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J. A. GOELLNER

2,293,292

WEATHER STRIP
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Fig. 1

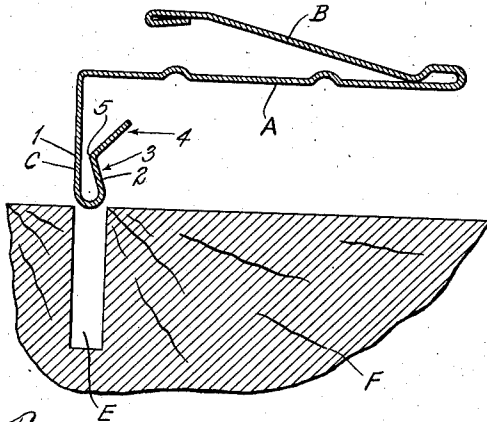


Fig. 5

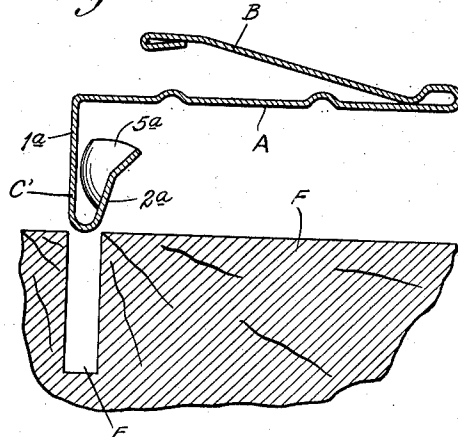


Fig. 2

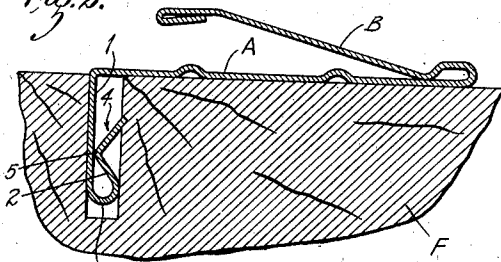


Fig. 6

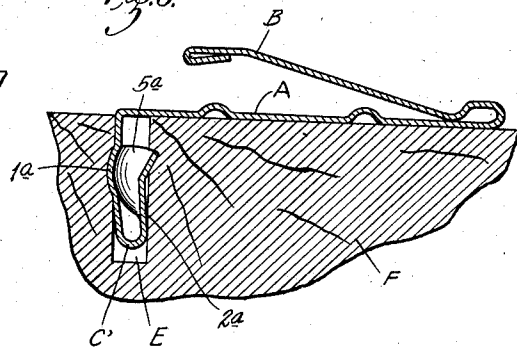


Fig. 3

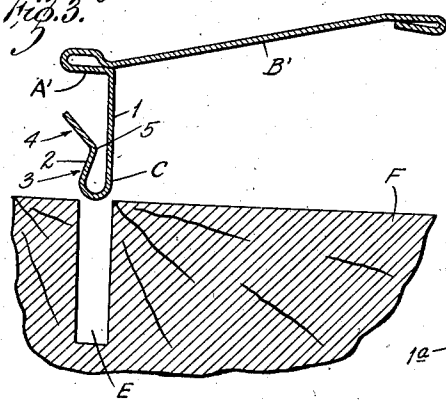


Fig. 7

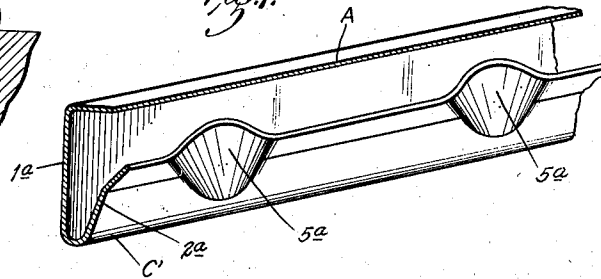
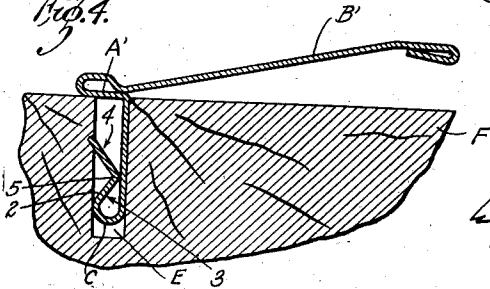


Fig. 4



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UNITED STATES PATENT OFFICE

2,293,292

WEATHER STRIP

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Application December 2, 1939, Serial No. 307,234

6 Claims. (Cl. 20—69)

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

Fig. 2 is a view similar to Fig. 1, showing said strip attached to said mounting member.

Figs. 3 and 4 are views similar to Figs. 1 and 2, respectively, showing a modified form of strip.

Figs. 5 and 6 are views similar to Figs. 1 and 2 showing other modified form of strip; and

Fig. 7 is a perspective view of a portion of the strip shown in Figs. 5 and 6.

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 base portion A, a resilient sealing flange B extending across one face of said base portion from one side margin thereof and a hollow outstanding rib C on the other face of said base portion along the other side margin thereof and adapted for forcible insertion in and self-holding engagement with a parallel sided groove E provided therefor in a mounting member F, preferably of wood. The hollow outstanding rib C of said weatherstrip comprises a marginal portion thereof that is bent at right angles to the base portion A 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 wall 2 of said rib.

