

(No Model.)

T. S. REED.
ELECTRICAL CONDUCTOR.

No. 305,475.

Patented Sept. 23, 1884.

Fig 1

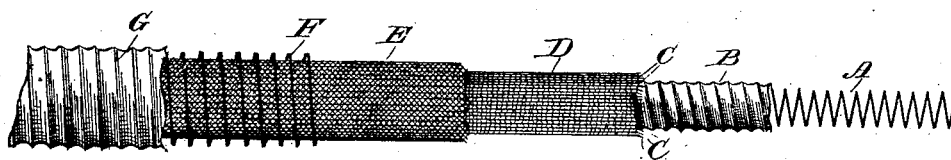


Fig 2

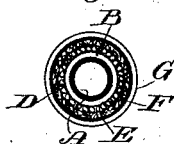
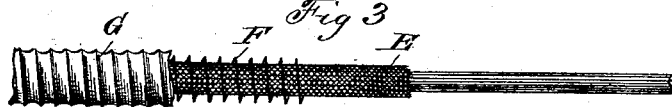


Fig 3



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS S. REED, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE
BRIDGEPORT BRASS COMPANY, OF SAME PLACE.

ELECTRICAL CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 305,475, dated September 23, 1884.

Application filed May 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS S. REED, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Electrical Conductors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to

10 which it appertains to make and use the same.
My invention relates to certain novel and useful improvements in electrical conductors, but more especially that class of conductors used for cable purposes, and has for its object
15 to provide such a device which shall be flexible and in which there shall be no induction, and, furthermore, to prevent the rotting of the insulating material by the dampness or moisture; and with these ends in view my invention
20 consists in forming a cable with a central air-chamber extending throughout its length, and also in the details of construction and combination of elements, hereinafter fully and in detail explained, and then specifically designated
25 by the claims.

In order that those skilled in the art to which my invention appertains may more fully understand the same, I will proceed to describe its construction and adaptation, referring by
30 letters to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of a cable constructed in accordance with my improvement; Fig. 2, an end view of the same; and Fig. 3, a
35 side elevation of a conductor suitable for electric-lighting purposes, constructed with a central core of conducting metal, and showing more particularly the corrugation of the leaden jacket over the spiral coil, whereby the spaces
40 in which moisture is apt to collect are completely filled up.

Similar letters denote like parts in the several figures of the drawings.

A is a spiral coil of wire or any suitable material, over which is drawn a leaden jacket, B. This jacket is corrugated by any suitable means, so as to follow the direction of the spiral, the result of this being, of course, that a spiral
45 furrow is formed throughout the length of the

jacket. Around the jacket and parallel with its length are arranged conducting wires or strands C, which are interbraided or interwoven with any insulating material D. Over these wires so insulated is braided or other
55 wise arranged a secondary insulating envelope or covering, E, preferably of a firm and close material. Around the latter covering is placed a spiral coil, F, similar to that above mentioned, and this coil is also covered with a
60 leaden corrugated jacket, G.

In cables as at present constructed all the metal or similar jackets used have been so applied that spaces or air-chambers have been left in various places throughout the cable,
65 and this is a very undesirable feature, since moisture collects in said spaces and eventually rots the insulating material. In my improvement the spiral coil not only gives a certain degree of flexibility to the cable, but also
70 affords a grasping-surface for the jacket, whereby the latter may be so corrugated as to occupy all the spaces between the insulating-covering and the spiral coil; also, I am enabled to produce a conductor sheathed in lead
75 where it is exposed to the air or comes in contact with any foreign substance.

By leaving a central opening throughout the cable a current of air is thus permitted, which not only causes a rapid evaporation of any
80 moisture that would otherwise collect on the inner leaden jacket and possibly find its way into the insulating material, but also there is an entire absence of induction, because the current is disseminated through the leaden
85 jacket and is carried off by the current of air.

In Fig. 3 I have illustrated the application of the leaden jacket and spiral coil to a conductor suitable for electric lighting. In this connection no air-chamber is needed, and its
90 place is filled by any suitable core of conducting material.

I do not wish to confine myself to the exact method shown and described of insulating the conductors, as this is immaterial.

In applying the leaden jacket I either wind it on in strips or draw it over in tube form, the main object being to afford a complete protection as against moisture.

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

1. A cable for electrical purposes, having a
5 central interior longitudinal conduit and an inner and outer jacket or shield of lead, substantially as described.

2. In a cable for electrical purposes, the insulated conductors confined and supported be-
10 tween spiral coils of any suitable material, covered with a leaden or other jacket corrugated, as described, substantially as and for the purposes set forth.

3. As a new article of manufacture, a cable
15 for electric purposes which is hollow, and

the insulating conducting material arranged around and upon a leaden or other suitable jacket corrugated over spiral coil, and with a similar external jacket, substantially as here-
inbefore shown and specified.

4. An electric cable consisting of the con-
ducting material, and a support or jacket for the same composed of a spiral coil with a corrugated covering, substantially as set forth.

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

THOMAS S. REED.

Witnesses:

S. S. WILLIAMSON,

HARRY T. STEPHENS.