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CONDUCTOR AND KEEPER MEANS

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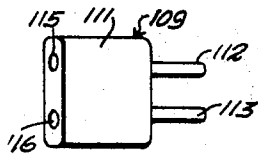
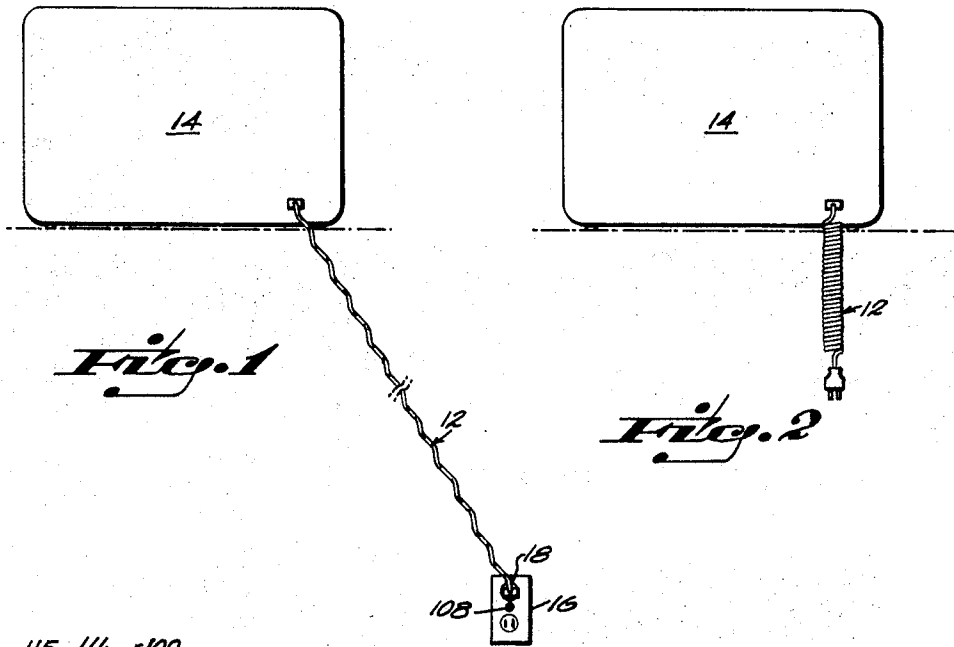


Fig. 4

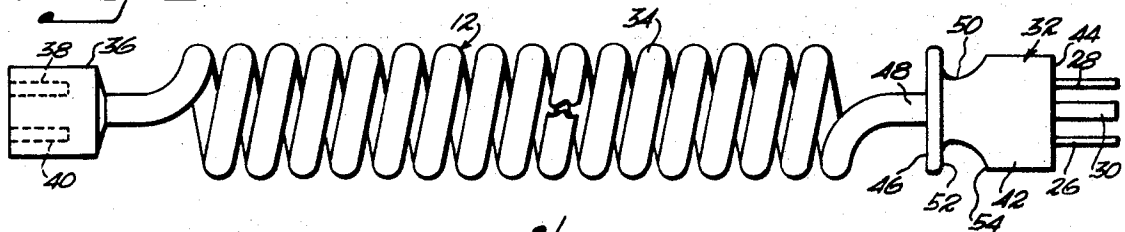


Fig. 3

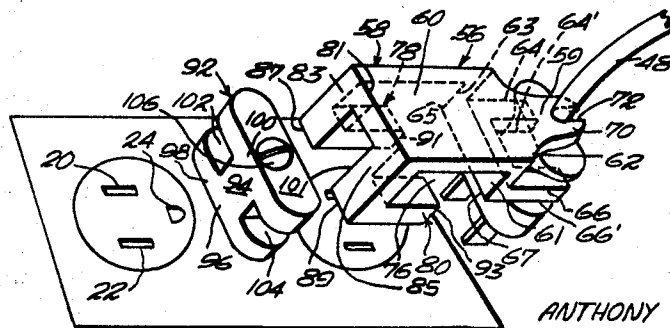


Fig. 5

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6 Claims

ABSTRACT OF THE DISCLOSURE

A conductor for use in connecting a portable television set to a wall outlet including a main length of insulated wire in normal helical form and yieldable in response to forces extending the normal length of the coil and at all times tending to contract the conductor to the helical form which includes a plug at one end to connect to a wall outlet and a socket at the other end to connect to a television set and keeper means to interconnect the plug to the escutcheon plate.

It is an object of this invention to provide an improved conductor and keeper means for use in connecting a portable television set to a wall outlet and which is particularly useful in those situations wherein the television set is often temporarily moved relative to the wall outlet, the conductor being of helical or spiral form of insulated, rubbery plastic material at all times exerting forces of contraction so as to hold the conductor in a relatively taut condition. This is of particular advantage in that when, for instance, the television set is on a wheeled cart, the slack of the conductor does not become fouled in the wheels of the cart.

It is, accordingly, an important object of this invention to provide an improved conductor and keeper means which is simple and inexpensive to manufacture, adapted for use with television sets of various manufacturers, and is constructed so as to maintain the cord in a relatively taut condition within a range of relative movement of the television set to which it is connected and a wall outlet.

