

No. 814,893.

PATENTED MAR. 13. 1906.

C. VOSE.

WEATHER STRIP.

APPLICATION FILED AUG. 7, 1903.

Fig. 1.

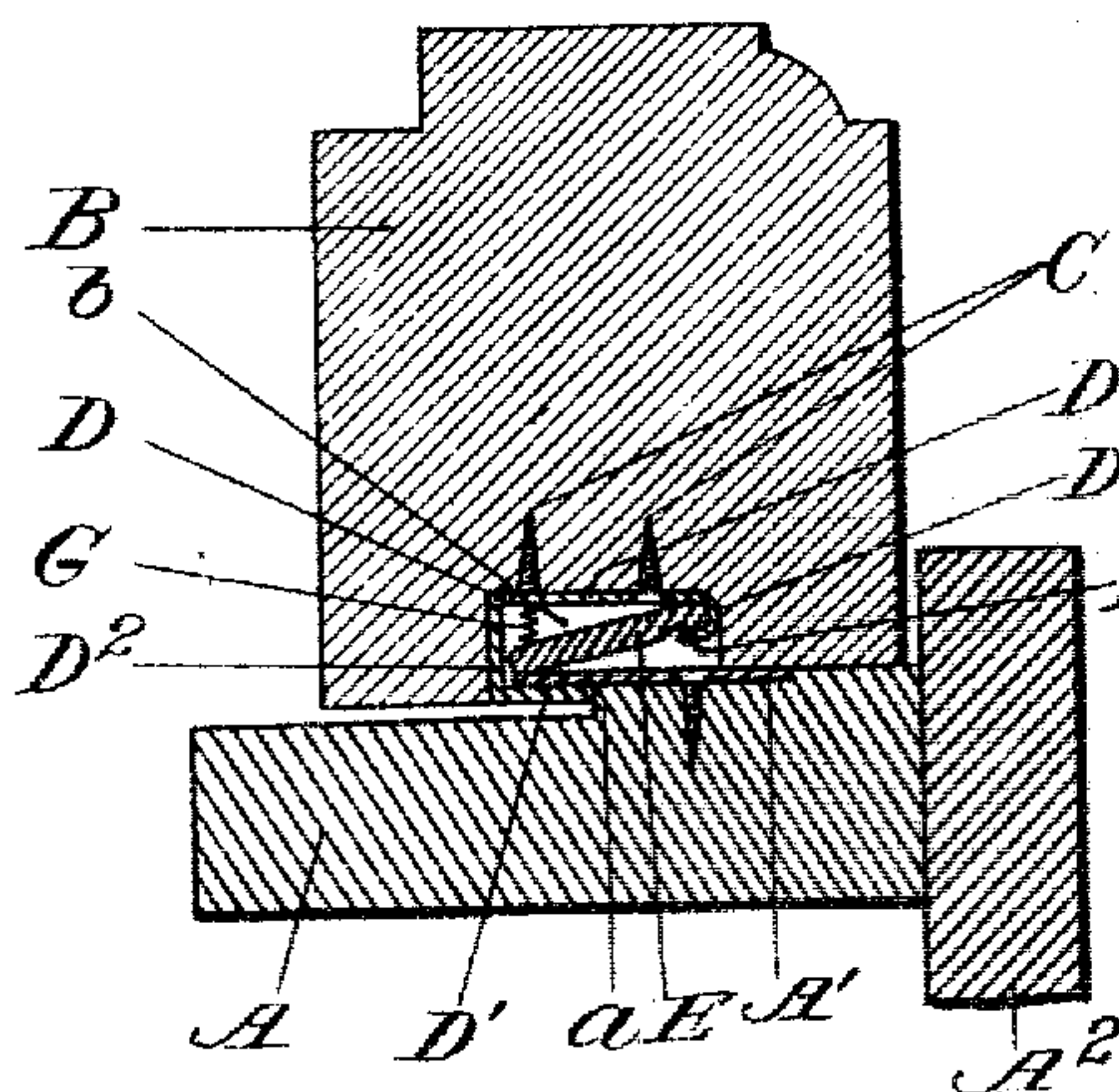


Fig. 2.

