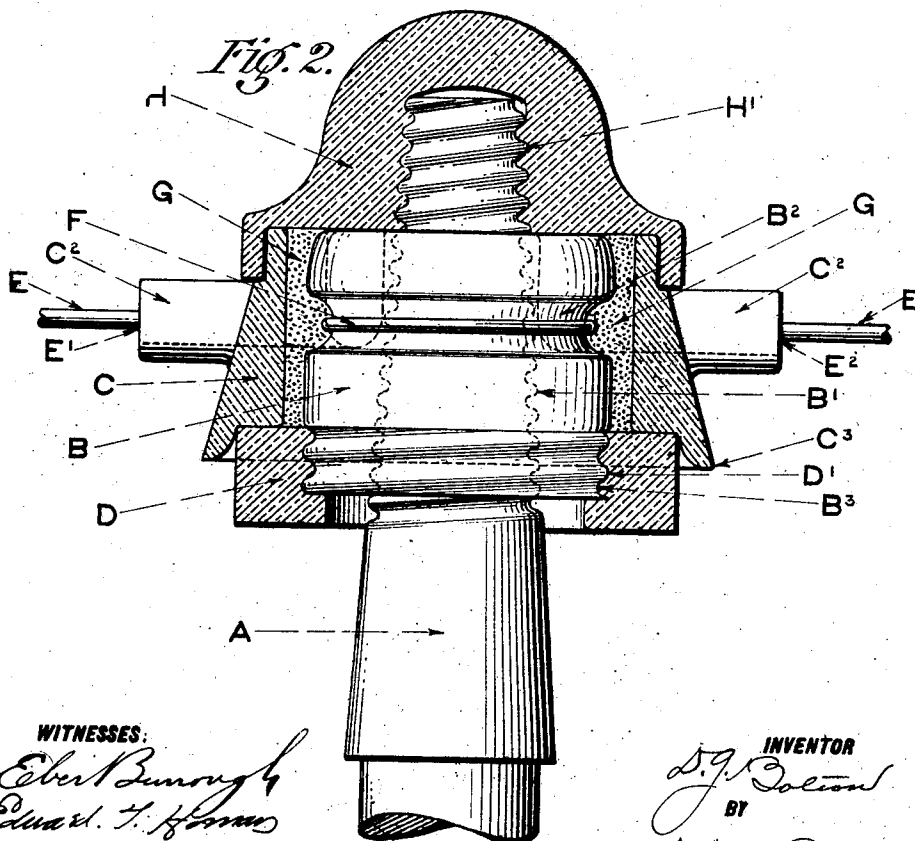
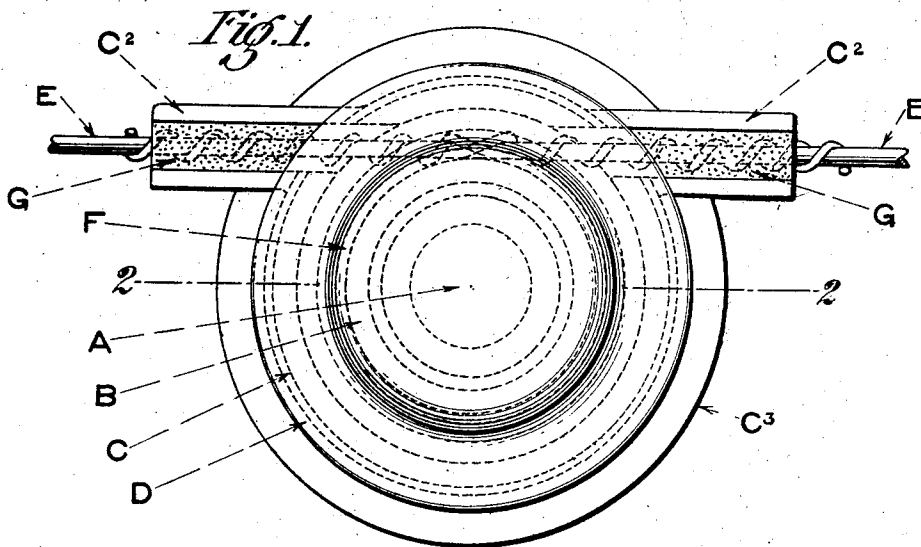


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 ELECTRICAL INSULATOR.
 APPLICATION FILED MAY 28, 1910.

1,020,122.

Patented Mar. 12, 1912.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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ELECTRICAL INSULATOR.

1,020,122.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed May 28, 1910. Serial No. 563,980.

To all whom it may concern:

Be it known that I, DANIEL G. BOLTON, a citizen of the United States, residing at 123 Penn street, Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Electrical Insulators, of which the following is a specification.

My invention relates to improvements in electrical insulators on which high tension wires may be attached; also an electrical insulator on which low tension wires, as telephone and telegraph may be attached, thereby attaining a higher insulation.

The object of the invention is to improve the insulation of the wires and to reduce surface leakage in damp weather whereby a higher standard of insulation can be maintained.

