March 8, 1966 R. G. BRIGHT 3,238,583

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Filed March 26, 1964 2 Sheets-Sheet 1

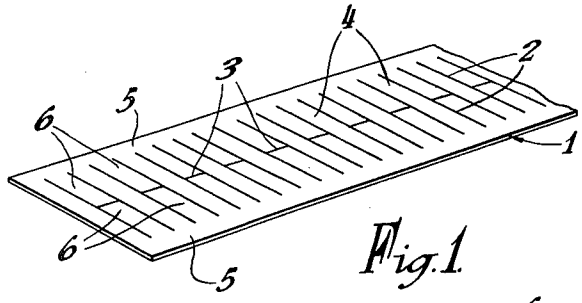


Fig. 1.

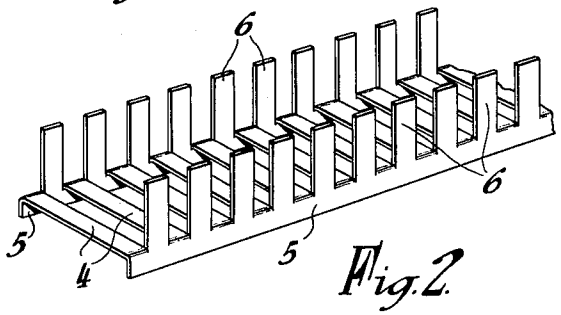


Fig. 2.

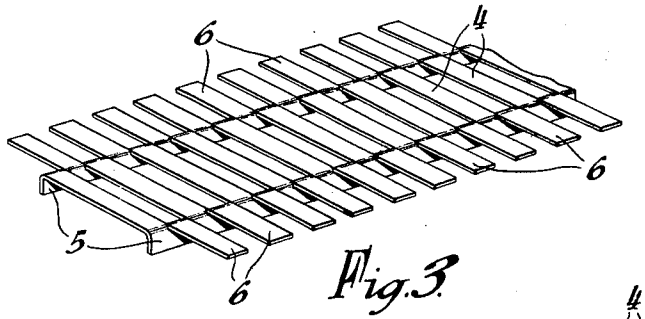


Fig. 3.

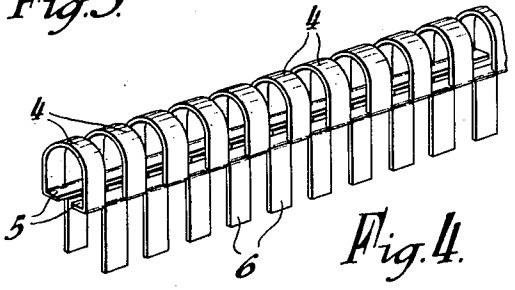


Fig. 4.

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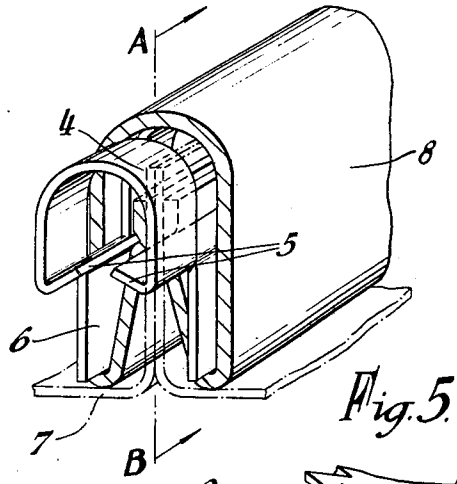


Fig. 5.

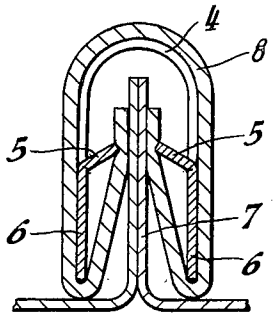


Fig. 6.

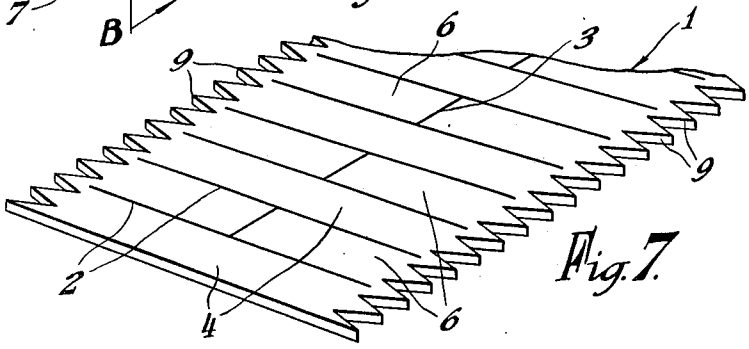


Fig. 7.

