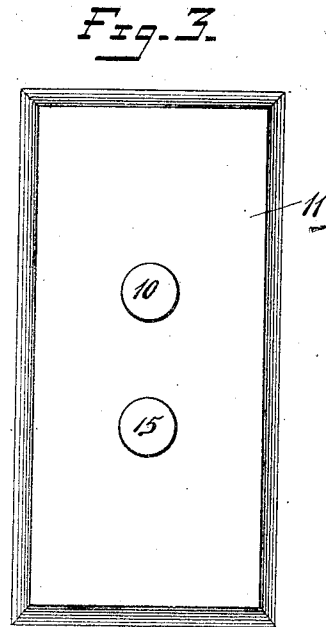
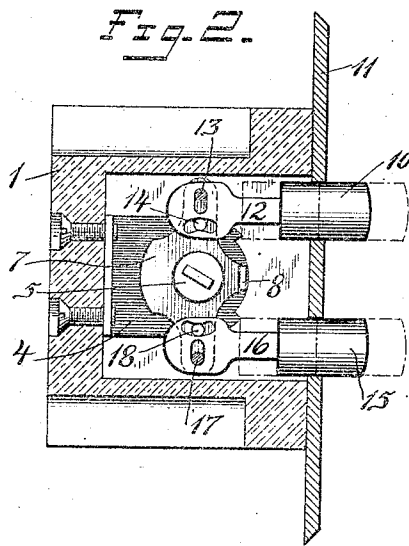
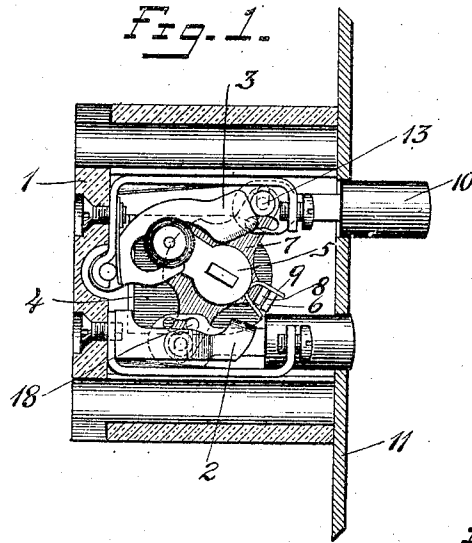


No. 828,739.

PATENTED AUG. 14, 1906.

G. W. HART.  
ELECTRIC SWITCH.  
APPLICATION FILED NOV. 10, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## ELECTRIC SWITCH.

No. 928,739.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed November 10, 1905. Serial No. 286,647.

*To all whom it may concern:*

Be it known that I, GERALD W. HART, a citizen of the United States, residing at Hartford, county of Hartford, Connecticut, have invented certain new and useful Improvements in Electric Switches, of which the following is a full, clear, and exact description.

My invention relates to improvements in electric switches, and particularly push-button snap-switches.

The object of the invention is to construct a switch of this character which will operate positively and accurately without binding of the parts or undue lost motion.

The principles of the invention are illustrated in the accompanying single sheet of drawings. Briefly stated, it comprises the employment of a tilting operating member and a push-button extending through an opening in the face-plate and connected to the operating member by a double pin-and-slot engagement, so that the button has substantially a straight-line movement perpendicular to the face-plate.

A type of switch to which the invention is particularly adapted is shown in my former patent, No. 645,092, dated March 13, 1900.

Figure 1 is a sectional view of a switch embodying my invention, the contacts being separated. Fig. 2 is a similar sectional view, the contacts being omitted and the operating parts in a position intermediate the "open" and "closed" positions. Fig. 3 is a view of the face-plate, showing the ends of the operating-buttons.

1 is the base.

2 is the stationary switch-contact.

3 is the movable contact.

4 is a bracket supported on the base.

5 is a sleeve carried by the bracket and operatively connected with the switch-blade 3.

6 is the tip of the locking member.

7 is the operating member mounted on the sleeve 5 so as to tilt. This has a projection 8, which, together with the tip of the lock member 6, stands between the ends of the spring 9. The operation of the tilting member 7 causes the blade 3 to be snapped into and out of engagement with the contact 2.

The invention is equally applicable to double-pole switches.

10 is a push-button which extends through

an opening in the face-plate 11 and substantially at a right angle thereto.

12 is the shank of the push-button, the inner end of which is somewhat enlarged.

13 is a pin carried by one arm of the member 7, extending into a slot in the shank 12, which is arranged substantially at a right angle to the desired direction of movement of the push-button. 14 is a second pin or projection carried by the member 7, extending into a curved slot in the shank 12, whose curvature is substantially a portion of a parabola. The pin 13 serves to take up the thrust of the push-button and cause the member 7 to be tilted on its axis, while the pin 14, being opposite the transverse slot, guides the blade of the push-button as the member 7 tilts on its axis and maintains the substantially perpendicular position of the push-button relative to the face-plate.

15 is a second push-button, having a shank 16 connected to the opposite arm of the tilting member 7 by means of the pins 17 and 18 and slots the reverse of the ones just described. When one button is pushed in, the other button is moved out, and vice versa. Both buttons, however, are maintained in substantially straight-line movement by the pin-and-slot connection and their guide in the face-plate 11. There is then no danger of the parts becoming cramped in operation or wedged, and the entire pressure that is applied to the push-button to operate the switch is available.

What I claim is—

1. In an electric switch, a base, a face-plate having a passage therein, a tilting operating member, a push-button extending through the face-plate and having a shank and a double-pin-and slot connection between said shank and tilting member, whereby the direction of movement of the push-button is in a substantially straight line.

2. In an electric switch, a face-plate having two passages, a tilting operating member, a push-button adapted to extend through each passage in the face-plate, and a double pin-and-slot connection between said operating member and said push-buttons.

3. In an electric switch, a face-plate having a passage, a push-button extending there-through, a tilting operating member, two ra-

dially-arranged projections carried by said operating member, and a shank extending from said push-button having a transverse slot and a curved slot for said projections.

- 5 4. In an electric switch, a face-plate having a passage, a push-button adapted to extend through the passage, a tilting operating-lever, a shank extending from the push-button, and means of connection between the  
10 shank and operating member whereby the inner end of the shank is directed in substantially a straight-line movement.

5. An electric switch comprising a base, a face-plate, push-buttons adapted to extend through a face-plate, a tilting operating member, and means of connection between the push-buttons and the operating member for maintaining a substantially straight-line movement of the push-buttons. 15

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