June 22, 1954 O. J. POUPITCH 2,681,487

MOLDING CLIP

Filed May 3, 1952

Fig. 1.

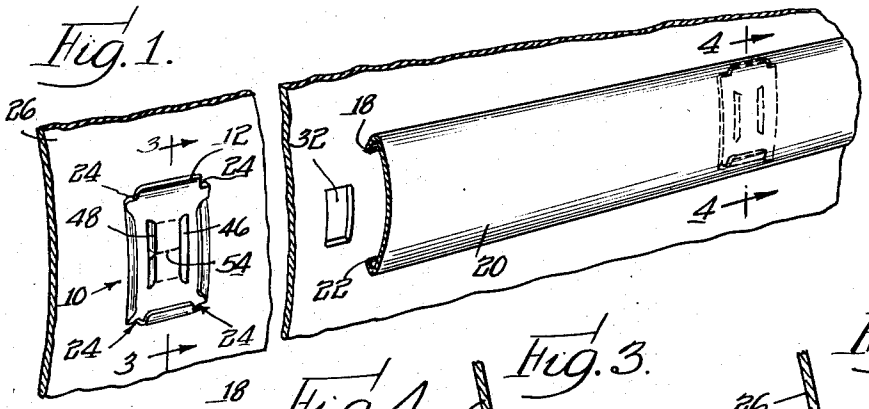


Fig. 4.

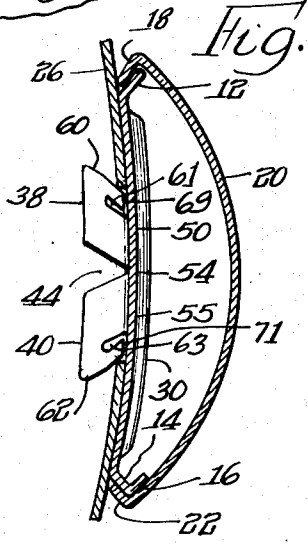


Fig. 3.

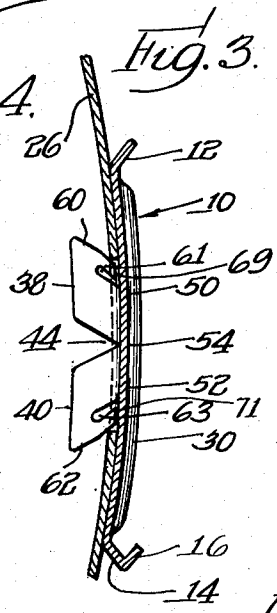


Fig. 2.

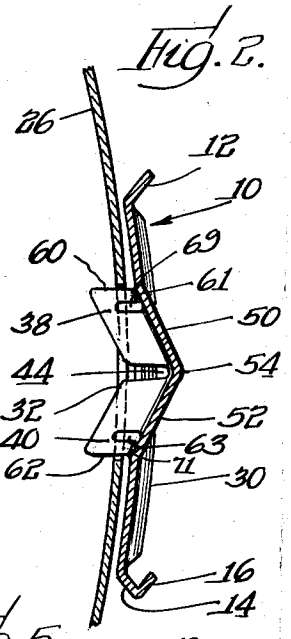


Fig. 6.

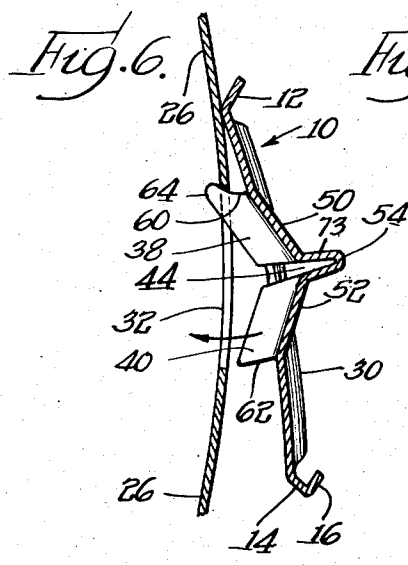


Fig. 7.

