(No Model.)

G. C. BAILLARD.

INCANDESCENT ELECTRIC LAMP.

No. 472,801. Patented Apr. 12, 1892.

Fig. 1.

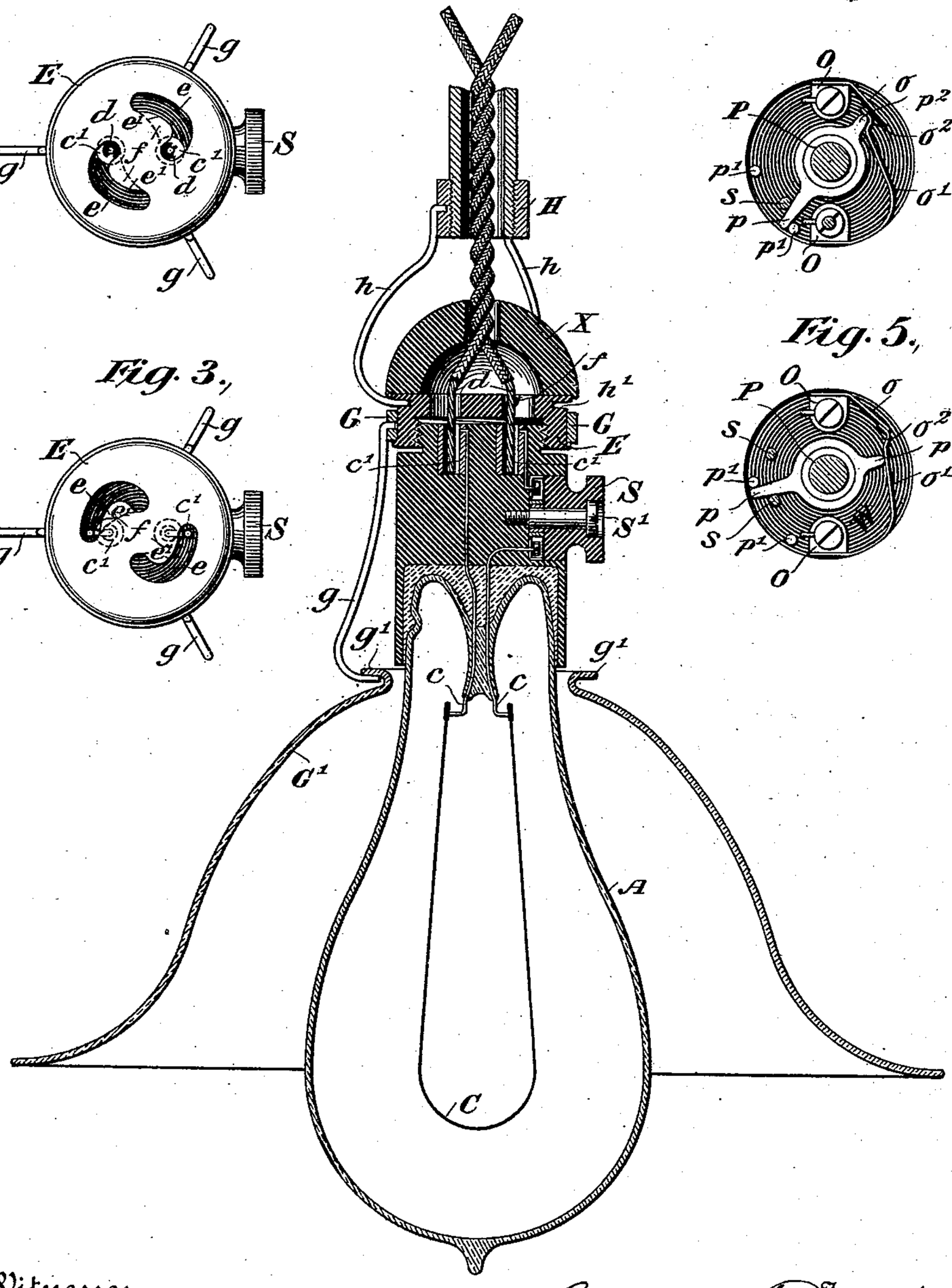

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses

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GEORGE C. BAILLARD, OF NEW YORK, N. Y.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 472,801, dated April 12, 1892.

Application filed September 22, 1891. Serial No. 406,440. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. BAILLARD, a citizen of the United States, residing in New York city, State of New York, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification.

My invention relates more especially to an electric lamp in which the ordinary lamp-socket is dispensed with, the connections between the terminals of the incandescing filament and circuit-wires being made upon the base of the lamp, upon which the key for cutting the lamp in and out of circuit is mounted. I prefer that the arrangement should be such that both of the circuit-wires may readily be simultaneously coupled or connected with the filament-terminals in a manner to give a good and permanent electrical connection and disconnected therefrom with equal facility.

The invention further relates to an improved construction of lamp-key, as hereinafter set forth in detail.

