April 26, 1960 G. WHYTE 2,933,791

FASTENER

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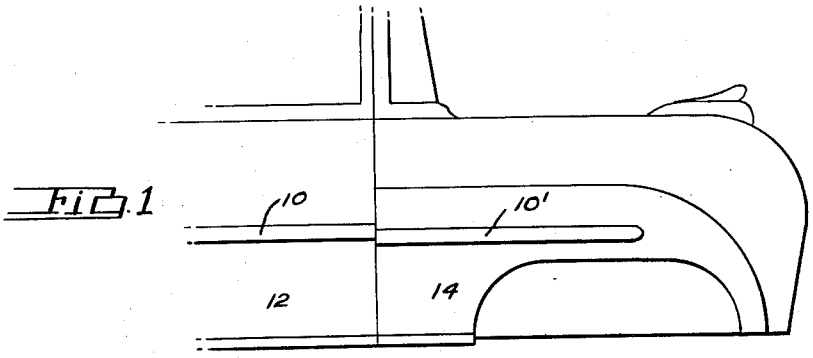


Fig. 1

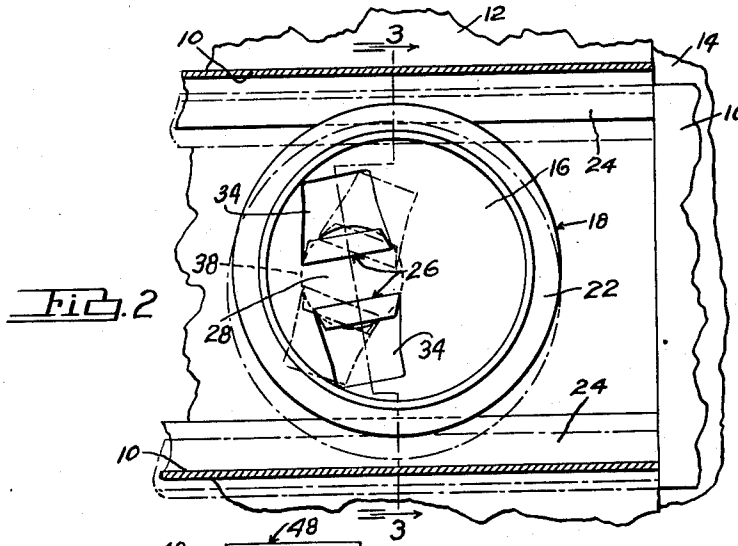


Fig. 2

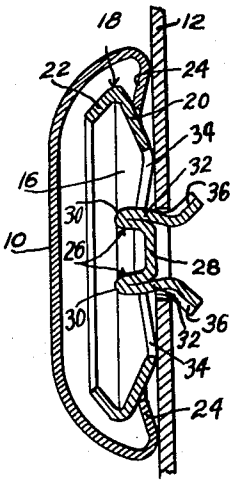


Fig. 3

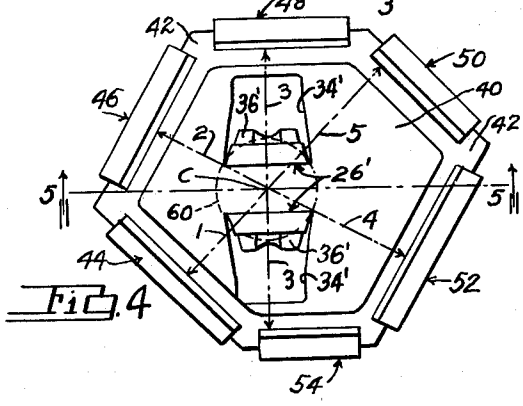


Fig. 4

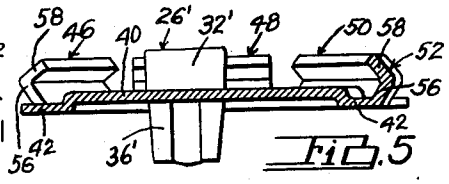


Fig. 5

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FASTENER

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8 Claims. (Cl. 24—73)

This invention relates to a fastener and more particularly to a fastener which may be adjustably positioned after it has been assembled to its holding position.

