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D. C. BAILEY

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WINDOW GLASS CHANNEL

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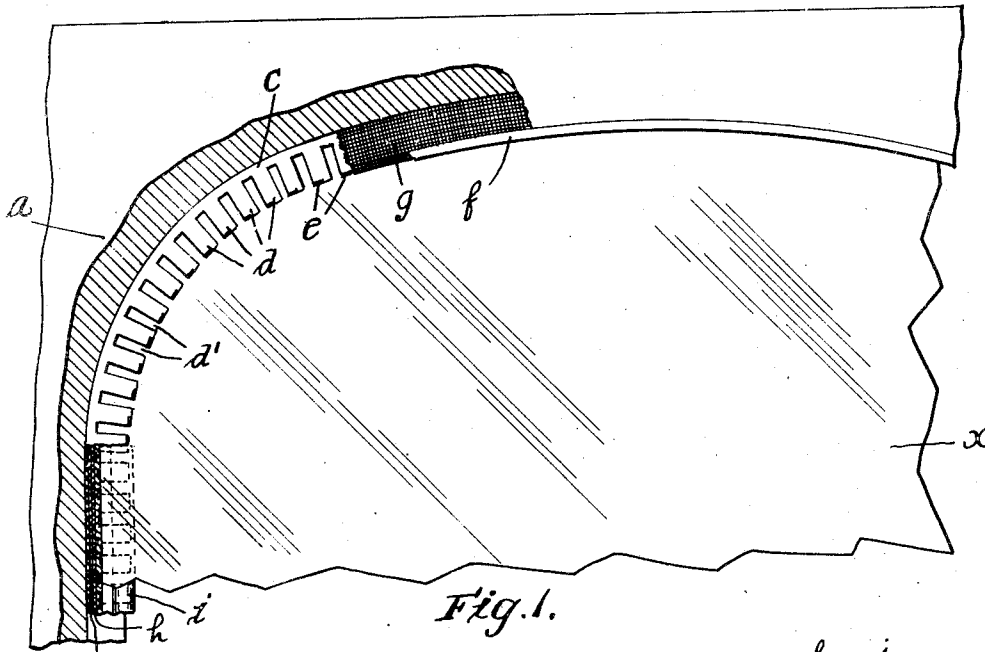
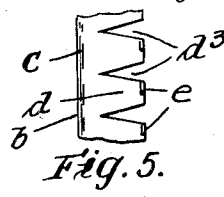
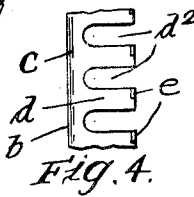
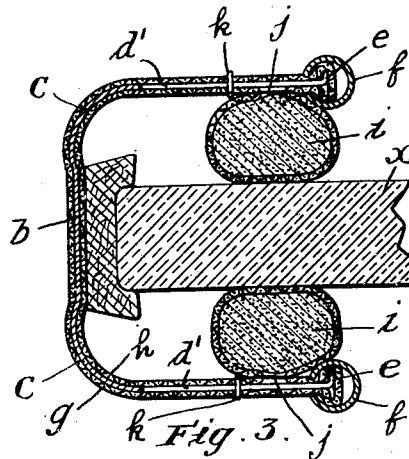
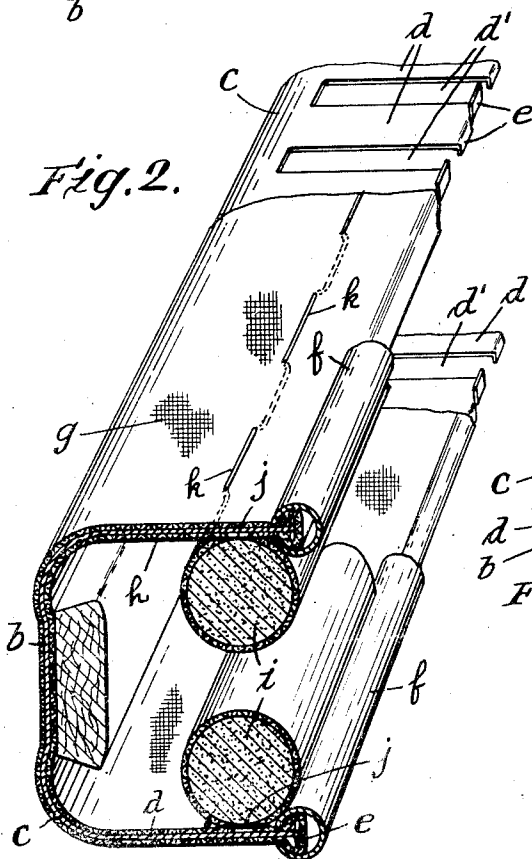


