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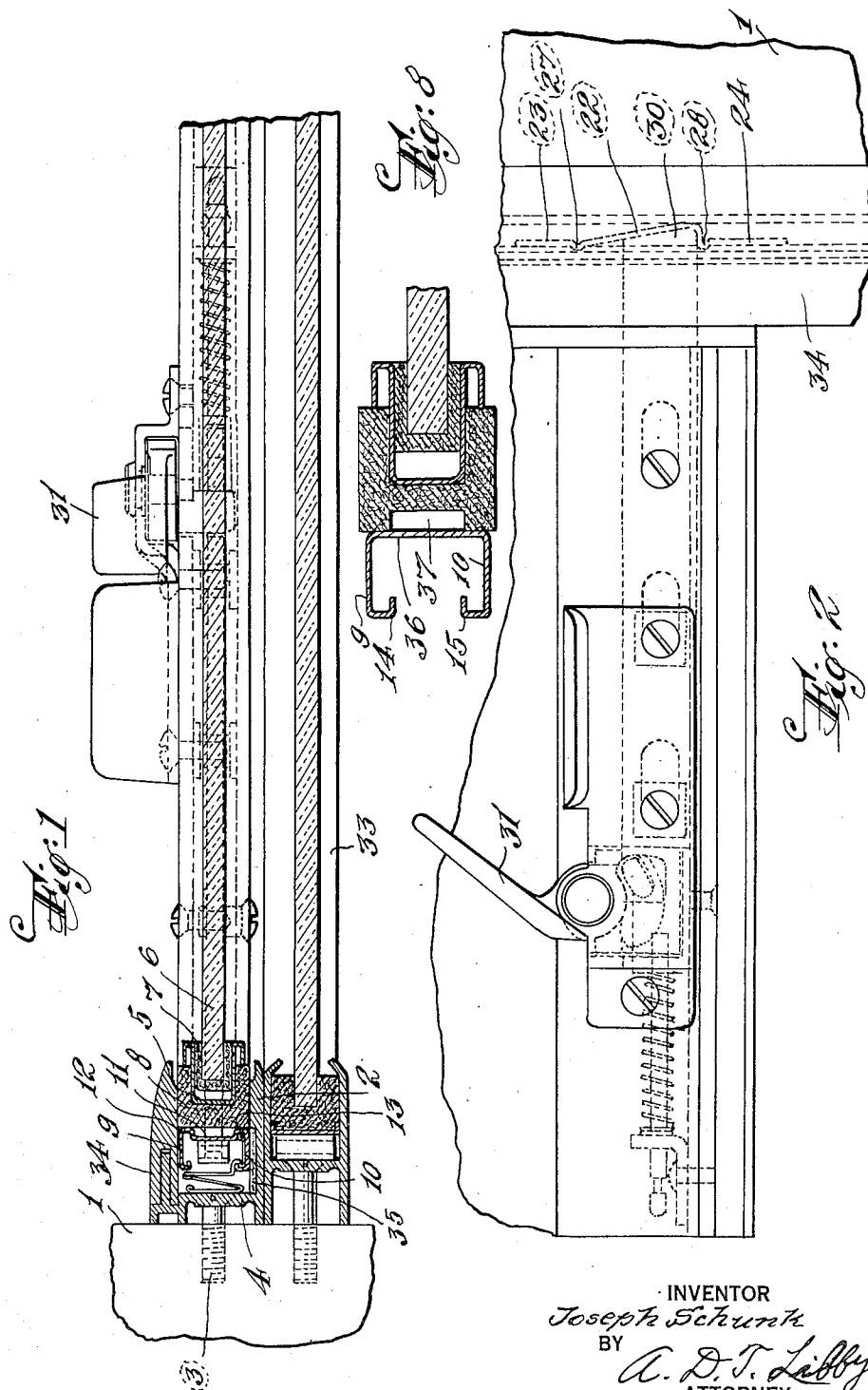
J. SCHUNK