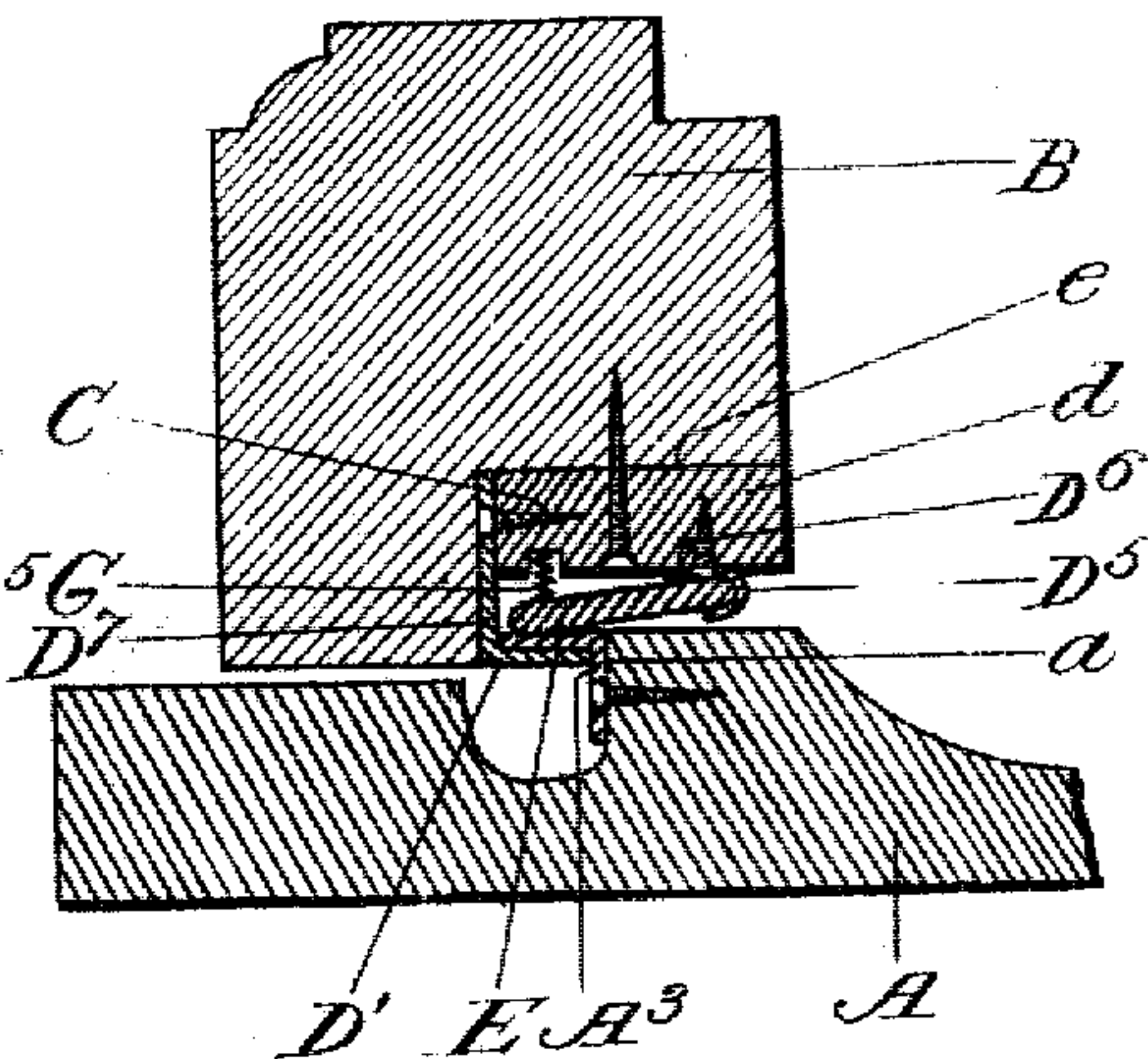


Fig. 3.

