

(No Model.)

E. WESTON.
CIRCUIT CONTROLLING DEVICE.

No. 277,640.

Patented May 15, 1883.

Fig. 1.

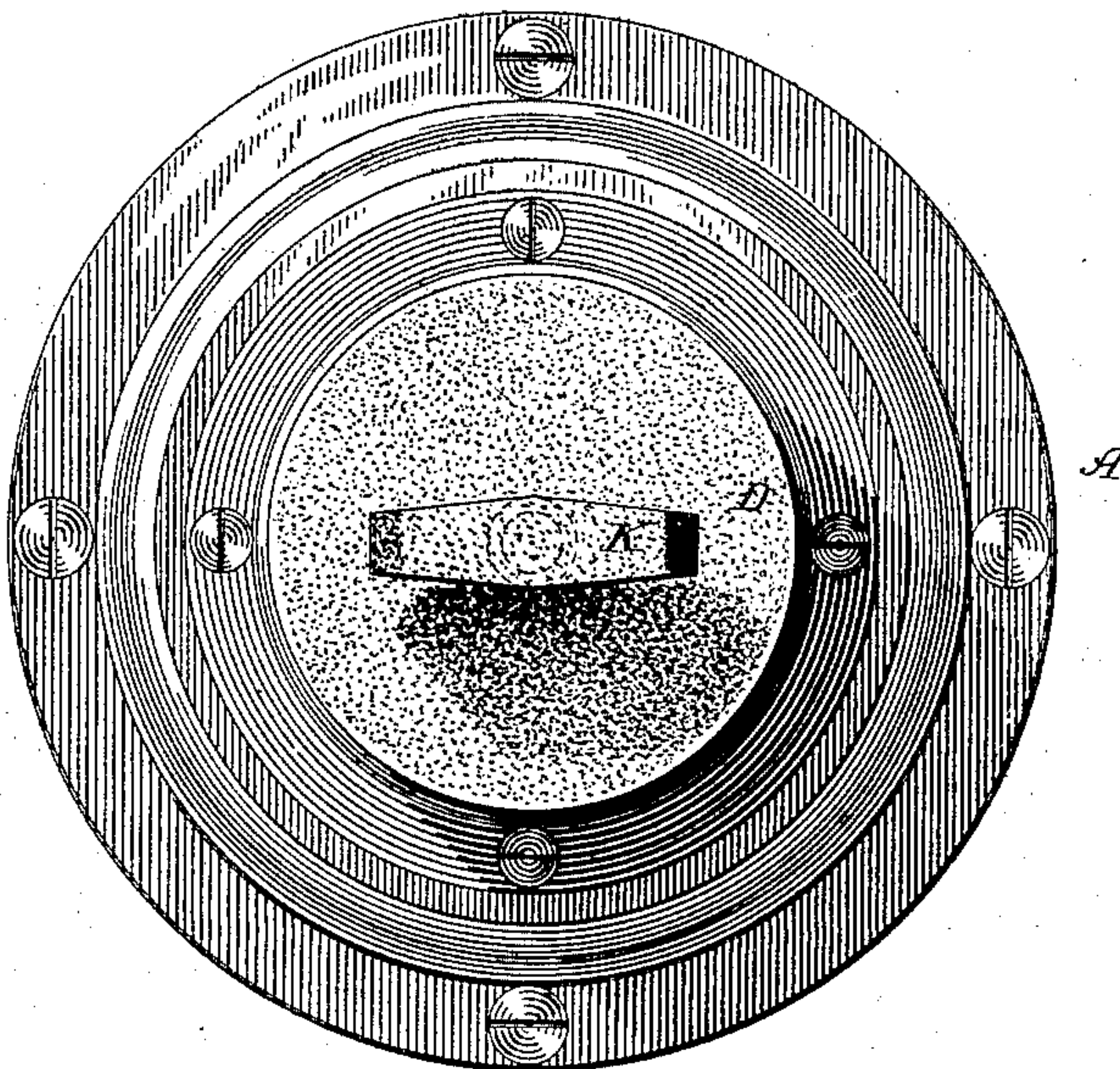


Fig. 2.

