March 6, 1928. 1,661,589

W. J. WINNINGHOFF

ANODE SPACER

Filed Aug. 27, 1924

Fig. 1

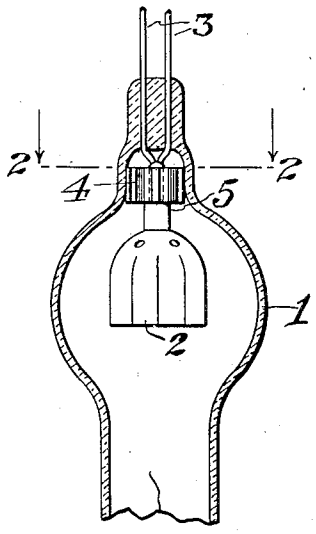


Fig. 2

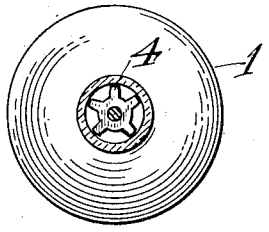
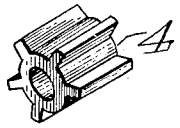


Fig. 3



INVENTOR

Wilford J. Winninghoff

BY

Thos. D. Brown

HIS ATTORNEY

Patented Mar. 6, 1928. 1,661,589

UNITED STATES PATENT OFFICE.

WILFORD J. WINNINGHOFF, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO COOPER HEWITT ELECTRIC COMPANY, OF HOBOKEN, NEW JERSEY, A CORPORATION OF NEW JERSEY.

ANODE SPACER.

Application filed August 27, 1924. Serial No. 734,435.

The present invention relates to improvements in vapor electric lamps and the like.

Heretofore lamps of the type referred to have been damaged in shipment and have had their life shortened either by the vibrations and shocks incident to transportation or in the work places which have caused the separation of the anode from its lead wire. Many attempts have been made to solve this serious problem, but all such efforts have increased the number of steps necessary to the production of the lamp, required abnormal sizes of materials, and consequently increased the cost thereof, without solving the problem.

I have discovered that by providing the anode stem of a vapor device with a sleeve like member whose inner and outer edges or peripheries are in loose contact with the wall of the lamp and with said stem, the lamps can be successfully shipped and used without the above defect making its appearance, and normal materials can be used in the fabrication of the lamp.

I have illustrated my invention in the accompanying drawings, in which;

Fig. 1 is a sectional elevation of the anode end of a vapor lamp showing the anode spacer in place;

Fig. 2 is a sectional plan view on line 2—2 of Fig. 1; and

Fig. 3 is a perspective view of the anode spacer, in this instance of the fluted type.

Referring to the drawings, 1 is the anode end of the container of a vapor lamp and 2 is the anode sealed into the wall thereof, as shown at 3, 3. Prior to the sealing in of the anode 2 a spacing member 4 is slipped over the wires and rests on a shoulder 5 on the anode stem and thereafter said wires are sealed into the end of container 1, the spacer 4 being drawn up into proper position with respect to the wall of the container as shown in Fig. 1 during the sealing operation. The spacer 4 is in fluted form and serves in mercury containing devices to break up and take up any mercury hammer action caused by the tilting of the container and thus protect the seal from being cracked by the hammer blow, and, further, at the same time protect the anode from undue twisting and vibration from this same cause, although any desired form of spacer may be used.

The member 4 may be of Lavite or of porcelain, or of any suitable material, such materials being readily obtained in the market and the use of such materials above described reduces the expensive fusing operations incident to manufacture to a minimum in the production of a transportable, durable service.

I claim as my invention:—

1. In combination in an electric device having an envelope and a conductor lead sealed into and extending in said envelope, means for supporting said lead against excessive bending within the envelope comprising a sleeve of refractory insulating material positioned about said lead and extending laterally into close proximity with the wall of said envelope, said electrode and the wall of said envelope serving to prevent any substantial longitudinal movement of said sleeve on said lead-in.

2. In combination in a mercury vapor discharge device having an envelope and an electrode therein with a lead therefrom sealed through the wall of said envelope and mercury in said envelope, means for supporting said lead against excessive bending and for protecting the seal-in of the lead against mercury hammer during movement of the device comprising a sleeve of refractory material positioned about said lead close to said seal-in and extending laterally into close proximity with the wall of said envelope.

3. In combination in a mercury vapor discharge device having an envelope containing a quantity of mercury, a lead sealed through the wall of said envelope, an electrode mounted on said lead in said envelope, means for supporting said lead against excessive bending and for protecting the seal-in of the lead against mercury hammer comprising a sleeve of refractory material having portions extending across the envelope at said seal-in, said electrode and the wall of said envelope serving to prevent any substantial longitudinal movement of said sleeve on said lead-in.

4. In combination in a mercury vapor discharge device having an envelope contain-

ing a quantity of mercury, a lead sealed through the wall of said envelope, an electrode mounted on said lead in said envelope, means for supporting said lead against excessive bending and for protecting the seal-in of the lead against mercury hammer comprising a fluted sleeve of refractory insulating material having portions extending across the envelope at said seal-in, said electrode and the wall of said envelope serving to prevent any substantial longitudinal movement of said sleeve on said lead-in.

Signed at Hoboken in the county of Hudson and State of New Jersey A. D. 1924.

WILFORD J. WINNINGHOFF.