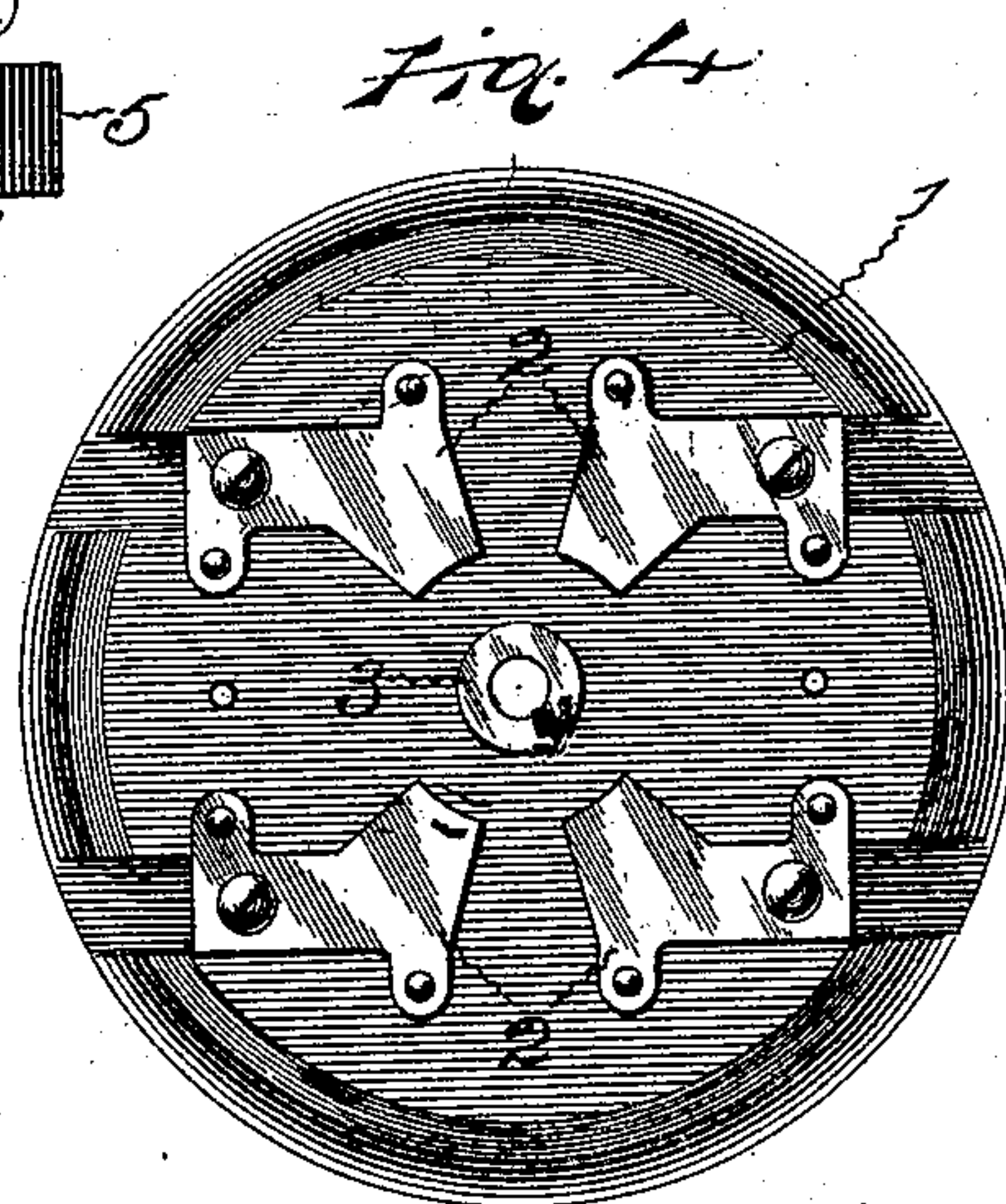
