

(No Model.)

J. A. POWERS.
ELECTRIC CUT-OUT.

No. 387,732.

Patented Aug. 14, 1888.

FIG. 1

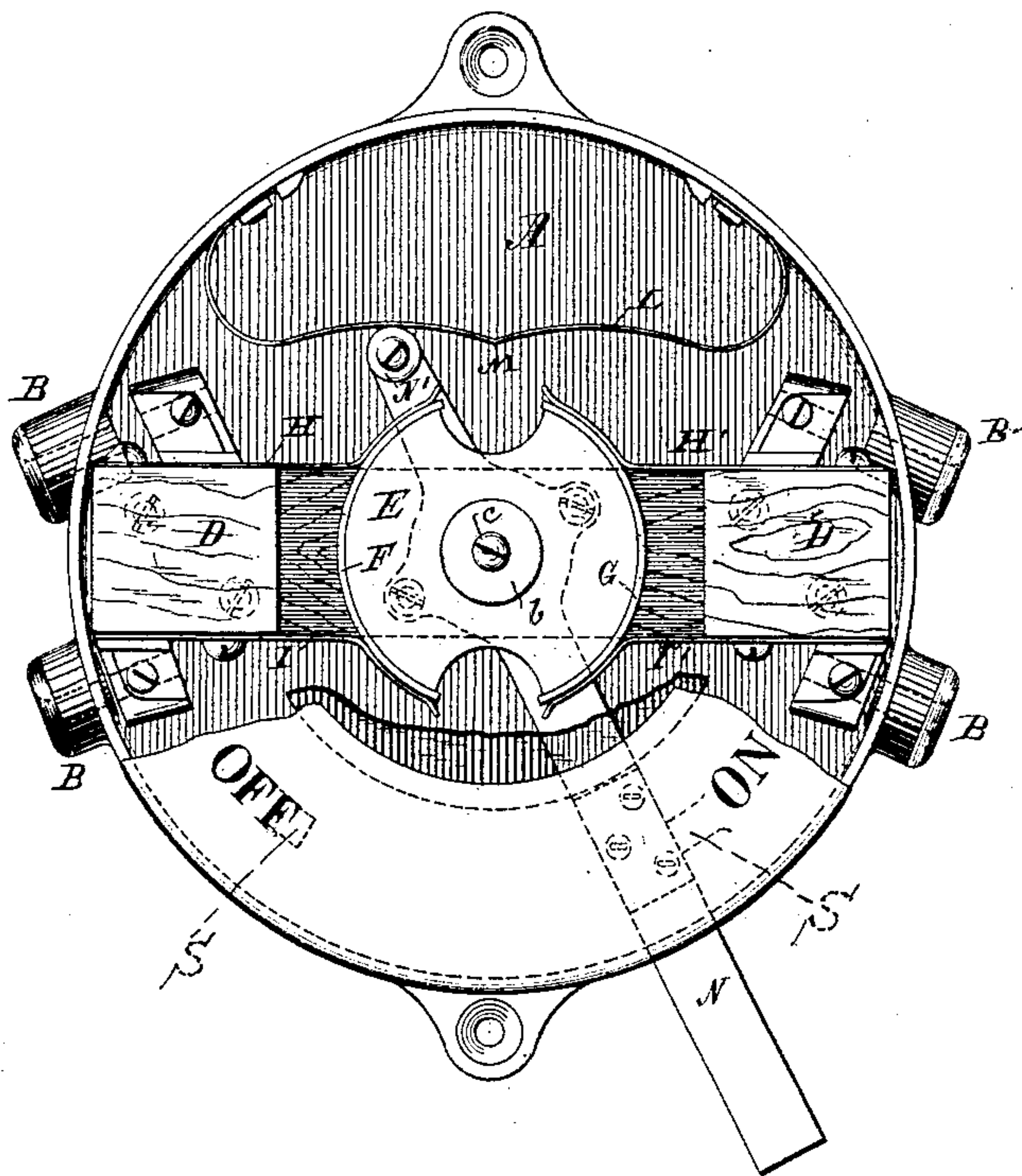


FIG. 2

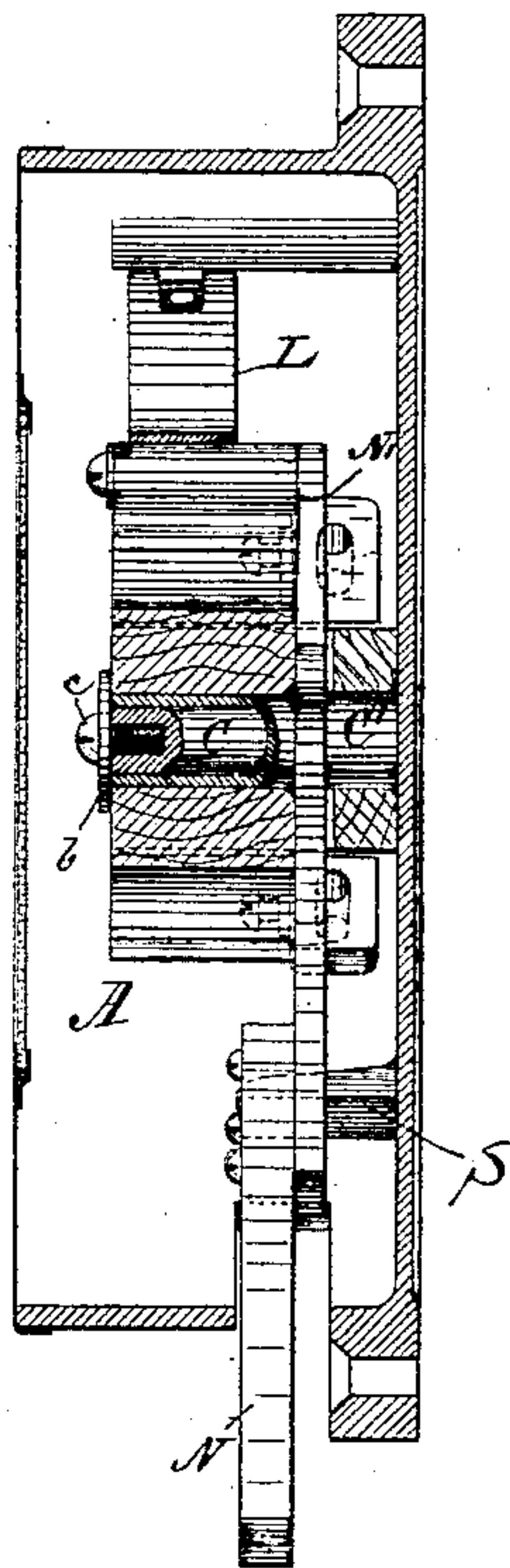
