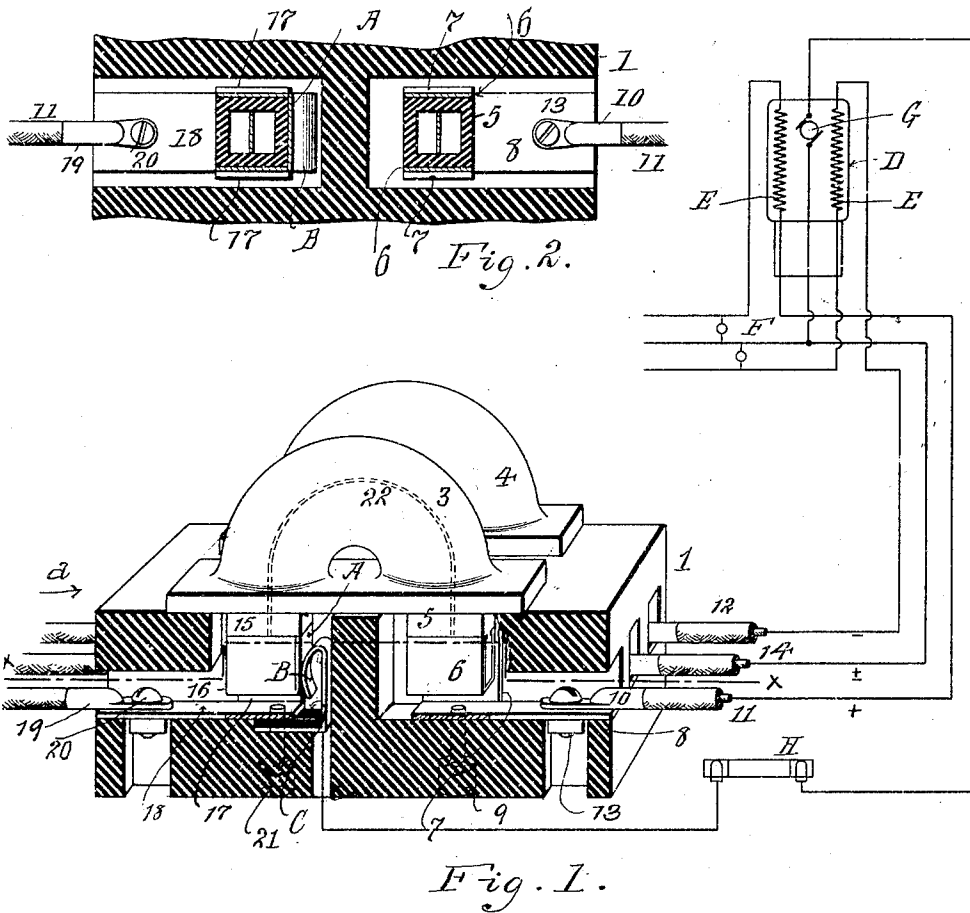


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PROTECTIVE ELECTRIC OUT-OUT.  
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1,019,362.

Patented Mar. 5, 1912.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

SAMUEL G. RHODES, OF NEW YORK, N. Y.

PROTECTIVE ELECTRIC CUT-OUT.

1,019,362.

Specification of Letters Patent.

Patented Mar. 5, 1912.

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*To all whom it may concern:*

Be it known that I, SAMUEL G. RHODES, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Protective Electric Cut-Outs, of which the following is a specification.

The invention prevents unauthorized abstraction of current from the supply leads of a three-wire system after the fuse in the positive lead has blown—an occurrence which now renders the meter inoperative—by means of a device brought into or out of action by the simple insertion or removal of the fuse plug in its usual base block. To this end I arrange separated terminals in the positive lead, and a terminal of the meter potential coil in such relation and juxtaposition as that the cooperation of the fuse plug therewith simultaneously makes or breaks two branch circuits from source of current supply, one leading to the fuse and the other to the potential coil. While blowing of the fuse cuts out one field coil of the meter, the armature coil still remains energized and cooperates with the other field coil; so that current cannot be taken from the supply leads without registration by the meter. The removal of the fuse plug, breaking, as stated, both circuits simultaneously, is also especially designed to meet the requirements of the rules of the Board of Fire Underwriters, that the pulling of the main fuse shall discontinue electric service at the building or other point of delivery.

