

(No Model.)

L. F. FURLONG & F. O. TUCKER.  
ELECTRIC SWITCH.

No. 453,633.

Patented June 9, 1891.

Fig. 1

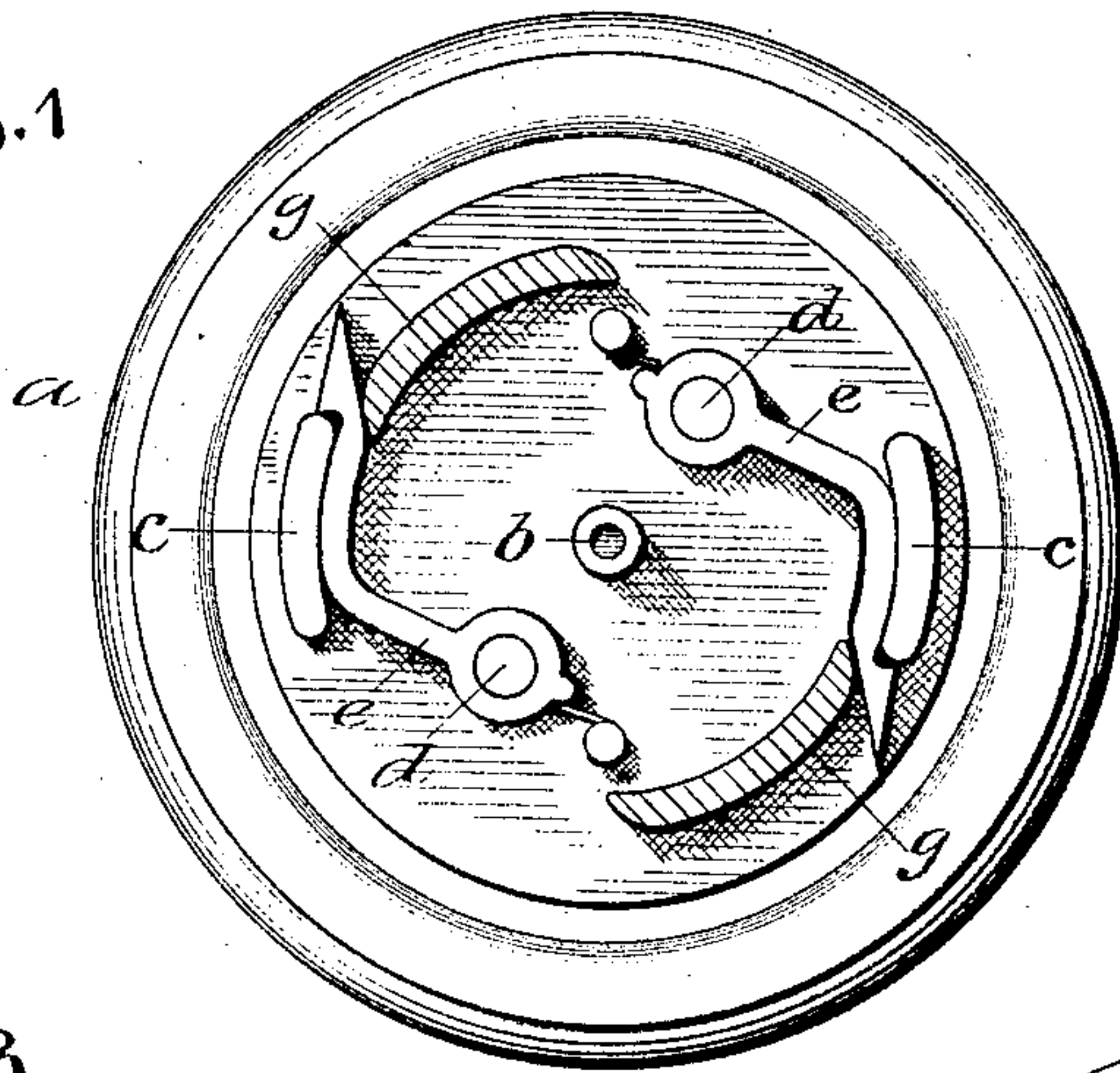


