

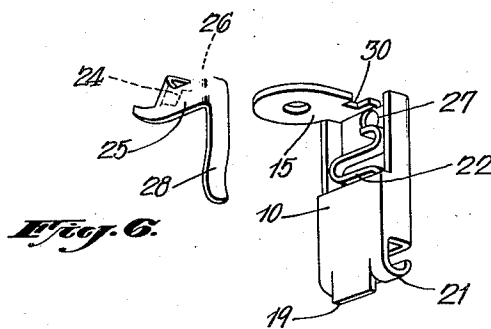
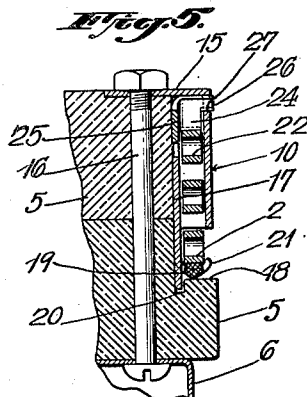
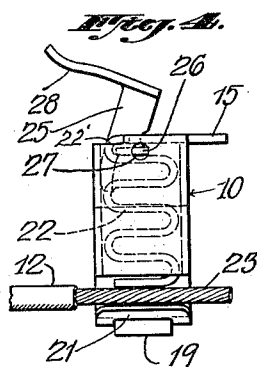
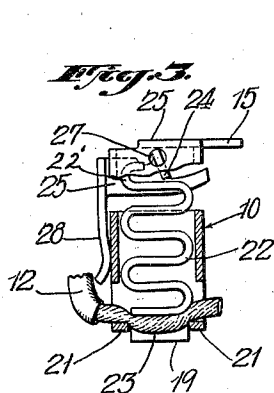
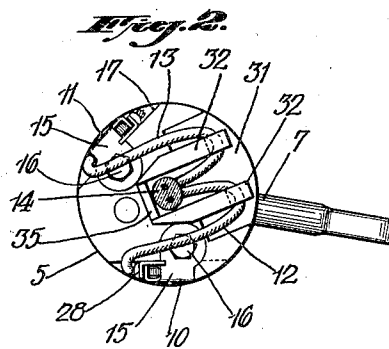
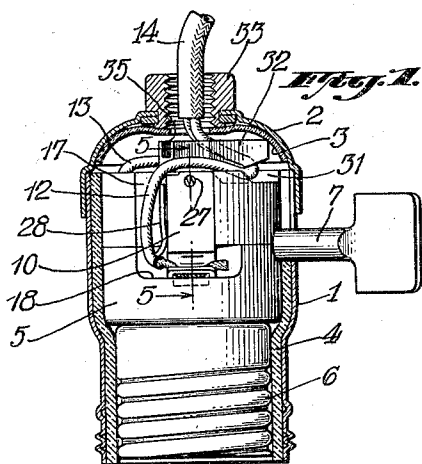
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2,154,247

ELECTRIC LAMP SOCKET

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ELECTRIC LAMP SOCKET

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1 Claim. (Cl. 173—259)

This invention relates to an electric lamp socket in which electric wires can be connected to the socket by hand without using any tools, and a strain which would tend to disconnect the wire from the terminals to which they are connected is relieved.

In carrying out this invention the parts are made readily accessible and portions that are moved to attach the wires to the socket are retained in place without danger of inadvertent loosening thereof.

The invention will be understood from the description in connection with the accompanying drawing in which Fig. 1 is a vertical section through an illustrative embodiment of the invention; Fig. 2 is a plan view of the socket removed from its shell; Fig. 3 is a side view on an enlarged scale, partly in section and partly broken away, of one of the wire connectors; Fig. 4 is a side view of the connector in the open position; Fig. 5 is a section through a portion of the socket and through the connector and Fig. 6 is a perspective view of the connector with one of its members disconnected therefrom.

In the drawing reference character 1 indicates a shell and 2 a cap therefor. The cap is lined with insulating material 3 and the shell with insulating material 4. An electric lamp socket is shown in the shell and cap. It consists of a block of insulating material 5 having a screw shell 6 for an electric lamp attached thereto. Switch mechanism is enclosed in the insulating material and is operated by the switch button 7. The parts so far described are old and well known in this art.

