

No. 731,600.

PATENTED JUNE 23, 1903.

J. C. McMAHON.
WINDOW FRAME AND SASH.

APPLICATION FILED APR. 1, 1902. RENEWED APR. 14, 1903.

NO MODEL.

FIG. 1.

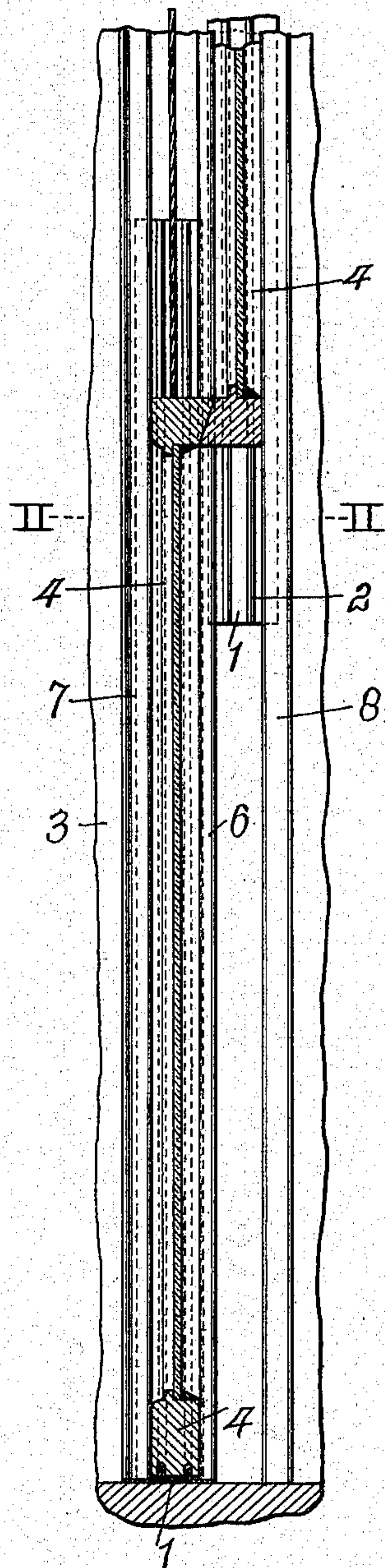


FIG. 2.

