

T. E. MURRAY.
ELECTRIC CUT-OUT.
APPLICATION FILED NOV. 19, 1910.

991,006.

Patented May 2, 1911.

2 SHEETS—SHEET 1.

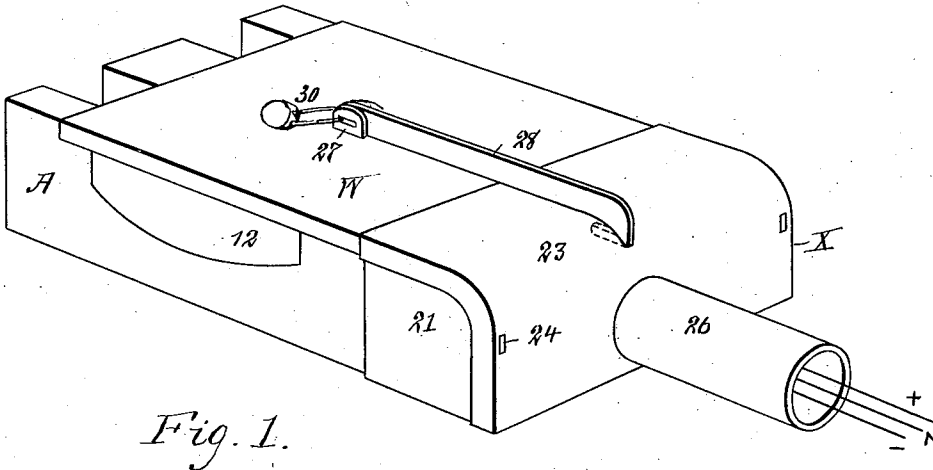


Fig. 1.

