

(No Model.)

W. H. COSPER.
Weather Strip.

No. 231,151.

Patented Aug. 17, 1880.

Fig. 1.

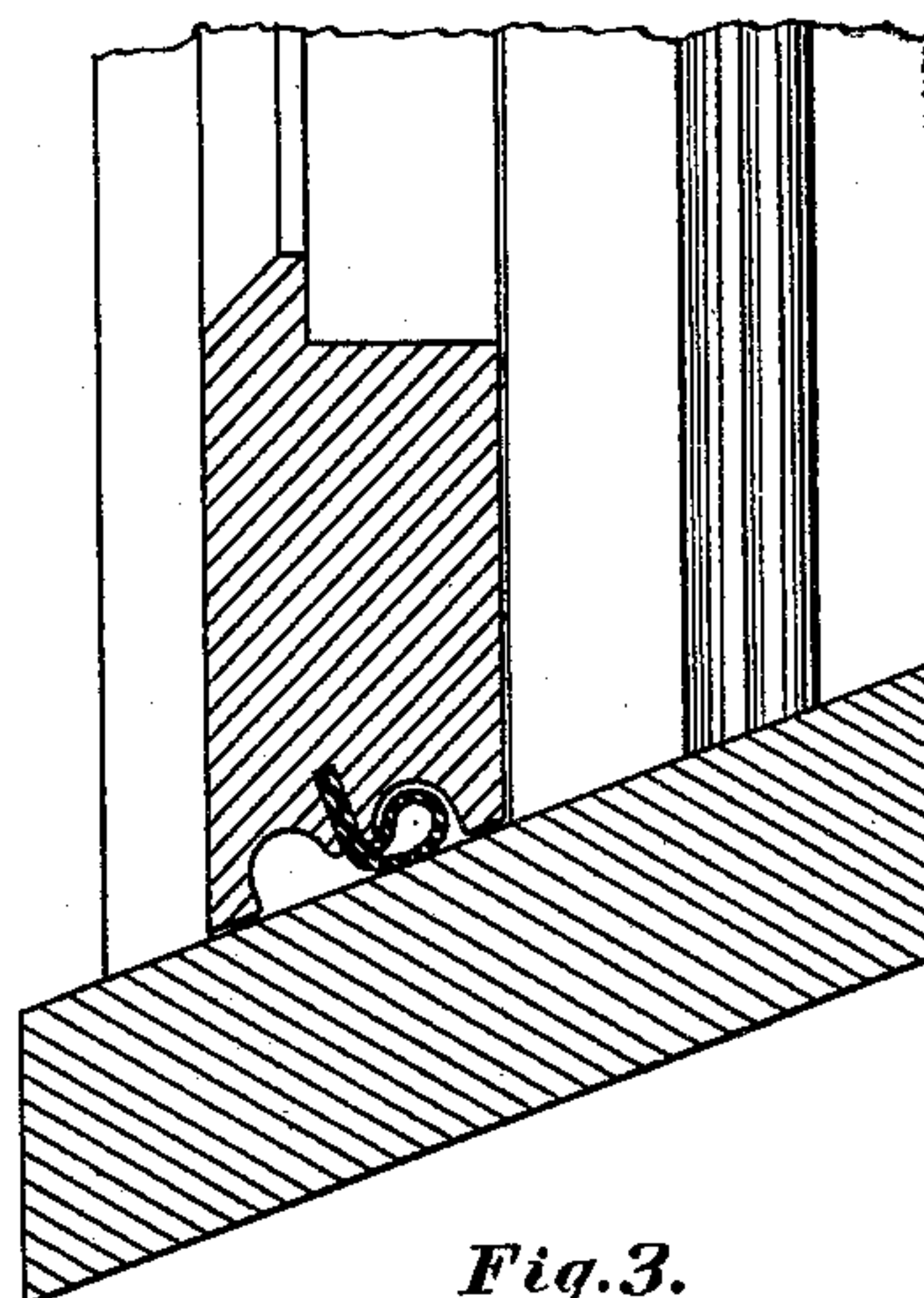
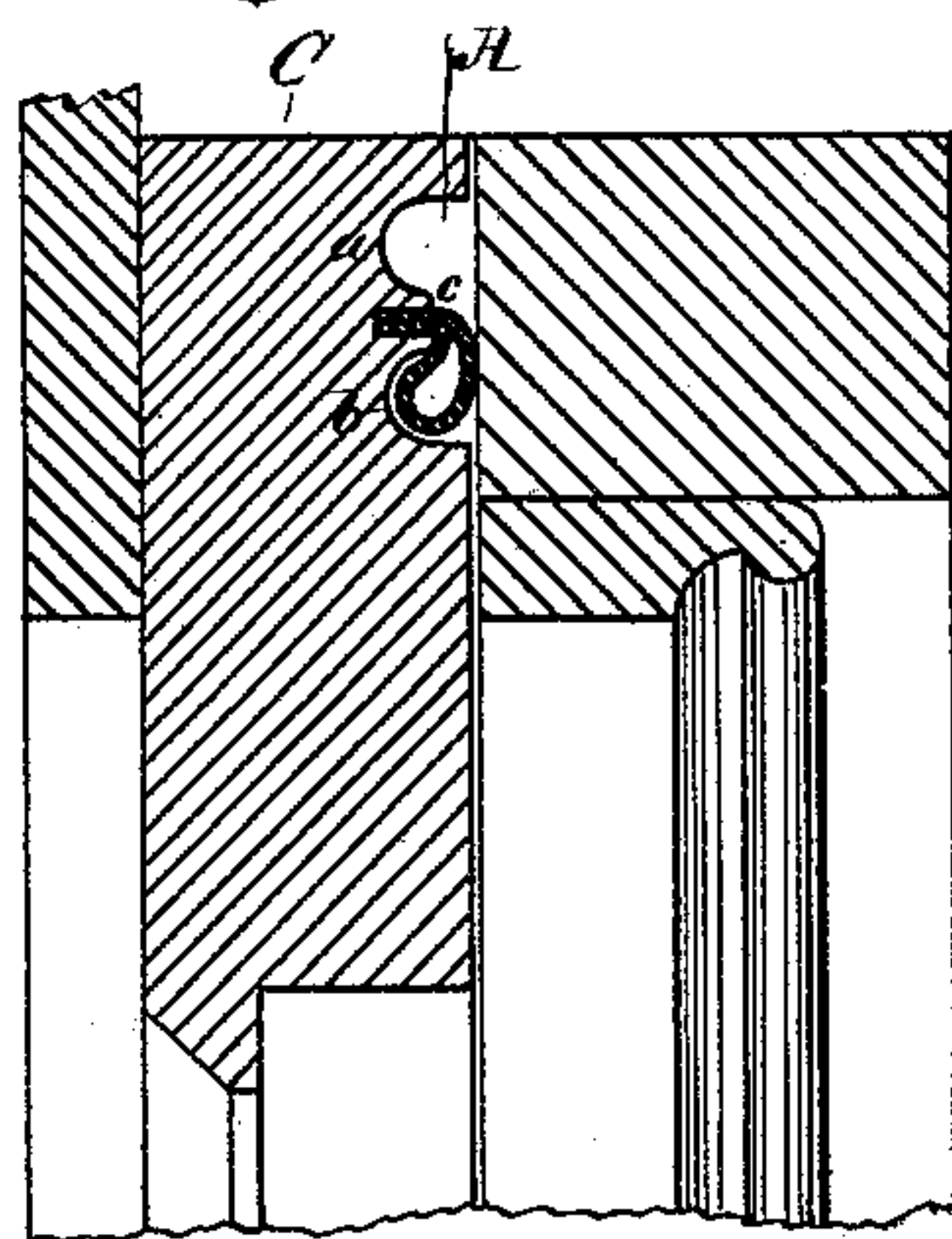
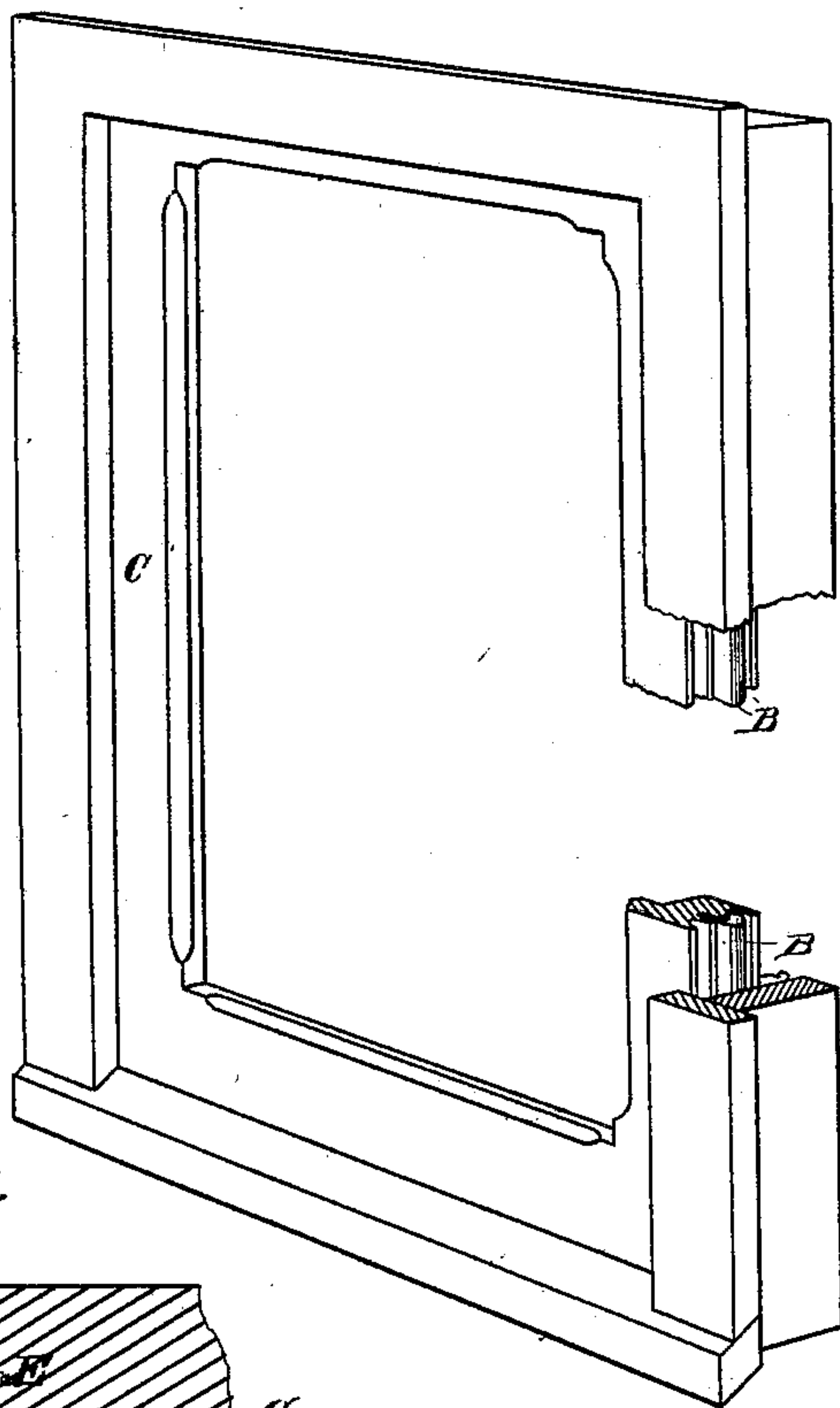


