Jan. 16, 1940. A. DE VITO ET AL 2,187,303

FASTENER MEMBER AND FASTENER INSTALLATION

Filed Sept. 21, 1938

Fig. 1.

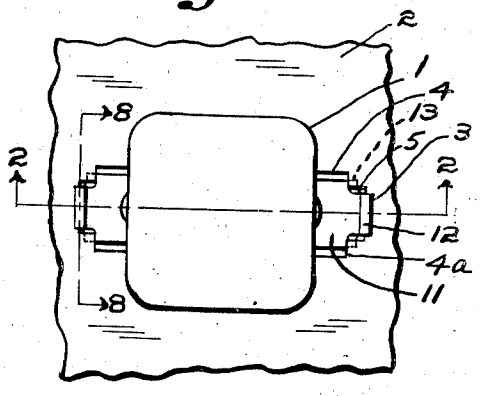


Fig. 3.

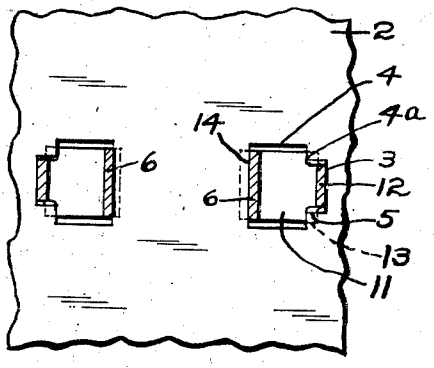


Fig. 2.

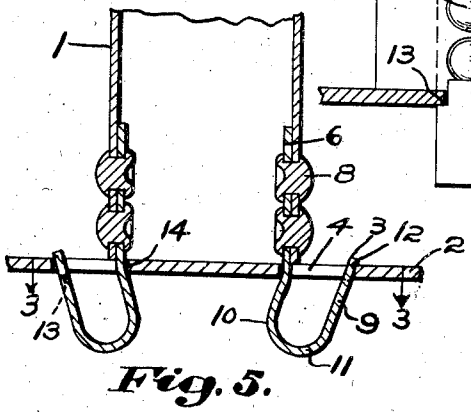


Fig. 8.

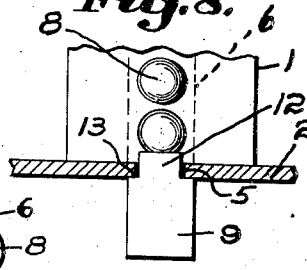


Fig. 4.

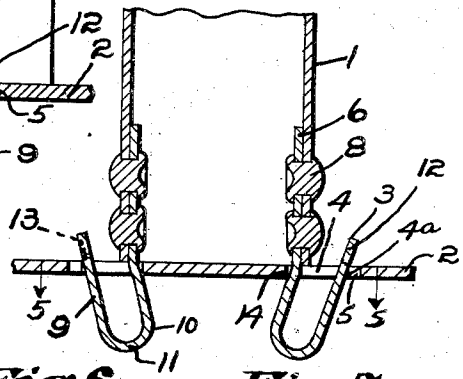


Fig. 5.

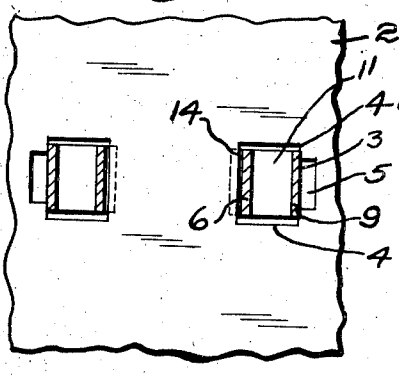


Fig. 6.

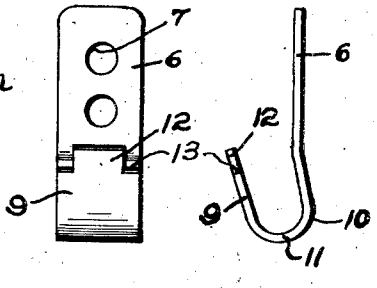


Fig. 7.

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FASTENER MEMBER AND FASTENER INSTALLATION

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Application September 21, 1938, Serial No. 231,004

2 Claims. (Cl. 24—214)

Our invention aims to provide improvements in fastener members such as are used for securing electrical or other units to a support and installations of the same.

Referring to the drawing, which illustrates a preferred embodiment of my invention:

Fig. 1 is a top plan view of an electrical installation showing a shield can or the like unit secured to a support by means of my improved fastener members;

Fig. 2 is a section taken along the line 2—2 of Fig. 1;

Fig. 3 is a section taken along the line 3—3 of Fig. 2;

Fig. 4 is a sectional view similar to Fig. 2 showing my improved fastener members in position to be moved into final attached position;

Fig. 5 is a section taken along the line 5—5 of Fig. 4;

Fig. 6 is a front view of my improved fastener member per se with the fastener slightly enlarged in width;

Fig. 7 is a side view of the fastener shown in Fig. 6; and

Fig. 8 is a section taken along the line 8—8 of Fig. 1.