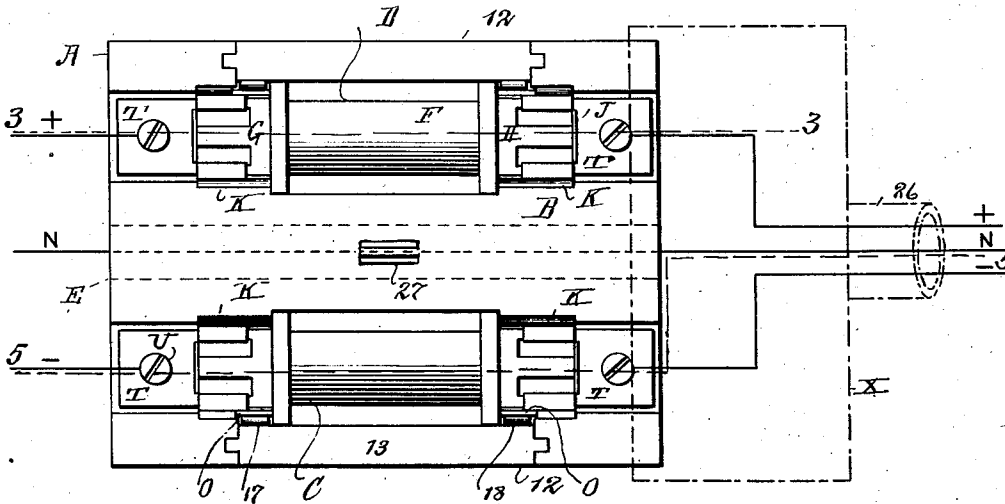


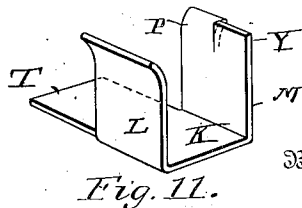
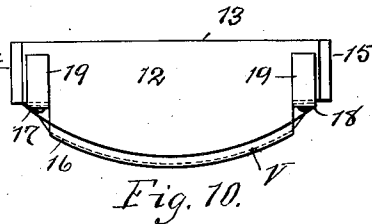
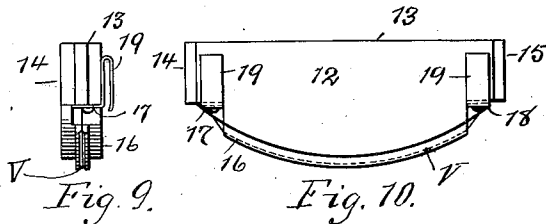
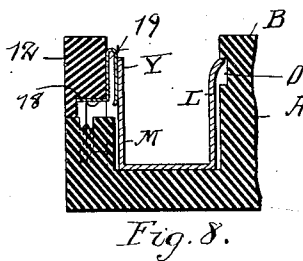
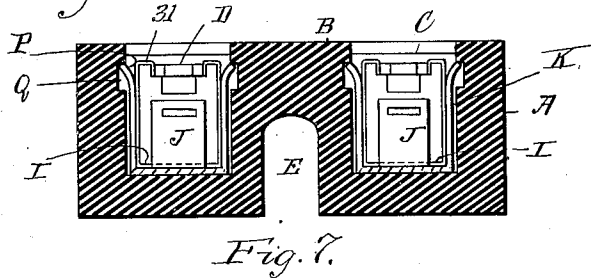
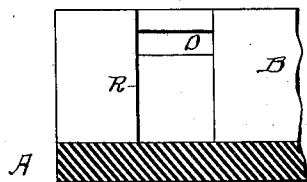
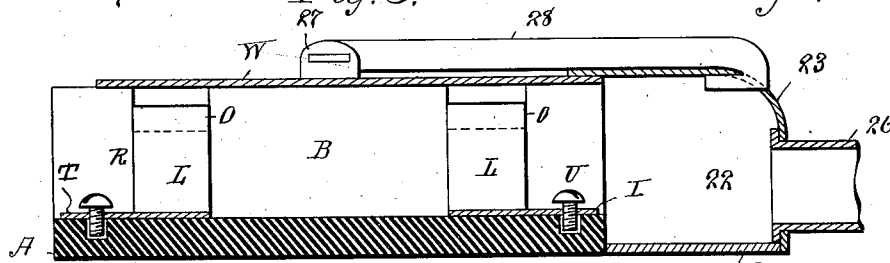
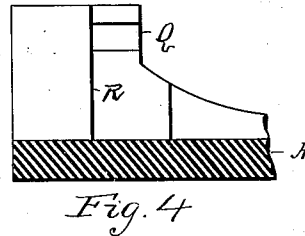
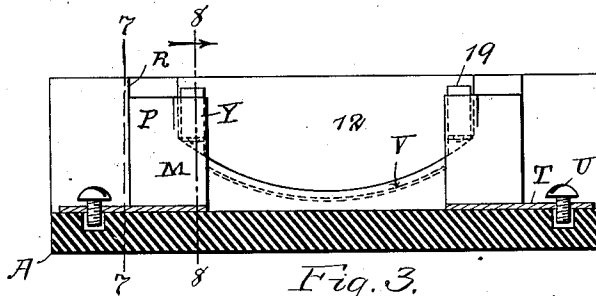
Fig. 2.

Witnesses:
Arthur S. Porter
May J. The Barry.

Inventor
Thomas E. Murray
By his Attorney
Ralph Benjamin

991,006.

2 SHEETS--SHEET 2.



Witnesses:
Cecilia J. Pater.
May T. Mc Carrey.

Attest
Thomas E. Munday
By his Attorney
David Benjamin

UNITED STATES PATENT OFFICE.

THOMAS E. MURRAY, OF NEW YORK, N. Y.

ELECTRIC CUT-OUT.

991,006.

Specification of Letters Patent.

Patented May 2, 1911.

Application filed November 19, 1910. Serial No. 593,162.

To all whom it may concern:

Be it known that I, THOMAS E. MURRAY, 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 Electric Cut-Outs, of which the following is a specification.

The invention relates to electric cut-outs, and provides a device for indicating the condition of the fuse, which device may be removed for inspection from the base block or other support, without disturbing the fuse itself. Said device is herein embodied in an auxiliary fuse disposed in a suitable carrier seated in a wall of the base block, the terminals of said auxiliary fuse being connected to contacts on the carrier which cooperate with contacts on the main fuse case which are connected to the terminals of the main fuse.

