Dec. 17, 1963 M. T. SLIMAN 3,114,904

ALARM SYSTEM

Filed Aug. 13, 1962 2 Sheets-Sheet 1

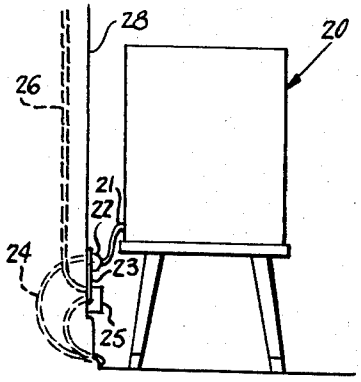


FIG. 1

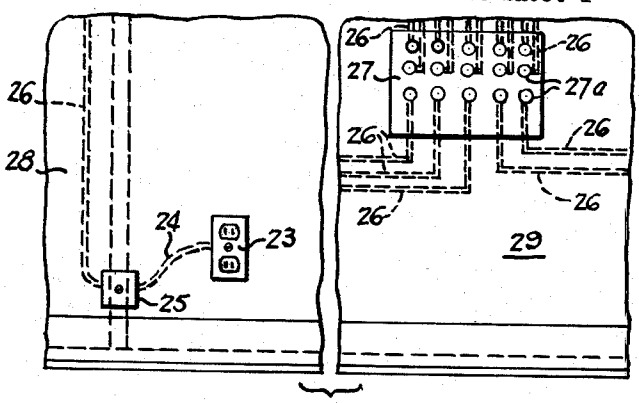


FIG. 2

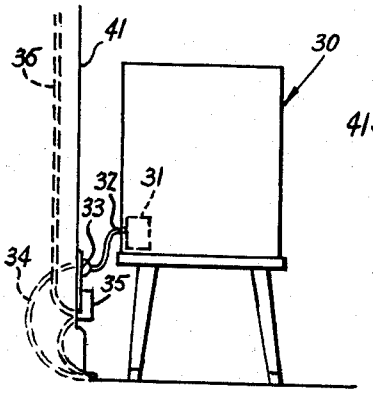


FIG. 3

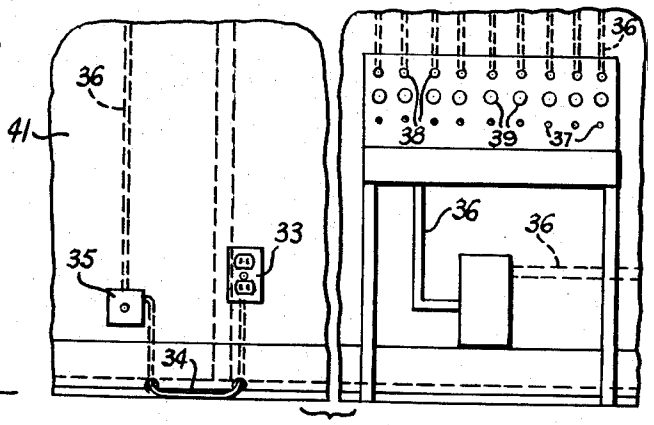


FIG. 4

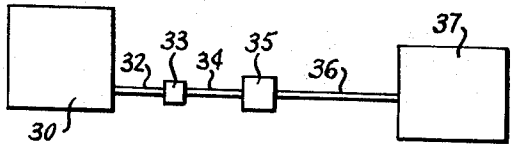


FIG. 5

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ALARM SYSTEM

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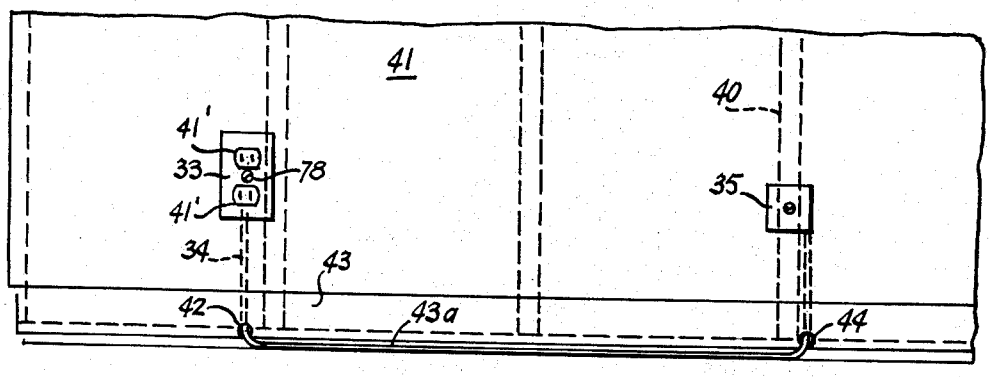
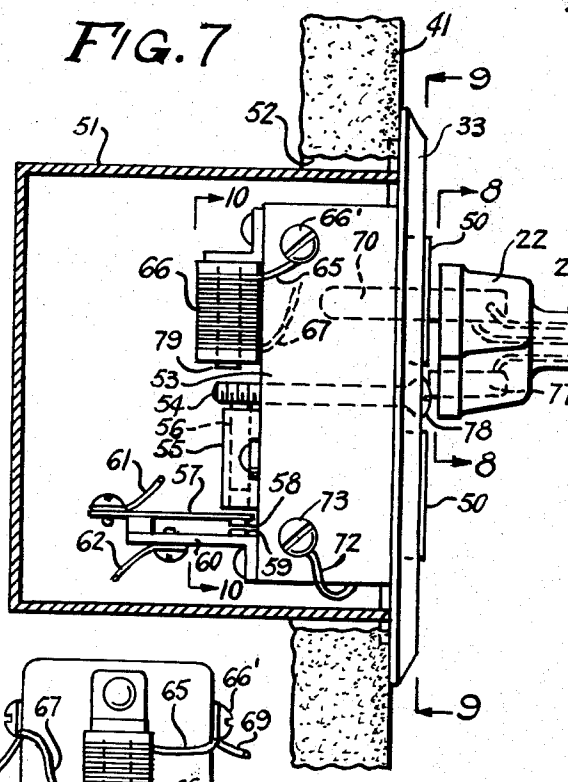


FIG. 6

FIG. 7



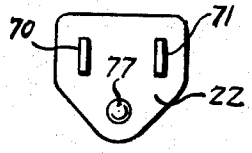


FIG. 8

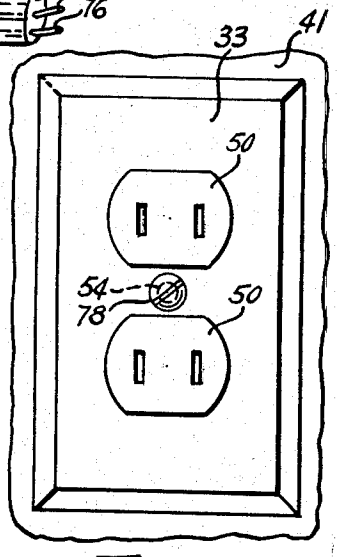


FIG. 9

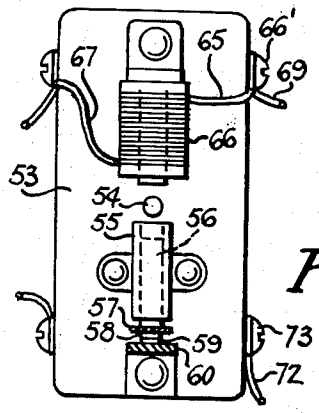


FIG. 10

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3,114,904

ALARM SYSTEM

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5 Claims. (Cl. 340—280)

This invention relates to an alarm system and has as its primary object the provision of an improved alarm system which will preclude the unauthorized removal of an electrical appliance such as a television set, a radio, or the like, from a rented furnished room.

An additional object of the invention is the provision of such a device which will actuate an alarm either through a telephone junction box on a telephone switchboard, or to an independent alarm system positioned at a remote location, such as the office of the hotel, motel, or other dwelling or business place.

Still another object of the invention is the provision of an alarm of this character which is actuated through electrical means, such means being automatically actuable to sound or actuate an alarm upon either the removal of the plug connected to the appliance, or the severeance of the cord to the plug, the circuit being normally maintained as long as the plug is in its associated receptacle.

