PROCESS OF PREPARING A POTASSIUM STANNATE-STANNIC OXIDE SOL TIN ELECTROPLATING SOLUTION

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ABSTRACT

A process for the production of a stannic oxide sol-potassium stannate-tin plating solution is disclosed comprising the steps of:

1. Anodically dissolving stannous tin in a potassium electrolyte such as potassium hydroxide to form potassium stannite in a first electrolytic cell including an anode compartment and a cathode compartment; simultaneously preventing the potassium stannite from migrating from the anode compartment to the cathode compartment by interposing therebetween a permselective ion exchange membrane (e.g., an anionic permselective membrane);

2. Oxidizing said potassium stannite to form a potassium stannate-containing solution by suitable means such as by contacting an oxygen-containing gas with the potassium stannite in a scrubbing tower;

3. Electrodiolytically transferring potassium cations of said potassium stannate-containing solution from an anode compartment of a second electrolytic cell to a cathode compartment of said second electrolytic cell while simultaneously preventing migration of tin anions from said anode compartment to the cathode compartment by maintaining a cation permselective dialytic membrane between the anode and the cathode; and

4. Recovering a stannic oxide sol-potassium stannate solution from the anode compartment of said second electrolytic cell.

16 Claims, 1 Sheet Drawing,
22 Pages Specification

The file of this unexamined application may be inspected and copies thereof may be purchased (849 O.G. 1221, Apr. 9, 1968).