

No. 667,288.

Patented Feb. 5, 1901.

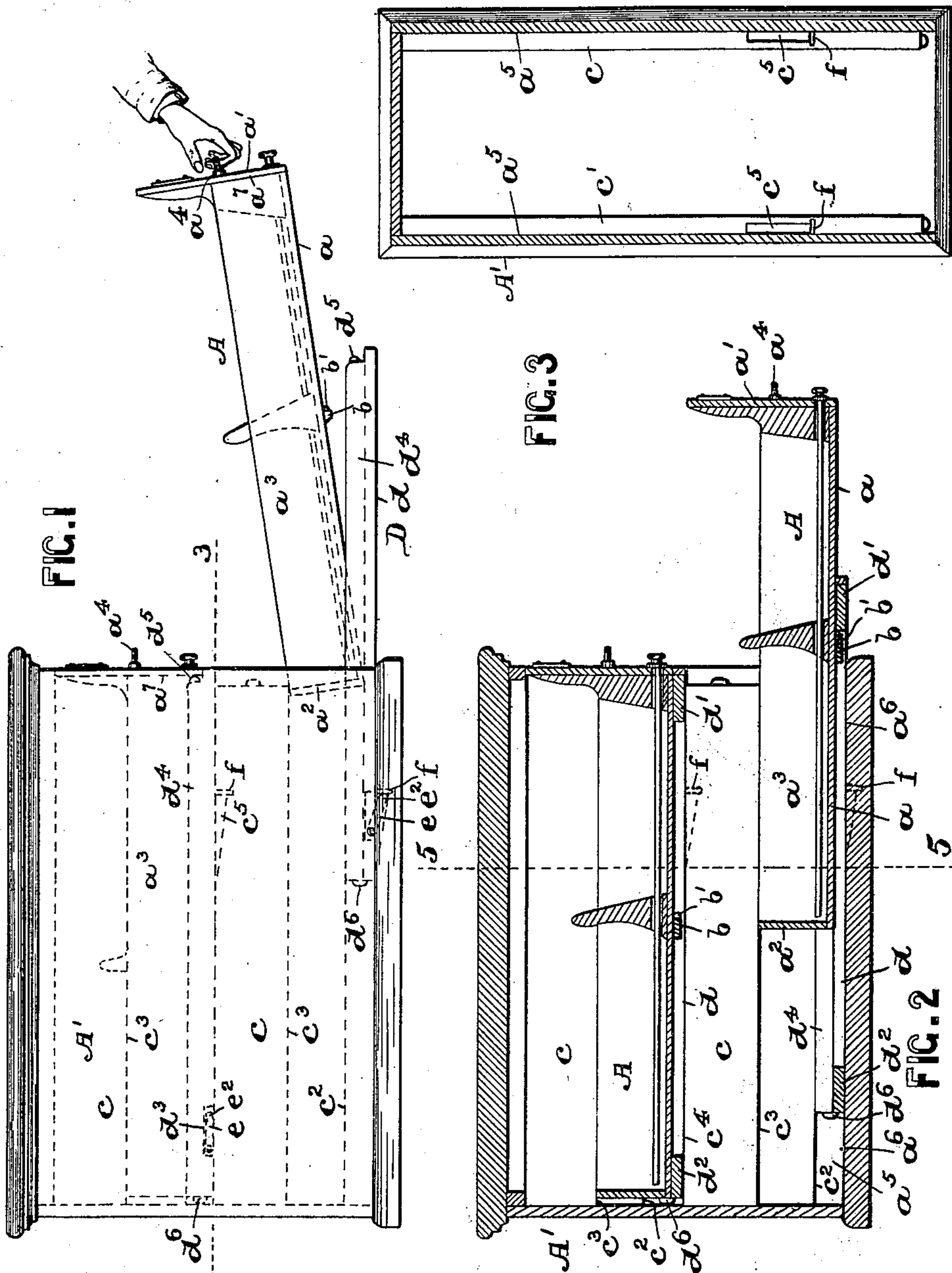
E. J. BEIN.

EXTENSION SLIDE FOR DRAWERS OF CABINETS, &c.

