

(No Model.)

J. T. LISTER.
INCANDESCENT ELECTRIC LAMP.

No. 599,910.

Patented Mar. 1, 1898.

Fig. 1

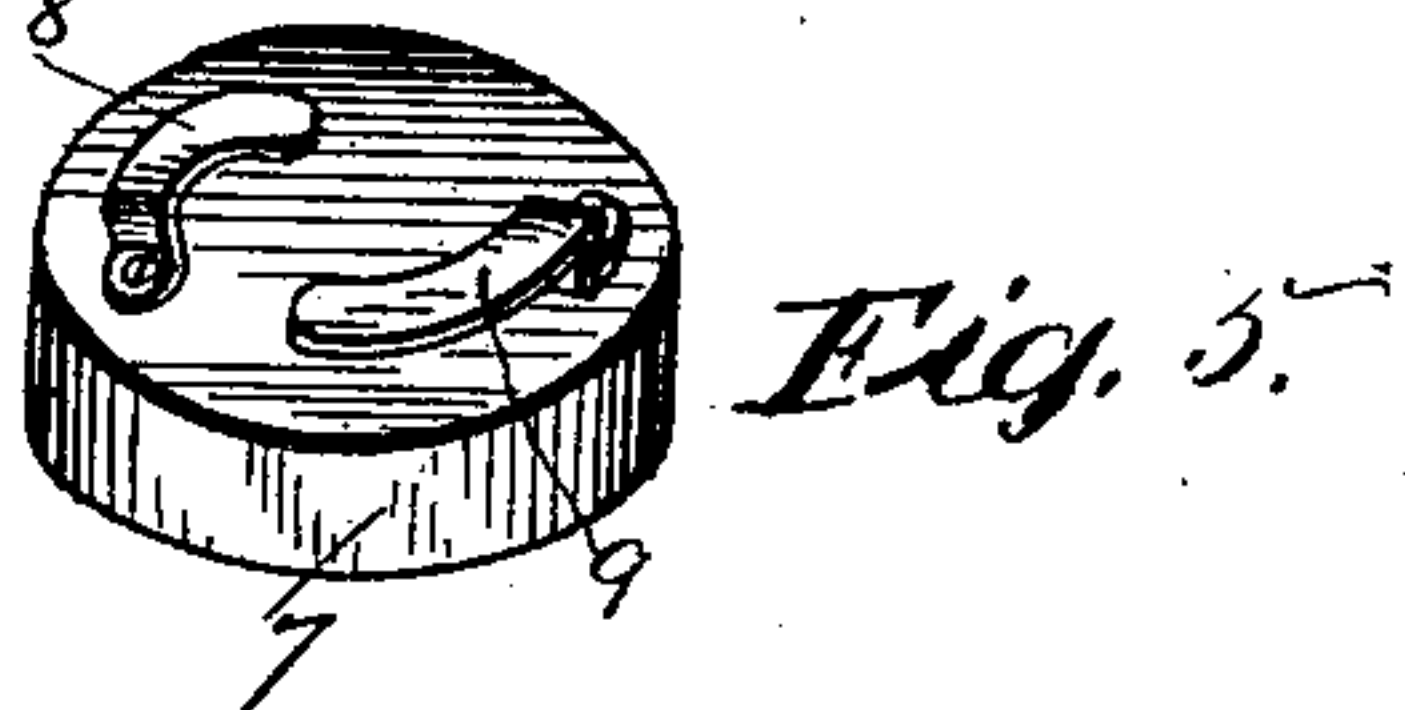
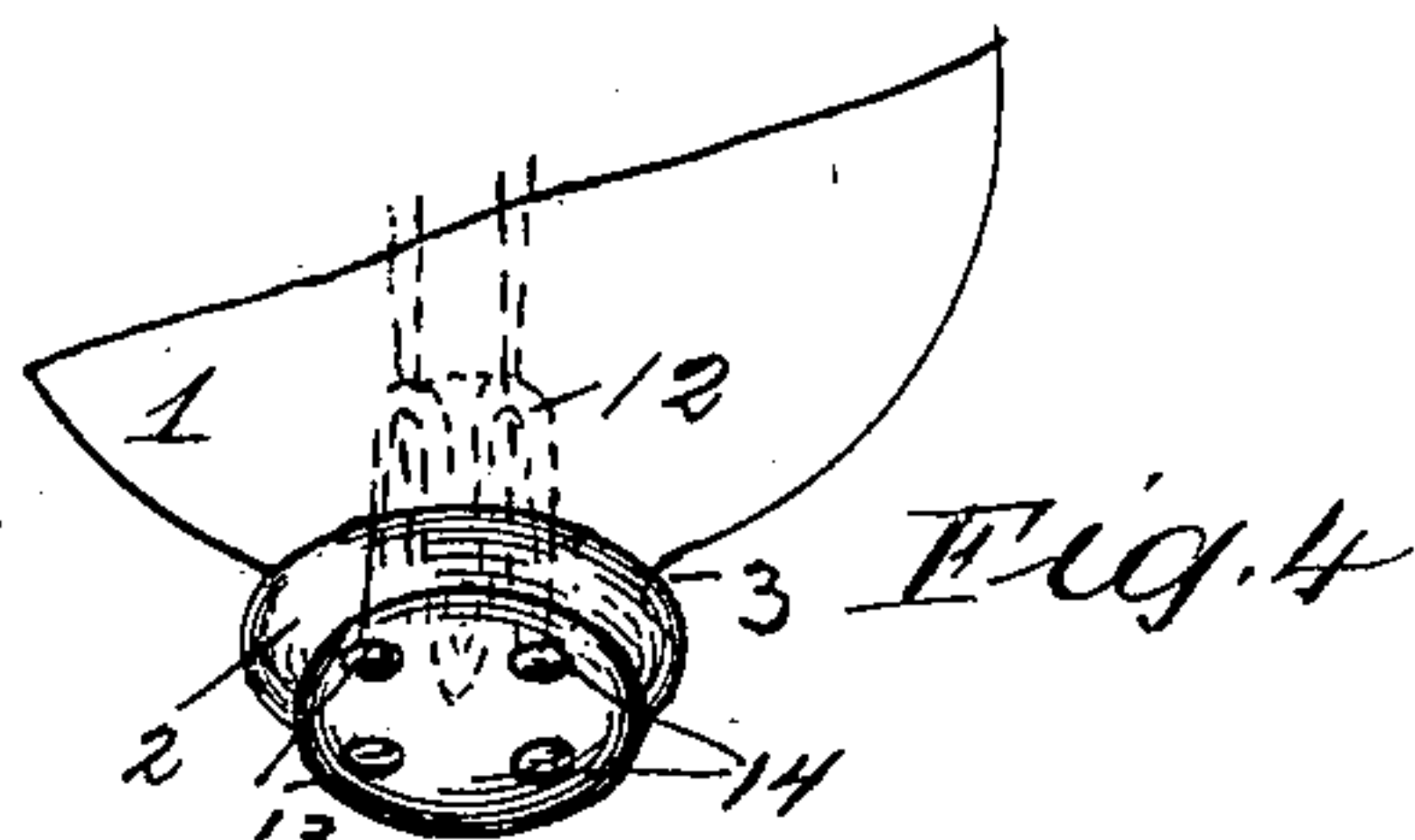
