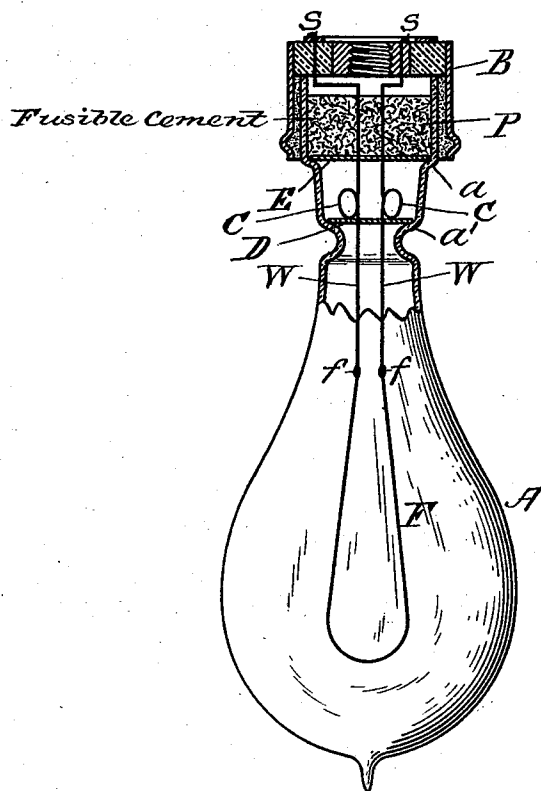


(No Model.)

W. E. NICKERSON.
INCANDESCENT ELECTRIC LAMP.

No. 507,556.

Patented Oct. 31, 1893.



WITNESSES.

Frank G. Parker.
Frank G. Hatter.

INVENTOR.

William Emory Nickerson

UNITED STATES PATENT OFFICE.

WILLIAM EMERY NICKERSON, OF CAMBRIDGE, MASSACHUSETTS.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 507,556, dated October 31, 1893.

Application filed July 31, 1893. Serial No. 482,003. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EMERY NICKERSON, of Cambridge, in the county of Middlesex and 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.

My invention relates to incandescent electric lamps of that class in which disks of mica are used, either for supporting a plug of fusible cement by which the neck of the lamp bulb is sealed air-tight, or for the purpose of intercepting and reflecting back, or away, from the said plug, the radiant heat of the filament, which would otherwise tend to soften it.

It consists in a method of rendering such disks of mica more effective in intercepting such radiant heat.

My invention is illustrated in the accompanying drawing, in which A represents the glass bulb of an incandescent electric lamp of the class described, F the filament, W W the leading-in wires to which the filament is attached at *ff*.

P is a plug of fusible cement which is poured into the lamp neck in a melted state and is supported while soft by the disk E which rests upon the shoulder *a* formed in the neck of the lamp bulb.

B is a base or cap of an ordinary type, secured to the lamp neck by plaster of paris in the usual manner, and to the proper parts of which the leading-in wires W W are attached at S S.

D is a heat-reflecting disk made of mica and rests upon the shoulder *a'*, from which it is prevented from rising by the coils C C formed in the leading-in wires W W directly above it.

My invention relates to a method of rendering the disk D, and also if desired the disk E, more effective in intercepting and throwing back the radiant heat of the incandescent filament. This I accomplish by subjecting these mica disks, to a high temperature, such as may be obtained by holding them in the flame of an ordinary Bunsen gas lamp. The result of this treatment is to cause the thin laminæ of which the mica is composed, to

separate from each other to such an extent, that the thickness of the disk is much increased, and an extremely large number of narrowly separated surfaces presented, for the backward reflection of the heat rays. So great is the number of these surfaces that the disk becomes opaque, or at least merely translucent, and totally non-diathermatic. Its capacity for transmitting heat by conduction is also reduced to a minimum, and it becomes extremely efficient, in protecting the cement plug P, from the destructive effects of the radiant heat of the incandescent filament.

I claim—

1. In an incandescent electric lamp, having a bulb the neck of which is adapted to be closed air-tight by a plug of fusible cement, mica disks located between the cement plug and the filament, said disks having been subjected to a high degree of heat, for the purpose of increasing their capacity to intercept heat rays, substantially as and for the purpose set forth.

2. In an incandescent electric lamp, the combination of the glass bulb A having a neck adapted to be closed air-tight by a plug of fusible cement, the cement plug P, the leading-in wires W W, and the filament F; with the disk of mica D, said disk being rendered opaque by the separation of its laminæ through the effect of heat, substantially as and for the purpose set forth.

3. In an incandescent electric lamp, the combination of the glass bulb A having a neck adapted to be closed air-tight by a plug of fusible cement, the cement plug P, the leading-in wires W W, and the filament F; with the disk of mica E, said disk being rendered opaque by the separation of its laminæ through the effect of heat, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 28th day of July, A. D. 1893.

WILLIAM EMERY NICKERSON.

Witnesses:

FRANK G. PARKER,
FRANK G. HATTIE.