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E. M. WOLF

2,705,735

ELECTRICAL CONDUCTORS

Filed Feb. 27, 1950

Fig. 1.

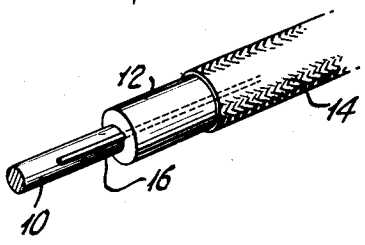


Fig. 2.

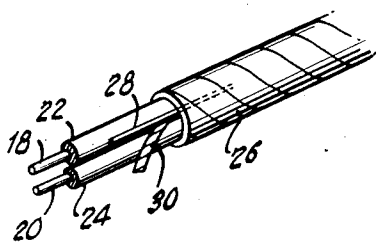


Fig. 3.

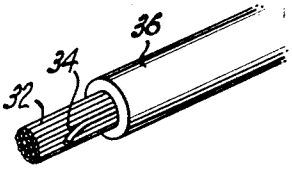


Fig. 4.

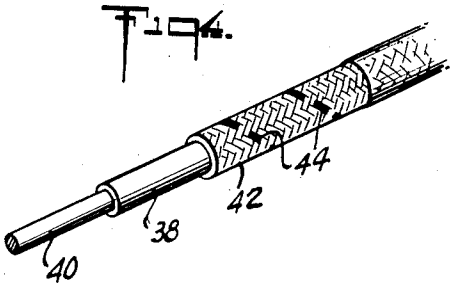


Fig. 5.

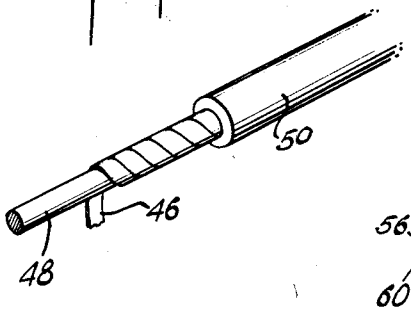
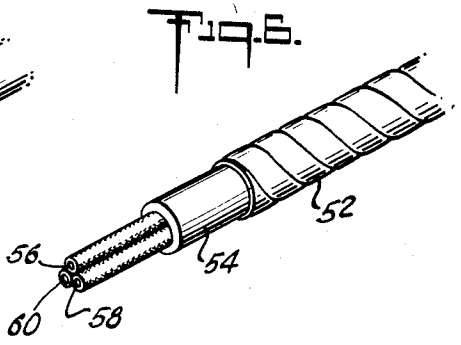


Fig. 6.



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2,705,735

ELECTRICAL CONDUCTORS

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Application February 27, 1950, Serial No. 146,423

2 Claims. (Cl. 154—2.25)

This invention relates to electrical conductors including insulated wires, cords, cables and the like, and to a method and means for identifying them.

The term conductor is used herein broadly, to cover structures having one or more lengths of conductive metal within the same insulation, and structures having one or more separately insulated lengths of conductive metal within the same jacket, and includes structures which are commonly referred to as cables, cords, wires and the like. It is thus inclusive of an electrically insulated cable comprising one or more conductors surrounded by insulation.

The term wire is also used broadly herein in referring to the identification member to include lengths of various different cross-sections including tape and ribbon-like as well as thread-like lengths irrespective of whether the identifying member also serves as a conductor.

It is often desirable to be able to identify electrical conductors as to date of installation, date of manufacture, name of manufacturer, voltage rating, construction details, etc. This is well recognized by the industry and various identification means have been employed including, printed tapes or sheets and colored threads incorporated physically in the conductor, or pigment applied to one of the materials comprising the conductor, and stenciling and embossing on conductor sheaths for example. None of these means heretofore used or suggested is fully satisfactory as the information which can be given is limited and with the passing of time the color or markings fade and are obliterated rendering positive identification impossible.

It is an object of this invention to overcome the deficiency of the prior art and provide a simple and effective method and structure for including desired information in an electrical conductor.

Other objects of the invention will be in part obvious or in part pointed out herein.

The invention will be best understood if the following description is read in connection with the drawing, in which,

Figure 1 is a perspective view of one form of conductor embodying the invention;

Figure 2 is a similar view of another form of conductor, embodying the invention;

Figure 3 is a similar view of another conductor structure embodying the invention;

Figure 4 is a similar view of another conductor structure embodying the invention;

Figure 5 is a similar view of another conductor structure embodying the invention; and

Figure 6 is a similar view of another form of conductor embodying the invention.

In all of the conductor structures disclosed herein by way of example, a member, preferably a length of iron wire, is included on which has been impressed a sound recording identifying the conductor and giving all details as to its construction, date and place of manufacture, voltage rating etc. which may later be desired. Thus a record is provided within each conductor structure which is not dependent upon color or external marking, and which may be preserved and, when desired, disclosed by well-known sound reproducing means, as for example by dissecting a very short length, for example from 6 to 10 inches of the cable, removing the magnetized wire therefrom and feeding it through a magnetic head and associated reproduction equipment.

The sound impressed member may take a number of different forms and be made of any suitable material, the latter depending to some extent upon the manner in which the member is incorporated within the conductor.

In Figure 1 an insulated conductor is shown comprising a metal, preferably copper, core **10**, a layer of insulating material **12**, and an outer covering **14**. Between the core **10** and the insulation **12** is a wire **16** having an identifying sound recording impressed thereon. The shape of wire **16** may be varied as desired.

In Figure 2 the electrical conductor comprises the cores **18** and **20** having the insulation layers **22** and **24** respectively, wrapped in a common jacket **26**, and the sound record bearing wire **28** which lies in the trough between the insulation layers **22** and **24** of the two cores and may be covered with the filler strip **30**.

In Figure 3 a structure is shown comprising a core formed of a number of highly conductive wires **32** such for example, as copper, and including the sound record bearing member **34**, all being enclosed in a common insulation **36**.

In Figure 4 the insulation layer **38** surrounding the core **40** is covered with a layer of braid **42** one of the strands of which is a member **44** impressed with an identifying sound recording.

In Figure 5 a sound recorded tape or serving **46** is shown spirally wrapped around the core **48** and beneath the covering **50**, and in Figure 6 a sound recorded armor **52** is shown around the covering layer **54** which encloses the three separated insulated cores **56**, **58** and **60**.

The method disclosed herein of identifying electrical conductors has the advantage of flexibility in its application to different conductor structures since the sound impressed member may be an added member, or a part of the core, or of a wrapping, braid or other covering, or of armor protecting the conductor structure as a whole. The identification thus provided is positive and may be as detailed as desired.

It will thus be seen that there has been provided by this invention a method and an article in which the various objects hereinabove set forth together with many thoroughly practical advantages are successfully achieved. As various possible embodiments might be made of the mechanical features of the above invention and as the art herein described might be varied in various parts, all without departing from the scope of the invention, it is to be understood that all matter hereinbefore set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

What I claim is:

1. The method of forming a cable having means of identification and including at least one conductor and one insulation covering, which comprises recording on a magnetizable wire a record of information relating to the cable and combining the wire with said conductor within the confines of said insulation covering.

2. The method of forming a cable having means of identification and including at least one conductor, an insulation covering around the conductor and a jacket around the insulation covering, which comprises recording on magnetizable wire a record of information relating to the cable and enclosing the insulated conductor and the wire within the confines of the jacket.

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