Sept. 5, 1933. W. H. FABREY 1,925,440

ELECTRIC LAMP SOCKET AND SUPPORT THEREFOR

Filed July 31, 1929

Fig. 1.

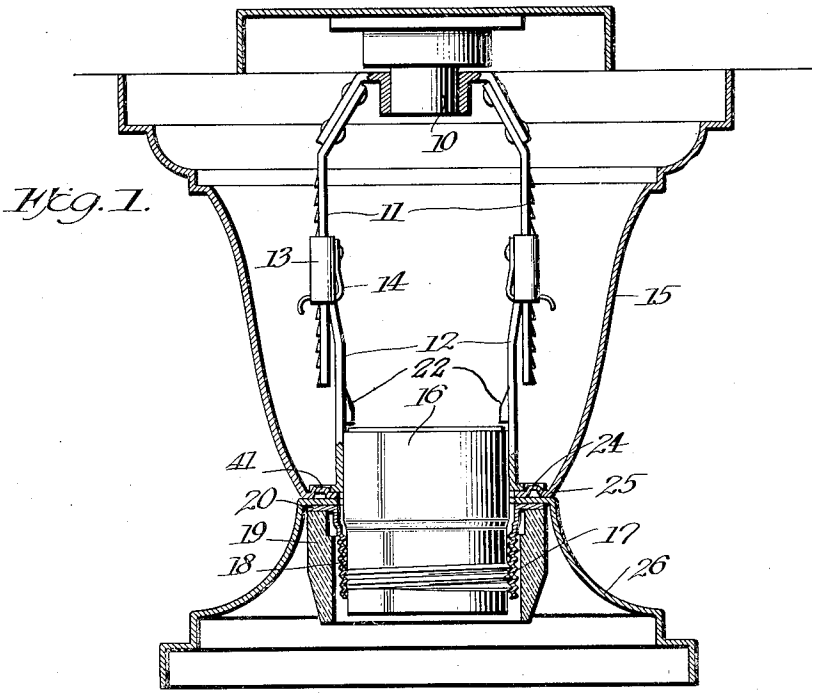


Fig. 5.

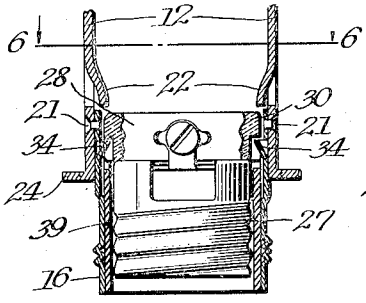


Fig. 4.

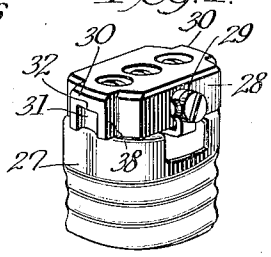


Fig. 2.

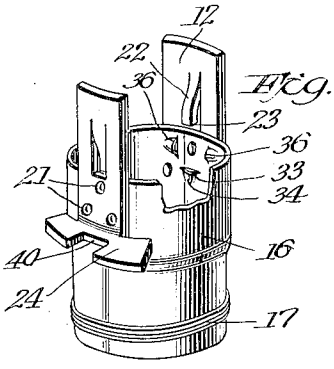


Fig. 6.

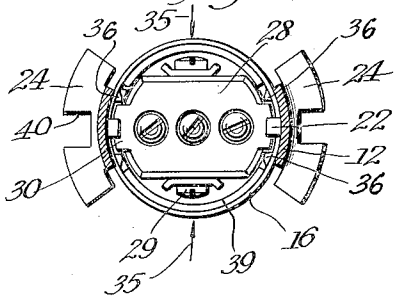
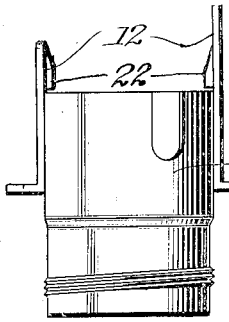


Fig. 3.



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UNITED STATES PATENT OFFICE

1,925,440

ELECTRIC LAMP SOCKET AND SUPPORT THEREFOR

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Application July 31, 1929. Serial No. 382,410

5 Claims. (Cl. 173—358)

The present invention relates to electric light fixtures, and more particularly to a device for mounting an electric lamp socket upon a wall, ceiling, or the like, and to an improved socket intended for use with the mounting device.

An important object of the invention is to provide a construction which results in a reduction in the cost of producing both the shell and socket members, and eliminates the use of a ring or annulus heretofore employed in forming a connection between the adjustable mounting arms and the shell, which annulus also served in the capacity of clamping a canopy in place.

