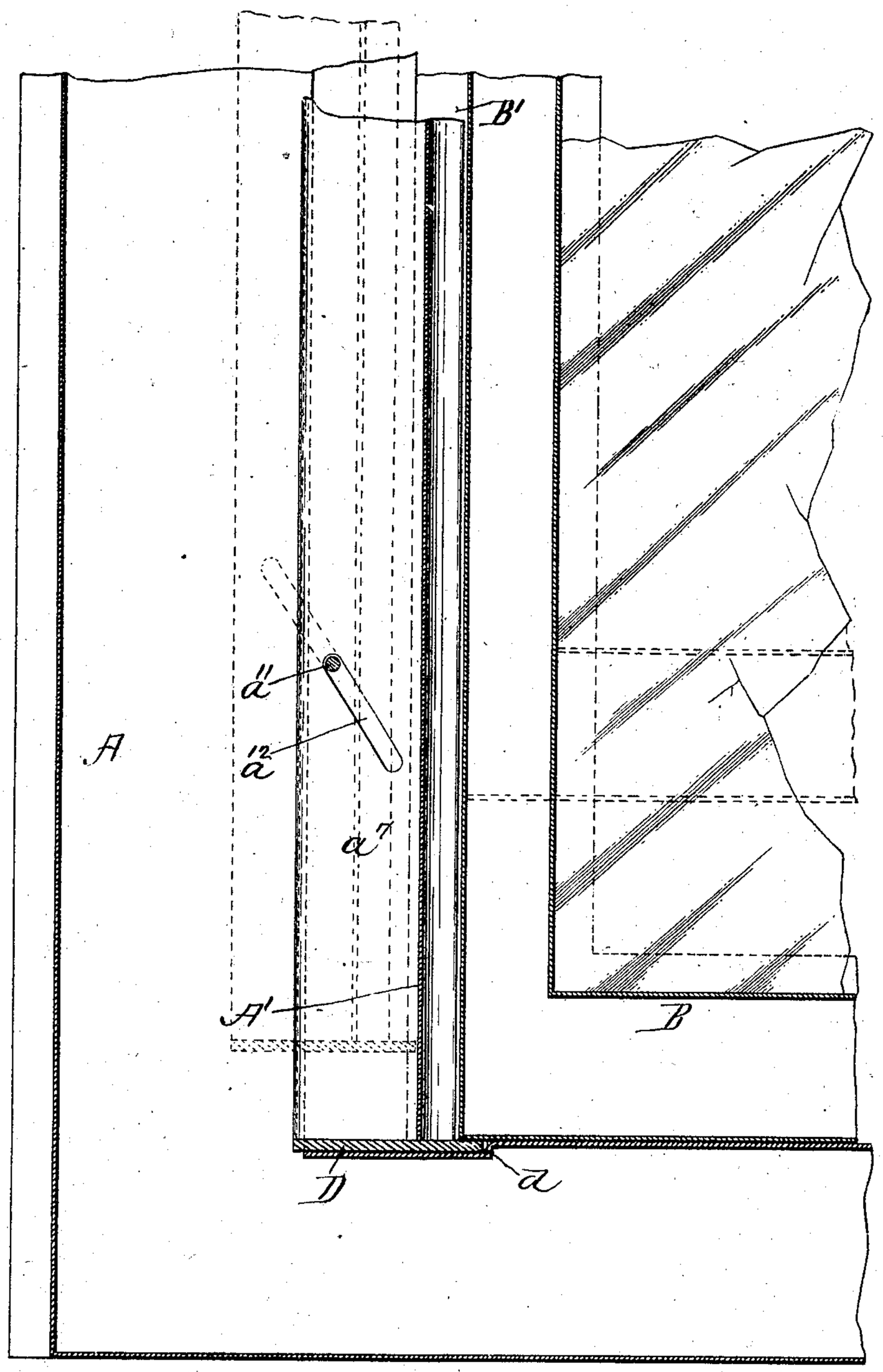
No. 724,138. PATENTED MAR. 31, 1903

H. C. SMITH.

METAL WINDOW.

APPLICATION FILED JUNE 30, 1902.

NO MODEL. 2 SHEETS—SHEET 1



WITNESSES:
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FIG. 1.

