C. D. PLATT.

PUSH BUTTON CONNECTION FOR ELECTRIC SWITCHES.

APPLICATION FILED SEPT. 10, 1915.

1,197,853. Patented Sept. 12, 1916.

Fig 1

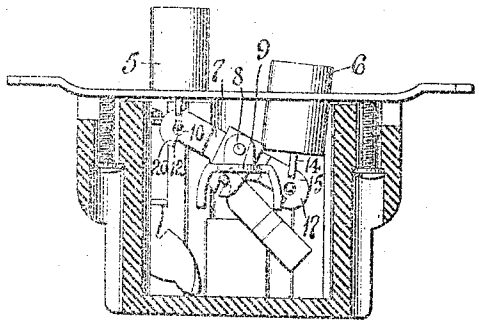
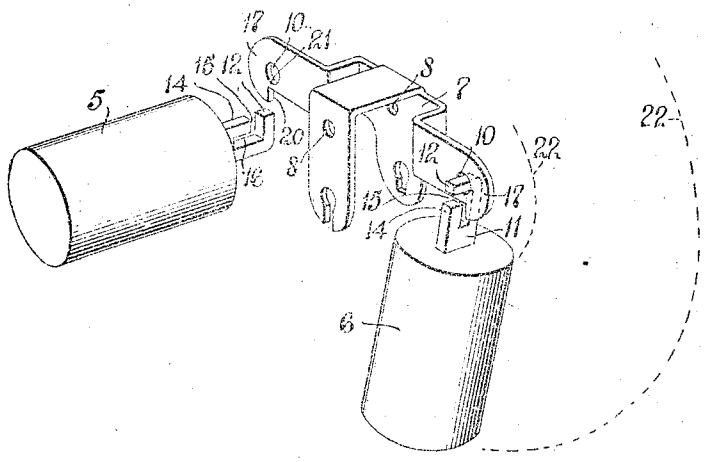


Fig 2



Inventor
Clarence D. Platt

By Attorney

UNITED STATES PATENT OFFICE.

CLARENCE D. PLATT, OF BRIDGEPORT, CONNECTICUT.

PUSH BUTTON CONNECTION FOR ELECTRIC SWITCHES.

1,197,853. Specification of Letters Patent. Patented Sept. 12, 1916.

Application filed September 10, 1915. Serial No. 49,960.

To all whom it may concern:

Be it known that I, CLARENCE D. PLATT, a citizen of the United States of America, residing at Bridgeport, Connecticut, have invented a new and useful Push-Button Connection for Electric Switches, of which the following is a specification.

The general objects of this invention are to simplify and improve the connection between the switch parts and the push buttons for operating the same, special objects being to facilitate connection of the push buttons with the switch parts and to reduce the cost of construction and assembly. These objects I have accomplished by providing one of the members to be connected, say the switch lever, with a bearing opening and the other member, say the push button with a hooked portion for engagement in the bearing opening, this latter member having a guard for retaining the hooked portion in the bearing opening and the switch member having a recess in its edge to permit the assembling of the parts.

The details of the structure will appear as the specification proceeds.

The accompanying drawing illustrates a practical and preferred embodiment of the invention, but it will be understood that changes and modifications may be made without departing from the true spirit and scope of the invention.

In the drawing, Figure 1, is a sectional view of the operating portion of a push button switch having my invention embodied therein. Fig. 2, is a detached perspective view of the switch operating lever and the push button, illustrating the method of attachment of the button to the lever.

The push buttons are designated 5 and 6 and are shown as connected with a switch operating lever 7, pivoted at 8 on a support 9. In the illustration the switch operating lever is the part which is provided with the bearing opening and the push button is the part which is provided with the hook to engage in the bearing opening. The bearing openings are designated 10 and are shown formed in the switch lever near the opposite ends thereof. The push buttons are shown provided with shanks 11 by means of which they are connected to the lever. Each shank is slotted longitudinally at 16, and the shank at the outer end of this slot is cut through laterally at 15 so as to form a clearance slot, as shown in Fig. 2. This passage 15 leaves the hooked end 12 which constitutes a pivot finger and also leaves a side guard finger 14 at right angles to said pivot finger. The side guard finger engages over the side of the lever to prevent the push buttons from being moved so as to disengage the hook from the bearing openings when the parts are assembled, for operation. The slot 16 is slightly wider than the thickness of the metal of the lever, and is long enough to accommodate that part 17 in the outer end of the lever, which part operates as a key to project into that part of the slot 16 alongside the guard finger 14 when the parts are fully assembled. The lever is provided at one point in its edge with a recess or cut away portion 20 extending from said edge inward toward the bearing opening, leaving at one point a thickness of metal 21 adjoining the bearing opening slightly less than the width of the entrance slot 15 in the shank of the push button.

The assemblage of the parts is very simple and when once assembled accidental disengagement of the parts is prevented. The push button and lever are placed in the relative position at the left in Fig. 2 and the end of the pivot finger is brought into the plane of the bearing opening by passing the slotted portion 15 of the push button over the reduced portion 21 of the lever. The push button is then turned into the position shown at the right in Fig. 2, whereupon the hook 12 passes into the bearing opening 10. The push button is then swung around the bearing opening as a pivotal point as indicated by the dotted lines 22 into the final position as indicated in Fig. 1 and wherein the key portion 17 of the lever stands in that part of the slot 16 alongside the guard finger 14.

The push button construction of this invention will be seen to be of an extremely simple and practical construction and by reason of the fact that the parts can be made of relatively small pieces of light sheet metal the expense of material and manufacture is reduced to a minimum.

What I claim is:—

1. In a push button switch, a push button and a lever operated thereby, one of said members having a bearing opening therein and a recess in one edge extending inward toward said bearing opening, the other of

said members having a longitudinally extending slot terminating short of the end of the member a distance substantially equal to the diameter of the bearing opening to leave a bearing portion at said end of the member for engagement in the bearing opening, said slot being of a length greater than the extent of material about the bearing opening to thereby receive the portion of the first member around the bearing opening therein, said second member having a transverse slot extending in from one side edge thereof to the longitudinal slot, said side slot being disposed above the bearing portion at the end of the member and of a size to receive the extent of material between the bearing opening and the edge recess in the bearing member and said side slot thereby providing a guard finger terminating short of the bearing portion at the end of the second member and arranged to overlie the portion surrounding the bearing opening in the first member.

2. In a push button connection for switches, a lever arm having a transverse bearing passage therein near the outer end thereof, a push button having a projecting shank slotted longitudinally and transversely at one side to form a pivot finger at the outer end and a guard finger at the side, said lever arm having a cut away portion adjacent to the bearing opening therein to reduce the width of metal adjacent said opening at one point sufficiently to permit the same to be passed through the transverse slot in said shank, the uncut-away portion of the end of said lever forming a key arranged to project into the longitudinal portion of said slot alongside said guard finger when said push button is turned into operative position.

CLARENCE D. PLATT.