(No Model.)

P. D. RICHARDS.

CIRCUIT CLOSER.

No. 458,343. Patented Aug. 25, 1891.

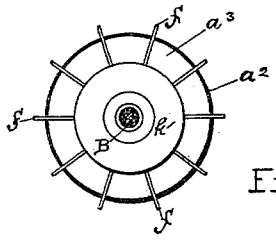


Fig: 2.

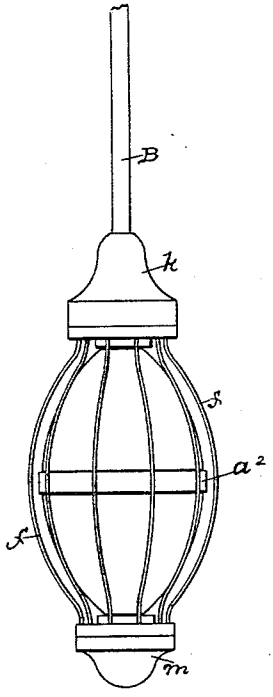


Fig: 1.

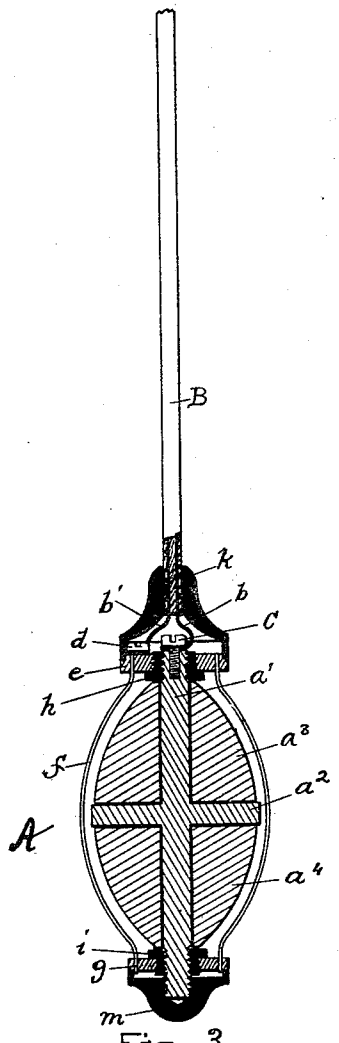


Fig: 3.

Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PERCIVAL D. RICHARDS, OF WEST MEDFORD, ASSIGNOR OF ONE-HALF TO CHARLES H. DELANO, OF WOBURN, MASSACHUSETTS.

CIRCUIT-CLOSER.

SPECIFICATION forming part of Letters Patent No. 458,343, dated August 25, 1891.

Application filed March 30, 1891. Serial No. 386,887. (No model.)

To all whom it may concern:

Be it known that I, PERCIVAL D. RICHARDS, of West Medford, county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Circuit-Closers, of which the following is a specification.

The object of my invention is to provide a circuit-closer of simple construction fitted to be grasped by the hand, and which by the compression resulting from the closing of the hand around the same may be caused to complete the circuit, for instance, for the purpose of sounding a bell.

I have shown in the accompanying drawings an embodiment of my invention in practical and convenient form; but it is to be understood that within certain limits, which will be apparent from the following specification and claims, changes in form and mechanical structure may be made without involving a departure from the spirit of my invention.

In the drawings, Figure 1 is a view in elevation, showing one form of my circuit-closer attached to the free end of an electrical conductor. Fig. 2 is a view of the same from the top in Fig. 1. Fig. 3 is a view corresponding with Fig. 1, but showing the circuit-closer and a portion of the conductor in section in order to exhibit the structure and connections.

A is the circuit-closer, and B is the conductor, to the free end of which the circuit-closer is connected, a thimble k being interposed between the two at the joint to give a neat finish. The said conductor contains the conducting-wires $b\,b'$. The wire b is in electrical communication with the body portion a' of the circuit-closer, being bound thereto by a screw c, as shown in Fig. 3, while the wire b' is connected with a plate e, by means of a screw d. The circuit-closer in its entirety is substantially bulb-shaped, and thereby is fitted for being readily held within the grasp of the hand. It is composed, essentially, of an inner portion or body formed wholly or in part of conducting material, and an exterior series of wires or strips which are flexible and admit of being compressed into contact with the conducting material of the body in order to complete the circuit. If desired, the body may be composed of a single piece of conducting material of an elliptical or bulb form, and in this case the circuit will be established whenever one or more of the strips or wires may be pressed into contact with any portion of the surface of the bulb. In the drawings, however, I have chosen to illustrate a construction in which the body is formed as a cylindrical piece or rod a', screw-threaded at its opposite ends and having at its mid-length and integrel therewith a disk or flange a^2. On the body a', above and below the disk or flange a^2, I have placed perforated blocks a^3 a^4, which may be of wood or any other non-conducting material, the disk or flange a^2 extending into position for contact with the strips or wires. f are the strips or wires aforesaid, these being bent to correspond with the general form of the body and being secured at their upper ends to the plate e, while at their lower ends they pass freely through the plate g. The plates $e\,g$ are turned or screwed onto the sleeves $h\,i$ of insulating material, which themselves are turned or screwed onto the opposite screw-threaded ends of the body a'. A suitable protecting cap or button m is turned or screwed onto the lower end of the body a'.

The circuit-closer constructed as described having been attached to the end of the conductor B by connecting the wires $b\,b'$ with the body a' and the plate e, respectively, when it is desired to complete or close the circuit it is necessary only to grasp the circuit-closer and compress the strips or wires f until contact is made between one or more of the same and the conducting material of the body.

What I claim is—

1. A circuit-closer fitted to be grasped by the hand, having a body formed wholly or in part of a conducting material adapted to be placed in connection with one conducting-wire, and an exterior series of flexible strips or wires adapted to be placed in connection with the other conducting-wire, whereby when the circuit-closer is grasped by the hand and compressed the strips or wires are forced into contact with the body and the circuit is closed, substantially as described.

2. A circuit-closer fitted to be grasped by the hand, having a body formed wholly or in part of a conducting material and adapted to be placed in connection with one conducting-

wire, an exterior series of flexible strips or wires, and a plate with which such strips or wires are connected, such plate being insulated from the conducting material of the body and being adapted to be placed in connection with the other conducting-wire, substantially as described.

3. A circuit-closer fitted to be grasped by the hand, having a body formed wholly or in part of a conducting material and adapted to be placed in connection with one conducting-wire, an exterior series of flexible strips or wires, a plate *e*, with which the said strips or wires are in connection at one end, and a second plate *g*, holding the other ends of the said strips or wires, the said plates *e* and *g* being insulated from the conducting material of the body portion, substantially as described.

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Witnesses:
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