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# United States Patent [19]

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Hasebe et al.

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## [54] METHOD OF FORMING COATING FILM AND APPARATUS THEREFOR

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[51] Int. Cl.<sup>6</sup> ..... **B05D 3/12**

[52] U.S. Cl. .... **427/240; 427/299; 427/385.5; 438/782**

[58] Field of Search ..... **423/240, 299, 423/385.5; 437/231**

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### [57] ABSTRACT

An apparatus for forming a coating film, comprises a spin chuck for supporting a substrate with one surface facing upward and rotating the substrate about a vertical axis, a first nozzle for supplying a solvent of a coating solution on the substrate, and a second nozzle for supplying the coating solution on a central portion of the substrate. The first and second nozzles are supported by a head such that the supported nozzle moves between a dropping position above the substrate and a waiting position offset from the substrate. The solvent and coating solution are diffused along the surface of the substrate by rotating the spin chuck.

**23 Claims, 17 Drawing Sheets**