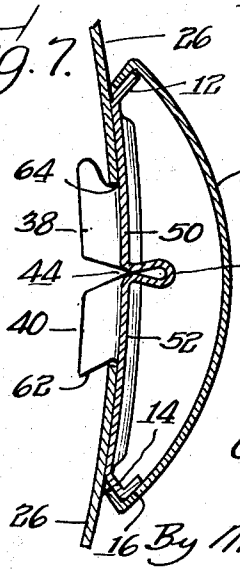
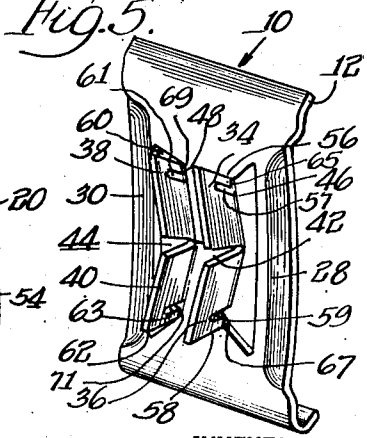


Fig. 5.



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MOLDING CLIP

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4 Claims. (Cl. 24—73)

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This invention relates to an improved clip for securing molding to a panel, and more particularly to an improved fastening clip for securing channel-shaped molding to a panel.

An object of the present invention is to provide a simple and inexpensive clip which may be easily installed on a panel, such as a panel of an automobile, which clip is adapted to retain the standard channel type molding, such as that usually fastened to an automobile.

Another object of the present invention is to provide a simple one-piece clip for retaining a channel type molding to a panel, which clip is provided with integral fastening means adapted to be inserted through an opening in the panel and then spread outwardly to firmly grip the panel, thus securely fastening the clip and a molding held thereby to the panel.

Another object of this invention is to construct a molding clip of the above type in such a manner that the material of the clip is cold worked during fabrication and assembly with the work piece, whereby the material is strengthened, thus enabling lighter gauge material to be used.

Still another object of the present invention is to provide a simple one-piece molding retaining clip which can be made preferably from a rectangular metal blank substantially without scrap, thereby reducing costs to a minimum.

Other objects and advantages of the present invention will appear in the following description and the drawings, wherein:

Fig. 1 is a perspective view showing devices involving the present invention assembled with a panel and a molding being retained by such devices;

Fig. 2 is a cross section through the longitudinal axis of my improved clip which is being assembled with a panel;

Fig. 3 is a cross section taken along line 3—3 in Fig. 1;

Fig. 4 is a cross section taken along line 4—4 in Fig. 1;

Fig. 5 is a perspective view showing the under side of a clip involving the present invention; and

Figs. 6 and 7 are similar to Figs. 2 and 4, but showing a modified form of my improved clip.

The embodiment of my improved clip shown in Figs. 1 through 5 is formed from a rectangular blank 10, preferably of sheet metal of the desired gauge. The upper edge of the blank 10 is bent outwardly to form a molding retaining flange 12. The lower edge of the blank 10 is bent outwardly to form a flange 14 similar to flange 12. The end portion of flange 14 is then bent rearwardly to form flange 16. Because of this structure, the inwardly turned flange 18 of the channel-shaped molding 20 may be first positioned under the flange 12 of the blank 10, and then the flange 22 of the molding 20 may be forced over the outer surface of the flange 16 of the blank 10 which forms a guideway to guide the inwardly turned flange 22 over the end of flange 14 of the blank 10 and into the assembled position shown in Fig. 4. It is readily seen, therefore, that the molding 20 may be quickly and easily assembled merely by positioning the flange 18 under the flange 12 and then pressing down on the molding 20, which pressing action will cause the flange 22, which is being guided by the flange 16 to spring outwardly over the end of flange 14 and into position. The corners of the blank 10 may be notched as at 24, Fig. 1, or they may be left solid as shown in Fig. 5.

