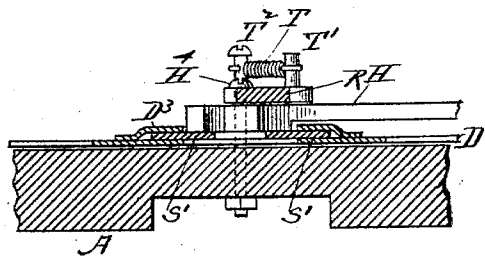
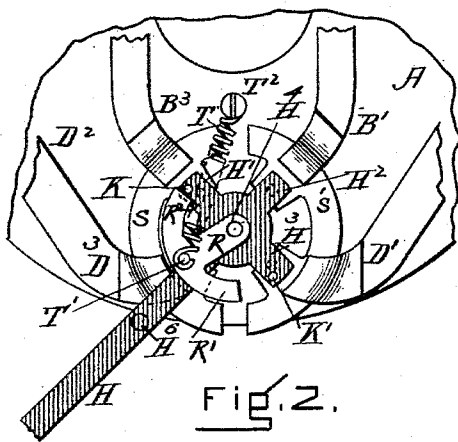
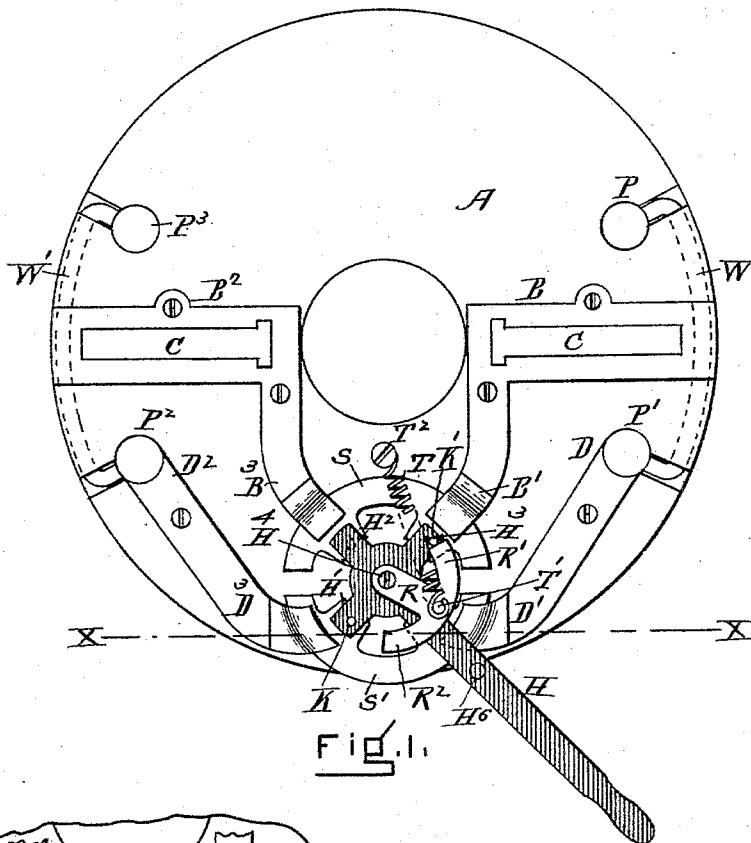


(No Model.)

G. EMMETT.
ELECTRIC SWITCH.

No. 569,576.

Patented Oct. 13, 1896.



WITNESSES

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NEW ENGLAND ELECTRIC SUPPLY COMPANY, OF BOSTON, MASSACHU-
SETTS.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 569,576, dated October 13, 1896.

Application filed February 26, 1896. Serial No. 580,841. (No model.)

To all whom it may concern:

Be it known that I, GEORGE EMMETT, of Attleborough, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Electric Switches, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to an electric switch and cut-out device, more especially adapted to use in connection with arc-lights, although well adapted for other uses, the object being to so construct the device that it shall be simple, inexpensive, durable, and certain of action. This object I attain by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a plan, looking from the under side, showing the switch in the cut-out position. Fig. 2 is a plan, also from the under side, showing the parts that more immediately relate to the switch proper, the switch being in the position required when the lamp is in circuit. Fig. 3 is a vertical section taken on line X X of Fig. 1.

