

No. 667,764.

Patented Feb. 12, 1901.

D. R. BRUCE.
ELECTRIC SWITCH.

(Application filed July 28, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

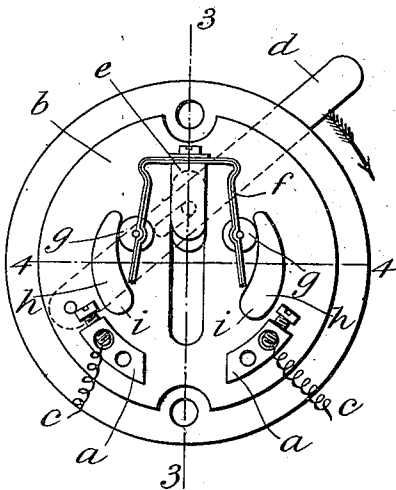


Fig. 2.

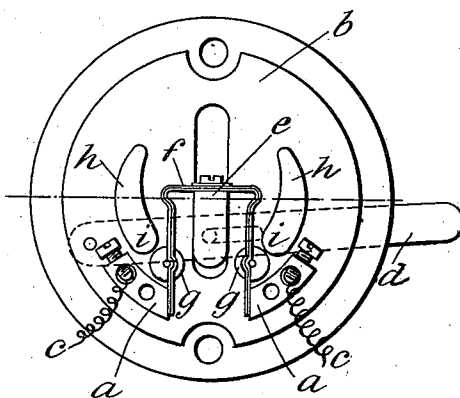


Fig. 3.

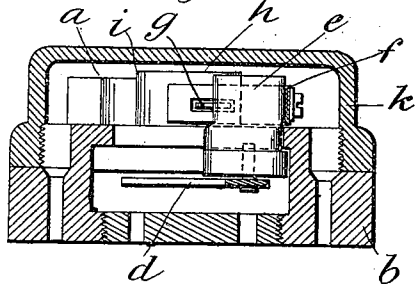
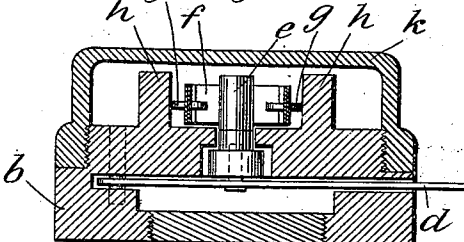


Fig. 4.



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L. A. (Signature)
S. S. (Signature)

INVENTOR

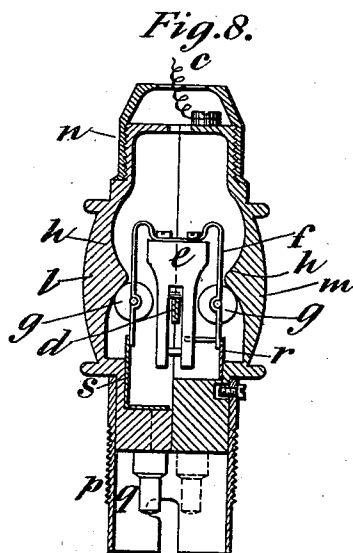
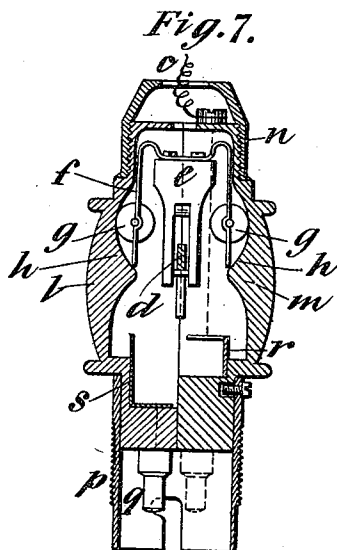
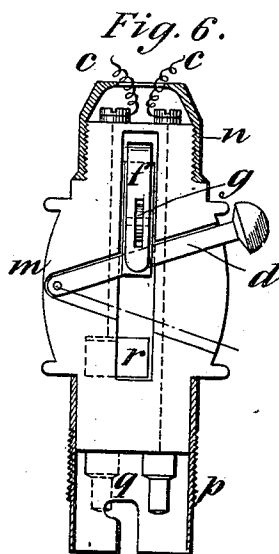
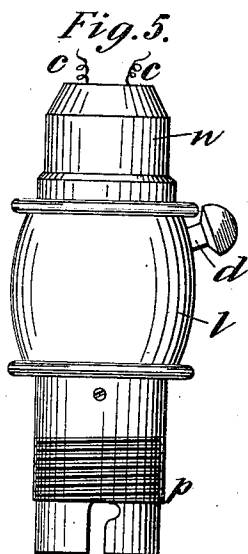
David R. Bruce
by *(Signature)*
his atty

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2 Sheets—Sheet 2.



