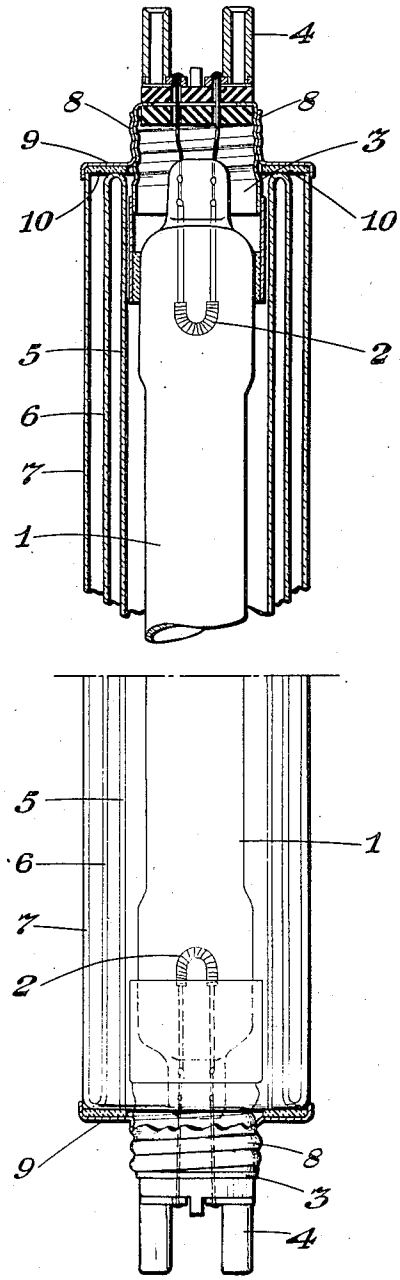
Nov. 8, 1938. H. BAUMHAUER ET AL 2,135,696

LAMP UNIT

Filed March 5, 1935



INVENTORS
Heinrich Baumhauer
Werner Fehse
BY Harry E. Dunham
ATTORNEY

Patented Nov. 8, 1938 2,135,696

UNITED STATES PATENT OFFICE

2,135,696

LAMP UNIT

Heinrich Baumhauer, Berlin-Spandau, and Werner Fehse, Berlin-Lichterfelde, Germany, assignors to General Electric Company, a corporation of New York

Application March 5, 1935, Serial No. 9,514
In Germany March 9, 1934

2 Claims. (Cl. 240—11.4)

The present invention relates to lamp units generally and more particularly the invention relates to lamp units comprising a gaseous electric discharge lamp device and a heat conservator for said lamp device.

The object of the present invention is to provide a lamp unit comprising a gaseous electric discharge lamp device and a heat conservator which is easily and quickly assembled and taken apart. Another object of the invention is to provide a heat conservator for a lamp device the manufacturing cost of which is reduced to a minimum. Still further objects and advantages attaching to the device and to its use and operation will be apparent to those skilled in the art from the following particular description.

In accordance with these objects the new and novel heat conservator comprises at least three concentric tubes of different diameter. The intermediate tube or tubes is joined to the tubes on either side thereof by fusing one end of said intermediate tube to an end of the tube on one side thereof and by fusing the opposite end of said intermediate tube to an end of the tube on the other side thereof. Each end of the conservator is open for the access of air. The heat conservator is clamped between two supporting elements which make a gas pervious mechanical joint with the respective ends of the heat conservator and said supports are removably attached to the lamp device surrounded by said heat conservator. The heat conservator is thus filled with air, which is a poor heat conductor, at the pressure of the ambient. The lamp unit is easily assembled by inserting the lamp device in the heat conservator and attaching the clamping supports for the heat conservator onto the ends of the lamp. The lamp unit is taken apart just as easily. The heat conservator reduces the heat losses from the lamp device during the operation thereof and said lamp device operates at a higher temperature than it would without said heat conservator. This is of advantage in connection with vapor lamps, such as cadmium vapor, magnesium vapor, sodium vapor, or mercury vapor lamps as the vapor pressure in the lamp is higher than it would be otherwise and greater efficiency is obtainable. Since the conservator is not evacuated the manufacturing cost thereof is very low.

In the drawing accompanying and forming part of this specification an embodiment of the invention is shown in a schematic, partly sectional view.

Referring to the drawing the new and novel lamp unit comprises a gaseous electric discharge lamp and a heat conservator 5, 6, 7 therefor. Said lamp consists of an elongated tubular container 1 having sealed into each end thereof a thermionic electrode 2 and having a gaseous atmosphere therein comprising a starting gas, such as argon or neon, and a metal vapor, such as mercury or sodium vapor. Said container 1 has an Edison base 3 cemented to each end thereof and each of said bases 3 has a pair of contact pins 4 thereon which are connected by current leads to said electrodes 2.

Said heat conservator consists of three concentric tubes 5, 6 and 7. One end of said tube 6 is fused to an end of said tube 5 and the other end of said tube 6 is fused to an end of said tube 7. The heat conservator is open at each end for the access of air. A threaded sleeve 8 having a ring flange 9 is screwed onto each of the Edison bases 3. The heat conservator is firmly clamped between said flanges 9 and an annular pad 10 of heat insulating material, such as an asbestos pad, is interposed between each of said flanges 9 and the end of said heat conservator 5, 6 and 7.

The above described lamp unit is inexpensive to manufacture, is easily and quickly assembled by screwing the sleeves 8 on the bases 3 to clamp the heat conservator between the flanges 9 of the sleeves 8 and is easily taken apart by unscrewing said sleeves 8 from said bases 3. While the ends of the heat conservator are open for the access of air, which is a poor conductor of heat, the flanges 9 and the pads 10 restrict the entrance of air into said heat conservator to the extent that the flow of air, if any, through the conservator from the ambient during the operation of the lamp device does not conduct heat away from the lamp unit to an extent harmful to the maximum operating efficiency of the lamp device.

While we have shown and described and have pointed out in the annexed claims certain novel features of the invention, it will be understood that various omissions, substitutions and changes in the forms and details of the device illustrated and in its use and operation may be made by those skilled in the art without departing from the broad spirit and scope of the invention.

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

1. A lamp unit comprising in combination an elongated gaseous electric discharge lamp device, a heat conservator therefor, said lamp device having a base attached to each end thereof, supports on said bases for said conservator, said

conservator comprising three coaxial and coextensive, light transmitting tubes and being filled with air, one end of the intermediate tube being fused to an end of the tube having a greater diameter than said intermediate tube and the other end of said intermediate tube being fused to an end of the tube having a smaller diameter than said intermediate tube, said supports restricting the flow of air through said conservator.

2. A heat conservator for a gaseous electric discharge device, said conservator comprising three coaxial and coextensive glass tubes, one end of the intermediate tube being fused to an end of the tube having a greater diameter than said intermediate tube and the other end of said intermediate tube being fused to an end of the tube having a smaller diameter than said intermediate tube, the ends of said conservator being open and gas pervious means at the open ends of said conservator to restrict the flow of air in said conservator.

HEINRICH BAUMHAUER.
WERNER FEHSE.