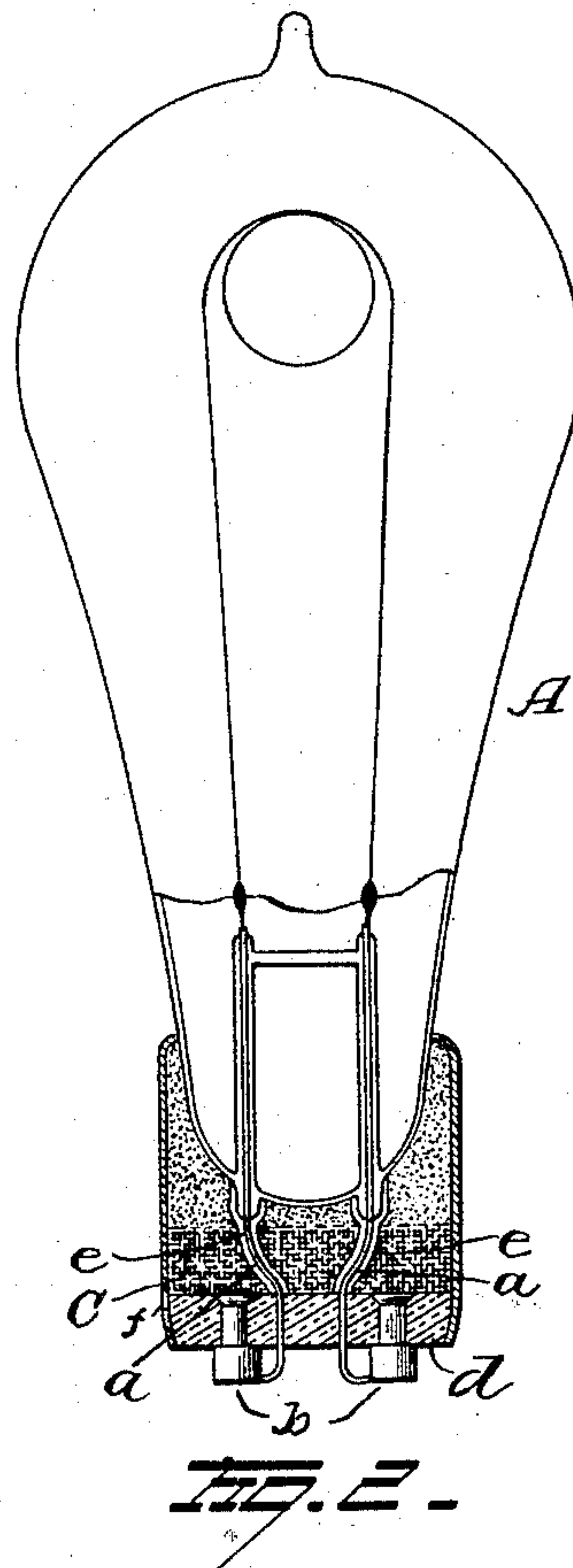
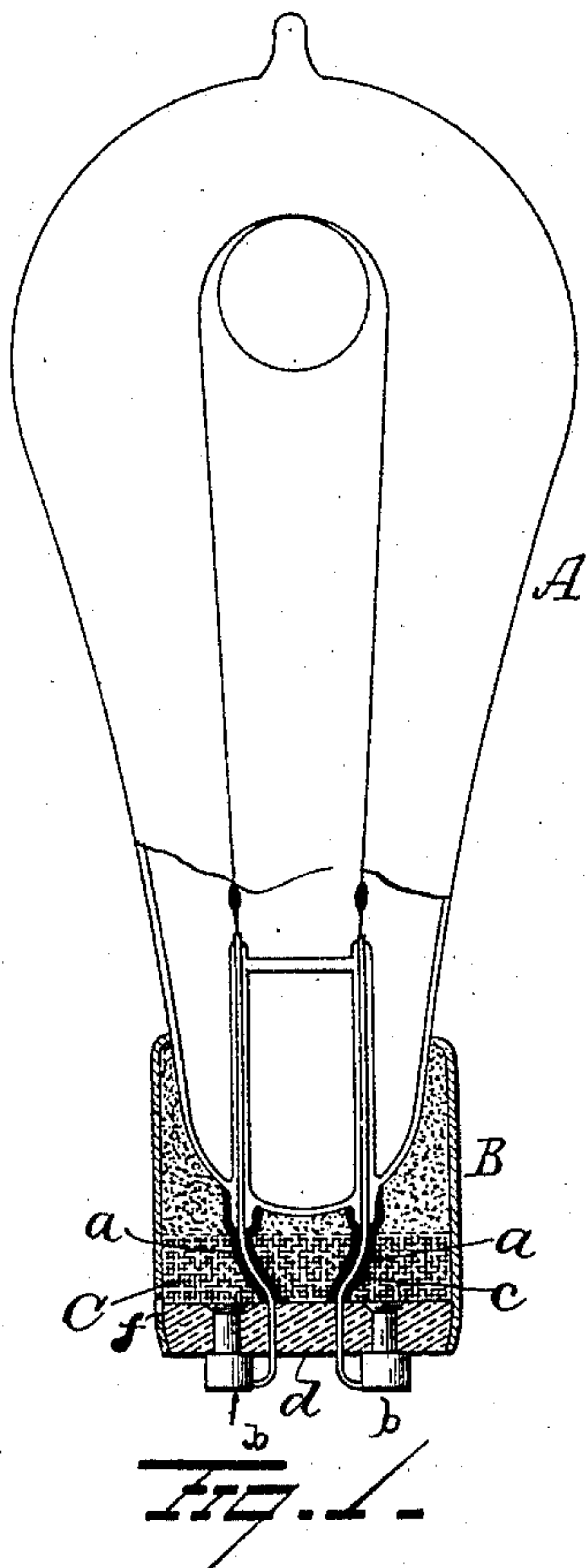


(No Model.)

