

(No Model.)

E. P. ROBERTS.
INCANDESCENT ELECTRIC LAMP.

No. 459,100.

Patented Sept. 8, 1891.

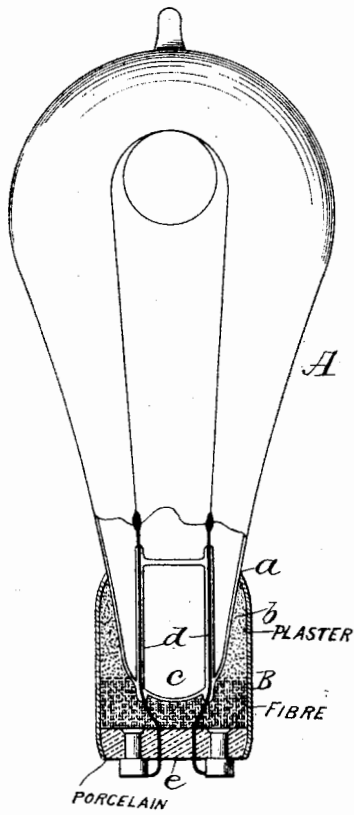


Fig. 1.

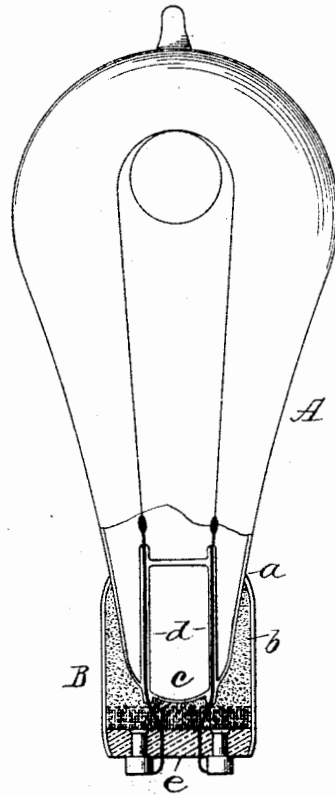


Fig. 2.

Witnesses
G. Nottingham
G. Nottingham

Inventor
Edward P. Roberts.
R. H. A. Symmons,
Attorney

UNITED STATES PATENT OFFICE.

EDWARD P. ROBERTS, OF CLEVELAND, OHIO, ASSIGNOR TO THE SWAN LAMP MANUFACTURING COMPANY, OF SAME PLACE.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 459,100, dated September 8, 1891.

Application filed July 15, 1891. Serial No. 399,652. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. ROBERTS, a citizen of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Incandescent Electric Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in incandescent electric lamps, and more particularly to improved means for connecting the socket-piece to the bulb.

It is usual in attaching the bulb of an incandescent electric lamp to the socket-piece to employ plastic material, such as plaster-of-paris, which of necessity must be inserted in the socket-piece in its soft and moist condition. The sealing material thus used dries very slowly, and consequently delays shipment of the goods, and it is also liable to crack and injure the bulb; and, further, with the use of such moist material the wires which pass through it to the electrodes are liable to become injured by the moisture in the sealing material, and in many instances in practice it has been found to rust the conducting-wires and cause them to break in the sealing material.

The principal trouble arising from the slow drying of the plaster, as usually employed, is that the wires will be eaten off. This is due largely to electrolytic action, caused by leakage from one wire to the other, and does not occur to as great an extent if the lamps are not used for a long time after cementing into the cap.

It is the object of my invention to overcome these objections and to produce a connection between the bulb and socket-piece which will dry quickly.

A further object is to connect the bulb of an incandescent electric lamp to the socket-piece in such manner that the sealing substance will be made to dry quickly and at the same time avoid the necessity of passing the conducting-wires through the whole mass of sealing material.

With these objects in view the invention consists in the combination, with an incan-

descent electric lamp and a socket-piece, of sealing material for connecting said lamp and socket-piece, and absorbent material adapted to make contact with the sealing material and end of the lamp or bulb, and means for retaining said absorbent material in place.

The invention also consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 illustrates an embodiment of my invention. Fig. 2 is a view of a modification.

A represents an incandescent electric-lamp bulb, and B the metallic socket-piece, which latter is provided with an opening *a* for the reception of the smaller end of the bulb. Inserted in the socket-piece B and made to surround the major portion of the bulb within the socket-piece is the sealing material *b*, preferably plaster-of-paris. The extremity *c* of the bulb, through which the conducting-wires *d* pass, is preferably made to project beyond the sealing material *b*. Inserted in the open end of the socket-piece and adapted to bear on the extremity *c* of the bulb and against the sealing material *b* is a quantity of absorbent material, such as waste or other fibrous material, this absorbent material being held in place by a collar *e*, preferably of porcelain, inserted in the open end of the metallic socket-piece. From this construction it will be seen that as the absorbent material will absorb the moisture in the sealing material and conduct it by capillary attraction to the open air through the open end of the socket-piece the sealing material will be caused to dry quickly and thus not be liable to crack; and, further, it will be perceived that as the conducting-wires do not pass through the moist sealing material they are not subject to the liability of becoming injured or broken by rust or other cause, to which they would be subjected were they passed directly through the sealing material.

By the construction and arrangement above set forth the insulation resistance from one wire to the other becomes as light at the end of twenty-four hours as it does in six days with the use of the waste. In practice it is not always absolutely necessary that the lower portion of cap be filled up to such an extent

that the wires will not pass through the plaster, but merely make sure that the plaster will not be in one solid mass, thereby drying slowly.

5 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with an incandescent electric-lamp bulb and a socket-piece for receiving the same, of sealing material in the socket-piece and surrounding a portion of the end of said bulb, and absorbent material inserted in the open end of the socket-piece and bearing against the sealing material, whereby 15 moisture in the sealing material will be absorbed by the absorbent material and conveyed by capillary attraction to the outer air through the open end of the socket-piece, substantially as set forth.

2. The combination, with an incandescent electric-lamp bulb and a socket-piece for receiving the same, of sealing material in the socket-piece and surrounding a portion of the end of the bulb, absorbent material inserted 25 in the open end of the socket-piece and bear-

ing against the sealing material, whereby moisture in the sealing material will be absorbed and conveyed by capillary attraction to the outer air through the open end of the socket-piece, and means for retaining the absorbent material in place, substantially as set forth. 30

3. The combination, with an incandescent electric-lamp bulb and a socket-piece, of sealing material in said socket-piece and surrounding a portion of the end of the bulb, absorbent material in said socket-piece and bearing on the end of the bulb and against the sealing material, and a porcelain collar inserted in the socket-piece and retaining the absorbent material in place, substantially as set forth. 35 40

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EDWARD P. ROBERTS.

Witnesses:

T. A. BOURDMAN, Jr.,

WM. E. REED.