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[56]

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[54] **TRANSFORMER CONNECTION**
4 Claims, 2 Drawing Figs.

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336/107, 339/29
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105, 107, 192; 339/176 M, 17 F, 29; 317/101 CC,
100, 101 DH

ABSTRACT: A plurality of electrical leads retained in spaced parallel relation and passing through apertured guide blocks disposed at both ends of the leads. The conductor portions of the leads extend through the apertures for connection at one end to terminal lugs on a transformer housing. The opposite ends of the leads are stripped to permit the connection thereof to a circuit board.

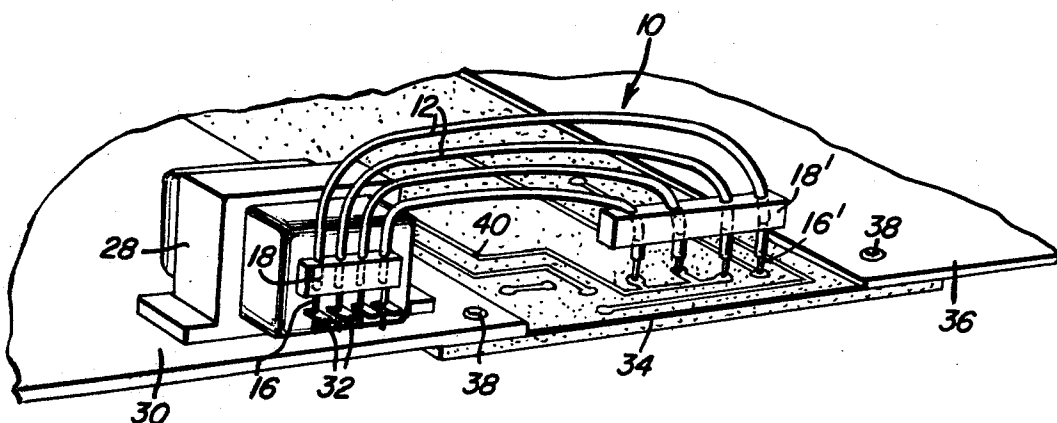


Fig. 1

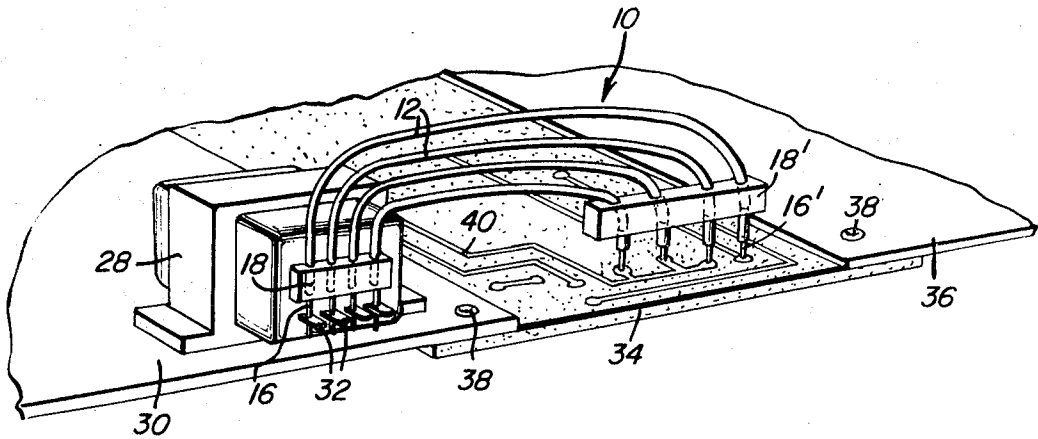
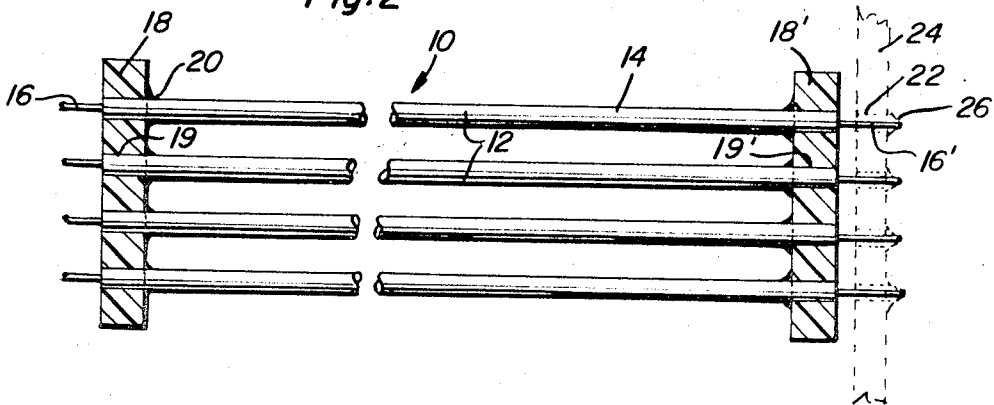


Fig. 2



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TRANSFORMER CONNECTION

The present invention relates to electrical connectors and more particularly to transformer connectors.

