

(No Model.)

C. B. BOSWORTH.
CIRCUIT CLOSER.

No. 374,036.

Patented Nov. 29, 1887.

Fig. 1.

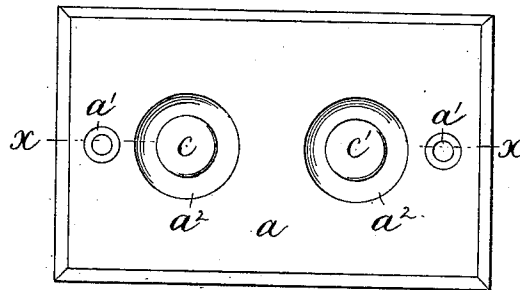


Fig. 2.

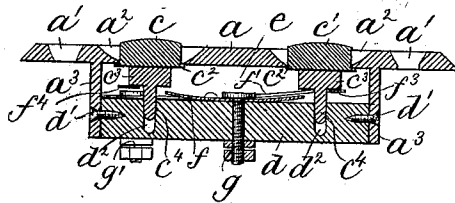
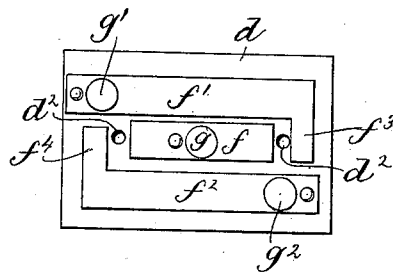


Fig. 3.



Witnesses.

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Att'y.

UNITED STATES PATENT OFFICE.

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ELECTRIC GAS LIGHTING COMPANY, OF PORTLAND, MAINE.

CIRCUIT-CLOSER.

SPECIFICATION forming part of Letters Patent No. 374,036, dated November 29, 1887.

Application filed August 23, 1886. Serial No. 211,640. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. BOSWORTH, of Everett, county of Middlesex, State of Massachusetts, have invented an Improvement in
5 Circuit-Closers, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to a circuit-closer or
10 push-button such as employed in a building for closing an electric circuit for various purposes, being shown as embodied in a double circuit-closer such as commonly employed with
15 automatic gas-lighters for lighting and turning off gas at a distant burner.

The present invention is embodied in a circuit-closer having a supporting frame or plate adapted to be fastened to a wall or other part of the building, and having at its rear a projecting ridge that receives within it a piece of
20 insulating material, upon which the members of the circuit-closer are supported in such manner that they are inclosed between the plate and the insulating material and wholly protected from the access of foreign matter, the
25 permanent wire-connections only being made at the outside of or rear of the device. The push-buttons have stems that are guided in recesses in the insulating material, and the circuit-closingsprings are arranged to make a rubbing contact.

Figure 1 is a front view of a circuit-closer embodying this invention; Fig. 2, a longitudinal section thereof on line *x x*, Fig. 1, and
35 Fig. 3 a face view of the insulating support and contact-springs thereon removed from the main frame-plate of the device.

The device consists, essentially, of a frame-plate, *a*, which may be of metal and of ornamental appearance, provided with devices,
40 such as screw-holes, *a'*, to facilitate the fastening of the apparatus to a wall or other part of the building. The said plate *a* has counter-sunk openings *a''* that receive the push-buttons
45 *c c'*, (shown in this instance as two in number, and consisting of heads of insulating material provided with flanges *c''*, as shown in Fig. 2,) which engage the under side of the plate *a* and limit the outward movement of the said push-
50 buttons, which have below the insulating-head

a body, *c''*, of metal or conducting material. The plate *a* is provided at the rear side with a projecting flange, *a''*. (Shown as formed integral with the said plate, and inclosing a rectangular space at the rear thereof.) Within the
55 flange *a''* is fitted a block or supporting-piece, *d*, of insulating material, which fills and fits closely within the projection *a''*, as shown in Fig. 2, to which it is fastened by screws *d'*. A tight chamber, *e*, is thus formed at the rear of
60 the plate *a* within the flange *a''* and between the plate *a* and insulating-block *d*, which chamber contains the contact-springs *f f' f''*, (see Fig. 3,) between which the circuit is to be established by the movement of the buttons *c c'*.
65 The said buttons are provided with stems *c''*, that work in guide-passages *d''* in the block *d*, and the members *f' f''* of the two circuit-closers consist of flat springs fastened by bolts *g' g''*
70 upon the block *d*, the free ends of the said springs normally rising up from the block *d*, and having laterally-projecting fingers *f'' f'''*, that extend under the contact portion *c''* of the push-buttons, as clearly shown in Fig. 2, thus
75 maintaining electrical contact with the said push-buttons, and at the same time holding the said push-buttons as far forward as permitted by the flanges *c''* in the openings of the plate *a*. The other member, *f*, common to both circuit-
80 closers, consists of a spring fastened at its middle by a bolt, *g*, to the block *d*, and having its ends spring up slightly from the said block, as shown in Fig. 2, but not far enough to reach the under side of the metallic portion *c''* of the
85 push-buttons, when the latter are held forward or elevated by the springs *f' f''*. When, however, either one of the buttons *c* or *c'* is pushed inward or depressed by the operator, the metallic portion *c''* thereof will come in contact
90 with the adjacent end of the spring *f*, which, owing to its curvature, will give a rubbing contact as further pressure is applied, which affords better electrical connection than is given by the direct pressure of the contact-pieces in
95 circuit-closers of usual construction. The ends of the bolts *g' g''* project from the rear or outer side of the insulating-block *d*, and are provided with additional nuts to facilitate their connection with the wires forming the circuits controlled by the circuit-closing springs at the
100

opposite side of the said insulating-block, and it will be seen that when the projecting portion a^2 at the rear side of the plate a is let into the wall there is no danger of anything interfering
5 with the action of the springs that are inclosed and protected, and the operation of said springs cannot be affected by dust or other material, as is the case when the said springs are at the rear or outer side of the insulating-block, and
10 operate with direct pressure instead of rubbing contact.

I claim—

The combination of the frame-plate a and push-button working in an opening therein,
15 composed of an insulating portion outside of the plate and a conducting portion inside of the plate, and a guiding-stem projecting therefrom, with a block of insulating material fast-

ened to the rear of the said plate, and circuit-closer composed of two spring members forming the terminals of the circuit to be controlled and being fastened on said block between it and the frame-plate, one of said springs acting continuously on the metallic portion of the push-button, which, when depressed, makes a
25 rubbing contact with the other spring and completes the electrical connection between the springs, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two sub-
30 scribing witnesses.

CHAS. B. BOSWORTH.

Witnesses:

JOS. P. LIVERMORE,
H. P. BATES.