No. 647,829. Patented Apr. 17, 1900.

J. I. GUNTHER.

ELECTRIC SWITCH.

(Application filed Oct. 4, 1899.)

(No Model.)

Fig 1

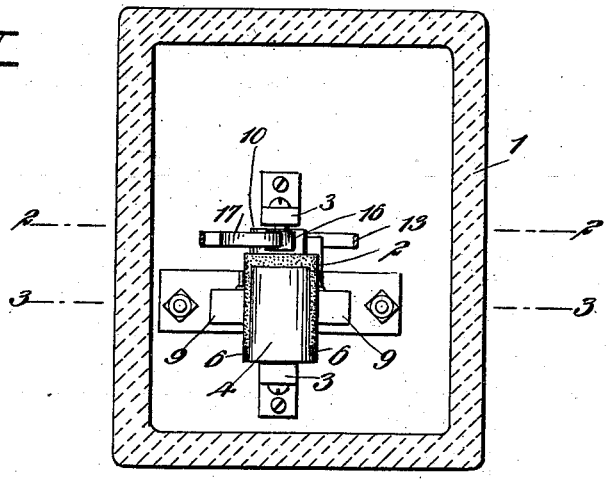


Fig 2

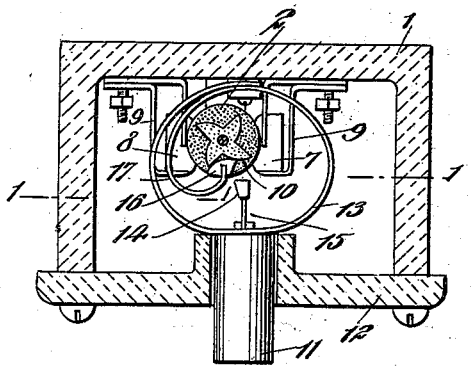


Fig 3

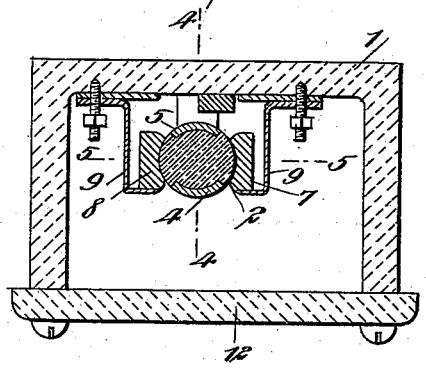


Fig 4

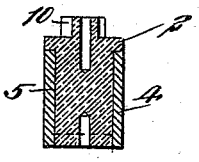
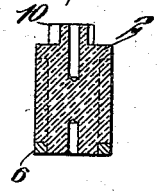


Fig 5



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JAMES I. GUNTHER, OF NEW YORK, N. Y.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 647,829, dated April 17, 1900.

Application filed October 4, 1899. Serial No. 732,497. (No model.)

To all whom it may concern:

Be it known that I, JAMES I. GUNTHER, of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Electric Switch, of which the following is a full, clear, and exact description.

This invention relates to improvements in electric switches or cut-outs; and the object is to provide a switch of simple construction in which there will be a positive and quick action of a rotary part for making and breaking a circuit.

I will describe a switch embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a partial plan and a section on the line 1 1 in Fig. 2 of a switch embodying my invention. Fig. 2 is a section on the line 2 2 in Fig. 1. Fig. 3 is a section on the line 3 3 in Fig. 1. Fig. 4 is a section on the line 4 4 in Fig. 3, and Fig. 5 is a section on the line 5 5 in Fig. 3.

Referring to the drawings, 1 designates the casing, preferably of a fictile material—such, for instance, as porcelain. Arranged within the casing is a cylinder 2, also consisting of porcelain or the like and mounted to rotate on studs supported in posts 3, secured to the base of the casing. Embedded in opposite sides of the cylinder 2 are metal contacts 4 5, electrically connected by a band 6. Bearing upon the cylinder are contact-blocks 7 8, which are respectively mounted on resilient metal plates 9 9, secured to the base of the casing and to which the line-wires are designed to be attached in the usual manner.

Arranged on one end of the cylinder and formed integral therewith is a ratchet-wheel 10, having four teeth or points, so that the cylinder may receive a one-quarter revolution at each inward movement of a push-button 11, which has a bearing through the front wall 12 of the casing. The push-button 11 is held normally in its outward position by means of a ring-shaped spring 13, secured to the base of the casing and to which the push-button is attached. Carried by the push-button 11 is a block 14, adapted to be engaged successively with the teeth of the ratchet-wheel 10, and this block 14 is mounted on a resilient stem 15, extended from the push-button. It will be noted that the surfaces of the teeth comprised in the ratchet-wheel 10 are curved or cam-shaped on the side to be engaged by the block 14. This will permit the block 14 to slide readily upon the surface of the teeth when pressed in engagement therewith.

To insure a complete quarter-rotation of the cylinder 2, I employ an impelling device consisting of a block 16, which engages with the teeth of the ratchet-wheel. This block is mounted on a spring 17, which for convenience of construction is an extended portion of the spring 13. In operation by pushing the button 11 inward the block 14, by engaging with one of the teeth of the ratchet-wheel, rotates the cylinder 2 a one-quarter revolution. Then upon releasing the push-button the spring 13 will force it outward to its normal position, and the spring stem or shank 15 will yield to permit the block to pass outward over the next succeeding tooth of the ratchet-wheel. The spring-pressed block 16 will not only hold the cylinder in its adjusted position, but it will operate to force the cylinder to its complete one-quarter rotation should the push-button be released before completing said movement of the cylinder. Of course when the contact-plates 4 5 are in engagement with the contact-blocks 7 8 the circuit will be closed; but when the cylinder is rotated to the position indicated in Fig. 3 the circuit will be broken.

By employing the ring-shaped spring the push-button 11 will be held in a straight line in its bearing, or, in other words, it will not be deflected to a point upon one side of the bearing, as might be the case were a C-shaped spring employed at one side.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. An electric switch, comprising a rotary part of insulating material, a ratchet-wheel on one end of said rotary part, and having curved or cam-shaped surfaces, a spring-held push-button, a block having yielding connection with said push-button, and adapted for

engagement with the cam-shaped surfaces of the ratchet-teeth to rotate the rotary part, electrically-connected contact-plates on opposite sides of the rotary part, and contact-blocks engaging with said rotary part.

2. An electric switch, comprising a rotary part, a ratchet-wheel on one end thereof, a push-button for engaging with the ratchet-wheel, a spring-pressed impelling device engaging with the ratchet-wheel, contact-plates on the rotary part, and contacts engaging said rotary part.

3. In an electric switch, a rotary part carrying contact-plates, a ratchet-wheel on one end of said rotary part, a push-button for engaging said ratchet-wheel, and an impelling device, consisting of a block engaging with the ratchet-wheel, and a spring on which said block is mounted.

4. An electric switch, comprising a rotary part, a ratchet-wheel on one end thereof, a push-button for engaging with the ratchet-wheel, an impelling device for engaging with the ratchet-wheel, a spring for moving the push-button outward, one end of said spring being connected to the impelling device, contact-plates on the rotary part, and contacts engaging with the rotary part, substantially as specified.

JAMES I. GUNTHER.

Witnesses:
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