(No Model.)

T. MINER.

INSULATED CONDUCTOR.

No. 296,294. Patented Apr. 1, 1884.

Fig. 1.

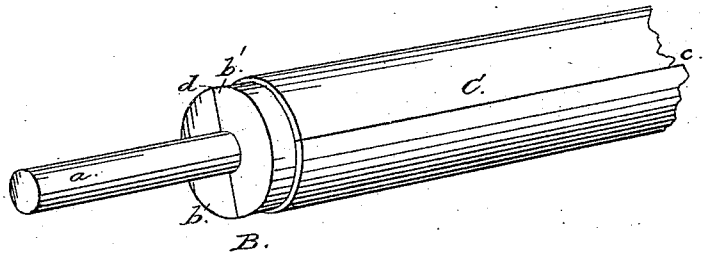


Fig. 2.

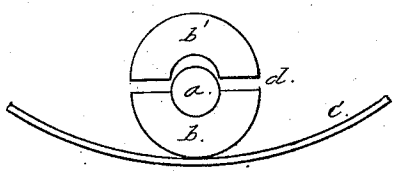


Fig. 3.

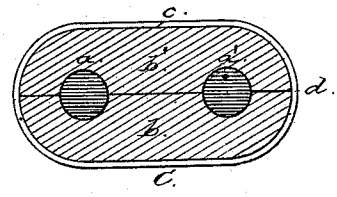
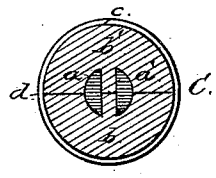


Fig. 4.



Attest;

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UNITED STATES PATENT OFFICE.

THEODORE MINER, OF BROOKLYN, NEW YORK.

INSULATED CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 296,294, dated April 1, 1884.

Application filed May 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, THEODORE MINER, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Insulated Conductor and Method of Manufacturing the Same; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to furnish reliably insulated electrical conductors, economical in first cost, and durable. In accomplishing this wood is used for the insulating material, strips or sections of which are fashioned each into such form that when joined together a solid prism of wood of the desired exterior conformation will be formed, inclosing a conductor or conductors. In each strip or section is a groove equal in area to a portion of the metallic conductor. The strips or sections are boiled in or saturated with some suitable non-conducting and water-repellent material. In one of the strips so treated the wire is laid, and the other strip then laid thereupon, and the two strips united together by any slight or temporary binding at the ends. The united strips are then laid upon a sheet of metal, which by suitable forms or rolls is folded around the wood, an inclosing metallic protecting-tube being thereby formed upon the wood. When desired several wires may be placed in one wooden insulating cover, each wire having its own groove, so that the wood insulates each from the other as well as from exterior objects. This is illustrated in the drawings, in which—

Figure 1 is a perspective of my improved conductor; Fig. 2, a section showing the elements thereof disassociated from each other, while Figs. 3 and 4 are sectional views of modifications.

a is the wire to be protected. *b b'* are the two strips of wood, each having a groove, the groove being one-half the size of *a*. These strips are treated with any suitable water-repellent and non-conducting material, and until their pores are thoroughly filled therewith. In one—say *b*—the wire is laid, and then *b'* is brought down thereupon. The parts *b b'* should then be secured together in any convenient, slight, or temporary manner. The pieces thus united are then laid upon a strip of metal, C, of a width equal to the circumference of the wooden insulating-jacket B, formed of *b b'*. The whole is then passed through suitable folding rolls or dies, and C folded around B, forming the exterior tube, C, with joint at *c*, as shown in Figs. 1, 3, and 4.

In Fig. 1, *a* is the wire; B, the wooden insulation formed of *b b'*, united at *d*, and C the inclosing metallic protecting-tube. In this figure but one wire is shown. If it is desired to use more, either as parts of different circuits or for forming a complete metallic circuit, the strips may be half-oval, each grooved for each wire, the remainder of the manipulation being the same as in the other case. Such a form is shown in Fig. 3.

In Fig. 4 are shown two half-round wires, the only difference however being in the shape of the conductors and the corresponding grooves. In such an arrangement the wood insures an exceedingly good and reliable insulation, while the inclosing metallic covering, protecting the wood from blows, crushing strains, and other detrimental causes, insures the durability. At the same time it is simple of construction and of cheap materials, securing great economy.

I am aware that cables and other conductors having the insulation protected by a metal ribbon or a wire wound helically thereon, have been proposed to utilize wood as an insulating medium, and I therefore lay no claim thereto; but

What I do claim is—

1. In an insulated electric conductor, the combination of a metallic conductor or conductors, grooved sections of wood inclosing the same, and a longitudinally-folded strip of sheet metal around the wooden sections, forming a protection thereto, substantially as set forth.

2. An insulated conductor, consisting of one or more conductors, a wooden insulation therearound formed of grooved sections, inclosing the wires, and an exterior metallic protection, inclosing and protecting the wooden insulation, substantially as set forth.

This specification signed and witnessed this 1st day of May, 1882.

THEODORE MINER.

Witnesses:

WM. H. ALDEN, Jr.,

MORRIS E. SAVIN.