Another object of the invention is to provide the mounting or supporting arms with means for preventing accidental longitudinal movement of the socket in the shell in one direction, thereby dispensing with the necessity of employing a socket cap or like means for this purpose.

A further object of the invention is to provide a shell for supporting the socket with means on both the supporting arms and socket for resisting movement of the socket in the shell longitudinally in both directions, as well as to resist its relative rotation within the shell.

A still further object of the invention is to fasten the shell to the supporting arms in such manner that they will be absolutely immovably fixed together, the fastening means in the modification serving as means for resisting relative rotation of the socket within the shell and longitudinal movement of the socket within the shell as well.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the accompanying drawing forming a part of the specification, and wherein like numerals are employed to designate like parts throughout the several views:

Figure 1 is a vertical section through a fixture secured in place, illustrating the present invention involved therein.

Figure 2 is a perspective view of the improved shell and supporting arms, with a part of the former broken away to more clearly illustrate the details of the means for retaining the socket in place.

Figure 3 is a side elevation of a shell for a key socket.

Figure 4 is a perspective view of the improved socket.

Figure 5 is a vertical section through the shell illustrating the socket in place therein, and

Figure 6 is a transverse section of the same taken on line 6—6 of Figure 5.

Referring now more particularly to the drawing, 10 indicates the usual ceiling outlet stud, from which is supported a pair of spaced, parallel, depending mounting or supporting arms 11. Each of these supporting arms includes an adjustable section 12, which is provided with a guide 13, upon which is mounted a detent 14 for releasable engagement with ratchet teeth on the arm 11 for releasably supporting the arm sections 12 at the desired elevation. By this construction, the supporting arms 11 are adjustable longitudinally and can be shortened by simply pressing upwardly on the sections 12 to cause the detents 14 to slip over the ratchet teeth of the sections 11. To lengthen these adjustable arms, the finger portions of the detents are pressed inwardly to release their interlocking engagement with the arms to permit the guide sleeves 13 and sections 12 to be slipped downwardly along the arms 11. A detailed description and illustration of these adjustable supporting arms is given in my copending application Serial No. 277,518, filed May 14, 1928, which has matured into Patent No. 1,880,952, Oct. 4, 1932, and as the adjustable feature of these arms forms no part of the present invention, a further description is not believed necessary, as it is well understood that this adjustment is only desirable for facilitating an assembly of the fixture and moving an associated canopy or ornamental casing 15 into engagement with the wall from which the outlet stud projects.

The only part of the adjustable arms which does form an important part of the present invention are the lower sections 12, and their particular manner of attachment to a flexible socket supporting shell 16. The shell in this instance is illustrated as being cylindrical and equipped at its lower end with externally pressed screw threads 17 adapted to receive a metallic liner 18 positioned within a collar 19 of insulating material. The upper end of this liner is provided with an outwardly extending flange 20 suitably secured in overlapping relation to the upper end of the insulating collar 19.

The lower portions of the supporting arm sections 12 are immovably secured to the shell 16 at diametrically opposite points adjacent its upper end by rivets 21, thereby dispensing with the necessity of providing the usual socket supporting ring shown in my copending application and especially forming the shell with means for preventing its movement longitudinally of the axis of the ring in both directions, and to pre-

vent relative rotation between the ring and shell. Each of the arm sections 12 directly above the upper edge of the shell 16 is provided with an in-struck lug or finger 22 having its free edge lowermost to provide a downwardly facing shoulder 23. The lower extremity of each supporting arm 12 is formed into an arcuate segment 24, and is bent outwardly of the shell to dispose of the segment in a horizontal plane extending outwardly and radially of the shell, as most clearly shown in Figures 2 and 6. The two supporting arms are disposed at diametrically opposite points on the shell which results in a similar disposition of the segments or wings 24 to constitute, with the flange 20 of liner 18, means for clamping and supporting the inturned flanges 25 of the casing 15 and a canopy 26. By turning the collar 19 and its liner to move the flange 20 of the latter upwardly of the shell 16, the inturned flanges 25 of the casing and canopy are clamped and securely held between the flange 20 and the outwardly projecting segments 24 of the arm sections 12. To prevent turning of the canopy 15, it is provided with projections 41 to fit in notches 40 of the segments 24, as shown in Figure 1.

A socket member 27 is adapted to be mounted and supported within the shell 16 in a manner to resist its accidental longitudinal displacement and turning when connecting or disconnecting an electric bulb or other plug member therewith, and this is done by forming the socket member and shell with complementary interlocking means which will now be described.

