(No Model.)

C. G. DAHLGREN & J. H. SVENSSON.

ELECTRIC SWITCH.

No. 455,837. Patented July 14, 1891.

Fig 1

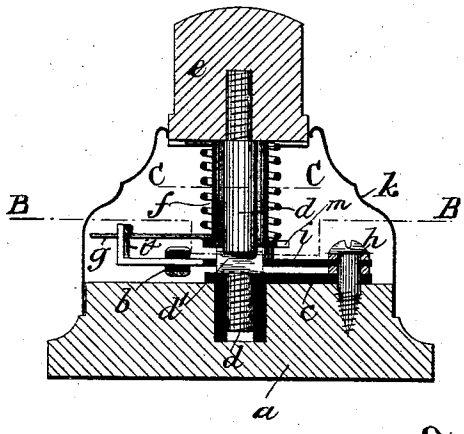


Fig 2

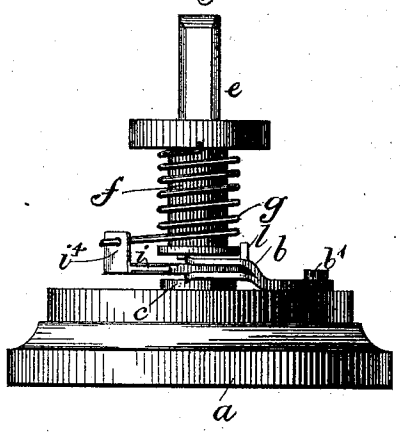


Fig 5

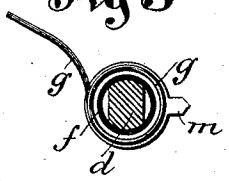


Fig 3

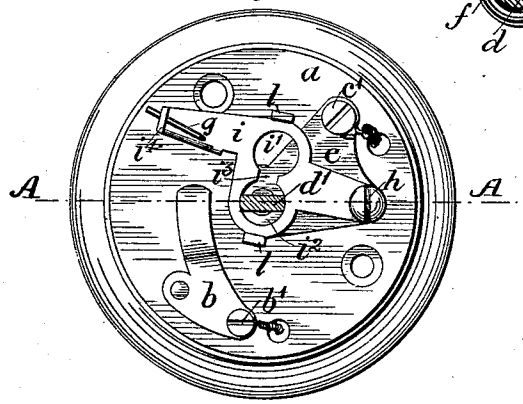
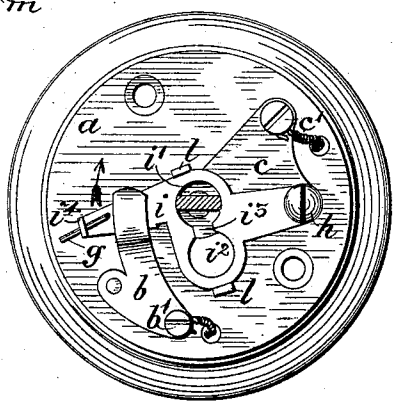


Fig 4.



Witnesses

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UNITED STATES PATENT OFFICE.

CARL GEORG DAHLGREN AND JOHN HUGO SVENSSON, OF GOTHENBURG, SWEDEN.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 455,837, dated July 14, 1891.

Application filed December 24, 1890. Serial No. 375,762. (No model.)

To all whom it may concern:

Be it known that we, CARL GEORG DAHLGREN and JOHN HUGO SVENSSON, both subjects of the King of Sweden, residing at Gothenburg, in Sweden, have invented a certain new and useful Improvement in Electrical Switches, of which the following is a specification.

This invention relates to electrical switches; and it consists in a switch of improved construction adapted both to make and to break contact instantaneously.

Reference being made to the accompanying drawings, Figure 1 is a central vertical section through the improved switch on line A A, Fig. 3. Fig. 2 is a side elevation thereof, looking from the left upon Fig. 3. Fig. 3 is a horizontal section on line B B, Fig. 1, showing the parts in the position of this figure and of Fig. 2. Fig. 4 is a similar horizontal position, showing the parts in the position of contact made. Fig. 5 is a horizontal section illustrating the construction of part of the switch on line C C, Fig. 1.

According to this invention the moving contact-plate is adapted to be brought into contact with or out of contact with the fixed contact-plate by means of a spring which normally not in a state of tension is tensioned in the one or other direction by the turning of the turn-button, the shaft of which also serves as a temporary detent for holding the said moving contact-plate in its respective first position until sufficient tension has been given to the spring by turning the button to cause it, when released by the turning of the button, to leap from its position of contact to its position of disconnection, or vice versa, and thus suddenly interrupt or make contact with the fixed contact-plate.

The drawings illustrate the construction.

a is the insulating-base of the switch.

b is the fixed contact-plate, which may be forked, as in Fig. 2, to make contact above and below the moving contact-plate.

b' is the binding and fixing screw thereof.

c is the metallic plate fastened to the base by the binding and fixing screw *b'* and carrying a socket let into a pit in the base to receive the spindle of the turn-button.

i is the moving contact-plate, which is pivoted at *h* in the metallic plate *c* and is in electrical connection therewith through its metallic pivot-screw.

d is the shaft of the turn-button, *e* the turn-button, and *g* the spring carried by the sleeve *f*, surrounding the upper part of the shaft *d*.

k is the cover-plate.

The shaft *d* is cut away at opposite sides at *d'*, Figs. 1 and 3, at the part where it passes through the plate *i*. The latter is made with two circular holes i' i^2, of equal diameter, the same as the longer measurement of the part *d'*, so that the latter can turn within either of the holes i' i^2, the first of which corresponds to the position of contact, the second to the position of disconnection. The two holes i' i^2 are connected by the passage i^3, the breadth of which is but slightly larger than the smaller measurement of the part *d'*. The end of the plate *i* is provided with the lug i^4 to receive the end of the spiral spring *g*, the other end of which is connected to the turn-button. The parts being in the position of Fig. 4, by turning the button *e* to the right the spring *g* is brought into tension in the direction of the arrow, Fig. 4. After the turning of the button has been continued sufficiently to enable the part *d'* to pass through the passage i^3 the tension of the spring *g* will throw the plate *i* into the position shown in Fig. 3, and the part *d'* will now be located in the hole i^2. The turn-button, being now released, will revolve in the hole i^2 by the recoil of the spring until the latter again arrives in its position of rest without tension. If now the turn-button be turned by hand in the reverse direction to that in which it was formerly turned, the spring will in a similar manner be brought into tension in the opposite direction by its uncoiling until the tension is sufficient (the part *d'* being turned to pass through the passage i^3) to cause the switch to return to its original position. On release of the turn-button the latter will again spring back under influence of the remaining tension in the spring until the latter ceases to exert pressure in either direction on the switch. The form of spring is immaterial. A spring having the form of a volute when free of tension may be used. The point *m* on the lower flange of the sleeve *f*

and the lugs *l l* on the sides of the plate *i* are to prevent the button being turned too far, by which the spring might be broken or injured.

We claim—

In an electrical switch, the combination of a fixed contact-plate, a moving contact-plate *i*, pivoted eccentrically with regard to the axis of the turn-button, holes i' i^2 in said plate, a passage i^3, connecting said holes, a turn-button and spindle thereto, a diminished part d' on said spindle, and a spring *g*, connected to said turn-button and to said plate *i*, the whole substantially as and for the purpose set forth.

In witness whereof we have signed this specification in presence of two witnesses.

CARL GEORG DAHLGREN.
JOHN HUGO SVENSSON.

Witnesses:
ERNEST A. MAN,
HUGO ARWICKSON.