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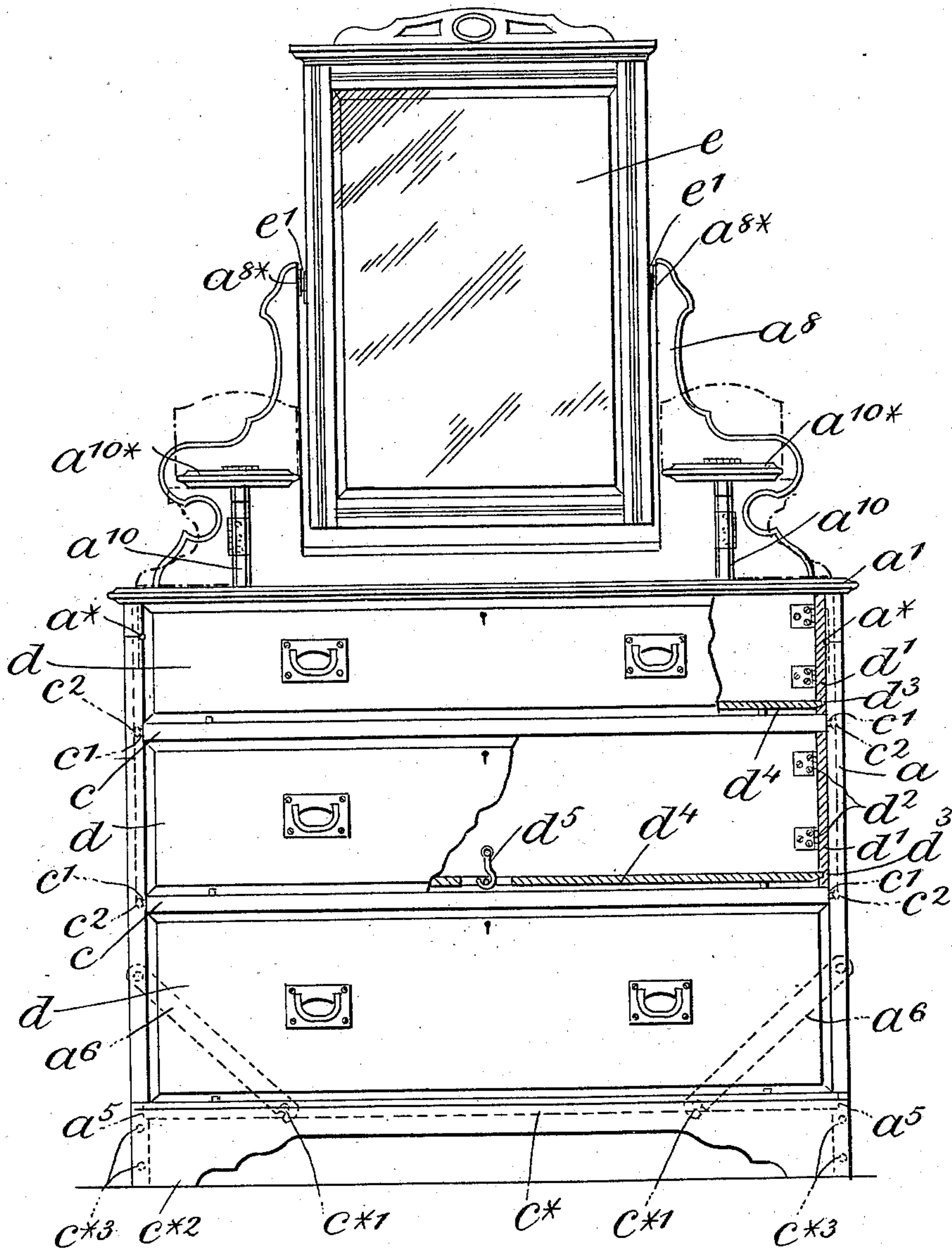
6 Sheets—Sheet 1.

W. H. VAUGHAN.
COLLAPSIBLE FURNITURE.

No. 558,865.

Patented Apr. 21, 1896.

Fig. 1.



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(No Model.)

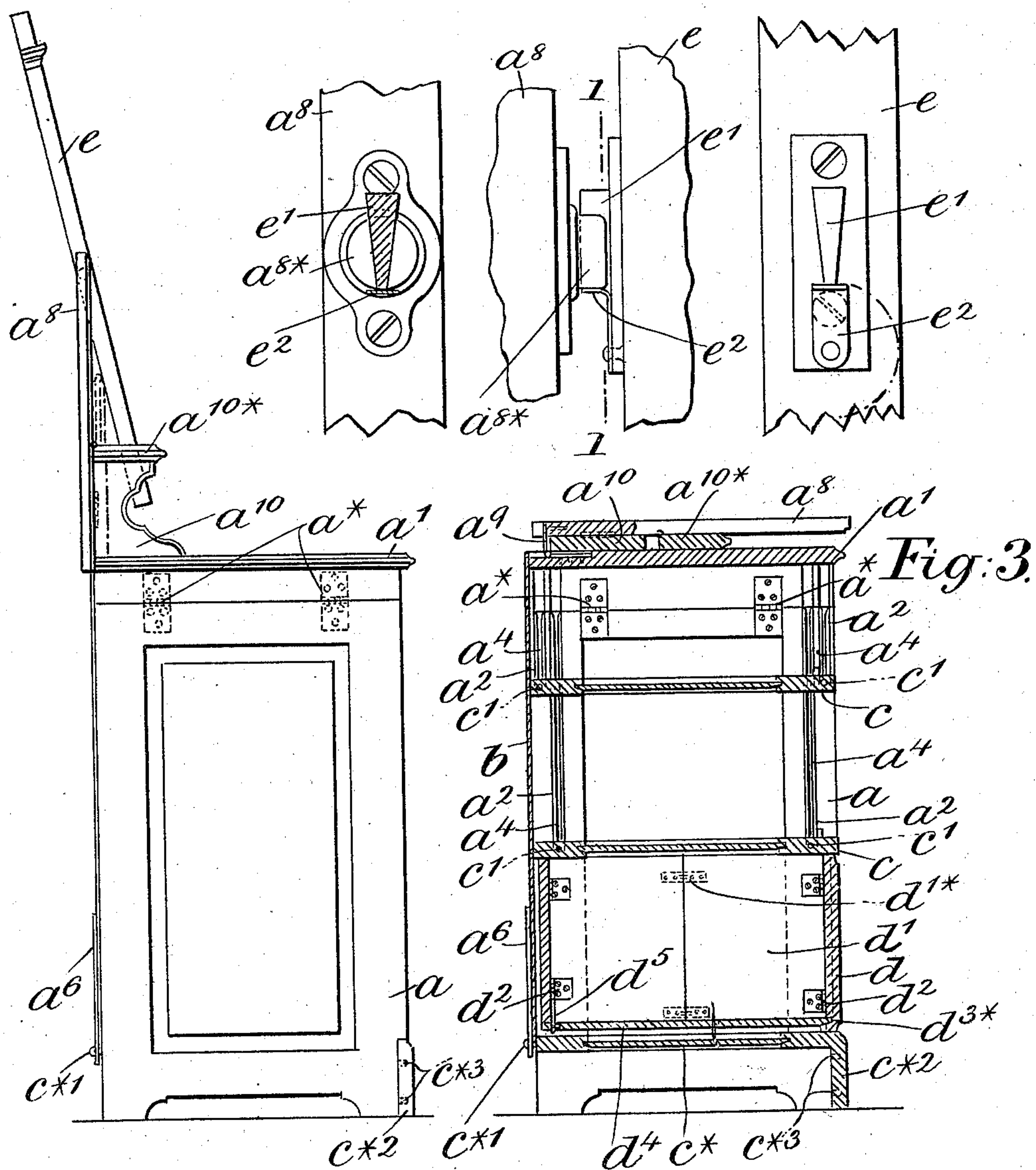
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Fig:2. Fig:13. Fig:12. Fig:14.



