

(No Model.)

N. MARSHALL.
ELECTRIC SWITCH.

No. 442,588.

Patented Dec. 9, 1890.

FIG. 1.

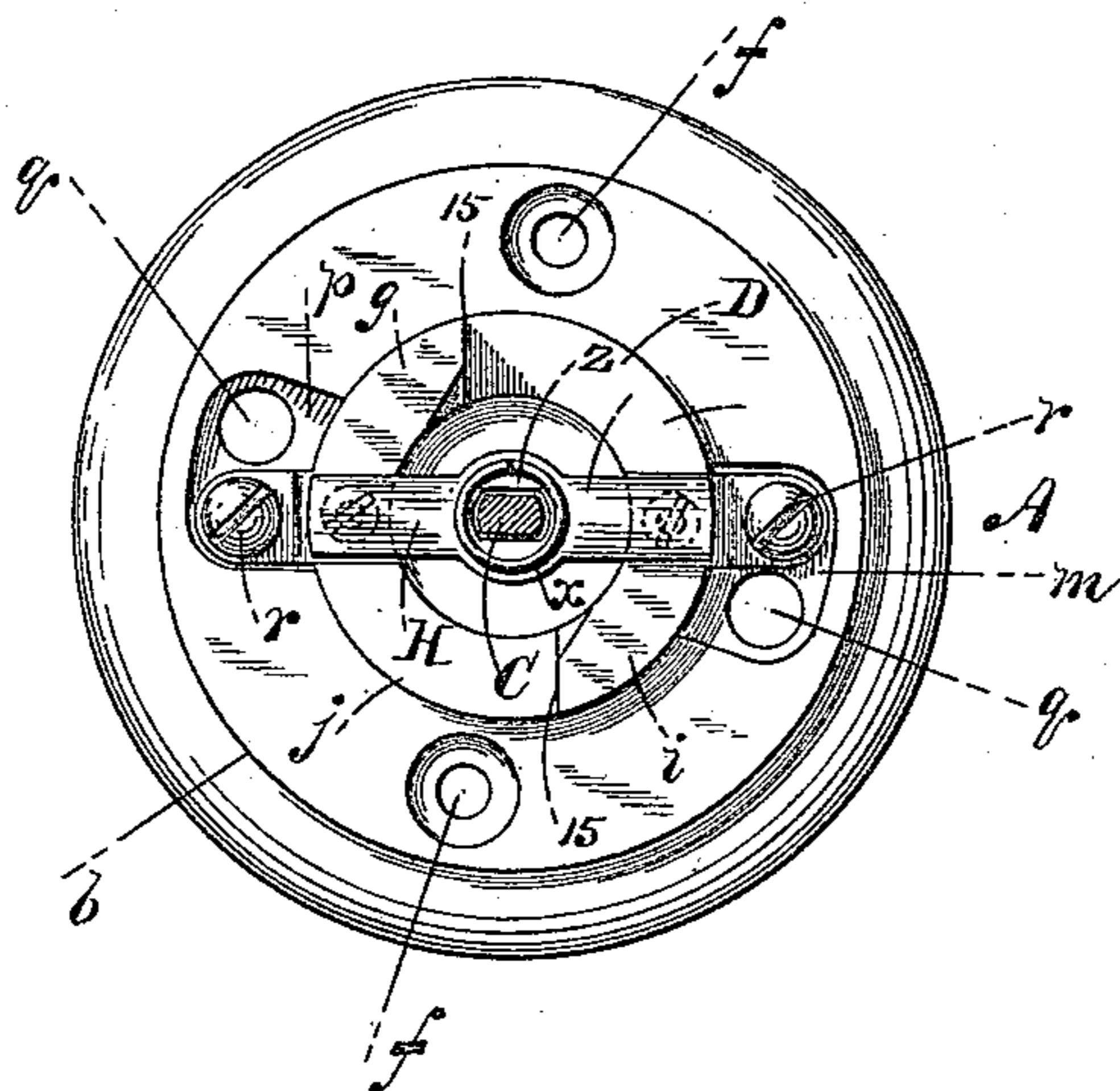


FIG. 2.

