

(No Model.)

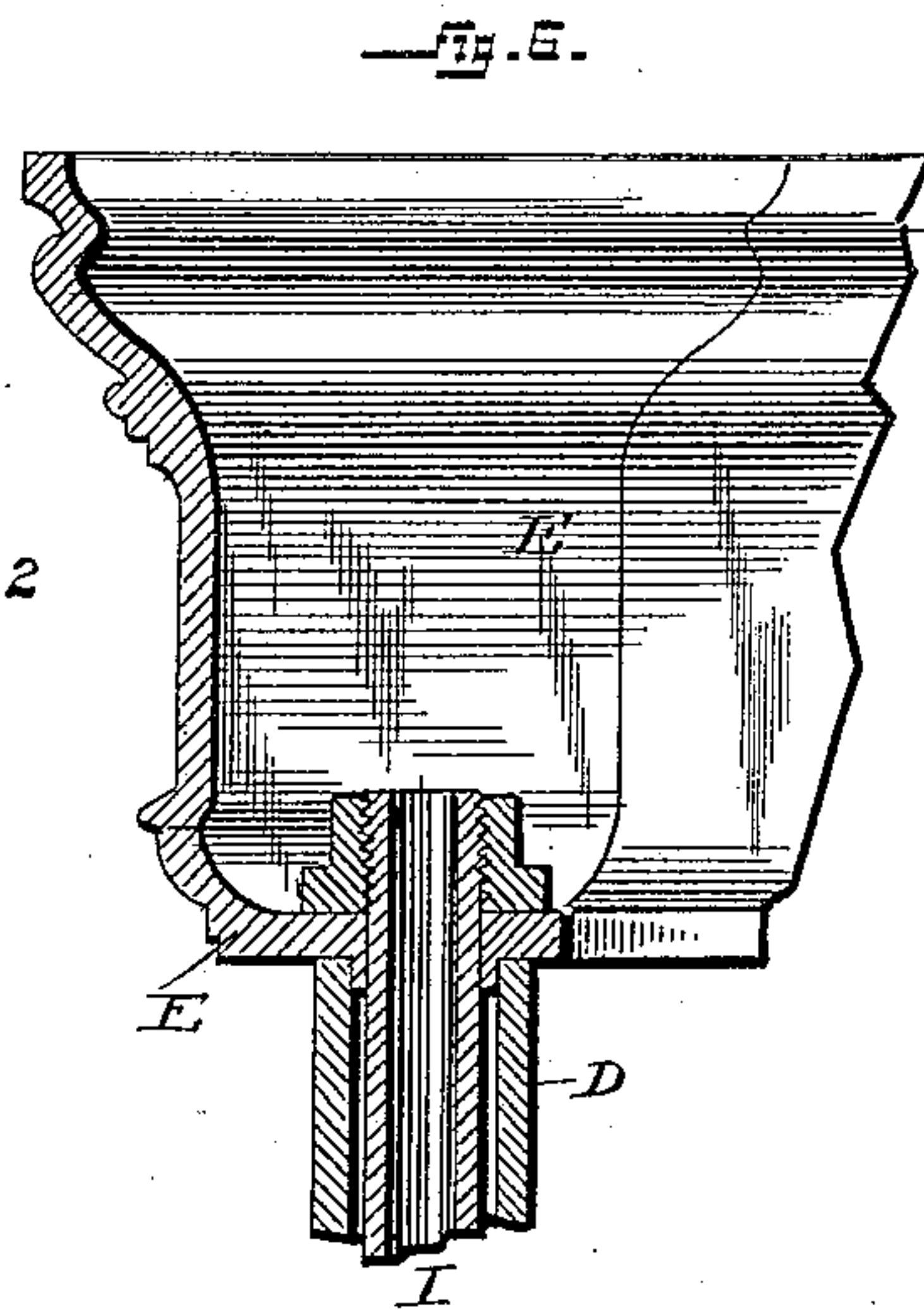
