

No. 771,535.

PATENTED OCT. 4, 1904.

E. F. COFFIN.

FASTENING DEVICE FOR SHOW WINDOWS OR THE LIKE.

APPLICATION FILED FEB. 2, 1904.

NO MODEL.

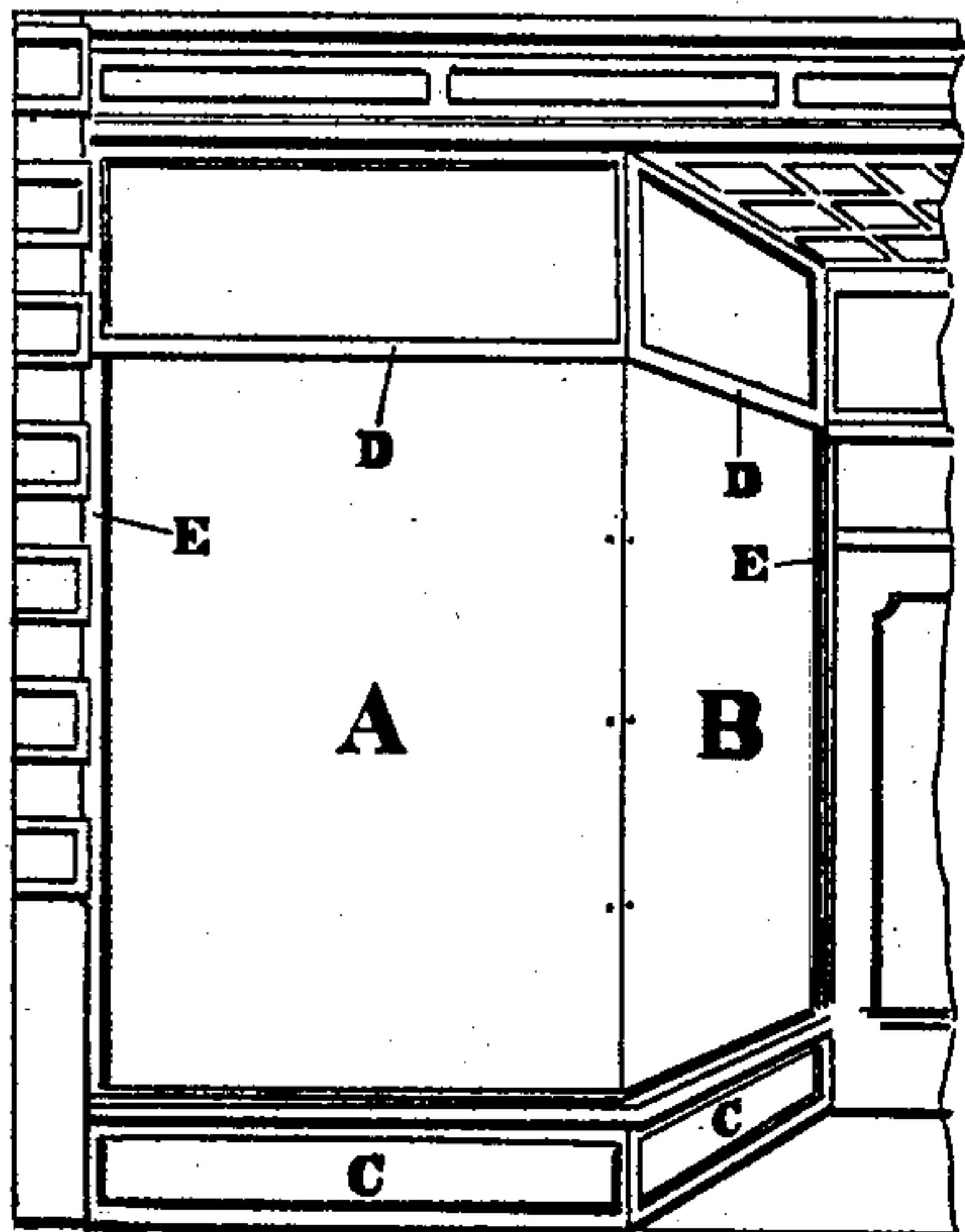


Fig. 1.

