June 19, 1934. G. HARRISON 1,963,234

SOCKET LOCKING ATTACHMENT AND TOOL FOR ELECTRIC DEVICES

Filed Nov. 5, 1932

Fig. 1

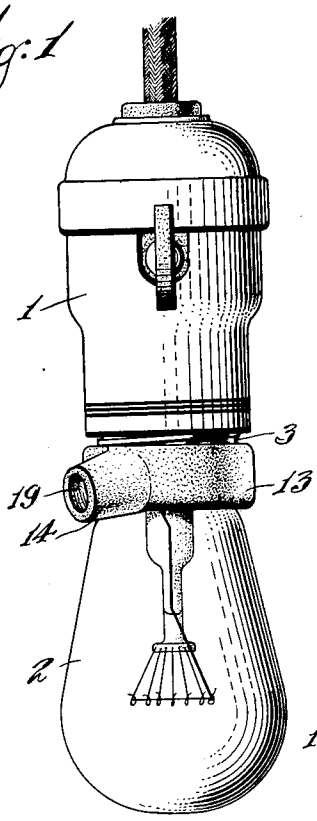


Fig. 2

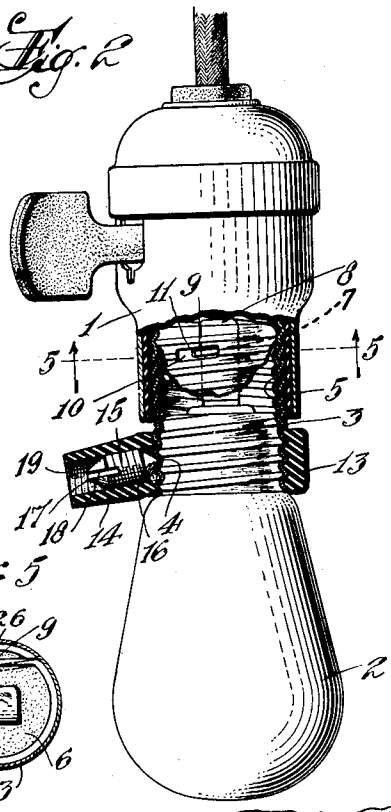


Fig. 5

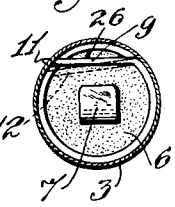


Fig. 3

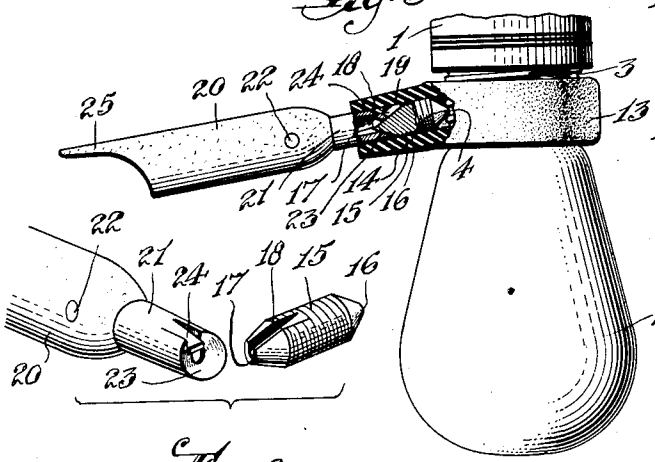


Fig. 6

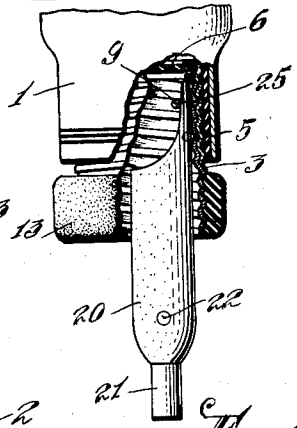


Fig. 4

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SOCKET LOCKING ATTACHMENT AND TOOL FOR ELECTRIC DEVICES

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6 Claims. (Cl. 173—356)

This invention relates to means for locking an electrical device, such as a lamp bulb, into a socket.

During the course of the year, many lamp bulbs are appropriated by the public from electric light fixtures or sockets that are placed in exposed or public places, and the losses run into large sums if no provision is made for locking these securely in the socket whereby they cannot be readily removed and taken away.

It is therefore the principal object of my invention to provide means for locking a lamp bulb or other electrical device to the supply socket whereby the same cannot be removed except by the use of a special tool which is included as a part of my invention.

While attaining the main object, it is another object of my invention to provide a socket-locking attachment and tool which are cheap to manufacture, easy to install and highly efficient for accomplishing the purpose intended.

My invention will be readily understood by reference to the annexed drawing, wherein:

Figure 1 is an elevational view showing the socket with my attachment in position holding the lamp bulb.

Figure 2 is a view similar to Figure 1, but with part of the socket and attachment broken away to show the interior construction.

Figure 3 is a view of the end of the attachment and lamp bulb in position showing the application of the special tool to the locking means for holding the lamp bulb to the attachment.

Figure 4 is a view of the lower end of the socket with the attachment in place and the tool inserted to release the lock for holding the attachment to the socket.

Figure 5 is a view taken along the line 5—5 of Figure 2, across the attachment only, showing the locking means for holding the attachment to the supply socket.

Figure 6 is a perspective view of one end of the special tool, and the special locking screw for holding the bulb to the attachment.

In the drawing, wherein like numbers refer to corresponding parts in the various views, 1 is a supply socket to which it is desired to fasten a lamp bulb 2 or some other suitable electrical device. I accomplish this purpose by providing, first, an attachment to be screwed into the socket 1, and secondly, a tool to be used for removing the attachment and also for operating and fastening the bulb 2 to the attachment.

