Jan. 16, 1934. F. TAUBNER 1,943,493

ELECTRIC SWITCH

Filed March 23, 1929

Fig. 1.

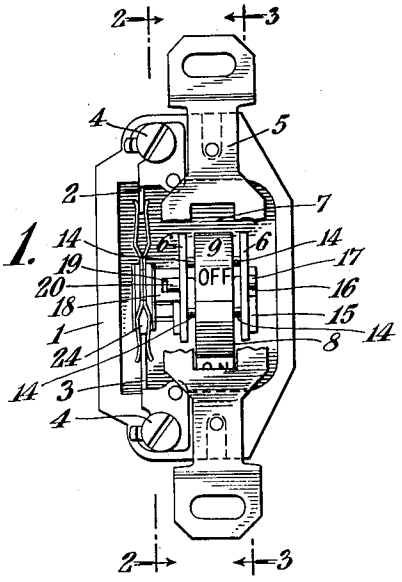


Fig. 2.

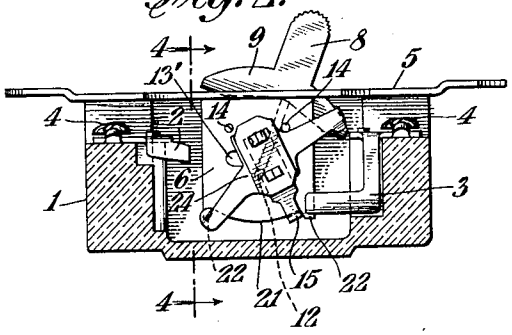


Fig. 3.

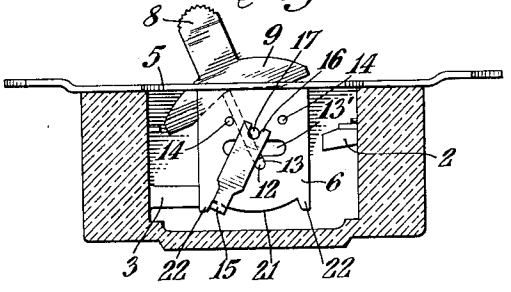
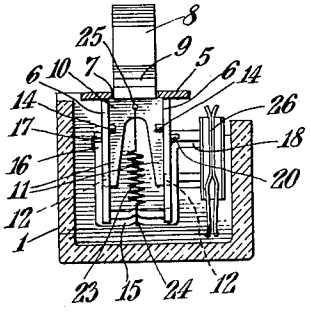


Fig. 4.



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ELECTRIC SWITCH

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Application March 23, 1929. Serial No. 349,298

2 Claims. (Cl. 200—67)

This invention relates to an electric snap switch in which a spring under tension opens and closes the circuit with a snap action.

The invention will be understood from the description in connection with the accompanying drawing in which Fig. 1 is a plan view of the device with parts broken away; Fig. 2 is a section taken along the line 2—2 of Fig. 1; Fig. 3 is a section taken along the line 3—3 of Fig. 1; and Fig. 4 is a section taken along the line 4—4 of Fig. 2.

In the drawing reference character 1 indicates a housing or box that may be made of insulating material such as porcelain, for example. Terminals or switch contacts 2 and 3 are mounted on the box in position to be contacted by a switch member. The usual binding screws 4 for the electric wires are connected to the terminals 2 and 3.

A metal plate 5 of a well known type is attached to the top of the housing 1 and is provided with the usual openings for screws to hold the housing in place, as well as a cover for the device. Spaced parallel metallic side plates 6 are rigidly connected, as by riveting, at their upper ends to the lower side of the plate 5. A switch operating member and also a switch carrying member are pivoted on the side plates 6. The switch operating member is provided with a handle 8 and with an arcuate portion 9 which can be moved back and forth in the slot 7 in the plate 5.

A metal plate 10 is securely attached to the lower side of the arcuate portion 9 and is of substantially the same width as the distance between the plates 6. The plate 10 is bifurcated at its lower end to provide legs 11. Projections 12 extend outwardly at the lower ends of the legs 11 and are seated in holes 13 in the plates 6 to enable the plate 10 to be tilted back and forth by means of the handle 8. The holes 13 in the plates 6 communicate at their upper edges with transverse slots 13' in the plates 6. Inwardly extending pins 14 are provided near the upper portions of the plates 6 to operate as stops to limit the extent of motion of the plate 10.

A U-shaped switch carrying member 15, made of flat metal, has the end of one of its arms terminating in a slot 16 into which slot a pin 17 on the outside of one of the plates 6 projects. The other arm of the U-shaped member 15 is bent outwardly, as shown at 18, and the bent portion is provided with a slot or opening 19 into which the pin 20 on the other plate 6 projects. The U-shaped member 15 is thus pivoted on the pins 17 and 20.

The lower ends 21 of the plates 6 are rounded along the arc of a circle whose radius is equal to the length of the arms of the U-shaped member 15, and lugs or stops 22 are provided at the edges of the plates 6 to limit the travel of the member 15.

A tension spring 23 has one of its ends connected to the cross portion of the U-shaped member 15, as shown at 24, and has its other end connected in an opening 25 near the upper end of the plate 10.

A switch 26 that may be made up of two thin pieces of metal side by side is connected to the extension 18 of the switch carrying member 15 so as to be insulated therefrom in any of the well known ways. The ends of the metal pieces of the switch 26 are slightly separated in order to permit them to come into sliding contact with the sides of the contacts 2 and 3 when the switch is in the closed position.

The operation is as follows:

Assuming the parts are in the position indicated in Fig. 2, the electric circuit is broken and the spring 23 holds the member 15 in contact with the lugs 22 on the right hand side. When the arm 8 is moved to the left a sufficient distance to carry the upper end of the spring 23 into such a position that the spring lies along a line to the left of the pins 17 and 20, the member 15 is snapped to the left to come into contact with the other stops 22, carrying the switch member 26 into the closing position with its ends contacting with the contacts 2 and 3. The switch is opened in a similar way by moving the handle 8 in the other direction.

I claim:

1. In a snap switch, parallel plates, a switch operating member pivoted on said plates, a U-shaped switch carrying member, pins on said plates upon which said U-shaped member is pivoted, said U-shaped member having one arm bent outwardly with a slot in the bend for one of said pins, and a tension spring connecting said switch operating member and said switch carrying member.

2. In a snap switch, parallel plates, a switch operating member pivoted on said plates, a U-shaped switch carrying member, pins on said plates upon which said U-shaped member is pivoted, said U-shaped member having one arm bent outwardly with a slot in the bend for one of said pins and a slot in the end of the other arm for another pin, and a tension spring connecting said switch operating member and said switch carrying member.

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