R. B. BENJAMIN.

LAMP SOCKET.

APPLICATION FILED APR. 19, 1912.

1,048,279. Patented Dec. 24, 1912.

Fig. 1.

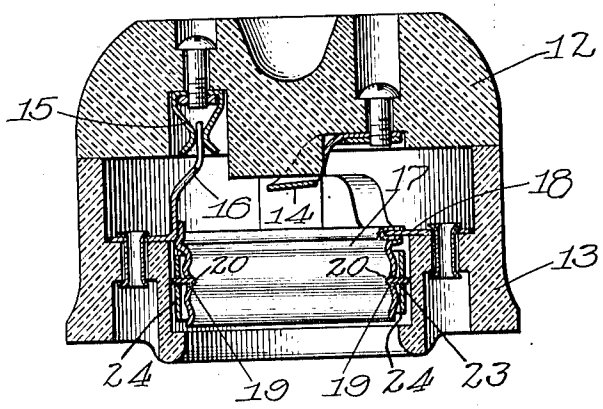


Fig. 2.

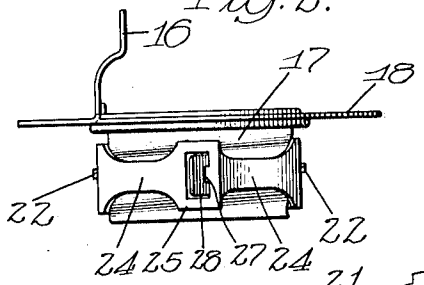


Fig. 3.

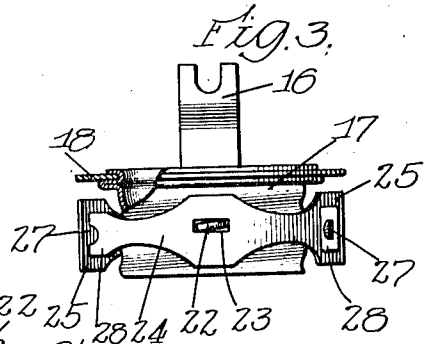
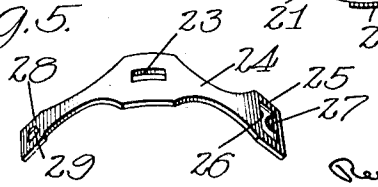


Fig. 6.



Fig. 4.

Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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LAMP-SOCKET.

1,048,279. Specification of Letters Patent. Patented Dec. 24, 1912.

Application filed April 19, 1912. Serial No. 691,970.

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 new and useful Improvements in Lamp-Sockets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention pertains to lamp retaining devices for use in connection with electric lamp sockets and the like.

Where lamp sockets are used in places where there is much vibration, or where the sockets are subjected to jars and sudden movement, it is found that the lamps will gradually become loose, so that contact will ultimately cease to be made between the center contacts of the lamps and the sockets. Dangerous arcing frequently results from this cause. Special sockets have, from time to time, been devised with a view to obviating this trouble; but, in some cases, these special sockets are subject to the disadvantage that it was difficult to remove the lamp when it was desired to do so, and, in other cases, the constructions employed were too expensive or complicated to meet the commercial requirements.

It is the principal object of my invention, therefore, to provide an electric lamp socket having a simple and inexpensive retaining device for preventing the lamp from shaking loose, the retaining device being such as to permit the lamp to be easily introduced into, or withdrawn from, the socket, when desired.

A lamp retaining device constructed in accordance with my invention, as applied to a socket of the kind described in my pending application Serial No. 590,502, filed November 3rd, 1910, is described, by way of example, in the following specification, and shown in the accompanying drawings, in which:

Figure 1 is a sectional elevation of the lamp socket having a lamp-retaining device constructed in accordance with my invention applied thereto; Fig. 2 is a side elevation of the threaded lamp-receiving contact and lamp-retaining device, separated from the remainder of the socket; Fig. 3 is a side elevation of the parts shown in Fig. 2 turned through an angle of ninety degrees from the position shown in that figure; Fig. 4 is a plan of the lamp-retaining device, the threaded lamp-receiving contact being shown in section; Fig. 5 is a detail view, in perspective, of the spring straps of the lamp-retaining device; and Fig. 6 is a detail view of one of the friction shoes of the lamp-retaining device.

Referring now to the drawings, the lamp socket shown therein consists of two insulating members 12 and 13, secured together. Of these, the upper member 12 carries a center contact 14, upon the lower side thereof, and also a spring contact clip 15 for receiving a contact tongue 16 which extends upward from the threaded contact 17. The contact 17 has secured thereto a flange 18 which is riveted to the lower member 13. The upper member 12 carries binding terminals (not shown) which are in electrical connection with the center contact 14 and the contact clip 15. As has been said, the socket is of the kind described in my pending application, referred to above, and does not, in itself, form a part of the present invention; and it does not, therefore, require further description here.

