C. FORTH.

WALL SWITCH.

APPLICATION FILED FEB. 2, 1916.

1,256,546. Patented Feb. 19, 1918.

Fig. 1.

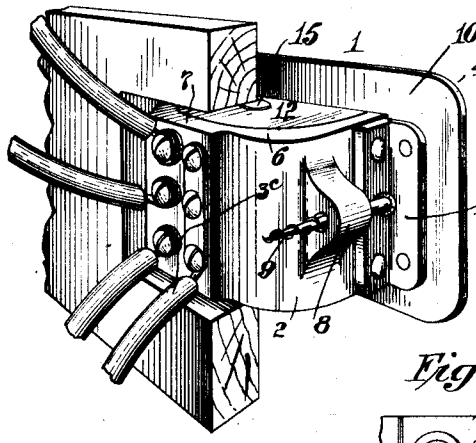


Fig. 2.

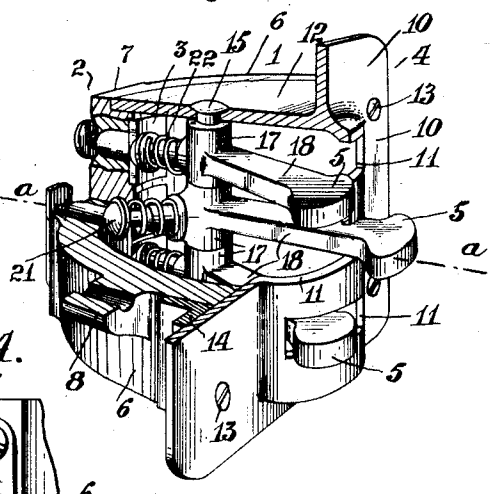


Fig. 4.

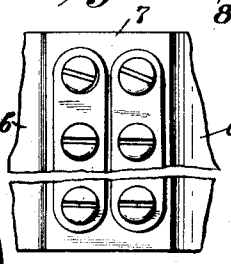


Fig. 3.

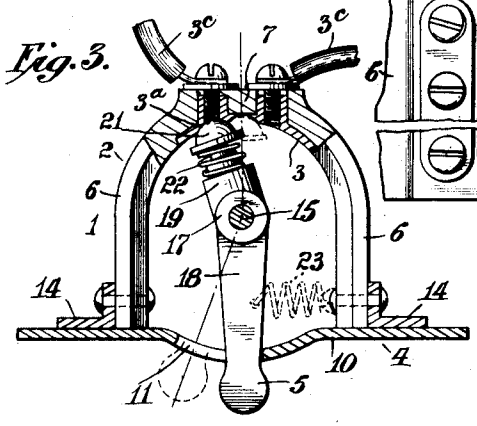


Fig. 5.

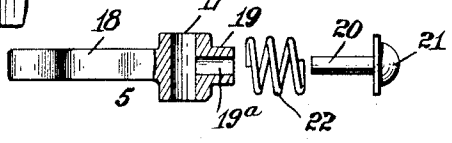


Fig. 6.

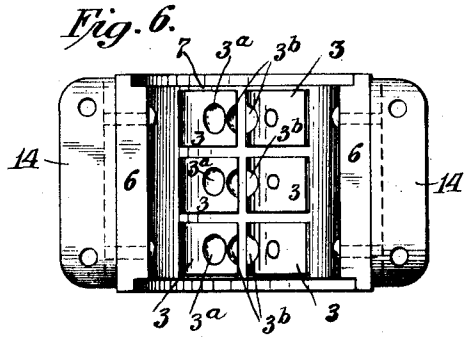
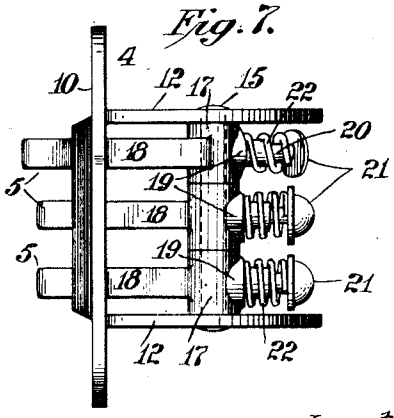


Fig. 7.



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WALL-SWITCH.

1,256,546. Specification of Letters Patent. Patented Feb. 19, 1918.

Application filed February 2, 1916. Serial No. 75,662.

To all whom it may concern:

Be it known that I, CHARLES FORTH, a citizen of the United States, residing at Ottawa, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in Wall-Switches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to electric switches designed more particularly for application to walls to control lighting and other electric circuits, and the invention consists of a wall switch of improved form and construction, which will be fully described in the specification to follow, and the novel features of which will be defined in the appended claims.

In the accompanying drawings:

Figure 1 is a rear perspective view of my improved switch and the adjacent portion of the wall.

Fig. 2 is a front perspective view of the switch with parts broken away to expose the internal construction.

Fig. 3 is a horizontal sectional elevation taken on the line *a*—*a* of Fig. 2.

Fig. 4 is a fragmentary plan view of the interior of the casing showing the terminal contact plates therein.

Fig. 5 is a sectional elevation of one of the switch levers with the parts thereof separated from each other.

Fig. 6 is an elevation of the rear portion of the switch detached from the front portion and showing the arrangement of the terminal contact plates.

Fig. 7 is a side elevation of the front portion of the switch showing the arrangement of the switch levers.

