

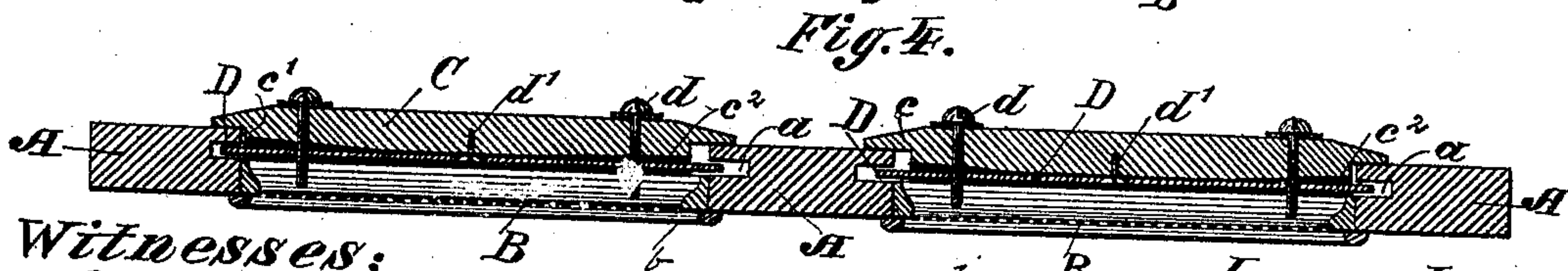
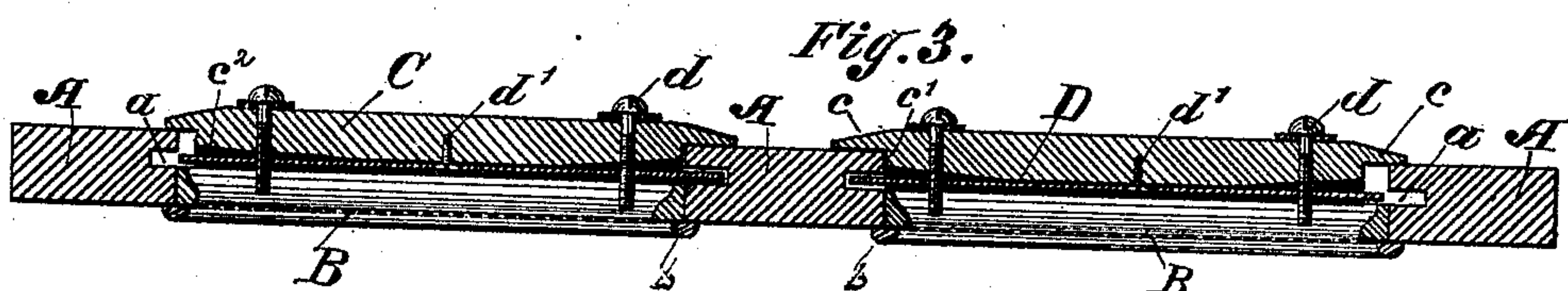
