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G. P. McDONNELL.

BASE FOR ELECTRIC LAMP BULBS.

APPLICATION FILED MAR. 12, 1904.

NO MODEL.

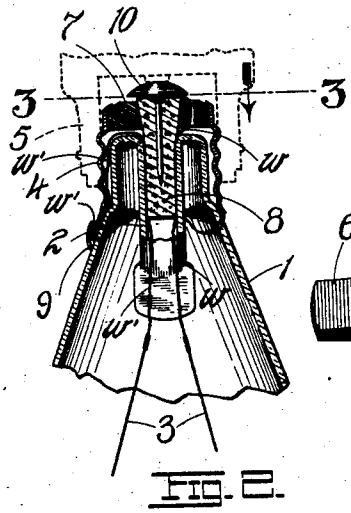

Fig. 2.

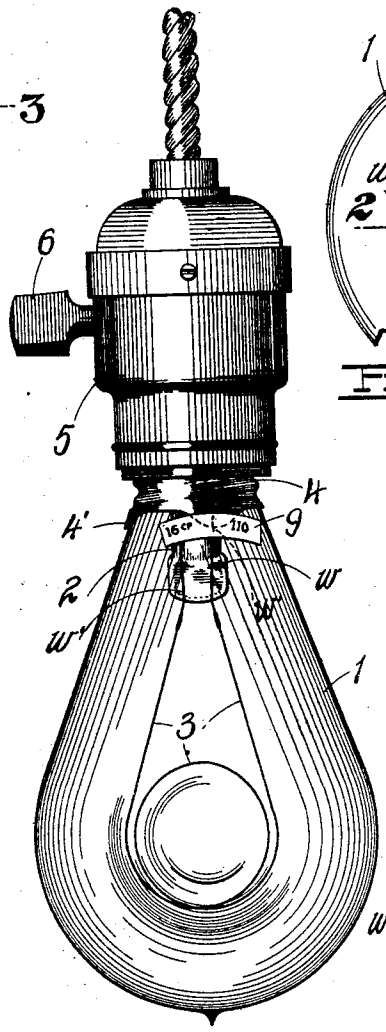

Fig. 1.

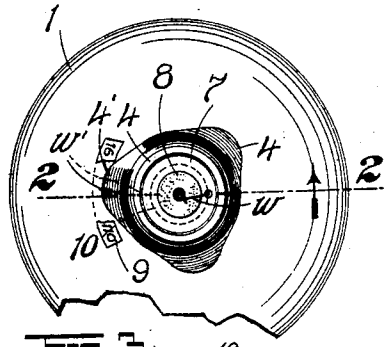

Fig. 3.

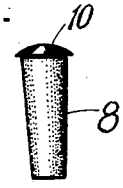

Fig. 4.

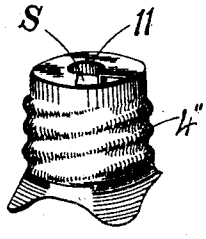

Fig. 5.

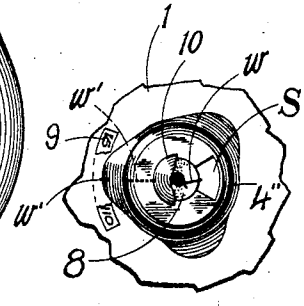

Fig. 6.

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No. 777,741. Patented December 20, 1904.

UNITED STATES PATENT OFFICE.

GEORGE P. McDONNELL, OF ST. LOUIS, MISSOURI.

BASE FOR ELECTRIC-LAMP BULBS.

SPECIFICATION forming part of Letters Patent No. 777,741, dated December 20, 1904.

Application filed March 12, 1904. Serial No. 197,808.

