J. G. PETERSON.

ELECTRIC SWITCH.

APPLICATION FILED DEC. 17, 1907.

908,323.

Patented Dec. 29, 1908.

Fig. 1

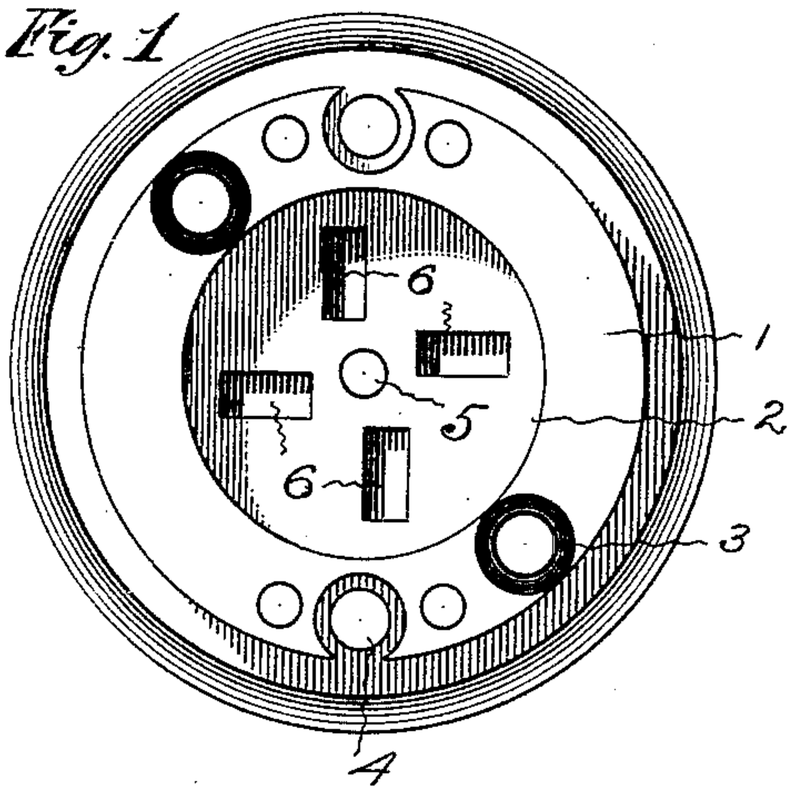


Fig. 2

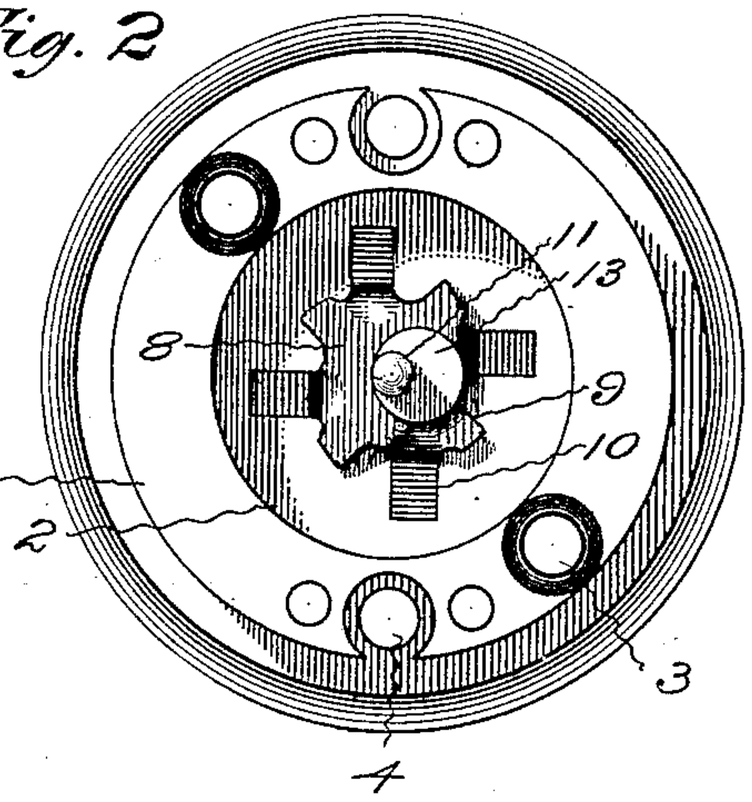


Fig. 3