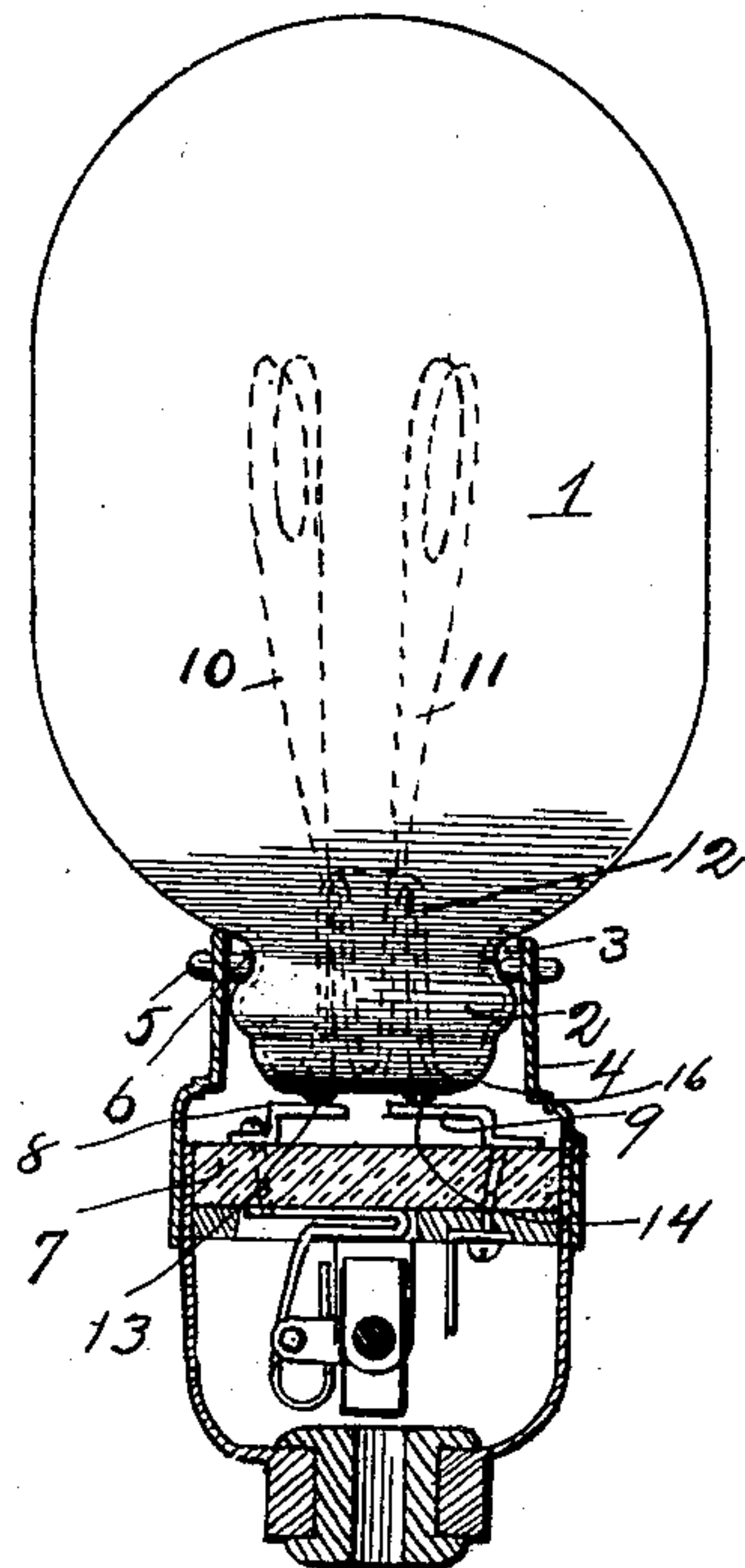
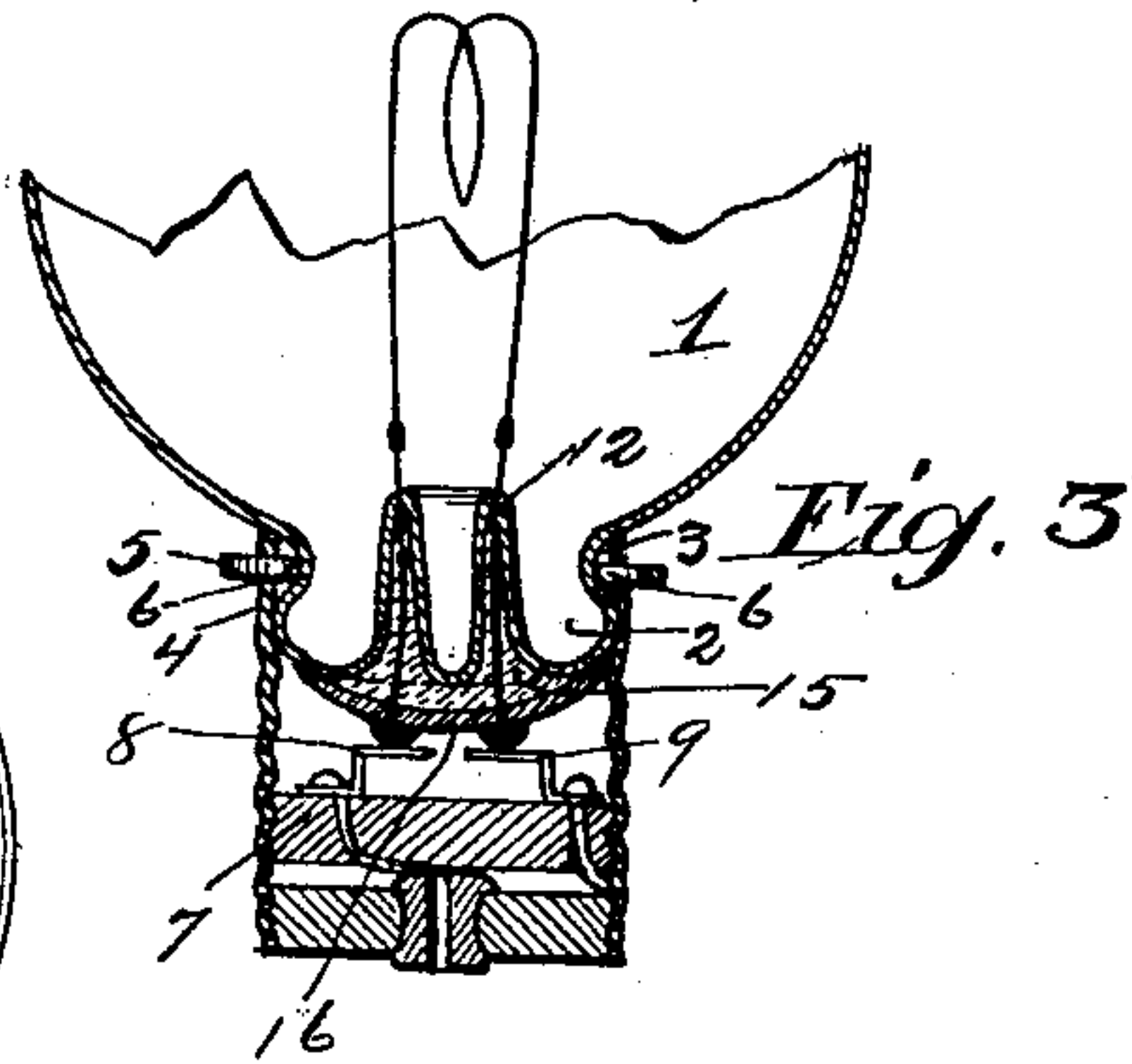
