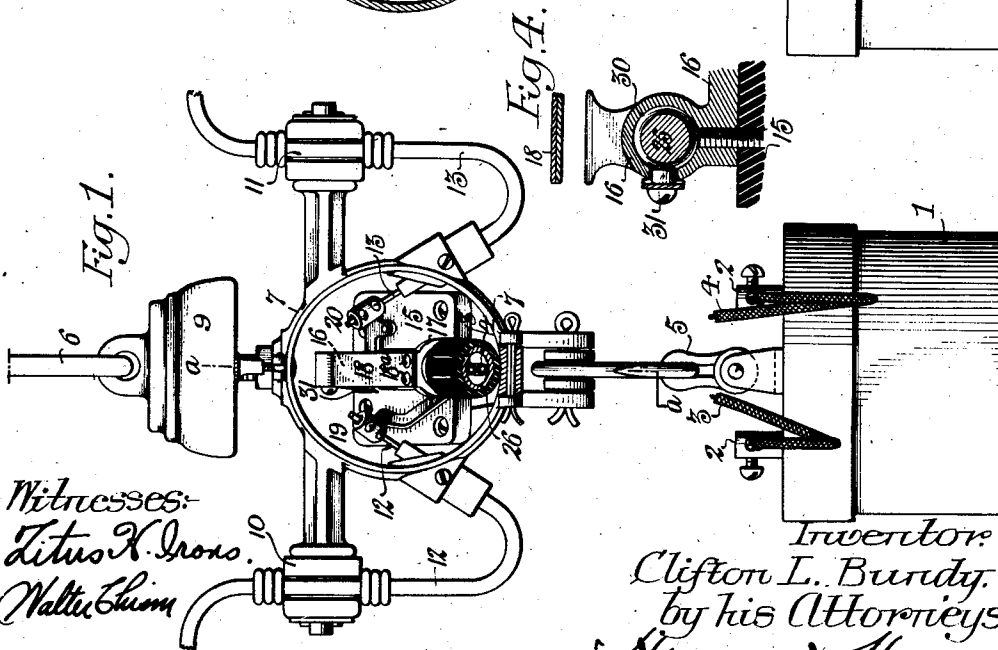
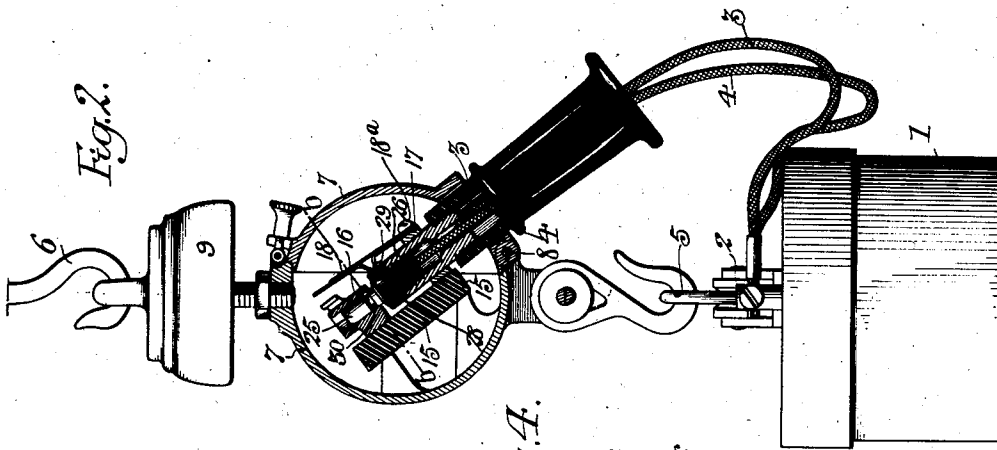
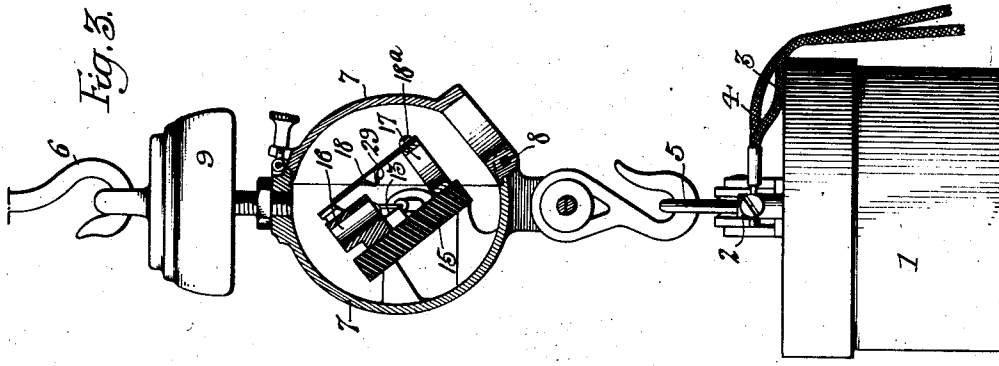


C. L. BUNDY.
ARC LIGHT CUT-OUT.
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1,047,744.

Patented Dec. 17, 1912.



