

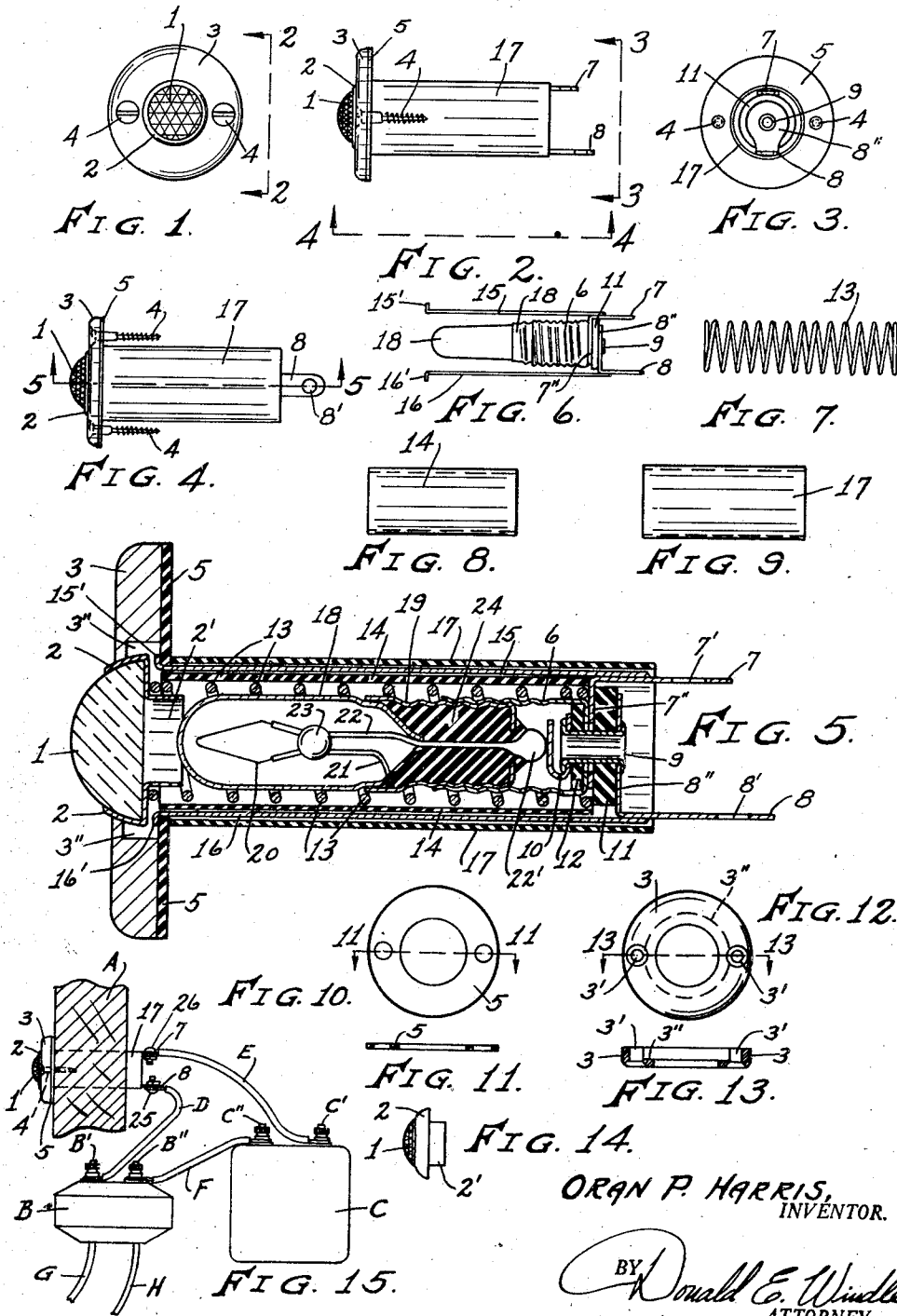
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ILLUMINATED PUSH BUTTON SWITCH

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ILLUMINATED PUSH BUTTON SWITCH

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1 Claim. (Cl. 200—167)

My present invention relates to push button switches, such as are used in connection with door bells, buzzers, and chime devices in residences or other situations, and the principal object of the invention is the provision of a push button switch which is illuminated, and the location of which is easily discernible thereby even though no other artificial light or natural light is provided.

Another object of the invention is the provision of a push button switch in which the movable circuit-closing member thereof is formed of translucent material and which is illuminated from the interior portion of the switch.

Another object of the invention is the provision of a push button switch having the push button thereof illuminated by means of an electric bulb located within the switch and connected in series with the operated device.

A further object of the invention is the provision of an illuminated push button switch which is simple of construction, which is economical to manufacture and which requires a minimum of service.

Other objects and advantages of the invention will suggest themselves in the course of the following description, and that which is new will be pointed out in the appended claim.

The most satisfactory manner of carrying out the principles of the invention in a practical, comprehensive, and efficient manner is shown in the accompanying one sheet of drawings, in which:

Figure 1 is a front elevation of the switch in assembled condition.

Figure 2 is a side elevation of the switch, taken from line 2—2 of Figure 1.

Figure 3 is a rear end elevation of the switch, taken from line 3—3 of Figure 2.

Figure 4 is a side elevation of the switch, taken from line 4—4 of Figure 2.

Figure 5 is an enlarged longitudinal detail section through the switch, the same being taken on line 5—5 of Figure 4.