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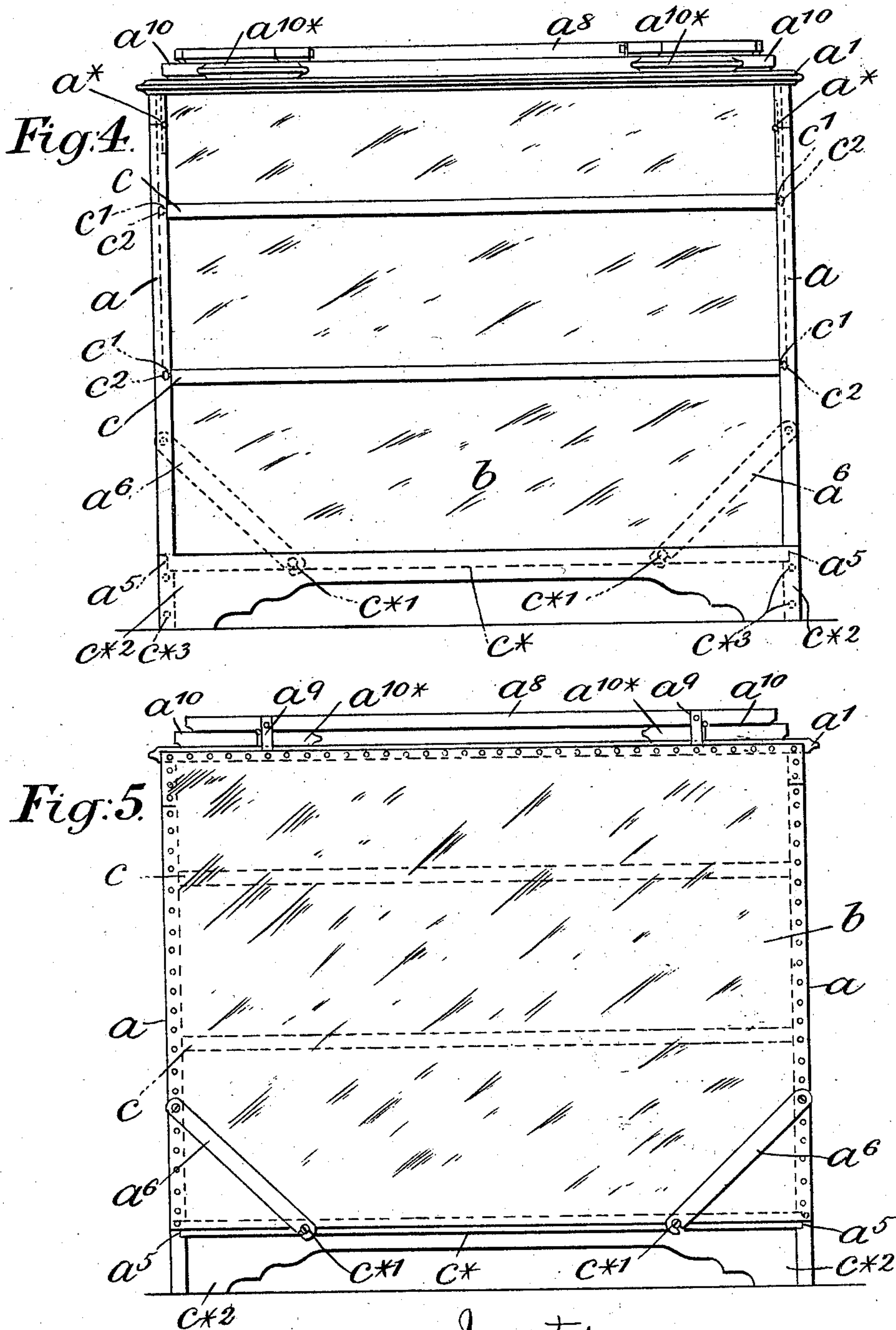
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