T. E. MURRAY.

ELECTRIC CUT-OUT.

APPLICATION FILED OCT. 25, 1910.

986,744.

Patented Mar. 14, 1911.

3 SHEETS—SHEET 1.

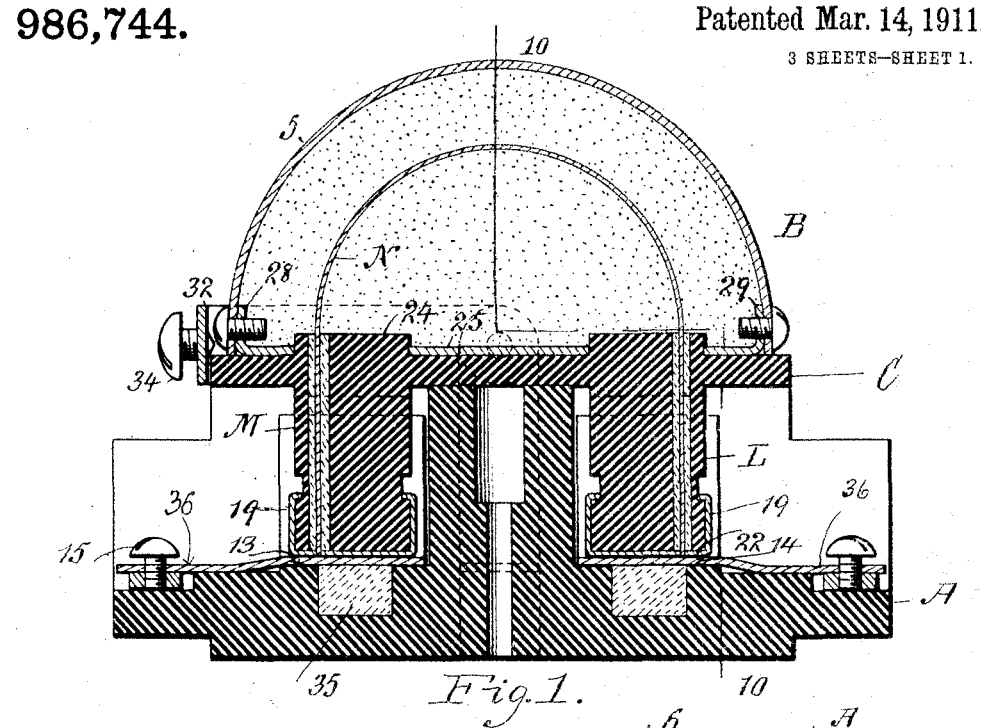

Fig. 1.

