

F. C. DE REAMER.
SNAP SWITCH.
APPLICATION FILED JULY 17, 1908.

1,022,536.

Patented Apr. 9, 1912.

Fig. 1.

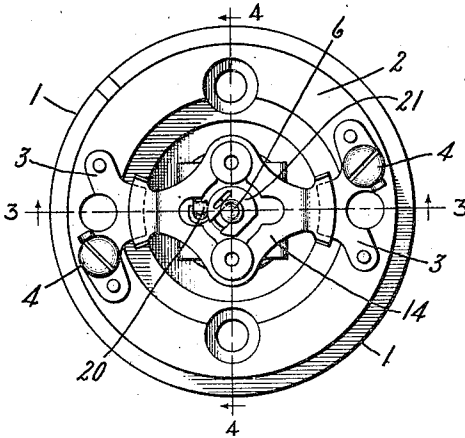


Fig. 2.

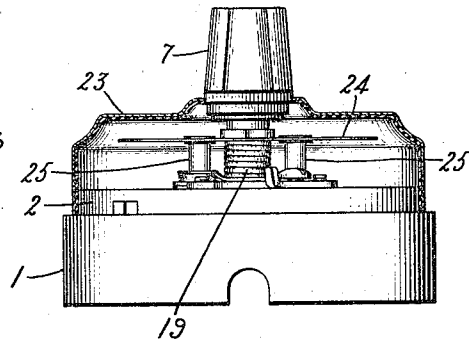


Fig. 3.

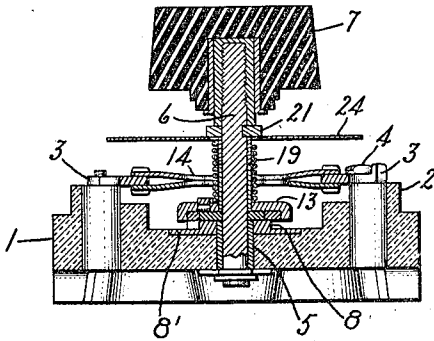


Fig. 4.

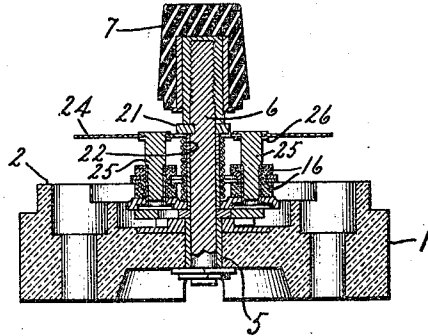


Fig. 5.

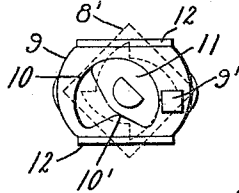


Fig. 7.

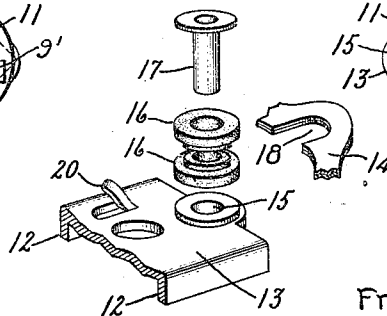
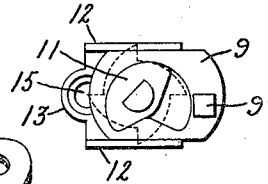


Fig. 6.



Witnesses:

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by *Allen H. Brown*
Att'y.

UNITED STATES PATENT OFFICE.

FRANK C. DE REAMER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

SNAP-SWITCH.

1,022,536.

Specification of Letters Patent.

Patented Apr. 9, 1912.

Application filed July 17, 1908. Serial No. 443,967.

To all whom it may concern:

Be it known that I, FRANK C. DE REAMER, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Snap-Switches, of which the following is a specification.

This invention relates to switches for opening and closing electric circuits, and especially those which have a quick-break or "snap" action.

The object of the invention is to improve certain details of the construction of such a switch as will appear fully from the following description and claims, taken in connection with the accompanying drawing, in which—

Figure 1 is a top plan view with the knob and cover removed; Fig. 2 is a side elevation, with the cover in section; Figs. 3 and 4 are diametrical sections on the lines 3-3', 4-4', respectively, of Fig. 1; Figs. 5 and 6 are plan views of the catch-plate and its actuating cam, in two positions; and Fig. 7 is an exploded view of the mounting of the switch blade.