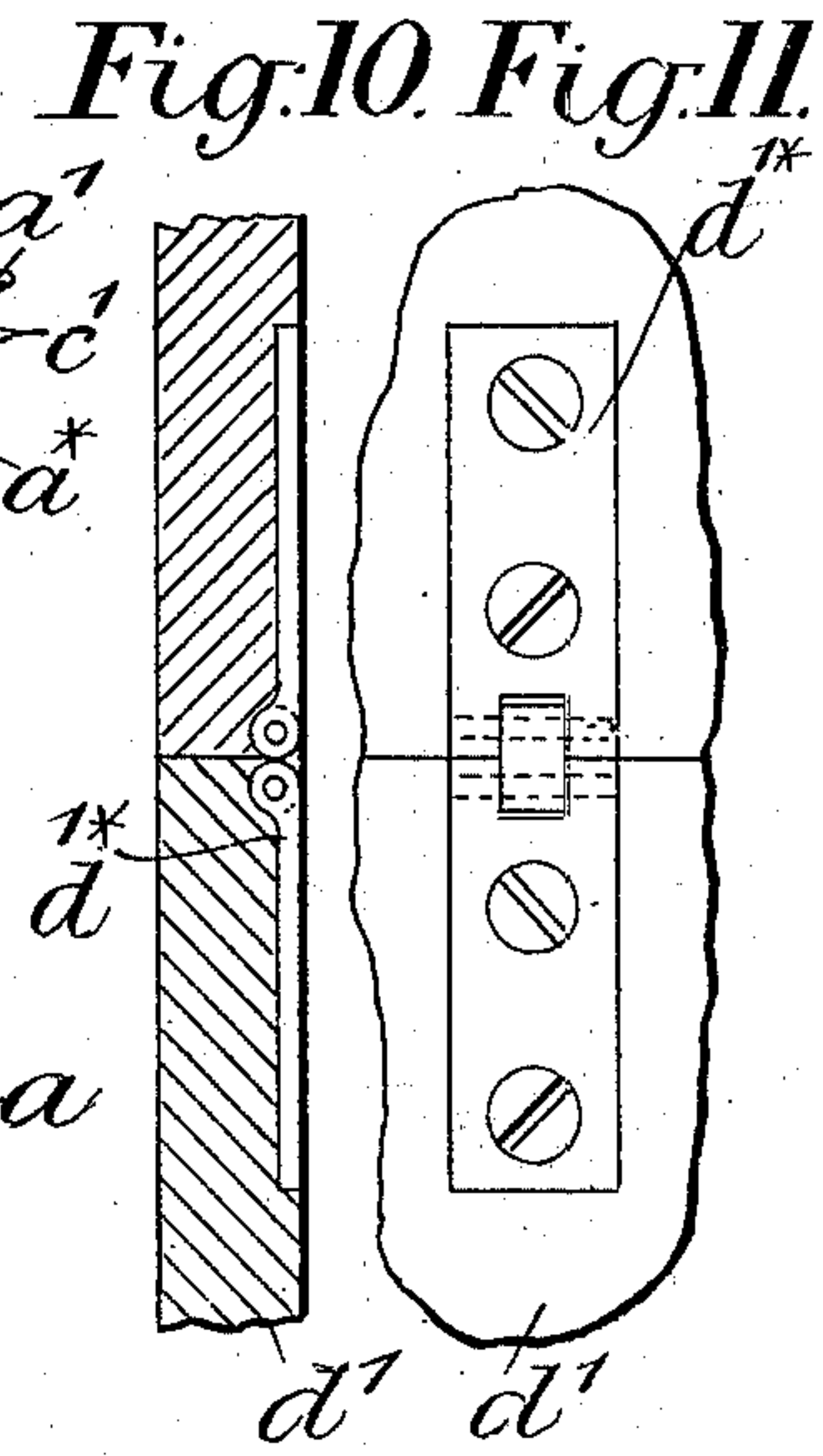
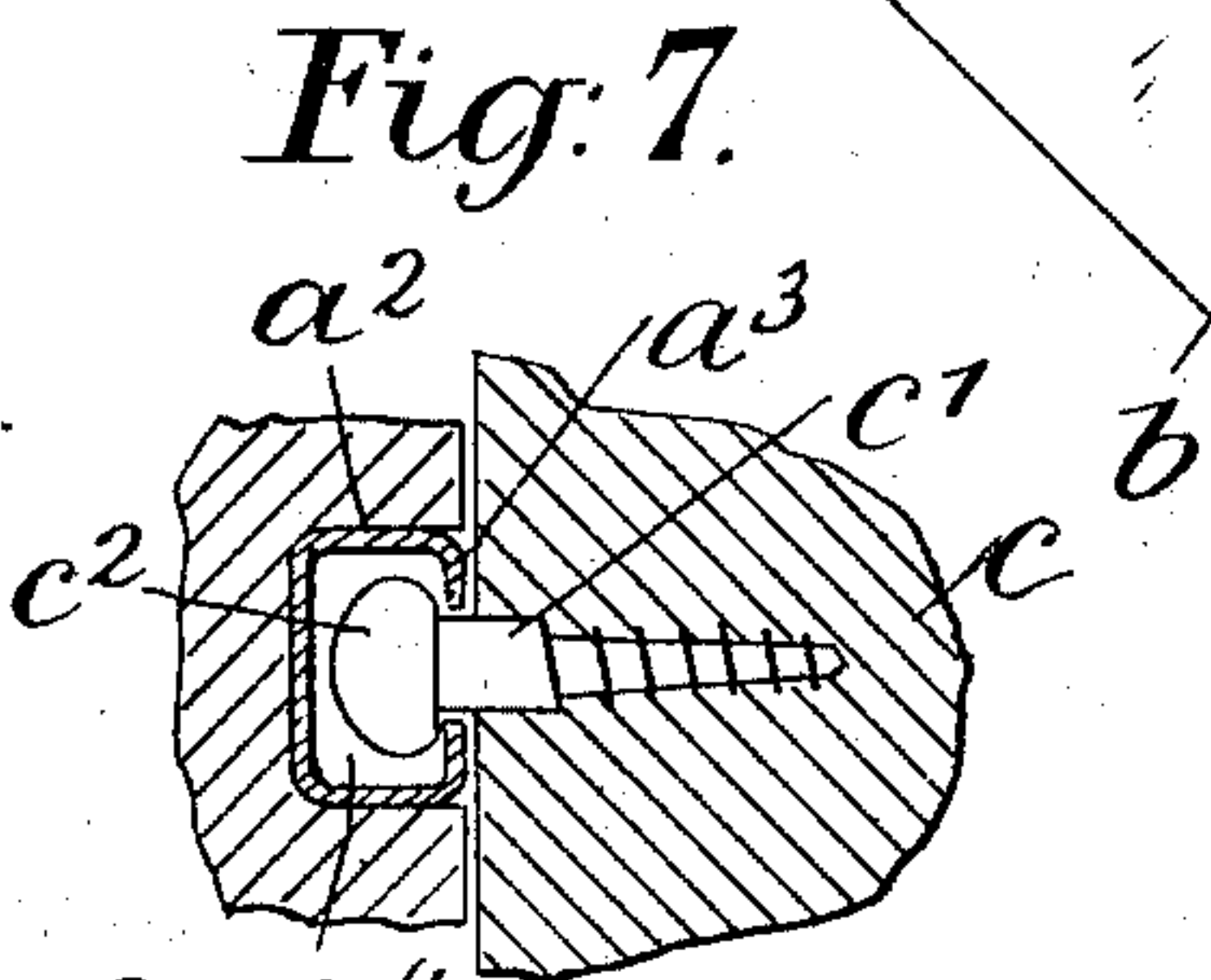
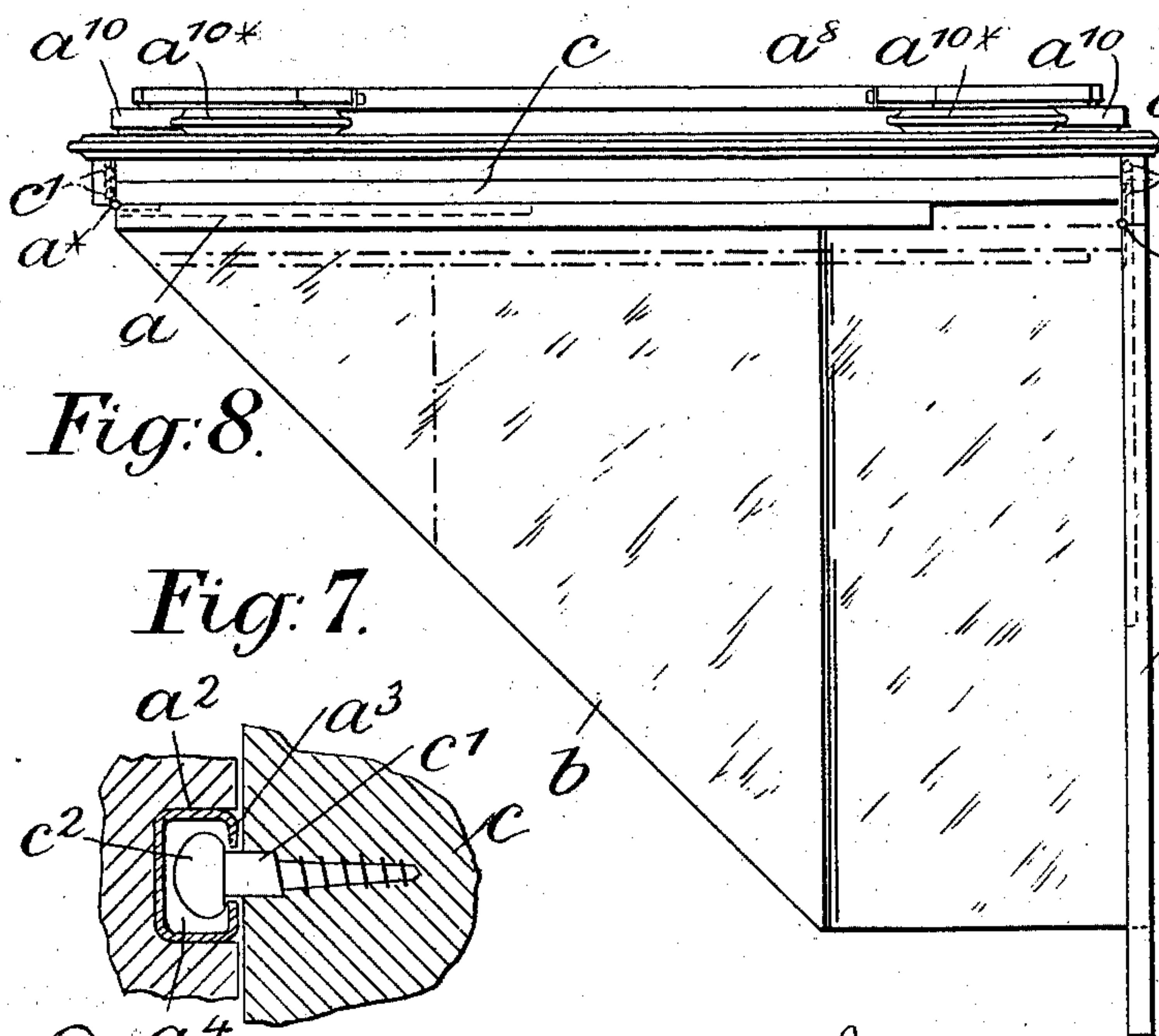
