

No. 683,692.

Patented Oct. 1, 1901.

C. J. LANDIN.
PUSH BUTTON.

(Application filed Feb. 9, 1901.)

(No Model.)

FIG. 1.

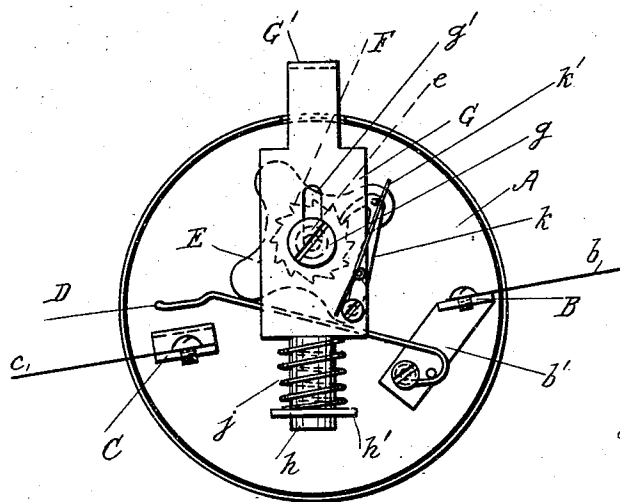
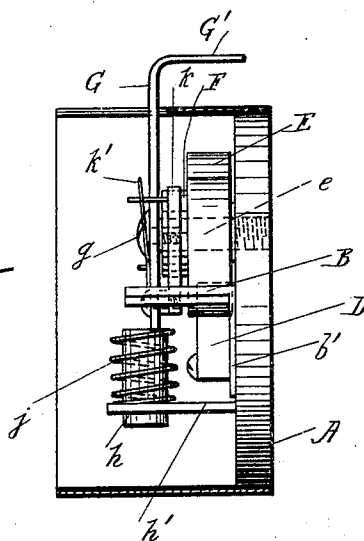


FIG. 2.



WITNESSES
J. M. G. Poole
R. L. Bacon

INVENTOR
Carl J. Landin
by *Herbert W. Jenner*
Attorney

UNITED STATES PATENT OFFICE.

CARL J. LANDIN, OF BOSTON, MASSACHUSETTS.

PUSH-BUTTON.

SPECIFICATION forming part of Letters Patent No. 683,692, dated October 1, 1901.

Application filed February 9, 1901. Serial No. 46,631. (No model.)

To all whom it may concern:

Be it known that I, CARL J. LANDIN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Push-Buttons; 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.

This invention relates to push-buttons for electric contact devices for completing electric circuits such as used in connection with call-bells; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a front view of the device. Fig. 2 is a side view of the same.

A is a supporting-plate which is inclosed, together with the operating mechanism, in any approved casing or chamber suitably insulated for the purpose of protection and for preventing the escape of electricity.

B and C are two binding-posts secured to the plate A and having the battery-wires *b* and *c* connected to them, respectively.

D is a contact-spring which is kept constantly in circuit with the binding-post B by any approved means, such as a connecting-piece *b'*. This spring is normally held out of contact with the binding-post C.

E is a cam-wheel mounted on a pin *e*, which projects from the plate A, and F is a toothed ratchet-wheel, which revolves with the cam-wheel E.

G is a push-plate which is slidable cross-wise of the ratchet-wheel. The push-plate is provided with a finger-piece *G'* for operating it and stops for limiting its motion, and it slides in suitable guides. A screw *g* engages with the pin *e*, and *g'* is a slot in the push-plate, which slides over the screw *g*. The screw guides the plate, and the ends of the slot constitute the stops which limit its motion; but any other approved guide or stops can be used. A stem *h* projects from the opposite end of the push-plate from the finger-piece and is slidable in a guide-plate *h'*, which projects from the plate A. A spring *j* is interposed between the guide-plate *h'* and the end of the push-plate. This spring *j* en-

circles the stem *h* and normally holds one end of the slot *g'* against the screw *g*. A hooked pawl *k* is pivoted to the push-plate G and is held in engagement with the teeth of the ratchet-wheel F by means of a spring *k'*. When the push-plate is moved against the pressure of the spring *j*, the ratchet-wheel and the cam-wheel are partially revolved, and the parts are proportioned so that the cam-wheel revolves for one-half the pitch of its teeth at each full stroke of the push-plate toward the guide-plate *h'*.

The cam-wheel normally rests with two of its teeth bearing equally against the contact-spring D. When the finger-piece is pressed to make one stroke of the push-plate, the cam-wheel is partially revolved, so that the top of one of its teeth forces the contact-spring D against the binding-post C and remains in a position substantially at a right angle to the said spring. The push-plate moves back automatically when the pressure on the finger-piece is relieved; but the contact-spring D remains in contact with the binding-post C, so that the electric circuit being established remains complete after the finger is removed from the finger-piece. When the finger-piece is pressed a second time to make a second stroke of the push-plate, the cam-wheel is again partially revolved, so that its tooth ceases to hold the contact-spring against the binding-post, and the parts assume a similar position to that shown in the drawings.

The cam-wheel is revolved step by step, and the contact is established at each alternate stroke of the push-plate. One stroke makes the circuit and the next following stroke breaks the circuit.

This push-button is very convenient in those places where it is desirable to complete an electric circuit and to maintain it without holding the finger constantly upon the finger-piece by which the device is operated.

What I claim is—

1. In a push-button, the combination, with a supporting-plate, of a contact-piece and a contact-spring insulated from each other, a revoluble toothed cam-wheel for pressing the said contact-spring against the contact-piece and holding it there, and means for revolving the cam-wheel step by step for one-half

the pitch of its teeth at each step, substantially as set forth.

2. In a push-button, the combination, with a supporting-plate, of a contact-piece and a
5 contact-spring insulated from each other, a revoluble toothed cam-wheel for pressing the said contact-spring against the contact-piece and holding it there, a toothed ratchet-wheel
10 revolving with the cam-wheel, a spring-controlled push-plate slidable transversely of the ratchet-wheel, stops for limiting the motion

of the push-plate, and a pawl carried by the push-plate and engaging with the ratchet-wheel, whereby the cam-wheel is revolved
step by step, substantially as set forth.

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

15

CARL J. LANDIN.

Witnesses:

ALICE J. MURRAY,
FREDERICK K. DAGGETT.