

Feb. 5, 1935.

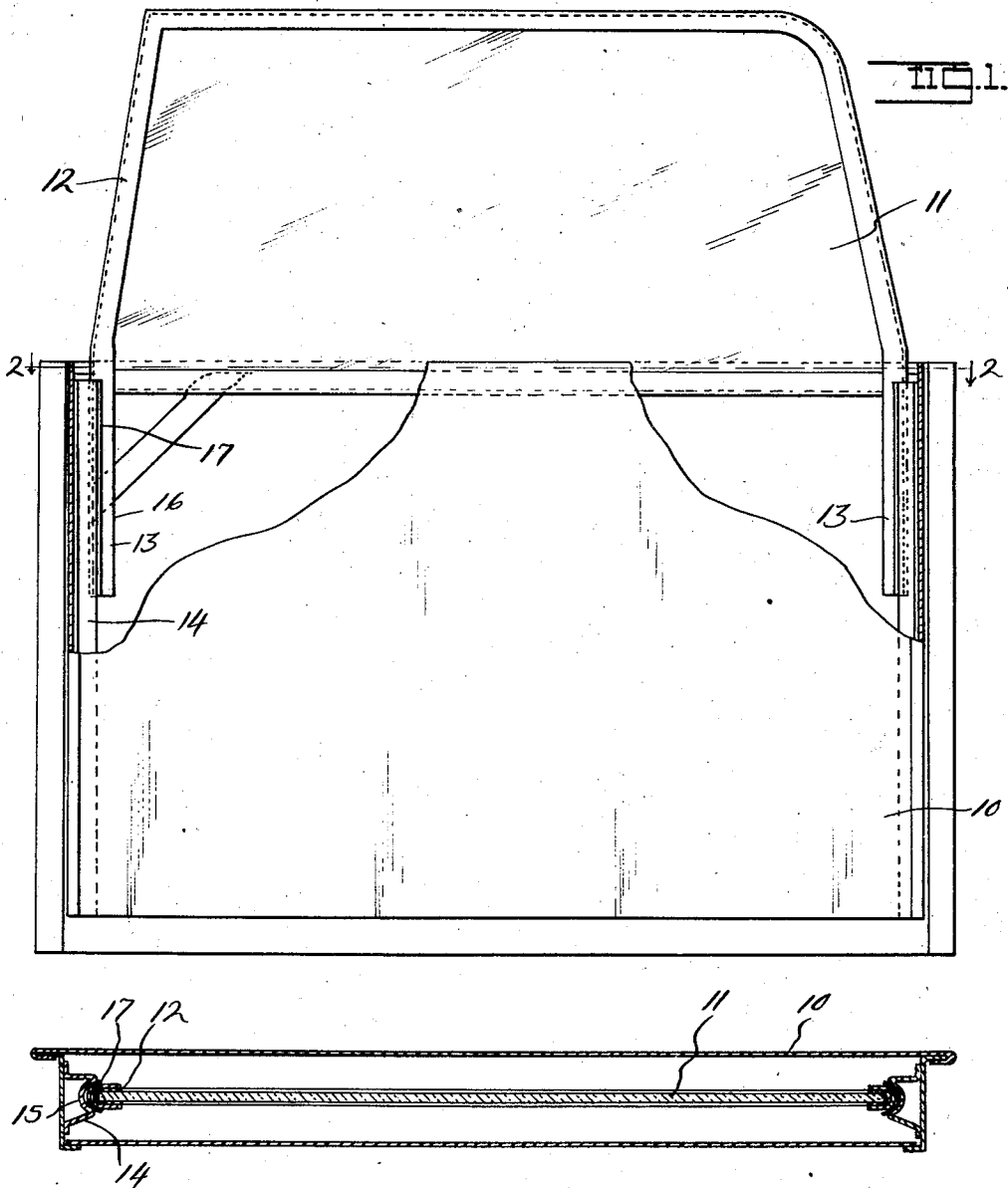
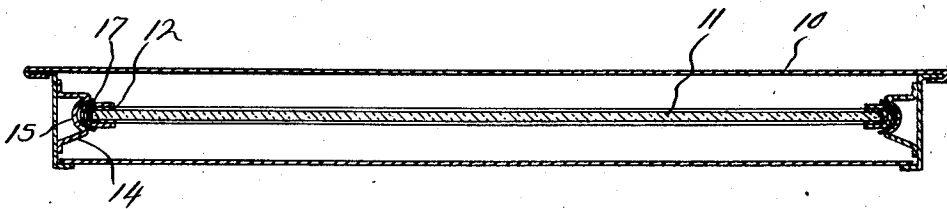
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1,990,220