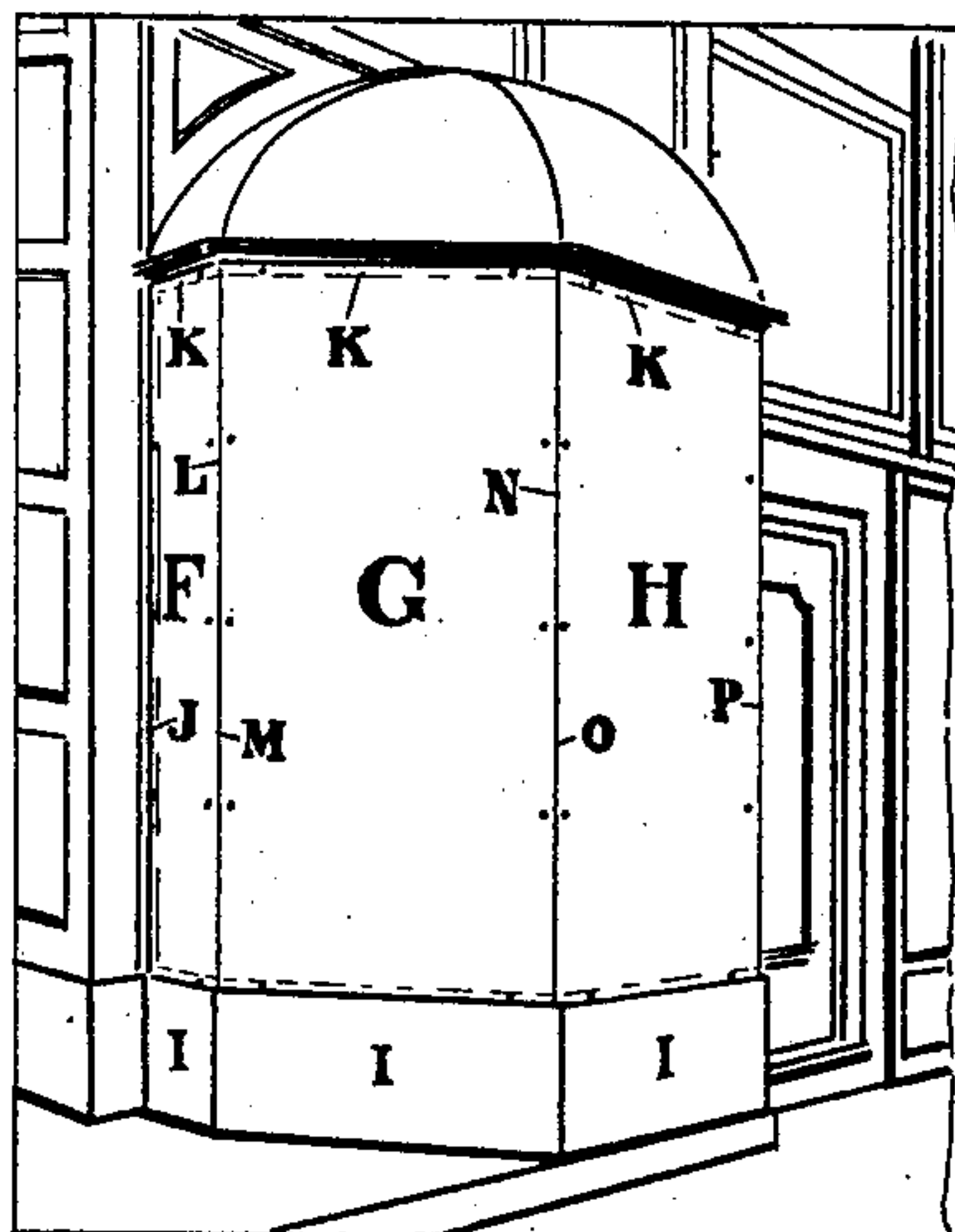


Fig. 2.

