No. 648,516. Patented May 1, 1900.

K. OCHS.

# ELECTRIC LAMP WITH BURNER OF THE SECOND CLASS.

(Application filed June 29, 1899.)

(No Model.)

Fig. 1.

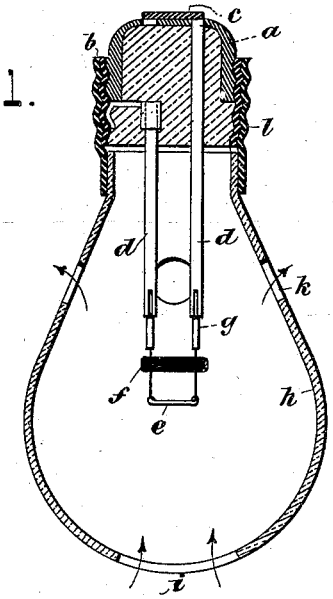
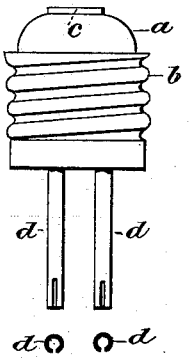



Fig. 2.



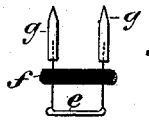




Fig. 3.

Fig. 4.

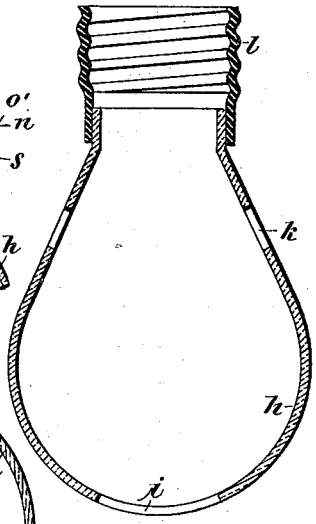



Fig. 5.

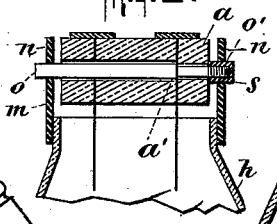


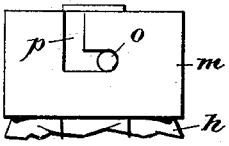

Fig. 8.




Fig. 6.




Fig. 7.

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# UNITED STATES PATENT OFFICE.

KARL OCHS, OF BERLIN, GERMANY.

## ELECTRIC LAMP WITH BURNER OF THE SECOND CLASS.

SPECIFICATION forming part of Letters Patent No. 648,516, dated May 1, 1900.

Application filed June 29, 1899. Serial No. 722,225. (No model.)

*To all whom it may concern:*

Be it known that I, KARL OCHS, residing at Berlin, Germany, have invented certain new and useful Improvements in Electric Lamps with Burners of the Second Class, of which the following is a specification.

The present invention relates to electric lamps with burners of the second class, and has for its object to produce a lamp of the character described in a very efficient merchantable form.

The invention also relates to the lamps of this general type, all as will be hereinafter pointed out in the claims.

According to my present invention I produce a lamp with glower or illuminating bodies of the second class in which the illuminating-body is capable of being incited by a flame independent of the glower—let us say by means of a match or a kerosene-lamp.

Forms of lamps embodying my invention are illustrated in the accompanying drawings; but it will be understood that I do not mean to thereby limit myself to the construction shown, as the invention may be embodied in other forms and types of lamp.

In the drawings, Figure 1 is a central vertical section through a lamp embodying my invention, showing the same as constructed for use on the ordinary Edison sockets and circuits. Fig. 2 is a side view of the base with the terminals. Fig. 3 is a side view of the removable burner. Fig. 4 is a sectional side view of the bulb or globe detached from the base. Figs. 5 and 6 are detail sectional views of a lamp embodying my invention constructed on the Swan system. Fig. 7 is a side view of the base of the lamp shown in Figs. 5 and 6; and Fig. 8 is a detail side view of a lamp, partly in section, in which the parts are so combined and located that the lamp may be used in an inclined position.

The lamp illustrated in the drawings consists of two essential parts—to wit, the base, with terminals carried thereby, supporting the illuminating-body, and the bulb or globe removably secured to the base.

