May 11, 1937. A. E. GRANT 2,079,801

ELECTRIC LAMP

Filed Feb. 25, 1935

Fig:1.

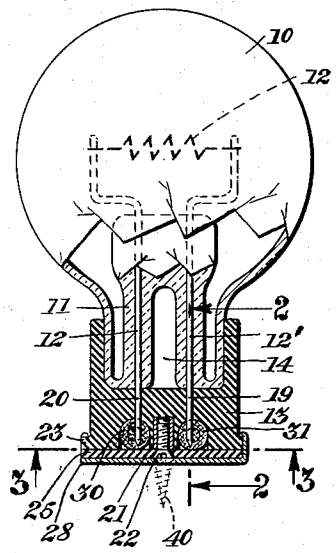


Fig:2.

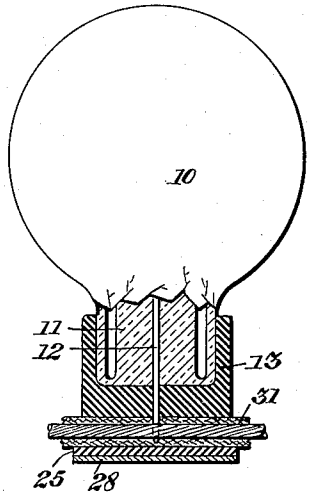


Fig:3.

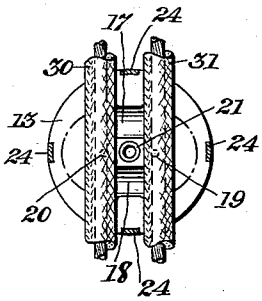


Fig:4.

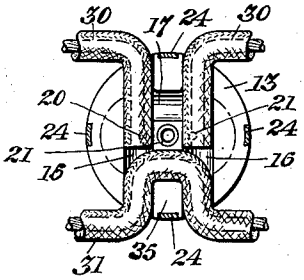


Fig:5.

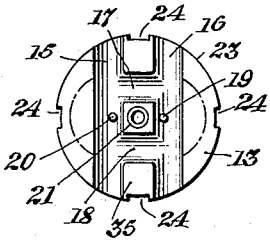


Fig:6.

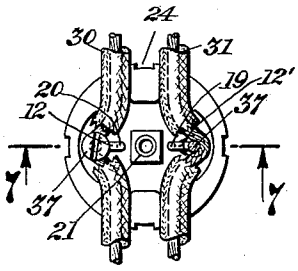


Fig:7.

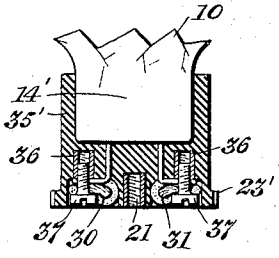


Fig:8.

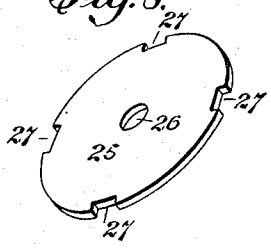
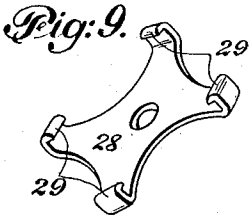


Fig:9.



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UNITED STATES PATENT OFFICE

2,079,801

ELECTRIC LAMP

Albert E. Grant, New York, N. Y.

Application February 25, 1935, Serial No. 8,032

2 Claims. (Cl. 176—32)

My invention relates to electric lamps and the principal object of my invention is to provide a lamp having a base of very simple and economical construction by means of which the current supply wires may be connected directly to the lamp. Viewed in another aspect, the principal object of my invention is to provide a lamp and socket combination of improved construction, composed of few parts, and obtaining good contact and good insulation of the conducting elements.

The invention is directed particularly to electric lamps which are wired together in circuit for decorative purposes, such as Christmas tree ornamentation, and a further principal object of my invention is to provide a lamp having means whereby a plurality of them may be wired either in series circuit or parallel circuit, depending on whether it is desired to utilize lamps which are each capable of carrying the full voltage of the current supply, or to pyramid the resistance of a plurality of lamps in a relatively high voltage circuit, as is usual in illuminating Christmas trees, etc. A further object is to provide a lamp having improved and simplified means of contact, and other and further objects will appear from the following specification.

Referring to the drawing which forms a part of this specification:

Figure 1 is an elevation of my improved lamp, the base and stem portions being shown in cross section.

Figure 2 is a sectional view taken on line 2—2 of Figure 1.

Figure 3 is a section taken on line 3—3 of Figure 1 and illustrates the manner in which the lamp is wired in parallel circuit.

Figure 4 is a view similar to Figure 3 and illustrates the manner in which the lamp is wired in series circuit.

Figure 5 is a view similar to Figures 3 and 4 showing the wiring removed to disclose the recessing of the base.

Figure 6 shows the underside of a modified base in which binding terminals are employed for securing the wiring and the lamp contacts together.

