

No. 684,880.

Patented Oct. 22, 1901.

A. SWAN.  
INCANDESCENT LAMP BASE.

(Application filed Mar. 6, 1899.)

(No Model.)

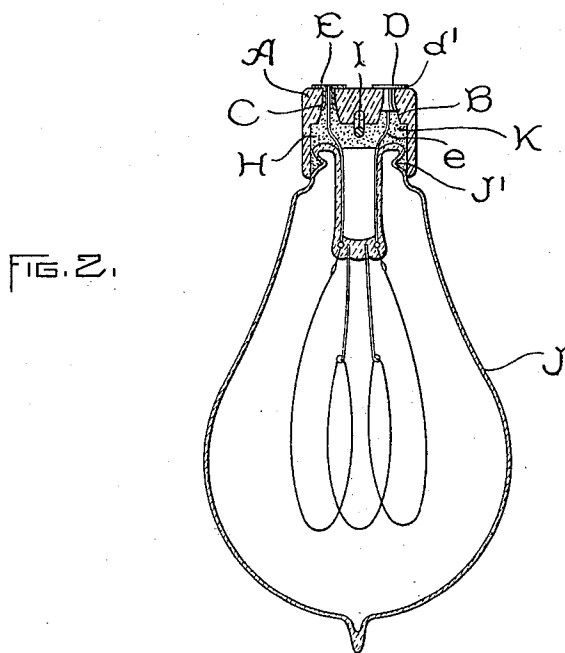
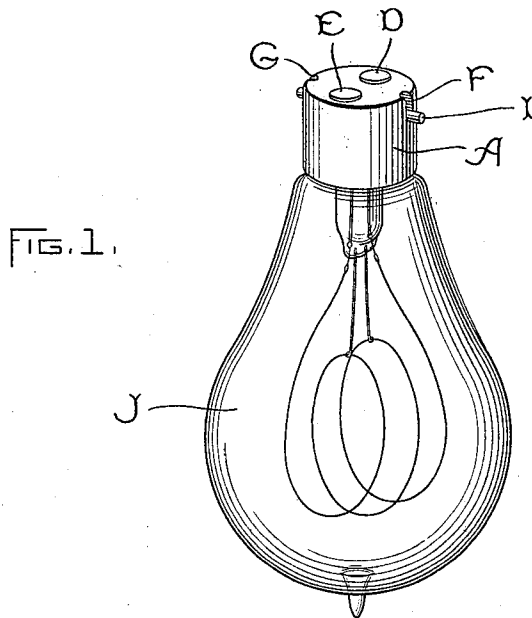
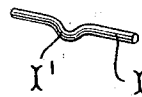


FIG. 3.



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# UNITED STATES PATENT OFFICE.

ALFRED SWAN, OF NEW YORK, N. Y., ASSIGNOR TO THE GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## INCANDESCENT-LAMP BASE.

SPECIFICATION forming part of Letters Patent No. 684,880, dated October 22, 1901.

Application filed March 6, 1899. Serial No. 737,906. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED SWAN, a subject of the Queen of Great Britain, residing at New York, county of New York, State of New York, have invented certain new and useful Improvements in Incandescent Lamps, (Case No. 1,049,) of which the following is a specification.

My invention relates to incandescent lamps which are improvements over the lamps described in English Patent No. 16,019, granted to me and dated August 26, 1895, and relates particularly to the construction of the base or collar, and has for its object the improvement of their construction.

In the accompanying drawings, which illustrates an embodiment of my invention, Figure 1 is a perspective view of an incandescent lamp. Fig. 2 is a longitudinal section of the same, and Fig. 3 is a detail view of the supporting-pin.

In certain types of lamps, and particularly those designed for high-potential service, it is desirable to provide bases which are constructed entirely of insulating material, and my invention is particularly directed to lamps of those types.

