(No Model.)

J. E. MAYO.

ELECTRICAL SWITCH.

No. 385,815. Patented July 10, 1888.

Fig. 1

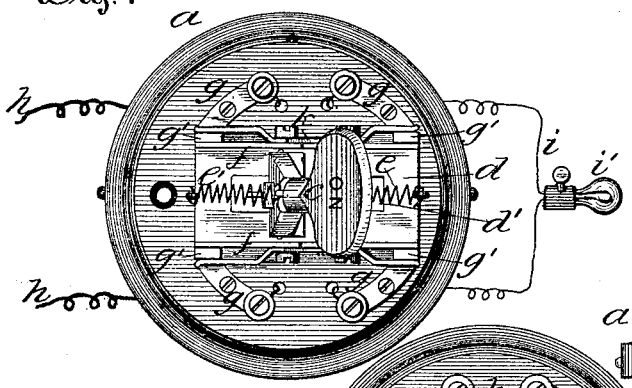


Fig. 2

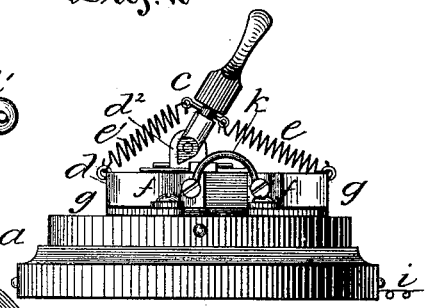


Fig. 3

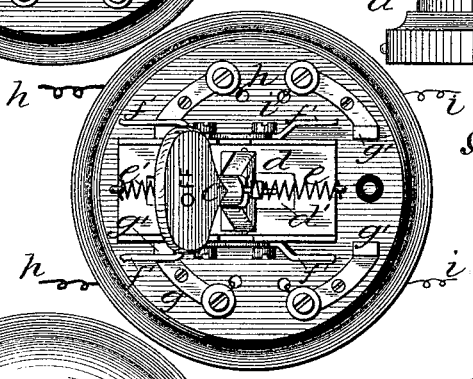


Fig. 4

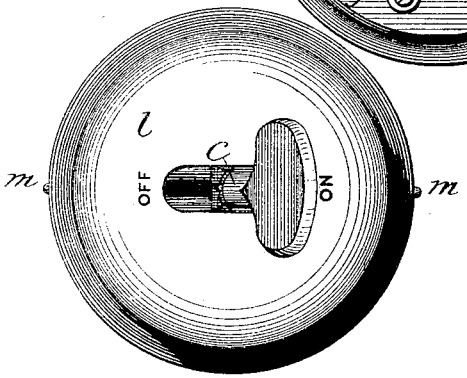
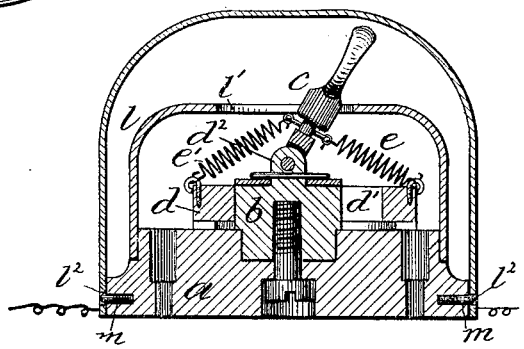


Fig. 5



Witnesses:

H. R. Williams.

A. B. Jenkins.

Inventor,

Junius E. Mayo.

by Simonds & Burdett,

Attys.

(No Model.)

J. E. MAYO.

ELECTRICAL SWITCH.

No. 385,815. Patented July 10, 1888.