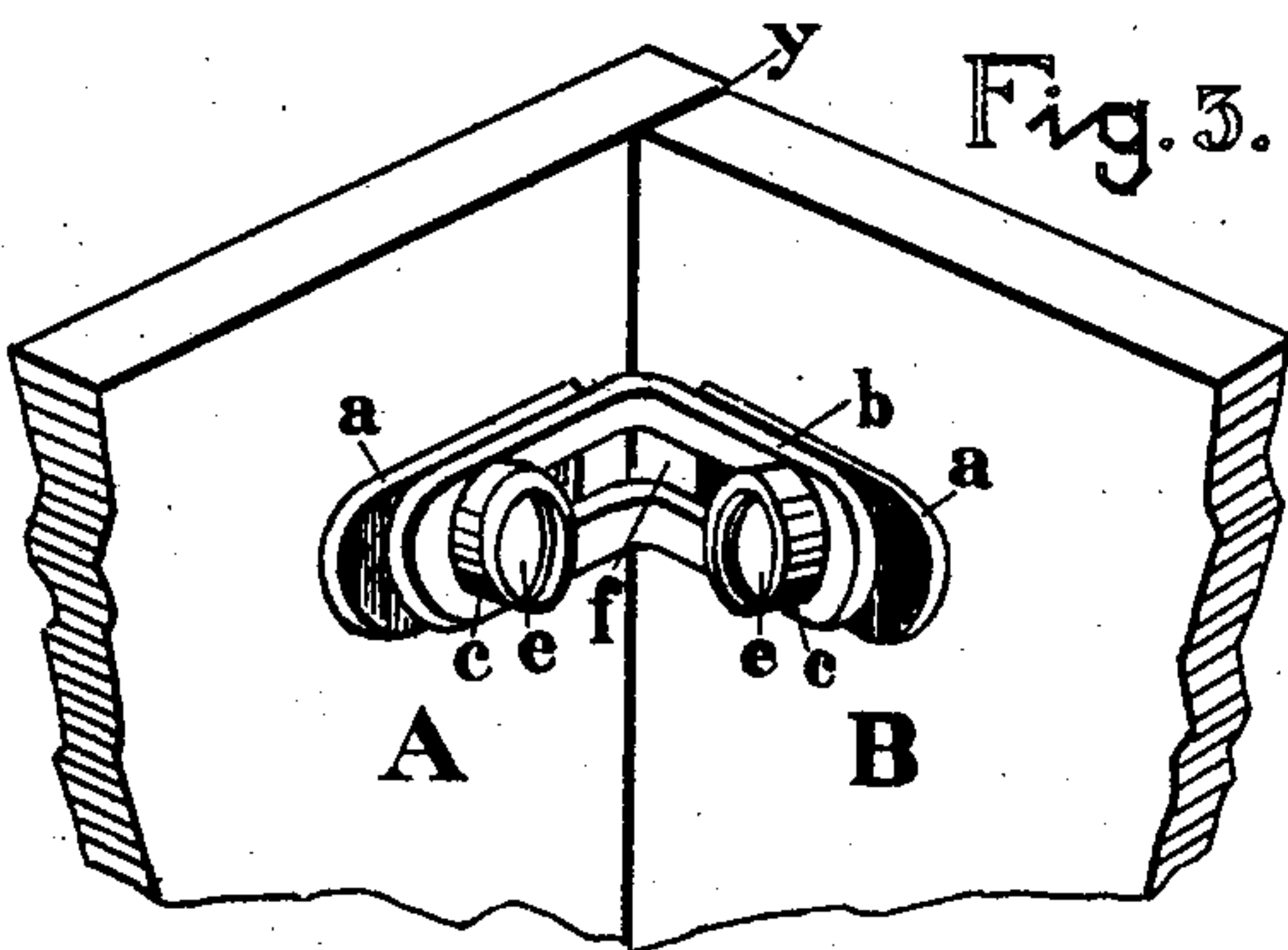


Fig. 3.

