

T. E. MURRAY.

ELECTRIC FUSE BOX.

APPLICATION FILED JAN. 21, 1908.

926,433.

Patented June 29, 1909.

2 SHEETS—SHEET 1.

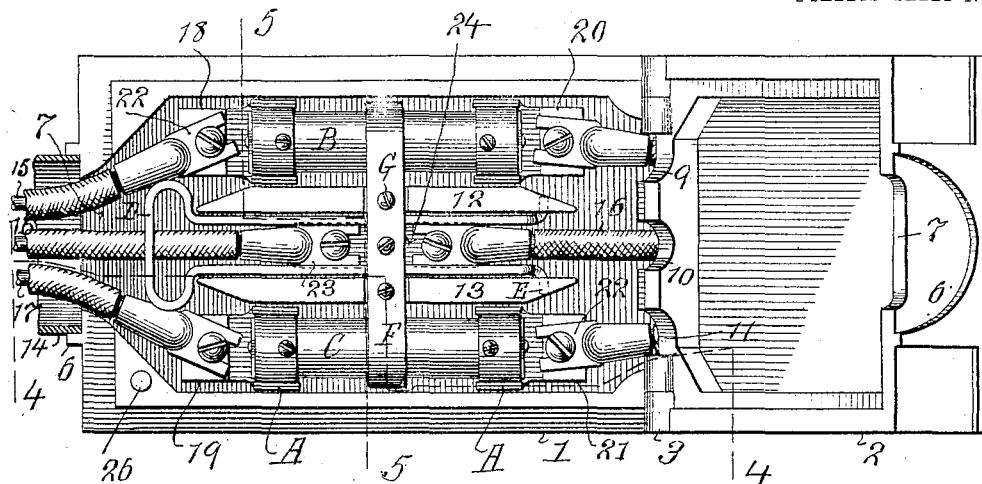


Fig. 1.

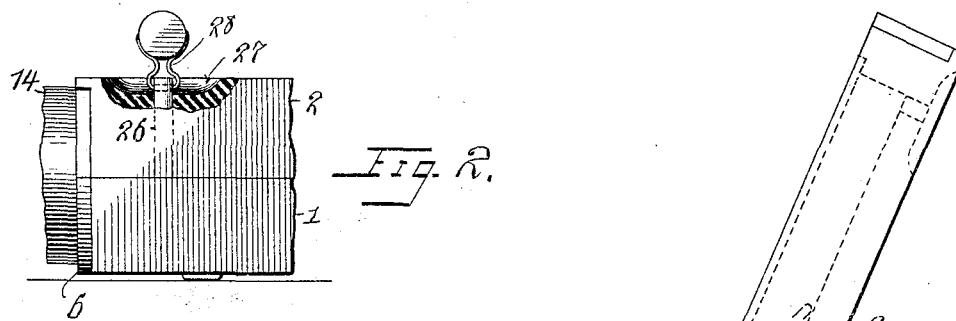
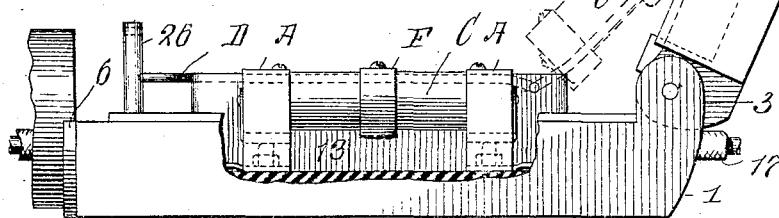


Fig. 2.

Fig. 3



Witnesses:

C. H. Bertholf
B. Shulson

Thomas E. Murray
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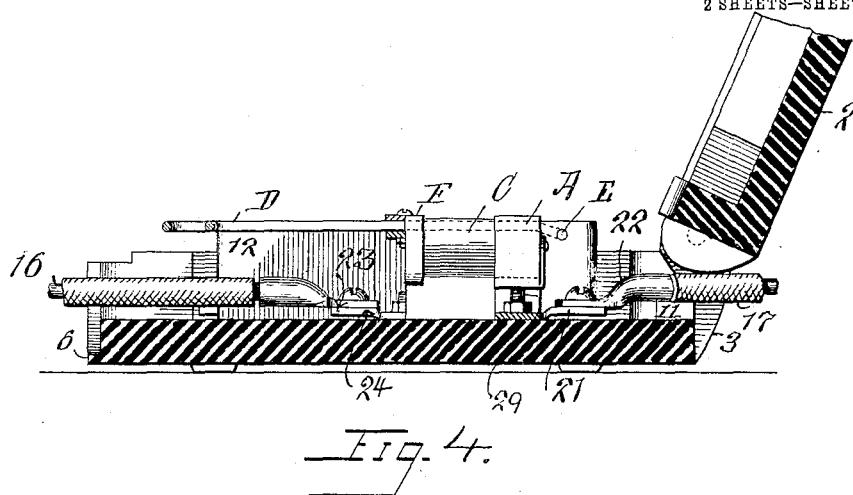
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

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

ELECTRIC-FUSE BOX.

No. 926,433.

Specification of Letters Patent.

Patented June 29, 1909.

Application filed January 21, 1908. Serial No. 411,929.

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-Fuse Boxes, of which the following is a specification.

The invention relates to an electric fuse or cut out box for use on service circuits and to be placed in any desired situation.

The object of the invention is to enable the fuses located within the box and in gaps in the positive and negative conductors of a three wire system to be conveniently removed from and placed in said gaps; to prevent improper access to the conductors and to simplify and cheapen the construction of the apparatus.

