Feb. 16, 1937. C. F. SCHLEGEL 2,070,624

WINDOW CHANNEL

Filed June 19, 1933

Fig. 1

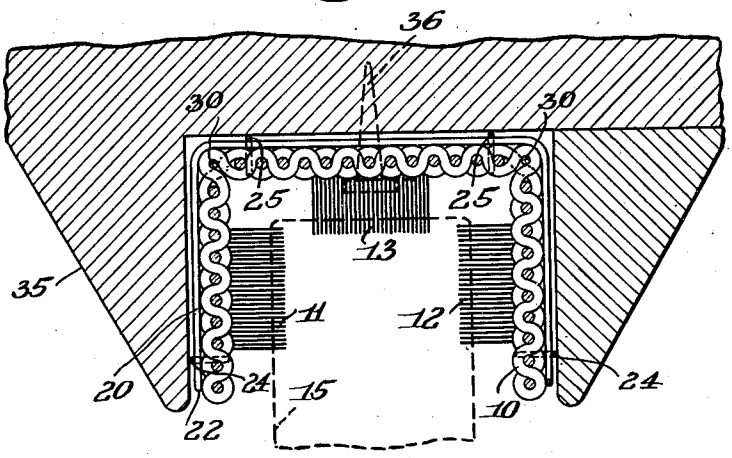


Fig. 2

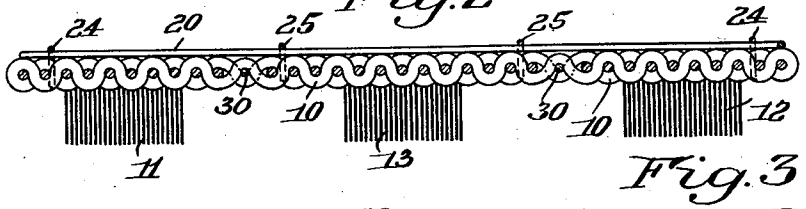


Fig. 3

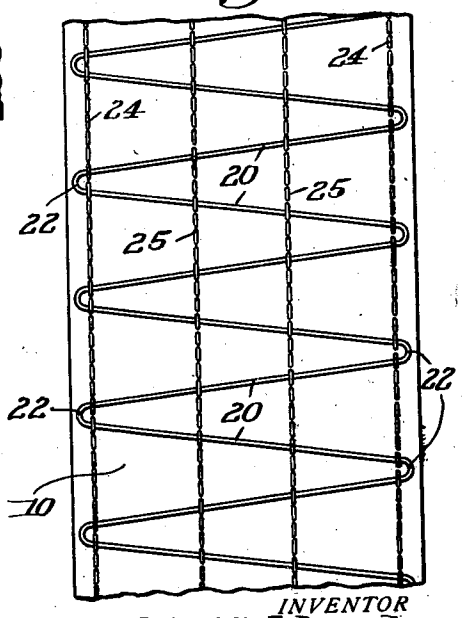
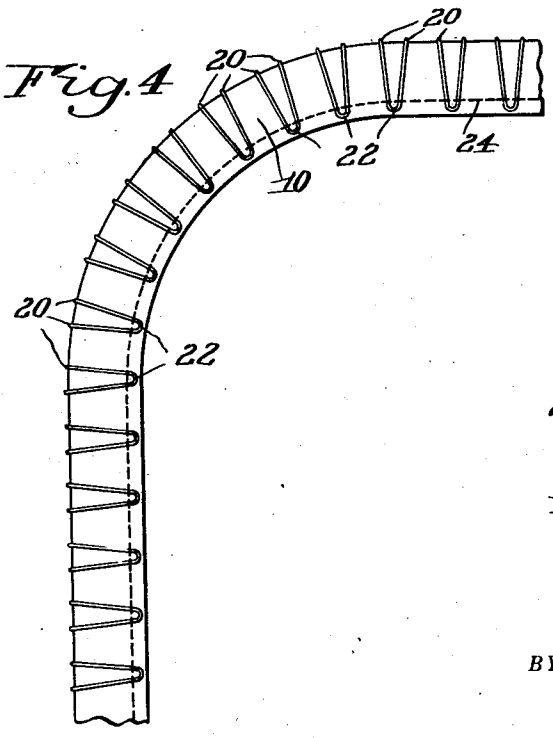


Fig. 4



INVENTOR

Carl F. Schlegel

BY Edward H. Cumpston

his ATTORNEY

Patented Feb. 16, 1937

2,070,624

UNITED STATES PATENT OFFICE

2,070,624

WINDOW CHANNEL

Carl F. Schlegel, Rochester, N. Y., assignor to The Schlegel Manufacturing Company, Rochester, N. Y., a corporation of New York

Application June 19, 1933, Serial No. 676,480
In Canada April 15, 1933

4 Claims. (Cl. 296—44.5)

This invention relates to window channels such as may be used to support and guide a movable window pane or glass in automobiles, aeroplanes, or other vehicles, or as a mounting for an immovable or set window pane or sash in such vehicles.

