

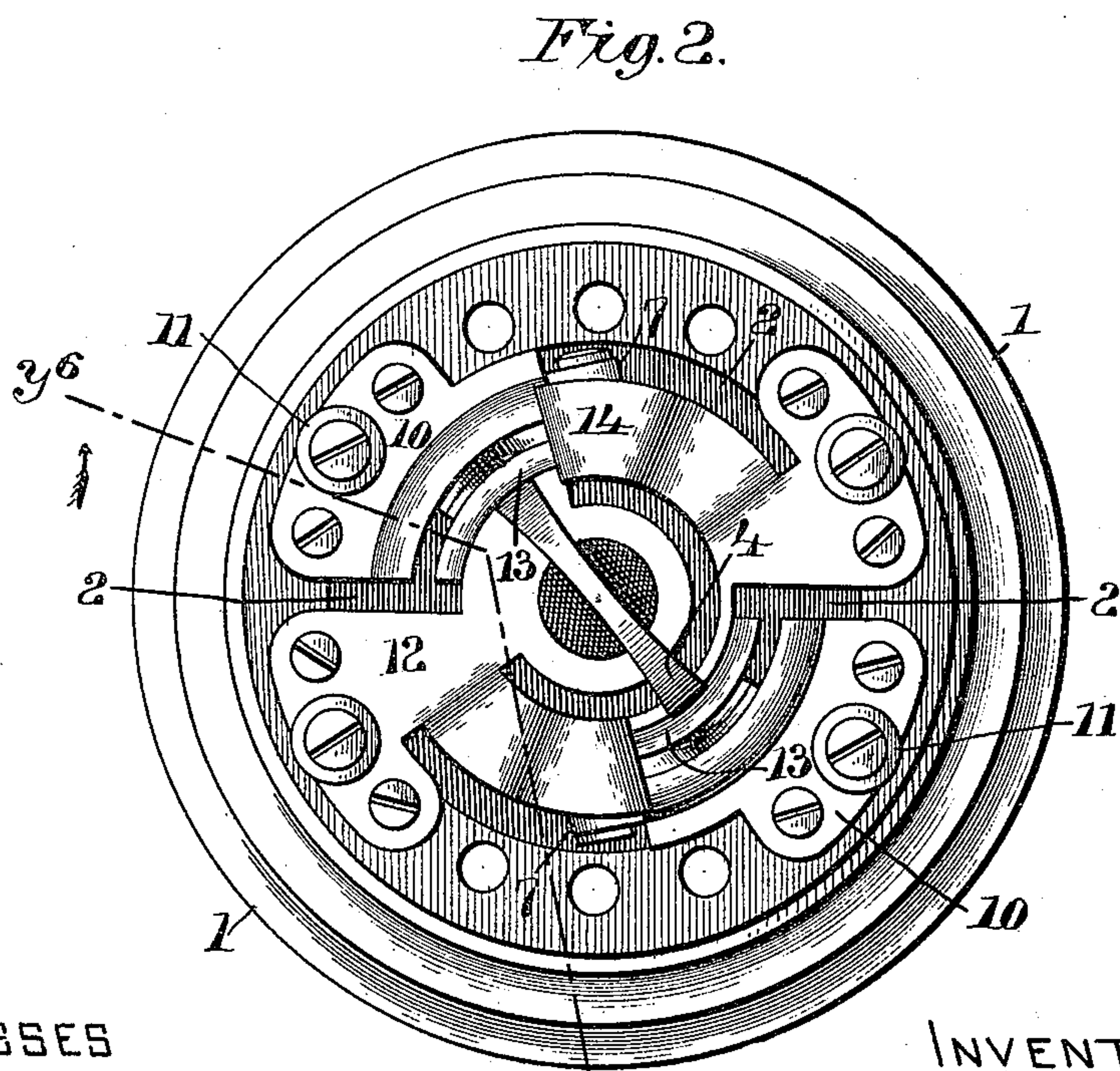
