(No Model.)

G. BAEHR.

ELECTRICAL SWITCH.

No. 489,553. Patented Jan. 10, 1893.

Fig. 2.

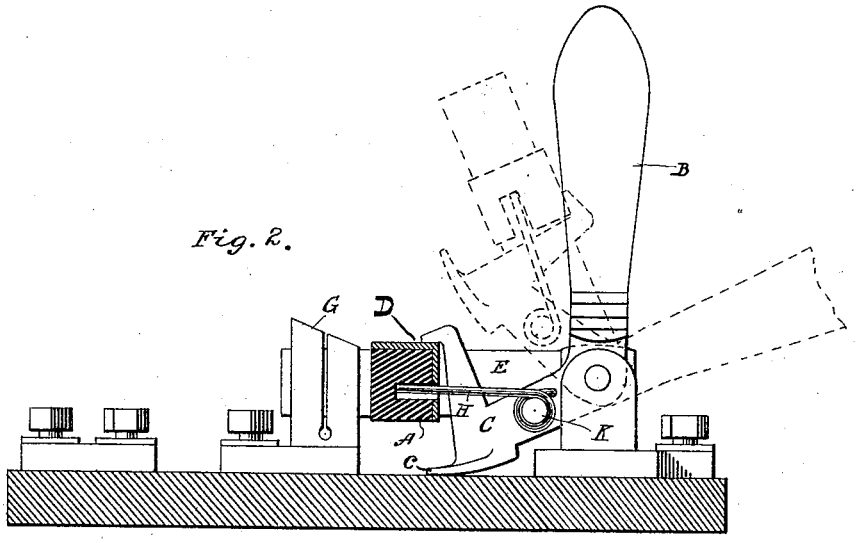
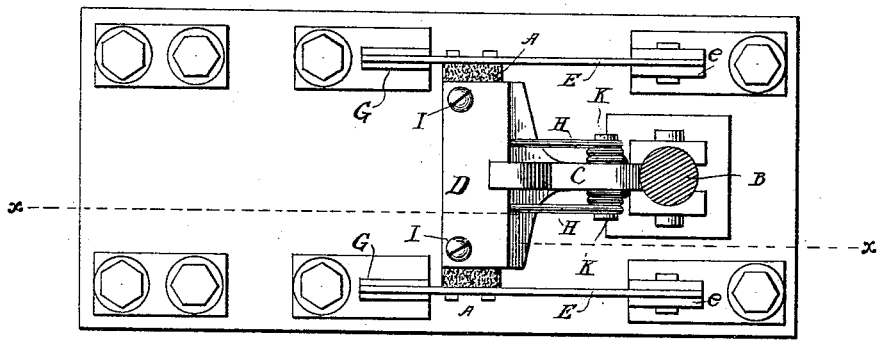


Fig. 1.



WITNESSES:

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ELECTRICAL SWITCH.

SPECIFICATION forming part of Letters Patent No. 489,553, dated January 10, 1893.

Application filed March 26, 1892. Serial No. 426,504. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BAEHR, of Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Electrical Switches; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to electric switches, the object being to provide a quick acting switch, which shall be simple and cheap of construction and efficient in its operation.

The invention consists of the details of construction which will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan of my switch, and Fig. 2 is a vertical section thereof taken on line *x x* of Fig. 1.

The circuit controlling arms or blades are represented by E E; they are placed parallel to each other and are pivoted to lugs *e* secured to the base or block supporting the mechanism. The free ends of these blades are adapted to make connection respectively with the spring jaws or clips G G. The two blades are mechanically connected together, but electrically insulated from each other by a rectangular block A of fiber, or other suitable insulating material. This block is provided on its upper and inner sides with an angular metallic plate D secured thereto by screws I acting as a reinforcement for the block.

B represents a handle to be manipulated by an operator in throwing the switch. It is pivoted in a post fixed to the base midway between the lugs *e*, *e*, and carries an angular extension C having two jaws *c*, *c'*, which embrace respectively the upper and lower sides of the block A. The jaws are, however, sufficiently separated to provide for a certain amount of movement independent of the block. The jaw *c'*, which is the one brought into contact with the block A when the circuit is to be broken, is extended laterally into a flat web shown in Fig. 1, and is about the width of the plate D, which is less than that of the block, to prevent short circuiting. This formation of the jaw gives a large bearing surface upon the block when the blades are swung in the manner hereinafter described, so that the blades will be lifted evenly, although there may be looseness at the pivots or joints of the switch; this makes the break on both sides of the circuit simultaneous. On each side of the extension C is a lug K surrounded by a coiled sping H, one end of which is fast to the extension C, and the other end passes forward through a perforation in the plate D and into a cavity in the block A. These two springs bear with equal pressure upon the block.

The full lines of the drawings show the switch in its closed position. To open the switch, the handle B is to be grasped and swung backward, thus bringing jaw *c'* against the under side of the block A, and causing the simultaneous lifting of both plates E. In this movement, power is stored in the spring H which, as soon as the blades are released from the grip of the clips G forces the blades quickly out of contact with the clips and thereby prevents the formation of a destructive arc. This quick movement is entirely unhampered by, and out of the control of the operator, because the block has a free movement from one jaw *c'* to the other jaw *c*. The open position of the switch is shown in dotted lines in Fig. 2. To close the switch, the handle is thrown in the opposite direction, thus bringing the jaw *c* against plate D and forcing the blades into the clips G. The plate D besides acting as a reinforcement for the block A, also serves as a bearing for the springs as they slide in and out of the cavities when the switches operate; this prevents wearing and weakening of the block.

Having thus described my invention, I claim:—

1. In an electric switch, the combination, of a pair of circuit controlling blades, a cross bar of insulating material mechanically connecting them together, a manually operated swinging lever provided with two jaws loosely embracing said cross bar, and a spring bearing at one end against the lever and at the other end against the cross bar, substantially as and for the purpose described.

2. In an electric switch, the combination, of a pair of pivoted blades mechanically connected together by a cross bar and a swinging lever provided with a pair of jaws loosely embracing said cross-bar, one of said jaws being

widened or extended into a web to form a large bearing surface against the bar as set forth.

3. In an electric switch, the combination, of a pair of pivoted blades, a cross bar of non-conducting material mechanically connecting them together, a reinforcing plate for said cross-bar, and a lever acting against said cross bar to operate the switch, substantially as described.

4. In an electric switch, the combination, of a pair of pivoted blades, a cross bar of insulating material mechanically connecting them together, a swinging lever arranged to impinge against said cross bar to operate the switch and a spring connected at one end to said lever and at the other end extending into a cavity formed in the cross bar for the purpose described.

5. The combination, of the pivoted blades E, the cross bar A, the reinforcing plate D, the swinging lever B C, provided with an enlarged jaw c' and a jaw c, and the two springs H H fixed to the opposite sides of the lever B C, and extending at their free ends through the said plate D and into cavities formed in the cross bar A, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

GEORGE BAEHR.

Witnesses:

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