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E. W. M. BAILEY

WINDOW GLASS GUIDE

Filed Feb. 25, 1925

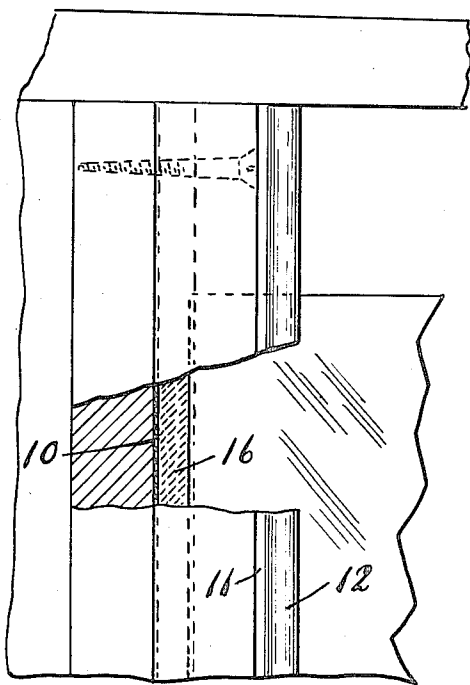


Fig. 1.

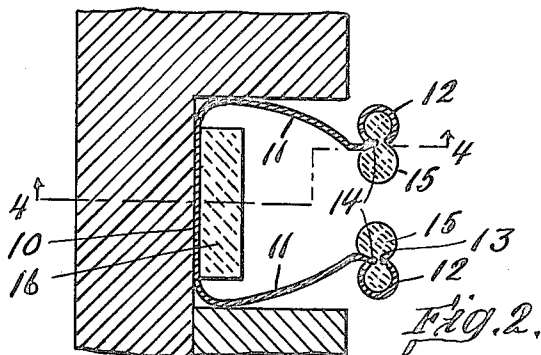


Fig. 2.

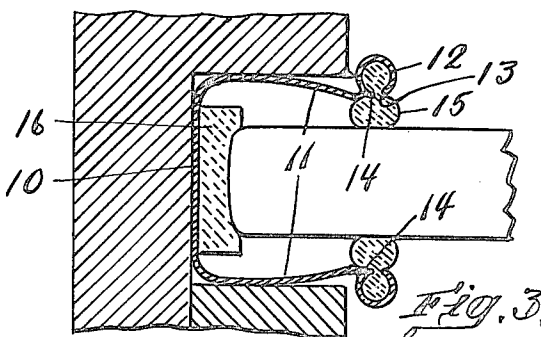


Fig. 3.

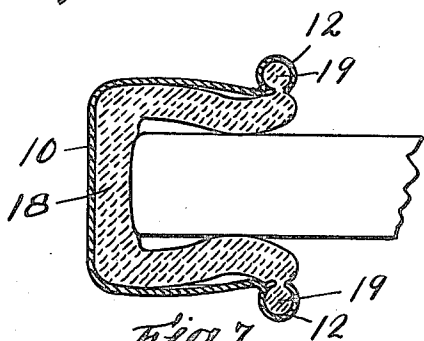


Fig. 7.

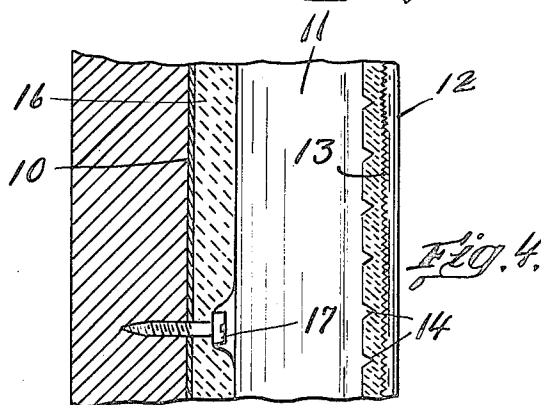


Fig. 4.

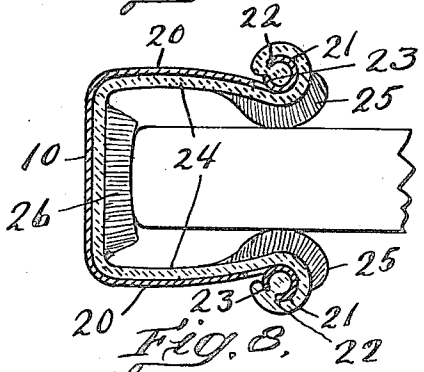


Fig. 8.

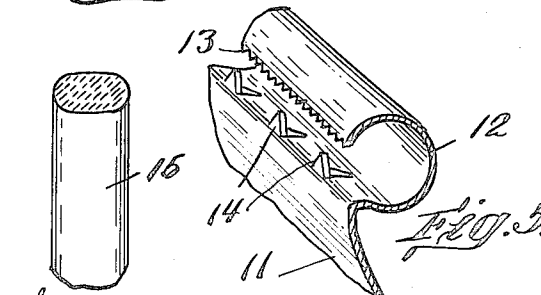


Fig. 5.