(Application filed June 8, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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Marcy Z. Trusdel

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BY

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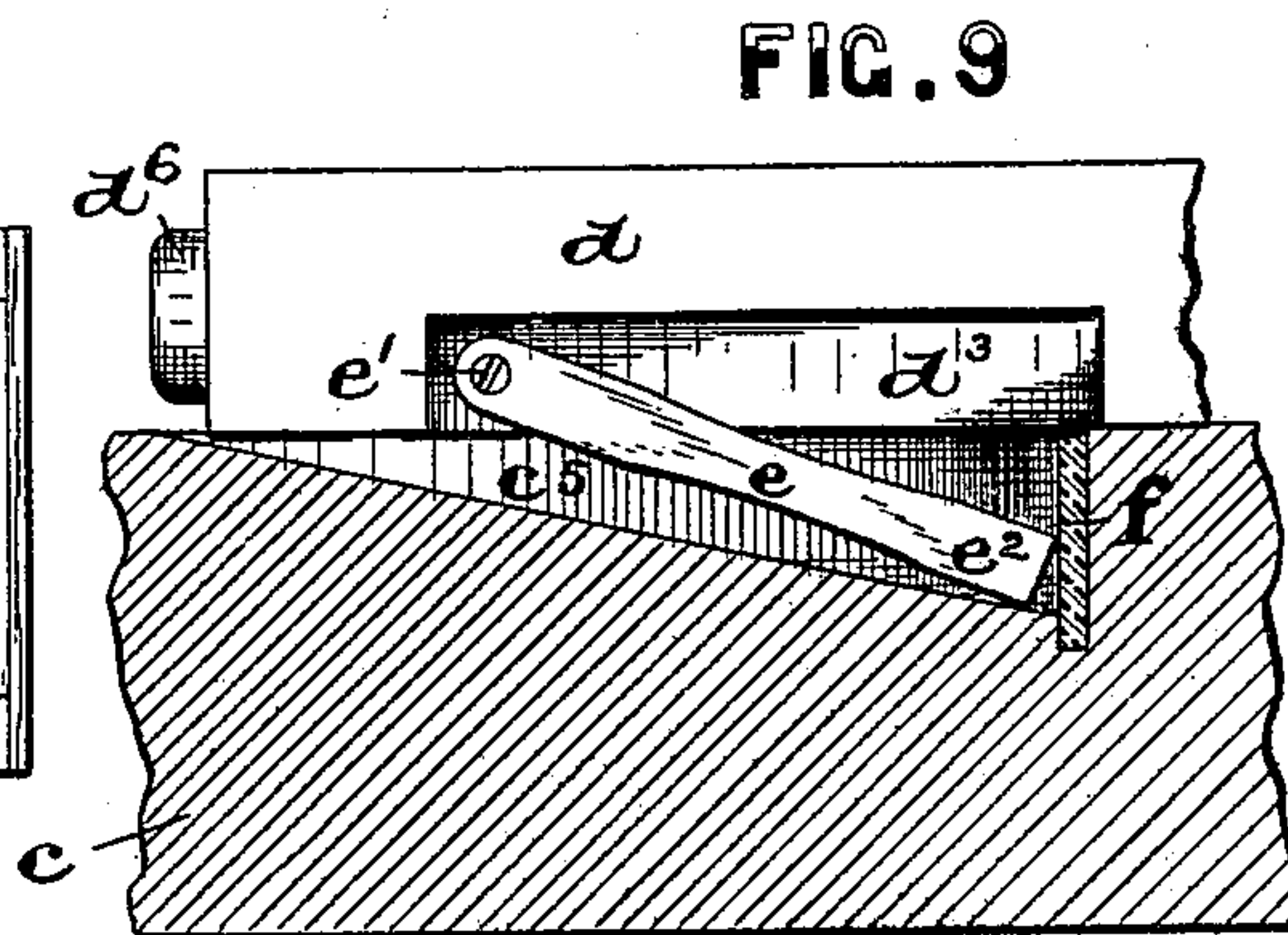
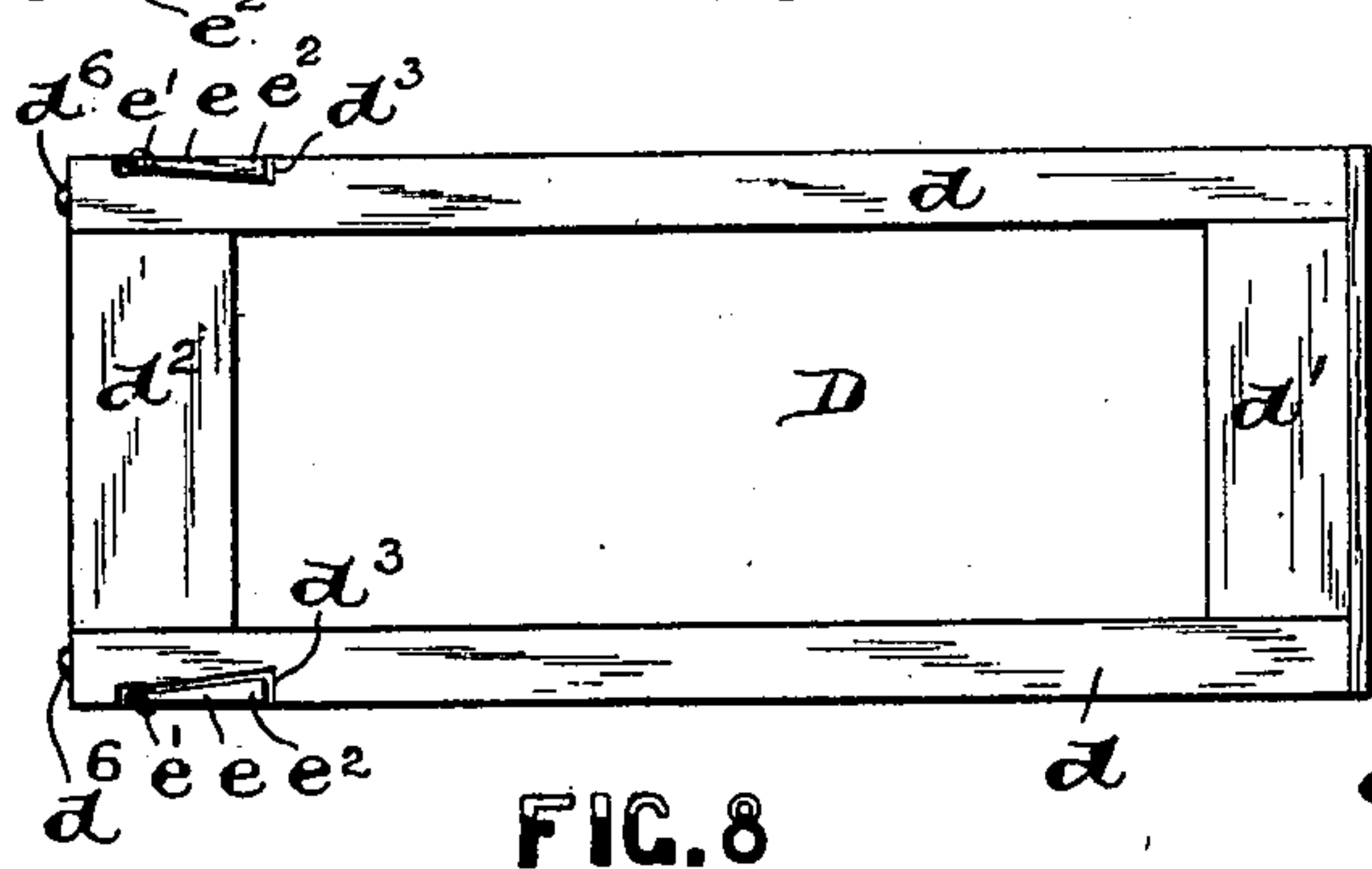
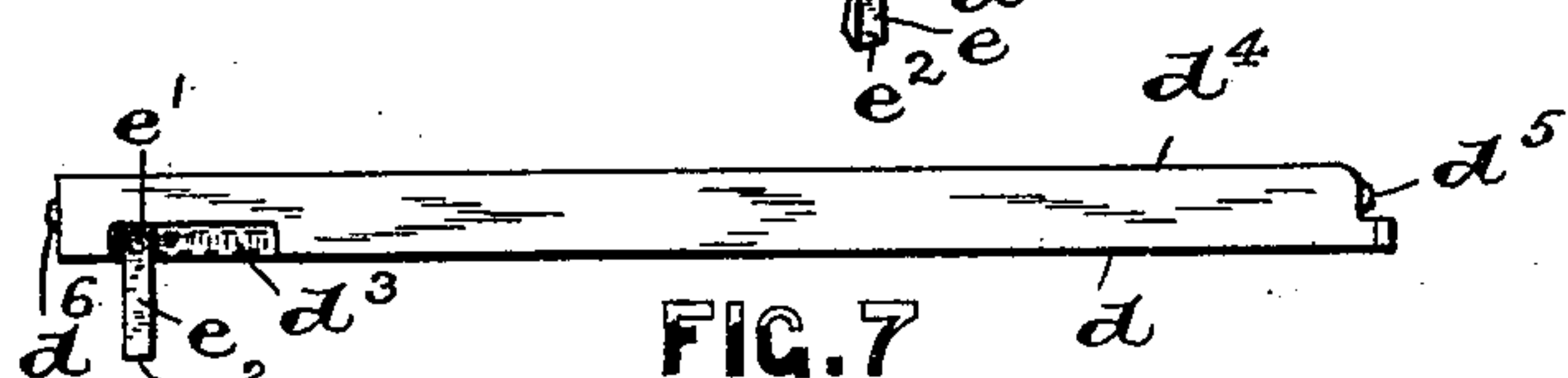