Fig. 1

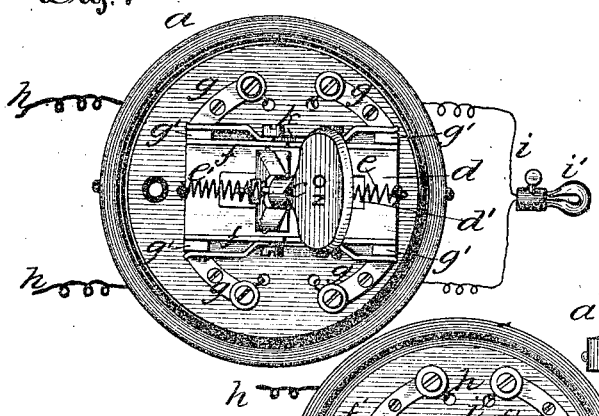


Fig. 2

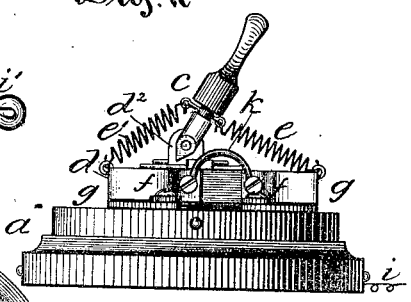


Fig. 3

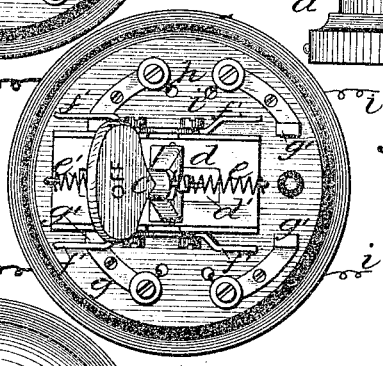


Fig. 4

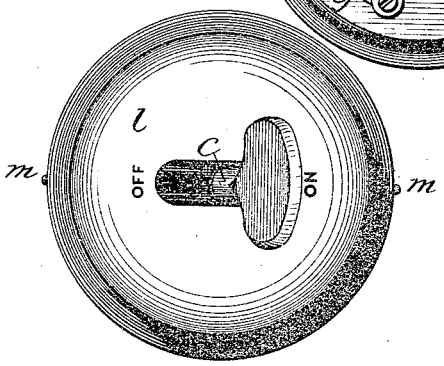
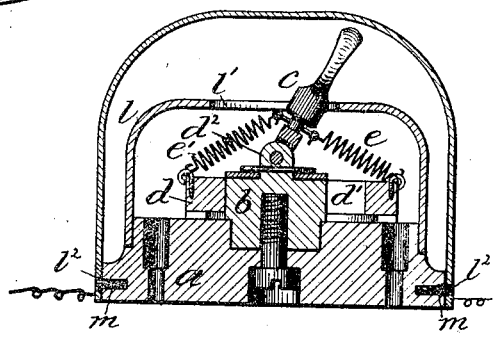


Fig. 5



Witnesses:

H. R. Williams.

A. B. Jenkins.

Inventor,

Junius E. Mayo.

by Simonds & Burdett,

Atty.

UNITED STATES PATENT OFFICE.

JUNIUS E. MAYO, OF NORTH MANCHESTER, CONNECTICUT.

ELECTRICAL SWITCH.

SPECIFICATION forming part of Letters Patent No. 385,815, dated July 10, 1888.

Application filed April 27, 1888. Serial No. 272,018. (No model.)

To all whom it may concern:

Be it known that I, JUNIUS E. MAYO, of North Manchester, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electrical Switches, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a snap-switch that shall be cheap in construction, and having but slight frictional resistance to the movement of its parts.

To this end my invention consists in the combination of the switch-base, the reciprocating switch-block, and its spring-connected bearing-lever.

It further consists in the combination of the switch-base, the reciprocating switch-block and its operating lever, and the cover with its peculiar catch; and it further consists in details of the several parts of the device and their combination, as more particularly hereinafter described, and pointed out in the claims.

Figure 1 is a plan view of my improved switch-block showing the switch "on." Fig. 2 is a view of the same in side elevation. Fig. 3 is a plan view of the same with the switch "off." Fig. 4 is a plan view with the outer cover removed and the inner cover shown in place. Fig. 5 is a view in central vertical section of the switch with both covers on and the parts, as shown in Fig. 1.

In the accompanying drawings, the letter *a* denotes the base of one form of my improved switch; *b*, a stud fixed on the switch-base with a bearing-surface slightly above and parallel to the base, and an oblong part rising above the bearing and having pivoted to its upper end the lever *c*.

