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MEANS FOR FASTENING GLASS PLATES IN SHOW CASES AND STORE FRONTS.

APPLICATION FILED NOV. 4, 1907.

Fig. 1.

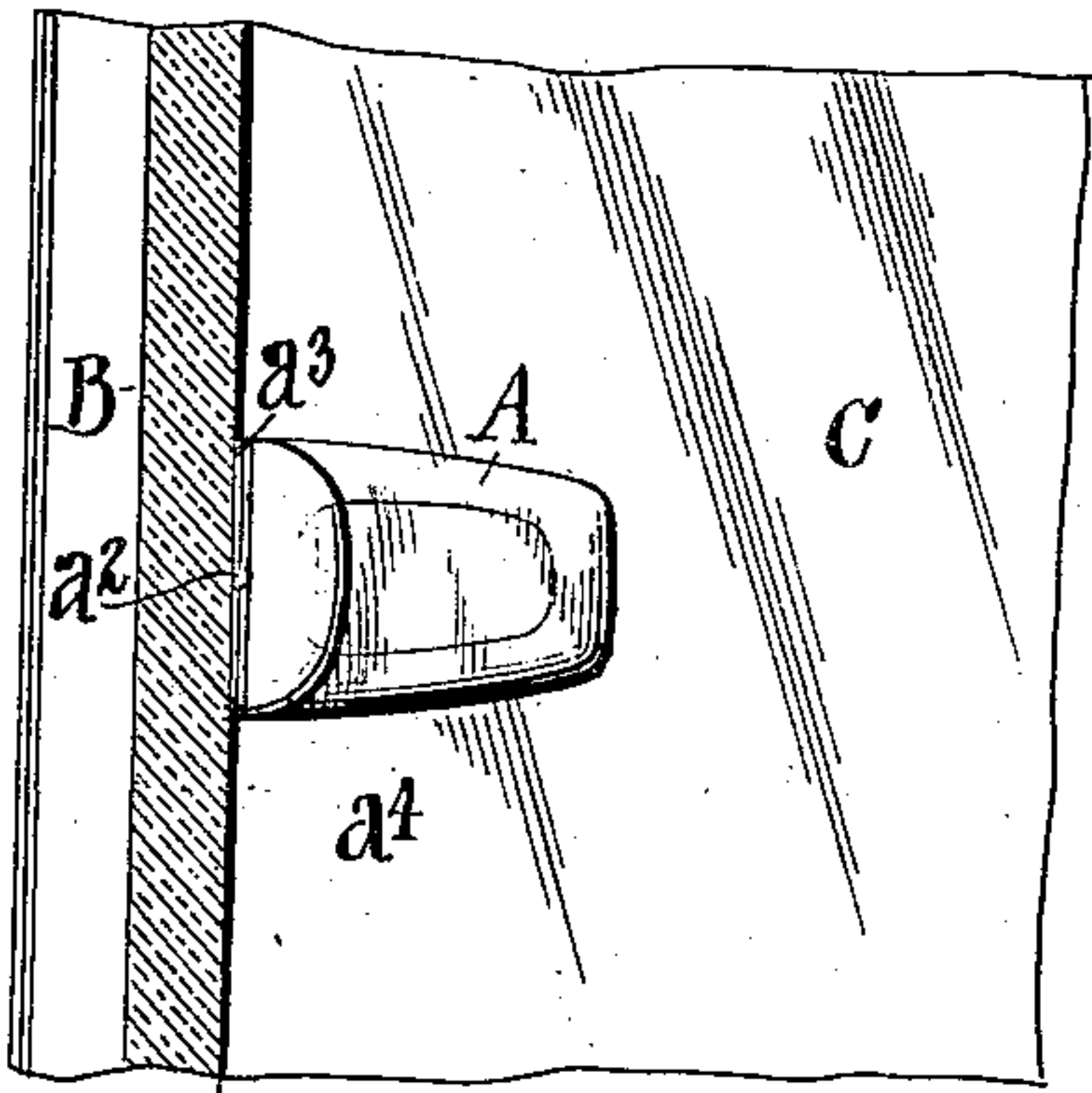


Fig. 3.

