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ROTARY-KEY SNAP-SWITCH MECHANISM.


To all whom it may concern:
Be it known that I, IRA R. SELTZER, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Rotary-Key Snap-Switch Mechanism; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Fig. 1 a view in side elevation of a key-socket provided with my improved rotary-key snap-switch mechanism.
Fig. 2 a reverse, plan view thereof on an enlarged scale.
Fig. 3 a plan view, on the same scale, with the cap removed.
Fig. 4 a view in vertical, central section on the line 4—4 of Fig. 2.
Fig. 5 a detached, perspective view, on the same scale, of the switch-frame.
Fig. 6 a corresponding view of the actuator of the switch-mechanism.
Fig. 7 a broken view of the crank-end of the key-stem.
Fig. 8 a detached, perspective view of the link employed to connect the actuator with the crank.

My invention relates to an improved, rotary-key snap-switch, the object being to produce a compact, durable and reliable snap-switch mechanism operated by a key turning in either direction, for use in situations where a key-controlled switch is desirable.

With these ends in view, my invention consists in a rotary-key snap-switch having certain details of construction and combinations of parts as will be hereinafter described and particularly pointed out in the claims.

In carrying out my invention, as herein shown, I employ a box-like switch-frame 10 having, in its side walls, oppositely-located bearings 11 and 12, the former being in the form of a notch for assembly purposes. These bearings provide for mounting the stem 13 of a rotary-key 14, the said stem being shaped to form a crank 15, which is located between the side walls of the said frame and has clasped around it the loop 16 of a link 17, the opposite end of which is formed with a hook 18 which is engaged with a transverse bar 19 formed near the lower end of the actuator 20 of the switch-mechanism proper, the said actuator having rocking movement upon a pivot 21 formed upon the arm 22 of the frame. At its upper end the said actuator is provided with a stop-finger 23, and enters a notch 24 between the contact-ears 25 of a contact-member 26, which is furnished with an arm 27 encircled by a helical spring 28, and extended at its outer end through a hole 29 in the switch-frame 10, so as to ride back and forth and rock therein. As the said actuator is rocked back and forth upon the pivot 22 by means of the link 17, which is moved back and forth by the turning of the key 14 in either direction, the contact-member of the switch is carried above or below a line connecting the pivot 21 and the hole 29, the said member being thrown into its depressed or circuit-closing position or lifted into elevated or circuit-breaking position by the said spring. When the contact-member is thrown into its depressed position, its contact-ears engage with contact-springs 30 and 31, respectively located on opposite sides of the switch-frame 10, and having appropriate terminal connections of such a character that an electrical circuit will be closed between them by the contact-member when so depressed.

As shown, the frame 10 is secured by screws 32 in a porcelain socket having a body 33 and cap 34, the said body being chambered for the reception of a screw-shell 35 and a center-contact 36, respectively located in the circuit which is made and broken by the oscillation of the contact-member of the switch-mechanism, as already described.

While I have shown my improved mechanism as applied to a key-socket, it is obvious that it may be used in other snap-switch applications where a key-control is desirable. I am aware that snap-switch mechanisms, of the character to which my invention relates, are commonly operated by rotary keys, usually through the medium of cams, and claim no such construction broadly.

I claim:
1. In a rotary-key snap-switch mechanism, the combination with a switch-frame,
of an actuator mounted therein, a contact-member operated by the actuator, a crank, a key for operating the same, and a link positively connecting the crank with the actuator which it alternately pushes and pulls.

2. In a rotary-key snap-switch mechanism, the combination with a switch-frame therefor, of a contact-member, an actuator therefor, a crank mounted in said frame, a key for the operation of the crank, a link positively connecting the said crank with the actuator for the operation of the same by alternately pushing and pulling it when the crank is turned in either direction by the key, and a spring for holding the contact-member in its circuit-breaking and circuit-closing positions respectively.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

IRA R. SELTZER.

Witnesses:
HILDA R. BROOKS,
MINNIE M. SWANSON.