

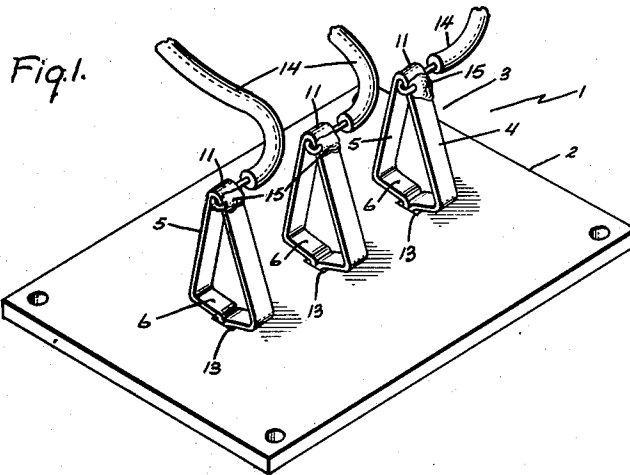
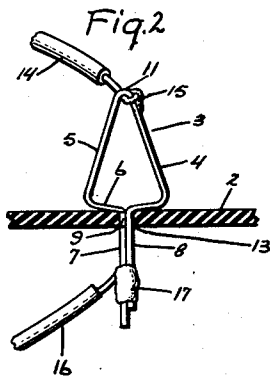
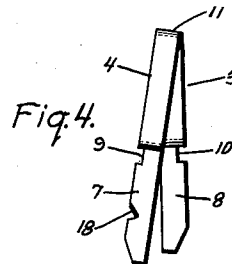
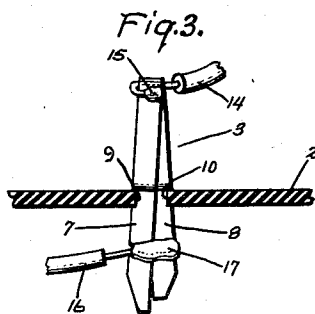
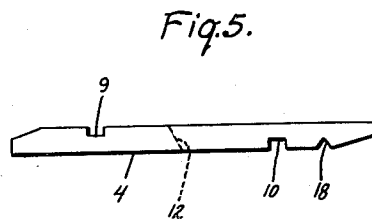
July 12, 1960

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2,945,205

ELECTRICAL TERMINAL AND TERMINAL BOARD ASSEMBLY

Filed Oct. 18, 1956



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2,945,205

ELECTRICAL TERMINAL AND TERMINAL BOARD ASSEMBLY

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Filed Oct. 18, 1956, Ser. No. 616,718

2 Claims. (Cl. 339—198)

This invention relates to terminals for making electrical connections and to terminal board assemblies.

Electrical terminals are commonly used for making electrical connections, for example, between an internal lead of an electrical device, such as a transformer or motor, and an external lead. One or more electrical terminals are frequently arranged on a board, commonly formed of insulating material, and the resulting assembly is generally referred to as a terminal board. In many small electrical devices, such as small transformers, both the external lead and the internal lead of the device with which the terminal is associated are soldered to the terminal rather than being connected thereto by other means such as screws. In such small devices, the terminals themselves and their assembly on terminal boards may represent an appreciable portion of the over-all cost of the device. It is therefore desirable to provide an electrical terminal of the type to which electrical leads may be connected by soldering characterized by its simplicity, economy, and ease of assembly on a terminal board. It is further desirable that such a terminal be held in assembled position on a terminal board without the necessity for using separate fastening devices such as screws.

It is, therefore, an object of this invention to provide an improved electrical terminal incorporating the desirable features set forth above.

Another object of this invention is to provide an improved terminal board assembly in which the terminal is held in assembled relation on the terminal board without the use of auxiliary fastening devices.

Further objects and advantages of this invention will become apparent by reference to the following description and the accompanying drawing, and the features of novelty which characterize this invention will be pointed out with particularity in the claims annexed and forming a part of this specification.

This invention in one aspect, provides an electrical terminal board assembly having a terminal board member formed of relatively thin sheet material and having an opening formed therein. A terminal member is provided formed of a single elongated strip of relatively narrow and thin conductive material, the terminal having a loop portion formed therein and terminating in a pair of transversely adjacent leg portions. The loop portion is arranged on one side of the terminal board member and thus may have an electrical lead connected thereto, and the leg portions extend through the opening and project on the other side for connection of another electrical lead thereto. Each of the leg portions has a notch formed in the edge thereof, these notches being formed in opposite edges of the strip and respectively engaging opposite edges of the opening in the terminal board member. The terminal member is formed so that the leg portions are normally out of axial alignment, thus, the leg portions must be deformed toward axial alignment for insertion in the terminal board member opening and thereafter resiliently bias the notches into engagement with the edges of the opening thereby to hold the terminal in

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assembled position on the terminal board member without the use of auxiliary fastening devices.