Fig. 3

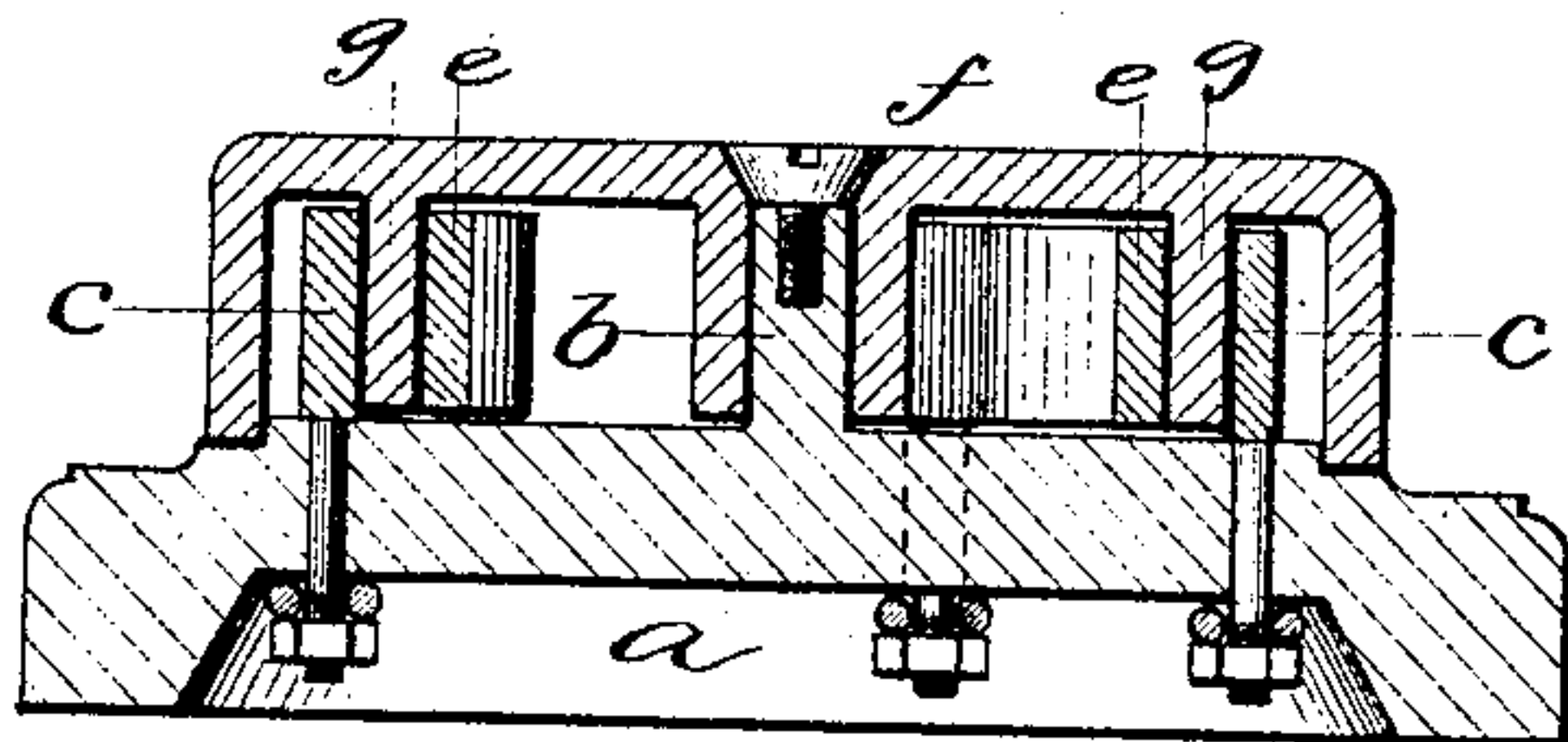


Fig. 4