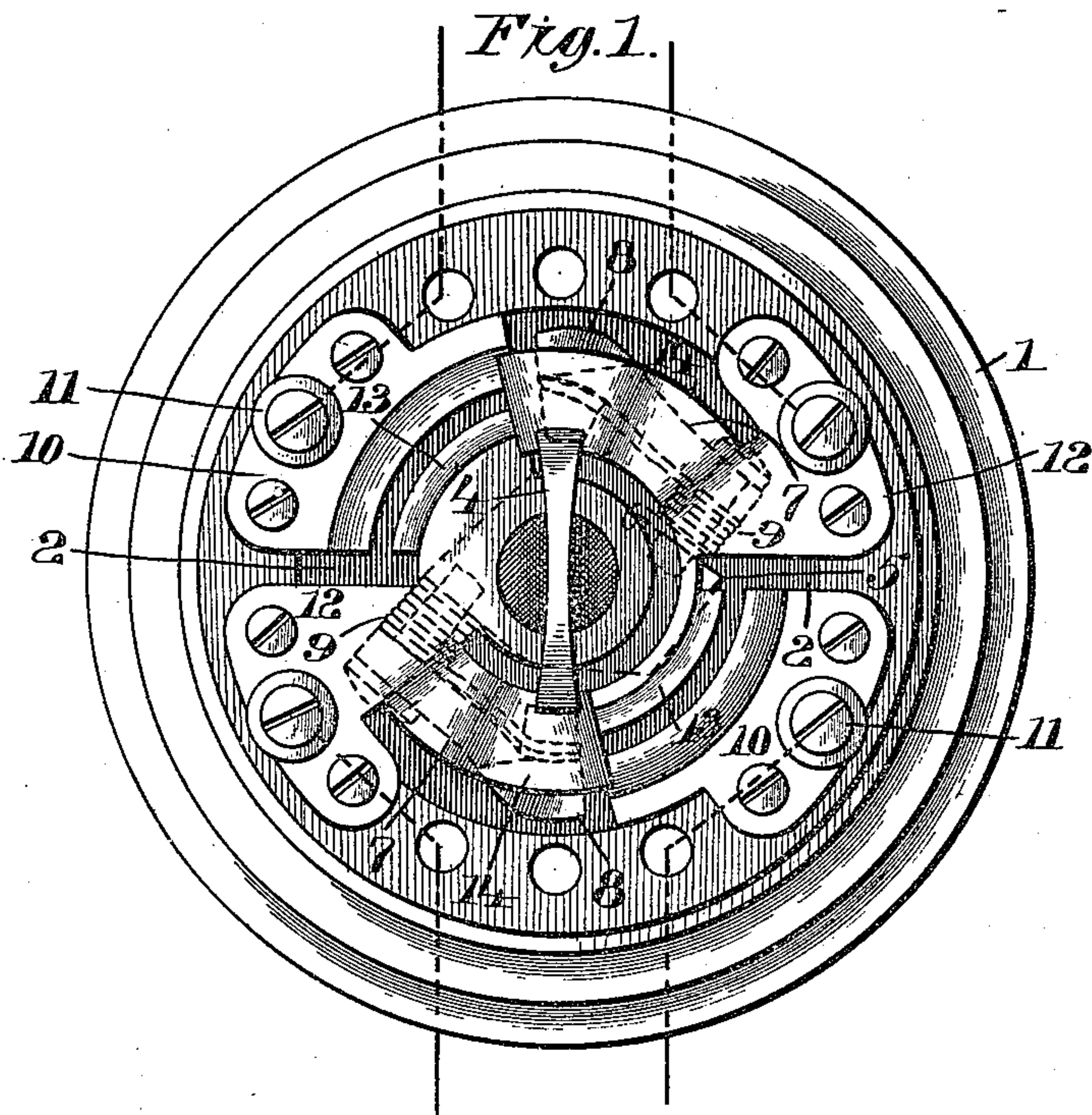
(No Model.)

