J. G. PETERSON.

SNAP SWITCH HANDLE ATTACHMENT.

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978,933.

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FIG. 1.

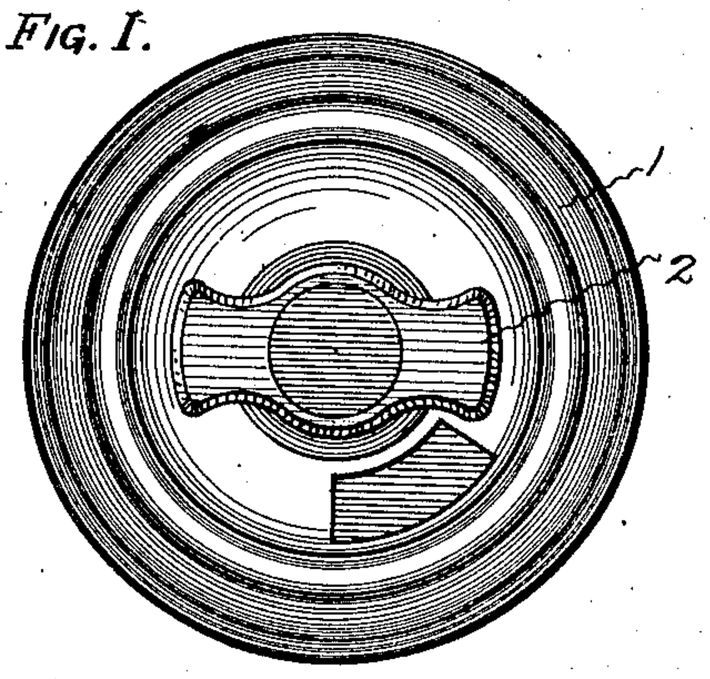


FIG. 3.

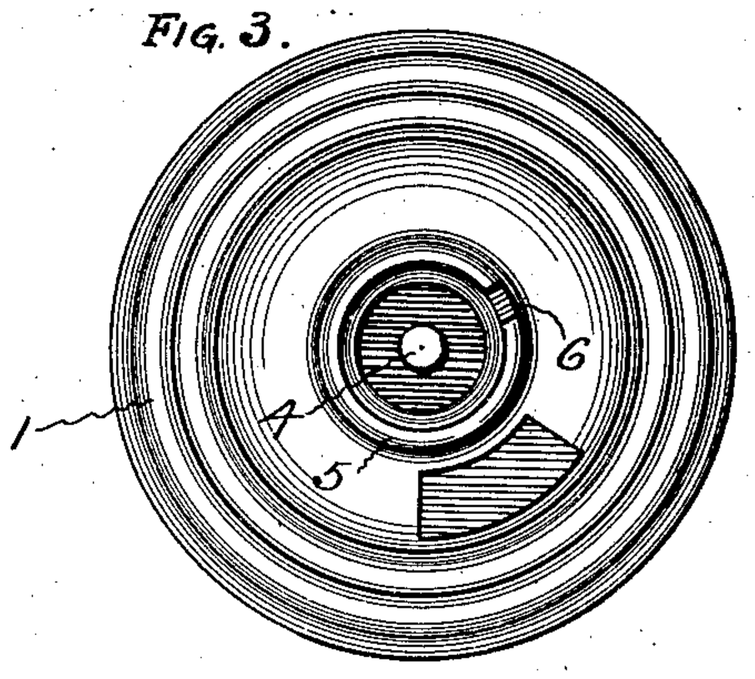


FIG. 2.