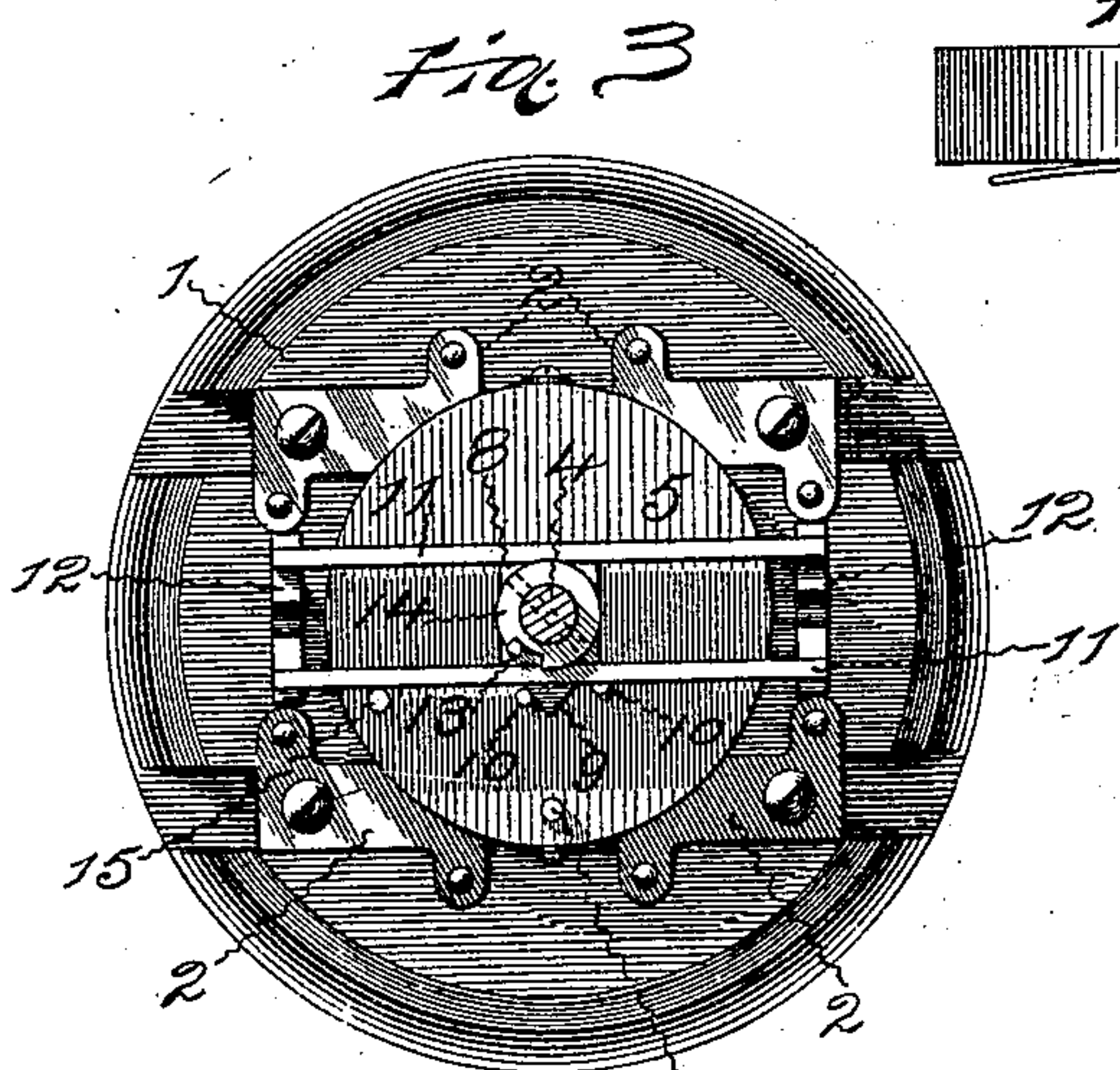
