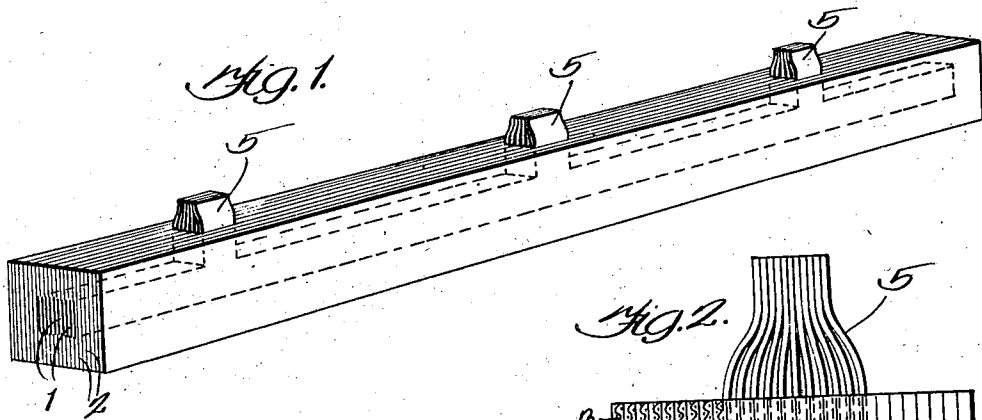
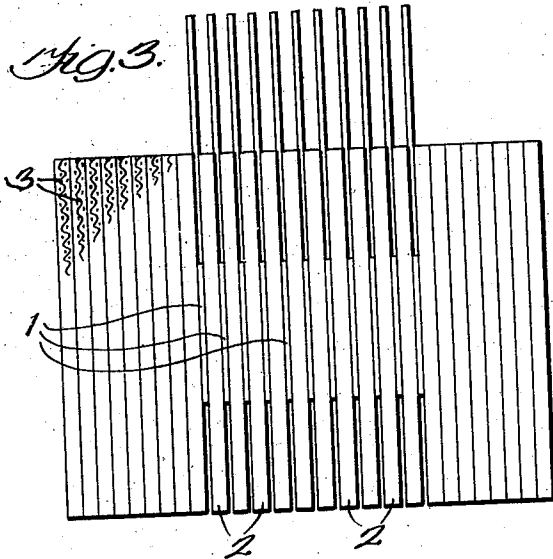
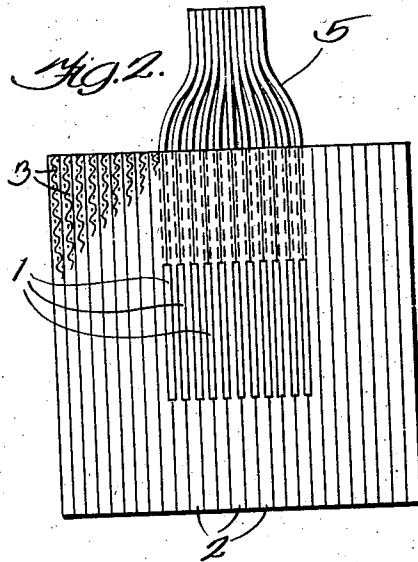
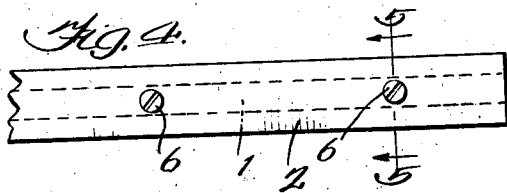
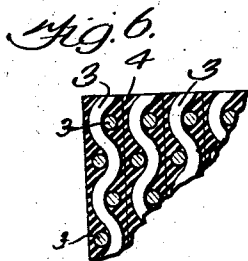
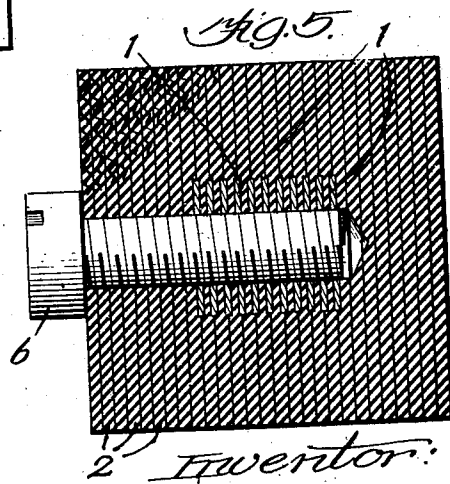


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W. J. O'NEILL
INSULATED CONDUCTOR
Filed March 7, 1927

1,765,734



Inventor:
William J. O'Neill
By *L. L. Briggs* Atty.