It is also an object of this invention to provide in combination with the conductor means a keeper means to hold the plug and the conductor within the recesses of a wall outlet in response to forces tending to elongate the spiral form conductor.

In accordance with these and other objects which will become apparent hereinafter, the instant invention will now be described with reference to the accompanying drawings in which:

FIG. 1 is a schematic elevation view of a portable television set illustrating the conductor wire to connect to a wall outlet in an extended position;

FIG. 2 is a view similar to FIG. 1 and illustrating the conductor wire in a normal helical form according to this invention;

FIG. 3 is an enlarged view of the conductor wire seen in FIGS. 1 and 2;

FIG. 4 is an adapter for use in combination with the conductor wire of FIG. 3 in various types of television sets; and

FIG. 5 is a view of a wall outlet and the end of the conductor, the said outlet being provided with a keeper means for the conductor.

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Referring to the drawings, wherein like reference characters designate like or corresponding parts throughout the different views, and referring particularly to FIG. 3, the conductor 12 is adapted to connect to a television set 14 to the escutcheon plate 16 of a wall plug 18 having sockets 20, 22 and 24 to receive prongs 26 and 28 as well as the ground prong 30 of a plug 32 which is electrically connected to the main length 34 of the conductor 12. The other end of the conductor is provided with a socket 36 having a pair of socket contacts 38 and 40 to receive the male leads, not shown, commonly found at the input of a television set. The conductor is of normal helical form as seen in FIG. 3 and is yieldable to longitudinal forces, as on movement of the television set relative to the wall outlet, to extend to a full length position as seen in FIG. 1, while tending to contract into the spiral form seen in FIG. 2 when not in use. Referring to the plug 32, it is seen that it includes a body portion 42 having a face 44 from whence the prongs 26, 28 and 30 project and an end portion 46 to connect to the adjacent end 48 of the conductor length 34 with a neck 50 being defined between the opposing shoulders 52 and 54 of the body. A keeper 56 preferably of flexible plastic material is provided; it is seen in FIG. 5 in position for hooked-up engagement with the plug and is constructed so as to be adapted to be secured to the escutcheon plate for yieldingly holding the plug prongs in engagement with the sockets 20, 22 and 24. It is seen that the keeper 56 includes a body 58 having a main flexible trunk 60. A tongue 70 extends outwardly of the outer trunk surface 59 from one end 62 and a pair of legs 64 and 66 project from the same end 62, the said legs being spaced downwardly from the trunk 60 by limbs 61 and 63 which extend a distance from the tongue equal to the thickness of the plug between the end 46 and the shoulder 52. The limbs terminate in knee portions 65 and 67 from which the lower leg portions 64' and 66' extend to be received in embracing relation about the neck of the plug and between the shoulders 52 and 54. The tongue 70 is provided with a slot 72 within which the near end 48 of the conductor length 34 nests when the keeper is assembled to the plug. A pair of hook type arms 78 and 80 extend from the other end 81 of the trunk 60, and each includes a pair of forearms 83 and 85 which extend from the trunk in the same direction as the limbs to terminal elbows 87 and 89. From the elbows forearms 91 and 93 extend in a common direction to that of the lower leg portions 64' and 66' toward but not to the adjacent plane of the limb surfaces. It is thus seen that a cavity 76 is defined between the hook type arms, the trunk and the limbs for receiving means 92 to secure the keeper to the escutcheon plate as will now be explained. The means 92 comprises an escutcheon plate adapter having an H-shaped body 96 in a horizontal attitude when in assembly with the escutcheon plate. The body includes an intermediate brace portion 94 between an inner and an outer enlarged portion 98 and 100 defining in effect a pair of slots 102 and 104 spaced from one another by the thickness of the intermediate brace portion 97 which is substantially the same as the spaced apart distance of the upper arms, and with the slots being spaced from the outer surface 101 of the upper enlarged portion a distance equal to that of the length of the upper arms. The slots are sized to receive the forearms with the

