June 17, 1930. L. H. GOETZ 1,763,649

ELECTRIC SWITCH

Filed March 5, 1929

Fig. 1.

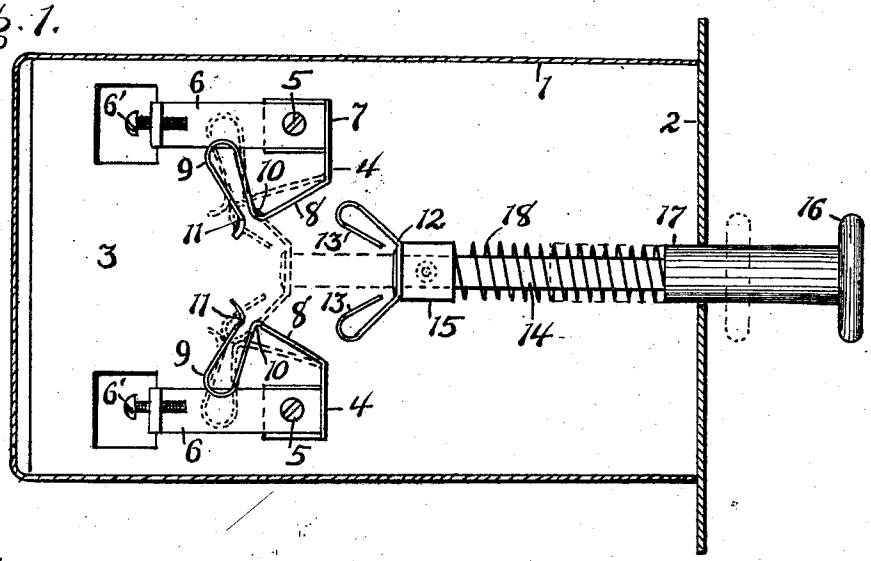
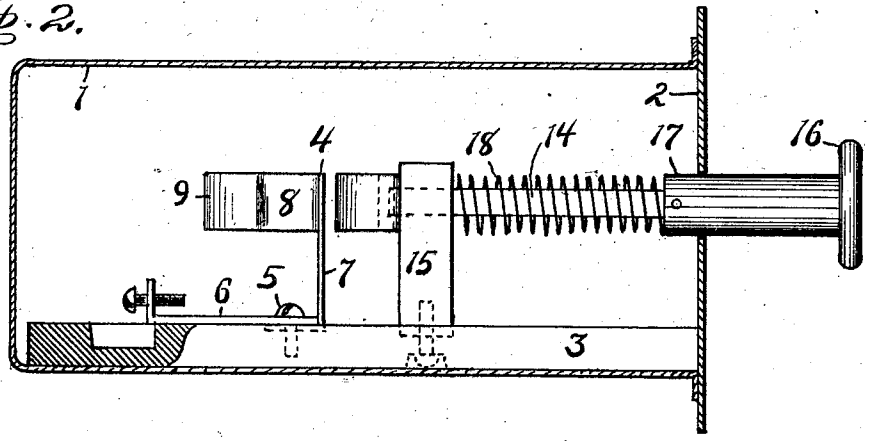


Fig. 2.



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BY

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UNITED STATES PATENT OFFICE

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ELECTRIC SWITCH

Application filed March 5, 1929. Serial No. 344,286.

This invention relates to improvements in switches, for controlling electric circuits, and the object thereof is to provide a switch, of the make and break type, in which the contact members meet frictionally so that their contacting surfaces are automatically polished or kept free from corrosion by the opening and closing actions of the switch. Also, an object of the invention is to afford a construction whereby the contacting members adjust themselves with respect to each other when the switch is closed, and thus perfect the electrical connections of the switch in closing the circuit.

These objects are accomplished by the construction illustrated in the accompanying drawings, in which:—

Fig. 1 is a plan view of a switch embodying the invention; and

Fig. 2 is a side elevation of the switch, parts being broken away.