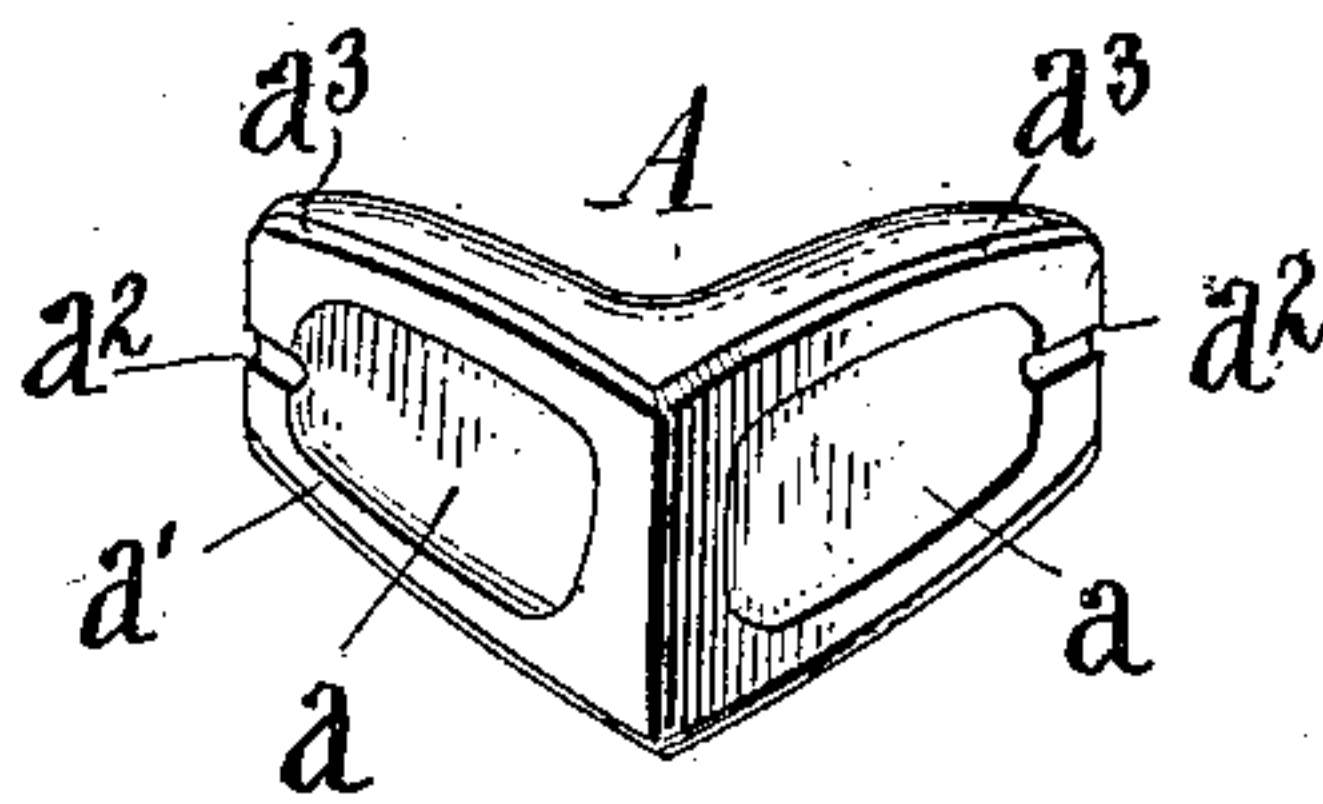


Fig. 2.

