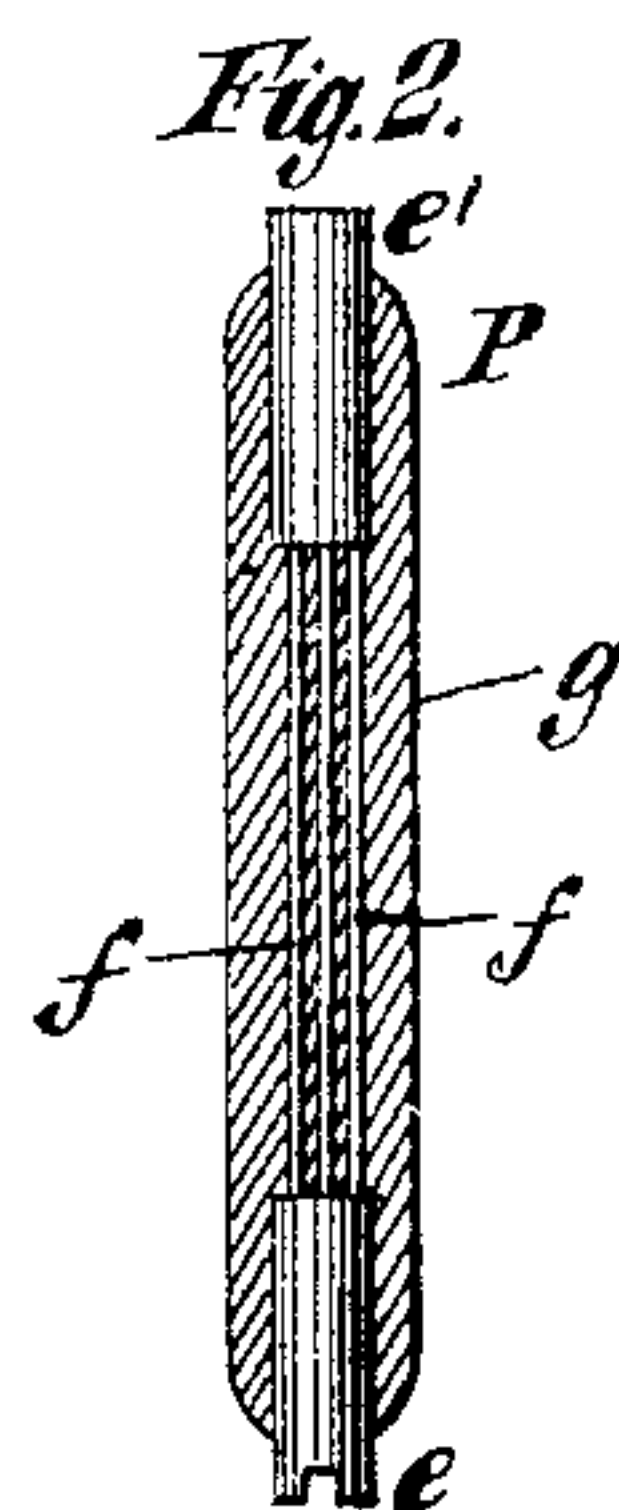
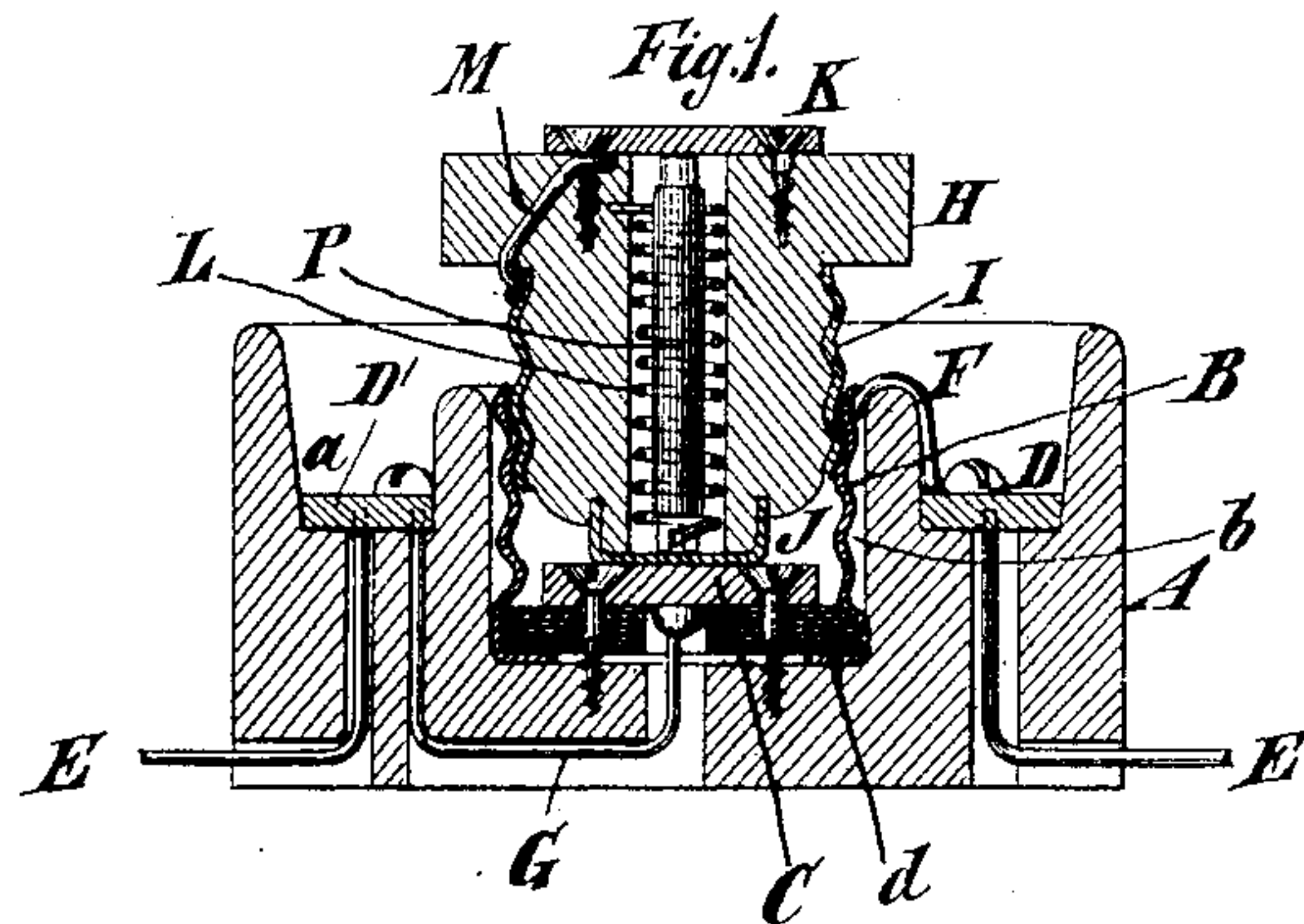