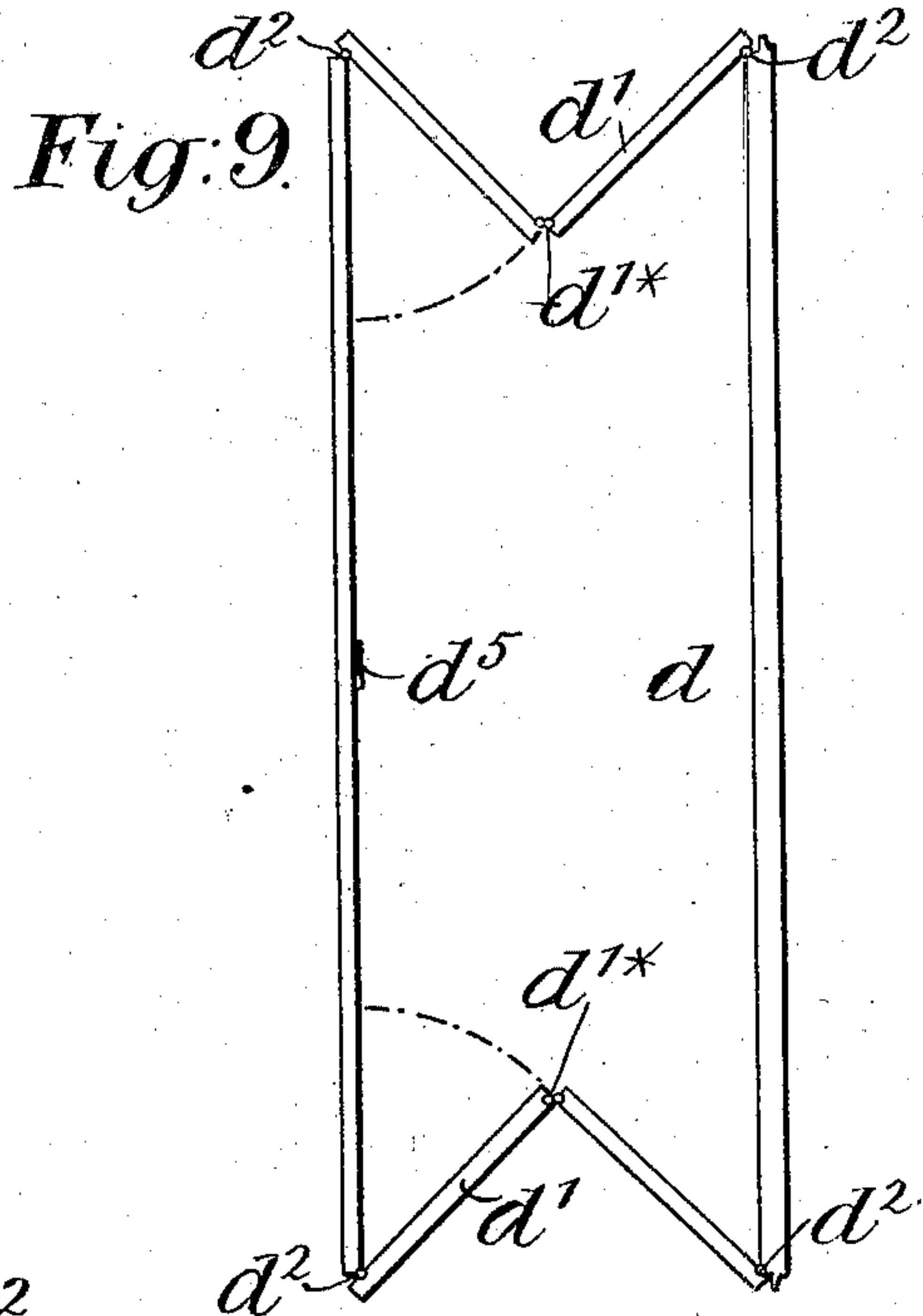
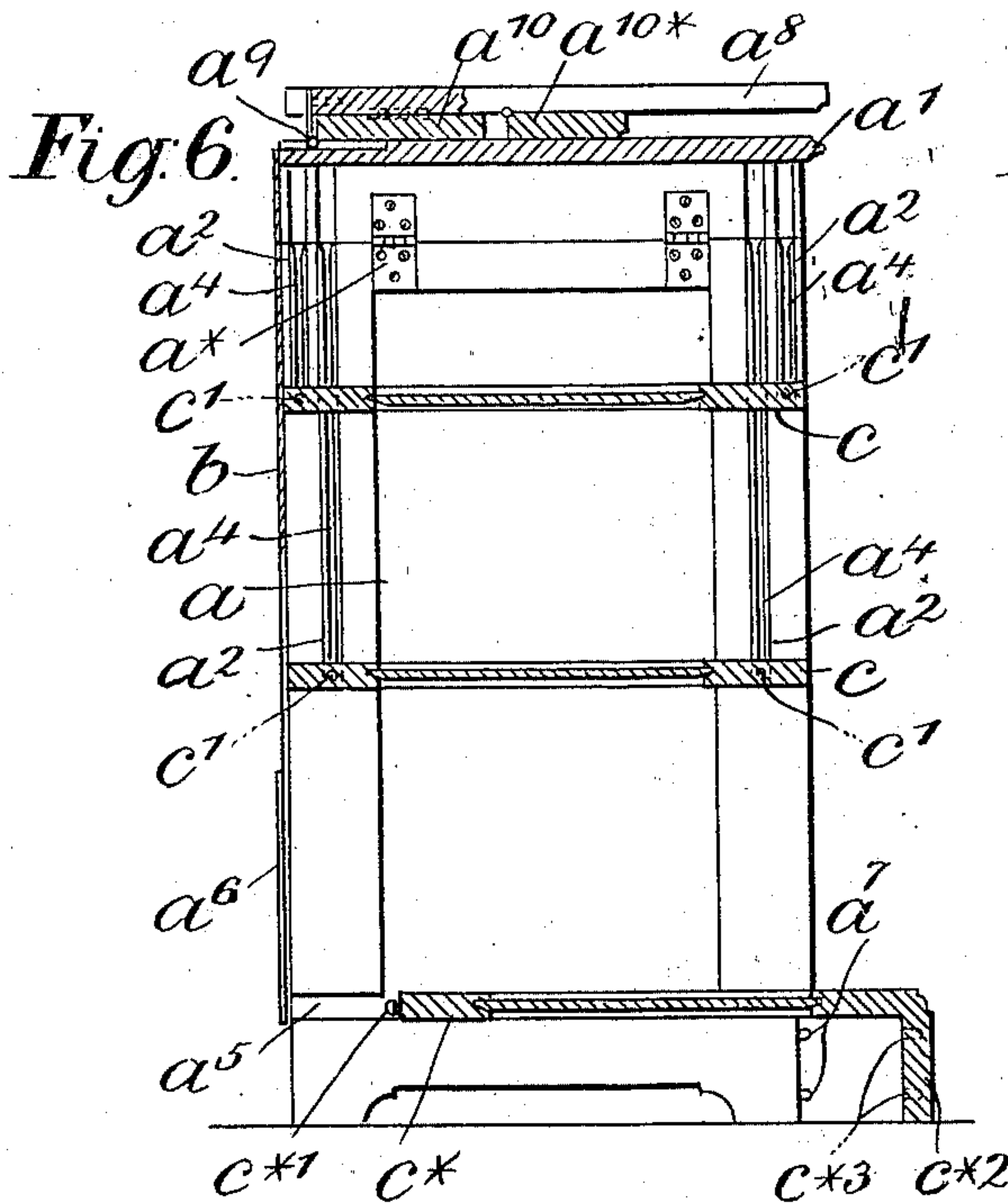
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Fig. 17.

