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THREE TERMINAL ELECTRIC OUTLET WITH SWITCH COMBINED
WITH A DOOR LATCH OPERATED SWITCH UNIT

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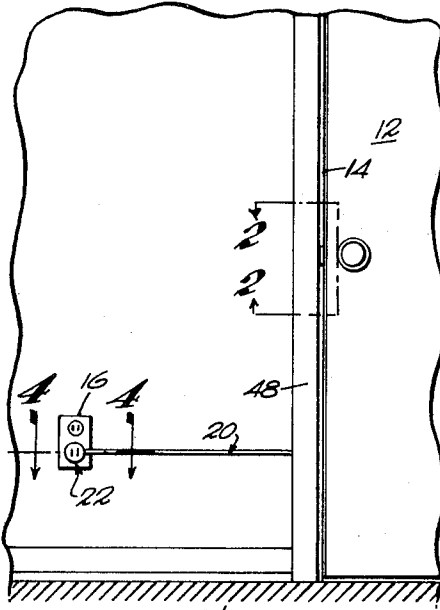


Fig. 1

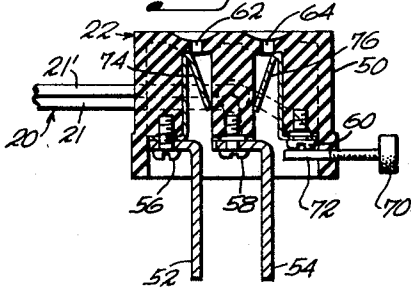


Fig. 4

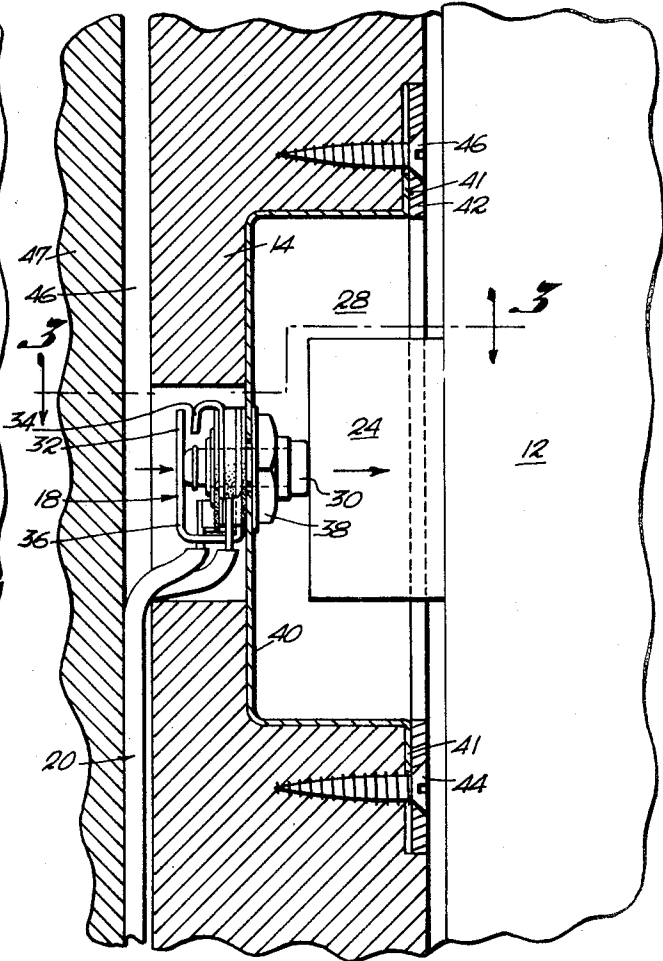


Fig. 2

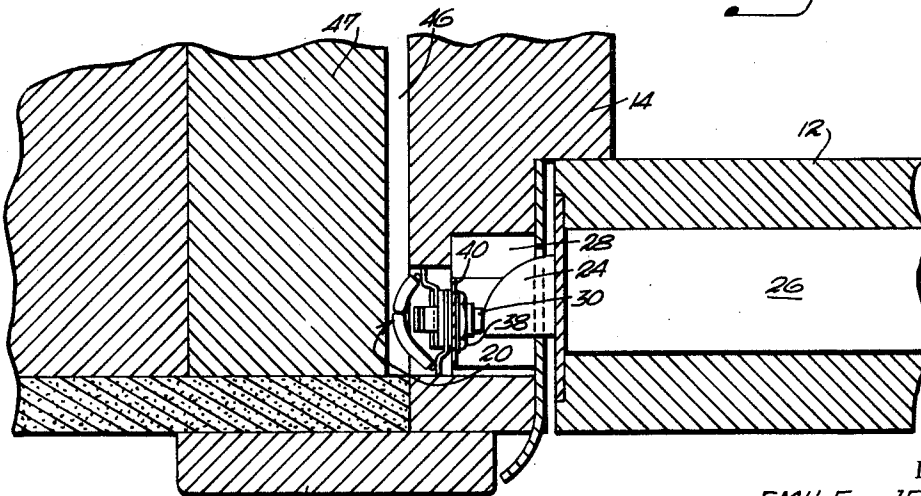


Fig. 3

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THREE-TERMINAL ELECTRIC OUTLET WITH SWITCH COMBINED WITH A DOOR LATCH OPERATED SWITCH UNIT

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8 Claims

ABSTRACT OF THE DISCLOSURE

A door latch operated switch unit for use in energizing an electrical appliance, such as a lamp with a male electrical plug to be connected to a wall outlet, in response to opening and closing of the door which includes: (a) a switching unit for installation in the striker or latch-receiving recess of a door jamb with a member in the path of movement of the latch into and out of the recess to operate the switch, (b) conductor wires leading to (c) a terminal unit to connect to a wall outlet near the door jamb with sockets to receive the leads from the electrical appliance and a plurality of terminals arranged to route current flow (1) in series through the switching unit and the electrical appliance or (2) to interrupt that current flow, depending upon whether the latch is in the door jamb recess or not, i.e., whether the door is open or ajar.

As is perhaps well known, many occupants of apartments and homes prefer to enter a home after dark which has at least one light on. This invention provides a door latch operated switch unit which may be used to energize an electrical appliance, such as a lamp, in response to movement of the door into and out of its plane of closure and the operation of the latch with respect to a catch or recess in the door jamb.