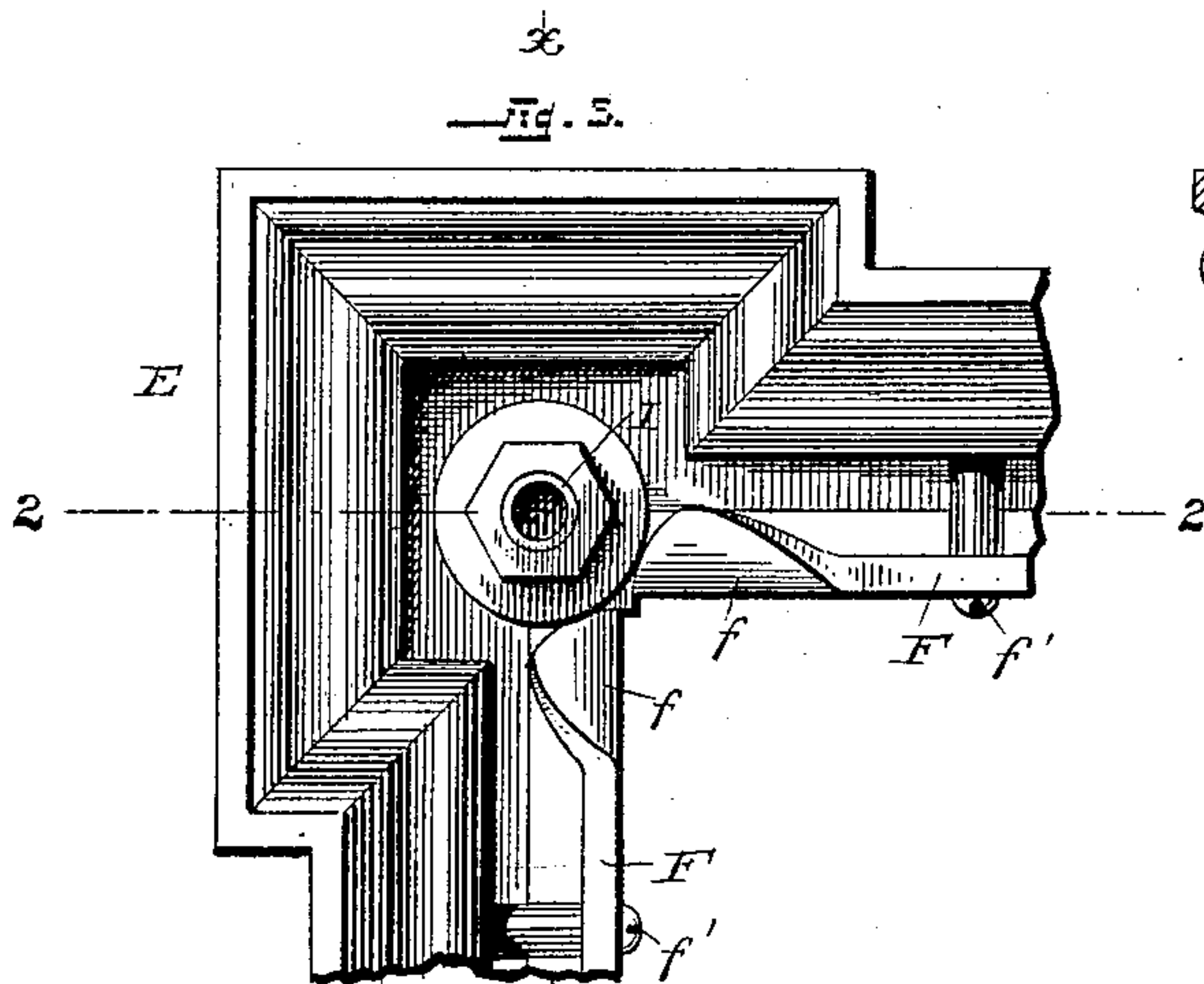
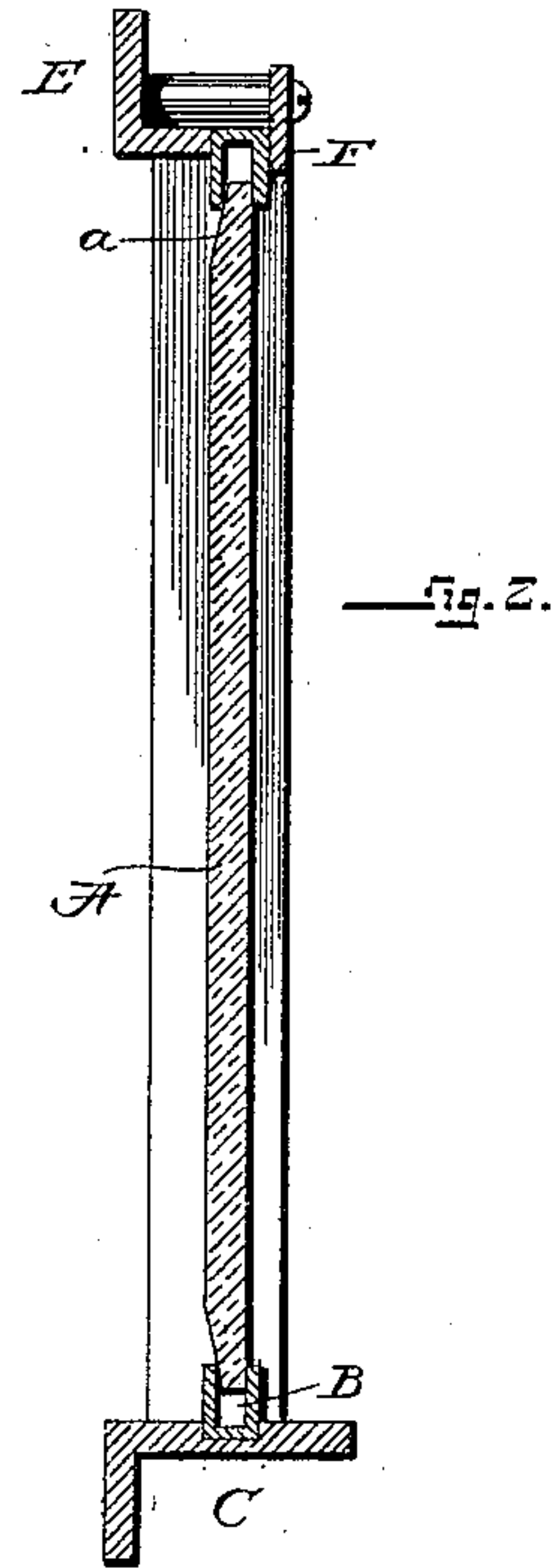
