

(No Model.)

A. C. BROCKIES.
ELECTRIC SWITCH.

No. 594,227.

Patented Nov. 23, 1897.

Fig. 1.

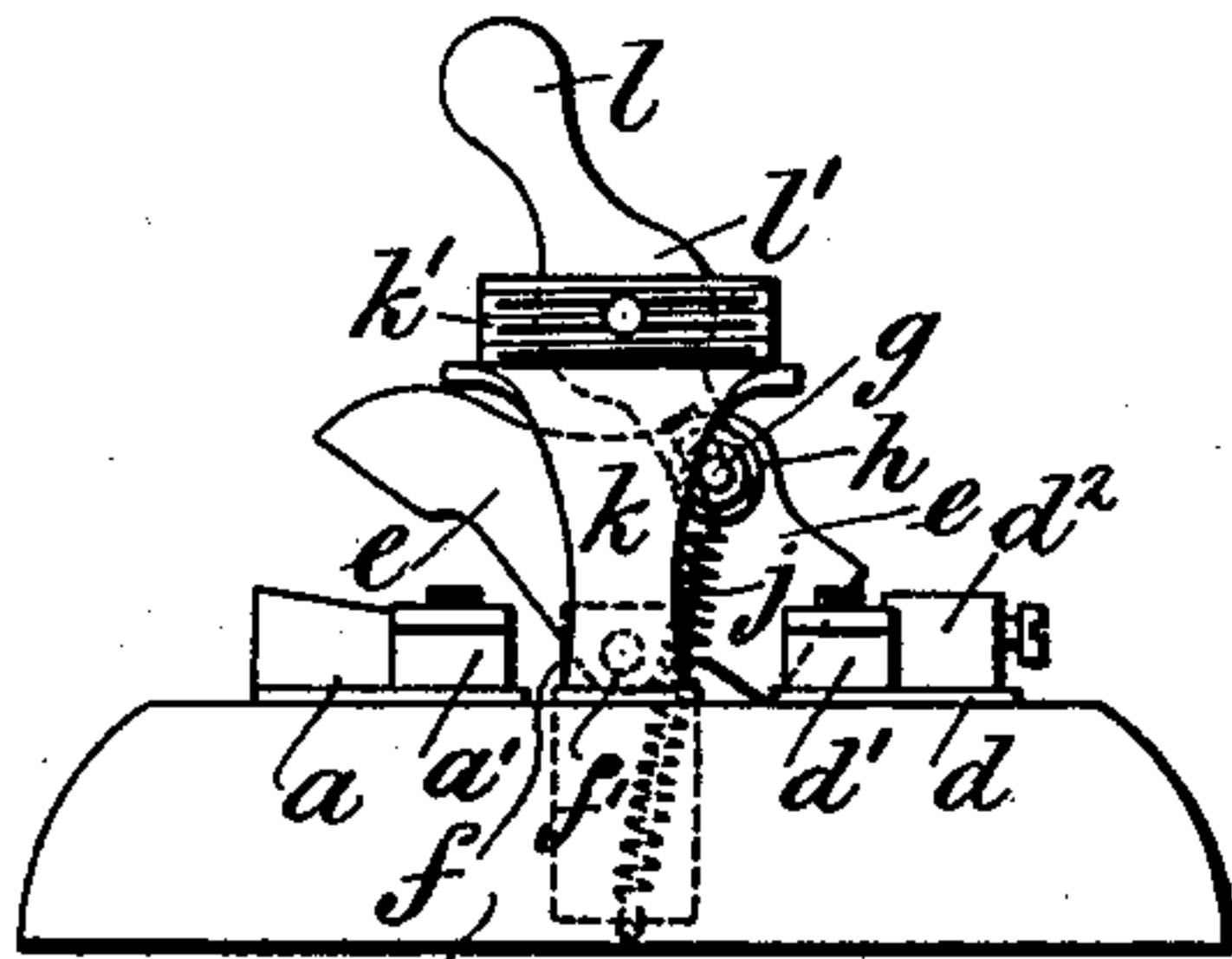


Fig. 2.