Fig. 2.



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UNITED STATES PATENT OFFICE

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WINDOW GLASS CHANNEL

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This invention relates to certain improvements in window glass guides primarily intended for use in connection with the frameless window glass of automobile bodies and particularly to certain improvements in the specific form of guide shown in my pending application, Serial No. 467,184.

In the construction of many automobile bodies of the closed type the window openings are curved in outline, either partly or wholly, and it is customary, in the construction of metal automobile bodies, to extend the grooves, in which the usual window glass guides are set, continuously from each side across the top of the opening, the top edge of the glass being curved to correspond to the top curvature of the opening.

This construction necessitates a corresponding bending of the cushioning guide which is placed in the casing groove, and, while guides which do not include metal in their construction may be readily bent, guides which include a U-form metal channel are required for automobiles of the higher grade. Certain types of U-form metal channels may be bent by means of special apparatus, but this is usually a difficult operation to perform, either in the factory where the guides are produced, or in the factory where they are installed. It is, moreover, particularly desirable for the guide manufacturer to be able to ship the guides in straight lengths, so that it is desirable for several reasons that the workmen who install the guides may bend them readily into the shape desired.

While guides constructed according to the disclosure of my said application are particularly desirable for casing grooves which are straight, such guides are not only difficult to bend, but I do not consider it to be feasible to bend them to the extent now required for curved window casings.

The objects of my invention are to provide a form of window glass guide which will embody the more important features of construction of the guide disclosed in my said application, and which, in addition, will be so constructed that it may be readily shaped onto a form which will correspond to the curvature of any particular window opening

in which it is likely to be installed. Also to provide an improved form of cushioning means which will be less expensive to manufacture than, and will be at least as effective in its cushioning action as my said previously disclosed guide, and which will be of equally ornamental appearance.

I accomplish these objects by providing a form of window glass guide which comprises in its construction a U-form metal channel having its sides composed of a series of flat tongues which extend from points adjacent the channel base portion and are separated by spaces of suitable width, so that the channel may be readily bent, said tongues having ornamental beads mounted on the ends thereof which permit relative flatwise movement of the tongues therein and hold the tongues in alignment under all conditions, and said channel having a textile covering on its exterior, and cushions on its inner sides for engaging the glass, both of which are secured in position by the beads and by fastening means passing through the spaces between the tongues.

For a more complete disclosure of the invention reference is now made to the following specification, in connection with the accompanying drawing in which:—

Fig. 1 is a view in side elevation, partly in section, or a portion of a window casing in which an embodiment of my invention is installed.

Fig. 2 is a view on a greatly enlarged scale, partly in cross section and partly in perspective, of a section of the guide prior to installation.

Fig. 3 is a cross sectional view of the guide on a similar scale, showing the glass in position therein.

Figs. 4 and 5 are detail views showing modifications of the invention.

In the drawing *a* indicates a section of the top portion of the window casing of an automobile body, having a groove in which the usual window glass guide is secured, the sides of the opening merging with the top portion in a gradual curve.

According to my invention I provide a U-form channel of thin, readily bendable metal,

which comprises a bottom portion *b*, and side portions, each of which comprises a rounded connecting portion *c* and a series of flat tongues *d*, said tongues being formed from the sides of the channel strip by cutting out notches, as *d'*, from each side thereof.