I will first describe the lamp shown in Figs. 1, 2, 3, and 4, it being understood that this lamp is a mere embodiment of my invention. In these figures, *a* is a plug or base, of insulating material, carrying a contact-ring *b* of a screw form and a contact-piece *c*. *d d* are leading-in conductors terminating in resilient sockets connected to the ring *b* and contact *c*, respectively. These conductors are preferably slotted at their lower ends to receive plugs *g*, which support the fragile rigid conducting-body or burner *e*, a bridge-piece *f*, of insulating material, being preferably employed to space the leading-in conductors apart and to support the parts. *h* is a suitable bulb or globe provided with apertures *i k* for providing a circulation and for permitting the insertion through the aperture *i* of a burning match or taper or lamp-flame to effect the initial heating of the illuminating body or burner *e*, which, as is well known, becomes a conductor upon being heated and thereupon becomes incandescent by the passage of the current. A suitable ring *l* is cemented or otherwise secured to the neck of the bulb *h* and is adapted to fit over the screw contact-ring *b* of the lamp to securely hold the parts of the lamp together in position.

Figs. 5, 6, and 7 show a modified form of lamp wherein the base *a* is apertured laterally for the passage of a plug or rod *o*, this form of lamp being adapted to be secured to the socket by a bayonet-joint, as in the Brush-Swan system. *m* is the ring of the lamp, which is cemented or otherwise secured to the bulb *h*, the said ring being provided with a bayonet-slot *p* for the reception of the projecting end of the rod *o* and of the nut *s*, which nut screwing upon the end *o'* of the rod brings the shoulder on the rod *o* into firm contact with the abutment *a'*, formed in the insulating-socket *a*. The operation of these parts will be readily understood.

The lamp shown in Fig. 8 is similar in all respects to the lamp shown in Figs. 1 to 4, with the exception that the illuminating body or burner *e* is permanently secured to the leading-in wires *d'*, as may be done without departing from the spirit of my invention.

In order that the air-current may act properly, it is desirable that the aperture *k* in the lamp-globe be immediately above the aperture *i*. Now as the socket is frequently placed rigidly in an inclined position and is shown as receiving the lamp by a rotary motion the lamp must occupy a position which is substantially invariable. Consequently

the contact *c* should be provided with a spring *e*, which will make contact with the center contact of the socket no matter whether the lamp be entirely screwed into the socket or not. By this means an invariable position of the lamp is provided for, irrespective of whether the lamp be entirely screwed into the socket.

It will be understood that the details of any of the lamps may be varied without departing from the spirit of my invention and that other forms and constructions can be used in lieu of the forms and constructions shown.

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

1. In an incandescent lamp, the combination of a base adapted to engage a socket, split end tubes or sockets *d* carried by the said base, and an illuminating structure adapted to be supported in said sockets, comprising the glower *e*, the insulating cross-bar *f* and the plugs *g*.

2. In an electric-lamp structure, the combination of a lamp provided with the laterally-placed apertures *i k* and the spring *u* electrically connected to the lamp-contact, whereby the lamp may be used in an inclined position with the apertures located one above the other.

3. The combination of a lamp-base provided with suitable contacts for engaging a socket, leading-in conductors supported by the said lamp-base and in electrical connection with the said contacts, an illuminating-body of the second class supported by and removably secured to the said leading-in conductors and an apertured globe enveloping the illuminating device and removably engaged with the lamp-base.

4. The combination of a lamp-base provided with suitable contacts for engaging a socket, leading-in conductors supported by the said lamp-base and in electrical connection with the said contacts, an illuminating-body of the second class supported by and removably secured to the said leading-in conductors and an apertured globe enveloping the illuminating device and provided with a ring adapted to be mechanically and removably engaged with the base.

5. The combination of a lamp-base provided with suitable contacts for engaging a socket, leading-in conductors supported by the said lamp-base and in electrical connection with the said contacts, an illuminating-body of the second class supported by and removably secured to the said leading-in conductors and an apertured globe enveloping the illuminating device and a contact-ring *l* carried by the said globe and screw-threaded to effect the engagement of the base and the globe.

6. In a glow-light, the combination of a glower, a base supporting the glower having a plurality of electrical contacts, and adapted to engage a lamp-socket removably, an apertured globe enveloping the glower and removable therefrom without disturbing the glower and a metallic connection removably securing the globe to the base and in electrical connection with one of the contacts of the base.

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