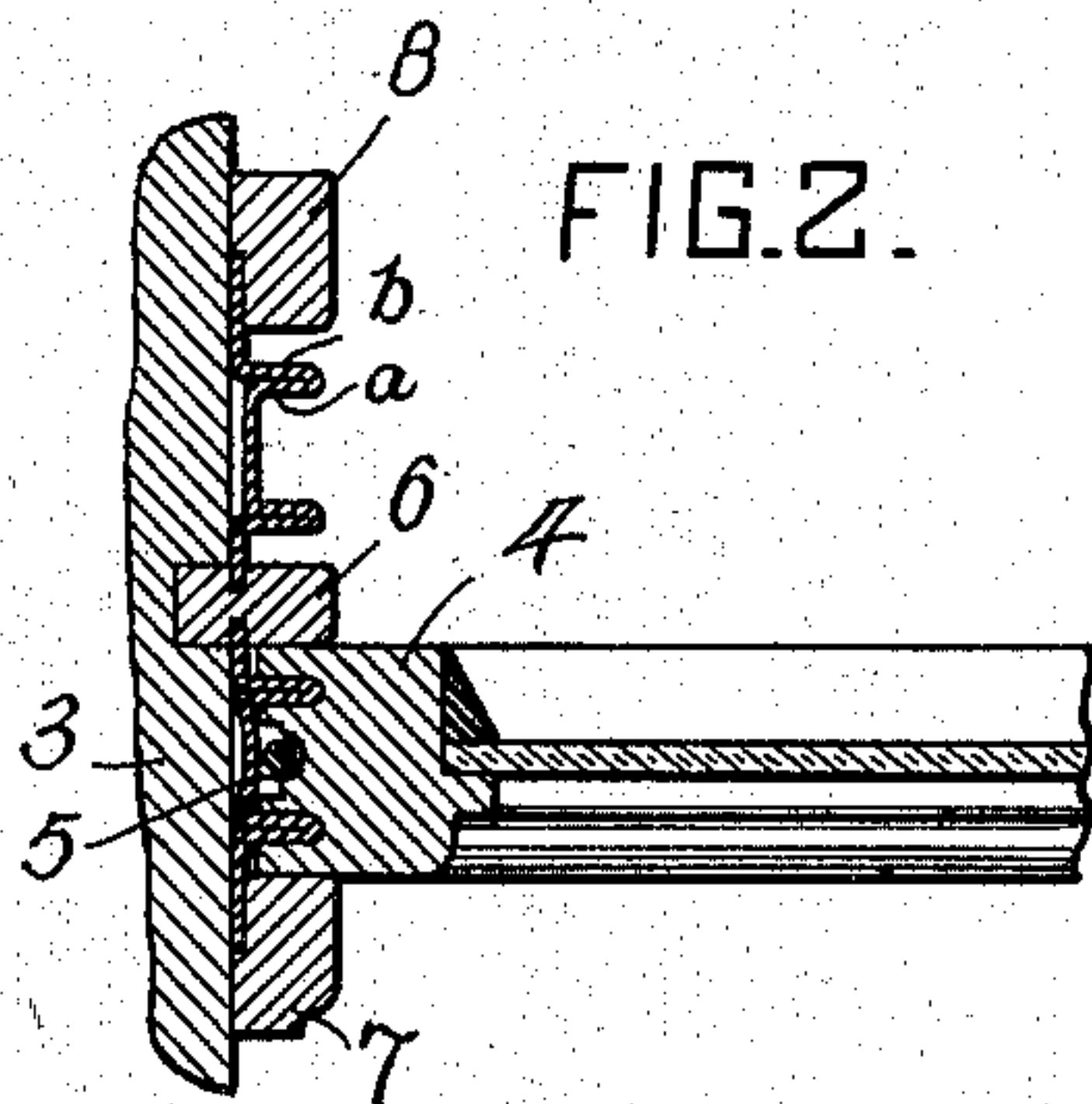


FIG. 4.

