May 23, 1933. F. O. STODDARD 1,910,482

ELECTRICAL PLUG AND SOCKET

Filed April 14, 1931

Fig. 1.

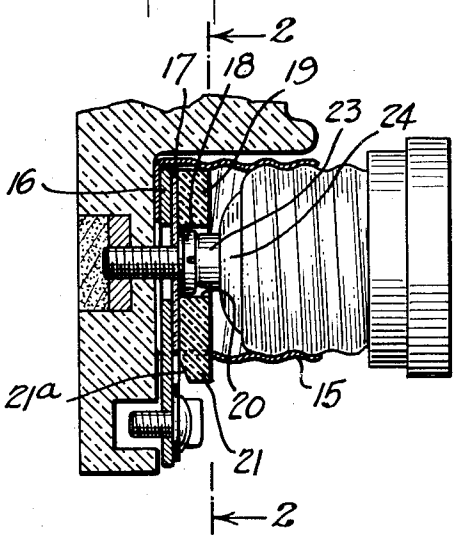


Fig. 2.

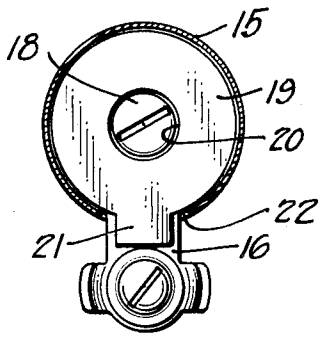
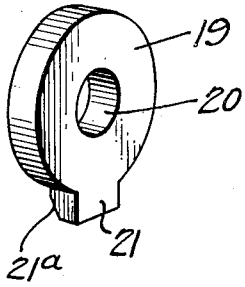


Fig. 3.



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UNITED STATES PATENT OFFICE

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ELECTRICAL PLUG AND SOCKET

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My invention relates to electrical plugs and sockets, and it has particular reference, although not necessarily, to fuse plugs and sockets.

Fuse plugs and sockets therefor, as heretofore constructed, permit the insertion of a coin or similar form of bridging contact into the socket so that with the subsequent application of the plug, the coin is caused to form an electrical connection between the center contact and shell of the socket. This allows the electrical circuit of which the center contact and shell of the socket form the terminals, to be completed, even though the fuse of the plug is blown or burned out. Such an expedient is both unlawful and dangerous.

It is a purpose of my invention to provide an electrical socket and plug which have means co-acting to prevent, when the fuse plug is blown, bridging of the center contact and shell and the consequent completion of an electrical circuit, by the insertion into the socket of a coin or similar conductor, thus necessitating in the event of the plug being blown, the use of a new fuse plug before the circuit can be restored.

It is also a purpose of my invention to provide as an article of manufacture an insulator adapted for use in an electrical socket for maintaining the central contact of the socket inaccessible with respect to coins or similar conductors and, hence, precluding bridging of the plug contact with respect to the shell thereof.

I will describe only one form of plug and socket, and one form of insulator, each embodying my invention, and will then point out the novel features thereof in the claim.

In the accompanying drawing:

Figure 1 is a view showing in vertical section one form of plug and socket embodying my invention.

Figure 2 is a transverse sectional view taken on the line 2—2 of Figure 1.

Figure 3 is an enlarged detail perspective view of the insulator embodied in the socket shown in the preceding views.

In carrying out my invention, I provide a socket which is of conventional form in that it includes a conducting shell 15 of cup form and interiorly threaded for the reception of the plug. The bottom of the shell has laterally extended therethrough a contact arm 16, and extending through the arm and insulated therefrom by a disk 17 of insulating material, is a contact member 18. This member is in the form of a screw, and its association with the contact arm 16 and the bottom of the shell 15 is such that it is disposed centrally within the bottom of the shell with its head situated centrally within the shell.

Disposed within the bottom of the shell 15 is an insulator 19, and this insulator is provided with a central opening 20 in which the head of the member 18 is received. The insulator is of sufficient thickness so that in its association with the head of the member 18, such head is counter-sunk so as to be spaced from the outer surface of the insulator.

The insulator is in the form of a disk, and the diameter of this disk is such that it can be inserted into the shell 15. For securing the disk against displacement from the shell it is provided with a peripheral projection or tongue 21 which extends into an opening 22 of the shell. This projection is beveled on one edge, or otherwise shaped as indicated at 21^a, to permit it to be inserted into the opening 22 as the disk 19 is forced downwardly into the shell, so that in the final position of the insulator, the disk is disposed in the bottom of the shell and the projection within the opening. In this manner the insulator is secured against displacement from the shell.

The plug of my invention is of conventional form with the exception that its central contact 23 projects from the insulating body 24 a distance sufficient to cause the contact to engage the head of the contact member 18 when the plug is screwed home within the socket. Thus it will be seen that, in practice, the plug is operable to complete an electrical circuit through the socket, provided, of course, that the fuse of the plug is intact. Should the fuse blow and an attempt be made to complete the circuit through the socket by the removal of the plug and the insertion of a coin, the insulator 19 will serve

to prevent the coin from engaging the head of the contact member 18 so that by re-applying the blown plug, the circuit through the socket cannot be completed.

It will be understood by those skilled in the art that my invention is not restricted in its use to a fuse plug, but is also applicable to plugs of conventional construction.

Although I have herein shown and described only one form of plug and socket, and one form of insulator, each embodying my invention, it is to be understood that various changes and modifications may be made therein without departing from the spirit of the invention and the spirit and scope of the appended claim.

I claim as my invention:

An electrical socket comprising a shell having a contact in its bottom, axially disposed and insulated from the shell, the shell having peripheral opening therein, and a disk of insulating material of a diameter to fit into the shell, the disk having an axial opening to receive the contact, and having a radial projection beveled on one side to enable the projection to be inserted into the shell opening when the disk is disposed in a tilted position, the dimension of the shell opening in a direction axially of the shell, being substantially equal to the thickness of the projection so that the disk when swung from a tilted position to seat in the bottom of the shell, will be secured by the projection against displacement.

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