

(No Model.)

E. WESTON.

SWITCH OR CIRCUIT CONTROLLER.

No. 334,143.

Patented Jan. 12, 1886.

Fig.1.

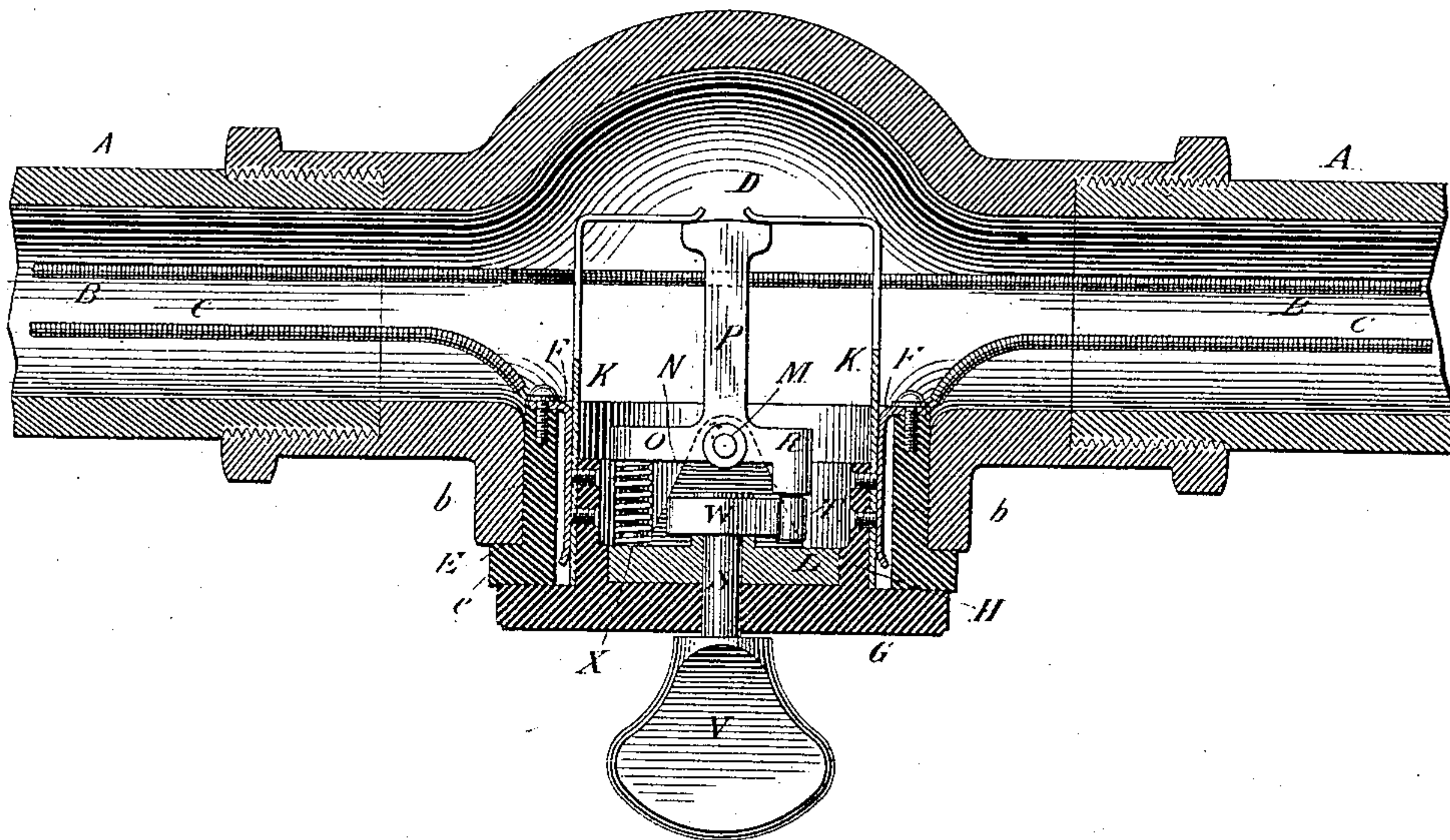


Fig. 2.