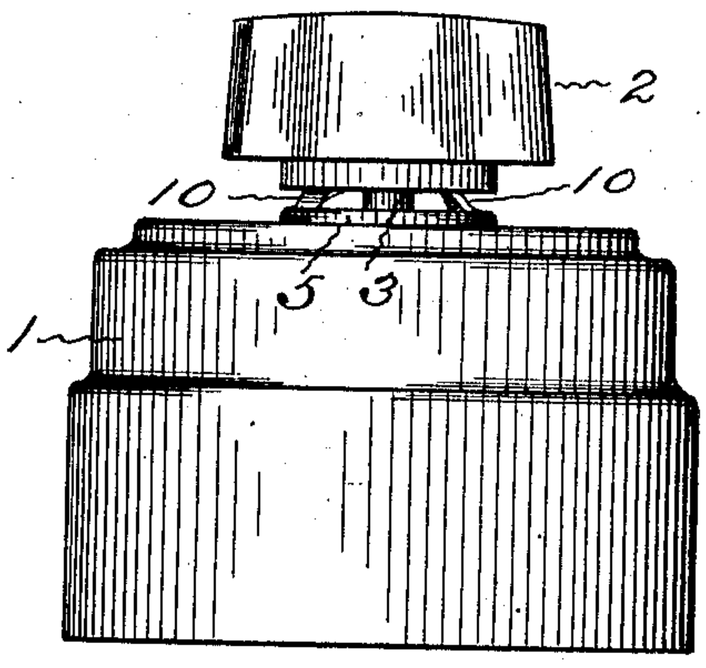


FIG. 4.

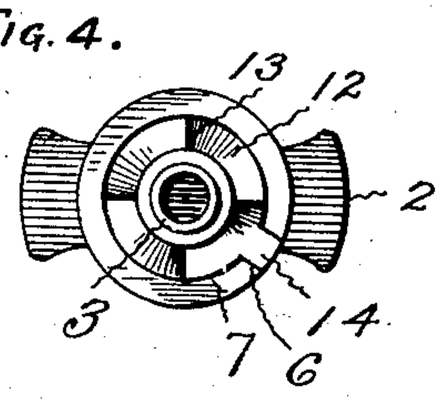


FIG. 5.

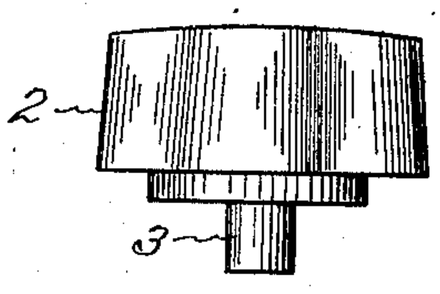


FIG. 6.

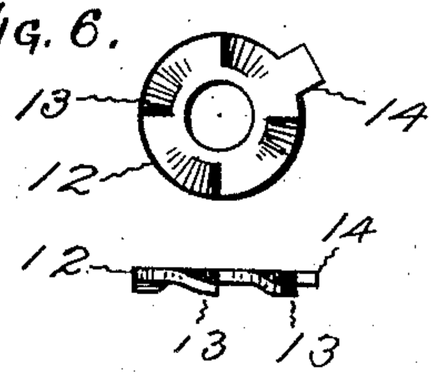
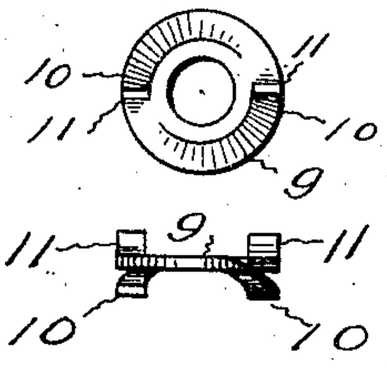
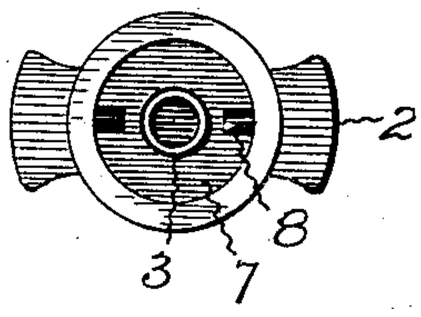


FIG. 7.





WITNESSES.

Josephine M. Strempfer.

Chas. G. Small.

INVENTOR.

Johann G. Peterson by

Harry P. Williams,

atty.

UNITED STATES PATENT OFFICE.

JOHANN G. PETERSON, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE ARROW ELECTRIC COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

SNAP-SWITCH HANDLE ATTACHMENT.

978,933. Specification of Letters Patent. **Patented Dec. 20, 1910.**

Application filed September 3, 1910. Serial No. 580,453.

To all whom it may concern:

Be it known that I, JOHANN G. PETERSON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Snap-Switch Handle Attachments, of which the following is a specification.

