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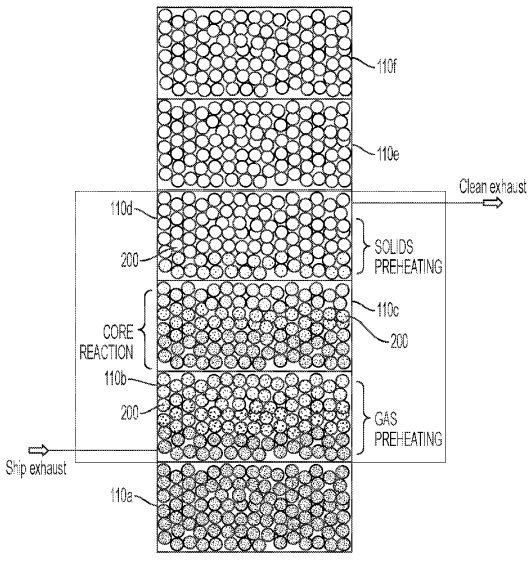

FIG. 14

(57) Abstract: A system and method for capturing carbon dioxide from a gas includes a plurality of modular carbonators connected in series such that the modular carbonators are in fluid communication with each other. Each carbonator includes a storage container having an internal storage chamber. An access portion is attached to each storage container to provide access to a gas manifold and associated valves, pipes, and electrical connections of each carbonator when the carbonators are vertically stacked and/or horizontally linked. The access portion includes a gas inlet manifold that directs a flow of the gas into the corresponding internal storage chamber. The access portion also includes a gas outlet manifold that directs the flow of the gas out of the internal storage chamber. A packed bed reactor filled with a plurality of Ca/Mg containing solids is disposed within the internal storage chamber for capturing carbon dioxide from the flow of the gas within the internal storage chamber.

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