Dec. 17, 1940. C. WIENER 2,225,090

MOUNT CONSTRUCTION FOR INCANDESCENT LAMPS

Filed Dec. 30, 1938

Fig. 1.

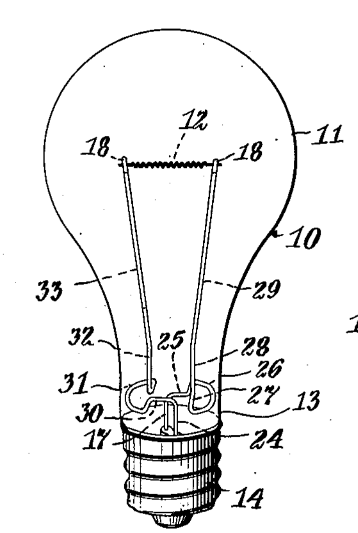


Fig. 2.

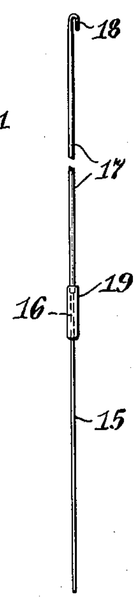


Fig. 3.

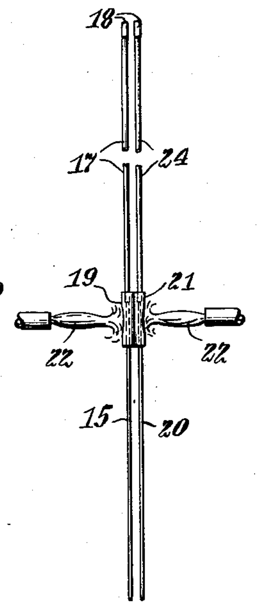


Fig. 4.

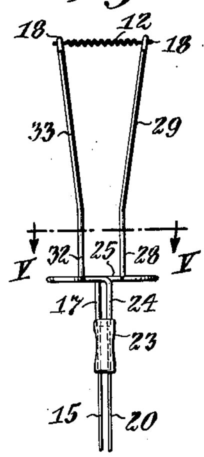


Fig. 5.

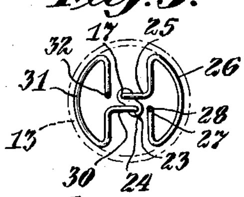


Fig. 6.

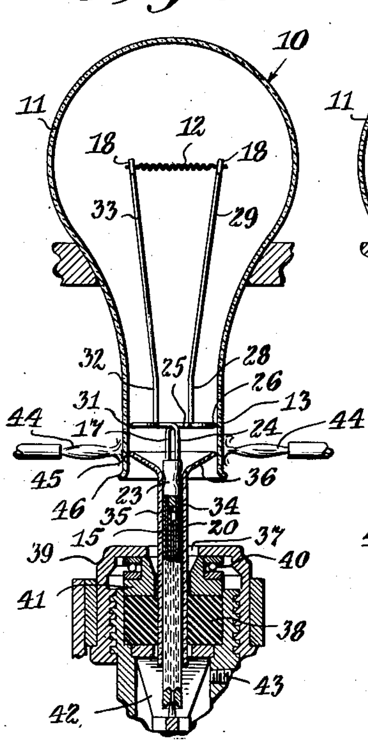


Fig. 7.

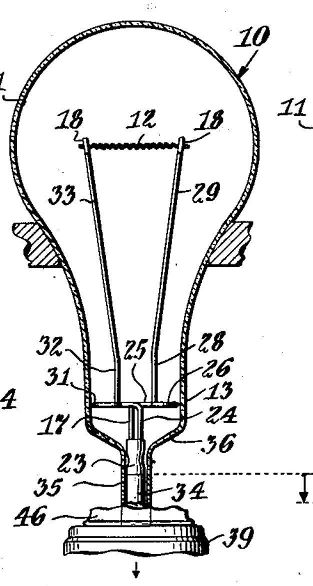
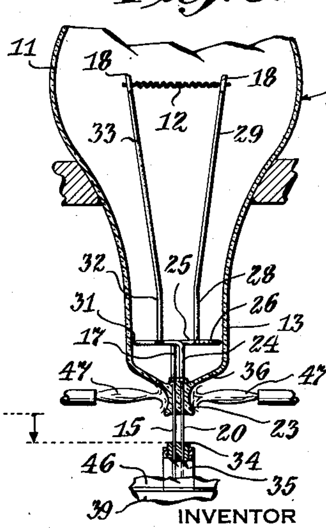


Fig. 8.



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2,225,090

UNITED STATES PATENT OFFICE

2,225,090

MOUNT CONSTRUCTION FOR INCANDESCENT LAMPS

Charles Wiener, Newark, N. J., assignor to Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., a corporation of Pennsylvania

Application December 30, 1938, Serial No. 248,419

5 Claims. (Cl. 136—38)

My invention relates to incandescent lamps and especially to the mount construction for incandescent lamps.

An object of the invention is to provide a simpler and cheaper mount construction for incandescent lamps and similar devices.

Another object of the invention is to eliminate the cumbersome press in incandescent lamps.

Other objects and advantages of the invention will be apparent from the following description and drawing, in which:

Fig. 1 is a perspective view of a lamp embodying the invention.

Fig. 2 is a side elevation of a lead wire and beaded glass in the first stage of the assembly of the tube.

Fig. 3 is a front elevation of the two lead wires or standards with glass beads in the next step in assembling the tube.

Figs. 4, 6, 7, and 8 are views of the lead wires and the various stages of assembly into the tube; the tube, and associated apparatus, being illustrated mainly in cross-section.

