W. W. JACQUES.

Insulating Compound for Telegraph-Wires.

No. 227,168. Patented May 4, 1880.

Fig. 1.

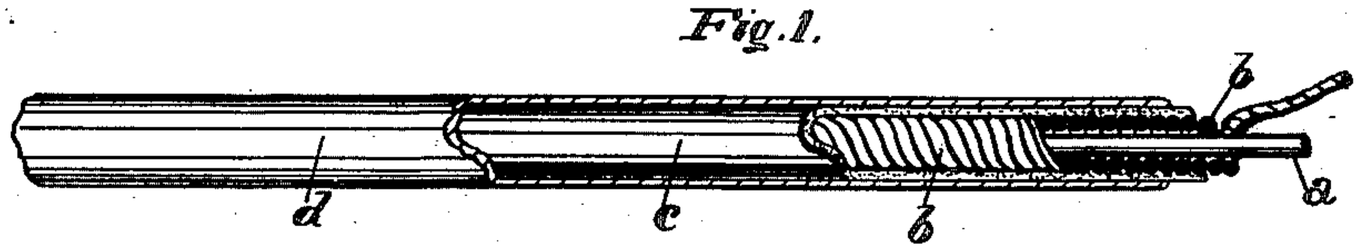

Fig. 2.

Fig. 3.

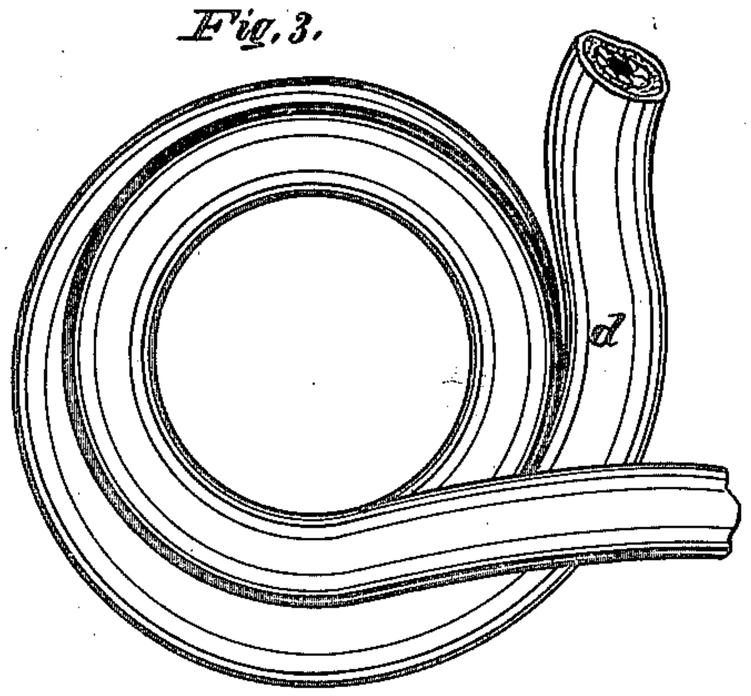

Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM W. JACQUES, OF BALTIMORE, MARYLAND.

INSULATING COMPOUND FOR TELEGRAPH-WIRES.

SPECIFICATION forming part of Letters Patent No. 227,168, dated May 4, 1880.

Application filed September 24, 1879.

To all whom it may concern:

Be it known that I, WILLIAM W. JACQUES, of the city of Baltimore and State of Maryland, have invented a new and useful Improvement in Underground-Telegraph Wires, of which the following is a specification.

My invention has for its object to surround or inclose an electrical conducting substance, such as copper wire, with flexible insulating material having certain desirable characteristics, to wit: convenient to manipulate, not easily destructible, suitable to be laid directly in the earth, or in pipes, drains, &c., not affected by the ordinary elements or constituents of the soil, be repellant to water, not affected by heat or cold within the limits to which it would ordinarily be subjected, that while flexible it will not crack when bent short, and, further, be of such character that the several enumerated properties will not be lost or changed by time.

The invention consists in surrounding or enveloping a wire with some fibrous material, such as cotton, saturated with an insulating solution, in a warm state, of bees-wax and Venice turpentine.

In carrying out my invention I prefer to combine bees-wax, five parts, with Venice turpentine, two parts, which are properly incorporated by the aid of heat. The exact proportions named are, however, not essential, the only object being to attain such a consistency that it will neither harden with cold nor become liquid with heat within the limits of temperature to which it would ordinarily be subjected in the ground.

In the drawings hereto annexed, Figure 1 is a view of the underground wire, lead-incased, partly in section. Fig. 2 is a view of the insulated wire without the lead case. Fig. 3 illustrates the completed article coiled. Fig. 4 is a cross-section of same.

The letter *a* designates the wire; *b*, the fibrous material surrounding it. This material may be of any suitable kind, such as yarn or cotton cord lightly twisted, and is first saturated with the solution of bees-wax and Venice turpentine, and is then wrapped regularly about the wire and cross-wrapped.

c represents the coating of the composition, which is applied over the aforesaid saturated fibrous material, and *d* the outer lead tube in which these parts are incased or sheathed, and which serves to protect the enveloping insulating material from the attacks of insects, or from puncture, cutting, or abrasion caused by contact with hard substances when the article is handled.

Thus constructed the wire is flexible, and adapted to be coiled or put on reels and otherwise handled in manner similar to ordinary wire.

I am aware that telegraph-wires have heretofore been wrapped or surrounded with cords or bands of fibrous material saturated or coated with insulating compounds, and also that such wires have been inclosed in pipes or tubes. I do not, therefore, claim such, broadly; but,

Having described my invention, I claim and desire to secure by United States Letters Patent—

1. A compound for insulating telegraph-wires, consisting of bees-wax and Venice turpentine, combined substantially as set forth.

2. The combination, substantially as set forth, of an electrical conducting-wire and an insulating compound consisting of bees-wax and Venice turpentine, combined substantially as described, surrounding the wire.

WILLIAM W. JACQUES.

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