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(54) Title: SYSTEMS AND METHODS FOR THE THERMOCHEMICAL PRODUCTION AND REFINING OF HYDROCARBON COMPOUNDS

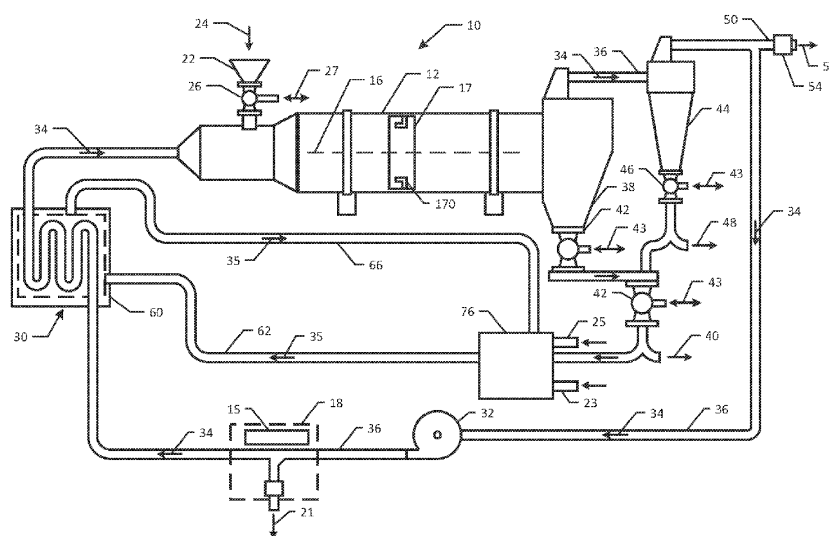


Fig. 1

(57) **Abstract:** A system is provided that enables a continuous process that involves the introduction of particles into a reactor drum

having a low oxygen environment. Heavy hydrocarbons are boiled off of the particles during the heating of the particles. The boiled off heavy hydrocarbons mix with a heated gas stream that heats the particles within the reactor drum. The heated gas stream (with the boiled off heavy hydrocarbons) exit the drum and are recirculated back to a heat source for reheating the gas stream prior to reentering the reactor drum. Repeated exposure to the elevated temperatures within the reactor drum cracks the heavy hydrocarbons into lighter hydrocarbons. The lighter hydrocarbons may then be separated out of the heated gas stream and collected for sale or use.

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