Oct. 10, 1961 E. B. FERNBERG 3,003,215

FASTENER

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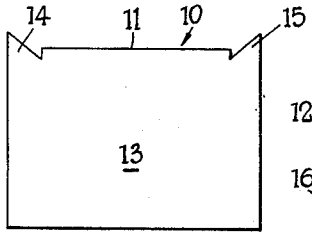


FIG 3

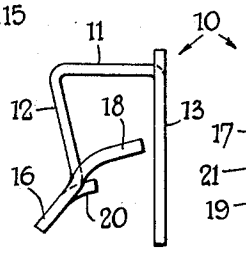


FIG.4.

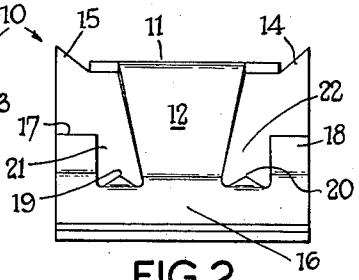


FIG.2.

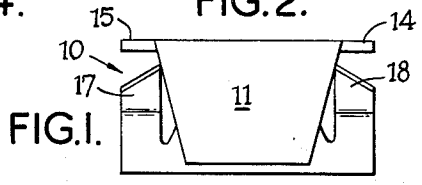


FIG.1.

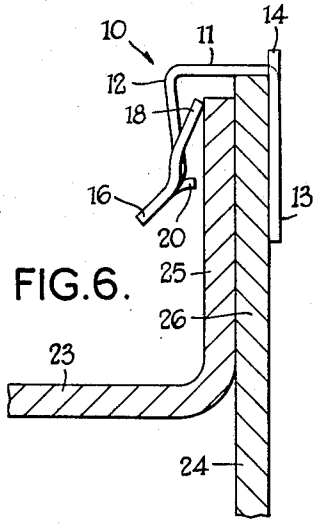


FIG.6.

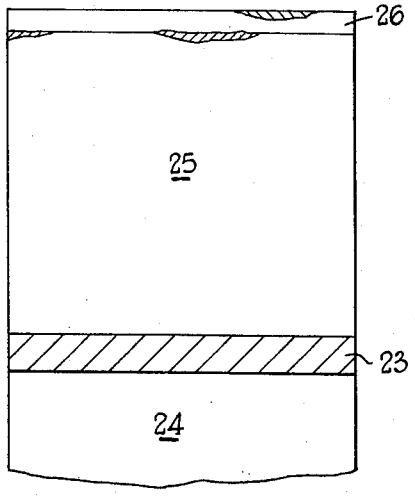


FIG.5.

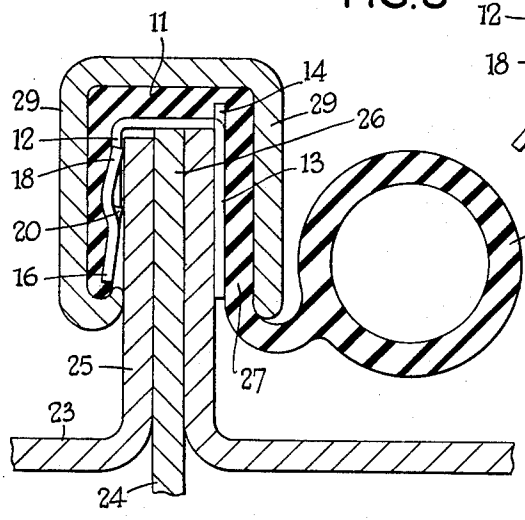
INVENTOR
ERIC BIRGER FERNBERG
BY Melvin D. Frame
ATTORNEY

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FASTENER

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FIG.8



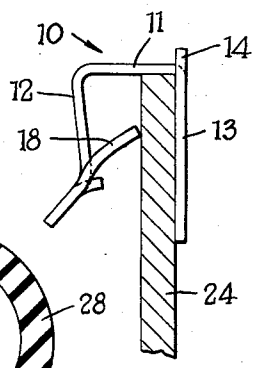
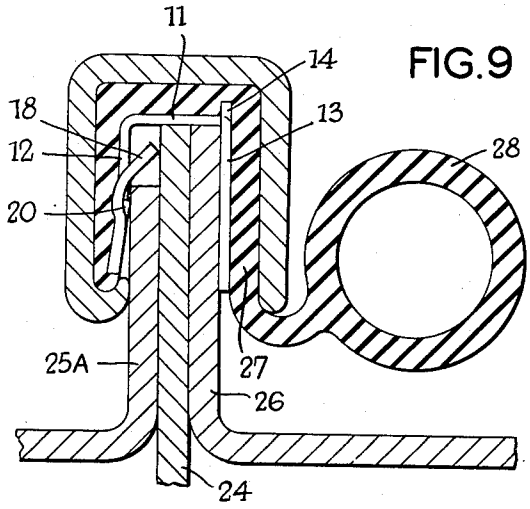


FIG.7.

FIG.9



INVENTOR
ERIC BIRGER FERNBERG
BY
ATTORNEY

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FASTENER

Eric Birger Fernberg, Northwood, England, assignor to F.T. Products Limited, London, England, a British company

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Claims priority, application Great Britain Sept. 17, 1956
1 Claim. (Cl. 24—259)

The present invention relates to an improved fastener.

It is common practice in the car manufacturing trade at the present time to cover an edge of a metal panel forming part of a car body with rubber strip of channel section. The strip is held over the edge with U-shaped spring clips which are formed with internal rearwardly directed prongs engaging the metal edge and with external prongs or lugs engaging the rubber strip. The rubber strip serves to hide the edge and may also serve as a draught-excluder if used on a door panel.