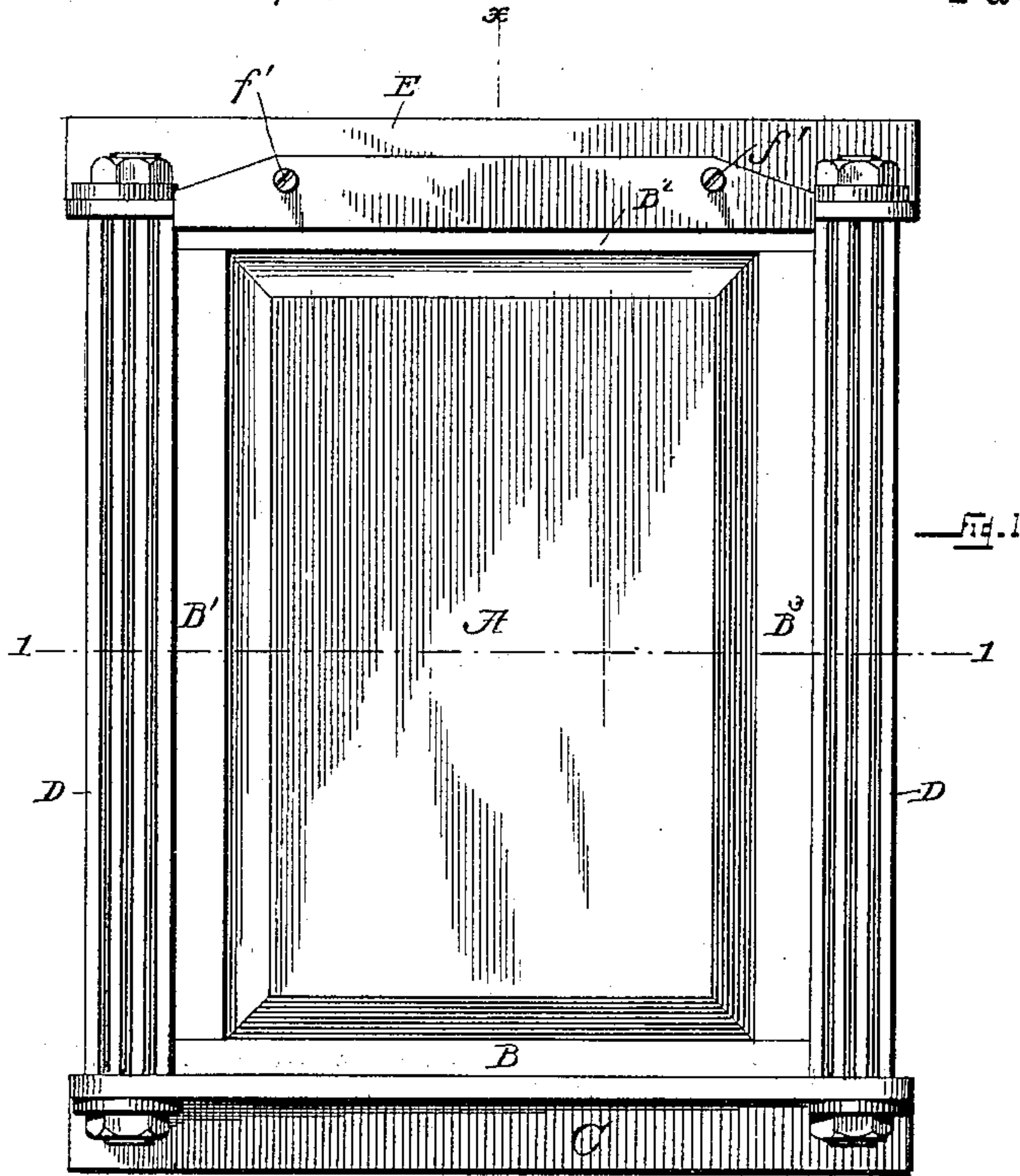
2 Sheets—Sheet 1.

