Dec. 20, 1949 L. SCHOTT 2,491,586

ADAPTER FOR WALL SOCKETS

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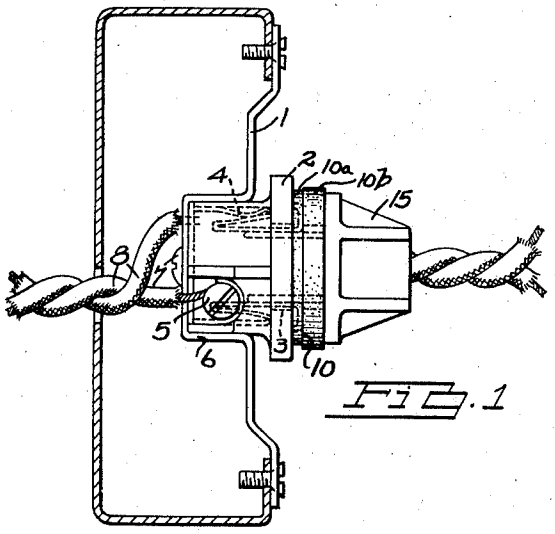

Fig. 1

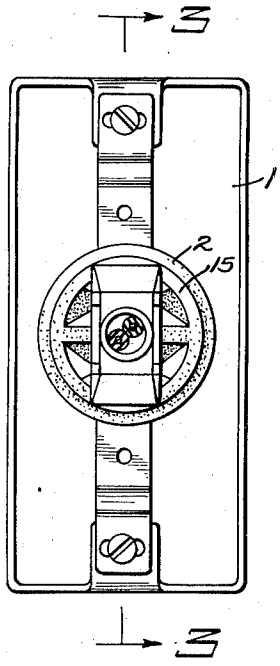

Fig. 2

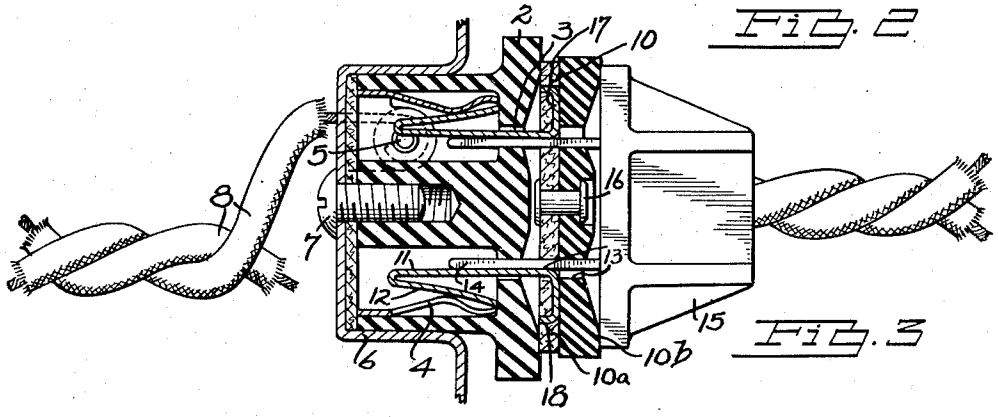

Fig. 3

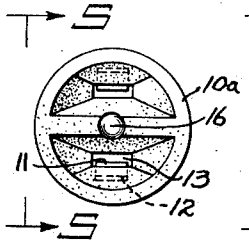

Fig. 4

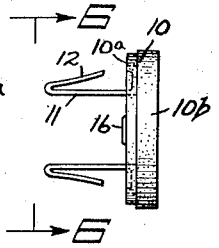

Fig. 5

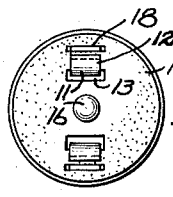

Fig. 6

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ADAPTER FOR WALL SOCKETS

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1 Claim. (Cl. 173—343)

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This invention relates to an adapter for wall sockets. In recent years the use of wall sockets or outlets has increased very rapidly, and it is quite commonplace to find one that is not in proper operating condition. This is due to the fact that the resilient contacts therein become burned and gradually spread apart. Then when the prongs of a plug are inserted either an imperfect contact, which is a fire hazard, or no contact at all is made. Again, to renew a wall socket frequently involves the employment of an electrician, or if the man of the house undertakes the job a considerable delay often results due, in part, to the fact that the circuit must be disconnected during the operation and it is not possible to install a fresh wall socket in the dark.

It is an object of the invention to provide an adapter for wall sockets which can be installed in operative position in a matter of seconds by anyone having no knowledge of electricity, and which, when once in place, again renders a socket, wherein the contacts have spread too far apart, fully operative, and eliminates any fire hazard that may have existed before its installation. In other words my invention provides a filler to compensate for deformation or wear of the spring contacts in a wall socket to insure that no air gap will exist between the said spring contacts and the prongs of a wall plug when the latter are inserted in the socket.

Another object of the invention is to provide an adapter for wall sockets which, when once installed, remains permanently in position and cannot be displaced when an extension cord is removed and the prongs of the plug on the latter withdrawn from the adapter.

