

(No Model.)

I. & A. HERZBERG.
REGULATING ELECTRIC LIGHTS AND POWER.

No. 454,650.

Patented June 23, 1891.

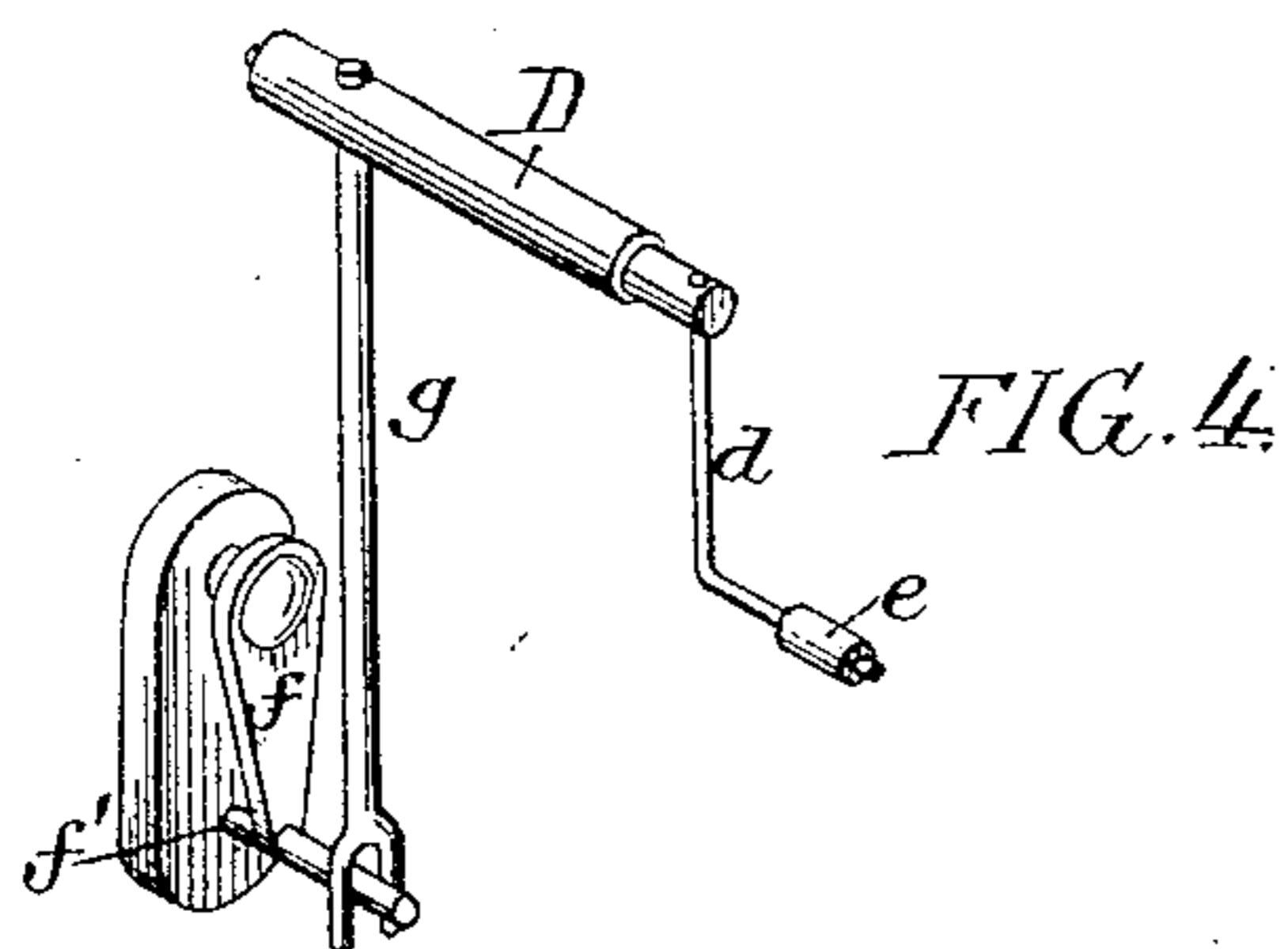
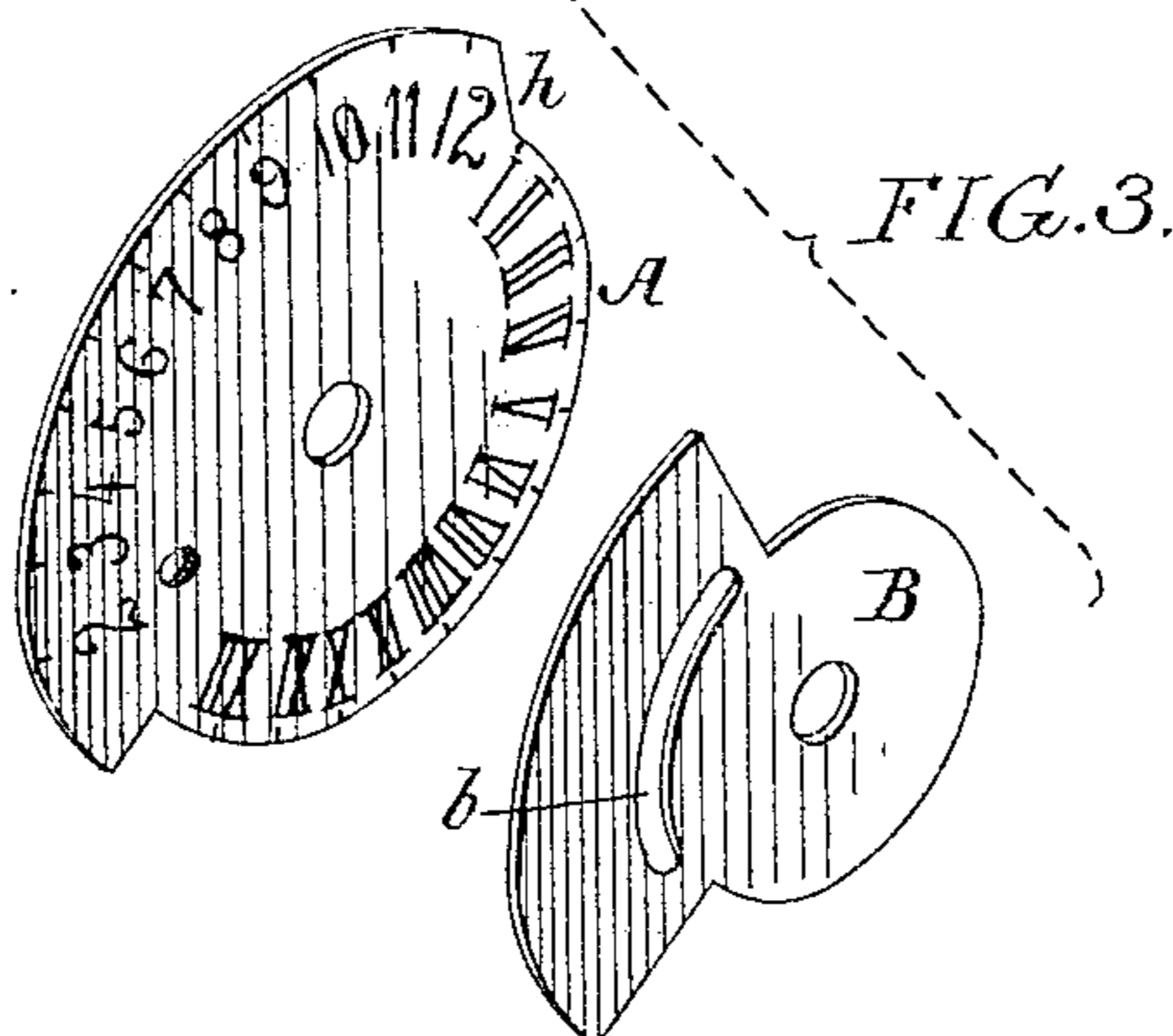
