32

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T. E. MURRAY.

ELECTRIC CUT-OUT AND HOLDER.

APPLICATION FILED MAR. 13, 1908.

905,905. Patented Dec. 8, 1908.

2 SHEETS—SHEET 1.

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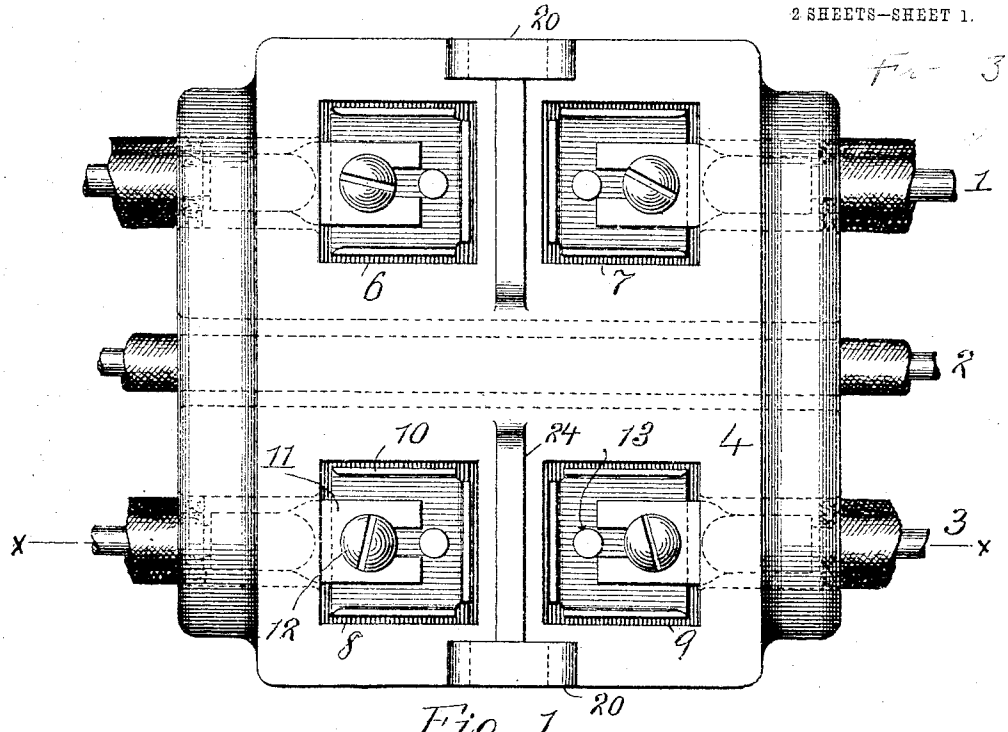


Fig. 1.

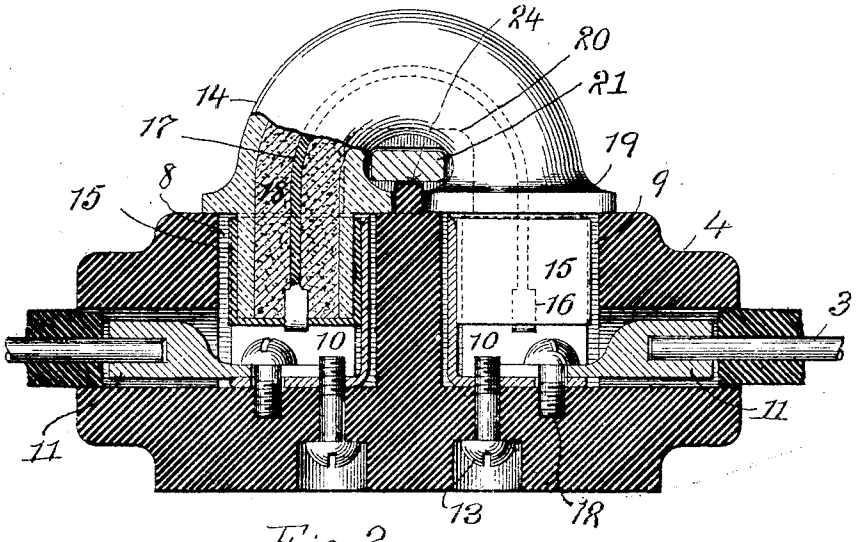


Fig. 2.