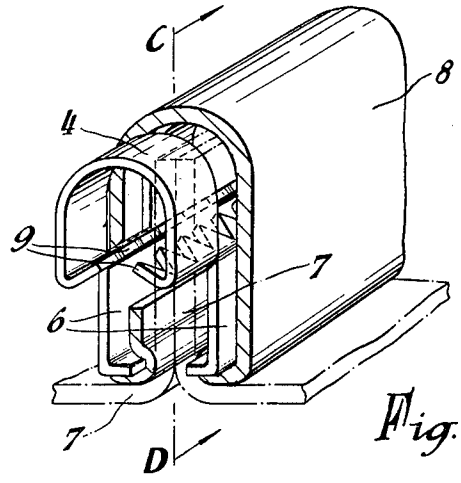


Fig. 8.

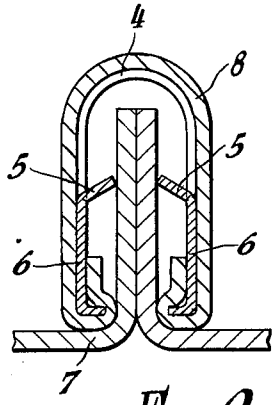


Fig. 9.

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Claims priority, application Great Britain, Mar. 26, 1963, 11,967/63
5 Claims. (Cl. 24—81)

This invention relates to clips intended for use in the attachment of a sealing or trimming strip to a supporting flange, which clips are constructed from sheet or strip metal or other suitable material and are of substantially inverted U-shape in cross-section.

It is the practice to form such clips with transverse slots to enable them to be bent about curves situated in one or two planes, the strip consisting of an enclosing, covering layer composed of fabric, plastic, rubber or other suitable material. When intended for use other than as an ornamental trimming strip the covering layer will carry or constitute one or more effective sealing portions adapted to make sealing engagement with a door or other closure member.

Such trimming or sealing strips are commonly used in the motor vehicle industry and are mounted in position upon a flange surrounding each door opening to hide the otherwise unsightly flange and in many cases form a draught or wetherproof seal for the doors. In the case of sealing strips they are also in some cases arranged around the luggage compartment or boot to seal the latter against ingress of water.

The chief object of the invention is to evolve an improved clip which can be produced from sheet or strip material more economically than hitherto.

A clip in accordance with the present invention is formed by slitting a narrow strip-like blank of material transversely at spaced points throughout its length, the slits extending to points situated at a short distance from the opposite longitudinal edges of the blank, and slitting the blank longitudinally at spaced points throughout its length to leave a series of transverse parts connecting the longitudinal edges of the blank and between such parts a series of spaced pairs of oppositely positioned inwardly directed tongues, the blanks being finally bent transversely into substantially inverted U-shape, the tongues being bent outwardly and downwardly through an angle of substantially 180° from their original position into a position in which they form spaced downwardly directed limbs forming downward extensions of the longitudinal edges of the blank.

The longitudinal edges of the blank which lie substantially mid-way of the depth of the finished clip are preferably turned inwardly to make direct or indirect engagement wth a supporting flange and may be scalloped, formed with sharp points or otherwise shaped to make good frictional engagement with the flange when the clip is in position thereon.

Referring to the accompanying drawings:

FIGURE 1 is a perspective view of part of the blank from which one form of clip is produced in accordance with the invention;

FIGURES 2, 3 and 4 illustrate three folding operations involved in producing the clip;

FIGURE 5 is a fragmentary perspective view of the clip having a fabric or other covering and mounted in position upon a supporting flange;

FIGURE 6 is a section on the line A–B in FIGURE 5.

FIGURE 7 is a perspective view of part of a modified blank;

FIGURES 8 and 9 are similar views to FIGURES 5 and 6 of a modified clip produced from the blank shown

in FIGURE 7, FIGURE 9 being a section on the line C–D in FIGURE 8.

The blank **1** shown in FIGURE 1 is slit transversely at **2** throughout the greater part of its width and is slit longitudinally along its center at spaced points throughout its length as at **3**.

The slits **2** and **3** leave a series of transverse spaced parts **4** connecting the longitudinal edges **5** of the blank and a series of spaced tongues **6** which are directed inwardly towards the center of the blank.

The blank is first of all folded so that the longitudinal edges **5** lie at right angles to the parts **4** as shown in FIGURE 2 the tongues **6** projecting vertically upwards.

The tongues **6** are then bent through a right angle in an outward direction forming spaced limbs so that the component assumes the shape shown in FIGURE 3.

The transverse spaced parts **4** are then bent into the substantially inverted U shape formation shown in FIGURE 4 to form the completed clip. Although the clip has been described as having been formed in three distinct operations, the operations may be combined into a single bending operation.

Although in FIGURES 1 to 4 the longitudinal edges **5** are shown bent through 90° it is preferred that this angle shall be increased so that the longitudinal edges **5** when the clip is in position upon the supporting flange will be inclined inwardly and upwardly as shown in FIGURES 5 to 9 to provide a lead when pressing the strip into position upon the supporting flange and to more effectively resist accidental displacement.

