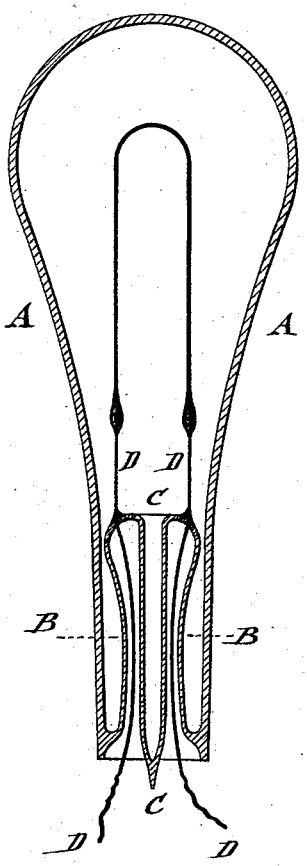
(No Model.)

A. BERNSTEIN.

ELECTRIC LAMP.

No. 263,011. Patented Aug. 22, 1882.



WITNESSES:

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ALEX. BERNSTEIN, OF BOSTON, MASSACHUSETTS.

ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 263,011, dated August 22, 1882.

Application filed March 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALEX. BERNSTEIN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Electric Lamps, of which the following is a specification.

This invention has reference to an improved electric vacuum-lamp based on the principle of incandescence; and it consists of an electric lamp composed of a glass globe or bulb and a stopper for the conducting-wires, seated into the neck of the bulb, the stopper being provided with a central exhausting-tube and made of thin glass throughout, and of greater width at the upper part, so as to form an enlarged annular space around the conducting-wires, within which nearly the same temperature is established as inside the bulb, so as to prevent cracks by unequal expansion of the glass, such as occur in solid stoppers of thick glass.

The accompanying drawing represents a vertical central section of my improved electric lamp.

A is a glass globe or bulb of suitable size, and B the stopper or closing part, which is sealed to the neck of the bulb A. The glass bulb A is exhausted by means of a central tube, C, made in one piece with the stopper B, said stopper and evacuating-tube being made of less thickness than the walls of the glass bulb A. The conducting-wires D pass through the annular space formed by the stopper B around the evacuating-tube C and through the upper part of the stopper B to the interior of the bulb A, where they are applied to the light-giving carbon filament E in any approved manner. At the points where the conducting-wires D pass through the stopper B they are hermetically sealed thereto by a suitable enamel. The stopper B is made throughout of thin glass, of the same thickness as the central evacuating-tube, and consequently no large solid portion is formed at the upper part of the stopper where it is connected with the conducting-wires D. As the lower part of the stopper B is made of a smaller diameter than the upper part, a larger annular space is formed around the conducting-wires D at and below their connection with the stopper. This annular space is retained at the same, or nearly the same, temperature as the inside of the bulb, so that the differences of expansion and contraction in the different parts of the stopper are very small, and consequently the danger of cracks at that part and a leakage of the bulb or entrance of air caused by an unequal expansion of the glass stopper is entirely avoided by very simple means.

I am aware that a sealed evacuation-tube passing from the stopper to the outside is well known; and I do not claim the same.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent, is as follows:

In an electric vacuum-lamp based on the principle of incandescence, the combination of a glass globe or bulb, a stopper sealed to the neck of the same and having a central evacuating-tube, and of conducting-wires which pass through the stoppers at the upper part thereof, the stopper being made of thin glass throughout and enlarged at the upper part, whereby nearly the same temperature is obtained in the upper part of the stopper as at the interior of the bulb, and thereby cracks and leakage prevented, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

ALEX. BERNSTEIN.

Witnesses:
PAUL GOEPEL,
CARL KARP.