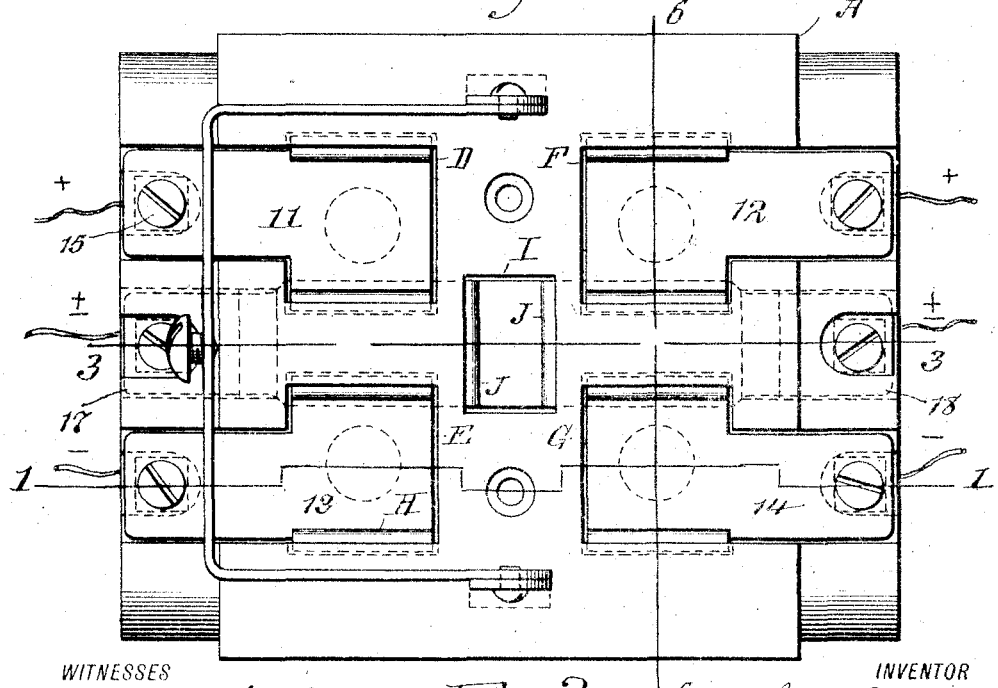

Fig. 2.

WITNESSES

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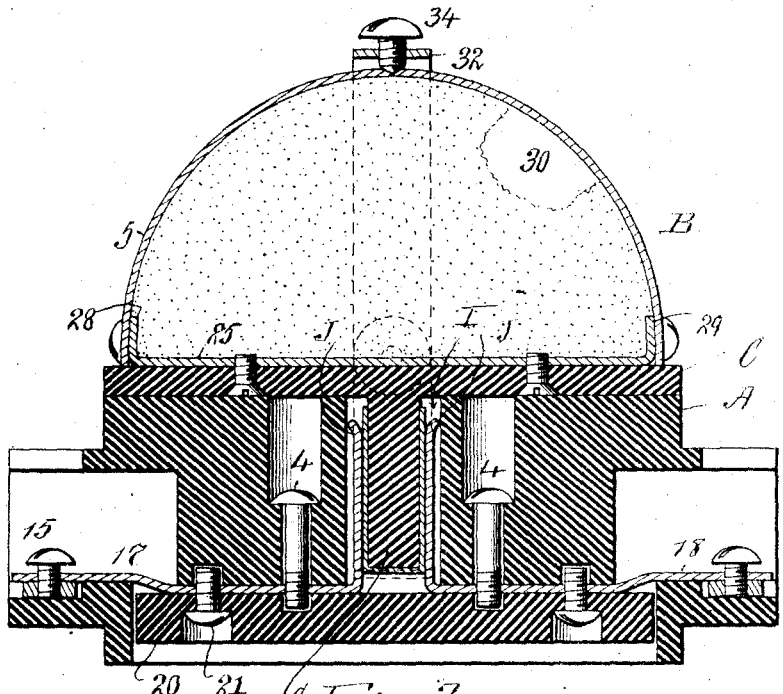


Fig. 3.

Fig. 4.

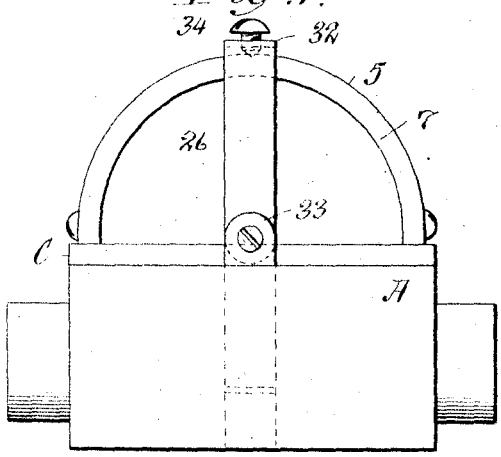
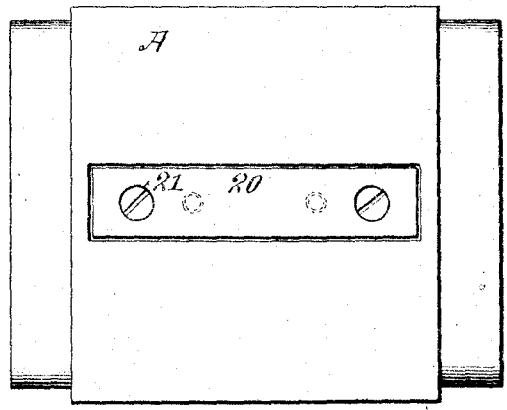


Fig. 5.