Fig. 3.

Fig. 5.

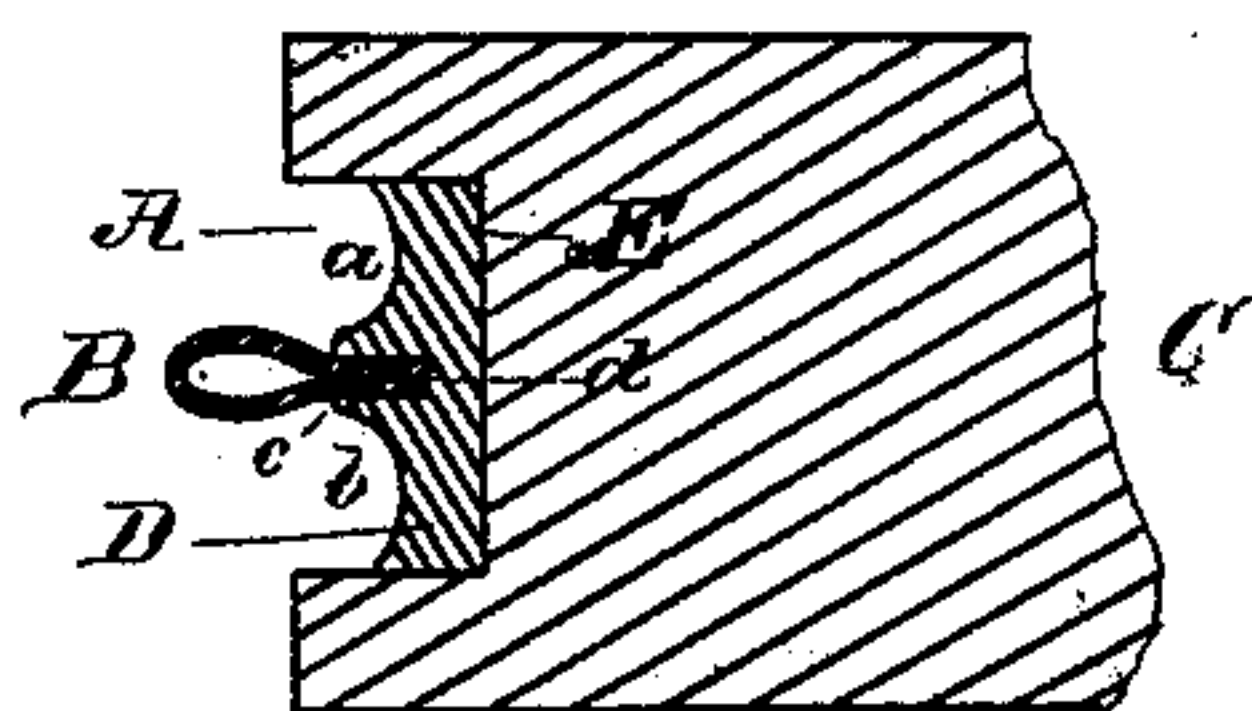


Fig. 2.

