

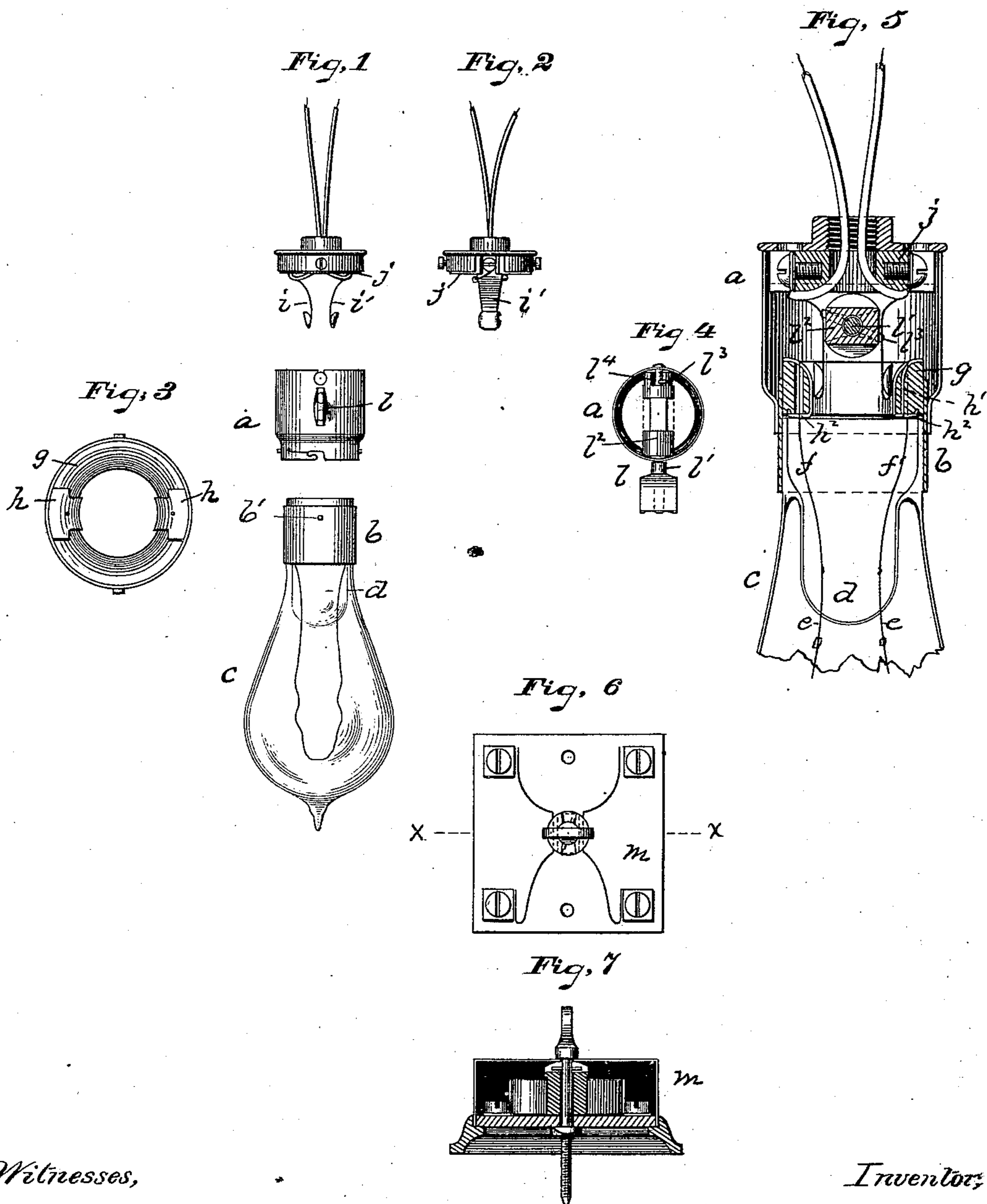
(No Model.)

J. T. VAN GESTEL.

INCANDESCENT LAMP AND CONNECTIONS.

No. 345,008.

Patented July 6, 1886.



Witnesses,

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# UNITED STATES PATENT OFFICE.

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## INCANDESCENT LAMP AND CONNECTIONS.

SPECIFICATION forming part of Letters Patent No. 345,008, dated July 6, 1886.

Application filed May 28, 1885. Serial No. 166,910. (No model.)

