No. 721,778. PATENTED MAR. 3, 1903.

R. B. BENJAMIN.

PLURAL LAMP SOCKET.

APPLICATION FILED JULY 18, 1902.

NO MODEL.

Fig. 1.

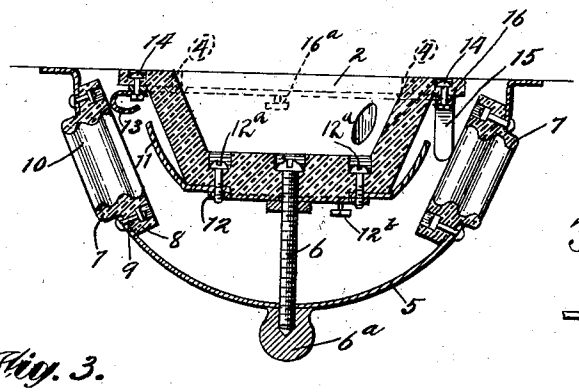


Fig. 2.

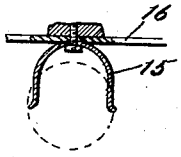


Fig. 3.

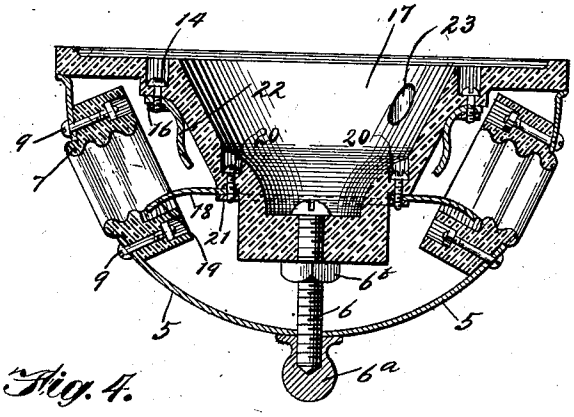
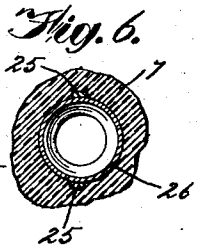


Fig. 5.



Fig. 4.

Fig. 6.



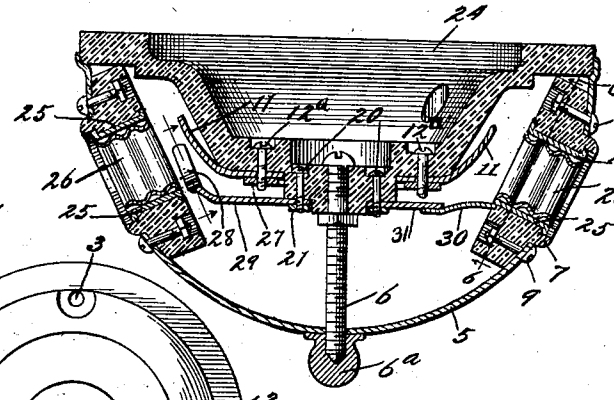
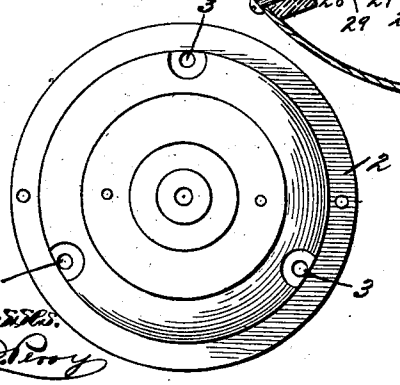


Fig. 7.



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UNITED STATES PATENT OFFICE.

REUBEN B. BENJAMIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE BENJAMIN ELECTRIC MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PLURAL-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 721,778, dated March 3, 1903.

Application filed July 18, 1902. Serial No. 116,082. (No model.)

To all whom it may concern:

Be it known that I, REUBEN B. BENJAMIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Plural-Lamp Sockets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in plural-lamp sockets, my object being to provide a construction in which a metal cap or cover for the cluster carries suitable insulating-blocks forming the sockets or lamp-holding devices for the incandescent lamps, while suitable provision is made for supporting the contacts for the lamps.

A further object is to provide a construction in which the lamp-carrying devices or receivers for the lamps are mounted upon the cover and the contacts for the lamps are carried upon the base.

To the accomplishment of these objects and such others as may hereinafter appear, my invention comprises the parts and combinations of parts hereinafter described, and particularly pointed out in the appended claims.

In the accompanying drawings, in which the same reference characters designate like parts throughout the several views, Figure 1 is a sectional view of a socket embodying my invention. Fig. 2 is a detail view of the ring-contacts used in connection with the right-hand lamp-socket. Fig. 3 is a sectional view of a slightly-modified form of plural-lamp socket. Fig. 4 is likewise a sectional view showing a slightly-different arrangement of some of the parts. Fig. 5 is a detail view of the ring-contact shown at the left in Fig. 4. Fig. 6 is a sectional view on the line 6 6 through the right-hand socket of Fig. 4, and Fig. 7 is a bottom plan view of the insulating-base of Fig. 1.