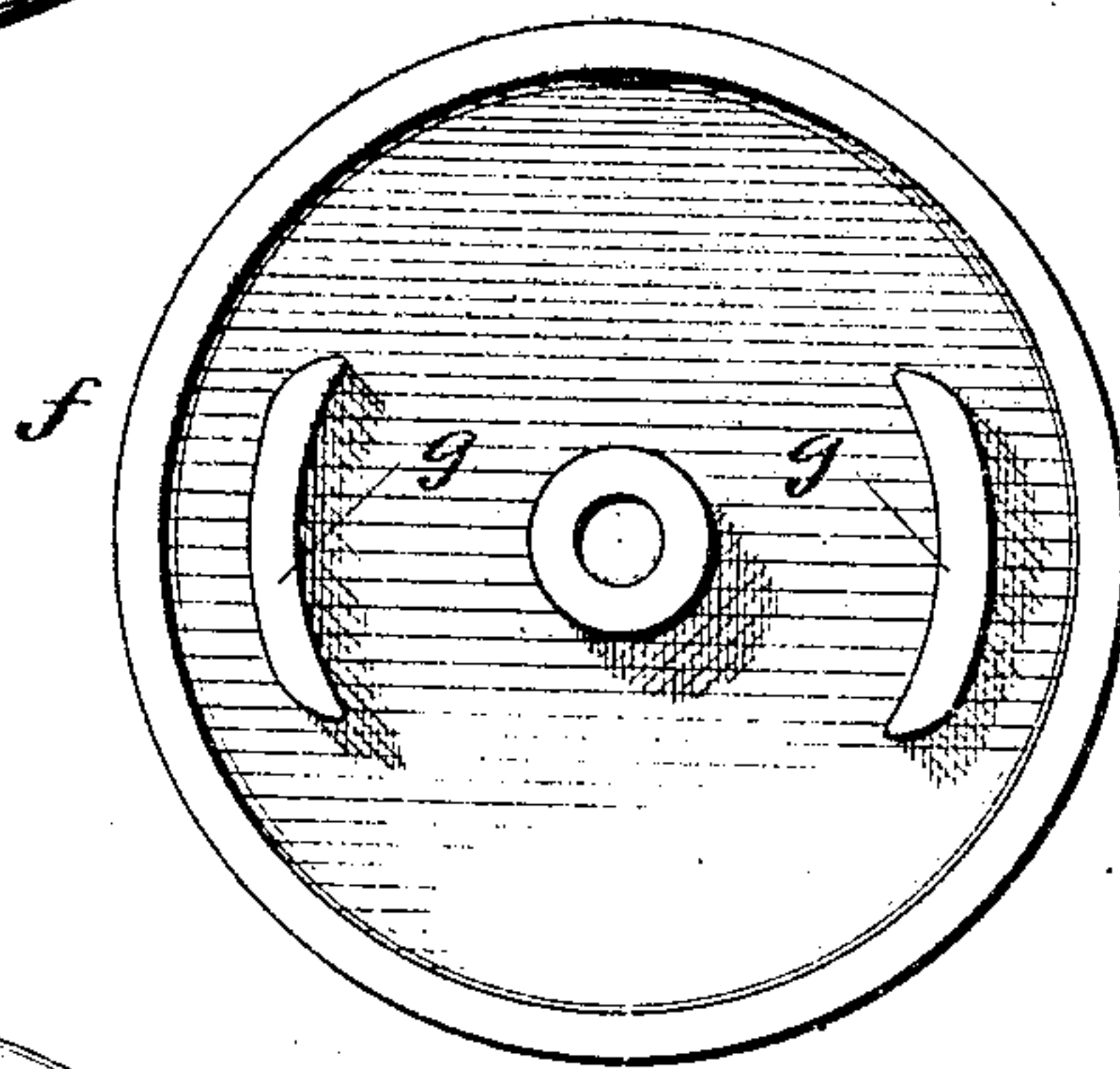
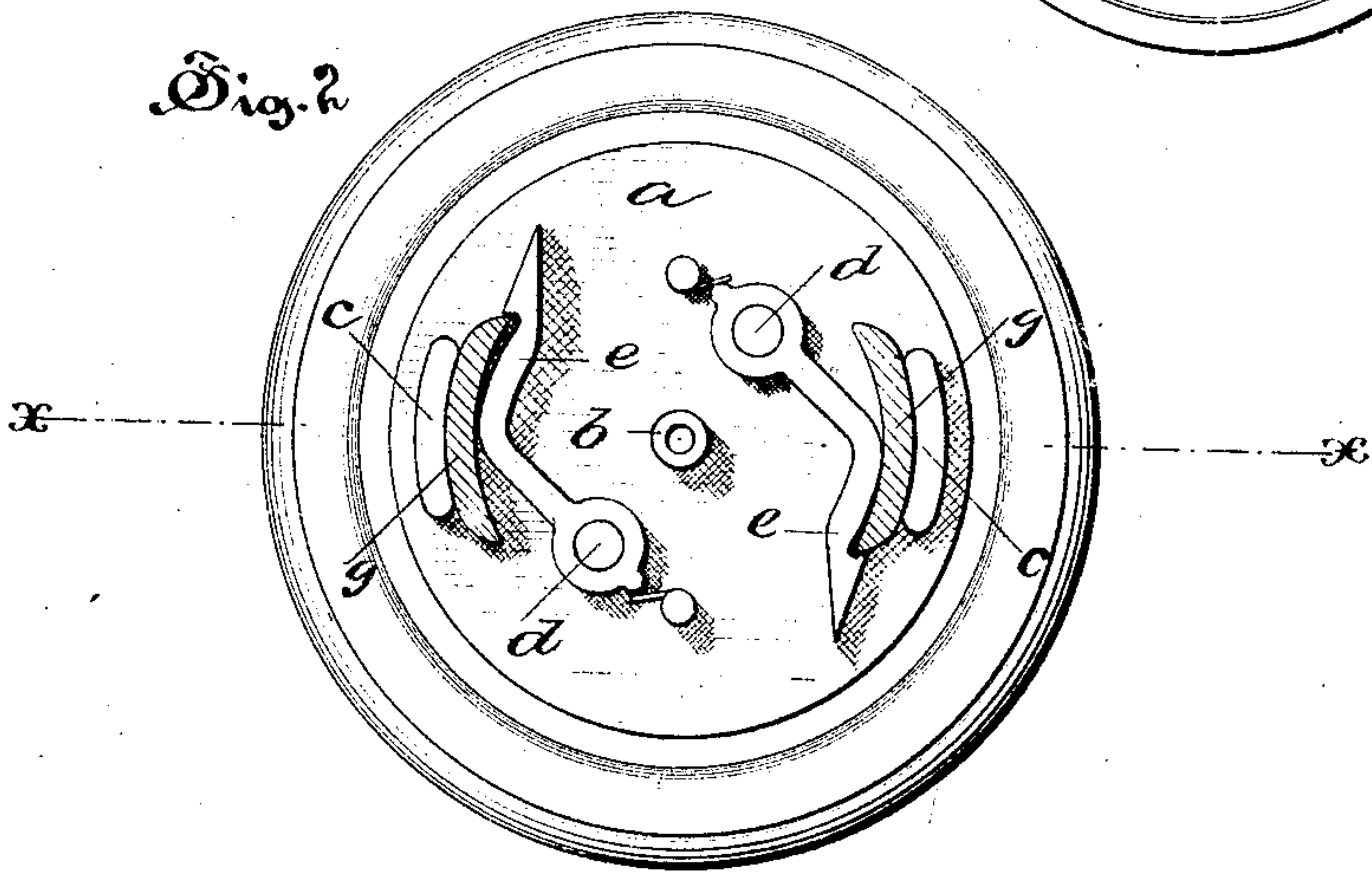