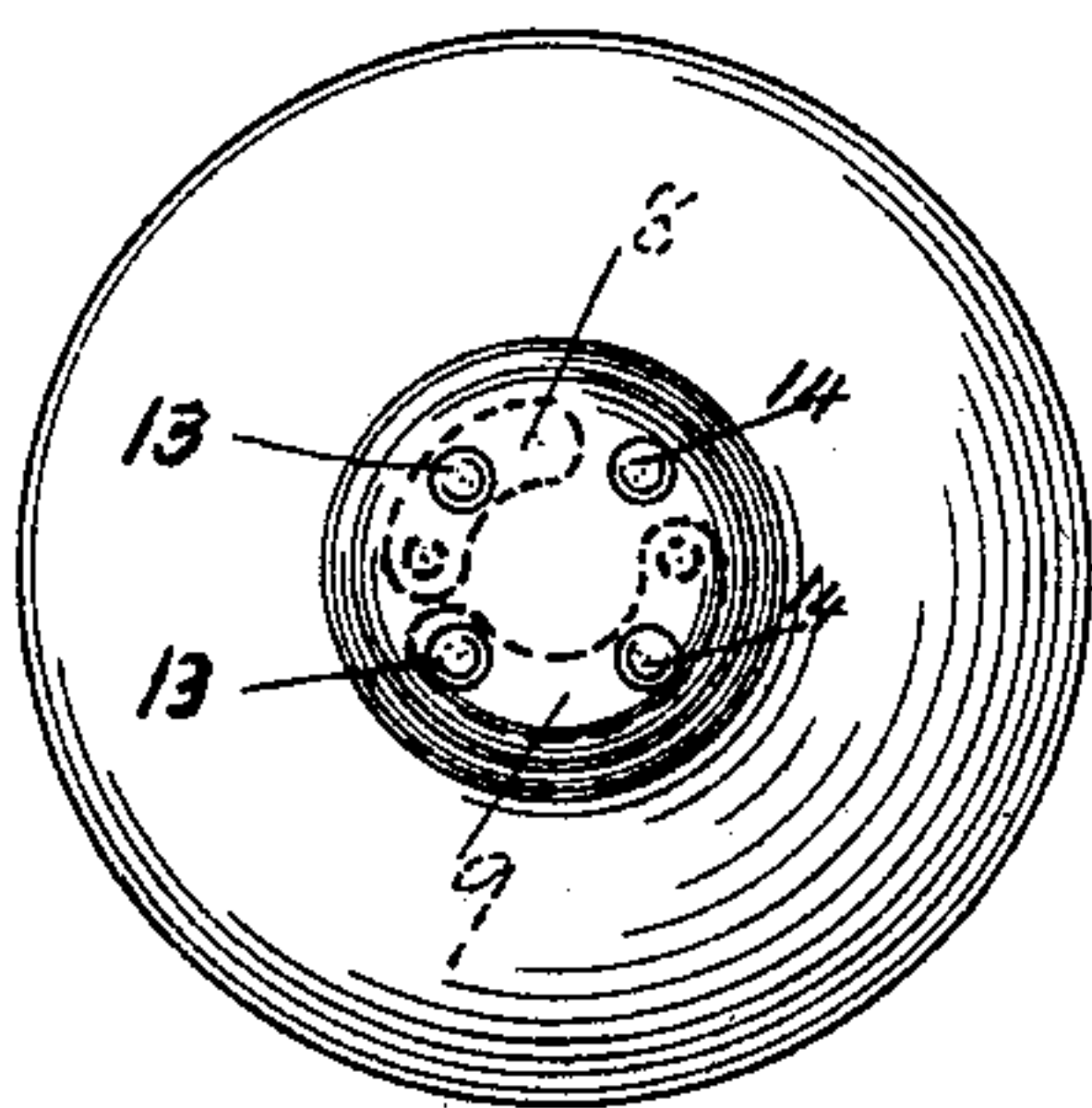


