T. E. MURRAY.

SOCKET FOR ELECTRIC GLOW LAMPS.

APPLICATION FILED JULY 24, 1909

986,743. **Patented Mar. 14, 1911.**

Fig. 1.

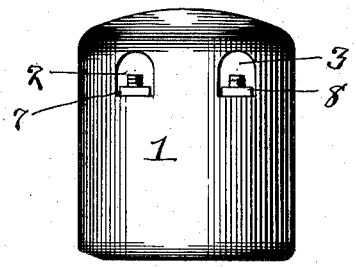

Fig. 2.

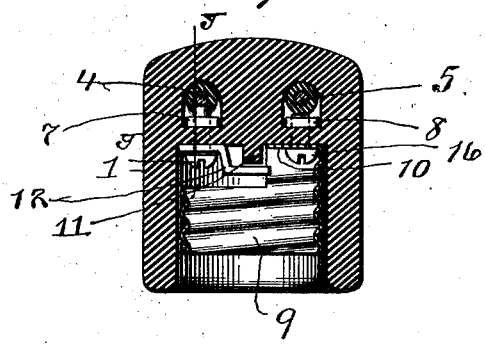

Fig. 3.

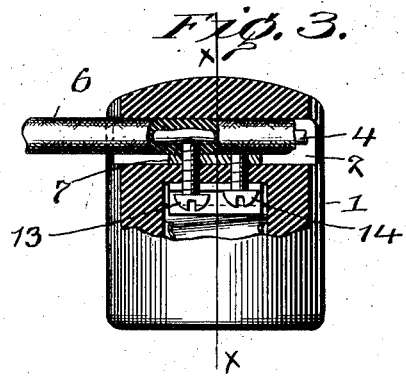

Fig. 4.

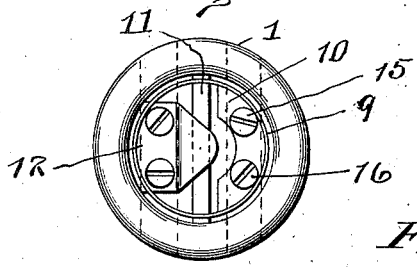

Fig. 5.

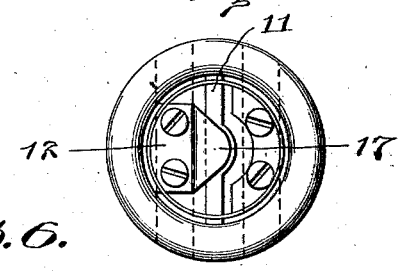

Fig. 6.

WITNESSES:

Gertrude T. Porter.

May T. McGarry.

INVENTOR

Thomas E. Murray

BY

Lass Benjamin

his ATTORNEY

UNITED STATES PATENT OFFICE.

THOMAS E. MURRAY, OF NEW YORK, N. Y.

SOCKET FOR ELECTRIC GLOW-LAMPS.

986,743. Specification of Letters Patent. Patented Mar. 14, 1911.

Application filed July 24, 1909. Serial No. 509,312.

To all whom it may concern:

Be it known that I, THOMAS E. MURRAY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Sockets for Electric Glow-Lamps, of which the following is a specification.

The invention relates to sockets for electric glow-lamps.

The invention consists in constructing the socket cup-shaped and integrally of a single piece of porcelain or like refractory insulating material; in providing in the solid portion of said socket between an end thereof and the cavity therein openings for the reception of circuit wires, whereby said socket and lamp may be supported upon said wires; in providing means for clamping and locking said wires in said openings, so that said wires cannot be withdrawn or the socket moved upon said wires; in constructing said means so as to be operable only from within the socket cavity, and so that access cannot be had to the contacts of said means with said circuit wires; in combining said means with the terminals in the socket so that said terminals are secured also by said locking and clamping means, and in the construction more particularly pointed out in the claims.

In the accompanying drawings—Figure 1 is a side elevation of my glow-lamp socket. Fig. 2 is a section on the line x, x, of Fig. 3. Fig. 3 is an elevation with a part broken away and in section on the line y, y, of Fig. 2. Figs. 4 and 5 are views looking into the socket cavity and showing the terminals therein, Fig. 5 exhibiting a modified form of the supporting rib interposed between the terminals. Fig. 6 shows separately one of the flat ended locking screws.

Similar numbers of reference indicate like parts.