The base 1 is of molded insulation and has an elevated rim 2 on which are secured the stationary contacts 3, each having a binding screw 4 whose axis is perpendicular to said rim, so that it can be manipulated from the front of the switch by a screw driver held perpendicular to the plane of the base. This is a matter of great convenience when the switch is located in a corner or close to a deep molding.

At the center of the base is a bushing 5 in which is journaled the spindle 6 having a knob 7 screwed on its upper end. Concentric with the spindle is the stationary ratchet-plate 8 having a polygonal foot 8' fitted into a recess in the base, which prevents said plate from turning. Immediately above the ratchet-plate is the catch-plate 9 having a downwardly projecting lug or catch 9' adapted to coöperate with the teeth of the ratchet. In said catch-plate is an opening, having a circular outline 10 for some 250 degrees of arc, struck from a center eccentric to the spindle; the remainder of its outline being a reëntrant angle 10' extending well in toward the center. In this opening is located a cam 11 having a circular periphery covering some 160 degrees of arc. Said cam lies in the plane of

the catch-plate and is secured to the spindle, preferably by flattening said spindle to fit a nearly semicircular hole in the cam whose circular edge is concentric with the spindle. The catch-plate is fitted to slide between flanges 12 on a guide-plate 13 which is loosely pivoted on the spindle and carries the two-armed switch-blade 14 which coöperates with the contacts 3. The mode of mounting this blade is shown in Figs. 4 and 7. On opposite sides of the guide-plate are holes 15 countersunk on the under side. Resting on the plate in line with each hole are two superposed washers 16 of insulation each having a rabbet; the rabbeted portions being in contact. Through the washers and the hole in the plate passes a tubular rivet 17.

The switch blade 14 is preferably composed of two superposed plates having a large central opening, at opposite sides of which are semicircular notches 18, of a diameter equal to that of the rabbeted portions of the washers. After said washers are assembled on the tubular rivet, they are slipped laterally into the notch 18. The holes 15 in the guide-plate are then engaged with the projecting ends of the rivets, which are then headed down in the countersinks in the under side of said plate. In this way, the blade is securely attached to the guide-plate and insulated therefrom. The assembling of the washers, rivets and blades is easily and quickly accomplished. The two portions of the switch-blades pass respectively above and below the stationary contacts 3, as clearly shown in Fig. 3, thereby insuring a good electrical connection. A helical spring 19 encircles the spindle and is attached at one end to a lug 20 on the guide-plate, and at the other end to a U-shaped collar 21 forced transversely upon a flattened portion of the spindle. A brass bushing 22 may be interposed between the spring and the spindle. The cover 23 which incloses the parts may be continuous; or it may have an opening therein to disclose a dial 24 bearing the words, "On", "Off". This dial is an annular disk of sheet metal having on its under side two pins 25, which enter the tubular rivets 17. Each pin has a collar 26 which abuts against the under side of the disk, and its upper end is headed down upon the upper side of said disk. The dial thus made can be mounted by simply

dropping the pins into the tubular rivets 17 which secure the blade to the guide plate. In this way, an indicating switch can be made from a non-indicating switch without the necessity of using any tools to take it apart.

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

1. In a snap switch, the combination with 10 the guide-plate, of oppositely rabbeted washers of insulation resting thereon, a switch blade of two counterpart spring members having an opening provided with lateral notches engaging the rabbeted portions of said washers, and tubular rivets 15 for fastening together said plate, washers and the members of the switch blade.
2. In a snap switch, the combination with the guide-plate, of washers of insulation

resting thereon, a switch-blade having an opening provided with lateral notches engaging said washers, tubular rivets securing together said washers, blade and plate, and a dial having pins entering said tubular rivets. 25

3. In a snap switch, the combination with a switch-blade, of rabbeted washers of insulation engaging said blade, tubular rivets by which said washers are mounted, and a dial having pins detachably inserted in said rivets. 30

In witness whereof I have hereunto set my hand this 16th day of July, 1908.

FRANK C. DE REAMER.

Witnesses:

BENJAMIN B. HULL,
HELEN ORFORD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."