The attachment in general comprises a metallic sleeve 3 which is integrally formed in two sections of different diameter, the section 4 being of a larger diameter than the section 5 which is adapted to be screwed into the threads provided on the socket 1. The end of the section 5 is closed by an insulator 6 which is fastened in the end of the shell section 5 in any satisfactory manner as by providing a shoulder on the end of the shell and spinning the edge thereof over the insulator 6, which carries a central contact 7 to be engaged by the corresponding central contact in the lamp bulb 2 in the well-known manner, it being understood that the opposite end 8 of the spring contact 7 engages the central spring contact in the socket 1.

Near the insulator 6, the section 5 of the shell 3 carries a spring member 9 which may be made of steel spring-wire that is attached to the shell section 5 in any satisfactory manner. The free end of the spring 9 projects through a slot or opening 10 in the wall of the shell section 5 and terminates in a relatively sharp point 11 (see Figs. 2 and 5) so that the point 11 will engage or dig into the wall of the socket 1 on reverse rotation of the shell 3. In screwing the shell into the socket 1, the spring 9 and point 11 may move to the position indicated by the dotted line 12 (see Fig. 5) whereby the attachment may be readily screwed into the socket 1.

The outer end of the shell 3 of the larger diameter section portion 4 carries an insulator 13 which is preferably moulded thereon from any satisfactory insulating material. The insulator 13 is in the form of an annular ring and is preferably provided with a projection 14 which completely encloses or houses a special screw 15, both ends of which are conically shaped, the end 16 terminated in a relatively sharp point which is adapted to pass through an orifice in the shell section 3 so as to engage the metal stem of the lamp bulb 2. The opposite end of the screw 15 is in the shape of a frustum of a cone in which the end surface 17 is flat so that an ordinary type of screw-driver has nothing to engage. The conical face, however, of this end of the screw is provided with a slot 18 which extends substantially parallel with its conical face in which it is positioned.

The projection 14 is provided with threads 19 preferably moulded therein, thereby forming a socket for the screw 15. In order to operate the screw 15, a special tool 20 is provided having a metal thimble 21 fastened thereto by pin 22. The end of the thimble 21 has a conical recess 23 to fit the conical end of the screw 15, and it is also provided with a portion 24 indented inwardly to form a key to fit the keyway or slot 18 in the

screw 15. Thus by inserting the thimble 21 of the tool 20, as indicated in Figure 3, the screw 15 may be manipulated to lock or unlock the lamp bulb 2 to the metal sleeve 3 of the attachment device.

Assuming that it is desired to remove the bulb and attachment from the socket 1, the bulb may be removed from the attachment by backing out the screw 15 with the special tool 20 and the lamp bulb 2 is then removed. The opposite end of the tool 20, which is preferably made of insulating material, has a reduced end 25 that is adapted to be inserted in the space 26 (see Fig. 5) between the spring 9 and the wall of the shell 3, thereby forcing the spring 9 to move into the position shown in dotted lines 12, which moves the end 11 of the spring out of locking engagement with the side wall of the socket 1, and the attachment may then be unscrewed from the socket.

From what has been said, it will be seen that the screw 15 cannot be readily unscrewed to release the lamp bulb 2, because there is no slot in the flat face 17, and therefore there is nothing for a screw-driver to engage, and the slot 18 being formed in the conical face, makes it substantially impossible to operate the screw without the special tool herein described.

Having thus described my invention, what I claim is:

1. An attachment for the purpose described comprising a metallic shell having one end formed to screw into a socket, while the opposite end is formed to receive a device having a threaded stem such as a lamp bulb, said first-mentioned end of the shell being of smaller diameter than the opposite end and carrying within its confines a spring having one end extending through the side wall of the shell to positively engage the wall of the socket in such manner as to allow the attachment to be screwed into the socket but to prevent it being unscrewed therefrom, except on application of a special tool without the said device being in place therein, said opposite end of the shell having an insulator positioned thereon, a screw socket carried by the insulator and opening into the interior of said shell, a screw carried by said insulator screw socket and completely enclosed therein and adapted to be moved to engage the device screwed into said shell adjacent the insulator.

2. An attachment as set forth in claim 1, further characterized in that the screw has a special head, the same being tapered with a slot in and extending with the taper on the head, whereby only a special tool to fit the head and slot can be used.

3. An attachment as set forth in claim 1, further characterized in that the screw is tapered at both ends, one ending in a relatively sharp point, while the other end has a flat point and a slot in the tapered surface, whereby only a socket type tool with a key formed to fit said slot can be used on said screw.

4. An attachment as set forth in claim 1, further characterized in that said insulator has a hollow projection which encloses said screw, said screw having a special head, the same being tapered with a slot in and extending with the taper on the head, whereby only a special tool to fit the head and slot can be used.

5. An attachment as set forth in claim 1, further characterized in that the screw has a special head, the same being tapered with a slot in and extending with the taper on the head, in combination with a special tool to fit the head and slot, said tool also having an end formed to release said spring from locking engagement when the attachment is desired to be removed from the socket.

6. Means for locking an electric light bulb having a stem to a socket comprising, an attachment consisting of a metallic shell to fit the socket and carrying a spring positioned transversely across the shell and projecting through the sidewall thereof to grip the socket on reverse direction of rotation of the shell, said spring being releasable by a special tool without destruction of the shell, said shell having an annular insulator around its open end which is adapted to receive the light bulb, a pointed screw carried by and in concealed position within the insulator and adapted to engage the light bulb stem, said screw being constructed so it cannot be operated by the ordinary screw-driver or tool.

GALE HARRISON.