July 26, 1938. C. McL. MOSS 2,125,082

LAMP SOCKET

Filed April 14, 1934

Fig. 1.

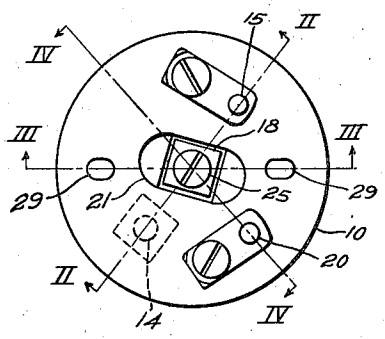


Fig. 2.

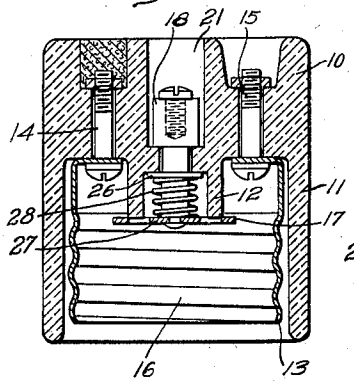


Fig. 3.

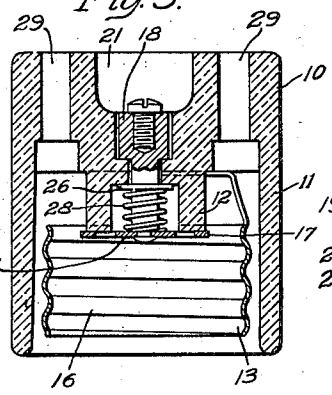


Fig. 4.

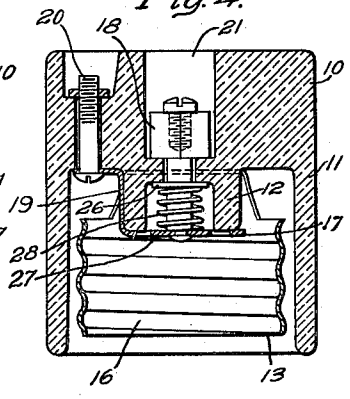


Fig. 5.

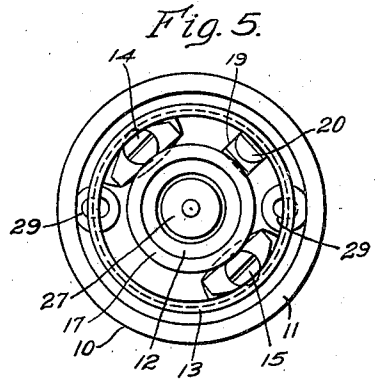
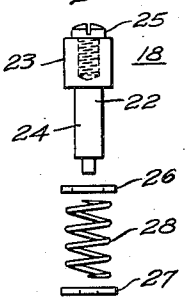


Fig. 6.



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LAMP SOCKET

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Application April 14, 1934, Serial No. 720,602

3 Claims. (Cl. 173—358)

My invention relates, generally, to lamp sockets, and, more particularly, to sockets for double filament lamps which may be termed two-circuit sockets.

The object of my invention, generally stated, is to provide a lamp socket having a plurality of circuits which shall be of simple design and economical to manufacture and which may be used in conjunction with a control switch of any kind.

A more specific object of my invention is to provide for supporting and conveying current to an electric lamp having a plurality of filaments by means of a single lamp socket.

A further object of my invention is to provide a lamp socket of the above-identified character having a plurality of concentrically-disposed contact members and a centrally-disposed spring mounted contact member.

A further object of my invention is to provide, in a lamp socket of the above-described character, for resiliently mounting a central contact member in such manner that it may be depressed in one direction when the lamp is inserted in the socket and is constantly urged or biased in the opposite direction to maintain adequate pressure on the lamp base.

Another object of my invention is to provide a lamp socket having a centrally-disposed spring-biased contact member comprising a single stem member adapted to function both as a terminal member and a contact member and being bodily movable within the socket.

Other objects of the invention will become apparent from the following description when read in conjunction with the drawing in which:

Figure 1 is a top plan view of the lamp socket embodying the principal features of my invention;

Fig. 2 is a sectional view taken along lines II—II of Fig. 1;

Fig. 3 is a similar view taken along line III—III of Fig. 1;

Fig. 4 is also a view similar to Fig. 2, taken along line IV—IV of Fig. 1;

Fig. 5 is a bottom plan view of Fig. 3, showing the concentrically-mounted contact members and the center contact member of the socket; and

Fig. 6 is a view showing the details of the center contact element.

In practicing my invention in its broadest aspects, the lamp socket is so constructed that the lamp may be supported by screwing it into a shell element of the socket in the usual manner, the shell element being used as the common contact element for both filaments of the lamp. The socket is also provided with two other contact elements adapted and arranged to engage corresponding contact terminals on the lamp base as it is screwed into the socket. One of these contact members is movable so that there will be no difficulty in obtaining the proper contact engagement between all the contact elements of the socket and those of the lamp base.

Referring now to the drawing, there is illustrated an embodiment of my invention in the form of a socket for supporting and conveying current to a double filament lamp.

As will be observed, the socket comprises a main body member 10 of cylindrical shape having concentrically disposed annular projections 11 and 12 on the lower face thereof. The projection 11 forms a large cylindrical opening or chamber in the bottom of the body member 10, while the projection 12 forms a similar but smaller opening or chamber within the larger opening.

