T. E. MURRAY.

ELECTRIC CUT-OUT.

APPLICATION FILED JUNE 9, 1913.

1,103,990. **Patented July 21, 1914.**

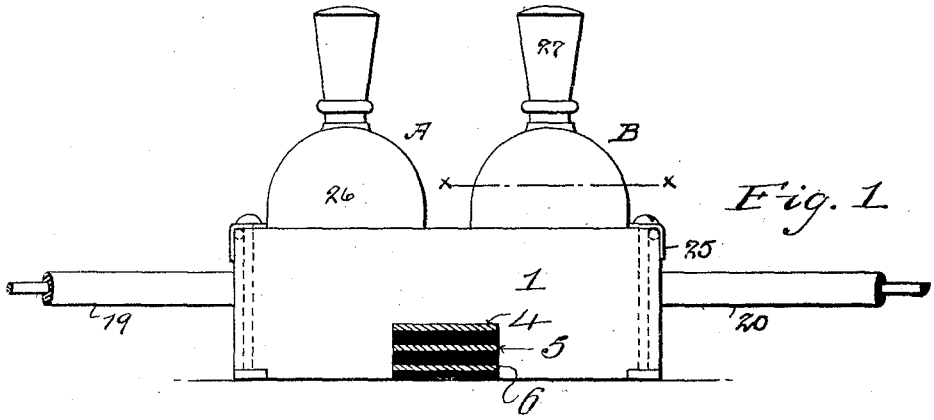

Fig. 1.

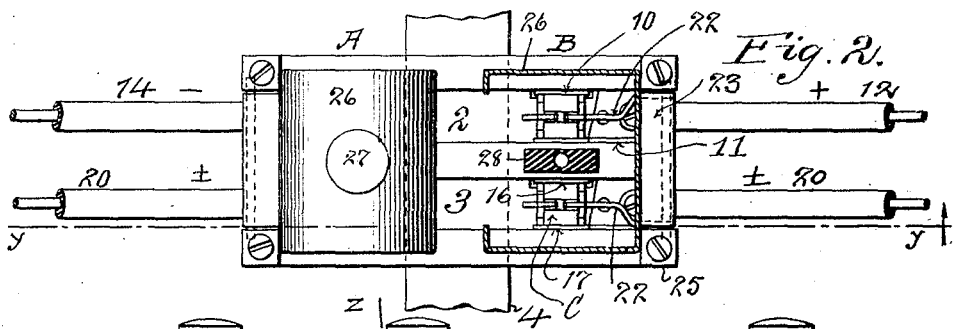

Fig. 2.

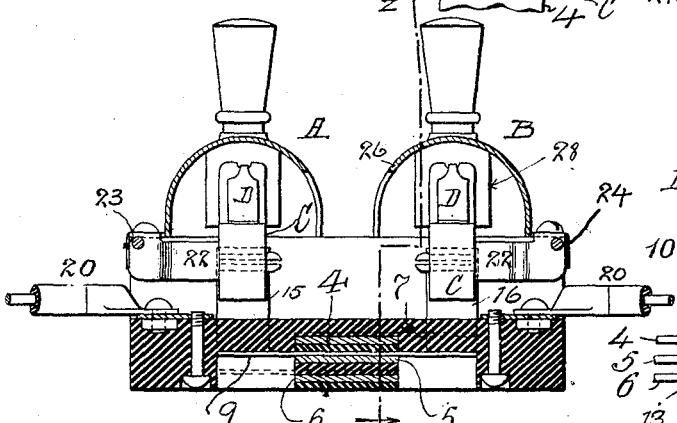

Fig. 3.

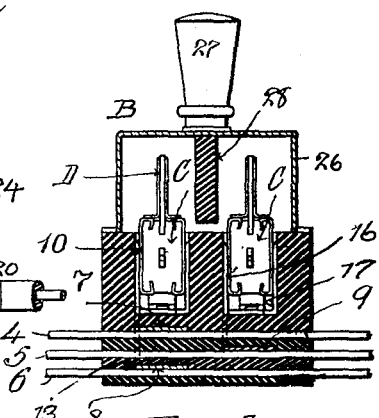

Fig. 4.

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UNITED STATES PATENT OFFICE.

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ELECTRIC CUT-OUT.

1,103,990. Specification of Letters Patent. Patented July 21, 1914.

Application filed June 9, 1913. Serial No. 772,529.

