

No. 606,884.

Patented July 5, 1898.

A. F. WOOD.
ELECTRIC SNAP SWITCH.

(Application filed Oct. 8, 1897.)

(No Model.)

Fig. 1.

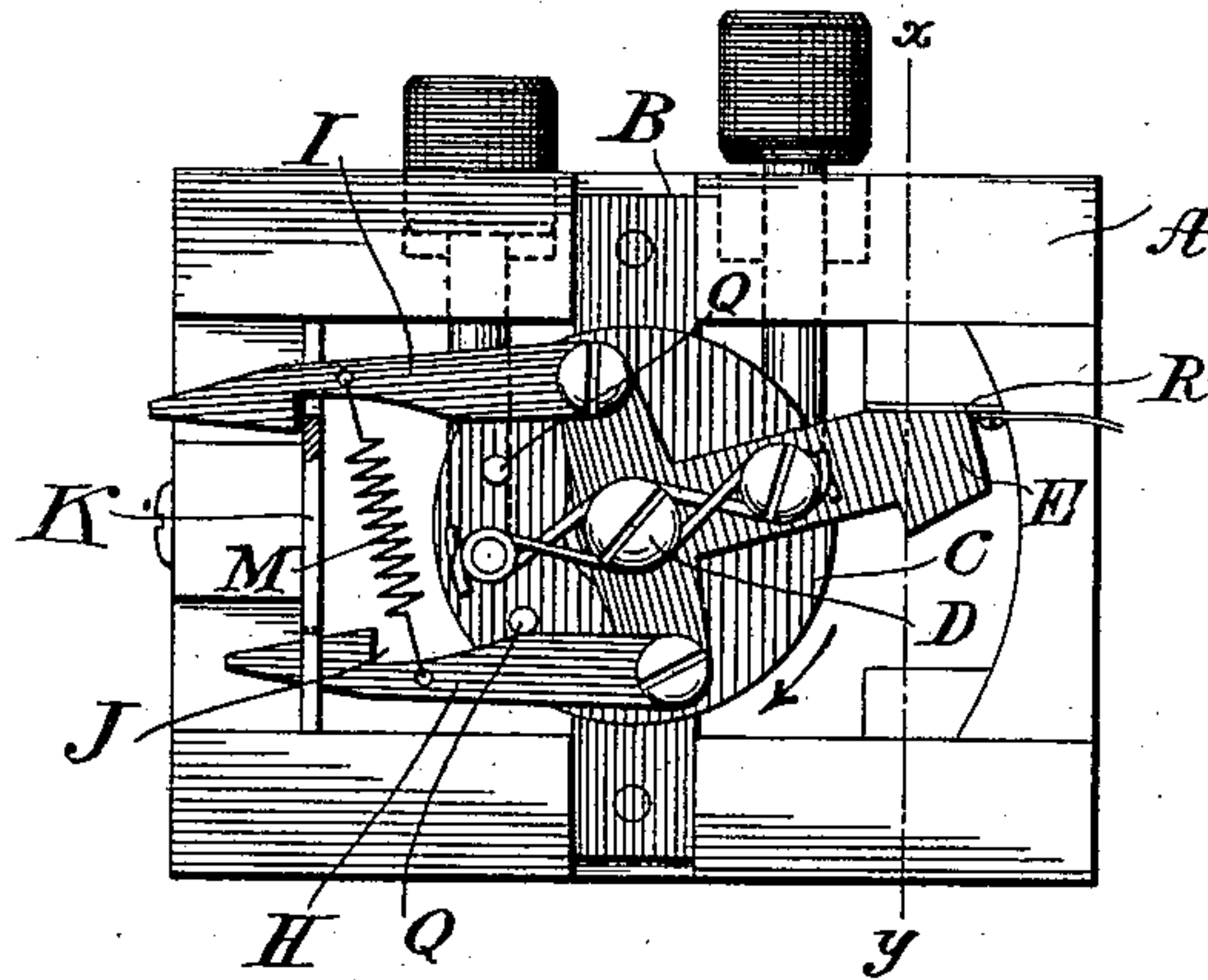


Fig. 2.

