Dec. 30, 1924. 1,521,168

E. W. M. BAILEY

WINDOW GUIDE

Filed May 13, 1924

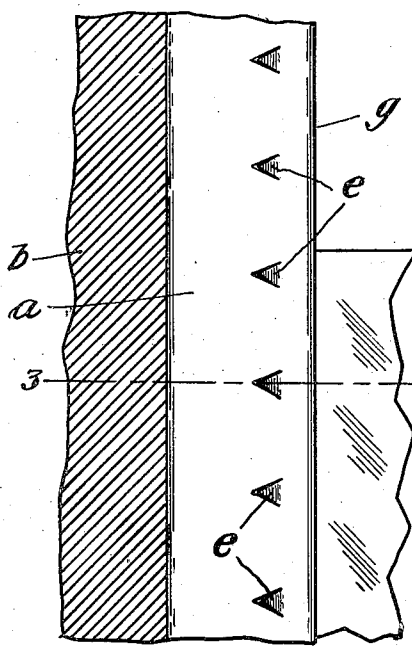


Fig. 1.

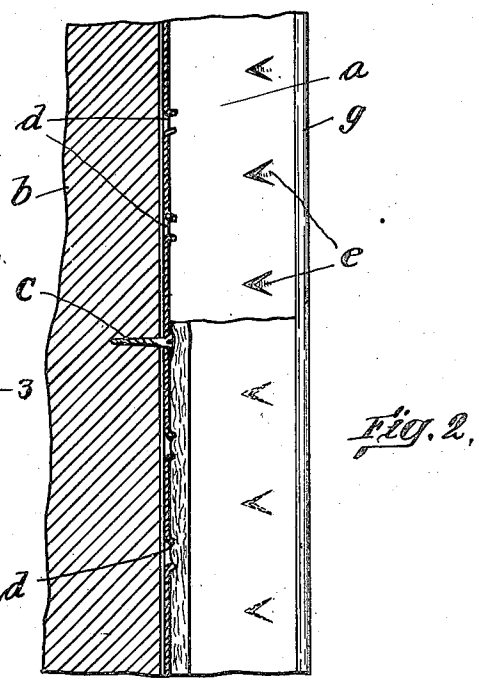


Fig. 2.

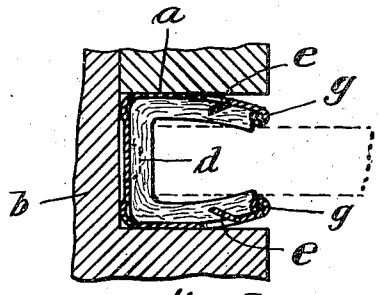


Fig. 3.

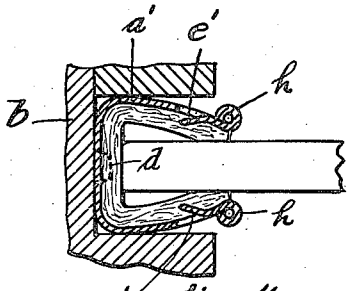


Fig. 4.

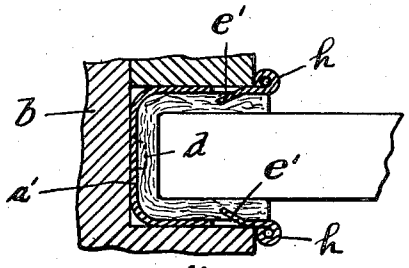


Fig. 5.

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UNITED STATES PATENT OFFICE.

EDWIN W. M. BAILEY, OF AMESBURY, MASSACHUSETTS.

WINDOW GUIDE.

Application filed May 13, 1924. Serial No. 713,038.

To all whom it may concern:

Be it known that I, EDWIN W. M. BAILEY, a citizen of the United States, a resident of Amesbury, in the county of Essex and State of Massachusetts, have invented an Improvement in Window Guides, of which the following is a specification.

This invention relates to that class of window guides in which plate glass sheets are arranged to slide directly in the guide, this arrangement being most generally employed in automobile closed bodies. These guides are of two general types, viz, those in which the glass is directly engaged by a cushioning material, such as felt or rubber, and those in which the glass is directly engaged by resilient metal. Of the first mentioned type, where felt is employed, the felt is usually placed either directly in the casing groove, or it is placed in a metal channel which is in turn secured in the casing groove, and my present invention more specifically relates to the latter type in which the metal channel and felt lining are combined.