As shown in Figs. 1 and 7, the insulating-base 2, which is preferably of porcelain, has the general form of a truncated cone, through which suitable apertures 3 are provided to receive screws 4, by means of which the base may be secured to the wall, ceiling, or other support. A metallic cap or cover 5 of the form shown is adapted to be placed over the base and secured thereon by a suitable screw or bolt 6, passing through the center of the insulating-base, a nut 6^a being placed outside the base to more firmly secure the screw in place. The lamp-receivers comprise the insulating-blocks 7, projecting through suitable apertures formed in the metallic cover and provided with flanges 8, through which suitable screws or bolts 9 may be passed to secure the insulating-receivers to the cap. The interior of the bushing is threaded, as shown at 10, to receive the threaded shells of the incandescent lamps of the usual form.

The contacts for the lamps may be suitably supported, those for the left-hand socket-receiver including a center contact 11, secured at one end on a suitable ledge of the base 2 by means of a ring 12, held in place by screws 12^a. The other end extends opposite the center of the lamp-receiver and rests away from the sloping side of the base in order to provide a spring-contact for the lamp. The outer contact for the lamp is formed by a spring-strip 13, having one end secured to the inner side of the flange of the base 2 by means of a suitable screw or bolt 14, its opposite end being bent forward and extending into the path of the threaded shell of the lamp when the same is screwed onto the receiver 10. At the right-hand lamp-receiver the same form of center contact 11 is provided, but a different form of ring-contact is provided. In this instance it consists of the U-shaped spring-strip shown clearly in Fig. 2, which is secured at its central portion to the flange of the base 2 by means of the screw 14. When the lamp is inserted in the threaded receiver 7 thereof, its shell enters between the spring members of the clip 15 and is connected in the circuit. A metallic ring 16 is carried upon the flange of the base 2 and passes beneath the outer contacts 13 and 15 of the lamp-sockets, thus electrically connecting them together. Ring 16 carries a binding-post 16^a. A suitable binding-post 12^b is connected with the ring 12, joining center contacts 11. When it is desired to place the parts in position or to get at the parts and

contacts for any reason, it is merely necessary to remove the lamps or loosen them slightly and rotate the cover to allow it to unscrew from the end of the bolt 6, or the nut 6^a may be detachable from the cover 5, if preferred, whereby the cover may be withdrawn without rotation. In Fig. 3 the arrangement is similar, except that the insulating-base is of slightly-different form and the cover engages the same at its outer edge instead of resting against the wall, as shown in Fig. 1. In this instance the insulating-base 17, which is also preferably of porcelain, carries the bolt 6, secured to its central portion by the nut 6^b, one end of which is threaded to the metallic cap or cover 5. The insulating-receivers 8 are secured in position upon the cover 5 by means of bolts 9, as above described. The lamps are adapted to be screwed into the threaded portions of the insulating-receivers, and the shells or outer contacts of the lamps are adapted to engage the spring-strips 18, which extend forwardly into slots 19, formed in the adjacent inner edges of the receiver 7, said strips being secured at their opposite ends to a rigid frame upon the insulating-base 17, suitable screws 20 passing through the base, through the strips 18, and into the metallic ring 21, passing around the rigid frame and electrically connecting the said strips. The strips 18 are of a length to clear the receivers 7 when the cover is withdrawn. The center contacts for the lamps are formed by the spring-strips 22, secured at their outer ends to the base by means of suitable screws 14. A metallic ring 16 electrically connects the said center contacts 22. By means of the rings 16 and 21 the outer contacts are connected together and the inner contacts are connected together. It is therefore necessary to connect the conductors, one to one of the rings 16 and the other to the ring 21, which is accomplished by means of suitable binding-posts upon the rings and suitable apertures 23 in the base 17, through which the electrical conductors are adapted to pass.

