

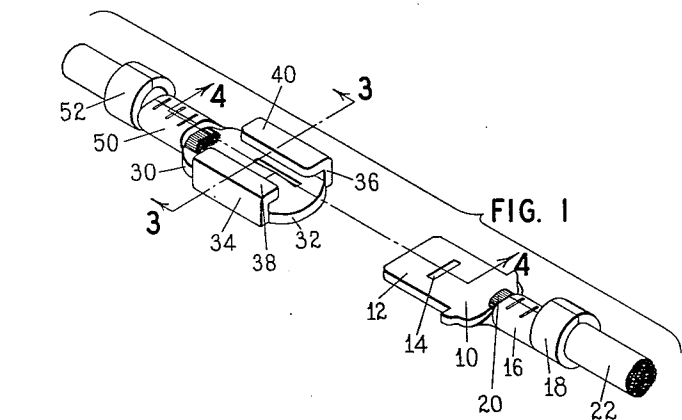
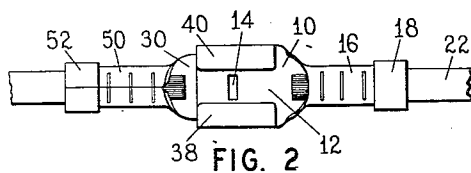
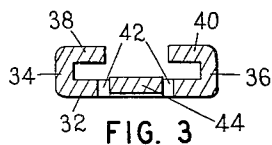
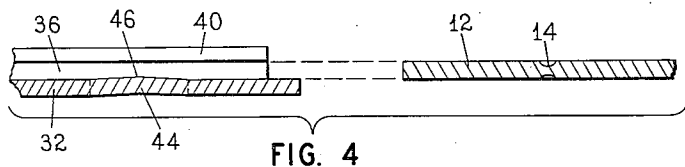
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ELECTRIC CONNECTORS

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2,762,029

ELECTRIC CONNECTORS

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Continuation of abandoned application Serial No. 67,488, December 27, 1948. This application December 11, 1951, Serial No. 261,164

4 Claims. (Cl. 339—256)

This application is a continuation of my copending application, Serial No. 67,488, filed December 27, 1948, and subsequently abandoned.

The invention relates to a connector for detachably connecting together the ends of two wires or the end of a wire to a terminal of some kind to make a good electrical connection. It is desirable in connectors of this type that the members be easily connected together and disconnected but that when connected the members will have interfaces of considerable area firmly pressed together and held in such a manner that they cannot work loose. It is also desirable that connectors be as simple as possible in structure and capable of being economically manufactured. These desirable features are characteristic of the connector hereinafter described and illustrated on the drawing of which—

Figure 1 is a perspective view of a connector embodying the invention, the two members thereof being separated;

Figure 2 is a plan view of the same showing the two members interengaged;

Figure 3 is a section on the line 3—3 of Figure 1; and

Figure 4 is a section on the line 4—4 of Figure 1.

Of the two members shown in Figure 1, the male member 10 is made from a stamping of suitable sheet metal such as brass. The member 10 consists of a rectangular tongue 12 having in its opposite faces transverse recesses 14. These may be formed by indenting both faces of the tongue 12 or by cutting a slot therethrough. The member 10 also may include two collars 16 and 18, made by curling portions of the blank around the bared end portion 20 of an insulated wire 22 and around the wire 22 at a point adjacent to the bared end portion. The collars 16 and 18 are pressed against the wire core and the covered wire so as to pinch and grip them tightly.

The female member 30 of the connector is also preferably made from a stiff sheet metal stamping, such as brass. This member includes a bottom element 32 at the sides of which side walls 34 and 36 are bent vertically upward with inturned flanges 38 and 40 projecting over margins of the bottom 32 and spaced therefrom by a distance substantially equal to the thickness of the tongue 12.

In the bottom element 32 a pair of slots 42 are made, these slots being parallel to each other and to the side edges of the bottom element and being of limited length so their ends are within the contour of the bottom element 32. These slots define a central strip 44, the ends of which merge integrally with the bottom element. This central strip 44 is swaged upward by means of a suitable die, either before or after the blank is bent to form the side walls 34 and 36 and flanges 38 and 40, so that it rises slightly above the level of the surrounding portions of the bottom element. As indicated in Figure 4, this upward distortion of the strip 44 may take the form of an inverted, wide-angled V. If a malleable brass is used for the member 30, the swaging operation not only shapes

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the strip 44, as described, but also hardens it and imparts a certain resilience to it. Hence, when the tongue 12 is thrust into the member 30 between the bottom 32 and the overhanging flanges 38 and 40, it is wedged against the upwardly projecting strip 44. As the tongue advances, it presses the strip 44 downward against considerable resistance. The recesses 14 in the tongue are so located with reference to the end of the tongue that when the tongue is fully introduced into the member 30, one of the recesses 14 will receive the apex 46 of the V form of the swaged strip 44. This acts as a detent to lock the two members together to the extent that an additional force is required to retract the tongue 12 from such position in the member 30. As indicated in Figure 3, the slots 42 may be of sufficient width to prevent any possible contact between the opposite edges of either slot. Thus there is no binding between such edges when the strip is flexed as when the member 12 is being inserted or removed.

The member 30 may include collars 50 and 52 similar in structure and function, respectively, to the collars 16 and 18 of the member 10, or may have any other suitable attaching means.

I claim:

1. An electric connector comprising two detachably interengaged members, one said member consisting of a sheet metal piece with a flat tongue having a transverse recess in each face, the other said member consisting of a stiff sheet metal piece having a bottom and two upstanding sides with inwardly extending flanges spaced from said bottom by a distance substantially equal to the thickness of said tongue, said bottom portion having a pair of spaced slots therethrough defining a strip which is swaged slightly upward with respect to the adjacent portions of said bottom into an inverted V form, each slot being of sufficient width to prevent contact between the sides of the slot when the strip is flexed, each said recess in said tongue being spaced from the end thereof so as to receive the apex of said V when the tongue is thrust into said other member.

2. In an electric connector, a member consisting of a piece of stiff sheet metal having a bottom and upstanding sides with inturned flanges parallel to the bottom and overhanging portions thereof, said bottom having two parallel slots entirely within the area of said bottom, said slots defining a central strip swaged upward so that it projects slightly above the upper surface of adjacent portions of said bottom and is harder and more resilient than the other portions of the member, each said slot being of sufficient width to prevent contact between the sides of the slot when the strip is flexed.

3. An electrical connector member consisting of a piece of stiff sheet metal having a plane bottom and upstanding sides with inturned flanges parallel to the bottom and overhanging portions thereof, said bottom having two parallel slots entirely within the area of said bottom, said slots defining a central strip swaged upward so that it projects slightly above the upper surface of adjacent portions of said bottom, each said slot being of sufficient width to prevent contact between the sides of the slot when the strip is flexed.

4. An electrical connector member consisting of a piece of stiff sheet metal having a plane surface portion, said plane surface portion having two parallel slots entirely within the area of said plane surface portion, said slots defining a central strip integral at both ends with said plane surface portion and swaged upward so that it projects slightly above the upper surface of adjacent por-

tions of said plane surface portion, each said slot being of sufficient width to prevent contact between the sides of the slot when the strip is flexed.

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