

No. 775,274.

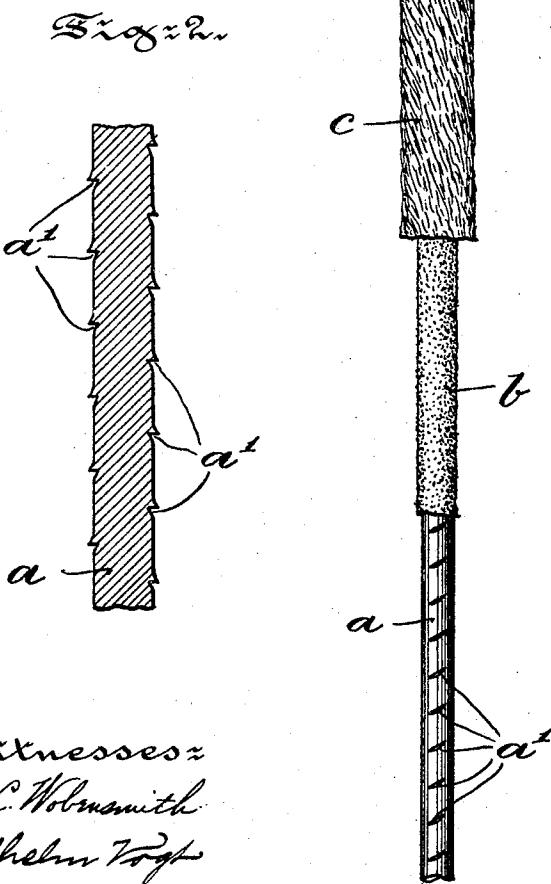
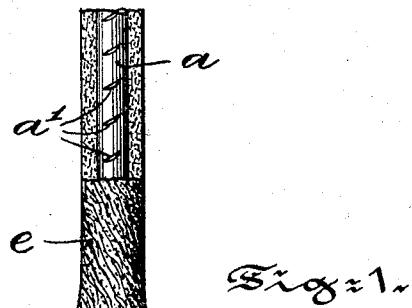
PATENTED NOV. 15, 1904.

J. A. HEANY.

## INSULATED ELECTRIC CONDUCTOR.

APPLICATION FILED FEB. 4, 1904.

NO MODEL,



Witnesses:

Jas. C. Hobman with  
Wilhelm Vogt

Inventor: John A. Strauf,  
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## UNITED STATES PATENT OFFICE.

JOHN ALLEN HEANY, OF YORK, PENNSYLVANIA, ASSIGNOR TO THE TETER-  
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## INSULATED ELECTRIC CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 775,274, dated November 15, 1904.

Application filed February 4, 1904. Serial No. 191,947. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN ALLEN HEANY, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Insulated Electric Conductors, of which the following is a specification.

My invention has relation to an insulated electric conductor in which the wire or conductor has a waterproof cohering adhesive mass applied as a coating thereto, flocculent asbestos agglomerated with said coating, and a covering formed of the cohering adhesive mass combined with fireproofing materials 10 agglomerated with the asbestos and said mass to form upon the conductor a thoroughly-intermingled insulating mass firmly united to the conductor, as described and claimed in an application for a patent filed by me under date 15 of May 10, 1902, Serial No. 106,670, and in such connection it relates more particularly to the construction and arrangement of the conductor whereby an interlocking of the conductor with the insulating mass may be 20 obtained to enhance the firmness of the union between the conductor and its insulation.

The principal object of my invention is to provide an electric conductor with a series of transverse indentations or recesses of a depth 25 and form which will not impair the strength of the conductor, but will be sufficient to permit of the interlocking of the conductor with an insulation formed of successively waterproof gluey material, flocculent asbestos, and 30 a coating of waterproof gluey material combined with fireproofing material all thoroughly agglomerated or intermingled.

The nature and scope of my invention will be more fully understood from the following 35 description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a view, partly in elevation and partly in section, of an insulated electric conductor embodying main features of my invention; and Fig. 2 is a sectional view of the conductor prior to the application of the insulation thereto.

Referring to the drawings, *a* represents the bare wire or electric conductor of any suitable metal. Upon the periphery of this conductor *a* is arranged transversely a series of indentations or notches *a'*. In the preferred arrangement of these indentations or notches *a'* upon a wire or cylindrical conductor, as 55 illustrated in the drawings, these notches *a'* are helically disposed upon portions of the periphery diametrically opposite to each other. The notches or indentations are of a depth sufficient to receive and retain an appreciable 60 portion of the insulation hereinafter described, but are not deep enough to seriously impair the flexibility or tensile strength of the conductor.

Upon the wire *a*, with its notches *a'*, is first 65 applied a cohering adhesive mass *b*, consisting of a solution of gluey materials rendered waterproof by an admixture therewith of preferably an acid, such as boric or sulfuric acid. After being coated with the waterproof 70 mass *b* flocculent material *c*, such as asbestos, is applied under pressure to thoroughly agglomerate the flocculent material *c* with the mass *b* and to force the agglomerated materials into the notches or indentations *a'* of the 75 wire. On the agglomerated materials *b* and *c* is applied a fire and water proof coating or cement *d*, formed of the gluey materials entering into the mass *b*, combined with a fireproofing mass consisting, by preference, of 80 kaolin or clay, six parts by weight, oxid of alumina, two parts by weight, and sulfid of lime, four parts by weight. The gluey mass *b*, flocculent materials *c*, and coating *d* are then 85 agglomerated under pressure and heat, so as to thoroughly intermingle and to firmly unite and interlock with the conductor *a*, as illustrated at *e* in the drawings. The insulating mass thus formed and applied to the conductor *a* resembles in some measure an enamel sufficiently flexible to permit of the bending or twisting of the wire *a* without disrupting or cracking the insulation or separating the insulation from the wire *a*.

The nature of the insulating mass is such 95 that it is not destroyed or impaired by heat

applied externally of the conductor or internal heat set up by the conductor itself. The mass *b* and the cement *d* may be used in a thin or thick mass, according to requirements.

5 Having thus described the nature and object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

- 10 1. An electric conductor having upon its surface a series of transversely-arranged indentations or notches combined with an insulating covering firmly united to the surface of the conductor and interlocking with the transverse indentations or notches therein.
- 15 2. An electric conductor having upon the surface to be insulated a series of transversely-arranged indentations or notches, a waterproof cohering adhesive mass applied as a coating

to the indented or notched surface of the conductor, flocculent asbestos agglomerated with said coating and a covering formed of the waterproof mass combined with fireproofing materials agglomerated with asbestos and waterproof mass to form an insulating mass, wherein the materials and asbestos are thoroughly intermingled and firmly united to and interlocked with the conductor.

20 In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOHN ALLEN HEANY.

Witnesses:

J. WALTER DOUGLASS,  
THOMAS M. SMITH.