This invention relates to a means for attaching handles to rotary snap electric switches. Such switches usually have a metallic or porcelain cap that incloses the mechanism and that is held on by means of the handle. The handle is ordinarily provided with a stem which is interiorly threaded and that screws upon the spindle of the operating mechanism after the cap has been placed over the mechanism. Yielding means, such as springs in the handles, or springs or washers between the handles and the caps have been provided for holding the cover firmly in position after the handle has been screwed down the desired degree. In some places and under certain conditions, due to vibration and other causes, the handles turn backwardly and work loose and free the caps.

The object of this invention is to provide a very simple and cheap yielding means between the handle and the cap of such a switch, which means, while permitting the handle to be readily screwed upon the spindle as usual, so engages with the parts that the handle when once turned down to the proper position for operating the switch and holding the cap in place, cannot accidentally turn backward, in fact cannot be turned backward until the yielding means between the handle and the cap is properly manipulated, which however, can be readily accomplished.

Figure 1 of the accompanying drawings shows a plan of a rotary snap electric switch provided with a handle attachment which embodies this invention. Fig. 2 shows a side elevation of the same. Fig. 3 shows a plan of the switch with the handle removed. Fig. 4 shows the underside of the handle. Fig. 5 shows a side and a bottom plan of the handle without the means which prevents the handle from turning backward, and which holds the cap tightly in position. Fig. 6 shows a plan and an edge view of one of the spring washers that makes up the means which is placed between the handle and the cap for preventing the former from turning backward, and the latter from becoming loose. Fig. 7 shows a plan and an edge view of the other spring washer which forms a part of the said handle retaining and cap holding means.

The switch illustrated in the drawings has a metallic cap 1, which covers all of the mechanism. The handle 2 is made of insulation in the usual form, and as common, has a stem 3 which is designed to be screwed upon the end of the operating spindle 4. The top of the cap, near the center, has a raised ring 5. At one locality in this ring is a depression 6. In the underside of the handle is a recess 7 in the bottom of which are two notches 8. In the recess in the handle and surrounding the stem is a washer 9. This washer is slitted and two of its ends are turned down to form spring fingers 10. The edges of this washer, adjacent to the ends of the spring fingers, are turned up to form lugs 11. These lugs are designed to project into the notches in the bottom of the recess in the handle so that the washer will turn with the handle. Below the handle washer is a washer 12. This washer is also slitted and adjacent to the slits is turned up to form teeth 13 that extend toward the handle washer. A lug 14 projects radially outward from this washer and is designed, when the handle is screwed upon the spindle of the switch, to project into the depression in the raised ring on the upper face of the cap, so that this washer will be held from rotation by the cap.

When the handle is screwed upon the spindle in proper position to operate the switch, the lug 14 on the cap washer extends into and is held from rotation by the depression in the top of the cap. The lugs 11, which project from the handle washer into the notches 8 in the bottom of the recess of the handle, cause that washer to turn with the handle. As the handle is turned for throwing the switch, the spring fingers of the handle washer slide over the teeth of the cap washer as a pawl moves over a ratchet. Any attempt to turn the handle backward causes the ends of the spring fingers of the handle washer to engage the teeth of the cap washer and hold the parts so that the handle cannot be turned backward. With this construction, the handle is quickly screwed upon the spindle in the usual way, the lugs of the han-

dle washer entering their notches, and the lug of the cap washer entering its depression. The spring fingers thrusting between the handle and the cap washer hold the cap firmly in place. In order to remove the handle, it is only necessary, with the thumb nail or other means to lift the lug of the cap washer from its depression, and then to turn the handle backward. However, until this is done, the handle is securely held against any accidental or undesired backward movement.

The invention claimed is:

1. The combination with the cap and handle of a rotary snap electric switch, of a washer with spring fingers rotatable with the handle, and a washer with ratchet teeth held from rotation by the cap.

2. The combination with the cap and handle of a rotary snap electric switch, of a washer with lugs extending into the handle and spring fingers projecting from the handle, and a washer with a lug engaging the cap and ratchet teeth projecting from the cap.

3. The combination with the cap and handle of a rotary snap electric switch, of a washer inserted in a recess in the handle, said washer having lugs projecting into notches in the bottom of said recess, and a washer with a lug projecting into a depression in the top of the cap and ratchet teeth extending upward from said washer toward the spring fingers of the first mentioned washer.

JOHANN G. PETERSON.

Witnesses:
HARRY R. WILLIAMS,
JOSEPHINE M. STREMPFER.