(No Model.)

E. T. GREENFIELD.  
SAFETY OR CUT-OFF SWITCH.

No. 266,808.

Patented Oct. 31, 1882.



*Witnesses*  
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T. J. Leane

*Inventor*  
Edwin T. Greenfield  
By his atty.  
Edwin H. Brown.

# UNITED STATES PATENT OFFICE

EDWIN T. GREENFIELD, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO  
SIGMUND BERGMANN, OF SAME PLACE.

## SAFETY OR CUT-OFF SWITCH.

SPECIFICATION forming part of Letters Patent No. 266,808, dated October 31, 1882.

Application filed June 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN T. GREENFIELD, of New York, in the county and State of New York, have invented a certain new and useful  
5 Improvement in Safety or Cut-Off Switches, of which the following is a specification.

The object of my improvement is to provide a simple and efficacious safety-switch or cut-out for use with electric-lamps.

10 To this end the improvement consists in the combination, with the line-wire of a circuit leading to an electric lamp or other article, of a section of wires, an insulating material securing them in position, and adapted to melt  
15 when the wires become heated to a dangerous extent, so as to release the wires, a spring tending to move one end of the pliable wire or wires away and break the circuit, and a receptacle containing the said pliable wire or  
20 wires and insulating material. Preferably I form the section of wires and their insulating material into a plug or short rod.