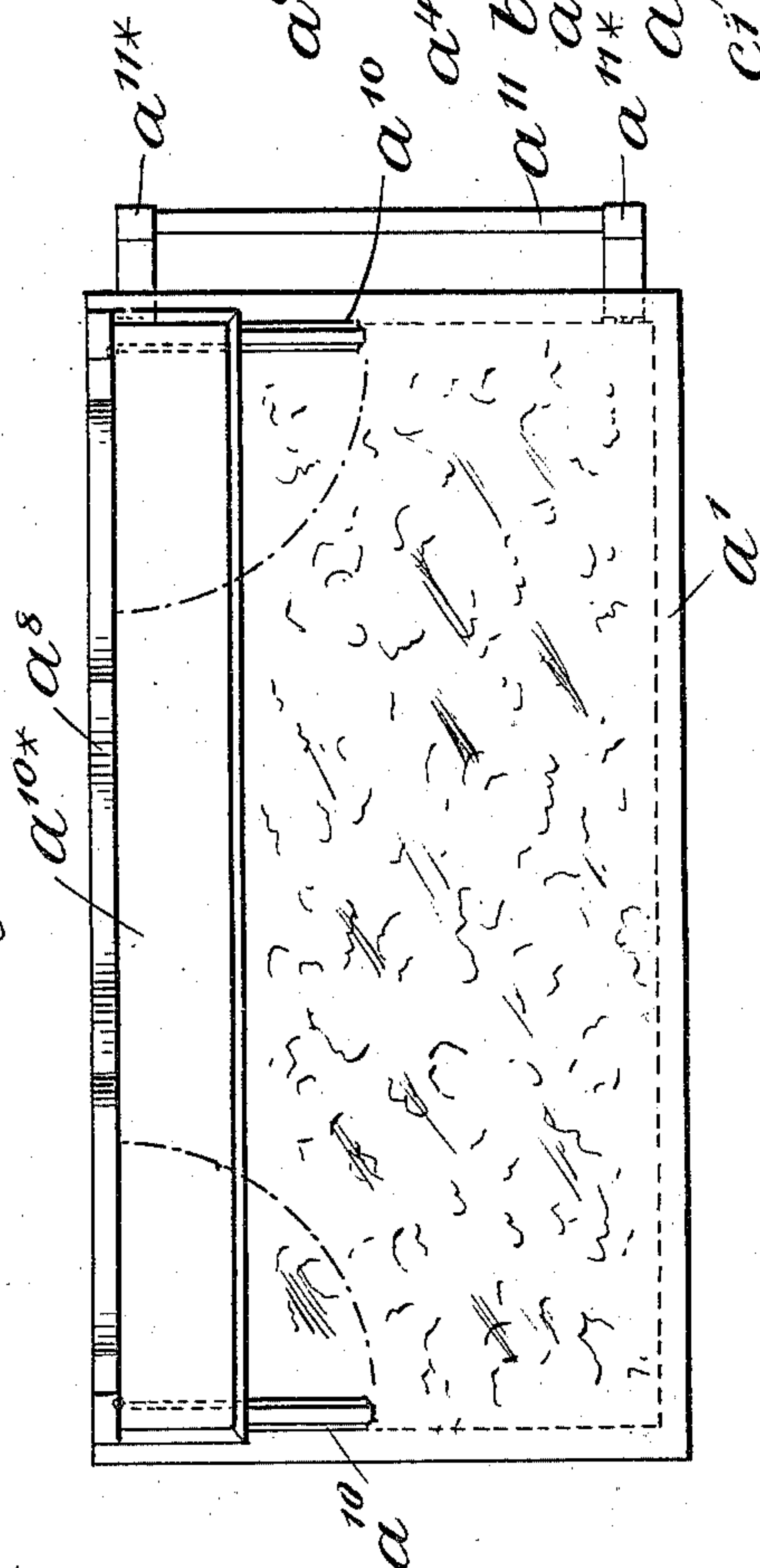


Fig. 19