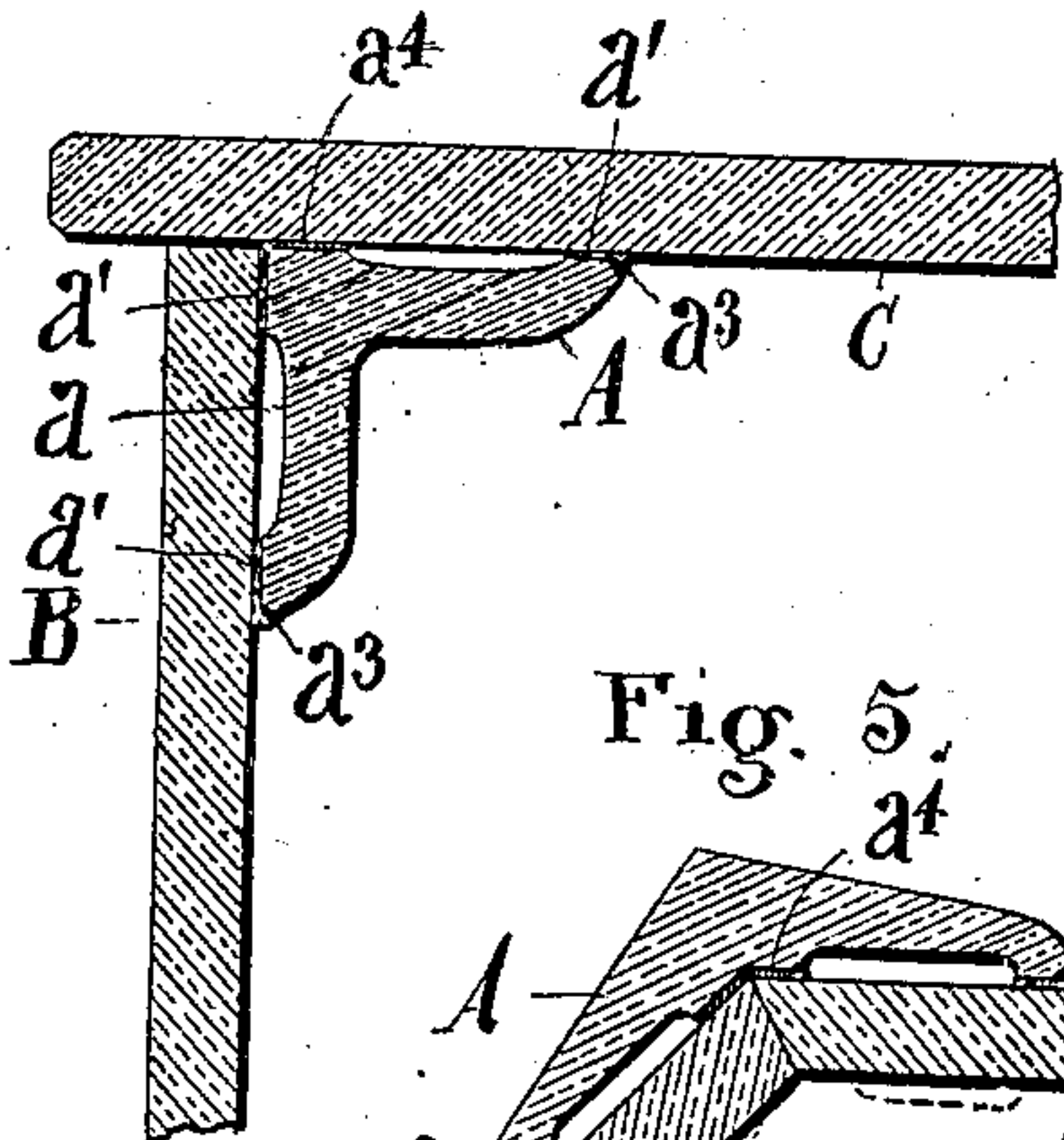


Fig. 4.

