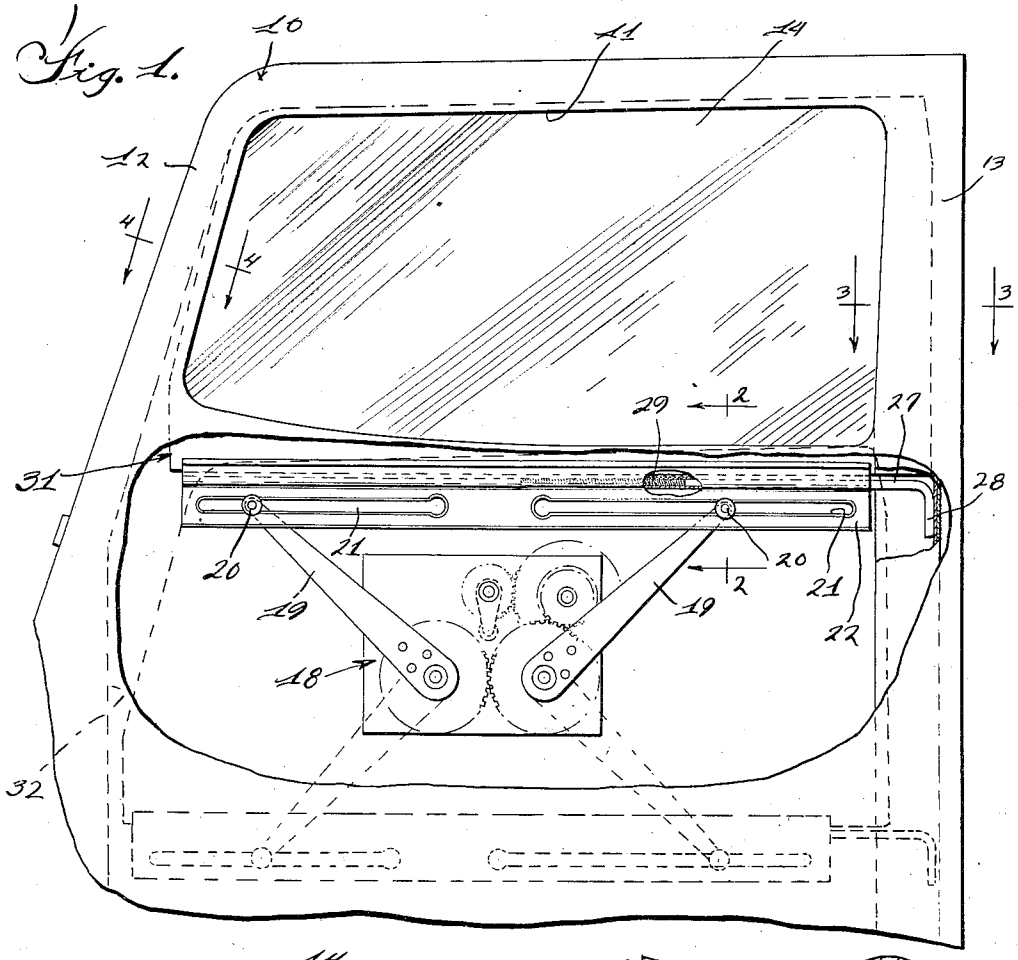
April 25, 1933. A. P. BALL 1,905,429

DOOR AND WINDOW CONSTRUCTION

Filed July 13, 1931

Fig. 1.



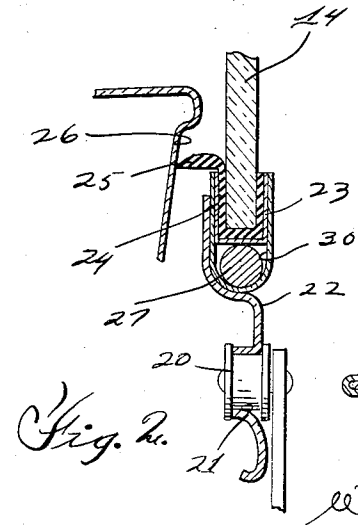
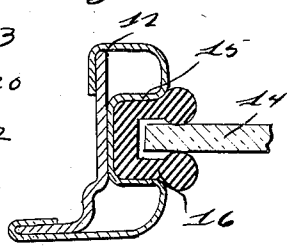


Fig. 2.

Fig. 4.



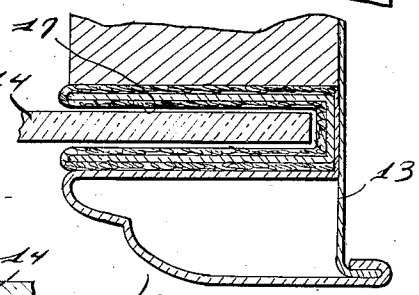


Fig. 3.

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UNITED STATES PATENT OFFICE

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DOOR AND WINDOW CONSTRUCTION

Application filed July 13, 1931. Serial No. 550,586.

REISSUED

This invention relates to vehicle bodies and more particularly to an improved door and window construction for motor vehicles and the like.

This invention relates more especially to a door and window structure wherein the vertical sides of the window opening are inclined with respect to one another, and wherein a glass panel or the like, having vertically inclined side edge portions, is employed for closing this window opening.

Heretofore in constructions of this character, the edges of the glass panel, when the latter is lowered, moved away from one or both of the vertical sides of the window opening, with the result that difficulty was experienced in preventing rattling of the glass panel.

