(No Model.)

# L. D. CASTOR.

## ELECTRIC SWITCH.

No. 459,219. Patented Sept. 8, 1891.

Fig. 1.

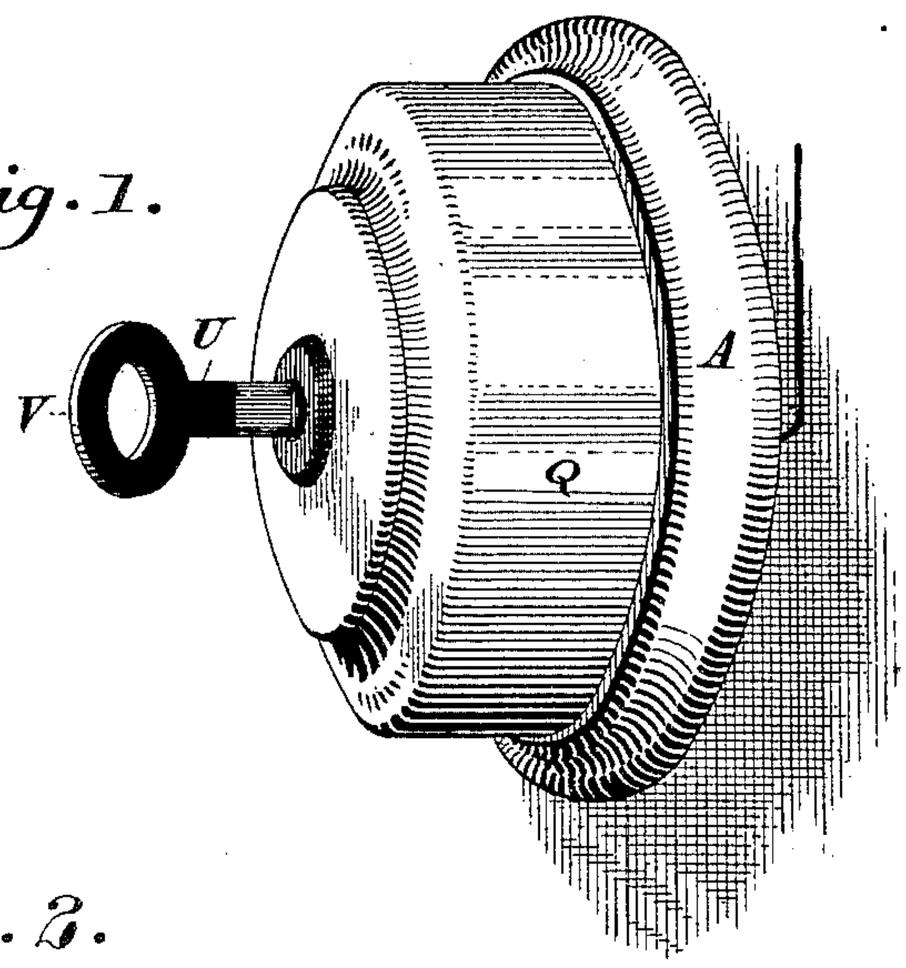



Fig. 2.