In the accompanying drawings—Figure 1 is a perspective view of my cut-out, showing the auxiliary fuse carriers, cover and one of the shields in place. Fig. 2 is a plan view of the base block, with the cover and shields removed. Fig. 3 is a section, with the cover and shields removed, on the line 3, 3, of Fig. 2. Fig. 4 is an elevation of a portion of the inner side of the wall of the base block, the bottom being in section, with the fuse holding clip and the auxiliary fuse carrier removed. Fig. 5 is a section on the line 5, 5, of Fig. 2, with one of the shields and locking bar in place. Fig. 6 is an elevation of a portion of the longitudinal partition, the bottom of the box being in section. Fig. 7 is a cross section on the line 7, 7, of Fig. 3. Fig. 8 is a cross section of a portion of the box, showing the fuse clip and auxiliary fuse carrier in place. Fig. 9 is an end elevation and Fig. 10 a side elevation of the fuse carrier. Fig. 11 is a perspective view of one of the fuse clips.

Similar letters and numbers of reference indicate like parts.

A is the base block, preferably made integrally of porcelain or other refractory insulating material. By means of the longi-

tudinal partition B, two recesses are formed in said block which respectively receive the fuse cases C, D. Said fuse cases are interposed in the manner hereinafter explained and respectively in the positive and negative conductors of a three-wire system. On the under side of the partition is formed a straight channel E, through which the neutral conductor N passes.

The fuse cases C, D are alike. Each comprises a cylindrical body portion F and end pieces of porcelain G, H, to which the body portion F, which may be of metal covered with paper, is secured. Within each case is the usual fuse strip and filling. The porcelain end pieces are all alike. Each is provided with a metal contact plate I which extends across the bottom and is bent upwardly to lie against the sides of the end piece, and is then turned over at its extremities to enter grooves on the top of the end piece, as shown in Fig. 7 at 31. An integral part J of the same plate extends upwardly across the outer face of the end piece, and to this plate the end of the fuse strip, which passes through an opening in said end piece, is secured. The construction of the aforesaid fuse case is fully set forth in another application for Letters Patent, Serial No. 587,365, filed by me Oct. 17, 1910, and is, therefore, not herein claimed.

At each end of each recess in the block are disposed contact clips K, which are all alike. As shown in Fig. 11, each consists integrally of a metal plate, having its sides L, M, bent upwardly to lie in contact with the surfaces of the block. One side L is bent outwardly at its upper extremity to enter a recess O in the face of the partition B, Fig. 8. The other side M is split downwardly for a short distance. A part Y is left straight and vertical, and another part P is bent outwardly to enter a recess Q in the inner face of the block wall. The outer edges of the sides L, M, bear against vertical shoulders R, formed in the partition and wall. The bottom portion of each clip K is extended as shown at T to form terminals to which the circuit wires are connected by the usual

screw bolts U. When the fuse cases D, E, are in place, contact plates I fit in the clips K, so that circuit is established through the fuse strips.

5 In conjunction with each main fuse in the cases D, E, I provide an auxiliary fuse arranged in the following manner: 12, Figs. 9, 10, is an auxiliary fuse carrier, formed of porcelain, having a flat upper edge 13, flat end edges 14, 15, and a curved under edge 16. Between each end edge and the curved under edge is a cut away portion forming a shoulder, to which shoulders are secured the contact plates 17, 18. Each contact plate is bent upwardly to lie against the inner side of the carrier, and then downwardly at 19 to form a leaf spring. The end and curved under edges of the carrier are tongued. The auxiliary fuse V is seated in a groove formed in the tongue on the curved under edge, and is connected at its ends to contact plates 17, 18. Each wall of the box is suitably cut away to receive a fuse carrier, and the inner edges of the cut away portion are grooved to receive the carrier tongues. When the carrier is seated in place, the upper edge 13 thereof comes flush with the top surface of the block A, and the spring contact plates 17, 18 thereon meet the vertical parts O of the contact clips K. Hence fuses V in the two carriers come in shunt with the fuse strips in the cases D, E.