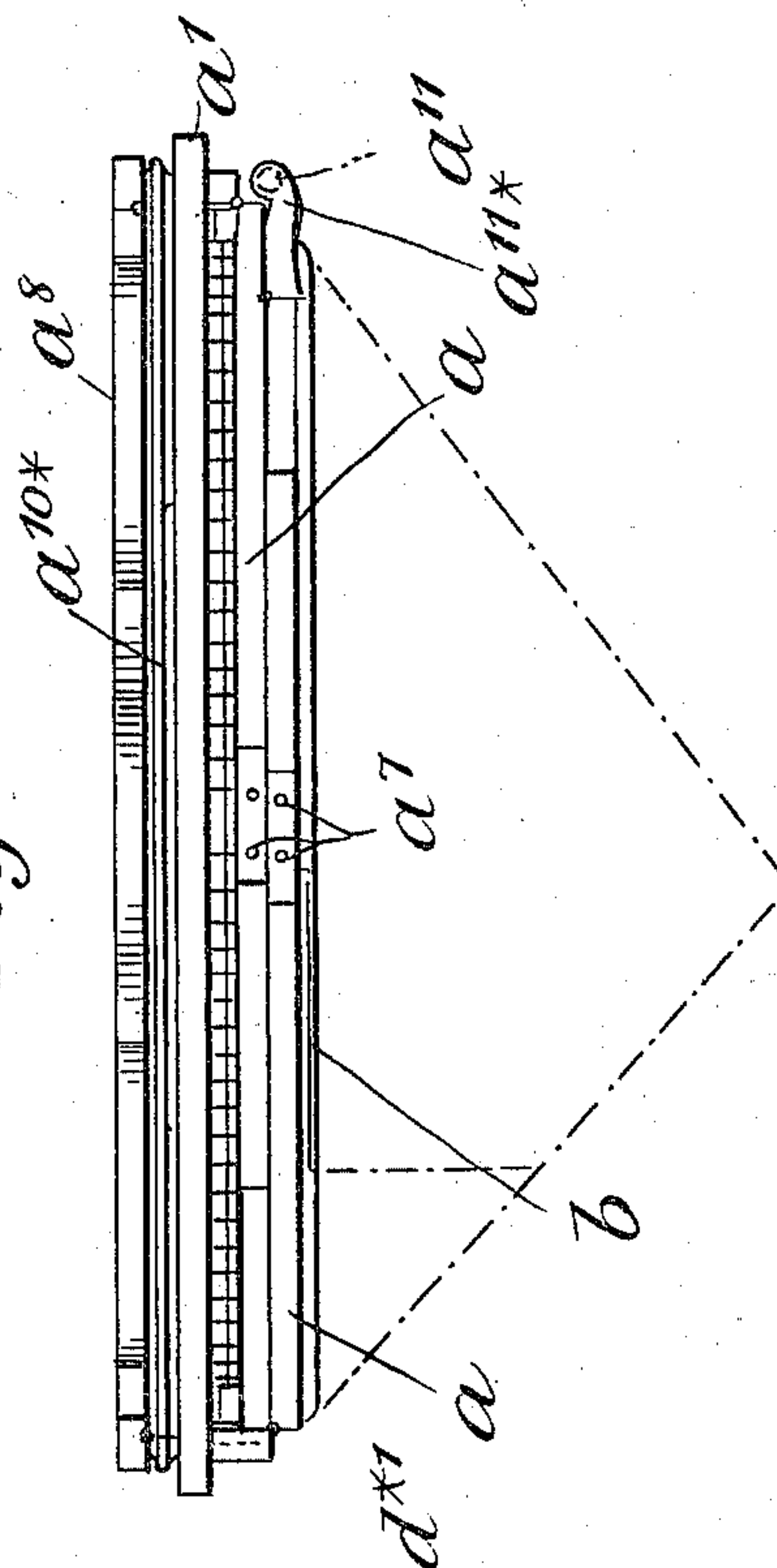
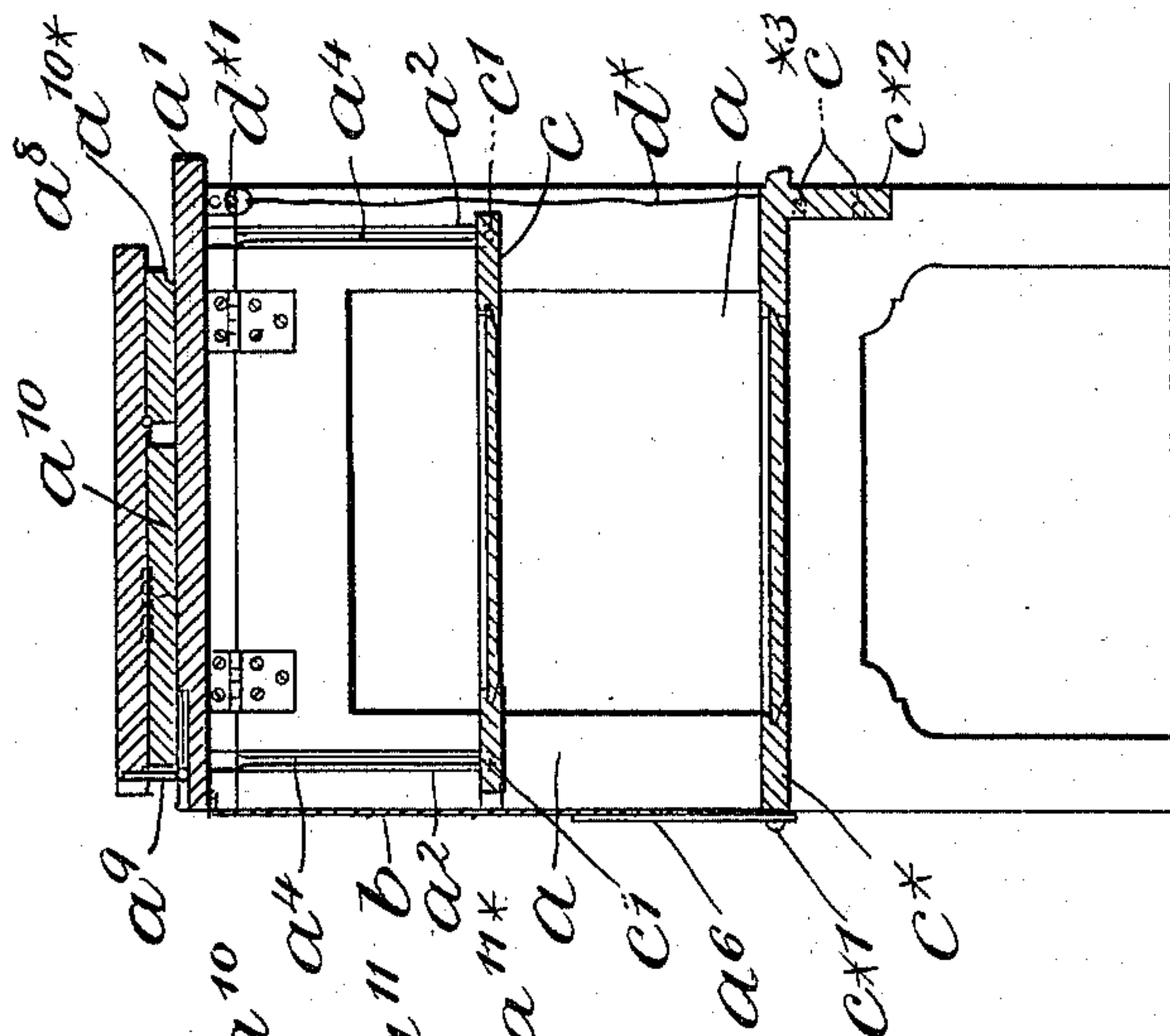


