Oct. 9, 1962 C. V. TODORAN 3,057,981

ELECTRIC SOCKET ADAPTER WITH FUSE PLUG

Filed March 23, 1961

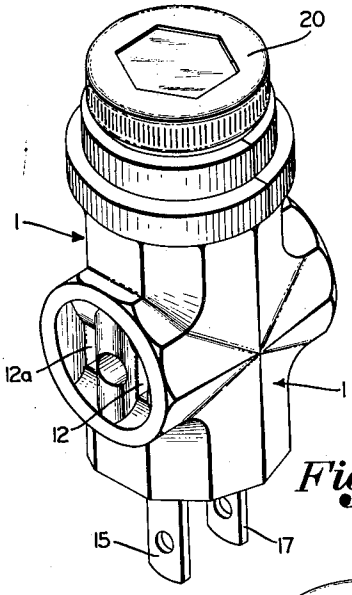


Fig. 1

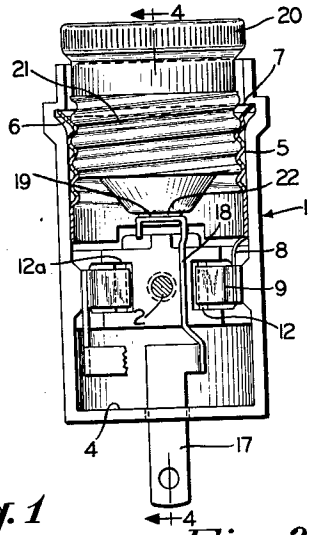


Fig. 3

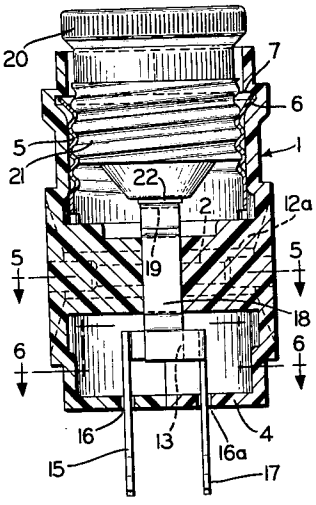


Fig. 4

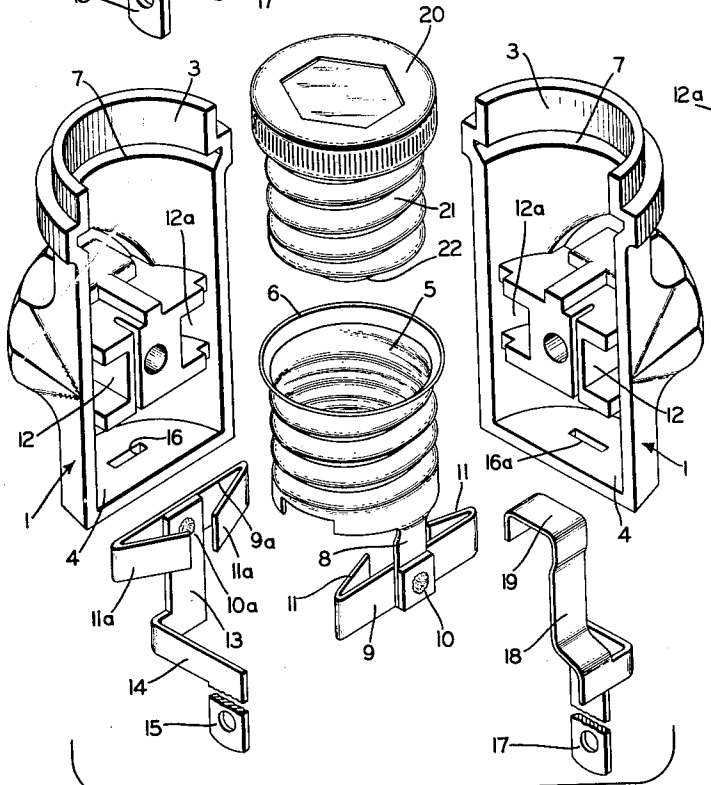


Fig. 2

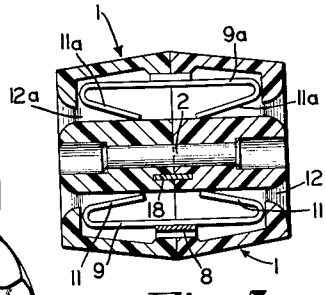


Fig. 5

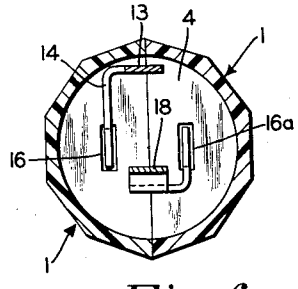


Fig. 6

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# ELECTRIC SOCKET ADAPTER WITH FUSE PLUG

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1 Claim. (Cl. 200—115.5)

The invention relates to electric socket adapters, and more particularly to a socket adapter having a safety device therein.

