

M. GUETT.
ELECTRIC SNAP SWITCH.
APPLICATION FILED FEB. 27, 1918.

1,280,018.

Patented Sept. 24, 1918.

Fig. 1.

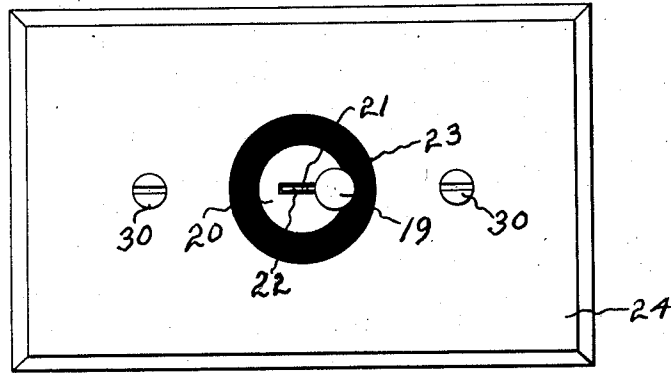


Fig. 2.

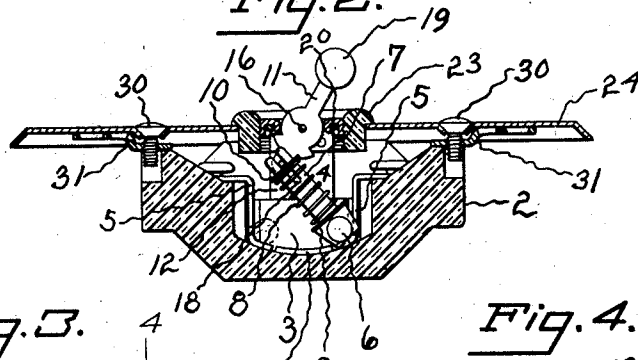


Fig. 3.

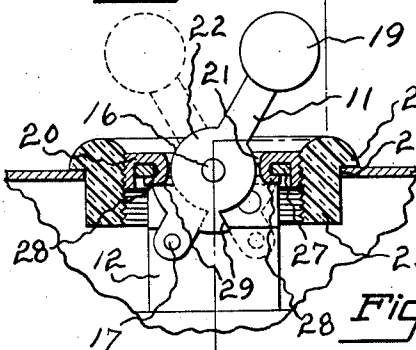


Fig. 4.

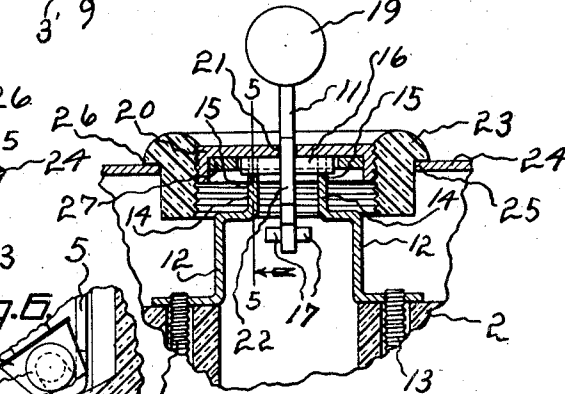


Fig. 5.

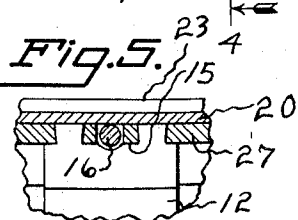
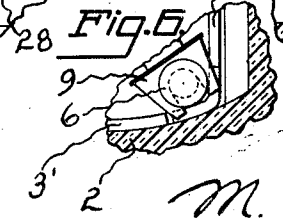


Fig. 6.



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UNITED STATES PATENT OFFICE.

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ELECTRIC SNAP-SWITCH.

1,280,018.

Specification of Letters Patent.

Patented Sept. 24, 1918.

Application filed February 27, 1918. Serial No. 219,355.

To all whom it may concern:

Be it known that I, MONROE GUETT, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electric Snap-Switches, of which the following is a specification.

This invention relates to electric snap switches, the object of the invention being to provide an article of this character by which the switching member can be readily and easily moved between the two positions thereof. Another object is to provide means of an effective character by which the actuating and switching means can be substantially mounted.

In the drawings accompanying and forming part of the present specification I have shown and will hereinafter describe in detail a structure comprising the invention. I am not necessarily restricted to this precise showing; I may depart therefrom in several particulars within the scope of the invention defined by the claims following said description.

Referring to said drawings:

Figure 1 is a face view of a switch involving the invention.

Fig. 2 is a longitudinal section of the same.

Fig. 3 is a sectional detail illustrating the actuator and its mounting and certain adjunctive elements, the former being in its two positions as shown by full and dotted lines respectively.

Fig. 4 is a section on the line 4—4 of Fig. 3, looking in the direction of the arrow.

Fig. 5 is a section on the line 5—5 of Fig. 4, looking in the direction of the arrow.

Fig. 6 is a sectional detail hereinafter more particularly described.

Like characters refer to like parts throughout the several views.

In a measure the invention involved hereby is along the same general lines as that set forth in Letters Patent No. 1,262,331, issued to me April 9, 1918. The present invention may be embodied in switches of various types; it is shown incorporated in a wall switch. A switch of this character com-

prises a body as 2 generally of some suitable insulating material and which is chambered as at 3 to inclose the switch mechanism. The switch mechanism involves a switching member such as 4 obviously located and movable in the chamber 3. The chamber 3 is provided with two sets or pairs of contacts 5 adapted to be alternately mechanically and electrically bridged by the working end of the switching member 4, said working end as shown being in the form of an anti-friction roller 6 which is assumed to be bridging the contacts 5 on the right in Fig. 2. The roller in moving between the on and the off positions travels upon the concaved or arcuate bead or fin 3' rising from the bottom or floor of the chamber 3, which is generally and as shown concaved. The upper sides of the two pairs of contacts 5 are flush with the upper side of the bead or fin 3' which as shown is integral with the body 2. The ends of said bead are spread short distances from the respective contacts 5.

