

(No Model.)

E. T. GREENFIELD.
ARMORED ELECTRICAL CONDUIT.

No. 585,864.

Patented July 6, 1897.

Fig. 1.

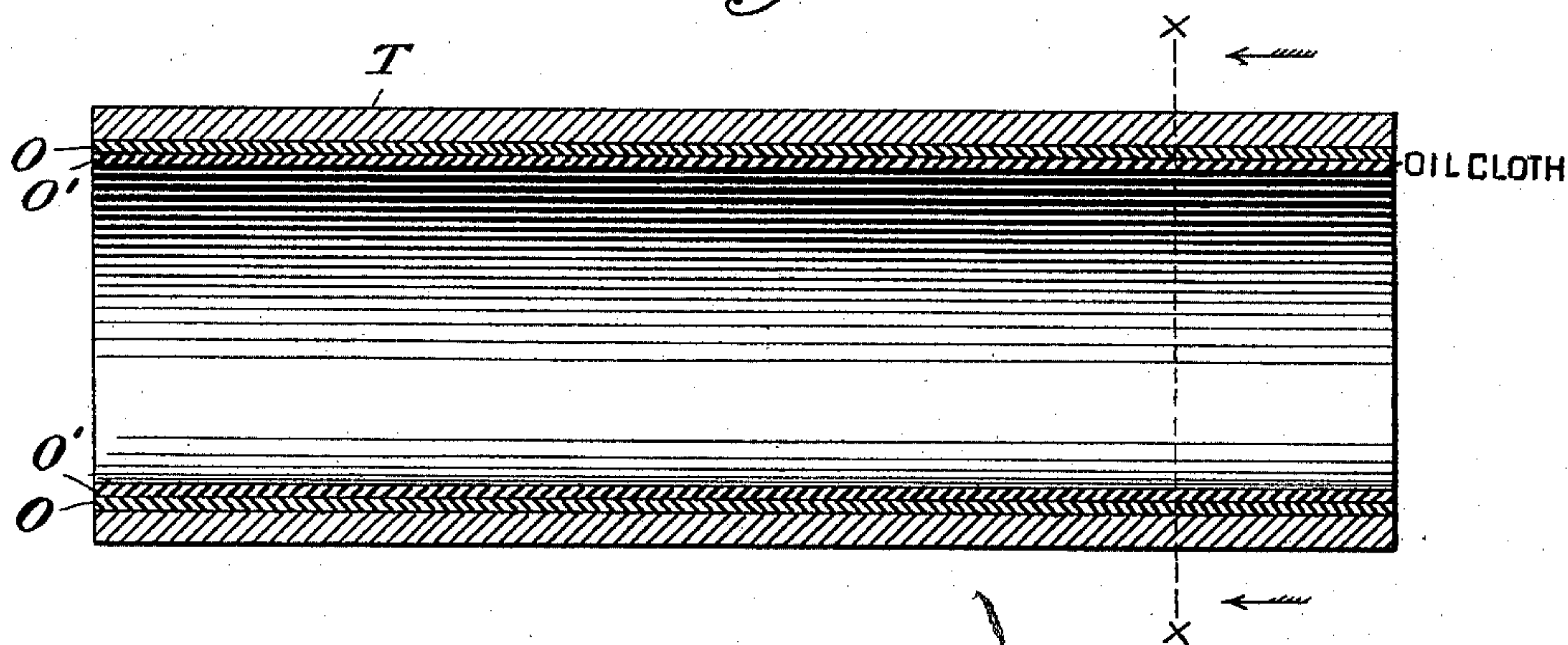
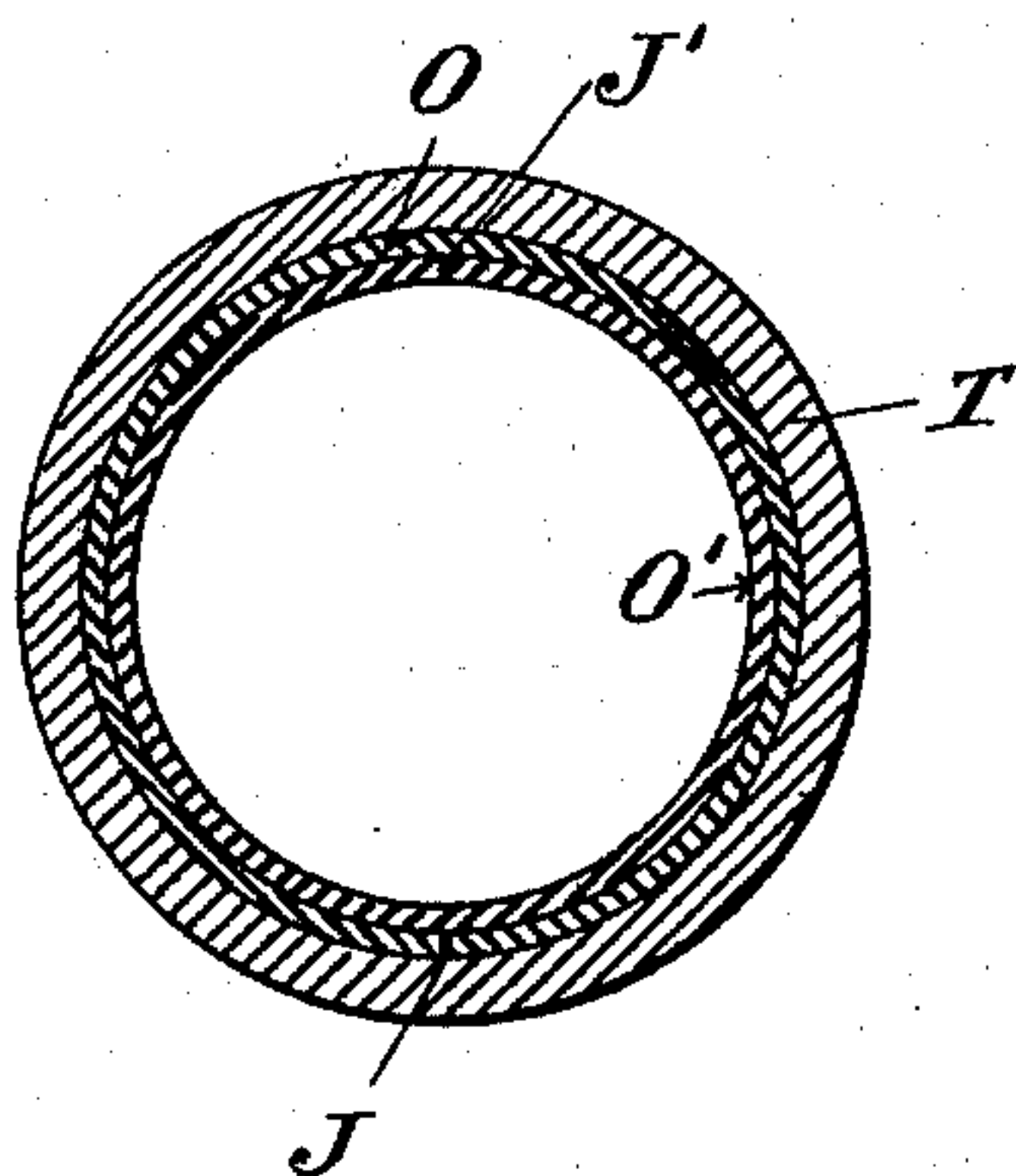


