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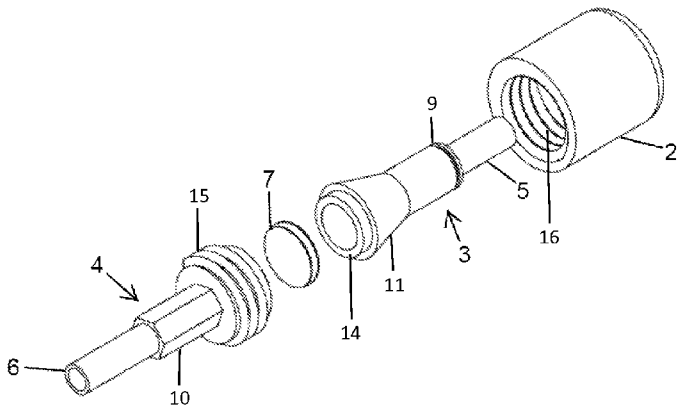


FIG. 1B

(57) Abstract: Described herein are liquid-free traps for trace levels of an acidic or basic airborne molecular contaminant in a gas. In one version of the invention described herein, the liquid- free trap comprises a housing, comprising an inlet and an outlet; a flow path between the inlet and the outlet; and a rigid sintered hydrophilic material situated in the flow path between the inlet and the out - let and sealed in the housing. The rigid sintered hydrophilic material is functionalized with from about 0.05 molar milliequivalents to about 10 molar milliequivalents of a basic species for trapping an acidic airborne molecular contaminant in the gas or from about 0.05 molar milliequivalents to about 10 molar milliequivalents of an acidic species for trapping a basic airborne molecular contamin - ant in the gas. Methods of using the liquid-free traps to detect or measure trace levels of an acidic or basic airborne molecular con - taminant are also described.

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