April 12, 1955 C. W. FREEMAN 2,706,225

REMOTE CONTROL ADAPTER SWITCH

Filed Sept. 2, 1952

Fig. 1

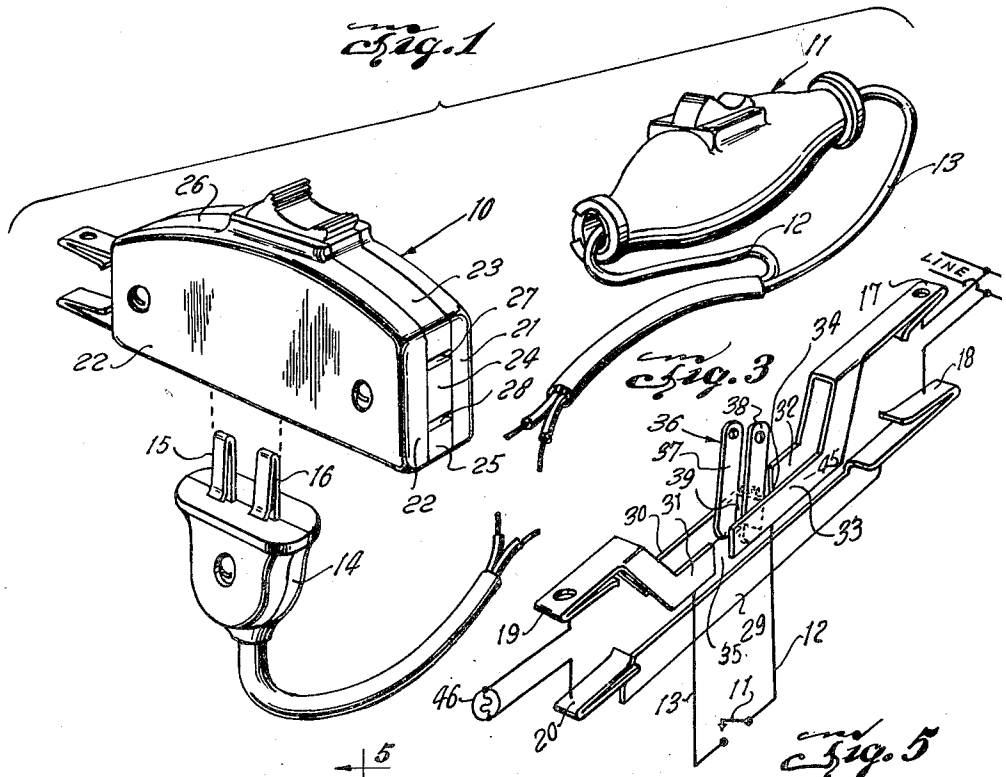


Fig. 5

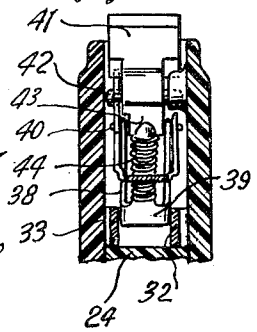


Fig. 2

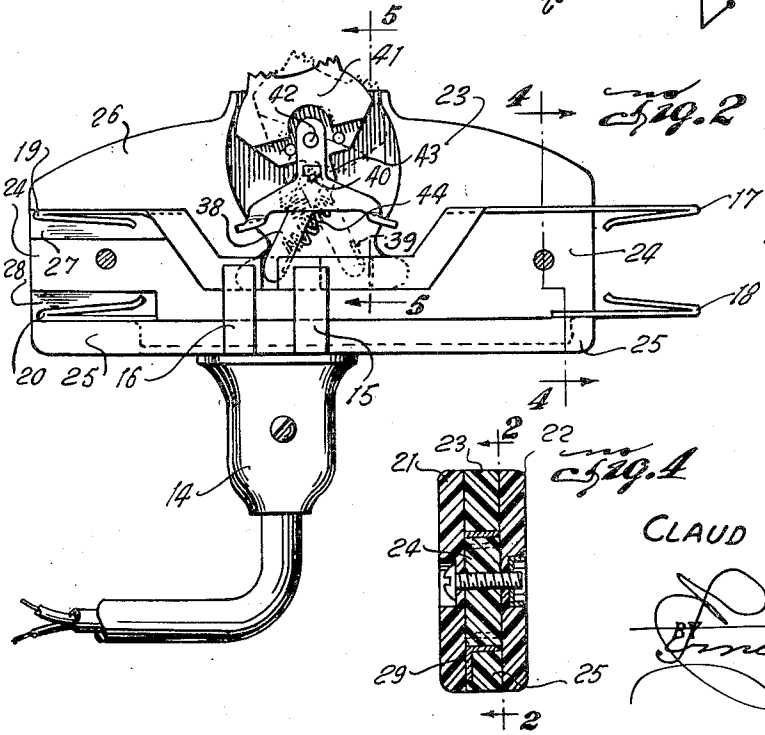


Fig. 4

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REMOTE CONTROL ADAPTER SWITCH

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1 Claim. (Cl. 200—51.02)

This invention relates to electrical adapter and more particularly to an adapter connectable to an electrical outlet for use with a remote control switch.

An object of the invention is to provide a new and improved electrical adapter connectable to an electrical outlet for use with a remote control means which controls the operation of an electrical device connected to the adapter.

It is another object of the invention to provide a new and improved electrical adapter provided with a switch to render the remote control means inoperative whereby the operation of the electrical device connected to the adapter may be controlled by the switch as well as by the remote control means.

It is still another object of the invention to provide a new and improved adapter connectable to an electrical outlet which is provided with a switch for short circuiting a remote control switch whereby the operation of the electrical device may be controlled by the adapter switch.

With the foregoing objects in view, the invention has further reference to certain features of accomplishment which will become apparent as the description proceeds, taken in connection with the accompanying drawings wherein:

Figure 1 is a perspective view of the adapter and the remote control switch;

Figure 2 is a side plan view of the adapter with a side body member removed to reveal an internal arrangement of parts;

Figure 3 is a perspective view of the conductors extending between the body members of the conductors;

Figure 4 is a sectional view taken on the line 4—4 of Figure 2; and

Figure 5 is a sectional view taken on the line 5—5 of Figure 2.

Referring now to the drawing, the numeral 10 designates the adapter which is employed with a remote control switch 11 which is connectable to the adapter by the flexible conductors 12 and 13 and a plug 14 whose prongs 15 and 16 are insertable into the body of the adapter through suitable apertures. It will be observed that sides of prongs 15 and 16 are parallel with the sides of plug 14 instead of transverse thereto as in conventional practice, as a safety precaution to prevent their insertion into the apertures of the conventional service outlet. The adapter is provided with metallic prongs 17 and 18 for engaging into electrical connection with commonly used electrical outlets and is also provided with contact elements 19 and 20 which engage the prongs (not shown) of a plug of an electrical device.

