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(71) Applicant (for all designated States except US): **LUMMUS TECHNOLOGY INC.** [US/US]; 1515 Broad Street, Bloomfield, New Jersey 07003-3096 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CASTAGANOS, JR., Leonce Francis** [US/US]; 205 Forest Wind Circle, Montgomery, Texas 77316 (US). **CHAN, Ting Yee** [US/US]; 4620 Verone, Bellaire, Texas 77401-5516 (US). **PIEPER, Ronald Eugene** [US/US]; 5203 Gladehill Drive, Kingwood, Texas 77345-2440 (US). **KOLB, Norman Paul** [US/US]; 10826 Pepper Lane, Houston, Texas 77079 (US).

(74) Agents: **NGUYEN, Phong Duy** et al.; Baker & Hostetler LLP, 1050 Connecticut Avenue, NW, Suite 1100, Washington, District of Columbia 20036 (US).

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(54) Title: DEVICES FOR INJECTION OF GASEOUS STREAMS INTO A BED OF FLUIDIZED SOLIDS

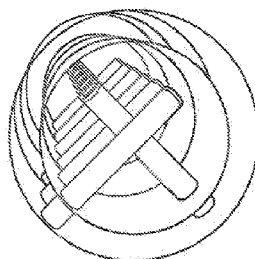


FIG. 1F

(57) Abstract: Injection nozzles for use in a gas distribution device are disclosed. In one aspect, the injection nozzle may include: a tube having a fluid inlet and a fluid outlet; wherein the inlet comprises a plurality of flow restriction orifices. In another aspect, embodiments disclosed herein relate to an injection nozzle for use in a gas distribution device, the injection nozzle including: a tube having a fluid inlet and a fluid outlet; wherein the fluid inlet comprises an annular orifice surrounding a flow restriction device. Injection nozzles according to embodiments disclosed herein may be disposed in a gas distribution manifold used in a vessel, for example, for conducting polymerization reactions, spent catalyst regeneration, and coal gasification, among others.