

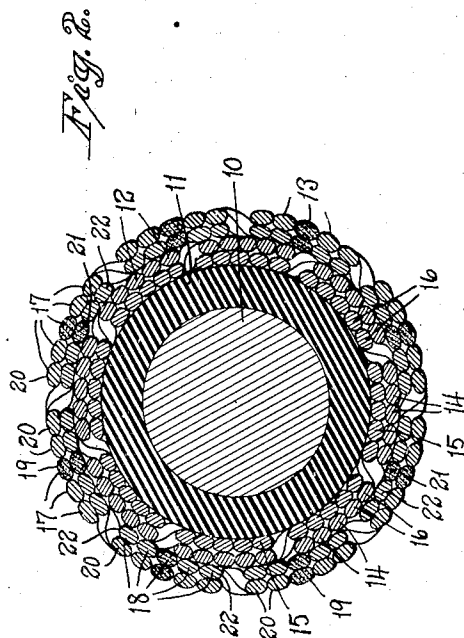
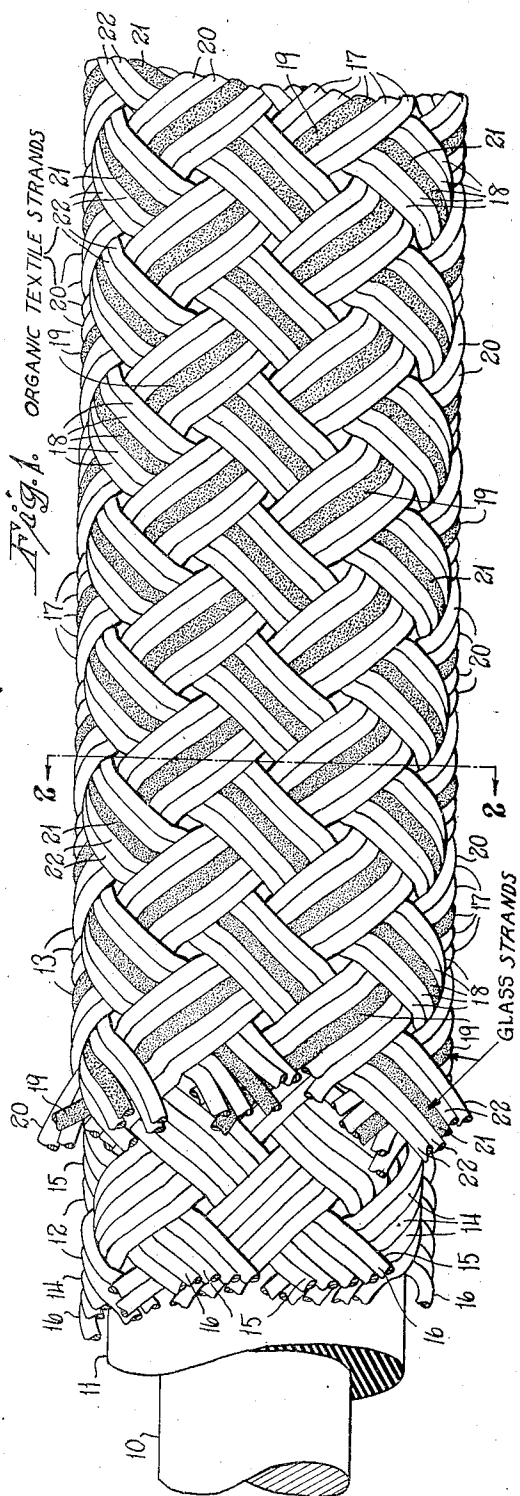
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WEATHERPROOF ELECTRIC WIRE

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WEATHERPROOF ELECTRIC WIRE

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1 Claim. (Cl. 174—124)

The present invention relates to improvements in electric conductors and relates more particularly to improvements in electric conductors employed out of doors mainly for urban distributing lines and for service lines to individual homes, etc. Such pipes or wires are commonly referred to as "weatherproof" wires.

When exposed to the weather over a considerable period of time, ordinary so-called weatherproof wires are subject to having their coverings deteriorate under the combined influences of sunshine, moisture, changes in temperature, etc. The deterioration of the covering is usually not uniform throughout the length of the conductor but is apt to be spotty with the result that the covering material breaks away at various points while remaining anchored at other points, and thus forms an unsightly series of strings and depending loops commonly referred to as "festoons."

One of the main objects of the present invention is to provide a superior weatherproof electric wire characterized by having its covering material substantially proof against festooning over long periods of use and exposure to the elements.

Another object of the present invention is to provide a superior weatherproof wire in which superior and highly economical means is provided for guarding the covering material thereof against displacement.