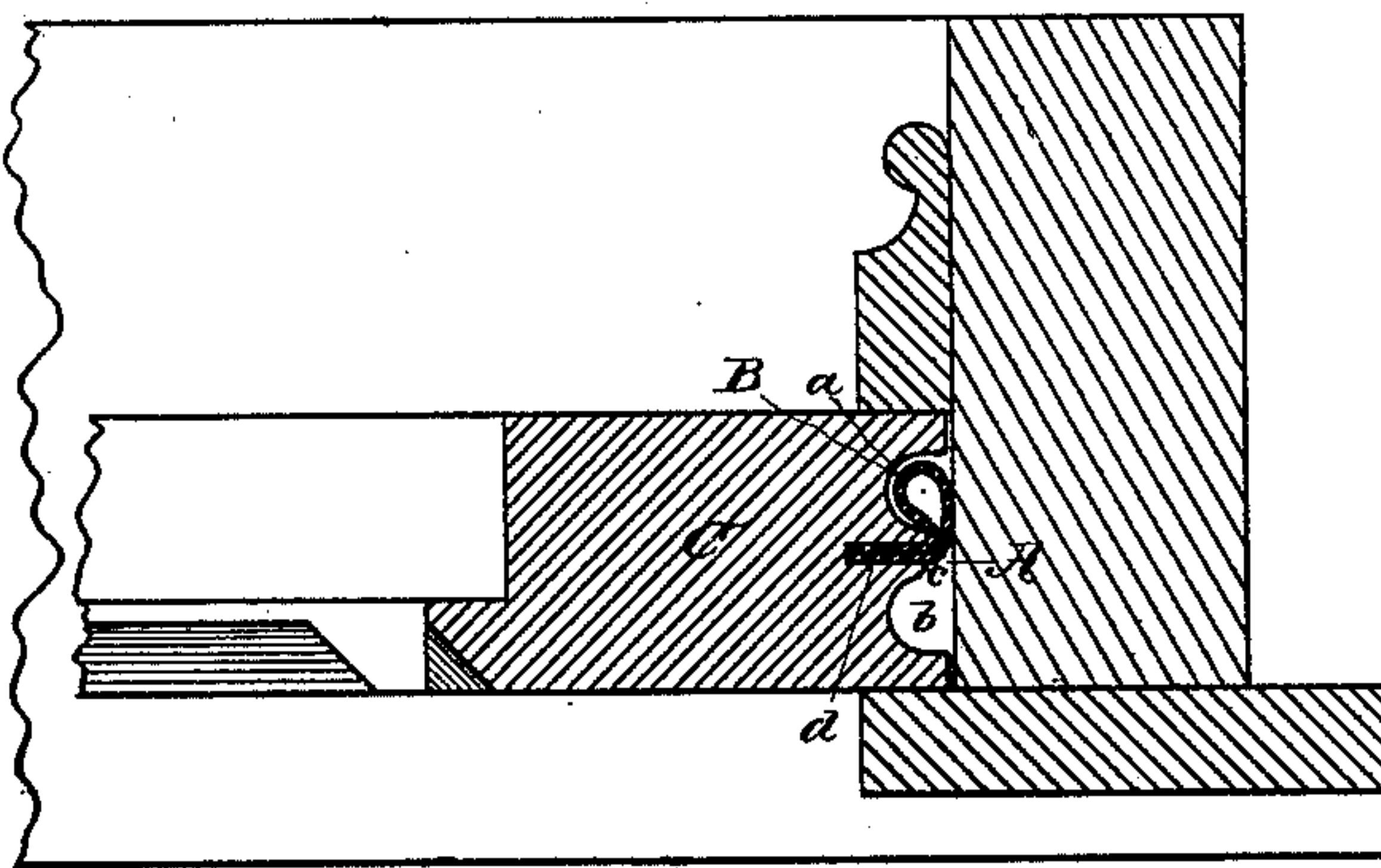
