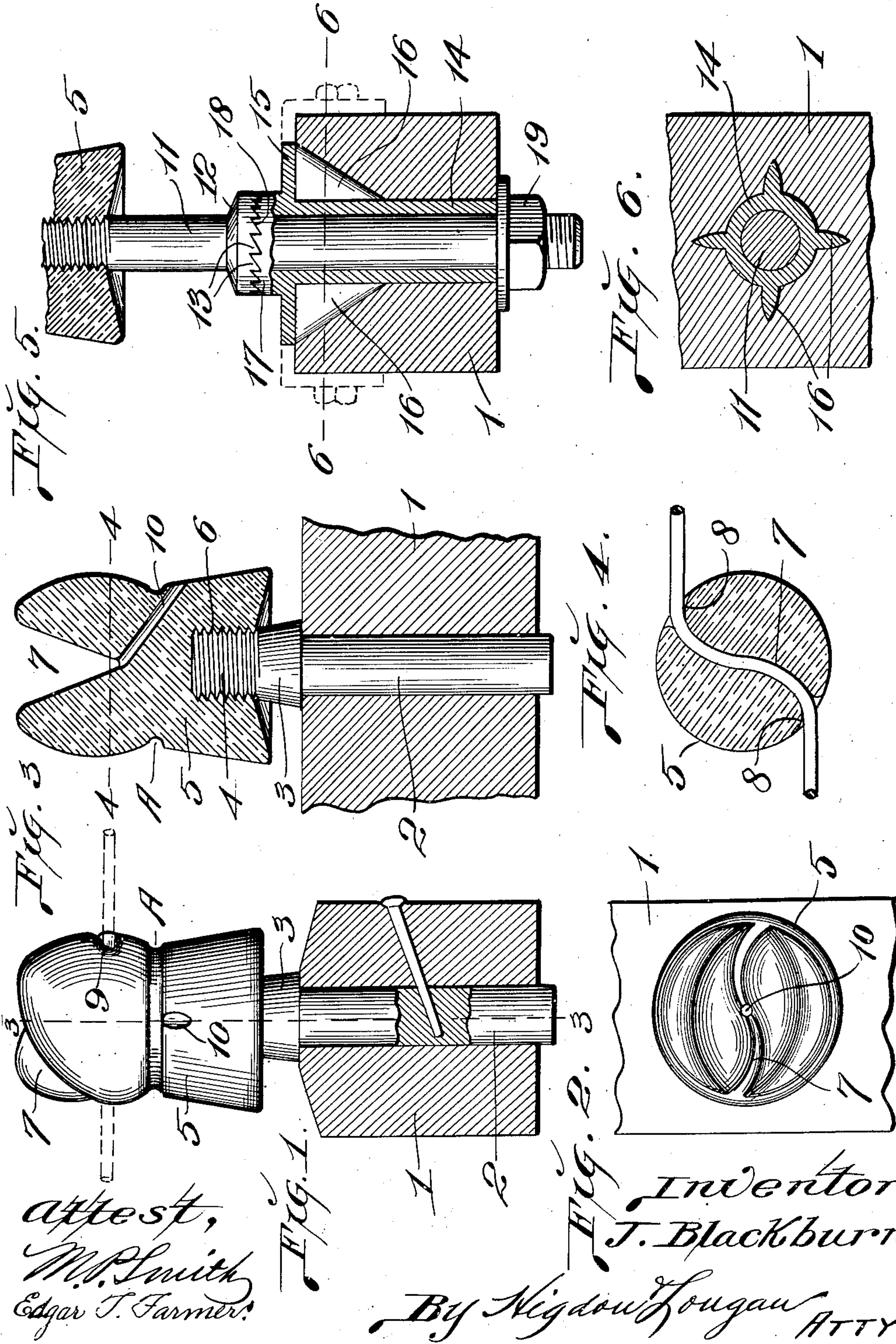


J. BLACKBURN.
INSULATOR AND WIRE CLAMP.
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INSULATOR AND WIRE-CLAMP.

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To all whom it may concern:

Be it known that I, JASPER BLACKBURN, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Insulators and Wire-Clamps, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an insulator for electric wires, which insulator is particularly intended for use on cross arms of wire and cable supporting poles, and said insulator being so constructed as to clamp and hold a wire without the use of tie wires, and being adapted to be partially rotated so as to tighten or take up the slack in the wire between a pair of the insulators.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:—

Figure 1 is an elevation of an insulator of my improved construction in position on a cross arm; Fig. 2 is a plan view of the insulator seen in Fig. 1; Fig. 3 is a vertical section taken on the line 3—3 of Fig. 1; Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 3; Fig. 5 is a vertical section of a modified form of the pin which is seated in the cross arm, and which carries the insulator; Fig. 6 is a horizontal section taken on the line 6—6 of Fig. 5.