UNITED STATES PATENT OFFICE

WILLIAM J. O'NEILL, OF RIVER FOREST, ILLINOIS, ASSIGNOR TO ELMER J. MERCIL,
OF OAK PARK, ILLINOIS

INSULATED CONDUCTOR

Application filed March 7, 1927. Serial No. 173,488.

My invention relates to insulated conductors and a method of producing the same. The conductor is surrounded by and has a terminal extending through a body of insulation.

The conductor of my invention as it is preferably practiced comprises a series of spaced apart sheet metal portions arranged with their broad faces parallel and abreast and a block of insulating material holding said sheet metal portions in assembly and having portions thereof entering the spaces between said sheet metal portions. This block of insulating material is desirably composed of a series of sheet insulating portions alternated with the sheet metal portions, the insulation being plastic when heated and being heated and thereafter compressed when assembled with the sheet metal portions, as stated; whereupon the sheet insulating portions are merged, preferably with the aid of pressure, to form the block of insulation which desirably is of an extent to surround said sheet metal portions, though the invention is not to be thus restricted. The block of insulation desirably contains a transverse aperture through which a terminal extends that is in electrical connection with all of the aforesaid sheet metal portions. There may be a number of such terminals if the sheet metal portions are to constitute a bus bar. The terminals may be in the form of screws which are threaded into electrical and mechanical connection with the sheet metal portions or the sheet metal portions may have ears integrally formed therewith extending laterally through the block of insulation and which ears are preferably collapsed together upon the exterior of the insulating block to constitute the terminal or terminals.

The invention will be more fully explained in connection with the accompanying drawing in which Fig. 1 is a perspective view illustrating the preferred form of conductor; Fig. 2 is an end view, on a larger scale, of the conductor as illustrated in Fig. 1; Fig. 3 illustrates one step in the process; Fig. 4 is a side view showing a modification; Fig. 5 is a sectional view on line 5—5 of Fig. 4, on a

larger scale; and Fig. 6 is a detailed sectional view, on a larger scale, showing more clearly the nature of the preferred form of insulation.

The series of sheet metal portions 1, which are preferably separate pieces, are alternated with and abreast of the sheet insulating portions 2, the broad faces of all sheet portions being parallel and abreast. The insulating portions 2 are also preferably separate pieces and are desirably formed of ribbons of canvas 3 which are thoroughly impregnated with some insulating compound 4, initially plastic such as a phenol condensation product, that is of a nature to become hard under the influence of heat and pressure. When the parts have become assembled, as illustrated in Fig. 3, the sheet insulating portions 2 are heated or they may be assembled while in heated condition. The insulation upon the various ribbons of canvas will merge into an integral mass when pressure is applied perpendicularly to the broad faces of the sheet portions whereby the product illustrated in Figs. 1, 2 and 5 results.

As illustrated, the sheet metal portions 1 are narrower than the sheet insulating portions 2 and are midway between the longitudinal sides of the latter portions so that the insulating portions 2 project laterally beyond the sheet metal portions 1 in both directions with the result that the block of insulation which is formed consequent upon the pressure applied perpendicularly to the sheet metal portions is shaped to completely surround the sheet metal portions except where these portions are provided with laterally extending ears 5, integrally formed therewith, and which project laterally through the insulating block, as indicated in Figs. 1, 2 and 3. As illustrated in Fig. 1, a number of sets of ears 5 are provided, the ears of each set being preferably collapsed together to constitute a terminal. Instead of providing the ears 5, I may employ the screws 6 which are threaded through the insulating block into firm mechanical and electrical connection with the sheet metal portions 1, Figs. 4 and 5. Changes may be made without departing from the invention.

Having thus described my invention, I claim:

1. A conductor comprising a plurality of sheet metal portions, a plurality of sheet insulating portions adapted to be rendered plastic under the influence of heat and positioned in the spaces between and projecting laterally in both directions beyond the sheet metal portions and there merged by the application of heat, and means electrically connecting all of the sheet metal portions, said means extending laterally from each sheet metal portion to the exterior of the formed insulation.
2. A conductor comprising a plurality of sheet metal portions, a plurality of sheet insulating portions adapted to be rendered plastic under the influence of heat and positioned in the spaces between and projecting laterally in both directions beyond the sheet metal portions and there merged by the application of heat, and means electrically connecting all of the sheet metal portions and extending to the exterior of the formed insulation.
3. A conductor comprising a plurality of sheet metal portions, a plurality of sheet insulating portions adapted to be rendered plastic under the influence of heat and positioned in the spaces between and projecting laterally in both directions beyond the sheet metal portions and there merged by the application of heat, and means electrically connecting all of the sheet metal portions and extending to the exterior of the formed insulation, said means including an integral lateral ear formed on each metal sheet with the free ends of the ears of the several plates collapsed into electrical contact one with the other.

In witness whereof, I hereunto subscribe my name.

WILLIAM J. O'NEILL.

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