

No. 680,242.

Patented Aug. 13, 1901.

H. GILMORE.
INCANDESCENT ELECTRIC LAMP.

(Application filed June 14, 1899.)

(No Model.)

2 Sheets—Sheet 1.

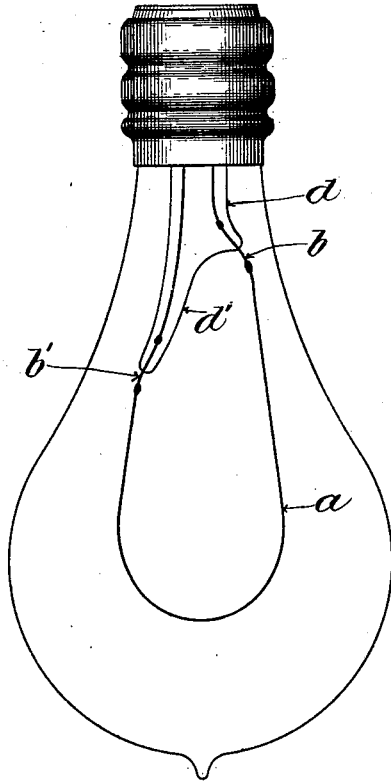


Fig. 1.

Witnesses:

Arthur A. Randall,
H. Powers

Inventor:

Howard Gilmore,

by J. E. W. M. & Co.
Attorneys.

No. 680,242.

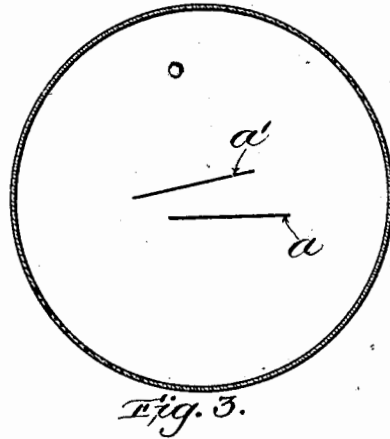
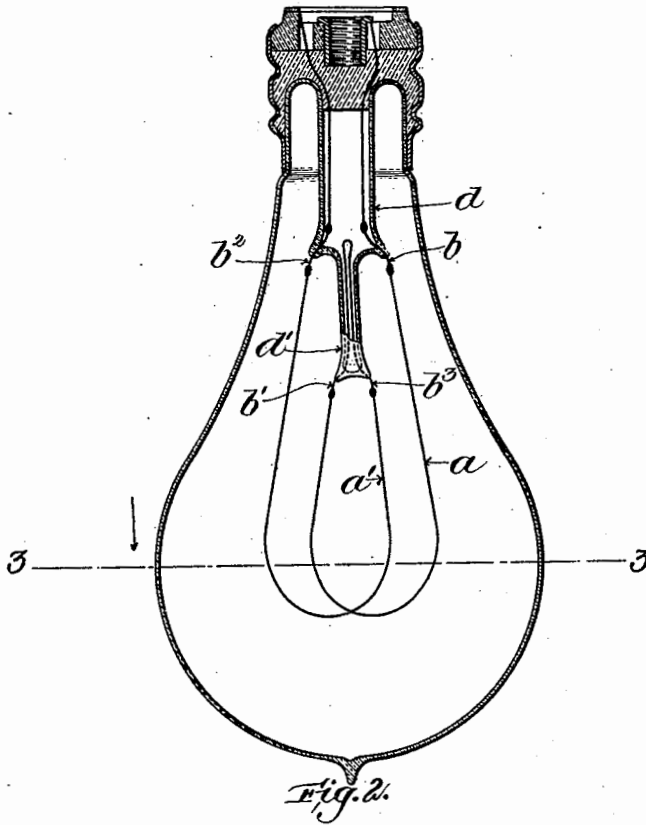
Patented Aug. 13, 1901.

H. GILMORE.
INCANDESCENT ELECTRIC LAMP.

(Application filed June 14, 1899.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses.

Arthur T. Randall
H. Powers

Inventor:

Howard Gilmore,

by J. E. ...
Attorney's.

UNITED STATES PATENT OFFICE.

HOWARD GILMORE, OF BOSTON, MASSACHUSETTS.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 680,242, dated August 13, 1901.

Application filed June 14, 1899. Serial No. 720,458. (No model.)

