T. VARNEY.

INSULATOR FOR ELECTRIC LINES.

APPLICATION FILED JUNE 8, 1907.

946,623. Patented Jan. 18, 1910.

Fig. 1.

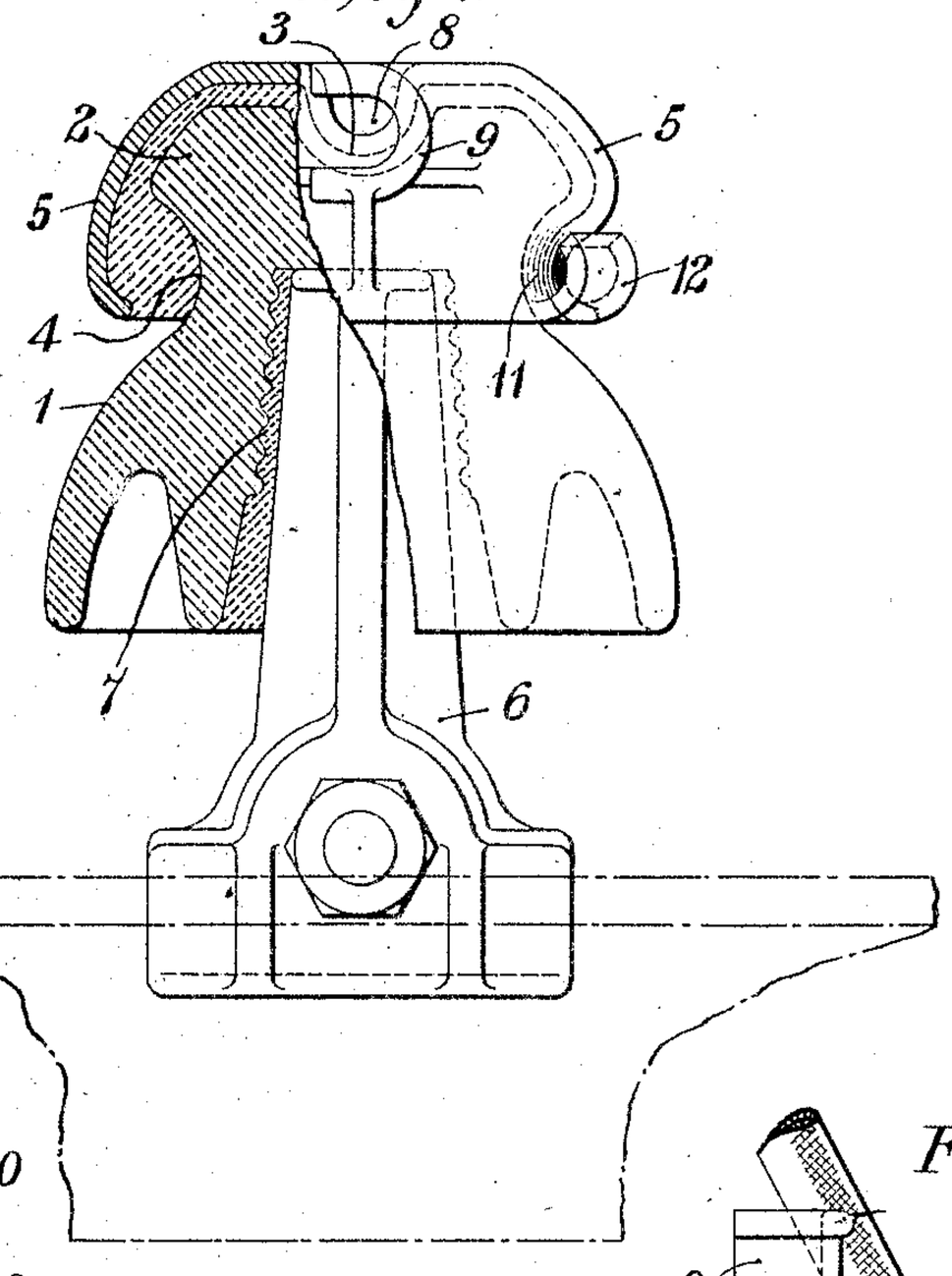


Fig. 2.