Referring by characters of reference to the accompanying drawings:—1 designates the cross arm, or other support for the insulators, and passing vertically therethrough is a pin 2, provided on its upper end with a head 3, the upper portion of which is screw threaded, as designated by 4.

The insulator proper comprises an approximate cylindrical body 5, of glass, porcelain, or analogous material, and the lower portion of said body flares outward so as to readily shed water; and formed in the under side of this body is a screw threaded recess 6, in which the screw threaded upper end 4 of the head 3 engages.

Formed in the upper portion of the insulator body is a notch or recess 7, which is approximately V-shaped in cross section, and which follows a compound curve extend-

ing across the body of the insulator; and the ends of the bottom of this notch or recess are rounded, as designated by 8, and under cut, as designated by 9.

A horizontally disposed groove A is formed in the surface of the insulator body, at the approximate center thereof, which groove is for the purpose of receiving a tie wire, should the same be found necessary in clamping a wire to the insulator. Leading from the center of this groove, diagonally downward through the body of the insulator, is a passageway 10, which is for the purpose of carrying off any water which might accumulate in the notch or recess; or, in some instances, this passageway may be dispensed with and the central portion of the bottom of the notch or recess may be made slightly higher than the ends thereof, thus accomplishing the same result.

In Figs. 5 and 6 I have shown a metal pin 11, which takes the place of the wooden pin 2, and on said metal pin is formed a flange or collar 12, provided on the under side with ratchet teeth 13.

Seated in the cross arm is a vertically disposed sleeve 14, provided on its upper end with a disk 15, and there being sharpened ribs or flanges 16 formed integral with the under side of the disk 15 and with the upper portion of the sleeve 14, which flanges cut into the cross arm 1 when the sleeve is positioned therein, and thus prevents the rotation of the sleeve in the cross arm. Formed integral with the disk 15 is a collar 17, provided on its upper edge with ratchet teeth 18, which oppose the ratchet teeth 13.

The lower end of the pin 11 is threaded and adapted to receive a nut 19.

In stringing electric wires and cables, the same are generally laid upon the cross arms of adjacent poles, and, after being stretched, are attached to the insulators, and this procedure is usually followed when insulators of my improved construction are used. The wire is dropped into the notch or recess 7 and fitted into the lower end thereof, and the insulator body and pin 2 are now partially rotated in such a manner as to draw the wire from both directions toward the insulator; and, in so doing, the wire on both sides of the insulator is drawn into the rounded under cut ends of the notch or recess; and, this arrangement, together with the compound curved shape of the notch, very firmly

clamps the wire in the insulator, without the use of tie wires, or auxiliary clamping means.

When the insulator has been rotated to such a degree as to draw the wire taut, a nail or similar fastening device is driven through the cross arm into the pin 2, as shown in Fig. 1, thus rigidly holding the pin and insulator in the cross arm and preventing any rotary movement thereof.

In the form of the device shown in Figs. 5 and 6, the nut 19 is loosened so as to permit a slight vertical movement of the pin 11, and after the wire has been engaged in the notch in the upper portion of the insulator, said insulator and pin are rotated until the wire is tightened and clamped, and during this rotation the teeth 13 travel past the teeth 18. When the parts have been properly set, the nut 19 is tightened on the lower end of the pin 11, thus preventing any vertical movement of the pin and consequent rotation.

An insulator of my improved construction is simple, inexpensive, is adapted for holding and clamping all kinds of wires and cables, and said wires and cables are very rigidly held in the insulator without the use of clamps or tie wires.

I claim:—

1. A device of the class described, comprising a body constructed of insulating material, in the upper portion of which is formed a notch V-shaped in cross section and which follows a compound curve across the insulator, and the ends of the bottom of said notch being under cut, and there being a

horizontally disposed groove formed in the surface of the body of the insulator.

2. The combination with an insulator body, having a compound curved wire receiving notch formed in its upper portion which notch is V-shaped in cross section and there being a passage-way leading downward through the body of the insulator from said notch, of a pin detachably fixed to the insulator body, and which pin is rotatably arranged in a suitable support.

3. The combination with a support, of a pin arranged for rotation therein, an insulator body carried by the upper end of the pin, in the upper portion of which insulator body is formed a compound curved notch, V-shaped in cross section and there being a horizontally disposed groove formed in the surface of the body of the insulator below the notch therein, and the ends of the bottom of said notch being under cut.

4. An insulator and wire clamp, comprising a cylindrical body, in the upper portion of which is formed a compound curved wire receiving notch, which notch is V-shaped in cross section, and there being a passageway leading downward through the body of the insulator from the center of the notch.

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

JASPER BLACKBURN.

Witnesses:

M. P. SMITH,
E. L. WALLACE.