

No. 652,194.

Patented June 19, 1900.

M. VON RECKLINGHAUSEN & A. VOGT.
ELECTRICAL INCANDESCENT LAMP.

(Application filed Nov. 8, 1899.)

(No Model.)

Fig. 1.

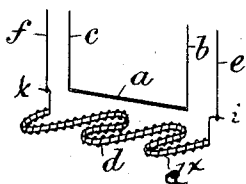


Fig. 2.

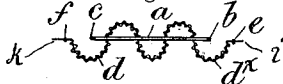
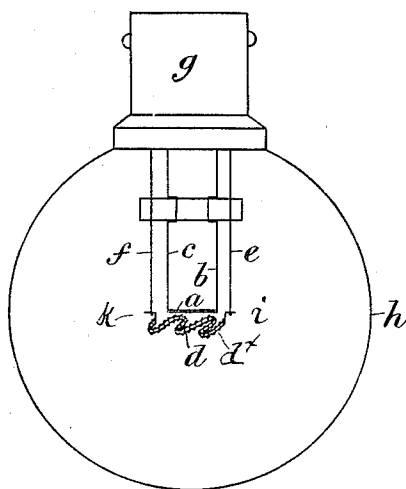


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

MAX VON RECKLINGHAUSEN AND ADOLF VOGT, OF LONDON, ENGLAND,
ASSIGNORS TO THE NERNST ELECTRIC LIGHT, LIMITED, OF SAME
PLACE.

ELECTRICAL INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 652,194, dated June 19, 1900.

Application filed November 6, 1899. Serial No. 735,978. (No model.)

To all whom it may concern:

Be it known that we, MAX VON RECKLINGHAUSEN, a subject of the German Emperor, and ADOLF VOGT, a subject of the Emperor of Austria-Hungary, electrical engineers, residing at 82 Victoria street, London, England, have invented certain new and useful Improvements in Electrical Incandescent Lamps, of which the following is a specification.

These improvements relate to electrical incandescent lamps the electrical conductor of which to be rendered incandescent has to be first heated before it can serve as a conductor for the current by which it is subsequently to be kept in a heated incandescent state. As heretofore in lamps of this class, the electrical conductor which is to be rendered incandescent is mounted in a horizontal position and a wire coil which can be heated by electric current passed through it is placed below and at a short distance from the conductor to effect its preliminary heating. In lamps of this kind it is important that the preliminary heater-coil should cast as little shade as practicable, that it should work whether the lamp be placed in a vertical or horizontal position, and that it should have as little capacity for heat as practicable, so that its action may be rapid.

According to this invention it is insured that the heater shall always be below the lamp-conductor whether the lamp be set vertically or horizontally by suspending the heating-coil at its ends from pivots in a line with the axis of the lamp-conductor, or approximately so, so that the heating-coil can swing freely upon the pivots and always hang below the conductor. To avoid shadow, the spiral coil is mounted upon a thin rod of porcelain or other incombustible material, which is bent into a zigzag or undulating form in a horizontal plane. In this way not only is large heating-surface obtained for causing a current of heated air to rise up past the conductor, but in addition any shadow caused by one part of the preliminary heating-coil obstructing the passage of light from one part of the conductor is illuminated by light proceeding from other parts of the conductor and no distinct shadow is anywhere produced.

Figure 1 shows a diagram perspective view of the conductor and heater. Fig. 2 is a plan view of the same. Fig. 3 is a side view of one of the lamps.

In the figures, *a* is the conductor. *b c* are leads passing to conductor.

d is the heater, formed of a thin rod of porcelain bent, as shown, into an undulating form and surrounded by a heating wire coil $\bar{d}^x$, the ends of which are made to extend upward for a distance and are then bent to form pivots *i k*, which enter loops in the ends of leads *e f*. These loops are near the two ends of the conductor *a* and are approximately on a line with it. The pivots thus serve to convey current from the leads *e f* to the heating-coil, and the heater always hangs below the conductor whether the lamp be held in a vertical or horizontal position.

g is a holder containing cut-out mechanism for arresting the passage of current to the heater-coil as soon as sufficient current passes through the conductor *a*.

h is a glass globe.

What we claim is—

1. The combination of an insulator which becomes a conductor when hot, and a heater suspended beneath the insulator from pivots which are approximately in line with it.

2. The combination of an insulator which becomes a conductor when hot and a heater consisting of a spiral coil of wire wound on a rod of incombustible material bent into a zigzag form to prevent any definite shadow being cast by the heater.

3. The combination of an insulator which becomes a conductor when hot and a heater suspended in pivots in the leads conveying the current to the heater.

4. The combination of an insulator which becomes a conductor when hot and a heater suspended in pivots in the leads conveying the current to the heater, the pivots being approximately in a line with the axis of the conductor.

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Witnesses:

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