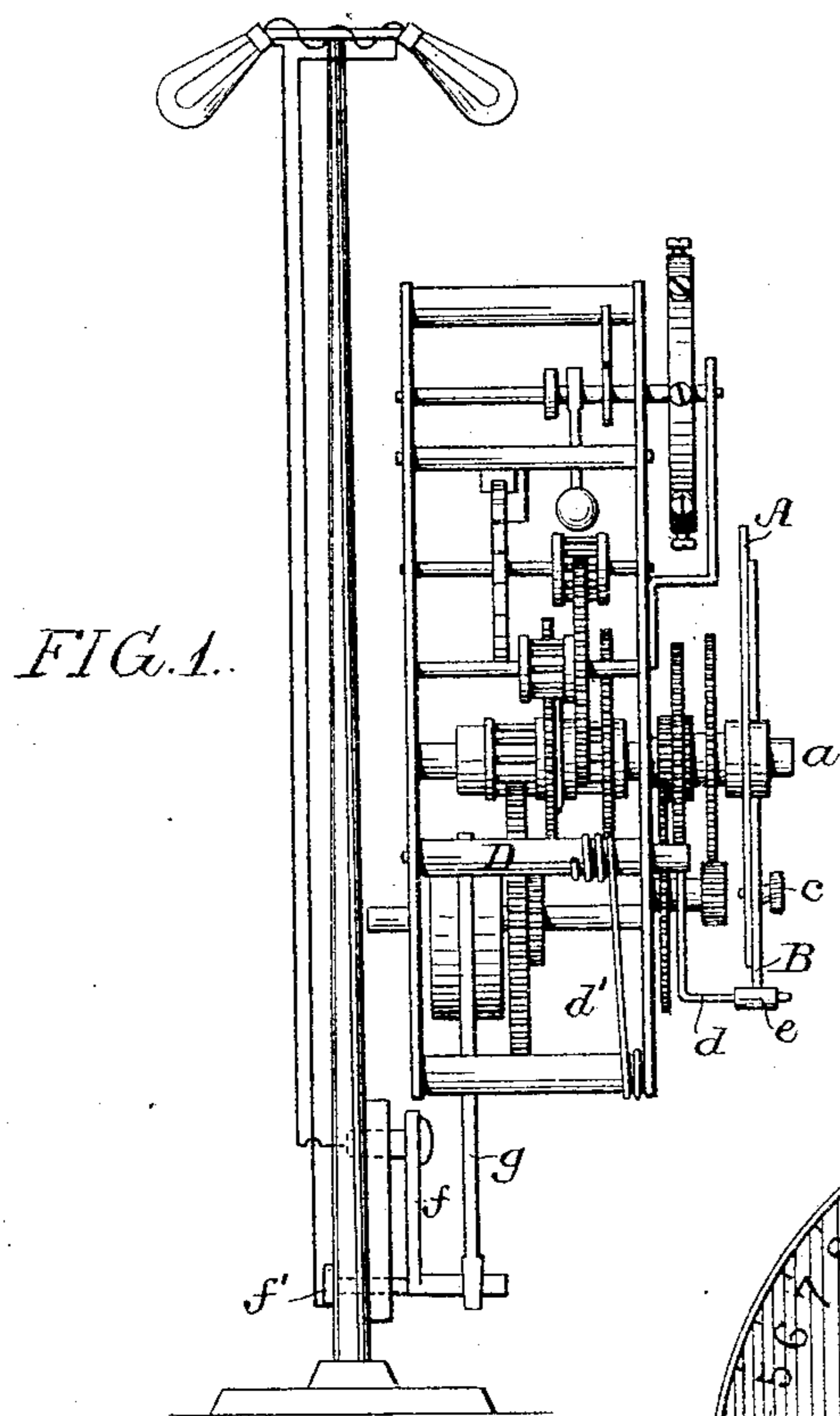
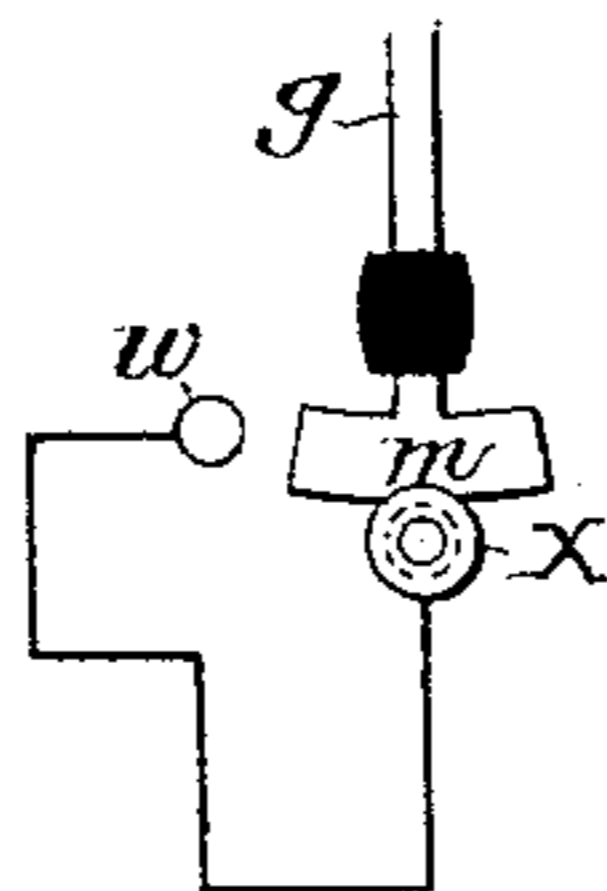