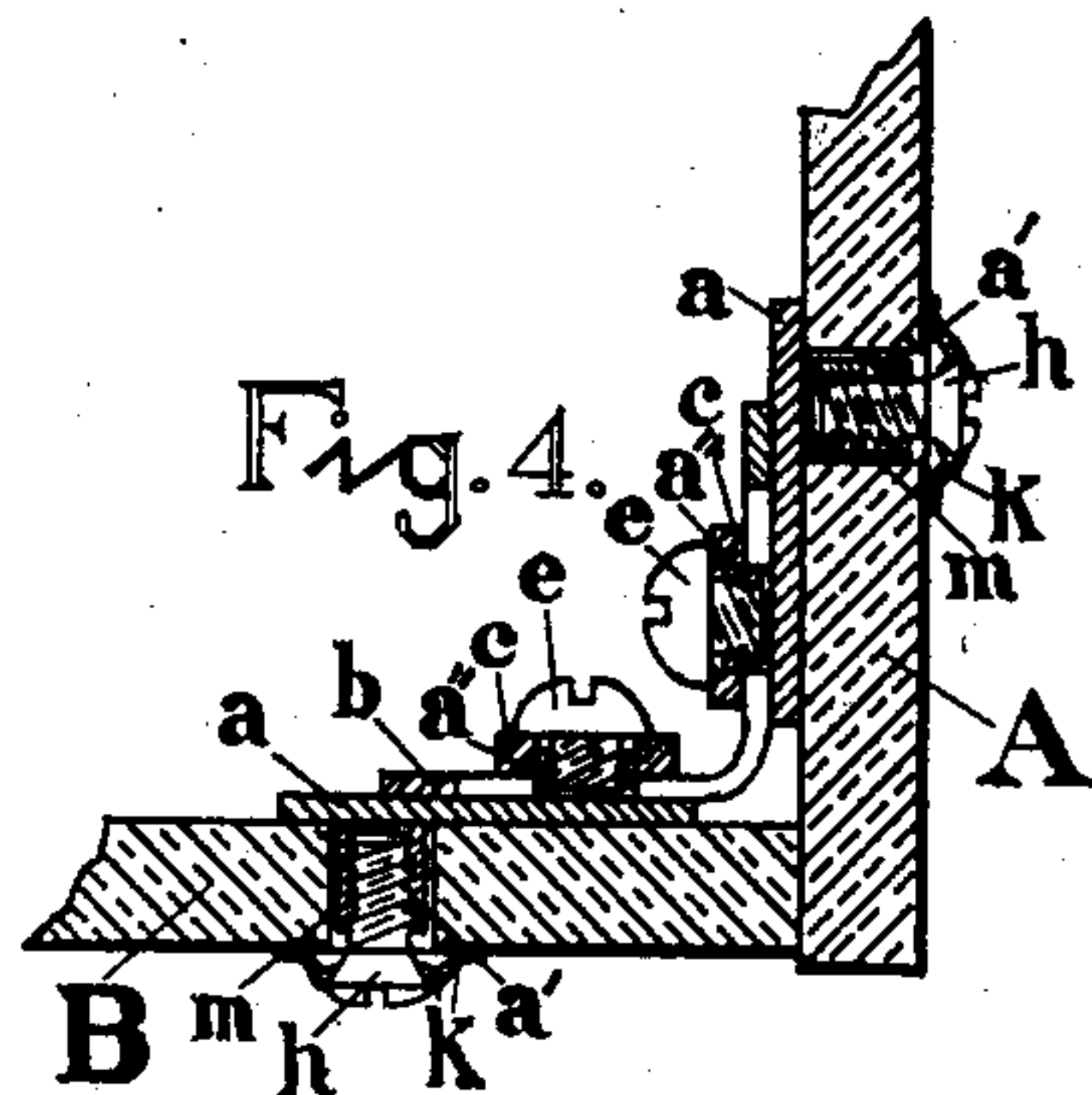


Fig. 4.

