

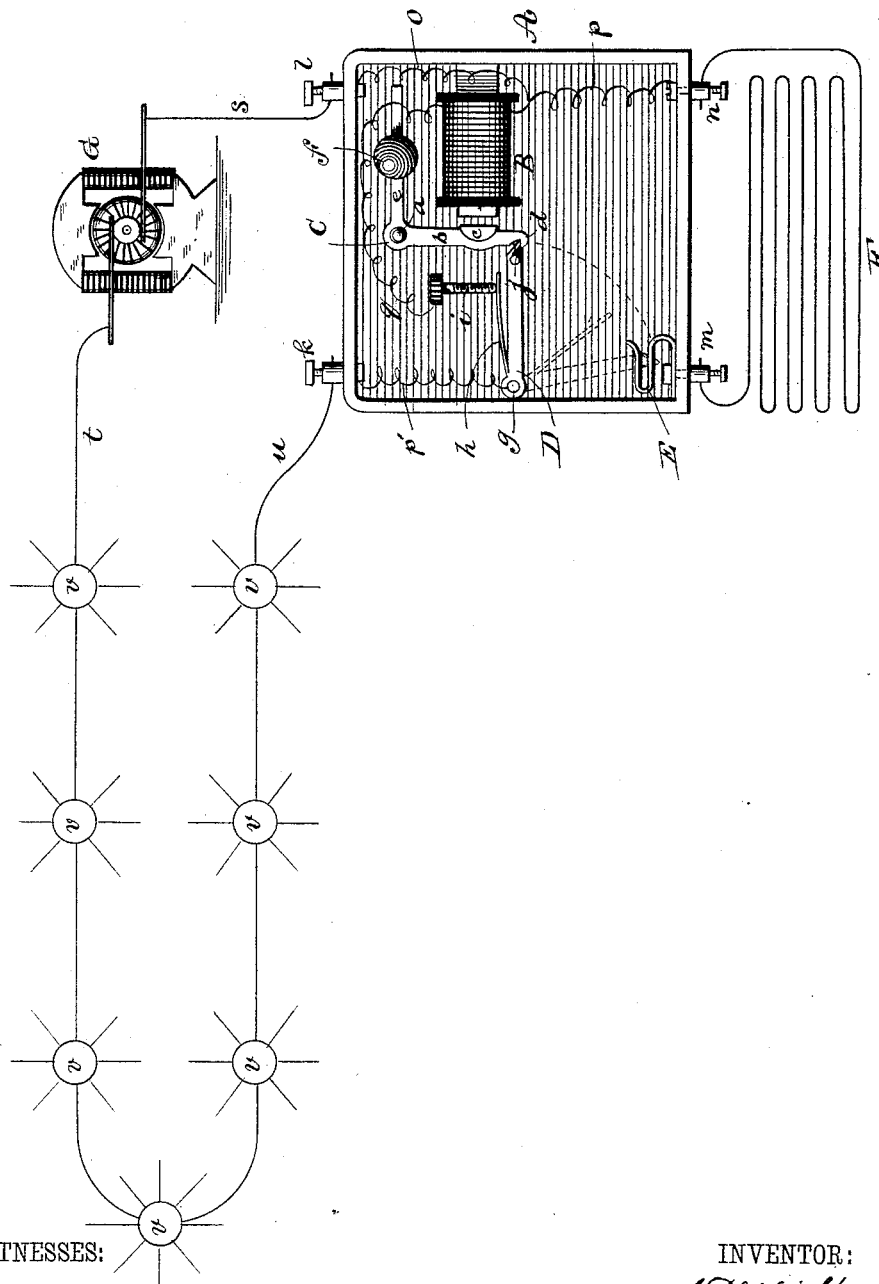
(No Model.)

C. D. WRIGHT.

CUT-OUT.

No. 385,494.

Patented July 3, 1888.



WITNESSES:

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CHARLES D. WRIGHT, OF PETERSBURG, ILLINOIS.

CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 385,494, dated July 3, 1888.

Application filed January 31, 1888. Serial No. 262,490. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. WRIGHT, of Petersburg, in the county of Menard and State of Illinois, have invented a new and Improved Cut-Out for Electric-Light Circuits, of which the following is a specification, reference being had to the accompanying drawing, which is a side elevation of my improved cut-out apparatus, showing the dynamo and lamp-circuit diagrammatically.

When a dynamo furnishing a current to an arc-light circuit is short-circuited, the armature is liable to be burned by the heavy current generated in the machine before the regulating devices connected with the dynamo can act.