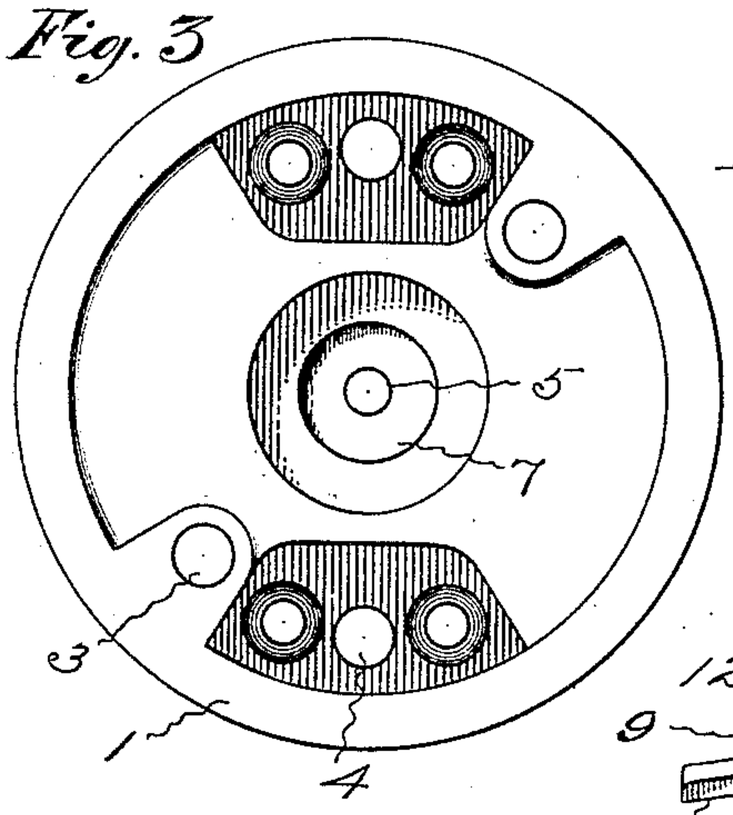


Fig. 5

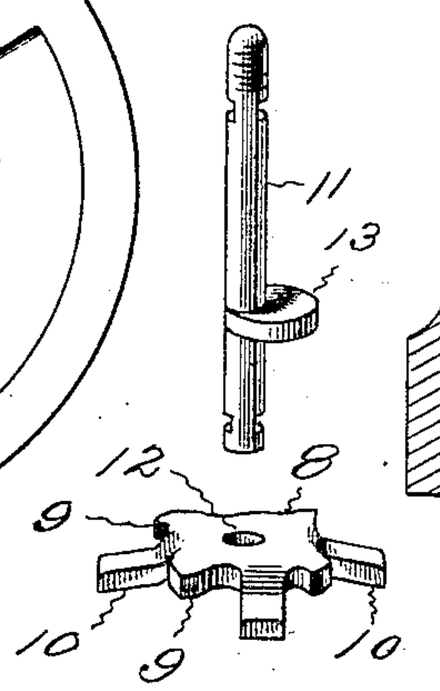
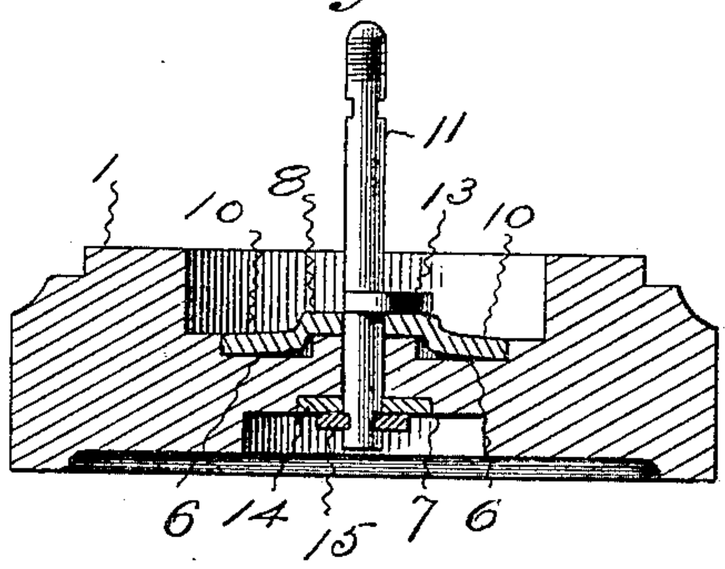


Fig. 4



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UNITED STATES PATENT OFFICE.