3 Sheets—Sheet 1.

J. A. NORTON.
ELECTRIC SWITCH.

No. 450,973.

Patented Apr. 21, 1891.



WITNESSES

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A. J. Tanner

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JOHN AMIDON NORTON

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(No Model.)

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Fig. 3.

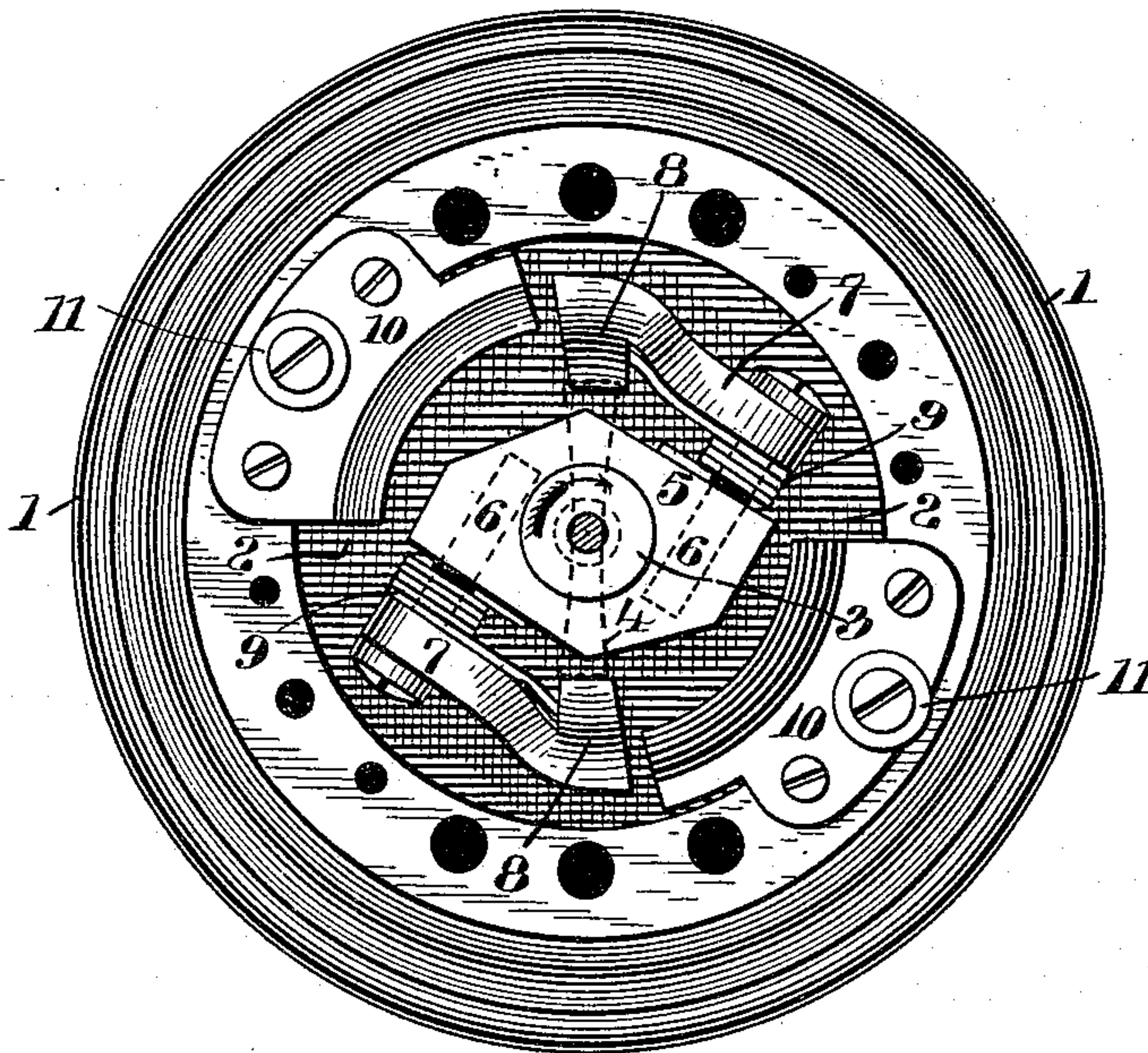
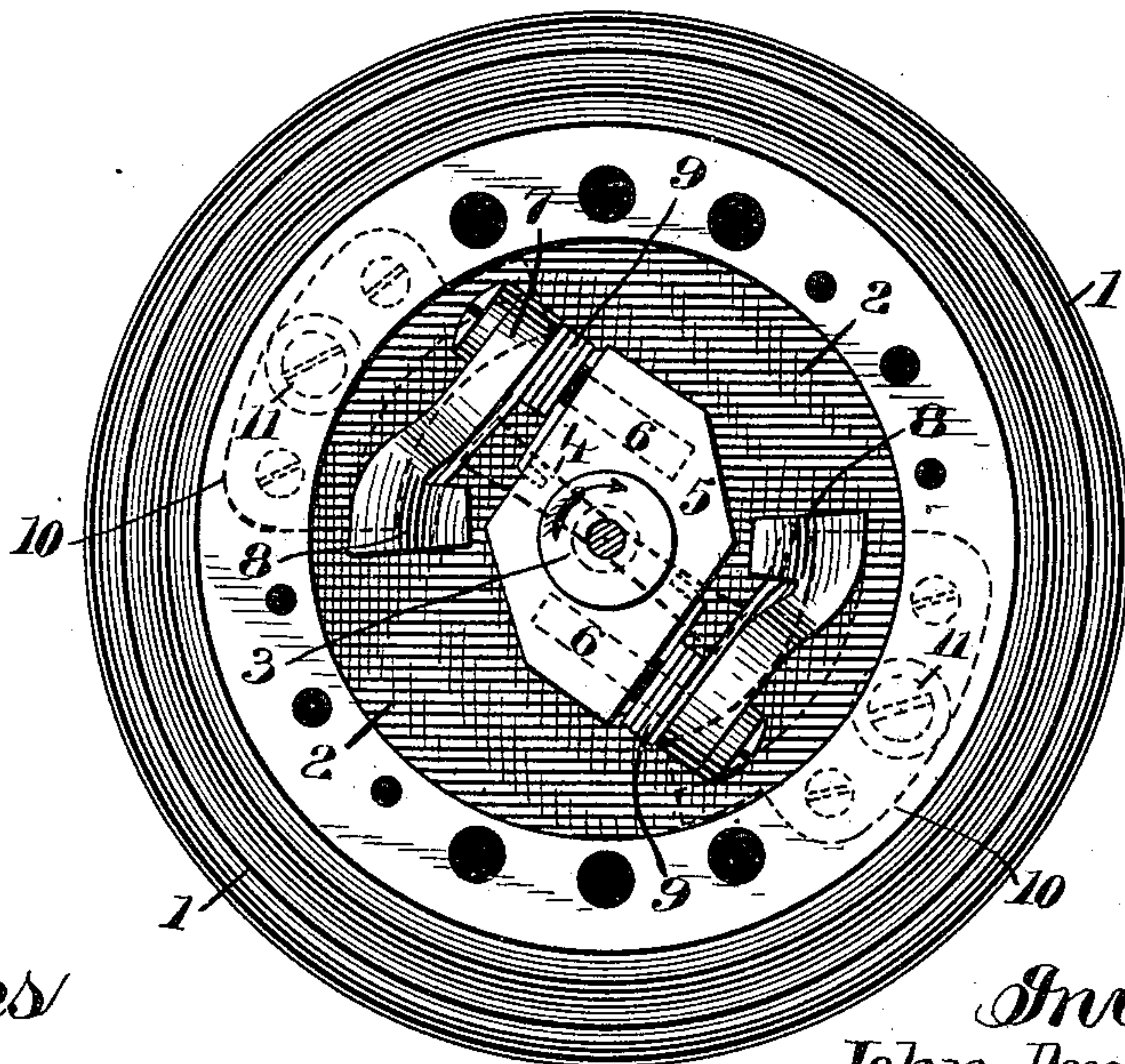


