

Title (en)  
THERMIONIC CATHODE AND MANUFACTURING METHOD

Publication  
**EP 0087826 A3 19840613 (DE)**

Application  
**EP 83200139 A 19830127**

Priority  
DE 3205746 A 19820218

Abstract (en)  
[origin: ES8401674A1] A cathode having a layer structure in which alternate layers consisting essentially of emitter material (2) and base material (1) are provided at an oblique angle to the cathodes's macroscopic emitting surface. In a preferred embodiment the surface has a microscopically stepped structure formed by ends of the base material layers and portions of the emitter material layers coating the ends. In an alternative embodiment the surface is not stepped but is formed by a polycrystalline or a preferentially oriented polycrystalline coating layer which is provided on the succession of beveled layers. The succession of layers is manufactured by alternating depositions from the gaseous phase and by subsequent bevel grinding of the layers. The polycrystalline coating layer is provided by deposition from the gaseous phase. The stepped surface is formed, for example, by selective structure etching after the bevel grind.

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**H01J 9/04**; **H01J 1/13**

IPC 8 full level  
**H01J 1/14** (2006.01); **H01J 1/13** (2006.01); **H01J 1/15** (2006.01); **H01J 1/28** (2006.01); **H01J 9/04** (2006.01)

CPC (source: EP US)  
**H01J 1/13** (2013.01 - EP US); **H01J 1/28** (2013.01 - EP US); **H01J 9/04** (2013.01 - EP US)

Citation (search report)  
• [AD] DE 1439890 A1 19690417 - VARIAN ASSOCIATES  
• [A] US 4019081 A 19770419 - BUXBAUM CHARLEY, et al  
• [A] US 2339392 A 19440118 - GARNER LLOYD P  
• [A] FR 2301914 A1 19760917 - PHILIPS NV [NL]

Cited by  
US4906895A; EP0187402A1; US6577045B1; WO9960597A1

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
**EP 0087826 A2 19830907**; **EP 0087826 A3 19840613**; **EP 0087826 B1 19860903**; CA 1194089 A 19850924; DE 3205746 A1 19830825; DE 3365755 D1 19861009; ES 519829 A0 19831201; ES 522416 A0 19840301; ES 8401674 A1 19831201; ES 8403243 A1 19840301; JP H0447936 B2 19920805; JP S58155619 A 19830916; US 4524297 A 19850618

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