

T. MULLER.
ELECTRIC SWITCH.
(Application filed Mar. 13, 1902.)

(No Model.)

Fig. 1.

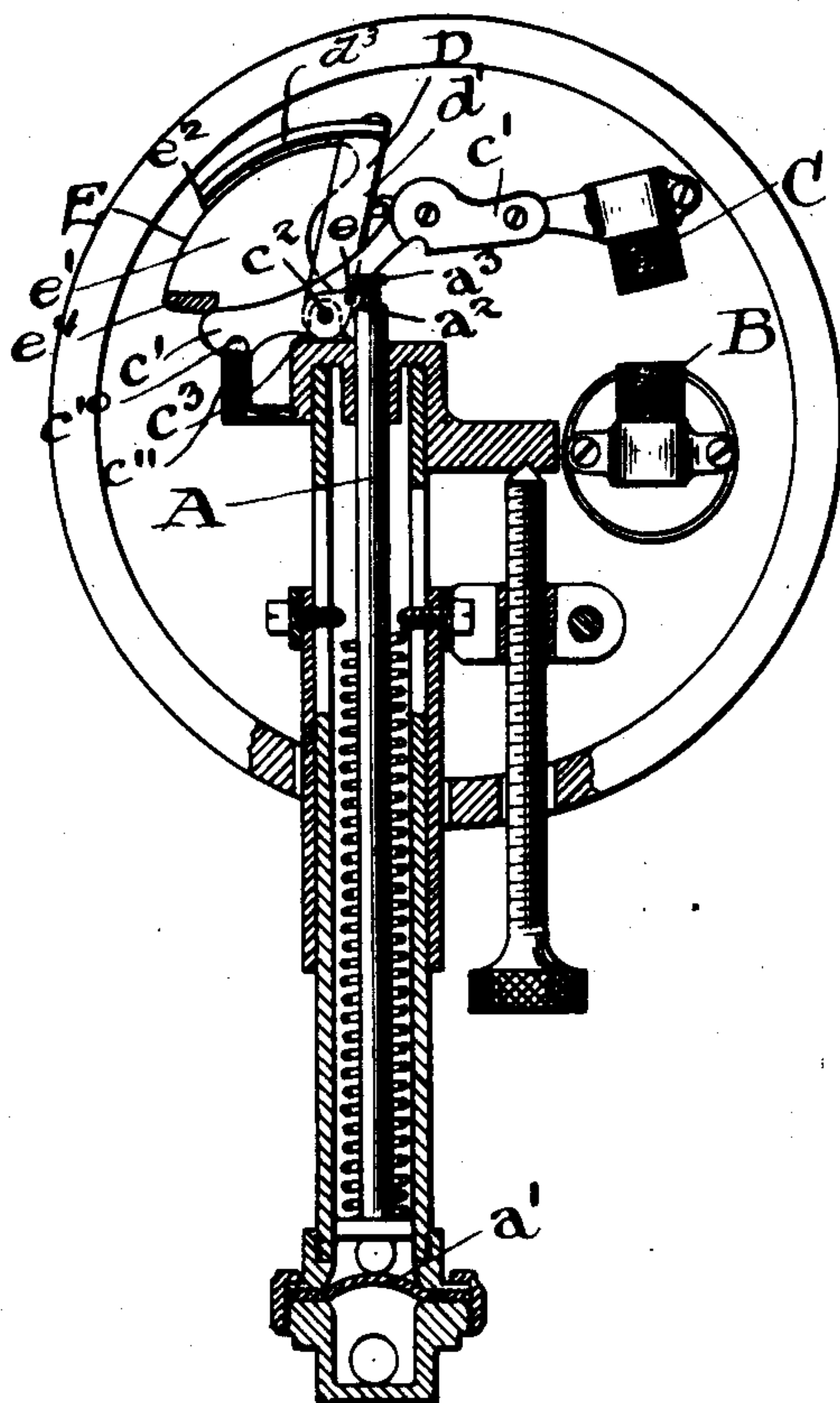
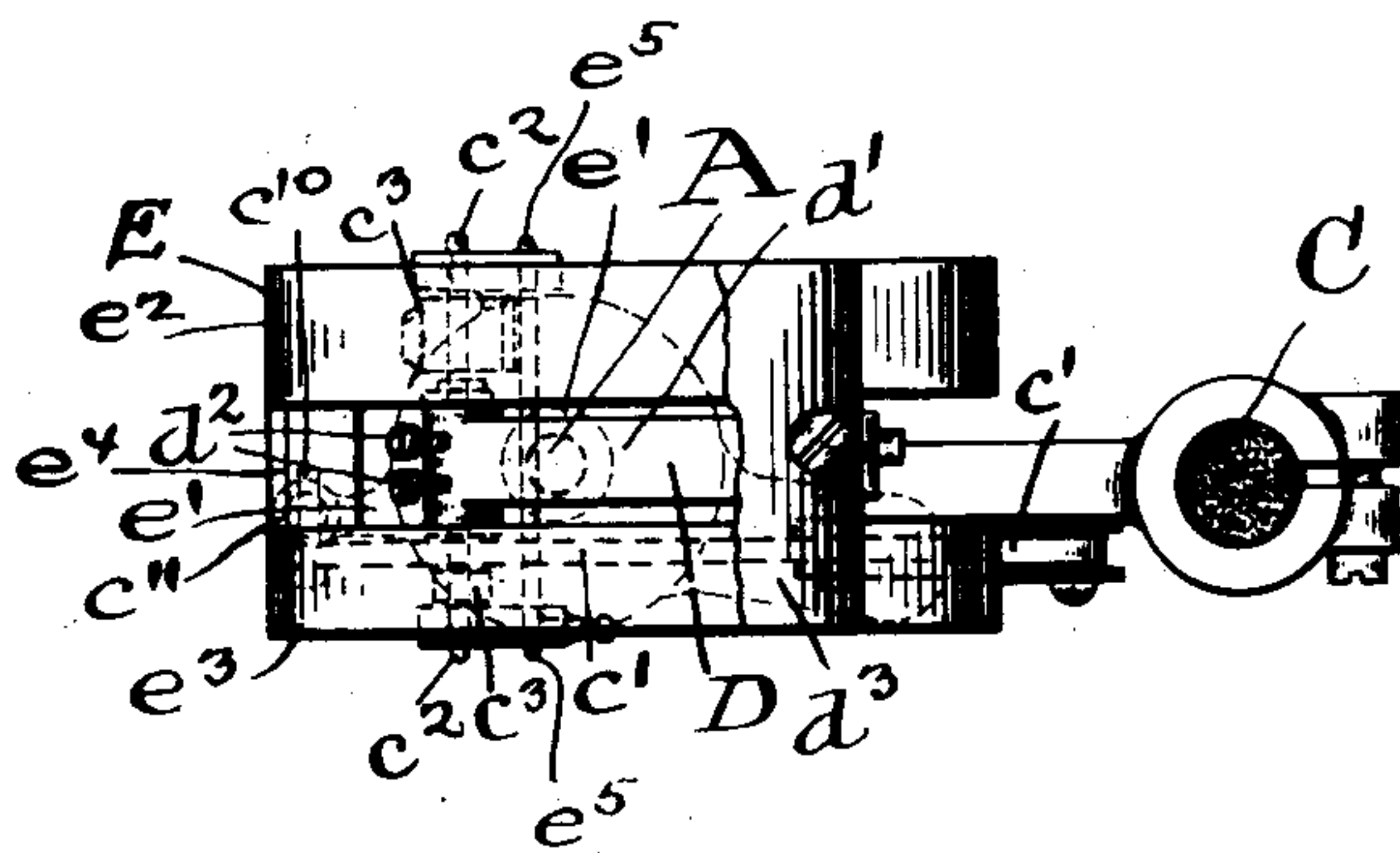


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

TAGE MULLER, OF NEW YORK, N. Y., ASSIGNOR TO AUTO-ELECTRIC AIR PUMP COMPANY, A CORPORATION OF NEW YORK.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 713,133, dated November 11, 1902.