In the drawing:

Fig. 1 is a view in perspective showing a terminal board assembly incorporating this invention;

Fig. 2 is an end view, partly in section, of the improved terminal and terminal board of this invention;

Fig. 3 is a side elevational view, partly in section, further illustrating the improved terminal and terminal board of this invention;

Fig. 4 is a side elevational view of the improved terminal of this invention prior to assembly on the terminal board; and

Fig. 5 is a developed view of the improved terminal of this invention.

Referring now to the drawing, the improved terminal board assembly of this invention, generally identified as 1, comprises a terminal board member 2 preferably formed of suitable relatively thin sheet insulating material, and a plurality of terminal members 3.

Each of the terminal members 3 is formed of a single elongated strip 4 of relatively narrow and thin conductive material, such as brass, which may be suitably plated, as with cadmium. Each terminal member 3 has a generally triangular-shaped loop portion 5 formed therein with its side 6 having a pair of transversely adjacent leg portions 7 and 8 depending therefrom. The leg portions 7 and 8 respectively have notches 9 and 10 formed in the edges thereof, the notches being formed in opposite edges of the strip 4 and being in transverse alignment. The apex 11 of loop 5 is formed along a line 12 which is disposed at an angle to the sides so that the leg portions 7 and 8 of the terminal 3 are normally out of axial alignment, as best seen in Figs. 4 and 5.

The terminal board member 2 is provided with a plurality of openings 13, these openings having a width which is wider than the width of strip 4 and narrower than the normal axial distance between the bases of notches 9 and 10 in leg portions 7 and 8 prior to assembly of the terminal 3 on the terminal board 2. In order to assemble a terminal 3 on the terminal board 2, legs 7 and 8 are deformed in the direction of axial alignment and inserted through an opening 13 so that the loop portion 5 is disposed on one side of terminal board member 2 and legs 7 and 8 project on the other side thereof. Notches 9 and 10 in legs 7 and 8 are resiliently biased into engagement with the edges of the opposite sides of the opening 13 by virtue of the axial deformation of the terminal member 3, as best seen in Fig. 3.

An external electrical lead 14 may then be connected to the loop portion 5 by soldering, as at 15 and an internal electrical lead 16 may similarly be connected to the leg portions 7 and 8 by soldering, as at 17. A notch 18 may be formed in one of the legs 7 and 8 to facilitate the attachment of leads 16 thereto.

It will now be seen that I have provided a terminal which is formed of only a single strip of conductive material and which can be readily attached to a terminal board without requiring the use of auxiliary fastening devices. It will also be readily seen that this terminal is characterized by its extreme simplicity and ease of assembly on the terminal board.

While I have illustrated and described a specific embodiment of this invention, further modifications and improvements will occur to those skilled in the art and I desire in the appended claims to cover all modifications which do not depart from the spirit and scope of this invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. An electrical terminal board assembly comprising a terminal board member formed of relatively thin sheet

insulating material and having an opening formed therein, and a terminal member formed of a single elongated strip of relatively narrow and thin conductive material, said terminal having a generally triangular shaped loop portion formed therein with an apex for providing a connection for at least one electrical lead and a base having a pair of transversely adjacent substantially straight leg portions depending therefrom dividing said base into a pair of laterally extending base members to provide support for said terminal member, said loop portion being arranged on one side of said terminal board member for connection of an electrical lead thereto, said leg portions extending through said opening and projecting on the other side of said terminal board member for connection of another electrical lead thereto, each of said portions having a notch formed in an edge thereof, said notches being formed in opposite edges of said strip and respectively engaging opposite edges of said terminal board member opening, said terminal member being formed so that said leg portions are normally out of axial alignment whereby said leg portions may be deformed in substantially parallel planes toward axial alignment for insertion in said terminal board member opening and thereafter resiliently bias said notches into engagement with said opposite edges of said terminal board member opening thereby to hold said terminal member in assembled position on said terminal board member.

2. An electrical terminal board assembly comprising a terminal board member formed of relatively thin sheet insulating material and having an opening formed therein, and a terminal member formed of a single elongated strip of relatively narrow and thin conductive material, said terminal member having a generally triangular shaped loop portion formed therein with an apex for providing a connection for at least one electrical lead and a base having a pair of transversely adjacent sub-

stantially straight leg portions depending therefrom and dividing said base into a pair of laterally extending base members to provide support for said terminal member, each of said leg portions having a notch formed in one edge thereof, said notches being formed in opposite edges of said strip, said terminal member being formed so that said leg portions are normally out of axial alignment, said terminal board member opening having one dimension wider than the width of said strip and narrower than the normal axial distance between the bases of said notches, said terminal member having said leg portions extending through said terminal board member opening with said leg portion notches being respectively resiliently biased into engagement with the edges of opposite sides of said terminal board member opening by axial deformation in substantially parallel planes of said leg portions whereby said loop portion is positioned on one side of said terminal board member for making one electrical connection thereto and said leg portions are positioned on the other side of said terminal board member for making another electrical connection thereto.

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