

UNITED STATES PATENT OFFICE.

THOMAS L. REED, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR OF ONE
HALF HIS RIGHT TO EUGENE F. PHILLIPS, OF SAME PLACE.

IMPROVEMENT IN INSULATING TELEGRAPH-WIRES.

Specification forming part of Letters Patent No. 154,617, dated September 1, 1874; application filed
August 23, 1873.

To all whom it may concern:

Be it known that I, THOMAS L. REED, of the city and county of Providence, in the State of Rhode Island, have made certain new and useful Improvements in Insulating Telegraph-Wire; and I do hereby declare that the following specification is a full, clear, and exact description thereof.

It is well understood that with insulated wires, especially with that class of wire having its fibrous covering filled with paraffine or wax, there is constant danger from fire, which may result from a heavily-charged battery or from lightning.

The paraffine or wax will often easily ignite where the current is heavy or the wires near to each other, by the spark passing from one to the other, and when once ignited, burn rapidly.

The object of my invention is to overcome these difficulties by rendering the covering incapable of taking fire, as above mentioned, and consists in interposing between the wire and the outer covering of wax, paraffine, or like inflammable material used for insulation, a material which acts as a non-conductor of both heat and electricity, thereby preventing the passage of electricity and the heat engendered by it from the wire, and the consequent destruction of the outer covering.

This desideratum I accomplish in the fol-

lowing manner: I put upon the wire in the ordinary way, a fibrous covering, and saturate the same with a solution of glass, which effectually prevents the electricity from setting fire to the fiber, or the paraffine or wax with which the outer covering is filled.

I prefer to first place upon the wire a thin covering, and saturate with the solution described, and afterward cover the whole with the usual covering filled with paraffine or wax. If, however, there is more than one fibrous covering, either may receive the solution of glass with good effect, and if but one, the paraffine or wax may be dispensed with, but not, however, with the best result.

After the wire has received its first covering, saturated with the solution of glass, an outer coating or covering of rubber may be used, as the former will protect the rubber from the injurious effects of the electricity, which has hitherto made the use of rubber impracticable.

What I claim as my invention is—

Fibrous material saturated with a solution of glass, interposed between the wire and the outer covering of paraffine, wax, or rubber, substantially as and for the purpose specified.

THOMAS L. REED.

Witnesses:

WALTER B. VINCENT,
GEORGE E. BECKET.