

No. 501,450.

Patented July 11, 1893.

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BY

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UNITED STATES PATENT OFFICE.

LUCIUS T. STANLEY, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE CUTTER ELECTRICAL AND MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 501,450, dated July 11, 1893.

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To all whom it may concern:

Be it known that I, LUCIUS T. STANLEY, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

This invention is an improvement in automatic electric switches, more especially designed for use with incandescent lamps.

The construction of the switch mechanism is designed and adapted for such purposes as the following: In a chamber, closet or apartment of any kind where incandescent or electric lamps are located, it is often desirable that the lights should be brought into action upon the opening of the door through which access to the chamber is afforded, and shut off when the door is closed. This is the case with dark closets, bank vaults, or with houses where the plan is applicable as a protection against burglars.

The improvement resides, therefore, in a switch mechanism that is operated or controlled in its operation by the opening and closing of a door.

In carrying out my invention I have adopted a form of switch in which the principle of operation of a switch heretofore designed and used by me is embodied, but so modified as to adapt it to the special requirements of the application, and combined with certain parts necessary for its automatic and certain operation.

The improvement is shown in the accompanying drawings, in which—

Figure 1 is a view partly in side elevation and partly in section of the device as applied to actual use, and closed, and Fig. 2 is a similar view of the same when the circuit is open.

A represents the jamb of a door which is recessed to contain the switch mechanism.

B is a face plate set flush in the jamb and covering the recess. Through this plate works freely a plunger or push-button C, and I prefer, for this purpose, to form the plate with a socket D, extending into the recess and in which the plunger C works. The plunger

is provided with a rounded head similar to those in push-buttons, and a shoulder or head E on the end within the recess. Between the rear of socket and the button is a spiral spring F or other device of a similar kind that tends to force the plunger to the full extent of its play or movement, out of the socket in which it is contained. Within the recess in the door jamb a plate or arm G of metal is pivoted to a metal plate H that forms one terminal of the circuit containing the lamps or other devices in the chamber. The other terminal is a pair of jaws or a simple plate K, with which the arm G may be swung into contact. A short length of a flat steel spring L, such as a piece of watch spring, is secured by its ends to studs on the head E and arm G respectively, the length of the spring being preferably greater than the greatest distance between the two points of attachment, so that whatever position the plunger and arm may occupy the spring will be bowed.

M represents the door, the edge of which is brought up to or carried away from the jamb by closing or opening it. When the door is closed the button C is forced back into the socket D against the force of the spring F. The backward movement of the plunger carries one end of the spring L across the line joining the fulcrum of the arm G and the point thereon at which the other end of the spring is secured. As a result the arm is thrown toward the plunger or in a position to break circuit, as shown in Fig. 2. On the other hand, when the door is opened the arm G is shifted by the superior force of spring F over the spring L and the circuit closed. By changing the position of the plate K the opposite to this may be caused to occur; that is to say, when the door is opened the circuit will be closed, and when shut the circuit will be opened. This might be desirable in some cases.

What I claim is—

1. The combination with a door of a contact terminal and a pivoted contact arm in a recess in the jamb of the door, a push-button or plunger in position to be forced into the recess by the closing of the door, a spring acting to return the plunger when the door is opened and

a spring adapted to throw the contact arm into or out of engagement with the terminal, the action or operation of said spring being dependent upon a movement in either direction of the plunger, as set forth.

5 2. The combination with a door of a contact terminal and a pivoted contact arm in a recess in the jamb of the door, a plunger in position to be forced into the recess by the closing of
10 the door, a spring acting to return the plunger when the door is opened and a flat spring connected to the end of the plunger and the pivoted contact arm respectively, whereby in the movement of the plunger the said arm will be

shifted by the reaction of the spring, as set forth. 15

3. The combination with a door of the plate B, covering a recess in the jamb or frame, the socket D, the plunger C movable in the socket, the spiral spring F acting on the plunger, the
20 stationary contact K within the recess, the pivotal contact G and the flat spring having its ends connected to the inner end of the plunger and to the pivoted contact respectively.

LUCIUS T. STANLEY.

Witnesses:

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