March 26, 1940. W. R. WILEY 2,195,068

ATTACHING CLIP

Filed Jan. 24, 1936

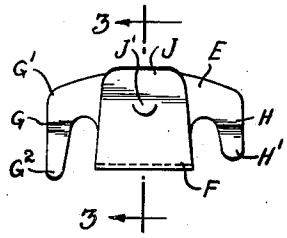


Fig. 1

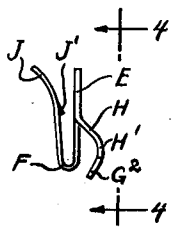


Fig. 2

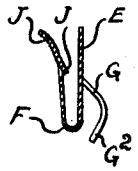


Fig. 3

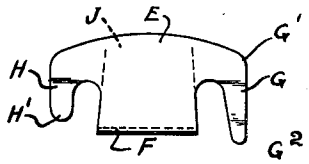


Fig. 4

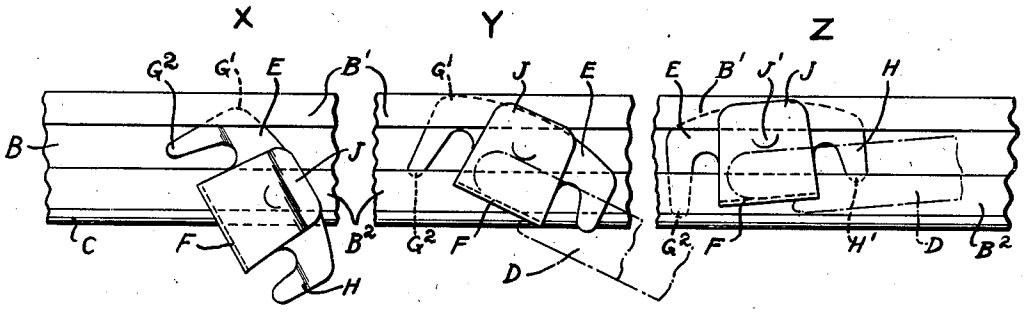


Fig. 5

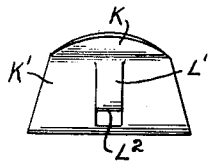


Fig. 8

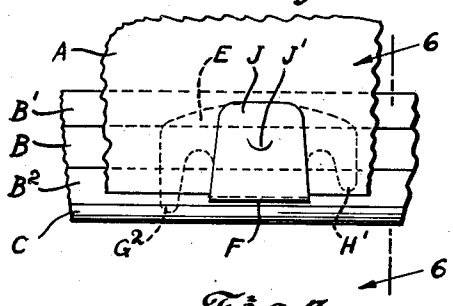


Fig. 7

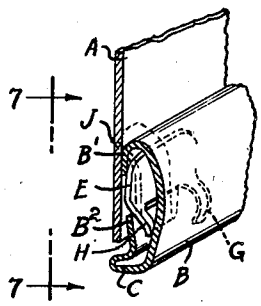


Fig. 6

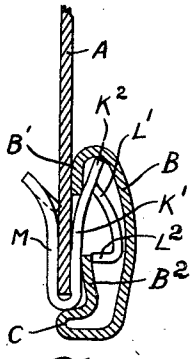


Fig. 9

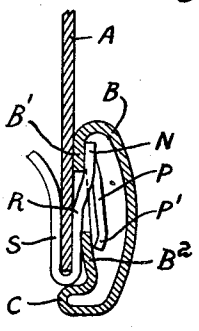


Fig. 10

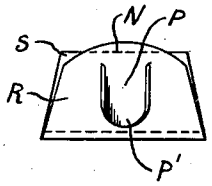


Fig. 11

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2,195,068

ATTACHING CLIP

William R. Wiley, Detroit, Mich.

Application January 24, 1936, Serial No. 60,667

2 Claims. (Cl. 189—88)

This invention relates to an improved form of an attaching clip for effecting the positioning of a finishing beading or moulding strip along the marginal edge of a sheet metal panel, and has for its object an improved device of this character, cheaply fabricable in quantities, by means of which a moulding strip may be effectively and rapidly anchored in position along the marginal edge of, for example, the front frame or finishing plate which surrounds and marginally overlaps the radiator shell at the front end of a motor vehicle. This, however, is but one of several possible locations of use for such a beading, and is merely mentioned as illustrative.