Automobiles, particularly, are provided with moldings or other decorative materials which are applied to sectional parts such as the door panel, a portion of the body, or the fender. The panels of the door, body or fender are provided with apertures to receive fastening devices for supporting the moldings or decorative material. Often these apertures in the panels do not align with another panel and as a consequence the moldings do not align.

It is therefore an object of the present invention to provide a fastener for such decorative material which may be readily adjusted to compensate for the mis-aligned apertures, bringing the decorative material to true alignment.

Another object of the invention is to provide a fastener which when in its applied position to the panel may be rotated about its axial holding position in the panel to move the decorative material.

A further object of the invention is to provide molding or decorative holding devices on the fastener which are offset from the center of the fastener holding means such that, upon rotation of the fastener about its central holding means, the molding holding devices are shifted upwardly or downwardly to position the molding or decorative strip in alignment with the end of an adjacent strip.

Other objects and advantages of the invention will be more fully understood from the following description taken in connection with the accompanying drawings, in which:

Fig. 1 illustrates a portion of an automobile body, showing panel portions having mis-aligned moldings or decorative strips;

Fig. 2 is a top plan view of the fastener secured to one of the panels, and a molding applied to the fastener, parts thereof being broken away and in section, and the dot and dash lines showing the fastener rotated about its holding axis for aligning the abutting ends of the molding;

Fig. 3 is a cross sectional view through the fastener, panel and molding, taken on line 3—3 of Fig. 2;

Fig. 4 is a top plan view of a modified form of the fastener shown in Fig. 2; and

Fig. 5 is a cross sectional view of the fastener shown in Fig. 4, taken on line 5—5 of Fig. 4.

Fig. 1 illustrates a decorative molding in two parts 10 and 10' applied to the side of an automobile body. One portion of the molding 10 is applied to the door 12 of the body and the other portion 10' is applied to the fender 14. Fastener receiving apertures are provided in the door and in the fender. The aligned apertures in the door are supposed to be in alignment with the aligned apertures in the fender but often, due to inaccuracies in assembly, the apertures in the door do not align with the apertures in the fender. The result is that when the two part moldings are applied to the door and the fender, the abutting ends of the moldings are out of alignment, as indicated in Fig. 1. To overcome this objection, I have provided a shiftable fastening means for securely holding the molding to the body which may be rotated about its holding axis to move the moldings into true alignment.

The fastener, shown in Fig. 2 and illustrating one form of the invention, comprises a sheet metal body portion 16 of generally circular formation having an upwardly extending peripherial flange 18 of generally V shape, one side of which slopes upwardly and outwardly, as at 20, to form a holding means for the molding and the other side 22 slopes upwardly and inwardly, divergent from the first side, to form a guiding and spreading means for the two oppositely spaced and inwardly extending flanges 24 of the molding 10.

Various types of securing means may be employed for securing the fastener to the supporting panel. The securing means herein illustrated, comprise a pair of tabs 26 struck out of the base portion of the body portion 16 with a central strip 28 of the body portion which separates the tabs. Each tab is bent upwardly out of the plane of the body portion, as at 30, and then reversely bent downwardly upon itself, as at 32, through the opening 34 formed by the removal of the tab, to a point below the lower surface of the body portion. This point from the body portion exceeds the thickness of the supporting panel to which the fastener is applied. A depressed rib 36 is formed in the portion 32 for stiffening purposes.

The outer free ends of the downwardly extending portions of the tabs are bent outwardly in opposite directions to form holding ears 32. In the normal position, before the tabs are bent into their holding position, that portion of the tabs 30 extending above the plane of the body portion, extend on an angle of approximately forty five degrees to the plane of the body portion 16 in divergent relation. The holding ears 32 are in substantially parallel relation, spaced apart a distance for freely entering the aperture 38 in the panel 12.

When the fastener is applied to the panel, the divergent portions 30 are bent by a suitable tool, such as a pair of pliers, to substantially parallel position. This bending action causes that portion of the tabs below the central strip 28 to be bent outwardly into tight holding engagement with the edge of the aperture 38 in the panel 12. The holding ear portions 32 are brought into holding engagement with the lower surface of the panel 12.