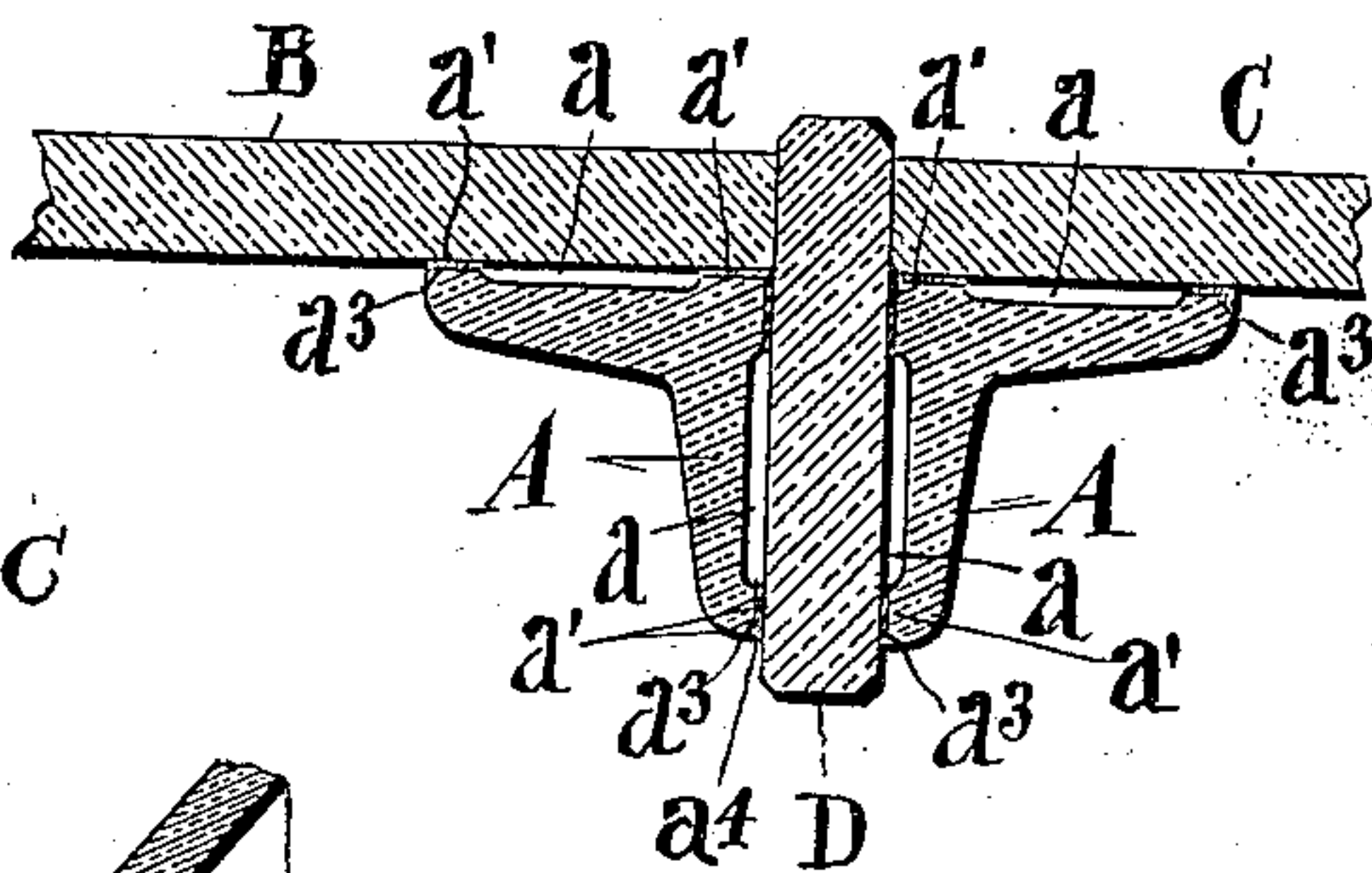


Fig. 5.