Fig. 2



WITNESSES:

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# UNITED STATES PATENT OFFICE.

LAWRENCE F. FURLONG AND FREDERICK O. TUCKER, OF HARTFORD, CONNECTICUT; SAID FURLONG ASSIGNOR TO AMOS WHITNEY AND SETH W. BISHOP, BOTH OF SAME PLACE.

## ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 453,633, dated June 9, 1891.

Application filed October 24, 1890. Serial No. 369,383. (No model.)

*To all whom it may concern:*

Be it known that we, LAWRENCE F. FURLONG and FREDERICK O. TUCKER, citizens of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electrical Switches, of which the following is a full, clear, and exact specification.

The invention relates to the class of electrical switches more particularly adapted for use in opening and closing incandescent circuits; and the object is to provide a switch so constructed that the opening and closing can be quickly accomplished and pieces of insulating material passed between the contacts when they are separated, to prevent the possibility of arcing the current; also to provide a simply-operated switch having no projecting handle or button.

Referring to the accompanying drawings, Figure 1 is a plan view with the cap removed, showing the switch closed. Fig. 2 is a similar view with the switch open. Fig. 3 is a vertical section on plane denoted by line *x x* of Fig. 2; and Fig. 4 is a plan view of the interior of the cap.

In the views, the letter *a* indicates the base, which is made of wood, porcelain, insulating composition, or the like, preferably in a circular form, adapted to be fastened to a wall or ceiling and provided with a central stud or pillar *b*. Upon opposite edges of one surface of the base are secured stationary conducting-contacts *c*, having parts that preferably pass through the base and are joined with the ends of the circuit-wires by any common form of binding-screws or clamps. To posts *d*, which also pass through the base and are joined with the other ends of the circuit-wires by suitable clamps, conducting-contacts *e* are hinged or pivoted so as to swing into or out of contact with the adjacent stationary contacts. The movable contacts are usually formed with an angle at their center and a stop or hook at or near the free end, and are preferably normally held against the stationary contacts by springs.

A cap *f*, formed of any desirable material,

usually an insulating substance, which is secured to the base so as to have an oscillatory movement, preferably by pivoting it upon the stud or pillar *b*, bears inward-projecting blocks *g*, of insulating material, so located that when the cap is oscillated in one direction the blocks strike the movable contacts near the angle, thrust them away from the stationary contacts, and pass between the separated contacts until reaching the hooks or stops. This movement of the cap causes the blocks to quickly open the circuit by passing between the contacts, where they remain to prevent any possibility of an arc being established between the contacts. An oscillation of the cap in the opposite direction withdraws the blocks, and the movable contacts, under the impulse of the springs, if springs are provided, quickly join the stationary contacts, closing the circuit. If no springs are provided, or to supplement the action of the springs and insure a good contact, the blocks are formed so as to pass back of the movable contacts, as shown in Fig. 1, and force them tightly against the stationary contacts.

It is not essential that one pair of contacts be stationary, as both might be made movable and the insulated blocks made to pass between and separate them in the manner described without departing from our invention; nor is it essential to the invention that there be two pairs of separable contacts forming a double-pole switch, which, however, is preferable, as the separation of one pair of contacts would open the circuit.

The switch is simple, cheap, so constructed as to insure a good contact between the terminals, when desired, and prevent the possibility of an arc across the terminals when the circuit is opened, and is neat and attractive in appearance, as there is no projecting button or handle on which articles can catch and which is a source of great temptation for persons to grasp and snap.

We claim as our invention—

1. In an electrical switch, in combination, a base bearing stationary and movable contacts, and a movable cap bearing blocks

adapted to separate the contacts, substantially as specified.

2. In an electrical switch, in combination, a base bearing stationary and movable contacts, and a movable cap with projecting insulating-blocks adapted to pass between and separate the contacts, substantially as specified.

3. In an electrical switch, in combination, a base bearing stationary and movable contacts, and a movable cap bearing blocks adapted to separate and join the contacts, substantially as specified.

4. In an electrical switch, in combination, a base bearing stationary and spring-actuated contacts, and a movable cap bearing blocks adapted to separate and pass between the contacts, substantially as specified.

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Witnesses:

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