

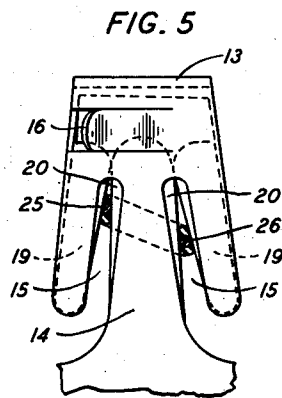
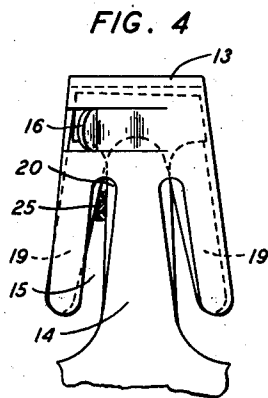
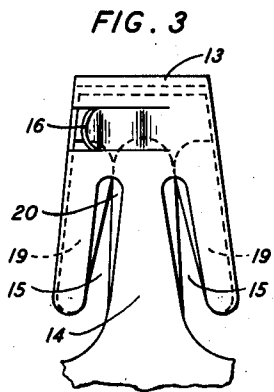
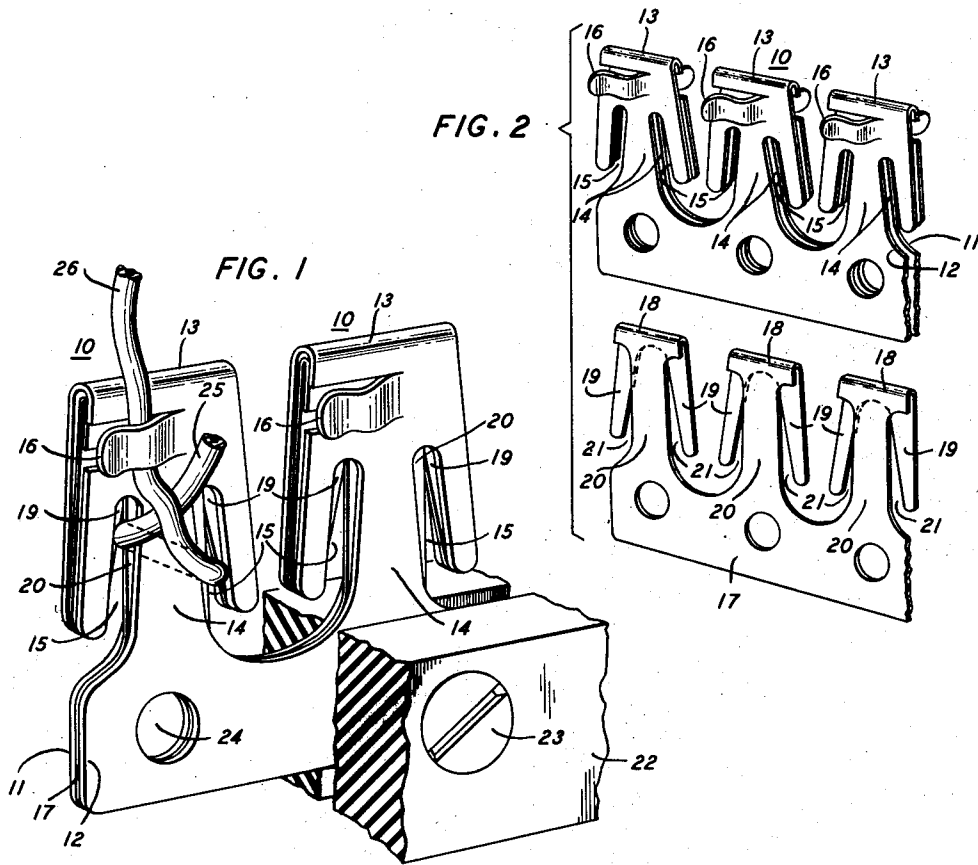
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SOLDERLESS WIRE TERMINAL

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SOLDERLESS WIRE TERMINAL

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12 Claims. (Cl. 339—97)

This invention relates to solderless wire terminals and more particularly to an improved multiple strip connector adapted for connecting together a plurality of insulated electrical conductors.

An object of this invention is the provision of a solderless terminal or binding post, for insulated conductors in which, due to the novel structure of the terminal, the insulation on the conductors is ruptured and electrical contact is established with the terminal at at least two locations on the conductor.

Another object of the invention is the provision of a solderless terminal or binding post, in which the conductor is securely held against displacement thereby assuring a connection having a conductivity comparable with the wire itself.

A further object of the invention is the provision of a solderless terminal or binding post, which may be constructed in multiple or may comprise single individual elements insulated from each other.

A still further object of the invention is the provision of a solderless terminal or binding post which is adapted to rupture the insulation on the conductor to establish electrical contact with the wire but will not weaken the wire at the point of contact and will provide a strong joint having a comparatively low resistance.