The difficulties heretofore encountered in insulating a line in damp weather is the exposure of the line and its tie wire, they being secured externally to the insulator collect dirt and smoke and when the surface becomes moist it will form a conducting surface that will cause leakage. In fact the wire and its tie wire in encircling the insulator might be divided into small segments, these segments making contact with the conductor coating on the insulator become so many multiple leak units over the surface of the insulator to the pin and pole to the ground or to an adjacent wire. My invention eliminates these leak units to a marked degree by an internal fastening whereby the wire and its tie wire are not exposed and have practically no contact with a conducting material on the surface of the insulator.

My improved electrical insulator is represented in the accompanying drawings in which—

Figure 1 is a plan view. Fig. 2 is a vertical cross-section view of Fig. 1 on the line 2—2.

Referring to the drawings in which similar letters denote corresponding parts—A designates a standard pole line pin or attachment. Secured thereto is an inner insulator on bushing B. C is a larger bushing also of insulating material held in position by collar D.

G represents compound or cement to complete a solid.

E represents the line wire secured to B by means of tie wire F.

H is a cap to complete a housing for wire E and its tie wire F as shown in Fig. 2.

C² is a U shaped extension of C adapted to hold wire E and its tie wire F, both are sealed in C² with cement G as shown in Figs. 1 and 2.

To attach the wire E to the insulator and seal it from moisture, C and D are first placed over pin A and are allowed to rest temporarily at any convenient place that will not conflict in placing insulator B on pin A and securing wire E with its tie wire F, inner insulator B is now placed on pin A, being provided with inner threads B¹ to fit the threads on pin A. B is also provided with a groove B², whereby tie wire F can securely fasten wire E to said insulator B by means of twisting or tying as shown in Figs. 1 and 2. The larger bushing or cylinder of insulating material can now be brought up from its temporary resting place below B and held in position by screw collar D, also preferably of insulating material, by means of its inner screw portion D¹ fitting on outer screw portion B³. C is preferably constructed with a petticoat as C² as a water drip and to extend the surface distance of wire E to pin A; also to extend the surface distance to its only exterior or surface contact points as E¹ and E², C is provided with a U shaped extension as shown in Figs. 1 and 2.

Wire E having been secured to insulator B in the regular manner by means of tie wire F and housing C having encircled said wire and secured by screw collar D, cement or compound of high insulating nature and impervious to moisture as shown by G Figs. 1 and 2, is placed between B and C sealing the wire from outside contact except at the points E¹ and E² as previously explained. To complete the solid insulator a cover or cap H is secured to pin A by means of its inner threaded portion H¹ to fit corresponding thread on pin A. H is preferably of insulating material and overlaps C to form a perfect housing to protect wire E from moisture and from contact with a conducting substance as dirt or smoke on the surface of the insulator.

It will be seen that this method of in-

terior fastening and sealing the wire and its tie wire will eliminate multiple surface contacts except at the points E¹ and E² thereby improving the insulation of the line many fold. The insulator with its housings would be more efficient than the present exterior fastened insulators even if the cement or compound G was not used; also an efficient insulator could be constructed without the cover or cap H, but the complete insulator as shown and described is more desirable but however I do not wish it limited to the pin method of attaching.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention and hence I do not limit myself to the precise details set forth but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

What I claim and desire to secure by Letters Patent is—

1. An insulator comprising a bushing of insulating material, a wire attached to the bushing, an outer bushing around the first mentioned bushing, and a cover over said outer bushing.

2. An insulator comprising a bushing of insulating material, a wire secured thereto, an outer bushing surrounding the first mentioned bushing and spaced therefrom, and a filling of cement between said bushings and inclosing the wire.

3. An insulator comprising an inner bushing, a wire secured thereon, an outer bushing surrounding the first mentioned bushing and spaced therefrom, a wire receiving trough integral with said outer bushing, a

wire in said outer trough and cement between said bushings and in said trough, inclosing said wires.

4. An insulator comprising an inner bushing, a wire secured thereon, an outer bushing surrounding the first mentioned bushing and spaced therefrom, a wire receiving trough integral with said outer bushing, a wire in said trough and cement between said bushings and in said trough inclosing said wires, and a cover over both of said bushings.

5. An insulator comprising a bushing of insulating material, a wire attached to said bushing, and means to seal the wire adjacent to the bushing and the attaching means aforesaid.

6. An insulator comprising a bushing of insulating material, a wire attached to said bushing, an outer bushing around the first mentioned bushing and spaced therefrom, a filling of cement between said bushings and inclosing the wire, and a cover over said outer bushing.

7. An insulator comprising a bushing of insulating material, a wire secured thereto, an outer bushing surrounding the first mentioned bushing, wire receiving troughs at each side of the outer bushing and extending in line with and having the wire mounted therein, a filling of cement between said bushings and in the troughs aforesaid, and a cover over both of said bushings.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL G. BOLTON.

Witnesses:

EDWARD T. HOMAN,
EBERT BURROUGH.