(No Model.)

C. G. PERKINS.

FUSIBLE CUT-OUT.

No. 361,713. Patented Apr. 26, 1887.

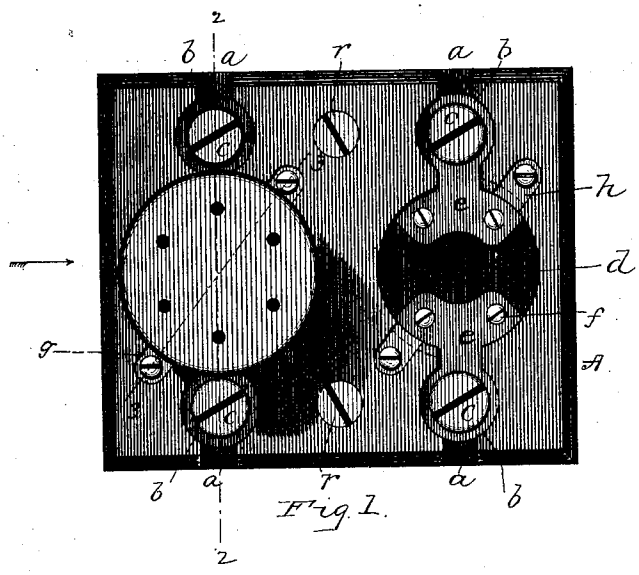


Fig. 1.

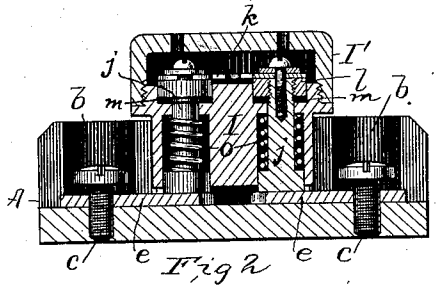


Fig 2

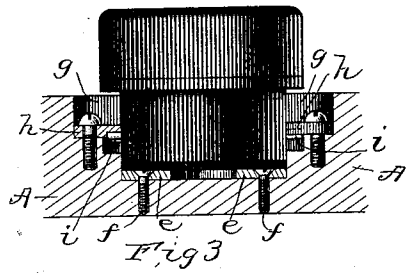
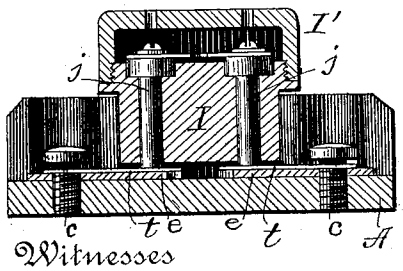


Fig 3

Fig. 5.



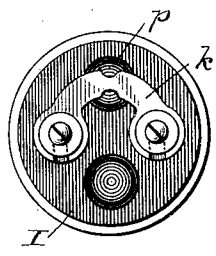


Fig 4

Witnesses
Wm M Stockbridge

Wm M Rosenbaum

Inventor
Charles G. Perkins

By his Attorneys
U. D. Stockbridge & Bro.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES G. PERKINS, OF HARTFORD, CONNECTICUT.

FUSIBLE CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 361,713, dated April 26, 1887.

Application filed September 18, 1886. Serial No. 213,908. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. PERKINS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Fusible Cut-Outs for Electric-Light Circuits; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to cut-outs for electric circuits, and especially to cut-outs which are designed to be used in electric-light circuits. Such cut-outs are usually secured to tables or brackets or to the walls of buildings, and when located in factories or other similar structures, or on railway-trains, the movable parts are extremely liable to be displaced by the jarring of machinery or of a train in motion. It has been found to be a matter of serious difficulty, requiring constant oversight and attention, to prevent cut-outs located in such places from becoming inoperative for the reasons stated.

The special object of my invention is to provide a cut-out for electric lights with means for holding it firmly in place when the electrical connections have been made. Besides this, my invention has other advantages, which will be fully described hereinafter, and more particularly pointed out in the claim.

In the drawings which accompany and form a part of this specification, Figure 1 represents a plan of a double cut-out constructed according to the principles of my invention. Fig. 2 is a vertical section through line 2 2 of Fig. 1. Fig. 3 is an elevation of my cut-out plug in position and a section of the base, the section being taken through line 3 3 of Fig. 1. Fig. 4 is a plan of my plug with its cap removed, showing a fusible strip which forms the main operative part of my cut-out; and Fig. 5 is a sectional view illustrating a modification of my invention.