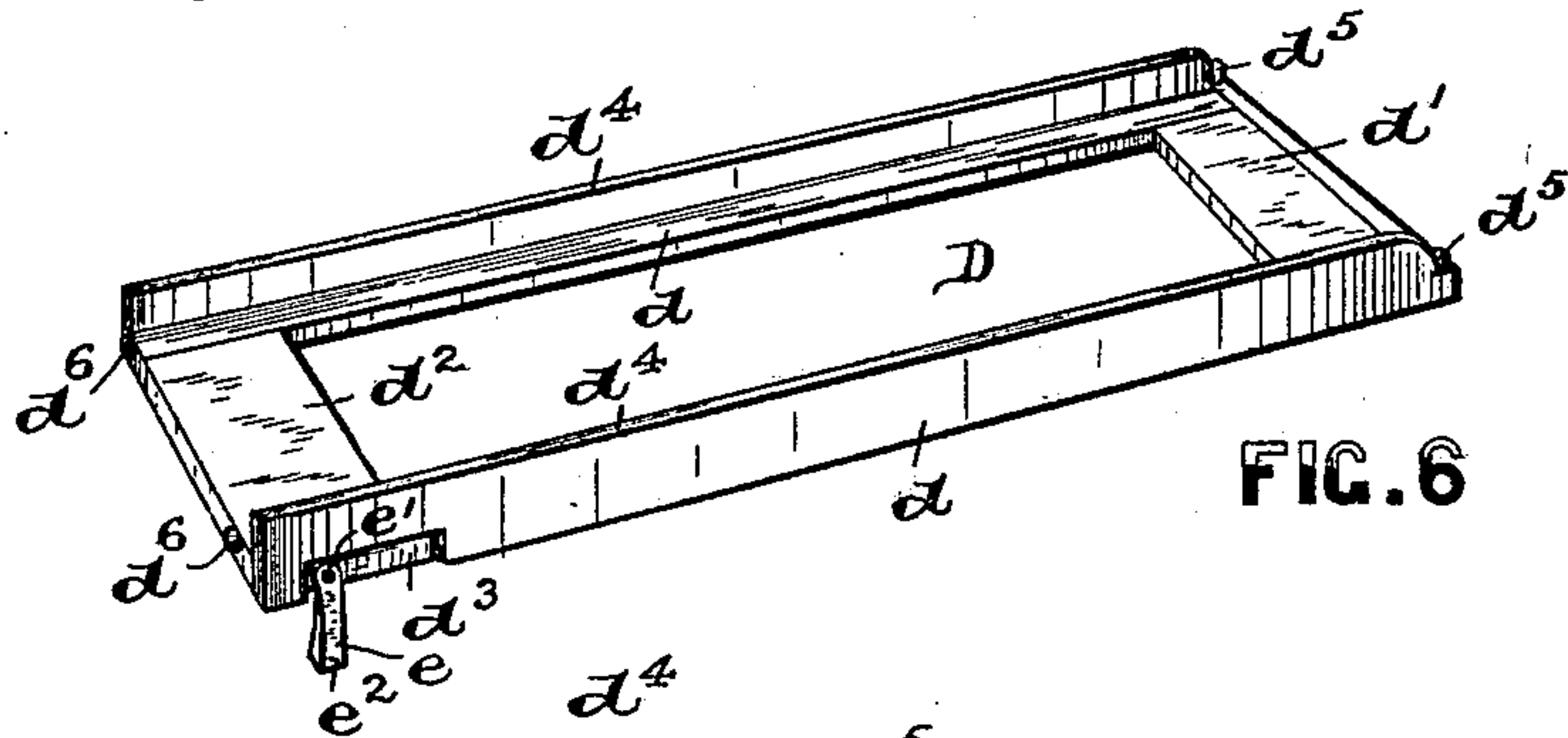
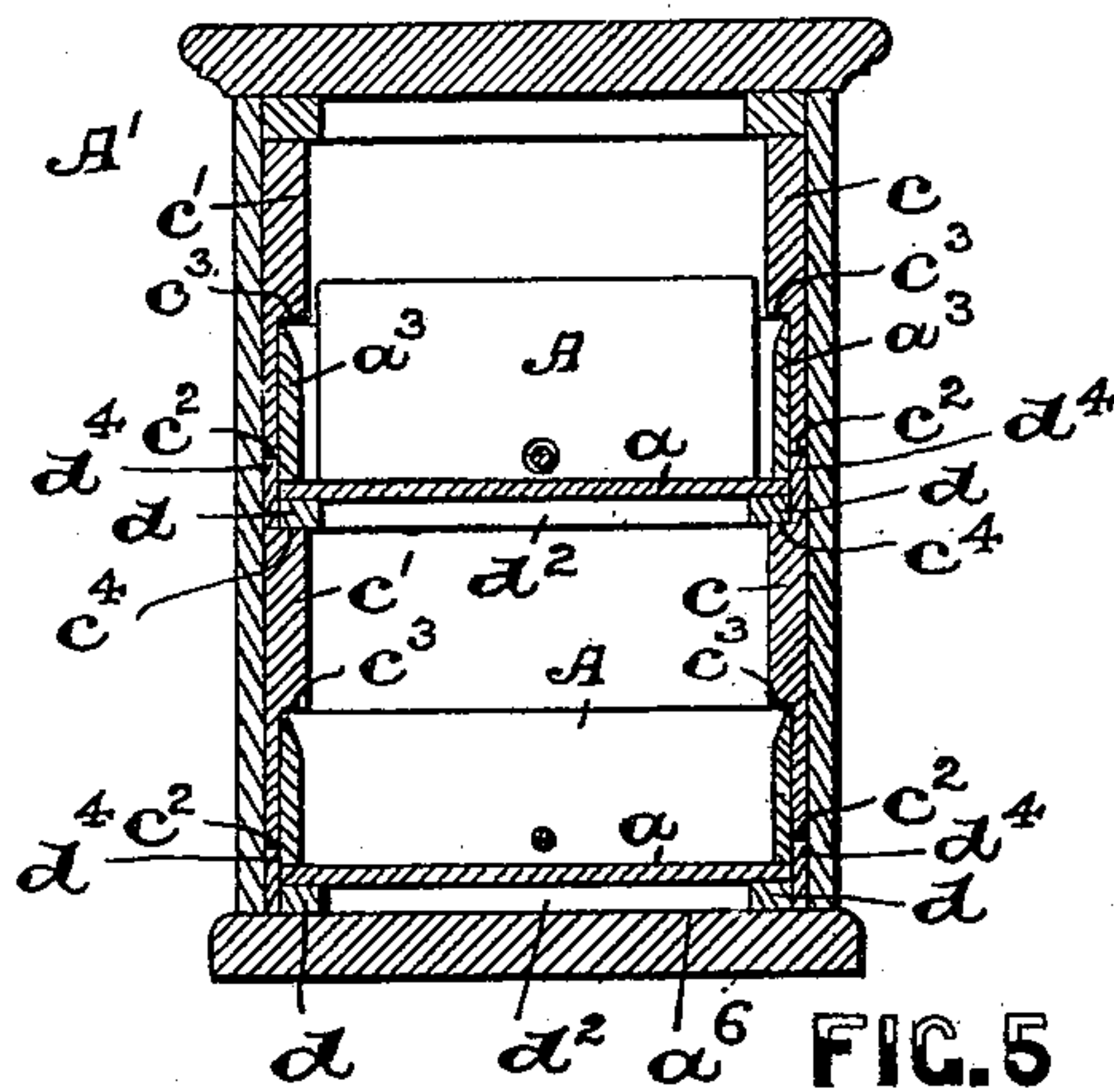
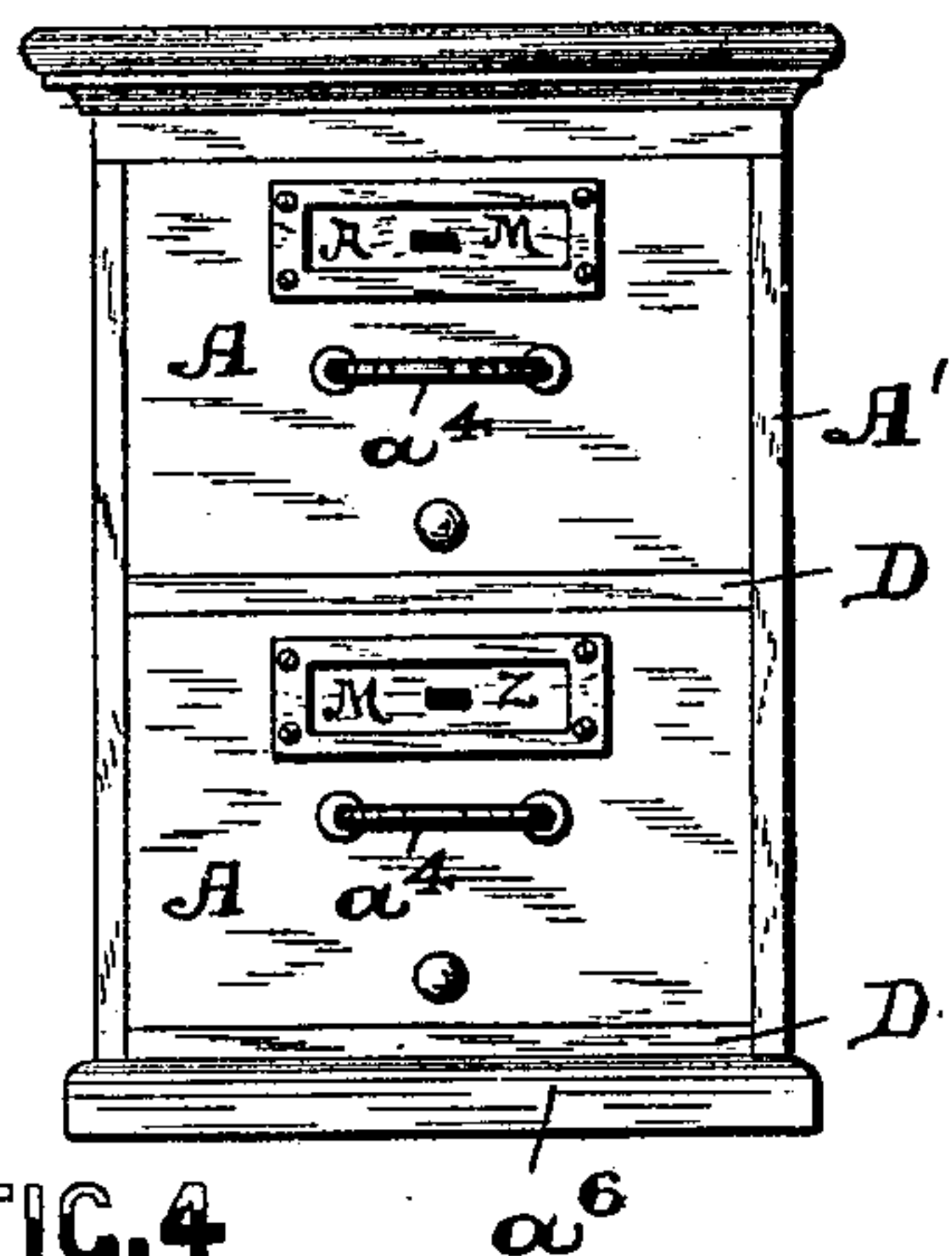
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2 Sheets—Sheet 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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EXTENSION-SLIDE FOR DRAWERS OF CABINETS, &c.