The guides of the type last referred to, which have been extensively used, have comprised a metal strip bent in U-form, said strip having its edges inturned to provide recesses in which the edge portions of the felt strip are located to hold the latter in position therein. Guides of this form have been found objectionable principally because the glass plates in connection with which they are used must be graded as to thickness, as it is impractical to use "mill-run" glass, which varies in thickness, but is less expensive, in connection therewith. The felt cushioning strip is not held with sufficient security against longitudinal slipping in the metal channel, being merely held by friction, and the friction of the glass on the felt, as it is raised or lowered, tends to cause the felt to slide longitudinally of the channel strip, so that, if, by reason of moisture or other cause, the felt should adhere to the glass, there is great liability that the felt will be pushed into bunches and the glass caused to bind. Also with said prior construction it has been considered necessary to place the felt in the metal channel before the latter is secured in the window casing, and, as the screw holes in the channel, through which screws are passed to secure it, are covered with the felt lining, delay is caused in finding these holes after the channel has been placed in position. Moreover, as it is difficult or impractical to place the felt in the channel after installation of the latter, it is equally difficult to renew the felt when renewal is necessary.

The objects of my invention are to provide a form of window guide of the felt lined metal channel type in which a strip of felt of uniform width and thickness may be readily placed in the channel after the channel has been secured in position in the window casing, and which, by the operation of pushing it into the channel, will practically be automatically secured therein and held both against outward movement from the channel bottom and against movement longitudinally thereof, but which may be readily removed in case renewal is necessary. Also to provide a felt lined channel which is adapted to receive and satisfactorily guide glass plates of varying thickness.

I accomplish these objects, in a general way, by providing a resilient metal strip which is shaped in approximate U-form, to provide converging resilient side portions and in the side portions of which a series of pointed tongues or barbs are formed which extend toward the bottom of the channel in position to enter the felt strip, when pressed therein and hold it from both lateral and longitudinal movement.

For a more complete understanding of my invention, reference is made to the accompanying drawing in which:—

Fig. 1 is a side elevation and Fig. 2 is a central longitudinal sectional view of a window guide embodying my invention.

Fig. 3 is a cross section at line 3—3 of Fig. 1.

Figs. 4 and 5 are cross sectional views of a modified form of the invention.

According to my invention, I provide a strip of resilient sheet metal which is bent to be permanently set in U-form to provide a channel *a*, which is adapted to be fitted into the guide groove of a window casing *b*, so that its bottom portion rests on the bottom of the groove and may be secured thereto by screws *c*, or other convenient means. In practice, screw holes *d* are punched through the bottom inward at suitable intervals so as to form sharp projections on the inner side. When secured in position, the side portions of the channel strip bear against the sides of the casing

groove adjacent its bottom and extend somewhat convergently from this point, as shown in Fig. 3. Each side portion of the channel strip *a* has a series of sharp pointed tongues *e* formed therein by means of a dieing operation, said tongues having their edges converging to a point to form sharp pointed barbs which extend or point towards the bottom of the channel in oblique relation to the side portions. Said tongues or barbs are arranged in a row at suitable intervals, for example, an inch or two inches apart at a short distance from the outer edges of the side portions, but at points opposite the sides of the casing groove. The exact angle at which the tongues extend from the side portions is not essential, but they must extend inward at angle to the sides and towards the bottom, approximately the angle shown being preferable.

In the form of my invention shown in Fig. 3, the edge portions of the sides of the channel are rolled inward to form a cylindrically shaped edge bead *g*, which is approximately flush with the surface of the casing, and, in the form shown in Figs. 4 and 5, the edge portions of the channel strip *a'* are rolled outward to form cylindrically shaped edge beads *h*, which are located just beyond the surface of the casing and are of sufficient diameter to extend laterally to the extent with which the corresponding side of the channel diverges from the sides of the casing groove, when a window glass sheet of minimum thickness is inserted therein. Inwardly projecting barbs *e'*, similar to barbs *e*, are formed in the side portions in the manner already described.