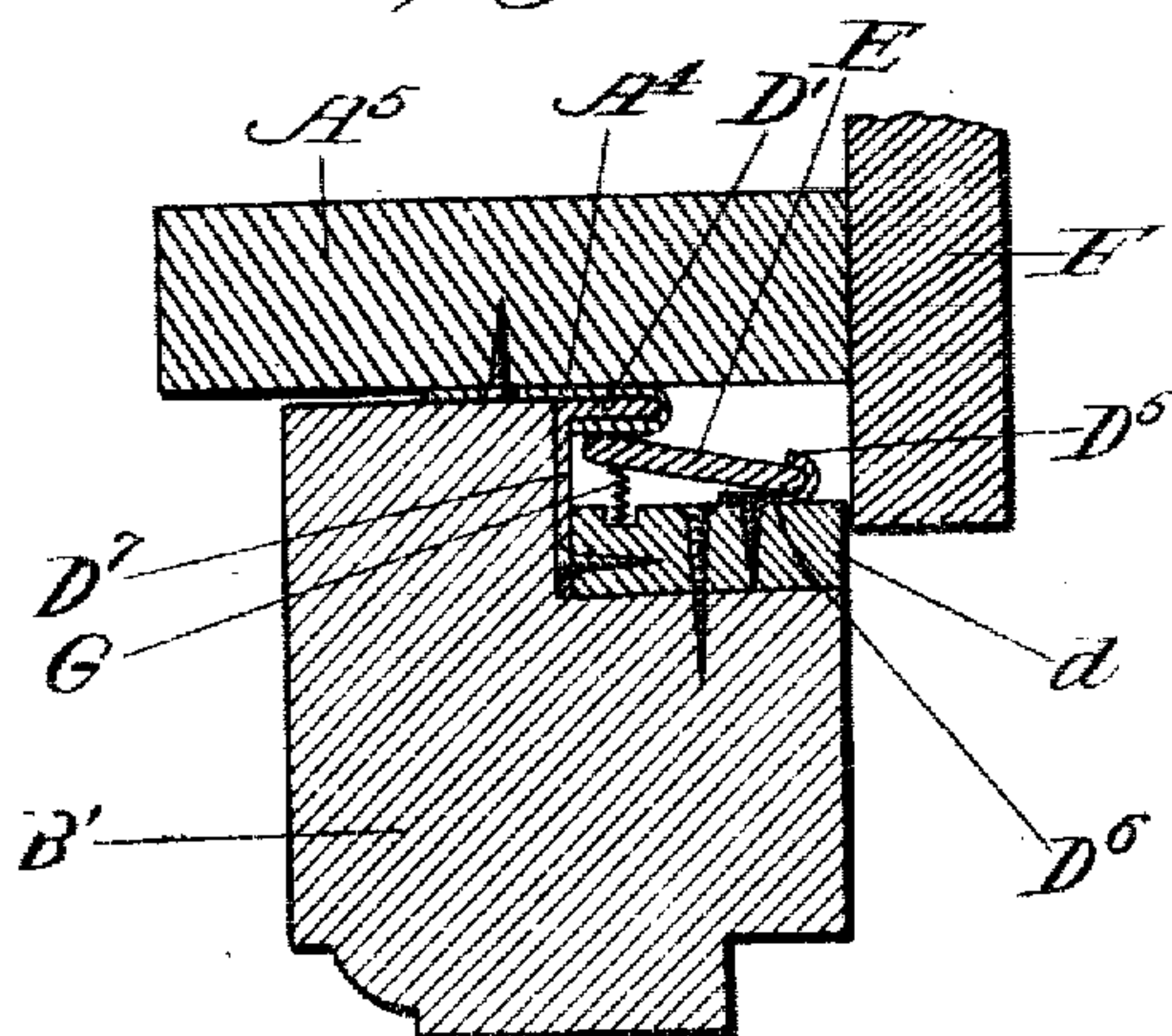
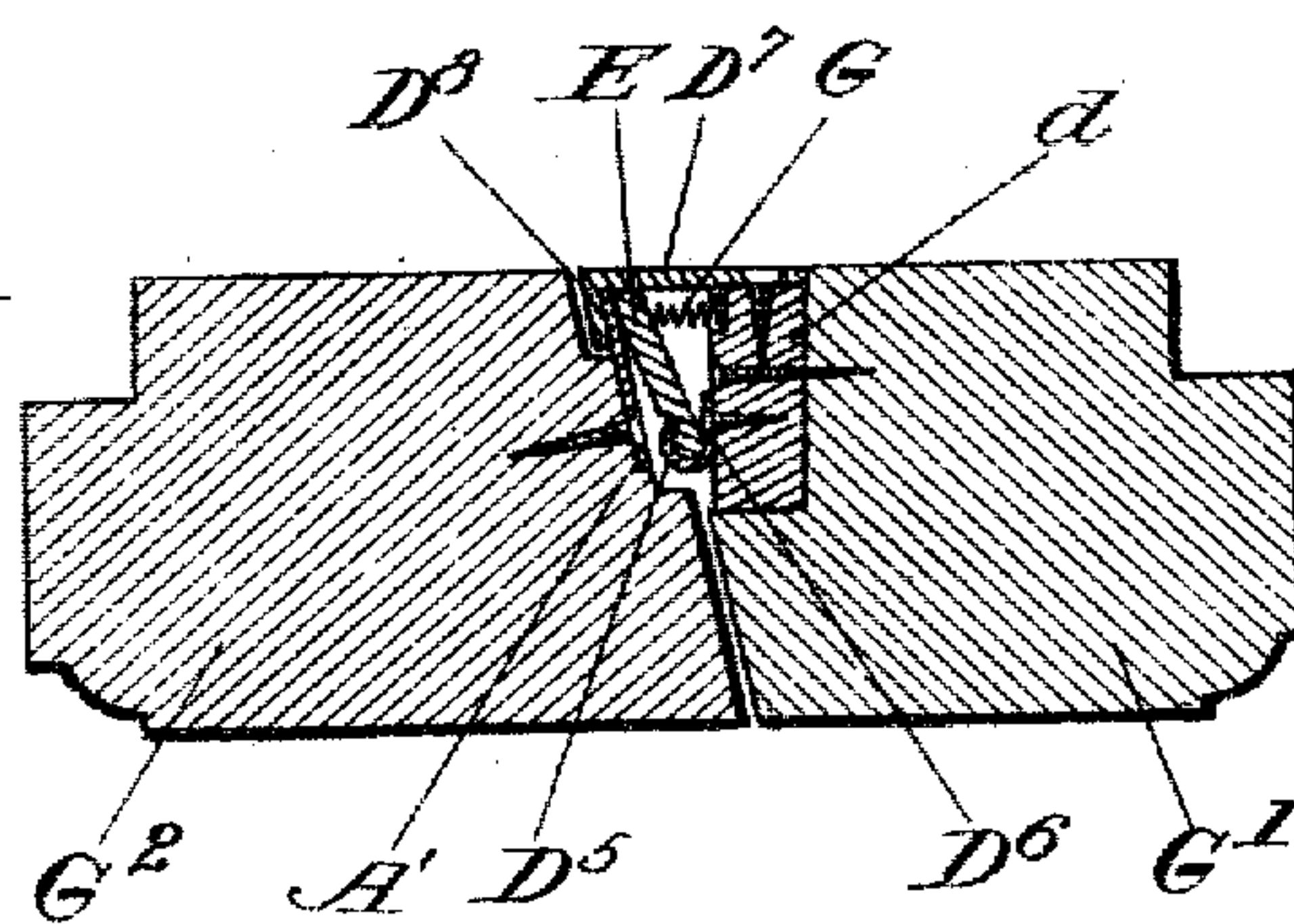