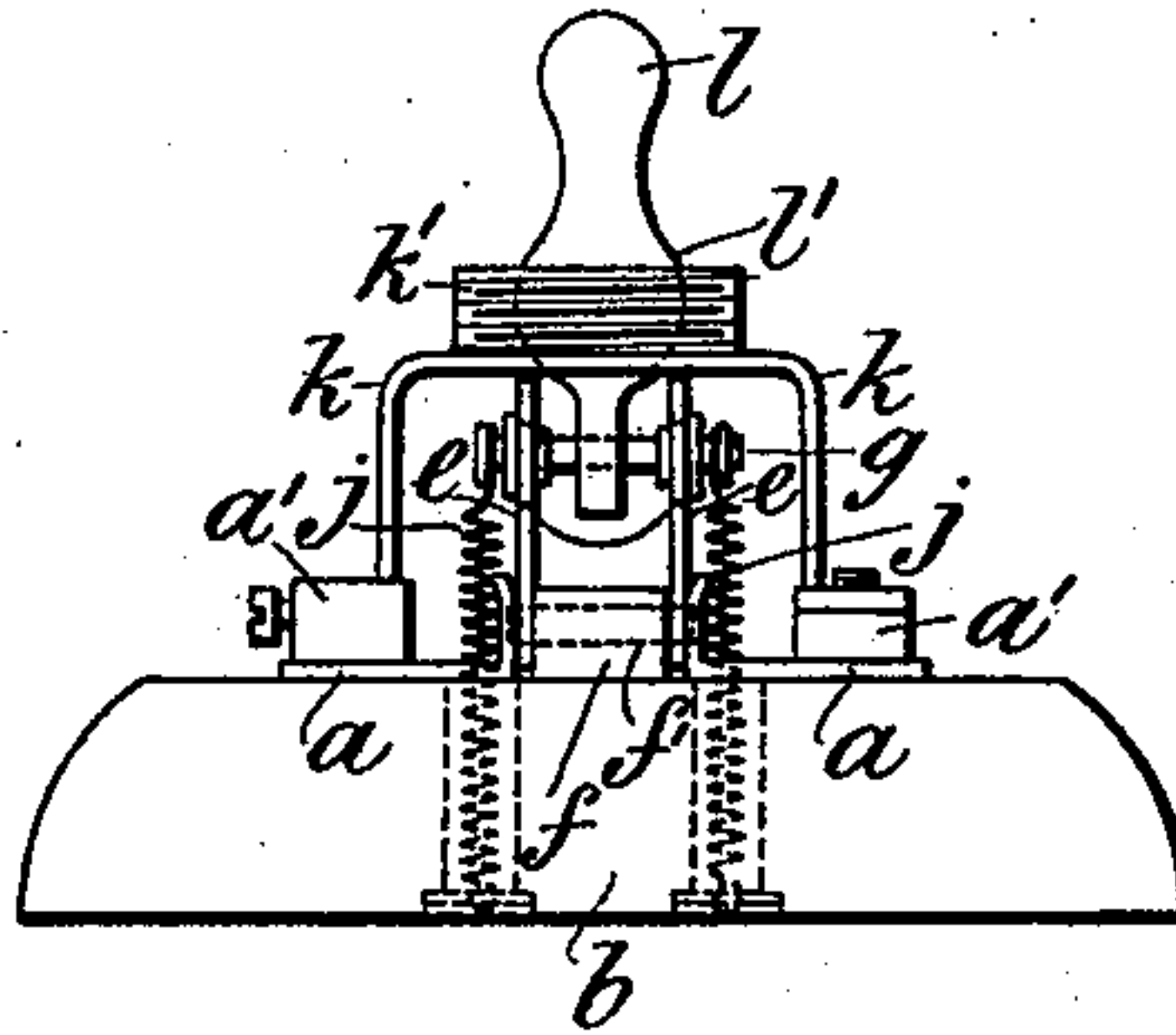


Fig. 3.

