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(54) Title: PLASMA REACTORS HAVING RECUPERATORS

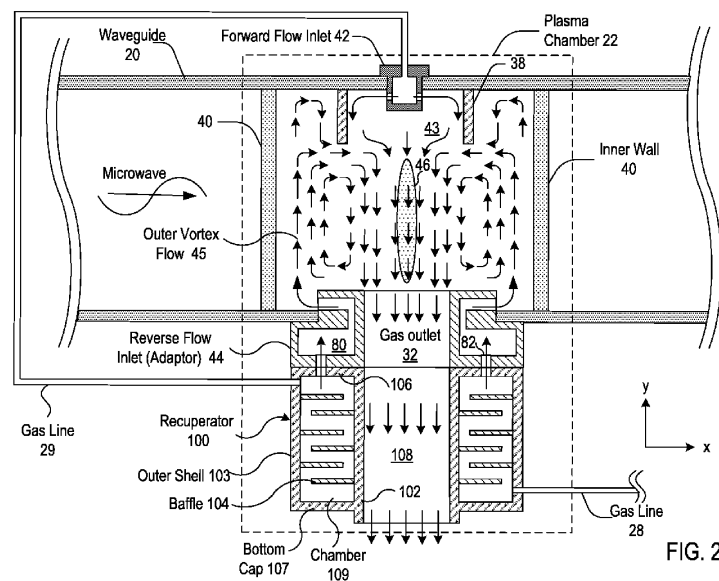


FIG. 2

(57) Abstract: A plasma generating system (10) includes a waveguide (20) for transmitting a microwave energy therethrough and an inner wall (40) disposed within the waveguide to define a plasma cavity, where plasma (46) is generated within the plasma cavity using the microwave energy. The plasma generating system (10) further includes: an adaptor (44) having a gas outlet (32) through which an exhaust gas processed by the plasma (46) exits the plasma cavity; and a recuperator (100) directly attached to the adaptor (44) and having a gas passageway that is in fluid communication with the gas outlet (32) in the adaptor (44). The recuperator (100) recovers heat energy from the exhaust gas and heats an input gas using the heat energy.

[Continued on next page]

SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR,  
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