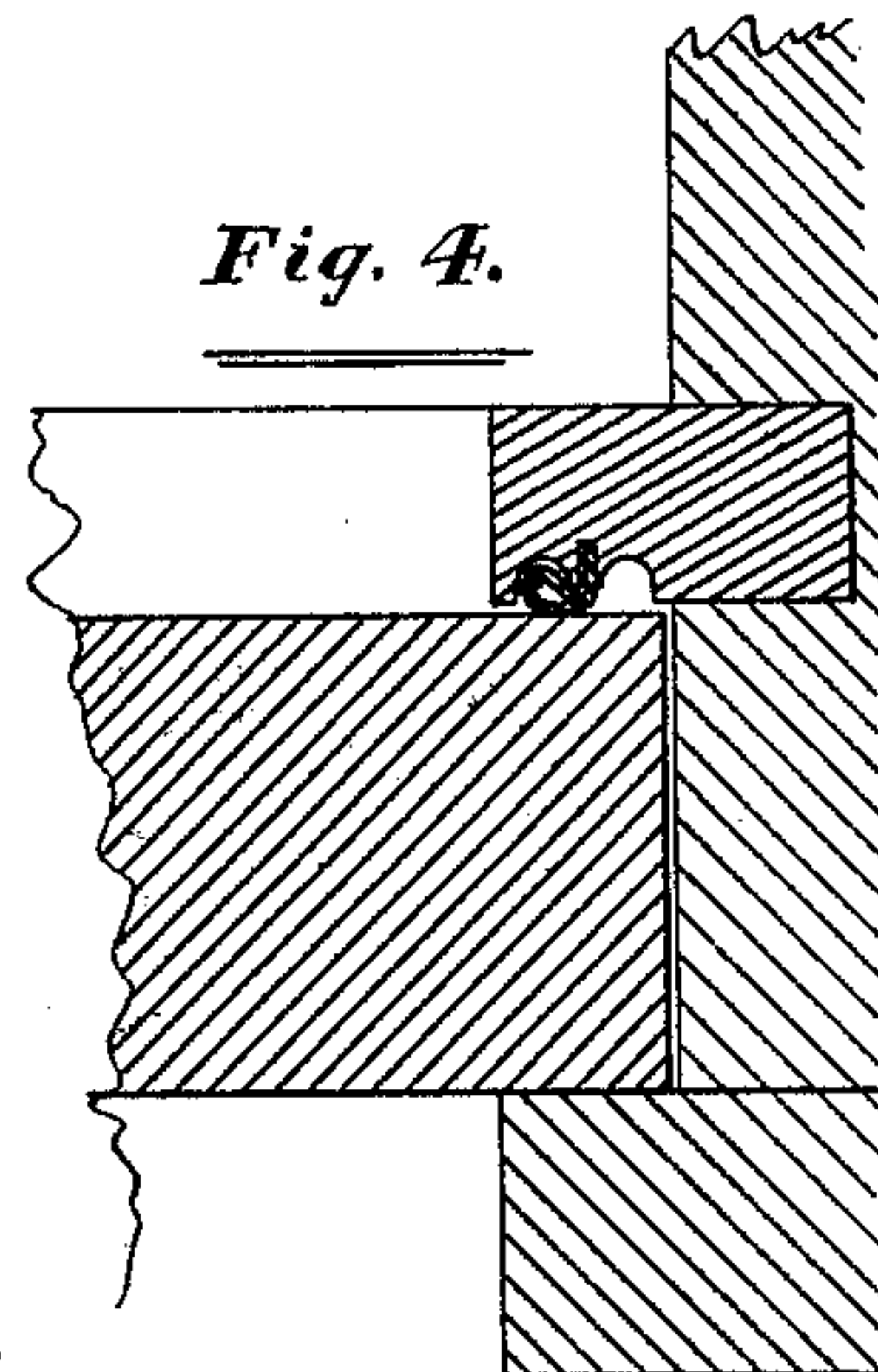


Fig. 4.