In accordance with this invention, I provide means in a structure of this character, wherein the glass panel may be lowered and raised without completely withdrawing the vertical edges of the glass panel from engagement with the channels or runways arranged at the sides of the window opening, the invention also contemplating the provision of means, extensible and retractable, as the glass panel is lowered and raised, for continuous engagement with one of the glass runways to assist in guiding the glass panel and also to prevent any lateral edgewise movement of the panel when lowered.

The several objects, advantages, and novel details of construction of this invention will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawing, wherein:—

Figure 1 is a sectional elevational view of a vehicle door constructed in accordance with this invention;

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

Figure 3 is an enlarged fragmentary sectional view taken substantially on the plane indicated by line 3—3 in Figure 1, and

Figure 4 is an enlarged fragmentary detailed sectional view taken substantially on the plane indicated by line 4—4 in Figure 1.

Referring now more particularly to the drawing, wherein like reference characters indicate like parts, it will be noted that there is illustrated a vehicle door 10, having a window opening 11 therein, the sides or stiles 12 and 13 of the door being inclined with respect to one another. This produces a window opening 11, having non-parallel vertical sides and, as a consequence, the glass panel 14, which closes the window opening, must be correspondingly shaped.

With an irregularly shaped glass panel 14, such as herein illustrated, the vertical edges of the glass panel, when the latter is lowered, move away from one or both sides of the window opening, and it is in connection with this problem that the present invention pertains.

The stile 12 of the door is preferably of substantially normal size in cross-section and, as illustrated in Figure 4, is shaped to provide a channel portion 15 in which a runway strip 16 is located, with which the edge of the glass panel 14 slidably engages.

The other stile portion 13 of the door is relatively wide. That is, it is somewhat wider than customary, so as to provide a relatively deep channel portion 17, engageable by the edge of the glass panel 14.

If, as is customary, a door of this design is employed in a motor vehicle, it will constitute the front door if the vehicle is of a four-door type, but in any event the narrow stile or edge portion 12 of the door will be located forwardly and adjoin the edge of the windshield so that the relatively wider stile edge portion 13 will in nowise interfere with the clear forward and side vision of the driver of the vehicle.

The depth of the channel 17 is such that during the raising and lowering of the glass panel 14, the edge of the panel will not be completely withdrawn from the channel 17. This will be readily apparent by comparison of the full line position of the glass panel 14 with the dotted line position thereof, illustrated in Figure 1.

The reference character 18 indicates generally a window lifting mechanism which may be of any suitable or preferred con-

struction. In the present embodiment of the invention herein illustrated, this mechanism is shown as comprising a pair of lifting arms 19, each provided with a roller 20, engageable in a slot 21 in a frame 22, mounted on the lower edge of the glass panel 14.

The frame member 22 includes a channel portion 23 in which a channel strip 24 is located, the channel portion 23 being firmly fixed to the lower edge of the glass panel 14. The channel strip 24 is preferably provided with a lateral lip or extension 25, adapted in the raised position of the panel 14 to engage the inclined face 26 of the sill portion of the door 10 to weatherproof the structure at this point.

Slidably mounted in frame 22 is an extensible or projectable member 27 in the form of a rod having a right-angularly extending end 28 adapted to engage in the base of the channel 17 and to slide therein as the panel 14 is raised and lowered. This extensible member 27 is normally urged outwardly into engagement with the channel 17 by means such as a coil spring 29, arranged in the hollow portion 30 of the frame member 22 in which the member 27 reciprocates. One end of this spring engages the adjacent end of the member 27 whereas the other end is anchored in any suitable manner (not shown).

With this structure, the extensible member 27 will engage the base of the channel 17 at all times during the raising and lowering of the glass panel, and will thus act to shift or move the glass panel laterally in edgewise direction toward the left, as viewed in Figure 1, to maintain the other inclined vertical edge of the glass panel in engagement with its channel 15, which, as illustrated, is inclined vertically.

In this connection, it will be noted from Figure 1 that the channel 15 in the stile 12 of the door is arranged on an incline to a point well below the door opening 11 and from then on the channel 15 is parallel with the opposite channel 17. In order to utilize to advantage this channel formation, the lower left-hand edge of the glass panel 14 has a portion of its edge, indicated by the reference character 31, parallel with its opposite edge, so that in the lower positions of the glass panel, further lateral edgewise movement of the panel to the left is prevented when the parallel edge portion 31 of the glass panel engages the parallel portion 32 of the channel 15.

The herein described form of construction has in practice been found to be commercially practical and satisfactory in every respect, but to those skilled in this art, it will be obvious that other modifications of the non-essential details of construction may suggest themselves, and to this end reservation is made to make such changes as may come within the purview of the accompanying claim.

What I claim as my invention is:

A vehicle body provided with a window opening comprising a frame having a vertical side and an inclined side, a glass channel carried by said inclined side and a relatively deep glass channel carried by said vertical side, a glass panel having corresponding vertical and inclined side edges slidably mounted in said channels, means projecting from the vertical edge of said panel and engageable in said deep channel for maintaining the inclined edge of said panel in engagement with said inclined channel during the raising and lowering of the panel, the lateral edgewise shifting movement of the panel resulting therefrom being less than the depth of the deep channel, for the purpose set forth.

In testimony whereof I affix my signature.

ALBERT P. BALL.