

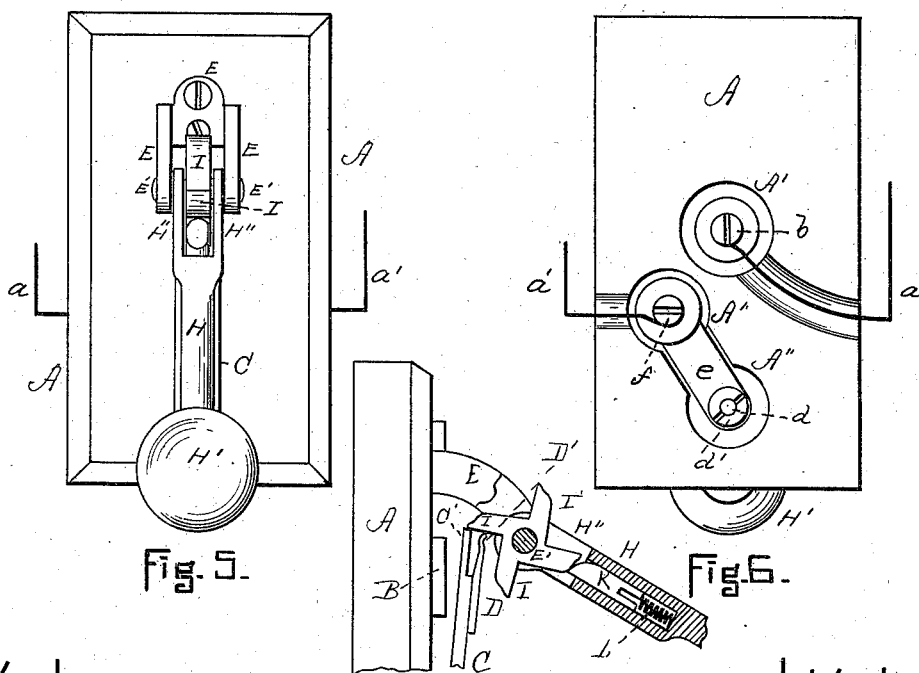
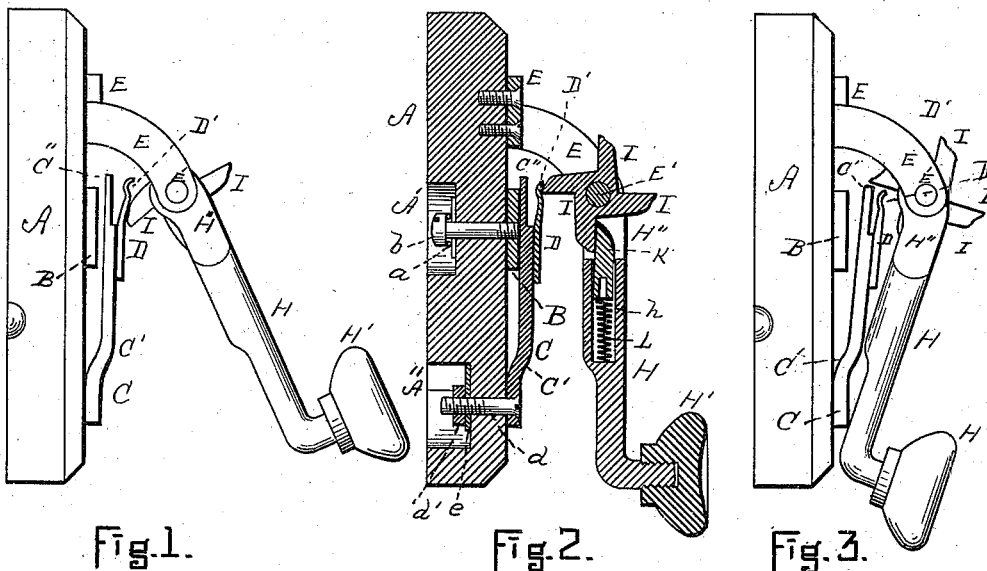
(No Model.)

W. A. CAREY.

SWITCH FOR ELECTRICAL PURPOSES.

No. 385,041.

Patented June 26, 1888.



WITNESSES.  
J. M. Hartnett.  
Ralph R. Williams.

Fig. 4.

INVENTOR.  
William A. Carey.  
By his atty.  
Henry W. Williams.

# UNITED STATES PATENT OFFICE.

WILLIAM A. CAREY, OF MALDEN, MASSACHUSETTS.

## SWITCH FOR ELECTRICAL PURPOSES.

SPECIFICATION forming part of Letters Patent No. 385,041, dated June 26, 1888.

Application filed September 10, 1887. Serial No. 249,314. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. CAREY, of Malden, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Switch for Electrical Purposes, of which the following is a specification.