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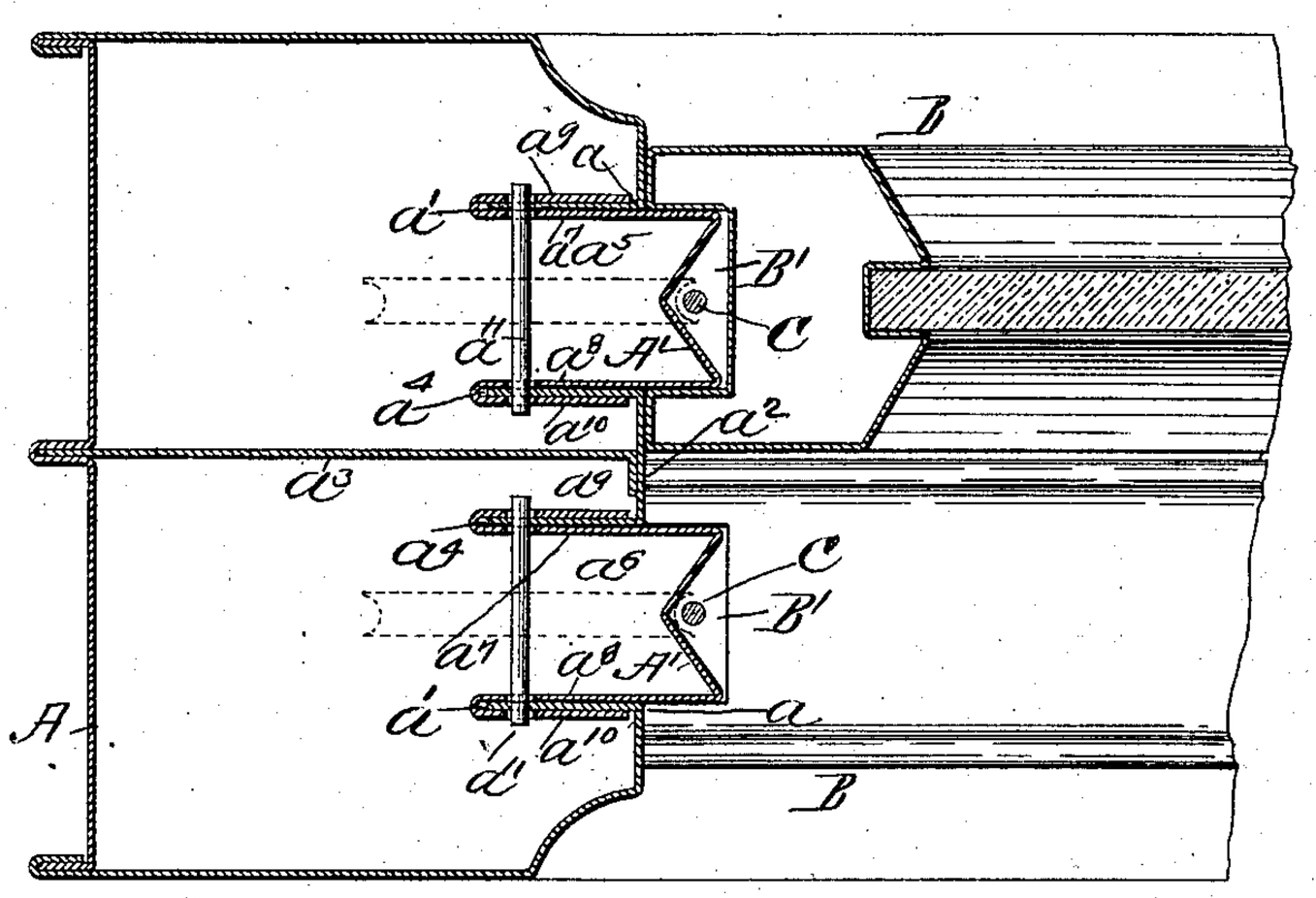

Fig. 2.