Between the lever and the bearing of the stud is arranged a reciprocating switch-block, *d*, having a central slot, *d'*, that enables it to be fitted upon the oblong part of the stud, the closed ends of the slot limiting the lengthwise movement of the block, that fits closely upon the stud, on which it has a sliding play. The lug d^2 projects from the top of the switch-block near its center, upon opposite sides of the slot *d'*, and is in a position to be engaged by the short arm of the lever *c*, except when the latter is at either limit of its swinging movement on its pivot. On opposite sides of the switch-block are secured the metallic contact pieces or brushes *f*, that are made of spring metal and are secured, as by screws, to the opposite sides of the block, the part near the ends projecting outward, as shown in Fig. 1 of the drawings. On opposite sides of this switch-block are arranged other contact-pieces, *g*, having flat bases adapted to be secured to the top of the base, and upright arms *g'*, that are placed in the path of movement of the projecting parts *f'* of the brushes on the switch-block.

The springs connecting the switch-block *d* and the lever *c* are of such a length that when the latter stands upright the block will be in the middle of its play; but as soon as the lever is rocked to one side, as toward the right, (see Fig. 1 of the drawings,) the short end of the lever thrusts the switch-block toward the left and increases the tension upon the spring *e'*, the movement of the block continuing until the point of the lever slips off from the lug d^2, when the tension of the spring throws the block sharply over to the right and brings the several contact-pieces on the right-hand end of the block into contact with those on the base that are connected with the lamp-wires *i*, and the contact-pieces on the opposite end of the block remain in sliding contact with the main wires *h*. The lamp *i'* will then be in circuit and will be luminous. By reversing the movement of the lever and swinging it toward the left its lower end will strike the opposite side of the lug d^2 and force the switch-block over to the right until the end of the lever slips off from the lug, when the tension of the spring *e* will pull the switch-block quickly and sharply to the left, drawing the contact-pieces on the right of the switch-block out of contact with those that are connected with the post and line-wires *h* on the base. When the contact is thus broken, the lamp *i'* will be cut out from the circuit.

In connection with the above-described device I make use of the fusible connection *k*, the opposite ends of this fusible plug being connected, as by means of screws, to the more refractory contact-pieces that project from the opposite ends of the switch-block on each side.

The bearing parts of the switch-block are protected from exposure by a cover, *l*, of thin

metal, having the slot *l'* for the passage of the lever-handle, and near the lower edge the several catch-sockets *l²*, that hold the cover against accidental removal when its lower edge is sprung over the rounded heads of the catches *m*, that are fixed to the annular cap-bearing that rises from the base.

In addition to the inner cover having the slot for the passage of the lever-handle, I provide, also, an outer cover of thin metal spun to shape and provided with similar means for locking it onto the base.

The lever *c*, used to operate the switch-block, has a swinging movement of about a hundred degrees, and is so arranged that first one side of the lever is upward and then the other as the lever is swung from one side to the other, and on these opposite sides of the lever are marked the words "On" and "Off," so that one may see at a glance the location of the switch-block or of the lamp with reference to the circuit.

I do not limit myself to the particular construction of the several parts of the switch as within described, as they may be modified in form and arrangement without departing from my improvement.

I claim as my improvement—

1. In combination with the switch-base, the reciprocating switch-block having a limited sliding play, the lug fixed on the switch-block, the lever pivotally connected to the stud rising from the base and having a short arm engaging the said lug, the springs connecting the opposite ends of the switch-block to the lever, and the several contact-pieces, all substantially as described.

2. In combination with the switch-base, the reciprocating switch-block having a limited sliding play, the lug fixed on the switch-block, the lever pivotally connected to the stud rising from the base, said lever having a short arm engaging the said lug, the springs connecting the opposite ends of the switch-block to the lever, the several contact-pieces borne on the base and on the sides of the switch-block, respectively, and the removable cap or cover having a slot for the passage of the lever, and the catch device, whereby the cover is fastened to the base of the block, all substantially as described.

3. In combination with the switch-base having the cap-bearings, with the several catches *m* having rounded heads, the switch-block having a limited movement on the switch-base, the lever pivotally connected to the base and adapted to operate the switch-block, the several contact-pieces borne on the switch-block and on the base, respectively, the inner cover slotted for the passage of the lever-handle, and the outer cover, the several covers having the catch-sockets adapted to engage the rounded heads of the catches when the covers are sprung over them, all substantially as described.

JUNIUS E. MAYO.

Witnesses:
WM. B. WALLACE,
HATTIE W. COWLES.