

No. 785,370.

PATENTED MAR. 21, 1905.

L. M. NEABREY.
WINDOW FRAME AND SASH.
APPLICATION FILED MAR. 10, 1902.

Fig. 1.

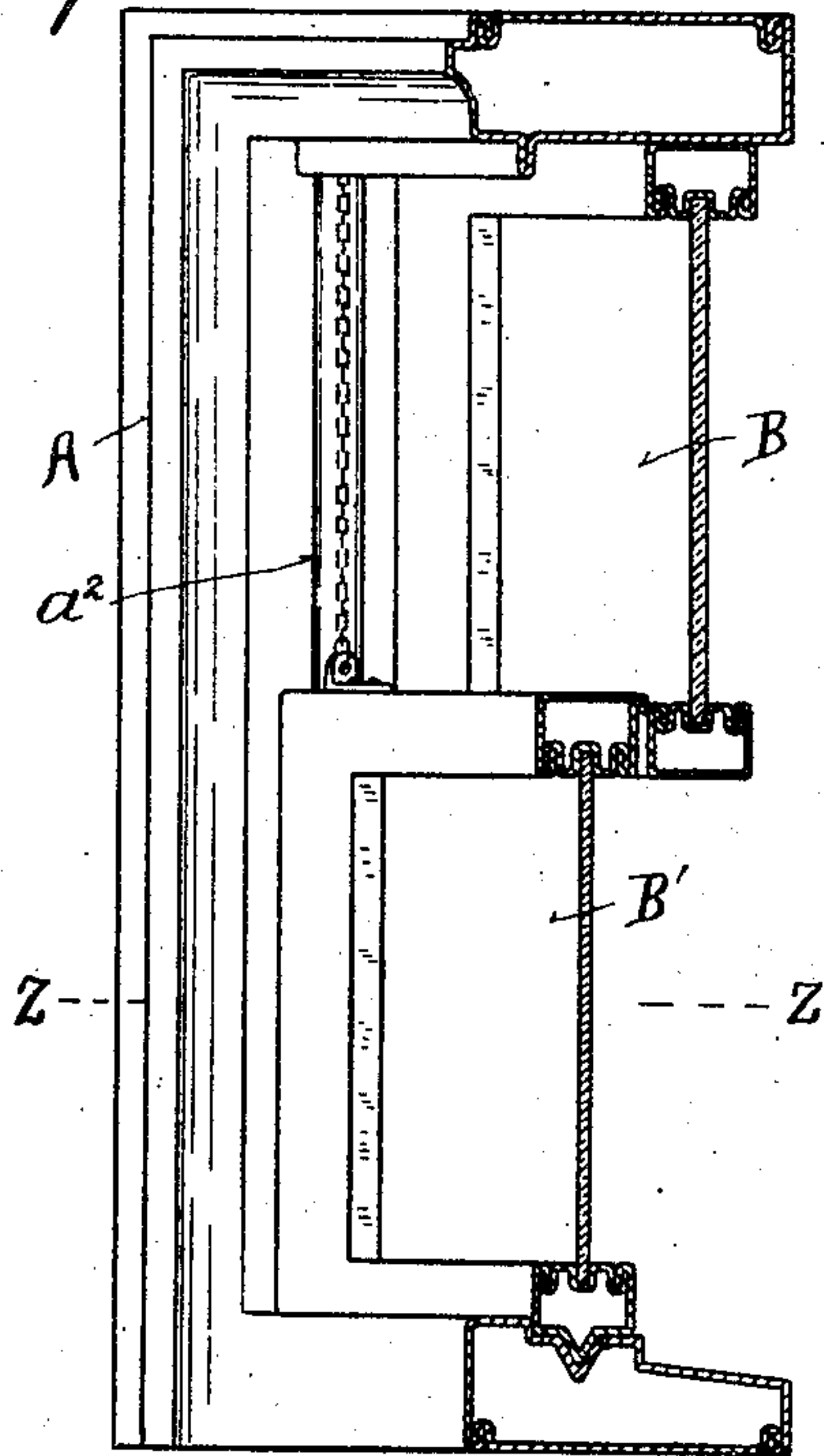


Fig. 2.