In the accompanying drawings, Figure 1 is a longitudinal central section showing my improved lamp, as well as the manner of supporting the shade and attaching the lamp to the fixture. Fig. 2 is a plan view on the line 2 2, showing a means whereby the circuit-wire terminals may be coupled with the terminals of the filament. Fig. 3 is a similar view, the ends of the circuit-wire being indicated therein. Figs. 4 and 5 are detail views of the key-switch and contacts, with the operating-key or thumb-piece removed.

The sealed glass-bulb A is secured in the ordinary manner in a depression or socket in a base B of any suitable insulating material.

C indicates the carbon or other filament, the terminal wires *c* of which are carried through the sealed bulb and each electrically connected with a tubular terminal *c'*, embedded in the face of the base B. The base is screw-threaded upon the exterior, and is adapted to receive a correspondingly-threaded cap E, having therein two curved slots *e*, the inner projecting wall *e'* of which cover the tubular terminals *c'* when the cap is screwed down. The cap being screwed down, a reverse partial turn exposes the tubular terminals *c'*, they then being seen, as in Fig. 2, at or near the ends of the curved slots. If not, the ends *d* of the circuit-wires are each inserted in one of the tubular terminals and the cap or clamping device E is again screwed up. The projecting interior walls of the slots moving across the openings of the terminals come against and press the terminal wires laterally, clamping them against the sides or edges of the tubular terminals and between the under face of the cap and the base, as in Fig. 3. To facilitate this operation, the under faces of the projections *e'* are beveled, as indicated at *f*, Fig. 1, and also in Figs. 2 and 3 by the dotted lines. The cap being screwed down tightly, the wires are firmly clamped in and against the tubular terminals and are at the same time securely held away from each other, and being protected by the cap or clamping device there is no danger of their being short-circuited by the accidental contact of a tool or wire.

In Fig. 1 the terminal wires *d* are shown as passing down straight through the slots in the cap into the tubular terminals, the turn or screwing up of the clamp not having been completed. This has been done merely for convenience of illustration.

In the drawings I have shown a loose cap X, resting upon the base of the lamp (the clamping device or cap E forming part of the base as distinguished from a socket) and through which the twisted circuit-wires are passed; but this is merely for an ornamental finish and may be dispensed with.

The key is constructed and arranged as follows: One of the wires *c*, leading to one of the filament-terminals, is broken and the ends respectively connected with metal contacts or brackets O, mounted opposite each other on the bottom of an annular recess turned or formed in the side of the base. One of the brackets carries a projecting contact-piece or finger *o*, arranged adjacent to the wall of the recess, and the other bracket carries a projecting contact-spring *o'*, the end of which overlaps the finger *o* and is bent to form a notch or depression o^2 in its inner face near its end. The direction of tension of the spring holds it away from the contact-finger and the circuit between the filament and its terminal is therefore normally open. The bracket and

finger or spring are in the construction shown struck up from one piece of sheet metal. A switch or key lever P is pivoted centrally in the recess in the base. Its longer end p plays between limiting stop-pins p' and its opposite ends p^2 work against the contact-spring o'. The switch-lever is moved in one direction or the other by pins s s projecting from the inner face of a button or thumb piece S, fitting in the recess and turning upon the same screw-bolt S′ on which the lever is pivoted. In Fig. 4 the switch or key is open and the end p^2 of the lever is engaged by the notch or depression o^2 in the contact-spring. In Fig. 5 the circuit is closed, the lever having been turned so that its end has forced the spring outwardly into contact with the finger o, in which position the parts are maintained by the pressure of the spring on the lever.

The lamp shade or reflector may be supported as follows: A ring G, of metal or other suitable material, is secured peripherally around the cap E and has depending spring-arms g (three being shown) bent or hooked at the ends to engage the flange g' of any ordinary shade G′.

To secure the lamp to a bracket or chandelier-fixture, I provide a screw-threaded collar H, adapted to screw upon the tube of the fixture through which the wires emerge and having downwardly-projecting arms or clips h (three being indicated) that snap into recesses or an annular groove h' in the cap E.

I claim as my invention—

1. An incandescent lamp having in its base tubular filament terminals, the slotted clamping plate or cap movable transversely across said terminals to cover or expose them for the insertion of the ends of the circuit-wires, whereby the ends of the wires may be clamped in the terminals by lateral strain, and a key in the side of the base, substantially as and for the purpose set forth.

2. The combination of the bulb and filament, the lamp-base in which the bulb is seated, the filament-terminals on the base, a recess in the side of the base, the contact-finger and contact-spring located in said recess and interposed in the wire connecting the filament and one of its terminals, the pivoted switch-lever operating upon said spring, and the lever-operating button seated in the recess in the side of the base.

3. In an incandescent lamp, the combination of the base having the recess in its side, the brackets O, the contact-finger, and the overlapping contact-spring arranged within the recess W, the switch-lever pivoted in the recess, and one end of which works against the contact-spring and the other between limiting-stops, the button fitting in the recess, the pins on its inner face for operating the lever, and the screw-bolt screwed into the base and on which the lever and button turn.

In testimony whereof I have hereunto subscribed my name.

GEORGE C. BAILLARD.

Witnesses:

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