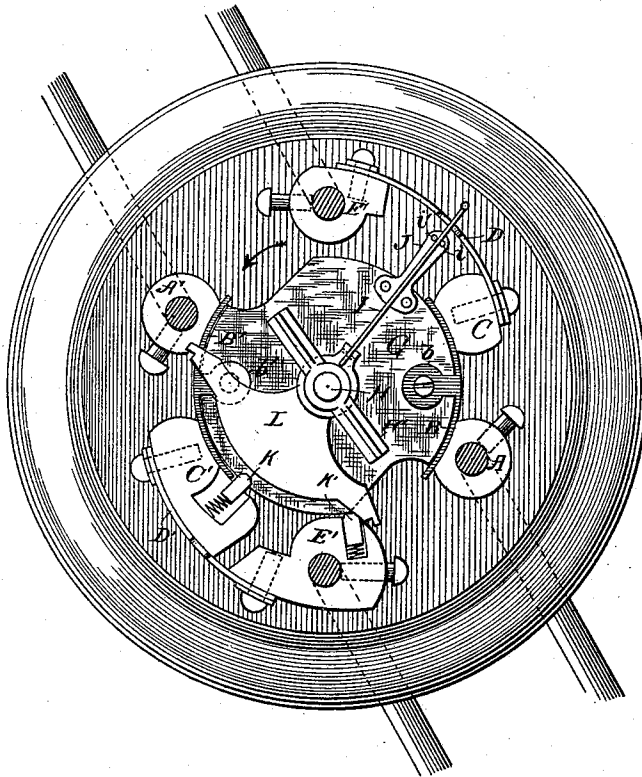


(No Model.)

C. G. PERKINS.
ELECTRIC SWITCH.

No. 471,760.

Patented Mar. 29, 1892.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES G. PERKINS, OF HARTFORD, CONNECTICUT.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 471,760, dated March 29, 1892.

Application filed July 24, 1888. Serial No. 280,925. (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; 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.

My invention has reference to improvements in electric switches in which power is stored by the turning of a shaft and afterward released by the withdrawal of a detent.

It also has reference to improvements in other details, which will be fully described hereinafter, and more particularly pointed out in the claim.

My invention is illustrated in the accompanying drawing, which represents a plan of my switch.

My switch is a double-pole switch, the circuit of which passes on one side by way of the binding-post A, curved contact-plate B, post C, safety-strip D, and binding-post E and in an opposite direction by a similar course through binding-post A', plate B', post C', strip D', and binding-post E'. The posts referred to are supported upon a suitable insulating-base F and the contact-plates are carried by a rotatable block or plug G, loosely mounted on the shaft H. The plates are constructed of spring metal and are swiveled to the block midway between their ends, being provided with lugs *b* and *b'*, which extend over the block and are traversed by pivotal screws. The shaft H is provided with the handle H', by means of which it can be turned. Rigidly joined to the shaft is a spring I, which extends out radially from the shaft, as shown in the drawing. Its outer end is located between two pins *i* *i'*, attached to a plate J, which is secured to the top of the block. The block itself is normally held from rotation by means of a spring-pin K in the post C', which is forced into a notch in the block. This is the position of the parts when the circuit on both sides is complete.

At L, I show means for releasing the block by pushing out the detaining-pin. The part L is rigidly attached to the shaft. It will be

seen that L is a piece of a general segmental shape, but that at its wings it is set out at an angle, so that upon being rotated far enough it will push against the pin K and will finally thrust its end out of the notch. Supposing now that the shaft H be turned in the direction of the arrow, the result will be, first, the spring I will be put under tension, influencing the block and its connected parts in the direction of motion of the shaft. Its influence, however, is counteracted by the pin K, extending into the block G; but when the part L has been brought to bear upon the pin by the continued turning of the shaft the pin will ultimately be pushed out and the block will be free to move under the influence of the spring. The result will be that the contact-plates will be moved far enough to break contact between the posts which they formerly joined and the circuit will be broken.

It will be seen that a second spring-pin K' is located in the post E'. Now when the block is released, as before described, it travels until the notch in the block comes opposite the pin K', which then enters the notch and stops the block. In making the circuit the action is exactly the same as that already detailed, but in a reverse direction. In this case the pin K' is first pushed out and the block travels until its notch is entered by the pin K.

It is impossible to turn the apparatus in the wrong direction, as the part L is provided at its ends with a notch, which on being pushed far enough catches against the pin, if it be the wrong one, and prevents further motion.

By means of the construction above described I secure a quick make and break of the circuit, which (as is well known) is desirable in switches of this sort. My present switch differs from that described and claimed by me in application, Serial No. 220,010, filed November 27, 1886, in that the block which carries the contact does not move at all in the present instance until it is finally released and put under the power of the operating-spring. In the construction detailed in the aforesaid application a contact-carrying block is moved through a part of its course before the release takes place.

I have already called attention to the fact that the contact-plates in my present invention are swiveled to the block. I may add

that the connection is such as to form practically a spring connection between the posts with which the contact-piece co-operates, there being left a slight space between the contacts
5 and the block. Should the plates become flattened against the block and lose their elasticity, and thus fail to make good connection to the posts, it is only necessary to pry out the ends of the contact-piece, when they will
10 be restored to proper condition.

It will be noted that the block G, which is of insulating material, is cut away beyond the contact-plates on either side. The object of this construction is to prevent a deposit of
15 conducting material through either sparking or through the wearing off of the metal forming the contact-plates. I have found this an excellent safeguard in switches of this kind. Of course a notch may be made larger or
20 smaller, as the case may be, and in fact the

block may be cut away almost completely, if desired. Moreover, other details may be varied without departing from the principle of my invention.

Having now described my invention, what I 25 claim is—

In an electric switch, the combination, with two circuit terminals, of a curved contact-plate constructed of spring metal, and moving block or plug, to which the contact-plate 30 is swiveled midway between its two ends, so as to bear with a yielding or spring pressure upon one or both of the terminals, substantially as described.

In testimony whereof I have affixed my sig- 35 nature in presence of two witnesses.

CHARLES G. PERKINS.

Witnesses:

ALBERT H. WALKER,
JNO. H. WHITE.