Fig. 4 shows a somewhat different arrangement, the base 24 carrying, as above, the contacts for the lamps, the cap 5 resting upon its outer periphery. The insulating-receivers 7 are secured in place by means of the bolts 9, but are provided with a metallic threaded passage instead of having the threads formed in the insulating material, as in the other figures. It will be understood, however, that this is merely an additional feature, which may be omitted if desired. In order to secure the metallic shells in place in the insulating-blocks, as shown in connection with the left-hand receiver of Fig. 4, metallic strips 25 are placed in slots at the side of the lamp-apertures in the receiver, (as many as desired being employed, but two being sufficient to give satisfactory results.) The ends of these strips are bent outwardly, as shown in Fig. 4, whereby they are secured firmly in position. The metallic shells 26 are then placed in position in the apertures and are soldered to these metallic strips 25, whereby a method of securely holding the shells 26 in place in the insulating-receivers is provided. It is apparent that the threaded openings in the insulating-blocks may be provided, as shown in Figs. 1 and 3, by forming the threads directly in the insulating material or, as shown in Fig. 4, by forming the threads in metal shells, which are inserted in the openings of the insulating-blocks and secured thereto. I consider these two structures equivalents for producing the insulating-blocks, with threaded openings for the reception of the lamp-bases. The inner contact for the left-hand receiver consists of the spring 11, secured upon a ledge of the base by means of a screw 12^a, which passes through the same and into a metallic ring 27, which serves to electrically connect the said center contacts. The outer contact of said receiver is formed by the U-shaped clip 28, of the form shown more clearly in Fig. 5, which clip is provided with a strip 29, extending to the central portion of the base, upon which it is secured by means of a suitable screw or bolt 20 and ring 21. The receiver at the right is likewise provided with a metallic shell 26, secured in place in the same way, a center contact 11 of the type described with reference to the opposite receiver being also provided. The outer contact, however, differs slightly in that one of the strips 25 is provided with an integral extension 30, which engages the projecting piece 31, secured to the central part of the base by means of the screw 20 and ring 21. By this means the connection with the ring-contact of the lamp is secured, since the threaded shell 26 is in engagement therewith and is soldered to the strip 25, which latter is in connection with the strip 30, leading to the contact 31. In order to electrically connect the devices in the circuit, it is only necessary to connect one of the leads to the ring 27 and the other to the ring 21, which serves to secure the outer contacts of the receivers in place. Suitable apertures are provided in the base 24 as well as in the base 17 of Fig. 3, corresponding to the apertures 3 shown in Fig. 7, through which suitable screws or securing means may be passed to fix the socket to the wall or ceiling. Other apertures in the base 24, similar to the aperture 23 of Fig. 3, may be provided for the passage of the electric conductors.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a plural-lamp socket, the combination with a metallic shell having a plurality of openings for the lamp-bases, of a plurality of lamp-supporting insulating-blocks mounted upon the inner face of said shell one opposite each of said lamp-openings, said insulating-blocks being provided with suitable threaded openings for the reception of the lamp-bases, and outer and inner contacts,

suitably supported whereby the lamps are supported upon the casing, substantially as described.

2. In a plural-lamp socket, the combination with a metallic shell having a plurality of openings to accommodate the lamp-bases, of a plurality of lamp-supporting insulating-blocks having annular portions or ribs adapted to project through said openings in the shell and having laterally-extending portions adapted to engage and to be secured to the inner face of said shell, said blocks being provided with suitably-threaded openings for the reception of the lamp-bases, and outer and inner contacts suitably supported, substantially as described.

3. In a plural-lamp socket, the combination with a suitable base, of a metallic shell associated therewith, and carrying a plurality of openings, a plurality of lamp-holding devices carried upon said shell one opposite each of said openings and outer and inner contacts associated with each of said lamp-holding devices and all mounted upon said base, substantially as described.

4. In a plural-lamp socket, the combination with a suitable base, of a metallic shell associated therewith and carrying a plurality of openings, a plurality of lamp-supporting insulating-blocks having laterally-extending portions adapted to engage the inner face of said shell and to be secured thereto, each of said blocks having a central suitably-threaded opening for the reception of the lamp-bases, and outer and inner contacts mounted upon said base, substantially as described.

5. In a plural-lamp socket, the combination with an insulating-base, of a metallic shell associated therewith and carrying a plurality of openings, a plurality of lamp-supporting insulating-blocks carried upon said shell one opposite each of said openings, said insulating-blocks being provided with lamp-holding devices, and a pair of contacts associated with each of said lamp-holding devices, said contacts being mounted directly upon said insulating-base, substantially as described.

6. In a plural-lamp socket, the combination with a suitable base, of a metallic shell having a plurality of openings, a plurality of lamp-supporting insulating-blocks carried directly upon said shell and provided with lamp-holding devices, a pair of contacts associated with each lamp-holding device and carried directly upon said base, and suitable means for holding said shell in position relatively to said base, substantially as described.

7. In a plural-lamp socket, the combination with a suitable base, of a metallic shell having a plurality of openings, a plurality of lamp-supporting insulating-blocks carried directly upon said shell and provided with lamp-holding devices, a pair of contacts associated with each lamp-holding device and carried directly upon said base, a threaded bolt or screw carried upon said base and means for securing said shell to said bolt or screw to maintain the same in position, substantially as described.

8. In a plural-lamp socket, the combination with a suitable base, of a metallic shell having a plurality of openings for the lamp-bases, of a plurality of lamp-supporting insulating-blocks mounted upon the inner face of said shell, one opposite each of said lamp-openings, said insulating-blocks being provided with suitable threaded openings for the reception of the lamp-bases, outer and inner contacts suitably supported, and means for detachably securing said metallic shell to said base, substantially as described.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses.

REUBEN B. BENJAMIN.

Witnesses:
C. B. CAMP,
W. CLYDE JONES.