T. E. MURRAY.

ELECTRIC CUT-OUT.

APPLICATION FILED FEB. 3, 1909.

956,135. Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.

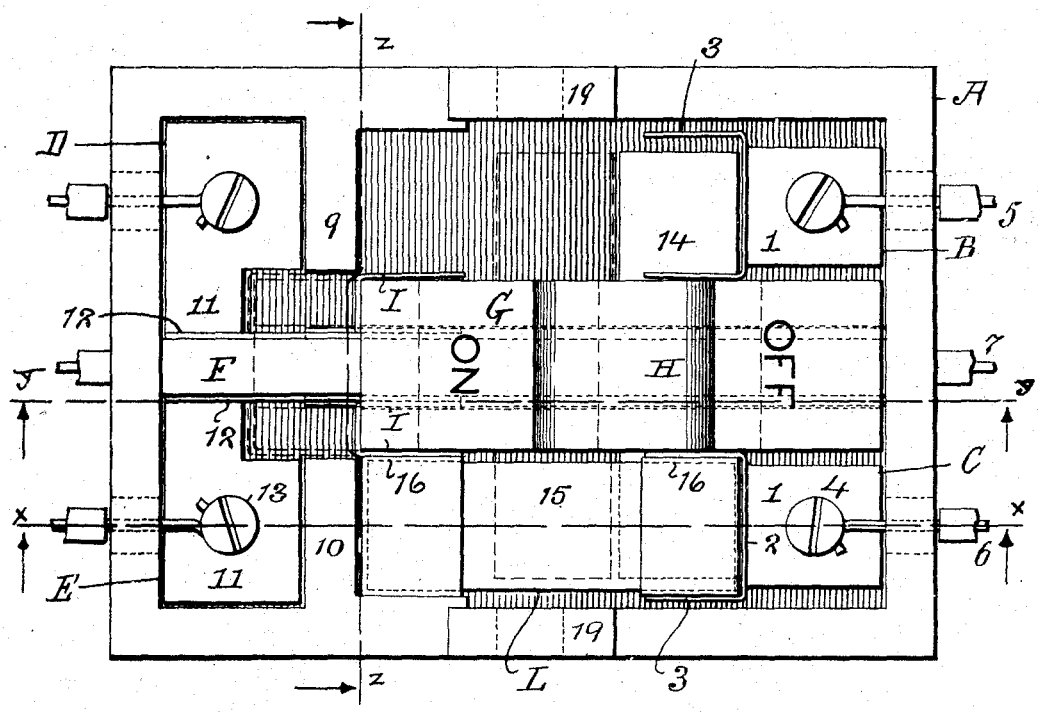


Fig. 1.

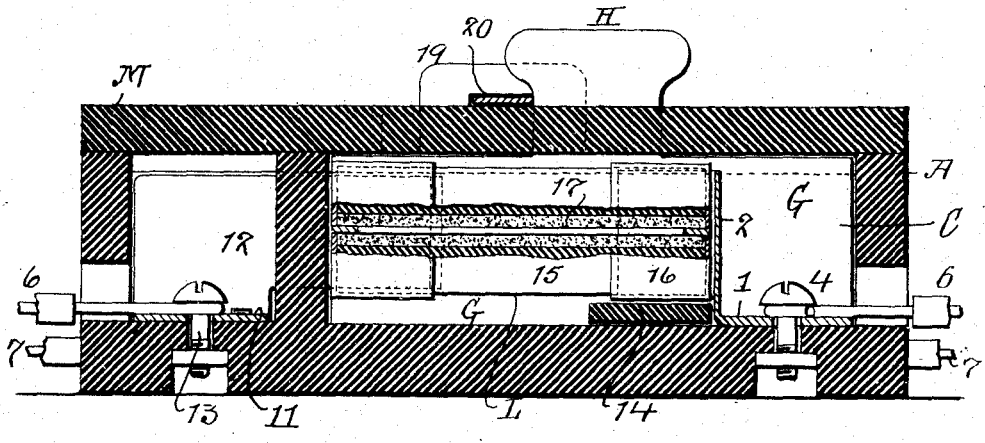


Fig. 2.

Witnesses:
C. H. Bertholf
May T. McGarry.