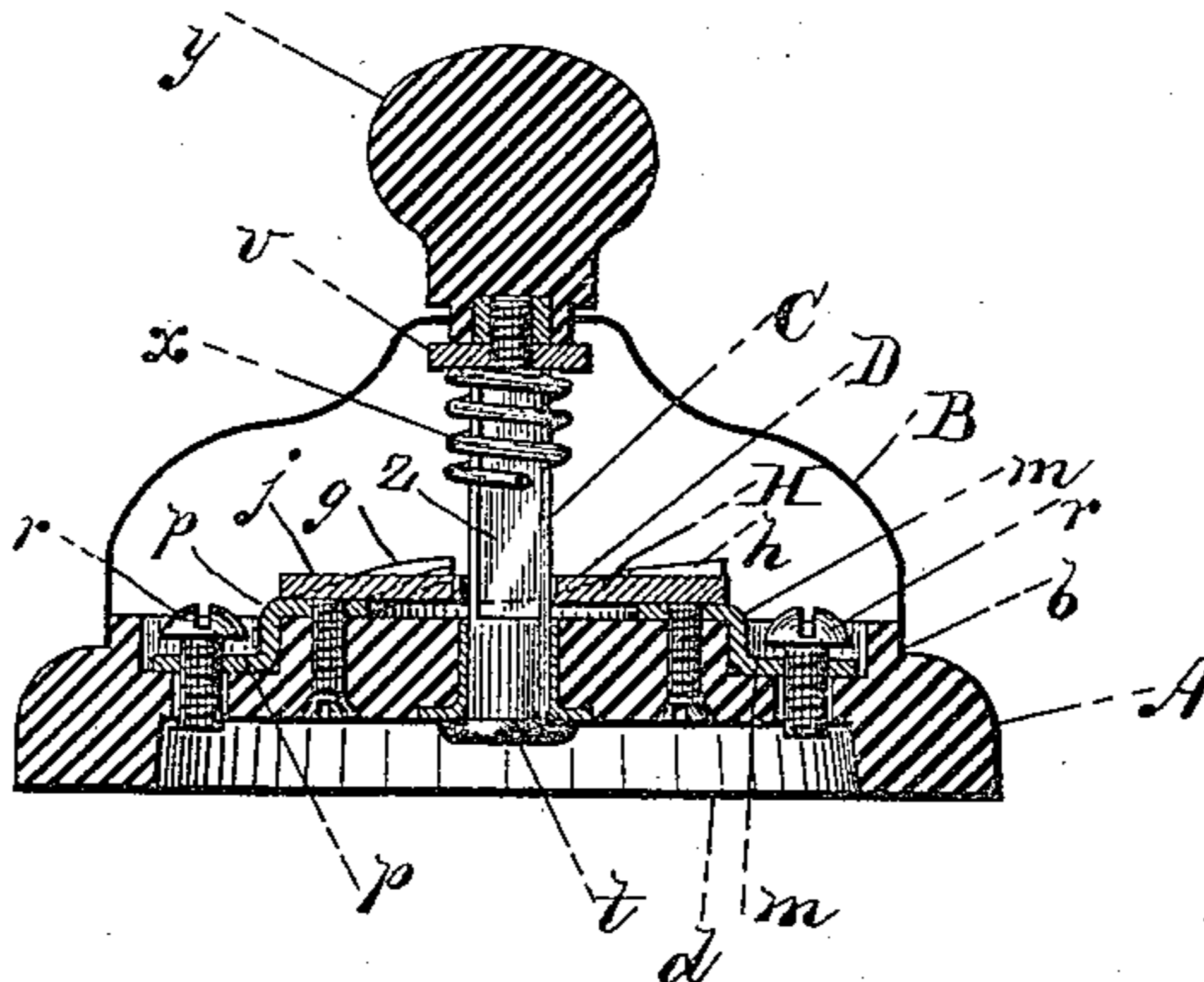
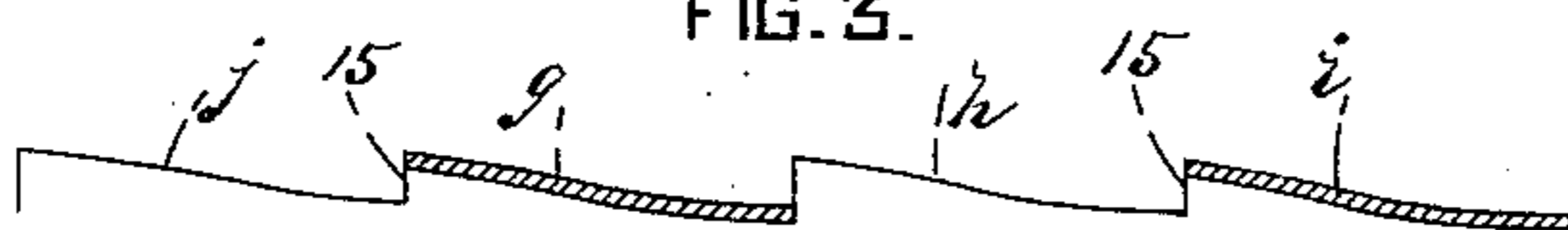