E. P. ROBERTS.
INCANDESCENT ELECTRIC LAMP.

No. 467,523.

Patented Jan. 26, 1892.



Witnesses
G. A. Nottingham
S. G. Nottingham

Inventor
Edward P. Roberts
By H. A. Symmon
Attorney

UNITED STATES PATENT OFFICE.

EDWARD P. ROBERTS, OF CLEVELAND, OHIO, ASSIGNOR TO THE SWAN LAMP MANUFACTURING COMPANY, OF SAME PLACE.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 467,523, dated January 26, 1892.

Application filed July 15, 1891. Serial No. 399,653. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. ROBERTS, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Incandescent Electric Lamps; and I do hereby 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.

My invention relates to an improvement in incandescent electric lamps, its object being to provide means for the protection of the wires passing through the socket-piece and connecting with the electrodes.

A further object is to overcome the trouble caused from the eating off of the wires due to damp cementing material.

A further object is to protect that portion of the bulb at which the wire enters the bulb from any strain caused by expansion of the cementing material, such portion being to some extent liable to crack if a strain is put thereon.

With these objects in view the invention consists in surrounding the wires where they enter the socket-piece of an incandescent electric lamp with a material easily melted.

The invention also consists in the method of uniting the socket-piece of an incandescent electric lamp with the bulb thereof and connecting the wires with the electrodes of said lamp, consisting in coating the wires with paraffine or similar material, uniting the socket-piece with the bulb with plastic material, and heating the socket-piece to melt the paraffine.

The invention also consists in an incandescent electric lamp having air-channels in the socket-piece thereof for the accommodation of the conducting-wires.

The invention also consists in certain novel features and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of my improvements before the socket-piece is heated to melt the paraffine. Fig. 2 is a view of the device after the socket-piece has been heated and the paraffine melted.

A represents the bulb of an incandescent electric lamp, and B the socket-piece, which latter is connected to the bulb by means of plastic material, such as plaster-of-paris. Before the socket-piece is sealed to the bulb the conducting-wires *a a*, leading to the electrodes *b b*, are covered with paraffine or similar material *c*, this covering being comparatively heavy or thick, as shown in Fig. 1.

Inserted in the socket-piece B and adapted to bear against the plastic sealing material is a quantity of fibrous material C, such as waste, which latter is held in place by means of a porcelain ring or disk *d*. The absorbent material will tend to absorb moisture from the plastic material, and thus cause said material to dry quickly. The use of fibrous material in the manner above set forth does not form a part of my present application for patent, but is reserved for another application. As far as my present invention is concerned, the use of fibrous material is not absolutely essential; but the socket-piece may be filled with the plastic material in the common manner. The socket-piece and the bulb having been united together, the socket will be next heated in order to melt the paraffine and cause it to leave the conducting-wires *a a*, and thus produce air-spaces *e e*, Fig. 2. If absorbent material is employed, the melted paraffine will be taken up or absorbed by it; but if the absorbent material is not used an opening *f* may be made in the socket-piece, through which the melted paraffine may escape; or, if the spaces or channels through which the wires *a a* pass are large enough the melted paraffine may escape through them and run down the conducting-wires. By this construction and arrangement free air-passages are provided in the socket-piece for the accommodation of that portion of the conducting-wires which passes through said socket-piece, thereby preventing the wires from being "eaten off" or otherwise injured. It will also be seen from the construction and arrangement above set forth that the portion of the bulb at which the wire enters will be protected from strain caused by the expansion of the cementing material.

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

1. In an incandescent electric lamp, the combination, with the bulb, socket-piece, and material in the socket-piece connecting it with the bulb, of air-passages extending through said connecting material from the butt of the bulb to the outlet of the socket-piece.
2. In an incandescent electric lamp, the combination, with the socket, bulb, and material connecting the socket-piece and bulb, of air-passages extending from the butt of the bulb through said connecting material, and said socket-piece having a perforation therein, substantially as and for the purpose set forth.
3. The herein-described method of constructing an incandescent electric lamp, consisting in coating the conducting-wires where they pass through the socket-piece with a substance easily melted, inserting plastic material in said socket-piece for connecting the socket-piece and bulb, and heating said socket-piece to melt the said material, whereby to produce air-passages through which the conducting-wires pass, substantially as set forth.

4. The herein-described method of constructing an incandescent electric lamp, consisting in coating the wires with a substance easily melted, inserting plastic material and absorbent material into the socket-piece, and then heating the socket-piece to melt the said material; whereby it may be absorbed by the absorbent material and produce air-passages from the bulb of the lamp to the outlet of the socket-piece for the accommodation of the ordinary wires, substantially as set forth.

5. In an incandescent electric lamp, the combination, with the bulb and the socket-piece, of connecting material and absorbent material in the socket-piece, provided with air-passages extending therethrough from the butt of the bulb to the outlet of the socket-piece, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EDWARD P. ROBERTS.

Witnesses:

T. A. BOARDMAN, Jr.
WM. E. REED.