

(No Model.)

2 Sheets—Sheet 1

G. W. SCOVIL & E. F. GOODING.
CUT-OUT FOR ELECTRIC CIRCUITS.

No. 562,980.

Patented June 30, 1896.

Fig. 1.

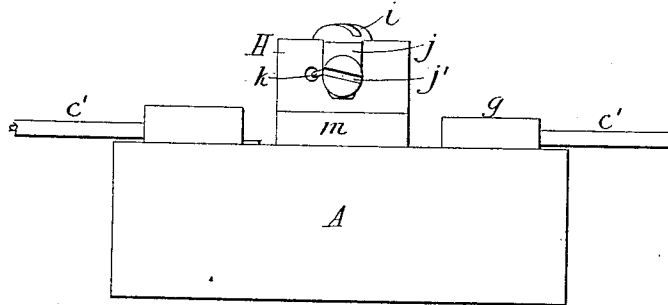


Fig. 2.

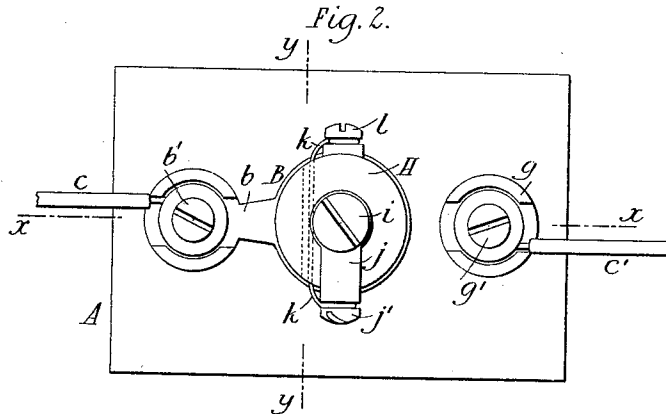
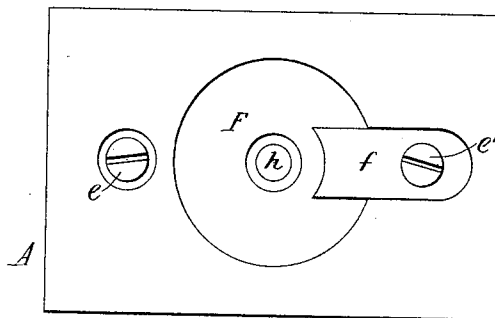


Fig. 3.



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Fig. 4.

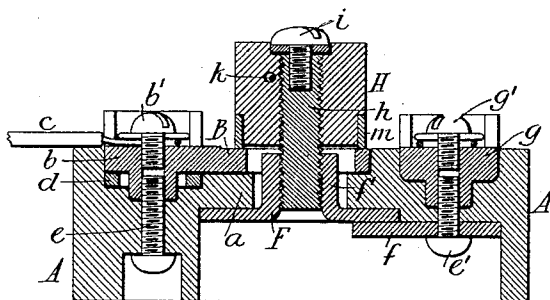
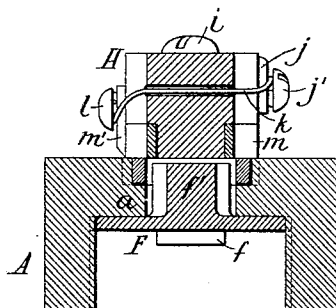


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE W. SCOVIL AND EDWARD F. GOODING, OF ELGIN, ILLINOIS.

CUT-OUT FOR ELECTRIC CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 562,980, dated June 30, 1896.

Application filed August 27, 1895. Serial No. 560,685. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. SCOVIL and EDWARD F. GOODING, citizens of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Cut-Outs for Electric Circuits; and we do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in fusible cut-outs for electric-light and other circuits, and has for its object the production of a device of this character possessing advantages in point of increased effectiveness of operation, improved structure and arrangement of the contact parts, and the provision of means whereby the fusible connection may be readily restored or replaced without resort to soldering or similar methods.

The nature of the invention will be readily understood by reference to the following detailed description when taken in connection with the accompanying drawings, in which—
Figure 1 is a side elevation of the cut-out. Fig. 2 is a top plan view. Fig. 3 is a bottom plan view. Fig. 4 is a sectional view on line *x x* of Fig. 2, and Fig. 5 is a sectional view on line *y y* of same figure.