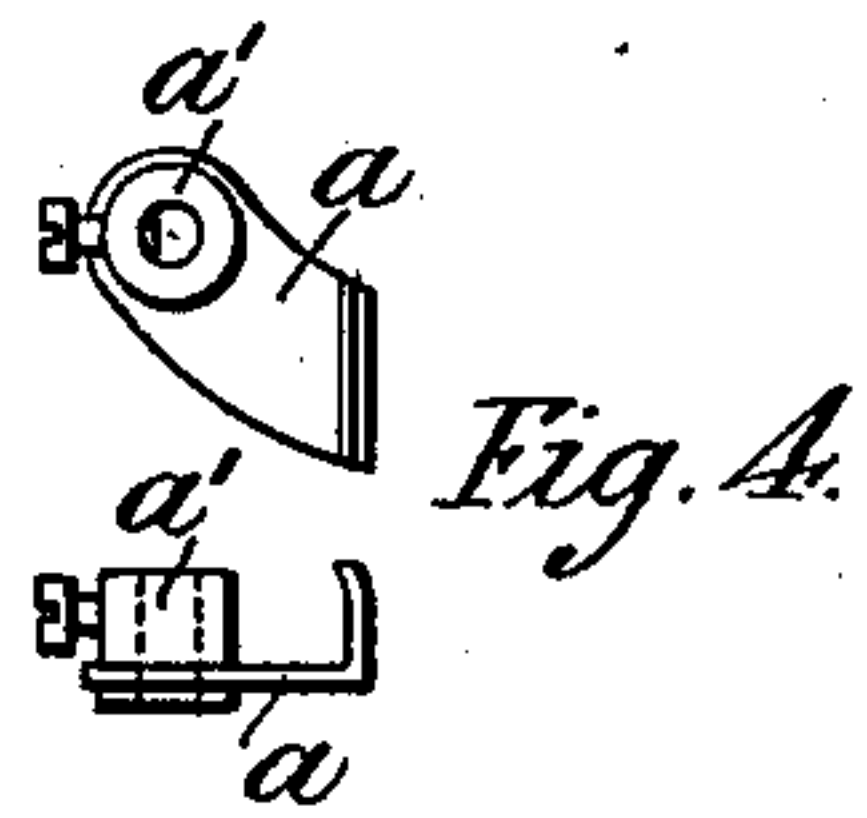
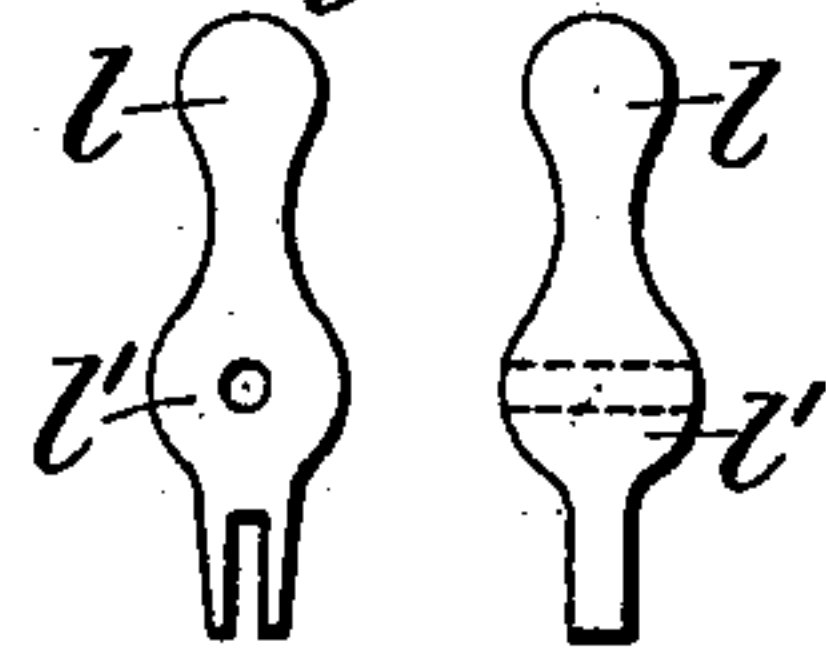


Fig. 5.

