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W. D. BOHANNON, JR  
ELECTRICAL TERMINAL BOARDS

3,034,087

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FIG. 1-

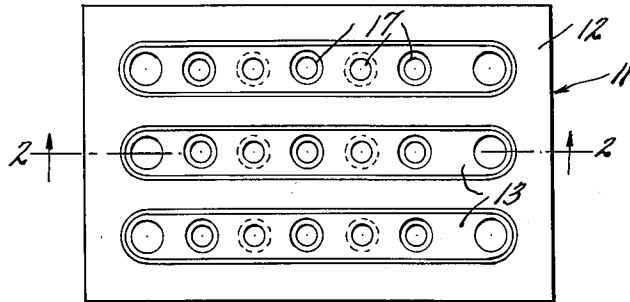


FIG. 2-

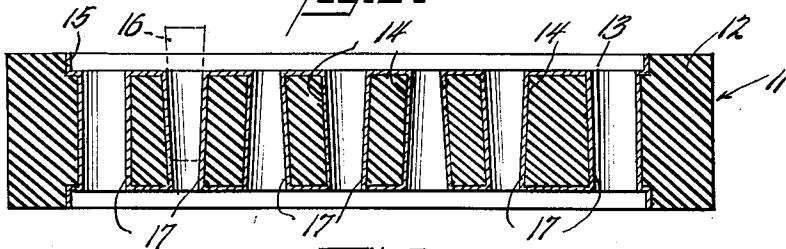


FIG. 3-

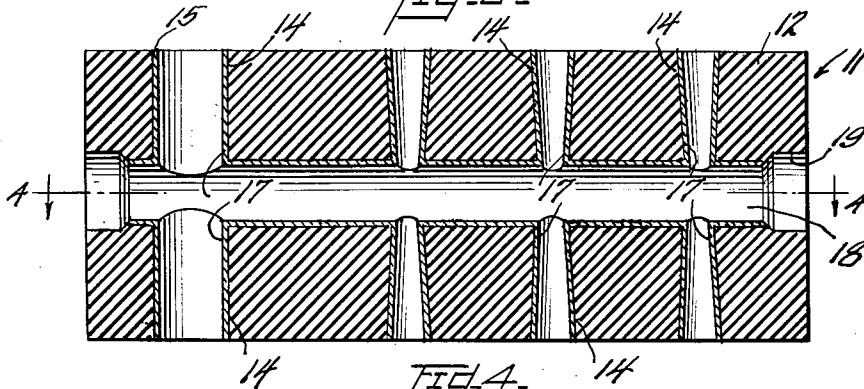
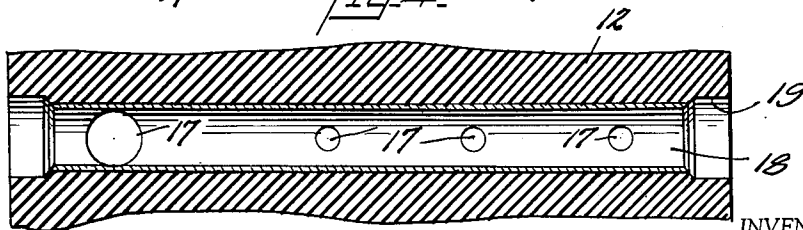


FIG. 4-



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## ELECTRICAL TERMINAL BOARDS

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1 Claim. (Cl. 339—17)

This invention relates to electrical terminal boards and a method of making such terminal boards, and more particularly to electrical terminal boards having a plurality of spaced apertures, the walls of which are coated with a thin continuous layer of an electrically conductive material which is interconnected and interlocked between the apertures in the board.

An object of the present invention is to provide an improved terminal board.

Another object is to provide an insulated terminal board having a plurality of spaced apertures formed therethrough, the walls of the apertures being coated with a thin layer of electrically conductive metal which is electrically connected and interlocked between the apertures of the board.

A terminal board illustrating certain features of this invention may include a board of insulating material, and a plurality of terminal receptacles electrically connected and interlocked within said board by a coating of an electrically conductive material.

