

No. 618,380.

Patented Jan. 24, 1899.

W. J. FERGUSON.
ELECTRIC SWITCH.

(Application filed Feb. 2, 1898.)

(No Model.)

Fig. 1.

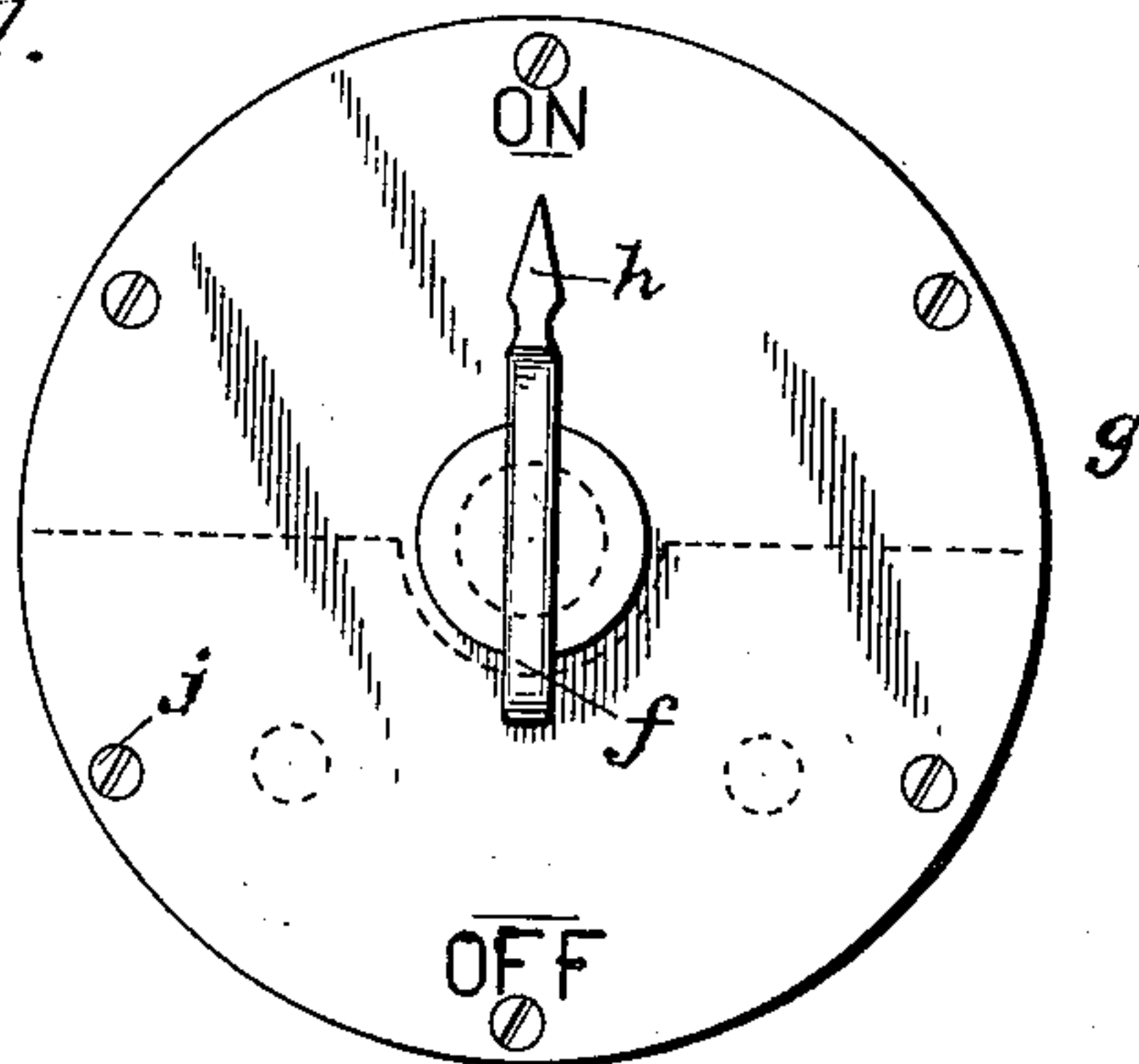


Fig. 2.

