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(54) Title: PROCESSES AND SYSTEMS FOR REMOVING COKE PARTICLES FROM A PYROLYSIS EFFLUENT

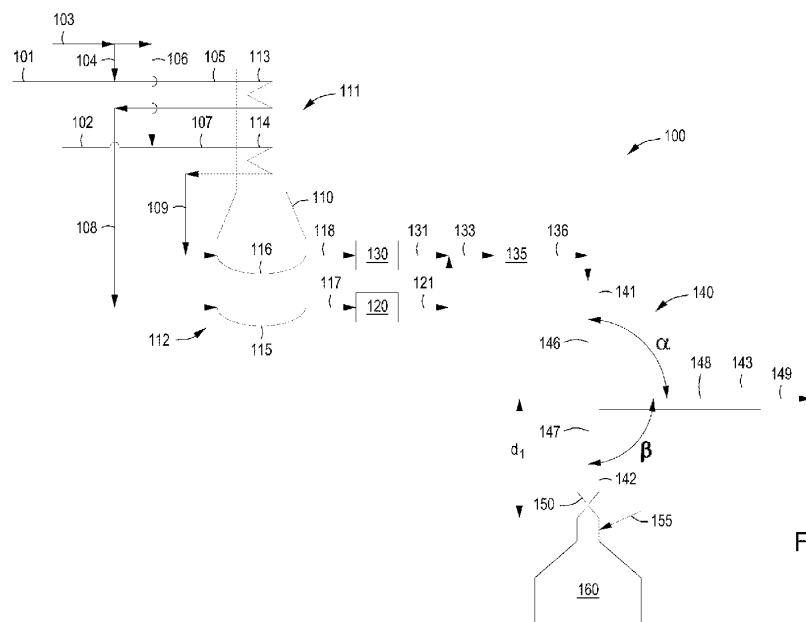


FIG. 1

(57) Abstract: Processes and systems for pyrolysing a hydrocarbon. In some examples, the process can include mixing a cooled hydrocarbon effluent and a cooled de-coking effluent to produce a combined effluent. The combined effluent can be introduced into an inlet conduit of a separator under conditions that provide > 80 wt. % of the plurality of coke particles with a Stokes number of > 10. From a first exit conduit of the separator > 55 wt. % of the plurality of coke particles in the combined effluent can be removed, and from a second exit conduit of the separator a coke-lean hydrocarbon effluent that includes < 45 wt. % of the plurality of coke particles in the combined effluent can be removed. The first exit conduit and the second exit conduit can be coupled to the inlet conduit.

[Continued on next page]

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