

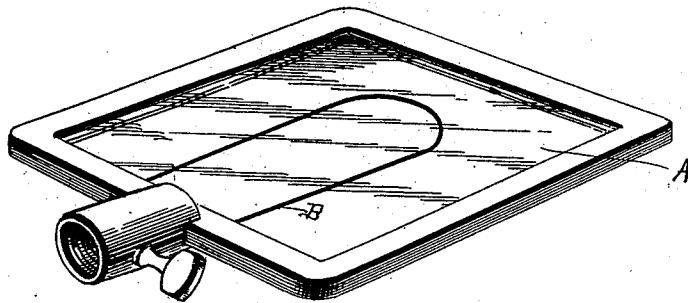
(No Model.)

C. S. DOLLEY, R. HAWKINS & T. M. LIGHTFOOT.  
INCANDESCENT ELECTRIC LAMP.

No. 577,159.

Patented Feb. 16, 1897.

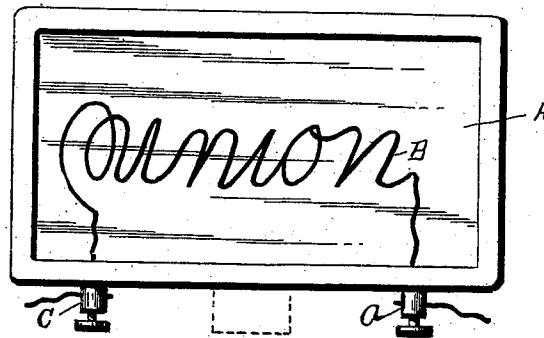
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:

L. C. Bills  
A. L. Hough.

Inventors

Chas. S. Dolley, R. Hawkins  
and Thos. M. Lightfoot,  
by Franklin H. Strong  
Att'y.

# UNITED STATES PATENT OFFICE.

CHARLES S. DOLLEY, RUSSELL HAWKINS, AND THOMAS M. LIGHTFOOT, OF PHILADELPHIA, PENNSYLVANIA.

## INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 577,159, dated February 16, 1897.

Application filed April 22, 1896. Serial No. 588,664. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES S. DOLLEY, RUSSELL HAWKINS, and THOMAS M. LIGHTFOOT, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Incandescent Electric Lamps; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in electric incandescent lamps.

An incandescent lamp constructed in accordance with our invention consists, essentially, of a carbon conductor inclosed between plates or sheets of mica or other non-conducting substance having a like resistance to the action of heat. The carbon conductor may consist of an ordinary filament, or it may be cut to any suitable or desired shape from paper or any other suitable material, or it may be composed of suitable carbon paste, which is placed in plastic condition upon the face of a plate or sheet of mica and hardened *in situ*.

An incandescent electric lamp constructed in accordance with our invention is shown in the accompanying drawings, which form a part of this specification, and we have also shown in the drawings the application of the invention in its relation to the production of words or characters in illuminated signs, &c.

In said drawings, Figure 1 is a perspective view of an incandescent electric lamp embodying our invention. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a side elevation of the lamp, in which the carbon conductor is shown as fashioned into a word.

In making our lamp the carbon which we decide to employ in the construction of the lamp is placed upon the face of a mica plate or sheet, and, if desired, the carbon may be saturated with the salts of such metals as exhibit a high degree of incandescence when heated. The mica plates may have any de-

sired shape or outline and may be of any suitable or preferred size, the two plates being so intimately approximated as to expel and exclude the air when subjected to heat which is applied simultaneously with heavy pressure within a chamber from which the air has been exhausted. The mica plates are held together and the air is excluded by a coating of suitable heat-proof cement before the application of pressure and exhaustion. The carbon conductor B, thus inclosed between the non-conducting plates A A of mica or other substance adapted to the purpose, is furnished with connections, as shown at C, whereby the electric current is conveyed to it. These connections preferably consist of wires of platinum or other metal or of thin strips of metal, such as platinum-foil or other similar foil. The mica sheets thus prepared are preferably mounted within a suitable boundary-frame.

The mica plates, with their inclosed carbon conductor and metallic connections and frame or glass cover, are furnished with a suitable base, in which the metallic connections are attached to metallic contact posts or rods f, which extend into said base in such a manner as to allow the lamp to be attached to a bracket or electrolier bringing the contact posts or rods into connection with the wires which supply the electric current.

The carbon conductor may be cut, stamped, or otherwise shaped into any desired design, thus rendering it possible to produce artistic designs, ornamental signs, numbers, letters, and the like.

It is evident that our invention is capable of modifications without departing from the spirit of the invention, as, for instance, instead of using two transparent plates of mica one transparent plate might be used, in connection with a plate of some opaque substance, thus producing a shaded light, which in some instances might be desirable.

Having thus described our invention, what we claim to be new, and desire to secure by Letters Patent, is—

1. In an incandescent electric lamp, an incandescent filament compressed between two non-conducting plates one or both of which plates is either transparent or translucent

and from between which plates the air has been exhausted, and a hermetically-sealed boundary-frame for said plates, substantially as described and for the purpose specified.

5 2. The combination with two non-conducting plates one or both of which is either transparent or translucent and from between which plates the air has been exhausted, a filament compressed between said plates, a hermetically-sealed frame extending around the outer edges of the plates, and connections for electric wires, substantially as described.

10 3. The combination with two plates of mica or their equivalent, of an incandescent fila-

15 ment compressed between said plates, a hermetically-sealed frame extending around the outer edges of the plates, and wire connections with the filament thus compressed between the plates, substantially as described and for the purpose specified.

20 In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES S. DOLLEY.

RUSSELL HAWKINS.

THOMAS M. LIGHTFOOT.

Witnesses:

CHAS. H. BANNARD,  
HALLER T. STOKES.