

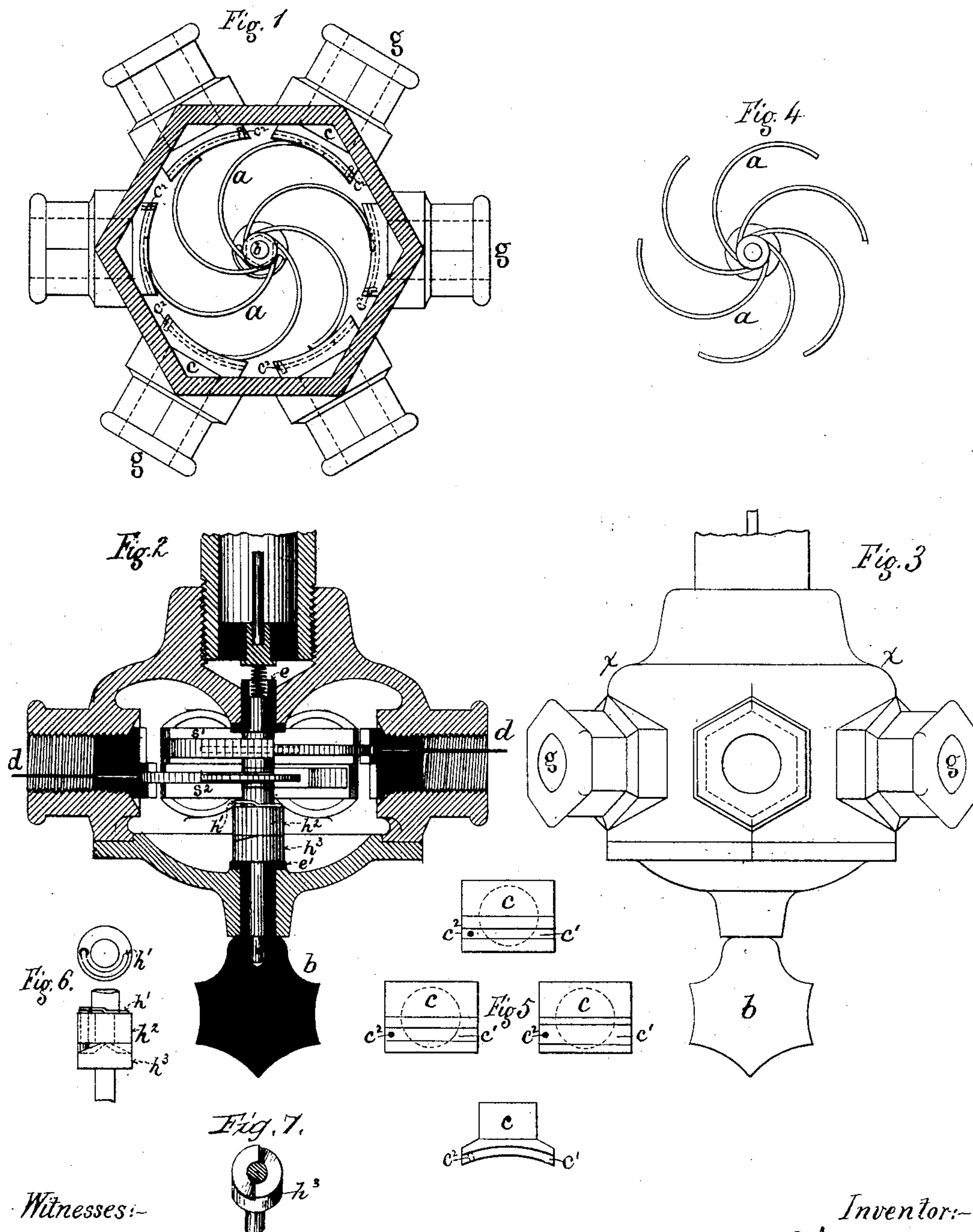
(No Model.)

C. G. PERKINS.

SWITCH FOR INCANDESCENT ELECTRIC LAMPS.

No. 274,653.

Patented Mar. 27, 1883.



Witnesses:-

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SWITCH FOR INCANDESCENT ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 274,653, dated March 27, 1883.

Application filed May 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. PERKINS, of the city of Camden, in the county of Camden and State of New Jersey, have invented a new and useful Improvement in Switches for Incandescent Lamps, of which the following is a full, clear, concise, and exact description, such as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings.

Figure 1 is a plan view taken at the line xx , Fig. 3, illustrating the construction of the mechanism of my improved switch, particularly the operative position of the contact-springs $a a$ and the grooves in $c c$, in which contact with the burners is made. Fig. 2 is a sectional elevation of Fig. 3, showing the internal mechanism complete and the handle for operating the same. Fig. 4 is an isolated view of the revolving contact-springs. Fig. 5 represents the contact-blocks referred to in Fig. 1, showing the grooves into which the revolving contact-springs glide when the lamps are put in circuit. Fig. 6 shows a view of a safety-spring arrangement to permit of the switch-handle revolving the contact mechanism in one direction only. Fig. 7 is a perspective view of the notched or ratched part h^3 , showing the shoulder which meets the spring h' when it is required to revolve the switch mechanism.