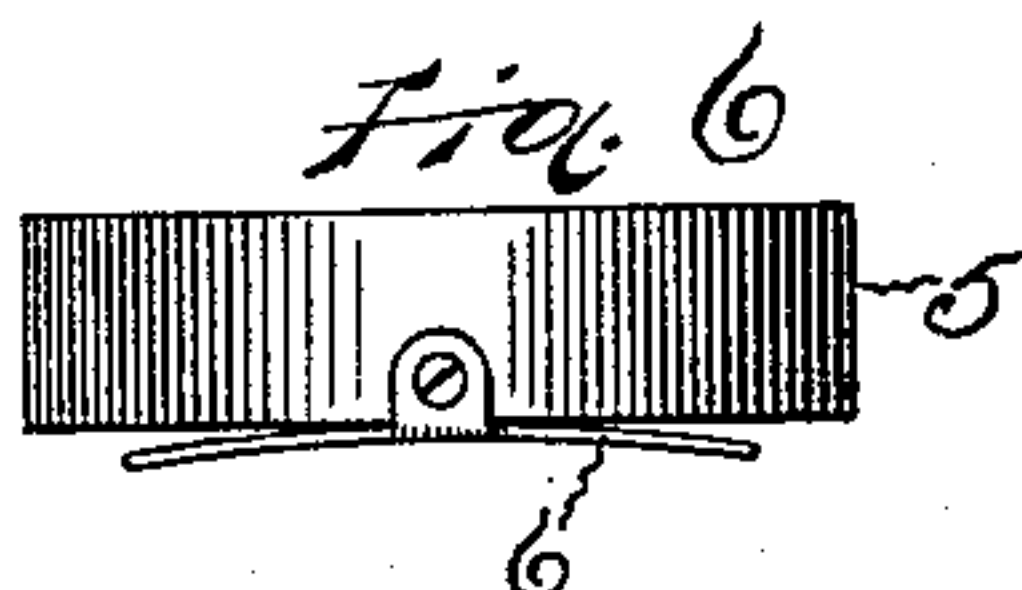
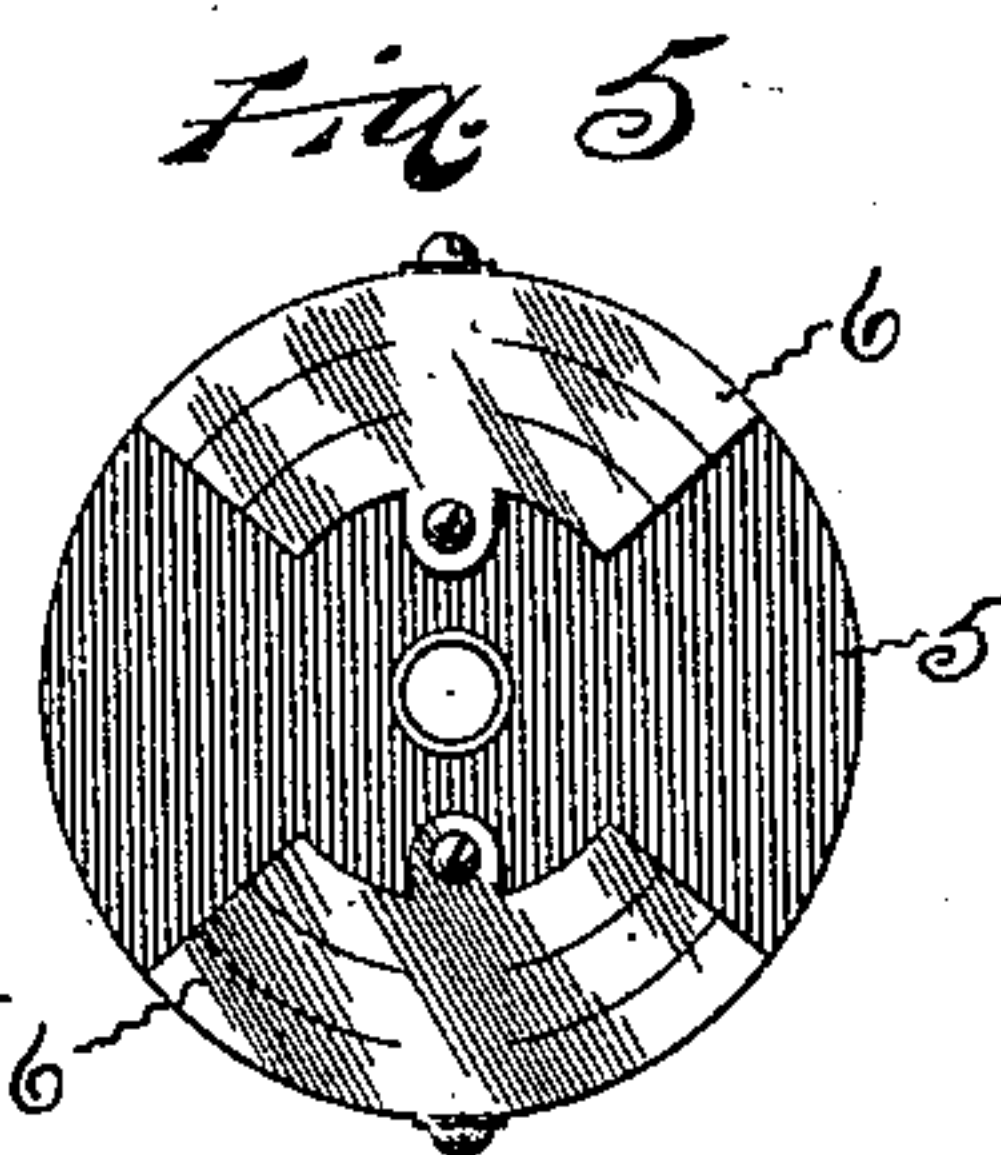