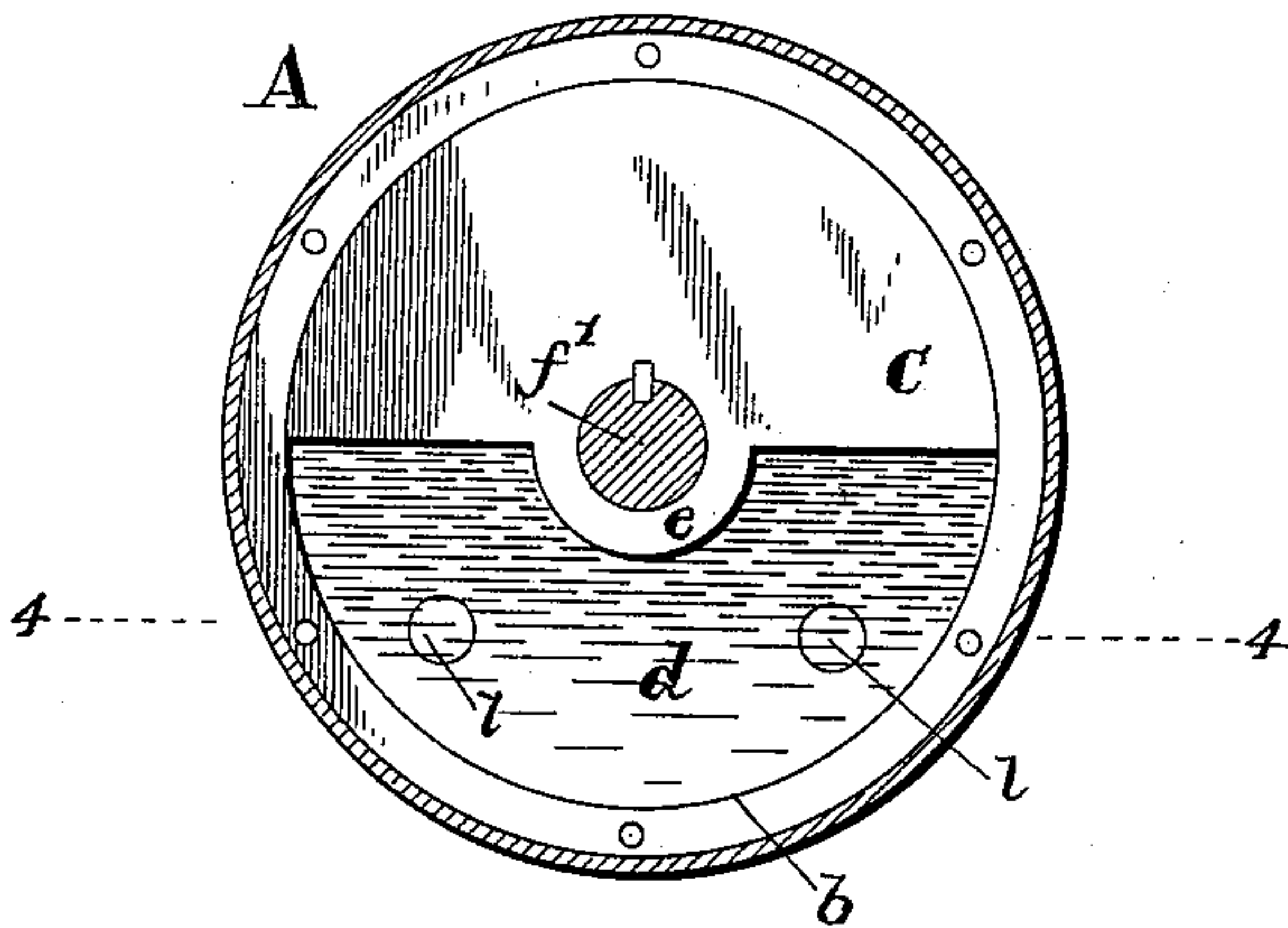


Fig. 3.