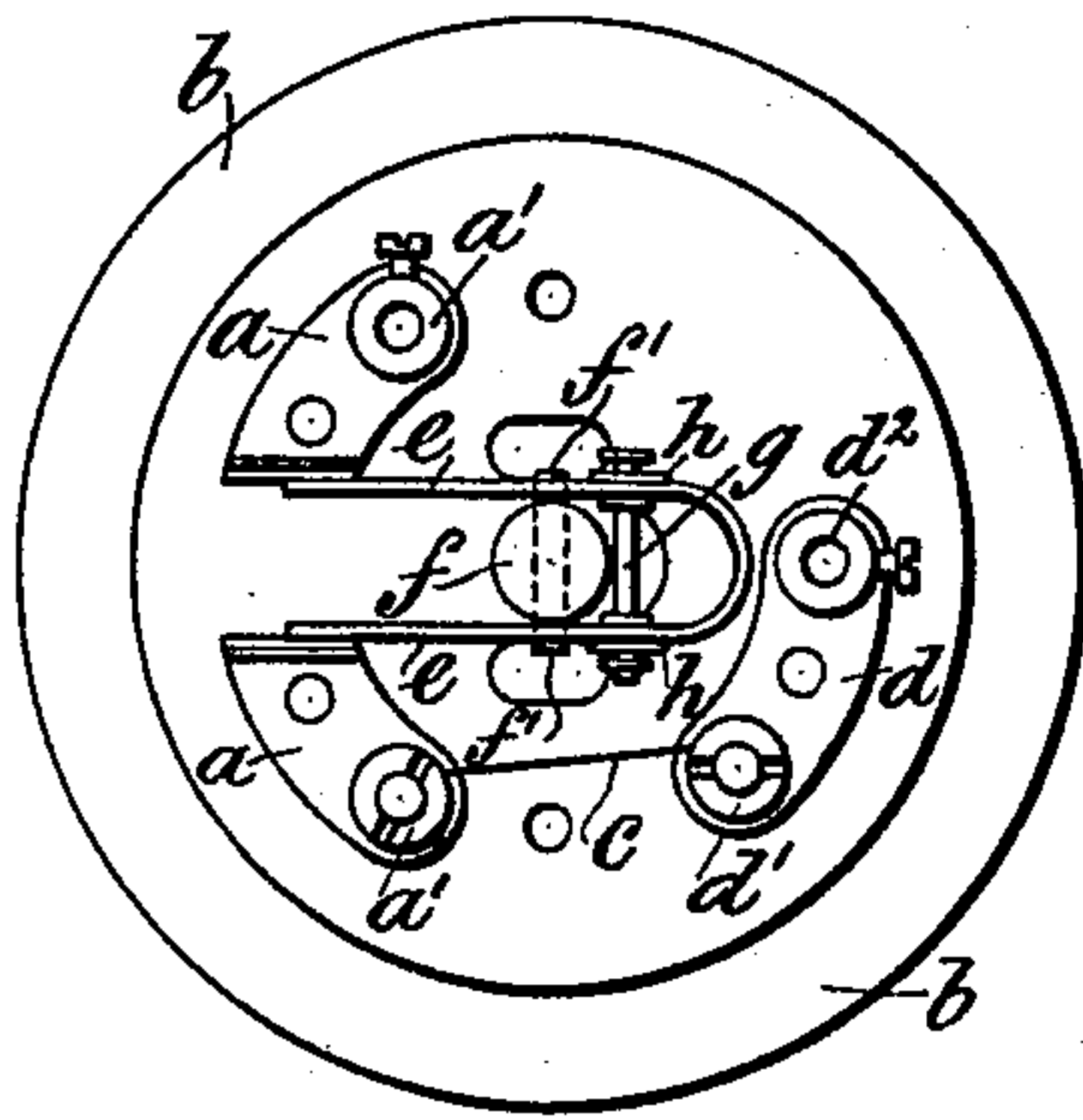
