H. W. YOUNG.

INSULATING SUPPORT FOR LAMP SOCKETS AND REACTANCE COILS.

APPLICATION FILED JULY 22, 1912.

1,050,196.

Patented Jan. 14, 1913.

3 SHEETS—SHEET 1.

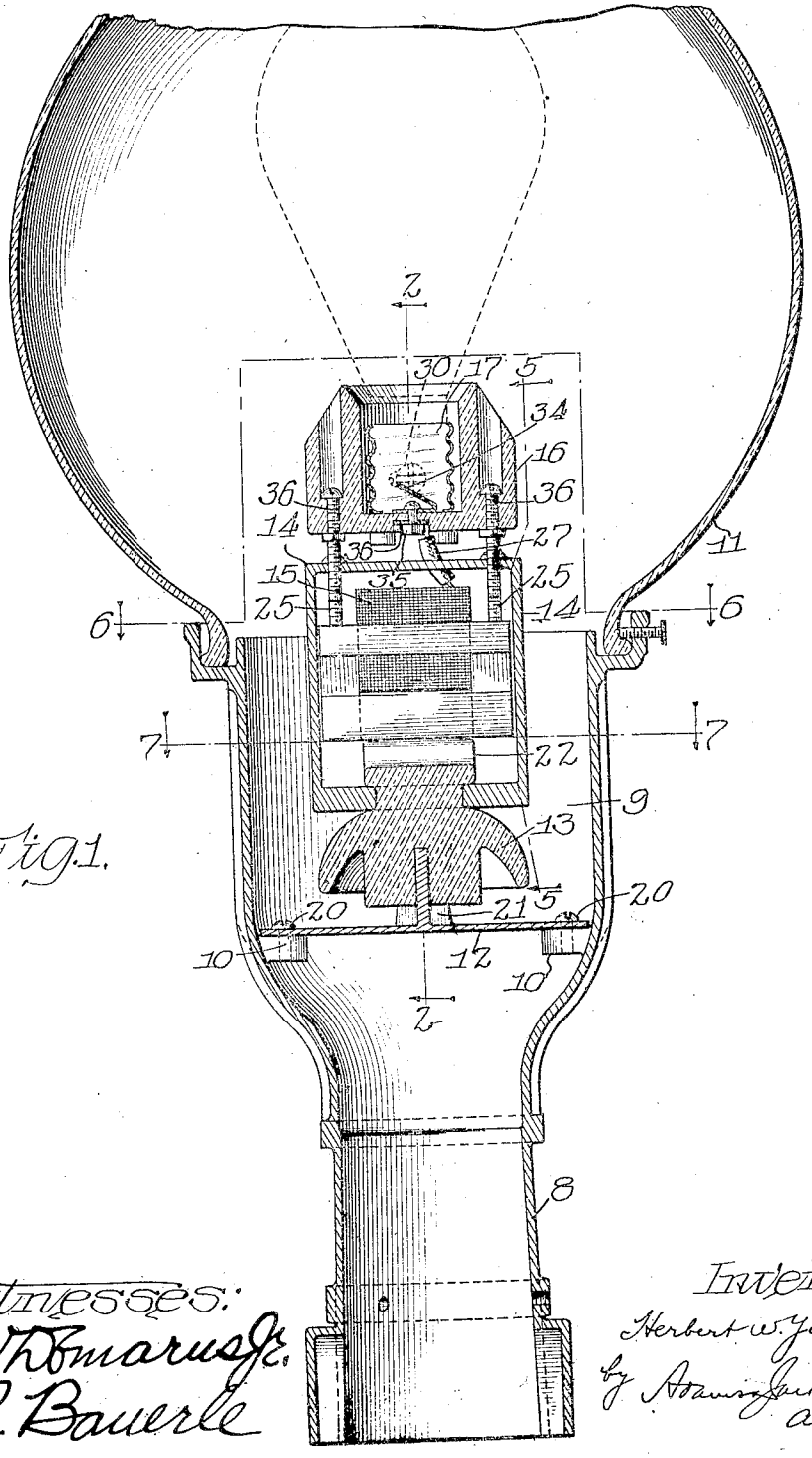

Fig. 1.