Referring to the drawings by letter, A is a base or support for my electrical cut-out. The base will be made of wood, paper fiber, glass, or any other good insulating material. In the base A are grooves *a a*, leading from either side to enlarged circular openings *b b*, within which are secured binding-posts or screws *c c*. The openings *b b* are likewise connected by grooves with larger circular openings, *d d*, which form sockets for safety-plugs, such as are well known in cut-out apparatus. From each binding-post *c* a flat metallic piece or plate, *e*, extends into one of the sockets *d*. These plates, usually of brass, are secured in the bottom of the grooves and sockets by screws *f f*, in addition to the binding-screws *c c* themselves. At either side of the sockets *d d*, near where the grooves *a a* enter, are shallower grooves, *g g*, within which are secured brass plates *h h*.

The above parts constitute that portion of the cut-out to which the safety-plug is applied.

The safety-plug itself consists of a block, I, of paper fiber or other good insulating material, a cap, I′, connecting-posts *j j*, and a fusible strip, *k*. The cap is secured to the block I in such a manner as to leave a space above the latter. The connecting-posts *j j* pass through the block I and project slightly at the top and bottom. They are formed at the top into screw-posts, and to their upper or outer ends are secured the ends of a fusible strip, *k*. The posts are also screw-threaded outwardly, and rings or washers *l l* are screwed upon them. The latter rest in openings *m m* in the block I, and serve as a means for adjusting longitudinally their position.

Each post *j* is enlarged at its lower end, as is also the groove in which the said post lies. The enlargement forms a shoulder, on which rests the end of a spring, *o*, the other end of the said spring pressing against the upper or outer end of the enlarged groove or chamber. The posts *j j* are located near opposite sides of the block I, in such position as to make contact each with one of the plates *e* within one of the sockets *d d*. On either side of the block I is located a projecting pin, *i*, at such a height above the bottom of the block that when merely dropped into place in the socket the plug cannot be turned, because the said pins are stopped by the brass plates *h h*. It is evident, however, that by pressing down on the block or plug I against the force of the springs *o o* it can then be turned until the pins strike against shoulders on the base A, or rather against the ends of grooves cut in the base A, under the plates *h h*. Above the points where the pins are stopped

by the ends of the groove the plates *h h* are notched on the under side. The pins are forced into these notches by the springs *o o*, thus holding the plug positively in place, and at the same time furnishing a spring contact between the ends of the post and the plates *e e*.

The fusible strip *k* is cut away near the middle, whereby its point of fusion is predetermined. Beneath the cut-away portion I form a groove or depression, *p*, to catch the molten metal when fusion takes place. For convenience, I form such depressions at both sides of the block, so that a strip can be inserted in place from either side, as may be handiest.

In the description I have assumed that the cut-out is placed horizontally with the plug or plugs uppermost. The advantages of my construction of cut-out would be equally great, and, perhaps, greater, if the cut-out were secured to a vertical wall or to the bottom of any support, as to a ceiling. *r r* are the screws by which it is secured to any support.

By my construction the plug of my cut-out is held in place by positive means, consisting, in the form shown, of spring-power. In the modification shown in Fig. 5, the springs are flat copper springs *t t*, secured to the binding-screws *c c* and forming the electrical contacts for the posts *j j*.

Owing to the pins *i i*, the plug cannot be inserted in the socket except when it is in such position as to make contact between the terminal plates within the socket and the connecting-posts which pass through the plugs. This makes it certain that the electrical connections will be complete as soon as the plug is in place.

It is of course understood that the binding-posts *c c* are for the connection of electric-light wires, and that the circuit passes on from any given post through one of the plates *e e*, one of the connecting-posts *j j*, the fusible strip *k*, the other connecting-post *j*, and the other plate *e* to another binding-post *c*.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

In an electric cut-out, the combination of a base-piece for attachments to walls or ceilings provided with circular opening, and internal locking-shoulders in said opening, and carrying circuit-terminals, constituting a socket, a plug carrying circuit-terminals, and catches corresponding with those in the socket, and recessed to inclose the connecting devices including fusible strip, and a spring for forcing and holding the parts in the locked position, substantially as described.

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

CHARLES G. PERKINS.

Witnesses:
WILLARD EDDY,
EBEN E. SMITH.