April 11, 1939. H. J. MURPHY 2,153,972

WINDOW STRIP INSTALLATION AND FASTENER FOR THE SAME

Filed March 30, 1937

Fig. 1

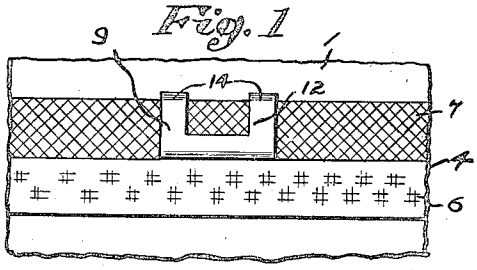


Fig. 2

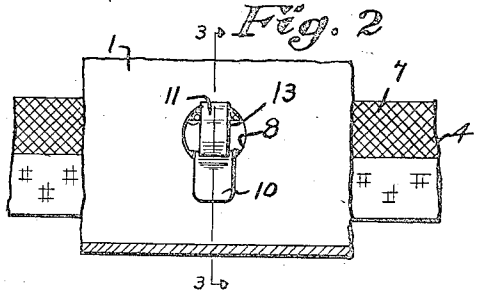


Fig. 3

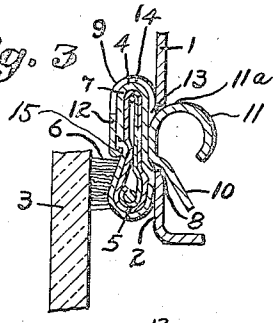


Fig. 4

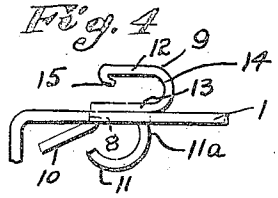


Fig. 5

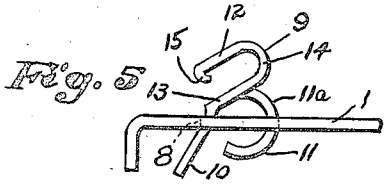


Fig. 6

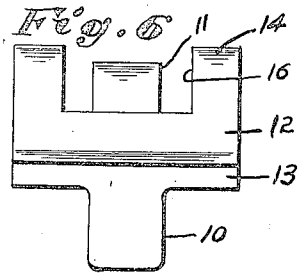


Fig. 7

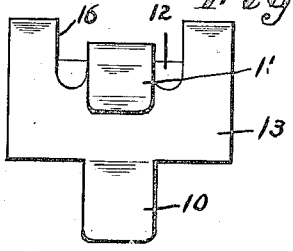


Fig. 8

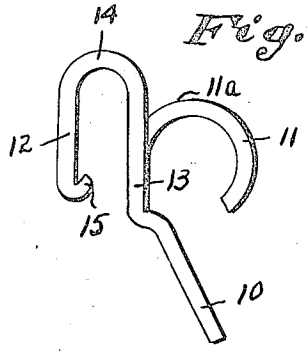
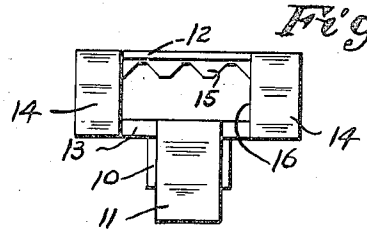


Fig. 9



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WINDOW STRIP INSTALLATION AND FASTENER FOR THE SAME

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Application March 30, 1937, Serial No. 133,835

3 Claims. (Cl. 24—73)

My invention relates to an improved fastener member for attaching a window strip or the like to a supporting structure and to installations of the same.

Referring to the drawing, in which I have illustrated a preferred embodiment of my invention:

Figure 1 is a front view of my fastener installation including a portion of a support and a portion of a window guide strip secured to the support by means of my improved fastener member;

Fig. 2 is a rear view of the installation shown in Fig. 1;

Fig. 3 is a section taken along the line 3—3 of Fig. 2 and including a portion of a window pane which is also shown in section;

Fig. 4 is a side view showing my fastener member in attachment with the support;

Fig. 5 is a view showing the method of attaching the fastener to the support;

Fig. 6 is a front view of my fastener member per se;

Fig. 7 is a rear view of my fastener member per se;

Fig. 8 is a side view of my fastener member per se; and

Fig. 9 is an end view of my fastener member per se.

The object of my invention is to provide a simple yet efficient fastener member for attaching a flexible strip or similar article to a supporting structure. By reason of the fact that my improved fastener member is particularly useful for purposes of attaching a window guide strip to a supporting structure, I prefer to describe it in connection with such an installation although there are many other uses to which my fastener could be directed which would fall within the spirit of this invention.

Referring to Figs. 1–3, which illustrate the preferred use of my invention, I have shown a fragment of a window channel frame in the form of a supporting structure 1 providing an inner face 2 which bounds one side of the channel through which a window pane 3 (Fig. 3) is moved during the raising and lowering of the same. A flexible strip 4 is attached to the support 1 and positioned so as to seal in an effective manner the passage between the face 2 of the support and the window pane (Fig. 3), as will be understood by those skilled in the art. Any suitable strip may be used, but, in my preferred installation, I have shown a strip of substantially elongated cross-section having a metal stiffening core 5 and an outer covering of sturdy material. A nap means 6 is provided along one edge of the strip on the side facing the pane 3. A portion 7 of the body of the strip adjacent the opposite edge of the strip from that along which the nap 6 is disposed is adapted to be gripped by portions of my fastener member so as to secure the strip to the support 1, as will be hereinafter described. The strip is attached to the support 1 by means of my improved fastener members which are provided with attaching portions extending through an aperture 8 in the support and engaging the material of the frame surrounding the aperture, as most clearly shown in Fig. 3.