A. NACKE.

METALLIC FRAME FOR GLASS PANELS.

No. 390,794.

Patented Oct. 9, 1888.



Witnesses,

W. W. Mortimer
Ch. R. Kennedy

Inventor,

Arnold Nacke

By *his* Attorney

Phil. T. Dodge

(No Model.)

2 Sheets—Sheet 2.

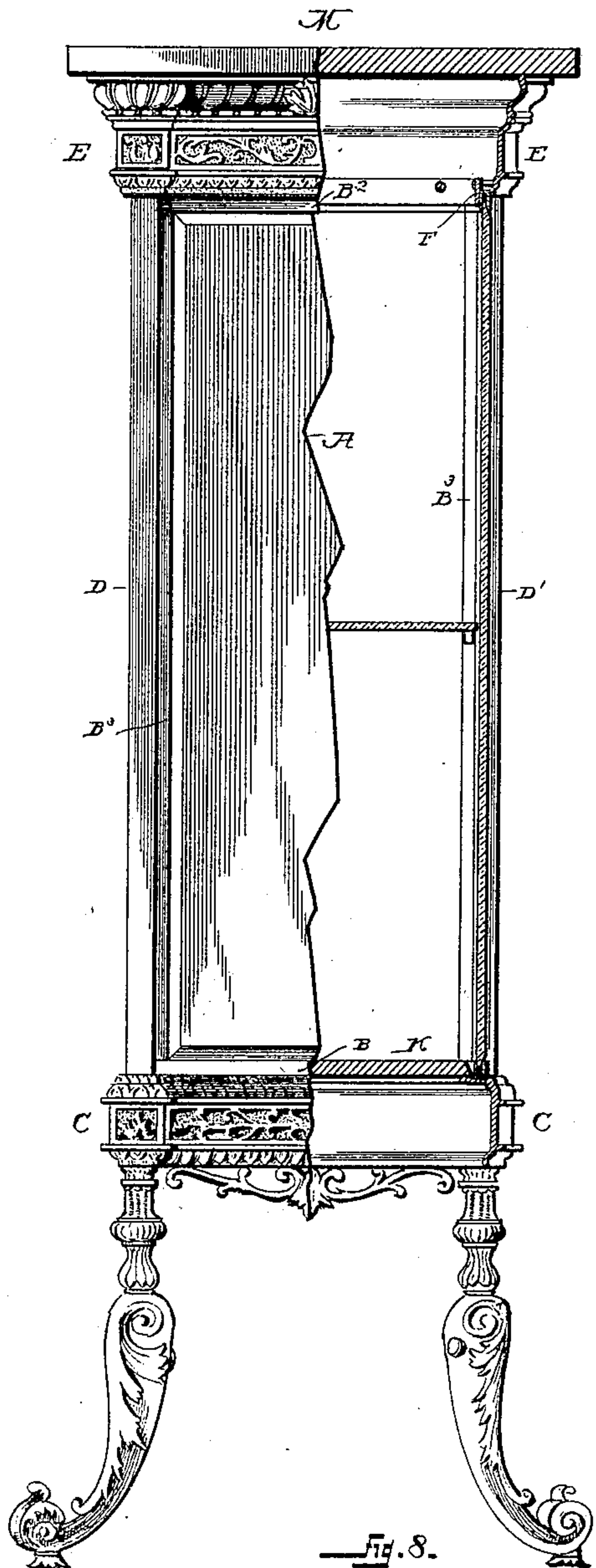
A. NACKE.

METALLIC FRAME FOR GLASS PANELS.