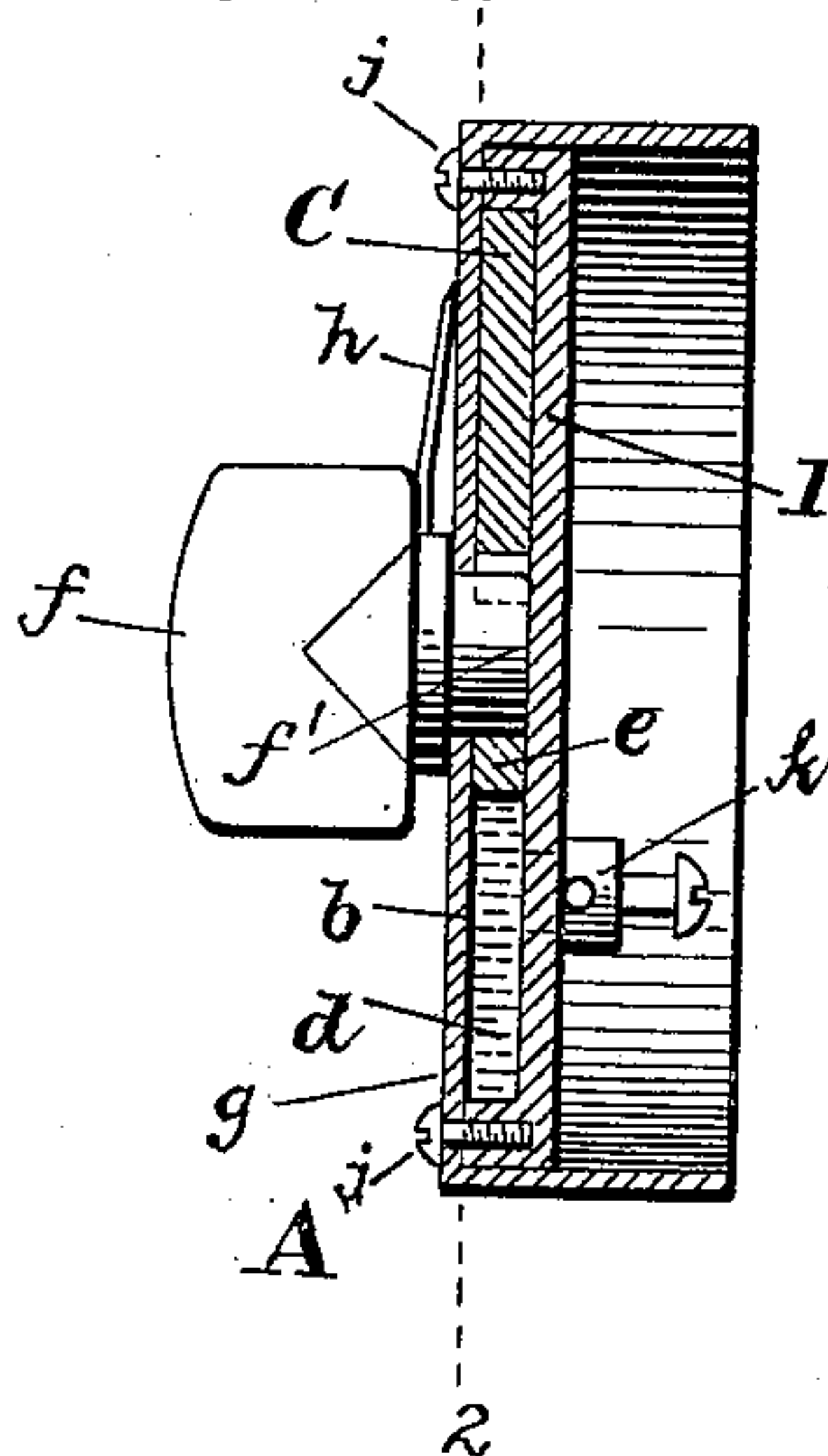
