

June 21, 1938.

E. MICKLEY
ELECTRIC INCANDESCENT LAMP
Filed May 10, 1937

2,121,641

Fig. 1.

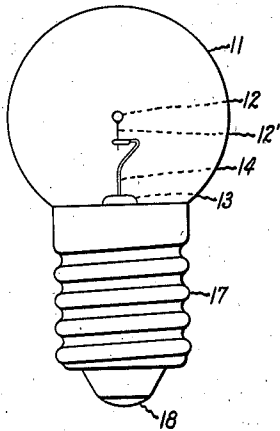


Fig. 2.

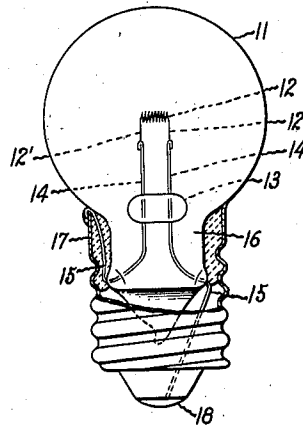
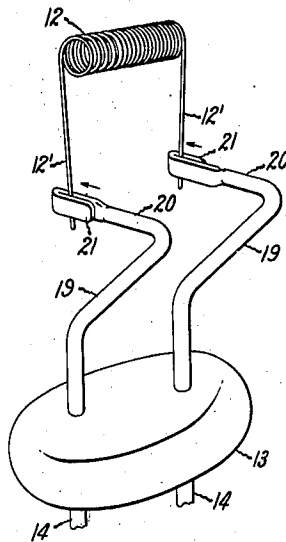


Fig. 3.



Inventor:
Erich Mickley,
by *Harry E. Dunham*
His Attorney.

UNITED STATES PATENT OFFICE

2,121,641

ELECTRIC INCANDESCENT LAMP

Erich Mickley, Berlin-Zehlendorf, Germany, assignor to General Electric Company, a corporation of New York

Application May 10, 1937, Serial No. 141,819
In Germany May 25, 1936

3 Claims. (Cl. 176—38)

My invention relates to electric incandescent lamps, and more particularly to miniature lamps and to filament supporting structures therefor.

One object of my invention is the provision of a particularly vibration-proof support for the coiled filament of electric miniature lamps. Another object is the provision of a filament mount structure for such lamps which will support the coiled filament in a very symmetrical position with respect to the lamp axis. Still another object of my invention is the provision of a filament mount structure which will permit the coiled filament to be readily and positively fastened thereto on high speed machines serving for mass production.

Other objects and advantages of my invention will appear from the following description of a species thereof and from the accompanying drawing, in which:

Fig. 1 is a side elevation of an electric miniature lamp comprising my invention; Fig. 2 is a front elevation, partly in section, of the lamp shown in Fig. 1, the view being taken at ninety degrees to that of Fig. 1; and Fig. 3 is an enlarged perspective view of the filament mount structure and associated coiled filament, showing the manner in which the latter is fastened to the two lead wires.

To accomplish the previously mentioned objects of my invention, the two lead wires which support and supply current to the coiled filament are, according to the invention, bent above the glass bead at an appreciable angle, and perpendicular to the center plane of the lamp passing through the unbent portions of the two lead wires. The upper ends of the two lead wires are bent back towards the said center plane and substantially perpendicular thereto, and are formed with hooks at the ends thereof, which hooks are disposed within and at right angles to the said center plane. The ends of the coiled filament, which is arranged in this same center plane, are clamped in these hooks.

Referring to the drawing, the lamp comprises a spherical glass bulb 11, the filament 12, and the two current-supply or lead wires 14, 14, which are sealed in a glass bead 13 and which serve to support the filament. The outer leads 15, 15, which protrude from the neck 16 of the bulb, are soldered to the base sleeve 17 and to the bottom center contact 18 respectively, of the base. The two inner lead wires 14, 14 are provided above the glass bead 13 with portions 19, 19 bent at an appreciable angle to the longitudinal axis of the lamp but perpendicular to the center plane

of the lamp passing through the unbent portions of the two inner lead wires 14, 14. The upper ends of the two inner lead wires are bent back towards the above-mentioned center plane to form the portions 20, 20 which extend substantially perpendicularly to said center plane. As is evident from the drawing, the inner portions 19, 19 and 20, 20 of the inner lead wires are preferably made to extend parallel to each other, and provide, in effect, a V-shaped support for the coiled filament which will be particularly vibration proof. The ends of the portions 20, 20 are formed with horizontally disposed clamps or hooks 21, 21 which likewise extend substantially perpendicularly to the previously referred to center plane, and are disposed within the same.

The ends 12' of the filament 12, which extend longitudinally of the lamp, are inserted into the open hooks 21, 21 from the side thereof, in the direction indicated by the arrows in Fig. 3, whereupon the filament 12 is disposed in an exactly symmetrical position with respect to the axis of the lamp by closing the hooks 21, 21. In this manner, the fastening of the coiled filament to the inner lead wires can be readily and positively carried out on the high-speed machines which serve for mass production, and which are commonly known as mount making machines. The height of the filament 12 above the clamps or hooks 21, 21 is preferably selected in such a way that the filament will, at the same time, be symmetrically disposed with respect to the center point of the lamp.

Although I have shown a linear filament 12, it should be understood that the same may be V-shaped or of any other form. In addition, the lamp bulb 11 and the base may also have any other desired shape.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In an incandescent lamp, the combination of a glass bulb having a filament sealed therein and lead wires extending through said bulb and supporting said filament, said lead wires including inner leads spaced by a bead of insulating material, said inner leads being bent, above said bead, perpendicularly to the center plane of the lamp passing through said inner leads, the extremities of said inner leads being formed with filament engaging hooks disposed perpendicularly to said center plane and supporting said filament in a symmetrical position with respect to the axis of said lamp.

2. In an incandescent lamp, the combination of a glass bulb having a filament sealed therein

and lead wires extending into said bulb and supporting said filament, said lead wires being bent into substantially V-shaped portions the planes of which are parallel to the axis of the lamp and perpendicular to the center plane of the lamp 5 passing through said leads, the extremities of said V-shaped portions being formed with filament engaging hooks disposed perpendicularly to said center plane and supporting said filament 10 in a symmetrical position with respect to the axis of said lamp.

3. The method of manufacturing a filament mount for incandescent lamps which consists in

bending the inner ends of the lead wires of said mount into substantially V-shaped portions the planes of which are perpendicular to the plane of said lead wires, forming the extremities of said V-shaped portions with filament engaging hooks 5 extending perpendicularly to and disposed within the plane of said lead wires, inserting the end portions of a filament in said hooks by relative movement therebetween transversely of the plane of said lead wires, and clamping said hooks 10 securely to said end portions of said filament.

ERICH MICKLEY.