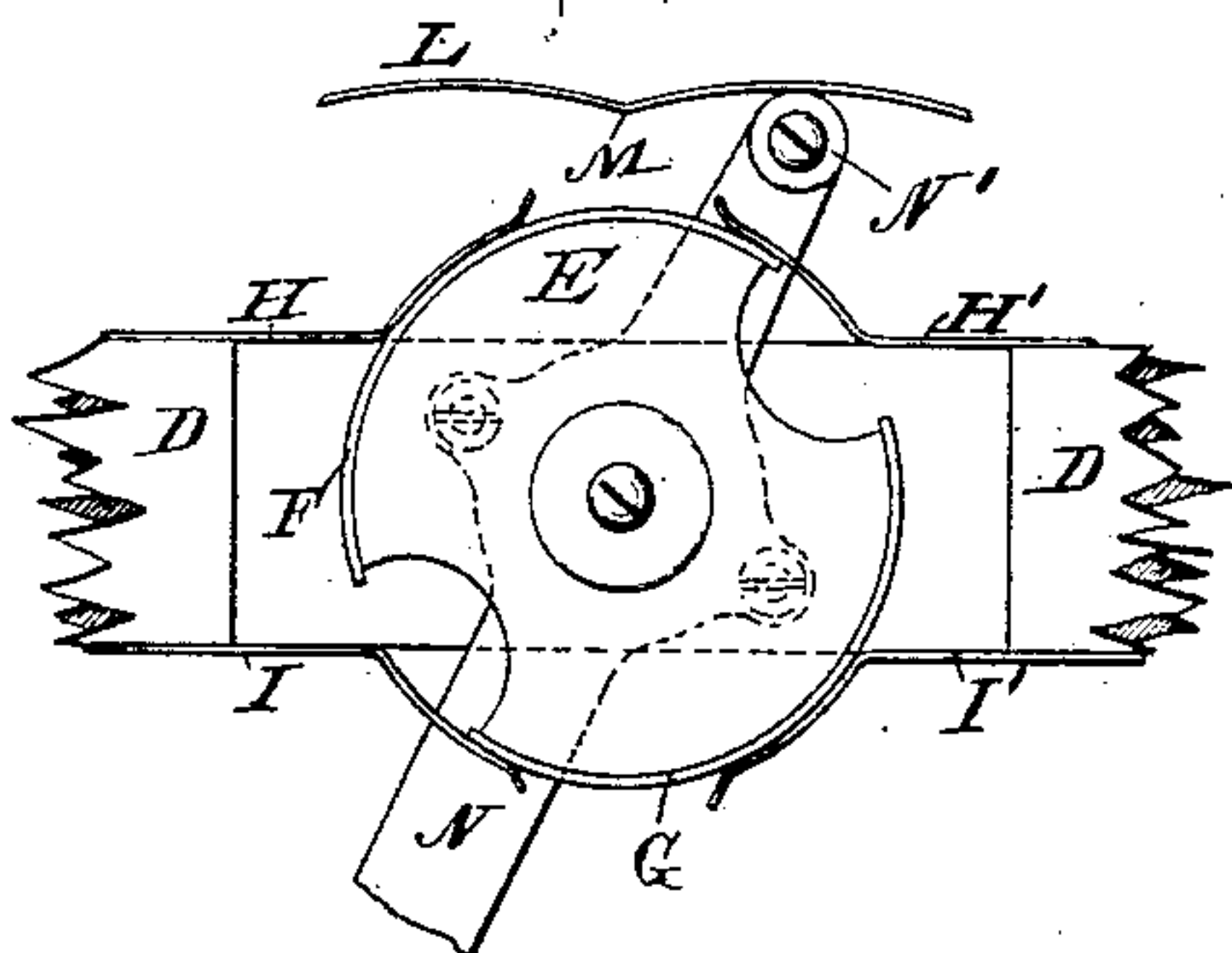


FIG. 3



WITNESSES :

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JOSEPH A. POWERS, OF LANSINGBURG, NEW YORK.