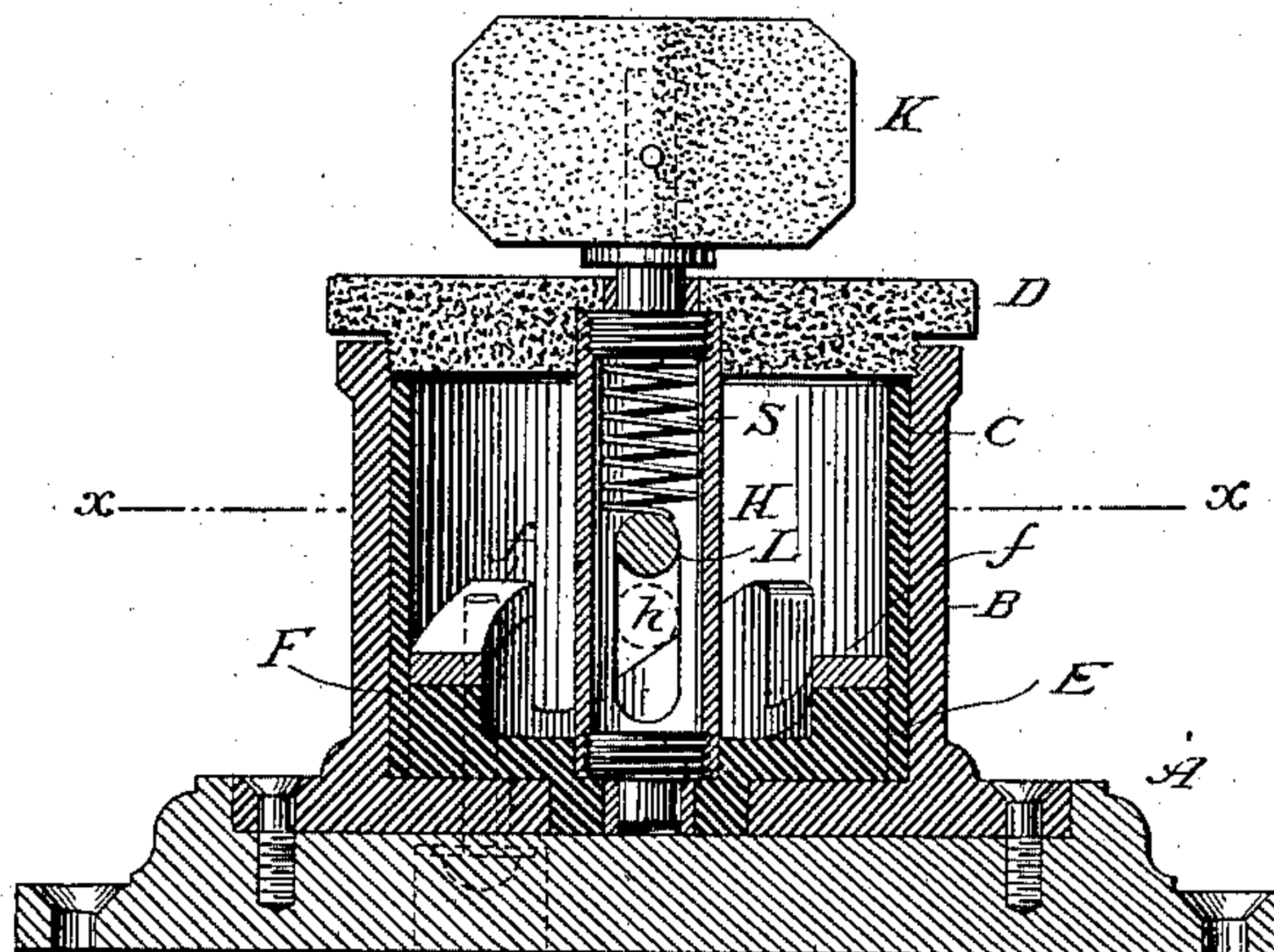