The adapter includes two outer side body members 21 and 22 and four inner body members 23, 24, 25 and 26 of suitable electric insulating material such as plastic, ceramic or the like. The body members are formed with suitable grooves or recesses for receiving the operative elements of the adapter. The body members also define recesses 27 and 28 in which the contact elements are disposed and which are adapted to receive the prongs (not shown) of a plug of an electrical device. Similar recesses are provided in the body members to receive the prongs 15 and 16 of the plug 14. The body members may be secured to one another by screws, rivets, pins or in any other suitable manner.

The contact element 20 and the prong 18 are formed of a single piece of metal and are joined by a connecting portion 29 integral therewith. The contact element 19 has two parallel extensions 30 and 31 while the prong 17 has two parallel extensions 32 and 33. The extensions 30 and 32 are aligned but their ends are spaced apart to form the gap 34. The extensions 31 and 33 are similarly aligned and their ends are spaced to form the gap 35. The prongs 15 and 16 of the remote control switch plug 14 engage the extensions 31 and 33 on opposite sides of the gap 35 so that a continuous circuit is obtained from the prong 17 through the extension 33, the prong 15 the conductors 12 and 13 and switch 11 when in closed position, the prong 16 and the extension 31 to the contact element 19. The circuit between the prong 17 and the contact element 19 can be broken by opening the switch 11. The switch element may be a single pole, single throw switch of any suitable construction which selectively connects or disconnects the conductors 12 and 13.

A circuit may be completed between the prong 17 and the contact element 19 by the toggle member 36 which includes two arms 37 and 38 joined by an integral connecting member 39. The toggle member 36 is movable to an open position wherein the arm 37 is disposed in alignment with the gap 34 between the extensions 31 and 32. And also to a closed position (Figure 3) wherein the arms 37 and 38 contact the extensions 30 and 33, respectively, and so complete the circuit between the prong 17 and the contact element 10.