In FIGURES 1 to 4 the longitudinal edges **5** are shown as being of straight formation and in FIGURES 5 and 6 the clip is shown applied to a supporting flange **7**. The clip has an ornamental fabric or other covering **8**, the longitudinal edges of which are turned inwardly and upwardly into the interior of the clip and sandwiched between the longitudinal edges **5** of the clip and the flange to hold the covering in position on the clip and the clip in position upon the flange.

In FIGURE 7 the longitudinal edges **5** of the blank are not straight but are formed with a series of sharp points **9** or are alternatively of zig-zag or undulating formation with the object of reducing the area of pressure exerted on the flange.

The points may perforate the covering, the width of the covering being such that its edges extend upwardly into the clip a sufficient distance to be engaged by the points. Preferably the points engage the flange directly, thereby enabling the covering to be made of narrow width thus reducing the cost of the assembly materially.

When using a covering of narrower width the ends of the limbs **6** are turned inwardly at their lower ends as shown in FIGURES 8 and 9, the covering being sandwiched between the inwardly turned ends and the supporting flange. Such an arrangement has the additional advantages of providing an increased grip on the flange and preventing the clip rocking on the flange. Furthermore, the lower edges of the covering particularly if the covering is composed of a plastic material prevent moisture finding its way into the interior of the clip and in course of time causing corrosion of the clip and its supporting flange.

The covering may comprise, for example, a woven fabric in which case from the point of view of economy it may be of narrower width than shown but secured to a cheap but wider lining material of hessian or the like, The hessian having a width more than the width of the more expensive material extends upwardly into the interior of the clip while the more expensive material just passes around the lower edges of the clip. In such a case the thin cheap material will be easily perforated by the points while the thicker covering will still be gripped

between the inwardly turned ends of the limbs and supporting flange.

The covering or its lining may be adhesively or otherwise secured to the clip in addition to or in substitution for the securing method shown.

The longitudinal edges **5** of the clip will lie substantially midway of the depth of the clip and consequently the clip when bent will tend to bend longitudinally along the longitudinal edges **5** which thus form a spine and allow the clip to be bent easily about curves of small radius.

A sponge rubber or other suitable sealing section may be sewn or otherwise attached to the covering if it is desired to use the strip for sealing purposes.

It will be appreciated that by piercing or slitting the blank as distinct from slotting there will be no wastage of material, the clip being formed from a bank having a much narrower width than previously used.

The clip is preferably formed from mild steel or aluminium but it is within the scope of the invention to construct it from any suitable material.

As is shown clearly in FIGURES 4 to 9, the longitudinal edges **5** occupy a position in which they lie substantially midway of the depth of the clip. The clip when bent will bend along the length of the longitudinal edges **5** which lie on or close to the longitudinal axis of the clip and consequently during bending there will be a minimum of opening and closing of the slots in the clip with a consequent minimum of kinking or stretching of the covering material. Furthermore by arranging the parts **5** at right angles to the planes containing the limbs of the clip as in FIGURE 4 or at a small angle to such planes as in FIGURES 5 to 9 the longitudinal edges **5** will bend easily and consequently the clip will be relatively flexible in a plane of bending movement parallel with the planes containing the limbs.

I claim:

1. A clip adapted to be used to secure a trim strip to a supporting flange, said clip having inwardly directed prongs and being of generally U-shape in cross-section, and being formed from a longitudinally elongated blank of suitable material provided with a series of generally parallelly disposed spaced slits extending transversely

therethrough and terminating a short distance from the longitudinal edges thereof to form longitudinally extending parts, said blank also having a series of longitudinal slits therethrough between alternate pairs of transverse slits to leave a series of transverse parts connecting the longitudinal edges of the blank and between such parts a series of spaced pairs of oppositely positioned inwardly directed tongues, said blank being suitably bent so that the transverse parts form the bight of the clip, the longitudinally extending parts form the inwardly directed prongs, and the tongues form spaced limbs extending outwardly away from the bight to form side portions of the clip, said prongs being of sufficient length to secure the clip and an associated trim strip to a supporting flange.

2. A clip as claimed in claim **1**, wherein the longitudinal edges of the blank are directed inwardly in opposite directions towards the center of the clip.

3. A clip as claimed in claim **2**, wherein the longitudinal edges are irregular in contour.

4. A clip as claimed in claim **2** having a covering strip, the longitudinal edges of which are turned inwardly and upwardly around the lower edges of the limbs and into the interior of the clip into a position in which the edges of the covering strip are sandwiched between the inwardly turned longitudinal edges of the clip and the flange.

5. A clip as claimed in claim **1**, wherein the lower ends of the limbs are turned inwardly towards each other.

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