Witnesses.

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3 SHEETS—SHEET 3.

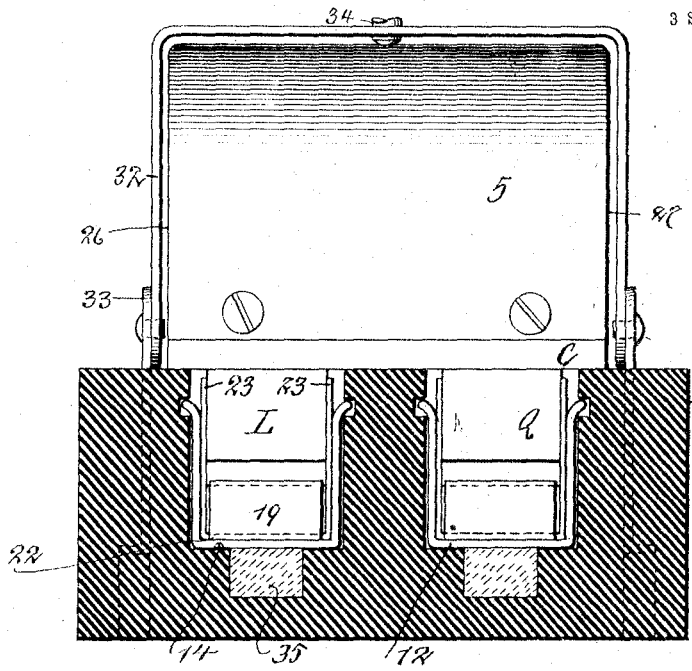


Fig. 6.

Fig. 7.

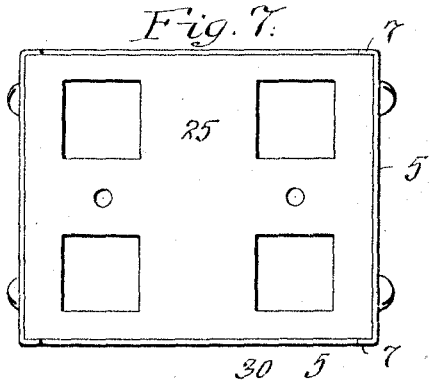
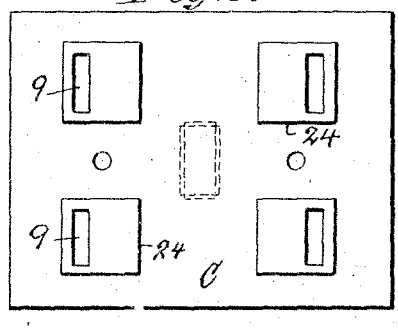


Fig. 8.



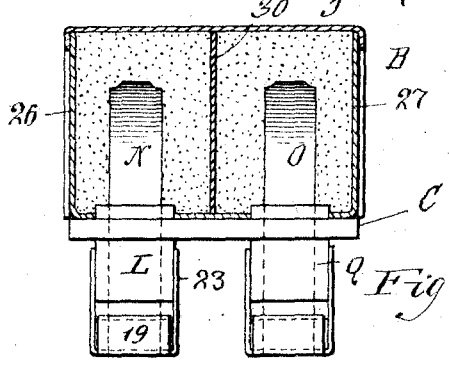
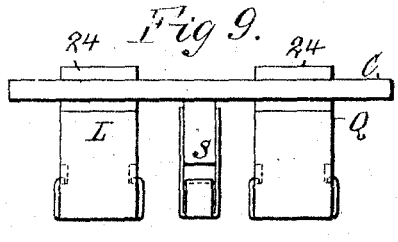


Fig. 10.

Fig 9.



Witnesses:
Allan A. Goss.
May T. McGarry.

Thomas E. Murray
Inventor
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UNITED STATES PATENT OFFICE.