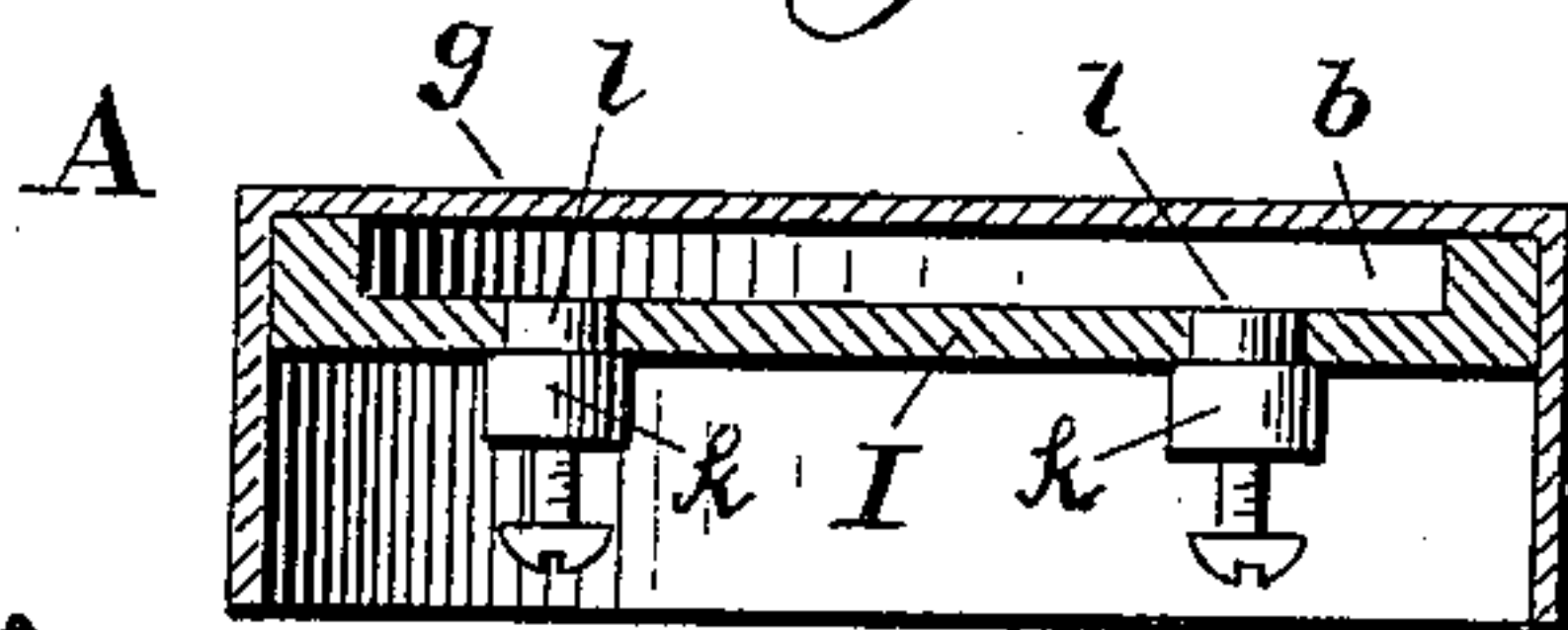