SPECIFICATION forming part of Letters Patent No. 667,288, dated February 5, 1901.

Application filed June 8, 1900. Serial No. 19,500. (No model.)

To all whom it may concern:

Be it known that I, EMILE J. BEIN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Extension-Slides for Drawers of Cabinets, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has reference to a novel construction and arrangement of drawer and extension slide or support therefor to be employed with book-cases, desks, card-index cabinets, and other similar furniture; and the invention has for its primary object to provide a novel construction of extension-slide which is operated when the drawer is pulled out and acts as a support to carry the full weight of the drawer when drawn out, and, furthermore, to prevent the sagging of the drawer and to permit of the drawer being pulled out to its fullest extent without the sagging thereof, and also to permit of the entire removal of the drawer from the piece of furniture.

A further object of this invention is to provide a simple and operative means which acts as a support to the drawer when fully pulled out, and thereby prevents any undue strain upon the cabinet or upon the drawer other than the strain usually exerted upon the drawer when it is withdrawn but half its length from within the cabinet.

A further object of the invention is to provide, in combination with a drawer and an extension slide or shelf, a means connected with the same to prevent the drawer from being accidentally pulled entirely from the frame of the cabinet and also to avoid the upward displacement of the drawer while the drawer is being pulled out, but said means being so constructed and arranged that when the drawer and the extension slide or shelf have been pulled out to the fullest extent then the drawer can be lifted from its position upon the slide or shelf and can be entirely removed from the frame of the cabinet or other piece or furniture.

This invention therefore consists in the novel arrangement and combination of a drawer and movable extension slide or shelf therebeneath for the several purposes above stated and also in the novel arrangement and construction of guide-rails provided with shoulders beneath which portions of the extension slide or shelf and portions of the drawer on said slide are in independent sliding contact to prevent vertical displacement and any undue strain upon the several parts.

The invention consists, furthermore, in other novel arrangements and combinations of parts and the details of the construction thereof, all of which will be fully described in the accompanying specification and finally embodied in the clauses of the claim.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my novel form of drawer and extension slide or shelf as applied to one construction of cabinet, such as a card-index cabinet, representing the slide and drawer partly drawn out. Fig. 2 is a longitudinal vertical section of the same, illustrating more clearly the novel arrangement and construction of the drawer and the extension slide or shelf; and Fig. 3 is a horizontal section of the cabinet-frame, taken on line 3 3 in said Fig. 1, with the extension slide or shelf and the drawer omitted from this view. Fig. 4 is a front elevation of the cabinet represented in said Figs. 1 and 2, illustrating the extension slide or shelf and the drawer in their closed positions; and Fig. 5 is a vertical cross-section taken on line 5 5 in Fig. 2, illustrating the arrangement of the extension slides or shelves in position on the guide-rails; and the drawers on said extension-slides, the guide-rails being constructed to prevent the upward displacement of the drawers and extension-slides when operated. Fig. 6 is a perspective view of the extension slide or shelf. Fig. 7 is a side view of the same, and Fig. 8 is a bottom view of said extension slide or shelf. Fig. 9 is a detail view illustrating in side elevation a portion of the extension-slide and a pivoted stop lever or dog connected with said slide and in vertical section a portion of one of the guide-rails, having a depression or recess therein into which said stop lever or dog can drop to limit the forward-sliding motion of

the extension slide or shelf, and thereby prevent its accidental withdrawal from the cabinet.