2,177,463

CAR OR BUS WINDOW CONSTRUCTION

Filed June 30, 1938

2 Sheets-Sheet 1



INVENTOR
Joseph Schunk
BY *A. D. T. Libby*
ATTORNEY

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2 Sheets-Sheet 2

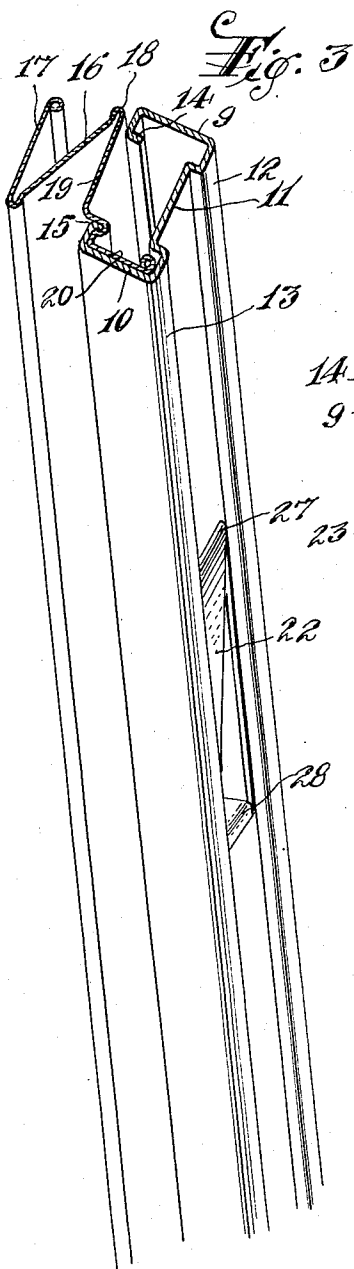
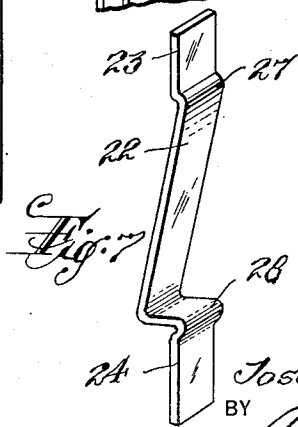
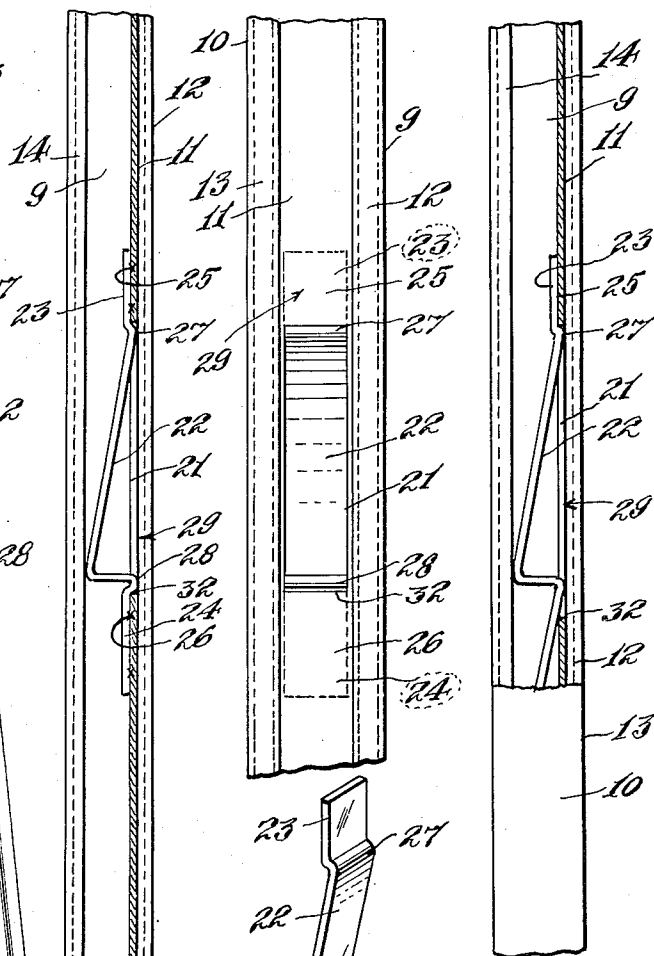


Fig. 4 Fig. 5 Fig. 6



INVENTOR
Joseph Schunk
BY
A. D. T. Libby
ATTORNEY

UNITED STATES PATENT OFFICE

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CAR OR BUS WINDOW CONSTRUCTION

Joseph Schunk, Newark, N. J., assignor to The
National Lock Washer Company, Newark,
N. J.