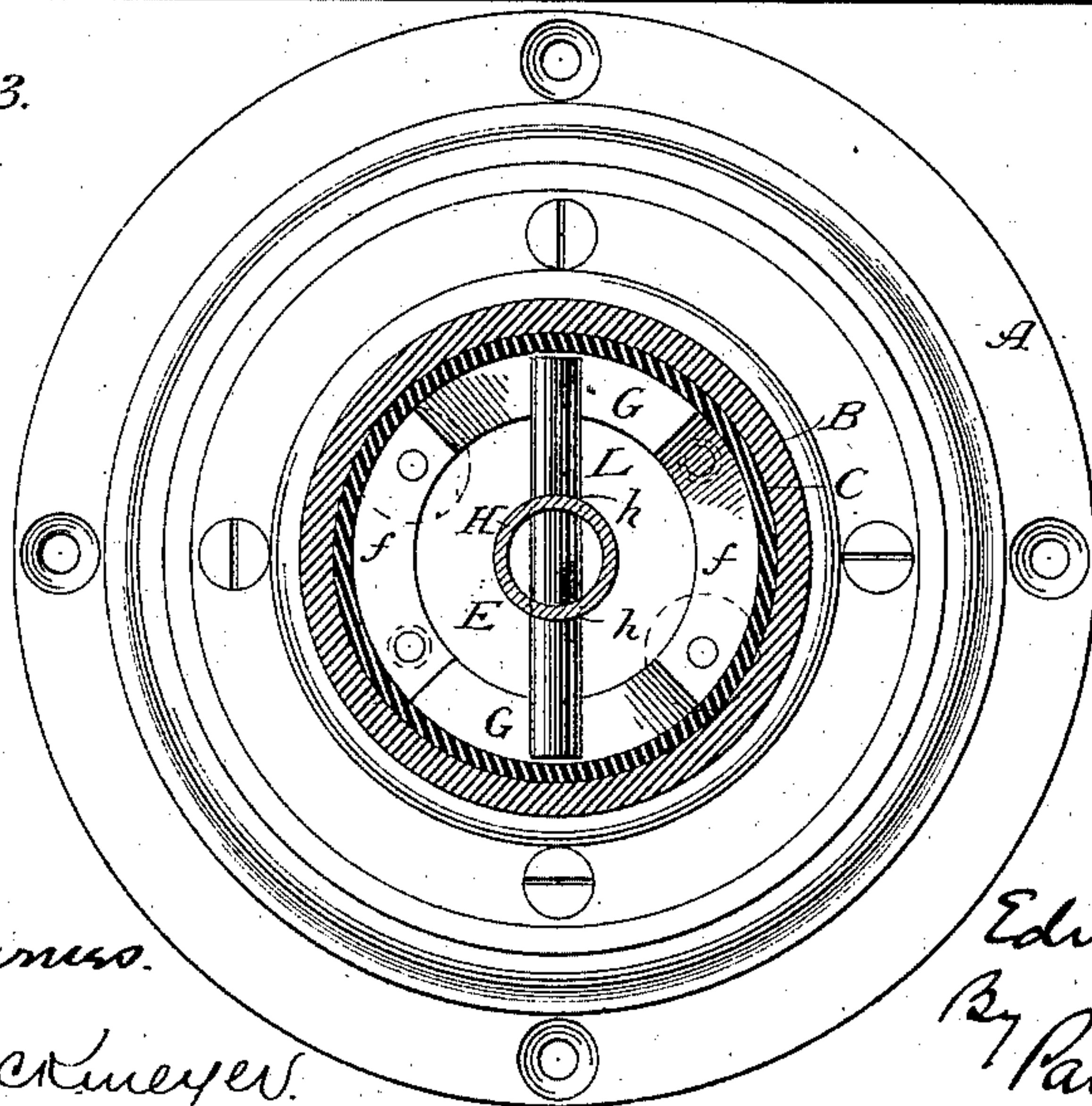


