

T. E. MURRAY.
ELECTRIC CUT-OUT.
APPLICATION FILED JUNE 9, 1913.

1,103,989.

Patented July 21, 1914.

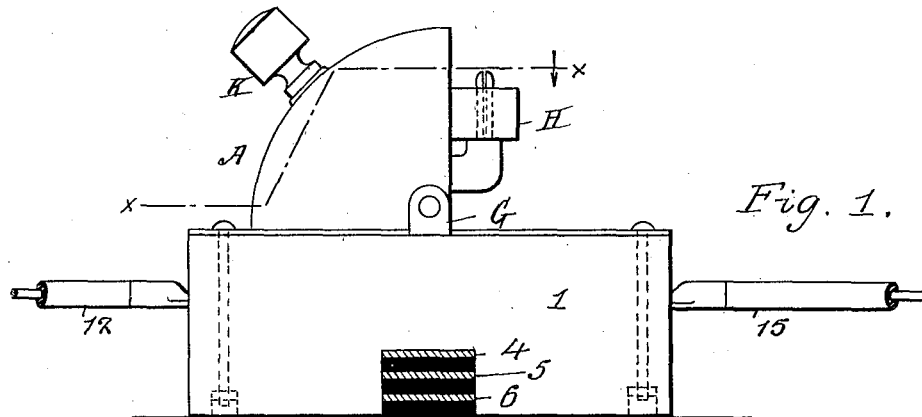


Fig. 1.

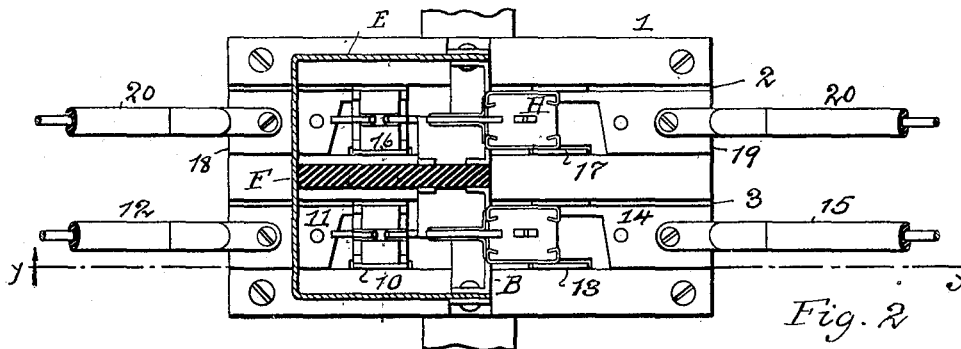


Fig. 2

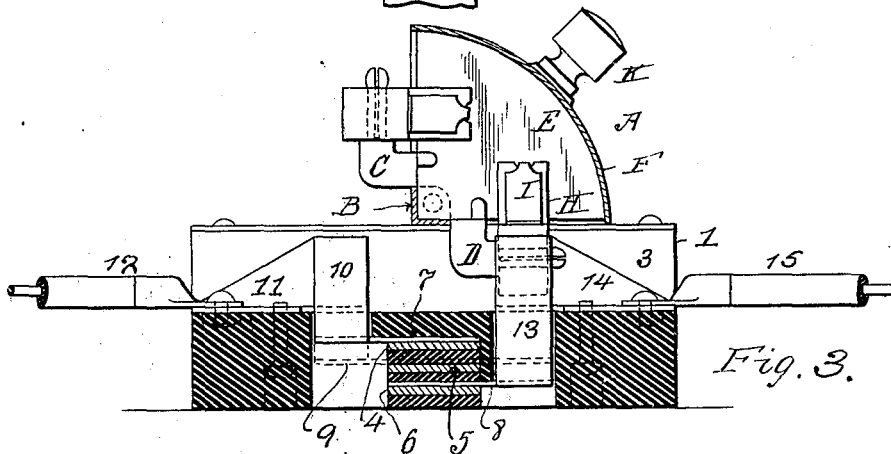


Fig. 3.

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UNITED STATES PATENT OFFICE.

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ELECTRIC CUT-OUT.

1,103,989.

Specification of Letters Patent.

Patented July 21, 1914.

Application filed June 9, 1913. Serial No. 772,528.

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 is an electric cut-out designed for use in a three-wire system, comprising a switch lever, movable into two positions, and fuses carried on said lever co-operating with contacts on said block; the construction being such that when said lever is in one position, circuit is closed in the positive and the neutral conductors of a three-wire system by fuses introduced into both of said conductors, and when the lever is in the opposite position, circuit is closed in the negative and the neutral conductors of said system by fuses introduced into both of said conductors.

The invention further consists in the construction more particularly hereinafter pointed out.

