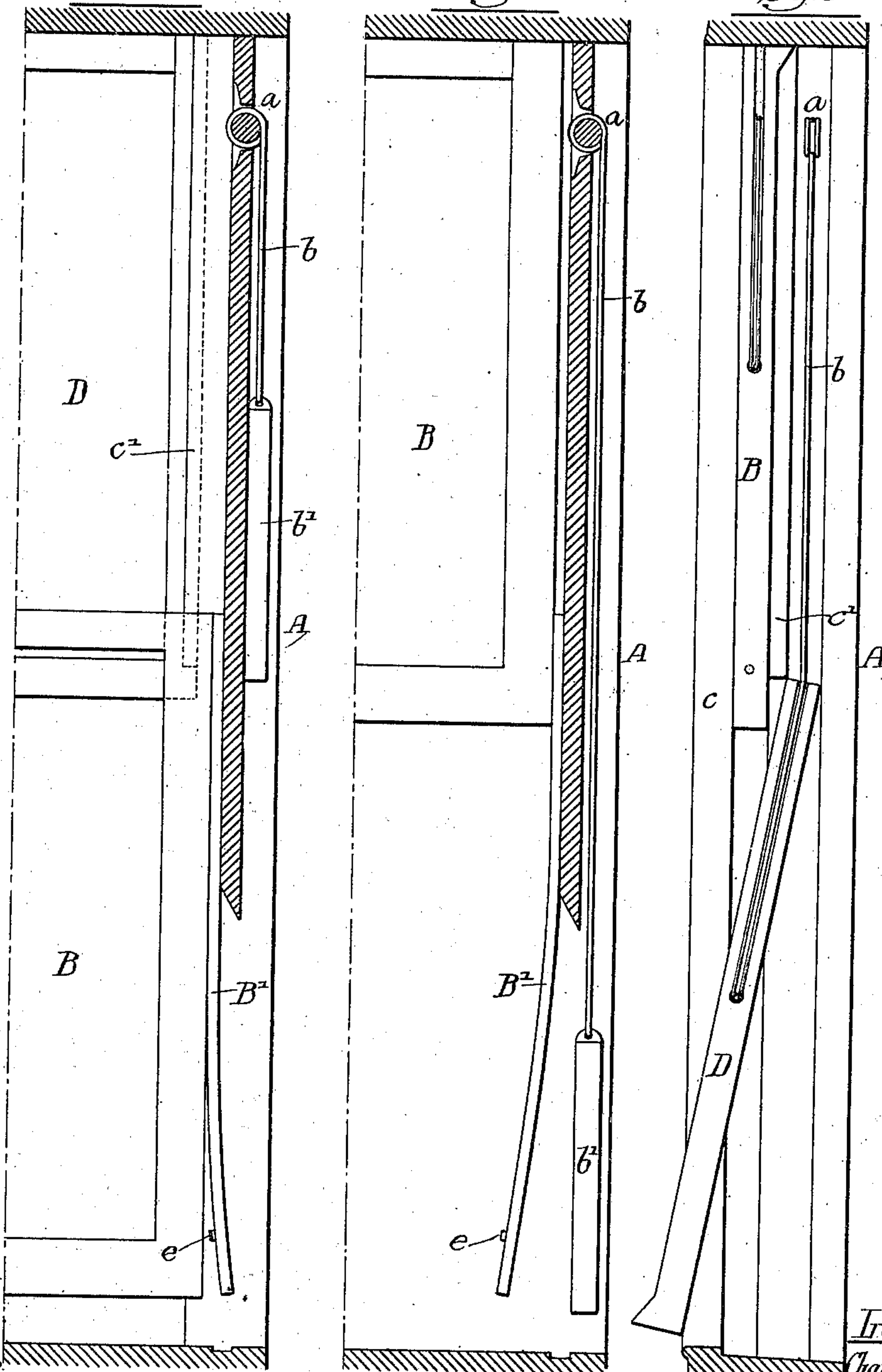
*Fig. 7.*



*Fig. 4.*

*Fig. 5.*

*Fig. 8.*



Witnesses:  
A. B. Coppel  
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Inventors  
Charles L. Wall

by his Attorneys: *Thorn & Horn*



# UNITED STATES PATENT OFFICE.

CHARLES L. WALL, OF PHILADELPHIA, PENNSYLVANIA.

## WINDOW FRAME AND SASH.

SPECIFICATION forming part of Letters Patent No. 708,430, dated September 2, 1902.

Application filed May 13, 1902. Serial No. 107,076. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES L. WALL, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain  
5 Improvements in Window Frames and Sashes, of which the following is a specification.

The object of my invention is to provide means for removing a window-sash from the frames without removing the bead or other  
10 portions of the sash that should be permanent.

In the accompanying drawings, Figure 1 is a vertical sectional view of the window frame and sash, illustrating my invention. Fig. 2 is  
15 a sectional view on the line 2 2, Fig. 1. Fig. 3 is a transverse sectional view on the line 3 3, Fig. 1, with the upper sash lowered. Figs. 4 and 5 are views of one side of the frame and sash, illustrating the method of removing the  
20 lower sash. Figs. 6 and 7 are transverse sectional views showing different steps in the process of removing the lower sash. Fig. 8 is a view showing the method of removing the upper sash; and Fig. 9 is a transverse  
25 sectional view on the line 9 9, Fig. 1, showing the detail construction of the upper member of the lower sash.

