(No Model.)

E. WESTON.

INCANDESCENT ELECTRIC LAMP.

No. 271,171. Patented Jan. 23, 1883.

Fig. 1.

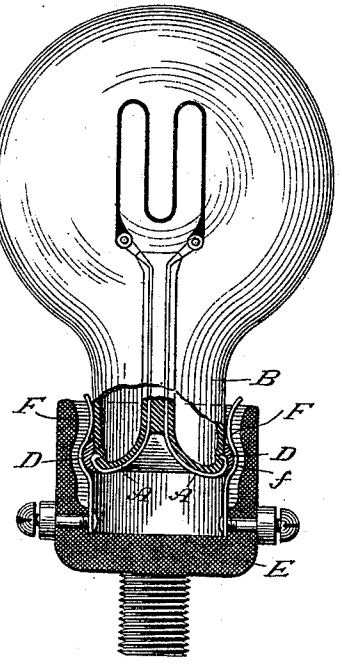
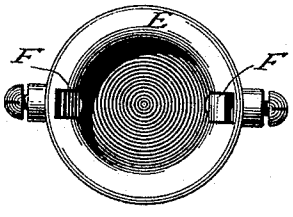


Fig. 2.



Attest:

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UNITED STATES PATENT OFFICE.

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INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 271,171, dated January 23, 1883.

Application filed July 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WESTON, a subject of the Queen of Great Britain, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

My invention comprises a means of securing an incandescent-lamp globe in a holder or socket, and of attaining a perfect electrical contact between the terminals of the line and the conductors of the lamp.

In carrying out my invention I proceed as follows: At the time of sealing the conducting-wires into the lamp-globe I bend over the ends of the conductors and force them into the glass while it is yet soft. They may be simply bent up around the end of the neck and cut off; but it is advisable to secure them in place in the manner described, for reasons which will appear. Upon the ends of the wires thus secured, and on the glass for a small space close to them, I then apply a film of metals, which is caused to adhere to the glass. Upon this, as a conducting-surface, I then deposit masses of copper of the desired size. There are thus formed two metallic beads on the side of the neck, which are practically integral with the glass and which form the terminals of the lamp. If, now, a socket be constructed with two metal springs containing indentations or corrugations at the proper points, the above-described lamp may be securely held by them and brought into the circuit, with which they may be connected by forcing the neck of the lamp down between the springs until the metal beads thereon slip into the indentations.

In the drawings annexed, Figure 1 represents a lamp and socket combined, the latter, with a portion of the lamp, being shown in section. Fig. 2 is a plan view of the socket.

The lamp here shown is made by joining to an open neck the mass of vitreous material surrounding the conductors of the lamp after having attached the carbon and introduced it into the globe. Under such process of manufacture the ends of the conducting-wires A A are bent up and pressed into the glass, while soft, at the points shown, which are just above the rim of the neck B; or they may be similarly secured by bending their ends around over the base and pressing the neck B down on them in the operation of welding the neck and base together.

The most convenient manner of securing the ends of the wires A A will obviously vary greatly with the character of the lamp. The above will serve, however, as an illustration of the method of proceeding in cases where the wires A A leave the lamp-globe at the bottom of the neck. When the wires pass through the sides of the neck, as is the case in some forms of lamp, they are simply cut off short to the glass, as in this case the desired object is attained without bending them around the edge of the neck.

Having properly secured the wires, a coating of metal is applied to the glass around them for a small space. To do this I use the process set forth by me in a patent numbered 255,363, applying by a brush a small quantity of a mixture of chloride of platinum and oil of lavender, which is then exposed to a heat sufficient to drive off everything but the metal, which should be fused into the surface of the glass. There is formed by this process a thin film of metal joining the ends of the wires A A with the glass, and upon these conducting-surfaces I deposit from a proper solution small masses of metal, D D. This deposition may be effected by making the necessary connections with the wires A A of the films of metal and immersing both in the bath simultaneously; or the current may be passed from the end of one wire through the carbon and the metal deposited on one at a time.

In this lamp, or others similarly finished, I employ an insulating socket or cup, E, that may be fitted to the end of a gas-bracket or other support. In the interior of the socket are two metal springs, F F, corrugated or indented, as shown at *f*. These are connected to the line-wires, and when brought into contact with the prominent masses of metal, D D, complete the circuit through the lamp. The walls of the socket E are grooved for the reception of the springs, so that the neck of the lamp may fit snugly in the socket. When the neck of a lamp is introduced into the socket

and forced down until the points D D slip into the indentations *f*, the lamp will be securely held in place and a good electrical connection with the line formed.

Other forms of socket and springs for holding the lamp and completing the circuit through the same by means of the beads D D may be used, though the form shown is the simplest form known to me, and preferred on this account.

Having now described my invention and the best manner of which I am at present aware of carrying out the same, what I claim is—

1. The combination, with an incandescent-lamp globe, of contact-points composed of prominent masses of metal united directly to the glass and in electrical contact with the conducting-wires leading into the globe.

2. The combination, with an incandescent-lamp globe, of contact-points composed of masses of metal united directly to the glass on the sides of the neck and to the conducting-wires leading into the lamp.

3. The combination, with the globe of an incandescent lamp, of conductors sealed in the same, and having their projecting ends secured in substantially the manner described, and masses of metal united directly to the said conductors and to the glass to form contact-points, as set forth.

4. The combination, with an electric incandescent-lamp globe having metal contact-points united directly to the glass of the globe, as described, of a socket containing springs corrugated or indented, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 12th day of July, 1882.

EDWARD WESTON.

Witnesses:
W. H. HARTLEY,
W. H. DOGGETT.