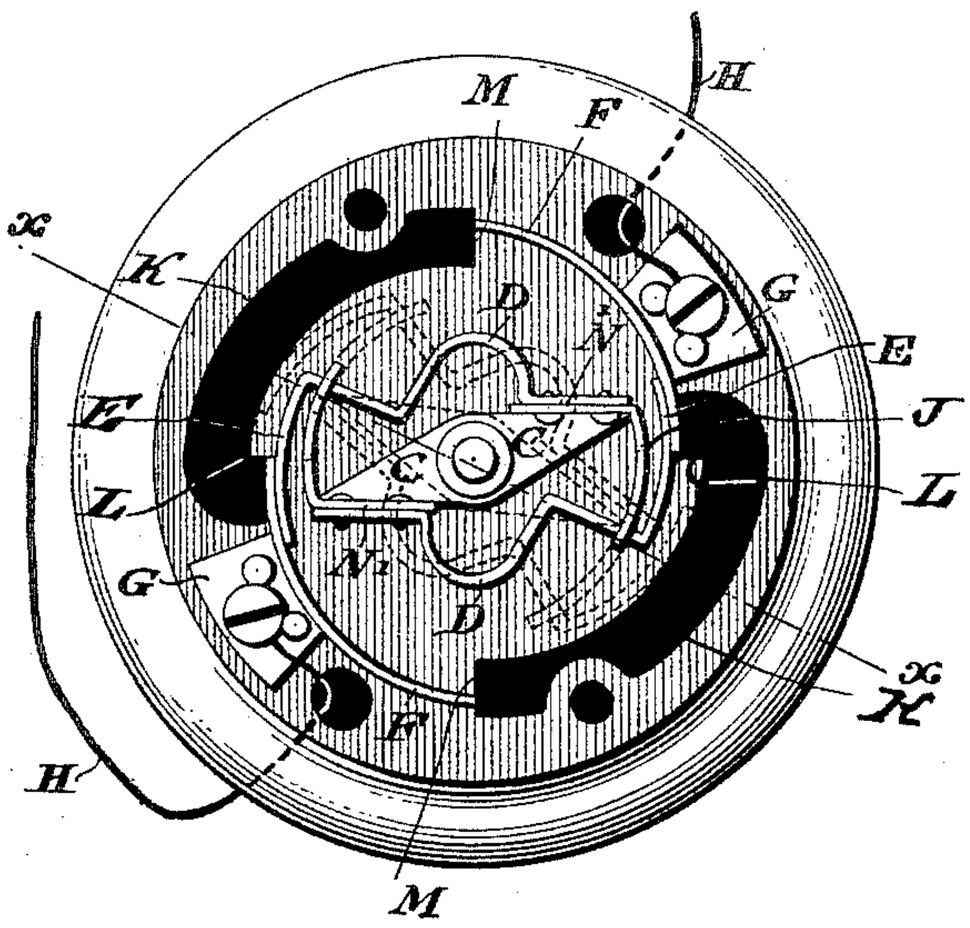



Fig. 4.

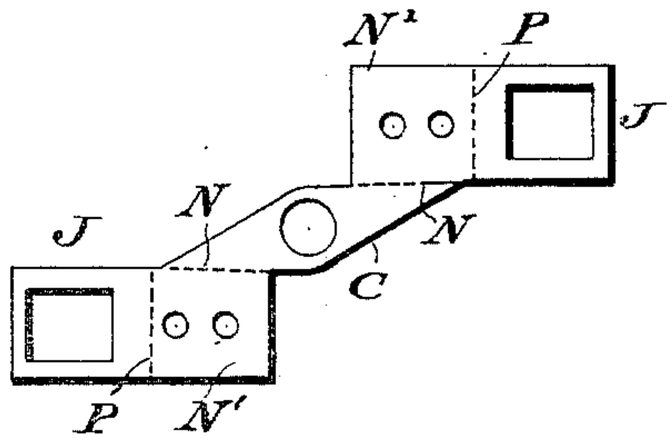



Fig. 3.

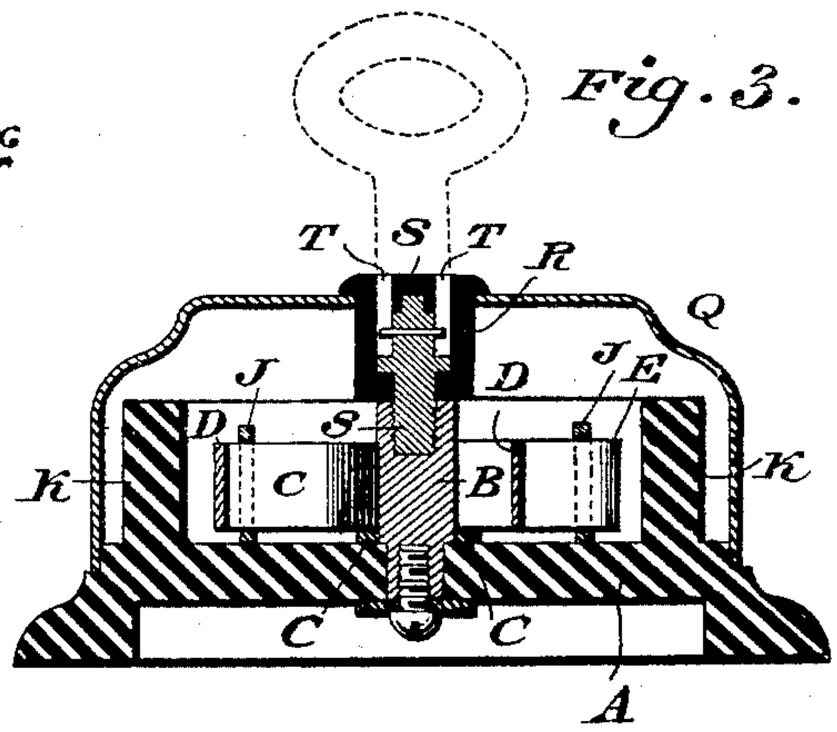



Fig. 5.

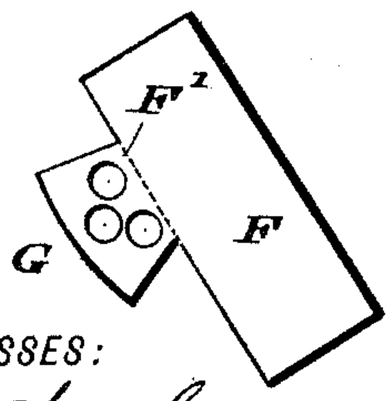
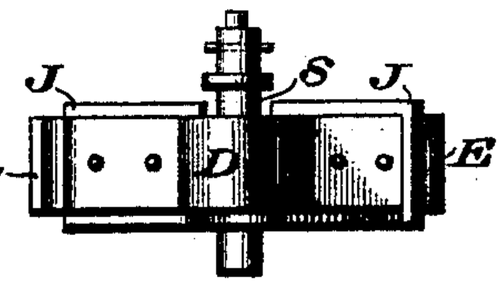



Fig. 6.