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7 Claims. (Cl. 189—72)

This invention relates to improvements in window construction especially adapted for use with cars and buses, and has for its principal object improved means for mounting the slidable portion of the window.

The new improved features will be pointed out in the detailed description which follows, accompanied by the annexed drawings wherein:

Figure 1 is a cross-section through a part of the window at the point where the slidable window sash meets a fixed or transome portion of the window.

Figure 2 is a front elevation showing the right-hand portion of the window and frame.

Figure 3 is a perspective view of my improved form of spring and its cooperating channel member as shown in Figure 1.

Figure 4 is a fragmentary view, part in elevation and part in section, through the channel member, showing one of the rack devices used in connection with the lock bolt shown in Figure 2.

Figure 5 is a view of Figure 4 looking from right to left.

Figure 6 is a view similar to Figure 4 but showing a slightly modified form of rack member.

Figure 7 is a perspective view of the rack member shown in Figure 4.

Figure 8 is a view showing a slight modification of the construction of the channel member and the weather strip.

Referring now to the details, wherein like numbers refer to corresponding parts in the various views, 1 is a vertical post of a window, to which is fastened a guide member 2, this fastening being made by a plurality of screws, one of which, 3, is shown, the same passing through a seat portion 4 preferably forming an integral part of the guide member 2. The guide member 2 carries a U-shaped sash member 5 which is adapted to receive a glass pane 6, the same being held in the sash member 5 by a suitable sizing strip 7. Fastened to the stile or sash member 5, in any satisfactory manner as by suitable cement, is a weather strip 8 made of felt or other suitable material which will slide in the guide member 2.

Mounted between the weather strip 8 and the seat 4, is a channel-shaped member having its sides 9 and 10 extending toward the seat 4. As shown in Figures 1 and 3, the channel has part of its base 11 depressed away from the weather strip 8 whereby the weather strip 8 only contacts with the oppositely disposed portions 12 and 13 on the channel member. The purpose of this will be later pointed out.

The sides 9 and 10 of the channel member have their free edges turned toward each other and bent inwardly as indicated at 14 and 15. Positioned between the channel member and the seat 4 is a Z-shaped strip spring 16 having one side 17 engaging the seat 4 and one bent portion 18 engaging the end of the side member 9 when the parts are assembled as shown in Figure 1. The side 19 of the spring member 16, which is more remote from the seat 4, has its free edge 20 extending within the channel and formed to snugly fit the formation of the side 10 of the channel, as is clearly shown in Figures 1 and 3. This improved construction of the Z spring allows the same to be easily assembled or replaced. While some forms of the Z spring have been used in the past in somewhat similar relation, the free edge thereof, corresponding to the part 20, has been positioned outside of the channel and rigidly fastened thereto as by spot-welding, such a construction being illustrated in Conway Patent 2,012,156, issued August 20, 1935. My improved construction provides a much easier and cheaper method of assembly if, for any reason, the pressure spring 16 should become broken or lose its tension.

The depressed surface 11 of the channel member has one or more openings 21 therein disposed longitudinally of its length to accommodate a rack member 22 which may be a single member, as shown in Figure 7, or a plurality of individual rack members may be used, or the rack may be composed of a continuous strip formed to the right contour adjacent the openings 21. In any case, the rack member 22 is preferably formed as shown in Figures 4 and 7, the ends 23 and 24 being fastened to the inner surface of the portion 11 in any satisfactory manner as by spot-welding at the points 25 and 26. The rack member 22 has rounded or curved surfaces 27 and 28, the latter of which, at least, is positioned so as to come substantially flush with the outer face 29 of the depressed portion 11, so that the lock bolt 30, controlled by the lever 31, will pass smoothly along the runway formed by the depressed portion 11 and without sharply encountering the edges 32 of the openings 21, thereby providing a smoother action of the window when it is raised and lowered.

As shown in Figure 6, the rack member 22 has formations somewhat differing from 27 and 28, but nevertheless the rounded portions, corresponding to 27 and 28, may come substantially flush with the lock bolt track line or surface 29. By mounting the channel member in reverse

position from that shown in the Conway patent, to which reference has been made, the opening between the sides of the channel will face the bottom of the runway in the guide member 2 into which the assembly is placed and operates. This construction of the assembly overcomes the objection of appearance of the opening between the sides of the channel over the top of the sash, and thereby eliminates accumulation of dust and dirt in the channel member. Furthermore, by having the depressed portion 11 in the channel member, the weather strip 8 does not come in contact with this surface which always has a tendency to be more or less roughened by the end 30 of the sash lock bolt as the window is raised and lowered. Thus the continuously smooth surfaces 12 and 13 are always in contact with the weather strip 8.

