

A. W. CLAUDER.
ELECTRIC LAMP KEY SOCKET.
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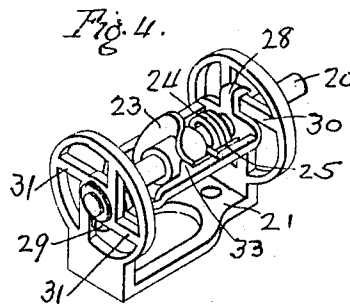
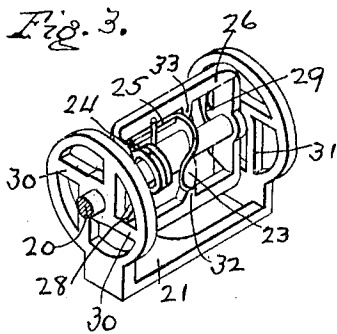
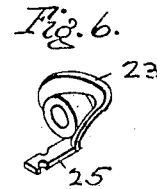
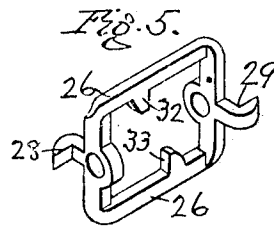
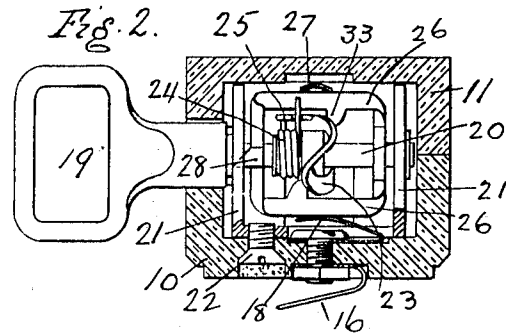
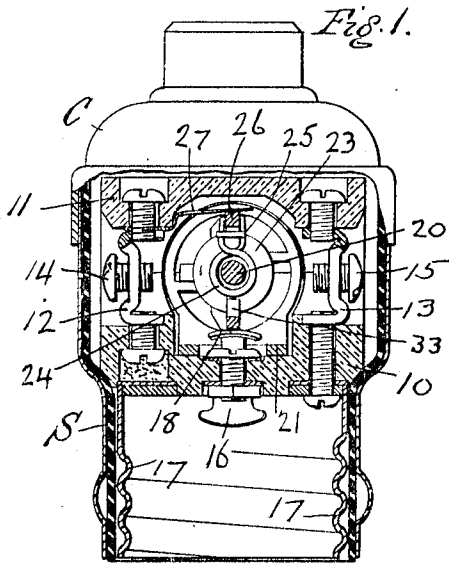
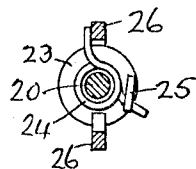


Fig. 7.



WITNESSES:

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ARTHUR W. CLAUDER, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE BRYANT ELECTRIC COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

ELECTRIC-LAMP KEY-SOCKET.

1,055,137.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ARTHUR W. CLAUDER, a citizen of the United States of America, residing in the city of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Electric-Lamp Key-Sockets, of which the following is a specification.

My invention relates to key sockets for electric incandescent lamps of that class in which a rotating key is used to effect both a quick make and a quick break of the circuit, and the main object of my invention is to construct such a key socket with a more positive action than heretofore with a switch movable in either direction.

In the accompanying drawing, Figure 1 is a vertical section of a key socket embodying my invention; Fig. 2 is a vertical section through the insulating body, at right angles to the section, Fig. 1, the cap, outer shell and screw shell being omitted; Fig. 3 is a perspective view of the switch devices; Fig. 4 is a similar perspective view of the same devices, but from the opposite end, and with the rotary switch piece in another position; Fig. 5 is a perspective view of the rotary switch piece detached; Fig. 6 is a perspective view of the cam detached; Fig. 7 is a sectional view, illustrating the operation of the switch.