Secured to, and forming a part of, the socket member 27 is a block of insulating or dielectric material 28, which has secured to opposite sides conductor terminals or binding posts 29 to form the usual electrical connections in the socket member. Due to the particular construction of the shell and supporting arms here disclosed, it is possible to provide the necessary socket element with a much smaller block of insulating material than is necessary when the conventional shell is employed for this purpose. Opposite ends of this insulating block 28 are provided with vertically disposed ribs 30, and each rib has a longitudinally extending groove 31 terminating in an upper end wall constituting a downwardly facing shoulder 32, which is adapted to engage and rest upon an upwardly facing shoulder 33 formed by an in-struck lug 34 punched in the shell 16 directly below the downwardly facing shoulder 23 formed in the arm section 12. These upwardly facing shoulders 33 of the shell engage the downwardly facing shoulders 32 of the ribs 30, and support the socket member 27 within the same. The socket is insertable into the shell longitudinally thereof from either end by distorting the latter with inward pressure upon the shell at diametrically opposite points 35, as shown in Figure 6. This causes the shell 16 to be sprung into substantially elliptical cross section with its longest diameter extending through the upwardly facing shoulders 33, thereby causing the lower ends of the supporting arm sections 12 to move further apart to permit the passage of the insulating block 28 between either the lugs or the in-struck portions 34. The socket member 27 is received within the shell 16 with suitable clearance to permit the compression of the shell, as indicated above.

In order to prevent rotation of the socket 27 within the shell when a bulb or an attachment plug is being screwed into or out of the socket, the shell is provided at diametrically opposite points and at either side of each in-struck lug 34 with a pair of shoulders 36, which face each other circumferentially of the shell. These pairs of shoulders are provided by equipping the shell with in-struck lug portions pressed directly out of the body of the shell 16. They are arranged adjacent the upper edge of the shell and in a plane extending between the lugs 22 and the in-struck portions 34 so as to be arranged to engage the radially extending faces 38 of the ribs 30. These ribs 30 are quite pronounced and extend outwardly to provide substantial shoulders for engagement with the oppositely facing shoulders 36 of the shell to prevent rotation of the socket when a bulb or plug is screwed into or out of the same.

As is customary in this type of fixture, a cylinder of insulation 39 is inserted in the shell between the interior walls of the same and the socket member 27. After this socket member has been sprung into place in the shell 16 with its ribs 30 disposed between the oppositely facing shoulders 36 and the other pair of oppositely facing shoulders 23 and 33, accidental displacement of the socket in the shell is precluded and its rotation in either direction prevented. The oppositely facing shoulders 36 prevent rotation while the upwardly facing shoulders 33 prevent longitudinal movement of the socket member in the shell toward the socket end thereof and the shoulders 23 of the lug arms 12 prevent longitudinal movement of the socket in a direction away from the socket opening.

Having fully described the invention, it is to be understood that various changes in the size, shape and arrangement of parts may be resorted to without departing from the scope of the appended claims.

I claim:

1. An electric light fixture comprising a shell, a socket member detachably mounted therein, means to resist relative rotation of said shell and socket member and movement of the member longitudinally toward the bulb receiving end of the shell, a pair of supporting arms immovably secured to the shell at diametrically opposite points and provided with in-struck shoulders to resist movement of the socket member longitudinally in the shell away from the bulb receiving end thereof.

2. An electric light fixture comprising a metallic shell, a pair of circumferentially spaced inwardly extending projections on the shell, a third projection extending inwardly from the shell in a plane substantially intermediate the aforesaid projections, an interior part adapted to be received within the shell and including dielectric material formed with portions complemental to said projections to resist relative rotation of said part and shell and longitudinal movement of said part toward the bulb receiving end thereof, a pair of supporting arms immovably secured to the shell and having inwardly extending projections arranged to abut said interior part and resist its longitudinal movement in the shell away from said bulb receiving end thereof.

3. An electric light fixture comprising a bracket adapted to be supported from a suitable support and having an arm, a shell secured to said arm, a socket member detachably mounted in said shell, and means projecting from the arm for engagement with said socket member to resist longitudinal movement of the same within the shell.

4. An electric light fixture comprising a shell,

a socket member detachably mounted therein, means to resist relative rotation of said shell and said socket member, and movement of the member longitudinally toward the bulb-receiving end of the shell, a pair of supporting arms immovably secured to the shell at diametrically opposite points and provided with means to resist movement of the socket member longitudinally of the shell away from the bulb-receiving end thereof.

5. An electric light fixture comprising a bracket adapted to be supported from a suitable support and having a pair of arms, a metallic shell secured to the lower ends of said arms, a socket member detachably mounted in said shell, and having means to prevent its accidental displacement therefrom, and said arms having inwardly extending projections extending over the upper edge of said shell for engagement with said socket member to prevent its vertical movement therein.

WILLIAM H. FABREY.