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The blank 10 may be curved to conform to the shape of the panel 26 to which it is to be secured and which, for example, may be a body panel of an automobile. However, my improved device is not limited to use on automobile panels, but it may be used on any suitable panel curved or flat. Hence, the blank 10 may be flat, when the work surface is flat. If desired, beads 28 and 30 may be formed adjacent the edges of the blank 10 to provide added strength and rigidity. Preferably, the blank 10 is made large enough to completely cover the flange receiving opening 32, whereby foreign material is prevented from dropping through the opening.

The structure for fastening my device to the panel 26 is preferably formed from the mid-portion of the blank 10. This structure includes pairs of flanges 34, 36, 38, and 40. These flanges are stamped or otherwise formed from the blank 10. As shown in the drawings, the longitudinal axes of these flanges extend perpendicular to the molding retaining flanges 12 and 14 of the blank 10, but it is within the purview of my invention to form the flanges 34, 36, 38, and 40 extending at any desired angle to the flanges 12 and 14. The flanges of each pair are separated from each other by notches 42 and 44 for a purpose more fully described below. The flanges 34 and 38 are integrally joined along lines 46 and 48 to the element 50 of the blank 10. The flanges 36 and 40 are similarly joined to the element 52 of the blank 10.

The elements 50 and 52 constitute a strap and are integrally joined to each other at their inner ends along bend line 54. After the flanges 34, 36, 38, and 40 have been formed, the strap por-

tions 50 and 52 are bent and drawn outwardly as shown in Fig. 2, so that the junction line 54 is raised substantially above the upper surface of the blank 10. As shown in the drawings, the elements are preferably bent so that they extend at an angle of about 30° to the blank 10. This angle can be varied either way within reasonable limits. The notches 42 and 44 serve to eliminate the material which would otherwise be compressed and wrinkled when the elements 50 and 52 are bent to the inclined position shown in Fig. 2.

Flanges 34, 36, 38 and 40 are provided with panel engaging ends or edges or surfaces 56, 58, 60, and 62. These edges or surfaces preferably extend from points adjacent the junction of the lower or outer ends of the strap portions 50 and 52 with the blank 10. As shown in Figs. 2 through 5, the edges 56 and 58 are inclined relative to the member 50 outwardly toward the flange 12, and the edges 60 and 62 are inclined relative to the member 52 outwardly towards the flange 14. The angle of inclination between the edges 56 and 58 to the inclined strap portion 50 and the angle between the edges 60 and 62 and the inclined strap portion 52 are substantially the same as the angle between the inclined strap portions 50 and 52 and the blank 10, or about 30°. Because of this structural relationship, the panel engaging edges or surfaces 56 to 62 extend substantially perpendicularly to the plane of the blank 10, as shown in Fig. 2. This allows the flanges 34, 36, 38, and 40 to be readily inserted through the flange receiving opening 32 in the panel 26. The flange receiving opening 32 is preferably of rectangular shape and is of sufficient size to allow flanges 34 through 40 to pass therethrough when they are in their inclined position shown in Fig. 2, but small enough to retain the flanges 34 through 40 when they are in the collapsed position shown in Figs. 3 and 4. If desired, however, the opening 32 may be circular or any other desired shape.

When assembling my improved device with the panel 26, the flanges 34, 36, 38, and 40 are inserted through the flange receiving opening 32, as shown in Fig. 2. Then the inclined strap portions 50 and 52 are pounded, or otherwise deformed, downwardly until the strap portions 50 and 52 lie in the plane of the blank 10, as shown in Figs. 3 and 4. This causes the panel engaging edges or surfaces 56, 58, 60, and 62 to spread outwardly and engage the underside of opposite edges of the opening 32, thus securely fastening and locking the clip to the panel 26.

It has been found that during the application of the fastening device to relatively thin panels, such as automobile fenders, the above described pounding operation sometimes causes the panel to be deflected since the panel engaging edges or surfaces 56, 58, 60, and 62 engage the edges of the aperture and thus resist the complete flattening of the inclined strap portions 50 and 52. Therefore, means has been provided to enable the panel engaging edges to yieldably engage the panel to enable the inclined elements to be flattened relatively easily while still providing a secure assembly. In the embodiment shown in Figs. 1 through 5, this means takes the form of elongated cutout portions 57, 59, 61, and 63 provided in the flanges adjacent to and preferably substantially parallel to the panel engaging edges 56, 58, 60, and 62, as shown best in Fig. 2. Furthermore, the junction line between the flanges and the inclined elements 50 and 52 are slit as at 65, 67, 69, and 71 so that the material of the flange between the cutouts and the panel engaging edges provides collapsible resilient fingers. Thus, when the inclined elements are flattened, as shown in Figs. 3 and 4, these fingers yield to allow the panel engaging edges 56, 58, 60, and 62 to yieldably engage the panel, whereby the inclined elements may be relatively easily flattened.