To all whom it may concern:

Be it known that I, GEORGE P. McDONNELL, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Bases for Electric-Lamp Bulbs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in bases for electric-lamp bulbs; and it consists in the novel construction and arrangement of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is an elevation of a bulb having my invention applied thereto. Fig. 2 is a middle vertical section on the line 2 2 of Fig. 3. Fig. 3 is a horizontal section on line 3 3 of Fig. 2. Fig. 4 is an elevation of the plug and conducting-nail carried thereby. Fig. 5 is a perspective view of a modified form of base; and Fig. 6 is a top plan of Fig. 5, showing a portion of the bulb to which the base is secured.

The object of my invention is to provide an electric-lamp bulb with a base which can be attached thereto without the use of cement or similar adhesive or without the use of solder, both of which are objectionable, the former on account of the danger of short-circuiting the current passing to the lighting-filaments by reason of the moisture absorbed by such cement and the latter on account of the increased cost of manufacture.

The advantages of my present improvement will be better apparent from a detailed description of the invention, which is as follows:

Referring to the drawings, 1 represents a conventional form of electric-lamp bulb having the usual central inwardly-projecting hollow stem 2 for the insertion of the conducting-wires *w w'*, whose inner ends are respectively electrically coupled to the lighting-filaments 3, the inner end of the stem being, as is well known, hermetically sealed. Over the reduced end or neck of the bulb is passed the metallic base 4, which is ordinarily secured to said neck by means of plaster-of-paris, cement, or other suitable adhesive, the said base being in the form of a threaded or spirally-ribbed ring which screws into the socket 5, receiving the electric supply-wires and which carries the switch 6, by which the current is turned on or off, all as is well known and understood. By my present improvement the cement is dispensed with altogether, the connection between the base and bulb being effected as follows: In the preferred form of my invention the upper end of the base or ring 4 is closed by an insulating-disk 7, through a central opening of which is passed a cork plug 8, of a length to partially enter the hollow stem when the base is passed its full length over the neck of the bulb. The cork plug not only serves to separate and permanently keep apart the wires *w w'*, but it assists in part to frictionally hold the base to the bulb, said base being further secured to said bulb by the usual label 9, (indicating the voltage and candle-power,) which in the present instance is so attached as to overlap the basal lobes 4′ of the ring 4, the label thus adhering simultaneously to the glass bulb and to the lobe 4′, as clearly seen in Fig. 1. Into the cork plug 8 is driven centrally a metallic nail 10, around whose pin portion is wound the upper end of the wire *w*, and when the nail is driven home the head thereof, bearing against the cork, retains the wire permanently in place. The head of the nail of course is in permanent electric contact with the base of the socket 5, so that when the switch 6 is turned in the proper direction to close the circuit the current flows into the filaments and produces a light. The disk 7 is of course perforated for the free passage of the wire *w* therethrough to permit the winding thereof about the nail. The adjacent portion of the opposite wire *w'* is preferably folded around the edge and against the outer face of the neck of the bulb, and after the base or ring 4 has been passed over it the end of the wire is folded against the face of the lobe 4′ before the label 9 is applied. The wire is thus held frictionally against displacement between the bulb and the base, the latter conducting the return-current into the socket to the return member of the supply-wires, and the end of the wire thus turned up against the lobe 4′ is held in place by the label spanning the lobe

and adhering to the bulb. The base 4, on the other hand, is held to the bulb by, first, the frictional connection between the stem 2 and the plug 8, mounted in the disk 7, forming a part of said base, and, second, by the adhesion of the label 9 to the bulb and lobe 4′, respectively. The wires *w w′* are kept permanently apart by the plug, which was forced between them, and since the layer of cement usually interposed between the base 4 and bulb is absent the danger of the absorption of moisture by this layer and the danger of short-circuiting the current and blowing the fuse is entirely eliminated.

Of course it is obvious that only one of the conducting-wires, *w′*, may contact with the base or ring 4 and that the other wire, *w*, must be either insulated therefrom or otherwise kept permanently out of contact therewith, (to avoid short-circuiting.)

