

W. L. VAN KEUREN.
INCANDESCENT LAMP.
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1,301,079.

Patented Apr. 15, 1919.

Fig. 1.

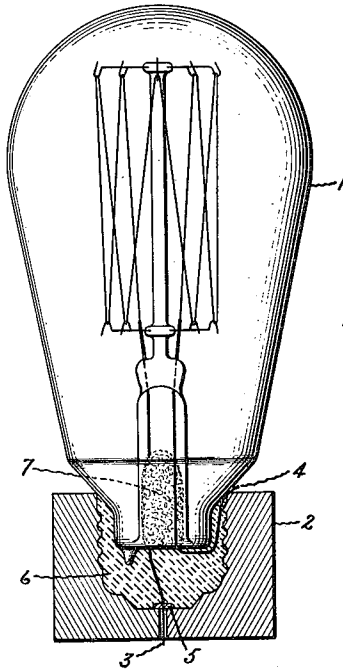
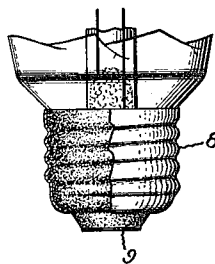


Fig. 2.



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UNITED STATES PATENT OFFICE.

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INCANDESCENT LAMP.

1,301,079.

Specification of Letters Patent.

Patented Apr. 15, 1919.

Application filed June 15, 1918. Serial No. 240,179.

To all whom it may concern:

Be it known that I, WILLIAM L. VAN KEUREN, a citizen of the United States, residing at North Bergen, in the county of Hudson, State of New Jersey, have invented certain new and useful Improvements in Incandescent Lamps, of which the following is a specification.

The Edison base generally used for incandescent lamps consists of a screw threaded metal shell or cup to which a center contact is attached by insulating material, such as glass, so as to be mechanically attached to the shell but insulated from it. In the manufacture of the lamp the open end of this base is attached to the bulb by some suitable cement and one lead from the lamp is soldered to the shell and the other to the center contact. To manufacture the base, cement it to the lamp, and solder the leads to the shell and to the center contact requires considerable time and labor and is an important item of expense in the manufacture of the lamp.

The object of my invention is to simplify and cheapen the basing of incandescent lamps. To this end I cast or mold a mass of insulating material directly on the end of the bulb to form a base, with the leads of the lamp embedded in the insulating material in such a way that one is exposed at the point corresponding to the center contact and the other at the surface corresponding to the shell of the Edison base. To insure electrical contact with the leads when the base is placed in the socket, I apply in the immediate vicinity of each lead and in electrical contact with it, a conductive coating of such a character that it will adhere to the material of the base and can conveniently be applied by means of a brush. By coating those parts of the base corresponding to the shell and to the center contact, I secure extended contact surfaces in good electrical contact with the exposed leads.

For a better understanding of my invention reference may be had to the accompanying drawings in which Figure 1 represents an incandescent lamp with a base mold applied to the lamp and the material for the base in place in the mold; and Fig. 2 is a view, with some parts broken away, of a lamp which has been based in accordance

with my invention, the thickness of the conductive coating being greatly exaggerated for purposes of illustration.

As illustrated in Fig. 1, the lamp 1 to be based is placed with one end in a mold 2, which may be split or constructed in some way which permits removal of the molded base. One lead 3 of the lamp is inserted in a hole in the bottom of the mold, and the other lead 4 is brought around to the side of the lamp as shown in Fig. 1, in the same position as though it were to be soldered to the shell of the usual metal base. In some cases I shape the bottom of the mold to produce a recess or pocket 5 around the lead 3 in the position of the center contact. The mold 2 is then filled in the usual manner with insulating material 6, such as plaster of Paris, or the usual basing cement consisting essentially of marble dust and shellac, or any other insulating material having sufficient mechanical strength to form a base and capable of adhering firmly to the bulb of the lamp. To prevent filling up the stem of the lamp, I may put a plug 7 of some material such as cotton wool, in the stem.

After the insulating material 6 has hardened the mold is removed, leaving a base of insulating material attached to the lamp, with the leads 3 and 4 embedded in the base but exposed at the center and at the side. To facilitate connecting the leads 3 and 4 to the terminals in the shell I provide extended conducting surfaces for the leads by applying to the base a paste consisting of an adherent binder and a powdered metal. A suitable paste may be made of tin finely divided so that it will go through a 300 mesh sieve and formed into a thin paste with a solution of furniture glue. Other powdered metals such as copper or zinc and other binders, such as shellac, may be used. By means of this paste I apply a thin metallic conductive coating to the base at the points corresponding to the center contact and the shell of the Edison base, and obtain an extended conductive surface in electrical contact with each lead 3 and 4. As illustrated in Fig. 2, I may apply a conductive coating 8 to that part of the base corresponding to the shell 6, this coating being in electrical contact with the lead 4, and I may also apply a coating 9 which corresponds to the usual center contact and is in electrical contact

with the lead 3. The recess 4 in the base assures sufficient paste around the lead 3 to make a good electrical contact with it, and a similar recess may be formed around the lead 5 if necessary, although in practice it is found that a sufficiently good contact can be made with the lead 5 without a pocket or recess around it. The operation of soldering the leads to the base is eliminated, as good contact with the leads is made merely by applying the coating to the base.

To consolidate and smooth the conducting coating I prefer to burnish or rub the base after the paste has been applied to it and in this way obtain a smooth metallic appearing coating which is sufficiently conductive to carry all of the current necessary and which adheres to the base so firmly that the lamp can be put into and taken out of the ordinary sockets in the same manner as though it had a metal base of the usual construction.

Although I have described my invention as applied to a lamp with an Edison base, it is equally applicable to other types of bases, as any type of base can be molded on the lamp and the metal terminals made by

applying the paste to the base at the points where terminals are desired.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. An incandescent lamp having a cast base of insulation, a lead exposed at the surface of the base, and a conductive coating on said base in contact with said lead and comprising an adhesive paste containing sufficient powdered metal to render it conductive.

2. An incandescent lamp having a cast base of insulation, a lead embedded in said base and exposed at the surface of the base, and an adherent conducting paste comprising powdered metal and a binder forming a film on said base in contact with said lead.

3. An incandescent lamp having a cast base of insulation adherent to glass and having a threaded portion, a lead exposed at said threaded portion, and a conducting coating on said threaded portion in contact with said lead and comprising a paste of adherent binder and powdered metal.

In witness whereof, I have hereunto set my hand this 7th day of June, 1918.

WILLIAM L. VAN KEUREN.