In the drawings, A represents the block upon which the several parts are mounted. This block may be of wood, hard rubber, earthenware, or of any suitable composition. The metallic strips B B² are fastened by screws to the block and are each provided with a slot C, into which the lamp connections may be inserted.

B' is a switch-piece connected to the part B and is preferably made with a forked end, each branch of which is somewhat yielding, so that when the switch segment-piece S or S' is in place a double friction contact is made.

B³ is a switch-piece connected to the part B² and is made like the switch-piece B'.

The switch-pieces (see Figs. 1 and 3) D D' and D² D³ have contact ends similar to those of the switch-pieces B' B³, already described. These switch-pieces are respectively attached to the binding-posts P' P². The binding-post P' is electrically connected by the wire W to the binding-post P, and the post P² is electrically connected by the wire W' to the post P³. The posts P and P³ are used merely for convenience in running wires in making the

line connections when for any reason it is not desirable to connect the line-wires directly to the posts P' P³.

The moving part of the switch consists of a handle-piece H H' H² H³, made of some strong insulating material substantially in the shape shown and pivoted on the screw-bolt H⁴. The said bolt H⁴ is made fast in the block A by suitable nuts and check-nuts. The switch segment-piece S is securely attached to the arm H² H³ of the handle-piece, and the switch segment-piece S' is attached to the arm H' and to the handle part H. The two segment switch-pieces S and S' are insulated from each other, but being attached to the same handle-piece they are moved together.

R R' R² is a spring snap-piece pivoted upon the bolt H⁴ and controlled by a spring T, which is attached to the snap-piece R R' R² by the pin T' and to the block A by the pin T². Pins K and K' are inserted in the handle-piece and serve to receive the impact of the spring snap-piece R R' R² and to impart a quick movement to the switch. The pin H⁶ on the handle is to limit its motion, that is, when the handle is at the extreme right or left the pin H⁶ comes in contact with the block A and thus stops further motion.

The action of my device may be explained as follows: The lamp or whatever electric translating device may be used is connected to the contact-piece B and B² in any convenient manner. The line-wires are connected directly to the posts P' P² or indirectly to the same through the posts P P³. When the switch stands in the position shown in Fig. 1, the lamp is not in circuit and the line is complete through the post P², switch-piece D³, switch-segment S', and switch-piece D' D to post P'. If the switch is turned to the position shown in Fig. 2, then the lamp is in circuit, that is, the current passes through the post P², switch-piece D² D³, switch-segment S, and pieces B³ B² to the lamp, thence through the lamp to the switch-piece B B', then through the switch-segment S' to the switch-piece D' D, to post P' and to the line.

The spring snap-piece R R' R² operates as follows: In shifting the switch the user turns the handle to an intermediate position. This

action will force the snap-piece over so that the spring T draws across the center of movement, and it is at this point that the contacts are about to be broken. Now a slight additional motion of the handle will carry the strain of the spring T past the center line and the snap-piece will be violently thrown against the pin K' and cause the switch to be thrown instantaneously over to the position shown in Fig. 2 and thus avoid any danger of forming an arc.

It will be observed that the handle-piece H H' H² H³ is first to be moved by the hand of the operator; but the user must simply push it over, (not firmly grasping it,) so that it is free to be acted upon by the snap-piece R R' R² and abruptly move away from his hand.

I claim—

In an electrical switch, the combination of fixed switch-pieces connecting the terminals of an electric-circuit line, and fixed switch-

pieces connected to a translating device; with an oscillating switch-carrier having segment switch-pieces, electrically insulated from each other, adapted to put the translating device into the electric circuit, or to cut it out, and close the line-circuit, a spring snap-piece R, R', R², a spring T, a handle for moving both the said oscillating switch-carrier and a spring snap-piece R R' R² into such a position that the spring T will impart rapid movement to the oscillating switch-carrier, and the said spring snap-piece and spring, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 18th day of February, A. D. 1896.

GEORGE EMMETT.

Witnesses:

FRANK G. PARKER,
H. M. LARRABEE.