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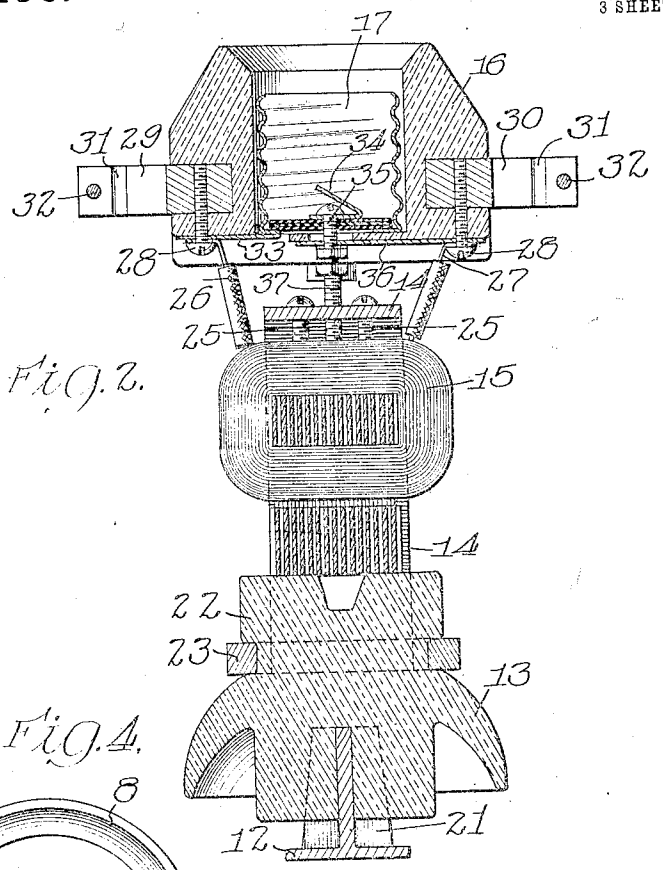
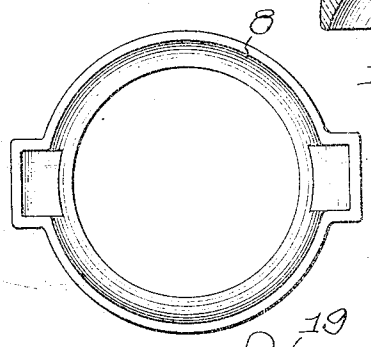


Fig. 2.

Fig. 4.



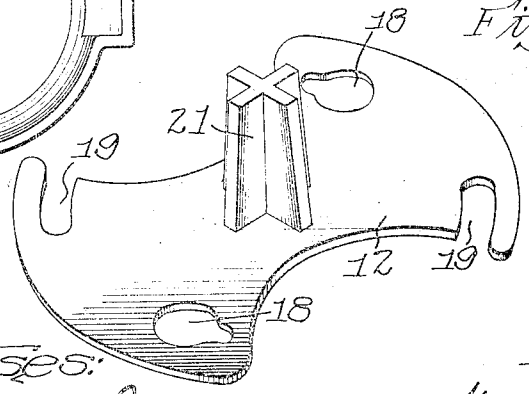


Fig. 3.

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3 SHEETS—SHEET 3.

Fig. 7.

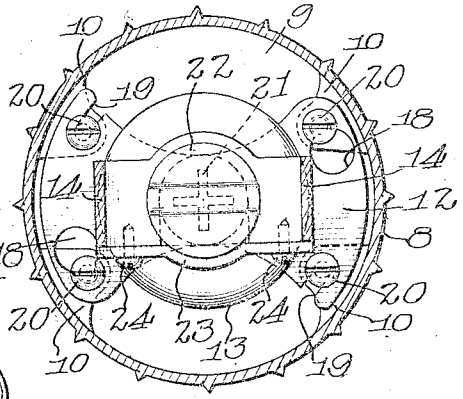


Fig. 5.

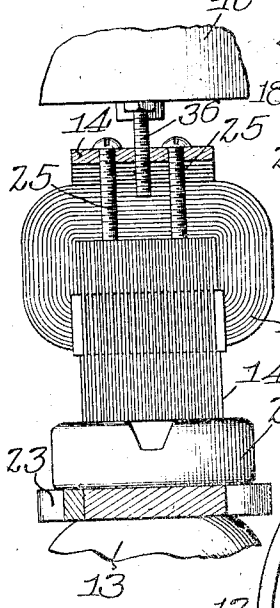
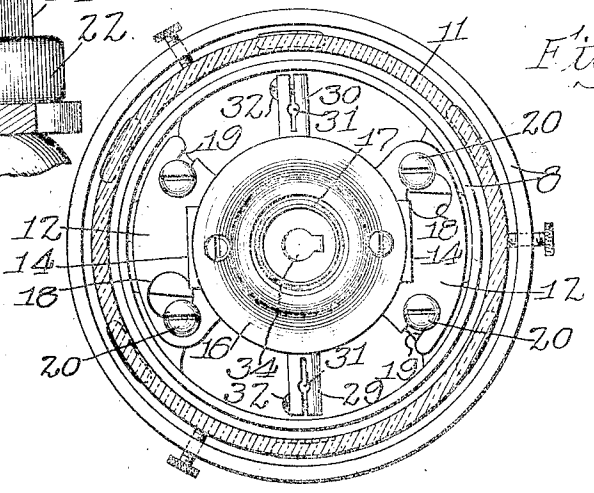


