Dec. 2, 1941. J. A. GOELLNER 2,264,634

WEATHERSTRIP

Filed April 1, 1940

Fig. 1.

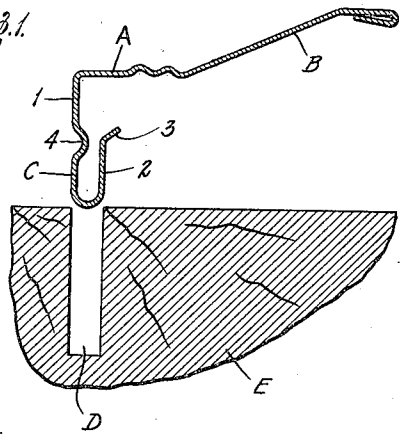


Fig. 2.

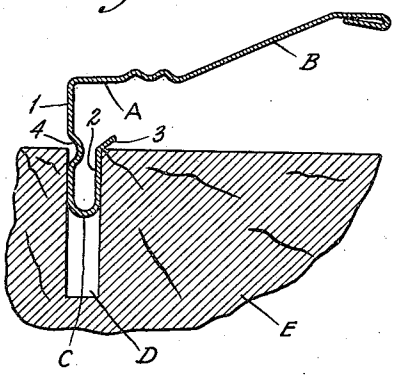


Fig. 3.

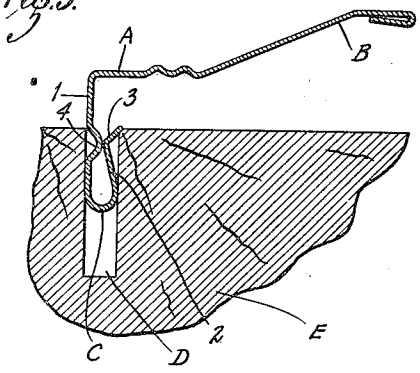


Fig. 4.

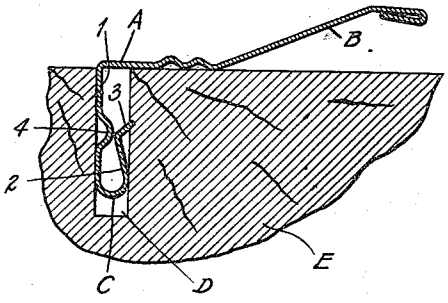
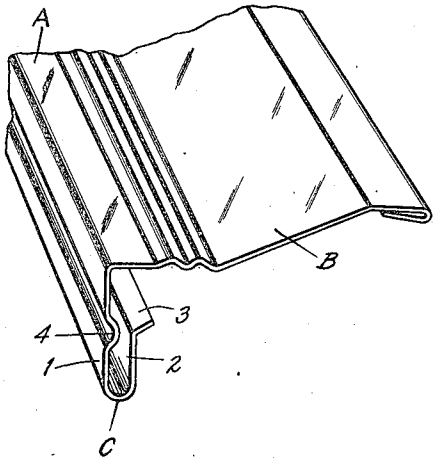


Fig. 5.



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UNITED STATES PATENT OFFICE

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WEATHERSTRIP

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Application April 1, 1940, Serial No. 327,195

2 Claims. (Cl. 20—69)

This invention relates to metal strips of the kind adapted for forcible insertion in and self-holding engagement with a groove in a mounting member therefor. The principal object of the present invention is to improve the holding quality of the groove engaging portion of a strip of the above type and to simplify and cheapen the construction of such strip. The invention consists in the strip and in the shape and in the arrangement of the groove engaging portion thereof.

In the accompanying drawing, which forms part of this specification, and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a cross-sectional view showing a weatherstrip embodying my invention ready for attachment to a grooved mounting member for said strip,

Figs. 2, 3 and 4 are views similar to Fig. 1, showing the positions assumed by the groove engaging portion of the strip during the forcible insertion thereof into self-holding engagement with said groove; and

Fig. 5 is a perspective view of a portion of said strip.

In the accompanying drawing, my invention is shown embodied in a weatherstrip comprising an elongated strip of resilient or ductile metal bent along longitudinal lines to form a base portion A, a resilient seating flange B extending from one side margin of said base portion and a hollow outstanding rib C along the other side margin of said base portion and adapted for forcible insertion in and self-holding engagement with a parallel sided groove D provided therefor in a mounting member E, preferably of wood. The hollow outstanding rib A of said weatherstrip comprises a marginal portion thereof that is bent at right angles to the base portion thereof to form one side wall 1 of said rib and is thence rebent on the base portion side of said side wall to form the other side wall 2 of said rib.