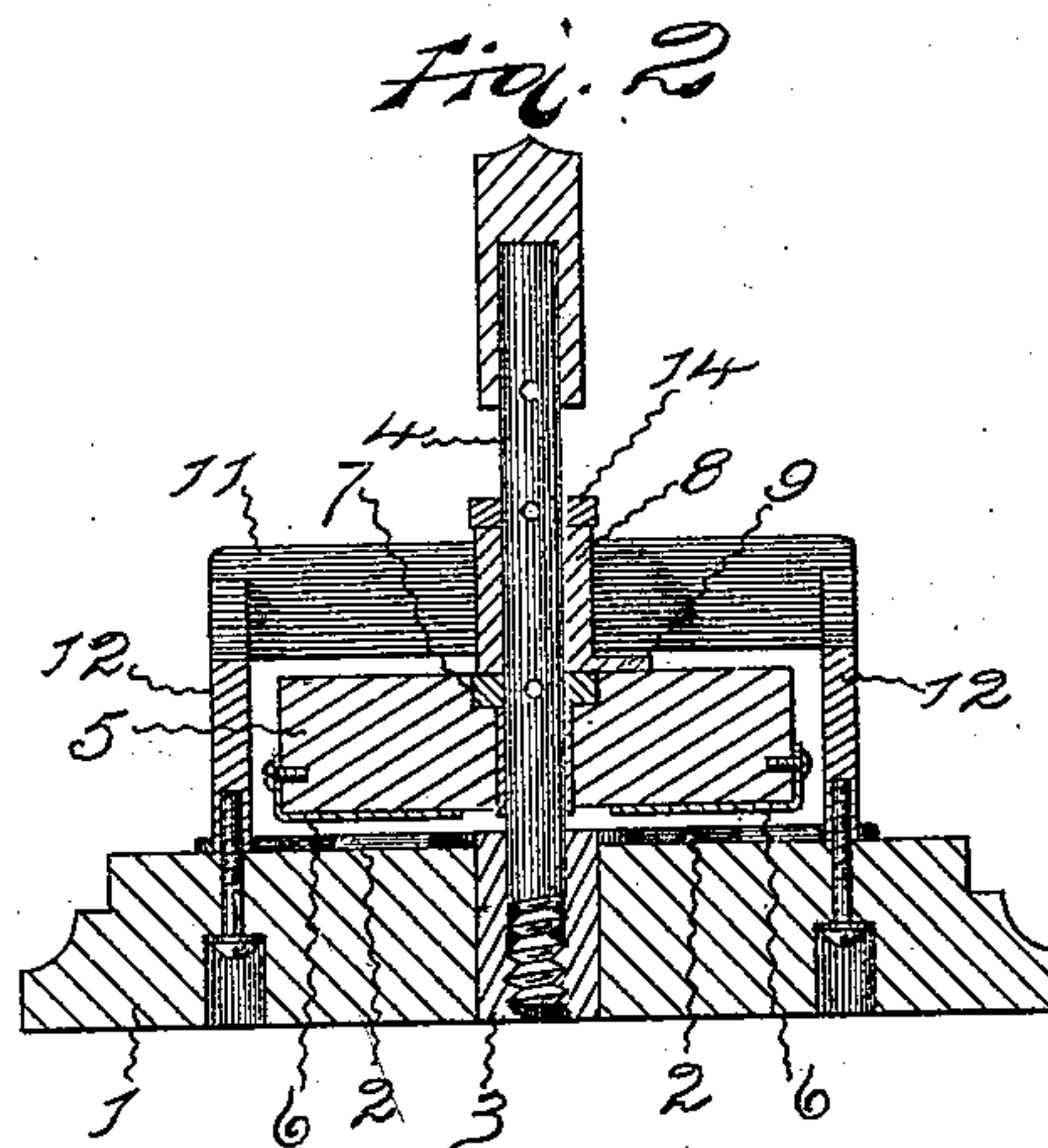
