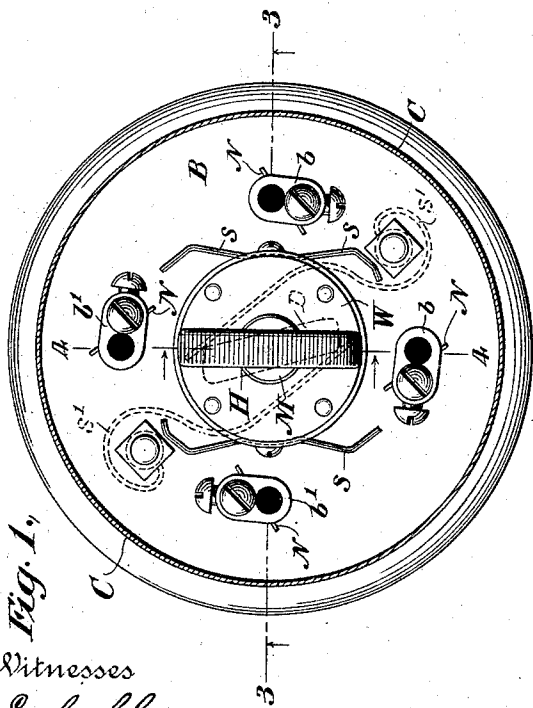
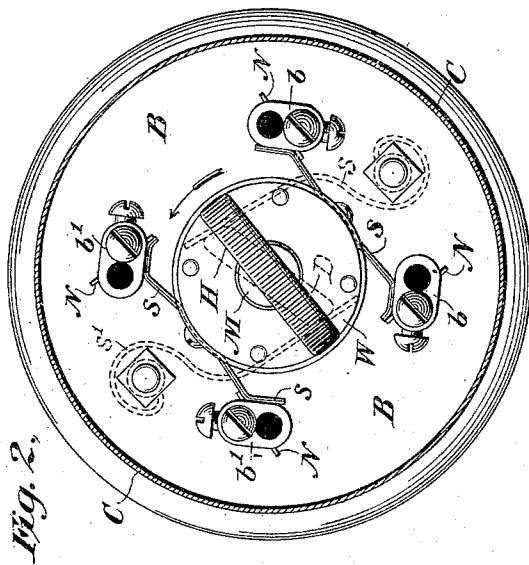


(No Model.)

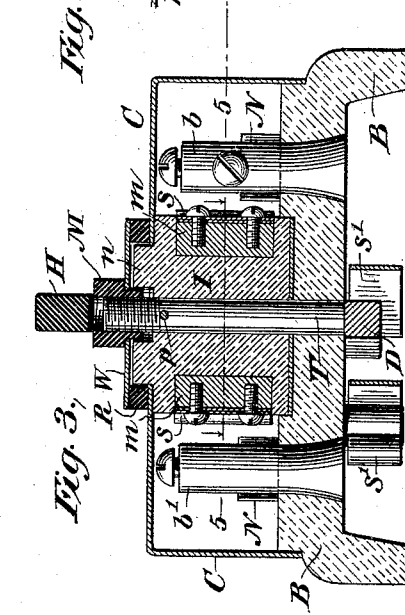
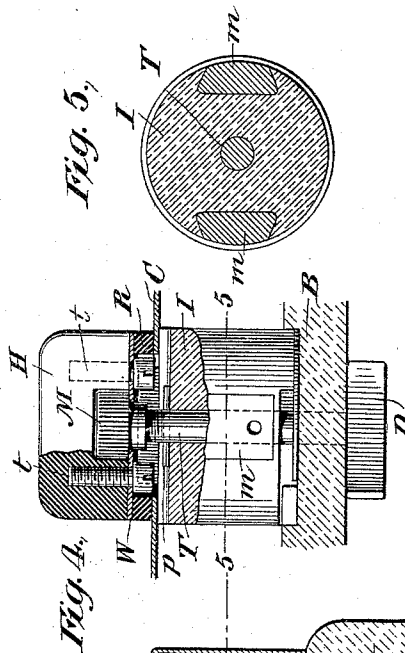
J. DES BRISAY.
ELECTRICAL SWITCH.

No. 498,880.

Patented June 6, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES DES BRISAY, OF NEW YORK, N. Y.

ELECTRICAL SWITCH.

SPECIFICATION forming part of Letters Patent No. 498,880, dated June 6, 1893.

Application filed November 23, 1891. Serial No. 412,777. (No model.)

To all whom it may concern:

Be it known that I, JAMES DES BRISAY, a citizen of the United States, residing at New York, in the county and State of New York, have made a new and useful Invention in Electrical Switches, of which the following is a specification.

My invention is directed particularly to a novel form of snap-acting switch, and is in a measure an improvement upon a switch disclosed in a patent granted to me by the United States on the 30th day of June, 1891, bearing No. 454,995.

My invention has for its object the construction of a snap or quick acting switch which shall be simple, compact, secure against accidents and efficient in its operation. I accomplish this object by the use of the switch hereinafter described and particularly pointed out in the claims which follow this specification.

The invention will be fully understood by referring to the accompanying drawings, in which—

Figures 1 and 2 are plan views showing the switch contacts respectively in open and closed positions, the cover being removed so as to illustrate the interior construction. Fig. 3 is a sectional view taken on line 3—3, Fig. 1, and as seen looking in the direction of the arrows. Fig. 4 is a detailed elevational view of the switch handle and its attached parts, a portion thereof being shown as broken away. Fig. 5 is a sectional view taken on line 5—5, Fig. 4, the contacting springs not being shown.