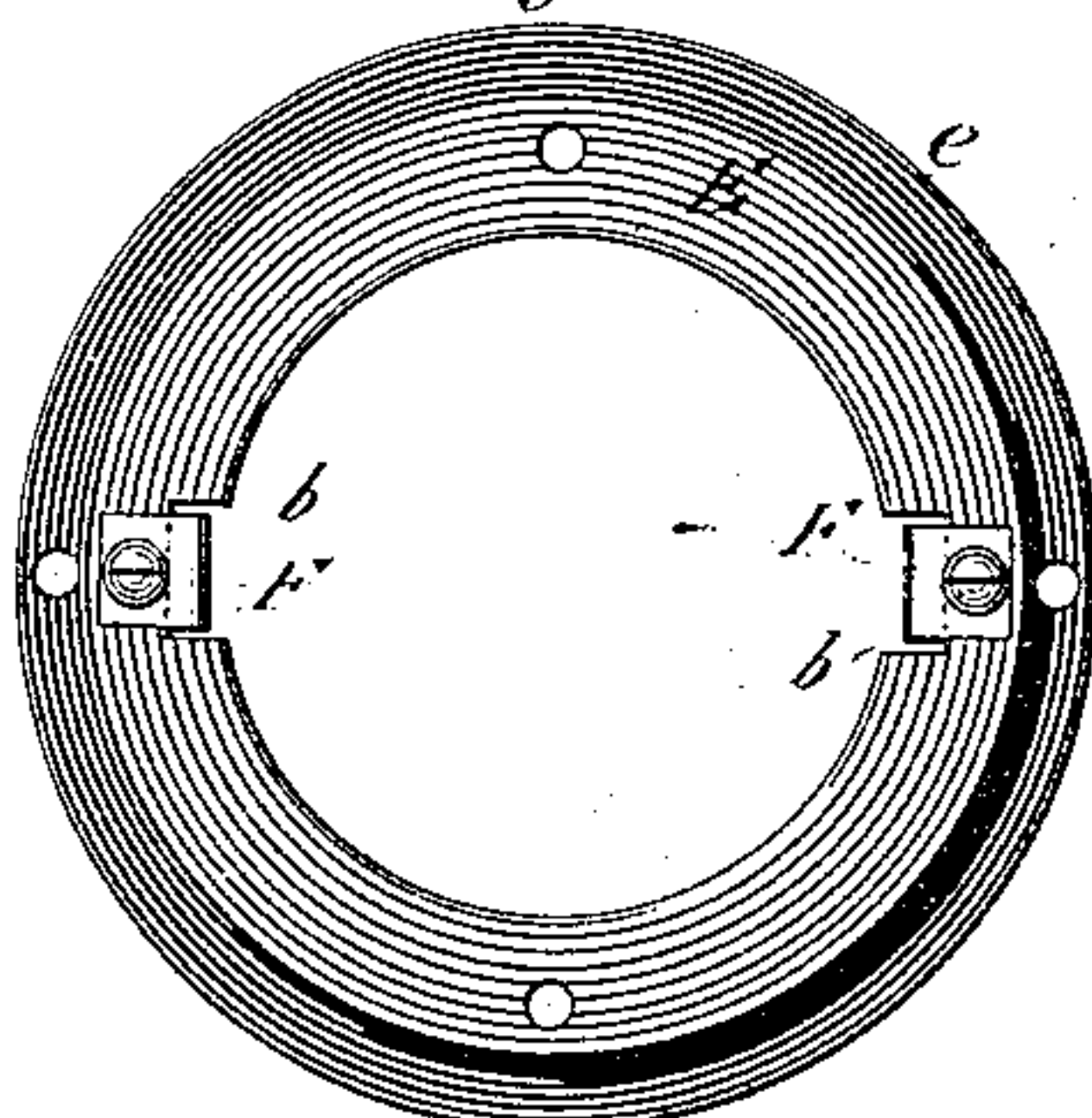


Fig. 3.