ELECTRIC CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 387,732, dated August 14, 1888.

Application filed June 19, 1888. Serial No. 277,512. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. POWERS, a citizen of the United States, residing at Lansingburg, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Electrical Cut-Outs, of which the following is a specification, reference being had to the drawings accompanying and forming part of the same.

The object of this invention is to produce a cheap, durable, and practicable form of switch or cut-out for electric circuits carrying heavy currents. The device which I have devised is more particularly designed as a cut-out for are lamps or the like—that is to say, a device for completing a circuit around one or more lamps or other translating devices by the same movement or operation by which it interrupts the circuit through the said device, and conversely to interrupt said shunt-circuit when closing the circuit through the said translating devices. In its application to this purpose I have illustrated the invention.

Figure 1 of the drawings is a plan view of the device with the cover partially removed. Fig. 2 is a vertical central cross-section of the apparatus, and Fig. 3 is a detached view of the circuit-controlling mechanism.

A is a cast-iron box having projections or teats B B on opposite sides, which are preferably lined with a good insulator. Through them the circuit-wires are led and secured to the switch-terminals inside the box. A stud or pin, C, is cast in one piece with the metal box and projects up from the center thereof. A wooden block, D, is secured to the bottom of the box by screws or otherwise, and through it extends the stud C, formed with an enlargement or shoulder, C'.

E is a circular insulating-block fitting down over the stud C, and secured in position thereon by a washer, b, and screw c. The block E is in a cut-away portion of the block D.

The block E carries two conducting-plates, F G, which occupy so much of the periphery as may be necessary for the result sought—that is to say, when the switch is "on" or in a position to direct the current through the electrical devices with which it is connected the contact-springs H H' and I I' should be electrically connected through the plates F

and G, respectively; but when the switch is "off" the springs H and I and H' and I' should be similarly connected by the plates G and F, respectively. The contact-springs form the terminals of the various circuits. They are ordinary contacts secured in the box A, and preferably to the block D. The springs or strips H I form the terminals of a break in the main circuit, while strips H' I' are the terminals of the circuit including the devices to be connected with the circuit; hence when H is connected to H' and I to I' the current of the main circuit is directed through the translating device.

Within the box is a spring, L, the ends of which are secured to the sides of the box. This spring is of such a shape as to force the switch-handle across the center or fulcrum and to retain it in one of its terminal or extreme positions. For this purpose I give to the spring the shape of a typographical brace, and place it with its point M immediately over the fulcrum G.

N is a lever or handle secured to the block D and extending out through a slot in the side on the box A. N' is a small roller or stud set in the extension or projecting end of the lever N and bearing against the spring L. When the lever is shifted, the spring is compressed until the roller N' passes the highest point M of the spring, when by the reaction of the spring the lever is shifted with a sudden and positive movement. Lugs S S are cast in the box A to limit the movement of the lever N. The spring is made of such strength that the application of more than ordinary power must be deliberately applied by the person operating the switch to prevent it from being thrown or shifted with sufficient rapidity to break the spark and prevent the formation of a destructive arc.

A cover, P, with a glass-covered opening, R, therein, is placed over the box to protect the switch mechanism.

The main difficulty with the spring-switches in use is their complication and liability to get out of repair. In this form I have realized the greatest possible simplicity of structure without impairing at all its efficiency.

What I claim as my invention is—

1. The combination, with a box or can pro-

- vided with a central stud, of insulating-sup-
ports and contact-terminals secured thereto,
an insulating-block carrying contact-plates
adapted to connect the terminals in pairs and
5 pivoted on the stud, a handle for turning said
block, and a brace-shaped spring adapted to
be compressed by the movement of the handle
in either direction and to force it into its ex-
treme positions, as set forth.
- 10 2. The combination, with the cast-iron box
formed with a stud, C, of the insulating-block
D and four terminal springs secured thereto,
the block E, carrying contacts on its periph-
ery and turning on the stud C, a handle for
15 shifting said block, and a bow-spring secured
to the wall of the box, against which the ex-
tension or projecting end of the handle im-
pinges, as and for the purpose set forth.
3. The combination, with the cast-iron box
having insulated openings through its sides 20
for the insertion of wires and a detachable
cover, of an insulating-block secured within
the box, spring-plates and terminals secured
thereto, to which the wires are connected, a
circular insulating-block mounted on a stud 25
and provided with contact-plates on its pe-
riphery, a handle secured to said block and
extending through a slot in the side of the
box, and a bow-spring secured to the wall of
the box and upon which the extended end of 30
the handle impinges, as set forth.

JOSEPH A. POWERS.

Witnesses:

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