SLIDE FOR EXTENSIBLE WINDOWS

Filed Sept. 6, 1932

2 Sheets-Sheet 1



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FIG. 3.

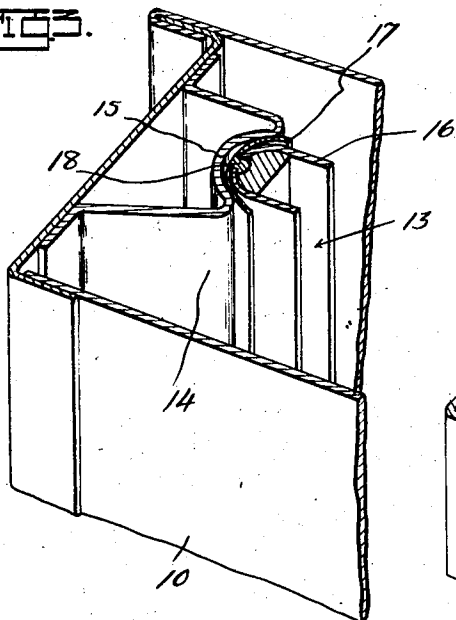


FIG. 4.

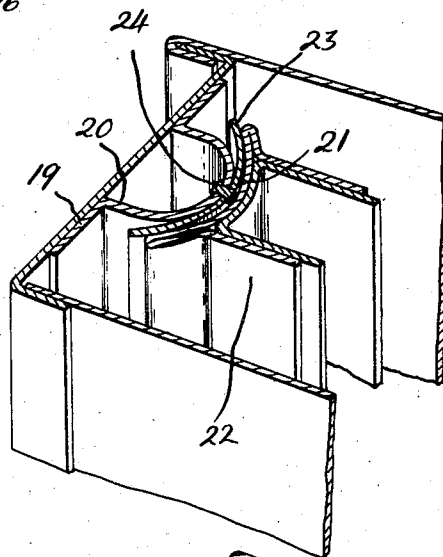


FIG. 5.

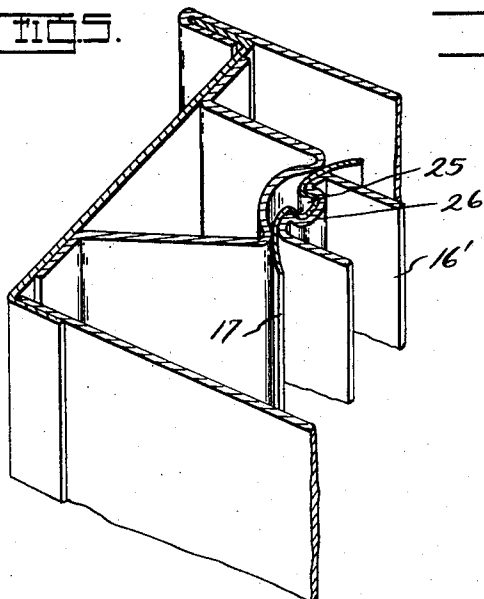
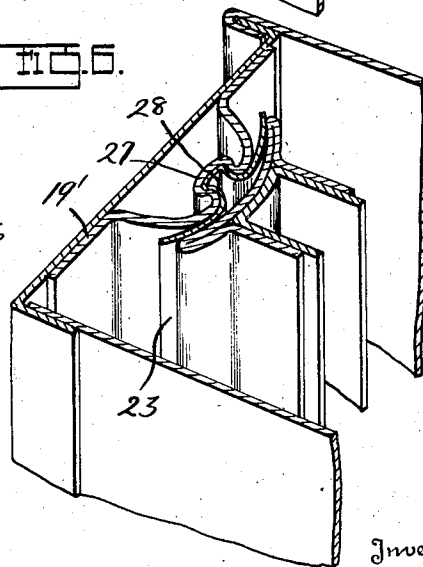


FIG. 6.