Still another object of the invention is the provision of a device of this character which may be installed in an unobvious manner so that any potential thief or unauthorized individual will not be aware that the appliance is connected to an alarm.

Still other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings wherein there is shown a preferred embodiment of this inventive concept.

In the drawings:

FIGURE 1 is a schematic view of an electrical appliance, illustratively, a television set showing one form of alarm hook up associated therewith.

FIGURE 2 is a schematic view, partially broken away, showing in plan the connection of the appliance to the alarm circuit and the remote location where the alarm appears.

FIGURE 3 is a view similar to FIGURE 1 but showing a modified form of installation.

FIGURE 4 is a view similar to FIGURE 2 but showing an alarm system of a different nature.

FIGURE 5 is a schematic view showing the connection of the appliance and the alarm system.

FIGURE 6 is a further schematic view showing a modified form of connecting a portion of the alarm system with another portion thereof.

FIGURE 7 is a fragmentary vertical sectional view showing a major component of the alarm system.

FIGURE 8 is an elevational view of the electrical plug employed in conjunction with the alarm system taken substantially along the line 8—8 of FIGURE 7 as viewed in the direction indicated by the arrows.

FIGURE 9 is an elevational view of the face plate of the electrical outlet receptacle with the plug removed therefrom taken substantially along the line 9—9 of FIGURE 7 as viewed in the direction indicated by the arrows; and

FIGURE 10 is a sectional view taken substantially along the line 10—10 of FIGURE 7 as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawings in detail, and more particularly to FIGURES 1 and 2, there is disclosed one system of installing the alarm of the instant

invention. There is generally indicated at 20 a television set or similar appliance which is provided with a wire 21 leading to a three-way plug 22. The plug is engaged in a three wire socket in a face plate 23, which covers an outlet box, to be more fully described hereinafter, the outlet box being connected by wires in a conduit 24 with a telephone junction box 25, from which wires in a cable 26 extend to a central alarm station 27, there being a plurality of wires 26, each connected with an individual light or bell 27a to give an alarm when the plug 22 is removed from its associated socket, while the wire 21 is severed, all in a manner to be more fully described hereinafter.

The wall of the room containing the television set is generally indicated at 28, while the wall of the room containing the alarm is generally indicated at 29.

FIGURES 3 and 4 disclose an alternative alarm arrangement wherein a television set or the like, generally indicated at 30, is provided with a receptacle 31 positioned interiorly of the set. In this instance the receptacle is connected through a wire 32 with a plug 33, which covers an electrical outlet box, the latter in turn being connected by a cable 34 to a telephone junction box 35 which is identical to the previously described box 35. In this instance the cable 36 carries wires to a telephone switchboard 37, the switchboard including audible signals 38 and visual signals 39 so that when the alarm is actuated by unplugging the plug 33, one of the telephone indicators is eliminated. The same is true if the wire 32 is severed.

The arrangement is schematically shown in FIGURE 5.

FIGURE 5 shows the layout of FIGURES 3 and 4 schematically wherein the television set 30 is connected by wire 32 to the receptacle 33 and thence through wire 34 to the junction box 35 and through wire 36 to the switchboard 37.

A method of installation of the apparatus in such manner that the wiring is substantially invisible is disclosed in FIGURES 4 and 7. The telephone outlet box 35 is remotely connected to a stud 40 interiorly of the wall 41 of the room containing the television set, while the plate 33 with its female sockets 41 is positioned remotely from the outlet box. In order to save expense of installation, and unnecessary removal of plaster or the like, the wire 34 is extended outwardly through a hole 42 in the baseboard 43 of the room, and thence beneath or along the edge of the rug 43a, and then inwardly through a hole 44 and upwardly to the telephone in junction box 35.

