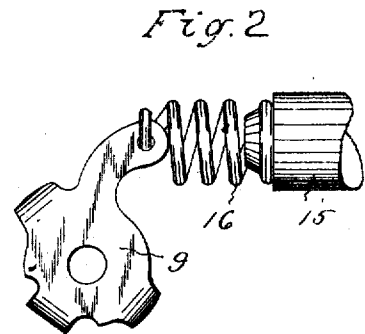
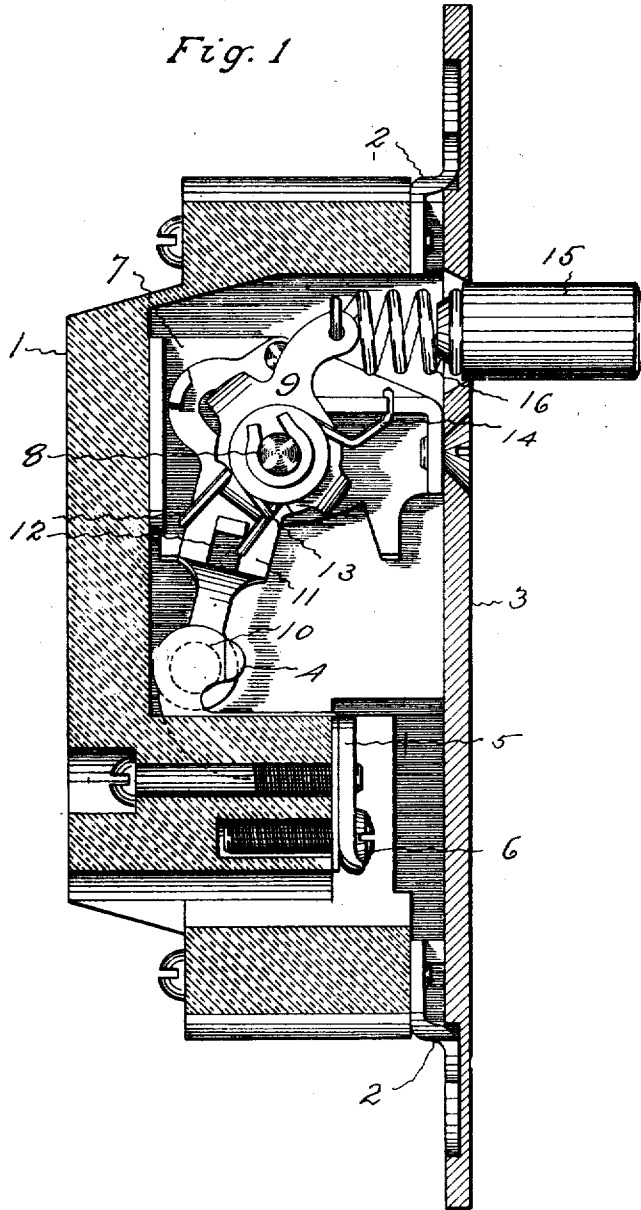


J. G. PETERSON.
DOOR SWITCH.
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1,023,224.

Patented Apr. 16, 1912.



Witnesses.

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DOOR-SWITCH.

1,023,224.

Specification of Letters Patent.

Patented Apr. 16, 1912.

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To all whom it may concern:

Be it known that I, JOHANN G. PETERSON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Door-Switches, of which the following is a specification.

Door switches are designed to be set into casings in such positions that when the doors are closed the stiles engage and force the push buttons inwardly, and cause the mechanisms to be actuated for opening or closing the circuits as the case may be. In order to actuate the mechanism the button must be pushed inward a specific distance, and yet the button must not project so much as to interfere with the tight closing of the door, or put undue strain upon the hinge butts or the switch. Owing to the shrinking and swelling of doors and casings, also the sagging of doors and the settling of buildings, and the irregularity with which the hinge butts are set, the spaces between the faces of the casings and the edges of the stiles of doors vary. As a result of this the actions of the prior door switches are irregular and uncertain, for if they operate satisfactorily when first installed, often in a short time they fail to operate on account of a widening of the space between the jambs and stiles.

The object of this invention is to provide a door switch with a push button which will project sufficiently far to insure the operation of the switch at all times, regardless of the width of the space between the stile and casing, and will yield after the switch is actuated and not interfere with the shutting of the door or strain the switch. This object is attained by providing such switches with means between the button and the rocker arm or other equivalent operating part of the switch mechanism proper, which is stiffer than the spring which throws the switch, and yet which has sufficient resiliency to permit the button to be forced in by the door after the switch has been operated.

The invention is applicable to practically all of the snap door switches in use at the present time, and Figure 1 of the accompanying drawings shows a side view of a common form of door switch that is constructed according to this invention, with the receptacle cut in section in order to expose the actuating mechanism. Fig. 2 shows

a detail view of the rocker plate, push button and yielding connection between these parts.

The receptacle 1, which is shown, is of common form and material. Attached to the ends of this receptacle are the usual fastening lugs 2, and over the front is the face plate 3. In the receptacle are the necessary stationary contacts 4. These are connected with terminals 5, to which the ends of the circuit wires are designed to be connected by binding screws 6.

The actuating mechanism which is illustrated is of common form and arrangement. This mechanism being well known to those familiar with this art, it is not described in detail. It is sufficient to point out that the actuating mechanism illustrated is mounted on a frame plate 7 which is fastened to the inside of the bottom of the receptacle. Projecting from this is an arbor 8, turning upon which is a rocker plate 9. The movable contact 10 is mounted on a plate 11 that is pivoted on the frame. This movable contact plate is swung back and forth for causing the movable contact to be engaged with and disengaged from the stationary contacts with a snap, by means of the ends 12 of the spring which is coiled about the arbor in the usual manner, and is made tense by the movement of the rocker plate. In this form of switch a spring coiled about the arbor has one end 13 engaged with the rocker plate, and the other end 14 engaged with the frame plate in such manner that the tension of this spring normally holds the rocker plate in such position that the movable contact is engaged with the stationary contacts.

The push button 15 which projects through the face plate is connected with the end of the rocker plate by a spiral spring 16. This spring is stiffer than the spring 13, 14, so that when the button is pushed in, the tension of the spring 13, 14, is overcome and the mechanism actuated by the spring 12, and then the spring 16 yields, allowing the button to move farther in as the door is closed. When the door is opened and the button and spring 16 are relieved, the spring 13, 14, forces these parts out and allows the actuating spring 12 to throw the movable contact into engagement with the stationary contacts.

The invention claimed is:

1. In a door switch, the combination of a

rocker plate, a spring for moving said plate in one direction, a push button, and a spring that is stiffer than the first mentioned spring connecting the button and the plate.

- 5 2. In a door switch, the combination with the switch mechanism and the spring for throwing said mechanism, of a push button,

and a spring that is stiffer than the first mentioned spring, arranged between the push button and the switch mechanism.

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