Connectors 10 and 11 for line wires 12 and 13 of the cable 14 are mounted on the block 5. Each connector 10, 11 is in the shape of a rectangularly shaped box having a laterally extending portion 15 that is provided with a hole through which a bolt 16 is passed to attach it to the socket member 5. One of the bolts 16 electrically connects the connector 10 to the screw shell 6 (Fig. 5), and the other bolt 16 electrically connects the connector 11 to a portion of the switch mechanism (not shown). The sides of the block 5 are recessed to leave a side 17 and bottom 18 of each recess. These recesses accommodate the connectors 10 and 11 and wires 12 and 13 in such a manner that they do not interfere with placing the lamp socket in the cap and shell.

One side of each connector 10, 11 extends downwardly farther than the other and is slitted and bent to leave a straight portion 19 which extends into a recess 20 in the bottom 18 of the large

recess, while the bent part 21 is bent or curved so that it is adapted to support the stripped end of a line wire 12 or 13. The portion 19 prevents the connector from becoming loosened.

A resilient means, which may be in the form of a compression spring 22, is mounted in each connector 10, 11. The lower end of the spring is preferably so shaped that it will crimp a portion 23 of the wire 12 or 13 into the space in the bent part 21 (Fig. 3) when pressure is applied to the spring, thus securely holding the wire in place, and this spring also has a sort of fulcrum or tilting movement which will bind the wire more securely when an attempt is made to pull it out. The resilient means which holds the wire in place is operated by a hand operated device to cause it to bind the wire in place. An illustration of such a device is shown in Figs. 3 to 6 as a cam 24 which is provided for compressing the spring 22 or resilient member, although various other hand operated devices may be used for this purpose, such as wedges, or sliding members with cam surfaces thereon, for example. These wedges or other members may be made to slide along the lower side of the portion 15 with their ends extending beyond the edges of the box shaped connectors. The cam 24 is carried by a lever 25 and is provided with a pivot 26 that extends into a hole or bearing 27 in the front or outside wall of the connector 10 or 11 (Fig. 5). An arm or finger-piece 28 is provided on the lever 25 for convenience in operating it by hand. A notch 30 (Fig. 6) may be provided in the edge of the extension 15 into which notch the edge of the lever 25 enters when it is in its open position. The cam 24 passes the dead center in both the opened and closed positions of the connector. The arm 28 lies against an edge of the connector in the wire connecting position (Fig. 3) and extends outwardly beyond the periphery of the block 5 when it is in its open position, as shown in Fig. 4, so that it is impossible to insert the socket in its shell 1 without turning the lever 25 into its wire connecting position, and it is impossible to turn the lever 25 to its open position after the socket is in the shell. An end 22' of the spring 22 may be bent around into position so that the spring will be lifted by the cam 24 when the lever 25 is turned to its extreme open position.

A recess 31 is provided at the top of the insulating block 5 on one side. Parallel arms 32 of insulating material, which may be made either integral with the block 5 or may be attached thereto, extend over the recess 31 and are spaced from the bottom of this recess sufficiently to permit the

wires 12 and 13 to pass under these arms before passing out through the ferrule 33 in the cap 2. The wires 12 and 13 may pass from the connectors 10 and 11 through the space 35 between the arms 32 through the ferrule 33 instead of passing under the arms 32, as shown in Fig. 2. The outer ends of the arms 32 extend sufficiently close to the inside surface of the cap 2 to prevent the wires 12 and 13 from passing around the ends of the arms 32 when the cap 2 is in place.

When the device is to be assembled the stripped ends of the wires 12 and 13 are placed between the lower ends of the springs 22 and the bent portions 21 of the connectors 10 and the levers 25 are turned into the position shown in Fig. 3, thus securely connecting the wires to the connectors. The wires 12 and 13 are then brought upwardly, as indicated in Fig. 3, and thence along the top of

the insulating block 5 on the outside of the arms 32, thence under the ends of the arms 32 to the center of the block and thence out through the ferrule 33. The wire 12 holds the arm 28 of the connector 10 in the wire connecting position even before the shell 1 is put on and the same arrangement can be utilized in connection with the other connector 11 by having right and left-hand connectors, if desired.

We claim:

A box-shaped connector for a wire having one wall extended and a portion thereof slotted and bent over the end of the box to receive the wire, and means, including a spring and cam, associated with said connector for pressing the wire against said bent-over portion.

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