WITNESSES

J. A. Commey
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INVENTOR

David R. Bruce
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UNITED STATES PATENT OFFICE.

DAVID ROBERTSON BRUCE, OF LONDON, ENGLAND.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 667,764, dated February 12, 1901.

Application filed July 28, 1900. Serial No. 25,072. (No model.)

To all whom it may concern:

Be it known that I, DAVID ROBERTSON BRUCE, a citizen of England, residing at Redburn Terrace, South street, Ponders End, London, in the county of Middlesex, England, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

My invention relates to electric switches so arranged that by the movement of a lever the contacts are suddenly made and broken and cannot accidentally change their position, as this requires some force to be applied to the lever.

The mechanism of a switch according to my invention may be arranged on a base suitable for fixing against a wall or in a casing adapted to form the holder of a glow-lamp, as I shall describe, referring to the accompanying drawings.

Figures 1, 2, 3, and 4 show a wall-switch according to my invention, Figs. 1 and 2 being elevations with cover removed, showing, respectively, contact broken and contact made. Figs. 3 and 4 are sections on the lines 3-3 and 4-4 of Fig. 1, respectively. Figs. 5, 6, 7, and 8 show a lamp-holder switch, Fig. 5 being an elevation, Fig. 6 an internal elevation, half of the case being removed, and Figs. 7 and 8 being longitudinal sections on a plane at right angles to the division of the case, the one showing contact broken and the other showing contact made.

Referring first to Figs. 1 to 4, inclusive, on a base *b* of non-conducting material are fixed two metal contact-pieces *a*, to which the conducting-wires *c* are attached, these two pieces presenting toward each other parallel faces. A lever *d*, pivoted near one side of the base, has a slot engaging a pin which projects downward into it from a piece *e* of non-conducting material. On one end of the piece *e* is fixed the middle portion of an elastic metal strip *f*, or several of these, bent to  form and having pivoted in their limbs rollers *g*, which run along the vertical faces of two upwardly-projecting parts *h* of the non-conducting base, these parts having inwardly-projecting rounded ends *i*. On moving the lever *d* in the direction of the arrow in Fig. 1 the piece *e*, along with *f*, is moved forward, and as the rollers *g* are passing the prominent parts *i* the limbs of *f* are pressed toward each other; but when the rollers have passed

the parts *i* the limbs of *f* spring apart, making sudden contact with the faces of the metal pieces *a*, as shown in Fig. 2, the strips *f* then forming a bridge along which the current passes from the one wire *c* to the other. The mechanism is covered by a cap *k*, screwed on the base.

Referring now to Figs. 5 to 8, the case of the switch is made in two halves *l* and *m*, held together by a ferrule *n* at the one end and the lamp-socket *p* at the other end, both the parts *l* and *m* being made of non-conducting material and being provided with the usual spring plunger-contacts *q*. As in the construction first described, a lever *d* moves a piece *e*, having on it spring-strips *f*, with their rollers *g*, which bear against the faces of prominent parts *h* of the halves *l* *m* of the insulating-case. One of the conducting-wires *c* is connected to a contact-plate *r*. The other wire *c* is connected to one of the plunger-contacts *q*, the other plunger *q* being connected to a contact-plate *s*. When the lever *d* is moved down, the strips *f* form a conducting-bridge between the contact-plates *r* and *s*, and thus the current from the one wire *c* passes by *r* and *f* to *s*, thence by one of the plungers *q* to the filament of the lamp, to the other plunger *q*, and the other wire *c*.

Having thus described the nature of this invention and the best means I know of carrying the same into practical effect, I claim—

1. An electric wall-switch comprising a lever such as *d* connected to an insulating sliding piece *e* carrying an elastic conductor *f* bent to  form with rollers *g* mounted in the limbs a pair of metal contacts *a* and an insulating-base *b* having upwardly-projecting curved parts *h* along which the rollers *g* run, substantially as described.

2. An electric switch having a slide carrying an elastic conductor arranged in  form and provided with rollers, cam-faces engaged by the rollers, and a pair of metal contacts engaged by the conductor in certain positions of the slide; substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DAVID ROBERTSON BRUCE.

Witnesses:

OLIVER IMRAY,
GERALD L. SMITH.