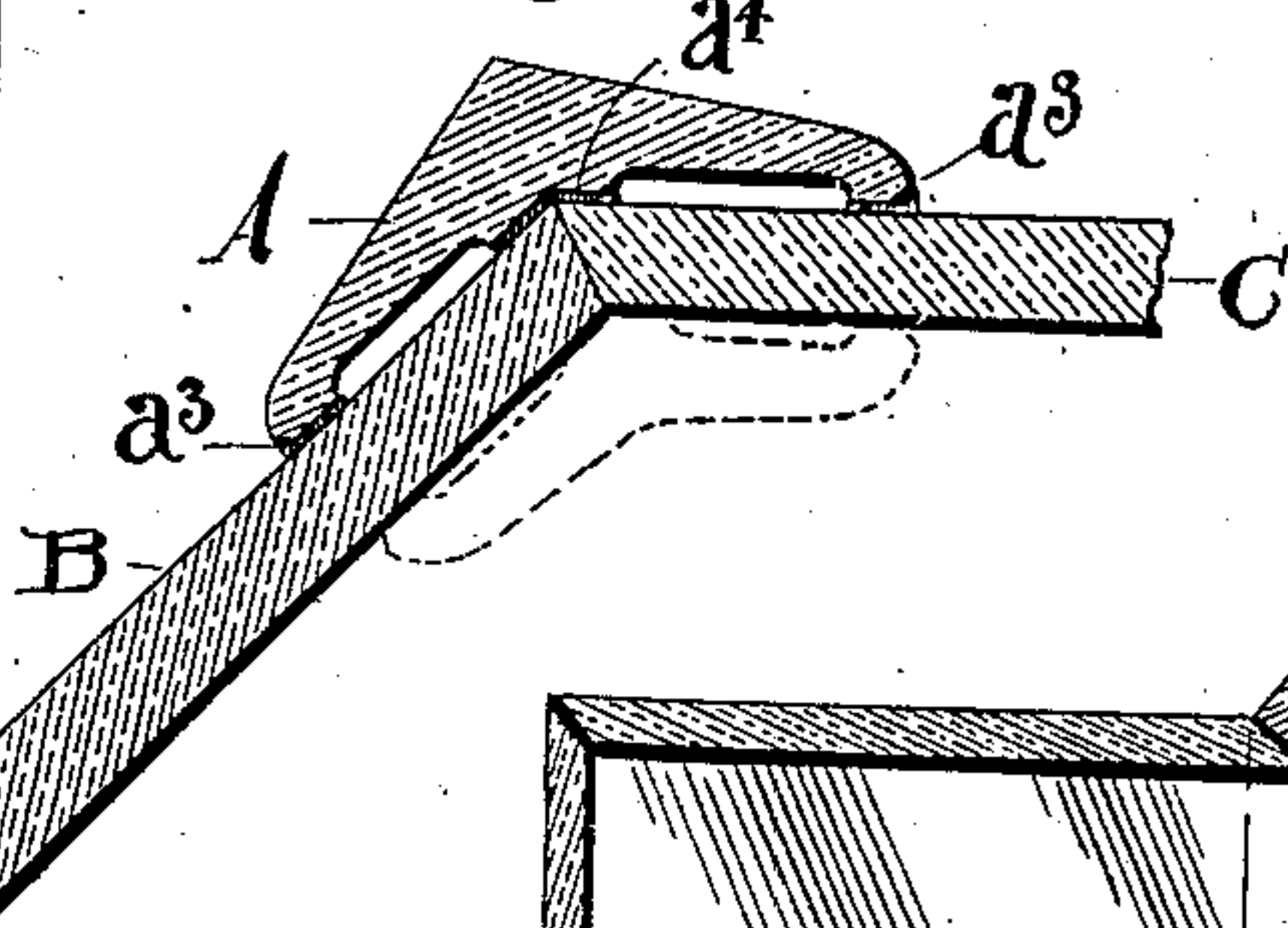
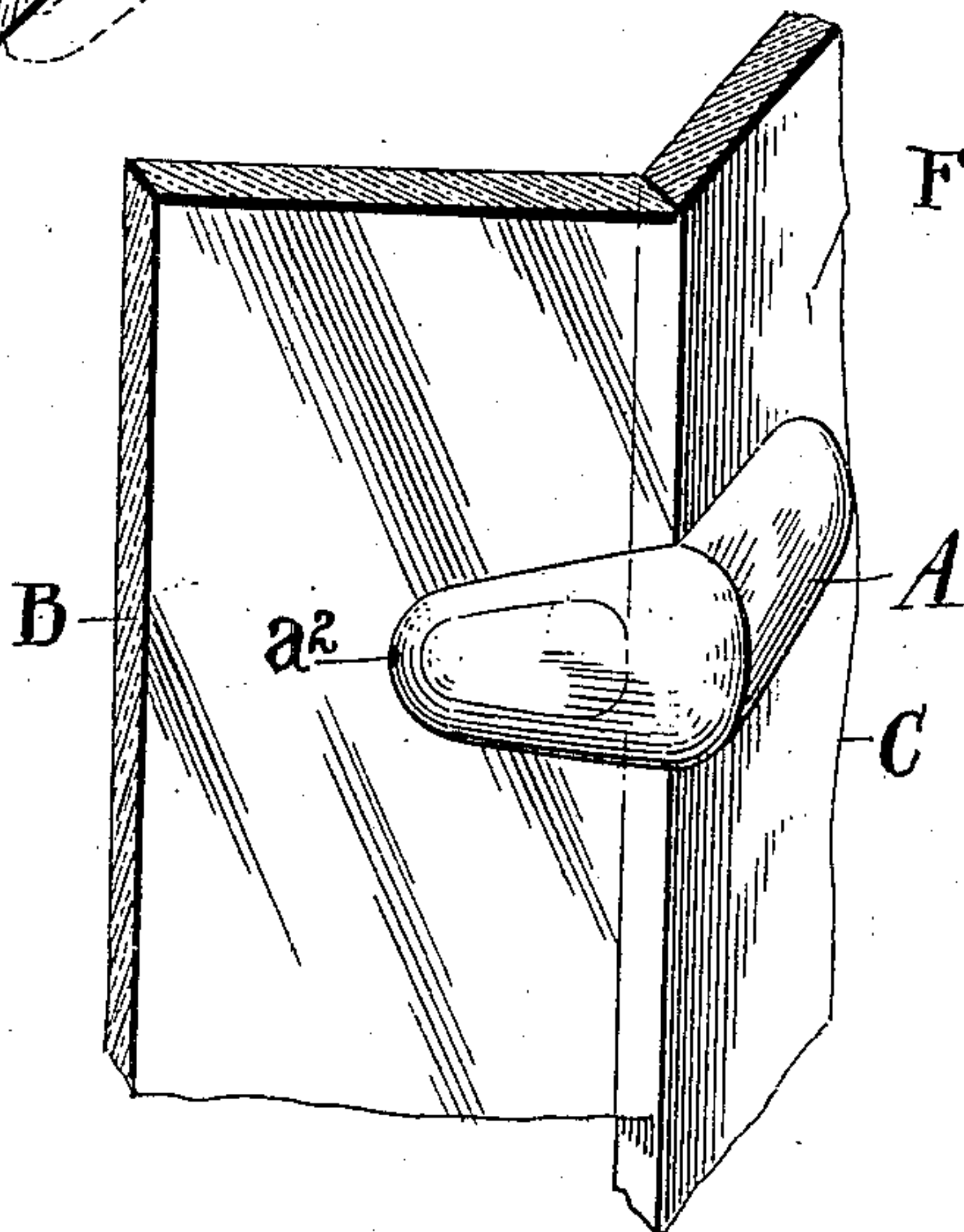


