(No Model.)

W. A. CONNER.

ELECTRIC CABLE.

No. 452,342. Patented May 12, 1891.

FIG. 1.

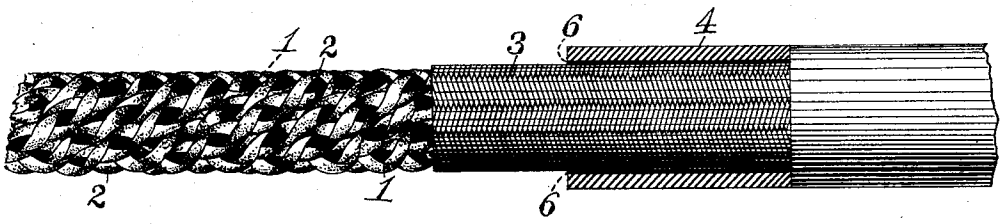
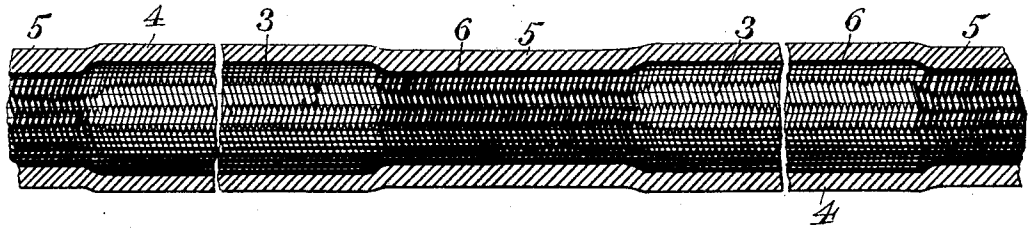


FIG. 2.



WITNESSES:

Darwin S. Wolcott

F. E. Gaither.

INVENTOR,

William A. Conner.

by George H. Christy

Att'y.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM A. CONNER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE STANDARD UNDERGROUND CABLE COMPANY, OF SAME PLACE.

ELECTRIC CABLE.

SPECIFICATION forming part of Letters Patent No. 452,342, dated May 12, 1891.

Application filed July 24, 1890. Serial No. 359,717. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. CONNER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Electric Cables, of which improvements the following is a specification.

In applications of even date herewith I have described and claimed certain improvements in electric cables, the inventions therein set forth having for their object the production of cables of low static capacity and especially designed for telephone service.

This invention relates to certain further improvements in that class or kind of cables, and is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of a cable, showing the manner of preparing the wires and core, and Fig. 2 is in sectional elevation a portion of a cable constructed in accordance with my invention.

In the practice of my invention the conductors or wires 1 are covered, either by braiding or wrapping to any desired thickness, with cotton, jute, hemp, paper, or other suitable material, preferably of a fibrous nature. This covering 2 is preferably applied in such a loose manner that interstices or openings will be formed therein; but, if desired, the material may be so applied as to form a close compact covering. The covered wires in any desired number are then laid up in any suitable manner and inclosed by a wrapping 3 of cotton tape, paper, or other suitable material. This wrapping is applied in such manner as will prevent, except as hereinafter described, the penetration of the sealing material into the covering 2 of the wires. The core thus prepared is passed through the hollow core-bar of a lead-press for the application of the lead sheath 4. The core-bar is filled with a suitable sealing material, as paraffine, resin, oil, rubber compounds, &c., and provision is made whereby a sufficient pressure may be applied when desired to the sealing material to cause it to penetrate through the wrapping 3 of the core and also the coverings 2 of the wires and fill the interstices in such covering and between the wires. The press is then so adjusted that when set in operation the lead will be pressed tightly around the core, compressing the wires closely together, and at the same time pressure is applied to the sealing material, so as to cause it to pass through the wrapping 3 and thoroughly impregnate the core. After three or four feet (more or less) of the core have been thus saturated and compressed the press is readjusted, so as to apply the lead sheath loosely around the core, and the sealing material relieved from pressure to a sufficient extent that it will not be forced through the wrapping 3. It is preferred, however, to maintain a slight pressure on the sealing material at all times, so as to insure its entrance between the lead sheath and the wrapping 3, as shown at 6. After about forty or fifty feet (more or less) of the core has passed through the press the latter is again adjusted to force the lead tightly around the core and the pressure increased on the sealing material to cause it to again impregnate the core for a distance of two or three feet, (more or less,) when the press is again changed and the pressure on the sealing material reduced, as before stated. These seals 5, which will prevent the escape of air from the core and the entrance of moisture thereinto, are formed at both ends of the cable-section and also at intermediate points, so that the entire cable will not be destroyed or injured through a rupture at one or two points.

I claim herein as my invention—

1. In an electric cable, the combination of a series of two or more wires covered with fibrous material, a wrapping of closely-laid material inclosing said wires into a core, a coating of sealing material covering said wrapping, the sealing material impregnating and filling the interstices in the core at suitable intervals, and a lead sheath, said sheath tightly compressing the core at points where it is filled with sealing material, substantially as set forth.

2. As an improvement in the art of manufacturing electric cables, the method described herein, consisting in covering each wire with fibrous material, inclosing a series of two or more wires so covered in a core by a closely-

laid wrapping, applying sealing material to said wrapping, causing the sealing material to pass through the wrapping and fill the core at suitable intervals, covering the core with a lead sheath, and compressing the sheath against the core where the same is filled with the sealing material, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WILLIAM A. CONNER.

Witnesses:
W. B. CORWIN,
DARWIN S. WOLCOTT.