

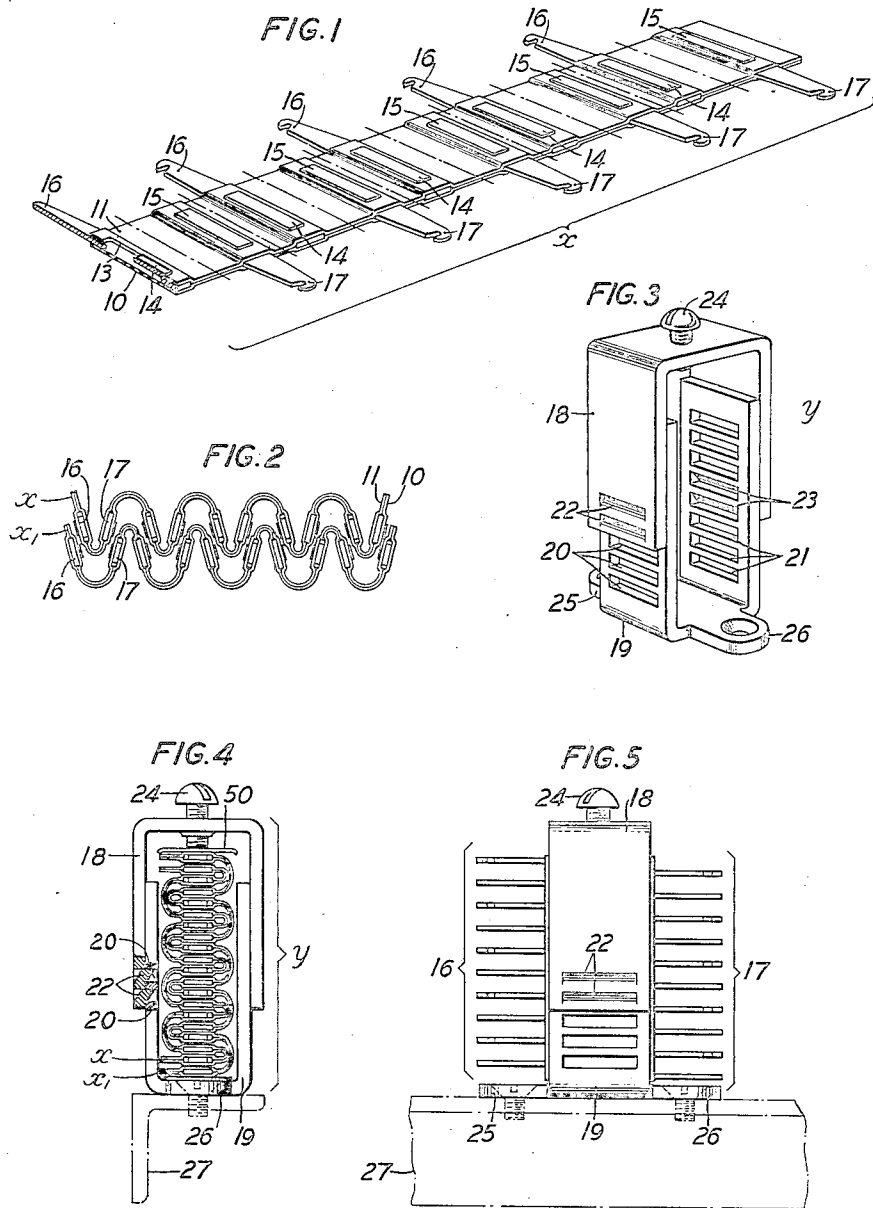
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ELECTRIC CONNECTER DEVICE

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ELECTRIC CONNECTER DEVICE

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3 Claims. (Cl. 173-328)

This invention relates to electric connecter devices.

The object of this invention is the provision of a multi-contact connecter of the quick-detachable type which will be simple, cheap to manufacture and efficient in operation.

According to this invention, a multi-contact connecter of the quick-detachable type is formed by mounting terminal members in spaced relation between strips of insulating material which are creased in substantially zig-zag formation on indicated lines along their length in such a manner that the folds of one strip interfit the folds of the other strip, with the terminals of one strip engaging the terminals of the other strip. A clamping device is provided for forcing the terminals of the pile-up thus formed into inter-engaged relation with a considerable contact pressure, while permitting their disengagement by the simple loosening of a clamping screw, the clamping device being adjustable for receiving a variable number of terminals in each strip.