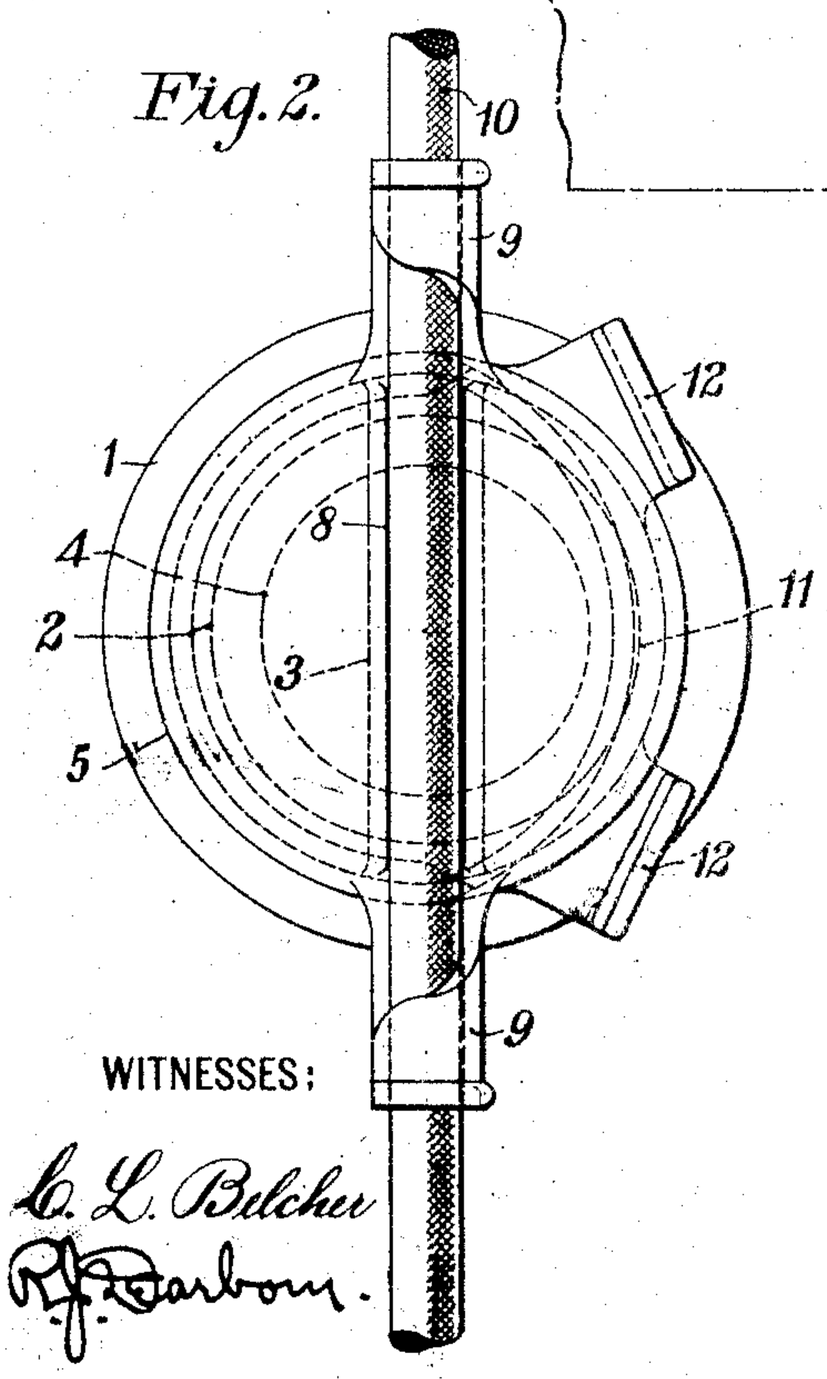
