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J. MAJCE

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METHOD OF MANUFACTURING WIRE COILS

Filed Nov. 7, 1927

Fig. 1.

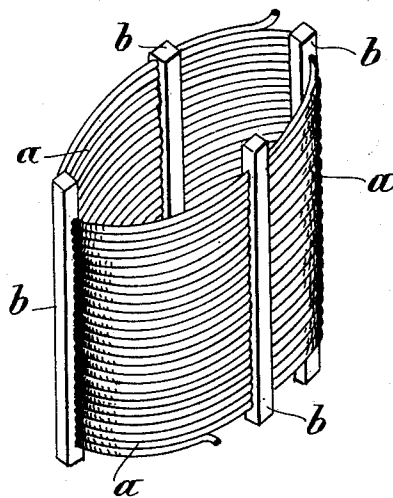


Fig. 2.

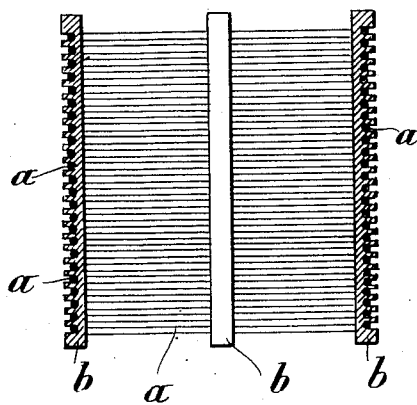
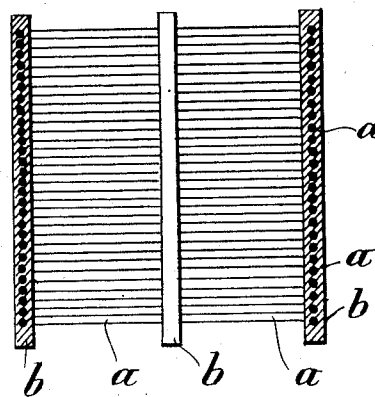


Fig. 3.



INVENTOR:

Johann Majce

BY: Rupp, Boyer & Baker

ATTORNEYS

UNITED STATES PATENT OFFICE

JOHANN MAJCE, OF VIENNA, AUSTRIA

METHOD OF MANUFACTURING WIRE COILS

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Wire coils for electro-technical purposes the windings of which are wound on rods of insulating material have been hitherto manufactured by cutting channels or the like in the rods for holding the individual convolutions and by laying the wires, during winding, in the channels. The making of the channels and the winding or coiling, which call for great precision and care, involve great loss of time.

The present invention consists of a method of manufacturing such coils, in which the cutting of the channels or the making of recesses or the like in the rods of insulating material is entirely eliminated, as the wire convolutions are laid onto smooth rods, but are nevertheless immovably mounted thereon. The present method is therefore much simpler and more rapid and permits a considerably greater saving in time and labour in the production of the coils than has hitherto been possible.

The invention is illustrated by way of example in the accompanying drawings, in which—

Fig. 1 is a perspective view of a coil made in accordance with the present invention; and

Figs. 2 and 3 are vertical sectional views illustrating the appearance of the coil at different stages in its manufacture.

The wire convolutions *a* of the coil shown in Fig. 1 are wound onto smooth rods *b* of insulating material in the usual manner. During the winding the rods are softened, preferably by heating the wire convolutions by sending an electric current through the same. In consequence of the heating of the wire convolutions the material of the rods *b* on the surface, i. e., under the convolutions, becomes soft and the convolutions form channels in the rods, in which they become automatically embedded (Fig. 2).

If desired the upper side of the rods can also be smoothed by means of hot elements. The material between the wire convolutions becomes softened and spread over the wires in such a manner that the latter are covered completely by the material of the rod at the points where they lie, the upper surface be-

coming smooth and the coil assuming the appearance shown in Figs. 1 and 3.

The method can be applied with all rods composed of insulating material used for such coils and can also be carried out by softening the rods carrying the windings in any desired manner.

What I claim is:—

1. The method of manufacturing wire coils which consists in supporting a plurality of rods of readily fusible insulating material in spaced relation to each other, and winding a length of wire in heated condition in contact with one side of each of said rods, thereby to melt the material of the rods at the points of contact with the wire and cause said wire to embed itself in the rods.

2. The method of manufacturing wire coils which consists in supporting a plurality of rods of readily fusible insulating material in spaced opposing relation to each other, winding a length of wire around said rods in contact with one side thereof, and simultaneously passing an electric current through said wire to heat the same and melt said rods at their intersections with said wire thereby to cause the wire to embed itself in the rods.

3. The method of manufacturing wire coils which consists in supporting a plurality of rods of readily fusible insulating material in spaced opposing relation to each other, winding a length of wire under tension around said rods in contact with one side of each, and simultaneously passing an electric current through said wire to heat the same and melt said rods at their intersections with said wire thereby to cause the wire to embed itself in the rods, and smoothing the material of said rods over the wire embedded therein.

In testimony whereof I have affixed my signature.

JOHANN MAJCE.