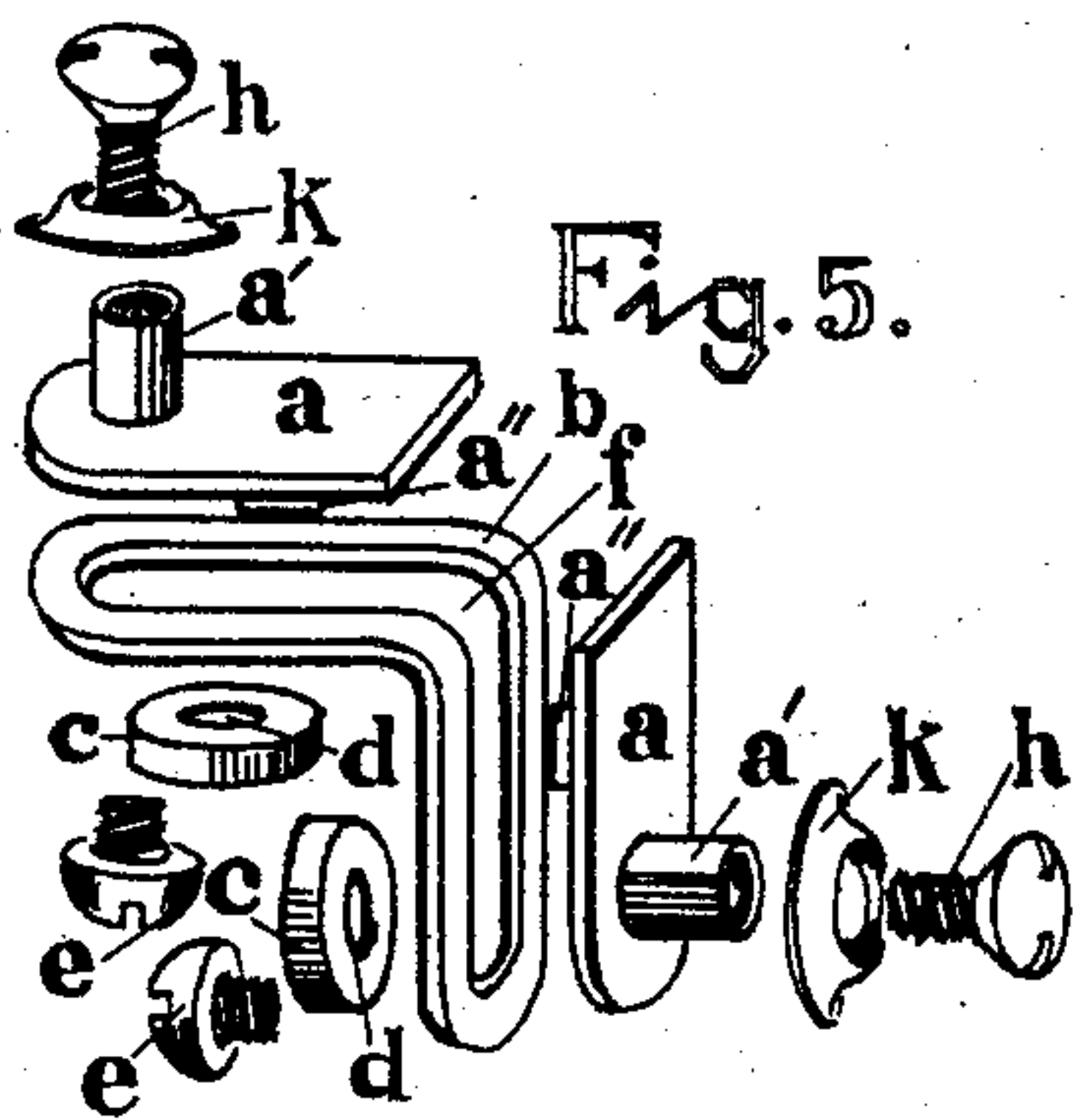


Fig. 5.