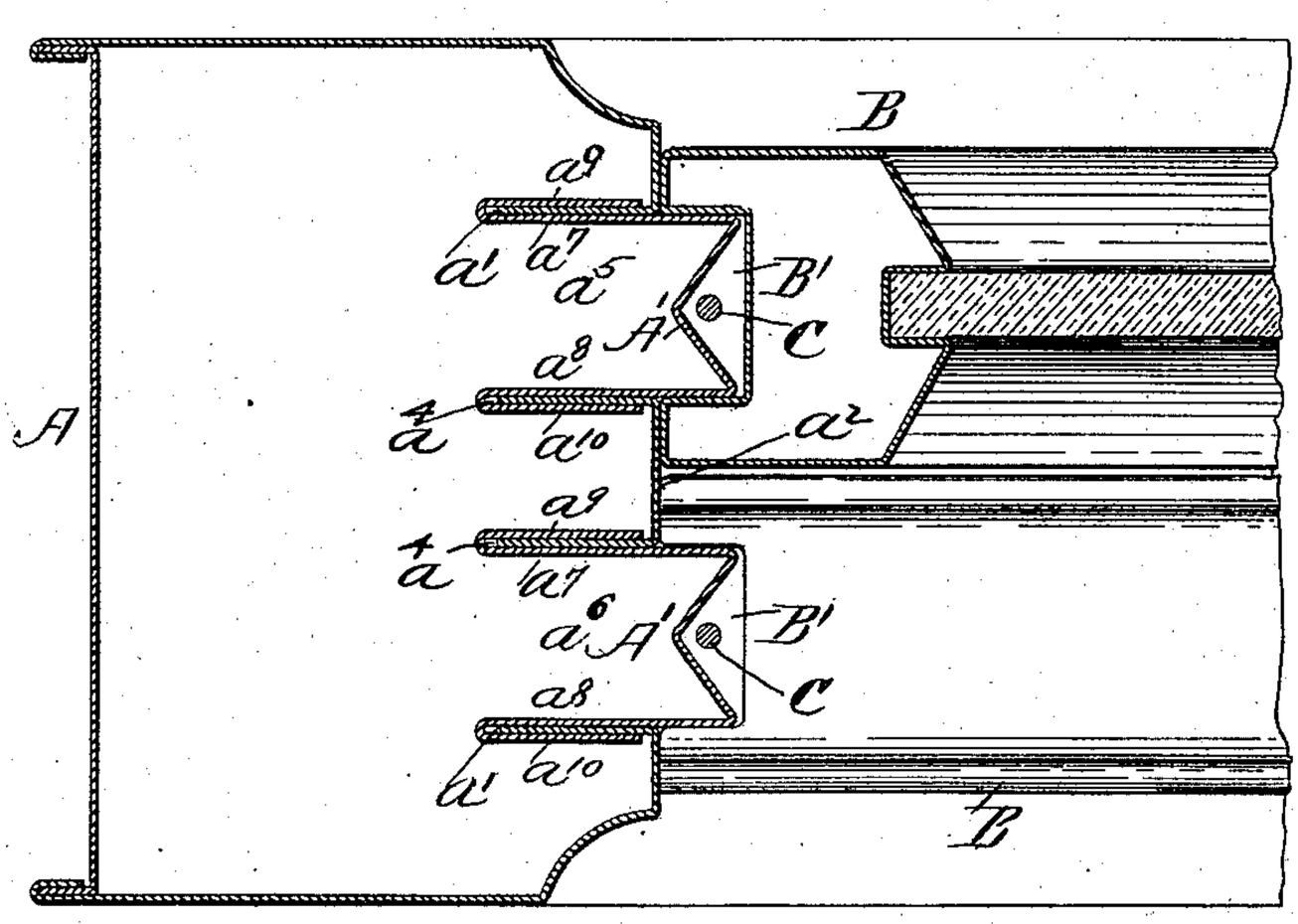

Fig. 3.

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UNITED STATES PATENT OFFICE.

HENRY C. SMITH, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO SMITH-WARREN COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

METAL WINDOW.

SPECIFICATION forming part of Letters Patent No. 724,138, dated March 31, 1903.

Application filed June 30, 1902. Serial No. 113,758. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. SMITH, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Metal Windows, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention relates to an improvement in metal windows; and it consists in a movable joint telescopically held by the frame and which is adapted to be adjusted out to make engagement between the frame and the window-sash in order that a sliding retention thereof may be obtained, the object of the invention being to provide a means by which the sash may be fitted into the frame without removing any part of the frame or sash.

The invention further relates to means by which this jointure between the frame and the sash may be automatically obtained when the window is closed.

I will now describe the invention in connection with the drawings forming a part of this specification, wherein—

Figure 1 is a view in vertical section of the window through the center of the sash. Figs. 2 and 3 are horizontal sections thereof.

Referring to the drawings, A represents the metallic frame; B, the metallic sash. The frame is constructed to receive the laterally-movable section A′, which bears a telescopic or slidable relation thereto, so that when the section A′ is moved out a sliding retention of the sash is obtained, this by the edge of the section fitting into the groove or recess B′, formed in the side rail thereof. The telescopic section forms an interlocking connection with the frame by a union of correlating edges.

The construction of the frame and movable section, together with their correlating parts, is best seen in Figs. 2 and 3. The frame may be of any suitable construction. I have shown a frame adapted for the ordinary double-sash window and having the usual back and side plate formation for the casing. The side plates, however, after being molded around to the points a are turned abruptly back along their edges, forming the sides a'. Instead of a face-plate providing runways for the sashes the interior facing of the frame is divided by the interposed section or part a^2. This interposed section is reinforced by the plate a^3, dividing the casing, and is held to the main body of the frame by any suitable means of retention. Its edges are bent back, forming the sides a^4, extending in lines parallel with each other and with the side a', before made mention of. There are thus obtained two walled or bottomless openings a^5 a^6, extending vertically throughout the interior facing of the frame, the sides a' a^4 forming, respectively, the walls thereof.