Fig. 6.



ATTEST.
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UNITED STATES PATENT OFFICE.

ROBERT F. ROBINSON AND JOHN H. GRITTNER, OF CLEVELAND, OHIO, ASSIGNORS OF ONE-SIXTH TO AMORILUS ROGERS AND ONE-SIXTH TO I. W. PENCE, OF CLEVELAND, OHIO.

MEANS FOR FASTENING GLASS PLATES IN SHOW-CASES AND STORE-FRONTS.

No. 890,799.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed November 4, 1907. Serial No. 400,603.

To all whom it may concern:

Be it known that we, ROBERT F. ROBINSON and JOHN H. GRITTNER, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Means for Fastening Glass Plates in Show-Cases and Store-Fronts; and we do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to means for fastening glass plates in show cases and store fronts, and the invention consists in new and original means for fastening such plates, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation and Fig. 2 a cross section of portions of two glass plates having our improved fastener in the angle thereof. Fig. 3 is a perspective inside view of the fastener. Fig. 4 shows two glass plates in the same plane and abutting at their edges upon a divisional glass strip and our improved fasteners in the angle of both plates. Fig. 5 is a cross section of two plates and a fastener, with the parts at less than a right angle, and Fig. 6 is a perspective view of plates at an angle showing a fastener across the outer angle thereof.