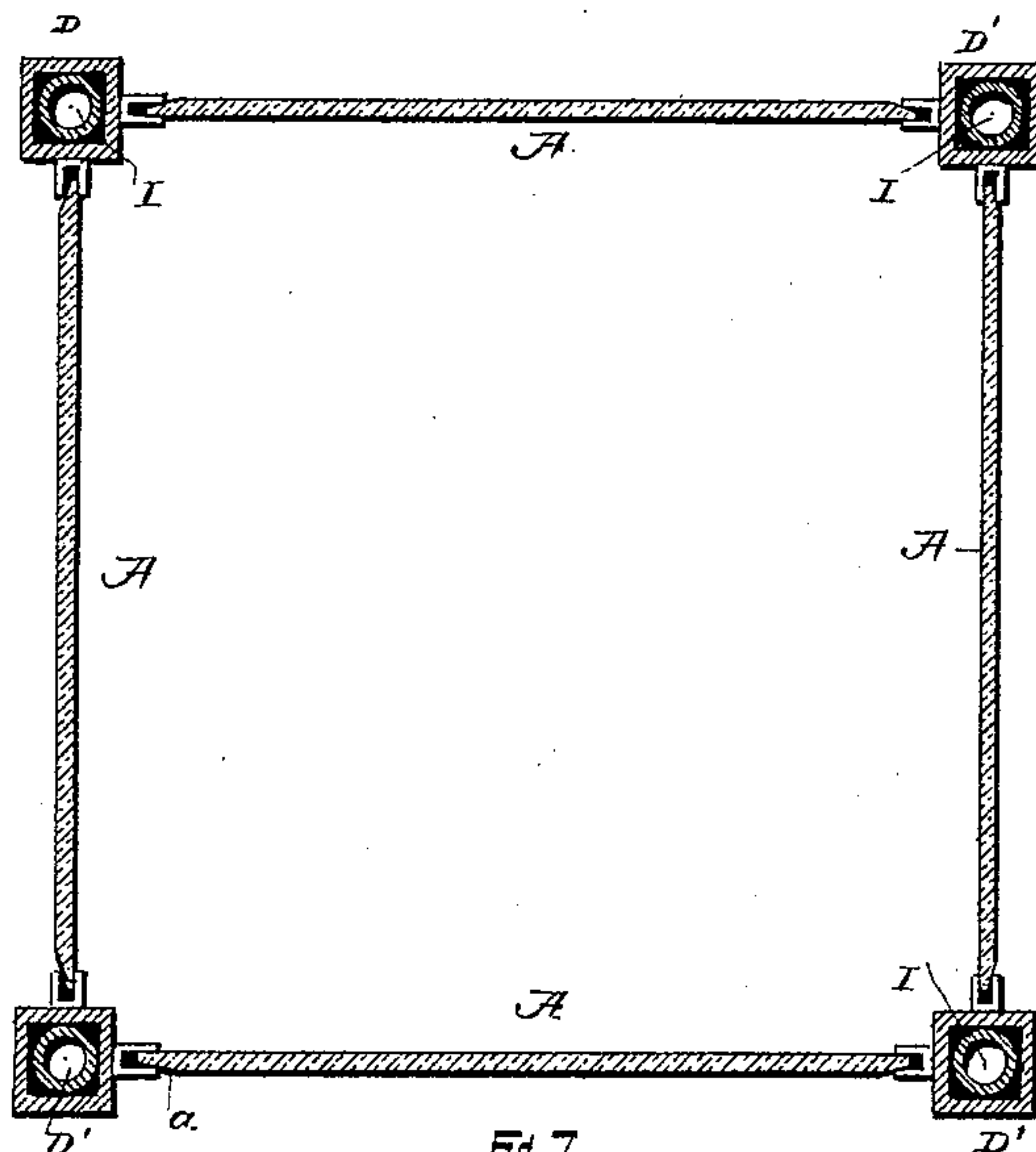
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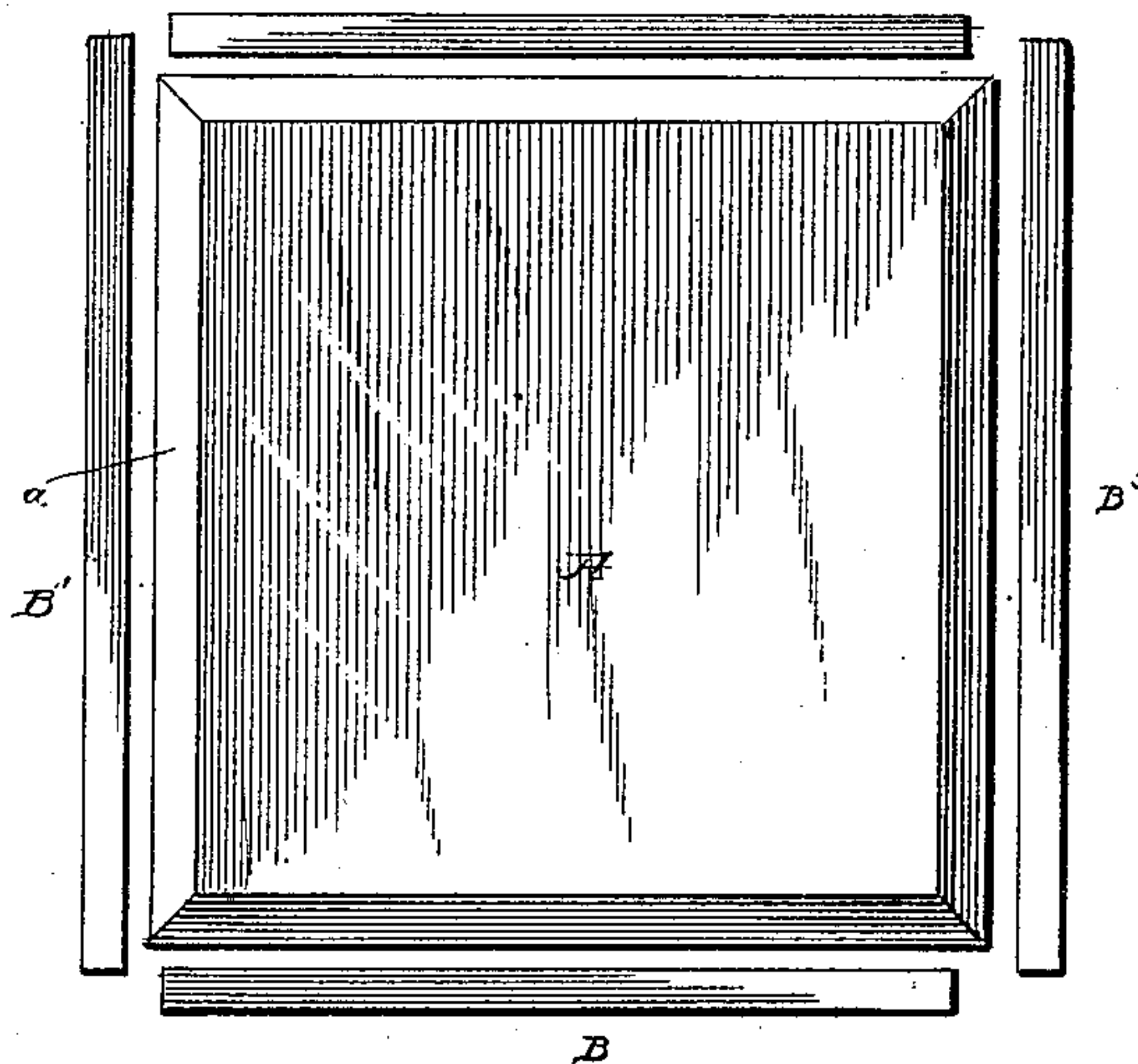
—fig. 3.