Referring now in detail to FIGURES 7 to 10, inclusive, and more particularly to the modification of FIGURE 1, face plate 23 is shown as being provided with a pair of female sockets or plugs 50, and positioned adjacent a grounded outlet receptacle 51, which is mounted in an opening 52 in wall 28. Electrical outlet box 53 is positioned behind face plate 23, and secured in position against the face plate by means of an elongated magnetic screw 54. The end of screw 54 extends outwardly through the rear of the outlet box, and is positioned above a glass sleeve 55, which, while preferably of glass, may be comprised of any other suitable dielectric material. Positioned within the sleeve 55 is a metallic weight 56 of magnetic material, which is positioned immediately over a spring arm 57 bearing a contact 58. Contact 58 is immediately above a contact 59 carried by a bracket 60. Alarm circuit wires 61 and 62 extend from two contacts 58 and 59, respectively, and extend through cable or conduit 34 to the telephone outlet junction box 25 or 35 in the manner previously described.

One of the hot wires 65 of the three wire circuit extends through a solenoid coil 66 suitably mounted on the back of electrical outlet box 53, and from the other end of coil 66 the wire 67 extends to an opposite terminal,

from which it leads into the main power conduit. From the terminal 66' a wire 69 leads to one of the sockets 50 wherein it is engaged by one prong 70 of plug 22. The other prong 71 of plug 22 contacts in socket 50 the other hot wire of the three wire circuit 72 which engages the terminal 73.

Plug 22 in turn contains a pair of copper hot wires 74 and 75 which lead respectively from the prongs 70 and 71 as well as a steel ground wire 76 which extends to a steel plug 77 which contacts the head 78 of screw 54. The arrangement is thus such that when the plug 22 is inserted in the socket 50, a circuit is established to the appliance including the ground wire 76, and at the same time the solenoid 66 is energized. This in turn energizes the core 79 of the solenoid which, in turn, attracts, through insulated screw 54, metallic weight 56 and holds it in raised position. When the circuit is broken for any reason, as by removal of plug 22, or severance of cable 21, and wires 74, 75, 76 contained therein, the solenoid is de-energized, permitting the weight 56 to drop on spring arm 57 and engage contact 58 with contact 59 closing the alarm circuit through wires 61 and 62 either to the telephone switchboard or to the other alarm system as the case may be.

From the foregoing it will now be seen that there is herein provided an improved alarm system, which accomplishes all the objects of this invention and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

I claim:

1. An alarm system for precluding unauthorized removal of electrical appliances comprising an outlet receptacle for a three prong plug, a solenoid coil carried by said receptacle, a three wire electrical circuit including a ground wire from a source of electricity to the appliance, said solenoid coil being connected in one of said wires whereby closure of said circuit energizes said solenoid, a magnetic member in the magnetic path of said coil, a connection between the ground wire of said circuit and said magnetic member, a magnetic weight positioned below said member and held in contact therewith wherein said circuit is closed, a movable contact beneath said weight, a fixed contact beneath said movable contact, whereby breaking of said circuit will de-energize said solenoid causing said weight to fall on said movable contact to force said movable contact into engagement with said fixed contact, and an independent alarm circuit closable to actuate an alarm upon engagement of said movable and fixed contacts.

2. An alarm system for precluding unauthorized removal of electrical appliances comprising an outlet receptacle for a three prong plug, a solenoid coil carried by said receptacle, a three wire electrical circuit including a ground wire from a source of electricity to the appliance, said solenoid coil being connected in one of said wires whereby closure of said circuit energizes said solenoid, a magnetic member in the magnetic path of said coil, a connection between the ground wire of said circuit and said magnetic member, a magnetic weight positioned below said member and held in contact therewith wherein said circuit is closed, a movable contact beneath said weight, a fixed contact beneath said movable contact, whereby breaking of said circuit will de-energize said solenoid causing said weight to fall on said movable contact to force said movable contact into engagement with said fixed contact, and an independent alarm circuit closable to actuate an alarm upon engagement of said movable and fixed contacts, said alarm circuit including a remotely positioned alarm actuable through a telephone junction box and a telephone switchboard.

3. The structure of claim 1 wherein said magnetic member comprises a screw securing a face plate to said outlet receptacle, said screw and said weight being electrically insulated from said outlet receptacle.

4. The structure of claim 1 wherein said weight comprises a cylindrical metal member and is linearly movable in a vertical direction in an insulated tube.

5. The structure of claim 1 wherein said electrical outlet receptacle comprises an integral part of the appliance.

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