

(No Model.)

G. H. ALTON.
CUT-OUT BOX.

No. 531,761.

Patented Jan. 1, 1895.

Fig. 1.

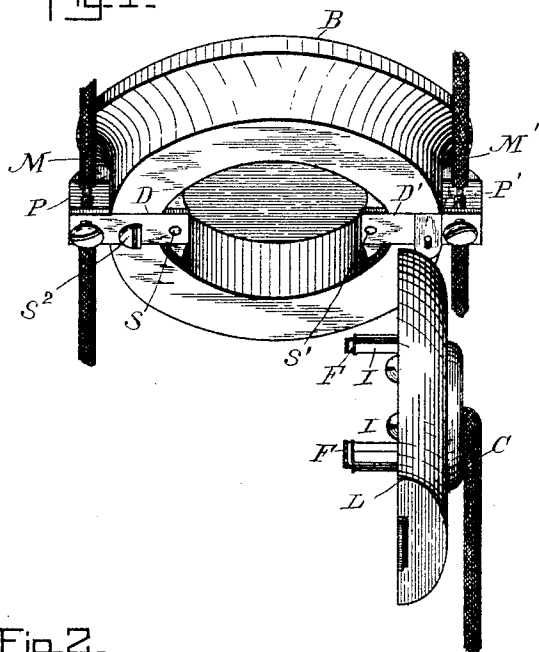


Fig. 2.

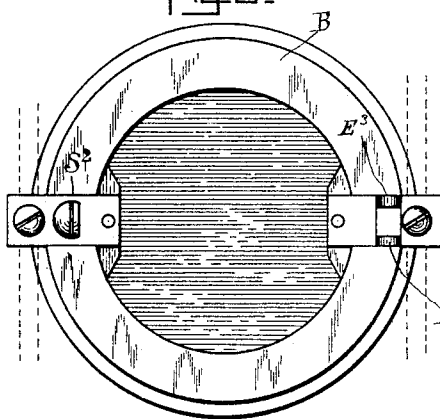


Fig. 3.

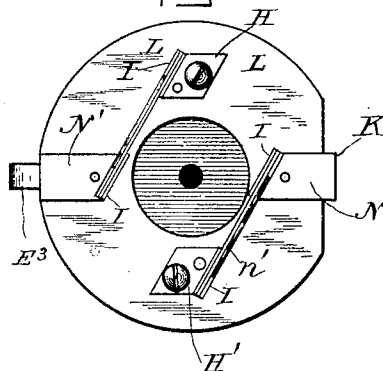
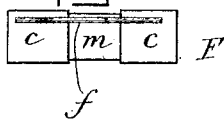


Fig. 4.



WITNESSES:

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GEORGE H. ALTON, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE THOMSON-HOUSTON ELECTRIC COMPANY, OF CONNECTICUT.

CUT-OUT BOX.

SPECIFICATION forming part of Letters Patent No. 531,761, dated January 1, 1895.

Application filed February 7, 1890. Serial No. 339,523. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. ALTON, a citizen of the United States, and a resident of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Cut-Out Boxes, of which the following is a specification.

My invention relates to the construction of fuses or cut-out boxes which are designed to permit the replacement or renewal of the fuses between the line and a branch or other circuit, and consists in the features more particularly specified in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a device embodying my invention and shows the fuse carrying block or lid in position for renewal of the fuses. Fig. 2 is a plan of the base inverted. Fig. 3 is a plan of the lid or movable block inverted. Fig. 4 shows the form of fuse preferably employed.

B is a base block or box of wood, porcelain or other material and of any usual or convenient form which will adapt it to incase and protect the fuses when the lid or cover is in place.

M M' are the electric mains which are secured in any usual or proper manner to binding blocks or plates P P', the latter being secured to the base B by screws extending from the back of the base into screw holes S S' in such connecting blocks P P', or being fastened to such base in any other convenient manner.