With the above and other objects in view, as will appear to those skilled in the art from the present disclosure, this invention includes all features in the said disclosure which are novel over the prior art and which are not claimed in any separate application.

In the accompanying drawing, in which certain modes of carrying out the present invention are shown for illustrative purposes:

Fig. 1 is a broken view in side elevation of a weatherproof electric wire embodying the present invention; and

Fig. 2 is a transverse sectional view thereof taken on the line 2—2 of Fig. 1.

The particular weatherproof electric wire herein chosen for purposes of illustrating the present invention, comprises a metallic core 10, a tubular insulating-body 11, an intermediate layer of braided covering 12 and an outer layer of braided covering 13. The core 10 may be formed of any suitable high electro-conductive material such as copper, aluminum, etc., while the insulation 11, when employed, may con-

veniently be composed of rubber, synthetic resins, etc.

The inner braided covering 12 comprises a plurality of parallel right-hand tape-like bands 14 extending helically in a right-hand direction around the insulating-body 11. The inner braided covering 12 also includes a plurality of parallel left-hand tape-like bands 15 which extend helically in a left-hand direction around the insulating-body 11.

Both the right-hand bands 14 and the left-hand bands 15 of the inner braided covering 12 are preferably each composed of a group of individual laterally-abutting strands 16 which may be conveniently formed of cotton or other suitable textile material. The said strands 16 of the right-hand bands 14 are jointly alternately braided over and under the groups of similar strands 16 making up the left-hand bands 15, in a manner well known in the braiding art.

The outer braided covering 13 is, as shown, composed of a series of tape-like right-hand bands 17 extending in parallelism helically around the inner braided covering 12 in a right-hand direction. The outer braided covering also includes a plurality of tape-like left-hand bands 18 extending around the inner braided covering 12 in a helical path (left hand) in a direction opposite the helical path of the bands 17 before referred to. Each of the right-hand helical bands 17 alternately extends under and over alternate ones of the contiguous and oppositely-inclined left-hand bands 18, as is apparent from Fig. 1.

In the instance illustrated in the accompanying drawing, the right-hand tape-like bands 17 of the outer braided covering 13 are composed of a plurality of strands arranged side by side. Each right-hand band 17 includes a retaining-strand 19 of glass and a plurality of strands 20 preferably composed of cotton, synthetic materials or other strands of textile materials other than glass.

Similarly, each of the parallel left-hand bands 18 of the outer braided covering 13 includes a retaining-strand 21 formed of glass and a plurality of parallel companion strands 22 formed of cotton or other non-glass textile material.

From the foregoing and by reference to the accompanying drawing, it will be seen that the glass retaining-strands 19 and 21 of the respective bands 17 and 18 extend transversely across the non-glass strands of the bands extending helically in a direction opposite to that in which a given glass retaining-strand extends. In other words,

each glass retaining-strand 19 of each right-hand band 17 extends crosswise of all of the strands 20 and 21 in the left-hand bands 18 at predetermined desired intervals. Conversely, the glass retained-strand of each of the left-hand helical bands 18 extends crosswise of all of the strands 19 and 20 of the right-hand helical band 17.

The number of coatings placed over the conducting-core 10 will vary with service requirements, but preferably the covering will include several layers of textile material, which material is preferably impregnated with asphaltum, coal tar or other suitable preservative material.

By virtue of the construction set forth in which the covering material is braided with interlaced oppositely-inclined helical groups of strands and in which certain of the groups of strands include glass strands, the breakdown and unsightly festooning of the covering is guarded against over long periods of time and without materially adding to the cost of the weatherproof conductor.

The invention may be carried out in other specific ways than those herein set forth without departing from the spirit and essential characteristics of the invention, and the present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive, and all

changes coming within the meaning and equivalency range of the appended claim are intended to be embraced therein.

I claim:

5 A weatherproof outdoor overhead-suspension electric wire comprising: a core of conducting material; and a covering surrounding the said core and including, a set of right-hand helically-inclined bands of strands extending generally parallel helically around the said core in a right-hand direction, and a set of left-hand helically-inclined bands of strands extending generally parallel helically around the said core in a left-hand direction; and each of said bands including a minority of strands, each of which is dominantly of glass, and a majority of strands, each of which is dominantly of cotton or the like organic textile material, and each of said bands being of tape-like form with its strands laterally abutting one another; and the bands of each of said sets of bands repeatedly extending over and under the bands of the other of said sets of strands, and the said minority strands of each of said sets of bands extending over and retaining the said majority strands of the other of said sets of bands.

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