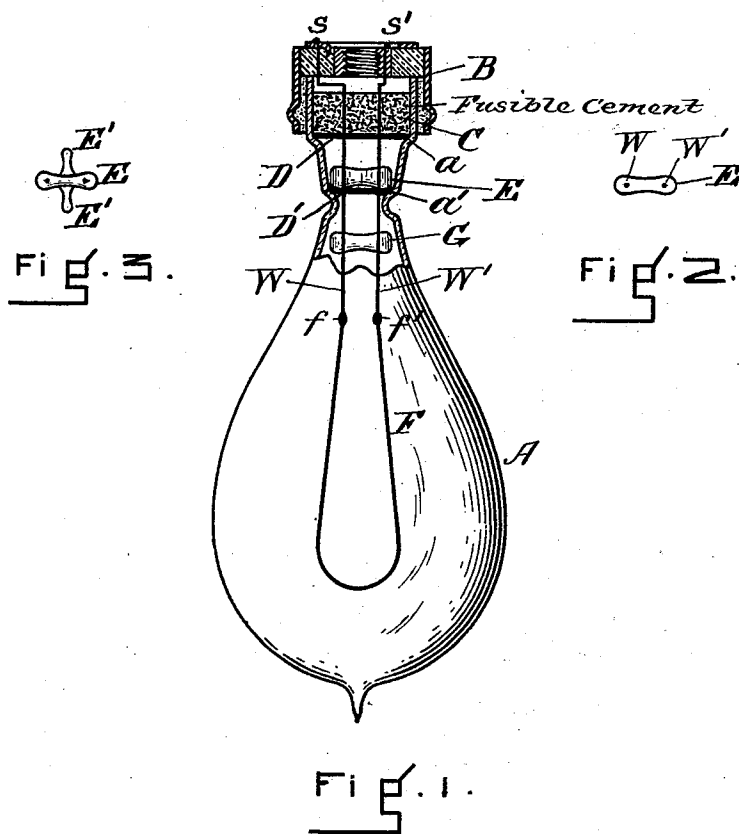


(No Model.)

W. E. NICKERSON.
INCANDESCENT ELECTRIC LAMP.

No. 507,557.

Patented Oct. 31, 1893.



WITNESSES

Frank M. Parker.
Frank G. Hatter.

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WILLIAM EMERY NICKERSON, OF CAMBRIDGE, MASSACHUSETTS.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 507,557, dated October 31, 1893.

Application filed July 31, 1893. Serial No. 482,004. (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
5 a new and useful Improvement in Incandescent Electric Lamps, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention appertains to incandescent
10 electric lamps, of that class in which the neck of the lamp bulb is closed air-tight by a plug of fusible cement, and which have a heat-reflecting disk located in the lamp neck between the cement plug and the filament for
15 the purpose of preventing the over-heating of the former.

It relates especially to a device for holding the heat-reflecting disk in place.

My invention is illustrated in the accompanying drawings, in which—

Figure 1, shows partly in vertical section and partly in side elevation, an incandescent electric lamp embodying my invention. Fig. 2, is a plan of a detail. Fig. 3, is a plan of a
25 modification.

In Fig. 1, A represents the glass bulb of an incandescent electric lamp of the class described.

F is the filament attached to the leading-in
30 wires W and W' at f and f'.

C is a plug of fusible cement by which the neck of the bulb is closed air-tight, and which is supported while soft by the disk D of mica or other suitable material. The disk D rests
35 upon the shoulder a formed in the neck of the lamp bulb.

B is a base or cap of an ordinary kind, secured to the lamp neck in the usual manner, and to the proper parts of which, the outer
40 extremities of the leading-in wires W and W' are secured by soldering at S and S'.

D' is a heat-reflecting disk, located in the lamp neck between the disk D and the filament F and rests upon the shoulder a'. Its
45 function is to intercept the heat rays from the filament and reflect them back in order to prevent them from over-heating the cement plug C.

E is a bar of glass shown in plan Fig. 2, either end of which encircles a leading-in wire.
50 The office of the bar E is to firmly hold the

heat-reflecting disk D' upon the shoulder a', and thereby prevent it from sliding up the wires W and W', toward the disk D. If the bar E is not used, and the disk D' moves toward the disk D, which in that case it is likely
55 to do, its effectiveness is much diminished, since it is necessary to maintain a considerable distance between the two disks, in order that the disk D should perform its function
60 to the best advantage. The bar E, from its horizontal position, also tends to prevent the disk D' from assuming an inclined position. The effectiveness of the bar E may be much
65 increased, by the addition on either side, of spurs or branches of glass, shown in plan in Fig. 3, at E' E'. These branches operate in connection with the bar itself, to prevent the disk D' from inclining in any direction.

G is a bar of glass similar to E, but located
70 between the disk D' and the filament, and may be used when desired, for convenience during manufacture. It also serves to give support to the wires, near their points of attachment to the filament, and adds in a gen-
75 eral way, rigidity to the structure.

When the glass bar G is used, the method of procedure in assembling the parts of the lamp during manufacture, is substantially as follows: The wires W and W' are first con-
80 nected together by the bar G by a process well known to glass blowers, which serves to hold them in position while being attached to the filament F, which attachment is then made by any of the methods well known in the art.
85 Next, the disk D' is slipped over the other ends of the wires and moved up to the bar G. The glass bar E is then attached, after which, the disk D is placed upon the wires and the disk D' moved next to the bar E, and the
90 whole structure placed in position within the lamp bulb. The fused cement is now poured into the lamp neck upon the disk D, and after it has cooled, the lamp is ready to be exhausted of air in the usual manner, after
95 which it is measured and capped in the ordinary way.

I am aware that bars of glass have been used, to tie together and support leading-in wires within incandescent lamps, in substan-
100 tially the same manner as the bar G, which I do not claim as novel. I am not aware, how-

ever, that a bar of glass attached to the leading-in wires, has been used in connection with a heat-reflecting disk located within the lamp neck, for the purpose of holding such disk in position.

I claim—

1. In an incandescent electric lamp in which a heat-reflecting disk located in the neck is used to protect a plug of fusible cement by which the lamp is closed air-tight, a bar of glass attached to the leading-in wires and adapted to hold the said heat-reflecting disk in position, substantially as and for the purpose set forth.

2. In an incandescent electric lamp in which a heat-reflecting disk located in the neck is used to protect a plug of fusible cement by which the lamp is closed air-tight, a bar of glass attached to the leading-in wires and having branches as described, and adapted to hold the said heat-reflecting disk in position and prevent its inclining in either direction, 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 C, the leading-in wires W and W', the filament F, the heat-reflecting disk D' and the glass bar E attached to the leading-in wires and adapted to hold the said heat-reflecting disk in position, substantially as and for the purpose set forth.

4. 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 C, the leading-in wires W and W', the filament F, the heat-reflecting disk D' and the glass bar E attached to the leading-in wires and having the branches E' E', adapted to hold said heat-reflecting disk in position, 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.