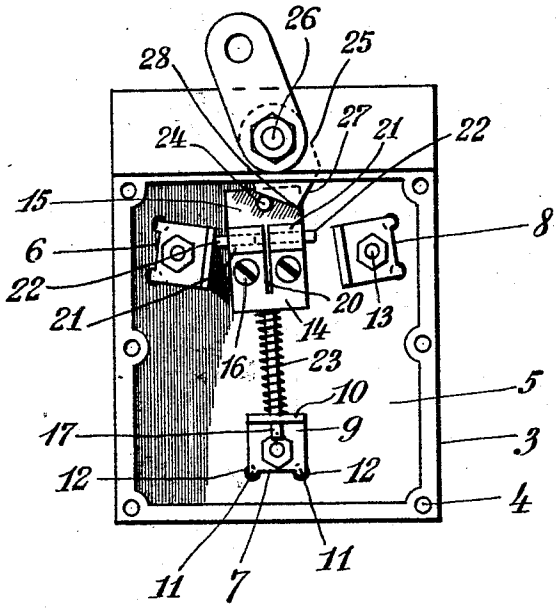
June 16, 1931. G. H. JOHANSON 1,810,314

SNAP SWITCH

Filed Jan. 19, 1929

FIG. 1



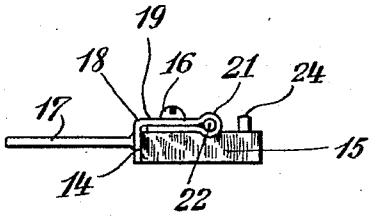




FIG. 2

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Patented June 16, 1931 1,810,314

# UNITED STATES PATENT OFFICE

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## SNAP SWITCH

Application filed January 19, 1929. Serial No. 333,721.

This invention relates to improvements in snap switches of the type in which a movable contact member is caused to make and break contacts with two fixed contact members and to snap quickly from one member to the other member.

The object of the invention is to provide a generally improved snap switch embodying certain refinements and novel features of construction whereby to obtain a superior type of snap switch of highly efficient construction and operation.

With these objects in view the invention is embodied in a snap switch arranged and constructed as hereinafter set forth and as illustrated in the accompanying drawings in which

Figure 1 is a plan view of a snap switch embodying the invention with parts omitted.

Figure 2 is a detail view of the movable contact member.

The switch mechanism is contained within a box 3 of nonconducting material. The sides of the box have holes 4 adapted to receive screws for mounting a cover, not shown. On the bottom 5 or back of the box there are mounted three switch terminals 6, 7 and 8 which are identical in size and shape, so the description of one of them will suffice. Each terminal consists of a piece of metal bent at right angles to form a base 9 and an upright contact member 10. Each base is provided with prongs 11 bent towards the box bottom 5 and seated in small recesses 12 therein whereby each terminal may be accurately positioned, and is prevented from rotating when the usual terminal bolts or screws 13 are tightened as is obvious. It will further be understood that wires are secured to the terminal bolts on the back of the box and not shown.

The terminals 6 and 8 are placed in an inclined position with respect to the longitudinal axis of the switch.

A movable contact member is arranged to be operated between the two terminals 6 and 8 to make and break the circuit between each of these terminals and the terminal 7. The movable contact member consists of a contact piece 14 which is secured to a nonconducting block 15 by means of two screws 16, 16. The contact piece has a stem 17 and is bent angularly as at 18 to fit the block. The horizontal portion 19 of the contact piece is split as at 20 to form two resilient jaws or bearings 21, 21 each of which is adapted to grip and hold a contact pin 22. The screws 16 pass through the two arms of the jaws and when the screws are screwed down tight, the jaws grip the contact pins 22 firmly.

The stem 17 passes through a hole in the terminal 7. A spring 23 surrounds the stem between the terminal 7 and the movable contact piece 14. The latter carries a pin 24 in the block 15 and the spring keeps the pin 24 in contact with an operating lever 25 which is pivoted at 26 on the box. The lever 25 has inclined cam surfaces 27 against which the pin 24 slides.

It will be seen from the drawing that as the operating lever 25 is oscillated on its pivot, the cam surfaces 27 force the pin 24 and the contact member towards the terminal 7 until the point 28 on the lever 25 moves past the pin 24 when the contact member will move from engagement with the terminal 6 and snap over into engagement with the terminal 8 and vice versa.

It will be noted that due to the inclined position of the terminals 6 and 8, the contact pins 22 will slide easily along the contacts 10 thereof in engagement therewith until the point 28 passes the pin 24 and the movable contact member snaps over into its other extreme position. There is therefore an easy wiping action of the pins 22 against their respective contacts 10 of the terminals 6 and 8. It has also been found that this construction assists in preventing sparking and decreasing wear.

When the contact pins 22 become worn or otherwise require adjustment, the screws 16 are loosened and the pins may then be adjusted in their respective jaws.

A snap switch as herein disclosed is neat in appearance, positive in operation and embodies the necessary structural novel features to insure efficiency and long life. It

also provides for necessary or desirable adjustment of parts.

I claim:

In a snap switch of the character described, three fixed terminals, each of said terminals forming a base and an integral upright contact member, a movable switch member supported on one of said terminals and adapated to engage either of the two other terminals, said movable switch member comprising a contact piece bent to form two jaws, contact pins in said jaws, a non-conducting block, screws for securing said bent contact piece to the said block and for adjustably clamping the contact pins in the said jaws, a stem in said bent contact piece passing through a hole in the upright portion of the said one contact member in slidable and swingable relation thereto, a spring surrounding said stem between the bent contact piece and the said one terminal, a pin in said block and a lever adapted to engage said pin for operating the said movable contact member.

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