In the accompanying drawings—Figure 1 is a perspective view of my protective cut-out device, showing the base block in vertical section, and the meter connections diagrammatically. Fig. 2 is a horizontal section of a portion of the base block on the line  $x, x$  of Fig. 2.

Similar letters and numbers of reference indicate like parts.

The base block 1, of porcelain or other refractory insulating material, and the two arched fuse plugs 3, 4, are of a now well known type. The plugs are flanged to form covers for the sockets in the base block and carry contact plates, which meet fixed contact plates in the sockets when the plugs are in place therein. On both legs of plug 4 (not shown) and one leg, 5, of plug 3, the two contact plates 6 are formed from a sin-

gle piece of metal bent over the end of the leg and secured thereon. In the three sockets receiving these legs, the corresponding fixed contact plates 7 are bent up from a single piece of metal, 8, secured in the base block by screw 9. To said contact plates 7 are secured one terminal, 10, of the positive lead 11 of a three-wire system and both terminals of the negative lead 12, by means of bolts 13. The neutral lead 14 extends through the base block. On the other leg, 15, of plug 3, there are three contact plates formed by suitably cutting and bending up portions of a plate 16. On two sides of the leg 15 these plates correspond to the plates 7 on the other legs and, in like manner, meet fixed plates 17 formed by bending up the single piece of metal 18, to which the other terminal 19 of the positive lead 11 is attached by bolt 20. The third contact plate A on leg 15 makes contact with a bent over spring plate B. The horizontal portion of plate B is received in a recess in the bottom of the socket and is covered by a plate C, both plates B and C, of insulating material, being secured in place by block 21. The fuse strips 22 (one indicated in dotted lines, Fig. 1) are connected, as usual, to the contact plates on the plugs.

A meter, D, of known construction, has its field coils E connected in the ordinary way to the positive and negative leads and to the load indicated by the lamps at F, and one terminal of its armature or potential coil G connected to the neutral lead. The other armature terminal is connected to spring plate B, and in the connecting conductor may be interposed a fuse H.

The direction of current from the source of supply is indicated by the arrow  $a$ . Hence when the fuse plug 3 is in place in the base block, two branch circuits result, one proceeding from the source of supply, to fixed contact plate 18, through the fuse 22, to plate 8, and so to positive lead and meter field coil, and the other from contact plate 18, to contact plate A on said fuse plug, spring contact plate B, to the armature coil G. If the fuse be blown, the meter will nevertheless remain operative, since although the field coil in the positive lead is rendered inoperative, the field coil in the negative lead and the potential coil continue operative. The simple insertion or removal of the fuse plug in the base block thus si-

multaneously makes or breaks circuit in both branches from the source of supply to the fuse and to the armature coil.

I do not claim herein the connection of the  
5 potential coil of the meter to the positive lead at a point between the fuse and the source of current supply.

I claim:

1. In combination with a meter and a  
10 three-wire supply system, separated terminals in the positive lead, a terminal connected to the meter potential coil, and a removable fuse plug cooperating with said terminals simultaneously to close branch circuits  
15 from the source of current supply to the fuse and to said potential coil.

2. In combination with a meter and three-wire supply leads, a base block, having two sockets, terminals of the positive lead respectively disposed therein, a terminal in  
20 one of said sockets connected to the potential coil of said meter, and a fuse plug entering said sockets and cooperating with said terminals simultaneously to close branch circuits from the source of current supply to  
25 the fuse and to said potential coil.

In testimony whereof I have affixed my signature in presence of two witnesses.

SAMUEL G. RHODES.

Witnesses:

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