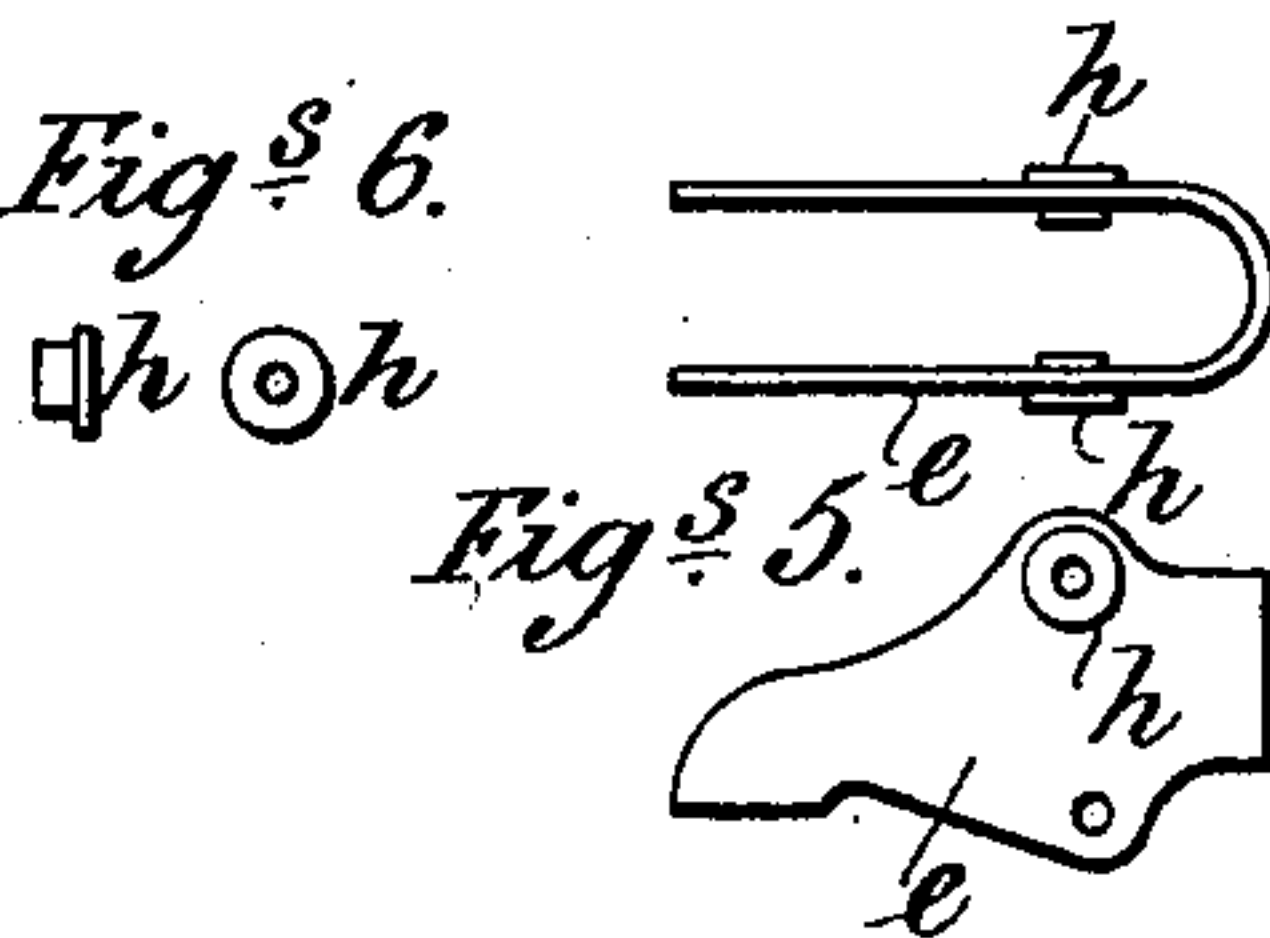