The cold working of the metal adjacent the bend line 54, which results from the above described bending and drawing operations, strengthens the strap portions 50 and 52. This cold working enables a relatively lighter gauge material to be used to provide a secure fastening device.

Figs. 6 and 7, in which parts similar to the embodiment of Figs. 1 to 5 are designated by the same numerals, show a modification of my improved device which is similar to the embodiment shown in Figs. 1 through 5, except that a hooking finger 64 extends outwardly from the lower end of the panel engaging end or edge 60 of the flange 38. A similar finger, not shown, also extends from the edge 56 of the flange 34.

Furthermore, in this embodiment, the cutout portions of the panel engaging flanges have been eliminated, and other means has been provided for increasing the resiliency of the fastener to enable it to be relatively easily assembled. In this form of the invention, the material of the inclined strap portions 50 and 52 at the junction line 54 is drawn outwardly to form a looped hinge section 73 which provides a relatively flexible connection between the inclined elements.

This modification of my improved clip is assembled with the panel 26 in the same manner as was described above, except that it is necessary first to insert the hooking fingers under one edge of the opening 32, as shown in Fig. 6. The hooking fingers serve to temporarily retain the device in assembled relationship with the panel 26, until the inclined strap portions 50 and 52 can be deformed downwardly as was described above.

From the above description, it is seen that the present molding clip is very simple to make and to install. Because the blank is cold worked along the junction of the inclined strap portions, a very strong and rigid fastening means is provided which enables lighter weight material to be used. Furthermore, it is seen that the present clip may be made substantially without waste of material, thereby further reducing its cost.

It is understood that various changes may be made in the structure of my improved device as shown and described herein without departing from the spirit and scope of the following claims.

I claim:

1. A one piece device for securing a molding to a panel and comprising a relatively broad sheet material plate-like body member having end and side margins, and integral fastening means located generally centrally within the margins of said body member and adapted to be inserted through an aperture in the panel, said fastening means including a strap separated from the body member along the longitudinal edges thereof and projected outwardly from the body member to form a pair of inclined strap portions, said strap portions having an integrally joined central portion forming a hinge thereacross and having the opposite end portions integrally joined to the body member, and an integral flange extending inwardly from opposite longitudinal separated edge portions of each of said strap portions, each of said flanges having panel engaging edges at

the ends thereof remote from said hinge and extending inwardly from the body member for engaging opposite sides of the panel aperture incident to inward deformation of the inclined strap portions from their initial outwardly projected position, and each said flange being substantially longitudinally coextensive with its associated strap portion and integral therewith from adjacent said hinge throughout at least a major portion of its length for resisting bending of the inclined strap portions between the hinge and the opposite end portions and to thereby localize bending thereof at the hinge whereby the sheet material at the hinge is cold worked by stretching and bending to the outwardly projected position and by compressing and bending to the inwardly deformed position to thus stiffen the integral connection at the hinge and restrain loosening of the device when assembled with the panel.

2. A device as claimed in claim 1, wherein a hooking finger extends from one of said flanges to project through the panel opening and engage

the under surface of the panel before the strap portions are deformed inwardly whereby the device may be temporarily retained in assembly with the panel until the strap portions are deformed inwardly to securely fasten the device to the panel.

3. A device as claimed in claim 1, wherein the hinge comprises a flexible loop at the central portion of the strap.

4. A device as claimed in claim 1, wherein one of said flanges is severed from the body member adjacent the panel engaging edge and inwardly recessed to provide a resilient finger constituting the panel engaging edge.

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