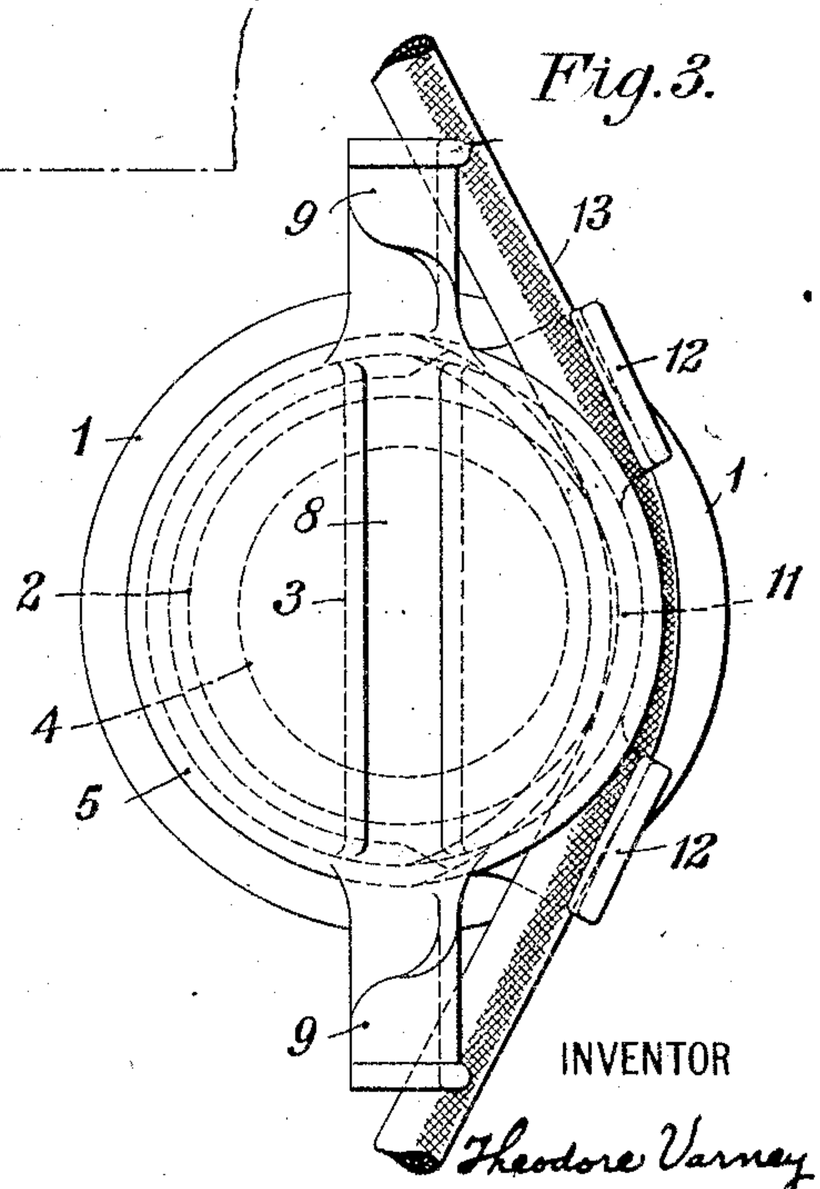