The invention as thus shown comprises first, an angle piece or fastener A, A' or A², according to the angle, and made preferably of transparent glass and adapted to be permanently and firmly cemented to the glass plates B and C either externally across the outer corners of said plates, as seen in Figs. 5 and 6, or internally, as in Figs. 2 and 4. The said plates are designed to match or abut closely at their engaged edges whether inside or outside fasteners be used, and said edges may be beveled according to the angles of the plates or straight and square, as in Fig. 4. The said fasteners can be made to accommodate any angle the window or the show case may require, whether it be more or less than a right angle, or the connection be straight, as in Fig. 4. In this case we prefer to interpose a glass strip D between the two plates, which extends past the abutting edges of said plates both inward and outward more or less and has the right angled fasteners A located in the inner angles be-

tween said plates and the abutting and joint sustaining member D. This affords two fasteners for each straight joint in addition to the strip D, and makes a very firm joint, requiring no other support. The said fasteners and the deeper edge of said strip or post D are on the inside of the case.

The inner surfaces of the fasteners where they lap upon the plates are provided with cavities, depressions or recesses *a* open to the air and prevent blistering when the cement is applied to the bearing surface *a'* and the fasteners are applied to the plates. Otherwise the cement is liable to fill with air cells and effective cementing is difficult. The cement we preferably use is transparent, so that it will not show through the glass but is so strong and adhesive that the fasteners become integral portions of the plates, and repeated tests have demonstrated that the fasteners will break before they will disengage from the plates. Of course the fasteners can be made as heavy and strong as a given job may require, and for window work they are considerably heavier and stronger than in show cases. Being of transparent glass like the plates, they are inconspicuous and lend a corresponding finish to a job which metallic fasteners cannot do, and are absolutely durable and enduring. The said fasteners can also be exposed to the elements and washed and rubbed indefinitely without deterioration or tarnish, which are great practical advantages. Furthermore, by cementing the fasteners to the plates there is no special fitting, cutting or boring of the plates required to put the fasteners in place, and a perfectly tight job is always obtained because there is nothing to extend through between the plates and separate them. Apart from the fastener the angle is clear its full depth or length inside and out and keeps clean as there is no place for accumulation of dust and dirt.

A very small spread of our cement is all that is required to insure rigid and permanent engagement of the fasteners with the plates, and the adhesion is so perfect that the fasteners are practically incorporated with the plates.

The preservation of the integrity of the plates is another and most valuable advantage in this method of fastening. In large show or store front windows the plates necessarily are very heavy as well as very costly,

and in cases where metallic fastenings are employed and secured directly to the glasses by one mechanical device or another it is found that when a plate settles, as is constantly occurring from one cause or another it unavoidably breaks away that portion which is engaged by the fastening, if it be not more seriously injured, and in many cases the plate is thus rendered permanently unserviceable and a new one has to be provided. Now, with our means and method of fastening, the line of separation or cleavage for a settling plate will come between the edges of the plate as a first condition and then show itself across the weakest place in the fastening, which is approximately in its angle. Thus, the fasteners will take the injury and protect the plates, and the fasteners can be easily renewed. The net value of these fasteners is therefore very considerable and so far as we know and believe they are entirely new in the art.

The air spaces a inside the angle pieces or fasteners are open to the outside by channels or grooves a^2 which are closed with putty or the like when put in place but can be picked open when desired to insert a fluid which will dissolve or loosen the cement and thus enable the fasteners to be taken off. Furthermore the edges of the fasteners are slightly beveled, as at a^3 in order to deepen the cement somewhat at said edges and thus reinforce the fasteners.

What we claim is:—

1. In show windows and cases, glass plates having smooth straight edges bearing directly against each other their entire depth, and means uniting said plates consisting of glass fasteners extending across the intersecting edges of said plates and having flat facing surfaces cemented to the plates, whereby transparent connections are provided for said plates and no notching or other special preparation of the plates to unite them is required.

2. A glass plate fastener for windows and show cases having engaging faces provided with depressions in their middle and flat bearing surfaces about said depressions and having channels a^2 leading from the outside into said depressions, substantially as described.

3. Glass plates arranged edge to edge and angular fasteners consisting of glass and having flat engaging faces cemented to said plates and beveled edges outside next to said plates deepening the cement at that point, said fasteners having each an uncemented depression within its otherwise flat surface and an air channel leading to said depression.

In testimony whereof we sign this specification in the presence of two witnesses.

ROBERT F. ROBINSON.

JOHN H. GRITTNER.

Witnesses:

H. T. FISHER,
F. C. MISNER.