Similar letters of reference are employed in all of the said above-described views to indicate corresponding parts.

In said drawings, A indicates a suitable drawer such as is used in any desirable construction of cabinet-frame A' of a bookcase, desk, card-index cabinet, or the like. This drawer A comprises a base a , front a' , back a^2 , and sides a^3 , and the front may be provided with any usual construction of pull-piece or knob, as a^4 . The upper edges of the sides a^3 are preferably chamfered, as shown in Figs. 2 and 5, to avoid the sharp corners at the edges of the sides, which are apt to cut the hands of a person handling the cards or other matter stored in the drawer. Secured at a suitable distance from the front a' and directly upon the under side of the base a of the drawer, as indicated in Figs. 2 and 4, is a stop b , which may be made of any desirable material and which is provided with one or more forwardly-projecting bumpers b' , of rubber or other material of a like character.

As will be seen from an inspection of Figs. 2 and 5, I have suitably secured against the inner sides a^5 of the cabinet-frame A' guide-rails c and c' . Each guide-rail is cut away to form shoulders c^2 and c^3 , arranged one above the other and the shoulder c^3 extending farther toward the center of the cabinet than the shoulder c^2 . Slidably arranged upon the base a^6 of the cabinet-frame A' or upon the upper surfaces c^4 of each pair of guide-rails within the cabinet above said base is an extension slide or support D. The said extension slide or shelf D is illustrated more particularly in Figs. 6, 7, and 8 and consists, essentially, of a suitable frame or shelf part, usually comprising a pair of side strips d , a front strip d' , and a back end strip d^2 , a portion of each side strip d being cut away at or near the rear end of the slide to form longitudinal recesses or depressions d^3 . Into these recessed portions d^3 I have fitted and pivotally secured therein, by means of screws or pins e' , stop levers or dogs e , having their lower ends e^2 resting in sliding engagement upon the upper surfaces c^4 of the guide-rails, or in case of the lower extension-slide upon the upper surface of the base of the cabinet-frame. Said pivoted stop levers or dogs e are arranged at a desired distance from the front of the extension-slide, and their ends e^2 will slide lightly over the surface of the guide-rail or the base of the cabinet, so as not to interfere with the forward and backward sliding motion of the extension-slide; but said ends e^2 of said levers or dogs e will serve as stops and will limit the forward motion of the slide or shelf D when brought in contact with a soft-rubber cushion or stop f in a depression or recess c^5 in the guide-rails, as illustrated in Fig. 9, or in a similar depression in the base of the cabinet directly above the

lowest extension slide or shelf, as will be clearly evident from an inspection of the several figures of the drawings. Each extension slide or shelf also has the upwardly-extending side portions d^4 arranged directly upon the side strips d , which extend beneath the shoulders c^2 of the guide-rails, and while permitting the longitudinal sliding movement of the extension-slide upon said guide-rails said shoulders c^2 will prevent all vertical displacement of the slide or shelf D when partly drawn from or while being withdrawn from within the cabinet-frame. The drawer or drawers A hereinabove described are slidably arranged upon said extension-slides, upon the side strips d thereof, and between the said upwardly-extending portions d^4 , and the upper edges of each drawer slide directly beneath the shoulders c^3 of the guide-rails. Thus any upward displacement of the drawer upon the extension slide or shelf D will be impossible while being withdrawn from its closed position within the cabinet-frame, and the drawer cannot be removed from the extension-slide until drawn out its entire length from within the cabinet-frame, as indicated in Fig. 1 of the drawings. When in this position, the drawer can be removed from its sliding position upon the extension-shelf, can be carried about, or it can be placed directly across the extension slide or shelf, which in that case acts as a support.

From an inspection of Fig. 2 of the drawings it will be seen that when the drawer A is pulled forward the bumper or bumpers b' of the stop-piece b are soon brought to operative contact with the inner surface of the front strip d' of the extension slide or shelf D, whereby the latter moves with the drawer A until the ends e^2 of the stop levers or dogs e drop into the depressions or recesses c^5 , hereinabove mentioned, and come in engagement with the soft-rubber stops f therein. The further forward movement of the extension-slide and the drawer is thereby stopped, the position of the slide or shelf D being such that it projects partially from the front of the cabinet-frame A', while the drawer A has been pulled out to its fullest extent. In these positions the arrangement of the parts is such that the slide or shelf D carries the full support of the drawer, and the latter is not liable to displacement either forwardly or upwardly, as the arrangement of the parts entirely prevents such displacement. Furthermore, there will be no sagging of the drawer, as the partially-withdrawn slide or shelf fully supports the drawer, and when the drawer is fully drawn out said support, being in engagement with the shoulders c^2 of the guide-rails, avoids the strain upon the cabinet or the drawer other than the ordinary strain of a drawer which is drawn out only half-way.