It is, accordingly, an object of this invention to provide a door latch operated switch unit which includes a switch to be mounted in the latch catch or jamb recess which includes a switch member in the path of movement of the latch to be opened and closed on entry of the latch into and out of the recess and a terminal unit provided with conductor wires to connect the switch unit to a wall outlet and which includes recesses for the electrical plug on the terminal end of the conductor wire of an electrical appliance and means to route current flow in series through the switching unit and electrical appliance so that the latch controls current flow to the appliance.

It is also an object of this invention to provide a device of the type described in the preceding paragraph which includes an on/off switch carried in the terminal unit and effective to interrupt current flow through the switch unit for normal operation of the electrical appliance or, alternatively, through the switch unit so that current flow to the electrical appliance will be controlled by the latch position with respect to the latch catch or jamb recess.

It is a general object of this invention to provide an improved door latch operated switch unit which is simple in construction, inexpensive to manufacture and to install and is adapted for use in a variety of installations, particularly in homes or apartments for controlling an electrical appliance in response to operation of a door.

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It is another object of this invention to provide a door latch operated switch device which includes the improved structure described and claimed which provides for a smoothly operated means to control current flow to an electrical appliance in response to operation with respect to movement of a door into and out of its plane of closure.

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 partial elevation view of a door, door jamb, wall and wall plug provided with the instant invention;

FIG. 2 is an enlarged view of the area of FIG. 1 indicated by the arrowed line 2—2 therearound with the door jamb shown in section for purpose of illustration;

FIG. 3 is a view taken along the plane indicated by the line 3—3 of FIG. 2 and looking in the direction of the arrows; and

FIG. 4 is a view rotated through 180 degrees and taken along the plane indicated by the line 4—4 of FIG. 1 and looking in the direction of the arrows.