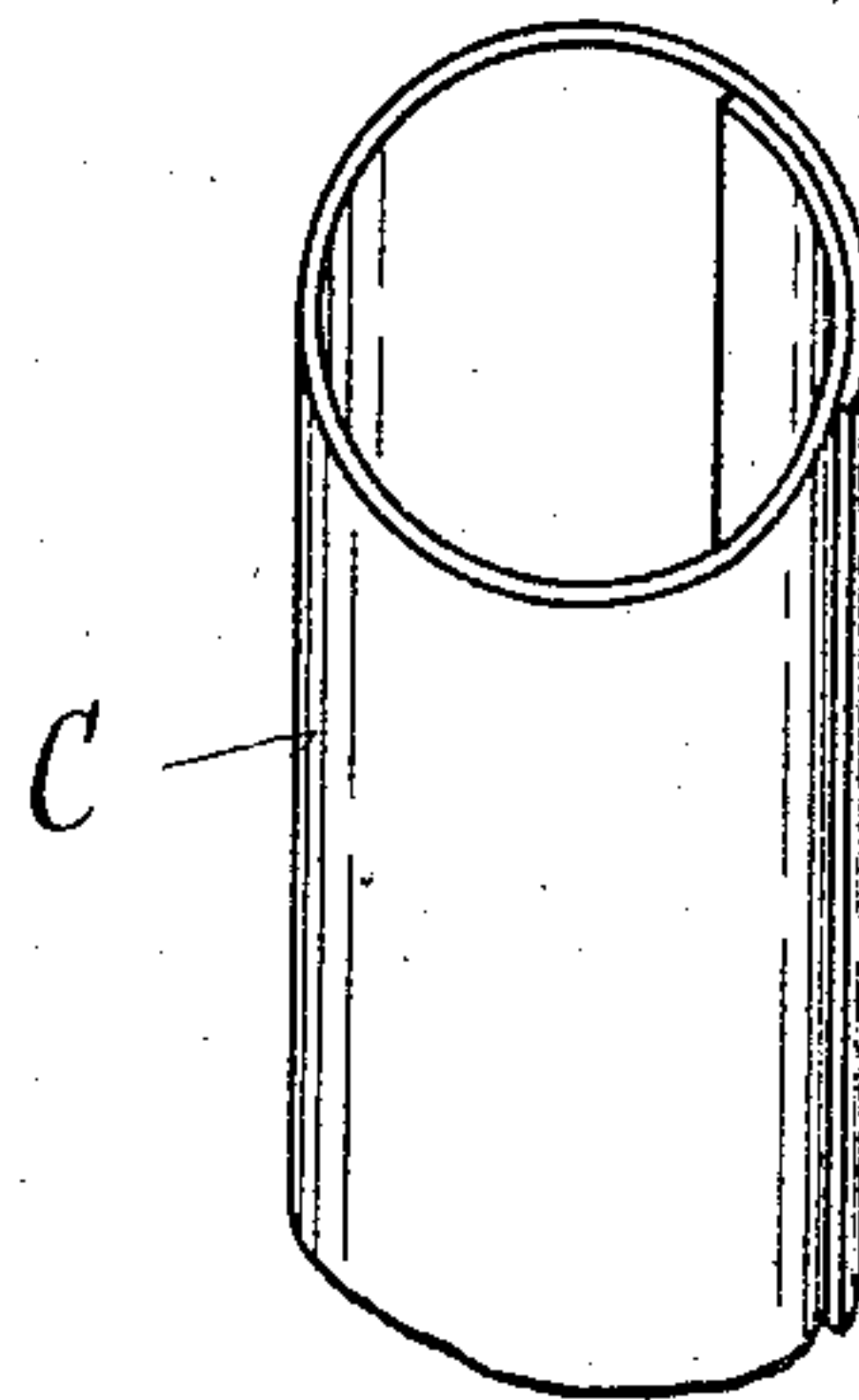