An object of the invention is to provide a generally improved or more satisfactory window channel of this character, which can be easily and inexpensively manufactured, and yet which will retain its shape and be satisfactory in use.

Another object of the invention is to provide at minimum expense a window channel having a sufficiently soft and resilient cushioning action on the window, together with reinforcing means which will hold the channel in proper position and yet which will enable the channel to be bent as desired.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawing:

Fig. 1 is a diagrammatic cross section through a window channel in its normal position of use set in a groove or rabbet of a window frame;

Fig. 2 is a transverse cross section through the same channel in substantially flat form;

Fig. 3 is a rear view of the channel spread out in the flat form of Fig. 2, and

Fig. 4 is a side view of the channel illustrating it bent around a corner.

The same reference numerals throughout the several views indicate the same parts.

Referring first to Figs. 1 and 2, there is shown a body of suitable fabric which is sufficiently thick and sufficiently resilient in a direction through this thickness so that it provides a substantial cushioning support for the glass or sash to be mounted in the channel. The resilient cushioning effect may be secured, for example, by providing the fabric with relatively long stiff pile as disclosed in Schlegel Patent No. 1,847,700, issued March 1, 1932, or by providing it with other suitable cushioning means such as shown, for instance in Schlegel Patent No. 1,895,688, issued January 31, 1933, or in copending Schlegel application Serial No. 595,352, filed February 26, 1932. In the preferred form the fabric has a textile body 10 woven from non-metallic threads or strands such as cotton or linen, and the cushioning resilience is secured by providing relatively long stiff pile on those portions of the body 10 which constitute the inner surfaces of the side and bottom walls of the body when it is bent into the channel shape illustrated in Fig. 1. For example, this relatively long stiff pile on one of the side walls is indicated diagrammatically at 11; that on the opposite side wall is indicated at 12; and that on the bottom wall is indicated at 13.

As may be seen from Figs. 1 and 2, this pile need not cover the entire inner surface of the walls of the channel member, but preferably occurs in longitudinally extending strips of sufficient width to support and cushion adequately the glass or sash, which is indicated diagrammatically in dotted lines at 15. The pile, being preferably long and stiff as distinguished from the relatively short and weak pile ordinarily found in velvet, for example, will hold the window 15 away from the main side and bottom walls of the body 10 of the channel member and will provide an adequate resilient cushioning support for the window and a guide or runway for movements of the window if it is of the movable variety.

The fabric channel body 10 may be made of relatively light material which would not of itself be sufficiently stiff to be self-supporting in use, and flexible reinforcing means is provided for holding the body sufficiently stiffly in proper position while still allowing it to be flattened out transversely substantially into a plane or erected into channel form and to be bent around corners in the plane of the window embraced by the channel. This reinforcing means is also substantially non-resilient so that it tends to remain substantially in a position to which it is bent or formed, holding the sides of the channel normally in parallel relation to each other at all times irrespective of movements of the glass embraced by the channel. It does not tend to press the sides of the channel tightly against the glass, nor to move the sides of the channel toward each other to close up the channel when the glass is removed or withdrawn.

The reinforcing means is preferably in the form of a flexible non-resilient wire arranged in zigzag fashion on the outer or exterior surface of the side and bottom walls of the fabric body 10, as indicated at 20 in the drawing. The wire is looped back and forth, extending diagonally around the channel, as best shown in Figs. 3 and 4, and the ends of the loops are arranged close to the free edges of the side walls of the channel member and are bent back relatively sharply upon themselves as at 22, so that the wire does not extend in longitudinal direction along the channel for any material distance. It will be noted also that the successive loops or corners 22 of the wire are spaced a substantial distance from each other. This fact of substantial spacing of successive adjacent loops, together with the fact that the loops are formed with sharp bends without extending lengthwise of the channel through any material distance, permits the channel to be bent smoothly and evenly around corners in the plane of the window embraced by the channel, as shown, for example, in Fig. 4. It is apparent

that if portions of the reinforcing wires extended lengthwise along the edges of the channel for a material distance, these portions would tend to hold the edge of the channel straight at those points, so that it could not be bent readily in such a smooth curve. Also if successive loops were closely adjacent each other, they might come into contact with each other and interfere with proper bending of the channel around corners. Any such undesirable features are obviated with the arrangement here disclosed, wherein the channel can be readily and smoothly bent in a curve in the plane of the glass, as well as bent transversely of the channel, from the flat form shown in Fig. 2 to the channel shaped form shown in Fig. 1, or vice versa.

