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(54) Title: AERATOR VALVE ASSEMBLY

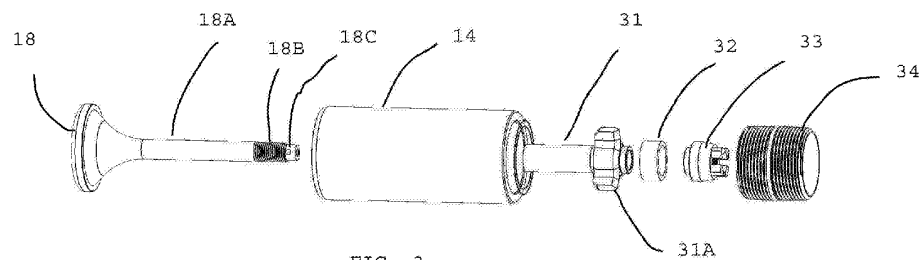


FIG. 3

(57) Abstract: A high-pressure aerator valve assembly includes an outer housing with front and back ends terminating a central passageway; a movable valve member having a one-piece unitary metal construction slidably engaged within the central passageway in the outer housing, the valve member having an enlarged head termination sealing the front end of the passageway. The assembly also includes a spring-loaded spring guide member also having a one-piece unitary metal construction which is fixed within the central passageway in the outer housing intermediate the front and back end and a wave spring having a predetermined spring constant for supplying spring tension to keep the moveable valve member sealed. Also included are operational sensors which include a linear shaft displacement counter for counting the number of times the valve member opens and closes; a vibration sensor, or accelerometer, for measuring vibration, a temperature sensor and/or an air pressure sensor.

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