Fig. 2.



Witnesses
Edward C. Poulson.
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Inventor
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UNITED STATES PATENT OFFICE.

EDWIN T. GREENFIELD, OF NEW YORK, N. Y., ASSIGNOR TO THE INTERIOR
CONDUIT AND INSULATION COMPANY, OF SAME PLACE.

ARMORED ELECTRICAL CONDUIT.

SPECIFICATION forming part of Letters Patent No. 585,864, dated July 6, 1897.

Application filed December 10, 1896. Serial No. 615,116. (No model.)

To all whom it may concern:

Be it known that I, EDWIN T. GREENFIELD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have made a new and useful
5 Invention in Armored Electrical Conduits, of which the following is a specification.

My invention relates to that class of electrical conduits having a strong external protecting or armor tube and an inner tube or
10 lining of fibrous insulating material, such as is disclosed in United States Patent No. 552,060, granted to me on December 24, 1895.

I have found that in the practical use of
15 armored conduit-tubes in which the interior lining is of fibrous insulating material under certain conditions of temperature and moisture the insulating-lining will become percolated with moisture to such an extent as to
20 deteriorate its insulating capacity, and it was with a view of overcoming this objectionable feature that the present invention was devised.

The invention will be fully understood by
25 referring to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of an armored conduit-tube embodying my improvements; and Fig. 2 is a transverse sectional view thereof, taken on the line *xx*, Fig.
30 1, and as seen looking in the direction of the arrows from the right toward the left hand side of the drawings.

Referring now to the drawings in detail, T represents a protecting or armor tube, preferably of iron, and O O' an interior lining
35 closely adhering to the inner wall thereof. This interior lining is composed, preferably, of two strips of oil-cloth O O' or any fibrous material which has been thoroughly subjected
40 to a bath of oil or any equivalent substance which renders it impervious to water.

I prefer to construct my improved electrical conduit in the manner disclosed in a prior
45 patent granted to me by the United States Patent Office on the 27th day of October, 1896, and bearing No. 570,165, substituting for the paper strips disclosed in said patent strips of oil-cloth or other fibrous material saturated
50 with oil or with an equivalent moisture-resisting agent and painted on one or both sur-

faces and to so line the tube T with these interior linings of one or more thicknesses O O' as to produce the desired insulation. When
more than one thickness is used, I prefer to
55 have the linings break joints, as shown at J J', Fig. 2. After the tube T has thus been provided with one or more interior linings closely adhering to its inner wall I prefer to
60 subject it to a bath of molten pitch or asphalt in such manner as to thoroughly coat the inner lining and the outer surface of the tube T. This result is accomplished by successive
dippings into the molten material in a manner well understood by those skilled in the art.
65

I do not limit myself to the use of the commercial article of trade known as "oil-cloth" for lining the inner wall of an armored conduit-tube, as I may use for this lining any
70 fibrous material which has been treated with oil or with any insulating agent impervious to moisture—as, for instance, cotton, wool, or other cloth fabric, paper, or, in fact, any
fibrous material which can be thoroughly saturated with a moisture-resisting agent, such
75 as linseed-oil, or I may use in place of oil-cloth O a lining of any flexible fibrous material treated with rubber either on one or both
surfaces or throughout its meshes or mass, my invention being designed to comprehend,
80 generically, the use of one or more linings in an armored conduit-tube, which shall act as an insulating medium and which shall also under ordinary conditions of temperature and
usage be impervious to moisture and will
85 readily yield or bend with the armor without rupturing or otherwise impairing the integrity or imperviousness of the moisture-resisting agent. This conduit may be bent cold
without impairing its insulating and moisture-resisting qualities, which is a highly useful
90 and important function in the work of installing the conduit; nor do I limit myself to the method of manufacture of the above-described armored conduit-tube, as it is evident
95 to the skilled person that this operation may be varied in several particulars and still result in the production of a conduit having an external protecting-armor and an internal
tube or lining of insulating material which
100 is of a flexible nature and is impervious to moisture in addition to its insulating qualities.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A conduit-tube composed of a metal armor and an interior lining of oil-cloth with the painted surface thereof adhering to the inner wall of the armor, substantially as described.
2. A conduit-tube composed of a metal armor and one or more interior linings of fibrous material saturated with a moisture-resisting agent, substantially as described.
3. A conduit-tube composed of an armor having an interior lining of a fibrous material impregnated with a moisture-resisting agent, said lining and moisture-resisting agent act-

ing also as an insulating medium, substantially as described.

4. A conduit-tube composed of a metal armor and one or more insulating-linings of fibrous material impregnated with a moisture-resisting agent, said linings and moisture-resisting agent acting also as an insulating medium, substantially as described.

In testimony whereof I have hereunto subscribed my name this 8th day of December, 1896.

EDWIN T. GREENFIELD.

Witnesses:

C. J. KINTNER,
M. M. ROBINSON.