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UNITED STATES PATENT OFFICE

1,990,220

SLIDE FOR EXTENSIBLE WINDOWS

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8 Claims. (Cl. 296—48)

This invention relates to window constructions and more particularly to means for supporting and guiding sliding window glass plates in automobile doors and the like.

The invention, while capable of many diversified uses, finds particular utility and use in connection with the sliding windows for doors of convertible type vehicle bodies wherein the glass window when raised, with the top folded down, is without support and its side edges exposed.

The invention has as one of its primary objects to provide window supporting and guiding means which is simple in construction, may be economically manufactured, and assembled with facility.

Another object of the invention is to provide window guiding and supporting means of this nature which will rigidly support the sliding plate glass or window against both edgewise and lateral movement irrespective of the extent to which the window is raised or lowered.

The several objects, advantages and novel details of construction of the invention will become more apparent as this description proceeds, especially when considered in connection with the accompanying drawings, wherein

Figure 1 is a view partly in section and partly in elevation of a motor vehicle door having a sliding window glass and supporting and guiding means therefore in accordance with this invention;

Figure 2 is an enlarged horizontal sectional view taken substantially on the plane indicated by line 2—2 in Figure 1;

Figure 3 is a fragmentary sectional perspective view of the window glass guiding and supporting means illustrated in Figures 1 and 2;

Figure 4 is a similar view showing a slightly modified form of construction;

Figure 5 is a similar view showing another modified form of construction, and

Figure 6 is a similar view showing still another form of construction.

Referring now more particularly to the drawings wherein like reference characters indicate like parts, it will be noted that there is illustrated in Figure 1, solely however for the purpose of showing one operative embodiment of the invention, a vehicle door 10 provided with a sliding window glass plate 11. The window glass 11 is adapted to be raised and lowered from a position within the door to that illustrated in Figure 1 by a lifter mechanism (not shown).

In structures of this character, it is customary, where side border frames or stiles 12 are used, to project the same downwardly below the lower

edge of the glass to provide parallel extensions 13 affording support for the glass in its raised position. The parallel portions of the border frames or stiles 12, together with the extensions 13, are shaped to provide guiding portions co-acting with companion guides mounted on the frame or door member to slidably support the window glass in a manner which will now be described.

While in this description the companion guide members to be described are designated as being attached respectively to the sash and frame, it will be apparent that the guide members attached to the frame may be considered as parts of the frame where the character of the structures would make such an arrangement expedient.

Referring now more especially to the form of construction illustrated in Figures 2 and 3, it will be noted that there is mounted on the frame or door member 10 guide members 14, these members each being provided with a longitudinally extending substantially semi-circular groove or recess 15. The sash is provided at each side with a substantially semi-circular guide member 16 which is adapted to be nested in the groove 15 of the companion guide members 14. This guide member 16 may be the outer edge of the stile 12 and of the extension 13, as illustrated, or there may be a separate number thus formed and attached thereto. Secured to one of the companion guide members and arranged between the nested engaging surfaces thereof is a strip of spring metal 17 which may be, and preferably is, formed of spring brass. In the first illustrated embodiment of the invention this spring strip is shown as secured at a plurality of points to the guide member 16, as for instance by means of rivets 18, and as a consequence slides with the window glass. The radius of the arcuate groove 15 of the guide member 14 is illustrated as being slightly larger than the arc of the guide member 16 and the spring metal strip 17 positioned between the engaging surfaces of these guide members acts to take up any play therebetween and to resiliently resist sliding movement of the window. Owing to the nature of the construction, edgewise movement of the window glass is prevented as well as lateral movement thereof and the substantial nesting of the engaging portions of the guide members longitudinally provides adequate support for the window when in raised position.

