

No. 794,588.

PATENTED JULY 11, 1905.

H. CASASSA.

METHOD OF MANUFACTURING INCANDESCENT ELECTRIC LAMPS.

APPLICATION FILED JAN. 4, 1901.

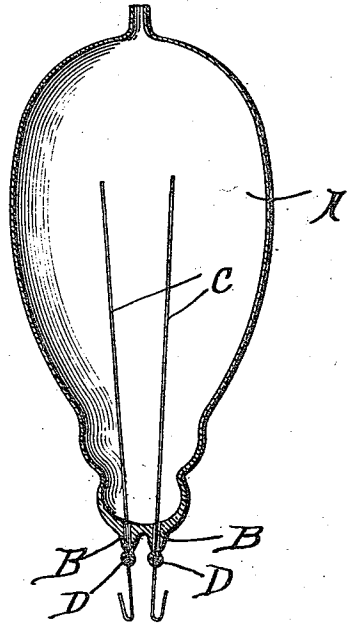


Fig. 1.

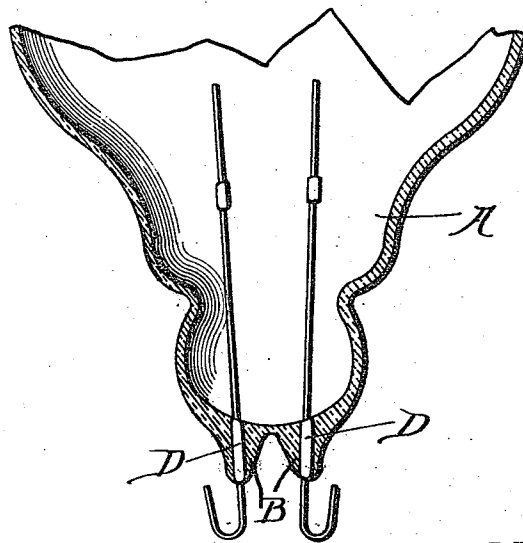


Fig. 2.

Witnesses

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METHOD OF MANUFACTURING INCANDESCENT ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 794,588, dated July 11, 1905.

Application filed January 4, 1901. Serial No. 42,095.

To all whom it may concern:

Be it known that I, HENRI CASASSA, a citizen of the Republic of France, residing at 6 Via Broggi, Milan, in the Kingdom of Italy, have invented certain new and useful Improvements Relating to Methods of Manufacturing Incandescent Electric Lamps and the Like, of which the following is a specification.

This invention relates to a method which has for its object to provide means whereby a perfect joint is formed between the conductor-wires and the glass by utilizing the metallic oxid which arises incident to the heating of the wires to a red heat, the same being combined with thickish sealing material, which is drawn inwardly to surround the wires when a vacuum is formed in the globe. The combined sealing material and metallic oxid form a compound impermeable to air which possesses a coefficient of expansion nearly equal to that of the metal employed, and, further, firmly adheres to both the metal and the glass.

In the accompanying drawings, in which like letters of reference indicate like parts throughout both views, Figure 1 is a vertical sectional view of a globe in a nearly-finished state, the wires having arranged thereon at the points where they project out of the neck or shank a coating of sealing material, which when an air-pump is applied and operated is drawn inward so as to fill the interstices between the glass in the shank of the globe and the wires. Fig. 2 is an enlarged fragmentary sectional view of the globe, illustrating the position of the mastic when the globe is in a finished state.

A indicates the globe, formed at its lower end or shank with a pair of nipples B B. Extending through these nipples are the leading-in wires C, which, as illustrated in the drawings, have their ends projecting outwardly therefrom for an obvious purpose, and D indicates the sealing material, consisting, preferably, of a mixture of boiled linseed-oil and

caoutchouc or Para rubber dissolved in bisulfid of carbon in the proportions of one part of oil to one part and a half of caoutchouc, the whole being reduced by boiling to a homogeneous mass. The globe shown in the accompanying drawings is merely for the purposes of illustration, inasmuch as any type of globe can be employed without departing from the spirit of the invention.

The method is carried out as follows: The conducting-wires C C are first sealed in a glass in the same manner as with platinum conductors, care, however, being taken while forming the nipples B B of the lamp to keep the wires at red heat before and during the time of covering them with glass for the purpose of driving off the gases which might be formed, so as to prevent minute gaseous bubbles lodging between the wires and the glass. After thus sealing the wires, but before creating the vacuum, the oily sealing material above mentioned is applied—for instance, by a brush—to their outwardly-projecting points in a semiliquid condition. The vacuum is next produced in the globe, and the pressure from the external air forces the said material through the pores of the oxid formed on the wires, thus causing it to commingle therewith and producing the required tight joint. The combining of the material with the oxid produces an elastic solid pasty mass, which, as heretofore stated, readily adheres to both the metal and the glass and is impermeable to the air. After the sealing material has thus been drawn or sucked into the pores of the oxid the globe is finished in the ordinary manner.

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

A method of forming impermeable joints between oxidizable metallic conductor-wires and glass bulbs in electric lamps consisting in heating the wires to a red heat before and retaining the wires at a red heat during the coating with the glass, thereby driving off the gases which are formed and oxidizing the

wires, coating the oxidized wires exteriorly
of the bulb with a readily-fusible substance
capable of commingling with the metallic
oxid, and finally creating a vacuum in the
5 bulb whereby the said substance will be drawn
inwardly and commingled with the metallic
oxid, thereby forming an impermeable mastic.

In testimony whereof I have hereunto set
my hand, in presence of two subscribing wit-
nesses, this 11th day of December, 1900.
HENRI CASASSA.

Witnesses:

VIRGINIO CARNEVALI,
MICHELE DE DRAGA.