Referring to the drawings:

The operative parts of the switch are contained in a casing 1 consisting of a rear member 2 to which the terminal contact plates 3 are applied, and a front member 4 detachably connected with the rear member and in which switch levers 5 are mounted so that they will coöperate with the contact plates in controlling the circuits. The rear member of the casing is open at its front and ends, and is provided with opposing side walls 6 and a connecting end wall 7, the side walls being provided with outwardly extending lugs 8 each having an opening therein to receive a fastening screw 9 by which the casing may be fastened in place within the wall. The switch plates 3 before alluded to are arranged, preferably in pairs and are firmly fixed to the inner side of the rear wall 7 of the casing as shown more particularly in Figs. 2, 3 and 6, the said plates being insulated from each other and from the casing. One plate of each pair is provided with a socket 3^a while the adjacent edges of the plates of a pair are formed with opposing recesses conjointly constituting a socket 3^b, the purpose of which sockets will presently appear. The plates are connected at the back with electric conductors 3^c which are in turn connected in the circuits to be controlled.

The front member 4 of the casing consists of a front plate 10 containing a number of transverse slots 11, from which plate there are extended rearwardly, upper and lower walls 12, which walls are adapted to close the open ends of the rear member 2 of the casing, while the front plate 10 is adapted to close over the front of the same, the parts being held detachably together by means of screws 13 extending through the plate 10 and through threaded holes in angle plates 14 riveted or otherwise firmly secured to the front edges of side walls 6 of the rear member 2. An axle or shaft 15 is fastened at its ends to the walls 12, and on this axle the switch levers 5 before alluded to are loosely mounted side by side so that they may be rocked to a limited extent thereon. Each of these switch levers comprises, as shown in Fig. 5, a hub 17, an operating arm 18 extending forwardly from the same and a rear arm 19 with a socket 19^a therein. In this socket is mounted, so as to slide back and forth, a pin 20 provided on its end with a contact head 21, a spiral spring 22 encircling the arm 19 and bearing at one end against the hub and at its other end against the head 21, the said spring tending to urge the pin yieldingly outwardly from the hub. The hubs of the several levers loosely encircle the axle side by side so that the spring actuated contact heads 21 will cooperate with the several pairs of contact plates, the arms 18 extending forwardly through the slots in the front plate. The levers are independently operable so that the spring pressed heads thereon may be caused to seat in the sockets 3^a in the several plates, or in the sockets 3^b in the adjacent edges of the plates. When a lever is in one position as shown for instance in full lines in Fig. 3 the contact head will seat in the socket

3^a in one of the plates of a pair, and the circuit including the plates of this pair will remain open. When now the lever is swung to the left to the dotted line position shown in Fig. 3, the contact head will be forced out of the socket and caused to seat in the socket 3^b in the edges of the plates, thereby forming an electric connection between the plates and closing the circuit. The levers are acted on by spiral springs 23 one for each lever, the inner end of the spring being connected with the lever and the other with the side of the casing, the tendency of the springs being to hold the levers with their contact heads seated in the sockets 3^a and maintaining the circuits open.

From the construction described it will be observed that by the removal of the screws 13 holding the front plate 10 in place, this plate together with the attached switch levers may be removed bodily from the rear member of the casing. This will expose the contact plates and will render the levers and all the inclosed parts of the mechanism readily accessible. The front ends of the operating arms 18 being exposed through the slots in the front plate and being arranged one above the other, and adapted to be swung out of line with each other in controlling the several circuits, they afford a means by which it can be readily determined at a glance what particular circuits are open and what circuits are closed. The spring pressed contact heads by seating in the sockets 3^a in the contact plates will maintain the levers in the position adjusted when the circuits are opened, and will prevent the accidental displacement of the same. Also by the seating of the heads in the sockets 3^b in the edges of the opposing plates, the levers will be prevented from being accidentally displaced from the position set to close the circuits.

In applying the switch in position in the wall, the electric conductors are first fastened to the binding screws at the back of the rear member 2 of the casing, and this member of the casing is seated in the opening in the wall, and firmly fastened in place by means of the screws 13 before alluded to. The front member of the casing carrying the front plate 10, the walls 12 and switch levers, is now inserted in the rear member, with the walls 12 extending between the side and end walls of the rear member and closing the open ends of the latter and the screws 13 being applied to firmly fasten the two members of the casing together. The parts are now in operative relation with the contact heads of the several levers in position to properly coöperate with the several pairs of contact plates.

Having thus described my invention, what I claim is:

1. In a wall switch, the combination of a casing comprising a rear member having two side walls and a rear wall and open at its front and ends, said member provided with means for securing it in the wall, contact plates on the rear wall of said member adapted to be connected respectively with circuit conductors, and a front member having a front plate adapted to close over the front of the rear member and having also rearwardly extending walls to close the open ends of the rear member, means for securing the front member detachably to the rear member, and a switch sustained by the front member and adapted to coöperate with the contact plates in controlling the circuit, whereby by detaching the front plate the switch levers may be removed from the rear member, thereby exposing all the parts to view.

2. In a wall switch, the combination of a casing comprising a rear member open at its front and ends and adapted to be fastened in the wall, and a front member provided with a front plate having slots therein and adapted to close the front of the rear member, and having also rearwardly extending walls adapted to close the open ends of the rear member, contact plates on the rear member adapted to be connected respectively with circuit conductors, means for securing the front member detachably to the rear member, a shaft mounted in bearings in the rearwardly extending walls of the front member, a series of switch-levers mounted side by side on said shaft and extending outwardly through the slots in the front plate, and contact heads on the levers adapted in the movements of the levers to coöperate with the contact plates in controlling the circuits.

3. In a wall switch, the combination of a casing comprising a rear member provided with means for securing it in the wall and adapted to have the terminals of an electric circuit connected therewith, said member having an open front, a front member detachably connected with the rear member to cover the open front of the same, and a switch sustained by the front member and extending into the rear member and removable with the front member from the rear member, said switch adapted to coöperate with said terminals, and having a handle extended through the front member for actuation.

In testimony whereof, I have affixed my signature.

CHARLES FORTH.