The installation which we have chosen for purposes of illustrating our invention comprises an article of manufacture in the form of a condenser can 1 of the type commonly used in electrical apparatus detachably secured to a supporting panel 2 by means of our improved fastener members 3. One end of each of the fastener members 3 is adapted to be rigidly secured to a side of the can 1 while the other end extending below a lower edge of the can has attaching means in fastener engagement with the supporting panel 2 through an opening thereof. Each of the last-mentioned openings in our preferred form comprises a rectangular main portion 4 and a smaller rectangular opening 5 having smaller longitudinal and transverse dimensions than the main opening 4 and formed adjacent a side 4a of the main opening 4 so as to intersect the latter.

It will be understood from the description hereinbelow set forth that the can 1 is assembled with the support through moving the fastener members into first position (Figs. 4 and 5) within the openings of the panel 2 and then by a suitable tool forcing shoulders provided by the fastener members through the openings into final attached position in engagement with an opposite surface of the panel from that upon which the can 2 is disposed (Figs. 1, 2, 3 and 8).

Referring specifically to our preferred form of fastener member 3 illustrated in Figs. 6 and 7, we have shown one made from one piece of ribbon-like sheet metal. The fastener member has a leg portion 6 provided with apertures 7 for receiving rivets 8 (Figs. 2 and 4) whereby the fastener is secured to the article to be attached to the support 2 and an attaching portion 9 joined to the lowermost end 10 of the leg 6 by a fold 11. The attaching portion 9 extends upwardly in relation to the end 10 of the leg and normally slightly outwardly relative to the leg, as shown in Fig. 7. At the outermost end of the attaching portion 9 we have provided a reduced portion 12 spaced inwardly from opposite lateral edges of the attaching portion 9 and providing shoulders 13—13 adjacent its opposite sides, as most clearly shown in Fig. 6.

Assembly of the component parts of our installation is a relatively simple matter and is preferably carried out through securing the fasteners 3 to inner surfaces of opposed walls 1a (Figs. 2 and 4) by the rivets 8 in such a way that portions of the fastener members extend beyond the lower edge of the can. Next the can is moved toward the panel so as to dispose the fastener members 3 in first position with those portions of the same extending beneath the lower edge of the can positioned within the openings 4 of the panel (Fig. 4). When the fastener members are in this position the respective attaching portions 9 engage the sides 4a of the main openings 4, as most clearly shown in Figs. 4 and 5. Next, downward pressure is exerted upon each of the attaching portions 9 as by a suitable tool (not shown) engaging with the outermost free end of the respective reduced portion 12. During this action the attaching portion 9 is contracted against the tension of the fold 11 as a result of the fact that portions of the attaching portion 9 are at a greater distance from the leg 6 than the distance between the side 4a and an opposite side 14 of the opening 4 so as to enable the shoulders 13—13 to pass through the opening. Finally, the shoulders 13—13 expand after passage through the opening to engage behind the lower surface of the panel 2 adjacent the edge 4a whereupon the fastener members are rigidly secured to the support. When the shoulders 13—13 are in final fixed engagement with the support, the reduced portion 12 is received by the smaller opening 5, as most clearly shown in Figs. 2 and 3.

Thus it will be seen that by our invention we have provided fastener members of simple and inexpensive construction capable of rigidly securing an article of manufacture, such as a con-

denser can, to a supporting panel. Furthermore, as a result of the construction of our improved fastener members it is possible to remove the supported article from the panel even though access is had only to that side of the panel upon which the supported article is disposed.

Although we have illustrated and described a preferred embodiment of our invention, we do not wish to be limited thereby because the scope of our invention is best set forth in the following claims.

We claim:

1. A one-piece yieldable snap fastener member of the class described comprising a leg portion for securing said fastener to a part to be attached to a support and a portion joined to the lowermost end of the leg portion by a fold, said attaching portion being normally yieldable toward and away from said leg portion against the tension provided by said fold and being normally substantially parallel with at least a portion of said leg, and said attaching portion having a reduced portion at its outermost end and shoulders on opposite sides of said reduced portion for the purpose described.

2. In combination, a support having a main aperture and a smaller opening adjacent a side of said main aperture, an article of manufacture and a fastener member carried by said article for securing said article to said support, said fastener member having a leg portion secured to said article and an upwardly-extending attaching portion joined to the lowermost end of said leg portion by a fold, the distance between said attaching portion and said leg being normally greater than one dimension of said main opening of said support, said attaching portion having a reduced portion at its outermost end and a shoulder on one side of said reduced portion, said attaching portion contracting against the tension provided by said fold to move said shoulder through the main aperture of said support, and said attaching portion expanding to move said shoulder behind a surface of said support, and said reduced portion being received within said smaller opening of said support.

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