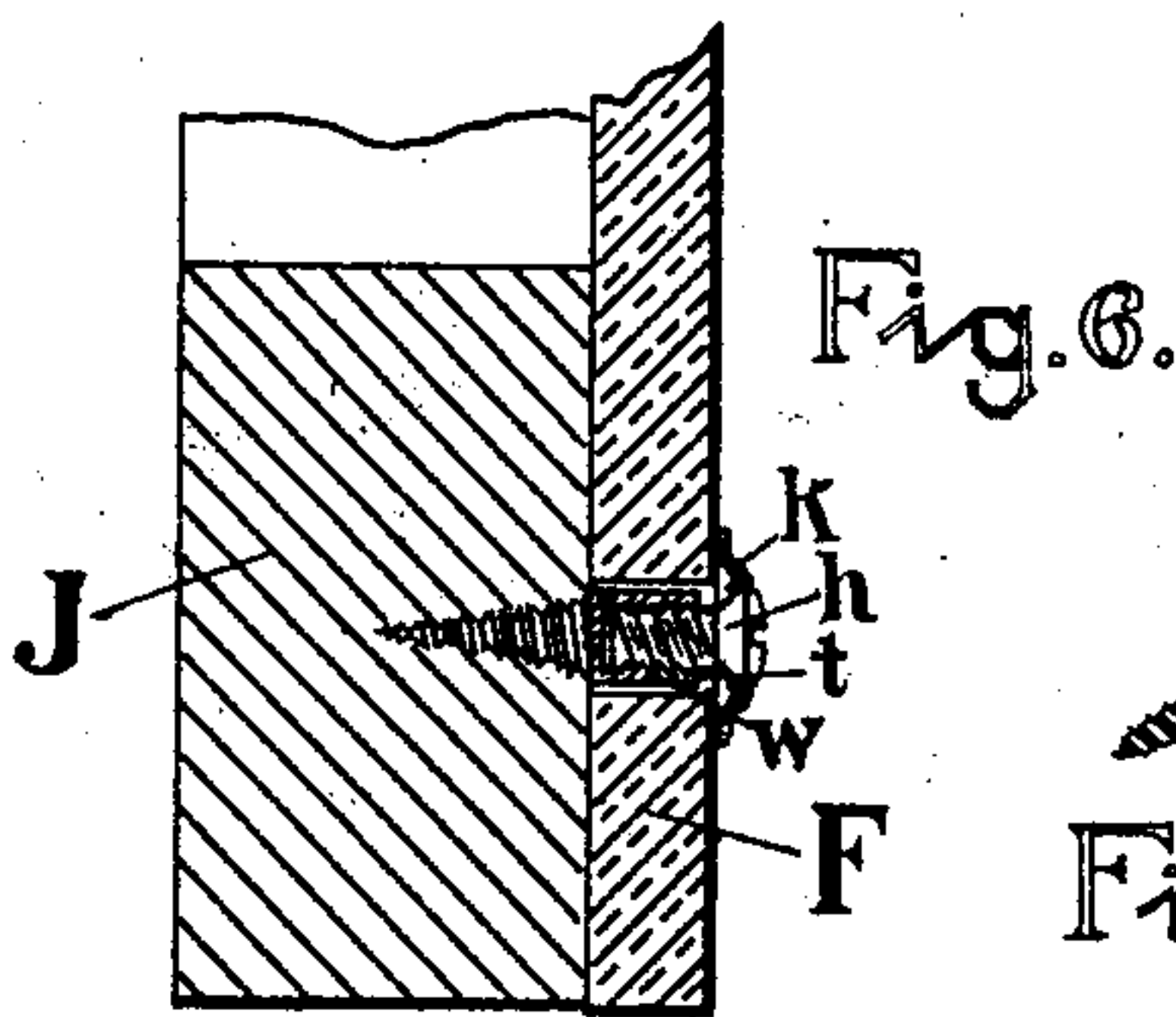


Fig. 6.



Fig. 7.

Witnesses.

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FASTENING DEVICE FOR SHOW-WINDOWS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 771,535, dated October 4, 1904.

Application filed February 2, 1904. Serial No. 191,700. (No model.)

To all whom it may concern:

Be it known that I, EDWARD F. COFFIN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Fastening Devices for Show-Windows or the Like, of which the following is a full and exact specification.

My invention relates to an improvement in fastening devices for show-windows, show-cases, and like objects of that style of construction wherein the glass plates employed are firmly held in place by clamping rather than by framing.

By my invention I provide means by which two joined glass plates will accommodate themselves with respect to each other by self-adjustment when an exceptional strain or pressure is exerted upon one or both of the plates. A very considerable portion of the damage which would otherwise result to the plates is thereby avoided.

My invention also possesses very evident advantages in the convenience with which the glass plates of show-windows, show-cases, and the like may be assembled and fastened together.

The adjustability of the parts of my improved fastening device will allow ample accommodation for a reasonable variation in the positions of any two registering holes drilled in the glass plates without affecting in any respect the strength or security of the article constructed.

In order that those acquainted with the art may understand the nature of my invention, reference may be made to the following description and the accompanying drawings, in which like reference characters indicate like parts.