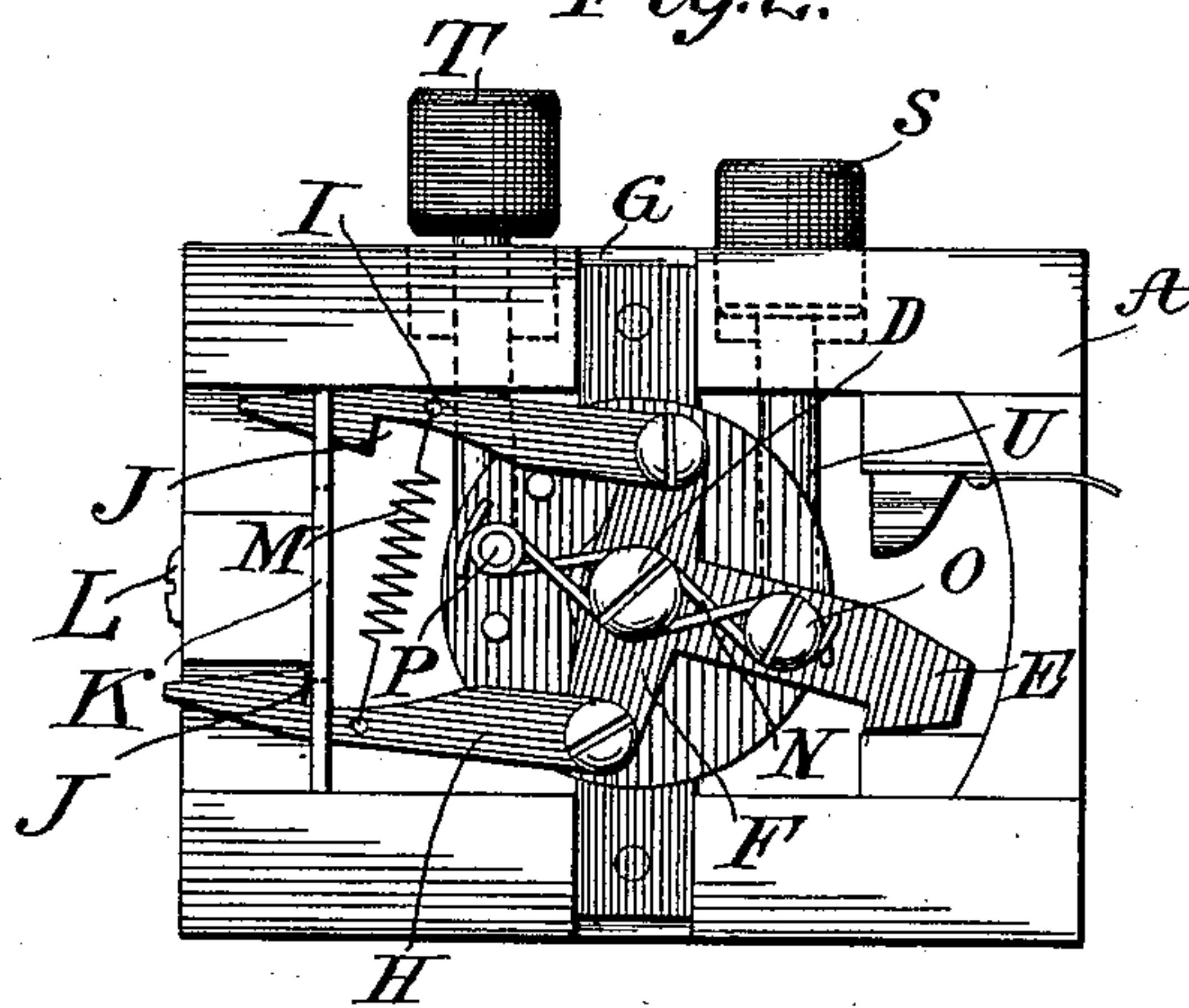