Other features of the invention and advantages will appear from the following description and by the claims appended thereto, reference being had to the accompanying drawing, in which:

Fig. 1 is a perspective view of a portion of a contact strip;

Fig. 2 is a view showing two contact strips creased at points indicated by the dot-and-dash line shown in Fig. 1;

Fig. 3 is a perspective view of the clamping device used for securing the contact strips in engaged relation;

Fig. 4 is a view showing the contact strips and the clamping device in assembled relation with portions of the clamping device cut away; and

Fig. 5 is a front assembly view.

As shown in the drawing, the strip of contact assembly X comprises the sheets of pliable insulating material 10 and 11 provided for securing a plurality of terminals 16 and 17 disposed in staggered relation at predetermined intervals therebetween.

Insulating sheet 11 is provided with apertures such as 13 shown in Fig. 1, which may be of any desired shape for receiving similarly shaped contact portions 14, 15 embossed or in any way formed with the terminals 16, 17. These contact portions protrude a relatively small distance above the surface of strip 11 for engaging associated contacts carried by another similar strip X' shown in Fig. 2 in a manner that will be hereinafter described in detail. The spaced relation of terminals 16, 17 along the strips 10 and

11 is such that when two similar strips X, X' are creased in substantially zig-zag formation at points indicated by the dot-and-dash lines shown in Fig. 1 the contact portions 14 and 15 of the terminals 16 and 17 in strip X may be engaged with the contact portions 14, 15 of terminals 16 and 17 in strip X', as shown in Figs. 2 and 4. These contacts are held in their engaged relation by a clamping device Y, shown in Figs. 3, 4, and 5 in the form of two telescopically engageable U-shaped members 18 and 19. The sides of element 19 of this clamping device are each provided with a row of indentures such as 20 and 21, adapted to be engaged by ratchet-shaped teeth 22 and 23 carried by its complement element 18, the number of indentures in the sides of element 19 being dependent upon the height of the terminal pile-up and therefore the number of terminals 16, 17 in strips X, X' respectively.

A screw 24 preferably carried by element 18 of the clamping device, having its end bearing against a metal plate 50 is provided for compressing the terminal pile-up thus formed for holding the contact portions 14, 15 of the terminals 16, 17 in engaged relation with each other with considerable contact pressure, while making possible to easily and quickly disconnect these contacts without necessitating the making of any soldered wire connections to the terminals 16 and 17 carried by strips X and X'.

The element 19 of the clamping device is provided at its base with oppositely disposed lugs 25 and 26 for securing the clamping device on a supporting base 27 by a number of screws, shown in Figs. 4 and 5.

In the use of the multi-contact quick detachable connecter of this invention, incoming wires are secured as by soldering to the notched ends of terminals 16 and 17 of the strip X and the outgoing wires soldered to the notched ends of the terminals 16 and 17 of the other strip X' so that upon the creasing of the strips as shown in Figs. 2 and 4, the contact portions 14 of terminals 16 of the strip X will engage the contact portions 14 of terminals 16 of the other strip X' with the contact portions 15 of terminals 17 of strip X' engaging the contact portions 15 of the terminals 17 of strip X after which these strips are placed in the clamping device shown in Fig. 4 formed by the U-shaped telescopic engageable members 18 and 19 and the screw 24 tightened for securing the proper contact pressure between the contacting portions 14 and 15 of terminals 16 and 17 of each strip.

According to this construction the incoming wires connected to the terminals 16 and 17 of strip X may be collectively disengaged from the outgoing wires connected to contacts 16 and 17 of strip XI upon the loosening of their tightening screw 24 and the subsequent disengagement of element 18 of the clamping device from element 19 and this as above mentioned without making necessary the breaking of any soldered connection.

What is claimed is:

1. In a multi-contact connector device, a pair of insulating strips folded in substantially zig-zag formation, a plurality of terminal members carried by said strips, the terminals of one strip engaging the terminals of the other strip, and means for holding said terminals in engaged relation.

2. In a multi-contact connector device, a pair of insulating strips folded in substantially zig-zag formation, a plurality of terminals embedded in said strips and having contact portions protruding through the surface thereof, the terminals of one strip engaging the terminals of the other strip, and a clamping device for holding said terminals in engaged relation.

3. In a multi-contact connector device, a pair of insulating strips folded in substantially zig-zag formation, a plurality of terminal members carried by said strips, the terminals of one strip engaging the terminals of the other strip, and means for holding said terminals in engaged relation, said means being adjustable for holding a variable number of terminals in each of said strips.

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