(No Model.)

A. C. TICHENOR.

ELECTRICAL CONDUCTOR.

No. 330,071. Patented Nov. 10, 1885.

Fig. 1.

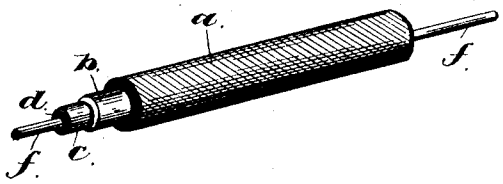
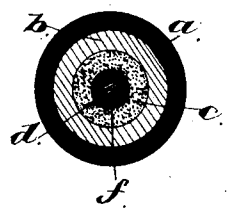


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

ANSON C. TICHENOR, OF SAN FRANCISCO, CALIFORNIA.

ELECTRICAL CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 330,071, dated November 10, 1885.

Application filed February 7, 1885. Serial No. 155,262. (No model.)

To all whom it may concern:

Be it known that I, ANSON C. TICHENOR, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Electrical Cables or Conductors, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to electric cables or conductors; and it consists in incasing or inclosing a wire or metallic strip of any required length or size, surrounded or enveloped by a core or body of powdered or pulverized carbon in a tubular or other equivalent formed case or cover composed of one or more layers or wrappings made of any substance or material possessing suitable strength and flexibility, and covered or coated with some protective insulating compound, substance, or material, as hereinafter described.

The object of my invention is to produce a cable or conductor for telegraph, telephone, and other systems wherein electric currents are employed which shall not only be a good conductor of electric currents, but shall also be free from induction from any cause or source, strong and durable, easily and readily used and handled, and cheaply and economically manufactured.

It is well known that when metallic conductors are used in proximity to each other great difficulty is often experienced in transmitting messages telegraphically or telephonically on account of the induced currents from such neighboring wires, and that to overcome such induction various devices and divers means have been employed, but so far as I know with only partially successful results.

In the use of the conductor herein described I have found that no matter how near it is placed to other conductors, even if wound around them, and whether above or below the surface of the earth, there is no induction whatever, so that messages transmitted are received with equal loudness and distinctness as if there were no such neighboring conductors.

This invention is an improvement upon the conductor shown, described, and claimed in Letters Patent No. 300,410, granted to me June 17, 1884, and is intended to and does overcome any possibility of breaking the electric current by reason of the pulverized carbon becoming separated in the tubular case from or by any cause.

In the accompanying drawings, forming a part of this specification, and in which like letters refer to similar parts, Figure 1 shows a piece of the conductor with the wrappings removed at one end, and Fig. 2 a cross-section of the same.

In these drawings the outermost wrapping is represented by *a*, the inner next to this by *b*, and the interior wrapping or tube by *c*. Within the latter at *d* is represented the pulverized filling of carbon or other equivalent material, and in the center of such carbon core or filling at *f* the wire or metallic strip of any required size. Upon each layer or wrapping as it is applied I preferably place a coating of asphaltum, rubber, paraffine, or other substance capable of resisting moisture and the action of the elements, and on the outermost covering I prefer to apply a coating of asbestus, asphaltum, or some equivalent protective substance.

When the conductor is constructed and prepared as described, it is ready for immediate use. This cable or conductor may be manufactured in different ways, and I do not limit myself to any particular method of manufacture, but prefer to use the machinery and processes now used, which are well known in the manufacture of submarine fuse for blasting. In said method a central thread of cotton or similar fibrous material is employed, located within the filling of the fuse and extending throughout its whole length. This thread passes through the core of pulverized material as it is forming within the tube, wrap, or envelope, and is agitated in order to prevent the pulverized material from choking up and leaving unoccupied places. In like manner the wire or suitable metallic strip is used in the manufacture of the cable or conductor herein described, care being taken that the machine is so adjusted as to keep the same in the center of the carbon core formed around it as well as in the center of the tube formed by the wrappings or cover. In this way a cable or conductor may be made of any required

size or length in which the wire or metallic strip will be surrounded or enveloped with a uniform thickness of the pulverized carbon throughout its entire length, the whole being of uniform size and strength.

The diameter of the tube containing the wire or metallic strip and pulverized carbon must be proportioned to the size of such wire or strip, and should be at least three times as great.

When used as a conductor for electric lighting, I have found a much smaller wire or metallic strip may be used than is now employed for such purposes with equally good if not superior results.

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

A cable or conductor for electrical purposes, consisting of a wire or metallic strip surrounded and enveloped by pulverized carbon incased by one or more flexible wrappings, each of which wrappings is saturated or coated with a protective compound, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ANSON C. TICHENOR.

Witnesses:

CHARLES S. HYER,

RUSSELL H. SCOTT.