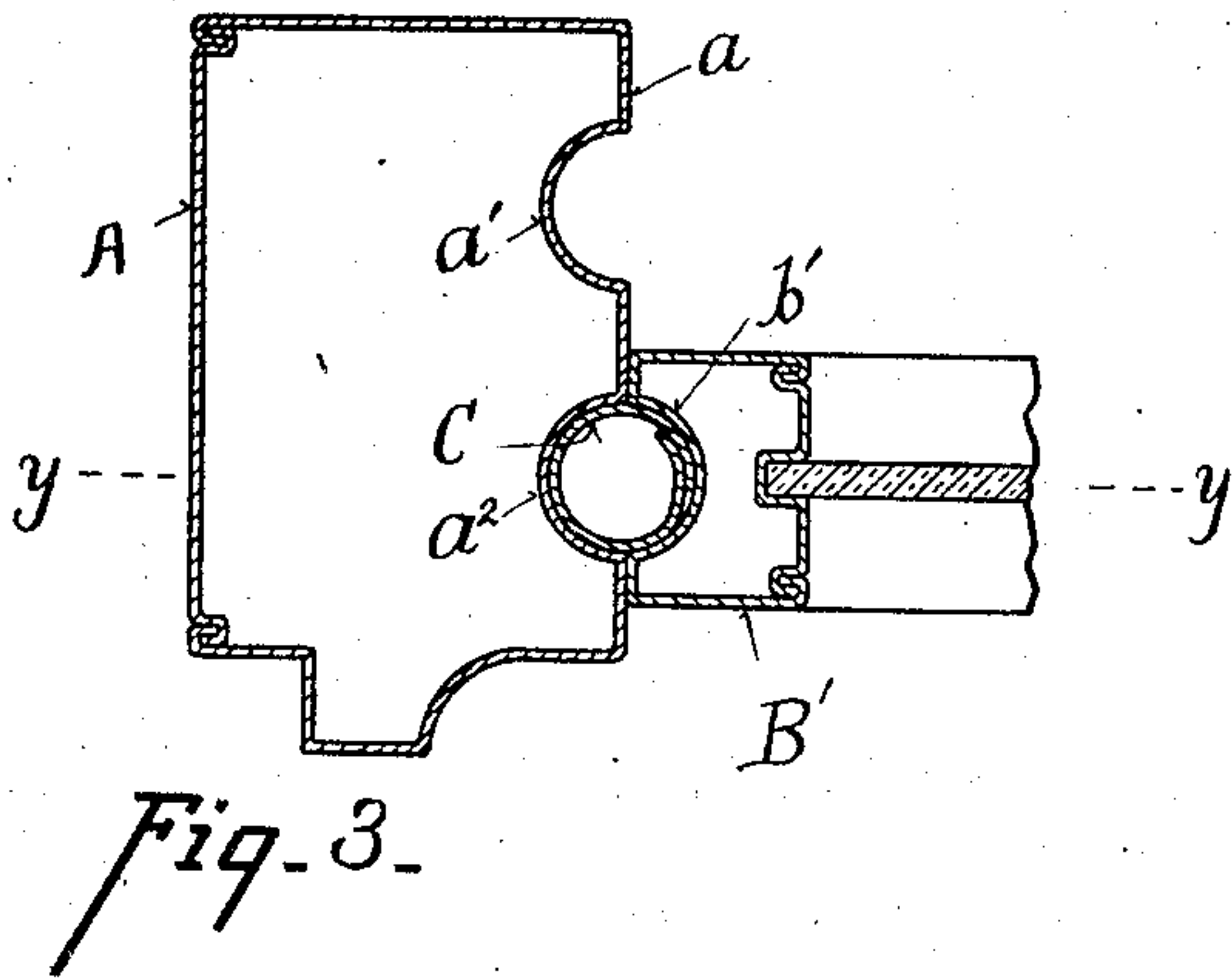