The object of this improvement is to provide a suitable switch for operating a number of electric burners upon an electrolier, and the mechanism for this purpose is so constructed that from one to six burners may be turned on or off, as desired.

In the drawings accompanying this specification I have shown a switch to operate from one to six burners; but I do not wish to be confined to this limit, my switch being susceptible of being so constructed as to control any number of burners upon a chandelier or otherwise.

In Fig. 1, $a a$ represent six curved metallic contact-springs, which are revolved by the switch-handle b , Fig. 2.

In Figs. 1 and 5, $c c$ are insulating blocks or rests, having grooves therein, $c' c'$, and stop-pins $c^2 c^2$, over which the contact-springs $a a$ ride, so that the latter may snap quickly onto

the contact-plate $c' c'$ when $a a$ are turned to put the lamp or lamps in circuit. Fixed at the base of these grooves are metallic strips, and in electrical contact therewith are the wires $d d$, Fig. 2.

The metallic contact-springs $a a$ are arranged in two series of three each, as shown at $s' s^2$, Fig. 2, and they, together with the grooves $c' c'$, into which they glide, are so constructed as to gradually vary in width, $a a$ also varying in length, so that when it is required to put only one lamp in circuit the broadest contact-spring will pass over two grooves in each series of three and will only fit into its own. By this arrangement, when the handle b is turned in the proper direction, one, two, or three burners in each series may be put in circuit.

Assuming that the two series of contact-springs are in circuit, if, now, the handle b is turned from right to left, the broadest spring will in each series snap off the contact base-strip $c' c'$, thereby putting one lamp in each series out of circuit. Continuing the action of turning b , the next contact-spring snaps into the groove left vacant by the first spring. Continuing the action still further, the third spring snaps into the first groove vacated by the first and second springs. It will thus be seen that one of the contact-springs $a a$ will fit any of the three grooves $c' c' c'$, one will fit two, and one will fit its own groove only. This arrangement may be varied, so that only one lamp at the time need to be put in circuit, by suitably varying the length of the springs $c' c' c'$; or all the lamps upon the electrolier may be put in circuit at the same time, if desired.

On referring to Fig. 2 it will be seen that b is insulated at $e e$ from the body of the inclosing switch-box. The shaft of b forms one pole of the circuit, and the revolving contact-springs c' are fixed thereon so as to be in electrical contact therewith.

$h' h^2$ is an arrangement for allowing the handle b to revolve the contact-springs c' in one direction only.

H is a spring, as shown in Fig. 6, which passes down through h^2 to h^3 . If the handle b is turned in the wrong direction, the spring-pin i glides over a graduated notch, as shown at h^3 , Fig. 6, and the contact-springs are thereby prevented from being injured. When the handle b is turned in the direction for putting

the lamps in circuit, the spring-pin *i* meets the straight-cut side of the notch referred to, against which it presses, taking the contact mechanism round, as described.

5 *g g* are places either for the lamps or electroluer branches, the entrance thereto being insulated, as seen in Fig 2.

d d are in electrical contact with one pole of the lamp, the other pole being connected in
10 any convenient manner.

e in Fig. 2 is a metallic spring, the object of which is to act as an electric contact or connecting medium for one of the conductors of the circuit, as seen at *e'*, so that this conductor is
15 not disturbed, no matter in which direction *b* may be turned. It has also a further object, which is to exercise a sufficient pressure upon the shaft to keep the same in its place for properly operating the contact mechanism.

20 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a switch for incandescent lamps, the combination of the top spiral spring at *e*, resting upon and in electrical contact with the
25 shaft, the thumb-piece *b*, and safety device consisting of the spring *h'*, collar *h*², and notched or ratched barrel *h*³, substantially as described.

2. In a switch for incandescent lamps, the
30 combination of the contact-making springs *a*

a, varying in width and fixed to and in electrical contact with the shaft, and operated by the thumb-piece *b*, the grooved contact-strips in *c c*, the grooves varying in width to suit the
35 varying width of the contact-springs, said grooves having the stop-pins *c*² *c*² and wire connections *d d*, substantially as shown and described.

3. In a switch for incandescent lamps, the combination of the contact-making springs *a*
40 *a*, varying in width, the grooved contact-strips in *c c*, having the stop-pins *c*² *c*² and wire connections *d d*, said grooves varying in width to suit the varying width of the springs *a a*, the safety device consisting of the spring *h'*, col-
45 lar *h*², and notched or ratched barrel *h*³, thumb-piece *b*, and spiral spring at *e*, substantially as shown and described.

4. In a switch for incandescent lamps, the combination of the inclosing switch-box, hav-
50 ing the radial sockets *g g* for the reception of the burner branches, the grooved pieces *c c*, having the contact-strips, stop-pins *c*², and wire connections *d d*, substantially as described and shown.

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