In the accompanying drawings, Figure 1 is a transverse section of a safety-switch or cut-out embodying my improvement, and Fig. 2 is  
25 an enlarged sectional view of a plug comprised in the same.

Similar letters of reference designate corresponding parts in both figures.

30 A designates a block of wood or other suitable material, which may be of cylindrical shape. As shown, it has an annular groove, *a*, in its upper face, and a central cavity, *b*. To the interior of the cavity *b* is secured a screw-threaded metal ring, B, and to the bottom of  
35 the cavity is secured a metal plate, C. The plate C is insulated from the ring B by a piece of insulating material, *d*, or by the material of which the block A is made. In the groove *a*  
40 are two metal plates, D D'. One end of the line-wire E, with which this safety-switch or cut-off is used, is connected to the plate D, and the other end thereof is connected to the plate  
45 D'. A wire, F, is affixed by solder or otherwise to the plate D, and likewise to the ring B. A wire, G, is soldered or otherwise connected to the plates C and D'.

50 H designates a piece of wood or other suitable material, having applied to its exterior a screw-threaded metal ring, I, which is adapted to screw into the ring B. The piece H is hol-

low, and has affixed to its lower end a metal plate, J. This metal plate J makes contact with the metal plate C when the piece H is inserted in the ring B. In the piece H is a plug, 55 P, consisting of two metal heads, *e e'*, a number of soft pliable metal wires, *f*, connected to the heads, and an insulating material, *g*, incasing these wires and sustaining them straightened out and in parallel positions. This plug 60 fits into the cavity or interior of the piece H, and one of its heads, *e*, rests on the plate J. The other head, *e'*, of the plug bears against a plate, K, which is affixed to the outer end of the cavity in the said piece H. In lieu of the 65 plate K, a screw inserted in the piece H may be employed. A wire, M, extends from the plate K, or the device which is employed in lieu thereof, to the screw-threaded ring I.

L designates a retractible spring arranged 70 in the cavity of the piece H and surrounding the plug P. The lower end of this spring is fitted into the head *e* of the plug, or in any other suitable manner is made to sustain the plug, and the upper end of the spring is se- 75 cured to the interior of the piece H. This spring therefore exerts a constant tendency to force the head *e* of the plug P up toward the head *e'*. So long as the insulating material of the plug is intact it preserves the relations of 80 the heads of the plug; but as soon as the wires of the plug become heated to a certain degree the insulating material melts and no longer sustains the heads in their normal relations, and the wires of the plug are insufficiently stiff 85 for this purpose. The spring therefore forces up the head *e* toward the head *e'*, and by removing the head *e* from the plate J breaks the circuit. The wires of a circuit in which the plug P is arranged can never become heated 90 to a degree greater than that which will melt the insulating material of the plug. This insulating material may consist of sealing-wax or other suitable substance.

The block A and piece H obviously form a 95 receptacle inclosing the wires, insulating material, and spring.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the line-wire of a 100 circuit leading to an electric lamp or other article, of a section of pliable wire or wires, an



insulating material sustaining the same, extended and adapted to melt when the said pliable wire or wires become heated to an undesirable extent, so as to release said pliable wire or wires, a spring tending to move said pliable wire or wires away and break the circuit, and a receptacle containing the said pliable wire or wires and insulating material, substantially as specified.

2. The combination, with the line-wire of a circuit, of a plug forming a part of the circuit, and consisting of metallic heads connecting a pliable wire or wires, and insulating material incasing the pliable wire or wires and adapted to melt at any desired heat, a spring tending to move one end of the pliable wire or wires

away from the device with which the plug makes contact, and a receptacle containing said plug and spring, substantially as specified.

3. The combination, with the line-wire of a circuit and a plug forming part of the circuit, and consisting of a pliable wire or wires, and an insulating material incasing the pliable wire or wires and adapted to melt at any desired heat, of a spring tending to move one end of the pliable wire or wires away from the device with which the plug makes contact, substantially as specified.

E. T. GREENFIELD.

Witnesses:

T. J. KEANE,

JAMES R. BOWEN.