Referring to the drawings, wherein like reference characters designate like or corresponding parts throughout the different views, and referring particularly to FIG. 1, there is shown a door 12 in closed relation with respect to a jamb 14 of a door frame which is in relatively close relation to a wall electrical outlet 16 having recesses for a pair of male prongs. The door latch switch is composed of a normally closed switch unit 18 secured in the door jamb 14 and electrically connected as by the conductor 20 to a terminal unit 22 to be connected to the electrical outlet of the wall. As will be apparent from FIG. 2, when the door 12 is closed, the striker 24 will be urged by a spring in the striker barrel 26 into penetrating relation within the recess 28 and into engagement with a switch arm actuating rod 30 to move a switch arm 32 out of engagement with an opposing pole 34 to hold the switch open against spring means included in the switch and illustrated by the cantilever connection 36 of the switch arm 32 to the housing 38 of the switch unit 18. The switch housing is supported by a frame member 40 which is suitably fastened to the jamb in spanning relation of the recess to arrange the switch arm actuating rod 30 in the path of movement of the striker 24 so that on reciprocal movement of that striker the switch will be normally closed when the door is open and, conversely, opened when the door is closed with the striker in the recess. The frame member 40 is secured by suitable means to the jamb 14 as by the striker plate 42 over lips 41 secured in a peripheral portion of the recess as by the screws 44 and 46. Between the outer jamb member 14 and the jamb frame member 47 a space or void 46 is customarily found by reason of the construction techniques commonly employed which utilize this space for plumbing of the outer jamb member with respect to the jamb frame. It is through this void that the conductor 20 extends for an exit at a convenient place such as indicated in FIG. 1 from behind the trim or face plate member 48 to extend to the terminal unit 22 and thence for connection with the wall outlet. The conductor 20 includes two wires 21 and 21', the end of one being connected to one terminal of the switch unit and the other being connected to the other terminal of the switch unit.

The other ends of the insulated wires 21 and 21' of the conductor 20 are connected to the terminal unit 22 which is seen in FIG. 4. The terminal unit includes a body 50 having two prongs 52 and 54 to be received in the sockets of the wall outlet 16. Each of the prongs is electrically connected to the body at terminals 56 and 58 and the body also includes a third terminal 60. The ends of the conductor wires 21 and 21' are connected to one of the terminals which is electrically connected to one prong, which in the drawing is indicated to be the numeral 58, and the other wire 21' is connected to the terminal 60. Thus, it is seen that the terminal 56 of the body while connected to the prong 52 is not connected directly to the conductors 21 and 21' of the door lock switch unit. The body includes a pair of sockets 62 and 64 for receiving the male prongs of a conventional household appliance, such as a lamp. On reference to FIG. 4, it is seen that when the prongs of the electrical plug of a lamp are inserted into the recesses 62 and 64, house current will flow through the prong 54 and terminal 58 and thence through the conductor wire 21, through the switch unit 18, provided it is closed, which is the condition when the door is open, returning to the terminal 60 which, by reason of engagement with the prong in the recess 64 of the electrical plug on the end of the lamp, will permit current to flow through the lamp, provided it is in a switched on condition, returning through the other lamp plug prong in the recess 62 to permit the current to flow through the terminal 56 and prong 52. It is thus seen that if an occupant of an apartment or a home leaves the male plug of an appliance, such as an electric lamp, on, or a burglar alarm, in electrical connection in the recesses 62 and 64 of the terminal unit, the appliance will be energized as soon as the door is opened; however, so long as the door remains closed, the normally closed switch will be held in an open position as the striker urges the switch arm actuating rod to hold the switch poles apart, thus breaking the connection. With further reference to FIG. 4, it will be seen that on the right of the body there has been provided an auxiliary switch member 70 arranged for selective spanning of the terminals 58 and 60, the auxiliary switch member 70 having an electrically conductive portion 72 which, when in engagement with the prong 54 and the terminal 60, short-circuits those terminals and renders ineffective the door latch switch unit and constitutes an on/off switch to control the device. Thus, for instance, a lamp connected to the wall outlet through the terminal unit may be used in a conventional manner until the switch 70 is moved out of an electrically scanning relation of the terminals 58 and 60, whereupon the switch unit will be rendered effective. It is thus seen that there has been provided a door lock switch which is adapted for installation in an inexpensive manner in homes and apartments for use in providing light on entry into a home, which is preferred by many women occupants, and for use in actuating a burglar alarm which includes a timing device so that the burglar alarm becomes effective several minutes after the door is closed. Within the recesses 62 and 64 a V-shaped resilient electrically conductive leaf spring 74 and 76 are provided with one end being connected to one of the terminals such as 56 or 60 and the other end resiliently traversing the path of penetration of the leads of an electrical appliance into and out of the recesses 62 and 64 for effecting electrical connection in the manner indicated above.