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

ELECTRIC CUT-OUT.

986,744. Specification of Letters Patent. Patented Mar. 14, 1911.

Application filed October 25, 1910. Serial No. 588,954.

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 hereinafter set forth, whereby the apparatus is more especially adapted to heavy currents.

The fuse case is formed of sheet metal, such as iron or steel, and is mounted upon the upper side of the cover of the base block, the said cover and base block being of porcelain or similar refractory insulating material. On the bottom of the cover and preferably integral therewith are plugs provided with contacts which enter recesses in the base block and establish circuit through the fuse or fuses which extend through said plugs, cover and case to the conductor terminals of a three wire system. The fuse case is preferably filled with comminuted refractory insulating material, and may contain a partition between the fuses, so that each is protected from injury by the blowing of the other.

In the accompanying drawings—Figure 1 is a longitudinal section of my improved cut-out on the line 1, 1 of Fig. 2. Fig. 2 is a plan view, with the fuse case removed. Fig. 3 is a longitudinal section on the line 3, 3 of Fig. 2. Fig. 4 is a side elevation of the whole device. Fig. 5 is a plan view of the bottom of the base block. Fig. 6 is a cross section on the line 6, 6 of Fig. 2. Fig. 7 is a plan view of the top of the bottom of the metal fuse case. Fig. 8 is a plan view of the porcelain cover plate which carries the plugs and is interposed between the fuse case and the base block. Fig. 9 is an edge view of said cover plate and plugs integrally formed thereon, and Fig. 10 is a cross section on the line 10, 10 of Fig. 1.

Similar numbers and letters of reference indicate like parts.

The device comprises three principal parts, namely, the base block A, the fuse case B, and the plate C which supports the fuse case and also forms a cover for the block, and which is provided on its under side with five plugs which respectively enter suitable sockets in said block.

The block A is integrally formed of porcelain or other refractory insulating material. It has four sockets, D, E, F, G, Fig. 2, each of which communicates with an opening in the end wall of the block. In said sockets are metal bottom plates 11, 12, 13, 14, which have prolongations 36 extending through the openings in said end walls. Each plate has side portions bent upwardly to form spring clips, as shown at H. To the bottom plates 11 and 12 may be connected the terminals of the positive conductor of a three wire system by means of suitable clamping screws, as shown at 15. To the plates 13 and 14, in like manner, may be connected the terminals of the negative conductor of said system. In the middle of the block and between the four sockets described is another socket I which communicates with a passage on the under side of the block, in which are placed two metal strips 17, 18, Fig. 3, the ends of which are bent up in said socket to form clip arms J. The strips 17 and 18 are received in a recess on the lower side of the block and are secured in place by the countersunk bolts 4, Fig. 3. After these strips are inserted, a cover plate 20 of porcelain is inserted in the recess and secured therein by bolts 21, Figs. 3 and 5, which pass through the strips and enter the body of the block. The ends of the strips 17 and 18 extend through openings in both end walls of the block and are provided with screw connections similar to 15, so that the terminals of the negative conductor of said three wire system may thus be connected to the extremities of said strips. The covering plate C is also made of porcelain, and is provided with four plugs, L, M, Q, R, (R not shown) which enter respectively sockets D, E, F, G, and a middle plug S which enters socket I. These plugs are formed integral with the plate C.

On the bottom of each plug as L, Fig. 1, is a metal contact plate 22 having two sides 19 bent up and secured by turning the extremities thereof into notches in the plug, and two sides 23, also bent up and lying against the plug. Through each pair of plugs, as L, M, Fig. 1, extend the legs of a fuse strip. There are two of these fuse strips, N and O. As shown in Fig. 1, the end of the fuse strip N is connected to the contact plate 22 and is arched over above the plate C, and its opposite end is connected to the similar contact plate of plug M. The passages 9, Fig. 8, in the plugs through which the fuse strip N passes, are made somewhat larger in cross sectional area than said strip, and after the strip is inserted, these passages are to be filled with plaster or similar material. The fuse O which is in the other pair of plugs is connected to them in the same way. The bent up portions 23 of the bottom plates extend nearly to the tops of the plugs, and enter the spring clip arms H when the plugs are inserted in place in the sockets D, E, F, G, I of block A.