Figures 1 and 2 are perspective views of show-windows which include my device for fastening the glass plates. Fig. 3 is a perspective view showing my fastening device as applied to the interior angle of two glass plates. Fig. 4 is a cross-section of the same. Fig. 5 is a perspective view showing the component parts of the fastening device. Fig. 6 is a cross-section showing the manner of attaching one of the glass plates to the frame when this is

placed interiorly, as shown in Fig. 2. Fig. 7 is a modified form of screw.

In Fig. 1 the glass plates A and B are supported by the bases C C, top frame D D, and side frames E E. Correspondingly-registering holes having been drilled near the abutting edges of the two adjoining glass plates, the clamping-plates *a a*, Fig. 4, with the permanently-affixed and interiorly-threaded sockets *a' a'*, are placed, respectively, one upon each glass plate at right angles with and extending toward the adjacent edges. The sockets *a' a'* are slightly smaller than and enter centrally into the holes *m m* in the glass plates. The clamping-plates *a a* are then securely fastened to the glass plates by means of the engaging screws *h h* and the metallic spring-washers *k k* in the manner shown and described in the improvement granted me under date of September 29, 1903, Letters Patent No. 740,235, to which reference may be made.

The insertion of any soft material between the metal and glass plates or surrounding the sockets is unnecessary.

When the clamping-plates *a a* have been rigidly affixed to the glass plates, the binding-plate *b*, having the slot-opening *f*, is placed upon the clamping-plates *a a*, with the interiorly-threaded sockets *a'' a''* projecting through the opening *f*. The washers *c c*, having the openings *d d*, are placed over the sockets *a'' a''* and rest upon the binding-plate *b*. The use of these washers may be dispensed with, if found desirable. The screws *e e* are then screwed into the sockets *a'' a''* through the openings *d d* and engage the threads of the sockets. By means of a suitable driver the screws *e e* may be tightened, and the several parts of the device will be firmly held together thereby.

The relation of the several parts in respect to one another will remain fixed, as described, under normal conditions. When, however, an unusual stress or pressure occurs upon either one or both of the two joined glass plates, due to the uneven settling of the supports of the plates or from like causes, the clamping-plates *a a*, having been so firmly secured to the glass plates as to be almost integral therewith, will move with the plates, and

the sockets $a'' a''$ with the washers $c c$ will move correspondingly in the opening f of the binding-plate b .

To insure the desired freedom of movement of the sockets $a'' a''$ in the opening f of the binding-plate b , it will be found that while in assembling the parts the clamping-plates $a a$ should be so tightly affixed to the glass plates by means of the sockets $a' a'$ and spring-washers $k k$ as to act almost integrally therewith in order to keep the sockets $a' a'$ from coming in contact with the edges of the holes $m m$. The washers $c c$ do not require to be tightened to any such degree to perform their function of keeping the component parts of the device together under ordinary conditions. Consequently when an exceptional strain or pressure occurs upon either or both of the joined glass plates, this strain will in turn be imparted immediately to the parts of the fastening device. The sockets $a'' a''$, as shown above, being less securely held in attachment with the binding-plate b than are the sockets $a' a'$ to the glass plates, they will be more quickly affected by the strain and acting in response to it will move automatically in the slot f . This adjustment will relieve the pressure upon the glass plates, and the fracture of one or both of them will thereby be prevented. It will also be observed that the binding-plate b can turn to some extent on screws e as pivots to accommodate itself to the change of position of the plates. While a joint is opened between the two glass plates, the occasion for the strain can be ascertained and the cause of the same can be removed. The glass plates may then again be brought into their proper position with relation to one another, and the angle-plates can be readjusted to their normal condition.

Fig. 2 indicates a variation in the manner of holding the glass plates in position. The abutting edges $L M$ of the plates $F G$ and $N O$ of the plates $G H$ are secured together by means of my improved fastening device in the manner already described in connection with Fig. 1. The ordinary manner of holding the non-abutting sides of the plates is by means of external frames, as indicated at $D D E E C C$, Fig. 1, which are interiorly rabbeted to receive the plates. In order to render the framing as inconspicuous as possible, thereby enhancing the appearance of the show-window, the glass plates may be attached outside of the frames. Holes having been drilled near the tops and non-abutting sides of the plates, they are firmly secured to the frame, as indicated in Fig. 6.