Referring to the said drawings by letter, A denotes the supporting block or base, constructed of porcelain or other suitable material, and having a central aperture and adjacent recesses to receive and sustain the several parts of the device. In the central aperture is an annular shoulder *a*, which forms a seat for the upper contact-piece B, which is in the form of a ring and has an extension *b*, provided with a binding-screw *b'*, to which is connected one of the wires *c* of the circuit. This extension is seated in one of the recesses, a metallic washer *d* being interposed, and the outer piece B is secured in place by a screw *e*, as shown.

Beyond the shoulder *a* the central aperture is enlarged to form a seat for a circular

plate F, having an extension *f*, which is connected by a screw *e'* to a binding-screw plug *g*, carrying a binding-screw *g'*, by which another wire *c'* of the circuit is secured. This plate F also has centrally thereof an internally-screw-threaded collar *f'*, which, in position, is concentric with but separated from the ring portion of the contact-piece B. By this construction and arrangement the wires *c* and *c'* are brought in juxtaposed position, and to complete the circuit a cut-out plug H is employed, which will now be described.

The plug is preferably constructed of porcelain, although any other suitable material may be employed, and is preferably of cylindrical form and provided with a screw-threaded stem *h*, adapted to enter the threaded collar *f'*. The upper portion of this stem is bored out and screw-threaded to receive a screw *i*, which secures in place on the plug a plate *j*, forming an electrical continuation of the circuit-wire *c'* through the stem, plate, and binding-screw plug, and said plate *j* has a binding-screw *j'*, around which is passed one end of a fusible wire or strip *k*, which is from thence passed through an aperture in the plug and secured to a second binding-screw *l*, arranged in an extension *m'* of a contact-ring *m*, which latter is otherwise insulated from the stem and plate *j*. The contact-ring *m* is seated in an annular recess in the lower end of the plug and projects therefrom sufficiently to insure a perfect contact, when the plug is in position, with the ring portion of the contact-piece B and to thereby complete the electrical connection between the wires *c* and *c'*.

The wire or strip *k* is made of a material which is readily fused at a predetermined temperature, and will in consequence be melted and break the circuit when excessive heat is generated by reason of undue increase in voltage. The fusible wire or strip is, as before stated, interposed between the binding-screws *j'* and *l* by passing same through an aperture in the plug. This arrangement enables the restoration of the device, after the circuit has been automatically cut out or broken, the work of short movement, inasmuch as it is only necessary to loosen the binding-screws, detach the portions of the fused strip, insert

a new strip, and tighten the screws, all of which dispenses with the employment of soldering and similar methods and the skilled labor and comparatively great length of time incidental thereto.

Referring to the general structure of the device, it will be noted that all contacts are made by the use of the screw principle. Consequently the best results as regards conductivity are insured. Moreover, by the improved construction the parts of the device are readily assembled, and when complete the circuit is easily controlled by the simple manipulation of the plug. The relative arrangement of the parts is such that a perfect insulation exists at all points except through the proper contacting parts, and when applied the current, as long as proper voltage exists, has a free uninterrupted flow through the device.

We claim as our invention—

1. A cut-out for electric-light and other circuits comprising a base, a contact-ring connected with a wire of the circuit, a conducting-plate below said ring having a threaded aperture and connected with another wire of the circuit, and a plug having a ring for contact with the base-ring and carrying a binding-screw, a screw-threaded stem for the apertured plate carrying a binding-screw, and a fusible strip removably interposed between

the plug-ring and stem by directly wrapping its ends around the screws.

2. The combination with a plug having a central aperture and an annular recess at its lower end, a screw-threaded stem fitting said aperture and projecting from the plug, a plate connected to the upper end of the stem and carrying a binding-screw, an annular contacting ring seated in the recess and having an extension carrying a binding-screw, and a fusible strip the ends of which are wrapped around said binding-screws.

3. A cut-out for electric-light and other circuits, comprising a base, a contact-piece formed of a ring and an extension carrying a circuit-wire binding-screw, a conducting-plate having a threaded collar concentric with the ring portion and an extension having connection with a second circuit-wire binding-screw, and a plug having a threaded stem for engagement with the collar, a ring for contact with the ring portion of the base-piece, and a fusible strip connecting said stem and ring, all as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE W. SCOVIL.
EDWARD F. GOODING.

Witnesses:

JOHN W. FARNUM,
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