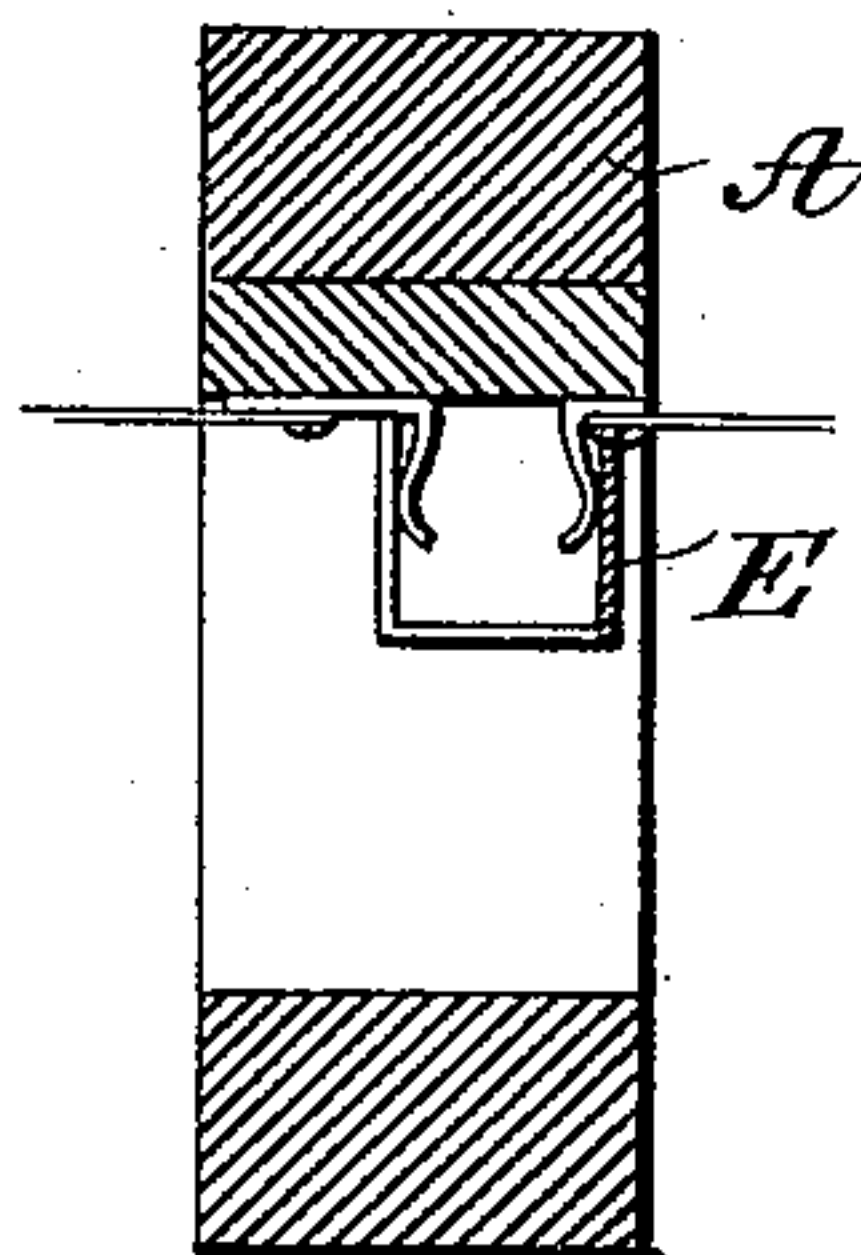