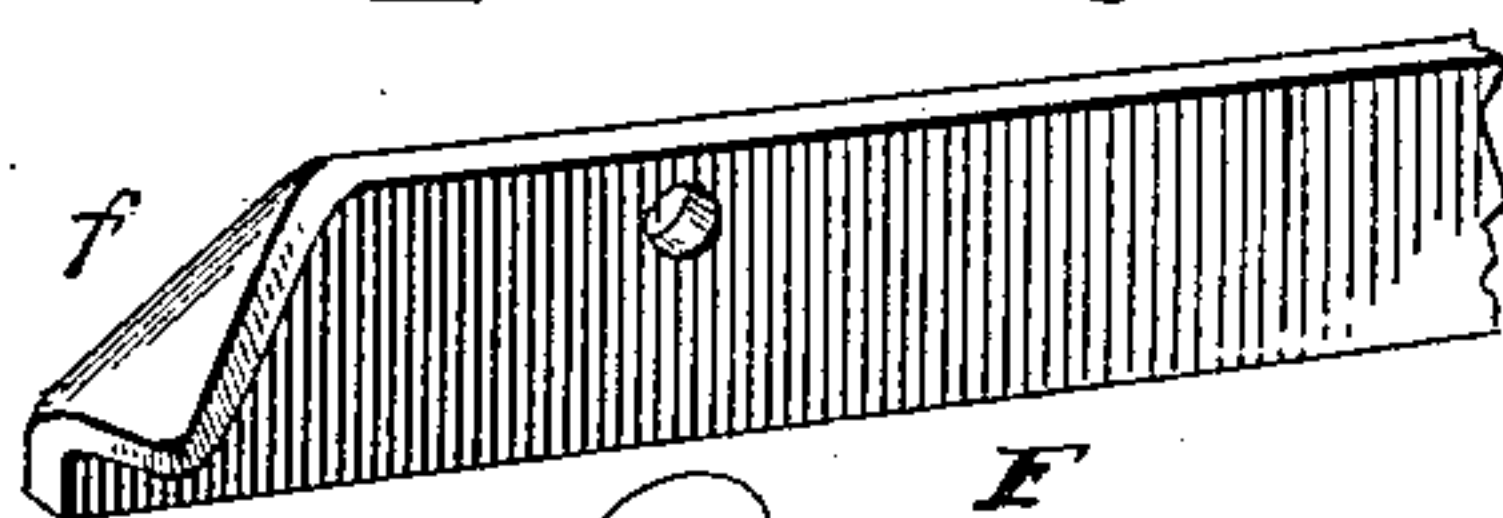
—fig. 4.



