C. E. GODLEY.

LAMP SOCKET.

APPLICATION FILED JUNE 16, 1913.

1,088,776. Patented Mar. 3, 1914.

Fig 1.

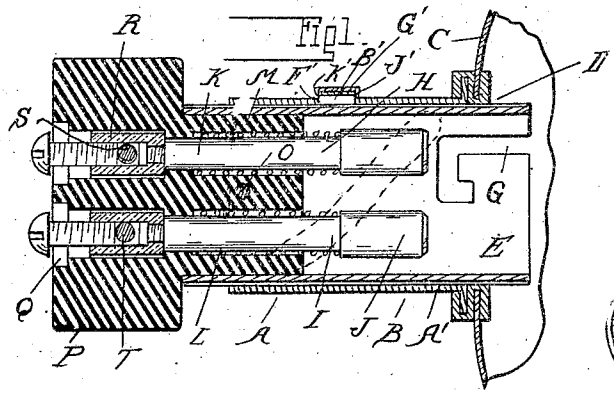


Fig 2.

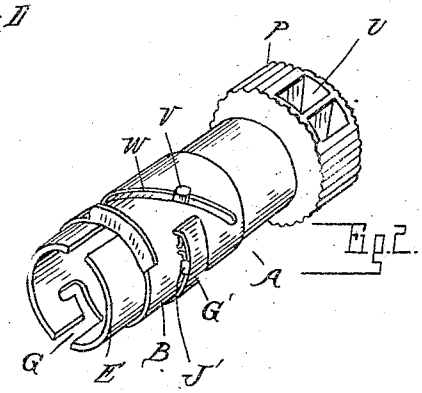
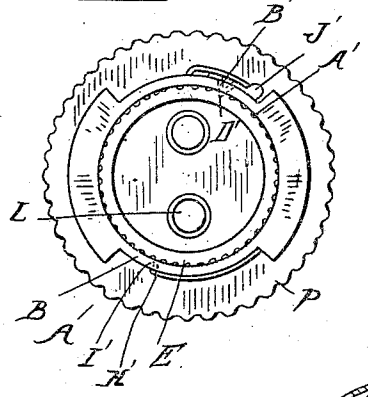


Fig 3.



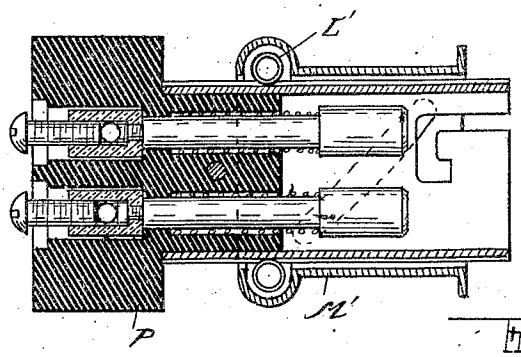
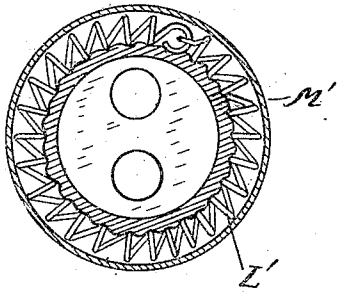


Fig 4.

Fig 5.



Inventor

Charles E. Godley

By Whittemore, Hulbert & Whittemore

Atty's

Witnesses

W. K. Ford

James O. Barry

UNITED STATES PATENT OFFICE.

CHARLES E. GODLEY, OF DETROIT, MICHIGAN, ASSIGNOR TO EDMUNDS & JONES MFG. COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

LAMP-SOCKET.

1,088,776. Specification of Letters Patent. Patented Mar. 3, 1914.

Application filed June 16, 1913. Serial No. 773,988.

To all whom it may concern:

Be it known that I, CHARLES E. GODLEY, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Lamp-Sockets, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to lamp sockets and consists in the provision of a simple but efficient device for focusing the illuminant in relation to the reflector; in the provision of a socket which will avoid undue twisting of the wires connected to the socket during focusing of the illuminant; in a structure by which the parts will be locked in their adjusted position against accidental movement; and further in certain combinations, arrangements and constructions of parts as will more fully hereinafter appear and as claimed.

In the drawings,—Figure 1 is an enlarged, longitudinal section through a portion of a lamp with the improved socket applied thereto; Fig. 2 is an enlarged, perspective view of a socket; Fig. 3 is a front elevation thereof; Fig. 4 illustrates a modification; and Fig. 5 is a cross section through the coil spring.