A is a window-frame of ordinary construction having two ways, one for the lower sash  
30 B and the other for the upper sash D. The lower sash has cords *b*, attached in any suitable manner, which pass over pulleys *a* and are attached to weights *b'*, while the sash D has similar cords and weights. The weights  
35 in the box can be reached by removing the pocket-pieces or covers *a'* *a''* in the ordinary manner. The frame A has facing-strips *c* on the inside, a partition-strip *c'* between the two sashes, and a bead *c''* on the outside. The  
40 usual method is to make the facing-strip *c* of the jamb detachable, so that the lower sash can be taken out. The division-strip *c'* is also made detachable for the removal of the upper sash.

45 By my invention I am enabled to make a frame having all the parts fixed, with the exception of the usual pocket-pieces or covers *a'* and *a''* for the weight-boxes.

50 In order to make the lower sash B removable, it is provided with detachable strips *B'* *B''*, one on each edge, as shown. These strips are secured to the main section by pins *e* *e'*,

respectively, which enter recesses in the sash. The combined width of these two side strips *B'* *B''* is equal to a trifle more than the overlap of  
55 the facing-strips *c* and the projection of the pins into the sash is less than the width of one of the side sections. The cords are attached to the sash and the side strips are slotted for the passage of the cords over the pulleys. 60  
When it is desired to remove the lower sash from the window-frame, all that is necessary is to first raise the sash and detach the pocket-piece *a'* on one side, so as to open the weight-  
65 box, the position of this piece being shown clearly in Fig. 1. Then the sash is lowered and the lower portion of the strip *B'* is pushed into the weight-box by the finger or by a tool until its pin *e* is clear of the opening in the sash, as  
70 shown in Fig. 4. Then the sash is pushed up, as shown in Fig. 5, and the strip *B'* drawn out from between the sash and the frame. Then the sash B is moved over against the frame, as shown in Fig. 6, so that the pin in the  
75 strip *B''* is free of the sash, so that it can be drawn down and also removed. Then the sash is preferably moved back against the frame, as shown in Fig. 7, and swung out and the entire sash drawn out, after which the  
80 weight-ropes can be detached. To replace the window-sash, all that is necessary is to first place one of the strips in position, then the sash, then slip the other strip in between the sash and the frame and allow its pin to  
85 enter the hole in the sash, after which the pocket-piece *a''* is placed in position. The division-strip *c'* does not extend the full length of the frame, but stops short, as shown in Fig. 8, and the frame on the line of the upper  
90 sash is narrower than the frame on the line of the lower sash, so that when the lower sash B is raised the full height the upper sash D can be lowered and pulled into the room, as illustrated in Fig. 8; but when the upper sash  
95 is in position it is caught by the strips in the usual manner. The partition-strip *c'* on one side of the frame is notched at *c'''* to accommodate the end of the rearwardly-projecting portion *c''* of the upper member of the lower  
100 sash when such sash is moved transversely during its removal from the frame, as set forth above and as illustrated in Fig. 7. From Fig. 9 it will be seen that the said top member of the lower sash is notched at its ends to avoid



interference with the division-strips  $c'$ , and the notch  $c^3$  permits transverse motion of said lower sash, whose top member would otherwise strike one of said division-strips when the removal of the sash was attempted. If desired, the projecting portion  $c^4$  may be still further cut away to avoid the necessity of cutting the notch in the division-piece  $c'$ .

While I have shown my invention as applied to a wooden frame and sash, it will be understood that it may be made in iron or other material without departing from my invention.

In some instances a single strip may be used on one side only of the sash. In this construction the way on the opposite side should be less in depth than the thickness of the strip, so that when the strip is removed the sash can be forced to one side and withdrawn from the frame.

I claim as my invention—

1. The combination of a window-frame having weight-boxes, guideways for the lower sash, a removable piece secured to the frame so that access may be had to said boxes, a sash having strips at each side, pins on the strips arranged to enter openings in the sash, one of said strips being of flexible material so that it can be bent to allow its pin to clear the opening in the sash and thereby

permit the removal of said strip, substantially as described.

2. The combination of a window-frame having ways formed by permanent beading, upper and lower sashes arranged to travel in said ways, the beading between the sashes extending part way down the frame, the lower sash having strips detachably secured to each side so that when one of the strips is removed the sash can be pushed to one side to allow the other strip to be removed, with an upper sash also less than the width of the frame, with counterbalancing devices for the two sashes, substantially as described.

3. The combination in a frame having ways, a beading between the upper and lower sashes, a rabbet on the lower sash extending over the lower member of the upper sash, the beading on one side of the frame between the sashes being notched for the reception of the said rabbet when the sash is raised and shifted to one side for removal, substantially as described.

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

CHARLES L. WALL.

Witnesses:

WILL. A. BARR,  
JOS. H. KLEIN.