Fig. 4.



Witnesses

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By

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# UNITED STATES PATENT OFFICE.

CLIFTON VOSE, OF BROOKLYN, NEW YORK.

## WEATHER-STRIP.

No. 814,893.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed August 7, 1903. Serial No. 168,681.

*To all whom it may concern:*

Be it known that I, CLIFTON VOSE, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Weather-Strips, of which the following is a specification.

The improvement is intended more especially for a window which turns or swings on a vertical axis like a door; but it may serve well for doors. I will describe it as applied to such a window. It is most required at the bottom, but it may serve also well at the top, and I will show it in both positions. It effects a more than usually complete arrest of water or wind. There is provision for yielding which allows for imperfections in the workmanship and for distortions due to settling or other causes. It may also serve as a protection of the joint at the meeting-rail between two sashes. I will also show it as thus applied.

The following is a description of what I consider the best means of carrying out the invention, reference being had to the accompanying drawings, forming a part of this specification.

Figure 1 is a vertical cross-section of the base of a window having a swinging sash in the closed condition. Fig. 2 is a corresponding section showing a modification. Fig. 3 shows a vertical cross-section of the head of a window having a swinging sash in the closed condition. Fig. 4 shows horizontal sections of the meeting-rails of two swinging sashes in the closed condition.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

Referring to Fig. 1, A is the fixed sill, A' a horizontal plate fixed thereon extending horizontally to the left over an offset *a* in the sill, and A'' is an ordinary stop extending upward above the other portion of the sill. B is the bottom rail of the sash, formed with a wide groove *b* extending along its mid-width. The base of the sash B is higher on the right side of this groove than on the left side, allowing it to move freely over the plate A' as the sash is swung. A strip of sheet metal (marked D with supernumerals) is secured in the groove *b* and is wrought by hand or machinery to present a partially-folded condition near each edge. On the left side a sufficient breadth D' near its edge extends horizontally

to the right at the bottom of the sash. It extends something like half-way across the groove *b* and when the window is closed extends considerably under the fixed plate A'. The adjacent portion D<sup>2</sup> extends up the full height of the groove. Next to this is a broad main portion D<sup>3</sup>, extending the full breadth of the groove. On the right a narrow portion D<sup>4</sup> extends downward a short distance, and from the lower edge of this a narrow portion D<sup>5</sup> extends to the left. All is one integral strip of hard brass or other suitable material adapted to endure the conditions. The strip is secured by nails or screws C. It is an inverted trough of sheet metal with each edge extended inward, presenting a hook form in cross-section. It is fixed immovably in the sash. E is a flap of the same or a different material, carried in the sash and movable therein. One edge, the right, is received in the shallow hook over the horizontal portion D<sup>5</sup> at the right. The flap may turn hingewise on this edge, the left edge being free to rise and sink in the space above the plate A' in the deeper hook on the left. G is one of a series of springs abutting against the portion D<sup>3</sup> of the inverted trough and pressing gently downward on the flap E near its free edge, the left edge.