Referring in detail to my fastener member per se, I have illustrated in Figs. 6–9 a fastener made of one piece of sheet metal having a base portion 9 and attaching portions 10 and 11 extending from the base for securing the fastener to the support 1. The base 9 is of substantially U-shaped construction providing spaced substantially parallel arms 12 and 13 connected at their ends by intermediate portions 14. The free ends of the arms 12 and 13 define an opening adapted to receive the thickness of the strip 4. In my preferred form the arms are hardened so as to provide proper spring action therein for resiliently gripping the strip between them, but I do not wish to be limited by this particular construction as portions of the fastener might be tempered to a proper degree enabling the outer arm 12 to be moved from a full open position by pressure exerted thereon in the direction of the arm 13 so as to engage the strip in a clamping action for holding it against the upper arm 13. Gripping prong portions 15 preferably extend upwardly from the free end of the arm 12 to engage the body of the strip 4 (Fig. 3) so as to provide a more secure attachment.

Referring to the attaching portions 10 and 11 by which the fastener is secured to the support 1, the portion 10 extends upwardly and outwardly from the free end of the arm 13 to provide a substantially hook-shaped means for a purpose to be described. The attaching portion 11 is in the form of a resilient leg extending from the arm 13 intermediate the ends thereof and providing a shoulder means 11a for spring engagement with the walls surrounding the aperture 8 of the support. The portion 11 is formed entirely of material of the base 9 and is integral with the material of the arm 13 adjacent an end of an aperture 16 extending from the arm 13 for a substantial distance into the arm 12. The aperture 16 serves to increase the resiliency of

the base, as will be understood by those skilled in the art.

Assembly of the component parts of my installation is a relatively simple matter and is preferably carried out by first attaching the fastener to the support and then moving the strip into engagement with the fastener. In attaching the fastener to the support the hook-shaped attaching portion 10 is inserted through the aperture 8 and hooked over the walls surrounding the aperture. The shouldered attaching portion 11 is brought adjacent the wall by this action, as shown in Fig. 5, and when pressure is exerted upon the fastener in the direction of the aperture 8 the portion 11 will contract sufficiently to allow the shoulder 11a to be forced by the aperture, after which action the portion 11 will spring back toward normal position and the shoulder 11a will engage the material of the support surrounding the aperture thereby cooperating with the hook-shaped portion 10 to anchor the fastener securely in attached position (Fig. 4). In attaching the window guide strip to the fastener member, the portion 7 of the body of the strip is moved into the space between the arms 12 and 13 with the nap 6 facing away from the support. As the thickness of the strip is greater than the distance between the free ends of the prongs 15 and the arm 13, the arm 12 expands slightly through resiliency of the same until the strip is secured in correct position, at which time the arm contracts so that the prongs 15 grip the strip to hold it firmly against the arm 13 (Fig. 3). It is obvious that any number of fastener members may be used to attach the strip to the support, but it is necessary that a corresponding number of apertures be located in correct position in the support to receive the attaching portions of the fasteners.

Thus by my invention I have provided a novel fastener member of inexpensive construction which is capable of easy attachment to a support and provided with efficient attaching means for engaging material of the support whereby it may be maintained in secure assembly therewith. Also, the fastener provides arm portions adapted to grip firmly opposed sides of an article to be secured to the support whereby the article is securely assembled with the fastener.

Although I have illustrated and described a preferred embodiment of my invention, I do not wish to be limited thereby, as the scope of my invention is best defined by the following claims.

I claim:

1. A fastener member formed from sheet metal and including a U-shaped base comprising two arms connected together at their ends, said arms adapted to grip the thickness of an article between them, and a pair of integral attaching portions extending from one of said arms, one of said attaching portions extending from the free end of said last-mentioned arm and being in the form of a hook for hooking engagement with a supporting structure through an aperture and the other of said attaching portions being yieldable and of greater width than thickness for snapping engagement through the aperture in said supporting structure to hold the hook in place.

2. A fastener member for holding flexible strips and the like comprising a resilient U-shaped base having two connected arms, said arms adapted to grip the thickness of the strip between them, and a pair of integral attaching portions extending from one of said arms, one of said attaching portions being formed entirely from the material of said base and having a shouldered portion adapted for spring engagement with the wall surrounding an aperture of a supporting structure, the other of said attaching portions extending from the free end of said last-mentioned arm and being of a substantially hook shape for hooking engagement through said aperture whereby said attaching portions cooperate one with another to secure said fastener to said supporting structure.

3. A fastener member formed from sheet metal and including a base comprising a substantially flat portion, article holding means extending from said flat portion in spaced relation thereto for engagement with a piece to be secured to said fastener, and a pair of integral attaching portions extending from said flat portion in angular relation to the plane thereof, one of said attaching portions being in the form of a hook for hooking engagement with a supporting structure through an aperture and the other of said attaching portions being yieldable and of greater width than thickness for snapping engagement through the aperture in said supporting structure to hold the hook in place.

HOWARD J. MURPHY.