20 The auxiliary fuses V constitute means for determining the condition of the main fuses, without necessitating any examination of the main fuses themselves, which means are removable from the base block, for inspection, independently of and hence without disturbing said main fuses. If the auxiliary fuse is found to be blown, the fact of the blowing of the main fuse is thus indicated, and the main fuse is removed. If not, the carrier is replaced.

In order to prevent the unauthorized removal of both the fuse cases D, E, and the carriers 12, and also to prevent access to the circuit connections, I provide a metal cover W and end shields X, Figs. 1 and 5. The cover is downwardly flanged to fit over the block. The shields, one of which is shown in place in Figs. 1 and 5, (also in dotted lines, Fig. 2) are of metal, and consist each of a bottom plate 20 and end walls 21, 22 integral therewith, and a separable bent cover 23 which is flanged at its ends and extends over the top and front edges of the walls 21, 22. On the front edges of walls 21, 22 are lugs 24 which enter openings in the cover 23. Secured in said cover is a conducting pipe 26 for the circuit wires. The block B and cover W is received and fits in the open side of the shield X. In order to secure the shield X and cover W in place, I provide on the par-

65 titution a fixed double lug 27 which extends up through the cover. A lock bar 28 is bent over at one end to engage in an opening on the shield cover 23, and at its opposite end enters between the parts of lug 27. Through registering openings in said lug and bar a seal fastening, indicated at 30, is secured. The cover and locking bar thus form means for locking the auxiliary fuse carriers in place.

I claim:

1. An electric cut-out comprising a support, a main fuse therein, a removable member seated in said block, an auxiliary fuse carried by said member, and cooperating contacts on said fuses. 75
2. An electric cut-out comprising a main fuse, a support therefor, means for connecting said fuse to said support, means for visually indicating the condition of said fuse, means for removably connecting said indicating means to said support, and a locking device for said indicating means: the said indicating means connection being separate and distant from said fuse connection. 85
3. An electric cut-out comprising a support, a fuse case and fuse therein, an auxiliary fuse, and a removable member carrying said auxiliary fuse. 90
4. An electric cut-out comprising a base block, a fuse case and fuse thereon, a removable carrier seated in said block, and an auxiliary fuse seated in a face of said carrier. 95
5. An electric cut-out comprising a base block, a fuse case and fuse thereon, a removable carrier seated in a recess in said block, and an auxiliary fuse seated in the under face of said carrier. 100
6. An electric cut-out comprising a base block, a fuse case and fuse, an auxiliary fuse and carrier therefor, the said carrier being seated in said block, contacts on said fuse case connected to the terminals of said fuse, and cooperating contacts on said carrier connected to the terminals of said auxiliary fuse the said carrier being seated in said block and being removable therefrom independently of said fuse case. 105
7. An electric cut-out comprising a base block, a fuse case and fuse, an auxiliary fuse and carrier therefor, the said carrier being seated in said block, means for locking said carrier in its seat, contacts on said fuse case connected to the terminals of said fuse, and cooperating contacts on said carrier connected to the terminals of said auxiliary fuse. 120
8. An electric cut-out comprising a base block, a fuse case and fuse disposed in a recess in said block, an auxiliary fuse and carrier therefor, the said carrier being seated in and forming a part of a wall of said block, contacts on said fuse case connected to the 125

terminals of said fuse, and cooperating contacts on said carrier connected to the terminals of said auxiliary fuse.

5 9. An electric cut-out comprising a base block of refractory insulating material having a wall in two parts united by a tongue and groove joint, one of said parts being removable, a main fuse in said base block, an auxiliary fuse supported on the edge of said

movable portion of said wall, and cooperating 10
ing contacts connected to the terminals of said fuses.

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

THOMAS E. MURRAY.

Witnesses:

GERTRUDE T. PORTER,
MAY T. MCGARRY.