The invention consists of a housing 1, the front end 2 of which constitutes a wall plate. Within the housing is positioned a base 3 of insulating material. Upon the base are fixed a pair of oppositely disposed contact members 4, the one being the counterpart of the other. Each member is secured to the base by a screw 5 and is provided with a terminal member 6 also secured by said screw.

Each contact member 4 is made of spring sheet metal, such as bronze, and is formed with an upright 7 at the upper end of which is provided an extending arm 8 that slants toward the arm of the other switch member, the said arms being disposed convergently respecting each other, and are capable of being spread outwardly from their normal spaced positions. The free end of the arm 8 of each switch member has a loop 9 that extends outwardly, or away from the opposite switch member, and the ends 10 and 11 of the loop are disposed divergently.

A connecting member 12 made of spring plate metal is shaped so as to have oppositely disposed divergent loops 13 capable of being compressed inwardly from their normal spaced relation. The said connecting member is fixed upon a longitudinally movable rod 14 which is loosely mounted in a supporting post 15 on the base.

An operating knob 16 is secured to the outer end of the rod 14, the shank 17 of which knob extends loosely through the wall plate. A compression spring 18 is disposed upon the rod 14 and bears oppositely against the post 15 and the inner end of the shank of the knob, whereby the rod 14 and the connecting member 12 fixed thereon are normally held in foremost position.

In utilizing the invention the conductors (not shown) of an electric circuit are connected respectively to the terminals 6, there being screws 6′ for their attachment thereto. By manually pressing the knob 16 so as to move the rod 14 inwardly, the connecting member 12 is correspondingly moved, and the loops 13 thereof engage the arms 8 of the contacting members, causing them to spread apart until the loops 13 are received between the divergent ends 10 and 11 of the corresponding loops 9 of the contact members. The force of the contact members with which they bear upon the loops of the connecting member, when the latter are engaged between the terminals of the loops 9, is sufficient to retain the connecting member in engaging position irrespective of the pressure of the spring 18, and thus when the switch is closed, it tends to remain closed until opened by the manual application of outward movement of the knob. A feature of the invention is that each loop of the contacting member, when the switch is closed, has electrical contact with each of the loop terminals of the corresponding contact member, and thus is assured intimate and adequate electrical contact between the connecting member and the contacting members.

What I claim is:—

1. An electric switch having a base; a pair of oppositely disposed contact members fixed upon the base and spaced apart, each member having a spring arm provided with a loop at its free end, the ends of which loop are divergent, and the arms of which members are disposed convergently with respect to each other, a longitudinally movable rod supported in connection with the base and

having a knob for actuating it; a connecting member on said rod having oppositely disposed loops that engage and spread the arms of said contact members as the switch is closed and being engageable between the ends of the loops of said contact members respectively and held thereby in closed position; and a compression spring tending to hold the connecting member in open position.

2. An electric switch having a pair of spaced contact members oppositely disposed, each member having a spring arm provided with a loop at its free end, the ends of which loop are divergent, and the arms of which members are disposed convergently with respect to each other; a movable connecting member having oppositely disposed loops that engage and spread apart the arms of said contact members as the switch is closed, and being engageable between the ends of the loops of said contact members respectively and held thereby in closed position; and means for actuating said connecting member.

3. An electric switch having a pair of spaced contact members, each having a spring arm provided with a loop at its free end, the ends of which loop are divergent, and the arms of which members are convergent with respect to each other; a movable connecting member having loops divergently disposed and which are compressible toward each other, which loops engage and spread apart the arms of said contact members as the switch is closed and are engaged and held by the loops of said contact members respectively; and means to actuate said connecting member.

4. An electric switch having a pair of spaced contact members, each having a spring arm, the arms of which members are convergent with respect to each other; a movable connecting member having spring loops divergently disposed and which are compressible toward each other, which loops engage and spread apart the arms of said contact members as the switch is closed and are engaged and held by said members respectively; and means to actuate said connecting member.

In testimony whereof I affix my signature.

LEO H. GOETZ.