My improved construction of socket is composed of a plug A, a bearing B, and a connection between the plug and bearing which will effect a comparatively large, longitudinal adjustment of the plug upon a comparatively slight relative rotary movement between the latter and the bearing. Preferably the bearing B is formed of a cylindrical sleeve fixedly secured to a stationary part of the lamp and alining with an opening in the reflector. In the construction illustrated the member B is rigidly attached to the reflector C and the opening of the sleeve alines with an opening D at the apex of the reflector. The plug has a body portion arranged within the bearing B and this body portion is preferably formed by a metallic sleeve E of a size to nicely fit the bearing but free to turn therein. The forward end of the sleeve forms the socket proper for receiving the lamp, and is provided with bayonet slots G for engaging the lugs on the lamp bulb, in the usual manner.

H I are terminals having the outer ends J thereof projecting into the lamp bulb engaging portion and provided with shanks K positioned within spaced bores L of an insulating member or core. The latter has a portion M arranged within the sleeve E and secured thereto against relative rotary or longitudinal movement as by a pin O, and is also provided with an extension P without the sleeve.

Q are openings or bores in the extension P alining with the bores L, and R are connectors for the leads S T arranged within the openings Q and attached to the shanks K, the leads passing into engagement with their respective connectors through radial recesses or chambers U formed in the extension P. In order to facilitate the adjustment of the plug, the portion P is preferably enlarged and shaped to form a button or knob, as shown. Since the leads S T will turn with the plug A upon rotative adjustment thereof, as before stated, the connections between the plug and its bearing is such as to effect a comparatively large longitudinal travel of the plug upon a comparatively slight rotation thereof. In the preferred form the connection comprises a pin V upon one of the members, herein shown as upon the sleeve E of the plug, and a spiral guide or slot W in the other. The pitch of the guide W may be, and preferably is such that less than a quarter turn of the plug will move the latter longitudinally sufficient for all ordinary adjustments, to bring the illuminant into focus with the reflector.

After the plug has been moved to its adjusted position it is locked in such position against accidental movement. With the construction illustrated in Figs. 1 to 3 inclusive, the sleeve E has the outer face thereof provided with a plurality of closely spaced longitudinally-extending corrugations, the grooves A' of which are adapted to be engaged by a pawl B' upon the outer face of the sleeve B and having a point D' extending through a slot F' in the sleeve B into engagement with the corrugations of the member E. This pawl is yieldably pressed inward by means of a leaf-spring G' of semicircular configuration and having one end provided with a lateral lug or flange H' engaging a recess I' in the sleeve B and having the other end extending over the pawl B'.

J' K' are ears extending outwardly from

the pawl and serving to hold the spring against lateral displacement. This arrangement of locking device also serves the additional purpose of yieldably holding the plug against the inner face of the sleeve opposite the locking pawl, thereby preventing rattling between the plug and its bearing.

The locking device illustrated in Figs. 4 and 5 comprises an annular coil-spring L' arranged within a housing M' formed at the rear of the bearing or sleeve B. The coils of the spring engage the corrugations on the plug and yieldably lock the latter to the sleeve. In both locking devices, while the plug is locked in its adjusted position against displacement by jarring or any other strains which the parts are normally subjected to, the resilient locking members are such as to allow the plug to be readily rotated by hand when it is desired to focus the illuminant.

With the construction so far described, as shown in Fig. 2, when the parts are assembled, the lamp bulb engaging portion of the plug projects slightly into the reflector, and the adjusting knob P is at the rear of the reflector. If it is desired to focus the filament of the lamp bulb it is merely necessary to turn the knob P by hand, which will move the bulb longitudinally in the reflector, and when the filament has been focused, the locking means automatically secures the plug against accidental movement.

What I claim as my invention is:

1. The combination with a reflector of a lamp, of a plug having a lamp-bulb engaging portion formed as a unit therewith, a terminal carried by the plug and extending into operative relation to the lamp-bulb engaging portion, a lead engaging connector carried by the rear end of the plug and electrically connected to said terminal, a bearing for the plug arranged to position the lamp-bulb engaging portion in operative relation to the reflector, and a connection between the bearing and the plug for adjusting the plug in relation to the reflector, comprising a spiral guide upon the one and a projection upon the other engaging the guide, said guide having a steep pitch whereby a relative rotation between the plug and the bearing of but a portion of a revolution will effect a comparatively large longitudinal adjustment of the plug.

2. The combination with a reflector of a lamp, of a plug having a lamp-bulb engaging portion formed as a unit therewith, a terminal carried by the plug and projecting into operative relation to the lamp-bulb engaging portion, a lead-engaging connector carried by the rear end of the plug and electrically connected to said terminal, a sleeve within which said plug is arranged, positioned to arrange the lamp-bulb engaging portion in operative relation to the reflector, and a connection between the sleeve and the plug for effecting a longitudinal adjustment of the plug in the sleeve, comprising a projection upon the one and a spiral guide upon the other with which said projection engages, said spiral guide having a steep pitch whereby a relative rotation between the sleeve and plug of but a portion of a revolution will effect a comparatively large longitudinal travel of the plug within the sleeve.