Witnesses:
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UNITED STATES PATENT OFFICE.

CLIFTON L. BUNDY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO PHILADELPHIA ELECTRICAL AND MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

ARC-LIGHT CUT-OUT.

1,047,744.

Specification of Letters Patent.

Patented Dec. 17, 1912.

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To all whom it may concern:

Be it known that I, CLIFTON L. BUNDY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Arc-Light Cut-Outs, of which the following is a specification.

My invention relates to cut-outs or switches for controlling electric current; and it consists of an improved device designed more particularly for use with arc lamps and arc lamp circuits whereby the main line supplying current to a lamp or lamp circuit can be closed, and the lamp or lamp circuits entirely disconnected.

As is well known, there is considerable danger connected with the handling of arc lamp or arc lamp circuits when current is passing through said lamps or circuits.

My present invention, which is in the nature of an improvement on the structure covered by Patent No. 836,482, granted to me and Albert H. Manwaring, comprises means for disconnecting any lamp or any loop controlling a series of lamps when the current is on, by detaching the wires leading to the lamp or to the loop controlling a series of lamps and simultaneously closing the main line; thereby enabling the operator to handle the lamp or lamp circuit without danger of receiving a shock. My improved cut out or switch, however, is available for use with any system for distributing electric current.

These and other features of my invention are more fully referred to hereinafter, reference being had to the accompanying drawings, in which:

Figure 1, is a front elevation of a cut-out structure embodying my present improvements; Fig. 2, is a side elevation showing a portion of the structure in section on the line *a-a*, Fig. 1; the lamp being in circuit with the source of current supply; Fig. 3, is a view similar to Fig. 2, showing the lamp circuit disconnected, and Fig. 4, is a sectional view on the line *b-b*, Fig. 2, illustrating a detail of my invention.

In the drawings, 1 represents the upper shell or casing of an ordinary arc lamp structure having the usual binding posts 2 for current-supply wires 3 and 4. The shell or casing may be provided with a link 5 whereby it may be suspended; and sup-

ported by a hook 6 is the structure carrying the switch or cut-out device forming the subject of my invention, and from which the lamp is hung. This structure comprises a casing 7, of suitable form; in the present instance being substantially spherical and having a cover member hinged at 8, to which casing may be attached a series of insulating members 9, 10 and 11. The member 9 holds part of the supporting structure, while the members 10 and 11 are employed simply as supports for leading-in wires 12 and 13 supplying the current, which wires are attached thereto in any suitable or approved manner.

Within the casting 7 is a plate 15, which may be of insulating material or properly insulated from said casing, such plate carrying the switch terminals. They consist, in the present instance, of tubular elements 16 and 17 arranged in line with each other and with a bridging member 18 which provides the desired connection for the main line current, thereby cutting out the lamp or lamp circuit when it becomes necessary to work upon the same. Connected to these terminals are binding posts 19 and 20, to which the leading-in wires 12 and 13 are secured in the usual manner.

In Figs. 1 and 2 the connecting plug is shown in the proper position to connect the lamp in circuit with the source of electric current, but in Fig. 3, such plug has been removed and the lamp or lamp circuit has been cut out. The plug referred to is formed preferably of an insulating material, hard rubber, fiber, or the like, and carries contacts 25 and 26 for engagement with the tubular terminal elements 16 and 17 within the casing 7. One of the current supply wires for the lamp, 3, for instance, is connected to one of these contacts, 25 for instance, while the other wire 4, is connected to the other contact 26. Between the said contacts an insulating sleeve 28 is provided. The bridging member 18 serving to close the main line circuit when the plug is removed, comprises spring plates which may be anchored by a suitable screw or screws 18^a to one of the terminal elements within the casing, 17 for instance, and such bridging member may have a projection 29 lying in the path of said plug, which projection is adapted to be engaged by the insulating

portion 28 of the plug when the latter is inserted, thereby opening the circuit closed by the bridging member and bringing the lamp into circuit with the source of current supply.