Application filed March 13, 1902. Serial No. 98,032. (No model.)

To all whom it may concern:

Be it known that I, TAGE MULLER, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, (whose post-office address is 39 Cortlandt street, in the said city of New York,) have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

My invention relates to fluid-operated electric switches, and is more particularly designed as an improvement upon the invention set forth in Letters Patent No. 656,716, dated August 28, 1900.

In the above-mentioned patent a fluid-actuated member is used to operate a tilting weight to either open or close the switch on a quick action.

In the present invention, a tilting weight is attached to or moves with the movable electrode, there being a second tilting weight, which is movable independently to operate the movable electrode, caused to act by means of a fluid-actuated member.

The object of my invention is to obtain more positive results on the quick-action movement to open or close the switch; also to do away with springs or similar device for holding the movable electrode in its open position. These objects I attain by the above-mentioned means, which are more particularly described hereinafter.

I shall describe a fluid-actuated switch embodying my invention and afterward point out the novel features in the claim.

In the drawings I have embodied my invention in what I consider a preferable form; but changes may of course be made within the scope of the claim.

In the said drawings, Figure 1 is a side view in section of a fluid-actuated electric switch embodying my invention. Fig. 2 is an enlarged top view of Fig. 1 with parts broken away.

Similar letters of reference indicate corresponding parts in the different views.

The detailed construction of the old part of the switch will not be described, as it is well known in the art, a full and complete descrip-

tion of same being found in Letters Patent No. 656,716 referred to above.

A is the fluid-actuated member caused to move vertically by the inflatable diaphragm a' or other means and provided with the shoulders a^2 and a^3 at its upper end.

B is the stationary electrode, and C the movable electrode. The latter is carried by the arm c' and secured to the tilting weight D, which in turn is mounted fast on the transverse pin c^2 , mounted in the lugs c^3 . The weight D consists in this instance of a narrow upright portion d' , fastened to the pin c^2 by means of the screws d^2 , and an arc-shaped portion d^3 , fastened to the upper end of the upright portion d' .

E is a second tilting weight mounted loosely upon the pin c^2 and movable independently of the weight D and electrode C. This second tilting weight is quite heavy and is provided with a longitudinal slot e' , separating it into two parts e^2 and e^3 , joined at one end by the bridge portion e^4 and further carries a transverse pin e^5 . Owing to the slot e' , the weight E is free to move without touching the weight D, the upright portion d' of which extends up through the said slot.

When the switch is in the position shown in Fig. 1 and the air-pressure then decreases, the member A will descend, and the shoulder a^3 will coact with the transverse pin e^5 and slowly move the weight E until it is past the center, when it will descend quickly by reason of gravity on the arm c' , thus bringing the weight D over the center, thereby moving both weights and increasing the momentum and in that manner insuring a positive quick action. When the pressure increases, the member A will rise and the shoulder a^2 will push the pin e^5 slowly up, thereby moving the weight E until it passes over the center and drops, with the portion e^4 , on the arm c' , thus bringing by the coöperation of the weight D the electrode C quickly out of contact with the stationary electrode B. The arm c' is provided with a pin c^{10} , which rests upon the stop c^{11} , thus limiting the movement. No spring detention device is necessary to hold the movable electrode in

its open position, as the weight D will be sufficient to keep it in its proper position until the weight E operates to close the switch.

Having thus described my invention, what
5 I claim is—

In an electric switch, the combination with a stationary electrode and a fluid-actuated member, of a pin, a movable electrode and a tilting weight secured on the said pin so as to
10 move with the same, and a second tilting weight, operated by the fluid-actuated mem-

ber, mounted loosely on the same pin and adapted to operate the first-mentioned tilting weight and movable electrode on a quick action.

Signed at New York, in the county of New York and State of New York, this 10th day of March, A. D. 1902.

TAGE MULLER.

Witnesses:

AXEL V. BEEKEN,
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