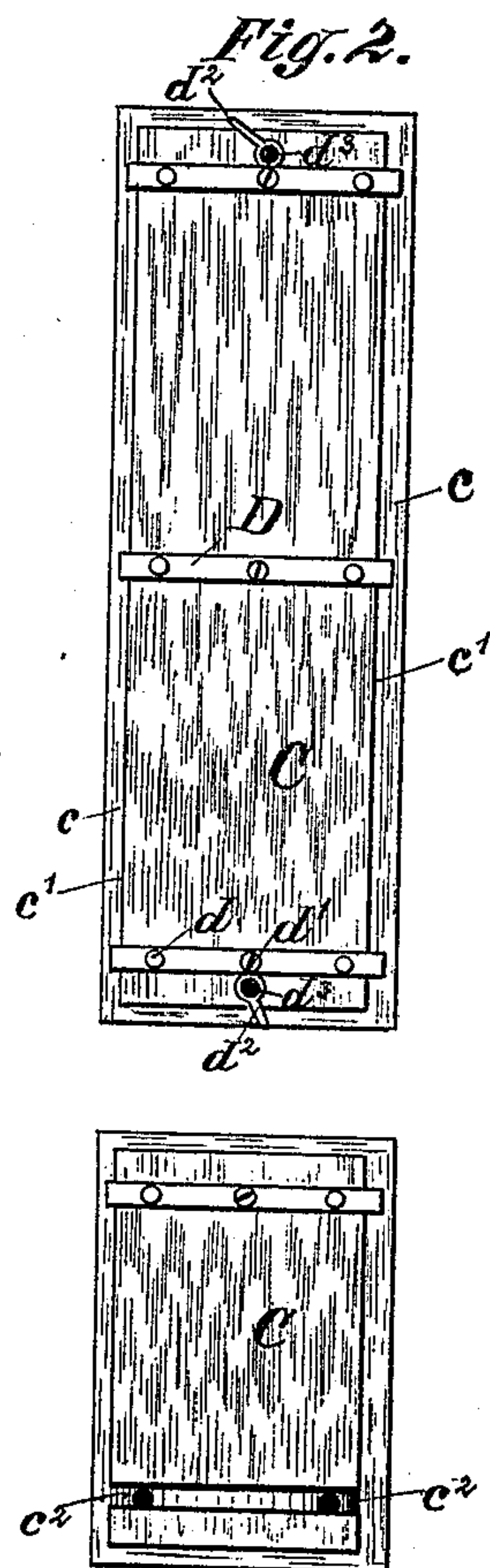
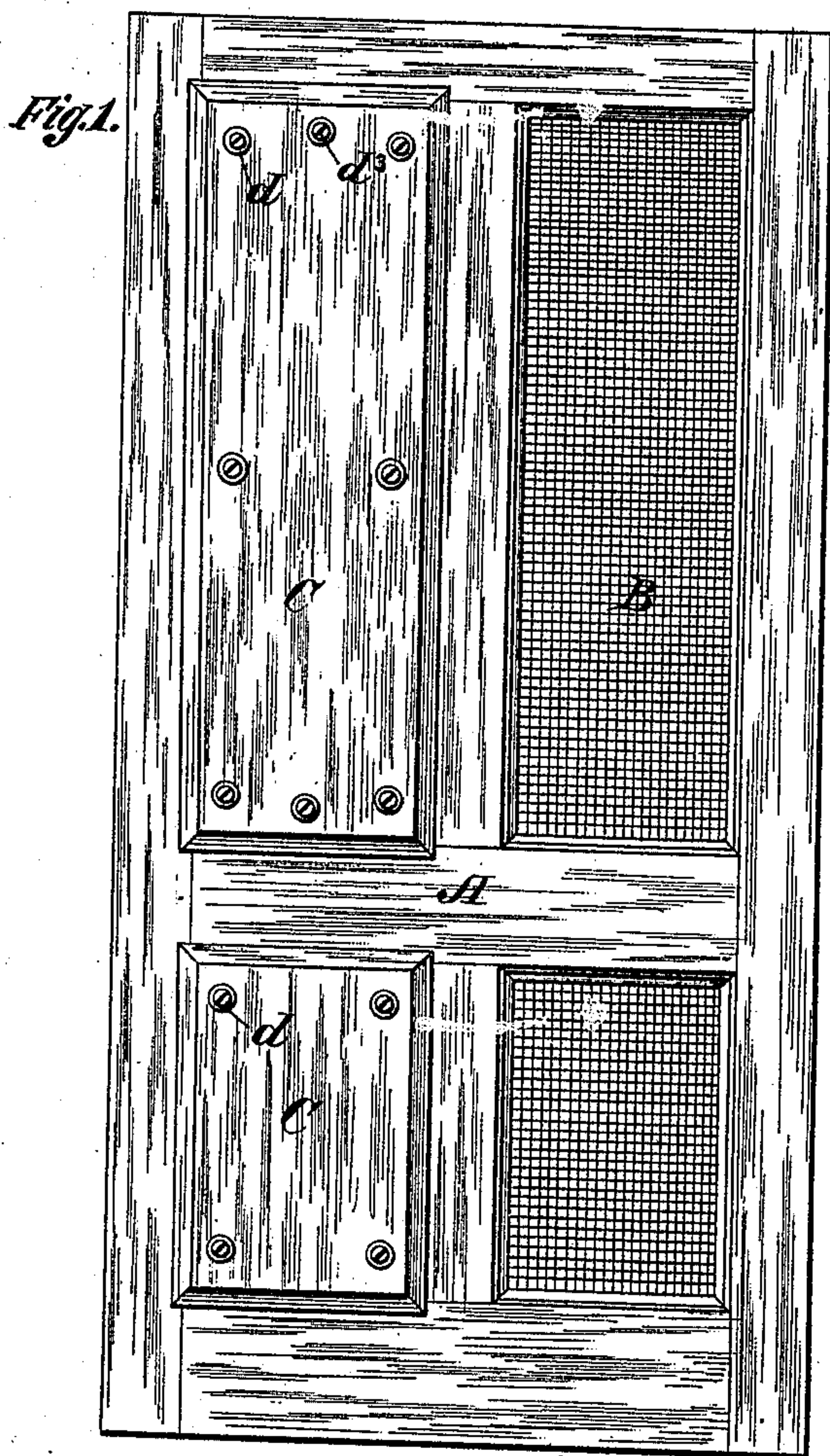
(No Model.)

