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(54) **APPARATUS FOR CONTROLLING FLOW IN AN ELECTRODEPOSITION PROCESS**

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This patent is subject to a terminal disclaimer.

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204/237; 204/278.5

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204/269, 273, 237, 278.5

See application file for complete search history.

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(57) **ABSTRACT**

An electrowinning cell, having a tank with an opened upper end defined by a tank edge, electrolyte within the tank and a plurality of flat, metallic electrode plates disposed within the tank in side-by-side, spaced-apart, parallel relationship. Adjacent electrode plates define an electrode gap therebetween. An injector manifold is disposed at the bottom of the tank for feeding electrolyte into the tank at locations below the electrode plates. A collector grid, comprised of a plurality of collectors having ports, define an upper level of electrolyte by collecting the electrolyte from the tank. The ports are disposed in spaced-apart relationship within the open upper end defined by the tank edge. The collector grid and the injector creating a flow of electrolyte upward between the plates as the electrolyte flows from the manifold locations below the plates to the ports.

**8 Claims, 11 Drawing Sheets**

