March 18, 1947. W. E. PATTERSON 2,417,518

ELECTRIC LAMP SOCKET

Filed March 29, 1945

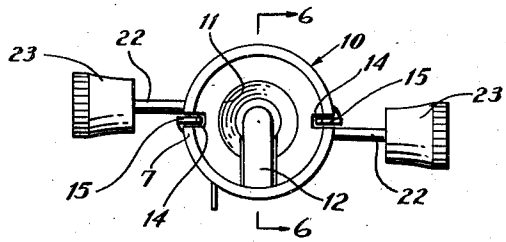


FIG. 1

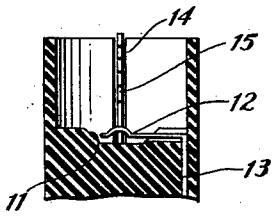


FIG. 6

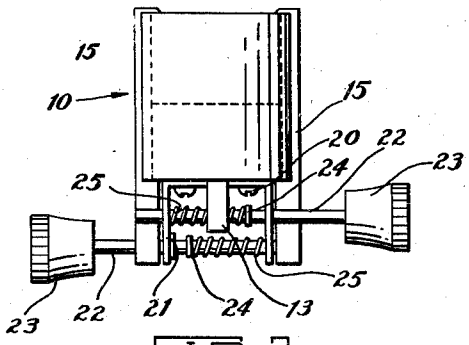


FIG. 2

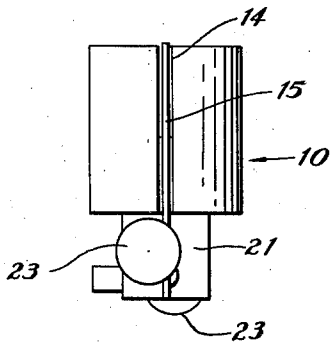


FIG. 3

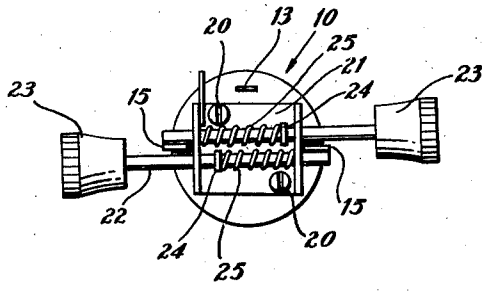


FIG 4

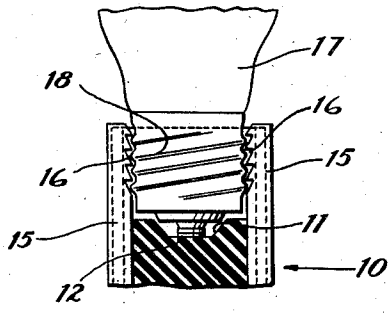


FIG. 5

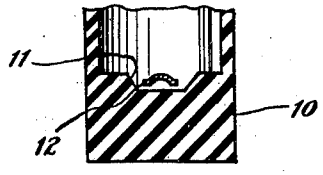


FIG. 7

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ELECTRIC LAMP SOCKET

William E. Patterson, Miami, Fla.

Application March 29, 1945, Serial No. 585,459

1 Claim. (Cl. 173—328)

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This invention relates to an electric lamp socket, and more particularly to such a socket adapted to be utilized with the conventional screw-threaded light bulb, or the like.

A primary object of this invention is the provision of an improved socket construction adapted to expedite and facilitate the insertion and removal of light bulbs therein.

An additional object of the invention is the provision of such a device provided with means for releasably grasping the screw-threaded plug of a conventional light bulb, in such manner that the same may be inserted in, and removed from the socket without the necessity for screwing and unscrewing the same.

A more specific object of the invention is the provision of a socket provided with longitudinally extending grooves therein, within which are fitted toothed jaws, the teeth of which are adapted to engage the threads on the base of the bulb, and means whereby the jaws may be moved inwardly and outwardly with respect to these threads.

An additional object of the invention is the provision of such a device which will be sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture and assemble.

