(No Model.)

J. M. FAIRCHILD.

CUT-OUT FOR ELECTRIC CIRCUITS.

No. 348,455. Patented Aug. 31, 1886.

Fig. 2.

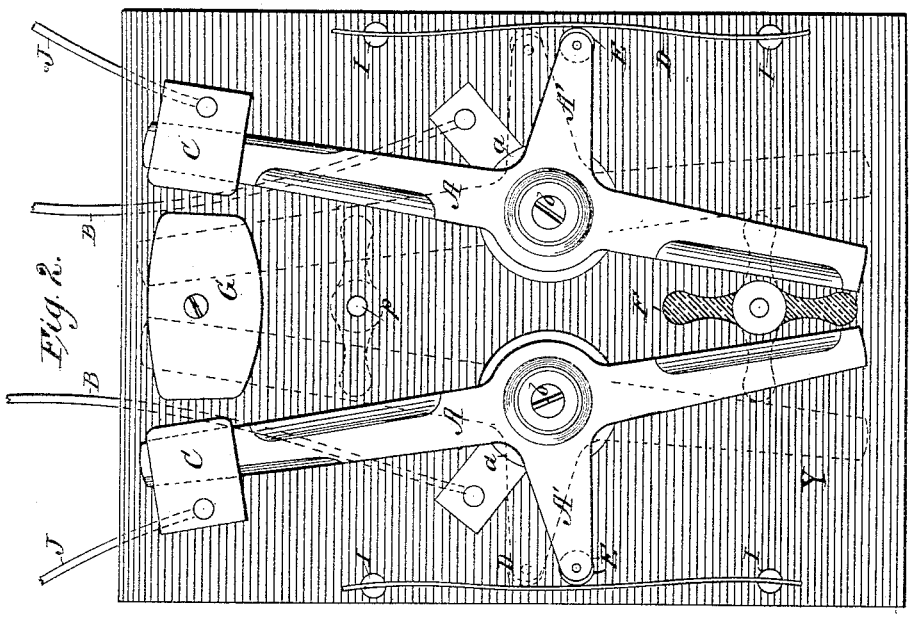
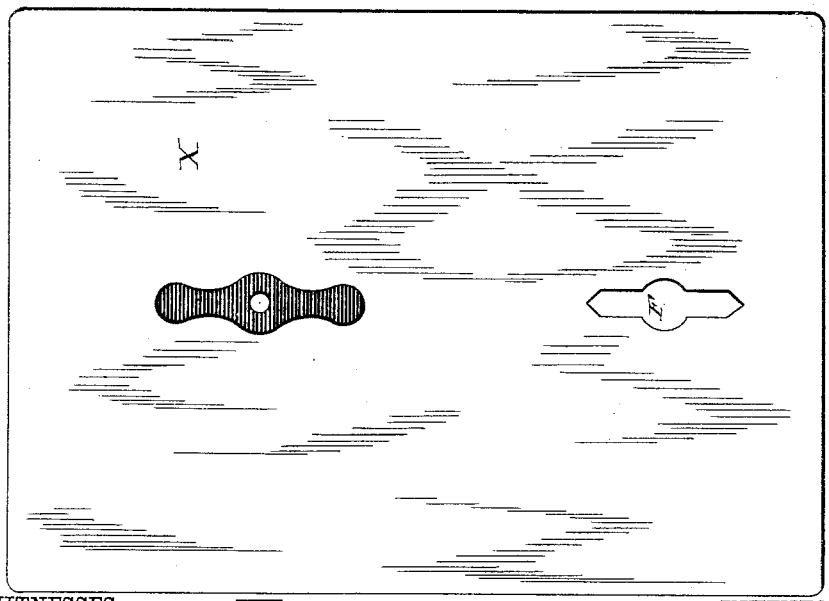


Fig. 1.



WITNESSES:

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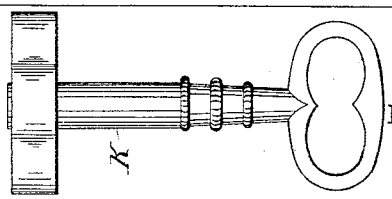

INVENTOR:

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UNITED STATES PATENT OFFICE.