The tabs 26 are offset radially from the center of the circular body portion 16 and the circular upstanding flange 18, so that when the downwardly extending portions 32 of the tabs 26 are received in the aperture 38 of the supporting panel 12, rotation of the body portion 16, about the axis of the aperture 38, causes the flange 18 to be moved upwardly or downwardly as a cam. This may be done by aligning the diametrically opposite upper or lower edge portions of the flange 18, applied to the panel 12, with the upper or lower edges of the fasteners applied to the panel 14, before the molding is applied.

In the form of the fastener illustrated in Figs. 4 and 5, the body portion 40 is generally polygonal in shape having oppositely disposed straight sides arranged in pairs, about the perimeter of the polygonal shaped fastener. The body portion 40 has a substantially flat portion with its outer edge portions 42 depressed out of the plane of flat portion for contact engagement with the supporting panel. The outer edge portions 42 are provided with upwardly extending V-shaped flanges 44, 46, 48, 50, 52 and 54 having one side of the V sloping upwardly and outwardly, as at 56, to form a holding means for the molding, and the other side 59 sloping upwardly and inwardly, to form a guiding and spreading means for two oppositely spaced and inwardly extending flanges 24 of the molding 10.

The securing means for the fastener to the supporting panel may be the same means as shown in Figs. 2 and 3, wherein tabs 26', struck out of the base portion, bent upwardly out of the plane of the base portion, as at 30', and then reversely bent downwardly upon itself, as at 32', through the opening 34' formed by the removal of the tab, to a point below the lower surface of the body portion a distance to exceed the thickness of the supporting panel to which the fastener is applied. The outer free ends of the downwardly extending portions of the tabs are bent outwardly in opposite directions to form holding ears 36'.

The location of the tabs with respect to the flanges 44 through 54 is highly important to the invention. Assuming the reference letter C designates the center of the aperture 60, here shown dotted, through which the holding ears 36' of the tabs 26' extend, and that the tabs are arranged to enter the aperture 60, the spacing of the flanges 44 through 54 from the center C of the tabs is represented by the dot and dash lines 1, 2, 3, 4 and 5; that is, the flange 44 is located the shortest distance from the center C, illustrated by the line 1; flange 46 is located a greater distance from the center C, illustrated by the line 2; flanges 48 and 54 are equally spaced from the center C, illustrated by the line 3, a distance greater than the line 2; flange 52 is located a distance, illustrated by the line 4, greater than the line 3; and flange 50 is located the greatest distance from the center C, illustrated by the line 5. The opposite flanges of each pair are spaced an equal distance apart, determined by the spacing of the inwardly extending flanges 24 of the molding 10 to be secured by the fastener.

By rotating the fastener about the center C when it is applied to the supporting panel, to any one of its plurality of positions, it will be understood that an opposite pair of holding flanges 44 through 54 assume a varied position and that an attached molding strip may be readily positioned for alignment with an adjacent strip.

I claim:

1. A fastener comprising a body having a plurality of sets of diametrically opposite molding engaging portions around the outer periphery thereof, the distance between the molding engaging portions in all of said sets being the same, means for securing the body to a supporting panel for rotation about an axis eccentric with respect to the center of the body whereby when the body is rotated about said axis on a supporting panel, the opposite molding retaining portions are shifted radially with respect to the axis of rotation.

2. A fastener as called for in claim 1 wherein said body is of circular shape and said securing means are located off center thereof.

3. A fastener as called for in claim 1 wherein said body is a generally regularly shaped polygon.

4. A fastener as called for in claim 1 wherein said securing means comprise a pair of tabs struck out of said body.

5. A fastener comprising a body having flange means around the outer periphery thereof, said flange means having a plurality of sets of angularly related, diametrically opposite molding retaining portions, the spacing between the diametrically opposite molding retaining portions being generally the same for all of said sets and means eccentric to the center of said body for rotatably securing the body to a supporting panel.

6. A fastener as called for in claim 5 wherein said securing means are integral with said body.

7. A fastener as called for in claim 5 wherein said body is of circular shape and said flange means comprises a circular upstanding flange around the circumferential edge of the body.

8. A fastener as called for in claim 5 wherein said molding retaining portions comprise a plurality of pairs of straight edge portions, the straight edge portions in each pair being spaced diametrically apart in parallel relation.

References Cited in the file of this patent

UNITED STATES PATENTS

Re. 23,876	Poupitch	Sept. 21, 1954
2,671,254	Meyer	Mar. 9, 1954