Fig. 18.



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UNITED STATES PATENT OFFICE.

WILLIAM HENRY VAUGHAN, OF LONDON, ENGLAND.

COLLAPSIBLE FURNITURE.

SPECIFICATION forming part of Letters Patent No. 558,865, dated April 21, 1896.

Application filed February 4, 1895. Serial No. 537,275. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY VAUGHAN, cabinet-maker, a subject of the Queen of Great Britain, residing at Nos. 332 and 334 Old Street, London, England, have invented certain new and useful Improvements in Collapsible or Folding Furniture, of which the following is a specification.

My said invention relates to improvements in collapsible or folding furniture, and has for its object to enable various articles of furniture to be readily folded into a small compass for transport and as readily expanded into shape for use.

In order that the said invention may be clearly understood and readily carried into effect, I will proceed, aided by the accompanying drawings, fully to describe the same.

Figure 1 is a front elevation, partly in section, of a chest of drawers constructed according to the present invention. Fig. 2 is a side elevation thereof. Fig. 3 is a vertical transverse section thereof with the looking-glass removed and the bracket or back and connected parts folded down. Fig. 4 is a front elevation thereof, but with the drawers removed and the bracket or back and connected parts folded down. Fig. 5 is a rear elevation thereof as arranged in Fig. 4. Fig. 6 is a vertical transverse section of Fig. 5, but showing the plinth and bottom board partly withdrawn. Fig. 7 is a detailed view of parts. Fig. 8 is a similar view to Fig. 4, but showing the shelves slid up and one of the sides in its folded position. Fig. 9 is a plan of a drawer with the bottom removed, showing the same partly compressed. Fig. 10 is a sectional end view, drawn to an enlarged scale, of the end of the drawer, showing the class of hinge employed in connection therewith; and Fig. 11 is a face view thereof. Fig. 12 is an elevation of parts drawn to an enlarged scale, showing a method of detachably mounting the glass upon the back or bracket. Fig. 13 is a vertical transverse section taken on the line 1 1 of Fig. 12, and Fig. 14 is a face view of the part carried by the glass. Fig. 15 is a front elevation of a wash-hand stand constructed according to the present invention. Fig. 16 is a side elevation thereof. Fig. 17 is a plan thereof. Fig. 18 is a vertical trans-

verse section showing the back or bracket and connected parts folded down onto the top; and Fig. 19 is a similar view to Fig. 15, but showing the device compressed for transport.

In the several figures like parts are indicated by similar letters of reference.

Referring to Figs. 1 to 14, *a* represents the sides of the chest of drawers, and *b* represents the back thereof, which is formed of woven fabric or other suitable material, and *c* represents two shelves, upon which two of the drawers *d* slide.

The shelves *c* are at their ends furnished with studs *c'*, formed with heads *c''*, (shown more particularly at Fig. 7,) which enter and are held in vertical grooves, each of which is formed by a metal fitting *a''*, countersunk in the inner face of the side *a* and furnished with returned edges *a'''*, which engage the head *c''* of the stud, and which arrangement constitutes an undercut groove *a''''*, while the upper part of the fitting *a''* is formed without the returned edges to allow of the ready insertion and removal of the head *c''* of the studs *c'*.

Each shelf *c* is fitted at each end with two studs *c'*, arranged near to its front and back edges, and each side *a* is provided with corresponding grooves *a''* and fittings *a'''*. A separate set of grooves *a''''* of different lengths is employed in connection with each shelf *c*, and the grooves of each shelf at their lower ends terminate at the elevation at which the shelves are required to be supported when in use, and the ends of the grooves *a''* form supports upon which the heads *c''* of the studs rest, by which arrangement of parts, when the drawers *d* are removed, the shelves *c* may be slid up to the top *a'*, as hereinafter more fully described, into the position indicated at Fig. 8.

The bottom or bottom shelf *c''* is arranged to slide into position in horizontal grooves *a''''*, formed in the inner faces of the sides *a*, and it is provided with headed studs *c''''*, which engage the hooked lower ends of the tie-bars *a''''*, which at their upper ends are pin-jointed to the sides *a*, by which means it is fixed against accidental movement, and when the chest of drawers is expanded the sides are stiffened and at the same time tied with the bottom *c''*, whereby the sides *a* are firmly maintained in position, as shown more particularly at Fig.

5, or any other suitable catches or fastening means might be employed in lieu of the tie-bars a^6 to fix the bottom c^* in position.

The front edge of the bottom shelf c^* has
5 fixed therewith a plinth or bracket-pieces c^{*2} , furnished with holes or recesses c^{*3} , which engage corresponding pegs or dowels a^7 on the front edges of the sides a and thus materially assist to tie the sides together.

10 The sides a of the chest of drawers are horizontally divided and hinged at a^* , but at different elevations, so that they, the sides a , may be turned up under the shelves c , as represented at Fig. 8, when the latter are slid up,
15 as hereinbefore described.

The sides or ends d' of each drawer d are vertically divided at their centers and hinged at d'^* , while at d^2 they are hinged to the front and back, so that the ends d' may be folded
20 flat between the front and back of the drawer d , as will be seen more particularly upon reference to Fig. 9, where the drawer is shown partially compressed.

It is necessary that at the central divisions
25 of the sides d' the hinges d'^* employed should be of such a character that when the drawer d is expanded the hinges d'^* will lie perfectly flush therewith, while at the same time they will admit of the two parts d' folding flat when
30 the drawer is compressed, and for this purpose a hinge, such as that represented at Figs. 10 and 11, is preferably employed.