Fig. 6.

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WINDOW-GLASS GUIDE.

Application filed February 25, 1925. Serial No. 11,450.

This invention relates to that class of window guides, usually employed in closed body automobiles, in which a glass plate is slidably mounted directly in the guide ways, and, more particularly, to that class of guides in which a metal guideway is provided with cushioning means to prevent direct engagement of the glass with the metal, a type of which is disclosed in my Patent No. 1,521,168.

One of the chief difficulties likely to arise from the use of a felt lined guide is due to the tendency of the glass, by its frictional engagement with the felt, especially when the felt is wet, to cause the felt to be pressed into bunched or thickened portions, so that the frictional resistance to movement of the glass will be excessive. As a construction which permits the greatest freedom of movement possible, without rattling, is desired, such an occurrence is highly objectionable.

The object of my invention is primarily, to provide an improved means for securing a cushion such as felt, in position in the metal guiding strip, so that the possibility that the cushioning means will become displaced, or caused to bunch up or thicken, so as to cause binding of the glass, will be avoided. Also to provide the metal guiding strip with means for preventing displacement of the cushioning means which will be disposed entirely outside the inner surfaces of the sides of the strip, so that all possibility that any portion of the metal strip may directly engage the glass will be avoided.

A further object of my invention is to provide a form of metal strip for holding the cushioning material in place in which the securing means thereof may be formed at slight expense, aside from the initial expense of the dies used in the process of manufacture.

I accomplish these objects in the manner hereinafter described and illustrated in the accompanying drawing in which:

Fig. 1 is a side elevation, on an enlarged scale, of a form of window guide embodying my invention.

Figs. 2 and 3 are transverse sectional views thereof with the parts in different positions.

Fig. 4 is a sectional view at line 4-4 of Fig. 2.

Fig. 5 is a detail perspective view of a portion of the metal guide.

Fig. 6 is a detail view of a portion of a cushion employed in the connection with the form shown in Figs. 2 and 3.

Figs. 7 and 8 are sectional views showing modifications of the invention.

In the construction shown in Figs. 1 to 5 a metal holding channel is provided which consists of a strip of sheet metal bent in channel form and comprising a base 10 and two sides 11, the metal being preferably somewhat resilient but, in the present instance, not necessarily so. According to my present invention the outer portion of each side 11 is bent sharply one away from the other, at approximately right angles, forming outwardly facing shoulders along the lines at which the sides are bent, and then said outer portions are bent circularly and reversely outward and then inward, so that the edge of each side is disposed in close proximity to the outwardly facing shoulder of the side, thereby forming a tubular portion 12 which extends throughout the length of each edge portion of each side and has a longitudinal slot opening thereto between the edge and shoulder or an adjacent portion of the side. In the formation of the strip, which is accomplished by a rolling process, in which suitable die rolls are employed, and at a suitable point therein, the edge of each side is serrated or provided with a series of teeth 13 and, at points adjacent the line at which each side is bent outward or in the said outwardly facing shoulders thereof, a series of pointed prongs or teeth 14 are formed by striking out the metal, as shown in Fig. 5, so that oppositely disposed teeth are formed at opposite sides of the longitudinal slot opening to the tubular portion 12. In practice, however, before the formation of the tubular portions 12, into the form shown in Fig. 5, is completed, a portion of a strip of cushioning material 15 is placed therein, said strip being preferably made of highly compressed felt in a somewhat flattened cylindrical form similar to that shown in Fig. 6. This is done at a time during the process of manufacture when the distance between the ends of the teeth 13 and 14 is greater than the smaller diameter of the strip 15, so that the portion 12 is practically semi-tubular in form, the strip 15 being laid therein so that a substantial portion thereof, in practice somewhat less than half, is contained within said portion 12. Then

the rolling-in operation of the portion 12 is continued, so that the teeth 13 and 14 are forced into the felt and the pointed ends thereof penetrate therein until they are within close proximity to each other, as shown in Figs. 2, 3 and 4. The felt is thus securely held between the teeth with the greater portion thereof projecting beyond the inner adjacent surfaces of the sides.

The felt cushions thus provided are held in sufficiently close proximity to engage the opposite surfaces of a sheet of window glass inserted therebetween with some force, so that the surfaces of the felt strips will be somewhat flattened, as shown in Fig. 3. At the same time the portions of the metal strip which hold the cushioning material, or felt strips, in place are disposed outside the planes of the inner surfaces of the sides, which are parallel to the surfaces of the glass, so that all possibility that any portion of the sides of the metal channel strip will come in contact with the glass is avoided.

In this connection a felt edge cushion 16 may be provided on the base portion 10 and may be secured in position thereon by any suitable means, as by cement, and by the attaching screws 17, which are passed through the cushion and base portion to secure the channel in position on the casing.

