

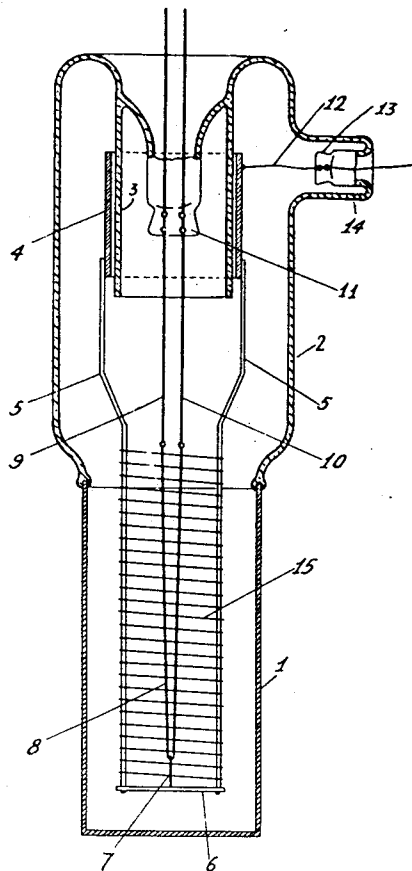
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ELECTRIC DISCHARGE TUBE

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ELECTRIC DISCHARGE TUBE

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2 Claims. (Cl. 250—27.5)

The invention relates to electric discharge tubes, more particularly to those comprising one or more grids.

The applicants have previously proposed already to provide zirconium in an electric discharge tube and to arrange it in such manner that during the operation of the tube it is heated by an electric current to such an extent that it combines with residual gases or with gaseous impurities.

The applicants have found that in many cases good results can be obtained in a simple manner by causing a grid of an electric discharge tube to consist, at least partly, of zirconium. It has been found that in many cases good results can be obtained if during the operation of the tube the zirconium attains such a temperature that it combines with residual gases or with gaseous impurities. Conveniently, the grid may consist of a zirconium wire.

The invention will be more clearly understood by referring to the accompanying drawing which represents, by way of example, a sectional view of a discharge tube according to the invention.

Referring to the drawing, the wall of a discharge tube, which may be used as a transmitting valve for wireless signals, has a metal part 1 consisting, for example of ferro-chromium and constituting the anode of the tube, and an insulating part 2, for example of glass, which is sealed to the metallic anode. This insulating part has a tubular re-entrant portion 3 around which is clamped a metal collar 4 which carries the supports 5 of the grid. At the lower side these supports are connected to one another by an insulating member 6 which is provided with a hook

7 which supports an incandescent cathode 8 consisting for example of a tungsten wire. The two ends of the incandescent cathode are connected to supply wires 9 and 10 which are mounted on and pass through a press 11 which is secured to the re-entrant portion 3. The supply wire 12 of the grid is led out of the tube through a press 13 which is located in an extension 14. On the supports 5 is helically wound a grid wire 15 which, in accordance with the invention, consists of zirconium and which during the operation of the tube obtains such a temperature that the zirconium combines with the residual gases contained in the vacuum tube.

The invention can be applied not only to discharge tubes for wireless purposes but also to discharge tubes of other kinds, for example to rectifier tubes, discharge tubes for the emission of positive column light, etc. The discharge tubes to which the invention is applied may also contain a gaseous filling with the impurities of which the zirconium combines.

What we claim is:

1. An electrical discharge device comprising a thermionic metallic cathode, an anode surrounding said cathode, and a control electrode with a coherent surface of coherent zirconium mounted between said cathode and anode.

2. An electrical discharge device comprising a thermionic tungsten cathode, a grid of zirconium wire surrounding said cathode in position to be heated thereby, and an anode surrounding said grid.

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