The electric lamp socket may have any suitable form of insulating body carrying wire terminals and lamp terminals, and adapted to be inclosed within the usual lined metal shell S and cap C. In the drawing I have shown the supporting body as composed of two porcelain or other insulating blocks 10 and 11, mechanically united by metal standards 12 and 13, which at the same time constitute the wire terminals, being provided with binding screws 14, 15, Fig. 1. The lower block 10 carries upon its lower face the lamp-receiving terminals, shown as consisting of the usual central spring contact 16 and screw shell 17. The metal terminal standard 13 is in electrical communication with the screw shell 17. The central lamp contact 16 is in electrical connection with a spring contact 18 in the bottom of a large central switch chamber which is formed by recesses in the juxtaposed insulating blocks 10, 11. The key-spindle 20, having the usual key-handle 19, is mounted in bearings in the end pieces of a frame 21,

which may be secured in place in the switch chamber by a screw 22, Fig. 2, from the underside of the lower insulating block 10.

Mounted upon the spindle, so as to turn thereon, is a rotary metal switch piece 26 in the shape of an open rectangular frame, such that when it stands in a vertical plane, Fig. 1, it closes the circuit between the interior contact 18 and a spring contact 27, Fig. 1, projecting from the upper part of the line-wire terminal standard 12. By turning the switch piece 26 away from this position the circuit will be broken at two points, that is, at 18 and 27. I provide means whereby this rotary switch piece may be locked either in the on or off position, but when desired may be thrown with a quick movement to break or make the circuit, as the case may be, and this may be done by rotation of the key spindle in either direction. This spindle 20 has fixedly secured to it a cam 23, and there is coiled around the spindle a helical spring 24, whose crossed ends embrace the opposite sides of an arm 25, which is carried by the spindle and in this instance is shown as a projection from the cam piece 23, Fig. 6. The crossed ends of the spring 24 also embrace an adjacent arm of the switch piece 26, Figs. 1, 2, 3 and 4. This switch piece carries two latches 28 and 29 at opposite ends of the switch piece to cooperate with sets of fixed stops 30 and 31, which are formed in the end walls of the stationary frame 21. There are four stops 30 and four stops 31, and they are in such relation to the corresponding latches 28 and 29, that the latch and stops at one end of the rotary switch 26 are adapted to temporarily lock the switch against rotation in one direction, and those at the other end of the switch to lock it against rotation in the other direction and either in the on or the off position of the switch piece. The switch piece can be slid lengthwise upon the spindle 20 to a sufficient extent to release the latch 28 or 29, as the case may be, from engagement with its stop 30 or 31. To effect its release of the lock, the switch piece is provided with two projections 32, 33, and adapted to be acted upon by the cam piece 23 fixed to the spindle 20.

Assuming the switch piece 26 to be in the vertical position shown in Figs. 1 and 2, the circuit will be closed from wire terminal 12, spring contact 27, switch piece 26, contacts

18, 16, lamp, screw shell 17 and wire terminal 13. At the same time, the switch piece 26 will be so acted on by the cam 23 as to be held about in its mid position, Fig. 2, lengthwise of the spindle with the two latches 28 and 29 projecting into engagement with their respective stops 31 and 32. If then the spindle 20 be turned by the key handle either to the right or to the left, the effect will be to tension the spring 24, by the arm 25 moving one of the legs of the spring over, as indicated in Fig. 7, while the other leg is held by the arm of the switch piece 26, which is meantime held locked until the cam 23 has moved the switch piece endwise along the shaft sufficiently to free the detaining latch (28 or 29) from engagement with that stop (30 or 31) which has held it. Then the tensioned spring 24 will throw the switch piece around a quarter turn with a snap, and the cam 23 will during that quarter turn, move the switch piece endwise again to positively throw the latch (28 or 29) into engagement with the next stop of the set (30 or 31). A like action will take place in turning the switch to close the circuit again, with a quick snap, and as will be seen, this can be accomplished by turning the key spindle in either direction. If by reason of the weakness of the spring 24, or for other cause, the rotary switch should be held from turning by the friction of the contacts 18 and 27 after being released from the stop 30 or 31, the arm 25, carried by the spindle, will ultimately come up against the arm 33 of the switch piece 26 and impart a positive motion to the latter.