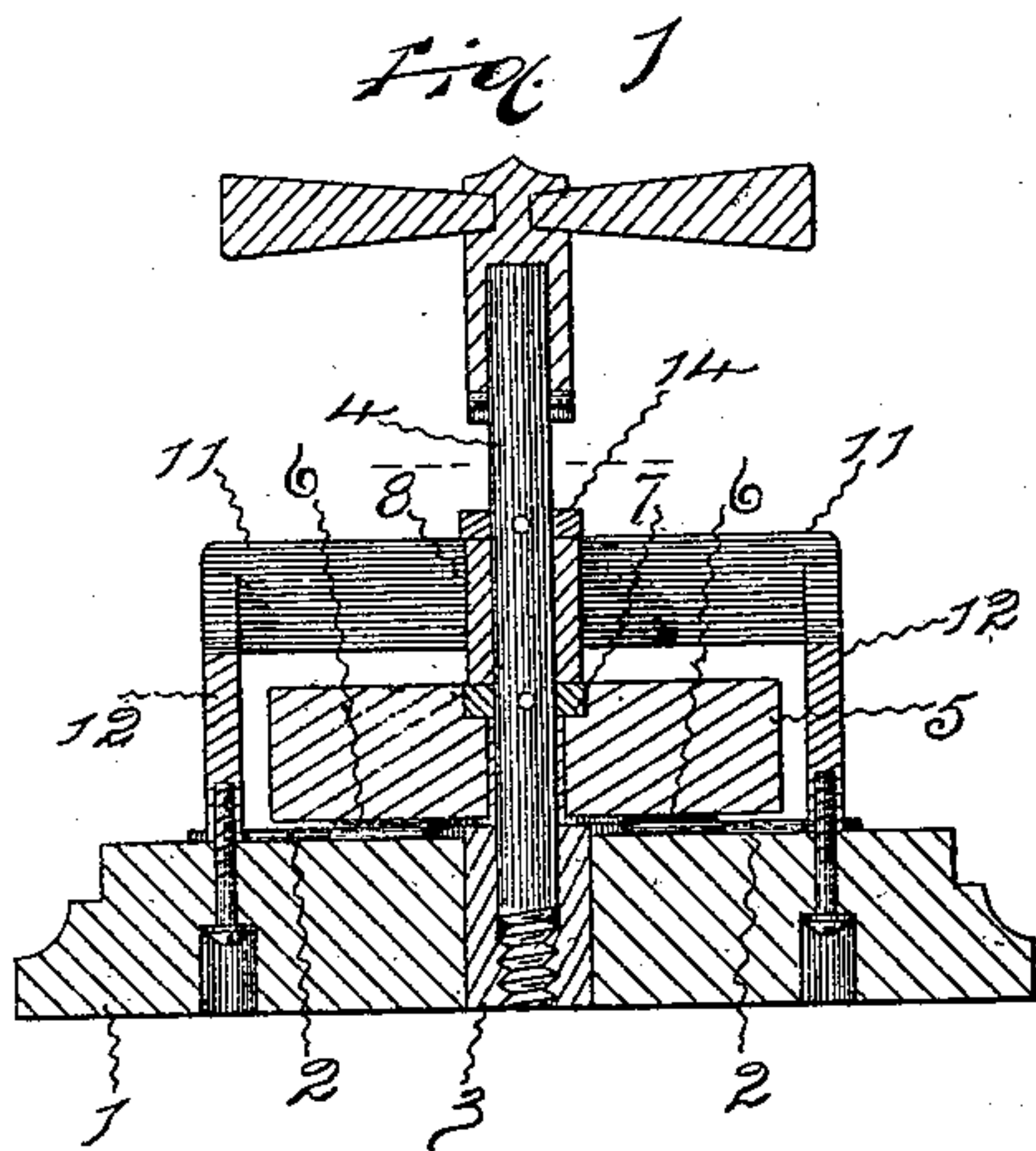