L is the movable lid, cover or block which supports fuse carriers or holders I I conveniently made as spring clips which will hold a form of fuse indicated in Fig. 4 to be presently described. The block L may be hinged to the base B or may be provided with other devices for fastening it or holding it in position on such base. In ordinary practice it is only necessary that it should swing down into the position shown in Fig. 1, though it might be detachably hinged so that it may be detached entirely if it be pivoted by means of a split pin pivot G. For convenience I hinge the block L on the connecting block P' by means of an extension or ear E², which might if desired be a metallic continuation of a metal block or electrode N' on the lid L, such

extension being pivoted on pin G which passes through the extension and through ears E³ rising from block P'. One pair of the clips or holders I I are mounted respectively on, or are in electrical connection with blocks or plates N' H which are of conducting material. The block N' forms an electrode adapted to come into contact with an electrode or contact surface D' which being a part of block P' is in electrical connection with the line M'. The block H is provided with a suitable binding screw or other means for the attachment of one of the conductors of the flexible cable C, which may lead to a suspended incandescent lamp or other device suspended from such cable. The other pair of clips I I are similarly mounted upon, or in electrical connection with blocks, plates or electrodes N H' fastened upon the lid L. The block H' is provided like H with means for attachment or connection of the other conductor in the cable C while the block or plate N when the lid is closed will register with and make electrical connection with a contact surface D, or will be in position to be placed in electrical connection therewith, as for instance by means of a turn button S³ on the block P which is adapted to be turned so as to engage with an extension K from the electrode N.

The fuse shown in Fig. 4 consists of an insulating plate *m* such as mica, having copper or metallic ends *c* bound upon it and a fuse wire *f* fastened to such ends. The copper ends *c* rest between the two prongs of the spring clips or holders I in obvious manner.

By hinging the lid or cover L on the block P' I insure electrical connection with the electrode N'. It is obvious however that the lid might be hinged at some other part and the electrical connection formed at this point simply by contact of N' and D' when the lid or cover is in place.

It will be noted that the blocks, P and P', whose flat contact surfaces D and D', come in contact with the faces of the blocks, N and N', when the fuse-box is closed, as well as the said blocks, N, N', are rigid electrodes which are brought into positive and unyielding contact when the lid is locked to the base, for example, by the turn button, S³, bearing upon the tongue or extension, K, of the electrode,

N. This arrangement marks an improvement over the constructions known before my invention where the electrodes were at least, in part yielding, generally in the form of springs. The springs were liable to become deranged or bent out of place and in consequence a bad connection or interruption or break was the result. This objection is avoided by my construction and a reliable and permanent connection is insured at all times.

I do not limit myself to any particular form or construction of the metallic contacts, electrodes or connecting surfaces or devices, it only being necessary that when the lid is in place there should be contacts or electrodes upon the base and lid respectively, that shall when the lid is in place be in such relation to one another as to form the electrical connection from the line to the fuse or to be capable of forming such connection by the manipulation of such device as S².

When the lid or cover or other movable support carrying the fuse holders is in position, the current may then pass from the line, if the switch of the lamp or other device connected to cable C be closed, from line block P to the electrode on the base such as D, to the electrode such as N on the lid, thence to a fuse holder in connection with such electrode, through the fuse, to the other holder or clip I, thence to the connecting or attaching device for one of the conductors of the cable C, through the lamp or other device and back by way of H N' D' to the other main M'. When the lid or block L is swung down or moved it will be seen that the circuit with the main will be broken so that fuses can be inserted without risk of short circuiting the mains. The construction is of special advantage when the connection with the branch containing the lamp is made by way of a cable C since when the lid is swung down for the insertion of a fuse, the cable is moved out of the way. Ordinarily the cable has its terminals attached to the base and when the lid is taken off the cable still passes through it

so that the lid, cable and lamp must be supported by the hand while new fuses are being inserted. If the lid be hinged the cable is directly in the way of the operator.

While I have shown the contact surface D which constitutes a main line contact or electrode, as consisting of a part of the line connecting block or device P, I do not limit myself to such construction since it is only necessary that the contact or electrode with which the electrode N is placed in connection, should itself be in connection in any suitable way with the line M, or some part connected therewith. Similarly it will be readily understood that the electrode or surface D' might be of any form or construction and be in electrical connection with the line M' in any manner.

What I claim as my invention is—

1. In a cut-out box the combination with the base, of a fuse carrying lid removably hinged to the base by a hinge forming a metallic extension of the fuse carrying and line blocks, said hinge being constructed to allow the cap to swing in a plane perpendicular to the plane of the base.

2. In a cut-out box, the combination with the base of a cable carrying lid swinging in a plane perpendicular to the plane of the base by means of a hinge connecting the two and formed by metallic extensions constituting part of a connecting block, as P', in the base, and an electrode in the lid, whereby the electrical connection between the connecting block and the electrode is insured, as and for the purpose set forth.

3. In a cut-out box the combination with a base having a binding block, as P, provided with a turn button of a lid having an electrode provided with an extension, as K, substantially as and for the purpose set forth.

Signed at Lynn, in the county of Essex and State of Massachusetts, this 4th day of February, A. D. 1890.

GEORGE H. ALTON.

Witnesses:

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