Fig. 4.



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Fig. 5.

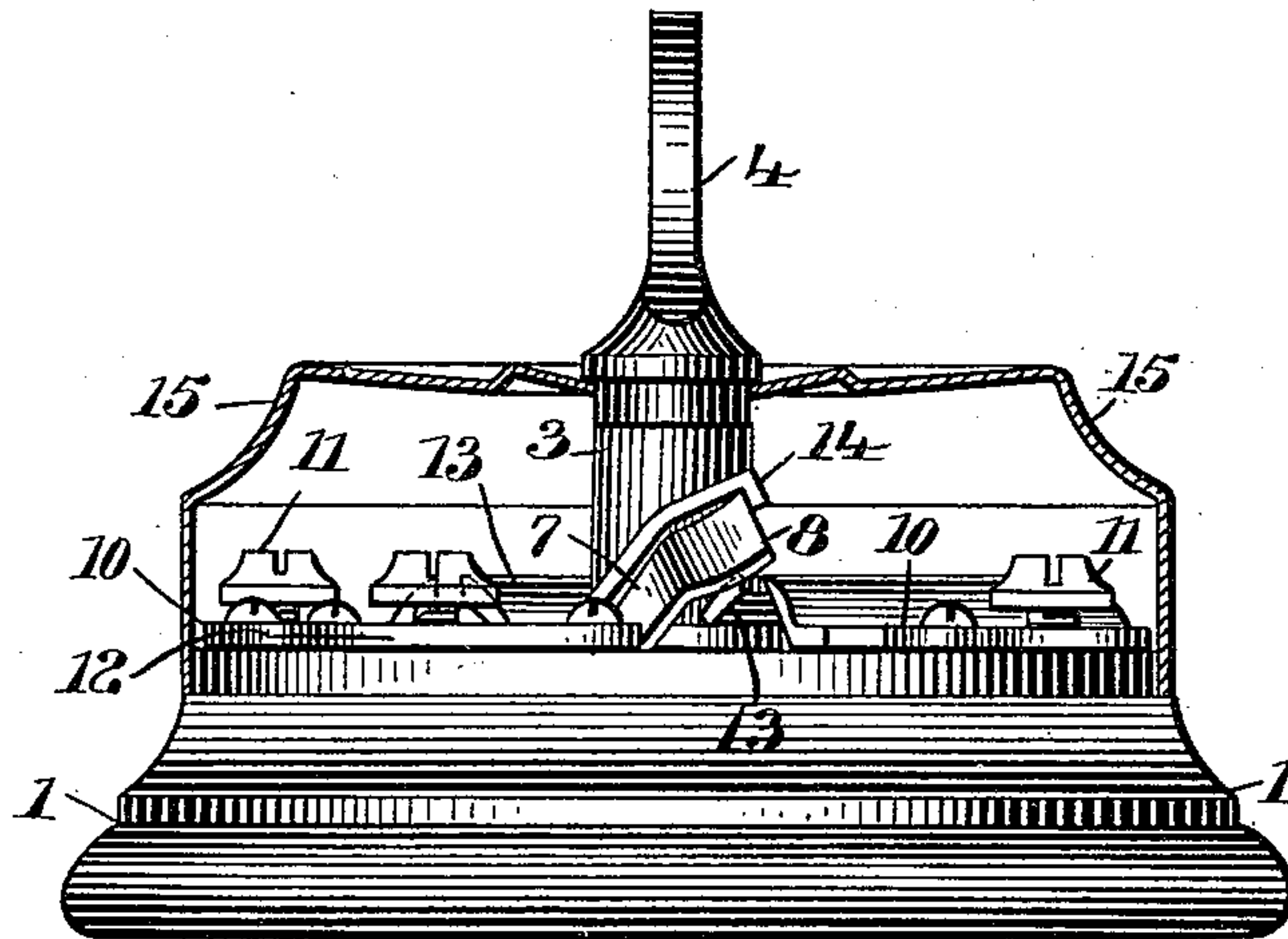
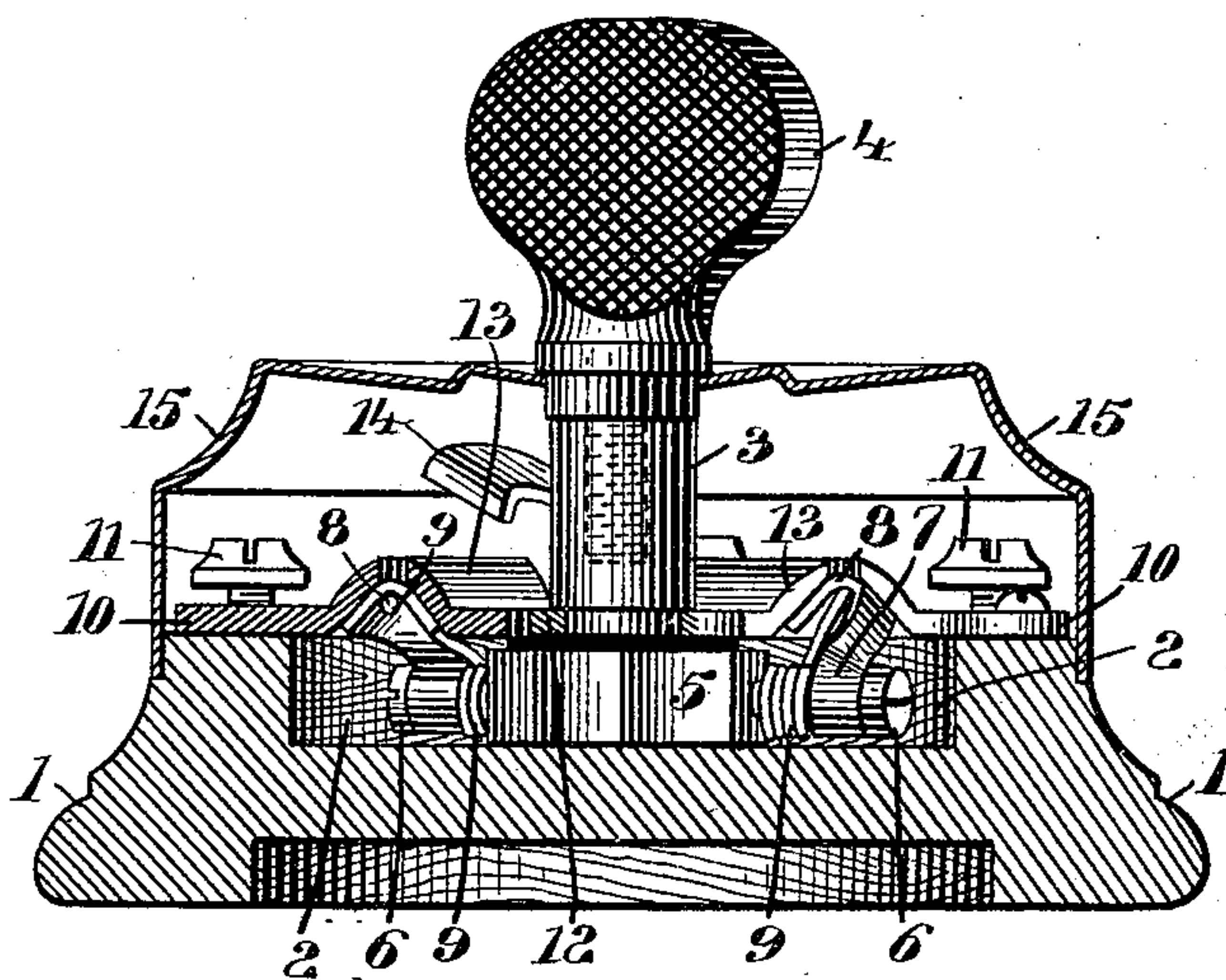