Fig. 6.



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UNITED STATES PATENT OFFICE.

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INSULATING-SUPPORT FOR LAMP-SOCKETS AND REACTANCE-COILS.

1,050,196. Specification of Letters Patent. Patented Jan. 14, 1913.

Application filed July 22, 1912. Serial No. 710,974.

To all whom it may concern:

Be it known that I, HERBERT W. YOUNG, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Insulating-Supports for Lamp-Sockets and Reactance-Coils, of which the following is a specification, reference being had to the accompanying drawings.

My invention has particular reference to street lighting systems operating according to what is known as the reactance coil system, in which each lamp is provided with a reactance coil in series shunt relation with each other, so that the greater percentage of the current is by-passed through the lamp when burning, as it offers practically a non-inductive load, a small percentage of the current passing through the reactance coil which is highly inductive. When a lamp filament breaks or opens the circuit, or when the lamp is removed from the socket, the entire current flows through the reactance coil so that, with a constant potential on the line, the current is kept practically constant.

In order that such reactance coil systems may be successfully used commercially in connection with hollow poles or posts, it is necessary that some structure be employed which will permit bringing the conducting cables or wires up through the pole to the lamp, and by which they may be conveniently and effectively attached to binding posts or connectors through which the circuit in the reactance coil and lamp is completed. It is also necessary that the reactance coil and lamp be insulated effectively from the ground so that the lamp may be safely operated from high tension underground circuits, and it is the object of my invention to provide certain improvements by which these desirable results may be effectively secured. I accomplish this object as illustrated in the accompanying drawings and as hereinafter described.

What I regard as new is set forth in the claims.

In the accompanying drawings,—Figure 1 is a vertical section of the upper portion of a lamp-post equipped with my improvements which form the subject-matter of this application; Fig. 2 is a vertical sectional view of the support and parts carried thereby taken at right angles to the view shown in Fig. 1, on line 2—2 of Fig. 1; Fig. 3 is a perspective view of the base plate of the support; Fig. 4 is a bottom view of the upper section of the lamp-post shown in Fig. 1; Fig. 5 is a partial vertical section on line 5—5 of Fig. 1; Fig. 6 is a cross-section on line 6—6 of Fig. 1; and Fig. 7 is a cross-section on line 7—7 of Fig. 1.

Referring to the drawings, 8 indicates the upper section of a hollow lamp-post, which may be of any suitable style or type. In the construction shown said upper section is designed to telescope upon a lower section to which it may be secured in any suitable way. Its upper end is slightly enlarged, as shown at 9 in Fig. 1, to provide sufficient space to receive the lamp socket, but any other suitable design may be employed as all that is necessary is that the post be capable of receiving and holding the lamp socket supports securely in position.

10 indicates internally projecting lugs at opposite sides of the post, as best shown in Fig. 1.

11 indicates the usual globe.

My improved lamp socket and reactance coil support comprises a base plate 12 adapted to rest upon and be secured to the lugs 10; an insulator 13, preferably of the "petticoat" type, carried by and secured to the base plate 12 at the upper side thereof; a reactance coil supporting-frame 14, preferably of metal, which rests upon and is secured to the insulator 13; a reactance coil 15 carried securely in the frame 14; and a lamp socket carrying head 16, preferably porcelain, which is carried by and secured to the upper portion of the frame 14 and is provided with the usual lamp socket 17. These parts are all secured together so as to form a unitary structure which forms a complete installation for reactance coil systems which may readily be applied to or removed from lamp-posts and is at all times effectively insulated so that it can safely be employed with installations using high tension underground circuits.

