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(71) Applicant (for all designated States except US): **APPLIED MATERIALS, INC.** [US/US]; 3050 Bowers Avenue, Santa Clara, California 95054 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **NAKASHIMA, Norman** [US/US]; 481 Lincoln Avenue, Sunnyvale, California 94086 (US). **MARCADAL, Christophe** [FR/US]; 4224 Erie Court, Santa Clara, California 95054 (US). **GANGULI, Seshadri** [IN/US]; 980 Belmont Terrace #6, Sunnyvale, California 94086 (US). **MA, Paul** [NZ/US]; 135 Acalanes Drive #14, Sunnyvale, California 94086

(US). **CHU, Schubert S.** [US/US]; 38 Sequoia Way, San Francisco, California 94127 (US).

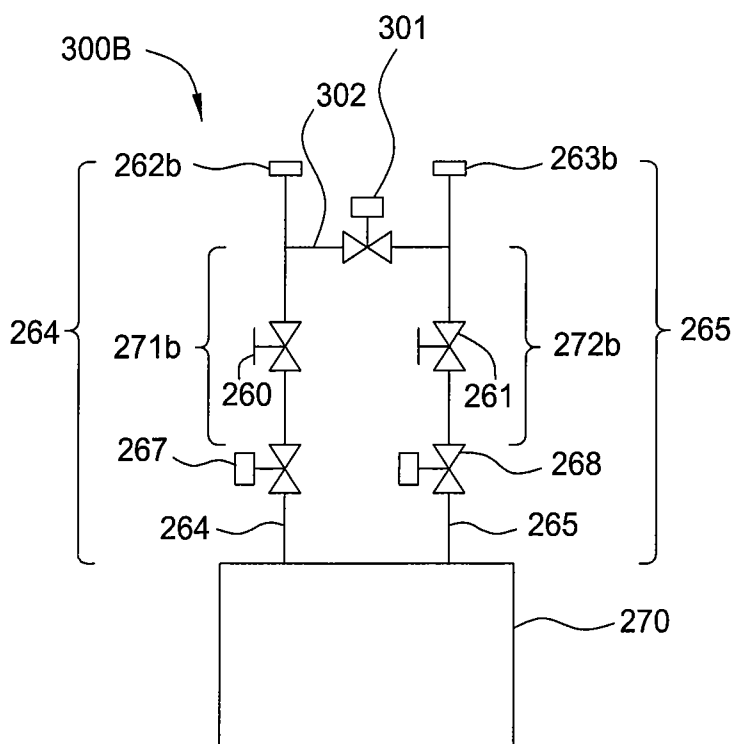
(74) Agents: **PATTERSON, B., Todd** et al.; Patterson & Sheridan LLP, 3040 Post Oak Blvd., Suite 1500, Houston, Texas 77056 (US).

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(54) Title: CHEMICAL DELIVERY APPARATUS FOR CVD OR ALD



(57) Abstract: An ampoule assembly is configured with a bypass line and valve to allow the purging of the lines and valves connected to the ampoule. The ampoule assembly, in one embodiment, includes an ampoule, an inlet line, an outlet line, and a bypass line connected between the inlet line and the outlet line, the bypass line having a shut-off valve disposed therein to fluidly couple or decouple the inlet line and the outlet line. The shut-off valve disposed in the bypass line may be remotely controllable. Also, additional remotely controllable shut-off valves may be provided in the inlet and the outlet lines.

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