The object of my invention is to provide a cut-out for electric-light circuits which will throw a suitable amount of resistance into the circuit when the current in the circuit becomes abnormal, thereby avoiding the burning out of the armature of the machine.

My invention consists in the combination, with an electro-magnet placed in the electric-light circuit near the dynamo, of a cut-out lever arranged to close the main circuit through the electro-magnet, a weighted armature-lever carrying a catch adapted to hold the cut-out lever during the normal working of the circuit and to release the cut-out lever when the current increases above the normal, and a resistance connected by one terminal with the main circuit and adapted to be thrown into the main circuit at its other terminal by the action of the cut-out lever, all as hereinafter more fully described.

In the case A is mounted the electro-magnet B, and in front of the said magnet B is supported the right-angled armature-lever C, adapted to turn on the pivot *a*. The arm *b* of the armature-lever C supports the armature *c* opposite the poles of the magnet B and within the influence of the said poles. The extremity of the arm *b* is provided with a catch, *d*. The arm *e* of the right-angled armature-lever C is provided with a weight, *f*, which tends to withdraw the armature *c* from the poles of the magnet B.

In the casing A is pivoted the cut-out lever D upon a stud, *g*, and the free end of the said cut-out lever is beveled and engaged by the

catch *d* during the normal working of the circuit in which the instrument is placed. To the top of the cut-out lever D is attached a flat spring, *h*, which contacts with the screw *i* when the lever is in its normal position. The lever D carries a pin, *j*, which projects from the side thereof, and in the bottom of the casing A is arranged an S-shaped spring, E, in the path of the pin *j*, the S-shaped spring being arranged with reference to the pin *j* so that when the lever D is thrown down in the manner presently to be described the pin *j* will enter between two of the folds of the S-shaped spring, as shown by the dotted lines in the drawing.

The top of the casing is provided with binding-posts *k l*, and the bottom of the casing is provided with binding-posts *m n*. The binding-post *l* is connected with one terminal of the magnet B by the wire *o*, and the wire *o* communicates with the binding-post *n* by the wire *p*. The remaining terminal of the electro-magnet B is connected by the wire *q* with the contact-screw *i*. The pivot *g* of the cut-out lever D is connected by the wire *p'* with the binding-post *k*. The binding-post *m* is connected with the S-shaped spring E, and the binding-posts *m n* communicate electrically with the terminals of the resistance F. The cut-out lever is connected closely with the dynamo G by the wire *s*, which is received by the binding-post *l*. The outside circuit-wires, *t u*, of the electric-light circuit are connected with the dynamo and with the binding-post *k*, said circuit including the lamps *v*. When the electric-light circuit is working normally, the parts rest as shown in full lines in the drawing, and the current passes from the dynamo through the conductor *s*, binding-post *l*, wire *o*, magnet B, wire *q*, screw *i*, spring *h*, lever D, wire *p'*, binding-post *k*, and outside circuit-wires, *u t*, back to the dynamo.

The armature-lever C is weighted, so as to oppose the attraction of the magnet B during the normal working of the circuit; but when the dynamo is short-circuited the magnet B attracts the armature *c* with sufficient force to overcome the pressure of the weight *f*, thus turning the armature-lever C on its pivot and releasing the cut-out lever D, when the spring *h* throws the lever D down, causing the pin *j*

to enter between the folds of the S-shaped spring E, and shifting the circuit so that the current flows from the dynamo G through the wire s, binding-post l, wire o, wire p, binding-post n, resistance F, binding-post m, S-shaped spring E, cut-out lever D, wire p', and the wires u t of the external circuit. The resistance F, thus suddenly thrown into the circuit, is sufficient to prevent the armature of the dynamo from being overheated.

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

1. In a cut-out for electric-light circuits, the combination of an electro-magnet arranged in the circuit, a pivoted and spring-actuated cut-out lever connected with the magnet and with one of the electric-light-circuit wires, a counterbalanced armature-lever engaging and holding the cut-out lever during the normal working of the circuit, a contact for the cut-out lever when disengaged by the armature-

lever, and a resistance having one terminal connected with the main circuit and the other with the contact of the cut out lever, substantially as described.

2. In a cut-out for electric-light circuits, the combination of the electro-magnet B, arranged in the circuit, the pivoted and spring-actuated cut-out lever D, the counterbalanced armature-lever C, provided with the catch d, with which the cut-out lever D engages, the wire q, connecting the cut-out lever D with the magnet, the wire p', connecting the said lever with one of the electric-light wires, the wires o p, the spring E, and the resistance F, having one terminal connected to wire p and its other to the spring E, substantially as described.

CHARLES D. WRIGHT.

Witnesses:

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HENRY O. BROWNBACK.