Other objects reside in the combinations of elements, arrangements of parts and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawing wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a top plan view of one form of socket embodying the instant invention,

Figure 2 is a side elevational view of the device shown in Figure 1, certain concealed parts thereof being indicated by dotted lines,

Figure 3 is an end elevational view, taken substantially at right angles to Figure 2,

Figure 4 is a bottom plan view of the device,

Figure 5 is a fragmentary sectional view disclosing a portion of a light bulb inserted in the socket,

Figure 6 is a sectional view taken substantially along the line 6—6 of Figure 1, certain parts thereof being broken away, and

Figure 7 is a sectional view taken substantially along the line 7—7 of Figure 1.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawing, there is generally indicated at 10 a socket for a screw-

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threaded light bulb, or similar appliance, provided interiorly with smooth walls and having a depression 11 in its base, within which is positioned a spring contact 12, connected as by a lead 13 to any desired electrical circuit. The sides of the socket are provided with oppositely disposed longitudinal grooves 14, extending the full length thereof, and extending completely through the walls of the socket portion. Positioned within each of the grooves 14 is a jaw member 15, provided, as best shown in Figure 5, with a plurality of serrations or teeth. The teeth are so inclined, in a downward direction toward the base of the socket, that a bulb 17 having a threaded base 18 may be readily inserted therein but not removed therefrom unless the jaws are separated in a manner to be more fully described hereinafter.

Secured to the base of the socket 10, as by screws 20, is a U-shaped bracket 21, the legs of which are each provided with two apertures, the apertures in opposite legs being aligned. Extending through the aligned apertures are two transverse control rods 22, one extremity of each rod being secured to the lower extremity of a jaw 15. The opposite extremity of each rod is provided with a finger grip or knob 23 of any suitable insulating material such as Bakelite, or the like. Each of rods 22 is provided at an intermediate portion with a collar or flange 24, between which collar and the interior of the adjacent leg of U-shaped member 21 is positioned a compression spring 25, the spring being so arranged as normally to bias the knobbed ends of the rods outwardly, and the jaws secured to the opposite ends of the rods inwardly with respect to the socket 10. The rods 22 are arranged in vertical staggered relation, and diverge slightly out of parallel from their inner or jaw bearing ends to their outer ends, in order to provide ample clearance not only for the jaws 15 but also for the springs 25.

From the foregoing, the operation of the device should now be readily understandable. When it is desired to insert a light bulb into the socket, the same may be pressed downwardly, ratcheting over the inclined teeth 16, until the contact button on the base 18 thereof is in contact with the interior socket contact 12. If desired for facility in insertion, the knobs 23 may be pressed inwardly toward each other, which operation, it will be readily understood, compresses the spring 25, and biases the jaws 15 outwardly with respect to the slot 14, moving the teeth 16 outwardly until they are completely contained within the

walls of the socket, thus leaving a completely smooth interior surface to the socket. Upon release of the knob 23, the teeth 16 engage with the threads on the base 18 of the bulb, securely holding the same in related assembly, and, if desired, after the bulb has been seated in the socket, the same may be given a partial turn, whereupon the threads coact with the teeth 16 in such manner as to securely tighten the same in the socket and in electrical association with the contact 12. When it is desired to remove a bulb, obviously compression of the knobs 23 toward each other releases the teeth 16 of the jaws 15 from engagement with the threads on the base 18 of the bulb, and the same may be readily withdrawn from the socket.

The device may, obviously, be constructed of any desired material, and the socket construction per se may be of any desired conventional arrangement, either in a single piece or in a plurality of pieces held together as by screws, bolts, or the like and, equally obviously, the device may be made of any desired size for any one of a desired size of electrical fixtures.

From the foregoing, it will now be seen that there is herein provided a device which accomplishes all of the objects of this invention and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

In a device of the character described, a socket having a smooth inner surface and longitudinal grooves therein, a contact in the base of said socket, jaws with a plurality of teeth thereon movably positioned in said grooves and extending longitudinally of said socket, and means for moving the teeth of said jaws into and out of said socket for engagement with the threads on the base of a light bulb, said means including rods secured to the end of said jaws and the base of said socket, knobs on the opposite ends of said rods whereby compression of said knobs toward each other moves said jaws outwardly with respect to said socket, and coil springs on said rods and outside of said socket normally biasing said jaws inwardly, said plurality of teeth being so angled as to permit insertion of a bulb in the socket against the bias of said spring means, but to preclude removal thereof unless said knobs are compressed.

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REFERENCES CITED

The following references are of record in the file of this patent:

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Number	Name	Date
298,143	Weston	May 6, 1884