Figure 7 is a sectional view of the base and stem portions of the lamp, taken on line 7—7 of Figure 6.

Figure 8 is a perspective view of the insulating base plate, and

Figure 9 is a perspective view of the metal clamp employed to hold the base plate to the body portion of the base.

The globe of the lamp 10 has an integral stem portion 11 in which conductors 12—12 are fused, the conductors being bent to form an arbor adjacent their upper ends where they are bridged by filament 12'. The conductors are formed of stiff metal, somewhat heavier than ordinarily employed in lamps, and extend exteriorly of the globe below the stem to form parallel contact prongs which are preferably sharpened to points capable of perforating and penetrating the insulative covering on the current supply wires.

The lamp base, which may also be regarded as a lamp socket, comprises the body portion 13, preferably formed of moulded insulating material. The top of the body portion is recessed at 14 to form a well or socket chamber which is proportioned to receive the neck or stem portion 11 of the globe in close fitting engagement. The bottom of the portion 13 is recessed to define the intercommunicating passage slots or grooves 15, 16, 17 and 18, respectively, as best illustrated in Figure 5.

Passages 19 and 20, respectively, are formed in the body portion 13 and extend from the floor of the well or socket chamber 14 into communication with the grooves 15 and 16 and are spaced, positioned and proportioned to receive the prong portions of the conductors 12—12 in close fitting engagement. Centrally, in the underside of the portion 13, a recess is formed to receive a threaded bushing 21 which, in turn, is adapted to receive a screw 22.

The lower end of the body portion is flanged at 23, the flange being interrupted by notches 24—24 etc. A base plate 25 of insulating material, perforate at 26 for screw 22, corresponds in size to the lower end of the body portion and is notched at 27—27 etc., in correspondence with the notching 24. The base plate is secured to the body portion by means of the screw 22 and is further secured by means of a clamp 28 which has clutch fingers 29—29 etc., adapted to pass thru the registered notches 24 and 27 and to be rotated to engage over the flange 23.

Where the lamp is to be connected in parallel circuit, the current supply wires 30 and 31, respectively, may be passed thru the grooves 15 and 16, the base plate then being assembled by means of screw 22 and clamp 28, whereafter the extended and sharpened prong portions of the lamp conductors are pushed thru the passages 19 and 20 until they perforate and penetrate the wire insulation and obtain contact with the current supply wires, thereby also holding the wires

in position in the grooves. To replace a lamp, the old one may be removed by simple withdrawal and a new one inserted.

Where the lamp is to be connected in series circuit, the wires are arranged in the body portion as shown in Figure 4, one of the wires (31) being snubbed around the shoulder 35 defined by the grooves 15, 16 and 18, and the other wire being divided and its divisions extending into the slots 15 and 16, respectively, to overlie the ends of the passages 19 and 20.

When assembled and used as above described, the body portion 13 together with base plate 25 and clamp 28 comprises a simple and efficient lamp socket. However, the body portion and the lamp globe may be assembled together permanently, as by cementing the neck of the lamp in the socket with shellac or other adhesive, in which case the body portion becomes the base of the lamp. When thus assembled the lamp base is wired in the same manner except that the current supply wires are transfixed onto the sharpened prong portions of the conductors when the base is wired and before the base plate is assembled, as will be readily understood.

Referring to the modification illustrated in Figures 6 and 7, the body portion 35 is recessed at its top and flanged at its bottom similarly as is the portion 13, but the lower surface is additionally recessed over the areas defined in dotted lines of Figures 4 and 5, and also to receive bushings 36—36 which are threaded for binding screws 37—37. Where this modified body portion is employed it is not necessary to sharpen the prong portions of the conductors because the conductor ends are bent over for engagement by the binding screws, as illustrated. In wiring this base, the current supply wires are stripped of insulation for contact with the screws 37 and the lamp conductor ends. For series circuit wiring the divided ends of wire 30 are also stripped and similarly secured by the binding screws.

When the body portion is to be employed as a socket, I prefer to make it of soft rubber because, when so made, a better frictional engagement is obtained between the lamp and the socket. When the body portion is permanently secured to the bulb to form a lamp base, the material of the body portion may be any of the less resilient moulded compositions commonly employed, such as hard rubber, bakelite, porcelain, etc.

Where it is desired to install the lamp more permanently, I prefer to secure the base plate 25 and clamp 28 to the place of attachment by means of a screw 40, as indicated in broken lines of Figure 1, whereafter the body portion 13, or the body portion 35, carrying the current wires, is inserted in the clamp.

Having thus described my invention, I claim:

1. An electric lamp consisting solely of a glass bulb having a filament therein and a stiff conducting wire extending from each end of said filament exteriorly of the bulb, the exteriorly extending portions of said wires forming a pair of parallel prongs having sharp points.

2. An electric lamp consisting entirely of a glass bulb having an integral heavy walled neck portion, a filament in the bulb and a stiff wire conductor extending from each end of the filament exteriorly thru said neck portion, the exteriorly extending portions of said conductors forming a pair of parallel prongs.

ALBERT E. GRANT.