Fig. 3.



Attest:

Raymond F. Barnes.
Henry A. Beckmeyer.

Inventor:

Edward Weston
By Parker W. Page
att'y

UNITED STATES PATENT OFFICE.

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

CIRCUIT-CONTROLLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 277,640, dated May 15, 1883.

Application filed October 24, 1882. (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 Circuit-Closing Devices, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

My invention consists in a switch or circuit-closing mechanism for electric circuits, constructed in substantially the following manner: In the center of a ring of insulating material, cut or fashioned to resemble an ordinary crown-wheel, is fixed a spindle having a vertical slot through which is passed a metal pin, which, by means of a spiral spring, is forced down upon the teeth of the ring. These teeth carry metal plates, and those plates which are diametrically opposite are connected with the ends of circuits. Thus by turning the spindle the pin is brought in contact with one or another pair of plates, completing the circuit between the same.

This device is mainly designed for use with a circuit which is divided into any number of branches, through one or more of which it is desired to direct the current. For instance, in a system of lighting by incandescence, when chandeliers with several arms or branches are used, this device may be placed either on the chandelier or near it, and be used for turning on or off the lamps carried thereby.

While in practice the specific character of the parts above named and the plan of the electrical connections may be greatly varied, the construction in general is substantially as shown in the accompanying drawings, where—

Figure 1 is a plan view of a switch and inclosing-case; Fig. 2, a central vertical section of the same, and Fig. 3 a horizontal section on the line *x x* of Fig. 2.

The form of switch shown in the drawings is designed for attachment to some fixed support, and may be used with a main circuit alone, or between a main circuit and a number of branches therefrom.

A is a plate of wood or other insulator.

B is a circular metal case set in the same;

C, a lining of some suitable insulating material within the case B, and D is a cap or cover, preferably of vulcanite or hard wood.

In the bottom of case B is fixed a plate, E, of insulating material, having a flange in which are cut any desired number of teeth; F G.

Concentrically with the teeth F G is mounted a vertical spindle composed of a tube, H, having vertical slots *h h* and carrying a thumb-key K, by means of which it is turned.

L is a metal pin passing through the slots *h h*, and S a stout spiral spring placed within the tube H above the pin. The latter is by this means forced downward upon the teeth F G, and, being of a length nearly equal to the internal diameter of the containing-case, is prevented from becoming displaced. On two of the teeth, as F in the present case, are set metal plates *f f*, and these, by means of pins *d d*, are connected with the ends of a severed circuit. It is obvious, however, that a greater number of circuit-connections may be made to the plates, or that more teeth than two may carry plates, if so desired. The teeth G have no plates, and are used to prevent the spindle from being turned backward. The insulated teeth should alternate with those carrying metal plates. The spindle, instead of being made as shown, may be a simple slotted pin, the spring S in this case being coiled around it on the outside, and in other respects the mechanical construction of the parts may be varied without departure from the invention.

In operating the switch, the pin L, when it bridges a pair of metal plates, is held in firm contact therewith by the spring S. When turned to break circuit it is driven by the force of the spring off from the highest edge of the plates so rapidly as to prevent the formation of a spark, nor can it be turned back into contact with the plates it has left.

Having now described my invention and the useful features which distinguish the same, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a series of alternately insulating and conducting teeth, the latter in electrical connection with one or more circuits, a spindle, a contact-pin vertically movable there-

in, and a spring arranged to force the pin upon the teeth, substantially as herein set forth.

2. The combination of an insulating-casing, a ring of insulating material provided with
5 notches or teeth alternately insulating and conducting the latter in electrical connection with one or more circuits, a spindle, a contact-pin vertically movable therein, and a spring
10 arranged to force the pin upon the notched or toothed ring, as and for the purpose set forth.

3. The combination of a ring of insulating material, provided with notches or teeth alternately insulating and conducting the latter
15 in electrical connection with one or more circuits, a spindle composed of a slotted tube, a contact-pin passing through the slots, and a

spiral spring for forcing said pin down on the notched or toothed ring, as set forth.

4. The combination of a metal casing, an insulating lining and cover, two or more insu- 20
lating and conducting teeth, the latter in electrical connection with a circuit or circuits, a spindle mounted concentrically with said teeth, a contact-pin vertically movable in said spin-
25 dle, and a spring for forcing the pin in contact with the teeth, as set forth.

In testimony whereof I have hereunto set my hand this 20th day of October, 1882.

EDWARD WESTON.

Witnesses:

ALEX. P. WRIGHT,
H. A. BECKMEYER.