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# United States Patent [19] Hayes et al.

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- [54] **SPIN COATING BOWL**
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### [57] ABSTRACT

Apparatuses and methods are disclosed for use in spin dispensing a process liquid onto a surface of a wafer. The wafer is supported and rotated by a rotatable chuck attached by a shaft to a spin motor. A dispense assembly is positioned to dispense process liquid, such as photoresist, onto the wafer support by the chuck. The apparatus further includes a bowl having a bottom and a side defining an interior region, the bottom containing an opening in which the shaft is movable. An air ring is disposed in the interior region around said chuck to define an upper plenum in fluid communication with a lower plenum. The air ring further includes at least one flow path through the air ring to said lower plenum, preferably in the form of a plurality of holes in a circumferential groove. Also in a preferred embodiment, a top ring is provided having a bottom face and an inner lip having dimensions smaller than the outer rim and larger than the wafer. The top ring is preferably seated on the side of the bowl and with the air ring further defines the upper plenum.

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17 Claims, 9 Drawing Sheets

