Feb. 19, 1924. 1,484,550

A. C. CARSON

EXPANSION PLUG FOR LAMP SOCKETS

Filed July 7, 1921

Fig. 1

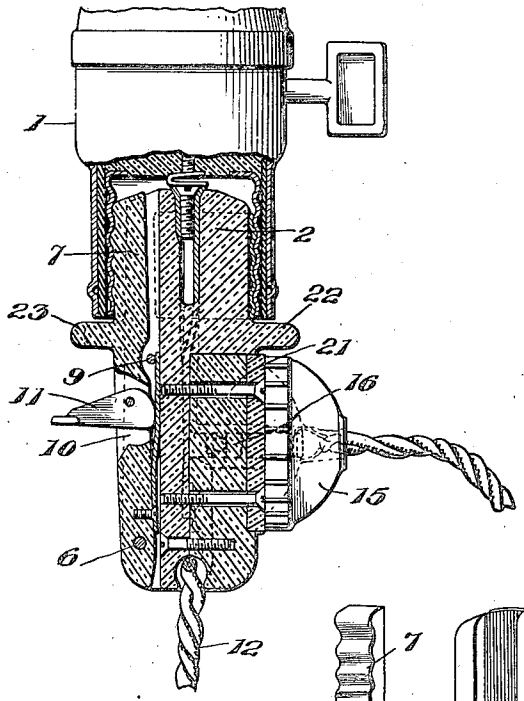


Fig. 2.

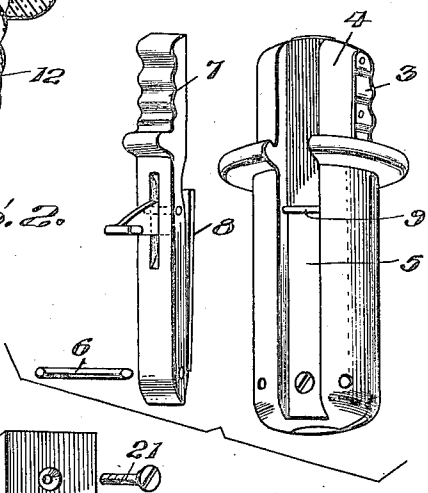
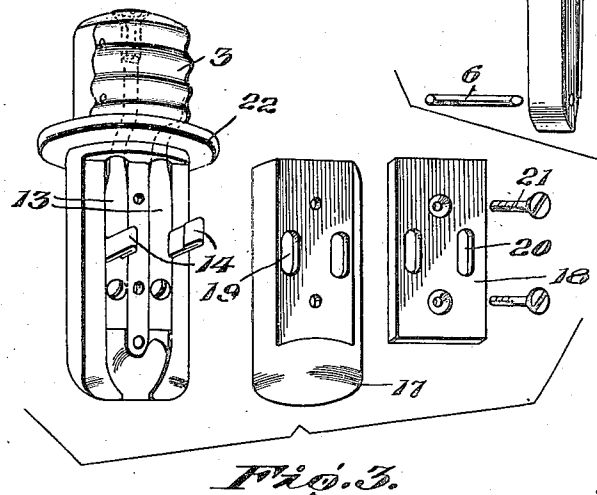


Fig. 3.



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UNITED STATES PATENT OFFICE.

ASHMEAD C. CARSON, OF COLUMBIA, SOUTH CAROLINA.

EXPANSION PLUG FOR LAMP SOCKETS.

Application filed July 7, 1921. Serial No. 483,012.

To all whom it may concern:

Be it known that I, ASHMEAD C. CARSON, a citizen of the United States, residing at Columbia, in the county of Richland and State of South Carolina, have invented certain new and useful Improvements in Expansion Plugs for Lamp Sockets, of which the following is a full, clear, and exact description.

My invention relates to plugs for lamp sockets, and has for its object to provide such a plug with means whereby it may be expanded or contracted when being applied to or withdrawn from the socket and thereby avoid the loss of time required to screw into place the ordinary plugs now in use, and also avoid twisting the connecting wires.