Figures 6, 7, 8, 9, 10, 12, and 14 are detail elevations of component parts of the switch.

Figures 11 and 13 are detail sections through the parts shown in Figures 10 and 12 respectively.

Figure 15 is a detail showing the electrical hook-up of the switch in connection with a transformer and a buzzer device.

Like characters designate like parts throughout the several views.

In order that the construction, the operation,

and the advantages of the invention may be more fully understood and appreciated, I will now take up a detailed description thereof, in which I will set forth the same as fully and as comprehensively as I may.

In the drawing, 1 designates the central portion of the push button which is preferably formed of glass or other translucent material through which light from the interior of the switch may emanate. 2 designates a housing member into which the central push button member 1 is secured by means of the flanged forward portion thereof. A rearwardly extending tubular-shaped portion 2' is formed on the rear portion of the member 2 and forms a guide maintaining the push button in proper alignment. 3 designates a rosette through which the push button extends, with the same being adapted to be rigidly secured to adjacent wood work A by means of the threaded screws 4 extending through the apertures 3' of the member 3. The rear side of the rosette 3 has the recess 3'' formed therein for the reception of the ends 15' and 16' of the contact fingers 15 and 16 respectively. An insulating washer member 5 is provided for the rear side of the rosette 3 with apertures being formed therethrough for the reception of the threaded screws 4.

A socket member 6 is provided for the reception of the base 19 of the bulb 18. The socket member is comprised of the threaded member 6 with the insulating washer member 12 located therein. A second insulating washer member 11 is positioned outside the socket member with the portion 7'' of the contact prong member 7 being positioned between the socket member and the insulating washer member 11. The portion 8'' of the contact prong member 8 is positioned on the opposite side of the member 11. A spring contact member 10 is positioned within the socket member adjacent the insulating washer member 12. The members 7, 8, 10, 11, and 12, together with the socket member 6 are rigidly secured together by means of the rivet member 9, as shown in Figure 5.

The bulb member 18 has the metallic base member 19 and has the conducting wire 22 extending through the inner end of the member 18 and through the insulating material 24 with the same forming the contact portion 22'. A second conducting wire 21 has one end thereof electrically connected with the base 19. An insulating member 23 maintains the conducting wires 21 and 22 in properly spaced relation with each other. The filament member 21 is connected

with the ends of the conducting wires 21 and 22 and thereby completing a circuit in the bulb member.

The compression spring 13 encircles the socket member and the bulb member, with one end thereof bearing against the members 7" and 11, and with the opposite end thereof bearing against the rear side of the member 2, as shown in Figure 5.

The inner insulating sleeve 14 is provided for the purpose of insulating the spring 13 from the contact finger 15 which is rigidly secured to the contact prong member 7 and the contact finger 16 which is rigidly secured to the contact prong member 8. The contact fingers 15 and 16 have the contact end portions 15' and 16' respectively formed at the forward ends thereof and which are adapted to be contacted by the rear side of the member 2 and thereby closing the electrical circuit between the contact prong members 7 and 8. The outer insulating sleeve member 17 provides insulation between the contact fingers 15 and 16 and the material in which the switch assembly may be installed.

A designates a door casing or other material in which the switch assembly might be secured by means of the threaded screws 4. B designates the conventional transformer unit, and C designates the conventional type buzzer. The switch is connected in series with the transformer unit and the buzzer by means of the electric wires D, E, and F. The wire D has one end thereof secured through the contact prong member 8 by means of the bolt 25 extending through the aperture 8' and with the opposite end of the wire being connected with the terminal B' of the transformer unit. The wire E has one end thereof secured through the contact prong member 7 by means of the bolt 26 extending through the aperture 7', and with the opposite end of the wire being secured to the terminal C' of the buzzer. The terminal B'' of the transformer unit is connected with the terminal C'' of the buzzer by means of the electrical wire F. The wires G and H electrically connect the transformer unit with the power line in the usual manner.

In the operation of the device, when assembled as shown in Figure 5, and installed as shown in Figure 15, a circuit is completed through the bulb causing a light to emanate continuously through the central portion 1 of the push button. When the push button is pressed inwardly against the compression spring 13, the rear side of the member 2 bears against the contact ends 15' and 16' of the contact fingers 15 and 16 respectively and thereby closing the circuit through the buzzer. The filament in the electric is of such resistance so as not to permit sufficient electric current to pass therethrough to cause the buzzer to operate. It will be noted that the buzzer may be operated by closing the circuit by means of the push button even though the bulb may be removed or the filament therein be burned out.

It is to be understood that minor changes may be made in the several parts and in the details herein shown and described, insofar as the changes may fall within the scope of the appended claim.

Having now fully shown and described the invention, what I claim, and desire to secure by letters patent of the United States, is:

In a push button switch, the combination of a fixed socket having an electric bulb secured therein, a pair of contact prongs electrically connected with said socket, a compression spring positioned around the socket and the bulb with an inner insulating sleeve surrounding the compression spring, a contact finger secured to and extending from each of the contact prongs along the outside of the inner insulating sleeve with each of the contact fingers extending beyond the end of the bulb, an outer insulating sleeve covering the contact fingers, and a translucent push button member positioned beyond the end of the bulb and bearing against one end of the compression spring with the push button member being adapted to close an electric circuit through the contact fingers, and with the translucent portion of the push button permitting light from the electric bulb to emanate outwardly therethrough.

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