Socket adapters such as are now in general use are adapted to be plugged into a conventional wall socket and are provided with a plurality of sockets to receive the contact pins of connector plugs on the feed wires or cords of electric appliances such as lamps, fans, percolators, toasters, Christmas tree lights, and various other appliances, or power tools.

Defective wiring in any appliance plugged into such a socket adapter frequently results in fires, often causing serious damage in the home or other building in which the circuit is located, unless the main house fuses are blown out because of an overload, short circuit or the like, occurring in one of the appliances connected to the adapter.

The primary object of the present invention is to provide a safety socket adapter which is adapted to overcome such disadvantages and difficulties.

Another object of the invention is to provide such a socket adapter which will give protection to electric appliances connected thereto against damage from disturbances in the main electric circuit.

A further object of the invention is to provide an electric socket adapter of the character referred to, which is adapted to protect the main house fuses from being blown out in case of an overload or short circuit in an appliance connected to such socket adapter.

A still further object of the invention is to provide a socket adapter of this character having a plurality of sockets for plugging in the connector plugs of appliances, and having a receptacle for receiving a conventional fuse plug to complete the circuit within the socket adapter to the connector plugs of the appliances.

The above and other objects, apparent from the drawing and following description, may be attained, the above described difficulties overcome and the advantages and results obtained, by the apparatus, construction, arrangement and combinations, subcombinations and parts which comprise the present invention, a preferred embodiment of which, illustrative of the best mode in which applicant has contemplated applying the principle, being set forth in detail in the following description and illustrated in the accompanying drawing.

In general terms, the invention may be briefly described as an electric socket adapter comprising an insulation housing formed of two similar halves connected together by a rivet or the like, and enclosing spaced pairs of metal contacts providing sockets for receiving the contact pins of connector plugs on the feed wires or cords of electrical appliances.

A receptacle for a conventional screw-type fuse plug is also located within the adapter housing. This receptacle is in the form of a screw-threaded metal tube for receiving the threaded metal shell of a conventional fuse plug.

One set of said metal contacts is electrically connected to said screw-threaded metal tube, and the other set of said metal contacts is electrically connected to contact post extending through one end of the housing for insertion into a wall socket.

A second contact post is provided with a contact within the housing for contact with the usual contact on the inner end of the conventional screw-type fuse plug.



With a fuse plug located in the receptacle therefor, when the connector plug of an electrical appliance is plugged into either socket of the adapter, the circuit will be completed to the appliance through the fuse plug.

Should there be an overload, or short circuit in the appliance, the fuse plug in the adapter will be blown out, breaking the circuit to the appliance and preventing danger of fire. It should be understood that the fuse plug in the adapter should be of lower amperage than the main house fuses, so as to protect them against blowing out.

Having thus briefly described the invention, reference is now made to the accompanying drawing showing a preferred embodiment of the invention, in which:

FIG. 1 is a perspective view of an electric socket adapter embodying the invention;

FIG. 2 is an exploded view thereof;

FIG. 3 is a sectional elevation of the improved socket adapter with one-half of the insulation housing removed;

FIG. 4 is a longitudinal section on the line 4—4, FIG. 3;

FIG. 5 is a transverse section on the line 5—5, FIG. 4; and

FIG. 6 is a transverse section on the line 6—6, FIG. 4.

Referring now more particularly to the embodiment of the invention illustrated in the drawing in which similar numerals refer to similar parts throughout, the improved electric socket adapter includes a housing formed of two similar halves indicated generally at 1—1 formed of suitable insulation material such as Bakelite joined together at the longitudinal median line as by a rivet 2.

Each of the housing members 1 is of generally semi-tubular form having an open outer end 3 and an inner end closed by a semi-circular wall 4. A threaded tubular metal fuse receptacle 5 is located within the outer end portion of the housing and is shown as having the flared outer end 6 received in the annular groove 7 within the insulation housing.

Transversely disposed mating solid portions are formed in the housing members 1—1, and provided with aligned central openings through which the rivet 2 is located.

Transverse openings 12 and 12*a* are located in opposite sides of said solid portions and terminate in reduced sockets open through the outer sides of the housing members, as best shown in FIG. 5.

A leg 8 depends from the inner end of the tubular receptacle 5 and a metal strip 9 of copper, brass or other suitable flexible conductor metal, is attached thereto as at 10. Opposite ends of the strip 9 are bent back as at 11, forming terminal contacts which are located through the openings 12 in the housing.