Fig. 3.



WITNESSES;

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INSULATOR FOR ELECTRIC LINES.

946,623. Specification of Letters Patent. Patented Jan. 18, 1910.

Application filed June 8, 1907. Serial No. 377,944.

To all whom it may concern:

Be it known that I, THEODORE VARNEY, a citizen of the United States, and a resident of Pittsburg in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Insulators for Electric Lines, of which the following is a specification.

My invention relates to insulators for electric lines and it has for its object to provide a device of the aforesaid class that shall be adapted to support the messenger cable which forms a part of a well known form of catenary line construction, or any electric conductor which is supplied with high voltage energy.

In a co-pending application Serial No. 366,501, I have illustrated and described a section of electric line, the messenger cable of which is supported by a petticoat insulator of a well known type, the insulator supporting pin being adjustably mounted on a stationary bracket arm. This insulator is provided with a cross groove at the top in which the messenger cable is supported, tie wires being employed, in a well known manner, for holding the cable in position.

It is sometimes desirable to support a messenger cable against lateral displacement, as is the case when the catenary form of line construction is employed on curves. According to my present invention, I provide a petticoat insulator which closely resembles the insulators of the prior art, except that the annular groove which forms the neck of the insulator is relatively wider and deeper, and in order to facilitate the erection of the line, I secure a metal cap, having two sets of hooked projections, to the head of the insulator.

Figure 1, of the accompanying drawings, is a view partially in elevation and partially in section, of an insulator constructed in accordance with my invention. Fig. 2 is a plan view of the insulator shown in Fig. 1, a section of cable or wire being supported in the cross groove of the insulator, and Fig. 3 is a view similar to Fig. 2 showing the method of supporting a cable or wire against lateral displacement.

Referring to the drawings, the device here illustrated comprises a petticoat insulator 1 having a head 2 which is provided with a cross groove 3 and an annular recess 4 which forms the neck of the insulator, a metal cap 5, and a supporting pin 6. The supporting pin may be of any suitable design that is adapted to the cross arm or supporting bracket with which it is used and the service to which it is subjected. As shown in Fig. 1, the supporting pin 6 is a taper pin of malleable iron having an irregular section and an enlarged extremity, and the petticoat insulator is provided with a recess 7, the walls of which are corrugated to receive the pin. This structure permits the insulator to be rigidly and permanently secured to the pin by pouring Babbitt metal or cement into the recess 7 when the aforesaid parts are assembled.

The cap 5 conforms, in its general contour, to the head 2 of the insulator over which it is fitted and to which it is secured by Babbitt metal or cement which is flowed into the cap when it is assembled on the insulator. The cap is indented to produce a cross groove 8 corresponding to the groove 3 in the head of the insulator, and has partially closed sleeve projections 9 which form continuations of the groove 8 and are adapted to receive a wire or cable 10, as illustrated in Fig. 2. The cap is further provided with an indentation 11 at one side which conforms to the neck of the insulator and with partially closed sleeve projections 12 which form continuations of the recess 11, as shown in Fig. 3, for the purpose of securing a wire or cable 13 against lateral displacement, these parts being utilized, in lieu of the parts 8 and 9, to receive the wire or cable along curved portions of the line.

The sleeves 9 and 12 may be so formed that they may be partially closed over the wires or cables which they support and may be so located as to prevent the said wires or cables from slipping out of place.

The current-conducting properties of the metal cap 5 may be specially valuable in case the insulator is broken or punctured, since a destructive arc will temporarily be formed between this member and the end of the pin instead of between the messenger cable and the pin. The preservation of the cable which contains the trolley conductor is obviously of much greater importance than that of the cap which can be readily replaced without involving a material interruption of the service.

I claim as my invention:

1. An electric insulator comprising a body of insulating material and a metal cap cemented thereto and provided with a side groove and partially closed sleeve projections which form continuations of the groove and serve to clamp a wire or cable therein against lateral displacement.

2. An electric insulator comprising a body of insulating material having a recess to receive a supporting pin, a petticoat or flange, a cross groove at the top and an annular groove which forms a neck, and a metal cap having a top groove and a side groove and partially closed sleeve projections which form continuations of the respective grooves and are adapted to secure a wire or cable therein against vertical or horizontal displacement.

In testimony whereof, I have hereunto subscribed my name this 29th day of May, 1907.

THEODORE VARNEY.

Witnesses:

W. H. KEMPTON,

BIRNEY HINES.