May 18, 1937. A. IHLN ET AL 2,080,919

GASEOUS ELECTRIC DISCHARGE DEVICE

Filed July 28, 1936

Fig. 1

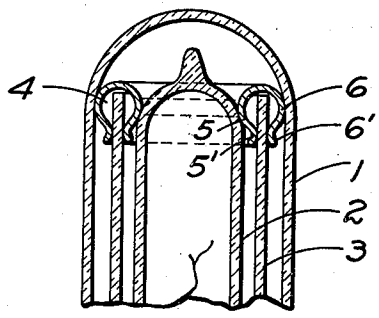


Fig. 2

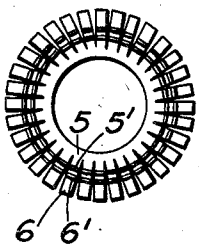
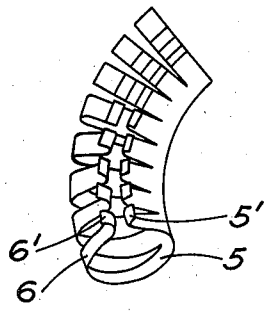


Fig. 3



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GASEOUS ELECTRIC DISCHARGE DEVICE

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Application July 28, 1936, Serial No. 93,096
In Germany August 3, 1935

1 Claim. (Cl. 176—122)

The present invention relates to gaseous electric discharge devices generally and more particularly the invention relates to such devices comprising a vitreous container mounted in a light transmitting heat conservator, such as an hermetically sealed envelope enclosing said container or a double wall evacuated jacket in which said container is mounted.

It is advantageous in such devices to avoid fused joints between the container and the heat conservator due to the physical strains incident at said joints caused by the different heating and the different rates of expansion of the elements during the use of the device. It is desirable to support the container in the envelope or the jacket by a resilient means interposed between these elements which resilient means not only avoids the problem of fused joints but also offers protection for the inner container from physical shocks incident to shipment and use of the device. In many types of devices a cylindrical baffle of glass, quartz, mica or similar light transmitting material is mounted in the heat conservator concentric with the inner container and in such devices it has been the practice heretofore to use a resilient support means between the container and the baffle and another resilient support means between the baffle and envelope or jacket as disclosed in the United States Patent No. 2,009,203, granted July 25, 1935 to Marcello Pirani, Martin Reger and Adolph Fehse.

The object of the present invention is to provide a gaseous electric discharge device of the above type in which a single resilient support means adjacent each end of the container serves to support both the baffle and the container in the envelope or jacket. Another object of the invention is to provide a resilient support means of simple structure useful in devices of the type described above. 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 resilient support means consists of an annular, hollow, resilient metal body which is interposed between and presses against the outer wall of the container and the inner wall of the heat conservator and has a slit or slot on one side thereof to accommodate the cylindrical baffle interposed between the other elements of the device. For example, a sheet metal tubular ring the wall of which is provided with slits perpendicular to the axis of the ring is useful for this purpose. The preferred embodiment of the invention is a sheet metal strip which is slit at both edges like a comb, bent in the form of a tubular ring and provided with spring fingers which are spaced a small distance apart to accommodate the cylindrical baffle when the ring is interposed between the container and the heat conservator.

In the drawing accompanying and forming part of this specification an embodiment of the invention is shown in which

Fig. 1 is a fragmentary, sectional view of one end of a gaseous electric discharge device having a resilient support means embodying the present invention,

Fig. 2 is a top view of the resilient support means embodying the present invention, and

Fig. 3 is a fragmentary perspective view of the support means shown in Figs. 1 and 2.

Like numbers denote like parts in all the figures.

Referring to the drawing the gaseous electric discharge lamp device comprises a tubular container 2 mounted in an evacuated tubular envelope 1. In a complete device the container 2 has a pair of thermionic electrodes sealed therein, one at each end thereof, and a discharge conducting gaseous atmosphere such as a rare gas, a metal vapor or a mixture of gas and metal vapor. Reference is had to the patent referred to above for the structural details of devices of this type. A cylindrical baffle 3 of light transmitting material, such as glass, is interposed between and spaced apart from said envelope 1 and said container 2. A resilient support means 4 is interposed between and presses against said envelope 1 and said container 2 and accommodates the cylindrical baffle 3. As is illustrated in Figs. 2 and 3 the resilient support 4 consists of a metal strip which is slitted like a comb at both edges and bent in the form of a tubular ring. Said support 4 has spring fingers 5 and 6 the tips 5' and 6' of which are adjacent. The fingers 5 of the resilient support 4 press against the container 2, the fingers 6 of said body press against the envelope 1 and the parts 5' and 6' of the fingers 5 and 6 press against the cylindrical baffle 3 when the various elements of the lamp are assembled to form a unit so that the container 2 and the cylindrical baffle 3 are supported by the resilient means 4 in the envelope 1.

A single support means 4 is provided at each end of the container 2 and the gaseous electric discharge device is a simple, inexpensive one, easily assembled into a complete device. It will be understood of course that we contemplate that

numerous changes and modifications in the form and details of the device may be made by those skilled in the art without departure from the spirit and scope of the invention, for example, the cylindrical baffle 3 may be omitted when desired, or a double wall evacuated jacket, such as a De War flask may be used in place of the envelope 1, when desired.

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

A gaseous electric discharge device comprising a container, electrodes sealed therein, a gaseous atmosphere therein, a heat conservator for said container, a baffle interposed between said container and said conservator and a resilient support means for said container and said baffle in said conservator, said support means consisting of a tubular, annular, resilient body having fingers to accommodate said baffle, said support means being interposed between and pressing against said container and said conservator.

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