The reinforcing member **20** is secured to the fabric channel body in any suitable manner, preferably by lines of stitching **24** extending through the channel near its outer free edges, and by other lines of stitching **25** extending preferably through the bottom or base portion of the channel slightly inwardly from the corners of the channel.

Usually but not necessarily the channel is made up in flat form as illustrated in Figs. 2 and 3, and frequently is shipped from the factory to the point of use in this flat form. Before being used and installed, it is bent transversely into the channel shaped form shown in Fig. 1, and bending at the proper points at the corners of the channel may be assisted by forming the fabric body **10** with suitable weakened lines or "breaks" extending longitudinally along the channel at the proper points, as indicated diagrammatically in the drawing by warp strands of somewhat smaller size than the other warp strands and spaced somewhat farther than normal from the adjacent warp strands on each side.

When once bent up into the channel shaped form shown in Fig. 1, with the side walls of the channel substantially parallel to each other, the channel tends to remain in this form because of the fact that the wire reinforcement is substantially non-resilient, and it does not press the sides of the channel unduly against the embraced window, nor does it tend to close up the channel when the window is withdrawn.

The channel is bent if necessary to the desired shape around the corners of the window, as indicated in Fig. 4, and is placed in a suitable supporting rabbet or groove in a window frame **35**, being held therein by suitable means such as tacks **36** driven at intervals through the bottom or back member of the channel into the frame. It will be noted that the reinforcement does not interfere with the easy driving of tacks through the channel, this being one of the advantages of the invention.

When the window is installed in the channel, it is adequately cushioned and supported by the thick resilient cushioning means formed on the inner walls of the channel, so that it does not come into direct contact with any unyielding portion of the channel. Any necessary lateral or transverse movement of the window in the channel is taken care of by the resilience of the padding or cushioning member of the channel rather than by lateral movement of the channel walls themselves, which are held substantially stationary by the wire reinforcing means, at all times, substantially in contact with and backed up by the edges of the rabbet in the window frame **35**.

I claim:

1. A window channel capable of being readily bent both longitudinally and transversely comprising a channel shaped body of textile fabric of substantial thickness and resilience to provide a cushioning support for a window, and substantially non-resilient wire reinforcing means embracing and secured to said fabric body to hold the side walls of said body in substantially parallel relationship to each other, said wire reinforcing means including wire portions extending in a direction generally transversely of the channel, said transversely extending wire portions forming loops lying on those portions of said body which form the side walls of the channel when the body is bent into channel shaped form, adjacent loops being spaced from each other when the channel is in a straight position so that said loops may move closer to each other when the channel is bent in a longitudinal direction.

2. A window channel capable of being readily bent both longitudinally and transversely comprising a channel shaped textile body having relatively thick resilient cushioning portions, and a reinforcing wire looped back and forth in zigzag formation and extending around and running along said channel shaped body with the ends of the loops of said wire forming relatively narrow sharp corner portions relatively close to the side edges of said channel shaped body, said body and reinforcing wire together being capable of being flattened transversely into a plane and bent up into channel shape, and said wire being substantially non-resilient so as to hold the side walls of said channel shaped body substantially stationary in any position to which they are bent.

3. A window channel capable of being readily bent both longitudinally and transversely comprising a channel shaped textile body having relatively thick resilient portions for cushioning a window embraced by said channel, a reinforcing wire extending back and forth obliquely around said channel shaped body substantially from one free edge thereof substantially to the other free edge thereof and doubled back relatively sharply upon itself adjacent said free edges so that it does not extend longitudinally along said edges for any material distance, and means securing said reinforcing wire to said textile body, said wire being flexible to allow said textile body to be bent, but being substantially non-resilient so as to hold the side walls of said channel shaped body in substantially stationary position relatively to each other irrespective of movements of the window embraced by said channel.

4. Means for engaging and cushioning a window, said means including a strip of woven textile material lying substantially in a plane parallel to and spaced from the window, means forming a cushioning pad extending along said woven strip in a line of substantial width and projecting a substantial distance from said woven strip to contact with one side of said window, and unwoven substantially non-resilient inert bendable metallic wire stiffening means secured to said woven textile strip, said wire stiffening means including wire portions extending in a direction generally transversely of said woven strip and forming a series of loops adjacent one edge of said woven strip, adjacent loops of said series being materially spaced from each other in a direction longitudinally of said woven strip so that such adjacent loops may move closer to each other to permit said woven strip to be readily bent in its own plane, such as around the corner of a window.

CARL F. SCHLEGEL.