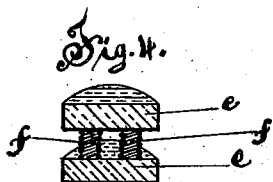
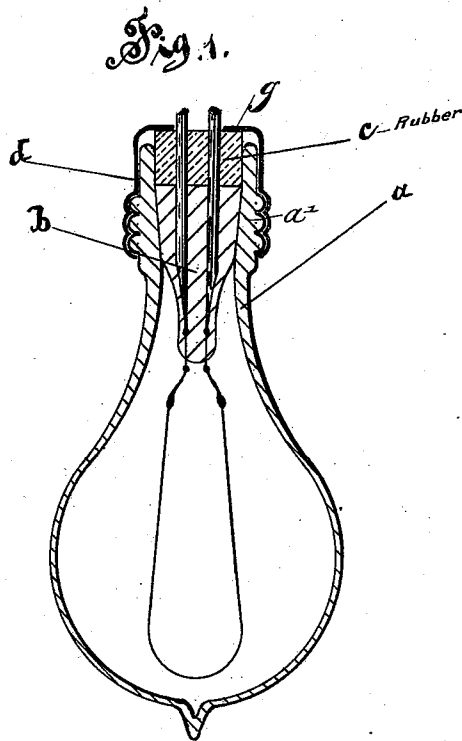


(No Model.)

H. GREEN.
INCANDESCENT ELECTRIC LAMP.

No. 510,018.

Patented Dec. 5, 1893.



Witnesses:-
W. Russell Munson
James C. Bray

Inventor.
Henry Green.

UNITED STATES PATENT OFFICE.

HENRY GREEN, OF HARTFORD, CONNECTICUT.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 510,018, dated December 5, 1893.

Application filed October 17, 1892. Serial No. 449,158. (No model.)

To all whom it may concern:

Be it known that I, HENRY GREEN, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Incandescent-Lamp Caps, of which the following is a specification.

The object of my invention is to provide in an incandescent electric lamp a constantly active mechanical agent tending to positively force the stopper of the lamp into the neck of the bulb and prevent the vitiation of the vacuum in the lamp by leakage around the stopper.

It is well-known in the art that the stoppered lamps, while preferable on account of certain features, are open to the objection that after the creation of the vacuum within the bulb, the expansion of the parts under heat is liable to cause leakage between the stopper and its neck. By my invention, any leakage from such cause is prevented by the employment of a constantly active agent tending to force the stopper into the bottle and to immediately occupy the least space occasioned, or tending to be produced between the stopper and the neck of the bulb.

In the accompanying drawings: Figure 1 is a central vertical section of a lamp, showing a preferable embodiment of my invention. Fig. 2 is a similar view of the flange retaining cap. Fig. 3 shows one form of stopper driving mechanism; and Fig. 4 shows, in cross section, another form of the same.

Referring to the letters on the drawings: *a* indicates the bulb of an incandescent electric lamp having an inside tapered neck *a'*, into which is closely fitted, as in the usual manner, a stopper *b*, tapered to correspond with the tapered neck *a*.

Above the stopper I introduce a constantly active mechanical agent tending, at all times, to urge the stopper deeper into its neck. Such mechanism, which I will in the claims designate as stopper driving mechanism, consists of expansive material. For example, it may consist of a section of rubber *c*, as shown in

Figs. 1 and 3 of the drawings, or it may consist of two solid disks *e*, as shown in Fig. 4 of the drawings, separated by springs *f*.

I do not limit myself in this respect to the character of the agent employed.

For operatively supporting the stopper driving mechanism against the end of the stopper, I employ a retaining cap *d* provided with a flange *g*. The cap is preferably secured to the outside of the neck *a'* by suitable retaining mechanism as, for example, corresponding screw threads upon the outside of the neck and the inside of the cap respectively.

In practice, the stopper having been inserted in place, the driving mechanism is placed in the upper end of the neck, as illustrated in Fig. 1, and the cap is screwed into place upon it until, as with the mechanism illustrated, sufficient pressure is exerted upon the top of the driving mechanism, and caused to exert a constant pressure upon the end of the stopper tending to drive it into the bulb. The end of the neck in this instance serves as a retaining and directing envelope, so that the force of the driving mechanism is exerted directly upon the end of the stopper and is not dissipated laterally.

What I claim is—

1. The combination with an incandescent electric lamp bulb having a tapered neck, of a tapered stopper fitting within the neck, and constantly operative stopper driving mechanism operatively secured upon the end of the stopper, substantially as set forth.

2. The combination with an incandescent electric lamp bulb, having an inside tapered neck, of a tapered stopper fitted to the neck of the bulb, stopper driving mechanism consisting of expansive material operatively secured upon the lamp above the end of the stopper, substantially as and for the purpose specified.

3. The combination with an incandescent electric lamp bulb, and inside tapered neck, of a stopper, stopper driving mechanism, a flange retaining cap, and means for securing the cap to the bulb, substantially as set forth.

4. The combination with an incandescent
electric lamp bulb, and inside tapered neck,
of a stopper fitted thereto and adapted, in
entering the neck, to pass within its outside
5 edge, stopper driving mechanism consisting
of expansible material located within the neck
above the stopper, and mechanism for actu-
ating the stopper driving mechanism and
compressing it against the top of the stopper

and the sides of the neck, substantially as set
forth.

Signed at Hartford, in the county of Hart-
ford and State of Connecticut, this 14th day
of October, A. D. 1892.

HENRY GREEN.

Witnesses:

JAMES C. BRAY,

W. RUSSELL MUNSON.