Feb. 18, 1941. E. R. TROCHE 2,232,085

INSULATED ELECTRIC CONDUCTOR

Filed May 3, 1939

FIG. 1

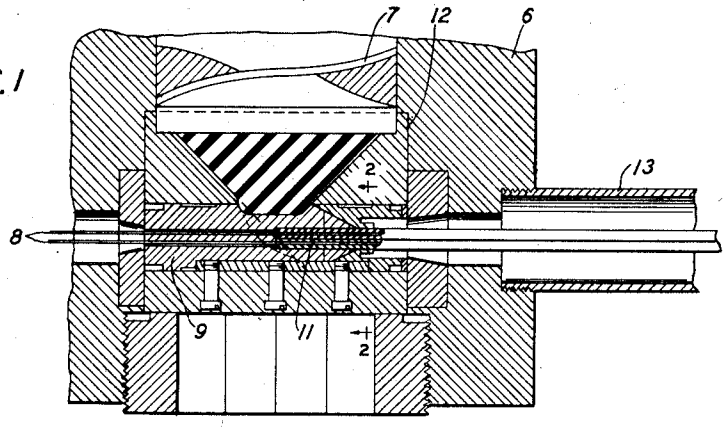


FIG. 2

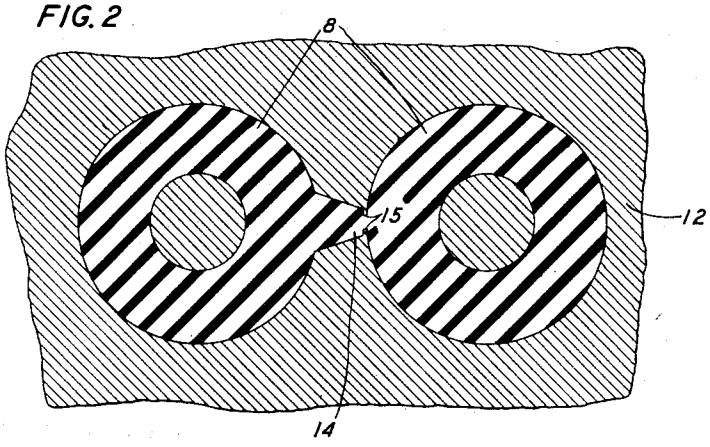


FIG. 3

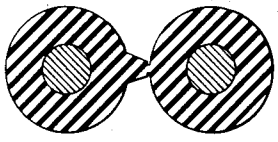
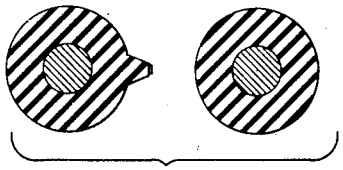


FIG. 4



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INSULATED ELECTRIC CONDUCTOR

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8 Claims. (Cl. 174—112)

This invention relates to an insulated electric conductor and more particularly to a duplex or multiple conductor having a polarity indicating rib.

When using duplex conductors in direct current systems it is frequently necessary to determine the polarity of the conductors at a point remote from the current source.

An object of the present invention is to provide a duplex or multiple conductor in which the connecting fin serves also the function of polarity indicator.

In accordance with one embodiment of the invention, the fin connecting a pair of insulated conductors is made of triangular shape so that when the conductors are severed the fin remains on one conductor and detaches from the other so as to give an indication of polarity.

A complete understanding of the invention may be had by reference to the following description taken in conjunction with the accompanying drawing, in which

Fig. 1 is a horizontal section of an insulating head of a machine for applying insulation to a duplex conductor;

Fig. 2 is an enlarged sectional view of the die taken on line 2—2 of Fig. 1;

Fig. 3 is a sectional end view of a duplex conductor embodying the invention; and

Fig. 4 is a similar view showing the duplex conductor separated into two individual conductors.

Referring now more in detail to the drawing, Fig. 1 shows an extrusion head comprising a block 6 having a cylindrical bore in which an archimedian screw 7 rotates to feed the rubber to the die block. Two conductors 8 are shown being led into a core tube holder 9, which supports a core tube 11 having apertures therein through which the conductors are passed. A die 12 surrounds the forward end of the core tube and the thickness of the insulation is determined by the size of the opening between the core tube and the die 12. The insulated conductors pass into a vulcanizing or treating chamber 13, from which they pass to a take-up reel, not shown. This apparatus is more fully described in the patent to G. L. Cherry 1,823,885, September 22, 1931.

The die is so shaped as to leave a triangular fin 14 between the conductors with the base of the triangle attached to one of the conductors and the apex of the triangle attached to the other. Since the apex of the triangle is of smaller cross section than the base, it is evident that when the conductors are pulled apart they will separate at the apex of the triangle, leaving the triangular fin on one of the conductors while the other conductor is substantially round. Thus the conductor having the base of the triangle attached thereto may, for instance, be utilized as the positive conductor of a circuit, and the other conductor may be utilized as the negative conductor or vice versa. In this way the polarity of the conductors may be recognized at a distance from the source of current, and it may be recognized by touch in a poorly lighted location.

It has been found that it is desirable not to make the apex of the triangular fin too sharp. However, when the apex is made of too great a dimension it does not separate smoothly from the conductor to which it is attached and has a tendency to leave a slightly rough ridge. Where this is objectionable, the die may be shaped so as to have a pair of inward projections 15 at the apex of the triangular fin to reduce the section of the apex immediately adjacent the conductor to which it is attached. In this manner the conductor from which the fin is detached is left substantially smooth and round.

It will be understood that the nature and embodiments of the invention herein described are merely illustrative and that many changes and modifications may be made therein without departing from the spirit and scope of the invention.

What is claimed is:

1. A duplex or multiple insulated electric conductor having a non-symmetrical restricted and integral portion of insulation connecting between the conductors to indicate the polarity of the conductors.

2. A duplex or multiple insulated electric conductor having a connecting portion of insulation uniting the conductors and having a shape to produce a distinguishing configuration of insulation on at least one of the conductors when it is severed from another conductor.

3. A duplex or multiple insulated electric conductor having a wedge-shaped connecting portion of insulation extending between the conductors the apex of the wedge being adjacent one of the conductors and the base of the wedge being adjacent the other conductor to indicate the polarity of the conductors.

4. A duplex or multiple insulated electric conductor having a wedge-shaped connecting portion of insulation extending between the conductors and weakened portions of insulation located adjacent the apex of the wedge.

5. A duplex or multiple insulated electric conductor having a weakened portion of insulation

connecting the conductors and adapted to produce a distinguishing shape of insulation upon at least one conductor when it is severed from another conductor.

6. A duplex or multiple insulated electric conductor having a wedge-shaped connecting portion of insulation extending between the conductors and recessed portions of insulation adjacent the extremities of the wedge.

7. An insulation covered duplex conductor comprising a pair of insulation covered conductors united by an insulating connecting member having a greater mass adjacent one conductor than adjacent the other whereby upon separating the conductors an identifying fin will be left on one of the conductors.

8. A duplex or multiple insulated electrical conductor having a combined connecting and identifying portion between the conductors, said portion being of greater cross-section adjacent one conductor than adjacent the other.

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