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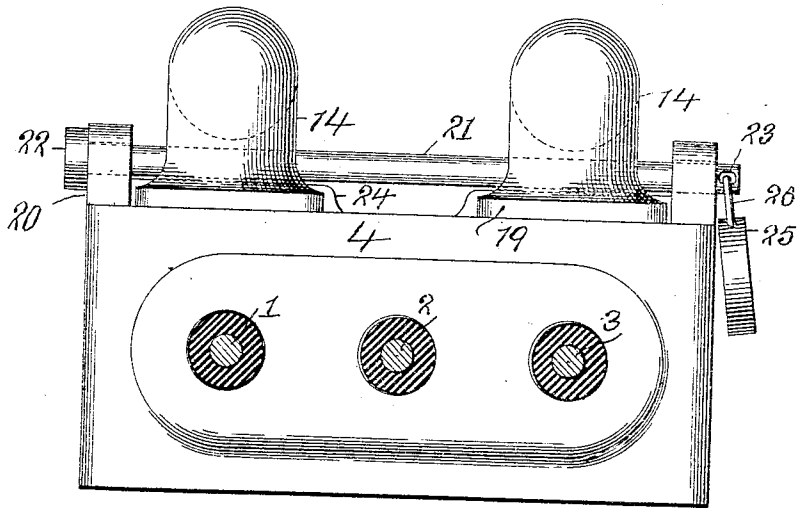


Fig. 3.

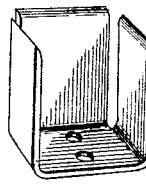


Fig. 4.

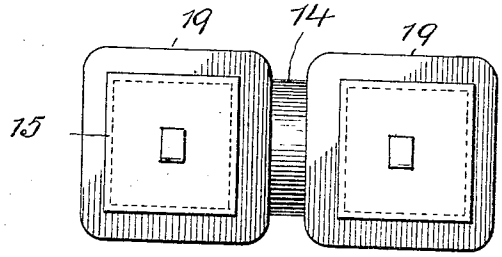


Fig. 5.

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# UNITED STATES PATENT OFFICE.

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

## ELECTRIC CUT-OUT AND HOLDER.

No. 905,905. Specification of Letters Patent. Patented Dec. 8, 1908.

Application filed March 13, 1908. Serial No. 420,967.

*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 and Holders, of which the following is a specification.

The invention relates to cut outs, such as electric fuses and to the means for holding the same.

The object of the invention is to do away with the ordinary electric fuse or cut out boxes and to substitute not only a simpler and cheaper construction, but one which, while permitting of the ready replacing of the cut out or the breaking of a local circuit connected through this device to the main line, will also effectually prevent unauthorized access to the circuit terminals and consequent danger of theft of current. To this end, I use the cut out itself as the means for preventing access to the terminals, which are located in a suitable holder, and I further lock the cut out in place by a device coöperating directly with cut out and holder, which device may be protected from outside tampering by means of a suitable seal.

In the accompanying drawings: Figure 1 is a plan view of my cut out and holder the fuse cases being removed. Fig. 2 is a section on the line *x x* of Fig. 1 showing the fuse case partly in elevation. Fig. 3 is an end elevation. Fig. 4 shows in perspective one of the metal clips receiving the ends of the fuse case. Fig. 5 is a bottom view of the fuse case showing the flanges.

Similar numbers of reference indicate like parts.

1, 2 and 3 are the conductors of a three wire system.

4 is a block of porcelain or other insulating material. The neutral conductor 2 passes through a suitable opening in said block. In said block are four recesses 6, 7, 8 and 9, in each of which is a metal clip or contact piece 10, three sides of which are bent upward. Said clips are secured in place by counter-sunk screws 13 extending upwards through the material of the block. The usual forked contact terminals 11 of the conductors 1, 3, enter said recesses through openings in the wall of the block and are held in contact with the clips 10 by screws 12.

