(No Model.)

J. W. BATTERSHALL.

ELECTRIC SWITCH.

No. 435,132. Patented Aug. 26, 1890.

Fig. 1.

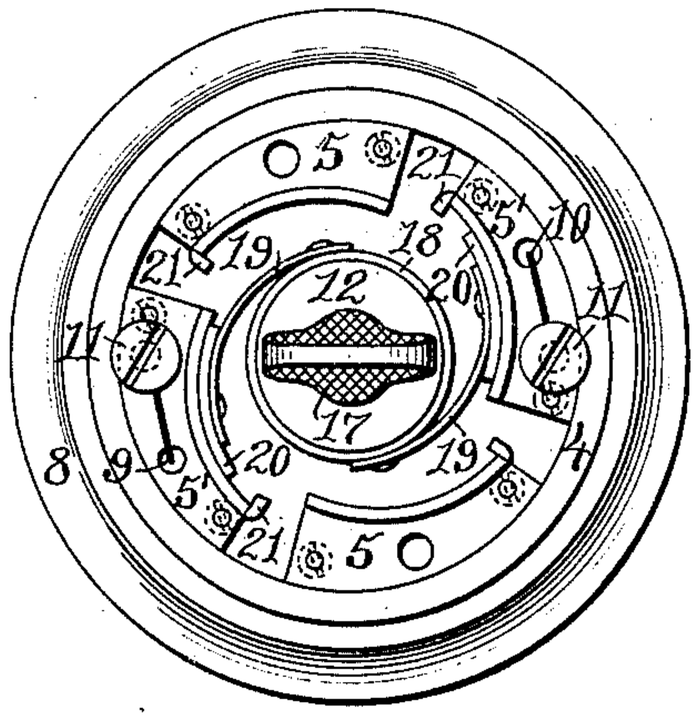


Fig. 2.

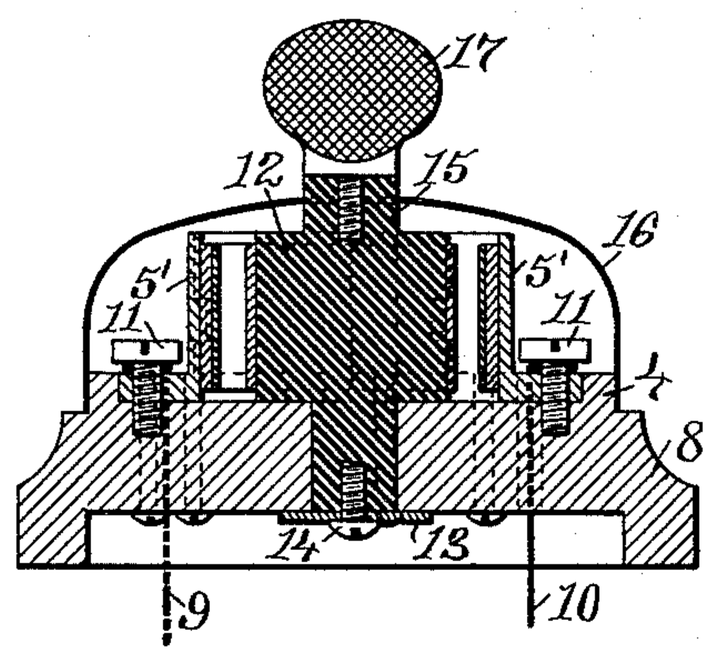
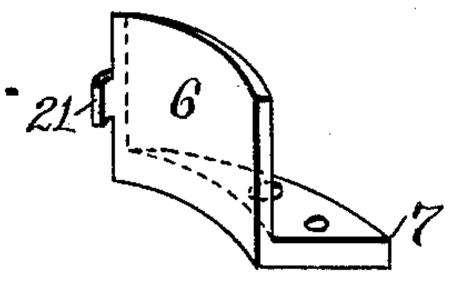


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH W. BATTERSHALL, OF ATTLEBOROUGH, MASSACHUSETTS.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 435,132, dated August 26, 1890.