Inventor
Thomas E. Murray
By his Attorney
Paul Bergamin

T. E. MURRAY.

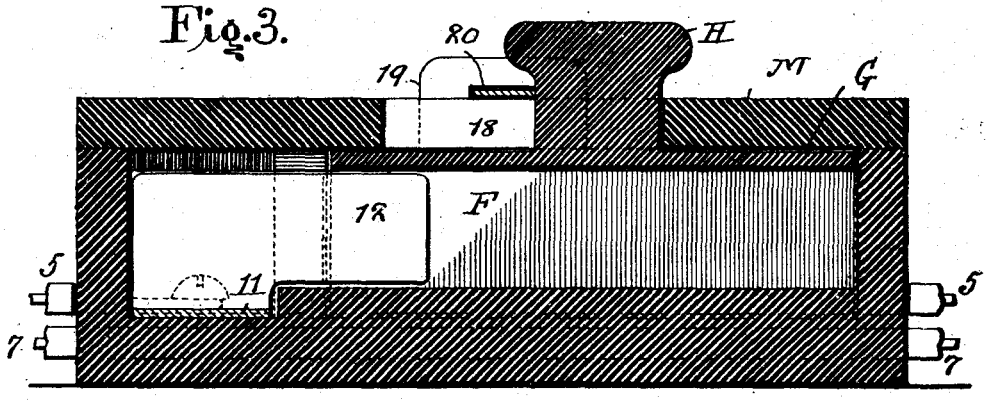
ELECTRIC CUT-OUT.

APPLICATION FILED FEB. 3, 1909.

956,135. Patented Apr. 26, 1910.

2 SHEETS—SHEET 2.

Fig. 3.



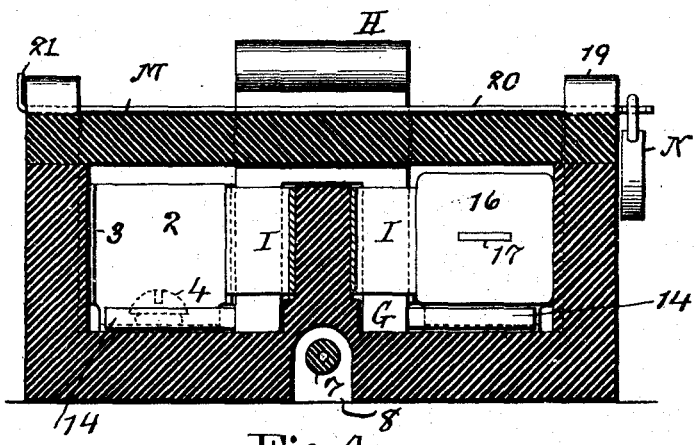


Fig. 4.

Fig. 5.

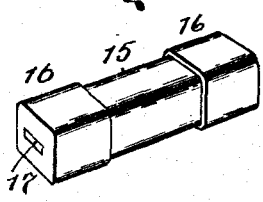
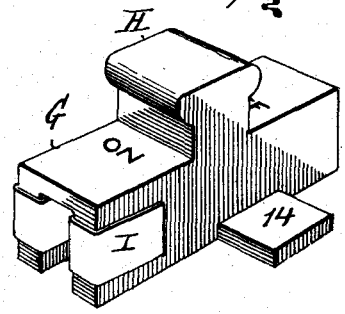


Fig. 7.



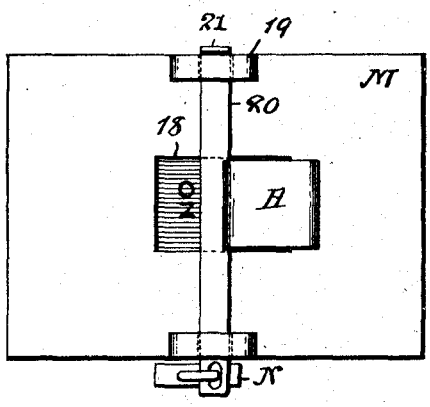


Fig. 6.

Witnesses:

C. H. Berthoff

May T. McCabrey.

Inventor

Thomas E. Murray

By his Attorney

Robt Benjamin

UNITED STATES PATENT OFFICE.

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

ELECTRIC CUT-OUT.

956,135. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed February 3, 1909. Serial No. 475,740.