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN AMIDON NORTON, OF BRIDGEPORT, CONNECTICUT.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 450,973, dated April 21, 1891.

Application filed September 26, 1890. Serial No. 366,210. (No model.)

To all whom it may concern:

Be it known that I, JOHN AMIDON NORTON, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Electric Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to electric switches, but more particularly is it designed for use in switches of the double-pole type, in which both the flow and return wires are adapted to be broken.

The objects of my invention are, first, to provide a switch having two independent spring-actuated circuit-closers electrically disconnected; second, to arrange these circuit-closers so that they shall be capable of continuous rotation in one direction; third, to provide a novel form of terminal in connection with which the circuit-closers shall operate, and, finally, to provide a construction which shall be simple and cheap.

With the ends just described in view my invention consists in the construction and in the several combinations of co-operating elements, which will be hereinafter fully explained, and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand its construction and method of operation, I will describe the same in detail, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view with the cover removed, the circuit shown as disconnected; Fig. 2, a similar view, circuits shown as disconnected; Fig. 3, a plan view with two terminals removed; Fig. 4, a similar view with both terminals removed; Fig. 5, a side elevation showing the switch as open. In this figure the outline of the cover is indicated in section. Fig. 6 is a vertical section taken at the line y^6 of Fig. 2

Like numerals denote the same parts in all the figures.

1 represents a base, which is provided, by

preference, with a central circular recess 2. (See Fig. 6.)

3 is a central rotative spindle, having a handle 4 connected therewith, preferably by means of a screw threaded axially into said spindle. Upon the lower end of this spindle is secured a block 5, of suitable non-conducting material, such as rubber or the like. From the opposite parallel faces of this block extend outward pins 6, upon each of which is journaled a circuit-closing arm 7, whose outer end, as seen at 8, Fig. 6, is in the shape of an inverted V. Between said block and each of the arms is arranged a coiled spring 9, which is adapted to impel the arm upward upon its pivotal point, any reverse movement of said arm being necessarily made against the energy of the spring. The exact arrangement and construction of these springs, while immaterial, are clearly shown at Figs. 3 and 4.

10 are terminals, which are affixed to the base and provided with proper binding-screws, as 11. The edges of these terminals project inward over the central recess of the base, and said edges are curved and at the same time bent upwardly, so as to conform to one of the surfaces on the end of the circuit-closer. The shape of this terminal in plan view and section may be gathered from Figs. 3 and 6. The other pair of terminals 12 are secured oppositely upon the base. Each one is provided with an extension 13, which extends in a curved line parallel with the edge of one of the terminals 10, and also with an upwardly-bent and slightly-curved arm 14, which extends in a direction opposite to that of the part 13.

15 is any suitable cover.

In the operation of my invention, when the switch is in its open position, as shown at Figs. 1 and 5, the circuit-closing arms are impelled upward by their springs and rest against the upwardly-inclined portion 14, as seen at Fig. 5. They are therefore in contact only with the terminals 12. When it is desired to close the circuits, the blocks, by means of the handle, are given a partial turn. This causes the circuit-closing arms to be depressed against the action of their springs, so as to pass under the central portion of the terminals 12. When the V-shaped extremi-

ties of said circuit-closing arms have passed under the central portion of said terminals, they are impelled upward by their springs, so so as to make contact between the curved
5 and upwardly-bent adjacent portions of the terminals 10 and the portions 13 of the other terminals, thereby closing the circuits. The position of the circuit-closing arms at this time is shown at the section Fig. 6. An-
10 other quarter-turn of the handle will draw the circuit-closing arms along the surfaces, between which they make contact, until the ends of said surfaces are reached, when by the force of the springs said circuit-closing
15 arms are impelled upward to the position shown at Fig. 5, so as to rest only against the parts 14.

I claim—

1. In an electric switch, the combination,
20 with suitable terminals, of a rotative block, circuit-closing arms pivoted to said block and having a movement parallel with the axis of said block, and springs adapted to operate
25 said circuit-closing arms, substantially as described.

2. In an electric switch, the combination, with the base and the terminals secured thereon, of a block of non-conducting material adapted to rotate on said base and a pair of spring-actuated arms pivoted to said block, 30 the line of movement of said arms being vertical relative to the base, substantially as described.

3. In an electric switch, the combination, with the base, of the terminals arranged 35 thereon, each pair of terminals having upwardly-bent adjacent faces, the rotative block whose center is the center of the curved edges of the terminals, and the circuit-closing arms carried by the block and adapted to 40 rotate therewith in a circle whose radius is the radius of the adjacent edges of the terminals.

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

JOHN AMIDON NORTON.

Witnesses:

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M. C. HINCHCLIFFE.