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ELECTRIC SWITCH.

No. 908,323. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed December 17, 1907. Serial No. 406,854.

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 Electric Switches, of which the following is a specification.

This invention relates to the construction of the base and the mechanism supporting parts of a rotary snap electric switch.

The object of this invention is to provide a construction whereby the stop ratchet, when the mechanism is assembled, can be simply dropped into place in the insulating base and held without any fastening means of its own, in such manner that it will support the rotatory operating or turn button spindle, which aids in holding it in place without the employment of a bushing or similar means of support or fastening in the opening in the base.

Figure 1 of the accompanying drawings shows a plan of a porcelain base constructed according to this invention. Fig. 2 shows a similar view of the same base with the stop ratchet and the rotatory operating spindle in position. Fig. 3 shows a view of the underside of the base. Fig. 4 shows a central vertical section of the base and the stop ratchet, illustrating the manner of holding the ratchet and supporting the spindle. Fig. 5 shows views of the spindle and ratchet and of the washer and collet employed to prevent the removal of the spindle from the base when the parts are assembled.

The base, 1, is usually formed circular in outline of porcelain with a central recess 2, the usual screw openings 3 for securing it in position and the circuit wire openings 4.

Through the center of the base is an opening 5, which is slightly larger in diameter than the spindle. In the bottom of the recess in the top of the base and extending practically radially are sockets 6, and in the underside of the base about the central opening is a socket 7.

The stop ratchet 8, or that part which is employed to temporarily hold the actuating mechanism while the throwing spring is being made tense, is preferably stamped to shape of steel with four stop shoulders 9 and four outwardly projecting feet 10, which are depressed so that they extend in a plane below the plane of the body of the ratchet.

The rotatory spindle 11, which supports the actuating mechanism and to which the usual handle or turn button is attached, extends through a perforation 12 in the ratchet plate of approximately the diameter of the spindle, and through the central opening in the base. This spindle carries a cam 13 and is of such length that when it is thrust through the perforation in the ratchet plate and central opening through the base, it extends downwardly a sufficient distance to receive the washer 14 which lies in the socket in the underside of the base and the collet 15 which is slotted and slipped upon the notched end of the spindle and then compressed to prevent its displacement.

In assembling this mechanism the ratchet plate is dropped into the recess in the top of the base with its feet projecting into the radial sockets in the bottom of the recess which sockets the feet fit rather closely. When the ratchet plate is thus located and the spindle is thrust through it and the base, and the washer and collet are secured in position, the ratchet plate is held down with its feet in the sockets by the cam on the spindle above the ratchet plate and the washer and collet on the spindle below the base so that it cannot become displaced.

As the feet extend outwardly from the center quite a little distance and fit the sockets provided for them rather closely, the ratchet plate is held not only against movement rotarily, but is also held against lateral movement in any direction, and it is held in this manner so rigidly that it provides a firm support for the spindle without the employment of special fastenings. As the feet extend below the plane of the ratchet plate they readily drop into the sockets in such position that they hold the ratchet plate in place without interfering in any way with the movements of the switch mechanism which is applied to the spindle.

When the spindle is held by the ratchet plate in this way and the washer and collet are secured in place, it cannot trip or move sidewise in any direction, nor can it lift up so as to allow the feet of the ratchet plate to become dislodged from the sockets provided for them, and yet the construction is such as to allow for any variation of the thickness of the base or of the size of the opening through the base which can be made suffi-

ciently large to eliminate any possibility of irregularities interfering with the free movement of the spindle.

With this construction no special means are necessary for holding the ratchet plate in place, and the ratchet plate supports the spindle in such manner that it is unnecessary to insert a bushing through the base and provide holding means therefor, thereby reducing the cost of manufacture and assembling of the parts to a minimum.

The invention claimed is:

An electric switch having an insulating base with radially extending sockets in its upper face and a central perforation, a plate with ratchet teeth and feet that project outwardly in a plane below the plane of the teeth located upon the upper face of the base with the feet occupying the sockets in the base, a spindle extending through the ratchet plate and the central opening in the base, a cam secured to the spindle and bearing down upon the upper face of the ratchet plate, a washer on the spindle and occupying a socket in the underside of the base, and a collet fastened to the spindle beneath the washer and holding the washer in place and the spindle against upward movement, substantially as specified.

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