Said notches are shown as of approximately the same widths as the tongues, but this arrangement is not essential to the invention, as the notches may be of less width than the tongues, and instead of the ends of the notches being of square formation, as shown in Figs. 1 and 2, they may be made rounded, or U-shaped, as shown by the notches *d''* in Fig. 4, or they may be made V-shaped, as shown by the notches *d'''* in Fig. 5, or they may be made of other shapes which will be suitable for the purpose. The square formation is however preferable for several reasons, as it enables sheet metal to be cut into strips, suitable to be bent into channel form, by the cutting operation which forms the tongues, so that no material is wasted by reason of the formation of the notches in the sides of the channel, and a straight edge is provided on the end of each tongue to receive the edge bead, as hereafter described.

As best shown in Fig. 2, the end portion of each tongue *d* is split at the middle for a short distance and the portions thus bifurcated are bent oppositely at right angles to the sides, forming flanges *e* on the ends of said tongues. A U-form metal bead *f* is then bent about the flanges *e* of the tongues of each side, to provide the same with continuous finished edges of ornamental material in the manner disclosed in my said application.

Before placing the bead in position, a textile covering *g* is placed about the entire exterior of the metal channel and cemented thereto, and the edge portion of said covering is extended to, and preferably over the ends of the tongues *g*, as shown. Also, the interior of the channel is covered with a textile lining *h*, which is also cemented thereto, and a cushioning packing is provided in connection therewith, which preferably consists of two bundles of wicking *i*, or like material, about which the lining *h* is passed, and to which it is secured by means of stitches *j*, or other convenient means.

While the covering *g* and lining *h* may be made of separate pieces of material with the edges thereof terminating beneath, or within the bead *f*, they are preferably formed of one continuous piece, so that the covering *g*, after extending over the edges of the channel will be continued about the wicking *i*, and along on the inner surface of the channel to form the lining *h*, as shown in Figs. 2 and 3. The particular meeting point of the edges of the material which forms the covering and lining is not of special importance, but preferably is at the middle of the inner side of the base portion, as

shown. The portion of the material which is engaged by the bead *f* is somewhat loosely clamped, for reasons which will hereafter appear. The bundles *i* of wicking will thus be held against the inner sides of the channel in proximity to the beads *f*, and they are made of sufficient diameter to project well beyond the inner sides of the beads, so as to hold the glass *X* out of contact with the beads and provide a suitable cushion for the glass which is placed therebetween, as shown in Fig. 3. To counteract any tendency which the movement of the glass might have to pull the bundles of cushioning material *i* outward, a series of fastenings *k*, which may be in the form of stitches, are passed through the lining *h*, the notches between the tongues *d* and through the covering *g*, securely attaching the lining *h* to the covering *g*. These fastenings may be located at any suitable or convenient points between the cushions *i* and the inner ends of the notches. A strip of felt *m*, or like material is also preferably secured by a suitable adhesive to the lining *h* over the meeting edges of the material of which the latter is formed, and in position to be engaged by the edge of the glass.

When the complete guide, as thus constructed is to be installed, it will, or may be in straight sections, and will be cut in lengths to extend throughout the length of the sides and top of the window opening, when the opening is of the type of that indicated in Fig. 1, so that the sides and top portions are connected by curved portions, the top portions being either curved throughout or partially curved. The guide is then bent so that its base portion is curved to correspond to the curvature of the bottom of the casing groove, before the strip is inserted, or as it is inserted, to enable the base portion to be fitted closely against the bottom. The bending action thus performed will cause the end portions of the tongues *d* to be swung towards each other to a slight extent, as shown in Fig. 1, this movement being permitted by the beads *f*, which are clamped somewhat loosely in direct engagement with the lining and covering and indirect engagement with the ends of the tongues and sides of the channel thereby permitting a slight movement of the tongues in the beads. The beads, therefore will not be buckled or distorted by the bending action, and, moreover, in bending the channel to conform to the curvature of the casing, there is a strong tendency to cause the channel to be bent laterally, and to cause the tongues to be bent out of alignment, and this undesirable result is prevented by the beads, which act to hold the channel straight and prevent the tongues from being bent out of line under all conditions. The beads *f*, therefore, have important mechanical as well as ornamental functions.