In the past, connections between a transformer and an adjacently situated circuit board has required hand wiring. Although certain applications permit the employment of miniaturized transformers, which may be directly mounted on a circuit board, larger transformers are frequently too heavy for mounting on a circuit board. Thus, heretofore, electrical hand wiring has generally been required when the transformer is mounted at a secure and somewhat remote point with respect to a circuit board.

A primary object of the present invention is the construction of a transformer connector assembly which permits larger size transformers to be securely mounted to a chassis adjacent a circuit board. Means are provided for grouping and connecting the transformer leads to the circuit board by retaining the connecting leads in a fixed precise and orderly arrangement making a rapid plug-in operation requiring a minimum of manual effort. The present invention contemplates the utilization of apertured anchor strips or blocks through which a plurality of parallel connecting leads pass. By attaching one of the blocks to the coil body of a transformer, strain relief is provided to protect the fine coil wires of the transformer. By attaching a similar block to the opposite ends of the parallel-spaced leads, the lead ends are retained in fixed parallel relation thereby orienting them for simultaneous connection to a circuit board.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a perspective view illustrating the present transformer connector assembly in conjunction with a printed circuit board.

FIG. 2 is a partial sectional view illustrating the disposition of connector leads in apertured anchor strips permitting the retention thereof in spaced parallel relation. One end of the connector lead being shown connected to a circuit board or panel.

Referring specifically to the drawings, reference numeral 10 generally denotes a connector lead assembly including a number of parallel spaced connecting leads 12 having insulating sheathing or sleeves 14 thereon. The insulation may be color coded to facilitate the connection of the leads to appropriate points on a circuit board. The ends of each connecting lead 12 is stripped thereby exposing the conductor portions 16.

In order to retain the leads 12 in spaced parallel relation, a first vinyl plastic anchor strip 18 having apertures 19 formed therethrough permits the insertion of end portions of the connecting leads therethrough. Plastic welds 20 are deposited around the outer opening of the apertures and connect the anchor strip with the plastic sheathings of the connecting leads 12 in secured relation thereby inhibiting the displacement of the connecting leads from the anchor strip. A similar arrangement exists at the opposite end of the connecting lead as indicated by the primed numbers.

FIG. 2 illustrates an exemplary application of the present lead assembly in connection with a printed circuit panel 24 having connector eyelets 22 therein. As will be noted, the stripped ends of the connectors having the wire conductors extending outwardly therefrom are inserted within the eyelets and soldered thereto for electrical connection with the circuit board as indicated by 26.

FIG. 1 illustrates the employment of the present invention with a transformer 28 mounted on a chassis plate 30. The

transformer includes terminal lugs or tabs 32 electrically connected to the coil windings. The anchor strip 18 is suitably attached to the body of the transformer by such means as gluing or the like thereby permitting the passage of conductors 16 through the terminal lugs 32. Electrical connection between the conductors and terminal lugs is ensured by means soldering, wire winding, or the like.

As will be noted, a typical installation employing the present invention includes the disposition of a printed circuit board 34 between the aforementioned chassis plate 30 and a second chassis plate 36, attachment being made by means of suitable fasteners 38.

Connection between the transformer and the printed circuit board 34 becomes a simple matter because the locating strip 18' at the free ends of connector leads 12 retain the conductor ends in fixed spaced parallel relation permitting the simultaneous insertion of the conductors 16' into preselected eyelets 42, these eyelets being electrically connected to conductor strips 40 on the circuit board 34. The conductor ends 16' received within the eyelets 42 may be electrically connected thereto by conventional soldering techniques.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

I claim

1. In combination with an electrical component mounted in spaced relation to a circuit board, a connector assembly comprising a plurality of conductor lead members having first and second ends, an anchor strip secured to the component and having apertures therein for receiving the first end portions of said lead members, means securing said first end portions in said apertures, said first ends extending through said apertures for electrical connection of the component to the circuit board, said lead members including insulating sleeves thereon, and said securing means including plastic welds connected between said sleeves and said strip.

2. In combination with an electrical component mounted in spaced relation to a circuit board, a connector assembly comprising a plurality of conductor lead members having first and second ends, an anchor strip secured to the component and having apertures therein for receiving the first end portions of said lead members, means securing said first end portions in said apertures, said first ends extending through said apertures for electrical connection of the component to the circuit board, a second strip having apertures therein for receiving the second end portions of said lead members, means securing said second end portions in said apertures, said second ends extending through said apertures for electrical connection to the circuit board.

3. The assembly set forth in claim 2 wherein said means for securing said second end portions in said apertures include plastic welds connected between said sleeves and said second strip.

4. A transformer connection assembly comprising in combination with a transformer, having terminal lugs electrically connected to transformer windings, a plurality of conductor lead members having first and second end portions, first and second strip members disposed at each of said end portions, said members having apertures therein for receiving said lead members, the ends of said lead members extending through said apertures for permitting electrical connection thereto, said first strip member being attached to said transformer to permit the connection of the lead member ends received therein to said terminal lugs, the second ends of said lead members being adapted for connection to a circuit board.