

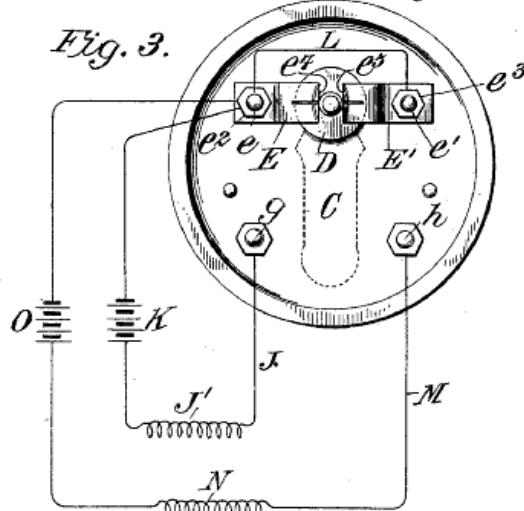
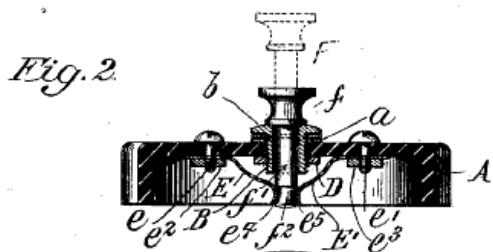
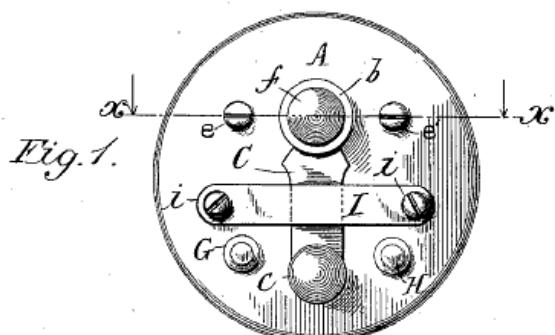
No. 731,966.

PATENTED JUNE 23, 1903.

C. F. SPLITDORF,
ELECTRIC SWITCH.

APPLICATION FILED MAR. 3, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES F. SPLITDORF, OF NEW YORK, N. Y.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 731,966, dated June 23, 1903.

Application filed March 3, 1903. Serial No. 146,939. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. SPLITDORF, a citizen of the United States, residing at the borough of Manhattan, in the city, county, and State of New York, have invented a new and useful Improvement in Electric Switches, of which the following is a specification.

This invention relates to switch devices for making and breaking electric circuits; and its particular functions are created by the provision of means whereby, with the employment of a single pivotal switch-arm, an electric circuit may be either closed or opened with any one of a series of batteries or other sources of electrical energy, a further function—that of positively interrupting the circuit—being performed with the aid of a removable plug or contact member as a component element of such circuit. While of practical utility when employed in electric circuits in general, such switching device is obviously of specific value in conjunction with the ignition apparatus of gasolene-engines for automobiles, because it permits a new battery to take the place of an exhausted battery by the movement of a single switch-arm and avoids the necessity of changing the terminal connections while upon a journey, thereby saving time and annoyance. The use of the removable plug in the electric circuit permits of said member being taken away by the operator when he leaves his motor-vehicle and desires to prevent the unauthorized starting up of the engine.

In the drawings accompanying this specification, Figure 1 is a plan view of my switching device. Fig. 2 is a section taken on the line *a—a* of Fig. 1. Fig. 3 is a reverse plan view also indicating the manner of wiring employed.

In said figures, *A* indicates a switch-mount of suitable non-conducting material and having a threaded aperture to receive a threaded bushing or socket member *B*, the latter having the radial flange *b*. Placed about the bushing *B* and upon the upper surface of mount *A* is a washer *a*, and intermediate said flange *b* and washer *a*, pivotally held by the bushing *B*, is one end of a switch-arm *C*, whose opposite end is furnished with a thumb-screw *c*, serving as a guide with which to swing arm *C* upon its pivotal support.

A nut *D* screws upon the end of bushing *B*, seating against the inner surface of mount *A*, and thereby binding said bushing securely in place, the tension of said nut, however, not being sufficient to prevent arm *C* from being swung upon its bearing in the performance of its functions.

Penetrating the mount *A*, at opposite sides of the bushing *B*, are apertures containing the screws *e e'*, which pass through apertures in the outer ends of the tensional contact members *E E'*, respectively, nuts *e² e³*, respectively, securing the contact members *E E'* and screws *e e'* in place. The contact members *E E'* consist of flat strips of springy material bent, as indicated, to clear the bushing *B* and nut *D*, their free ends, which oppose each other, being oppositely curved, presenting the rounded faces *e⁴ e⁵*, which project into the path of an imaginary line drawn through the aperture in bushing *B*.

F indicates a plug composed of the head *f* and stem *f'*, the free end of said stem having an annular recess *f²* to form a seat for the faces *e⁴ e⁵* of contact members *E E'*, whereby the latter will tensionally retain said plug *F* between them and prevent its accidental displacement from the bushing or socket *B*. The plug *F* forms a member of the electrical circuit, which is incomplete and inoperative when said plug is removed.

