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United States Patent [19]
Courtenay

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[54] **METHOD AND APPARATUS FOR IMPROVED COATING OF A SEMICONDUCTOR WAFER**

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Related U.S. Application Data

[63] Continuation of application No. 08/508,051, Jul. 27, 1995, abandoned.

[51] **Int. Cl.⁶** **B05C 11/02; B05B 13/02**

[52] **U.S. Cl.** **118/52; 118/321; 118/323; 118/715; 427/240**

[58] **Field of Search** **427/240; 118/52, 118/321, 323, 715, 718, 729**

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,190,015	2/1980	Hillman	118/696
4,267,212	5/1981	Sakawaki	427/240
4,457,259	7/1984	Samuels	118/705
4,640,222	2/1987	Gerber	118/697
5,250,114	10/1993	Konishi et al.	118/321
5,405,443	4/1995	Akimoto et al.	118/668

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[57] **ABSTRACT**

A method and apparatus for coating liquid films on to the surface of a wafer substrate by rotation the substrate at a speed sufficient to cause a liquid, through centrifugal effect, to flow outwardly toward the perimeter of the surface and form a substantially uniform thickness liquid coating thereon and starting at the central region of the wafer surface and moving radially outward therefrom, spraying a fine mist of the liquid to the surface of the wafer.

1 Claim, 2 Drawing Sheets