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 be accorded the full scope of the claims so as to embrace any and all equivalent apparatus and articles.

What is claimed is:

1. For use in energizing an electrical appliance having a plug with male leads in response to operation of a door with respect to a door jamb, a striker actuated switching device, comprising: (A) a switching unit for installation in the striker recess of a door jamb, (B) a terminal unit to be connected to an electrical wall outlet, and (C) conductor means to connect said units electrically;

(A) said switching unit including (a) a pair of switch terminals, (b) a movable switch member adapted to move the switch terminals between a switch open position and a switch closed position, (c) guide means for said member, (d) resilient means to hold said member in one of said positions, (e) said guide means positioning said movable member in the path of movement of said striker and said member extending into said recess when said door is in the plane of closure and said member being yieldable in response to movement of the striker of a door latch mechanism into and out of the jamb recess to move to the other of said positions and to store energy in said resilient means to move the member to the said other of said positions when the striker is removed from the jamb recess and (f) means to mount said switch unit in said jamb recess;

(B) said terminal unit including, (a) a pair of male prongs to be received in the recesses of a conventional wall outlet, (b) a body provided with a first and a second prong terminal and a third terminal, each of said prong terminals being electrically connected to one of said prongs and (c) said body having a pair of sockets adapted to receive the male leads of an electrical appliance, (d) means in one of said sockets to connect one of the male leads to said first prong terminal and means in the other of said sockets to connect the other of the leads to the third terminal when the leads are in the sockets, and

(C) said conductor means including a pair of insulated conductor wires, (a) one of said wires connecting said third terminal to one of said switch terminals and (b) the other of said wires connecting the other switch terminal to said second prong terminal,

whereby current flow to an appliance through electrical leads in the pair of sockets is adapted to be controlled in response to movement of the striker into and out of the jamb recess.

2. The device as set forth in claim 1 wherein the body of said terminal unit includes a switch arm movable from a first position to electrically connect said third terminal and said second prong terminal for selectively prohibiting current flow through said conductor means when said terminal unit is in electrical engagement with a wall outlet.

3. The device as set forth in claim 1 wherein said switch terminals are normally closed and yieldable in response to the striker penetrating the jamb recess to move to the switch open position.

4. The device as set forth in claim 1 wherein said means to mount said switch comprises a frame member having a frame adapted to nest in the jamb recess and to position said movable switch member in the path of said striker.

5. The device as set forth in claim 1 wherein one of said terminals comprises a resilient switch arm normally in engagement with the other of said terminals.

6. The device as set forth in claim 1 wherein said body includes an insulated member and a main face having a recess with said terminals being secured to said body and extending into the recess of the body.

7. The device as set forth in claim 6 wherein said means in said sockets to connect the male leads to said first prong terminal and said third terminal respectively

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comprise a conductive member having a portion in the path of entry of the electrical leads and yieldable in response thereto to be deflected out of the path of entry and in electrical engagement with said leads.

8. The device as set forth in claim 4 wherein said frame includes terminal lips adapted to overlay the margin of the jamb recess and adapted to be captivated in spanning relation of the jamb recess by a striker plate secured to the jamb.

References Cited

UNITED STATES PATENTS

2,313,452	3/1943	O'Brien	302—12	X
2,476,035	7/1949	Fron	200—51.06	15

6

2,636,091	4/1953	Carter	200—61.62
2,769,871	11/1956	Popp	200—51.06
3,222,473	12/1965	Delhase	200—61.62
3,426,216	2/1969	Smith et al.	

FOREIGN PATENTS

574,264	3/1958	Italy.
1,183,290	7/1959	France.

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