Another object of the invention is to provide such a plug with its parts so located and arranged as to avoid any shocks to the person manipulating it.

Another object of the invention is to provide such a plug with contacts for connection with the ordinary standard cap having parallel contacts.

Other and further objects of the invention will be apparent from the following description when taken in connection with the accompanying drawings, in which:

Figure 1 is a vertical section through the plug.

Figure 2 is a perspective view of the plug and expanding bar separated, and

Figure 3 is a perspective view of details.

Referring to the drawings more in detail, the numeral 1 designates the ordinary lamp socket now in common use and to which my plug, designated generally by the numeral 2, is adapted to be applied.

The screw threaded sleeve 3 extends only part way around the plug 2 and the exposed part of the plug is beveled off or made of less curvature, as shown at 4, so that the plug may easily be inserted and removed from the socket.

The plug is provided with a longitudinal slot indicated at 5, and pivoted between the walls of this slot on pin 6 is an expanding arm 7. This arm is provided with threads at its upper end to engage the threads of the socket. Secured to the lower end of the expanding arm 7 is a leaf spring 8. Extending transversely of the slot 5 is a pin 9. The free end of the spring 8 engages under the pin 9 and thereby tends to limit the outward movement of the expanding arm 7.

Pivoted in a slot 10 of the expanding arm 7 is a cam member 11. The cam portion of the cam member 11 operates on the surface of the spring 8 and in this manner the cam is prevented from cutting the insulation. The cam is arranged so that pressure on the handle or push button thereof away from the socket will expand the arm 7, and a reverse movement will contract the arm.

The wires 12 are attached to the conducting strips 13 secured in the plug. The conducting strips 13 are arranged in the usual manner, one extending through the end of the plug and the other being attached to the side thereof. Laterally extending contacts 14 are formed on the strips 13 for the purpose of receiving the contacts of the ordinary attachment plug 15 having parallel contacts 16.

The plate 17 and insulating strip 18 are provided with openings 19 and 20, respectively, to receive the contacts 14 and 16, respectively, of plug 2 and attachment plug 15. Plate 17 and strip 18 are secured in place by means of suitable screws 21.

The plug 2 is provided with a flange 22 and the expanding arm 7 is provided with a flange 23, the two flanges together forming a circular abutment on the plug which prevents the hand of the operator from coming in contact with the socket to which the plug is being attached.

In operation it is only necessary to move the handle or push button of the cam 11 toward the head of the socket and thereby contract the expanding arm 7. The plug can then be inserted in the socket and a reverse movement of the handle or push button will expand the arm 7 and lock the plug securely in place.

While I have shown the attachment plug 15 as connected to the side of plug 2, it may, if desired, be attached to the end of this plug.

In accordance with the patent statutes, I have described what I now believe to be the best embodiment of the invention, but I do not wish to be understood thereby as limiting myself or the scope of the invention, as many changes and modifications may be

made without departing from the spirit of the invention; all such I aim to include in the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. In an expanding plug, a body portion, an arm pivoted on said body portion, a leaf spring secured to said arm and extending longitudinally thereof and a pin on the body to engage the spring and limit the movement of the arm.

2. In an expanding plug, a body portion, an arm pivoted thereon, a spring secured to said arm, and a cam for moving said arm, said cam engaging the spring.

3. In an expanding plug, a substantially cylindrical body portion having a longitudinal channel therein, an arm pivoted in said channel, resilient means normally holding the free end of the arm within the groove, and a cam for forcing the free end of the arm partly out of the groove.

4. In an expanding plug, a substantially cylindrical body portion having a longitudinal channel on its outer wall, an arm pivoted in said channel, a leaf spring secured to the inner surface of said arm, and a pin extending across said channel and engaging the free end of said spring.

5. In an expanding plug, a body portion having a channel therein, an arm pivoted in said channel, a spring on said arm, a pin engaging the free end of the spring, and a cam for moving the arm on its pivot.

ASHMEAD C. CARSON.