(No Model.)

C. G. PERKINS.
ELECTRIC SWITCH.

No. 557,224.

Patented Mar. 31, 1896.



Witnesses:

E. J. Hyde.

C. E. Buckland.

Inventor:

Charles G. Perkins,

by
Harry R. Williams,
att'y.

UNITED STATES PATENT OFFICE.

CHARLES G. PERKINS, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE PERKINS ELECTRIC SWITCH MANUFACTURING COMPANY, OF SAME PLACE.

ELECTRIC SWITCH..

SPECIFICATION forming part of Letters Patent No. 557,224, dated March 31, 1896.

Application filed January 2, 1894. Serial No. 495,414. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. PERKINS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

The invention relates to the class of rotary snap electrical switches, and the object is to provide a simple and cheap switch of this class so constructed that when the handle is turned to complete the circuit the movable poles will be thrown and tightly wedged against the stationary poles, making a very close contact in order to reduce to a minimum the resistance and heating effect at the junctions, and when the handle is turned to open the circuit the movable poles will be loosened from the stationary poles, so as to allow a very quick break to avoid any possible formation of a hurtful arc when the commutator-block is thrown by the spring that is made tense by the rotation of the handle, but does not operate to throw the block until a desired tension has been produced and the movable poles are loosened from the fixed poles.

Referring to the accompanying drawings, Figure 1 is a central section of the switch, showing the position of the parts when the circuit is closed. Fig. 2 is a similar section with the switch opened. Fig. 3 is a plan view of the switch with the handle removed. Fig. 4 is a plan view of the base only. Fig. 5 is a view of the bottom face of the commutator-block bearing the movable poles or contacts, and Fig. 6 is a side view of the commutator-block.

The base 1 of the switch is usually made circular, of porcelain, wood, or any other suitable insulating material, and on its upper face are secured the stationary conducting poles or contacts 2, that have any common form of binding-screws for the attachment of the circuit-wires. This base, at the center, bears a sleeve or nut 3, provided with an interior thread, and supported by this is a spindle 4, with one end threaded to fit the nut, so that the spindle will raise or lower when rotated, and the other end provided with a handle, by means of which the spindle may be rotated. The handle-spindle,

which is loosely held by the nut, supports a commutator-block 5 of insulating material that carries the movable contacts or poles 6. These poles are usually held to the bottom face of the block, and they may have their ends slitted so as to have a slight spring, if desired. On the spindle, above the block, is a shoulder or tight collar 7 that bears against the face of the block, so that when the spindle is rotated in one direction this collar will force the block downward toward the base; but when the spindle is turned in the opposite direction the block rises on the spindle away from the base under the thrust of the spring ends of the movable poles. The spindle also loosely bears a nut or sleeve 8, that is loosely connected with the block by means of a projection 9 from its lower end that moves between and comes in contact with pins 10 on the block. Of course this sleeve could be rigidly fastened to the block; but it is preferred to loosely connect it in this manner, so that the block will have a slightly independent movement in order to facilitate a quick break. The surfaces of the sleeve 8 are preferably squared and set between springs 11, that extend across the block between posts 12, secured to the base, so that when the nut is turned its corners force apart and make tense the springs, which, when the corners are past the center, snap the sleeve and throw the block with the movable poles to make or break the circuit. The sleeve is loosely connected with the spindle, preferably by means of a pin 13, that works in a socket cut in a shoulder or collar 14, that is formed on or pinned to the spindle above the sleeve. Pins 15 may be driven so as to project from the block and by contact with the springs or other part stop the block in its rotation at the desired point, so that it will not travel too far when snapped.

When the spindle is rotated to close the circuit, the sleeve is turned between the springs, which, when they have reached the desired tension, snap the sleeve and the commutator-block, so that the movable poles bridge and make contact with the stationary poles on the base, and as the spindle rotated in this direction is drawn downward by means of its threaded part turning in the threaded

part of the nut in the base the block is forced downward by the collar on the spindle, so that the poles are firmly wedged and positively pressed together; but when the spindle is rotated in the opposite direction to open the circuit the thread unscrews from the nut, so as to lift or raise the washer away from the commutator-block, which releases the poles or loosens them, so that when the spring has reached the desired tension there is nothing to hinder a very quick throw of the block, causing a sudden break between the stationary poles and the loosened movable poles on the block. This screwing downward of the threaded spindle to which the handle is connected so forces the poles together when the circuit is closed that a very tight contact is insured, obviating any undue resistance or heating at the junction, while the loosening of the contacts by the unscrewing of the handle-spindle when the springs are being made tense before the block is moved to open the circuit insures a very sudden break, which

will prevent any possible formation of a hurtful arc between the contacts.

I claim as my invention—

In an electric switch in combination, an insulating-base provided with a central threaded nut and bearing duplicate pairs of conducting-poles, a spindle with a handle at one end and a screw-thread at the other end which thread fits and turns in the threaded nut in the base, an insulating commutator-block bearing conducting-poles and having a smooth-walled central perforation through which the spindle passes, a sleeve supported by and connected so as to rotate with the spindle, said sleeve having a positive connection with the commutator-block for rotating the same, and a pair of spring-plates engaging the sleeve, substantially as specified.

CHARLES G. PERKINS.

Witnesses:

HARRY R. WILLIAMS,
JACOB S. GIBBS.