*To all whom it may concern:*

Be it known that I, JEAN THEODORE VAN GESTEL, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Incandescent Lamps and Connections, of which the following is a description, reference being had to the accompanying drawings, where—

Figure 1 is a side view of an incandescent lamp with the several parts separated. Fig. 2 is a side view of the cap-plate of the switch-box turned to show the binding-screw. Fig. 3 is a top view, on enlarged scale, looking into the lamp. Fig. 4 is a top view of the switch-box, showing the key. Fig. 5 is a detail view, on enlarged scale, in central section, of the upper part of the lamp. Fig. 6 is a plan view of a cut-out embodying my invention. Fig. 7 is a view in section through the cut-out on plane denoted by line  $xx$  of Fig. 6.

The object of my invention is to provide an incandescent lamp with means for support and connection to the respective poles of the main wire that shall be free from many of the objectionable features of prior devices, and it is also to provide a key having material advantages; and to this end my invention consists in a lamp bulb or globe having within the neck a ring of non-conducting material that supports the contact-plates in connection with the conductors of the lamp, and in the combination of such devices with the springs of the switch and a key bearing a loose sleeve of non-conducting material, and in details of the parts and their combination, as more particularly hereinafter described.

In the accompanying drawings, the letter  $a$  denotes the switch-box of an incandescent lamp, having a threaded opening in its cap, by means of which it is screwed onto a supporting-bracket;  $b$ , the lamp-base, which has a ferrule of metal fast to the outer side of the neck of the lamp-bulb and bears projecting pins  $b'$ , adapted to take into locking-slots in the lower edge of the switch-box and serve to support the lamp in the ordinary manner.

The letter  $c$  denotes the lamp bulb or globe, which is of usual form and material with the re-entrant base  $d$ , with the platinum leads  $e$  sealed through the glass, supporting the carbon and connected to the respective conduct-

ors  $f, f'$ , which lead upward from the lamp-bulb.

The letter  $g$  denotes a ring of non-conducting material, which is fitted closely within the neck of the bulb at its upper part, and which bears on its opposite and inner side the contact-plates  $h$ , which are preferably cut from sheet metal, with prongs or arms adapted to be thrust through vertical holes in the ring  $g$  and have their points bent or clinched over to hold the plates in place. The long arms  $h'$  turn down through holes in the ring, and are turned outward on the lower edge of the ring, while the short arms  $h''$  turn inward into a groove cut in the lower edge of the ring, the particular office of this latter construction being to provide no chance of such contact of the arms as will short-circuit the lamp. The conductors  $f, f'$  pass through holes in the substance of the ring, and are soldered to the respective contact-plates. The respective pole-pieces are formed by the spring-arms  $i, i'$ , that are fastened to the edge of the non-conducting disk  $j$ , that is fast to the under side of the cover of the switch-box and on opposite sides of it, by means of screws, that are also used as binding-screws for the ends of the main wire. The key  $l$  is pivotally supported across the center of the switch-box in such position as to lie between the spring-arms. This key is made up of the shaft  $l'$ , bearing a thumb-piece on the outside of the case for turning it, and within the case a sleeve,  $l''$ , of non-conducting material, oblong in cross-section at the part between the spring-arms, and so supported on the shaft as to have a sidewise play or rotation upon the shaft, that is limited by means of the pin  $l'''$ , that projects from the shaft into a socket,  $l''''$ , in the sleeve. By means of this construction the sleeve, when the key is turned to break connection, will be quickly thrown by the recoil of the spring as the edge of the sleeve slips along its face, so that the contact of the outer faces of the spring-arms with the contact-plates  $h$  will be quickly broken and a spark avoided. This same form of key may obviously be used in other devices with equal advantage, as in the cut-out  $m$ . (Illustrated in Figs. 6 and 7.)

One advantage of my improved construction of the means of connecting the bulb to the switch-box is due to the fact that by reason of

such construction the inner chamber formed by the re-entrant neck of the lamp is left open, preventing the extreme heating and breaking of the lamp at this point, as is common where the parts are fastened in by plaster.

Another advantage is due to the fact that the lamp-globe can be put on or taken off the switch without making contact with either pole.

The main advantage of the key is that the springs on both poles are used to make or break contact simultaneously, and a further advantage is due to the fact that the spring helps to turn the key so rapidly that the contact is broken in a manner that avoids a spark.

I claim as my invention—

1. In combination, the lamp having the re-

entrant neck, with a ring of non-conducting material supporting contact-plates connected to the filament of the lamp, the spring-arms of the respective pole-pieces, and the key supported between the spring-arms, and having the loose sleeve of oblong cross-section and limited play, all substantially as described.

2. In combination with the bulb or globe of an incandescent lamp, the non-conducting sleeve bearing the contact-plates, each having the arms thrust into the respective openings and groove of the ring, all substantially as described.

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Witnesses:

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