Fig. 2



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INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 599,910, dated March 1, 1898.

Application filed October 2, 1897. Serial No. 653,791. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMAS LISTER, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Incandescent Lamps, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists in improvements in incandescent lamps; and the objects of the invention are to provide a single lamp-bulb with two filaments and with means for connecting either filament separately with the lamp-circuit through the circuit-contacts, whereby when one filament has burned out the other can be placed in the circuit and the life of the lamp thereby prolonged.

My invention further consists in the combination of parts and construction of the various details, as hereinafter described, shown in the accompanying drawings, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation of the lamp, showing a socket and switch attached and the arrangement of the terminals and spring-contacts, this portion being in vertical section. Fig. 2 is a bottom view of the shell, showing the position of the contact-springs graphically in dotted lines. Fig. 3 is a full sectional view of lower part of the bulb and base. Figs. 4 and 5 are views of bottom of bulb and base detached.

In the views, 1 is the bulb, provided with the bulb-like extremity 2, separated from the main portion by the annular recess 3.

4 is the cylindrical casing of the base, which is provided with the semicircular spring 5, the extremities 6 of which enter the recess 3 and secure the base tightly to the bulb.

7 is the base proper, upon which are placed the spring-contacts 8 and 9. Both contact-springs are arranged upon a circular plan, one, 8, being shorter than the other.

10 and 11 are the filaments, which extend through the double annular stem 12 and are provided with the metal terminals 13 and 14. The filaments are arranged side by side and the metal terminals are placed individually in a porcelain disk 16. By this arrangement the filaments can be made exactly of the same

size, since they are of exactly the same candle-power. The space within the stem is filled with plaster-of-paris or other non-conducting material 15, and the thin disk 16 of porcelain or other hard non-conductor further protects the stem, outside of which appear the metal terminals 13 and 14.

My bulb is sealed at the stem extremity instead of at the large end, as formerly, and the central tube is inserted and sealed at the extremity, making the insertion of the filaments extremely easy. The stem is then filled with plaster-of-paris or other cement, and the disk 16 covers and protects the seal.

It will readily be seen in Fig. 2 that while the longer contact-spring covers two terminals at a time, as 13 and 14, at the bottom of the figure, the shorter one will only make contact with one terminal, as 13. Therefore only the terminals 13 13 would be in the circuit and only the filament 10 will glow. However, by turning the bulb half-way around the base would remain stationary, but the terminals would change their relative position, one of the terminals 13 being out of contact with the spring-contacts, and the terminals 14 would be connected with the circuit and only the filament 11 would glow. It will be seen that the terminals 14 14 would then take the place of the terminals 13 13 in the figure. In either position one terminal will always be out of contact with the spring-contacts, and therefore one filament will always be out of the circuit.

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

1. In an incandescent lamp, the combination with a bulb, provided with two filaments and two pairs of terminals the said filaments being placed side by side, of a base, and circularly-shaped spring-contacts therein, one of said contacts being shorter than the other, whereby the shorter contact will engage only one terminal at a time, and means for rotatably securing the bulb to the base, substantially as described.

2. In an incandescent-lamp bulb, provided with two filaments arranged side by side, the combination therewith and with the individual terminals of the filaments, exposed upon an insulating-disk of a base provided

with switch mechanism, and circularly-shaped contacts for the lamp-circuit mounted upon said base, one of said contacts being shorter than the other, and means for rotatably supporting the bulb upon the base substantially as described.

3. In an incandescent lamp, the combination with a bulb, base and switching device, of two filaments of equal candle-power having their terminals extending through the bulb, and individually exposed upon a porcelain or other insulating-disk, and two circuit-contacts in the base, adapted to make contact with the filaments one pair at a time when the bulb is rotated upon the base, and means for securing the bulb rotatably in the socket consisting of a wire spring upon the socket and an annular recess in the bulb, substantially as set forth.

4. In an incandescent lamp a bulb sealed at the base extremity and provided with two filaments of equal candle-power arranged side by side the said filaments being provided with terminals exposed upon the exterior of an in-

ulating-surface and individually metal-coated, in combination with two spring-contacts, one being shorter than the other to include only one terminal at a time, a metallic ring over the stem of the lamp provided with an annular depression and a wire spring inclosing one-half of the base, the two extremities of which project inward and into the annular depression whereby the bulb is secured rotatably to the base, substantially as described.

5. In an incandescent lamp, a bulb-stem provided with an annular recess, and central tube at the extremity of which the lamp is sealed, in combination with an insulating-filling for the annular recess in the stem, and a protecting-disk, and a multiple number of filaments arranged side by side and of equal candle-power, the extremities of which extend through said disk and filling, and end in metal terminals, substantially as described.

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