

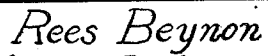
Oct. 4, 1932.

R. BEYNON

1,880,696

HEADER STRIP

Filed April 25, 1929



UNITED STATES PATENT OFFICE

REES BEYNON, OF CHICAGO, ILLINOIS, ASSIGNOR TO DRYDEN RUBBER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

HEADER STRIP

Application filed April 25, 1929. Serial No. 358,022.

This invention relates to improvements in cushioning means and also to an improved method for making the same, the invention being highly desirable when made in the form of a channel strip for use as a vehicle window bumper, although the invention may have other and varied uses and purposes as will be apparent to one skilled in the art.

As set forth more particularly in my co-pending application for Letters Patent on "channel strip and method of making the same", filed April 25, 1929, Serial No. 358,023, which also discloses the broad features of this invention, many and various types of channel strips have been developed in the past but have, in most instances, proven objectionable due to peculiarities in structure. Under certain circumstances it is desirable to provide a very resilient channel strip equipped with a metallic backing to reinforce the strip as a whole and render the same more rigid. In channel strips heretofore known and equipped with metallic backing means, the backing means was depended upon in most instances to furnish the necessary body for the structure as a whole so that the same might be mounted upon a desired object by the driving of securing means, nails for example, therethrough. However, in these formerly known devices great difficulty was experienced in mounting the same due to the fact that the apertures in the backing element were entirely hidden by the cushioning material. Moreover, these formerly known channel strips were not as sufficiently durable as is desirable, they tending to become prematurely loose and misshapen.

The present invention has been designed to overcome the above noted as well as other defects and objections in the provision of a cushioning element having a metallic back, and through which securing means may be readily and easily driven.

The invention also seeks the provision of a cushioning device equipped with a metal or other rigid backing member, but which does not depend upon the aforesaid backing member for providing the necessary body for the strip as a whole.

A further object of the present invention is

to provide a new and improved method of making a cushioning device of the character described herein.

While some of the more salient features, characteristics, and advantages of a device, means, or method embodying this invention have been above pointed out, others will become apparent from the following disclosures.

The invention includes these and other features of construction and combinations of parts hereinafter described, and shown in a preferred form in the drawing, as more particularly indicated by the claims.

On the drawing:

Figure 1 is a fragmentary top plan view of a channel strip embodying principles of the present invention.

Figure 2 is a fragmentary bottom plan view of the structure shown in Figure 1.

Figure 3 is a vertical sectional view, enlarged, and taken substantially as indicated by line III—III of Figure 1.

Figure 4 is an enlarged perspective view of a portion of the structure shown in Figure 1, and illustrating an early step in the making of the structure.

Figure 5 is a perspective view similar to Figure 4 showing a later stage in the making of the structure.

Figure 6 is a perspective view similar to Figures 4 and 5, showing the structure as completed.

Figure 7 is a vertical sectional view similar to Figure 3 showing a slightly different form of construction of the device.

As shown on the drawing:

In the structure selected to illustrate an embodiment of the present invention there is shown a channel strip including a base plate or rear covering member 1 made of any suitable material, but preferably of metal. This base plate 1 is provided with a series of centrally located and longitudinally extending slots 2, the slots being rather long and the distances between the ends of adjacent slots relatively short. The margins 3 of the base plate 1 are inwardly turned so as to embrace and hold the edges of a back member 4 of which the rear face is covered

by the base plate. Although made of any desirable material, the back member 4 is preferably of a rubber or caoutchouc compound, and in the present instance is made relatively stiff so as to provide a sufficient body to the channel strip as a whole to support the same when securing means are driven through the back member.

To render the strip capable of properly functioning as a cushioning member, a yielding front portion 5 is provided, this portion being made of any suitable material, but preferably of a highly compressible elastic substance such as sponge rubber. In the present instance, the top portion 5 is in the form of two spaced parallel strips of the proper configuration to define therebetween a channel 6 and adjacent the bottom of this channel a groove 7, which is preferably narrower at the top than at the bottom thereof. The strips forming the top portion 5 are secured to the back member 4 in any desired manner, for example by a suitable adhesive or by vulcanization, and the outer portions of the strips overlie the inwardly turned flanges 3 of the base plate 1 so that the structure as a whole is outwardly symmetrical.

It is therefore apparent that the resulting channel strip is sufficiently rigid to permit the expeditious handling of the same, and at the same time is provided with a highly compressible elastic front portion to act as a cushioning member. When it is desired to mount the strip in position in a window frame or in any other desired location, it is simply necessary to place the strip in the desired position and drive securing means through the back member 4, the securing means being first inserted in the groove 7. No particular attention need be given the task of finding an aperture in the back plate 1 since the relatively long slots 2 therein permit the passage of the securing means at substantially any point along the strip. With reference to Figure 3, it will be noted also that the top of the groove 7 is narrower than the slots 2 and disposed directly thereabove, so that if securing means are merely inserted in the groove 7 they are in alignment with one of the slots 2.

