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- (71) **Applicant** (for all designated States except US): **HAL-LIBURTON ENERGY SERVICES, INC.** [—/US]; 10200 Bellaire Blvd., Houston, TX 77072 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants** (for US only): **FRIPP, Michael, L.** [US/US]; 3826 Cemetery Hill Road, Carrollton, TX 75007 (US). **DYKSTRA, Jason, D.** [US/US]; 3405 Hillpark Lane, Carrollton, TX 75007 (US).
- (74) **Agent:** **SCHROEDER, Peter, V.;** Booth Albanesi Schroeder LLC, 1601 Elm Street, Suite 1950, Dallas, TX 75201 (US).

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(54) **Title:** METHOD AND APPARATUS FOR CONTROLLING FLUID FLOW IN AN AUTONOMOUS VALVE USING A STICKY SWITCH

(57) **Abstract:** Apparatus and methods are described for autonomously controlling fluid flow in a tubular in a wellbore. A fluid is flowed through an inlet passageway into a biasing mechanism. A fluid flow distribution is established across the biasing mechanism. The fluid flow distribution is altered in response to a change in the fluid characteristic over time. In response, fluid flow through a downstream sticky switch assembly is altered, thereby altering fluid flow patterns in a downstream vortex assembly. The method "selects" based on a fluid characteristic, such as viscosity, density, velocity, flow rate, etc. The biasing mechanism can take various forms such as a widening passageway, contour elements along the biasing mechanism, or a curved section of the biasing mechanism passageway. The biasing mechanism can include hollows formed in the passageway wall, obstructions extending from the passageway wall, fluid diodes, Tesla fluid diodes, a chicane, or abrupt changes in passageway cross-section.