More particularly, a terminal board illustrating certain features of this invention may include a board of insulating material having a plurality of apertures formed therethrough, and a thin layer of electrically conductive material deposited upon walls of the apertures forming electrically connected and interlocked terminal receptacles within the board by the interlocking conductive material positioned in surface recesses in the board which join the apertures.

The method of making a terminal board illustrating certain features of this invention may include the steps of forming a board of insulating material with a plurality of apertures therethrough, and coating the walls of the apertures with a thin layer of electrically conductive material to form electrically connected and interlocked terminal receptacles.

A complete understanding of the invention may be had by reference to the following detailed description when read in conjunction with the appended drawings, in which:

FIG. 1 is a plan view of a preferred embodiment of the invention showing the interlocking material located within recesses in the insulating board;

FIG. 2 is a longitudinal sectional view of the terminal board taken along line 2—2 of FIG. 1;

FIG. 3 is a longitudinal vertical section of a second embodiment of the invention wherein the interlocking material is located within apertures and a bore in the insulating board; and

FIG. 4 is a sectional view taken along line 4—4 of FIG. 3.

Referring to the drawings, FIGS. 1 and 2 illustrate a terminal board designated generally as numeral 11. An elongated board 12 of insulating material, such as Bakelite, polyvinyl resin, epoxy resin, diallyl phthalate, or the like, has formed in opposite surfaces a pair of corresponding recesses 13 in parallel relation to one another. A plurality of apertures 14 extend through the board 12 and open into the recesses 13. A thin continuous coating 15 of an electrically conductive material, such as copper, silver, aluminum, etc., which may be only 0.005 inch

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thick, is deposited in the recesses 13 and on the walls of the apertures 14.

That portion of the coating 15 which is deposited upon the walls of the apertures 14 frictionally and electrically contacts terminal plugs 16 connected to any desired electrical equipment (not shown). The apertures 14 when coated form terminal receptacles 17. The insulating material of the board 12 provides sufficient physical support for the holding of plugs 16 within the receptacles 17. The conductive coating 15 which is deposited in the recesses 13 connects the terminal receptacles 17 into a single electrically conductive unit securely interlocked with the board 12. To increase the wear or corrosion resistive qualities of the coating 15 a thin overlay of protective electrically conductive material, such as gold, rhodium, etc., which may be only a fraction of the total thickness of the coating 15, may be deposited upon the coating.

A second embodiment of the invention is shown in FIGS. 3 and 4 to include an insulating board 12 having an axial bore 18 and a plurality of apertures 14 which extend through the board and intersect the bore 18 transversely to the axis thereof. An electrically conductive coating 15 is applied to the walls of the bore 18 and the apertures 14 in the same manner as explained above. The terminal receptacles 17 are connected into a single electrically conductive unit securely interlocked with the board 12 by the coating 15 applied to the walls of the bore 18. The electrically conductive coating may terminate and thus be spaced from the surfaces of the board 11 by the counterbores 19 to isolate the conductive coating within the board as a shock preventive feature.

By the practice of the invention herein described, a thin coating of a metal on an insulating material is accomplished without the usual problems attending the bonding of metals to plastics. The unique interlocking of coating metal in recesses and apertures in the terminal board provided by the instant invention obviates the need for an adhesive to bond the coating to the material of the board.

Numerous substitutions in and modifications of the above-described article of manufacture and method of manufacturing the article may be made without departing from the spirit and scope of the invention.

What is claimed is:

A terminal board for receiving tapered plugs comprising an elongated board of insulating material, a bore formed through the center and in the longitudinal direction of said board, a plurality of pairs of opposed tapered apertures formed in opposing sides of said board, each opposed pair of said apertures extending to and having surfaces converging towards said bore and having an axis transverse to the axis of said bore, a thin electrically conductive coating incapable of self-support formed on the walls of said bore and said apertures and extending to the outer surfaces of said board, the coating of said apertures and said bore joined in a single conductive interlocked unit within the board, and said board having counterbores formed in the ends of said bore to remove portions of said conductive coating.

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