Application filed July 1, 1890. Serial No. 357,324. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. BATTERSHALL, of Attleborough, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Electric Switches; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improved construction of a switch for connecting or disconnecting two electric conductor-wires; and it consists in the peculiar and novel construction of the contact-plates and the spring-wipers, as will be more fully set forth hereinafter.

Figure 1 is a top view of my improved electric switch, shown with the cap removed. Fig. 2 is a vertical sectional view of the same with the cap in place. Fig. 3 is an isometric view of one of the contact-plates.

In the drawings, the number 8 indicates a circular disk, forming a non-metallic and non-conducting base, provided on its upper face with the annular rim 4. Within the annular rim 4 the four metallic contact-plates 5 5′, separated by a space each from the other, are secured to the base 8. These metal contact-plates consist of the vertical plate 6, concaved on the inner side, which side forms the contact-surface, and a horizontally-projecting segmental flange 7, by which the contact-plates are secured to the base 8. The segmental flange 7 is made wider on one end of the plate than on the other, and the plates when secured are placed tangential to the circle, so as to form four concave tangential surfaces, as is clearly shown in Fig. 1. The two opposite contact-plates (marked 5′ to distinguish them) are connected to the conductor-wires 9 10 by means of the binding-screws 11, while the other two metallic contact-plates 5 are disconnected from the first two and insulated from them, as also from the conductor-wires 9 10.

The base 8 is provided with a central hole, in which the post 12 can freely turn. The upper part of the post 12 is enlarged, so as to form a shoulder, by which it rests on the upper surface of the base 8, and is held in place by the washer 13 and screw 14. The extreme upper end is formed into the neck 15, extending through the cap 16, the base of which fits over the outer surface of the annular rim 4. The cap 16 protects the switch against dust and injury and forms the upper bearing of the post 12 at the neck 15. The number 17 indicates a thumb-piece secured by a screw to the neck 15 of the post 12, and is used for turning the post. The enlarged portion of the post 12 is provided with the metal tube 18, secured to and turning with the post, and from the metal tube 18 extend the two springs 19, secured at opposite sides to the tube 18. The shoes or curved plates 20 are secured to the springs 19.

The operation of my improved electric switch is as follows: As shown in the drawings, the two opposite contact-plates 5′ are connected electrically with each other by the shoes 20, springs 19, and tube 18, so that the electric energy can pass from the wire 9 to the wire 10, or vice versa. By turning now the post 12, by means of the thumb-piece 17, one-quarter toward the right the frictional metallic contact between the plates 5′ will increase, owing to the increased pressure on the springs 19 caused by the tangential position of the contact-plates, until the shoes 20 leave the plates 5′ suddenly with a snap and come in contact with the plates 5, when the two wires 9 10 will be separated electrically. To prevent the possibility of turning the post 12 in the wrong direction, the small lips 21 are formed by bending a portion of the metal of the contact-plate outward, so as to form a stop.

The form of the contact-plates 5 materially simplifies the construction of the electric switch. The segmental flange 7, wider at one end than at the other end, fits against the raised inner surface of the annular rim 4, and thereby accurately determines the tangential position of the contact-plates 6, which plates surround the rotary wipers 19 20 and present to them only metal surfaces, which cannot be injured by sparking.

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

1. In an electrical switch, the combination, with the non-metallic base 8, provided with the annular rim 4, the contact-plates 5, and the cap 16, of the post 12, provided with the

thumb-piece 17, the metal tube 18, secured to and turning with the post, and the springs 19, having the shoes 20 secured to one end, the springs being secured to the tube 18 and forming a continuous metallic contact between the opposite contact-plates 5, as described.

2. A contact-plate for electric switches, consisting of the metal plate 6, provided at one side with the laterally-projecting flange 7, wider at one end than at the other, and the lip 21, forming a stop, as described.

3. In an electric switch, the combination, with a rotary wiper and a base provided with a raised circular rim, of metal contact-plates secured to the base and projecting therefrom, each plate consisting in a flange fitting the circular projection of the base and wider at one end than at the other, a contact-plate projecting from the flange tangentially to the circular rim of the base, and the segmental outer edge of the flange constructed to inclose the rotary wiper and form the resisting-contact with the wiper, as described.

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