To return the extension slide or shelf D to its original position in the cabinet-frame, the drawer A is pushed in, which brings the sur-

rounding edge a^7 of the front of the drawer (see Fig. 1) against a soft-rubber cushion d^5 on the front edge of each side portion d^4 of the slide or shelf D, and both the drawer A and the slide or shelf D are then returned to their former positions within the cabinet-frame, the inward or return movement of the slide or shelf being limited by the soft-rubber stops d^6 at the rear of the back end strips d^2 .

When it is desired to entirely remove the drawer A from within the cabinet-frame, all that is necessary is to pull the drawer A and extension slide or shelf D out as far as possible, which clears the edges of the sides of the drawer from the shoulders c^2 of the guide-rails, and the drawer A can then be raised at the front and entirely removed from the frame of the cabinet or other piece of furniture, as will be understood.

By my novel arrangement of slide or shelf and the drawer slidably arranged thereon I obtain the full capacity of the drawer with a minimum space between the vertical arrangement of several drawers, and hence there will be a great saving of space and economy in the use of the material of which the cabinet is made.

I am aware that changes may be made in the several arrangements and combinations of the parts, as well as in the details of the construction thereof, without departing from the scope of my invention. Hence I do not limit my invention to the exact arrangements and combinations of the various parts as described in the hereinabove specification and as illustrated in the drawings, nor do I confine myself to the exact details of the construction of the several parts.

Having thus described my invention, what I claim is—

1. In a cabinet, desk, or the like, the combination, with the frame thereof, and guide-rails in said frame, provided with shoulders c^2 and c^3 , of an extension slide or shelf slidably arranged on said guide-rails, upwardly-extending side pieces on said slide or shelf, extending directly beneath said shoulders c^2 to prevent upward displacement of said slide or shelf, a drawer slidably arranged on said slide or shelf between said upwardly-extending side pieces, and the upper edges of the sides of said drawer extending directly beneath said shoulders c^3 to prevent upward displacement of said drawer, and means on said slide or shelf to limit the forward movement of said slide or shelf, substantially as and for the purposes set forth.

2. In a cabinet, desk, or the like, the combination, with the frame thereof, and guide-rails in said frame provided with shoulders c^2 and c^3 , said guide-rails having recesses or depressions forming stops, of an extension slide or shelf slidably arranged on said guide-rails, upwardly-extending side pieces on said slide or shelf, extending directly beneath said

shoulders c^2 to prevent upward displacement of said slide or shelf, a drawer slidably arranged on said slide or shelf between said upwardly-extending side pieces, and the upper edges of the sides of said drawer extending directly beneath said shoulders c^3 to prevent upward displacement of said drawer, and pivoted stop-levers or dogs on said slide or shelf arranged to slide on said guide-rails and engage with said stops, to limit the forward movement of said slide or shelf, substantially as and for the purposes set forth.

3. In a cabinet, desk, or the like, the combination, with the frame thereof, and guide-rails in said frame, provided with shoulders c^2 and c^3 , of an extension slide or shelf slidably arranged on said guide-rails, upwardly-extending side pieces on said slide or shelf, extending directly beneath said shoulders c^2 to prevent upward displacement of said slide or shelf, a drawer slidably arranged on said slide or shelf between said upwardly-extending side pieces, and the upper edges of the sides of said drawer extending directly beneath said shoulders c^3 to prevent upward displacement of said drawer, means on said slide or shelf and said drawer adapted to be brought in engagement, whereby a forward movement of the drawer causes a similar movement of the slide or shelf, and means on said slide or shelf to limit the forward movement of said slide or shelf, substantially as and for the purposes set forth.

4. In a cabinet, desk, or the like, the combination, with the frame thereof, and guide-rails in said frame provided with shoulders c^2 and c^3 , said guide-rails having recesses or depressions forming stops, of an extension slide or shelf slidably arranged on said guide-rails, upwardly-extending side pieces on said slide or shelf, extending directly beneath said shoulders c^2 to prevent upward displacement of said slide or shelf, a drawer slidably arranged on said slide or shelf between said upwardly-extending side pieces, and the upper edges of the sides of said drawer extending directly beneath said shoulders c^3 to prevent upward displacement of said drawer, means on said slide or shelf and said drawer adapted to be brought in engagement, whereby a forward movement of the drawer causes a similar movement of the slide or shelf, and pivoted stop-levers or dogs on said slide or shelf arranged to slide on said guide-rails and engage with said stops, to limit the forward movement of said slide or shelf, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 6th day of June, 1900.

EMILE J. BEIN.

Witnesses:

FREDK. C. FRAENTZEL,
GEO. D. RICHARDS.