

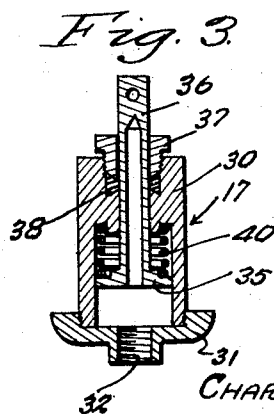
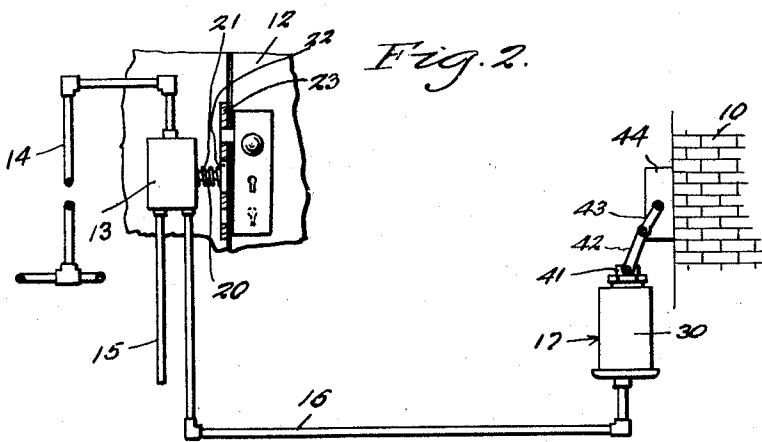
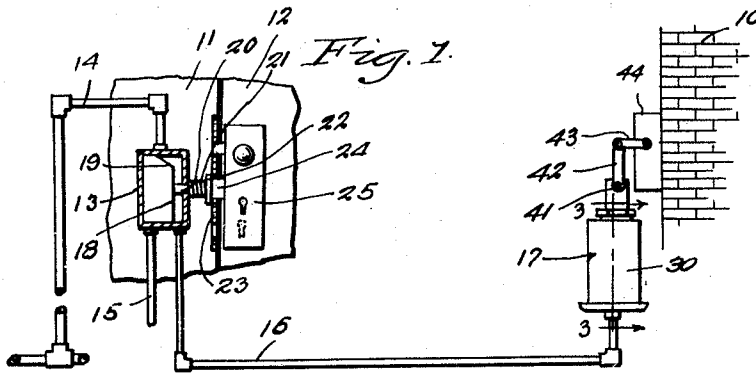
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LOCK CONTROLLED SWITCH

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LOCK CONTROLLED SWITCH

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This invention relates to a lock controlled switch, and more particularly to such a switch adapted to control electrical apparatus such as lights or the like.

A primary object of this invention is the provision of an improved switch means, adapted for automatically turning the lights or electrical appliances within a room, such as a hotel room or the like, off when the occupant of such a room leaves, said switch being actuated by the insertion of a key into the door lock.

An additional important object of this invention is the provision of a device adapted to preclude the danger of fires, short circuits, and extravagant use of electrical current, incident to the inadvertent operation of electrical appliances, within a room, when the occupant thereof is not present.

Still another object resides in the provision of such a device which will be sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture and install.

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 shown in the accompanying drawings, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a schematic side view partially in elevation and partially in section showing the apparatus as applied to a door, door jamb and switch box.

Figure 2 is a view similar to Figure 1, certain portions being shown in elevation and certain others being shown in section, showing the device in a different position of adjustment, and

Figure 3 is a sectional view taken substantially along the line 3—3 of Figure 1 as viewed in the direction indicated by the arrows.

Like reference numerals refer to like parts throughout the several views of the drawings.

Having reference now to the drawings there is generally indicated at 10 the wall of a room or building or the like, having a door frame 11 provided with a door 12. Positioned within the door frame 11 is a receptacle 13, to which a pressure line 14 leads, and from which a drain line 15 extends. A second line 16 leads from the lower portion of receptacle 13 to a switch actuating device generally indicated at 17, to be more fully described hereinafter.

Positioned within the receptacle 13 is a baffle plate 18 curved or bent as at 19, to form a valve, adapted to permit the fluid from the pressure line 14 to enter the line 16, or alternatively, when the baffle is moved to its extreme right-hand position, as seen in Figure 1, to close line 14 and permit fluid to escape from line 16 to line 15. Secured

to baffle 18 is an extending rod 20 which extends outwardly through a suitable aperture in the side walls of receptacle 13 and which may be sealed in any desired means, as by a fluid-tight bushing, and about the exterior portion of which is positioned a compression spring 21. The outer end of the rod 20 is provided with a head 22 positioned adjacent a keeper 23 of a latch bolt 24 of a conventional latch 25 of any desired type.

From the foregoing it will now be seen that when the bolt 24 is moved inwardly as by a key or the like, the plate is forced to the position shown in Figure 1, whereupon the pressure line 14 is in communication with the line 15, and the fluid therefrom serves to actuate switch operating device 17, in a manner to be described hereinafter.

Conversely, when the bolt 24 is withdrawn to unlocked position the pressure of the spring 21 causes the valve member or baffle 18 to move outwardly with respect to the pressure line 14, in such manner as to close pressure line 14 in communication with the outlet or drain line 15, thus releasing the fluid pressure in member 17.