The sides or ends of the drawer near to the bottom are formed with horizontal grooves d^3 ,
35 extending from the rear to the inner face of the front thereof, while a corresponding groove d^{3*} is formed in such inner face, and the bottom d^4 of the drawer d is slid into position in these grooves until it abuts against
40 the front of the drawer, and it is then locked in position by means of a hook d^5 or other suitable fastening carried by the back of the drawer engaging a headed stud or like device upon the bottom d^4 , this arrangement mate-
45 rially assisting to maintain the rigidity of the drawer d .

In order to conceal the joint between the front of the drawer d and the sides or ends d' when the drawer is expanded, the front of the
50 drawer d is at its ends formed to overlap the sides or ends d' , as shown more particularly at Fig. 9.

The looking-glass e , mounted upon the upper part of the chest of drawers, is adapted
55 to be taken off, while the bracket or back a^8 supporting the same is by long hinges a^9 (concealed by the brackets a^{10}) fastened to the top a' of the chest of drawers so as to fold down thereon, and the tops a^{10*} of the small
60 brackets a^{10} , serving to hold the back or bracket a^8 in its vertical position, are hinged to turn up against the back or frame a^8 , as indicated by the dotted lines in Figs. 1 and 2, and the web or supporting part thereof is
65 vertically hinged to fold flat upon the back a^8 , as indicated by the dotted lines at Figs. 1

and 2, so that the entire device will fold into a small compass upon the top a' of the chest of drawers, as shown at Figs. 3, 4, 5, 6, and 8.

In order to facilitate the removal and plac-
70 ing in position of the glass e , any well-known form of mounting may be adopted, and that represented at Figs. 12, 13, and 14 is a convenient device to be employed for that purpose. This device consists of a wedge-shaped
75 and pivotally-mounted socket a^{8*} , carried by the back or bracket a^8 , and a corresponding wedge-shaped projection e' , carried by the glass e , a turn button or stop e^2 , carried by the glass e , being employed to come against
80 the under side of the socket a^{8*} and prevent the accidental separation of the parts. When it is desired to collapse the chest of drawers for transport, the drawers d are first removed, the bottoms d^4 thereof are slid out of the
85 grooves, when the drawers may be compressed in the manner represented at Fig. 9; the glass e is then removed, the parts a^{10} a^{10*} are folded onto the back a^8 , the latter is folded down onto the top a' , the plinth c^{*2} and bot-
90 tom board c^* are then removed, the shelves c are slid up to the under side of the top a' , and the sides a are then folded under the shelves c , as indicated at Fig. 8, wherein one of the sides a has been so folded. The flexi-
95 ble back b may then be lapped around the folded parts and such parts, together with the loose parts—namely, the looking-glass, the drawers, and the plinth—may be conveniently packed into a case of comparatively small
100 compass.

In the example given at Figs. 15 to 19, which represents the application of the in-
vention to a wash-hand stand, the parts are similar to those hereinbefore described with
105 respect to the chest of drawers—that is to say, the back b is composed of woven fabric; but in this example the front is closed by curtains d^* , mounted with capability of sliding upon a rod $d^{*'}$, extending across the front of the
110 device, and by which means the crockery-ware or other contents beneath the top a' are inclosed.

The shelf c (or there might be more shelves than one) is furnished with headed studs c' , the
115 heads c^2 of which slide in vertical grooves a^4 , formed by metal fittings a^2 in a similar manner to that described with respect to the previous figures, and the bottom c^* is similarly
120 mounted in horizontal grooves a^5 , formed in the sides a ; but in lieu of the plinth c^{*2} , extending right across the front of the article in this case, bracket-pieces c^{*2} are substituted therefor; but the holes or recesses c^{*3} in
125 the inner faces of the bracket-pieces c^{*2} , and the corresponding pegs or dowels a^7 on the front edges of the sides a , are identical with those hereinbefore described with respect to the previous figures, and the sides a are thus
130 in a like manner held securely together. The back a^8 , shelf a^{10*} , and bracket a^{10} are constructed to fold in a similar manner, and the

bracket a^{10} is provided with a peg to engage a corresponding recess in the shelf a^{10*} when the parts are in their expanded position, while the hinge a^9 , connecting the back a^8 with the top a' , is placed in such a position that it is concealed by the bracket a^{10} .

The towel-rail a^{11} is mounted upon arms a^{11*} , which are hinged to one of the sides a in such manner that the device will fold up against the same, as indicated by the dotted lines in Fig. 15, when the wash-hand stand is collapsed for transport.

The wash-hand stand is collapsed for transport in a similar manner to that described with respect to the previous figures, (when it will assume the form indicated at Fig. 19,) so that it is unnecessary to again enter into detailed description of the method of folding.

By constructing articles of furniture in the manner hereinbefore described a suite may be made up so as to have the ordinary appearance and rigidity and be of elaborate finish, while affording the great convenience that it can be collapsed into a small compass, so that a number of pieces of furniture may for transport be packed in an ottoman-couch or into a packing-case.

Although the invention is described in connection with only two pieces of furniture, it will be evident that various other articles of furniture may be constructed upon a similar principle.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In an article of furniture, the combination of a top, sides fixed with the top but horizontally hinged at different elevations, vertical grooves formed in the inner faces of the sides, one or more shelves at the ends provided with studs engaging the vertical grooves of the sides, and means located near the bottom of the article for holding the sides in position, substantially as herein shown and described, and for the purpose stated.

2. In combination with an article of furniture formed with folding sides, vertical undercut grooves formed in the inner faces of the sides, one or more shelves, and headed

studs upon the ends of the shelves to engage the grooves of the sides, substantially as herein shown and described, and for the purpose stated.

3. In an article of furniture, the combination of a top, sides fixed with the top, but horizontally hinged at different elevations, vertical grooves formed in the inner faces of the sides, one or more shelves at the ends provided with studs engaging the vertical grooves of the sides, horizontal grooves in the inner faces of the sides located near the bottom, a bottom board or shelf adapted to slide into such grooves, a plinth or bracket-pieces upon the front of the bottom board or shelf, holes or recesses in the inner face of the plinth, corresponding holes, pegs or dowels on the front edges of the sides, and means for locking the bottom board or shelf in position, substantially as herein shown and described, and for the purpose stated.

4. In an article of furniture, the combination of a top, sides fixed with the top, but horizontally hinged at different elevations, vertical grooves formed in the inner faces of the sides, one or more shelves at the ends provided with studs engaging the vertical grooves of the sides, means located near the bottom of the article for holding the sides in position, a back or bracket hinged to fold onto the top of the article, and a supporting-bracket, the shelf and web of which are hinged to fold onto the back, substantially as herein shown and described, and for the purpose stated.

5. In an article of furniture, the combination of a top, sides fixed with the top, but horizontally hinged at different elevations, vertical grooves formed in the inner faces of the sides, one or more shelves at the ends provided with studs engaging the vertical grooves of the sides, means located near the bottom for holding the sides in position, a flexible back and means for inclosing the front, substantially as herein shown and described, and for the purpose stated.

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