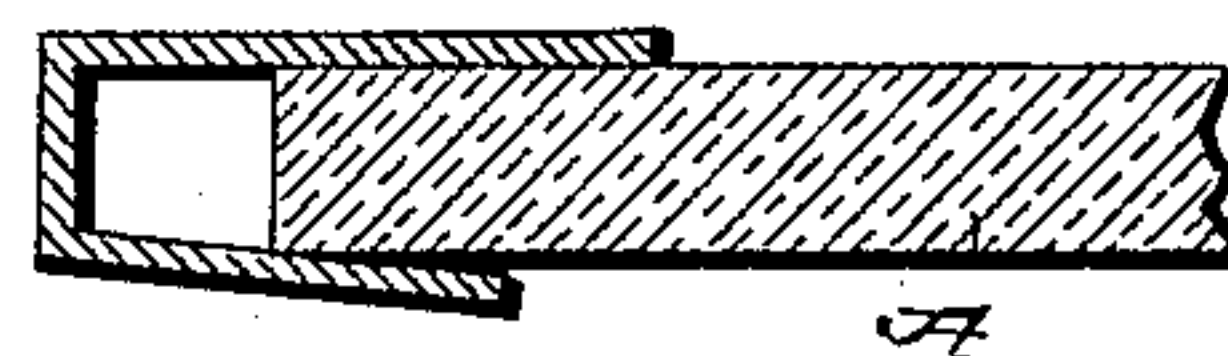
—fig. 7.
B²



—fig. 8.



—fig. 5.



Witnesses.

W. W. Mortimer,
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By his Attorney

Phil. T. Dodge

UNITED STATES PATENT OFFICE.

ARNOLD NACKE, OF PHILADELPHIA, PENNSYLVANIA.

METALLIC FRAME FOR GLASS PANELS.

SPECIFICATION forming part of Letters Patent No. 390,794, dated October 9, 1888.

Application filed June 8, 1888. Serial No. 276,445. (No model.)

To all whom it may concern:

Be it known that I, ARNOLD NACKE, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Metallic Frames for Glass Panels, of which the following is a specification.

My invention has reference to portable structures in which plate-glass or other sheet-glass is employed, and more particularly to those structures in which the plate-glass with beveled edges is used.

In practice it has been found exceedingly difficult to produce a frame-work which would hold the glass securely, present a finished appearance, and at the same time be free from liability of fracturing the glass during the assemblage of the parts or during transportation. It is the special aim of my invention to provide means to this end, and at the same time to reduce the cost of manufacture. For the purposes of illustration I have shown this leading feature of my invention embodied with others in a cabinet. Obviously the cabinet may be varied in form and design at will without changing its mechanical construction.

In the accompanying drawings, Figure 1 is a face view of a single panel and its inclosing-frame constructed on my plan. Fig. 2 is a cross-section. Fig. 3 is an elevation of my improved cabinet with one side shown in vertical section on the line *x x* of Fig. 1. Fig. 4 is a horizontal cross-section on the line 1 1 of Fig. 1. Fig. 5 is a top plan view of one corner, the slab or top being removed to show the internal construction. Fig. 6 is a cross-section of the same on the line 2 2. Fig. 7 is a side view showing the manner of forming and applying the sectional frame to the glass plate or panel. Fig. 8 is a perspective view of one of the confining-bars used in the top of the body. Fig. 9 is a cross-section showing the glass-holding frame in modified form.

I provide as the basis of my structure any suitable number of flat-glass panels, A, the edges of which are beveled or chamfered, as shown at *a*, in the manner commonly practiced at the present day, and familiar to every person skilled in the art. I inclose this plate, as shown in Figs. 1, 3, and 7, upon all its edges in a metal frame consisting of independ-

ent grooved or channeled bars B B' B² B³, applied one to each edge. These bars are preferably formed by folding or bending sheet-metal strips longitudinally into a U form in cross-section, the two edges of each bar being separated a distance less than the thickness of the body of the glass, so that when the edge of the glass is inserted and forced with a wedging action into the bar the latter will act with an elastic or yielding pressure against its two faces. The metal bar thus formed and applied pinches and firmly holds the beveled edge of the glass, and may be forced edgewise upon the glass to a greater or less extent, as may be required to bring the several parts of the frame work together at the corners.