The movable frame-sections A′ are adapted to fit telescopically into these openings a^5 a^6 by their sides a^7 a^8. These sides are extended to bend around the sides a' a^4 or walls of the opening by their edges a^9 a^{10}, which correlation of sides and edges not only helps retain the movable section in place, but facilitates its lateral adjustment.

When moved out, the sections A′ make engagement with the sash by fitting into the groove or recess B′, formed along the outer edge of its side rail. This groove or recess B′ is approximately the width of the edge of the movable section which fits within it in order that a weather-proof joint may be obtained, still with a jointure permitting of the sliding adjustment of the sash.

The end of the movable frame-section, it is to be observed, is grooved in order that the sash-cord C, which connects with suitable sash-weights, may pass down alongside the edge of the movable section between it and the sash edge, to which it is secured by any suitable means of attachment.

The frame-section A′ may be supported within the frame in any desired way to be movable relatively to it. In Figs. 1 and 2 I have shown the section supported by the cross-rods a^{11}, which pin through its sides and turned edges, correlating with those of the frame. The sides and edges of the movable section are slotted at a^{12} to permit of its movement upon these supporting cross-rods, which of course bear a fixed relation to the main

body of the frame. These slots, it is to be observed, are cut diagonally or inclined, with the result that the section A′ moves laterally to make engagement with the sash with a drawing edgewise motion. This method of construction for the retention and adjustment of the movable section I have shown in combination with means for obtaining its automatic withdrawal from the frame to make a jointed engagement with the sash when the sash is drawn to a closed position.

By reference to Fig. 1 it will be seen that when the movable section is pressed back into the side of the frame it would be with an outwardly and upwardly slanting movement and when withdrawn with an inwardly downwardly slanting movement. This inclined movement of the movable section is taken advantage of for obtaining its automatic withdrawal, and this by extending from its base the extension or foot D. This foot moves as a part of the movable section, and its extension is such that even when the movable section is pressed back into the frame it will still be in alinement with or in the plane of the sash.

Assuming now the sash to be open and the movable section pressed back into the body of the frame, the result is obtained that when the sash is closed it will come in contact with the foot D in alinement with it, and upon a continued downward movement of the sash the movable section will be drawn out, and its jointed engagement with the sash will be automatically made. The foot D, it is to be observed, when the sash is in closed position is housed in the recess *d*, formed in the sill of the frame. This secures such continuity in the upper sill-surface as will enable the sash to shut down even.

My invention is designed to be used at either side of the sash, or both, and with an upper as well as a lower sash. It is also apparent that the means for obtaining the engagement between the movable member and the sash-rail may be automatically obtained as well by the upward closing of the upper sash as by the downward closure of the lower, there being simply a reversal of construction.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A window-frame having a vertical recess or opening along its interior facing, provided with side walls, and a movable section or member made to fit in said recess, and be contiguous with the side walls thereof, that a retention of said movable section may be obtained, permitting of its sliding lateral adjustment.

2. A window-frame having a vertical recess or opening along its interior facing, provided with side walls, a sash, the side rail of which is grooved along its exterior edge, and a movable section in parallel alinement with said frame, which fits with contiguous sides into said walled recess of the frame thereof, to be retained, but with a retention permitting of the movable section being laterally adjustable, to make engagement with the side rail of the sash substantially as described.

3. The combination with a window-frame and sliding sash of a laterally-movable section attached to said frame, and adapted to make jointed connection with said sash, means for the retention of said section, and means whereby it may become drawn out by the sash upon the vertical closing thereof, substantially as described.

4. A window-frame having a vertical recess or opening formed along its interior facing, the same being provided with side walls formed by said frame, and a laterally-movable section of parallel alinement adapted to fit into said recess or opening, with sides contiguous to, and turned along their edges to make interlocking engagement with its said side walls, whereby the said section is retained with a retention permitting of its laterally-sliding adjustment.

5. The combination with a window-frame and sash of a laterally-movable section attached to said frame and adapted to make engagement with said sash along its side rail, means for the movable retention of said section that the same may make engagement with the sash-rail with inclined movement, and a foot extending from said section and so situated relatively to the sash that the same is adapted to contact therewith as and for the purposes set forth.

6. A window-frame having a vertical walled recess or opening along its interior facing, a sash the side rail of which is grooved along its interior edge, in combination with a movable section parallel to said frame and telescopically retained in said opening therein, the said section having edges or sides turned to form a locking-joint with the sides or edges which form the walls to said opening, cross-rods for the movable retention of said section that it may make engagement with the sash-rail with inclined movement, and a foot extending from said section and so situated relatively to the sash that the same is adapted to contact therewith as and for the purposes set forth.

HENRY C. SMITH.

In presence of—
J. E. R. HAYES,
SAUL SIPPERSTEIN.