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[54] **NONELECTRON EMISSIVE ELECTRODE
STRUCTURE UTILIZING ION-PLATED
NONEMISSIVE COATINGS**
1 Claim, 6 Drawing Figs.

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[51] Int. Cl. **H01j 43/00**

[50] Field of Search **313/106,
107, 355; 29/155.5; 204/298, 312; 117/216, 217,
218**

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ABSTRACT: A nonemissive electrode structure is disclosed together with a method for fabricating same. The nonelectron emissive electrode structure includes a core member which may be made of any one of a number of different metals such as molybdenum, copper, tantalum or tungsten. A nonelectron emissive material is deposited over the core metal. The nonemissive deposited layer may be any one of a number of different materials which will provide electron emission inhibiting characteristics in the presence of surface contamination by barium and/or strontium. Examples of such electron emission inhibiting materials include titanium, chromium, zirconium, or silicon. An outer coating of carbon is formed over the emission inhibiting layer to further enhance the nonelectron emissive characteristics of the electrode. Alternatively, the nonemissive deposited layer and carbon coating may be codeposited into a single covering layer deposited over the core material. The electrode structure is especially suitable as a grid structure in an electron discharge device employing either an oxide coated cathode or a dispenser cathode of the type containing barium and/or strontium.