Similarly, it will be noted from the drawing that the form of moulding strip here discussed is one which has an overbent lateral edge, which, protectively covering the exposed marginal edge of the supporting sheet and panel, makes for nicety of appearance. My invention is, however, applicable without change to a plain moulding strip.

In the drawing:

Figure 1 is a plan view from beneath of my improved attaching clip.

Figure 2 is an end elevational view thereof, looking from left to right in the position shown in Figure 1.

Figure 3 is a cross sectional view thereof taken along the line 3—3 of Figure 1 and looking in the direction of the arrows there shown.

Figure 4 is a plan view of my improved clip taken from above, that is, looking in the reverse direction from the showing in Figure 1.

Figure 5 is a plan view of a piece of moulding strip showing successive stages of movement of my improved attachment clips incident to their installation thereon.

Figure 6 is a perspective view, partly in section, of my assembled clip and its moulding strip and supporting panel, the section being along the line 6—6 of Figure 7, and looking in the direction of the arrows there shown.

Figure 7 is a plan view of the assembled parts from beneath positioned upon a panel and moulding strip, as indicated by the line 7—7 of Figure 6, and looking in the direction of the arrows there shown.

Figure 8 is an elevational view of a modified form of clip wherein a single flange-engaging prong or tongue is located centrally of the web instead of one at each end as in the form of clip first described.

Figure 9 is a cross-sectional view of a moulding strip and panel piece, showing a slightly variantly contoured clip positioned therein.

Figure 10 is a similar cross-sectional view of a moulding strip and panel piece whereon is positioned a further modified form of attaching clip.

Figure 11 is an elevational view of the modified form of moulding clip employed in the construction shown in Figure 10.

A indicates a supporting sheet metal panel, along the edge of which the positioning of the moulding strip B is desired, one lateral edge of the moulding strip being contoured, as at C, so as to overengage the edge of the panel A. As in the case of a plain moulding strip, the marginal edges of the web of the moulding strip are inbent, as at B′ and B^2, leaving a lengthwise extending space between them.

Although installable by hand or by the aid of a screw driver, or even by being slipped, one by one, into one end of the moulding strip, and moved therealong to their intended positions thereon, I find that any one of the several forms of my improved clips is most easily handled and snapped into place with the aid of a flat, strap-like tool such as is indicated at D in Figure 5. The two parts or branches D′ and D^2 of the tool are slipped about the sharply angular portion F of the clip E, the space between these two branch portions being just enough to allow for the thickness of the sheet metal of which the clip web is formed.

The body portion of the clip E, illustrated in Figures 1 to 7 inclusive, is formed with a central web, from each end or lateral edge of which there extend branches or prongs, as G and H, each of these being preferably slightly curved, as brought out by the shading in Figure 1, and by the cross-sectional showings, at G^2 and H′, in Figures 2 and 3 respectively, and it will be noted from the showings in Figures 1, 4, 5 and 7 that the branch H is preferably somewhat shorter than the branch or prong G.

With the moulding strip B placed so that its exposed bottom portion with the inturned flanges faces upward, the clip already positioned in the holder D is inserted between the flanges B′ and B^2, the shoulder G′ being pushed underneath the flange B′, as shown in position X of Figure 5. This is followed by the slight twisting or flexion of the clip to the degree necessary to slip the point G^2 under the flange H, as shown in position Y of Figure 5. Further twisting of the clip swings it to the slightly past lengthwise position within the moulding strip, as shown in position Z of Figure 5, the resiliency of the metal of which the clip E is formed permitting the end H′ of its

right hand prong N being snapped against and under the edge of the flange B^2, which, while resilient to a degree, is generally not as much so as the metal of the clip; in any event, the flange B^2 is not permanently distorted by the momentary sliding strain incident to the passage of the tip H' of the prong branch H therepast. In its finally seated position the clip as a whole springs back, when fully seated, from the slightly angular position shown at Z in Figure 5 to a position of substantial alignment, viewed from left to right, with the moulding strip.

A section of moulding strip with clips thus mounted thereon at desired intervals is then applied to the edge of the supporting sheet metal panel A which engages between the body of the clip E and the lip J, which occupies such an acute angular relation thereto as to be all but parallel therewith. The space between the webs E and J of the clip is of such calculated narrowness that under some circumstances their frictional engagement about the edge of the supporting panel A would be sufficient to hold the several clips and their now attached moulding strip in position along the edge of the panel A, but if desired, this anchoring effect may be accentuated by the provision of an indentation J' near the upper edge of the lip, which bites sufficiently into the body of the panel A so that adequate firmness of anchorage is secured.