The object of this invention is to provide a switch especially useful as applied to electric lighting, which is positive, simple, and which provides a quick opening of the circuit, thereby preventing the formation of an arc.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a side elevation of my improved switch with the circuit open and in such a position that the circuit may be closed by a single movement. Fig. 2 is a central vertical section of the same with the circuit closed. Fig. 3 is a side elevation in the position assumed when the circuit has just been closed. Fig. 4 is a detail showing the lever in the act of being raised and the bolt just slipping by a tooth on the ratchet-wheel. Fig. 5 is a front elevation of the switch with the circuit closed. Fig. 6 is a rear elevation of the same.

A is a base adapted to be secured to a wall or to other convenient support.

B is a metallic contact plate or block held in the position shown on the front side of the base-piece A by means of the screw *b*, which passes through said base from the rear side, its head lying in the recess A' and clamping the electric wire *a*.

C is a metallic spring bent at C', as shown, and secured to the front side of the base-piece below the block B by means of the screw *d*, which extends through the base-piece A from the front side thereof into the recess A'' in the rear side thereof. By means of the nut *d'* a metallic connecting-bar, *e*, is held upon said screw, said bar extending to the screw *f*, whose head clamps the electric wire *a'*. The flat spring C extends up in front of the block B, but is not normally in contact with it, is made thinner at its free end C'' by having a portion cut away horizontally therefrom, and is provided with an additional flat spring, D, rigidly secured thereto or integral therewith and extending over the thin portion C''. The free end of this spring D is formed so as to provide the horizontal transverse groove D'.

E is a bifurcated frame secured to the base A above the spring C and bent downward so that the horizontal shaft or pin E', supported therein, is about opposite the groove D'. H is the actuating-lever provided with the knob or handle H', bifurcated at H'' and pivotally secured within the frame E by means of the pin E'. Loose upon the pin E' and lying in the bifurcation in the lever H is the ratchet-wheel I, its teeth being provided with beveled or rounded ends, substantially as shown.

K is a bolt moving in the chamber *h* (see Fig. 2) in the lever H, and held normally against the wheel I by means of the spiral spring L.

The operation of the device is as follows: The switch being in the position shown in Fig. 1, the circuit is open, inasmuch as the plate B, connecting by means of the screw *b* with one wire, *a*, is not in contact with the spring C, which connects by means of the screw *d*, base *e*, and screw *f* with the other wire *a'*. In this figure the lever H, by gravity, holds one tooth of the wheel I against the supplemental spring D, below the groove D', said wheel being prevented from revolving by the bolt K, which is held between its teeth by the spring L. To bring the spring C into contact with the plate B, and thus close the circuit, the lever H is swung into a vertical position, as shown in Fig. 2, by pressure upon the knob H', thus lifting the tooth which in Fig. 1 rests against the spring D, and forcing it into the groove D', thus pushing the spring C against the plate B. It will be seen that the tooth thus described is swung up into the position shown in Fig. 2 when the lever is swung down, because the wheel I is locked by the bolt K, which rests against the next tooth below. To open the circuit, the lever is pushed back against the base, as shown in Fig. 3. This forces the tooth which in Fig. 2 lies in the groove D' up beyond the end of the spring D, thus releasing the spring C, which flies out of contact with the plate B, as shown in Fig. 3. Inasmuch as the ends of the teeth of the wheel I and the end of the bolt K are beveled or rounded, as shown, on one side, said teeth readily push the bolt back against the spring L, as shown in Fig. 4, and slip over it when the lever H is pulled from the position shown

in Fig. 3 in order to be in readiness to again close the circuit. Of course, while the beveled side of one tooth is slipping over the end of the bolt K the straight side of another tooth is holding the wheel I by resting against the extreme upper end of the spring D, all as shown in Fig. 4.

It will be noticed that when the circuit is opened, by pushing the lever from the position shown in Fig. 2 to that shown in Fig. 3 such opening is instantaneous and quick, thus preventing any possibility of the formation of an arc.

The operation of the device is positive, and its simplicity and rigidity are apparent.

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

1. In an electrical switch, the combination, with a spring adapted by pressure to close the circuit of the frame E, wheel I, pivotally mounted therein, and whose teeth are provided with rounded or beveled ends, as shown, and bifur-

cated actuating-lever H, longitudinally chambered out at h, and provided with the spring-bolt K, whereby said wheel is locked and released, substantially as and for the purpose described.

2. In an electrical switch, the combination of the base A, plate B, spring C C', supplemental spring D, provided with the groove D', and lever H, pivotally secured to a frame and provided with the ratchet-wheel I for engaging said spring D, substantially as and for the purpose described.

3. The combination of the base A, plate B, spring C C', supplemental spring D, provided with the groove D', bifurcated frame E, pin or shaft E', ratchet-wheel I, bifurcated lever H, bolt K, and spring h, substantially as and for the purpose set forth.

WILLIAM A. CAREY.

Witnesses:

HENRY W. WILLIAMS,  
J. M. HARTNETT.