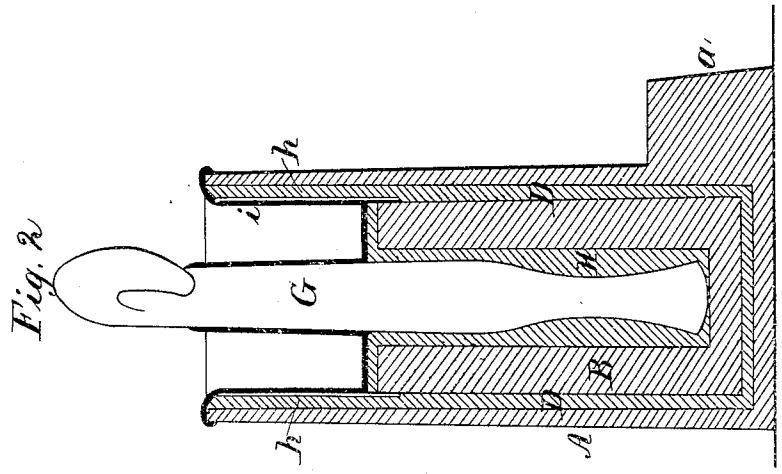
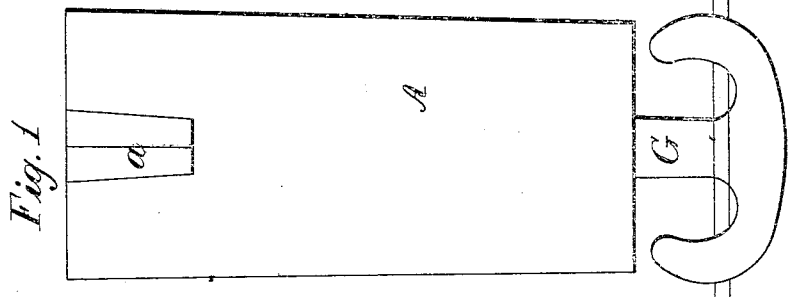
D. BROOKS.

INSULATOR FOR TELEGRAPH WIRES.

No. 45,221. Patented Nov. 29, 1864.





Witnesses

H. Albert Steel

Charles Hewson

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UNITED STATES PATENT OFFICE.

DAVID BROOKS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN INSULATORS FOR TELEGRAPH-WIRES.

Specification forming part of Letters Patent No. **45,221**, dated November 29, 1864.

To all whom it may concern:

Be it known that I, DAVID BROOKS, of Philadelphia, Pennsylvania, have invented an Improvement in Insulators for Telegraph-Wires; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of the improved mode, fully described hereinafter, of constructing insulators for telegraph-wires, whereby the inconveniences resulting from the collection of water on and about the insulators during rainy and foggy weather are obviated.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is an exterior view of my improved insulator for telegraph-wires, and Fig. 2 a vertical section of the insulator inverted.

A is the exterior cast-iron casing of the insulator, the projection *a* of which serves as a means of attachment to the arms of the telegraph-poles.

B is a cylindrical block of glass, between which and the interior of the casing A intervenes a body, D, of sulphur, the glass being considerably shorter than the casing. In this glass block is a circular opening for the reception of the wire-holder G, which is secured by a mass of sulphur, H, the stem of the holder being made concave at opposite sides, so that it cannot be withdrawn from the glass by the weight or tension of the wires.

In preparing my improved insulators, I in the first instance place the glass on a table or slab and pour into the opening melted sulphur and then deposit the stem of the wire-holder G in the opening of the glass, which is perfectly secured to the holder when the sulphur has become hard by cooling. After this I cement to the upper edge of the glass a strip of paper, *h*, made in the form of a hollow cylinder, when the glass with its wire-holder is ready for attachment to the casing A. In order to do this I in the first instance heat the casing and then pour into the same a suitable quantity of molten sulphur, and into this I deposit the glass block with its paper cylinder *h*. As the latter extends to the upper edge of the casing A there will necessarily be a body of sulphur between the said casing and the paper. The sulphur and the paper at the upper edge of the casing A are then trimmed off, after which, while the insulator is still in an inverted position, molten paraffine is poured into the space above the glass within the paper cylinder until the space is full. The insulator is then turned upside down, and the greater portion of the molten paraffine poured out, the remainder adhering to the paper and to the upper edge of the casing and sulphur, for care should be taken that the coating *i* of paraffine extends over the edge of the casing.

When the coating of paraffine has congealed I cover it with a varnish composed of beeswax, rosin, and paraffine, when the insulator is complete and ready for being attached to the pole in the position seen in Fig. 1.

Although sulphur affords an excellent medium for securing the wire-holder to the glass and the latter to the exterior casing of the insulator, and although sulphur when dry is a comparatively good non-conductor of electricity, it has a great affinity for water, with which, during rains or fogs, it soon becomes charged to such an extent as to neutralize its non-conducting properties; hence during rainy weather the sulphur would have a tendency to conduct the moisture from the edge of the casing to the wire-holder and through the paper were it not for the coating of paraffine, which penetrates the sulphur, adheres to the surface of the same, and effectually prevents the access of moisture to the wire-holder, the stem of which is also coated with paraffine and varnished.

I claim as my invention and desire to secure by Letters Patent—

1. The use in the manner described of a hollow cylinder, *h*, of paper or its equivalent, in connecting the glass block B to the casing A by means of sulphur.

2. Coating the interior of the space above the glass block, as well as the edge of the casing and of the sulphur near the same, also the stem of the wire-holder, with paraffine, in the manner and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

D. BROOKS.

Witnesses:

HENRY HOWSON,

JOHN WHITE.