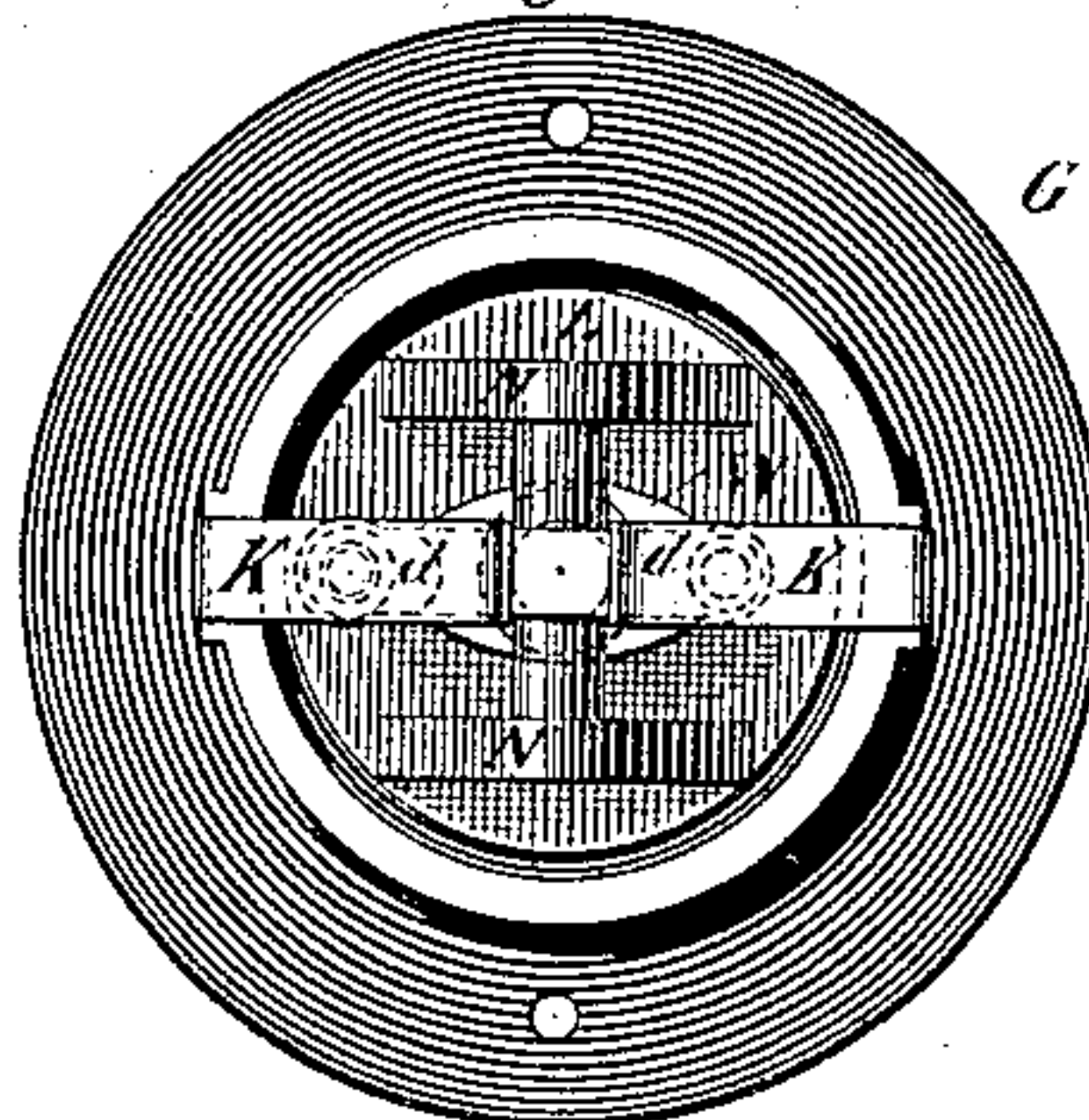
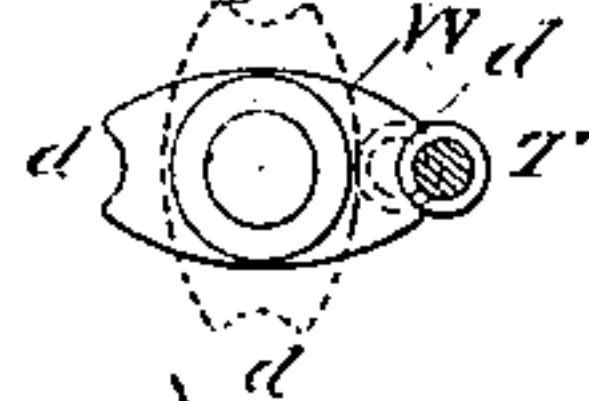


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

EDWARD WESTON, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE UNITED STATES ELECTRIC LIGHTING COMPANY, OF NEW YORK, N. Y.

SWITCH OR CIRCUIT-CONTROLLER.

SPECIFICATION forming part of Letters Patent No. 334,143, dated January 12, 1886.

Application filed July 13, 1884. Serial No. 138,019. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WESTON, a subject of the Queen of Great Britain, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Switches or Circuit-Breakers, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

My present invention relates more particularly to devices for controlling circuits or branch circuits containing incandescent lamps which are supported by chandeliers or brackets. In many of such cases the presence of a shade over the lamp or the conformation of the bracket makes access to the usual circuit-breakers or switches very inconvenient, as the lamp holder or socket and the switch are generally combined, or the switch placed very close to the lamp. To avoid this objection, I have devised a switch that may be readily inserted at any point in the pipe of the bracket or chandelier where it will be easy of access.