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 two switch levers, each movable, and fuse plugs on said levers coöperating with contacts on said block: the construction being such that one of said plugs establishes circuit in positive lead and neutral lead, and the other plug establishes circuit in negative lead and neutral lead. When both levers are closed, circuit is established, and when both levers are open, circuit is broken in the system.

In the accompanying drawings—Figure 1 is a side elevation of my cut-out box. Fig. 2 is a plan view, showing one of the shields in section on the line x, x of Fig. 1. Fig. 3 is a section on the line y, y of Fig. 2. Fig. 4 is a section on the line z, z of Fig. 3.

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 is connected through an opening in the base block to one member 10 of a pair of contacts in channel 2, the other member of said pair being plate 11, to which circuit wire 12 is secured. Conductor 8 crosses and is in contact with bus-bar 6, and has a connection 13, dotted lines Fig. 4, which extends up through an opening in the block at the other end of channel 2, where it forms one member of a pair of contacts, the other member of said pair being a plate (not shown) similar to plate 11, to which circuit wire 14 is attached. Conductor 9 crosses and is in contact with bus-bar 5, and at its ends has connections extending up through openings in the block at opposite ends of channel 3, to members 15, 16 of pairs of contacts, the opposite members of said pairs being plates 17 similar to plate 11. One of said plates 17 is shown in Figs. 2 and 4. To said plates 17 are connected the terminals 20. As thus arranged, wire 12 may be the positive lead of a three wire system, wire 14, the negative lead, and wire 20 the neutral lead.

Two fuse plug carrying switches A, B are provided each in the form of a bell-crank lever pivoted to the base. The switch A opens and closes circuit between the contacts 10, 11 in channel 2, and between the contacts 16, 17 in channel 3. The switch B opens and closes circuit between the other two pairs of contacts in said channels. Said switches are alike in construction, so that the description of one applies to both.

22 are parallel arms projecting from a cross-piece 23. In said arms are openings to receive the fixed rod 24, secured to the block by straps 25, upon which rod said arms freely turn. Secured to the cross-piece 23 is a hollow semi-cylindrical metal shield 26. On the upper side of said shield is an operating handle 27, and within said shield is a depending partition 28 of insulating material.

The fuse plugs have openings to receive the ends of arms 22. Each carrier comprises a block of insulating material having an upwardly extending thin partition, over which is doubled the fuse strip D. The strip lies in contact with opposite sides of the plug and is secured thereon. When a plug is in place between the members of a pair of contacts, circuit is closed through the fuse strip.

When switch A is closed (B being open) circuit is established by the insertion of the fuse plugs in the neutral and negative conductors. When switch B is closed (A being open) circuit is established by the insertion of the fuse plugs in the neutral and positive conductors. The levers are operated by the handles 27.

I do not claim herein the subject-matter of Serial No. 764,491, filed April 30, 1913, by Arthur V. A. McHarg.

I claim:

1. A base, having a plurality of channels, a plurality of mutually insulated bus-bars extending transversely across said base, connections extending from said bars through said base and into said channels and each connection communicating with one member

of a pair of contacts therein, plates in said channels forming the opposite members of said pairs, circuit leads connected to said plates, and means for closing circuit between the members of each pair.

2. 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 bell-crank switch lever pivoted to said base, fuse plugs on said lever and adapted to enter between the members of the pairs of one of said groups, a second bell-crank switch lever pivoted to said base, and fuse plugs carried on said lever and adapted to enter between the members of the pairs of the other of said groups.

3. 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, 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, two bell-crank switch levers pivoted to said base, and fuse plugs on said lever; the fuse plugs on one of said levers cooperating with one of said groups of contacts, and the fuse plugs on the other of said levers coöperating with the other of said groups of contacts.

4. A base, a pair of contacts thereon, a fuse plug entering and closing circuit between said contacts, and a bell-crank lever pivoted to said base; one arm of said lever carrying said fuse plug, and the other arm being a hollow shield covering said plug.

5. A base, a pair of contacts thereon, a fuse plug entering and closing circuit between said contacts, a shaft journaled on said base, an arm on said shaft supporting said fuse plug, and a hollow shield on said shaft extending over said plug.

6. A base, a pair of contacts thereon, a fuse plug entering and closing circuit between said contacts, a shaft journaled on said base, an arm on said shaft supporting said fuse plug, a hollow semi-cylindrical shield on said shaft extending over said plug, and a handle on said shield.

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

THOMAS E. MURRAY.

Witnesses:

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MAY T. MCGARRY.