The details of the particular embodiment of my invention shown in the drawings will clearly appear from an inspection of the several figures. As best shown in Fig. 3, the base plate 12 is provided with holes 18 and slots 19, near its opposite margins.

so that by providing the lugs 10 with screws 20 arranged to register with the holes 18 and slots 19 the base plate 12 may be put in place and secured in position without removing the screws from the lugs. As also shown in Fig. 3 the base plate 12 is provided at its center with a fixed standard 21, preferably cross-shaped in cross section, which serves as a means of receiving and supporting the insulator 13, as best shown in Fig. 2. Said insulator is provided with a suitably shaped socket to receive the standard 21, which is fitted tightly thereupon, and may be cemented or otherwise secured thereon. The reactance coil supporting frame, in the construction shown, is a rectangular metal frame which is adapted to fit upon the upper portion of the insulator 13 in a groove 22. The lower side of the frame 14 is provided with an opening shaped to receive the insulator, said opening being open at one side so that the frame may be fitted in the groove 22. A separable bar 23 extends across the open side of said opening and is secured to the frame by screws 24, as shown in Fig. 7, in such manner that it serves as a clamp to clamp the frame 14 upon the insulator. The reactance coil 15 is fitted within the frame 14 and rests upon the top of the insulator 13. At its upper side it is secured to the top of the frame 14 by screws 25, best shown in Figs. 1 and 5, so that it is held securely in position but may be removed by loosening said screws. The reactance coil is itself covered with suitable insulating material and its terminal wires 26—27 are connected by screws 28, or other suitable means, to binding posts 29—30 carried by the lamp socket carrying head 16. The binding posts 29—30 are fitted in suitable recesses in the head 16 and are secured in position by the screws 28, as shown in Fig. 2. Said binding posts are provided with any suitable means for securing the line, cables or wires to them. In the construction shown said binding posts are slotted longitudinally and provided with channels 31 and clamping screws 32, so that the ends of the wires may be passed through said channels and clamped to the binding posts by means of the screws 32. The cylindrical portion of the lamp socket 17 is in electrical connection with one of the binding posts, as 29, by means of a plate 33, and the usual spring contact plate 34 of said lamp socket is connected with the other binding post by a screw 35 and plate 36. 37 indicates screws which connect the head 16 with the frame 14, as best shown in Fig. 1.

From the foregoing description it will be seen that the lamp socket and reactance coil are effectually insulated from the lamp-post by the insulator 13 which is interposed between them and the base plate 12, so that the reactance coil does not depend for its insulation upon the insulating material in which it is inclosed. If an insulator were not interposed between the reactance coil and the ground it would be very difficult to secure a permanent insulating value, for if it were attempted to secure the full insulation value between the wire with which the coil is wound and the iron core, the insulation would necessarily be of such thickness that the electrical characteristics of the coil would be impaired, and furthermore such insulation would not have the permanent value offered by porcelain, or equivalent material, such as is used in the construction of the insulator 13. By using auxiliary insulation, such as the insulator 13, interposed between the reactance coil and the ground, however, a permanently high volume of insulation is secured. Furthermore by the construction described I provide a unitary device which permits of easy installation and connection of the underground wires and cables to the lamp socket and reactance coil. The cables are passed up through the pole by the side margins of the base plate 12, which are cut away, as shown in Fig. 3, and are secured to the binding posts 29—30 in the manner described.

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

1. A device of the character described, comprising a lamp socket, a reactance coil, means supporting said coil, and an insulator interposed between said supporting means and the lamp-post.

2. A device of the character described, comprising a lamp socket, a reactance coil, an attaching device, and an insulator interposed between said coil supporting means and said attaching device.

3. A device of the character described, comprising an insulator, a frame mounted on said insulator, a reactance coil carried by said frame, and a lamp socket supported by said frame.

4. A device of the character described, comprising a base plate, an insulator carried by said base plate, a frame mounted on and secured to said insulator, a reactance coil secured to said frame, a head mounted on and secured to said frame, and a lamp socket carried by said head.

5. A device of the character described, comprising a base plate, an insulator carried by said base plate, a frame mounted on and secured to said insulator, a reactance coil secured to said frame, a head mounted on and secured to said frame, binding posts carried by said head, and a lamp socket also carried by said head.

6. A device of the character described, comprising a base plate, an insulator carried by said base plate, a frame mounted on

and detachably secured to said insulator, a reactance coil secured to said frame, a head mounted on and secured to said frame, and a lamp socket also carried by said head.

7. A unitary device of the character described, comprising an open frame, a reactance coil secured in said frame, a lamp socket arranged above said frame and secured thereto, binding posts connected with the lamp socket and with the terminals of the reactance coil, an attaching member, and an insulator interposed between and connected to said attaching member and said frame.

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