The socket 1 is cup-shaped and preferably made integrally of porcelain or other insulating refractory material. Extending transversely through the solid portion of the socket between the end thereof and the cavity therein are two openings 2, 3, through which are passed the circuit wires 4, 5 which are inclosed with any suitable insulating coverings 6. Said openings, as shown in cross section, have one side arched to conform to the curvature of the wires, and the opposite side flat. On the flat sides are metal spacing plates 7, 8 which fill the space between said flat sides and the wires. Within the socket is placed the internally threaded metal sleeve 9 for the reception of the plug of the glow-lamp. At the inner end of said sleeve is an arc-shaped flange 10 which bears against the bottom of the socket. Said sleeve is cut away, as shown in Fig. 2, to receive a transverse rib or partition 11, integrally formed on the socket bottom, and also a bent contact plate 12 which is secured by two screws, 13, 14, which pass into the opening 2 and through the spacing plate 7 therein. The screw 13, Fig. 6, has a flat end and is made sufficiently long to force itself, when set up, through the insulating covering of the circuit wire 6 and into electrical contact with the wire itself. The screw 14 meets the outer periphery of the said insulation. The screw 13 is preferably caused slightly to bend up the wire with which it is in contact, so that in this way not only is close electrical contact caused between the flat end of the screw and wire, but by reason of the bending up of the wire, the compression of the insulation, above the bend, against the arch of the opening and the positive engagement of the screw body with the insulation, below the bend, it becomes impossible to withdraw the wire from the opening or in any other way to obtain access to the exposed wire at the place of electrical connection therewith. The arc-shaped flange 10 on the sleeve is secured by two screws 15 and 16, similar to screws 13, 14, which pass into the opening and connect with the other circuit conductor in the same manner already described with respect to screws 13 and 14. The inner portion or free end of the plate 12 extends over the rib 11 which forms a support for said free end, and which may be enlarged as shown at 17 in Fig. 5, so as to form a broad bearing surface, if desired. The plate 12, as shown, is supported wholly out of contact with the sleeve 9 and is designed to establish electrical connection with the usual fixed central contact plate or button on the plug of the glow-lamp.

Among the special advantages flowing from this construction are: When the glow-lamp is inserted in the socket, access to the terminals formed by the sleeve 9 and plate 12 is completely prevented. It is also impossible for access to be had to the electrical connections between the circuit wires and said terminals, inasmuch as they are wholly inclosed in the material of the socket. The

socket and associate lamp may be supported solely on the circuit wires which pass through and are locked in the openings. This is especially important when it is desired to run temporary lines, as for illuminations of exhibitions and other displays, since not only are the sockets and lamps firmly supported by the conductors, but they can be distributed along said conductors at any desired intervals or in groups and then locked immovably in place. As temporary installations of this kind often offer easy facilities for unauthorized purloining of current, the prevention of all access to the electrical connections in the socket, as here provided, is of economical importance. Making the socket integrally of a single piece of porcelain or the like, effectually protects the connections from the weather, which is also important where the lines are exposed, as is often the case with temporary display arrangements. The flat ended screws used for establishing connection with the actual wires, avoid the necessity of any denudation for that purpose, inasmuch as such a screw readily reams out its own opening in all ordinary insulating coverings, fits tight and establishes a contact of sufficient area not to burn out or become easily oxidized.

I claim:

1. As a new article of manufacture and sale, a glow-lamp socket, cup-shaped, formed integrally of a single piece of refractory insulating material and having in its solid portion between one end and the socket cavity, openings for the reception of supporting circuit conductors.

2. A glow-lamp socket, cup-shaped, formed integrally of a single piece of refractory insulating material and having in its solid portion between one end and the socket cavity, openings for the reception of supporting circuit conductors, and means in said openings for securing said socket immovably upon said conductors.

3. A glow-lamp socket, cup-shaped, having a transverse opening extending through the solid portion between the end of the socket and the cavity therein for the reception of, a covered circuit wire, and a screw having a flat end entering said opening, passing through said covering and making electrical contact at said flat end with said wire.

4. The combination of a circuit wire having an insulating covering, a circuit terminal, and a flat ended screw passing through said terminal and said covering and making contact with said wire at its flat end and thereby establishing electrical connection between said terminal and said wire.

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

THOMAS E. MURRAY.

Witnesses:

GERTRUDE T. PORTER,

MAY T. MCGARRY.