C. ANDERSON.

COMBINED SCREEN AND STORM DOOR.

No. 321,936.

Patented July 14, 1885.



Witnesses:

Chas. Zauw.
A. M. Munday.

Inventor:

Charles Anderson
by Munday Everts and Adcock
his Atty.

UNITED STATES PATENT OFFICE.

CHARLES ANDERSON, OF DOWNER'S GROVE, ILL., ASSIGNOR TO CHARLES ANDERSON AND EUGENE W. FARRAR, BOTH OF SAME PLACE.

COMBINED SCREEN AND STORM DOOR.

SPECIFICATION forming part of Letters Patent No. 321,936, dated July 14, 1885.

Application filed May 16, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ANDERSON, a citizen of the United States, residing in Downer's Grove, in the county of Du Page and State of Illinois, have invented a new and useful Improvement in Combined Screen and Storm Doors, of which the following is a specification.

My invention relates to combined screen and storm doors, and more particularly to certain improvements upon the screen and storm door for which Letters Patent No. 313,844 were granted to me under date of March 17, 1885.

In my present improvement the clamps which secure the removable panels to the frame of the door consist of bars or iron strips extending entirely across the panel and projecting sufficiently beyond the inside shoulders of the panel to engage the mortises or recesses in the frame. The clamps are also secured to the panel immovably and slide therewith instead of thereon, as in my former patent. To permit this side movement of the panel for the purpose of removing and applying the same, I make the shoulders or the portion of the panel which fits in the opening in the frame somewhat narrower than said opening.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a side elevation of a door embodying my invention, showing the same with two of the removable panels applied and two removed. Fig. 2 is a back view of the removable panels, one of the clamp strips or bars being omitted. Fig. 3 is a cross-section showing the manner in which the removable panels are applied; and Fig. 4 is a similar view, showing the panels in place and in readiness for tightening the clamp-screws.

In said drawings, A represents a door-frame; B, screens secured in the panel-openings by suitable molding, *b*, and C are the removable panels. The panels have rabbets or shoulders *c* at their edges overlapping the frame around the panel-opening, and the body of the panel which fits inside the panel-opening is made slightly narrower than said opening, so as to permit the panel to move sidewise sufficiently

to release the clamps D at one side of the panel. The clamps D are preferably made of flat bars or strips of metal, and are secured to the panel by the clamp-screws *d* and the retaining-screws *d'*, the latter serving to hold the clamp-bars in place when the former are loosened. These clamp-bars should extend entirely across the panels, so as to strengthen them and prevent their warping. The ends of the clamp-bars project beyond the inside shoulders, *c'*, of the panel sufficiently to properly engage the mortises or recesses *a* in the frame. The projecting ends of the clamp-bars should be longer and the recesses *a* deeper upon one side of the panel than upon the other, as illustrated in Figs. 3 and 4, so that the panel may be readily applied and removed. The back of the panel is beveled or cut away slightly under the clamp-bars near the edges, so as to permit the clamp-screws *d* to tighten the clamps upon that portion of the frame embraced between the outer edges or shoulders, *c*, of the panel and the clamps D. This beveled surface is conveniently made by cutting gradually-deepening grooves *c''* across the back of the panel, near the edges of the same. As an additional security, at the ends of the panels, especially when they are very wide, I provide revolving catches or clamps *d''*, riveted or rigidly secured to the screws *d''*, which extend through the panel, so that by partially turning said screws the clamps *d''* may be made to engage suitable recesses in the frame. These revolving clamps will, however, ordinarily not be required, as the clamp-bars D so strengthen and brace the panel that there is little danger of its warping or getting out of shape, whatever its width.

The preferable mode of practicing my invention is, as above described, to secure the clamp-bars permanently and rigidly to the panels, so that by simply loosening the clamp-screws and sliding the panel to one side it may be removed; but it is obvious that by taking the clamp-screws *d* entirely out the clamp-bars D may be first put in place across the panel-opening, and the panel then applied and secured in place by the clamp-screws. In this construction the body of the panel may of course be made the full width of the panel-opening. It should be remarked that in this

construction the retaining-screws d' would of course be omitted.

I claim—

1. The combination of door-frame A with
5 screens B, removable panels C, having the
body portions thereof narrower than the panel-openings in said frame, and clamps D, immovably attached to said panels for securing
said panels to said frame, substantially as
10 specified.

2. The combination of door-frame A with
screens B, removable panels C, and clamp-bars
D, extending across said panels and engaging
in mortises or recesses in said frame, substan-
15 tially as specified.

3. The combination of door-frame A, provided with mortises or recesses a , with screens
B, removable panels C, and clamp-bars D,

having clamp-screws d , substantially as specified.

4. The combination, with door-frame A,
having recesses a , of screens B, clamp-bars D,
extending across the panel-openings in said
frame and engaging said recesses, removable
panels C, having inclined or beveled surfaces
25 near its edges under said clamp-bars, and
clamp-screws d , substantially as specified.

5. The combination of frame A, having recesses
 a , with screens B, clamp-bars D, removable
panels C, clamp-screws d , and re-
volving clamps $d^2 d^3$, substantially as specified.
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CHARLES ANDERSON.

Witnesses:

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