A further object of the invention is to provide such an adapter for wall sockets which, when installed is practically unnoticeable, and which is both cheap and simple to manufacture.

Having thus briefly stated some of the objects and advantages of the invention I will now describe a a preferred embodiment thereof with the aid of the accompanying drawing, in which:

Figure 1 is a side view, partly in section, showing the adapter in a wall socket and with a plug in engagement with the adapter.

Figure 2 is a front view of Figure 1, and

Figure 3 is an enlarged section on the line 3—3 of Figure 2, showing only the socket, the adapter and the plug and ignoring the box for the socket.

Figure 4 is a front view of the adapter alone,

Figure 5 is a side view taken on the line 5—5 of Figure 4, and

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Figure 6 is a rear view of the adapter on the line 6—6 of Figure 5.

Referring to the drawing, 1 designates a conventional wall socket which includes an insulating member 2 having parallel slots 3 formed through its outer face, and spring contacts 4 therein each secured by a terminal screw 5 in a cavity formed in the said member from the back thereof. This member 2 is usually secured in a cup 6 by a screw 7, and formed also through the said cup are apertures for the passage of leads 8 one extremity of each of which is secured to one of the terminal screws 5. Portions of the spring contacts 4 intermediately of their length extend toward one another so that when prongs of a conventional plug on one extremity of an extension cord are inserted through the slots 3 they make electrical connections with the said spring contacts 4 and force the latter farther apart against the tension of the springs. However after repeated insertion and removal of these prongs into and out of engagement with the contacts 4 the latter gradually lose their resilience and spread farther apart, particularly if they are often subjected to heat as the connections are made and broken, and the spacing between the contacts increases to such an extent that either imperfect connections, or no connections at all, are made between the said spring contacts and the prongs. Then unless special means are taken for correcting this situation the wall socket must be renewed. In order to obviate the necessity for renewal I provide a special adapter to compensate for the defect in the wall socket that has thus arisen.

My adapter consists of an insulating body 10 projecting from one side of which are spaced resilient prongs 11 having outwardly and rearwardly folded extensions 12, so that the prongs and their extensions are substantially V-shaped. The extensions 12 are of such length that the spacing between the body 10 and their outer extremities is only slightly greater than the thickness of the wall of the socket member 2 through the slots 3 in which the prongs 11 and their extensions are to be inserted. The resilience of the said prongs and particularly of their extensions is such that however much the spacing between the spring contacts 4 has increased, the extensions will make full and satisfactory electrical connections with them. The thickness of the prongs 11 and their extensions 12 is also such that they may be freely inserted through the slots 3 of a socket member 2, and, due to the V-formation of the prongs and extensions, once they have

been completely inserted through the slots 3 they cannot be withdrawn, because as soon as the extensions are wholly within the cavity in the socket member 2 they spring outwardly into engagement with the spring contacts 4. Consequently any force exerted on the body 10 to draw the latter away from the member 2 is resisted by the front wall of the latter, so that the adapter cannot be removed from the wall socket, except, after removal and disassembly of the latter. Formed through the body 10 in registry with the adjacent sides of the prongs 11 are slots 13 through which conventional prongs 14 of an ordinary plug connection 15 may be inserted so that the said prongs 14 are then in firm electrical connection with the prongs 11.

In the present instance the body 10 of my adapter is shown comprising two superimposed discs 10*a* and 10*b* secured to one another as by a rivet 16. The disc 10*a* from which the prongs 11 project has transverse groove 17 formed in its inner face to receive folded portions of the prongs 11 the adjacent extremities of which are again folded and anchored in apertures 18 in the disc 10*a* parallel with and outwardly spaced from the slots 13. Moreover it will be noted that the prongs 11 are so spaced and arranged that when the prongs 14 of the plug 15 are inserted through the slots 13 they bear against the inner faces of the said prongs 11 and tend to force the latter outward and thus bring the extensions 12 into even firmer contact with the spring contacts 4. The purpose of the outer disc 10*b* is to cover the grooves 17 and the portions of the prongs 11 therein, thus while the slots 13 extend through both discs 10*a* and 10*b* the prongs 11 are only in registry with the slots formed through the disc 10*a* so that the prongs 14 of the conventional plug 15 come into contact with the prongs 11 only within the adapter and not at its outer face.

While in the foregoing one embodiment of the invention has been described and shown, it is understood that alterations and modifications may be made thereto provided the said alterations and modifications fall within the scope of the appended claim.

What I claim is:

An adapter of the character described comprising a substantially flat body having spaced openings extending therethrough, resilient prongs extending part way into said openings and thence laterally and being embedded in said body whereby the upper ends of said openings are spaced from said prongs so as to permit the free entry therethrough of the prongs on a plug, said first mentioned prongs being adapted to be inserted through apertures in a socket, the lower ends of said prongs having resilient outwardly and upwardly folded extensions integrally formed thereon, the upper ends of said extensions being spaced from the lower face of said body whereby said ends are adapted to underlie the face of the socket and prevent detachment of the adapter therefrom, the prongs on the plug projecting through said body and engaging the adapter prongs whereby lateral pressure is exerted on the extensions to force the same into engagement with the contacts of the socket.

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