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# UNITED STATES PATENT OFFICE.

LEWIS D. CASTOR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO WILLIAM H. WESTON & CO., OF SAME PLACE.

## ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 459,219, dated September 8, 1891.

Application filed May 20, 1891. Serial No. 393,398. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS D. CASTOR, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Electric Switches, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of an electric switch formed of springs and terminal plates, with means for moving said springs into engagement with and disengagement from said plates with a snap or snapping action, thus indicating said engagement and disengagement, as will be hereinafter fully set forth.

Figure 1 represents a perspective view of an electric switch embodying my invention. Fig. 2 represents a top or plan view of the interior thereof. Fig. 3 represents a vertical section on line *x x*, Fig. 2, including a section of the covering-cap. Figs. 4 and 5 represent face views of detached portions prior to being bent into shape. Fig. 6 represents a side elevation of a detached portion.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a base or bed on which is mounted a post B, to which is secured an arm or lever C.

D designates springs which are attached to the lever C and having their outer ends E of segmental form and in contact with terminal plates F, the latter being supported on the base by the plates G, to which the circuit-wires H are secured. Connected with the ends of the lever are guides J, through which are freely passed the side portions of the springs D, thus permitting movement of said portions in said guides.

K designates segmental pieces of insulating material, which are located on the base A, and to the ends of the same are connected the terminal plates F, said plates and pieces thus being continuous of each other. On the inner faces of the pieces K are shoulders L, adjacent to which is the end of one of the plates F, the other end of each of the plates being connected with the pieces in such manner as to leave shoulders M between the plates and pieces. (See Fig. 2.)

In Fig. 4 I show a construction of the lever C and guides J in one piece of material, said material being bent up along the lines N, forming the parts N′ and guides J. The guides J are also bent at or about a right angle to the parts N′ along the line P. The ends of the springs D are riveted or otherwise secured to the parts N′, and thus connected with the lever.

Q designates a cover of the switch, the same being connected with the base A by means of an insulating-collar R, the upper end whereof is flanged and overlapping the walls of the opening in the cover, through which said collar is passed. The lower end of said collar rests on the post B. A plug S is passed through the collar R and secured to the post B, by which provision the cover Q is held in place. The top of the plug S has insulating material thereon for evident purposes.

In the collar R is an opening or openings T to receive the bit portion of the key U, the handle whereof is formed or covered with insulating material.

The operation is as follows: The key is inserted in the collar R and rotated, whereby motion is imparted to the lever C, and consequently to the guides J, and motion may also be imparted to the springs D; but as the ends E thereof may remain in frictional contact with the plates F and the springs yield when the inner walls of the openings of the guides J reach the sides of the springs said springs are carried around, and they leave the terminal plates and drop upon the pieces K rapidly, after the manner of a snap, the circuit thus being broken. On further rotation of the lever the springs are caused to ride over the inner face of the piece K. When reaching the shoulder M thereof, they drop with a snap upon the plates F, whereby the circuit is completed or closed. The key may now be removed, and it is evident that the switch is rendered inoperative, as access cannot be had to the interior of the device for movement of the lever without the employment of a proper key.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an electric switch, an arm or lever having guides and springs connected there-

with and passing through said guides, in combination with terminal plates and insulating-pieces continuous therewith, said pieces being provided with shoulders whereby the springs are permitted to drop from said pieces upon said plates and from said plates upon said pieces, thus closing and breaking the electric circuit, substantially as described.

2. In an electric switch, an arm or lever having contact-springs attached thereto, and guides thereon projecting therefrom, said springs being passed through said guides, so as to be moved by the same from contact with terminal plates, substantially as described.

3. An electric switch having a rotatable arm or lever, guides carried by said lever having openings therein, springs on said lever passed through said guides, and terminal plates adapted to be engaged by and disengaged from said springs, the supporting devices of said arm being adapted to be engaged by a removable key, substantially as described.

4. An electric switch having a base and a cover therefor, a central post on the base, an insulated flanged collar connected to the cover, and a flanged plug connecting the collar to the post, as described.

5. An electric switch having a base and a cover therefor, a central post on the base with a rotating switch arm or lever therefor and co-operating contacts, an insulated flanged collar connected to the cover, and a flanged plug connecting the collar to the post, said collar being adapted to receive a removable key for engaging the end of the plug, substantially as described.

6. In an electric switch, the lever C, attaching part N′ of said lever, and guides J, bent at an angle to said lever, all formed from one piece of material, substantially as described.

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