(No Model.)

C. G. PERKINS.

INCANDESCENT ELECTRIC LAMP.

No. 290,467. Patented Dec. 18, 1883.

Fig. 1.

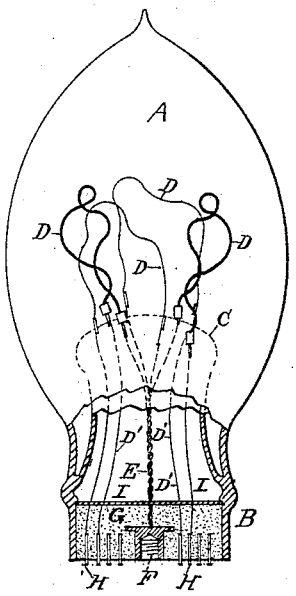


Fig. 2.

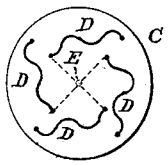
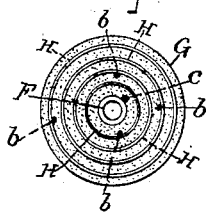


Fig. 3.



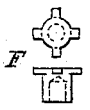
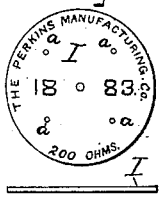


Fig. 4.

Fig. 5.



ATTEST:

J. A. Hurdle

W. H. Baasham

INVENTOR:

Charles G. Perkins

By J. A. Hurdle atty

UNITED STATES PATENT OFFICE.

CHARLES G. PERKINS, OF NEW YORK, N. Y., ASSIGNOR TO THE IMPERIAL ELECTRIC LIGHT COMPANY, OF SAME PLACE.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 290,467, dated December 18, 1883.

Application filed April 19, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. PERKINS, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in an Electric Incandescent Lamp, of which the following is a specification.

My invention relates to the arrangement of one or more irregular-shaped carbon filaments within an incandescent lamp having a washer within the neck, also a plug of plaster-of-paris having metallic rings and screw-plug arranged therein, a full description of which will be given hereinafter.

The first part of my invention consists in arranging a series of irregular-shaped carbons within the vacuous chamber of an electric incandescent lamp in a manner that will bring one or more of the broad sides of the carbons to view when illuminated.

The second part of my invention consists of a washer made of any suitable material placed within the neck of the globe of an incandescent lamp, the washer preventing the plaster-of-paris from running up into the neck of the globe farther than is desired. The washer also answers for a tag or label, upon which may be printed or written the name of the company manufacturing the lamp, giving the date of the month, year, and the number of ohms resistance which the carbon may have,

The third part of my invention consists of a plug composed of plaster-of-paris, having a series of metallic rings and a screw-plug sealed therein, the whole arranged within the neck of the globe of an electric incandescent lamp.

The fourth part of my invention consists of electrically connecting one pole of each carbon filament to a central metallic screw-plug sealed within a plug of plaster-of-paris and electrically connecting the other pole of each carbon filament to separate metallic rings sealed within said plug.

In the drawings, Figure 1 represents a part elevation and section of an electric incandescent lamp, showing the principal features of my invention. Fig. 2 represents a plan of the base of the vacuous chamber of the lamp, showing the manner in which the carbon filaments are arranged. Fig. 3 represents an inverted plan of the plug composed of plaster-of-paris, having the metallic rings and screw-plug sealed therein. Fig. 4 represents a plan and elevation of the metallic screw-plug detached. Fig. 5 represents a plan and elevation of the combined washer and tag.

Similar letters refer to similar parts throughout the several views, in which—

A represents the globe of an electric incandescent lamp.

B represents the neck of the same.

C represents the base of the vacuous chamber.

D represents a series of irregular-shaped carbon filaments, having their metallic conductors D' sealed within the base C. The positive poles of the carbons D terminate in one main conductor, E, electrically connected with the metallic screw-plug F, sealed within the plug G, which is first made as a solid plug of plaster-of-paris, in which the screw-plug and the rings are embedded, the whole being of less diameter than the neck B. The negative pole of each carbon filament D is electrically connected with separate metallic rings H, sealed in the base of the plug G, said rings slightly projecting below the base of the neck B.

I represents the combined washer and label, arranged within the neck B for the purpose of preventing the plaster-of-paris that is poured in the space between the plug and the wall of the neck B from entering the upper part of the interior of said neck. Said washer is provided with apertures for the different electrical conductors to pass through to the plug G, through which they pass to the metallic rings H, with which they are electrically connected.

The upper surface of the washer I may have printed or written thereon the name of the company manufacturing the lamp, the date of the month and year, and may have indicated thereon the number of ohms resistance of each or all of the carbon filaments contained in the lamp. Said label can be observed through the glass forming the neck B.

Mode of constructing: After the carbons D have been sealed in the base B, the whole is arranged within the globe A, which is afterward exhausted of air in order to produce a vacuous chamber having the electrical con-

ductors D′ leading to the different carbons D, extending therefrom to the base of the neck B, in which condition the lamp is in proper shape to receive the final fixtures. The lamp is first inverted, having the leading-in wires in a perpendicular position. The said wires are inserted in the openings of the washer I, which is then pushed into the neck B. The wires that are to be soldered to the metallic rings H are inserted in the openings *b* of the plug G, Fig. 3, which are made along the side of the metallic rings H, and pass all the way through the plug. The remaining wires that are to be soldered to the central screw-plug, F, are inserted in the opening *c*, Fig. 3. The plug is then pushed into the neck B, which is a little larger than the plug, after which plaster-of-paris is poured into the neck through the space between the plug G and the wall of the neck B, thus cementing the plug therein. The leading-in wires are at this stage projecting above the plug, and when the plug shall have been considered perfectly sealed each of the wires that are to be in electrical contact with the aforesaid metallic rings are then soldered thereto, and the wires to be in electrical contact with the central screw-plug, F, are likewise soldered thereto, after which the projecting portions of the wires are cut off, thus completing the lamp.

I am aware that loops of straight carbon filaments have heretofore been employed in incandescent lamps. I find by practical experience that loops of straight carbons placed at different angles to each other do not diffuse the light properly. This objection is obviated by my invention, fully described in the specification, and pointed out in the claims.

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

1. In an electric incandescent lamp, a washer placed on the interior of the neck of the globe at a suitable distance below the base of the vacuous chamber to prevent the plaster-of-paris forming the plug from running thereon, said washer having a suitable number of openings for the leading-in wires of the lamp to pass through, whereby they are held in position, substantially as shown and described.

2. In an electric incandescent lamp, the combination, substantially as shown and described, of globe A, neck B, electrical conductors D′ E, washer I, plaster-of-paris G, metallic screw-plug F, and metallic rings H, all for the purpose herein described.

Signed at New York, in the county of New York and State of New York, this 17th day of April, A. D. 1883.

CHARLES G. PERKINS.

Witnesses:
J. A. HURDLE,
GEORGE BECKER.