Referring to the drawings, A represents a base or collar which is composed of a single piece of insulating material—as porcelain, for example—and is provided with a cup-like cavity H for receiving the upper end or neck of the lamp-bulb J. In addition to this two small holes B and C are provided in the head for receiving the terminals D and E, each of which consists of a small flat head *d'*, which rests on top of the base, and a small tubular shank for receiving the leading-in wires of the lamp. In constructing bases of this kind it is of prime importance that the base shall be capable of being molded in a simple mold having no minor moving parts—as pins, for example. I attain this feature by so arranging the holes B and C that they are a trifle larger on the cavity end than on the other. In other words, a certain draft is given to one portion of the die, which permits the base to be readily drawn therefrom. This much is a common expedient in all kinds of molded work; but preferably the amount of draft on the die is increased to a point beyond that

which is necessary to permit the withdrawal of the base after molding, which increase is utilized in securing the terminals D and E in place by expanding the inner end of the tubular shank of each contact, so that it completely fills the hole. This is a very satisfactory arrangement and prevents the removal of the contacts by accident or otherwise.

In order to secure the lamp in its proper place in the socket, a retaining or supporting pin I is employed, and preferably the holes in the base for receiving the pin are made at the same time that the base is formed. To accomplish this, two projections are provided on one portion of the die, which form the openings F and G, at the time the base is molded, which arrangement materially simplifies the construction of the die and also decreases the labor of molding. These openings communicate with the cavity H and extend somewhat below the head of the base, so as to permit the pin I to be inserted after the base proper has been finished. The upper portion of the openings can be filled with plaster-of-paris, if desired, although there is no objection to leaving them as shown in the drawings.

The under side of the head of the base is grooved, as shown in Fig. 2, to receive the transverse supporting-pin I. The pin I is provided with an offset *I'*, which acts as an anchor to prevent its removal after the parts are assembled. This pin may readily be inserted in place after the base is formed by canting it slightly as it passes through the opening F or G.

The lamp J is of any suitable construction and on the neck are formed depressions *J'* for receiving plaster-of-paris or other material K for holding the lamp and base together. The plaster also assists in holding the transverse pin I in place.

By constructing the contacts with perforated or tubular shanks through which the lead-wires extend I am enabled to mount the base on the lamp and secure the leads afterward, and by drawing them tight before soldering they will assist in holding the base in place.

What I claim as new, and desire to secure by Letters Patent of the United States, is—  
1. As an article of manufacture, a lamp-

base composed of a single molded piece of insulating material having a cavity for receiving the neck of the lamp, with holes for receiving the terminals, grooves F and G in the periphery of the base which extend parallel therewith and communicate with said cavity, and a supporting-pin which extends through said groove in the base.

2. As an article of manufacture, a lamp-base constructed entirely of porcelain, and provided with a cavity for receiving the neck of the lamp, terminal holes opening into the cavity, openings formed in the periphery of the base, a groove extending across the under side of the head, and a supporting-pin extending through said holes and groove.

3. In an incandescent lamp, the combination of a bulb, a base secured thereto, composed of a single piece of insulating material, terminals mounted in tapered holes in the base, openings in the periphery of the base, and a supporting-pin mounted in the openings and provided with retaining means for preventing its withdrawal.

4. A lamp-base composed of molded material, having perforations tapered their entire length for easy removal from the mold, and provided with contacts in the perforations, which contacts have a greater diameter at both ends than the smaller diameters of the tapered holes.

5. A lamp-base formed of a cup of molded insulating material provided with perfora-

tions in opposing walls, and a supporting-pin extending through the cup and perforations and projecting exteriorly of the walls.

6. A lamp-base formed of a molded cup of insulating material provided with perforations in opposing walls, and a supporting-pin extending therethrough, said pin being offset within the cup to form an anchor.

7. A hollow lamp-base provided with perforations in opposing walls, a groove in the under side of the head, and a supporting-pin extending through the interior of the base and the groove and perforations and projecting exteriorly of the walls.

8. The combination with a lamp-base formed of molded insulating material, of an insulating compound interlocking between said cup and the neck of the lamp-bulb to secure them together, and hollow contact terminals through which the leads may pass, upset in perforations in the cup.

9. The combination with a lamp-base, of hollow insulated contacts mounted therein and upset within the same to permit the terminals to pass through the base and be secured on the outside.

In witness whereof I have hereunto set my hand this 2d day of March, 1899.

ALFRED SWAN.

Witnesses:

S. N. WHITEHEAD,  
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