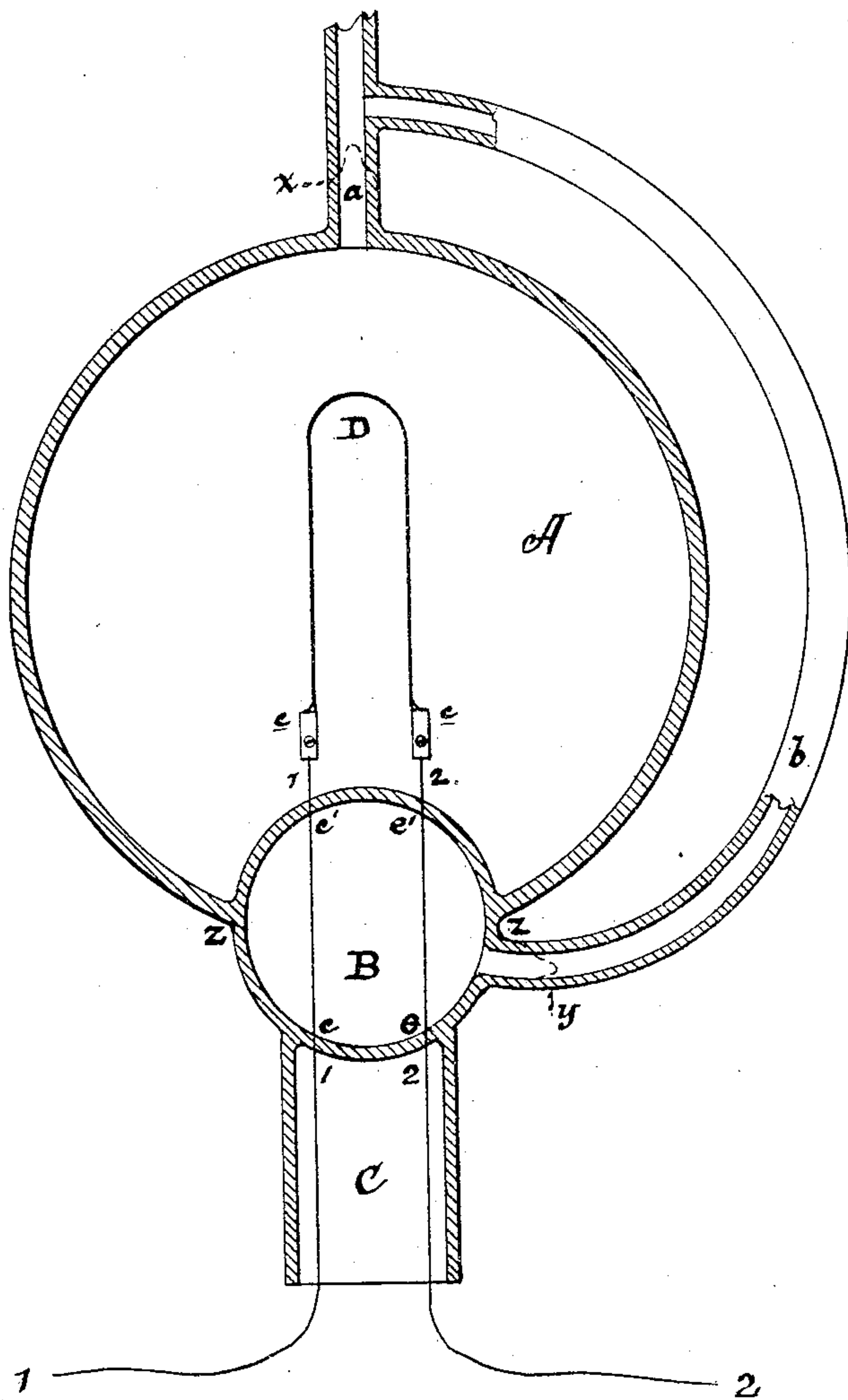


(No Model.)

T. A. EDISON.
Electric Lamp.

No. 239,745.

Patented April 5, 1881.



Witnesses:

S. D. Mott
James A. Payne.

Inventor:

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Attorneys.

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF MENLO PARK, NEW JERSEY.

ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 239,745, dated April 5, 1881.

Application filed August 17, 1880. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Menlo Park, in the county of Middlesex and State of New Jersey, have invented a new and
5 useful Improvement in Electric Lamps; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

10 In electric lamps formed by sealing an incandescing conductor hermetically in a glass inclosing-globe, there may be danger, sometimes, that the glass and wire will separate at the point where the conducting-wires pass
15 through and are sealed into the glass globe. This is due to the fact that the conducting-wires, near the incandescing material, become very hot by conduction, and that the coefficient of expansion of the glass and wire are so dif-
20 ferent.

In the lamps made on my plans, owing to the high resistance of the incandescing material, such small conductors are used that the danger referred to has been of minor or the
25 very least importance. It may be desirable, however, to provide means which reduce the danger to a minimum, while affording, at the same time, the necessary support for the very small and delicate conductors and incandes-
30 cing material.

The object of this invention is to provide such means; and to that end it consists in the features more particularly hereinafter set forth and claimed.

35 The drawing shows a lamp involving my invention.

40 A is the glass inclosing-globe, formed with tube *a*, for attachment to the exhausting apparatus. A smaller bulb, B, is made attached to the supporting-neck C, and formed with a tube, *b*. Through the bulb B the conductors 1 2 are passed and sealed therein, 1 being sealed at *c c'*, and 2 at *e e'*. The bulb B is then sealed into A, at the line *zz*, and the tube *b* con-

nected to the tube *a*, the bulb B practically 45 forming the seal to A. The tube *a* is then connected to the exhaust apparatus. It is evident that a vacuum is created in both A and B. When a proper degree of exhaustion is reached the tube *b* is sealed off at *y*, after 50 which the tube *a* is sealed off at *x*. The vacuum in globe A is thus protected by two sealings of each wire, *c c* and *c' e'*, to only one set of which is there any danger, *c' e'*, the other set, *c c*, from its distance from the heated por- 55 tion of the lamp, never heating sufficiently to be affected.

As very small conductors are used it is necessary, for stability, that they be supported near the carbon, which is done at the sealings 60 *c' e'*; but if either of these, from their proximity to the light, is ever so heated as to crack, it will still subserve its function as a support, while the vacuum is preserved by the seals *c c*.

What I claim is—

65 1. In an electric lamp, the combination, with the inclosing globe or chamber, of a second chamber, through and into which the conducting-wires pass and are sealed, both chambers being hermetically secured together and ex- 70 hausted, substantially as set forth.

2. The method of sealing the inclosing globe or chamber of an electric lamp, by sealing an exhausted auxiliary or secondary globe or chamber in the opening of the first or inclos- 75 ing globe, substantially as set forth.

3. The method of preserving the vacuum in the inclosing-globe of an electric lamp, consisting in sealing the conducting-wires at two points in a vacuum-globe hermetically sealed 80 to the inclosing-globe, substantially as set forth.

This specification signed and witnessed this 7th day of August, 1880.

THOS. A. EDISON.

Witnesses:

WM. CARMAN,
OTTO A. MOSES.