The modified screw in Fig. 7, which is interiorly threaded at its top end after the manner of a socket, is screwed into the frame J . The glass plate F with the hole t is placed over the top of the screw w and securely fastened to the frame J by means of the screw h and spring-washer k .

The show-windows may be made tight by means of a cement filling, as illustrated at y , Fig. 3, or by attaching thin strips of felt or other like material to the contacting edges of the respective glass plates.

I have thus far described my invention as being applicable to the glass plates of show-windows; but it is clear that it is equally applicable in the construction of show-cases, for mounting pictures, mirrors, glass signs, and the like without exterior frames and in connection with other allied arts.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A fastening device for fragile plates, comprising clamping-plates provided with means for attachment to the fragile plates, and a binding-plate adjustably secured to the clamping-plates, substantially as described.

2. A fastening device for fragile plates, comprising clamping-plates, each provided with a socket, and adapted for attachment to the fragile plates, and a binding-plate adjustably secured to the clamping-plates, substantially as described.

3. A fastening device for fragile plates, comprising clamping-plates, provided with means for attachment to the fragile plates, and a slotted binding-plate adjustably secured to the clamping-plates, substantially as described.

4. A fastening device for fragile plates, comprising clamping-plates, each provided with a threaded socket, and adapted for attachment to the fragile plates and a binding-plate adjustably secured to the clamping-plates, substantially as described.

5. A fastening device for fragile plates, comprising clamping-plates, each provided with an internally-threaded socket and with means coöperating with the socket to secure the clamping-plate to a fragile plate, and a binding-plate adjustably secured to the said clamping-plates, substantially as described.

6. A fastening device for fragile plates, comprising a plurality of clamping-plates with means for rigidly attaching them to the fragile plates, in combination with a slotted binding-plate adjustably secured to the clamping-plates, substantially as described.

7. A fastening device for fragile plates, comprising a slotted binding-plate, and a plurality of clamping-plates, each of the clamping-plates being provided with means for securing it to a fragile plate and being also provided with means coöperating with the slot in the binding-plate so that the clamping and binding plates may be adjustably secured together, substantially as described.

8. A fastening device for a fragile plate, comprising a slotted binding-plate, and a clamping-plate, the latter being provided with means for rigidly securing it to a fragile plate and with means coöperating with the slot in the binding-plate so that the two plates may

be adjustably secured together, substantially as described.

5 9. A fastening device for a fragile plate, comprising a binding-plate and a clamping-plate, means for securing the said clamping-plate to a fragile plate, and means for adjustably securing together the said binding and clamping plates, substantially as described.

10 10. A fastener for a fragile device comprising a binding means, and a clamping means, the latter being provided with means for attachment to a fragile device, and means for adjustably securing together the binding and clamping means, substantially as described.

15 11. A fastening device for a fragile plate, comprising a binding-plate, and a clamping-plate, means for securing the latter to a fragile plate, and cushioning means for coöperation with said plates whereby the binding and clamping plates are adjustably secured together, substantially as described.

20 12. A fastening device for a fragile plate, comprising a slotted binding-plate, a clamping-plate, means for securing the latter to a fragile plate, and cushioning means coöperating with said binding and clamping plates for adjustably securing them together, substantially as described.

25 30 13. A fastening device for a fragile plate, comprising a binding-plate, a clamping-plate,

means for securing the latter to a fragile plate, and means, including a spring-washer, for adjustably securing together said binding and clamping plates, substantially as described. 35

14. A fastening device for a fragile plate, comprising a slotted binding-plate, a clamping-plate, means for securing the latter to a fragile plate, and means, including a spring-washer, for adjustably securing together the said binding and clamping plates, substantially as described. 40

15. A fastening device for a fragile plate, comprising a slotted binding-plate, a clamping-plate, means for securing the latter to a fragile plate, and screw-threaded means and spring-cushioning means for adjustably securing together the said binding and clamping plates, substantially as described. 45

16. A fastening device for fragile plates, comprising a plurality of clamping-plates, means for rigidly attaching them to the fragile plates, in combination with a binding-plate adjustably secured to the clamping-plates, substantially as described. 50

55 In testimony whereof I affix my signature in the presence of two witnesses.

EDWARD F. COFFIN.

Witnesses:

JOSEPH K. GREENE,
ADDIE A. RICH.