Diametrically opposite to the conductor strip 9, with terminal contacts 10 thereon, is a similar conductor strip 9*a* with terminal contacts 11*a* at the ends thereof, located through transverse openings 12*a* in the housing.

The spaced terminal contacts 11 and 11*a* at each side of the housing thus provide sockets for insertion of the usual contact pins upon the conventional connector plug attached to the feed wires or cord of an electrical appliance.

A conductor leg 13 is connected to the conductor strip 9*a*, as indicated at 10*a*, and is provided with an offset portion 14 terminating in the contact post 15, located through a slot 16 in the corresponding end closure 4 of the housing.

A similar contact post 17 is located through the slot 16*a* in the other end closure 4 of the housing. An offset leg 18 is formed upon or connected to the contact post 17 and terminates within the housing in the terminal contact 19 located centrally adjacent the inner end of the threaded tubular receptacle 5.

A conventional screw-type fuse plug 20 is adapted to

be received within the fuse receptacle 5, as best shown in FIGS. 4 and 5. For this purpose, the usual threaded metal shell 21 of the fuse plug is screwed into the threaded tubular fuse receptacle 5, and the conventional center contact 22 of the fuse plug contacts the terminal contact 19, which is connected by the leg 18 to the contact post 17.

With a fuse plug located in the fuse receptacle of the socket adapter, the contact posts 15 and 17 of the socket adapter are inserted into a conventional wall socket. When the contact pins of a conventional connector plug, on an electrical appliance, are inserted into either of the sockets 12—12*a* on either side of the adapter, the circuit is then completed through the electrical appliance and through the fuse plug 20 in the adapter.

It will be seen that the circuit will be completed from one side of the main electric line through the contact post 15, leg 13 and contacts 11*a*, through the electrical appliance to the contacts 11, leg 8, threaded tubular fuse receptacle 5, through the fuse plug from the threaded shell 21 to the center contact 22, then through the contact 19, leg 18 thereof and contact post 17 to the other side of the line.

In the event of an overload, short circuit or the like, the fuse plug 20 will be blown out, thus breaking the circuit to the electrical appliance, so that no damage may be caused. Since the fuse plug 20 should be of lower amperage than the fuse in the main house line, the fuse plug 20 will blow out before the fuse in the main house line, thus protecting the same.

It is customary practice to provide 15 ampere fuses in the main house line. For the purpose of the invention the fuse plug 20 should be a 10 ampere fuse or in some cases even a 5 ampere fuse will serve.

From the above it will be obvious that the improved socket adapter will give protection to electrical appliances connected thereto against damage from disturbances in the main electric line and which will protect the main house fuse from being blown out in the case of an overload or short circuit in an appliance connected to the socket adapter.

In the foregoing description, certain terms have been used for brevity, clearness and understanding, but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art, because such words are used for descriptive purposes herein and are intended to be broadly construed.

Moreover, the embodiments of the improved construction illustrated and described herein are by way of example, and the scope of the present invention is not limited to the exact details of construction.

Having now described the invention or discovery, the construction, the operation, and use of preferred embodiments thereof, and the advantageous new and useful results obtained thereby; the new and useful construction, and reasonable mechanical equivalents thereof obvious to those skilled in the art, are set forth in the appended claim.

I claim:

An electric socket adapter comprising a similar pair of elongated semi-circular mating housing members of insulation material disposed in confronting abutting relation to form a cylindrical casing, a semi-circular wall on one of the ends of each housing member disposed in abutting relation to form a closed end for the casing, there being a slot in each semi-circular wall, the other ends of the housing members being disposed in confronting relation to form a fuse-receiving socket, a threaded metal shell fitted in the socket and adapted to receive a fuse, said housing members having aligned solid portions located between said closed end and said fuse-receiving socket and disposed transverse thereto, said solid portions having aligned central openings, a rivet located through said openings and securing said housing members together, there being aligned transverse openings in opposite sides of said solid portions and terminating in reduced sockets opening through the outer sides of said housing members for receiving the contact pins of connectors plugs of electrical appliances, spaced conductor members disposed within said aligned transverse openings and having their ends bent backwardly and forming contacts located within said reduced sockets, means connecting one of said conductor members to said threaded metal shell, a contact post located through one of said slots and having an offset leg connected to the other of said conductor members, a second contact post parallel to and spaced from the first contact post and located through the other slot, and a terminal contact having an offset leg connected to said second-named contact post and adapted to contact the central contact of a fuse located in said threaded metal shell, there being aligned grooves in the mating faces of said aligned solid portions, the offset leg connected to said second-named contact post being located through said aligned grooves.

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