FIG. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

ISAAC HERZBERG AND ABRAM HERZBERG, OF PHILADELPHIA,
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REGULATING ELECTRIC LIGHTS AND POWER.

SPECIFICATION forming part of Letters Patent No. 454,650, dated June 23, 1891.

Application filed December 10, 1890. Serial No. 374,240. (No model.)

To all whom it may concern:

Be it known that we, ISAAC HERZBERG and ABRAM HERZBERG, citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented an Improved Device for Regulating Electric Lights and Power, of which the following is a specification.

The object of our invention is to provide an improved apparatus by which the length of time an electric circuit is held open or closed for the purpose of producing light for given periods of time or for use in electroplating or electrotyping or similar purposes may be automatically regulated.

In carrying out our invention we preferably employ the adjustable time-dial forming the subject of a patent granted to us on April 16, 1872, No. 125,679, Reissue No. 8,754, dated June 17, 1879, the dial being of substantially the same construction as that described in said patent, and being rotated by clock-work and adapted to act mechanically upon a switch controlling the electric circuit.

In the accompanying drawings, Figure 1 is a side view of an apparatus constructed in accordance with our invention, showing a suitable clock-work mechanism for operating the dial. Fig. 2 is a face view of the dial and face of the clock mounted in a casing. Fig. 3 is a detached perspective view of the two portions of the dial-plate. Fig. 4 is a perspective view of the electric switch and the mechanism by which such switch is connected to the dial, and Fig. 5 is a view of a modification.

In Fig. 1 of the drawings is shown a clock-work mechanism adapted to rotate the dial A once in each twenty-four hours, the dial being mounted on the outer end of the spindle *a*. The dial-plate A has its opposite edges at different distances from the center of rotation and has marked thereon two series of numerals running from 1 to 12. To this dial is adapted a segmental cam B of the same radius as the larger portion of the main dial-plate, the cam B being adjustable by means of a slot *b* and set-screw *c* with respect to the dial A, so that the length of the

larger surface may be adjusted to any extent.

Mounted in the frame-work of the clock is a staff D, having two arms, one of which *d* is bent at right angles, and carries on its outer end an anti-friction roller *e*, adapted to be held in contact with the periphery of the disk A by a spring *d'* on the staff D. The other arm *g* is forked at its lower end and engages with an electric switch *f*, controlling an electric circuit, one terminal being at all times in contact with the switch-lever, and the other terminal ending in a contact-point *f'*, with which said switch-lever may be moved in contact. Now it is proposed in electric lighting or in electroplating when a current is to be maintained for a certain length of time to adjust the cam B until a greater or less portion of the smaller part of the dial is covered, and so long as the anti-friction roller *e* travels on the smaller surface the circuit will be maintained, and will only be broken when the portion *h* of the dial is reached, and the ascension of the roller causes the movement of the two arms *d g*, and the consequent movement of the switch *f*, and the breaking of the circuit.

In Fig. 5 we have shown a modified form of switch in which the lower end of the arm *g* is made in the form of a segment *m*, traveling at all times in contact with a grooved roller *x*, which forms one terminal of an electric circuit, the other terminal being in the form of a contact-point *w*, with which the end of the segment is moved in contact when the anti-friction roller on arm *d* reaches the end of the larger portion of the dial A and drops into contact with the smaller portion of the dial.

The device is particularly applicable for use in stores where a light is used during the night as a protective measure, as it is merely necessary to adjust the dial so that the light will be shut off at daylight. It may also be used to advantage in electroplating or electrotyping where it is desirable to maintain a current for a certain length of time.

Having thus described our invention, we

claim and desire to secure by Letters Patent—

A controlling device for electric circuits comprising an adjustable dial, mechanism for
5 rotating said dial, an electric switch, and a staff having two arms projecting therefrom, one of said arms being connected to the switch and

the other being controlled by the dial, substantially as specified.

ISAAC HERZBERG.
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Witnesses:

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CHARLES MUTH.