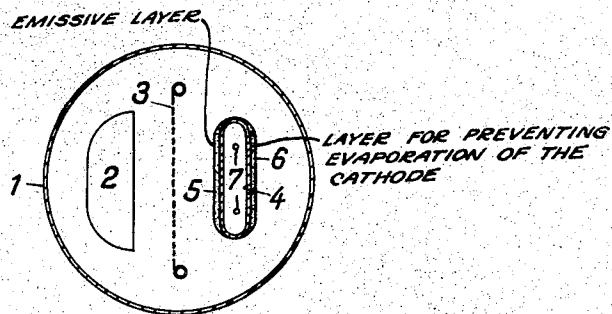


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E. LÖPP ET AL
ELECTRIC DISCHARGE TUBE

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ELECTRIC DISCHARGE TUBE

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Discharge tubes are in certain cases provided with cathodes which are only active toward one side. The emissive body employed in this connection is usually in the shape of a flat band one side of which is covered with an emissive layer. On that side of the cathode where such emissive layer is arranged the other electrodes, such as grid and anode, are provided.

It has been found that those parts of the cathode not covered with emissive layer evaporate during the formation process by which such cathodes are obtained, and during the operation of the tubes as well; this impairs the working of the tube and especially acts considerably to impair the state of insulation.

In accordance with the invention those parts of the cathode which are not coated with emissive layer are covered with a material adapted to prevent the evaporation of the metal of the cathode. Preferably, in order to decrease the heating effect a material of small radiation capacity is employed. For instance, MgO , ZrO_2 , or CaO , or a mixture of these will be suitable in this regard.

In order to reduce the radiation capacity, such protective layer may be made to form a fine-grained deposit, obtained by electrophoresis, for instance, thus having a smooth surface.

The accompanying drawing is a diagrammatic

cross-sectional view of an electron tube as provided by the invention.

In a vacuum vessel 1 an anode 2, a grid 3 and a cathode 4 are contained. The cathode is a flat hollow metal body in which the heating wires 7 are located. The cathode is on one side covered with an emissive layer 5. In order to avoid evaporation of the metal of which the cathode consists, such as nickel, for instance, an oxide layer 6 of the kind before referred to is fitted to that surface of the cathode which is not covered with emissive layer.

What is claimed is:

1. A discharge tube having a flat cathode coated on one side with an emissive layer and on the other side with a protective layer for preventing evaporation of the cathode, and an anode facing said emissive layer.

2. A discharge tube according to claim 1, wherein the protective layer is an alkaline earth oxide, from the group consisting of MgO and CaO .

3. A discharge tube according to claim 1, wherein the protective layer is of ZrO_2 .

4. A discharge tube according to claim 1, in which the protective layer is a fine-grained deposit given a smooth surface.

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