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Ikeno

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[54] SPIN COATING APPARATUS USING A TILTING CHUCK

[75] Inventor: Masahiko Ikeno, Itami, Japan

[73] Assignee: Mitsubishi Denki Kabushiki Kaisha, Japan

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Primary Examiner—Richard V. Fisher
Assistant Examiner—Brenda Lamb
Attorney, Agent, or Firm—Leydig, Voit & Mayer

[57] ABSTRACT

A spin coating method includes the steps of applying a coating material on the surface of a substrate, rotating the substrate about a first axis, and revolving the substrate about a second axis while tilting the substrate towards the second axis. The rotating step spreads the coating material over the surface of the substrate, and the step of revolving while tilting the substrate smoothens the surface of the coating material. At least the rotating step may be performed in an atmosphere containing a solvent vapor. A spin coating apparatus includes a nozzle for applying a coating material to the surface of a substrate, a chuck for rotating the substrate about a first axis, a support arm for revolving the substrate about a second axis, and a tilting mechanism for tilting the surface of the substrate towards the center of the second axis while the substrate is revolving.

24 Claims, 25 Drawing Sheets