The threaded contact 17 has formed therein two oppositely disposed slots 19 extending in the direction of the thread thereof. Through these slots extend two friction shoes 20, the inner edges of which are suitably shaped to engage closely the thread of the lamp-base, when a lamp is inserted into the socket. The friction shoes 20 are prevented from passing completely through the slots 19, by means of ears 21 formed upon their ends, which engage the outer surface of the contact 17, beyond the ends of the slots 19. Spring pressure is applied to the friction shoes, to cause them to engage resiliently against the thread of the lamp base.

The friction shoes 20 are provided, at their outer edges, with lugs 22, which enter corresponding slots 23 formed in a pair of spring straps 24, which latter are locked together at their ends so as to surround the contact 17. Each of the spring straps 24 is larger at one end than at the other; and the large end 25 is formed with an aperture 26 having a tongue 27 at the front part thereof. The smaller end 28 is of a width somewhat less than the width of the aperture 26 in the larger end, and is formed with a hole 29 of corresponding size to the tongue 27. In assembling the parts, the friction

shoes 20 are first placed in the slots 19 of the contact 17; and the spring straps 24 are then placed on them, with the lugs 22 in the slots 23. The two straps 24 are then locked together by inserting the small end 28 of each strap into the aperture 26 in the large end 25 of the other, so that the tongues 27 enter the holes 29. In order that this locking operation may be performed, it is necessary that the straps be sprung inward at their ends. The resulting tendency of the straps to resume their normal shape, therefore, has the effect that a considerable inward spring pressure is exercised upon the friction shoes.

The inner edges of the friction shoes 20 are normally located within the plane of the thread of the contact 17; but when a lamp is inserted in the socket, its base forces the shoes outward against the action of the spring straps 24, the shoes thereafter bearing frictionally against the lamp-base. The turning effort required to introduce, or withdraw, the lamp is, of course, greater than would be the case if no retaining device were employed; but, nevertheless, the operation can be effected with ease. When the lamp is in the socket, the friction shoes 20 exert a considerable pressure upon the lamp-base, and effectively prevent the lamp from shaking loose.

While I have described and shown one embodiment of my invention, it is to be understood that the same may be embodied in other constructions, within the scope of the appended claims.

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

1. In a lamp socket, the combination with a threaded lamp contact having an aperture formed therethrough, of a spring-pressed clamping member extending through said aperture so as to exert a spring pressure against the lamp base when a lamp is inserted into the socket, whereby the lamp is firmly maintained in position, but may be readily withdrawn, if desired.

2. In a lamp socket, the combination with a threaded lamp contact, of a friction shoe adapted to engage the lamp base when a lamp is inserted into the socket, means for exerting a spring pressure upon said friction shoe so as to force the same into engagement with the lamp base, whereby said lamp is firmly maintained in said socket but may be readily removed therefrom when desired.

3. In a lamp socket, the combination with a threaded lamp contact, of a pair of friction shoes disposed at opposite sides of said lamp contact and adapted to engage the lamp base when a lamp is inserted into the socket, and means for exerting a spring pressure upon said friction shoes so as to force them into engagement with the lamp base, whereby said lamp is firmly maintained in said socket, but may be readily removed therefrom when desired.

4. In a lamp socket, the combination with a threaded lamp contact having an aperture formed therethrough, of a friction shoe extending through said aperture so as to engage the lamp base when a lamp is inserted into the socket, and means for exerting a spring pressure upon said friction shoe so as to force the same against the lamp base, whereby said lamp is firmly maintained in said socket but may be readily removed therefrom when desired.

5. In a lamp socket, the combination with a threaded lamp contact having apertures formed therethrough at opposite sides thereof, of a pair of friction shoes extending through said apertures so as to engage the lamp base when a lamp is inserted into the socket, and a resilient device surrounding said threaded contact and engaging said friction shoes so as to force the latter into engagement with the lamp base, whereby said lamp is firmly maintained in said socket but may be readily removed therefrom when desired.

6. In a lamp socket, the combination with a threaded lamp contact having a plurality of apertures formed therethrough, of a plurality of friction shoes, one extending through each of said apertures, adapted to engage the lamp base when a lamp is inserted into said socket, and a device for exerting a spring pressure upon said friction shoes to force them into engagement with the lamp base, said device comprising a plurality of spring straps attached to each other at the ends, so as to surround said contact, and bearing against said friction shoes.

7. In an electric lamp socket, the combination with a threaded lamp contact having a pair of apertures formed therethrough, at opposite sides thereof, of a pair of friction shoes extending through said apertures so as to engage the lamp base when a lamp is inserted into said socket, and a device for exerting a spring pressure upon said friction shoes so as to force them into engagement with the lamp base, said device comprising a pair of spring straps, each engaging one of said friction shoes, locked together at their ends under a bending strain.

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

REUBEN B. BENJAMIN.

Witnesses:
CHARLES G. COPE,
MABEL REYNOLDS.