3. The combination with a reflector, of a lamp socket comprising a plug having a lamp-bulb engaging portion formed as a unit therewith, a sleeve within which said plug is arranged, positioned to arrange the lamp-bulb engaging portion in operative relation to the reflector, and a connection between the sleeve and the plug for effecting a longitudinal adjustment of the plug in relation to the reflector upon rotation of the plug, said plug having a portion projecting rearwardly of the sleeve forming a means by which the plug may be turned.

4. The combination with a reflector, of a lamp socket comprising a plug having a lamp-bulb engaging portion, a sleeve within which said plug is arranged, positioned to arrange the lamp-bulb engaging portion in operative relation to the reflector, and a connection between the sleeve and the plug for effecting a longitudinal adjustment of the plug in relation to the reflector upon rotation of the plug, said plug having an adjusting knob at the rear end thereof.

5. The combination with a reflector, of a lamp socket comprising a plug having a lamp bulb engaging portion, a sleeve within which said plug is arranged, positioned to arrange the lamp-bulb engaging portion in operative relation to the reflector, and a connection between the sleeve and the plug for effecting a longitudinal adjustment of the plug in relation to the reflector upon rotation of the plug, said plug having a portion projecting rearwardly of the sleeve forming a means by which the plug may be turned, and lead-engaging connectors carried by said rearward projection.

6. The combination with a reflector, of a lamp socket comprising a plug having a lamp-bulb engaging portion, a sleeve within which said plug is arranged, positioned to arrange the lamp-bulb engaging portion in operative relation to the reflector, and a connection between the sleeve and the plug for effecting a longitudinal adjustment of the plug in relation to the reflector upon rotation of the plug, said plug having an adjusting knob at the rear end thereof provided with spaced chambers opening through the periphery thereof, and wires extending into said chambers and connected to the plug.

7. The combination with a reflector of a lamp, of a plug having a lamp-bulb engag-

ing portion, a bearing for the plug arranged to position the lamp-bulb engaging portion in operative relation to the reflector, a connection between the bearing and the plug for adjusting the plug in relation to the reflector, said connection effecting a comparatively large longitudinal movement of the plug upon a comparatively slight relative rotary movement of the plug and bearing, and means for securing the plug and bearing against relative rotary movement, comprising a spring-pressed pawl carried by the one and adapted to engage the other.

8. The combination with a reflector of a lamp, of a plug having a lamp-bulb engaging portion, a bearing for the plug arranged to position the lamp-bulb engaging portion in operative relation to the reflector, a connection between the bearing and the plug for adjusting the plug in relation to the reflector, said connection effecting a comparatively large longitudinal movement of the plug upon a comparatively slight relative rotary movement of the plug and bearing, and means carried by the bearing having a resilient engagement with the outer face of the plug and adapted to releasably lock the latter in its different positions of adjustment.

9. The combination with a reflector, of a lamp socket comprising a sleeve fixedly mounted in relation to the reflector, a plug arranged within said sleeve and provided with a lamp-bulb engaging portion positioned in operative relation to the reflector, a pin and spiral groove engagement between the plug and sleeve, the outer face of the plug being provided with a plurality of closely spaced corrugations, and a spring-pressed pawl carried by the sleeve adapted to engage the corrugated surface of the plug, for the purpose described.

10. The combination with a reflector, of a lamp socket comprising a sleeve fixedly mounted in relation to the reflector, a plug arranged within said sleeve and having a lamp-bulb engaging portion positioned in operative relation to the reflector, the outer surface of said sleeve being provided with a plurality of longitudinally-extending corrugations, a connection between the plug and sleeve, comprising a projection upon the one and a spiral guide upon the other, with which said projection engages, a pawl carried by the sleeve and positioned to engage said corrugations, and a leaf spring clamped over said sleeve and engaging the pawl.

11. The combination with a reflector, of a plug having a lamp-bulb engaging portion, a bearing for the plug arranged to position the lamp-bulb engaging portion in operative relation to the reflector, a connection between the bearing and plug effecting a comparatively large longitudinal movement of the latter upon a comparatively slight relative rotary movement of the plug and bearing on adjusting the lamp-bulb engaging portion relative to the reflector, and resilient means for securing the plug and bearing against relative rotary movement, serving to yieldably maintain the plug and bearing in contact.

12. The combination with a reflector, of a lamp socket comprising a plug having a lamp-bulb engaging portion, a sleeve connected to the reflector and within which the plug is arranged, a connection between the sleeve and plug for effecting a comparatively large longitudinal adjustment of the plug in relation to the sleeve upon a comparatively slight rotation of the plug, comprising a projection upon the one and a spiral guide upon the other with which said projection engages, and resilient means for securing the plug and bearing against relative rotary movement, serving to maintain the plug and bearing in yieldable contact, for the purpose described.

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

CHARLES E. GODLEY.

Witnesses:
WM. J. BELKNAP,
JAMES P. BARRY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."