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 consists in the construction whereby the stationary removable fuse case, normally in electrical connection with one of the circuit terminals in the inclosing box, is brought into electrical connection with the other circuit terminal by means of a sliding block having a handle projection extending through a slot in the cover, and hence, operable from the outside. Means are also provided in combination with said block for locking the same in position either to close or open circuit, and the construction is further such that when the block is in circuit closing position, it cannot be removed from the box.

The invention further consists in the various combinations whereby the foregoing results are accomplished, all as more particularly set forth in the claims.

In the accompanying drawings—Figure 1 is a plan view of my improved electric cut-out with the cover removed. Fig. 2 is a section on the line x, x, of Fig. 1. Fig. 3 is a section on the line y, y, of Fig. 1, and Fig. 4 is a section on the line z, z, of Fig. 1. In Figs. 2, 3 and 4 the cover is shown in place. Fig. 5 is a perspective view of one of the fuse cases. Fig. 6 is a plan view of my device with the cover and locking bar in place, and Fig. 7 is a perspective view of the sliding block.

Similar letters and numbers of reference indicate like parts.

The base box A is preferably of porcelain. Within said box and at one end thereof are two metal contact clips B, C, which are alike. Each clip comprises a bottom member 1, a vertical member 2 and two side members 3, these parts being formed integrally of thin metal. The bottom members 1 are secured to the box by bolts 4, which also serve as binding posts for terminals of the positive and negative conductors 5, 6 of a three wire circuit. The neutral conductor 7 is received in a groove 8 on the under side of the box. Near the opposite end of the box are two partial partitions 9 and 10. On the bottom of the box between said partitions and the end wall are metal contact plates D and E, each plate comprising a bottom member 11 and a vertical member 12, which member 12 extends in a longitudinal direction for a considerable distance past the partitions 9, 10, as best shown in Fig. 3. The plates D, E are secured to the box by bolts 13 which also serve as binding posts for the opposite terminals of the positive and negative conductors 5, 6.

Within the box and extending from end wall to end wall thereof is a fixed partition F, preferably of porcelain, which is of less height than the box walls, see Fig. 4. The vertical members 12 of the contact plates D, E lie closely against the sides of said partition. Straddling the partition is a sliding block G, also preferably of porcelain, and shown separately in Fig. 7. On the upper side of said block is a handle H for manually sliding or lifting said block. On each vertical side of the block at the bottom is an integral projection 14. When the block G is slid to the position shown in Figs. 1 and 2, the projections 14 extend under the side members 3 of the clips B, C, which side members are cut away at their lower edges to permit said projections 14 to pass under said edges. In such case, it is evident that the sliding block G cannot be lifted out of the box, because the projections 14 are engaged by said side members of clips B, C. But if the block G be slid to the left of Fig. 1 so as to take the position shown in dotted lines in said figure, then the projections 14 will be moved from under the side members 3, and hence the block can be lifted off of the partition F and out of the box. At one end of the block G and on each leg thereof is secured a contact plate I of metal, said plate extending over the outer edges of said legs.

Within the box are placed two fuse cases L (one being shown in perspective in Fig. 5). Said cases may be of the usual cartridge type, having a body portion 15 of porcelain, metal clips 16 and a fuse 17 connected to said caps at its ends and extending through said body portion. One fuse case is received so that its metal cap 16 at one end lies between the side members 3 of clip B, and the similar cap at the other end is in close proximity to partial partition 9. The other fuse case L is received in like manner at one end between the side members of clip C, and at its other end is in close proximity

to partial partition 10. When the block G is slid to and fro, the projections 14 thereon travel below the fuse cases, as best shown in Figs. 2 and 4.

A cover M, also of porcelain, is provided having a slot 18 through which the handle H extends, and in which said handle moves. Said slot is always closed underneath by the block G, no matter what the position of the handle in the slot may be. In order to secure the cover in place on the box, and also to lock block G in adjusted position to open or close circuit, there are provided on box A, two upwardly projecting integral lugs 19 through which is passed a lock bar 20, headed at 21 and provided at its opposite end with a slot in which, after the bar has been passed through the lugs 19 and under the shoulder of handle H, the shackle of any suitable seal fastening N may be inserted.

