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(54) Title: ABATEMENT SYSTEM HAVING AN INJECTOR WITH A LIQUID MEMBRANE

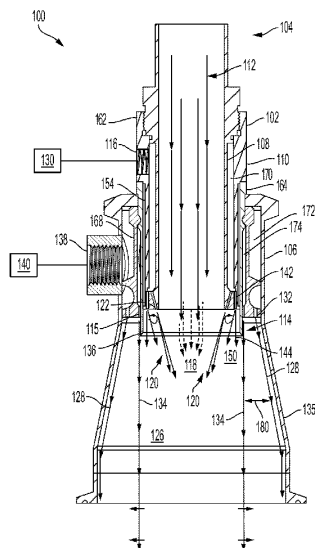


FIG. 1

(57) Abstract: Embodiments of methods and apparatus for an injector for an abatement system are provided herein. In some embodiments, an injector includes an inlet tube having an inner wall and an outer wall and a gap disposed therebetween, wherein the inner wall defines a flow path therein for a waste gas stream from a waste gas inlet at a first end of the inlet tube to a waste gas outlet at a second end of the inlet tube, wherein the inlet tube includes an inert gas inlet that extends between the inner wall and the outer wall to one or more first gas nozzles and a containment tube coupled to the inlet tube and disposed about the second end of the inlet tube, wherein the containment tube includes a liquid inlet port that is fluidly coupled to one or more first liquid nozzles and one or more second liquid nozzles.

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