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upper enlarged portion being nested and captivated within the body cavity between the forearms, upper arms and trunk. It is noted that the plane of the terminal end of the forearms is spaced from the adjacent plane of the opposite limbs a distance sufficient to allow close passage of the upper portion of the means 92 into the body cavity with flexing of the trunk. It is thus seen that in assembly the arms are arranged for hooked up engagement with the means 92 and the legs and the tongue are adapted for embracing relation about the neck of the plug and the conductor length, and that by reason of the fact that the body of the keeper is of flexible material, it is adapted to yieldingly urge the prongs into the recesses of the wall outlet firmly resisting removal thereof on extension of the spiral cord from the position shown in FIG. 2 to the position shown in FIG. 1. Screw means 106 are provided to extend through a hole from the outer surface 101 of the upper enlarged portion through the intermediate brace and the inner enlarged portion 98 for threaded engagement in the threaded recess 108 of the wall plug outlet to secure the means 92 to the plate. The keeper preferably is of one-piece molded plastic material within the resilient range and having plastic memory, and the means 92 is of rigid plastic material. It will be seen that the elbows, knees and trunk permit a flexing of the keeper means in response to forces tending to elongate the spiral wound conductor 12. The keeper, means 92 and the plug are companionately sized, that is, the span of the cavity between the upper arms and the limbs plus the thickness of the limbs and the extension of the legs is such that when the arms are in hooked-up engagement with the means 92 and the neck of the plug is in nested relation with respect to the legs, and preferably positioned by abutment with the crotch between the legs, the prongs are positioned over the sockets 20, 22 and 24, the said means 92 and screw connection 106 acting in combination with the keeper to locate the prongs with respect to the sockets. Also, the height of the keeper means 92 and the configuration of the plug are such that when the keeper is in the normal unstrained configuration, the prongs are in electrical engagement with the sockets of the escutcheon plate. It is thus seen that there has been provided an improved conductor and keeper means of especial use for connecting a portable television set to a wall outlet so that when the television set is temporarily positioned in the most favorable position for viewing, which may require movement with respect to a wall outlet to which it is plugged, the conductor will remain in a relatively taut position so that if the television set is on a stand having rollers the length of the conductor will not become fouled in the rollers or otherwise interfere with the movement of the television set. The socket 36 at the end of the conductor 12 for connection with the television set is provided with means sized to receive the customarily encountered prongs of a television set; however, the spacing of the male electrical leads of television sets by certain manufacturers differ from one another, and, for this reason, an adapter 109 seen in FIG. 4 is provided which includes a body 111 having male leads 112 and 113 adapted to be received within the means 38 and 40 of the socket 36 and a pair of sockets 115 and 116 sized and spaced from one another so as to receive the male leads of a television set of a different manufacturer than that illustrated in FIGS. 1 and 2.

While the instant invention has been shown and described herein in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is, therefore, not to be limited to the details disclosed herein, but is to embrace any and all equivalent apparatus and articles.

What is claimed is:

1. For use in connecting a portable television set having male electrical leads to the sockets of a wall outlet comprising, in combination:

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- (a) a conductor to connect the set and the wall plug including
- (b) a main length of insulated wire;
- (c) a plug electrically connected on one end of said conductor and having means extending from one face and adapted to be received in the sockets of the wall outlet for electrical connection therewith;
- (d) a socket on the other end of said conductor, said socket defining means to receive the male conventional leads of a television set;
- (e) said conductor being of normal helical form and yieldable to longitudinal forces as on movement of the television set relative to the wall outlet to extend to a full length and at all times tending to contract to said helical form;
- (f) keeper means to yieldingly hold the plug in the sockets of the wall outlet; and
- (g) the plug includes a body with a construction defining a neck and a first shoulder adjacent the connection of the plug and said length and a second shoulder opposite said first shoulder; and said keeper means includes a trunk of resilient material and a first pair of resilient legs sized for embracing engagement about said neck with said legs being received between said shoulders; and means to secure said keeper to said wall outlet.

2. The device as set forth in claim 1 wherein said keeper means includes a pair of hook arms and said means to secure said keeper to said wall outlet includes an adapter to connect to said escutcheon plate and opposed slot means for hooked-up engagement with said hook arms.

3. The device as set forth in claim 2 wherein said legs extend from said trunk and each leg includes a limb extending from said trunk in parallel perpendicular relation to said trunk and a pair of lower leg portions extending from said limbs in parallel relation and in a plane parallel to and spaced from said trunk and a knee portion intermediate each of said limbs and said lower legs; and a tongue extending in spaced relation and in a common direction from said legs, said tongue including a slot to receive the diameter of the length of insulated wire adjacent said plug when said legs are in embracing relation of said neck of said plug and said first shoulder is in abutting relation of said keeper in the crotch defined between the legs.

4. The device as set forth in claim 3 wherein said adapter is of rigid material of H form configuration including an intermediate brace and opposite enlarged portions with said slot means being defined between said opposite enlarged portions and said intermediate brace.

5. The device as set forth in claim 4 wherein said hook arms each include (a) an upper arm extending in perpendicular relation of said trunk and in a common direction to that of said limbs, (b) parallel forearms spaced from said trunk and extending in a common direction to that of said lower legs toward but not to the opposing plane of said limbs defining a body cavity between said arms, trunk and limbs with an opening between the distal end of said forearms and the limbs, and (c) a right angle elbow portion interconnecting each of the upper arms and forearms, and said opening is sized for passage of one of the enlarged portions of the adapter into the body cavity and said cavity is sized to snugly receive the said enlarged portion to effect hooked-up engagement of said arms and said adapter with said hook arms in said slot means.

6. The combination as set forth in claim 5 wherein an auxiliary adapter is provided for the socket on the other end of said conductor comprising a body portion, a pair of male leads sized for receipt in the socket contacts of said socket on the other end of said conductor and socket means to receive the electrical leads of a television set having electrical leads spaced apart a distance different from that of the socket contacts of said socket on the

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other end of said conductor and the same as the distance between the socket means of the auxiliary adapter.

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