G H indicate the contact-heads of terminals *g h*, which project slightly above the surface of mount *A* and communicate, respectively, with separate sources of electrical energy. Said contact-heads are located in the path of the swinging contact-arm *C*, and said latter member is crossed by a bridge *I*, the latter being secured at each end by screws *i i* and held at such distance above the surface of mount *A* as to permit arm *C* to swing freely thereunder, but exerting some tension when the arm *C* is upon one of the heads *G H* to effect a firm contact between such members.

While I have illustrated only two contacts, as *G H*, I contemplate, where desirable, employing a greater number of such terminals, each communicating with a separate source of electrical energy and all of such contacts being located in the path of the swinging arm *C*.

As illustrated in Fig. 3, the wiring *J* ex-

tends from terminal *g*, through an intensifying-coil *J'* and a battery or other source of electrical energy *K*, to the contact member *E*. Wire *L* connects the members *E* and *E'*, and when the plug *F* is inserted between said members *E* *E'* the circuit may be completed by swinging the pivotal arm *C* into contact with the contact-head *G*. Another distinct circuit *M* extends from the terminal *h* and includes the coil *N* and battery *O*, being similarly completed by swinging the arm *C* until it rests upon the contact-head *H*. In like manner any desirable number of separate circuits may be formed by multiplying the number of independent batteries, coils, and terminals corresponding to those illustrated, respectively, at *g* *G* and *h* *H* and arranged in the path of the swinging contact-arm *C*.

It is quite obvious that instead of including a coil, as *N*, in one or all of the circuits that may be provided I may employ either a bell, motor, or other device which it is desired to energize, and thus I do not limit myself to the inclusion of a coil in such circuits.

Having now described my invention, I declare that what I claim is—

1. In a switch, an insulating-mount, a flanged bushing secured thereto, a contact-arm pivoted about said bushing, a pair of spring-contacts secured to said mount, having opposed, separated ends, an electric circuit, one of whose terminals contacts with one of said spring-contacts, a wire connecting said spring-contacts, an opposite terminal, and a separately-portable plug arranged to removably enter said bushing, fitting between said spring-contacts, and closing the circuit when said pivotal arm is in contact with said opposite terminal.

2. In a switch, an insulating-mount, a flanged bushing secured therein, a contacting arm pivoted about said bushing, a pair of spring-contacts secured to said mount, having opposed, separated ends, a plurality of normally open electric circuits, whose terminals of one polarity all contact with one of said spring-contacts, a wire connecting said spring-contacts, a separate terminal of opposite polarity for each of said circuits, and a separately-portable plug arranged to removably enter said bushing, fitting between said spring-contacts, and closing any one of said circuits with whose opposite terminal said pivotal arm has been brought into contact.

3. In a switch, an insulating-mount having an aperture extending therethrough, a pair of opposed spring-arms located beneath said opening, a contact-button on said mount, an electrical circuit whose opposite terminals are connected to said button and said arms, a pivotal arm carried by said mount and adapted

to be brought into engagement with said button, and a removable, separately-portable plug adapted to be inserted in said aperture to establish an electrical connection between 65 said pivotal arm and said spring-arms.

4. In a switch, an insulating-mount composed of a disk having an annular peripheral wall extending at one side thereof, and said mount having an aperture therethrough, a bushing within said aperture, a pair of opposed spring-arms secured at the inner side of said disk, and a plurality of contact-buttons mounted upon the outer side of said disk, together with a plurality of electric circuits 75 whose terminals of one polarity are in contact with one of said spring-arms, while their terminals of opposite polarity are in contact, respectively, with separate contact-buttons; a swinging contact-arm pivoted about said 80 bushing and including all said contact-buttons in its path of movement, and a separately-removable portable plug adapted to be inserted through said bushing and to be frictionally held between said spring-arms, to 85 complete any one of the aforesaid electrical circuits.

5. In a switch, an insulating-mount, a flanged bushing secured thereto, a contact-arm pivoted about said bushing, a pair of 90 spring-contacts secured to said mount, having opposed, separated ends, an electric circuit, one of whose terminals contacts with one of said spring-contacts, an opposite terminal, and a separately-portable plug arranged to removably enter said bushing, fitting between said spring-contacts, and closing the circuit when said pivotal arm is in contact with said opposite terminal.

6. In a switch, an insulating-mount, a flanged bushing secured therein, a contacting arm pivoted about said bushing, a pair of spring-contacts secured to said mount, having opposed, separated ends, a plurality of normally open electric circuits, whose terminals of one polarity all contact with one of said spring-contacts, a separate terminal of opposite polarity for each of said circuits, and a separately-portable plug arranged to removably enter said bushing, fitting between said spring-contacts, and closing any one of said circuits with whose opposite terminal said pivotal arm has been brought into contact.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

New York, February 27, 1903.

CHARLES F. SPLITDORF.

Witnesses:

F. W. BARKER,
NAT. B. CHADSEY.