In my preferred form of construction I employ the insulating-disk 7, though in the modification shown in Figs. 5 and 6 I may even dispense with this element. In lieu thereof I form the base entirely of metal, including the closed top through which the plug is passed. I excise from said closed top a segment S, so as to leave a clear space around the wire *w* coupled to the nail 10, said space serving the purpose of an insulating medium and preventing contact between the wire *w* and the metal portion of the modified base 4″. The wall of the socket 11 of said base 4″, through which the plug 8 is inserted, is longitudinally roughened or corrugated, so as to better grip the plug and insure a rigid frictional connection between the parts. The plug, while here referred to as a cork plug, the preferred material, may of course be composed of any suitable non-conductor of electricity. So, too, may the details of the present construction be altered without in any wise affecting the nature or spirit of my invention. For example, what are specifically herein referred to as "lobes" 4′ may of course have any contour or shape so long as they project beyond the adjacent edge of the ring 4 proper.

Other changes will occur to the skilled mechanic which will fall within the spirit and contemplation of the present invention.

Having described my invention, what I claim is—

1. A base for an electric-lamp bulb comprising a ring adapted to be passed about the neck of the bulb, and a plug carried by the ring for entering the hollow stem of the bulb, substantially as set forth.

2. A base for an electric-lamp bulb comprising a ring adapted to be passed about the neck of the bulb, and an insulating-plug carried by the ring for insertion into the hollow stem of the bulb, substantially as set forth.

3. A base for an electric-lamp bulb comprising a ring adapted to be passed about the neck of the bulb, an insulating-plug carried by the ring for insertion into the hollow stem of the bulb, and a metallic head on the plug adapted to be coupled to the adjacent end of one of the conducting-wires leading to the lighting-filament, substantially as set forth.

4. A base for an electric-lamp bulb comprising a ring adapted to be passed about the neck of the bulb, a non-conducting plug carried by the ring for insertion into the hollow stem of the bulb, and an electrically-conducting head at the outer end of the plug, substantially as set forth.

5. A base for an electric-lamp bulb comprising a ring adapted to be passed about the neck of the bulb, an insulating-disk closing the outer end of the ring, a non-conducting plug carried by the disk for insertion into the hollow stem of the bulb, leading-in wires for the current, a nail having a head adapted to conduct the current to one of the wires leading to the lighting-filament, the disk being perforated for the free passage of said wire and the latter being connected to the nail, the opposite wire being passed and folded over the edge of the neck and frictionally held between it and the ring, substantially as set forth.

6. A base for an electric-lamp bulb comprising a ring adapted to be passed about the neck of the bulb, and having one or more lobes at its inner edge, in combination with a bulb, and an adhesive label passed over and adhering respectively to the bulb and to the lobe, substantially as set forth.

7. A base for an electric-lamp bulb comprising a screw-threaded ring adapted to be passed about the neck of the bulb, and an insulating-plug carried by the same for insertion into the hollow stem of the bulb, substantially as set forth.

8. A base for an electric-lamp bulb comprising a screw-threaded ring adapted to be passed about the neck of the bulb, an insulating-plug carried thereby for insertion into the hollow stem of the bulb, and a metallic conducting head or tip on the outer end of the plug, substantially as set forth.

9. A base for an electric-lamp bulb comprising a screw-threaded ring adapted to be passed about the neck of the bulb, an insulating-disk closing the outer end of the ring, a central plug made of non-conducting material carried by the disk for insertion into the hollow stem of the bulb, the disk being perforated to admit the passage of one of the conducting-wires therethrough, and the plug serving to separate the conducting-wires leading from the lighting-filament through the stem, substantially as set forth.

10. The combination with an electric-lamp bulb having a hollow stem, for the reception of the conducting-wires leading from the light-

ing-filament, of a base passed over the neck of the bulb, means on said base for effecting electric connection between one of said wires and the switch-socket, the opposite wire being folded over the neck and the end subsequently folded against the base, and a label adhering to the bulb and passed over the terminal folded end of the wire and the portion of the base against which the same is folded, substantially as set forth.

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

GEORGE P. McDONNELL.

Witnesses:

EMIL STAREK,

MARY D. WHITCOMB.