On the upper side of the plate C and directly above the four plugs L, M, Q, R, are four projections 24, Fig. 8, which enter openings in the metal bottom plate 25 of the fuse case. Said plate is bent up on two sides to form the semicircular side walls 26 and 27 of the fuse case, and on its two remaining sides it is flanged for a short distance upward, as shown at 28, 29. A middle partition 30 of the same shape as the side walls divides the case into two compartments, into which enter respectively, the fuses N, O. The fuse case is closed by a semicylindrical cover 5 which is flanged over the semicircular side walls, as shown at 7, Fig. 4, and is secured by bolts entering the flanges 28. After the plugs are inserted in the sockets of the block, the plate C carrying the fuse case covers all of the sockets in said block. In order to clamp together the parts of the block, I provide a swinging bail 32, pivoted in lugs 33 secured on the upper surface of the block, which bail when turned down allows the fuse case and plug plate C to be removed together, but which when turned up, as shown in Fig. 3, enables said fuse case and plate to be tightly held in the block by turning down the clamping screw 34 which passes through the horizontal upper part of said bail.

The fuse case B is to be filled with any suitable comminuted refractory material, in which the fuses become embedded.

In order to make close contact between the bottom plates on the plugs and the bottom plates 11, 12, 13, 14 in the sockets, I form recesses in the body of the block immediately below each socket, as shown in Figs. 1 and 6, which recesses I may fill with any suitable cement 35. While the cement is still plastic, the plates 11, 12, 13, 14 are pressed down upon it, so that when the cement sets the surface against which the plates rest closely fits them. The upper edges of the contacts H are bent outwardly and sprung into recesses T in the sides of the sockets, as shown in Fig. 6. This enables said plates to be held in said sockets without the use of fastening bolts entering said sockets. In first assembling the parts, the clamping screws 15 may be released, thus leaving the clips H free to turn slightly in the socket to fit accurately on the plugs, after which the screws 15 are set up.

I claim:

1. An electric cut-out comprising a base block, a fuse case, a detachable cover for said block disposed between said block and said case, contacts respectively on said base and cover, and a fuse in said case connected to said cover contacts.

2. An electric cut-out comprising a base block, a cover therefor, a fuse case on the exterior of said cover, plugs on said cover entering sockets in said block, contacts on said plugs and in said sockets, and a fuse extending through said fuse case and plugs and connected to the contacts on said plugs.

3. An electric cut-out comprising a base block and a cover of refractory insulating material, a fuse case of metal having its bottom plate secured to said cover, plugs on said cover entering sockets in said base block, contacts in said sockets and on said plugs, and a fuse strip extending through said fuse case and plugs and connected to the contacts on said plugs.

4. An electric cut-out comprising a base block and a cover of refractory insulating material, a fuse case of metal having its bottom plate secured to said cover, projections on the upper side of said cover entering openings in said bottom plate, plugs on said cover entering sockets in said base block, contacts in said sockets and on said plugs, and a fuse strip extending through said fuse case, projections and plugs, and connected to the contacts on said plugs.

5. An electric cut-out comprising a base block of non-conducting material, a semi-cylindrical fuse case of metal having its bottom wall secured to said cover, two pairs of plugs on said cover entering sockets in said base block, and contacts in said sockets and on said plugs; a fuse strip extending through said fuse case and to one of said pairs of plugs and connected to said contacts on said plugs, a second fuse strip extending through said fuse case and to the other of said pairs of plugs and connected to said plugs; a fifth plug on said cover entering a separate socket in said base, contact terminals in said socket, and a circuit closing contact plate on said fifth plug.

6. A base having a socket, a bottom contact plate having upwardly extending spring clip arms engaging in recesses formed in said base, a prolongation of said bottom plate extending outside of said socket, and means for detachably securing said prolongation to said base.

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

THOMAS E. MURRAY

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