The contact 25 of the plug is at the end of the same in the form of a reduced stem which is grooved at 30 for engagement by a spring-pressed stud 31 which may be carried by the tubular element 16; such stud serving to prevent accidental dislodgment of the plug. As in the prior patent referred to, the opening for the insertion of the plug may be formed in the cover member of the casing and is preferably disposed on the under side of the same so as to prevent access of rain water.

It will be understood of course that the form of the contact terminals within the casing may be changed as well as the bridging member connecting the same so long as a movable member having the lamp or lamp circuit wires is employed to engage said terminals and simultaneously separate said bridging member therefrom.

I claim:

1. The combination of a casing having an aperture, a pair of fixed terminals within said casing and disposed in axial alinement with the aperture of the casing, said terminals being separately disposed within said casing some distance from each other, an insulating block carrying said terminals, a bridging member carried by one of said terminals and adapted to engage the other to complete a circuit, a plug adapted to enter the casing and having separate annular contacts for engagement with the walls of said terminals, and means carried by said plug intermediate its contacts for displacing the bridging member when the plug is in position.

2. The combination of a casing having an aperture, a pair of fixed terminals within said casing and disposed in axial alinement with the aperture of the casing, said terminals being separately disposed within said casing some distance from each other, an insulating block carrying said terminals, a spring bridging member carried by one of said terminals and adapted to engage the other to complete a circuit, a plug adapted to enter the casing and having separate annular contacts for frictional engagement with the respective terminals, and insulating means carried by said plug intermediate its contacts for displacing the bridging member when the plug is in position.

3. The combination of a casing having an opening, an insulated block disposed within said casing, a pair of fixed sleeve-like members forming terminals carried by said block and disposed with their axes in line with the axis of said opening, said terminals being situated some distance from each other,

a bridging member anchored to one of said terminals and engaging the other to complete a circuit through the same, said bridging member having a projection on its under side, a removable plug adapted to the opening in said casing, a plurality of annular contact members for frictional engagement with said terminals carried by said plug, and a section of insulating material carried by said plug for engagement with the projection of the bridging member when the plug is in place.

4. The combination of a casing having an opening, an insulated block disposed within said casing, a pair of fixed sleeve-like members forming terminals carried by said block and disposed with their axes in line with the axis of said opening, said terminals being disposed in alinement some distance from each other, a spring bridging member anchored to one of said terminals and engaging the other to complete a circuit through the same, said bridging member having a projection on its under side in line with the openings through said sleeve-like terminal members, a removable plug adapted to the opening in said casing, a plurality of annular contact members for frictional engagement with said terminals carried by said plug, and a sleeve of insulating material carried by said plug intermediate the annular contact members for engagement with the projection of the spring bridging member when the plug is in place.

5. The combination of a casing, a pair of fixed terminals tubular in shape mounted therein and disposed some distance apart, a spring bridging member carried by one of said terminals and in engagement with the other to close a circuit, a plug having separated annular contacts for insertion in the casing to engage said terminals, an insulated member carried by said plug intermediate the contacts for displacing the bridging member, a stud carried in an aperture formed in one of said terminals, one of the contacts of said plug having a groove for the reception of said stud, and tension means for keeping said stud in the groove.

6. In an electrical connector, comprising coupling members, each having a set of mutually engaging contact shoes, adapted for sliding coupling engagement with the respective shoes of the other member, the shoes of each member being electrically separated from each other, the combination with said members, of a non-conducting shoe on one of the members, and a bridging device for some of the contact shoes on the other member, provided with an arm adapted to swing into the path of the non-conducting shoe when the latter is retracted, said non-conducting shoe, when in coupling position, being adapted to engage said arm and forcibly retract the bridging device, and

said arm, in retractive position, being adapted to bear upon the non-conducting shoe, substantially at right angles to its line of movement.

- 5 7. In an electrical connector, comprising coupling members having electrically separated contact shoes, and a bridging member for some of the shoes, the combination of a resilient actuating device supporting the
10 bridging member, a retracting non-conducting shoe on the opposing coupling member, adapted, in coupling position, to move the actuating device and bridging member to a

retractive position, said shoe and the actuating device being arranged for a forcible 15 pressure engagement, substantially at right angles to the direction of movement of the contact shoes into and out of coupling relation.

In testimony whereof, I have signed my 20 name to this specification, in the presence of two subscribing witnesses.

CLIFTON L. BUNDY.

Witnesses:

MURRAY C. BOYER,

WM. A. BARR.