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UNITED STATES PATENT OFFICE.

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WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 231,151, dated August 17, 1880.

Application filed March 29, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY COSPER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Closing-Strips for Windows and Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to closing-strips for windows and doors, commonly called "weather-strips."

It consists in the novel features of construction hereinafter described, and pointed out in the claims.

In the several figures of the drawings I have shown my improvement in connection with a looped or folded flexible closing-strip, which is the form of strip preferred.

Figure 1 is a perspective view of a single-sash window and frame—as, for example, a railroad-car window—with parts broken away to show my improved mode of applying the closing-strip directly to the sash. Fig. 2 is a horizontal section of a window-sash, showing my improvement applied. Fig. 3 is a vertical section of a car-window sash having the strip of my improved construction applied at the bottom, and also across the face of the sash at the top. Fig. 4 shows the invention applied to a parting-stop; and Fig. 5 shows a detachable strip of wood or metal, having the closing-strip set centrally therein and secured removably in a groove of proper depth in a door or window edge.

A is a broad groove formed in a sash, jamb, parting-stop, or other part of a window or door, or in a detachable part to be applied to a window or door at an appropriate place to receive a closing-strip. (Herein designated by the letter B.) Said closing-strip is firmly set in a central cut, *d*, of said groove A, which cut is vertical to the face-line of the part having the groove.

The groove A has a central ridge, *c*, rising on both sides of the central saw-cut, *d*, and having, therefore, at each side thereof the minor parallel grooves *a* and *b*. Said ridge *c* is below the line of the face in which the groove A is cut sufficiently to not bind the strip B be-

tween the ridge and an adjacent frame, jamb, or other part; but, on the other hand, is high enough to cause a short bend in said strip when the sash and jamb, for example, are in contact. By reason of this shallowness of the groove in the line of insertion of the flexible closing-strip giving a sharp bend therein, as described, two useful ends are attained, namely: First, the strip will bear with greater force outward to tightly close a passage, and, second, a narrower strip will serve to close the ordinary range of spaces to be provided for.

The grooves or spaces *a* and *b* should be deeper than the thickness of the closing-strip, in order that the latter may not be at any time, or when turned in either direction, closely bound, and thereby loosened or drawn out in the movement of the sash or door. When a folded strip is used said grooves or spaces should be of sufficient depth to allow the loop to lie open or uncompressed therein, as shown in Figs. 2, 3, and 4, since it is evident that the resiliency of the looped strip B will be greatly lessened, and its efficiency therefore much diminished, by pressing the inner surfaces of the loop together after turning the loop to one side. When long held thus compressed and bent the surfaces of the loop in contact permanently adhere, and all useful elasticity is lost.

In the sash of Fig. 3, as in a door-edge, two grooves, *a* and *b*, obviously permit the strip B to roll from one minor groove to the other as the sash or door is opened or closed, and such occasional change of position on the part of the loop, if permitted to lie open and uncompressed, as shown, rather improves than lessens its efficiency in point of resiliency.

In Fig. 4 the same utility is found in the application of the wide or double groove A with the closing-strip of a parting-stop, since, by the lateral movement of a loose sash the closing-strip is liable to be turned to either side of its line of insertion. With the construction of groove shown it may be thus turned with freedom, and may, indeed, be turned at one end to one side and at the other to the other side without lessening its efficiency as a closing-strip.

In Fig. 5 a sash or door frame is shown with a board rectangular groove, E, in its edge, having inserted and removably secured there-

in the wooden or metal strip D, which immediately holds the closing-strip B. The advantage of removability of the part directly supporting the closing-strip when applied to a door or large sash is obvious in case it is necessary to replace the strip B, the application of the strip D being more easily made than the insertion of the strip B when and where the door is in use.

10 Having thus described my invention, I claim—

1. The sash-stop or other part provided with the broad groove A, having the central ridge, c, lower than the grooved face, combined with
15 the closing-strip B, inserted in the ridge c, sub-

stantially as described, and for the purposes set forth.

2. In a sash, door, or other part, the folded or looped closing-strip B, supported centrally between the parallel grooves *a* and *b*, said 20 grooves being of such depth as to allow the closing-strip to lie in either groove with its folds not in contact, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence 25 of two witnesses.

W. H. COSPER.

Witnesses:

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JESSE COX, Jr.