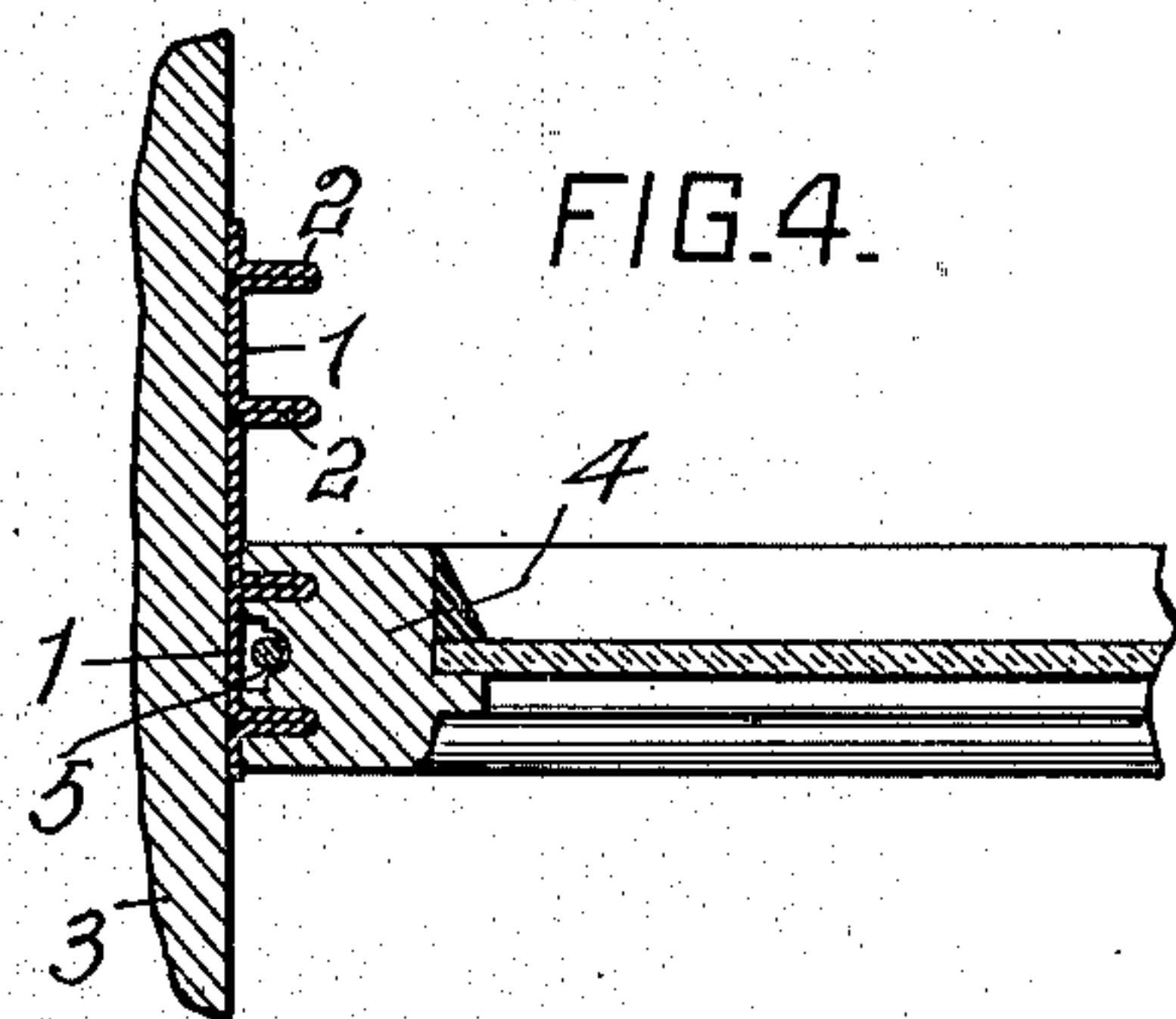
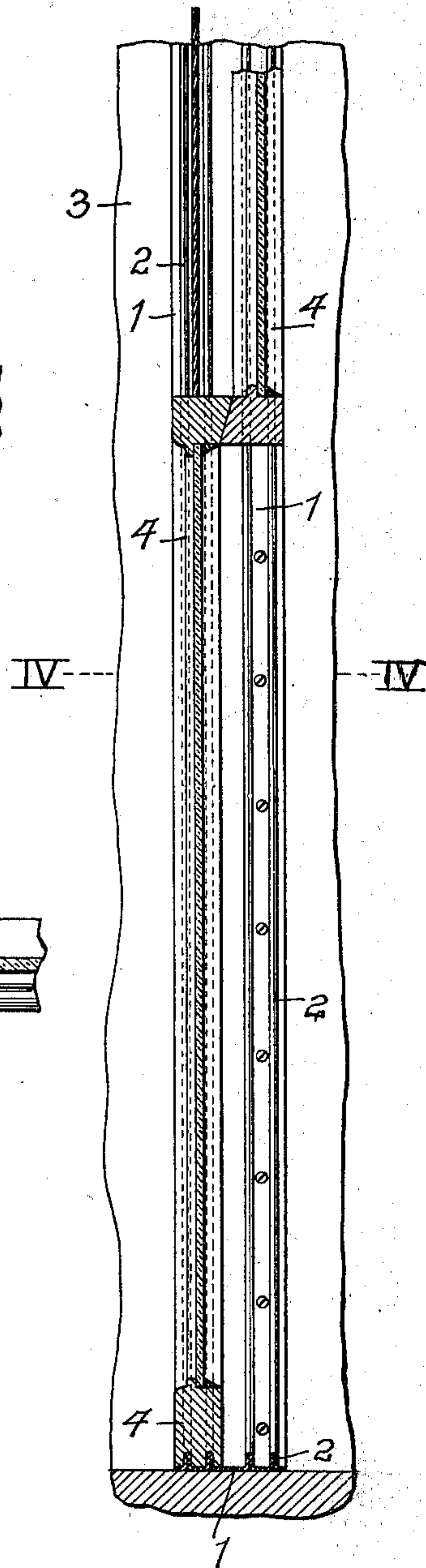


FIG. 3.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOSIAH C. McMAHON, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE
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WINDOW FRAME AND SASH.

SPECIFICATION forming part of Letters Patent No. 731,600, dated June 23, 1903.

Application filed April 1, 1902. Renewed April 14, 1903. Serial No. 152,625. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH C. McMAHON, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Window Frames and Sashes, of which improvements the following is a specification.