As the net result will be to shorten the

length of the guide at the ends of the tongues, when it is bent, without decreasing the length of the beads, the latter will be extended beyond the ends of the guide, at the end of the bending operation, to the extent to which this portion of the guide is shortened. As the covering *g* is secured to the sides of the tongues, so that relative movement thereof is not permitted, the tendency will be to gather or wrinkle the covering to a slight extent, but the fullness or wrinkling thus caused will not detract from the appearance of the guide when installed, as only a small portion of the sides of the guide will then be exposed, and, in many instances, only the beads will be exposed. Any fullness or wrinkling of the covering will usually be received by the spaces between the tongues *d*, and the slight buckling of the cushioning material *i* will not be apparent from the outside.

When the glass is in position in the guide, it will be effectively cushioned and the cushioning means *i* will be securely held in position by the lining and covering *g* and *h* and the fastening means *k*, and it will not be displaced by the withdrawal of the glass from the guide portion which is located in the top portion of the window opening.

When installed the guide will present the same finished appearance as that of my said application, although it may be bent into any form which is likely to be required when installed.

I claim:

1. A window glass guide comprising a U-form channel of bendable metal having a series of notches extending inwardly from the edges of both sides thereof and a metal bead mounted on the edge portion of each side and arranged to permit a slight relative movement therebetween when the base portion of the channel is bent.

2. A window glass guide comprising a U-form channel of thin bendable metal having a series of notches extending inwardly from the edges of both sides thereof, the edge portions of said sides being bent to form retaining flanges and a metal bead enclosing the retaining flanges of each side and arranged to permit a slight relative movement of the sides therein when the base portion of the channel is bent.

3. A window glass guide comprising a U-form channel of thin, flexible metal, each of the sides of said channel having a series of regularly disposed notches therein extending from each edge thereof to points adjacent the channel base, the edge portions of said sides being bent transversely to form retaining flanges and a U-form metal finishing bead enclosing the flanges of each side, said beads being relatively movable therein to permit bending of the channel base.

4. A window glass guide comprising a U-

form channel of thin bendable metal having its sides composed of a series of separate tongues which extend outwardly from points adjacent the base portion thereof, and, metal beads enclosing the end portions of the tongues of each side and secured thereto, the ends of said tongues being relatively movable within said beads to permit transverse bending of the base portion.

5. A window glass guide comprising a U-form channel of thin bendable metal having its sides composed of a series of separate tongues which extend outwardly from points adjacent the base portion thereof, a textile covering extending entirely about the exterior of said channel, and a U-form metal bead enclosing the end portions of said tongues and the adjacent portions of said covering.

6. A window glass guide comprising a U-form metal channel having a series of notches extending inwardly from the edges of both sides thereof, a textile covering and a textile lining disposed respectively on the outer and inner sides of said channel and extended to the edges of said sides, a glass-engaging cushion secured to said lining adjacent the edge of each side, fastening means extending through said notches and connecting said covering and lining, and a metal bead enclosing the edge portions of said sides and the adjacent portions of said lining and covering.

7. A window glass guide comprising a U-form metal channel having a series of notches extending inwardly from the edges of both sides thereof, a textile strip disposed on the outer and inner sides of said channel and extended continuously over the edge portion of each side, a glass-engaging cushion enclosed by said textile strip and held adjacent the edge portion of each side, fastening means extending through said notches and connecting the adjacent portions of said strip and a U-shaped metal bead enclosing the edge portions of said sides and the portions of said strip thereon.

8. A window glass guide comprising a U-form channel of thin bendable metal having its sides composed of a series of separate tongues which extend outwardly from points adjacent the base portion thereof, said tongues having their end portions bent to form retaining flanges, and a metal bead enclosing the flanges of each series of tongues, to secure the same in position thereon, said tongues being movable within the beads to permit the ends thereof to be moved relatively when the base portion of the channel is bent.

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

DAVID C. BAILEY.