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALFRED F. WOOD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN R. EDWARDS, OF SAME PLACE.

ELECTRIC SNAP-SWITCH.

SPECIFICATION forming part of Letters Patent No. 606,884, dated July 5, 1898.

Application filed October 8, 1897. Serial No. 654,520. (No model.)

To all whom it may concern:

Be it known that I, ALFRED F. WOOD, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Electric Snap-Switches, of which the following is a specification.

My invention relates to a new and useful improvement in electric snap-switches, and has for its object to so construct such a device as to increase its efficiency by causing an instantaneous breaking of the circuit when the switch is opened, which movement will be brought about by a positive action, so that either in making or breaking the circuit there will be no sparking occasioned by the dragging of the contact-points slowly over each other.

A further object of my invention is to simplify the construction of such a switch and bring about the movements thereof by push-buttons.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, its construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of a switch made in accordance with my improvement, the cap being removed, so as to illustrate the operating parts within the casing; Fig. 2, a similar view showing the switch open, and Fig. 3 a cross-section at the line *xy* of Fig. 1.

In carrying out my invention as here embodied, A represents a casing or housing of any suitable construction and preferably of a non-conducting material, such as porcelain, and extending across the central portion of this casing is a bar B, having journaled thereon the operating-disk C by means of the screw D. Upon this same screw is pivoted the contact-lever E, having two arms F and G formed therewith, to which in turn are pivoted the dogs H and I, respectively, said dogs

terminating in the hooked noses J, adapted to engage the walls of suitable slots formed in the plate K, the latter being attached to the casing by a screw L. The dogs are normally drawn toward each other by the spring M, the ends of which are attached thereto, and this will cause one or the other of the dogs to remain in engagement with one of the slots in the plate K, for the purpose herein-after set forth.

The disk C and contact-lever E are connected together by the cross-springs N, attached to the posts O and P, as clearly shown, so that when the disk is revolved there will be a tendency transmitted through these springs for the revolving of the lever; but as said lever will be held by the engagement of one of the dogs, as before described, a certain amount of force will be stored in the springs N, and after this force has reached a point sufficient to bring about the instantaneous actuation of the lever it is only necessary to release the retaining-dog to permit the lever to move with great speed from one limit of its position to the opposite limit, and the releasing of the retaining-dog is accomplished by one of the push-off posts Q, which project outward from the face of the disk, coming in contact with the retaining-dog and forcing its nose out of engagement with the plate K—as, for instance, assuming that the parts of the device are in the position shown in Fig. 1, in which the dog I is in engagement with the plate K, thus holding the lever E in contact with the circuit-points R, a movement of the disk in the direction of the arrow marked adjacent thereto will store a certain amount of force in the springs N and continue to do so until the upper push-off post Q comes in contact with the under side of the dog I, thereby forcing it upward against the action of the spring M until its nose is disengaged from the plate K, and at the moment of this disengagement the lever will be free to swing, and the latter movement will be instantaneously brought about by the force stored in the springs N, thus causing the lever to pass from out of contact with the points R to the position shown in Fig. 2, which, as is well understood, will break the circuit. These movements will throw the opposite dog H into en-

gagement with the plate K, which will permit the repetition of the operations just described, but in an opposite direction when the disk is revolved in the opposite direction, which will obviously close the circuit by the swinging of the lever into contact with the points R.

The rotations of the disk are here shown as being effected by the push-buttons S and T, having shanks U, which pass through the casing and are pivoted to the disk. Thus to effect the opening or closing of the switch it is only necessary to press upon one or the other of these buttons with sufficient force to revolve the disk, as before set forth, and while I prefer this arrangement for the actuation of the switch it is obvious that a turn-button might be used to accomplish the same result.

From the foregoing description it will be seen that the circuit is both opened and closed instantaneously in such manner that a slow dragging movement is not permitted between the contact-points and the switch-lever, thereby preventing sparking, which has heretofore occasioned so much trouble.

Another advantage of my improvement is the simplicity of construction, which enables the switch to be manufactured at an exceedingly small cost, as most of the parts thereof are made from sheet metal and are of such a shape as to be automatically blanked from strips of such metal.

Having thus fully described my invention, what I claim as new and useful is—

1. An electric snap-switch consisting of a suitable casing a disk journaled therein, a lever pivoted concentric with the disk, a spring connected between said disk and said lever, two dogs pivoted to the lever, a locking-plate with which the noses of the dogs are adapted to engage, a spring drawing said dogs together, and means for oscillating said disk, as specified.

2. In combination, a suitable casing, a bar arranged across the same, a disk journaled upon said bar, a lever pivoted concentric with the disk, arms formed with the lever, two springs connecting the disk, and said lever, dogs pivoted to the arms terminating in hooked noses, a plate with which said noses are adapted to engage, a spring for drawing the dogs toward each other, suitable contact-points in which the lever is adapted to engage, and push-buttons pivoted to the disk so as to bring about its initial movements, as specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

ALFRED F. WOOD.

Witnesses:

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