After the metal channel *a* has been secured in position in the casing groove, as shown in Fig. 2, a felt strip *b*, of a suitable uniform width and thickness, is pressed into the channel by placing it thereon, so that its middle portion is opposite the middle of the channel, and then pressing the felt strip inward with a special tool for the purpose, so that the middle portion of the felt covers the bottom of the channel and its side portions rest against the side portions of the channel while its edges abut with the beads *g*, in the construction of Fig. 3, or are approximately flush with the outer surface of the casing, with the construction of Figs. 4 and 5. As the tongue or barbs *e*, or *e'* are sharp and project into the channel, they will penetrate the felt and securely hold it against movement away from the bottom of the channel and also from movement longitudinally thereof. The barbs in no way interfere with the insertion of the felt strip, but engage therein practically automatically as it is inserted. The projections formed by punching the holes *d* cooperate with the barbs to hold the felt against longitudinal slipping. While the barbs penetrate the felt to a sufficient extent to hold it in the position in which it is placed, the felt may be removed without difficulty by tearing it loose from the barbs, and a new felt placed in position in the manner already described.

As thus arranged, the felt provides a cushion for the sides and edges of the glass plate, and the arrangement is such that when glass of minimum thickness is placed in position, the sides of the channel strip will be but slightly separated, if they are separated at all, and, in such case, with the construction shown in Figs. 4 and 5, the beads on the edges of the channel will cover the space between the side portions and the sides of the casing groove as shown in Fig. 4. If a thick sheet of glass is inserted, the channel side portions will be pressed aside to the extent necessary to receive the same and as the edge beads in the construction of Figs. 4 and 5 are held beyond the side of the casing, they will not prevent such spreading of the side portions even if said side portions are pressed against the sides of the casing groove, as in Fig. 5. Obviously the inturned beads *g* do not interfere with the spreading of the sides, as they partly overlap the edges of the felt and assist in retaining the felt in position.

Under all conditions a cushioning support is provided for the glass, due, in part, to the cushioning effect of the felt, and the further fact that the felt is resiliently supported by the sides of the metal channel.

I claim:

1. A window guide comprising a U-shaped metal channel adapted to receive a lining of cushioning material and having a series of pointed tongues formed from each side thereof arranged to extend inwardly therefrom towards the bottom of the channel, to penetrate the lining and hold it against outward and longitudinal movement.

2. A window guide comprising a U-shaped felt lined sheet metal strip having a series of pointed tongues formed in the side portion thereof, arranged to extend obliquely inwardly in position to penetrate the lining and hold it against outward and longitudinal movement therein.

3. A window guide comprising a sheet metal strip bent in channel form to provide a bottom and two sides, said sides having a series of pointed tongues struck out therefrom and arranged to extend obliquely inward and towards said bottom, and a strip of cushioning material disposed in said channel in engagement with said sides and bottom and held against transverse and longitudinal displacement by said tongues.

4. A window guide comprising a sheet metal strip bent in channel form to provide a bottom and two sides, said sides having a series of pointed tongues struck out there-

from and arranged to extend obliquely inward and towards said bottom, and said bottom portion having a series of inward projections struck inwardly therefrom, and a strip of cushioning material lining said channel and penetrated by said tongues and projections to hold the same in position therein.

5. A window guide comprising a cushion receiving U-shaped strip of resilient sheet metal having its sides converging from the bottom, and having a series of barbs struck inward from said sides at predetermined intervals and adjacent their edges, said barbs being arranged to extend towards the bottom of the strip in position, to penetrate the lining, when inserted therein, and to hold it against relative outward and longitudinal movement.

6. In combination with a casing having a window groove therein, a sheet metal channel strip comprising a bottom, having means to secure the same to the bottom of said groove, and sides extending convergently from said bottom and having outwardly turned edge portions forming beads disposed beyond the sides of the groove in front of the spaces between the sides of the groove and the sides of the channel, said sides having a series of pointed tongues struck therefrom and extended obliquely inward towards said bottom and a strip of cushioning material lining said channel and penetrated by said tongues to hold the lining against outward and longitudinal movement.

In testimony whereof, I have signed my name to this specification.

EDWIN W. M. BAILEY.