In Fig. 7 a modified form of the invention is shown which for several reasons is considered preferable to that already described, in which the edge cushion is combined with the side cushions. That is, a single strip of felt 18, of suitable width and thickness is provided and the edge portions 19 thereof are inserted in the semi-tubular portions 12 of the channel and clamped therein, while the intermediate portions are laid against the sides and bottom of the channel.

In either of the constructions above described, the cushioning means which engages the sides of the glass is securely held against movement longitudinally of the channel and in the case of that last described the entire cushioning means will be securely held against such movement. Also the metal portions of the channel strip which hold the cushioning means in position cannot possibly be directly engaged with the glass.

In the constructions previously described the metal channel is bent outwardly and rolled inwardly. In the construction shown in Fig. 8 the edge portions of the sides 20 are rolled outward to form semi-tubular edge portions 21. In this instance also the edge is serrated to provide teeth 22, similar to the teeth 13, and prongs or teeth 23 are also struck outward from the metal, so that they extend towards the teeth 22 in a manner similar to that already described. In this connection I propose to employ a ma-

terial which is especially woven for the purpose. This material consists of a cushioning textile material which is so woven that the back 24 of the fabric is bare except for three strips of velvet, or tufting, 25 and 26 which extend longitudinally thereof. The edge portions of the fabric back 24 are inserted in the semi-tubular portion 21, and then the rolling over operation is completed, so that said edge portions will be securely held by the teeth and prongs 22, 23 in a similar manner to that already described. The fabric is pressed into the channel and the arrangement of the tufting raised strips 25, 26 is such that the two strips 25 will be held opposite each other on the inner sides of the channel near the outer edge thereof and the middle strip 26 will be held on the bottom of the channel, thus occupying the same relative positions respectively as the cushioning strips 15 and 16 in the form shown in Figs. 2 and 3 and thus being adapted to perform corresponding functions by providing cushions for the sides and edge of the glass as indicated. In this, as in the other forms of my invention, the cushioning material will be securely attached to the metal channel so that the sliding movement of the glass will not displace it even under most adverse conditions, and the metal portions which hold it in position cannot be directly engaged with the glass. In this latter construction also, all visible portions of the channel will be covered.

I claim:

1. A window glass guide comprising a U-form metal channel strip having two rows of teeth formed on each side, one on the edge thereof and the other on an adjacent portion of the side, and cushioning material disposed on the inner surfaces of each side and having portions thereof clamped between each pair of corresponding rows of teeth.

2. A window glass guide comprising a channel form metal strip having the outer portions of its sides extended from each other and then reversely to form clamping members disposed without the planes of the inner surfaces of the sides, and cushioning material disposed on said inner surfaces and having portions thereof held between said clamping members.

3. A window glass guide comprising a channel form metal strip having the outer portions of its sides extended from each other and providing outwardly facing shoulders thereon, and cushioning material disposed on the inner surfaces of said sides for engagement with the glass and having portions thereof disposed on said shoulders, and said outer portions being extended reversely to clamp said material against said shoulders, to hold the same in position.

4. A window glass guide comprising a

- channel form metal strip having the outer portions of its sides extended from each other and providing outwardly facing shoulders thereon, and cushioning material disposed on the inner surfaces of said sides and having portions thereof clamped between said shoulders and said edge portions. 35
5. A window glass guide comprising a channel form metal strip having the outer portions thereof disposed on said shoulders, said outer portions being extended reversely and inwardly into proximity with said shoulders to clamp the material thereagainst. 40
5. A window glass guide comprising a channel form metal strip having the outer portions of its sides extended from each other and providing outwardly facing shoulders thereon and cushioning material disposed on the inner surfaces of said sides for engagement with the glass and having portions thereof disposed on said shoulders, said outer portions having serrated edges and being bent extended reversely and into proximity with said shoulders to clamp the material between the same and said edges. 45
6. A window glass guide comprising a channel form metal strip having the outer portions of its sides extended from each other at approximately right angles thereto, to provide outwardly facing shoulders on said portions disposed outside the planes of the inner surfaces of the sides, and said outer portions being extended reversely, so that their edge portions are disposed adjacent the corresponding shoulders thereof, and cushioning material disposed on the inner surfaces of said sides and having portions thereof clamped between said shoulders and the edge portions of the sides. 50
8. A window channel, comprising a sheet metal channel bar adapted to receive the edge portion of a window between its spaced side walls, each side wall of the channel bar being bent to form a strip holding groove, a narrow strip of cushioning material mounted in each of said grooves and supported thereby in spaced relation to the other strip so that each strip engages the window throughout its length, and a glass supporting, cushioning member mounted on the bottom wall of said channel. 55
- In testimony whereof, I have signed my name to this specification.

EDWIN W. M. BAILEY.