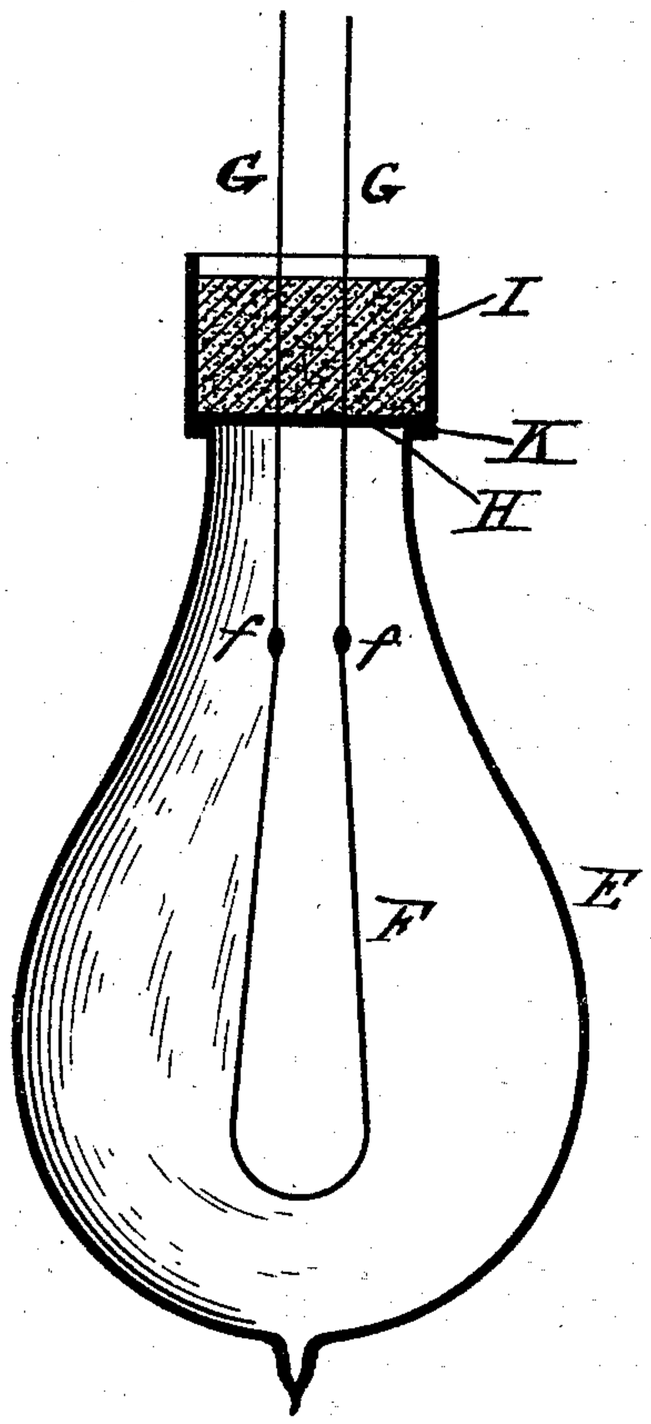
(No Model.)

E. E. CARY & W. E. NICKERSON.

INCANDESCENT ELECTRIC LAMP.

No. 503,650. Patented Aug. 22, 1893.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD EGBERT CARY, OF BOSTON, AND WILLIAM EMERY NICKERSON, OF CAMBRIDGE, MASSACHUSETTS.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 503,650, dated August 22, 1893.

Application filed April 3, 1893. Serial No. 468,928. (No model.)

To all whom it may concern:

Be it known that we, EDWARD EGBERT CARY, of Boston, county of Suffolk, and WILLIAM EMERY NICKERSON, of Cambridge, in the county of Middlesex, State of Massachusetts, have invented a new and useful Improvement in Incandescent Electric Lamps, of which the following, taken in connection with the accompanying drawing, is a specification.

Our invention relates to incandescent electric lamps, of that class in which the leading-in wires are inclosed and the lamp globe rendered air tight, by a plug of fusible cement. Its object is to render the process of manufacture more simple and easy, and consists in means for closing air-tight, without the use of glass and expensive workmanship, the neck of an incandescent lamp bulb. The means used are, first, a disk-supporting shoulder formed in the neck of the bulb; second, a loosely fitting disk of thin material adapted to support a fused cement which forms, when solidified by cooling, the air-tight sealing plug; third, a plug of material fusible at a high temperature, which is melted and poured into the neck of the lamp bulb, the disk, together with the walls of the neck of the bulb, forming a cup for retaining the cement until it is cooled and becomes hard, thus completing the sealing of the lamp bulb.

The method of carrying out the invention is explained as follows:

In the accompanying drawing, E is the glass globe of the lamp, said globe having a shoulder K; F the filament attached at *f f* to the leading-in wires G G.

H is a disk of mica or other suitable substance which serves to partially support the leading-in wires G G, and also to support a plug of fusible cement I, by which the wires are further held, and lamp rendered air tight. The disk H rests upon the shoulder K, which is formed in the neck of the bulb by the mold. in which it is blown when manufactured. This shoulder K is of great advantage and convenience in the manufacture of the lamp, since it insures the support of the disk H in an even position, which it is often difficult to secure when the neck of the lamp is merely conical in shape. In this latter case the disk often has a tendency to tip to one side, and so make a poor fit in the lamp neck. The shoulder K also tends to cause the disk H to fit the lamp neck more closely and thereby to more effectually prevent the cement from running through into the lamp, when poured into the neck in the melted state. It insures the position of the disk being the same in each lamp, and also assists the disk in resisting the atmospheric pressure. It further tends to cut off the heat rays emitted by the incandescent filament and prevents them from striking the joint between the disk and the neck of the lamp, where the cement is most exposed to the action of the vacuum in the lamp.

We claim—

In an incandescent electric lamp, the combination of the glass bulb E, having a shoulder K between the air-tight sealing plug and the vacuum chamber; with the loosely fitting disk H, filament F, leading-in wires G G, and plug of fusible cement I, substantially as and for the purpose set forth.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, on this 31st day of March, A. D. 1893.

EDWARD EGBERT CARY.
WILLIAM EMERY NICKERSON.

Witnesses:
FRANK G. PARKER,
FRANK G. HATTIE.