No description is made of the transome member 33 as this fixed portion of the window forms no part of my present invention. Neither is the sash lock bolt described in detail as this forms no part of my present invention.

It may be said, in passing, that the side member 34, forming a part of the guide member 2, may be fastened in position after the window sash is located, in any satisfactory manner somewhat as shown in the Conway patent heretofore referred to. Also, a packing or weather strip 35 is preferably used at the point indicated in Figure 1.

As will be seen by reference to Figure 8, my invention is susceptible of certain modifications; for example, the base 36 of the channel member may be perfectly flat and a recess 37 formed in the weather strip 8, so that, as heretofore described, the weather strip will not contact with the sash bolt runway surface on the base 36. However, such modifications of the details to which my invention is directed are believed to come within the scope of the appended claims.

What I claim is:

1. In a window construction having a guide member with a seat portion and being fastened to a window frame, a sash member for receiving a glass pane and carrying a weather strip to move with it in the guide member, a channel-shaped member located within the guide member with at least a part of the base of the channel member in contact with said weather strip, and the sides of the channel member extending toward the seat of the guide member, a Z-shaped strip spring positioned between said seat and the channel member, and a rack member fastened to the interior surface of the base of the channel member and having a portion extending into an opening in said base as and for the purpose described.

2. In a window construction having a guide member with a seat portion and being fastened to a window frame, a sash member for receiving a glass pane and carrying a weather strip to move with it in the guide member, a channel-shaped member located within the guide member, the central part of the base of the channel member being depressed so only opposite portions of the base contact with the weather strip, the sides of the channel member extending toward the seat of the guide member and having the free edges thereof turned toward each other and then toward the base, a Z-shaped strip spring positioned between said seat and the channel member and having one edge projecting within the channel and bent to conform with the inner wall of one side of the channel member, and a

rack member fastened to the interior surface of the depressed portion of the base of the channel member and having rounded portions extending through an opening in the base and coming substantially flush with the outer surface of the depressed portion.

3. In a window construction having a guide member with a seat portion and being fastened to a window frame, a sash member for receiving a glass pane and carrying a weather strip to move with it in the guide member, a channel-shaped member located within the guide member with only opposite portions of the base of the channel member being in contact with the weather strip and the sides of the channel member extending toward said seat and having inwardly bent ends, a Z-shaped strip spring positioned between said seat and the channel member, one bend in the spring overlapping for engagement with one bent side of the channel member, while the free edge of the spring remote from said seat is formed to snugly fit the interior formation of one side of the channel member for the purposes described, and a rack member fastened to the interior surface of the base of the channel member and having a rounded portion extending through an opening in the base of the channel member, but out of contact with the weather strip.

4. A window construction as set forth in claim 3, further characterized in that means are provided for securing smooth action of the window lock bolt as the window is raised and lowered, said means, while including the said rounded portions of the rack member, further consisting in forming the rack member so the rounded portions come substantially flush with the outer face of the base of the channel member adjacent the opening defining the location of the rack member.

5. A window construction as set forth in claim 1, further defined in that the rack member portion which extends into said base opening has a rounded part, the outer periphery of which comes substantially flush with the outer face of the base of the channel member, the opening and rack member being located in spaced relation with the adjacent surface of the movable weather strip.

6. A window construction as set forth in claim 1, further defined in that the Z-shaped spring has one bend positioned to engage one side of the channel member, while the free edge of the spring remote from said seat passes within the channel member and is formed to slidably and snugly fit the contour of the other side of the channel member.

7. In a window construction having a guide member for supporting the following instrumentalities; a sash member carrying a weather strip, a single channel member within the guide member and a Z-shaped strip spring extending longitudinally of the channel and having one edge and a bend in the spring engaging opposite parts of the channel for pressing the channel member against the weather strip, means for improving the appearance of the construction and preventing the accumulation of dust and dirt in said member parts, said means consisting in mounting the single channel member with the base thereof toward the weather strip and the sides extending toward and into operative relation with the said spring.

JOSEPH SCHUNK.