FIG. 3.



ATTEST.

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ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 442,588, dated December 9, 1890.

Application filed June 11, 1890, Serial No. 355,046. (No model.)

To all whom it may concern:

Be it known that I, NORMAN MARSHALL, of Boston, in the county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Circuit-Controller or Switch for Incandescent Electric Lamps, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my improved switch, the cap being removed; Fig. 2, a vertical transverse section of the same, the cap and key being in position and the contact-plate spring represented as broken off; and Fig. 3 a plan of the cam.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates especially to a device for controlling the electric circuit of incandescent electric lamps; and it consists in certain novel features hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the bed or base plate, which is preferably circular in plan view and has an annular groove or rabbet *b* on its upper edge to receive the inclosing cap B. The under side of the plate is chambered at *d*. Openings *f* are formed in the plate to receive attachment-screws. Disposed centrally on the upper face of the base-plate there is a circular cam D, provided with four vertically-inclined tracks *g h i j*. The body of this cam is constructed of porcelain, glass, or similar non-conducting material.

A plate *m* of brass or similar conducting material is secured to the face of the bed-plate A, and is extended to cover the inclined face of the track *i*. A similar plate *p*, se-

cured at the opposite side of the cam, is extended to cover the face of the track *g* of said cam. Openings *q* for the line-wires are formed through the plates *m p* and base A, and binding-screws *r* are turned into said plates near said openings, said screws forming connectors for securing the line-wires in contact with the plate. A vertically-arranged spindle C, headed at *t* on its lower end, passes centrally through the cam and is fitted to rotate in the base A. A cap *v* is turned onto the upper end of said spindle, which is threaded to receive it. An insulating thumb-piece *y* is mounted on the upper end of the spindle. The body of the spindle is flattened at *z*, and a horizontally-arranged contact-plate H is mounted loosely thereon in position to engage the faces of the cam-tracks *g h i j*, the flattened portion of said spindle preventing it from rotating in said plate. A stiff coiled spring *x* is mounted on the spindle C, between the cap *v* and plate H, said spring acting expansively to force said plate into engagement with the cam.

In the use of my improvement, when the contact-plate H is in engagement with the faces of the cam-tracks *g i* the circuit is closed between the plates *m p*. To break the circuit the key is rotated from left to right, causing the contact-plate H to ride the tracks *g i* until it passes the vertical ends of said tracks, when the spring *x* acts to force it immediately downward into engagement with the insulating-tracks *h j*, instantly breaking said circuit. By rotating the contact-plate in like manner until it passes over the corresponding ends of said insulating tracks and is forced into engagement with the tracks *g i*, the circuit may be again closed.

By the use of the cam and the spring-actuated contact-plate, as described, a positive action is employed in making and breaking the circuit, and the contact broken so abruptly that all danger of the currents arcing is overcome.

It will be understood that more than four cam-tracks may be employed, if desired, as by using eight tracks and two contact-plates the device is applicable to a double pole-switch.

Having thus explained my invention, what I claim is—

In a circuit-controller for incandescent electric lights, the base-plate and flattened rotary spindle C, in combination with the four-track cam, alternate tracks being in electrical contact with the wire-connectors, and the spring-

pressed contact-plate H, fitted to slide vertically on said spindle, substantially as described.

NORMAN MARSHALL.

Witnesses:

K. DUFFEE,
O. M. SHAW.