

(No Model.)

F. H. THOMPSON.

INSULATED WIRE FOR ELECTRICAL PURPOSES.

No. 274,845.

Patented Mar. 27, 1883.

fig. 1

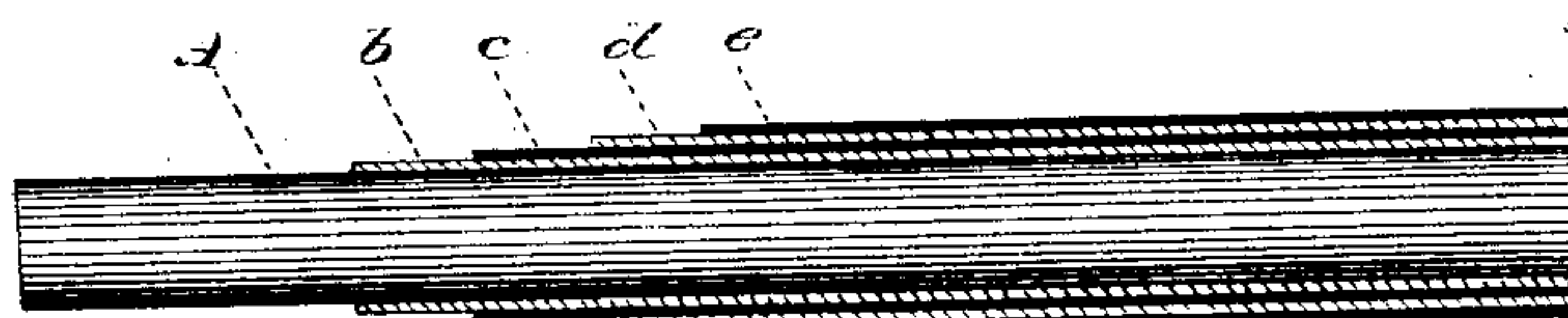
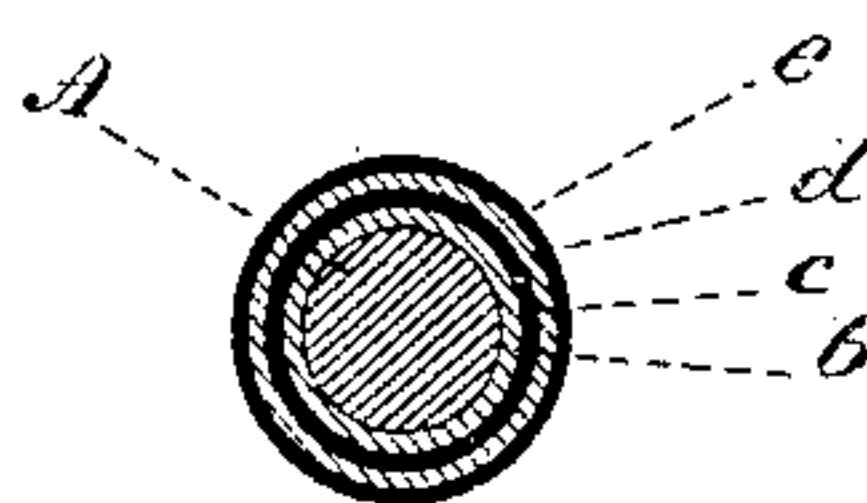


fig. 2



Witnesses:

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UNITED STATES PATENT OFFICE.

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INSULATED WIRE FOR ELECTRICAL PURPOSES.

SPECIFICATION forming part of Letters Patent No. 274,845, dated March 27, 1883.

Application filed March 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. THOMPSON, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Insulated Wire for Electrical Purposes; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact
10 description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a longitudinal central section, showing the different steps in the manufacture; and
15 Fig. 2, a transverse section, both enlarged.

This invention relates to an improvement in the insulated wire used for electrical purposes, with special reference to that used for electric lights. This class of wire requires to be in-
20 sulated. Various devices have been resorted to to make a perfect and durable insulation. White lead has been used because of its insulating property and the protection which it gives from the surrounding atmosphere, it being water-proof. This is usually applied in
25 the form of paint—that is, lead mixed with oil; but a serious difficulty exists in the use of this insulated wire from the fact that paint soon hardens and is liable to crack and “flake”
30 from the covering, and thereby expose the wire to dampness and other external influences, as well as to destroy the insulation. Again, in applying the lead and oil, a long time is required for drying the painted surface, such
35 drying occupying considerable space.

The object of my invention is to use the lead but dispense with the oil, which not only hardens the lead and causes its cracking and flaking, but requires a long time to dry
40 and properly harden.

To this end my invention consists in a wire covered with cotton, by braiding, winding, or otherwise, then coating this covering with pure lead or zinc mixed with benzine and pat-
45 ent drier, as more fully hereinafter described.

I first cover the wire A with cotton, as at b, by braiding or winding in any of the known machines, or it may be otherwise covered. For the coating I mix one gallon benzine, twenty-
50 five pounds lead ground in oil, and three

ounces patent drier. This produces the best results; but the proportions may be varied without departing from my invention. The article which I term “patent drier” is well known in commerce by that name, and needs
55 no particular description of its composition. These ingredients I thoroughly mix. They form a paste-like compound. Through this mixture I draw the covered wire, passing it through a wiper as it leaves the mixture, to
60 take off the surplus. This coating sets very quickly, and then it is wiped again. This second wiping may be done by drawing it through a wiper at some little distance from the first
65 wiping operation, leaving the cotton covered as seen at c. No further time is required for the drying of this coating. It is at once sufficiently hard for market or for use. It is very
70 elastic, will permit very short bends in the wire without cracking, does not flake, and has none of the objections to the mixture of lead and oil heretofore used.

In some cases, as for interior work, a thicker coating is required, because of the dangers which have arisen from the use of improperly-
75 insulated wires. In such cases I apply a second covering of cotton over the coated first covering in like manner as I applied the first covering, then draw the wire with this second covering through the mixture again, and treat
80 it as before, forming the outer coating, e, and this may be repeated to any desirable extent, the subsequent coatings having the same elasticity and in no way detracting from the elasticity of the previous coatings.
85

It will be understood that the term “cotton” for covering is intended to embrace any of the materials used for such purposes.

I claim—

As an article of manufacture, wire having its
90 surface covered with cotton, and upon this cotton a coating composed of lead or zinc ground in oil, benzine, and patent drier, in the proportions and substantially as herein described.

FRANK H. THOMPSON.

Witnesses:

D. L. HUNGERFORD,
CHAS. DICKINSON.