The invention described herein relates to certain improvements in window frames and sashes, and has for its object a construction whereby the usual guiding strips or beads may be omitted and the sashes guided and held in position by metallic ribs, which can be readily applied to frames and sashes now in use and will also serve as a weather-strip, forming a tight joint with the walls of a groove in the sash.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a view, partly in section and partly in elevation, of a window frame and sash having my improvement applied thereto. Fig. 2 is a transverse section on a plane indicated by the line II II, Fig. 1. Fig. 3 is a view similar to Fig. 1, illustrating a modification of my improvement; and Fig. 4 is a transverse section on the plane indicated by the line IV IV, Fig. 3.

It has heretofore been customary to arrange the sashes in a window-frame between guiding-ribs secured to the sides of the frame and generally arranged or secured within grooves formed in the frame. This construction, the parts being formed of wood, necessitates the space between the guiding-ribs being made somewhat wider than the thickness of the sash in order to prevent the latter sticking during damp weather. This looseness or lack of fit renders necessary the employment of some kind of weather-strip to render the window sash and frame sufficiently tight to prevent drafts.

In the practice of my invention the guiding strips or beads heretofore employed may be entirely omitted, and in lieu thereof I employ metal strips consisting of a base 1, adapted to be secured to the sides 3 of the window-frame, and one or more pairs of ribs or beads

2, projecting at right angles from the base and adapted to enter grooves formed in the edges of the sashes 4. These strips are secured to the frame in the planes of movement of the sashes and are entirely covered thereby, except at their ends, when the two sashes are in normal or closed positions. As clearly shown in the drawings, especially in Figs. 2 and 4, the ribs or beads 2 are spaced a distance apart greater than the widths of grooves 5, formed for the reception of the sash-cords, so that the strips can be readily applied to frames and sashes now in use. By this construction an efficient guide is provided for the window-sashes, such guide also serving as a weather-strip, forming a tight joint with the sash. As the strip is formed of metal, there will be no swelling or enlargement thereof in damp weather, and hence the grooves in the sashes may be made to fit quite closely to the bead, especially along the edge thereof. As shown in the drawings, two independent strips, each provided with two ribs or beads, may be used, or a single strip provided with two, four, or more ribs may be used, as shown in Figs. 3 and 4. When independent strips are employed, they need not extend much beyond the normal position of the sash, as shown in Fig. 1; but when the guiding-ribs for both sashes are formed on a single strip they would extend the entire length of the sash, as shown in Fig. 3. These metal guide and weather strips may be secured to the sashes by screws or nails, or when applying the strips to old frames the bead 6 of such frames may be grooved closely adjacent to the surface of the frame and the inner edges of the metal strips pushed into the grooves. In such case the outer edges of the strips will be held by the molding strips or beads 7 and 8, as clearly shown in Fig. 2. When the guide-ribs 2 for both sashes are formed on a single strip, as in Fig. 4, the outer edges of such strips may be held in place by molding-strips in the manner illustrated in Fig. 2. When a sash binds in a frame, it is generally between the edges of the sash and the surfaces of the frame between the guide-ribs. In order to avoid this, the edges of the sash are cut away, and a yielding bearing for such

edges is formed by swelling out the portions 9 of the metal strips between the guide and sealing beads, as shown in Fig. 2. This swelling out may be effected in several ways—
5 as, for example, by making the inner portions *a* of the folds forming the beads 2 shorter than the outer portions *b*, as shown in the upper part of Fig. 2, thereby holding the intermediate portion away from the sash, or the
10 intermediate portion may be forced or sprung out, as shown in the lower portion of Fig. 2. When the strip extends the entire length of the frame and it is desired to remove the sashes, the securing-screws on one side of the
15 frame would be loosened and the strip on that side would be swung out from the frame with the sash. It is preferred that the strips should be continued across the upper and lower ends of the frames, where they would
20 serve merely for holding the sashes in position when closed and also to prevent the ingress of air.

I claim herein as my invention—

1. The combination of a window-frame, sashes movable in the frame and provided 25 with grooves in their edges, and metal strips provided with one or more pairs of guide-ribs, the portions of the strips intermediate of the members of each pair being swelled out, substantially as set forth. 30

2. The combination of a window-frame, sashes movable in the frame and provided with grooves in their edges on opposite sides of the sash-cord, metal strips consisting of a 35 base and one or more pairs of guide-ribs, and molding and separating or guiding strips engaging the edges of the metal strips, and secured to the frame, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JOSIAH C. McMAHON.

Witnesses:

DARWIN S. WOLCOTT,
F. E. GAITHER.