In Figure 4 a slightly modified form of construction is illustrated in which the guide member 19 carried by the frame is shaped to provide a substantially semi-circular rib or projection 20

with which a substantially semi-circular groove or channel 21 of the guide member 22 engages. In this form of construction, the resilient strip 23 is secured to the stationary guide member 19 as, for instance, by means of rivets or the like 24. This structure, however, also provides substantially nested portions arcuate in cross section with the arc of the outer or grooved member being slightly larger than that of the rib member.

It is obvious that in either of the structures just described the resilient strips provide for spaced contacts of the surfaces which slide relatively to one another during the movement of the glass and thus materially reduces friction and facilitates the raising and lowering of the window.

The form of construction illustrated in Figure 5 is somewhat similar to that illustrated in Figure 3. However, in this form of construction the spring metal strip 17 is provided with a rib 25 which engages in a groove 26 in the guide member 16'. In this way the resilient strip 17 may be assembled with the guide member 16' without requiring rivets or the like.

The form of construction illustrated in Figure 6 resembles that illustrated in Figure 4 wherein the guide member 19' is provided with a groove 27 and the spring strip 23 is provided with a rib 28 which is engaged in the groove 27. In all other respects these structures are the same and function in the manner heretofore referred to.

Obvious modifications may suggest themselves to those skilled in this art, and to this end reservation is made to make such changes as may come within the purview of the accompanying claims.

What I claim as my invention is:

1. In a window construction, a frame, a sash, companion guide members carried respectively by said frame and sash, said guide members having substantially nested engaging portions semi-circular in cross section with the arc of the outer portion being greater than that of the inner portion, and a resilient metal strip secured to the member on said sash and arranged between the engaging portions of said guide members.

2. In a window construction, a frame, a sash, a stationary guide member secured to said frame and provided with a groove therein, a guide member secured to said sash for movement therewith and provided with a portion adapted to engage said groove, and a spring metal strip secured to the guide member secured to said sash and engaging at transversely spaced points within the groove of the stationary guide member to take up play

between said guide members, as and for the purpose set forth.

3. In a window construction, a frame, a sash, a guide member mounted on said frame, a companion guide member mounted on said sash, said guide members having cooperating concave and convex portions, one of said guide members having a longitudinal channel formed therein, and a resilient spring metal strip interposed between and engaging portions of both of said guide members, said strip having a longitudinal projection shaped to fit within said longitudinal channel, for the purpose set forth.

4. In a window construction, a frame, a sash, companion guide members carried respectively by said frame and sash, said guide members having substantially nested engaging portions semi-circular in cross section with the arc of the outer portion being greater than that of the inner portion, and a resilient metal strip secured to the said sash and arranged between the engaging portions of said guide members.

5. In a window construction, a frame, a sash, companion guide members carried respectively by said frame and sash, said guide members having substantially nested engaging portions semi-circular in cross section, with the arc of one portion being greater than that of the other portion, and a resilient metal strip interposed between the engaging portions of said guide members.

6. In a window construction, a frame, a sash, companion guide members carried respectively by said frame and sash, said guide members having substantially nested engaging portions semi-circular in cross section, with the arc of one portion being greater than that of the other portion, and a resilient metal strip secured to the guide member on said frame and interposed between the engaging portions of said guide members.

7. In a window construction, a frame, a sash, companion arcuate guide members carried respectively by said frame and sash, said guide members having substantially nested engaging portions semi-circular in cross section, with the arc of one portion being greater than that of the other portion, and an arcuate resilient metal strip having a curvature different from the curvature of either of said arcuate guide members, and interposed between the engaging portions of said guide members.

8. In a window construction, a frame, a sash, companion guide members carried respectively by said frame and sash, said guide members having substantially nested engaging portions, and an anti-rattling member comprising a resilient metal strip secured in interposed position between the nested portions of said guide members.

ALBERT P. BALL.