The side wall 2 of the hollow anchoring rib C of the weatherstrip preferably extends parallel with the side wall 1 thereof from the return-bend portion of said rib to a point substantially midway of the depth of the side wall 1 where it is bent outwardly to form an inclined marginal flange 3 that terminates short of the base portion A of said strip. The side wall 1 of the rib C has a hollow outstanding longitudinal bead 4 along its inner face substantially opposite the juncture between the side wall 2 and the inclined free marginal flange 3 thereof. Before mounting, the side wall 2 of the hollow rib C is spaced away from the hollow longitudinal bead 4 along the inner face of the side wall 1 of said rib; and the distance between the free marginal edge of the outwardly inclined marginal flange 3 of the side wall 2 and the side wall 1 is greater than the width of the rib receiving groove D in the mounting member E. The above weatherstrip is attached to the mounting member E by forcibly inserting the hollow rib C of said strip into the groove D of said mounting member through the mouth of said groove. During the entrance of the hollow rib C into the groove D, the outwardly inclined free marginal flange 3 of the side wall 2 of said rib rides on the adjacent corner or edge of said groove and is thus forced inwardly in the direction of the other side wall 1. The inward movement of the free marginal flange 3 of the side wall 2 causes said wall to press against the bead 4 substantially along the line of juncture of said wall and said flange. This inward movement of the rib C in the groove D continues until the base portion A of the weatherstrip seats flatwise against the mounting member E, in which position the looped or return-bend portion of said rib is preferably clear of the bottom of said groove and the side wall 1 of said rib is pressed flatwise against the adjacent side of said groove by the pressure of the flanged side wall 2 against the hollow bead 4 along the inner face of the side wall 1. At the same time, the reaction of the bead pressed upon by the side wall 2 causes the inclined free marginal flange 3 thereof to bite edgewise into the side of the groove. By this arrangement, any force tending to force the hollow rib out of the groove increases the bearing pressure of the side walls of the rib against the sides of the groove, due to the change in angle of the inclined free marginal flange of the side wall 2 of said rib, which flange functions after the manner of a moving strut.

The above strip is simple and economical to manufacture and may be quickly and easily anchored in the groove of the mounting member without the use of separate fastening members; and the only effect of an outward pull on said strip is to increase the resistance to said force. While the invention is shown and described embodied in a weatherstrip, it is also applicable to various constructions where it is desirable to attach metal strips or parts to a mounting part without the use of separate fasteners.

What I claim is:

1. A metal strip having a hollow outstanding rib for insertion in and self-holding engagement with a groove in a mounting member, one side

wall of said rib terminating in an outwardly inclined free margin and the other side wall of said rib having a narrow relatively rigid longitudinal hollow outstanding bead along its inner face and flat portions on opposite sides of said bead, the width of said rib corresponding substantially to the width of said groove and the distance between the edge of said inclined free margin and said other side wall being normally greater than the width of said groove, whereby forcible insertion of said rib in said groove causes said inclined free margin to bear against one side of said groove and press said first mentioned side wall against said longitudinal bead and the reaction due to such pressure causes said flat portions of said other side wall to bear flatwise against the other side of said groove and said inclined free margin to bite edgewise into the said first mentioned side of said groove.

2. A metal strip having a hollow outstanding rib for insertion in and self-holding engagement with a groove in a mounting member, one side wall of said rib being normally disposed parallel to the other side wall thereof and terminating in an outstanding free marginal flange, said other side wall of said rib having a longitudinal hollow bead along its inner face opposite the juncture of said first mentioned side wall and the free marginal flange thereof and flat portions on opposite sides of said bead, a clearance space being normally provided between said longitudinal bead and said first mentioned side wall, the distance between the edge of said free marginal flange and said other side wall of said rib being normally greater than the width of said groove, whereby forcible insertion of said rib in said groove causes said flange and a portion of said first mentioned side wall near the groove entering edge of said rib to bear against one side of said groove and press said first mentioned side wall against said longitudinal bead of said other side wall and force the flat portions thereof against the other side of said groove.

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