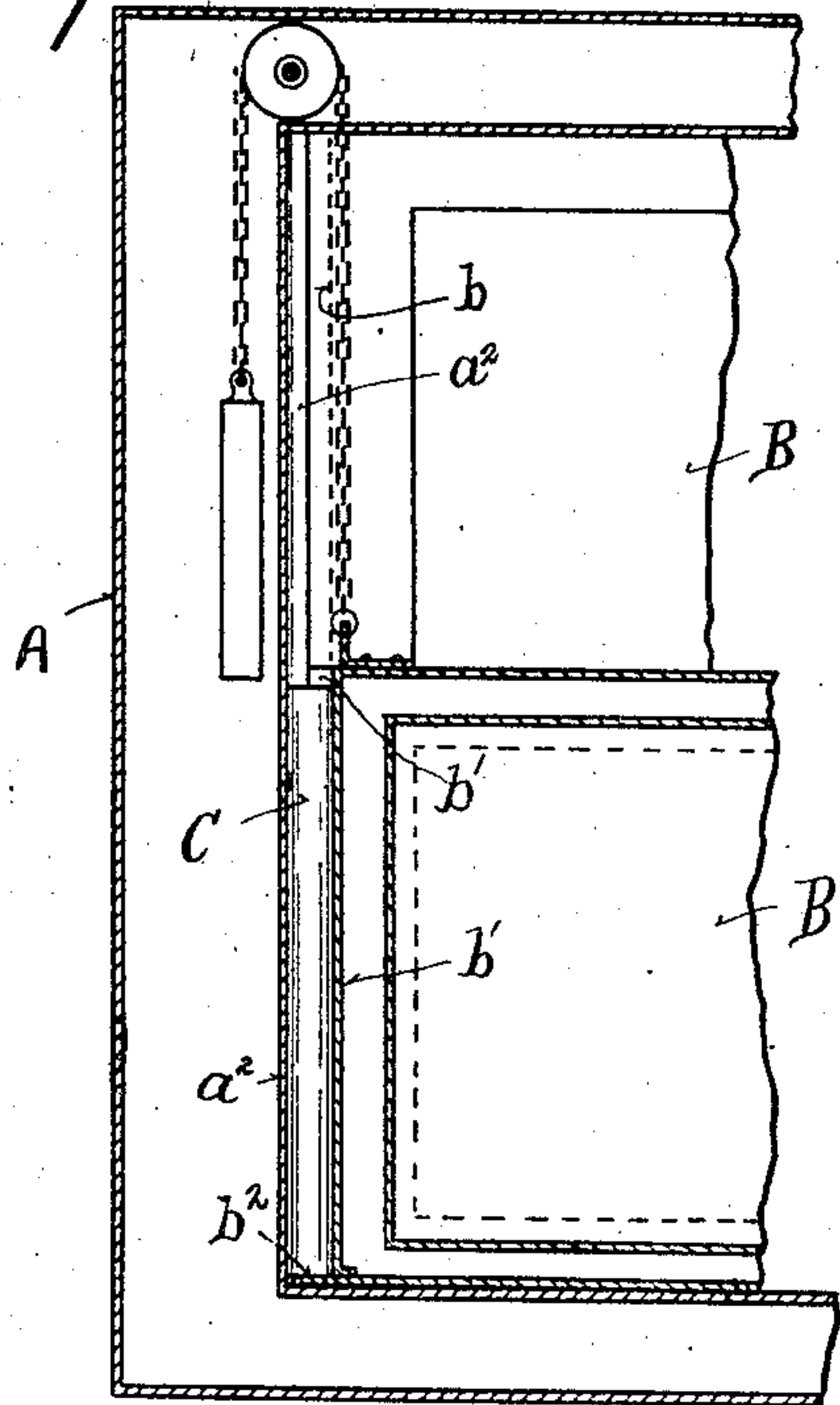


Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

LEONARD M. NEABREY, OF CINCINNATI, OHIO.

WINDOW FRAME AND SASH.

SPECIFICATION forming part of Letters Patent No. 785,370, dated March 21, 1905.

Application filed March 10, 1902. Serial No. 97,436.

To all whom it may concern:

Be it known that I, LEONARD M. NEABREY, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Window Frames and Sashes, of which the following is a specification.

The object of my invention is a window the frame of which is devoid of parting-strips and beadings for the sashes, in which the sashes may easily be placed in and removed from the frame, and which is antirattling, proof against the weather and fire and which automatically adjusts itself to shrinking or swelling in the parts, so that the sash at all times both fits the frame snugly and slides freely therein.

Referring to the accompanying drawings, in which my invention is illustrated as applied to a metallic frame and sash, Figure 1 is a sectional perspective view of a window embodying my invention. Fig. 2 is a view, partly in front elevation and partly in cross-section, upon line *y y*, Fig. 3, which is a cross-section on line *z z*, Fig. 1. Fig. 4 is a detail perspective view of my expansible metallic tube for retaining the sashes movably in their frames.

Referring to the parts, both sides *a* of window-frame A are plain except for two vertical semi-elliptic grooves *a'* *a''*, which extend from top to bottom of each side of the frame. Both the upper and lower sashes B and B' have similar grooves *b* and *b'* upon each side, running the full length of the sash, except for a flange *b''*, which is left at the lower ends of each of the grooves. The sashes are placed in the frame so that grooves *b* in the upper sash register with grooves *a'* and grooves *b'* in the lower sash register with grooves *a''*. Then elliptical retainers consisting of metallic tubes C are placed in the elliptical ways formed by the grooves *b* and *a'* and by grooves *b'* and *a''*. Tubes C rest at their lower ends upon flanges *b''* of the sashes, slide with the sashes, and are made of a length slightly less than that of the height of the sashes, so that they may be

readily inserted and removed from their ways, an operation which is performed when the sashes are at the lowermost limit of their travel. Each of tubes C is made, preferably, of resilient metal rolled into a tube with the edges free and overlapping one another and which when not inserted in the ways is of a greater circumference than they, so that when placed in position it fits the ways snugly and expands to take up any shrinkage in the frame and sashes, and should the ways become contracted from any cause the tube likewise assumes a smaller diameter by becoming more tightly rolled, so as not to bind the sash in its vertical movements.

It is seen that by my construction I do away with the beading and parting-strips of the frame, the sashes being held in place by and sliding with the metallic tubes; that to remove the sashes from the frame or insert them therein it is necessary only to bring the sashes to the lower limit of their travel and lift the tubes out of their ways, when the sashes may be lifted out of the frame, and that the tubes fitting their ways snugly they hold the sashes against rattling and prevent the passage of wind, dust, snow, &c., and that the tubes readily adjust themselves to any shrinkage or swelling in the frames or sashes.

I have shown my invention as applied to metallic frames and sashes; but it is obvious that it may likewise be used with those of wood.

What I claim is—

1. A window-frame having its sides plain except for vertical semi-elliptical grooves formed therein, in combination with sashes having similar grooves to register with said grooves and removable elliptical retainers to fit into the elliptical ways formed by the grooves in the frames and in the sashes to retain the sashes and to permit of their sliding in the frame substantially as shown and described.

2. A window-frame having vertical semi-elliptical grooves in its sides, in combination with sashes having similar grooves to register with said grooves, and firm removable tubes

to fit into the elliptical ways formed by the grooves in the frame and in the sashes to retain the sashes and to permit their sliding in the frame substantially as shown and described.

3. A window-frame having vertical grooves in its sides in combination with sashes having grooves similar to and registering with the grooves in the frame, flanges at the lower ends
10 of the grooves in the sashes and retainers of a length less than the height of the sashes and of the shape and circumference of the ways formed by the grooves in the sashes with those in the frames and resting upon the flanges

in the sashes, substantially as shown and described. 15

4. A window-frame having vertical grooves in its sides in combination with sashes having similar grooves to register with the grooves in the frame and elliptical tubes with free
20 overlapping edges seated in the ways formed by the grooves in the sashes with those in the frame, substantially as shown and described.

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