The channel strip of my invention is best adapted for use as a header strip for automobile windows, windshields and the like. In operation the window glass, upon being raised or lowered, is urged into the channel 6. The edge of the glass exerts a pressure against the bottom portion of the channel 6 which compresses it, thereby distorting the top portion 5 in such a manner that the sides thereof are bent in to grip the glass. In this manner a seal is perfected which not only acts as a weather strip but also is useful in preventing rattling of the glass.

The present invention also includes a new and novel method for economically and ex-

peditionally making the above described strip, the method being somewhat similar to that set forth in my aforementioned copending application. At the outset, the back member 4 is covered on its rear surface by the base plate 1 and the margins 3 of the base plate are bent around the lateral edges of the member 4 to hold the same. Of course, if so desired, the base plate 1 may be previously formed with the inturned margins 3 and the back member 4 molded into the formed base plate.

After the forming of the lower structure, a mass or block 8, preferably of rubber or a caoutchouc compound previously treated with a rising ingredient of the nature of baking soda or the like, is placed upon the back member 4. The block or mass 8 may be of any desired shape and preferably of a size insufficient to fill a mold of a proper size to form the desired completed article. After the mold is placed in position over the base structure and block 8, the entire structure is subjected to heat which causes the block 8 to expand and conform itself to the interior of the mold thereby forming a highly elastic front portion for the channel strip composed of sponge rubber or similar substance. Simultaneously with the expanding and forming of the front portion, this same portion is effectively vulcanized to the back member 4 to form substantially an integral part thereof. The margins of the front portion closely embrace and follow the contour of the inturned margins 3 of the base plate 1, and may be secured thereto by impregnating or coating the inturned margins 3 with a suitable adhesive if so desired. With this method it is obvious that a channel strip of great durability is obtained, in view of the fact that the relatively stiff back member 4 and the front portion 5 are in effect one single piece and the base plate 1 is so imbedded in these members as to render it quite unlikely that the parts would tend to separate even after long usage.

In Figure 7 I have shown a slightly different form of construction of channel strip, wherein the same back member 4, and the same base plate 1 with the same inwardly turned margins 3 are used. However, the front portion of the channel strip in this instance, is one single piece devoid of the groove 7, although this front portion 5a is molded to form a longitudinal channel 6a therein. This form of the device is constructed in the same manner as that previously described herein, with the single exception that a mold of different contour is employed whereby the groove 7 is omitted from the finished structure.

From the foregoing it will be apparent that I have provided a cushioning element, which, although set forth herein as being made of a rubber or caoutchouc compound may also be made of any desirable or suitable material,

and which may be formed by an expeditious and novel method. Moreover, the structure formed after the principles of the present invention is provided with a metallic or similarly stiff base plate, and notwithstanding this fact affords substantially no impedance to the driving of securing means there-through, nor does it require any searching for a passage through the base plate for the securing means. In addition, the resulting structure whether made in the form of a channel strip or otherwise, is exceedingly durable, easy to handle and install, and may be economically manufactured.

In testimony whereof I have hereunto subscribed my name at Chicago, Cook County, Illinois.

REES BEYNON. 70

I am aware that many changes may be made and numerous details of construction or method may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon otherwise than necessitated by the prior art.

75

80

85

I claim as my invention:

1. As an article of manufacture, a cushioning device including a hard rubber back member, a stiff covering for the rear part of said member, and a sponge rubber front portion of equal width and overlying said back member.

90

2. As an article of manufacture, a channel strip including a back member of caoutchouc material, a relatively stiff covering for the rear part of said member, and a sponge rubber front portion vulcanized to said back member, said front portion having a channel therein.

95

3. As an article of manufacture, a cushioning strip including a back member of caoutchouc material, a metallic member engaging the rear face of said back member and having inwardly turned margins embracing the edges of said back member, said metallic member having a series of elongated slots therein, and a front portion of caoutchouc material more elastic than said back portion and secured thereto.

100

4. As an article of manufacture, a cushioning element including a base plate, a back member on said base plate, inwardly turned margins on said base plate embracing the edges of said back member, and a springy front portion secured to said back member and overlying said margins.

105

110

115

5. As an article of manufacture, a cushioning element comprising a sponge rubber member having a channel therein, a relatively hard rubber backing vulcanized to said member and a metal reinforcing member secured to said backing.

120

6. As an article of manufacture, a cushioning element comprising a sponge rubber member having a channel therein, a relatively hard rubber backing vulcanized to said member and a metal reinforcing member having intumed flanges enveloping said backing.

125

130