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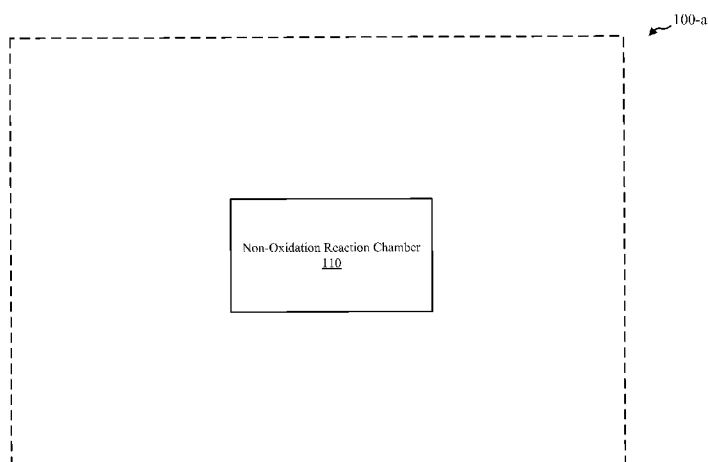
(54) Title: METHODS, SYSTEMS, AND DEVICES FOR LIQUID HYDROCARBON FUEL PRODUCTION, HYDROCARBON
CHEMICAL PRODUCTION, AND AEROSOL CAPTURE

FIG. 1A

(57) Abstract: Methods, systems, and devices for liquid hydrocarbon fuel production, hydrocarbon chemical production, and aerosol capture are provided. For example, a carbon-oxygen-hydrogen (C-O-H) compound may be heated to a temperature of at least 800 degrees Celsius such that the C-O-H compound reacts through a non-oxidation reaction to generate at least a hydrocarbon compound that may be at least a component of a liquid hydrocarbon fuel or a hydrocarbon chemical. The liquid hydrocarbon fuel may be a liquid when at a temperature of 20 degrees Celsius. The C-O-H compound may include biomass. In some cases, the hydrocarbon compound produced through the non-oxidation reaction includes a hydrocarbon aerosol form as the hydrocarbon compound at least as it is produced or cools. Some embodiments include aerosol capture methods, systems, and devices, which may include passing a hydrocarbon aerosol form through a material in a liquid phase in order to gather the aerosol material.



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