20 The invention consists in the various combinations more particularly recited in the claim.

In the accompanying drawings—Figure 1 is a plan view of my improved fuse box. Fig. 2 is a side elevation of a part of the box, showing the mode of sealing the cover in closed position. Fig. 3 is a side elevation, a part of the wall of the box being broken away and the cover and fuse case lifting arm 30 (dotted lines) shown in raised position. Fig. 4 is a section on the line 4, 4, of Fig. 1. Fig. 5 is a section on the line 5, 5, of Fig. 1 and Fig. 6 is an end elevation of the left hand end of the box as placed in Fig. 1.

35 Similar numbers of reference indicate like parts.

The box proper is preferably made of china, porcelain or other refractory insulating material and has a base portion 1 and 40 a cover 2 pivoted in lugs 3 on said base. At one end of the box is formed a ring flange 6, part of said flange being on the cover and part on the base. Within said flange and also partly in the cover and partly in the 45 base is an opening 7. At the opposite end of the box and also formed partly in cover and partly in the base are three openings 9, 10, 11. Within the base and integrally formed therewith are two parallel walls 12, 13. The object of the ring flange 6 is to receive the end of the tubular conduit 14, which is secured in said flange by any suitable means. In said conduit are the conductors 15, 16, 17, of a three wire system, of 50 which 15 and 17 are respectively the positive and negative conductors, and 16 the neutral

conductor. Gaps are formed in each of these conductors within the box in the following manner. On the bottom of the base are secured four metal plates 18, 19, 20, 21, 60 each plate integrally formed with an upwardly projecting pair of spring clip arms A. The parts of the conductors 15 and 17 which enter the box through the opening 7 in the end wall thereof are provided at their ends 65 with metal contact pieces 22 of the usual U form which are detachably secured to the plates 18, 19, by screws. The parts of the conductors 15 and 17 which enter the box respectively through the openings 9 and 11 70 are provided with similar contact pieces which in like manner are detachably secured to the plates 20, 21. Hence between the pair of arms A on contact plate 18 and the like pair of arms on contact plate 20 is produced a gap in the electrical continuity of conductor 15 and between the corresponding arms of plates 19 and 21 is produced a gap in the electrical continuity of conductor 17. One part of the neutral conductor 16 80 enters the box through opening 7, the other part through opening 10; each part at its extremity within the box is provided with a metal contact piece 23 similar to the piece 22. There is also a gap between the contact 85 pieces 23 which is closed by detachably securing said pieces to a fixed contact plate 24 on the bottom of the box. The gaps in conductors 15 and 17 are closed by two cases B, C, containing electric fuses of any suitable construction, the fuse in each case being connected to the metal caps at the ends of said case. Said caps are constructed to fit between the members of the pairs of clip arms A, and may be arranged in any suitable 95 way for this purpose. As here shown each cap carries a bent metal plate 25 having flat sides adapted to make contact with the arms A, between which it is inserted. The electrical continuity of the conductors 15 and 17 100 is thus continued through the fuses, so long as said fuses are seated in the arms A, but is broken when said fuses are removed from said arms. The gap between the parts of the neutral conductor 16 is normally kept 10 closed by the plate 24.

In order to retain the cover 2 shut and to prevent its being opened by unauthorized persons I provide a fixed pin 26 on the edge of the base which projects upwardly through a hole in the cover and terminates in a recess 27 on the upper side thereof. In order to

permit these fuse boxes to be conveniently piled said pin should not extend above the plane of the cover upper surface. In said pin is a transverse opening through which 5 passes the fastening wire 28 of a seal, which wire acts as a stop to prevent lifting of the cover.

When the wire 28 is removed and the cover 10 lifted as shown in Figs. 1 and 3, either or both the fuse cases B, C, may be removed from the arms A by the hand of the operator.

For convenience in lifting out the fuse cases and also to hold them in connection with the box after removal, I may use the 15 following device. D is an arm formed by doubling over a wire, which is pivoted at its extremities at E in the walls 12 and 13. F is a transverse strip of metal which, as shown at the right of Fig. 5, extends over the arms 20 D and is carried around both fuse cases and has its ends lapped on the under side of said transverse portion and secured thereto by screws G. Hence, when said arm D is raised, as indicated in dotted lines, Fig. 3, both 25 fuse cases B, C, are drawn up out of the clip arms A, and are supported by the arm D to which they are always firmly attached.

The mode of fastening the fuse cases B, C, to the arm D, herein specifically shown, is 30 not essential since any other fastening device for accomplishing the same end may be employed.

The contact plates 18, 19, 20, 21, are secured to the bottom of the base by threaded bolts 29 provided with suitable nuts. The bolts 29 extend upwardly and serve, as shown in Figs. 4 and 5, to support the fuse cases from beneath.

It is also to be noted that the cover 2 retains the fuses or cut outs in place in the box 40 or holding means when secured by the rod 26, and seal 28 locks them in position. When said cover is closed, it also completely prevents access to the fuses and the terminals and cannot be raised without breaking the 45 seal.

I claim:

The combination of a box, parallel partitions extending upwardly from the bottom thereof, pairs of metallic clips respectively 50 on opposite sides of said partitions, circuit terminals connected to said strips, fuse cases having metallic terminals, an upwardly swinging arm pivoted between said partitions and connected to said fuse cases, and 55 an upwardly swinging cover pivoted to one end of said box and free from said arm.

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

THOMAS E. MURRAY.

Witnesses:

GERTRUDE T. PORTER,
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