Referring now to the drawings in detail, in all of which like letters of reference represent like parts wherever shown; B. represents the base of the switch, made preferably of porcelain, vegetable fiber or any analogous non-conducting substance.

b. b. and b' b' represent binding-posts of a two-pole form of switch, said binding-posts being wedge-shaped at their lower ends and provided with retaining wedges or keys N. N., after the manner set forth in my patent above referred to.

T. is the axis which supports the rotary parts of the switch proper and which extends through the base thereof, and is provided at its lower end with an oblong head which

serves the double function of securing it on the under side of the base and imparting to the switch proper the snap action due to a pair of strong springs S' S' secured on the under side of the base by bolts and nuts, as shown in Figs. 1 and 2. The upper end of this axis is screw-threaded for receiving a retaining milled nut M, located in an opening in the handle H, and projecting through an opening in a metal plate W, to the under side of which is secured an insulating ring R, adapted to bear upon the top of the cover C.

I. is a cylindrical block of glass, porcelain, vegetable fiber or any analogous non-conducting material, to which are attached the switch springs S. S., they being secured thereto by screws s. s. which extend into and bear on beveled metallic blocks m., as clearly shown in Figs. 1 and 3. These metallic blocks are cast into the cylindrical block I when it is made, thereby being in effect integral therewith. The switch springs S. S. are curved, as shown, at their outer ends so as to make a good sliding contact with the flat faces of the binding-posts b. b. and b' b', as clearly shown in Fig. 2, where it will also be noticed that the ends of the wedges or keys N. N. act as back-stops for the springs, thereby preventing them from being carried past the binding-posts.

p. is a pin adapted to secure the axis T of the switch to the block I (see Fig. 4) so that when the cover is removed these parts will not fall apart.

t. t. are screws for securing the metal plate W. to the handle H. and for simultaneously retaining the locking milled nut M. permanently in position, the screw heads being located in an open space at the top of the block I, between the lugs n. n., there being sufficient space or width to permit of considerable angular vibration of the handle H.

The several parts of the switch are put together as follows: The binding-posts b. b. and b' b' are secured in position by the locking wedges or keys N. N. in the manner already referred to, and the conductors (not shown) are connected to said binding-posts, the + conductors being connected on opposite sides, say to the binding-posts b. b., and the — conductors similarly to the binding-posts b' b', as is ordinarily the case with two-pole switches. The axis T is slipped into position through

the opening in the base with the cross-head D between the yielding springs S' S'. The part I is then put into position and secured by the pin p, the contacting springs S. S. being in the position shown in Fig. 1. The cover C. is then put in place, after which the plate W. and handle H. are attached to the axis T. through the agency of the milled nut M. When this nut is adjusted to the position shown in Fig. 3, the non-conducting ring R will have sufficient bearing upon the top of the cover C. to hold it securely in place, and at the same time act as a bearing for the upper portion of the axis T.

The operation of the switch is obvious, it being understood that when the contacting springs S. S. are in the position shown in Fig. 2, the cross-head D. is bearing firmly against the springs S' S' on the under side of the base, so that when the handle is rotated in the direction of the arrow and the heads of the screws t. t. caused to bear against the opposite faces of the lugs n. n., there will be sufficient stress put upon the springs S. S. to carry them out of contact with the binding-posts, the action of the springs S' S' being such as to cause instantaneous rupture.

I do not limit myself to the specific details of construction herein described and shown, as it is obvious that the apparatus might be modified materially and still come within the scope of my claims.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a switch, the combination of a base, a spindle carrying the movable parts and having a threaded upper end, a detachable cover for the operative mechanism, a thumb piece or handle for turning the spindle, a threaded nut located in a recess in the handle and adapted to screw down upon the end of the spindle by a rotation independent of the handle, and a plate carried by the handle and adapted to bear upon and hold the cover in place, substantially as described.

2. In a switch one or more contact springs attached to metal lugs embedded in a non-conducting rotary part, substantially as described.

3. A switch having a non-conducting rotary part with metal lugs embedded in its surface and one or more conducting contacts secured

thereto in combination with an axis or spindle extending through the base and the rotary part and detachably secured to an operating handle, substantially as described.

4. In a switch, the combination of a base, a central spindle carrying the movable parts, and binding posts secured to the base, said posts being inserted in openings in the base from the under side and secured in place by transverse keys or wedges passed through the posts above the base, said keys extending beyond the posts into the path of the movable parts so as to act as stops therefor, substantially as described.

5. In a switch, the combination of a base recessed or hollowed out on its under side and carrying the stationary parts of the switch mechanism on its upper side, a spindle extending through the base and carrying the movable parts of the mechanism on the upper side of the base, a thumb piece or handle for rotating the spindle, impelling springs secured to the base within the recess, a cross piece fixed upon the lower end of the spindle on the under side of the base within the recess, and a cover for the operative parts of the switch mechanism, said cover being held in place by the handle, substantially as described.

6. In a switch, the combination of a spindle carrying the movable parts and having a threaded upper end, a thumb piece or handle for the spindle, a threaded nut located in a recess in the handle, and adapted to be screwed upon the spindle by a rotation independent of the handle, whereby the handle is detachably secured to the spindle, substantially as described.

7. In a switch, the combination of a base carrying fixed binding posts, a central spindle carrying the movable parts, a cover for the operative parts of the switch, and a detachable thumb piece or handle for the spindle, said handle carrying a nut adapted to be rotated independently of the handle to secure the same to the end of the spindle, and a bearing piece carried by the handle and resting on the cover to hold the same removably in place, substantially as described.

JAMES DES BRISAY.

Witnesses:

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