The switching member 4 ordinarily comprises complementary sections 7. These complementary sections are surrounded by the coiled spring 8, the lower or inner end of which bears against shoulders as 9 on the sections 7, and the upper end of which receives a washer 10 slotted for the passage of the said sections 7. Generally speaking this form of switching member is not unlike that disclosed by the patent which I have already identified.

The actuator for the switching member is shown consisting of a lever or rocker as 11 fulcrumed between its ends upon a suitable support such as the duplicate brackets 12 rigidly fastened as by the screws 13 to the body 2, the screws engaging outturned feet on the brackets. The upper and upright bearing portions 14 of the brackets are as shown notched as at 15, the transversely aligned notches receiving the coaxial journal portions 16 of the actuator or lever 11. These coaxial journal portions may in fact be presented by a single pin. The lower end of the actuator is provided with duplicate and coaxial studs 17 which fit notches or slots as 18 in the upper or outer ends of the

complemental sections 7 between which, as will be understood, the lower end of said actuator comparatively freely fits. The lower extreme of the actuator bears against the washer 10, so that as the actuator is manipulated the spring 8 can be compressed to snap the switching member. The actuator has a manipulating portion as 19 practically of spherical or ball shape. I will hereinafter describe a way of maintaining at all times the journals or gudgeons 16 properly in their seats or notches 15.

In Fig. 2 the switching member is supposed to be in one of its extreme positions. To move it to the other extreme position the following procedure may be adopted: The manipulating portion 19 will be grasped for instance between the thumb and the fore finger and swung over, obviously thus rocking the actuator. On the movement of the actuator the studs or pins 17 following an arc carry the upper end of the switching member therewith and move the washer 10 downward, thus compressing the spring until at such time as the dead center line of the switching mechanism is crossed when the spring by reaction will instantly move the switching member to the off position, at which time the actuator will occupy the dotted line position shown in Fig. 3.

The journals 16 are surmounted by a cap or thimble 20, having an elongated slot 21 to receive the body portion 22 of the actuator 11, the journals 16 extending from this body portion which is approximately of flat circular form. The thimble or cap 20 is generally of metal, and it is threaded into the insulating ring 23, the face plate 24 having an opening 25 to receive the insulating ring which overlies the face plate as at 26. This latter structure I might observe is covered in my application Serial No. 213,444, filed January 24, 1918. The insulating ring 23 provides in addition to a means for insulating the cap, the further function of holding said cap in position so that it can effectively retain the journals 16 in their notches or seats 15. Lateral movement of the lever 11 is prevented by the ring 27 which fits closely within the flanged part of the thimble or cap 20, the inner wall of the ring being positioned in proximity to the outer ends of the journals for the purpose. This ring 27 can be held in position by the lugs or ears 28 hooked thereover and extending from the body of the cap or thimble 20. The ears or lugs 28 are stock cut therefrom in forming the slot 21. The practically circular body 22 of the lever 11 is furnished with the shoulders 29 which are adapted to alternately engage the lugs 28 as shown for instance by full and dotted lines in Fig. 3 to thus positively arrest the lever 11 and consequently the switching member 4 when the

latter is in its extreme positions and when the switching member 4 is in its on and off positions respectively.

The face plate 24 to which I have referred may be connected as by the screws 30 with the bars 31 united as is more or less common with the insulating body 2.

What I claim is:

1. An electric switch comprising a supporting body having a concavity, a swinging switching member having an anti-friction roller at its free end, the body having contacts to be engaged by said roller, a swinging actuator for causing the operation of the switching member and spring means carried by the switching member and tensioned by the actuator on the initial movement thereof and then released thereby on the further movement of the actuator, said spring means when released serving to snap the switching member, the bottom of said concavity having an arcuate bead to be traversed by said roller when it passes from said contacts.

2. An electric switch comprising a supporting body having a concavity, a swinging switching member having a roller at its free end, the body having two sets of contacts to be alternately engaged by the roller, a swinging actuator for causing the operation of the switching member, and spring means tensioned by the actuator on the initial movement thereof and then released thereby on the further movement of the actuator, the spring means when released acting to snap the switching member to carry said roller from one set of contacts to the other, the switching member engaging a relatively fixed part of the switch to arrest said switching member in its two positions, the bottom of the cavity having an arcuate bead between the two pairs of contacts, to be traversed by said roller in moving between the contacts.

3. An electric switch comprising a body, bearings on the body having notches, a rocking actuator provided with journals, the notches of the bearings receiving said journals, a face plate on the body, an insulating ring set in the face plate, a thimble in the ring slotted to receive the actuator and holding the journals in said notches, and switching mechanism operable by the actuator.

4. An electric switch comprising a body, bearings on the body having notches, a rocking actuator provided with journals fitting said notches, a face plate associated with the body, an insulating ring set in the face plate, a thimble in the ring slotted to receive the actuator and holding the journals in said notches, a washer fitted within the thimble and surrounding the journals to limit endwise movement thereof, and switching mechanism operable by the actuator.

5. An electric switch comprising a supporting body having a concavity provided with a bead, contacts at the end of the bead, a switching member to traverse the concavity, and means for moving the switching member from the contacts onto the bead and vice versa.

In testimony whereof I affix my signature in the presence of two witnesses.

MONROE GUETT.

Witnesses:

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MADELINE E. M. MUSSGNUG.