Fig. 4.



Witnesses:

Lee J. Van Horn.
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UNITED STATES PATENT OFFICE.

WILLIAM J. FERGUSON, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO WILLIAM G. H. STUMP, OF SAME PLACE.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 618,380, dated January 24, 1899.

Application filed February 2, 1898. Serial No. 668,798. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. FERGUSON, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

This invention relates to a switch for making and breaking an electric circuit.

10 The object of the invention is to provide a switch that shall combine the terminals of an electric circuit and mercury which shall be mechanically shifted from one position to another, so that the mercury by contacting with
15 said terminals will complete the circuit or by moving from said terminals will break the circuit.

The invention is illustrated in the accompanying drawings, in which—

20 Figure 1 is a front view of the switch. Fig. 2 is a section view of same on line 2 2 of Fig. 3, the front plate being removed and showing the interior of mercury-chamber. Fig. 3 is a diametrical section of the switch. Fig.
25 4 is a cross-section on the line 4 4 in Fig. 2 and shows the terminals.

The case A may be of any desired shape, but must have an interior circular or part circular chamber *b*. The walls of this chamber must be made of or lined with insulating material. This chamber *b* is preferably narrow and is occupied by a non-conducting segment-plate C and mercury *d* as a conductor,
30 which together fill it. The segment-plate C, of non-conducting material, is half-circular and snugly fits so as to turn in the chamber *d*. This plate has a half-collar *e* and a central hole into which the shank *f'* of the thumb or key *f* fits. This key-shank turns loosely
40 in a hole in the front plate *g* of the case. An index or pointer *h* is attached to the key and projects along the front plate at the same side where the segment-plate C is attached. On the front plate, at one side, may be the word
45 "On," indicating that when the index *h* points here the circuit is complete and the current is on. At the opposite side the plate may

have the word "Off." When the index points to this latter word, it will indicate that the circuit is broken and the current is off. 50

The innermost or back wall I is made of insulating material and is secured in position by screws *j* or otherwise. The narrow chamber *b* is between the front plate *g* and the back wall I. Two binding-posts *k k* have
55 their ends entered through the back wall, and these ends are exposed in the chamber and constitute the terminals *l* of an electric circuit.

When the mercury *d* in the chamber is in one position, it will cover both terminals *l*, and thereby will complete the electric circuit through the two binding-posts *k* and the wires attached to them; but when the key *f* is turned and the non-conducting plate C makes
60 a half-revolution within the chamber it will take position across the exposed ends of the terminals *l* and the mercury will be forced from the terminals to the opposite side of the chamber, thus breaking the circuit. By this
65 combination, comprising the terminals of an electric circuit, mercury to contact with the terminals and complete the circuit, and a rotary non-conducting plate which shifts the
70 mercury from one position to another, an efficient device is provided which will make and break the electric circuit. 75

Having thus described my invention, what I claim is—

1. An electric switch having in combination 80 a case with a stationary circular chamber; the terminals of an electric circuit exposed in said chamber; a segment-shaped non-conducting plate in the chamber pivoted so as to turn therein like a rotary key; and mercury in said stationary chamber which shall
85 be shifted by turning said segment-shaped plate.

2. An electric switch having in combination 90 a case with an interior chamber; the terminals of an electric circuit exposed in said chamber; mercury in said chamber which in one position covers the said terminals and completes the circuit; and a non-conducting

plate in the chamber and pivoted so as to shift the mercury and cause it to take either the make or the break position.

3. An electric switch having in combination
5 a case with an interior chamber; the terminals of an electric circuit exposed in said chamber; mercury in said chamber which in one position covers the said terminals and completes the circuit; a non-conducting plate
10 in the chamber and pivoted so as to shift the

mercury and cause it to take either the make or the break position; and a thumb-piece on the outside of the case and attached to the pivoted non-conducting plate.

In testimony whereof I affix my signature 15
in the presence of two witnesses.

WILLIAM J. FERGUSON.

Witnesses:

CHAPIN A. FERGUSON,
CHARLES B. MANN, Jr.