When the sash is swung open, the flap may descend and touch the under part D'. It will do so unless restrained by the tightness of the hinge formed by the hook at the right. It is in practice immaterial whether the flap descends so low or not when the sash is swung open. When the sash is swung into the closed position, it receives the plate A' over the part D' and under the flap E. The mobility of the flap allows for imperfections in the forms and locations of the parts by rising to various heights as required, the action of the springs G holding it always down in contact with the part D<sup>5</sup> and making tight joint.

The plate A' is strongly supported and is not liable to be bent or displaced by any concussions. The invention may serve successfully at the bottoms of doors which are exposed to severe strains, as in rolling barrels across the sills. The delicate portions—the flap and the springs and the hooks which serve as a hinge on the right and housing on the left—are protected from all ordinary or extraordinary strains by being recessed in the bottom of the sash or door.

I propose to use the invention in situations,



as around the doors of show-cases, where there may not be much liability to strong currents, and in any cases where it is desirable to prevent any circulation in order to avoid the accumulation of dust.

In Fig. 2 the bent plate  $A^3$  is secured to the sill  $A$  and has its upper portion extending horizontally from the offset  $a$ . The bottom of the sash is rabbeted at  $e$ . The hooks  $D'$  and  $D^5$  are formed on strips of sheet metal  $D^6$   $D^7$ , which are secured to the sash through the intermediary of the wooden strip  $d$ . The operation is the same as with the arrangement of Fig. 1—that is to say, the edge of sill-plate  $A^3$  enters between the spring-flap  $E$  and the hook  $D'$ , like the corresponding edge of sill-plate  $A'$  in Fig. 1.

In Fig. 3 the metal strips  $D^6$   $D^7$ , carrying the hooks  $D'$   $D^5$ , are secured in a rabbet on the top rail  $B'$  of the sash through a wooden strip  $d$ . The bent plate  $A^4$ , whose edge enters between the flap  $E$  and hook  $D'$ , is fastened to the under side of the lintel  $A^5$ . At  $F$  is an ordinary stop.

In Fig. 4 the spring-flap  $E$ , with its hooks  $D^5$   $D^6$ , is carried by one of the meeting-rails  $G'$  of a pair of hinged sash, and the plate  $A'$ , whose edge enters between the flap  $E$  and hook  $D^6$ , is carried by the other meeting-rail  $G^2$ . The hook  $D^6$  is preferably inclined with respect to the body of the metal strip  $D^6$ , which is secured to the wooden strip  $d$ . The plate  $A'$  is lettered the same as the corresponding plate in Fig. 1, because, like this latter, it is flat. It is inclined to correspond with the position of hook  $D^6$ .

In all the forms what I have termed the "hinge" may be an elastic union, so long as the functions are performed of supporting the flap and allowing it a moderate amount of turning motion. When the hinge is thus elastic, the springs  $G$  are of no importance and may be weaker or even be omitted entirely.

I claim as my invention—

1. A weather-strip comprising two plates on one part, one movable and the other fixed, arranged as shown, so that the fixed plate shields the movable one and performs the double function of defending it against injury, and also of arresting the passage of water or wind; and one plate on the other part arranged to be received between the fixed and the movable plate, all substantially as herein specified.

2. A weather-strip comprising two plates on one part, namely, a rigid plate in the more exposed position and a yielding plate behind the same; and a plate on the other part arranged to be received between the first-mentioned plates, substantially as described.

3. In a weather-strip, a sheet-metal trough with each edge deflected inward to form a hook, in combination with a movable part engaged in the manner of a hinge in one of the hooks, and a plate arranged to be received between said plates and to make a tight contact with the movable one, all substantially as herein specified.

4. A weather-strip in which a hook, and a flap in the form of a strip resting at the edge on said hook, on one part, are combined with a plate on the other part, the edge of said plate entering between said flap and hook, substantially as described.

5. A weather-strip having a flap which is supported by hooks at opposite edges of said flap, in combination with a plate which enters between the flap and one of said hooks, substantially as described.

Signed at New York, in the county of New York and State of New York, this 6th day of August, A. D. 1903.

CLIFTON VOSE.

Witnesses:

FRANK W. STANLEY,  
JOSEPH M. VOSE.