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(54) Title: USE OF FERMENTATION TAIL GAS IN INTEGRATED GASIFICATION AND GAS FERMENTATION SYSTEM

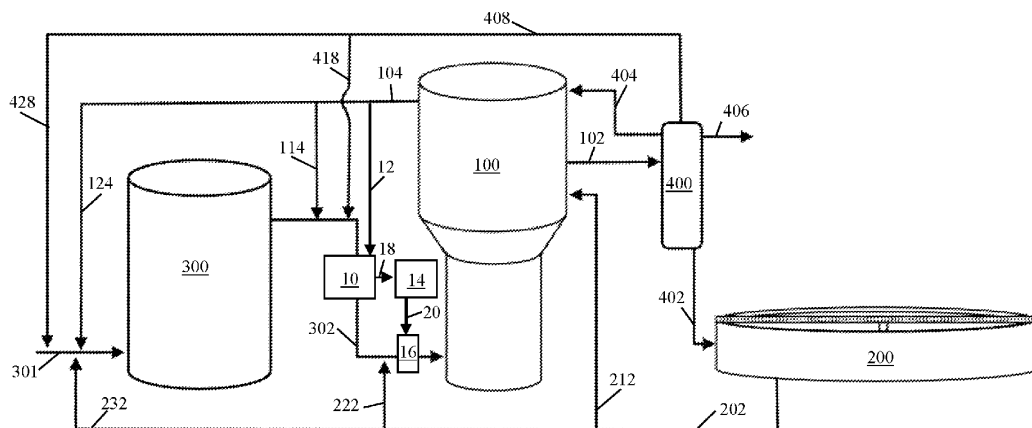


FIG. 1

(57) Abstract: The disclosure provides for the separation and combustion of at least one hydrocarbon, oxygenate, sulfur compound, and or nitrogen compound, from industrial gas or gasification derived syngas to generate steam. A gasification process and a gas fermentation process may be integrated using tail gas from the fermentation process for the flame to combust tar and other compounds from the syngas generated by a gasification process. Integration may be achieved by removing tar and other compounds from industrial gas or gasification derived syngas using an adsorbent and regenerating the adsorbent using tail gas from the gas fermentation process. Tail gas enriched with the desorbed tar and other compounds may be used to generate steam in a steam boiler and the steam may be used for a variety of purposes including power generation to power, for example, a compressor of the gas fermentation process.

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