To all whom it may concern:

Be it known that I, HOWARD GILMORE, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Incandescent Electric Lamp, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of one form of my improved lamp. Fig. 2 is a lengthwise central section of another form. Fig. 3 is a section on line 3 3 of Fig. 2.

My invention is a lamp whose filament has a curved body portion terminating in two legs which differ materially in length, the longer one of which is connected to one of the leading-in wires, which is sealed into the glass making part of the bulb, while the shorter one is connected to a wire which forms part of the circuit and which is on a support extending into the bulb substantially as shown in the drawings, my main purpose being to get a long staple-shaped or yoke-shaped filament with one short leg, and thereby greatly lessen the vibration of a filament of that shape and also to admit of two such filaments being used in one bulb without danger of either coming into contact with the other.

In Fig. 1 I show my improved lamp with but one filament *a*, one end of which is secured to a platinum wire *b*, which passes through the inner tube *d*, as usual; but the platinum wire *b'* for the other end of filament *a* passes through an extension *d'* of the inner tube *d*, and that leg of the filament connected with wire *b'* is as much shorter than the leg connected with the wire *b* as the length of the extension *d'*. This greatly stiffens the filament and reduces the extent of its vibration when the lamp is moved, as it must be in carrying it about and putting it in its socket, and also materially reduces the vibratory effects caused by jars when the lamp is in place on its bracket or holder. This is the first feature of my invention, and while this feature is valuable alone its value is much enhanced when two such filaments are used, as in Figs. 2 and 3, in which I show two unsymmetrical filaments each with a curved body portion and two legs differing materially in length, with the longer legs connected, respectively, to the glass tube *d* by the wires *b b'* and with the shorter legs connected, respectively, to

the support *d'* by the wire marked *b' b''*, which is carried by the support *d'* and which forms part of the circuit. This is the second feature of my invention, and not only are the two filaments *a a'* each so greatly stiffened by the fact that their short legs are connected with the wire *b' b''* on the extension *d'* of the tube *d* that they are in no danger of swinging into contact with one another, but in addition I can double the length of the filament without requiring any anchoring devices, which have been heretofore used and the objections to which are too well known to require description. As shown in Figs. 2 and 3, the filaments *a a'* are in series and of course require a higher voltage than when used in multiple, as will be obvious to all skilled in the art, and it will also be clear that when wire *b' b''* is looped, as shown, the filaments *a a'* can be connected to the circuit in multiple by simply connecting the loop of wire *b' b''* with the positive wire of the circuit and the wires *b b''* with the negative wire of the circuit, or vice versa. The lamp from which Fig. 2 was drawn is adapted for use with fifty-five volts constant pressure when the two filaments *a a'* are in multiple and with one hundred and ten volts constant pressure when those two filaments are in series—that is, when wire *b* connects with the positive wire and wire *b''* with the negative wire wire *b' b''* serves simply to connect the two short legs of the filaments *a a'* together. It will be obvious that when the wire *b' b''* is connected to the line-wire the extension *d'* must be of glass in order to make a tight globe and the wire *b' b''* must be of platinum.

I am aware of patents to Voelker, No. 252,646, dated February 14, 1882, and to Wilkins, No. 467,270, dated January 19, 1892, and disclaim all shown in them, for in Voelker the filament is an arc whose chord is parallel with the axis of the bulb and in Wilkins the filament is a spiral whose axis is coincident with the axis of the bulb and in both Voelker and Wilkins the filament is supported by a holder, which is a separate and distinct part, while in my lamp the filament is supported by the glass tube *d*, sealed at its inner end and at its outer end to the neck of the bulb without anything resembling the filament-holders of Voelker or of Wilkins.

What I claim as my invention is—

1. In an incandescent lamp a filament with a curved body portion and two legs integral with the body portion, but one leg materially longer than the other, and each of the legs supported by a tube of glass sealed at its inner end, and also sealed at its outer end to the neck of the bulb.
2. In an incandescent lamp two filaments each with a curved body portion and two legs integral with the body portion, but one leg of

each filament materially longer than the other leg of that filament, and with each of the legs supported by a tube of glass sealed at its inner end, and also sealed at its outer end to the neck of the bulb.

HOWARD GILMORE.

Witnesses:

WM. MAYNADIER,
H. POWERS.