The equality or inequality in the length of the prongs G and H may be varied to suit the circumstances, as, for example, according to the width of the space between the opposing edges of the inturned flanges B' and B^2 of the moulding strip. But under some circumstances I have found that a slight abbreviation of the length of the prong H is desirable. And if for any reason it is deemed inadvisable to attempt the swinging and tool-aided insertion of the clips within the moulding strip, the clips could be slipped thereinto from one end or the other thereof, but if the moulding strip is of any great length, this would seem to be an inconvenient method of installing them as contrasted with the method described.

It will be obvious, even as to the form of clip illustrated in Figures 1 to 7 inclusive, that if in addition to the abbreviation of the prong H, the prong G on the other end of the clip were similarly shortened, the resiliency of the metal of the clip, aided by the slight curvature of the prongs G and H already remarked upon, would permit the direct installation of the clip upon the moulding strip, so that its prong tips G^2 and H' could both be snapped into position under the edge of the flange B^2 without resort to the twisting or swinging action of the clip as a whole, illustrated in the three positions X, Y and Z in Figure 5, that is to say, that the positioning of the clip relatively to the flanges B' and B^2 of the moulding strip would, while being installed, be approximately that shown in dotted lines in Figure 7. A logical modified form of this would be represented by a reversal of this prong positioning, that is, leaving the terminal shoulders plain and stamping out in its central portion a depending lip or engaging piece, such as is shown at L in Figures 8 and 9, the body portion L of this stamped-out tongue being of course integral with the web of the central section K, and this latter being in turn an integral part of the stamping of which the other panel-engaging lip M is a part. The tip L^2 of the clip is normally formed of such length and contour that when the top edge K^2 of the web has proceeded as far as it can against the interior surface of the moulding strip adjacent the flange B', the point L^2 rides over the inner edge of the flange B^2 and being adequately resilient, can be forced downwardly, that is, toward the top web of the moulding strip, until its tip L^2 passes beyond the plane of the flange B^2 when the tip L^2 will slip sufficiently beyond the edge of the flange B^2 to interlock thereunder, thus, cooperatively with the top edge of the web K, as viewed in Figure 9, making an adequate interlock with the moulding strip in the same manner that the tips of the prongs G and H do in the form first described.

In an earlier paragraph of this disclosure there was stressed the fact that the clips of the form first described might be installed in position upon the moulding strip either by the swinging action described, or by being slipped into the end thereof so that the tips of the prongs G and H would from the first engage under the flange B^2 of the moulding strip, while the top shoulder would similarly engage under the flange B'. Applying this principle to a further modification of the form first illustrated and of the modified form shown in Figures 8 and 9, it will be apparent from an inspection of Figures 10 and 11 that this same method of installation can be employed for the slightly variant form of flange-engaging tongue there shown. In this form the top edge of the web N engages under the flange B' while the tip P' of the tongue P engages under the flange B^2, thus leaving the body portions of the webs R and S to engage about and against either face of the panel A.

What I claim is:

1. In combination a sheet metal panel, a molding strip having inturned flanges, a clip for securing said molding strip in fixed position at the marginal edge of said sheet metal panel, said clip comprising a sheet metal member bent upon itself to provide a pair of arms adapted to receive the marginal edge of said sheet metal panel therebetween, one of said arms being provided with a pair of prongs extending substantially parallel to said arms adapted to seat within and anchor said clip within said molding strip, one of said prongs being shorter than the other, the other of said arms having an inwardly struck lug to dig into the surface of said panel to lock said clip in position thereon whereby said clip serves to secure said molding strip in fixed position with respect to said panel.

2. In combination, a sheet metal panel, a molding strip having inturned flanges, a clip for securing said molding strip in fixed position at the marginal edge of said sheet metal panel, said clip comprising a sheet metal member bent upon itself to provide a pair of arms adapted to receive the marginal edge of said sheet metal panel therebetween, one of said arms being provided with a pair of prongs extending substantially parallel to said arms serving to resiliently bear against said molding strip to anchor said clip within said molding strip, one of said prongs being shorter than the other, the other of said arms having an inwardly struck lug to dig into the surface of said panel to lock said clip in position thereon whereby said clip serves to secure said molding strip in fixed position with respect to said panel.

WILLIAM R. WILEY.