

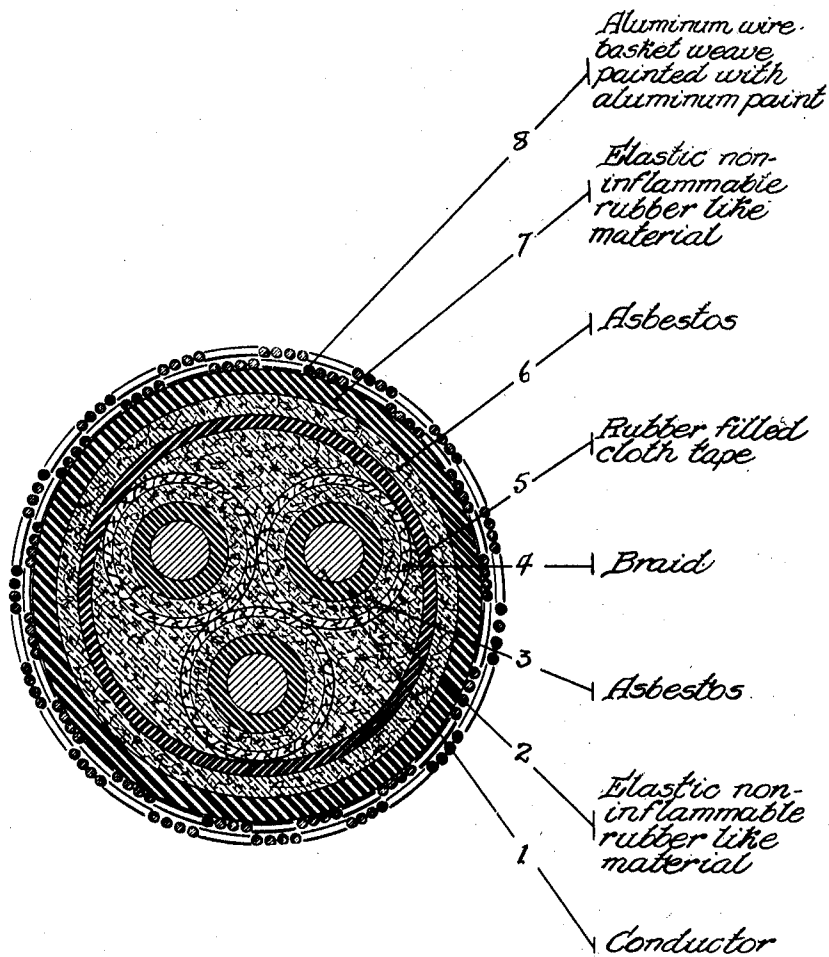
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ELECTRIC CABLE

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ELECTRIC CABLE

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2 Claims. (Cl. 173-266)

This invention relates to an improved electric cable and among the objects of the invention is the provision of a cable construction which is highly fire resistant; a construction in which the insulation of the cable will not detrimentally deteriorate if subjected to high temperatures over an extended period; a construction embodying insulation which is not affected by oils and greases; a construction in which tinning or otherwise coating the cable conductors is unnecessary, the insulating material employed not being detrimentally affected by contact with copper; and a construction which is highly moisture resistant and is also of such a nature as to provide water-tight and air-tight seals where it is necessary to pass the cable through the bulkheads of an air-tight compartment on shipboard, for example.

Other objects will appear hereinafter.

The accompanying drawing shows in cross section an embodiment of my invention.

A multi-conductor cable has been shown merely for purposes of illustration.

Referring to the drawing in detail, I designate the cable conductors which it is to be understood may be either of the solid type or of the stranded type.

Each conductor is insulated with material designated 2, which is an elastic, non-inflammable rubber like substance produced by dissolving a polymerized vinyl-halide at an elevated temperature in a substantially non-volatile organic solvent, the solution upon cooling forming a stiff rubber-like gel. The material is described in detail in United States Patents 1,929,453, dated October 10, 1933 and 1,983,949, dated December 11, 1934. The material 2 can be applied by extruding. In practice I have found that the wall thickness of the material 2 is in the neighborhood of from twelve to twenty-five mils.

Over the insulation 2 I apply felted asbestos 3 saturated with any of the well known flame-retarding moisture-resisting compounds. If desired the asbestos may be substituted by felted glass wool.

Over the layer 3 I apply a braid covering 4.

The required number of these insulated conductors are assembled with asbestos rovings saturated with flame-retarding moisture-resistant compound to produce a round core.

Over this core is applied a layer of rubber filled cloth tape 5, and then a layer of felted asbestos 6 impregnated and coated with flame-retarding moisture-resistant compound. If desired this asbestos may be substituted by felted glass wool.

Over this layer 6 I apply a sheath 7 of the same material as the insulation 2, and on the outside of all an aluminum wire basket-weave

braid 8 thoroughly painted with aluminum paint.

By employing the material 2 for the insulation of the cable conductors I produce a very superior cable for use where high temperatures are encountered, inasmuch as this material will not support combustion, while furthermore this material as distinguished from the usual rubber insulation does not deteriorate at high temperatures, nor is this material affected by oils and greases. As above pointed out tinning of the cable conductors is unnecessary, this material 2 being unaffected by contact with copper.

The material used at 7 immediately under the aluminum wire braid renders the cable structure highly resistant to moisture, and also reduces the cost of the cable very materially in that it has been the practice heretofore to employ varnished cambric tapes, felted asbestos and asbestos braid for this purpose, all of which will be replaced by the material 7. I have found also that this material is of advantage where the cable is to pass through bulkheads on shipboard, the same providing a water-tight and air-tight seal, often desirable and necessary where the same passes through the bulkheads of air-tight compartments.

It is to be understood that changes may be made in the details of construction and arrangement of parts within the purview of my invention.

What I claim is:

1. An electric cable comprising in combination a plurality of conductors each insulated with an elastic non-inflammable rubber-like substance produced by dissolving a polymerized vinyl-halide at an elevated temperature in a substantially non-volatile organic solvent, a sheath of flame-retarding, moisture-resistant material about the insulation of each conductor, said conductors being assembled with asbestos rovings to produce a core, rubber filled tape about said core, flame-retarding, moisture-resistant material about said tape, a sheath about said last mentioned material of non-inflammable rubber-like substance produced by dissolving a polymerized vinyl-halide at an elevated temperature in a substantially non-volatile organic solvent, and a wire braid about said sheath.

2. An electric cable comprising in combination a plurality of separately insulated cable conductors, said insulated conductors being assembled with asbestos rovings saturated with flame retarding material to produce a core, tape about said core and a sheath about the assembly of non-inflammable rubber-like substance produced by dissolving a polymerized vinyl-halide at an elevated temperature in a substantially non-volatile organic solvent.

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