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALFRED CHARLES BROCKIES, OF LONDON, ENGLAND.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 594,227, dated November 23, 1897.

Application filed June 7, 1897. Serial No. 639,710. (No model.)

To all whom it may concern:

Be it known that I, ALFRED CHARLES BROCKIES, a subject of the Queen of Great Britain, residing at 67 Fenwick Road, East Dulwich, London, in the county of Surrey, England, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

The object of this invention is mainly to simplify and improve the construction of what are known as "tumbler-switches," but it is also applicable to other forms of rocking switches.

Figure 1 is a side elevation, Fig. 2 a front elevation, and Fig. 3 a plan, of a tumbler-switch made according to this invention. In these figures the usual hemispherical cover is omitted, and in Fig. 3 also the bridge-piece and switch-handle. Fig. 4 is a plan and front elevation of one of the fixed contacts *a*. Fig. 5 is a plan and side elevation of the movable contact *e*. Fig. 6 is a front and side elevation of one of the sleeves *h*. Fig. 7 is a side and front elevation of the lever *l*.

The fixed contacts are of ordinary construction, and consist of two plates *a*, fixed to the base-plate *b*, of non-conducting material and bent up at right angles to it. Each of these plates is provided with a binding-screw *a'*, one of the circuit-wires being held by one and one end of a fuse-wire *c* by the other. The other end of the fuse is held by a screw *d'* on a third plate *d*, fixed to the base *b*, and also provided with another screw *d''* for the other circuit-wire. The movable contacts are the ends of a U-shaped plate *e*, one end of this plate being pivoted on each side close down onto the base-plate. This edge is cut away on each side of the pivots, so that the plate can rock through a considerable angle. The pivots consist of pins *f'*, projecting from the sides of a bolt or screw *f*, fixed to the base *b*. The sides of the other edge of the plate are connected by a spindle *g*, insulated from it by two vulcanite sleeves *h* and parallel to the pivots, the ends of this spindle being connected to the base-plate *b* by helical springs *j*, which tend to pull either the contact ends of the U or its bend toward the base-plate, according to the side to which it is rocked from its central position. By this means the

switch is firmly held in its closed or open position, as the case may be.

Fixed to the base are the ends of a plate *k*, bent to form a bridge-piece and carrying a socket for the ball *l'* upon the switch handle or lever *l*. This lever passes through a hole in the socket and bridge-piece, its end being forked to embrace the spindle. The outside of the socket has a screw-thread *k'* upon it for the attachment of the cover.

What I claim is—

1. The combination of a base, a pair of contacts fixed to the base, a contact pivoted to the base consisting of a U-shaped conducting-plate the sides of whose free ends respectively engage the contact-faces of the fixed contacts, and a tensional spring having one end fixed to the base, and the other end to the pivoted contact, the positions of the points of attachment being such that when the pivoted contact is moved from one extreme position to the other, the spring crosses from one side to the other of the pivot.

2. The combination of a base, a pair of contacts fixed to the base, a contact pivoted to the base consisting of a U-shaped conducting-plate the sides of whose free ends respectively engage the contact-faces of the fixed contacts, means tending to keep the pivoted contact in one or other of its extreme positions, a pin carried by the pivoted contact and insulated from it, and a forked lever embracing the pin.

3. The combination of a base, a pair of contacts fixed to the base, a contact pivoted to the base consisting of a U-shaped conducting-plate the sides of whose free ends respectively engage the contact-faces of the fixed contacts, a tensional spring having one end fixed to the base, and the other end to the pivoted contact, the positions of the points of attachment being such that when the pivoted contact is moved from one extreme position to the other, the spring crosses from one side to the other of the pivot, a pin carried by the pivoted contact and insulated from it, and a forked lever embracing the pin.

4. The combination of the base, a pair of contacts fixed thereto, a U-shaped contact-piece pivoted at or near its lower edges to the base and the sides of whose free ends are respectively adapted to engage the faces of the

fixed contacts, a pin insulated from and connecting the sides of the U-shaped piece near their upper edges, a pivoted forked lever embracing the pin, and a tensional spring whose
5 ends are respectively connected to the base and pivoted contact-piece, the points of connection being such that when the pivoted contact-piece is moved from one extreme position to the other the spring crosses from one
10 side to the other of the pivot of said piece.

5. The combination of the base, a pair of contacts fixed thereto, a U-shaped contact-piece pivoted at or near its lower edges on lugs or pins carried by a screw-bolt seated in
15 the base and the sides of whose free ends are respectively adapted to engage the faces of the fixed contacts, a pin insulated from and connecting the sides of the U-shaped piece near their upper edges, a pivoted forked lever embracing the pin, and a tensional spring
20 whose ends are respectively connected to the base and pivoted contact-piece, the points of connection being such that when the pivoted contact-piece is moved from one extreme po-

sition to the other the spring crosses from one 25 side to the other of the pivot of said piece.

6. The combination of the base, a pair of contacts fixed thereto, a U-shaped contact-piece pivoted at or near its lower edges to the 30 base and the sides of whose free ends are respectively adapted to engage the faces of the fixed contacts, a pin insulated from and connecting the sides of the U-shaped piece near their upper edges, a lever operatively connected with and insulated from the pivoted 35 U-shaped piece, a bridge-piece in which said lever is pivotally mounted, and a tensional spring whose ends are respectively connected to the base and pivoted contact-piece, the points of connection being such that when 40 the pivoted contact is moved from one extreme position to the other the spring crosses from one side to the other of the pivot of said piece.

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Witnesses:

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