The member to be covered may consist of a single metal edge, or of two or three such edges welded together, and it has been found in practice that where two or three edges have to be covered the edges may lie flush with one another at some positions along the length of the edges, but lie out of register at other positions.

It is an object of this invention to provide clips of single size and shape which will accommodate this out-of-register feature of such plates and which can also be engaged on panels of a wide variety of thickness.

According to the invention a U-shaped spring clip is provided in its limbs with two pairs of inwardly and rearwardly directed prongs, the one pair being longer, more resilient and more nearly bridging the gap between the limbs of the U than the other pair.

Preferred forms of the invention will now be described with reference to the accompanying diagrammatic drawings, in which:

FIGURES 1, 2, 3 and 4 are respectively a plan, front elevation, rear elevation and side elevation of a fastener,

FIGURE 5 is a front elevation of two metal edges, welded together, over which the clip of FIGURES 1 to 4 is to be engaged,

FIGURE 6 is a side elevation of the same fastener engaged over a metal edge of double thickness,

FIGURE 7 is a side elevation of the same fastener engaged over a metal edge of triple thickness, and showing also a draught-excluding rubber strip engaged by the clip so as to cover the edge, and

FIGURES 8 and 9 show, respectively, the same clip engaged over a single edge and over a triple edge in which one panel is out of register with the other two.

The clip indicated generally at **10** in the figures is formed from a single rectangular strip of metal which, after it has been fashioned to its final shape, is rendered resilient and rustproof in any suitable manner.

The body of the clip is formed with a bridge or web **11** and two limbs **12** and **13**. Out of the web **11** are sheared a pair of pointed upstanding claws **14** and **15** designed in use to engage a rubber strip to be described later. The claws lie in the plane of the flat limb **13**.

The limb **12** is bent as shown so as to have, at its foot, a lead-in portion **16** and is also formed with two pairs of prongs **17**, **18** and **19**, **20**.

The prongs **17** and **18** are longer and more resilient than the other pair and are formed, with respect to the rectangular blank, in line with the claws **15** and **14**. A portion of the metal between the claw **15** and prong **17** is removed so that the claw and prong may be sharply pointed. The claw **14** and prong **18** are similarly formed (see FIGURE 1).

The prongs **19** and **20** are relatively short and are formed by cutting away areas of metal **21** and **22** around

the tips of these prongs and by suitably shearing the metal.

The longer prongs **17** and **18** are bent inwardly and towards the web **11** of the clip (see FIGURE 4) so as nearly to bridge the gap between the two limbs **12** and **13**. The prongs **19** and **20** are also bent inwardly and rearwardly towards the web **11** but, being considerably shorter than the prongs **17** and **18**, have their free ends lying further from the flat limb **13**, and further from the web **11**, than the free ends of the longer prongs **17** and **18**.

At **23** and **24** in FIGURES 5 and 6 are shown portions of two metal panels welded together so as to present a pair of edges **25** and **26**. Ideally the extreme edges would be flush one with the other but in practice it is found that quite wide departures from this ideal have to be accommodated. However, the clip described will accommodate both this lack of register of the metal edges and the wide variation of thickness occurring when one, two or three such edges have to be covered.

As shown in FIGURES 5 and 6, the clip **10** is engaged over a panel of double thickness. As shown in FIGURE 7 the same clip is engaged over a treble thickness and as shown in FIGURE 8 engaged over a single thickness.

In the case of FIGURES 6 and 8, it is the longer prong **18** only which engages the single or double thickness panels. In the case of FIGURE 7, both the longer and shorter prongs engage a treble thickness panel.

As shown in FIGURE 9, the outer panel **25A** of a treble thickness panel has its edge seriously out of register with the other two panels **24** and **26**. In this case the shorter prongs, such as **20**, engage the outer panel and the longer prongs, such as **18**, may either stand clear of the centre panel **24** or may engage it lightly.

Where both pairs of prongs engage the metal, the longer prongs are pushed back outside the limb **12**, which limb is parallel, or nearly parallel, with the limb **13**.

The clips may be engaged on the metal edge for any of the variety of purposes, one such purpose being illustrated by way of example in FIGURES 7 and 9, where in each case there is shown a draught-excluding rubber weather-strip having one portion **27** of U-section and another portion **28** of cylindrical shape. Around the U-portion is secured a stiff flexible finishing strip **29** also of U-section.

The composite strip is held on to the triple edge with the aid of several clips, each clip having its claws **14** and **15** digging into the rubber U-portion **27** and one edge of the finishing strip engaged under the lead-in **16** of each clip. The cylindrical portion of the rubber strip serves as a draught excluder for an automobile door. The claws may extend into the finishing strip **29**, but normally should not pass right through it.

What I claim is:

A fastener comprising a single strip of resilient material of U-shape having a substantially flat web and a first and a second limb depending therefrom, said first limb being disposed at a right angle to said web and said second limb being disposed at an acute angle to said web, two prongs in said second limb on each side thereof, both of which are directed inwardly and rearwardly with respect to the U, one of said prongs being longer than the other, the free end of said longer prong being disposed nearer to both said web and said first limb than the free end of the other of said prongs, roots formed by said prongs and said second limb adjacent the juncture therebetween, said second limb being of reduced width between the juncture thereof with said web and said roots of said prongs, and at least one integral claw extending from the strip, said claw being of a length less than the maximum distance between said limbs and adjacent to and extending away from said web in a substantially

normal direction thereto and as a continuation of said first leg.

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