JOHN MURRAY FAIRCHILD, OF PORTLAND, OREGON, ASSIGNOR OF ONE-HALF TO JAMES O'CONNOR, OF SAME PLACE.

CUT-OUT FOR ELECTRIC CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 348,455, dated August 31, 1886.

Application filed May 14, 1886. Serial No. 202,196. (No model.)

To all whom it may concern:

Be it known that I, JOHN MURRAY FAIRCHILD, of Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Improvement in Cut-Outs for Electric Circuits, of which the following is a specification.

My invention relates to cut-out mechanism for electric circuits, and particularly for electric-light circuits, whereby the electric lights of a building may be cut out by the police or firemen without affecting the main line; and it consists in the peculiar construction and combination of parts which I will now proceed to describe.

Figure 1 is a front view of the outer case, and Fig. 2 is a face view of the back plate and working mechanism, the outer case being removed.

In the drawings, X represents the outer inclosing-case, and Y the base, upon which and within the case the working parts are mounted. This base Y is made of dry wood or other non-conducting material. Upon this base are fixed two pivot-plates, *a a*, which are insulated from each other, but are in electrical connection with the two line-wires B B of the main circuit. Upon these two pivot-plates are hung or pivoted by pivot-pins *b b* two metal levers, A A. These levers have each an offset or arm, A′, which at the outer ends carry anti-friction rollers E, that bear against flat springs D D, each of which is fastened rigidly at its two ends to fixed posts I I on the base-board. At one end of the levers are arranged the three contact-plates C, C, and G. The latter plate, G, is placed midway between the plates C C, and is insulated from all other parts, except when in contact with the levers A A. The plates C C are connected, respectively, to the two wires J J, which lead to the electrodes of the electric lamp.

Between the levers A A, on one side of their fulcrums, is a permanent non-conducting operating-key, F, which turns about a center-pin in the base, and has two bits that are adapted to bear against this end of the two levers, and when turned throws apart or separates the two levers A A at this end, as in dotted lines, the effect of which is to throw the opposite ends of the levers off the contact-plates C C and onto the central plate, G, breaking connection with the lamp and shunting the main circuit through wires B B, levers A A, and plate G. This permanent key F extends outside of the case X and terminates in a handle of hard rubber or other non-conductor, so that no danger of shock is incurred by the manipulation of this key. This permanent key F affords ready means for cutting out the electric lamp or lamps from the main circuit by a fireman, police officer, or other authorized person in any emergency requiring it. Between the levers, on the other side of the fulcrums, is arranged a key-pin, *p*, adapted to receive a double-bit key, K, which is removable from the key-pin through the case, and is adapted when inserted and turned to throw the ends of the levers A A from plate G back again upon the contacts C C, thus re-establishing the main circuit through the lamp. The object of the flat springs D D and the rollers E E, it will be seen, is to give a positive throw to the levers when moved by either key and to cause them to complete with certainty their movement from contact to contact, and to bear with some pressure against the latter. These springs D, it will be seen, are double-acting, in that they actuate the levers in both directions, according to which side of the dead-center line of the springs the roller E rests upon. The contacts C C are so spaced in relation to G that the levers A A in their movements pass onto C before leaving G, or vice versa, thus preventing any temporary break in the main-line circuit in changing position.

If desired, instead of using two keys, one removable and the other fixed, only one (removable) key may be used, and adapted to fit upon two key-pins in the positions shown.

Having thus described my invention, what I claim as new is—

1. The combination, with the contacts C, C, and G, of the two levers A A, pivoted at or near the middle and connected with the main line, of key-pins arranged between the levers on opposite sides of their fulcrums, and one or more double-bit keys, substantially as and for the purpose described.

2. The combination, with the contacts C, C,

and G, of the two levers A A, pivoted at or near the middle and connected with the main line, of two key-pins arranged between the levers on opposite sides of the fulcrums, one or more double-bit keys, and springs for completing the throw of the levers, substantially as shown and described.

3. The combination, with the contacts C, C, and G, of the levers A A, having anti-friction rollers E E, the double-acting springs D D acting thereon, and means for actuating the levers, substantially as shown and described.

JOHN MURRAY FAIRCHILD.

Witnesses:
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JOSEPH HAYES.