The several parts or bars B B', &c., will be made of such size that when forced snugly home upon the glass they will meet at the corners and form a complete or continuous frame inclosing the glass on all its edges, as shown in theseveral figures. The parts are so formed that the glass does not under ordinary circumstances enter to the full depth of the groove or channel in the frame-bar; or, in other words, formed so that when in position there will be a space between the edge of the glass and the bottom of the groove, as shown in Fig. 9. This is advantageous in that the glass is thus given a yielding or elastic support, so that in the event of the structure receiving violent blows in any direction the glass may spring or yield edgewise within its supports, the shock being thus deadened, so as to prevent the fracture of the glass, which so commonly occurs in structures of ordinary design.

The frame-bars B B', &c., may be united by rivets or screws at the corners after they are forced home to their places on the glass; but in most cases I prefer to leave them disconnected and to secure them in position by applying a surrounding and supporting frame thereto. One form of this confining and supporting frame is plainly shown in Figs. 1 and 2, in which the strip B, seated in a grooved supporting bar or plate, C, is connected to the lower ends of two uprights or side bars, D D', which serve to hold in place the frame-bars on the vertical edges of the glass. These uprights D D' are in turn united to and held in position at the upper end by a cross bar or plate, E,

cut away in such manner that the glass and its frame may be slipped to their places in a downward direction past its edge. The glass is held down in place by a bar, F, seated against the inner face of the upper frame-plate, and turned over at its ends, as shown at *f*, to rest on top of said frame-plate. This bar is connected to the bar E by screws *f'*, or equivalent fastenings.

10 The foregoing parts when firmly united constitute a rigid frame in which the glass is securely retained, but elastically supported.

The frame and its panel constructed as above are adapted to serve as a door or as one side of a cabinet or like structure. When a series of these panels are to be embodied in a single structure, I commonly adopt the construction shown in Figs. 3, 4, 5, and 6, in which D and D' represent four vertical corner posts or bars, seated at their lower ends upon a rectangular base-frame, C, consisting of four bars, such as were previously described in connection with Figs. 1 and 2, cast in one piece or firmly united at their ends. The posts D are seated at their upper ends in and give support to the top frame, E, which receives four of the bars represented by the corresponding letter in Figs. 1 and 2.

The top and bottom frames and posts are rigidly united in any suitable manner, preferably by rods or tubes I, passed vertically through the posts and the frames and provided with heads or nuts upon their upper and lower ends, as plainly shown in the several figures. The glass panels with the edging strips or frames are inserted between the posts and seated at their lower ends upon the base-frame C. At the upper ends they are held outward and downward by the plates or bars F, applied as shown. A base stone or slab, K, may be inserted within the body in the manner shown or in any other suitable manner, and the top may be closed by a slab, M, applied thereon, or by any equivalent device.

45 In some cases my construction may be used to good advantage with glass the edge of which is not beveled. In such case the bars will have their grooves of V form in cross-section, as shown in Fig. 9, or of similar form, which will

admit of the glass being forced therein with a wedging action and of its being elastically sustained against movement edgewise by the pressure against the side faces.

I am aware that glass sheets and plates have been inserted edgewise into rigid metallic frames, and that they have been inserted into grooved frames and seated against rubber, wood, and other elastic supports; but I believe myself to be the first to seat the marginal portion of the glass with a wedging action into an elastic grooved supporting-bar in the manner herein described.

Having thus described my invention, what I claim is—

1. In combination with a grooved elastic bar, a plate or sheet of glass seated at its edge within said groove with a wedging effect and bearing therein at its side faces only, whereby the plate is protected from fracture by blows or shocks received in an edgewise direction.

2. In combination with the glass plate having a beveled edge, the elastic grooved metal bar inclosing the edge of the plate and bearing on its side faces only, whereby the plate is elastically sustained and permitted to yield edgewise in its support.

3. In combination with a rectangular glass plate, the independent elastic grooved metal bars, wherein the edges of the plate are seated with wedging effect, as shown and described, and the encircling frame, whereby the bars are retained in position.

4. In a cabinet, the combination of the glass panels, the elastic grooved metal strips applied with a wedging action independently to the edges of the respective panels, as described and shown, the base-frame provided with grooves, the corner-posts thereon, the top frame, and the strips F attached, substantially as described.

In testimony whereof I hereunto set my hand, this 28th day of May, 1888, in the presence of two attesting witnesses.

ARNOLD NÄCKE.

Witnesses:

EBENEZER COBB,

WILLIAM BOMMERSCHEIM.