This device consists of a short section of pipe constructed in a manner to be readily inserted in a length of pipe by cutting the latter and securing the ends to the section, in combination with insulated terminal contacts secured within it, and a circuit-breaker adapted when fitted into the said section to make or break connection between the terminals, according to the position of the key and separable contact-surfaces.

Referring to the drawings for a description of the details of the device, Figure 1 is a longitudinal vertical section of the invention applied to a bracket-arm. Fig. 2 is a plan view of the part to which the terminals are attached; Fig. 3, a plan view of the switch for use therewith; and Fig. 4 is a detail of the switch mechanism.

A designates the tube or pipe of any chandelier or bracket, containing conductors B C, that are run through the pipe to the lamp or other device for which the pipe may be used as a support.

D is a short section of pipe, which may be enlarged, as shown, when necessary. It has internally-screw-threaded ends and joins the

two sections of pipe A when the latter is cut at any desired point for the insertion of a circuit-breaker. In one side of the section D is an opening, into which is inserted a flat ring, E, of insulating material, preferably with a flange, e, with holes for screws to fix it to the pipe. In the inner wall of the ring E are cut vertical grooves b, and to the upper edge of the ring are secured contact-strips F, that project downward partly within or over the grooves b. One of the circuit-wires, as C, is severed and its ends attached to the contact plates or strips F in any convenient manner.

G is a plate of insulating material having a flange, H, that forms a cup that fits into the ring E. To the outer face of the flange H, and in position to register with the strips F, are secured resilient strips K, that are bent at right angles toward one another, as shown in Fig. 1. The plate G is inserted in the ring E with the strips F K in contact, and fastened in this position by any suitable means. To the plate I secure a switch or circuit-breaker for making or breaking connection between the strips K, and thus controlling the circuit through the bracket. The specific construction of switch for this purpose may be greatly varied, that shown, however, being a convenient and practicable form.

L is a metal plate secured to the plate G within the cup or flange H. M is a rock-shaft in raised bearings N, cast on the plate L. Extending out from shaft M is an arm, P, with rounded end, which bridges over the space between the ends of strips K when held in a vertical position. At right angles to this arm is another, O, between which and plate L is a spiral spring, X, that has a tendency to turn the shaft and throw the arm P out of a vertical position. In line with arm O is a projection, R, turned downward at right angles and ending in a roller, T. Under the shaft M is a spindle, S, that passes through the plates L and G, and is turned by a key, V. Secured to this spindle is an elliptical plate or block, W, with notches d d. When this plate is turned by the key V, its edge bears against the roller T and turns the shaft M. When the roller enters one of the notches d, the end of arm P makes contact with both strips K and com-

pletes the circuit between them. If the key be turned farther in either direction, the spring X exerts a force that throws the plate W around suddenly into the position indicated in dotted lines, Fig. 4, which allows the arm P to tilt and to leave one of the strips K. In this way the circuit is interrupted without spark.

It is immaterial for the purposes of this invention in what manner the section D be formed or connected to the pipe A.

Without therefore confining myself to the described construction in the particulars hereinbefore specified, what I claim is—

1. The combination, with a pipe-section and insulated contact-strips, forming circuit-terminals and secured in the same, of contact-strips on an insulating-plate, and adapted to enter the pipe and to register with the terminals therein, and a switch for making and breaking electrical connection between the contact-strips, substantially as set forth.

2. The combination, with a pipe-section, an insulated ring inserted in an opening in the side of the same, and circuit-terminals secured to the ring, of a plate carrying contact-strips constructed to register when inserted into the pipe with the terminals on the ring, and a switch for making and breaking connection between the contact-strips, all as set forth.

3. The combination, with a pipe-section having an opening in its side, an insulating-ring inserted in said opening, and circuit-terminals secured to the ring, of a flanged plate of insulating material, contact-strips secured thereto in position to register when inserted into the pipe with the terminals therein, and a switch secured to the plate and adapted to make and break connection between the contact-strips, all substantially as set forth.

4. The combination, with the pipe-sections A and joining-section D, containing the insulated terminals F, of the removable plate G, contact-strips K, and switch mechanism for making and breaking connection between the strips, these parts being constructed and combined in substantially the manner set forth.

5. The combination, with the pipe-sections A, joining-section D, the insulating-ring E, and terminals F, of the flanged plate G, contact-strips K, and switch for making and breaking connection between the strips, as set forth.

In testimony whereof I have hereunto set my hand this 16th day of July, 1884.

EDWARD WESTON.

Witnesses:

FRANK N. CRANE,
O. F. GREIM.