While the primary object of my invention has been to construct a key socket with a positively locking and unlocking key mechanism revoluble in either direction with quick make and quick break, the snap switch which I have thus invented capable of being practically employed within the limited confines of a lamp socket, can be employed in other mechanisms.

I claim as my invention,

1. A switch comprising an insulating body, a rotary key spindle, a switch piece, fixed stops to temporarily lock the latter from rotating in either direction, a spring to actuate the switch piece, means to tension the spring and means to release the locked switch piece on the rotation of the spindle in either direction, and to positively cause the switch piece to be then locked by another stop.

2. A switch comprising an insulating body, a rotary key spindle, a switch piece, two contacts cooperating therewith for a double break, fixed stops for temporarily locking the switch piece from rotating in either direction, a spring to actuate the switch piece, means to tension the spring and cam means to release the locked switch piece on the rotation of the spindle in either

direction, and to positively cause the switch piece to be then locked by another stop.

3. A switch comprising an insulating body, a rotary key spindle, a rotary switch piece to turn upon said spindle, two contacts cooperating with the switch piece for a double break, fixed stops for temporarily locking the switch piece from rotating in either direction, a spring to actuate the switch piece, means to tension the spring and cam means to release the locked switch piece on the rotation of the spindle in either direction, and to positively cause the switch piece to be then locked by another stop.

4. A switch comprising an insulating body, a rotary key spindle, a rotary switch piece to turn upon said spindle, contacts cooperating with the switch for a double break, two sets of fixed locking stops for the switch piece to lock the latter from rotation in either direction, a spring to actuate the switch piece, means to tension the spring and cam means to release the locked switch on the rotation of the spindle in either direction, and to positively cause the switch piece to be then locked by another stop.

5. A switch comprising an insulating body, a rotary key spindle, a rotary switch piece to turn upon said spindle and to move lengthwise thereon, contacts cooperating with the switch piece, two sets of stops to lock the switch piece from rotation in either direction, a spring to actuate the switch piece, means to tension the spring and a cam to move the switch piece lengthwise to release the latter upon rotation of the spindle in either direction.

6. A switch comprising an insulating body, a rotary key spindle, a rotary switch piece to turn on the spindle, contacts cooperating with the switch piece, a fixed frame with end pieces in which the key spindle may turn, two sets of stops on the frame to lock the switch piece from rotation in either direction, a spring to actuate the switch piece, means to tension the spring and a cam to release the switch piece upon rotation of the spindle in either direction.

7. A switch comprising an insulating body, a rotary key spindle, a rotary switch piece, contacts cooperating with the switch piece, stops to lock the latter from rotation in either direction, a spring to actuate the switch piece, means to tension the spring, a cam to release the switch piece upon rotation of the spindle in either direction, the spindle also having an arm to contact with the switch piece, should the latter fail to move when released.

8. A key socket for electric lamps, comprising an insulating body with line terminals and lamp terminals, a rotary key spindle, a rotary switch piece, fixed stops to temporarily lock the latter from rotation in

either direction, a spring to actuate the switch piece, means to tension the spring and cam means to release the locked switch on rotation of the spindle in either direction
5 and to positively cause the switch piece to be then locked by another stop.

9. A key socket for electric lamps, comprising an insulating body with line terminals and lamp terminals, a rotary key spindle, a rotary switch piece to turn on said
10 spindle and to move lengthwise thereon, contacts cooperating with the switch piece, two sets of stops to lock the switch piece from rotation in either direction, a spring to

actuate the switch piece, means to tension 15 the spring and cam means to move the switch piece lengthwise to release the latter from rotation of the spindle in either direction and to positively cause the switch piece to be then locked by another stop. 20

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

ARTHUR W. CLAUDER.

Witnesses:

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GEORGE B. THOMAS.