The operation of the device is as follows: When the sliding block G is in the position shown in full lines in the drawings, circuit is established through the fuses in the following manner: from terminals of conductors 5, 6 to clips B, C, to fuse cases L, to contact plates I on block G, to members 12 of contact plates D and E, and so to the opposite terminals of conductors 5, 6. In this position the sliding block G may be locked by means of the bar 20, as already described. When it is desired to cut the fuses out of circuit, the locking bar 20 is removed, and by means of handle H, block G is slid to the left of Fig. 1. But in so doing, the contact plates I on block G leave contact with the end caps of the fuse case L, so that circuit is thus broken, and the block may be locked in this position by passing the locking bar under the other shoulder on the handle. When the block G is moved to the position shown in Fig. 1 to close circuit through the fuses, that fact may be usually indicated by the word "On" marked on the upper surface of said block, and then visible through the slot, as shown in Fig. 6. On the other hand, when the block is moved to break circuit, the word "Off" similarly inscribed is caused in like manner to appear.

It will be noticed that even if the locking bar and cover be removed, the block G cannot be taken out of the box when the circuit is completed through the fuse cases, because at that time, as shown in Figs. 1 and 2, the projections 14 on said block run under the clips B, C. When circuit is broken however, the locking bar and cover being removed, the projections 14 come under the middle portions of the fuse cases, and by raising the block by means of handle H, the fuse cases can be conveniently lifted out of the box. It is further to be noted that externally this device presents the appearance of a solid cubical block of porcelain, with simply a movable handle projecting from a slot in one face, through which slot access cannot be had to the interior of the box. Circuit is broken at both fuses simultaneously. Each fuse case is completely inclosed in porcelain and thus individually protected.

I claim:

1. In an electric cut-out, a support, fixed circuit terminals thereon, a stationary fuse case, metal end pieces on said fuse case, one of said end pieces normally closing circuit at one of said terminals, and means movable into contact with the other of said end pieces and the other terminal for making and breaking circuit between the same.

2. In an electric cut-out, a support, fixed circuit terminals thereon, a stationary fuse case, metal end pieces on said fuse case, one of said end pieces normally closing circuit at one of said terminals, and a block slidable into contact with the other of said end pieces and the other terminal for making and breaking circuit between the same.

3. In an electric cut-out, in inclosing box, fixed circuit terminals and a stationary fuse case thereon, metal end pieces on said fuse case, one of said end pieces normally closing circuit at one of said terminals, a member movable within the box into contact with the other of said end pieces and the other terminal for making and breaking circuit between the same, and means for independently operating said member from the exterior of said box.

4. In an electric cut-out, a box, two fixed circuit terminals, a fuse case electrically connected to one of said terminals, a sliding member in constant contact with the other of said terminals and movable to make and break circuit to said fuse case, and means on said member and said box for preventing removal of said member from said box when in position to close circuit.

5. In an electric cut-out, a box, two fixed circuit terminals, a fuse case electrically connected to one of said terminals, a sliding member in constant contact with the other of said terminals and movable to make and break circuit to said fuse case, and a locking device for retaining said sliding member in adjusted position.

6. In an electric cut-out, a fixed box, two fixed circuit terminals, a fuse case electrically connected to one of said terminals, a partition in said box having on its side the other circuit terminal, a sliding block supported on said partition and disposed between said partition and said fuse case, and means on said block for establishing electrical circuit between said circuit terminal and said fuse case.

7. In an electric cut-out, a box, circuit terminals therein, a fuse in said box electrically connected to one of said terminals, a cover having a slot, a sliding member within said box, means on said member for

closing circuit from said fuse to the other of said terminals, and a projection of said sliding member extending through and movable in said slot.

8. In an electric cut-out, a box, circuit terminals therein, a fuse in said box electrically connected to one of said terminals, a cover having a slot, a sliding member within said box, means on said member for closing circuit from said fuse to the other of said terminals, a shouldered projection extending through said slot and movable therein, and a locking bar engaging with said box and extending above said cover and under said shouldered projection for retaining said sliding member in adjusted position.

9. In an electric cut-out, a box, circuit terminals therein, a fuse in said box electrically connected to one of said terminals, a sliding member within said box, means on said member for closing circuit from said fuse to the other of said terminals, and means on said member engaging with said first named terminal to prevent removal of said member from said box when said member is in position to close circuit.

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

THOMAS E. MURRAY.

Witnesses:

GERTRUDE T. PORTER,

MAY T. MCGARRY.