Dec. 27, 1932. H. PRAGER 1,892,537

ELECTRIC SNAP SWITCH

Filed May 12, 1932

Fig. 1.

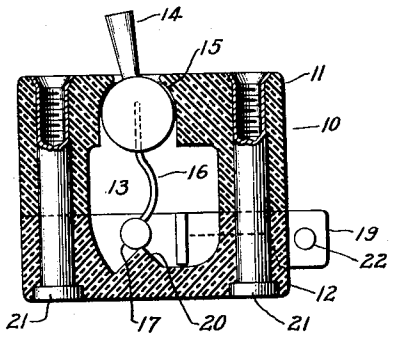
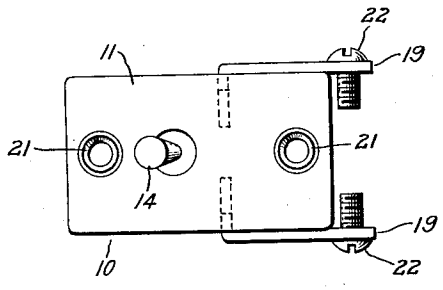


Fig. 2.



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UNITED STATES PATENT OFFICE

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ELECTRIC SNAP SWITCH

Application filed May 12, 1932, Serial No. 610,926, and in Germany May 11, 1931.

My invention relates to an electric snap switch.

The object of my invention is to provide an improved switch of the tumbler type which will consist of a few parts so constructed that they may be readily assembled together and in which no special means of securing the switch mechanism to the casing is required, it being held in position by means of the positioning of the switch handle in an opening provided in the casing. Another object of my invention is to provide such a switch which may be made very small by reason of the fact that little space is required for the housing of the mechanism, it being necessary to make the switch only sufficiently large to provide the necessary clearances for the voltages used.

What I consider to be novel and my invention will be better understood by reference to the following specification and appended claims when considered in connection with the accompanying drawing.

In the drawing, Fig. 1 is a sectional view of the switch; Fig. 2 is a plan view of the switch.

In the drawing, Fig. 1, 10 indicates a casing of insulating material having a top part 11 and a lower part 12 provided with registering openings forming a central chamber 13 in which the switching mechanism is adapted to be located. A switch handle 14 is provided and pivoted in an opening 15 formed in the top 11 of the casing 10 which communicates with the central chamber or opening 13. A strip steel spring or leaf spring 16 is secured to the switch handle 14 and projects within the central chamber 13. A contact 17 in the form of a roller is carried by the free end of the spring 16. Stationary contacts 19 are secured between the top part 11 and the lower part 12 in a recess provided in the lower part 12 of the casing 10 and project into the central chamber or opening 13. A projection 20 is provided in the bottom of the chamber 13 in the path of movement of the contact 17. When the switch handle 14 is moved from right to left the contact 17 rides up on this projection and the spring 16 is flexed. When the contact 17 reaches the top of the projection 20 the spring causes it to move with a snap action to the lowest point on the opposite side of the projection and into engagement with the stationary contacts 19. The contact 17, as shown in Fig. 1, is at about the highest point of the projection 20 and is about to move into engagement with stationary contacts 19 located adjacent the lowest point of the projection. The projection 20 with the sharply inclined sides terminating in a sharp edge at the highest point has the advantage of increasing the rapidity of the engagement and separation of the movable or bridging contact 17 and the stationary contacts 19 to thus reduce the duration of any arc drawn on the engagement or separation of the contacts.

By the arrangement of the casing and switch mechanism with the switch handle being merely pivoted in the opening provided by the casing, no special means are required to secure the switch handle in position nor to hold the switch mechanism or operating mechanism. This greatly facilitates the manufacture and assembly of the switch, the switch handle, spring and contact being secured together and placed in position in the casing merely by inserting the switch handle in the opening in the upper part of the casing before it is secured to the lower part. The two parts of the casing are secured together by hollow rivets 21. The hollow rivets are provided with internal threads to accommodate screws to secure the switch to the plate or bar not shown. The stationary contacts 19 are provided with binding screws 22 for the connection of electrical conductors. The number of different parts required by this construction is a minimum and thus reduces the size of the switch necessary for the accommodation of the different parts of the mechanism. By this arrangement a very small switch can be used to accomplish the results obtained heretofore by the use of a switch considerably larger.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. In an electric switch, a casing of insulating material having a central chamber, a switch handle seated in an opening formed

in said casing, a spring secured to the switch handle and projecting into the central chamber of the casing, a movable contact carried by the free end of said spring, a stationary contact secured to the casing, and a projection from the bottom of the central chamber in the path of movement of the movable contact to cause the spring to be flexed to move the contact with a snap action when the switch handle is moved.

2. In an electric switch, a casing of insulating material having a central chamber, a switch handle seated in an opening in said casing, a spring attached to said handle and projecting within the central chamber of said casing, a movable contact carried by the free end of said spring, stationary contacts secured to the casing, and a projection located at the bottom of the central chamber in the path of movement of the movable contact and having a sharp edge between the two extreme positions of the movable contact to flex the spring when the switch handle is moved from one position to another and to move the movable contact with a snap action into and out of engagement with the stationary contacts.

3. In an electric switch, a casing of insulating material having two parts enclosing a central chamber, an opening in one part communicating with the chamber, a switch handle seated in said opening, a leaf spring secured to the switch handle, a movable contact carried by the free end of the spring, stationary contacts secured to the casing, and a projection in the bottom of the chamber located in the path of movement of the movable contact to flex the spring and cause the contact to move with a snap action into or out of engagement with the stationary contacts when the switch handle is moved from one position to another.

In witness whereof, I have hereunto set my hand.

HANS PRAGER.