Having reference now to Figure 3, it will be seen that the member 17 is comprised of a sleeve 30 to the lower and place line 16 portion of which is secured in fluid-tight relation a head 31 provided with a threaded bore 32 to which the extremity of line 15 is secured. Positioned within the sleeve 30 is a piston 35 provided with a piston rod 36 extending through a bore in a cylindrical member 37, suitably positioned in member 30 and having a fluid-tight gasket 38 positioned therearound to seal the valve stem 35 in fluid-tight relation therewith. A compression spring 40 serves normally to bias the piston 35 toward the plate 31.

Pivotally secured to the upper end of piston rod 36, as by a pivot 41, is a lever 42 pivotally secured to an arm 43 extending outwardly from a switch box 44 mounted on the wall 10.

Positioned within the switch box 44 is a master switch of any desired type, adapted to break the circuit to the electrical equipment within the room or dwelling or the like wherein it is positioned.

Now from the foregoing the operation of the device should be readily understandable. When pressure is admitted to the device in the manner previously described, by the actuation of the bolt 24, the piston 35 is forced upwardly to the position shown in Figure 1, whereupon the arm 43 is moved to throw the switch within the switch box 44, to cut off all the electrical apparatus associated therewith, the pressure being retained within the sleeve 30 so long as the bolt 24 is in engagement with the head 22 of the operating rod 20. Withdrawal of the bolt as by unlocking the door or the like, causes movement of the valve

or baffle 18 to relieve the pressure within the line, whereupon the pressure of the spring 40 serves to move the piston rod 36 to the position shown in Figure 2, thus closing the switch to permit the electrical circuit of the apparatus within the room to be re-closed.

From the foregoing it will now be seen that there is herein provided a device accomplishing all the objects of this invention and others including many advantages of great practical utility.

While in the foregoing the mechanism for operating the switch contained within the switch box 44 has been described as a hydraulic apparatus adapted to be actuated by fluid pressure or the like, it will be understood that the scope of this invention contemplates the use of analogous mechanisms actuated by a key operated bolt effectively to cut off the current to electrical appliances in a given area, when the occupant thereof leaves and locks the door.

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 apparatus for actuating a circuit breaker comprising a door, a frame supporting said door, a bolt operatively associated with said door and frame, a circuit breaker remote from said frame, fluid actuated means for selectively opening and closing said circuit breaker and means actuated by said bolt for actuating said opening and closing means.

2. An apparatus for actuating a circuit breaker comprising a door, a frame supporting said door, a bolt operatively associated with said door and frame, a circuit breaker remote from said frame, means motivated by said bolt for selectively opening and closing said circuit breaker, said last means including a receptacle secured to said frame, a plunger in said receptacle engageable with said bolt, means for resiliently biasing said plunger against said bolt, means for transmitting force exerted on said plunger to said circuit breaker, means intercommunicating said force transmitting means and said receptacle, means in said receptacle associated with said plunger for selectively controlling said intercommunicating means.

3. The combination of claim 2, said circuit breaker having an arm extending therefrom, said force transmitting means including a cylinder secured to said intercommunicating means, a piston in said cylinder and means for connecting said piston with said arm.

4. The combination of claim 3 and means for resiliently biasing said piston within said cylinder.

5. The combination of claim 4 wherein said intercommunicating means comprises conduit means.

6. The combination of claim 5, said selective control means comprising a plate slidably received in said receptacle selectively opening and closing selected conduit means.

7. In a door actuated circuit breaking apparatus, a door and means for supporting said door, a bolt associated with said door and said support means, a source of fluid, a receptacle secured to said support means, means for intercommunicating said source of fluid and said receptacle, a cir-

cuit breaker remote from said receptacle, a cylinder, means in said cylinder for selectively actuating said circuit breaker, a conduit connecting said receptacle and said cylinder, means in said receptacle actuated by said bolt for selectively controlling the communication between said cylinder and said receptacle.

8. In a door actuated circuit breaking apparatus, a door and means for supporting said door, a bolt associated with said door and said support means, a source of fluid, a receptacle secured to said support means, means for intercommunicating said source of fluid and said receptacle, a circuit breaker remote from said receptacle, a cylinder, means in said cylinder for selectively actuating said circuit breaker, a conduit connecting said receptacle and said cylinder, means in said receptacle actuated by said bolt for selectively controlling the communication between said cylinder and said receptacle, a bypass conduit connecting said source of fluid and said receptacle, said selective control means including a plate slidable in said receptacle covering selectively said bypass and said first-mentioned conduits, and means for resiliently urging said plate to selected positions.

9. Circuit breaking means comprising a door and a support therefor, a source of fluid, a receptacle, means for supporting said receptacle adjacent said door, a conduit connecting said source and said receptacle, a circuit breaker, means including a cylinder having a resiliently biased piston therein for selectively actuating said circuit breaker, a second conduit connecting said last means and said receptacle, a bypass pipe secured to said receptacle adjacent said second conduit, a bolt associated with said door and said support, means in said receptacle actuated by said bolt for selectively opening and closing said bypass, said second conduit and said first conduit.

10. Circuit breaking means comprising a door and a support therefor, a source of fluid, a receptacle, means for supporting said receptacle adjacent said door, a conduit connecting said source and said receptacle, a circuit breaker, means including a cylinder having a resiliently biased piston therein for selectively actuating said circuit breaker, a second conduit connecting said last means and said receptacle, a bypass pipe secured to said receptacle adjacent said second conduit, a bolt associated with said door and said support, means in said receptacle actuated by said bolt for selectively opening and closing said bypass, said second conduit and said first conduit, said bolt actuated means comprising a plate valve having a plunger secured thereto and extending through said receptacle, means for resiliently urging said plunger in engagement with said bolt.

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