The toggle member 36 is mounted on a bracket 39 for movement about a pivot 40. A finger operable member 41 is also mounted on the bracket 39 for movement about a pivot 42. The finger operable member has a spur 43 and a spring 44 is mounted on and between the spur 43 and the spur 45 of the connecting member 39 of the toggle member 36. It will now be evident that when the finger operable member 41 is pivoted clockwise (Figure 2), the spring 44 will be compressed and will exert a force which will cause the toggle member to pivot suddenly in a counterclockwise direction, or snap, to open position when the member 41 has been pivoted a predetermined distance in the clockwise direction. Similarly, when the toggle member will be moved clockwise, from open to closed position when the finger operable member 41 is pivoted counterclockwise.

In use, the prongs 17 and 18 of the adapter are inserted into an electrical outlet and are thereby connected to an electrical circuit. The prongs 15 and 16 of the plug are inserted into the adapter 10 and contact the extensions 33 and 31, respectively, so that the switch may either close or open an electrical circuit between contact element 10 and the prong 17. The prongs of the plug (not shown) of an electrical device 46 are inserted into the apertures or recesses 27 and 28 of the adapter and contact the elements 19 and 20.

It it is now desired to control the operation of the electrical device by use of the switch 11, the finger operable member 41 is moved clockwise to cause the toggle member 36 to snap to open position where it does not connect the extension 33 to extension 30. If the switch 11 is now closed, current will flow from the prong 17 through the extension 33, conductor 12, switch 11, conductor 13, and the extension 31 to the contact element 10, and from the contact element 19 the current will flow to the electrical device 46 and from the electrical device to the contact element 20 and there through the connecting portion 29 to the prong 18. If the switch 11 is now opened, the circuit to the electrical device 46 will be broken and it will be rendered inoperative.

When, for one reason or another, it becomes undesirable to control operation of the electrical device by use of the remote control switch 11, the finger operable member 41 is moved counterclockwise to move the toggle member 36 to closed position. The toggle member 36 now connects the prong 17 to the contact element 10 so that the electrical device is connected in series between the prongs 17 and 18 and is energized. The remote control switch is, therefore, rendered inoperative as regards the control of the operation of the electrical device. The plug 14 may be removed from the adapter so that the operation of the electrical device will depend solely on the position of the toggle member 36. It will be evident, of course, that if the plug 14 is left inserted in the adapter and the switch 11 is in closed position, the electrical device will remain energized even if the toggle member 36

is moved to open position. The toggle member **36** performs the functions of a switch and may be regarded as such.

It will now be seen that an adapter **10** has been provided which has a pair of prongs **17** and **18** which are insertable in an electrical outlet and which has a pair of contact elements engageable with the prongs of a plug of an electrical device. It will also be seen that one prong **18** is directly connected to one contact element **20** but that the other prong **17** may be connected to the other contact element **19** either through a toggle or switch member **36** of the adapter or through a remote control switch **11**. Moreover, it will be seen that the toggle or switch member **36** of the adapter renders the remote control switch inoperative and also that the member **36** may function independently to control operation of the electrical device if the plug **13** is removed from the adapter.

Manifestly, the construction as shown and described is capable of some modification and such modification as may be construed to fall within the scope and meaning of the appended claims is also considered to be within the spirit and intent of the invention.

What is claimed is:

An adapter comprising an elongate body of non-conductive material having a pair of spaced apart recesses in one end and in one side thereof for the reception of the prongs of the plugs of electrical devices, a strip of conducting material having a contact element formed on one end thereof and disposed in one of said end recesses and having on its opposite end a current inlet prong extending out of the opposite end of said body, a contact element in the other end recess in said body and having a pair of parallel extensions of unequal lengths parallel with said strip, a second current inlet prong extending from the end of said body parallel with said first prong, a second pair of parallel extensions of unequal lengths integral with said second prong and having their ends axially aligned with but spaced from the ends of said first pair of extensions to define gaps therebetween, one extension of each pair of extensions being engageable by the prongs of a plug of an electrical device inserted into the side recesses of said body, a pair of pivoted toggle arms slidably engageable with said pairs of extensions to control the flow of current from said current inlet prongs to said contact elements to energize said electrical devices and means for actuating said toggle arms.

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