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## (54) Title: HYDROGEN GENERATOR WITH IMPROVED VOLUME EFFICIENCY

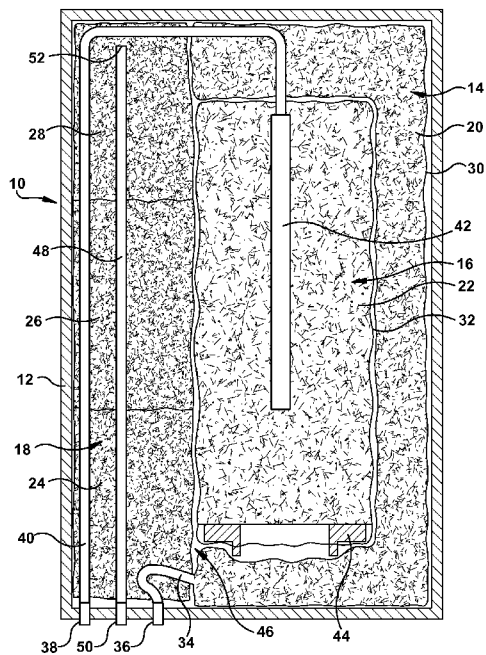


FIG. 9

(57) Abstract: A hydrogen generator with improved volume efficiency and a method of producing hydrogen gas with the hydrogen generator are disclosed. A fluid containing a reactant is transported from a reactant storage area to a reaction area. Hydrogen gas and an effluent pass from the reaction area into the effluent storage area that is in a volume exchanging relationship with one or both of the reactant storage area and the reaction area. An initially compressed filter is disposed in the effluent storage area to remove solids from the hydrogen gas. The filter is attached to a moveable partition separating the effluent storage area from the reactant storage area and/or the reaction area, and the filter expands as the volume of the effluent storage area increases.

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