In one preferred embodiment of my invention, the connector comprises a main body member formed from an elongated strip of thin metal folded back upon itself to provide spaced apart parallel wall sections. The folded over edge portion of the body member is profiled to provide a plurality of extending ears or tabs which are of like configuration and are in substantial alignment with each other. These ears are shaped to provide a neck or stem portion at their base and provide upwardly extending angular wire receiving slots on each side thereof. Located adjacent the return bond portion of the ears on each side thereof are outwardly extending tabs for confining the conductor. Positioned between the spaced apart walls of the body member and capable of being flexed or distorted with respect thereto, is a thin metal comb-like strip or insert of hard spring-like material having ears or tabs projecting therefrom. These ears are bifurcated and are bent back upon themselves to provide, with their stem portions, upwardly extending inverted V-shaped slots. These V-shaped slots are in substantial alignment with the aligned upwardly extending angular slots in the ears on the main body portion and the walls thereof cooperate with the ears to rupture the insulation on the conductor when it is wrapped therearound and confined therein. Since the metal comb or insert may be distorted or flexed by forcing the conductors into the groove, the insulation is ruptured and the conductor is held securely in place.

The conductors are snubbed in place by the tabs at the top of the ears. Suitably aligned apertures in the body portion and the insert are provided for securing the assembly to a suitable insulated mounting.

Other objects and advantages of the invention will be apparent from the following detailed description when read in connection with the following drawing of which:

Fig. 1 is an enlarged fragmentary perspective view, partly in section, illustrating a terminal illustrative of this invention with an insulated wire positioned therein.

Fig. 2 is an exploded perspective view of the terminal shown in Figure 1.

Fig. 3 is a fragmentary elevational view of the termi-

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nal shown in Fig. 1 before the positioning of the conductor.

Fig. 4 is a view similar to Fig. 3 but shows one conductor positioned in the V-slot and the insulation ruptured.

Fig. 5 is a view similar to Fig. 4 but shows the conductor making contact with the connector in two different locations with the insulation ruptured.

As shown in the drawing, the terminal of this invention, in its preferred form, comprises a main body portion 10 which is constituted by the two longitudinal extending spaced apart wall sections 11 and 12. These walls are formed by bending back upon itself an elongated strip of metal, perforated to provide when so bent a plurality of extending ear members 13—13.

As shown in Fig. 1, and more in detail in the upper part of Fig. 2, the ears 13 are profiled to provide the stem or neck portions 14 and the upwardly extending aligned slots 15. Adjacent the return bond portion of the ears 10, and projecting outwardly therefrom, are the tabs 16, the purpose of which will be described later.

Positioned between the walls 11 and 12 of the body portion 10 is an insert member 17, as shown in the lower part of Fig. 2. This member is constructed preferably from a thin hard metal and is substantially comb-like in configuration, with the extending ears and tabs 18 thereof bifurcated and bent back upon themselves to provide projections having substantially the same profile as the ears 13 with the leg portions 19 of the ears 18 forming with the neck or stem portions 12 the inverted V-slots 21.

The body member 10 and the insert 17 are assembled as shown in Fig. 1 and are maintained in juxtaposition with respect to each other by being mounted in a block or strip of insulating material and secured therein by suitable screws 23 which pass through aligned apertures 24 as shown.

In the application of the connector or terminal of this invention to the termination or connecting of insulated conductors the free end 25 of the conductor 26, as shown in Fig. 1, is positioned in the V-slot 15 and pulled upwardly as shown in Fig. 4. The conductor is then wrapped around the stem 14, pulled up taut into the other slot 15, laid over the free end 25 and secured under the tab 16. Thus, it is readily apparent that the insulation on the conductor 26 will be ruptured at two locations and contact established at both points between the wire and the terminal as shown in Fig. 5, and due to the flexing and distortion of the legs 19 of the insert 17 the connection, thus established will be both strong mechanically and good electrically.

While I have shown and described my improved solderless connecting or binding post as applied to a multiple binding post or strip, it is readily apparent that the terminal or binding post may be made of single units insulated from each other or any multiple of them. Furthermore, the terminal may be double ended to provide a through connection on a panel or the like.

What is claimed is:

1. An electrical terminal of the solderless type, comprising a body member, an extending ear portion, including two spaced apart parallel wall sections having aligned angular slots therein, extending upwardly from the marginal edges thereof, an insert member confined between said wall sections and distortable with respect thereto, said insert member having upwardly extending inverted slots in substantial alignment with the angular slots in said ear portion for establishing electrical contact with a wire positioned therein when the wire is pulled taut and forced between the converging walls of the slots in said insert member.

2. An electrical terminal of the solderless type, comprising a body member, an extending ear portion, including two spaced apart parallel wall sections having aligned angular slots therein, extending upwardly from the marginal edges thereof, an insert member confined between said wall sections and distortable with respect thereto, said insert member having upwardly extending inverted V shaped slots in substantial alignment with the angular slots in said ear portion for establishing electrical contact with a wire positioned therein when the wire is pulled taut and forced between the con-

