

No. 854,217

PATENTED MAY 21, 1907.

O. T. HUNGERFORD.  
ELECTRIC CONDUCTOR.  
APPLICATION FILED FEB. 15, 1901.

COPPER WIRE.



FELTED ANIMAL FIBRE.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## ELECTRIC CONDUCTOR.

No. 854,217.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed February 15, 1901. Serial No. 47,438.

*To all whom it may concern:*

Be it known that I, OLIVER T. HUNGERFORD, a citizen of the United States of America, residing at Belleville, county of Essex, and State of New Jersey, have invented a new and useful Improvement in Insulated Electric Conductors, of which the following is a description.

This invention relates to an insulated electric conductor consisting of a metallic wire inclosed in felt saturated with an electrical insulating and waterproofing compound.

The object of the invention is to produce an insulated conductor having a non-striated covering, the density of which can be controlled, with the interstices filled with a waterproofing and insulating compound.

The conductor which is illustrated and described as embodying the invention has a metallic wire covered with matted or felted fibers saturated with an insulating and waterproofing compound.

The figure of the drawings shows a central longitudinal section of a portion of an electric conductor embodying the invention.

The wire *a* is preferably copper but may be any other metal which is a good conductor of electricity. Surrounding the wire is a covering *b* of felted or matted fibers. This covering is made of what is commercially known as felt, that is, wool, fur or hair or a mixture of such animal fibers compacted by rolling, by pressure, or by shrinking. It is preferred to felt this covering as an integral case upon the wire, that is, to felt the fibers directly upon the wire so that there will be no seam.

This felt is saturated with an electrical insulating and waterproofing compound which may be an asphaltum or resinous compound containing pulverized silica, talc, or kaolin.

A felt cover is non-striated, that is, the fibers run in all directions and the interstices

are irregular and do not extend in any particular direction. These irregular interstices between the fibers hold the insulating compound more securely than where the interstices are regular as in a covering which is woven or braided. There is considerable elasticity to felted fibers and the characteristic of animal fibers, whereby they can be felted, also aids in retaining the insulating compound. Such fibers are stiff, strong and yielding and form a good protecting insulation for the wire. The quantity of insulating compound applied can be governed by regulating the compression of the felted fibers. If the fibers are compressed solidly they will hold but a certain quantity of compound. If they are loose they will hold more compound. The insulating compound can be applied to the felted fibers and allowed to harden so that the fibers will not quickly wear off from the wire.

The invention claimed is:—

1. An insulated electric conductor comprising a wire free from adhesive coating, a felt covering for said wire, said felt being mounted directly upon the clean surface of said wire and matted thereon without seam, and a water-proof insulating compound filling the irregular interstices between the fibers composing said felt, substantially as set forth.

2. An insulated electric conductor comprising a wire incased by a sheath of felt mounted directly upon the surface of the wire and having the irregular interstices between the fibers of the felt filled and its fibers saturated with an insulating compound, substantially as set forth.

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Witnesses:

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