The side wall 2 of the hollow anchoring rib or open return-bend C of the weatherstrip terminates short of the base portion A thereof and inclines inwardly, as at 3, towards and thence, as at 4, away from the side wall 1, thus forming along the inner face of said last mentioned side wall a longitudinal ridge 5. Before mounting, the longitudinal ridge 5 on the inner face of the side wall 2 of the hollow rib C is spaced away from the side wall 1 thereof, and the distance between the free marginal edge of the outwardly diverging portion 4 of the side wall 2 and the

side wall 1 is greater than the width of the rib receiving groove E in the mounting member F.

The above weatherstrip is attached to the mounting member F by forceably inserting the hollow rib C of said strip into the groove E through the mouth thereof. During the entrance of the hollow rib C into the groove E, the outwardly inclined free marginal portion of the side wall 2 of said rib rides on the adjacent edge of said groove and is thus forced inwardly in the direction of the other side wall 1 of said rib until the longitudinal ridge or inwardly bowed portion 5 of the side wall 2 presses against the inner face of the side wall 1. This inward movement of the rib C in the groove E continues until the base portion A of the strip seats flatwise against the member F, in which position the looped edge of said rib is preferably clear of the bottom of said groove and the outwardly diverging free marginal portion 4 of the side wall 2 bites edgewise into the adjacent side of said groove, while the ridge along the inner face of said wall bears against the opposing inner face of the side wall 1 and presses the latter tightly against the other side of said groove. By this arrangement, any force tending to pull the hollow rib out of the groove, increases the bearing pressure of the sides of said rib against the sides of the groove, due to the change in the angle of the inclined free marginal portion 3 of the side wall 2 of said rib, which wall functions after the manner of a moving strut.

In the modified form of strip shown in Figs. 3 and 4, the cross-sectional shape of the hollow rib C is the reverse of that shown in Figs. 1 and 2, and the base portion A' extends from the side wall 1 across the free edge of the bowed side wall 2 so as to cover the groove E and thus prevent the entry of dust and moisture therein and is thence rebent over said base portion to form a resilient sealing flange B'.

In the modification shown in Figs. 5, 6 and 7, the side wall 2a of the hollow anchoring rib C' is provided along its free margin with a series of longitudinally spaced hollow bosses 5a that extend towards but are normally clear of the other side wall 1a of said rib. With this construction, when the rib C' is forced into the groove E, the free marginal edge of the side wall 2a of said rib engages the adjacent side of said groove and is forced thereby in the direction of the other side wall 1a of said rib, thereby pressing the bosses 5a against said other side wall and embedding the portions thereof that are engaged by said bosses into the adjacent side

of said groove. By this arrangement, both side walls of the rib are embedded in the adjacent sides of the groove and thus prevent removal of said rib from said groove in directions both longitudinally and transversely thereof.

The above strip is simple and economical to manufacture and may be quickly and easily anchored in the groove in the mounting member without the use of nails, screws or other fastening members; and the only effect of an outward pull on said strip is to increase the resistance to said force. The invention is applicable to various constructions wherein 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 adapted for automatic locking engagement with the wall of a groove in a mounting member, said strip having one marginal portion formed into a hollow rib extending laterally therefrom and consisting of a plane wide side and a narrow side connected by an open return bend substantially the width of said groove, the free marginal portion of the narrow side inclining away from the wide side with its free edge further from said wide side than the distance between said sides next to the return bend and with an intermediate portion of the narrow side spaced from but closer to the wide side than the amount by which the distance of the free edge of the narrow side from the wide side exceeds the distance between said sides next to the return bend, whereby forcible insertion of said rib in said groove causes said return bend to contact with both sides of said groove, said free edge to engage the adjacent side of said groove, and said free marginal portion to function after the manner of an inclined strut to force said intermediate portion against said plane wide side and press the latter into frictional engagement with the other side of said groove over substantially the entire area of said plane wide side.

2. A metal strip adapted for automatic locking engagement with the wall of a groove in a mounting member, said strip having a hollow rib integral therewith and projecting laterally from a side margin thereof, the side of the rib united to

the body of the strip being wider than the free side of the rib, the free marginal portion of the free side inclining away from the wider side and having a series of bosses therein that extend inwardly far enough to bear against the wider side when the two sides are in substantially parallel relation.

3. A metal weatherstrip having a hollow rib integral therewith and projecting laterally from a side margin thereof, the side of the rib united to the body of the strip being wider than the free side of the rib, the free marginal portion of the free side inclining away from the wider side and having a series of bosses that are struck up through the edge thereof and form a series of notches in said edge, said bosses extending inwardly far enough to bear against the wider side when the two sides are in substantially parallel relation.

4. A metal strip as claimed in claim 1, in which said strip has a portion that extends from said plane wide side of said rib across and beyond said narrow side thereof and is adapted to seat flatwise against said mounting member and is thence rebent in the direction of said plane wide side and continued therebeyond to form a flange adapted for sealing engagement with another member.

5. A metal strip as claimed in claim 1, in which said strip has a portion that extends from the plane wide side of said rib across and beyond the inclined free marginal portion of the narrow side thereof and is rebent into a hollow rib adapted to seat against said mounting member and is thence continued beyond said plane wide side to form a flange adapted for sealing engagement with another member.

6. A metal strip as claimed in claim 1, in which said strip has a portion that extends from said plane wide side of said rib across and beyond the narrow side thereof and is adapted to seat flatwise against said mounting member and is thence rebent in the direction of said rib to form an inclined flange adapted for sealing engagement with another member along a line located adjacent to said rib.

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