Fig. 5 is a view on lines V—V of Fig. 4.

In Fig. 1, the tube comprises a glass container **10** having a bulged out portion **11** containing the filament **12** centrally therein. The glass container narrows down to a neck **13** sealed to the familiar screw-threaded base **14**. As the first step in the formation of a tube according to my invention, I take lead-in wire **15** which has a copper clad portion **16** of the familiar tube metal sold under the trade-name of "Dumet" and an interior standard **17**. The interior end has a hook **18** formed thereon. A glass tube **19** is slipped over the "Dumet" portion **16** on this lead-in wire and also another tube **21** on a similar wire **20**. These two wires **15** and **20** are placed with the glass portions **19** and **21** in contact and revolved in a flame **22** which melts the glass of the two tubes and seals the two wires **15** and **20** within the mass **23** formed from the two tubes **19** and **21**. The upper portion **17** of the wire **15** and also the upper portion **24** of wire **20** are put in a bending gig and bent outwardly and then upwardly.

Various shapes are possible, but the one that I specially prefer is illustrated most clearly in Figs. 1, 4, and 5. The portion **17** at a short distance above the mass of glass **23** is bent outwardly at right angles for a short distance **25** and is then shaped into an arc **26** defining substantially the outer segment of a circle. The inner end **27** where it approaches the beginning of the segment is then bent upward for a portion **28** and then at an angle at **29** so that the upper hook **18** is spaced at the proper distance from the center line to secure the end of the filament **12** thereto. The upper portion **24** of lead-in wire **20** is bent in the opposite direction at **30** to form an arc or segment of the circle **31** in the direction opposite to the axis of the arrangement to that occupied by the segment **26**. From this segment **31**, a portion **32** extends directly upward and then is bent at **33** to suitably space the upper hook **18** at the other end of the filament **12**.

It will be noted that Fig. 5 discloses the two lead-in wires forming the periphery of substantially fifty per cent or more of a circle about the axis of the stem assembly.

A tube **34** preferably of brass is slipped around the exterior wires **15** and **20** up to the lower edge of the glass bead **23**. This brass tube is substantially the diameter of the glass bead **23**. A tubulation tubing **35** with an upper flare **36** extending outwardly to approximately the diameter formed by the segments **26** and **31** of the wires, is slipped over the brass tube with the flare **36** at the location of the bead **23**. The stem, brass tube, and tubulation is then placed in the exhaust port **37** of a machine for sealing, exhausting, and filling with an inert gas. Specific details of this machine are described in the copending application of Lloyd D. Lockwood et al., filed February 26, 1938, Serial No. 192,740, for "Method and machine for exhausting and gas-filling hollow vessels."

The portion of this machine illustrated comprises a rubber tube connection **38** surrounding the glass tubulation **35** and adapted to be compressed thereon by a screw-threaded cap **39** acting through ball bearings **40** and washer **41**. A port **42** provides means for exhausting the tube when desired and another port **43** is provided for the insertion of any desired gaseous atmosphere, especially an inert gas such as argon or nitrogen. The tube **11** is then placed over the stem with its neck **13** approximately engaging the arcs **26** and **31** of the conductors or standards for the filament. A sealing flame **44** is then applied to the neck of the glass tube to seal the neck onto the edge of **45** of the tubulation **36** and the excess **46** drops off when the neck **13** is sealed to the flared portion **36** of the tubulation **35** as illustrated in Fig. 7.

The tube is then exhausted and filled with the desired inert atmosphere such as argon or nitrogen. A flame **47** is then directed at the portion of the tubulation around the glass bead **23** until the tubulation and the glass bead **23** are sealed together. The hot tipping torch is then removed and the presence of the metal tube directly underneath the glass tubulation causes a ring crack to develop around the end of the brass tube and the excess exhaust tubing and brass tube drops off as illustrated in Fig. 8 and leaves the formed tube with its two exterior wires 15 and 20. The base 14 can then be placed therein in the usual manner.

It will be noted that the lamp has been formed in a very simple manner and that the standards for the filament have a firm support against the neck of the bulb by means of the arcs 28 and 31 in contact therewith. The cumbersome press heretofore present in incandescent lamps has been eliminated.

It is apparent that many modifications may be made in the form, number, and arrangement of the elements and the various steps of the process without departing from the spirit of the invention. Accordingly, only such limitations are intended on the following claims as are necessitated by the prior art.

I claim:

1. A lamp comprising a container comprising a bulb portion and a neck portion, a filament in said bulb portion, conductors for said filament extending through said next portion and being additionally supported in a transverse plane by the side wall of said neck.

2. A lamp comprising a container having a bulb portion and a neck portion, a filament in said bulb portion, two conductors having portions sealed through said bulb for said filament, said conductors having a portion intermediate the portion sealed through the bulb and the connection to the filament being curved into contact with the wall of said neck portion for additional support.

3. A lamp comprising a container having a base, a neck portion on said base, a bulb portion on said neck, conductors sealed through said base and having a portion contoured to the cross-sectional shape of the wall of the neck portion and adjacent thereto and an upper end portion in said bulb portion and a filament supported in said upper end portions of said conductors.

4. A lamp comprising a container having a base, a circular neck portion and a bulb portion, two conductors sealed through said base, each conductor being bent outwardly into an arc corresponding in curvature and plane with a transverse plane portion of the adjoining circular neck portion, said conductors then extending upwardly into said bulb portion and a filament between the ends of said conductors in said bulb portion.

5. A conductive support for a filament comprising two conductors having substantially parallel lower ends, an intermediate portion having outwardly extending arcs substantially symmetrical, to each other, and transverse to the lower ends, said conductors having spaced upper ends.

CHARLES WIENER.