In the accompanying drawings—Figure 1 is a side elevation of my device. Fig. 2 is a plan view, the switch lever shield being in section on the line *x, x* of Fig. 1. Fig. 3 is a longitudinal section on the line *y, y* of Fig. 2.

Similar numbers and letters of reference indicate like parts.

The connections as here represented adapt the device for use on a three-wire circuit.

The base block 1, of refractory insulating material, has two longitudinal channels 2, 3 on its upper side. On the lower side of said block and disposed transversely to channels 2, 3 are three bus-bars 4, 5, 6, separated by layers of insulation. Seated also on the lower side of block 1 are three bar conductors 7, 8, 9, connected as follows: Conductor 7 crosses and is in contact with bus-bar 4, and has an offset 10 which extends up through an opening in the base block into channel 3, where it forms one member of a pair of contacts, the other member of said pair being the plate 11, to which circuit wire 12 is secured. Conductor 8 crosses and is in contact with bus-bar 6, and has an offset 13 which extends up through an opening in the block at the other end of channel 3, where it forms one member of a pair of contacts, the other member of said pair being the plate 14, to which the circuit wire

15 is attached. Conductor 9 crosses and is in contact with bus-bar 5, and at its ends has offsets 16, 17 extending up through openings in the block at opposite ends of channel 2, where said offsets form pairs of contacts with fixed plates 18, 19 respectively. The said plates are connected to terminals 20. As thus arranged, the circuit wire 12 may be the positive lead of a three wire system, wire 15, the negative lead, and the wires 20 parallel terminals of the neutral lead the bus-bars 4, 6 and 5 being respectively positive, negative and neutral.

A swinging fuse-carrying switch A is provided, comprising an angle-piece B, secured to which are two pairs of arms, C C and D D. The arms C C are at right angles to the arms D D. Secured to the ends of the angle-piece B are sector-shaped side plates E which, together with the curved plate F, which may be integral with them, form a shield. On the block are lugs G, in which said shield is pivoted, and may be swung in either direction, as shown in Figs. 1 and 3. The arms C C and D D are slit at their ends, so that each arm may enter and fit snugly in an opening in a carrier H of insulating material, over the edge of which the fuse strip I is doubled. The four carriers H and fuse strips thereon are alike. Each fuse strip extends over the body portion of its carrier on opposite sides thereof and is secured in place. The switch lever is swung by the handle K on the shield. When said lever is in the position shown in Fig. 3, one fuse is introduced between the pair of contacts formed by offset 13 and plate 14, and the other fuse is introduced between the pair of contacts formed by offset 17 and plate 19. Circuit is then closed from negative bus-bar 6 through the fuse inserted between contacts 13, 14 to negative lead 15, and simultaneously from neutral bus-bar 5 through the fuse inserted between contacts 17, 19 to neutral lead 20. When said lever is swung into the position shown in Fig. 1, one fuse is introduced between the pair of contacts formed by offset 10 and plate 11, and the other fuse is introduced between the pair of contacts formed by offset 16 and plate 18. Circuit is then closed from positive bus-bar 4 through the fuse inserted between contacts 10, 11 to positive lead 12, and simultaneously from neutral bus-bar 5 through the fuse inserted between contacts 16, 18 to neutral lead 20.

In this way by placing the switch lever in one position or the other, circuit is closed and fused through either the positive and neutral or the negative and neutral conductors of the system.

I claim:

1. A base, a group of two pairs of contacts on said base, the pairs of said group being interposed respectively in the positive and neutral conductors of a three-wire system, a second group of two pairs of contacts on said base, the pairs of said second group being interposed respectively in the negative and neutral conductors of said system, a switch lever pivoted to said base between said groups and having two parallel arms on each side of its pivot, and fuse plugs carried on said arms and adapted to enter and close circuit between the members of said pairs of contacts, the arms on one side of said lever being set at an angle to the arms on the other side; whereby when said lever is swung in one direction, the fuses on two of said arms shall enter between and close circuit in the pairs of contacts interposed in said positive and neutral conductors, and when said lever is swung in the opposite direction, the fuses on the other two of said arms shall enter between and

close circuit in the pairs of contacts interposed in said negative and neutral conductors.

2. A base, three mutually insulated bus-bars extending across said base, two pairs of contacts on said base, each pair having one member connected to one of said bus-bars, circuit terminals connected to the opposite members of said pairs, a pair of contacts on said base, each having one member connected to one of the other bus-bars, two circuit terminals connected to the opposite members of said pairs, the said four pairs of contacts being arranged in two groups of two pairs each, each group including one of the two pairs of contacts connected to the same bus-bar, a shaft journaled on said base and extending across the same between said groups, two pairs of arms on said shaft, one pair of arms being placed at an angle to the other pair, and fuse plugs carried by said arms and coöperating with said pairs of contacts.

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

THOMAS E. MURRAY.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."