As will be readily understood the body member 10 may be constructed of any suitable material, such, for example, as porcelain, hard rubber, "Bakelite" or the like.

In order to support the lamp within the socket 10, there is provided a shell-type contact element 13 which is positioned within the large cylindrical opening formed by the projetcion 11 and secured to the bottom face of the body member by means of screws or bolts 14 and 15. The contact element 13 is formed with threads 16 corresponding to the threads found on the base of an incandescent lamp.

The contact element 13 may be utilized as the common terminal for the two filaments in the lamp. However, in order to provide for conveying current to these filaments independently so that they may be controlled separately, there is provided a secondary contact element 17 and a central contact element 18.

In this instance, the secondary contact 17 is shown in the form of a ring member which is supported, as shown in Fig. 4, by means of an integral bracket portion 19 secured to the lower face of the base 10 by means of a suitable screw or bolt 20. The screw 20 also serves as the connecting terminal for this contact element.

It will be observed that the secondary contact element 17 is positioned directly beneath the open end of the annular projection 12 so that when the lamp base is screwed into the socket it forces the secondary contact element

upwardly against the annular projection, which tightens the lamp base in the socket and insures a good contact.

The secondary contact 17 engages a corresponding contact element on the end of the lamp base and may be most conveniently used to convey current to the low wattage filament of the lamp.

As will be readily understood, there is no difficulty in obtaining the proper contact relation between the lamp base and the shell 13 and the secondary contact element 17. However, it is very difficult to construct a satisfactory socket with more than two stationary contact elements.

In order that the circuit connection to the other filament of a double filament lamp may be made without difficulty and maintained regardless of the exact position of the lamp base in the socket, the center contact element 18 is mounted within a central longitudinal opening 21 in such manner that it may be moved along the longitudinal axis of the socket and has its lower end or contact tip extending downwardly into the large cylindrical opening formed by the projection 11.

As shown best in Fig. 6, the center contact element 18 comprises a body member 22 having a square head portion 23 and either a square or round stem portion 24. The head portion 23 is provided with a suitable threaded opening disposed to receive a screw 25 in order to connect the lead-in wire to this terminal.

The body 22 is maintained in position in the opening 21 of the main body member 10 by means of washers 26 and 27 and a spring 28. The body 22 is placed in the longitudinal opening 21 and its downward movement limited by the engagement of a shoulder formed by its head portion 23 with a corresponding shoulder in the base 10. The washer 26 is first placed on the stem 24 followed by the spring 28 and the washer 27 which is held in position on the bottom of the stem by peening or otherwise enlarging the tip thereof in a well-known manner.

As will be readily understood, when the center contact element is assembled, in the foregoing manner, the body 22 is continually biased in a downward direction and may be moved upwardly when engaged by the tip of the lamp base, thereby forming the necessary movable contact element of the socket.

In view of the foregoing description, it is apparent that the center contact element 18 is bodily movable along the longitudinal axis of the body member 10 and because of its one-piece construction there is no difficulty encountered in maintaining contact between the tip of the lamp base and the supply conductor.

The center contact is usually used for the connection to the high wattage filament of the lamp since because of its construction, it is capable of carrying more current than the secondary contact element 17.

As shown in Fig. 3, the body member 10 is provided with suitable openings 29 through which mounting screws may be placed.

Although I have described a specific embodiment of my invention, it will be obvious to those skilled in the art that various changes may be made in the details of construction, such as in the proportion organization and the design of the several cooperating parts, without departing from the spirit of the invention as set forth in the appended claims.

I claim as my invention:

1. A lamp socket comprising a unitary body member of molded construction having a central longitudinal opening and concentrically disposed inner and outer annular projections on one face thereof forming an end recess, a plurality of concentrically-disposed stationary contact elements mounted within the recess formed by the outer projection, one of said contact elements being adjacent the outer projection and the other adjacent the inner projection, a one-piece movable contact element supported by and bodily movable within the central longitudinal opening of the body member and having one end thereof extending into the recess formed by the outer projection and the opposite end exposed for direct attachment to a current conductor, and spring means interposed between one end of the movable contact element and the bottom of the end recess for biasing said contact element toward the open end of the recess.

2. A lamp socket comprising a one-piece body member having concentric outer and inner projections forming a recess in one end thereof and a longitudinal central opening therethrough, a stationary contact member adapted to receive a lamp base mounted within the end recess of the body member, a ring contact member mounted upon the inner projection to be engaged by the end of a lamp base, a movable contact member slidably disposed within and supported by the longitudinal central opening of the body member, separate means for resiliently urging the movable contact member toward the open end of the body member, and means at one end of the movable contact member for attaching a current conductor thereto.

3. A lamp socket comprising a unitary body member having a central longitudinal opening therethrough and concentrically disposed inner and outer annular projections on one face thereof forming a recess, a stationary contact shell disposed within the outer projection, a fixed contact ring mounted within the outer projection in close proximity to the inner projection to engage a contact ring on a lamp base, a movable contact element mounted within the central longitudinal opening and extending to a point within the recess formed by the outer projection to be engaged by the end of a lamp base, and a separate spring member concentrically positioned about the movable contact element for resiliently biasing it toward the contact shell.

CHARLES McL. MOSS.