The cut out proper or electric fuse cases 14 are tubular and preferably of porcelain, glass or other fictile material, bent over in loop form. To the straight end portions of said case are applied metallic caps 15 which receive the terminals 16 of the fuse wire 17. The space within the case around the wire is preferably filled with plaster of paris or other comminuted non-conducting material, as indicated at 18. On the case are integrally formed flanges 19, against which the upper edges of the caps 15 may abut. The inner contour or shape of the case and flanges is that of an open eye, the interval between the flange edges being narrower than the interval between the sides of the case beyond said flanges. The specific construction of the fuse portion is not material since any known arrangement of electric fuse may be employed in conjunction with the bent over case described.

In assembling the device, the straight end portions of the cases 14 are inserted in the recesses 6 and 7, and 8 and 9, so that electrical contact is made between the caps 15 and clips 10, and so that circuit is closed between the parts of the conductors 1 and 3 by the fuse wires 17. The flanges 19 then rest upon the block 4. Upon the upper side of said block are two preferably integral lugs 20 having openings. A rod 21, having a head 22 at one end and an opening 23 near the opposite end is passed through said lugs and through the eye formed by the fuse case. The transverse width of said rod measures greater than the interval between the flanges 19, so that said rod, when in place, forms a locking device preventing removal of the fuse case from the block. Said rod is also supported by ribs 24 on the upper side of the block and integral therewith. In order to prevent withdrawal of the locking rod, any suitable seal 25 may be provided, the shackle 26 of which is passed through the opening 23 in said rod.

The following advantages are to be noted. The end portions of the fuse or cut out cases, substantially fill the recesses in the block, and the flanges 19 completely cover said recesses, so that when the cases are in place, it is impossible for access to be had to the conductor terminals. Hence said terminals cannot be reached for the attachment of grounds or other unauthorized connections for the purpose of taking off current. It is, of course, to be understood that the wall openings in the block through which the conductors pass are to be made of a size

to be filled by the insulation on said conductors. The fuse cases cannot be removed from the block because of the locking device, nor can the locking rod be withdrawn without breaking the seal and so causing the tampering to be revealed. Saving the locking rod which may be of metal, the whole device externally shows simply an apparently solid block of porcelain or the like.

Whenever it is desired to maintain a break in the circuit of either of the conductors 1 and 3, the fuse case may be removed and another similar fuse case substituted in which the fuse wire is already blown or interrupted, or any body made wholly of insulating material of exactly the same shape as the fuse case may be inserted and locked in place by the rod as before.

I claim:

1. A holder having two recesses, circuit terminals respectively disposed in said recesses, and a cut out having its ends constructed to enter said recesses and its body portion to extend between said recesses and outside of said holder.

2. A holder having two recesses, circuit terminals respectively disposed in said recesses, and a cut out in loop form having its ends constructed to enter said recesses.

3. A holder having two recesses, circuit terminals respectively disposed in said recesses, a cut out in loop form having its ends constructed to enter said recesses, and means for locking said cut out in place.

4. A holder having two recesses, circuit terminals respectively disposed in said recesses, and a cut out in loop form having its ends constructed to enter said recesses and provided with flanges bearing on the external surface of said holder around said recesses.

5. A holder having two recesses, circuit terminals respectively disposed in said recesses, a cut out in loop form having its ends constructed to enter said recesses and provided with flanges bearing on the external surface of said holder around said recesses, and means coöperating with said holder and said flanges for locking said cut out in place.

6. A holder having two recesses, circuit terminals respectively disposed in said recesses, and a cut out comprising a tube and a fuse inclosed therein: the said tube being in loop form and having its ends constructed to enter said recesses.

7. A holder of insulating material, circuit terminals disposed in recesses therein, a removable cut out in open eye shape having its end portions constructed to enter and close said recesses, lugs on said holder, a headed removable locking bar passing through said lugs and the eye formed by said cut out, and a seal device for preventing removal of said bar.

8. In combination with circuit terminals and a holder therefor of insulating material, a cut out in loop form having a tubular outer wall of insulating material, the loop of said tubular wall extending outside of said holder and the end portions of said wall being embedded therein.

9. In combination with an electric fuse device comprising a tube of fictile material, caps of conducting material thereon, and a fuse wire extending between said caps, the said tube being in open eye shape, a holder of insulating material having recesses constructed to receive said caps, circuit terminals in said recesses and a removable locking bar extending through said eye and secured to said holder.

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

THOMAS E. MURRAY.

Witnesses:
GERTRUDE T. PORTER,
MAY T. MCGARRY.