

ABSTRACT

A process and catalyst for improving the yield of propylene from residual oil feedstock includes obtaining residual oil feedstock from a vacuum distillation tower. The residual oil feedstock has contaminant metals such as sodium or vanadium. The residual oil 5 feedstock is contacted with a cracking catalyst in a catalytic cracking zone to make products. A ZSM-5 zeolite, a binder, a filler and a metal trap are components of the cracking catalyst. The metal trap has a trapping agent in an outer shell of the catalyst, a trapping agent in the ZSM-5 binder or combinations thereof. After reacting, the cracking catalyst is separated from the products in a separator zone, then regenerated by combusting coke deposited on a surface 10 of the cracking catalyst in an oxygen-containing environment. The cracking catalyst is returned to the catalytic cracking zone. The catalyst with the metal trap is also disclosed.

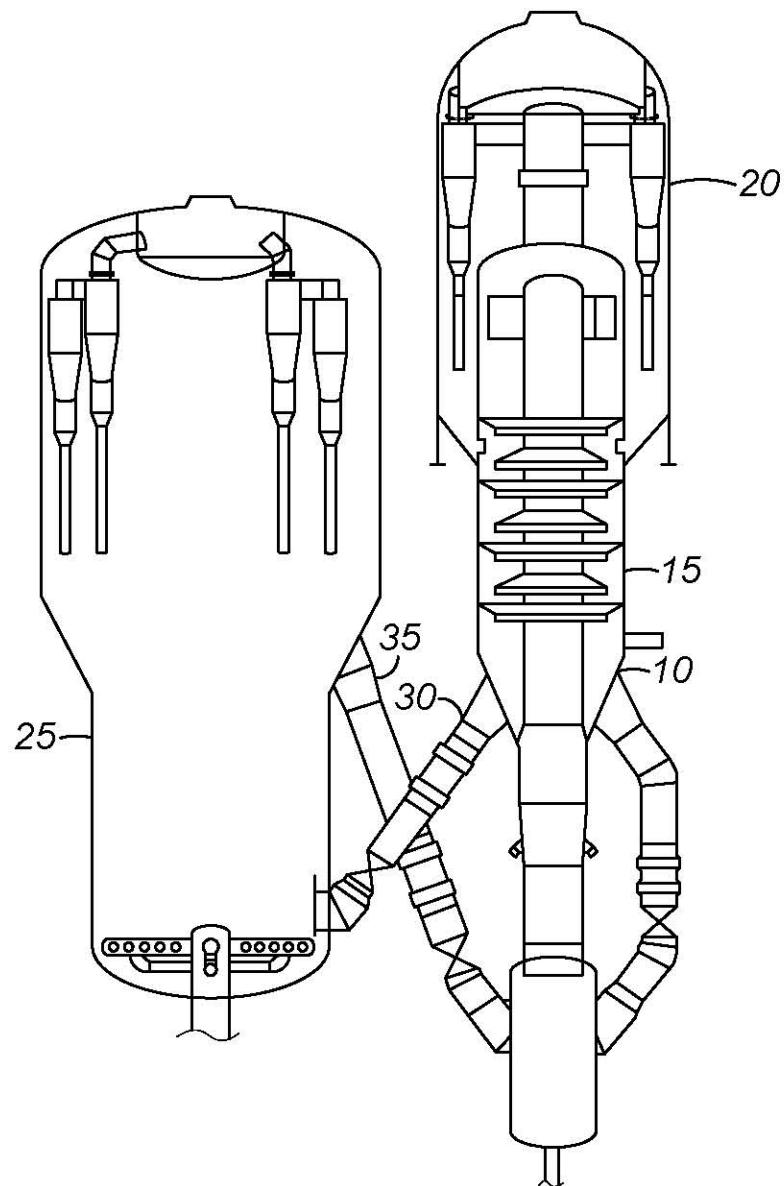


FIG. 1

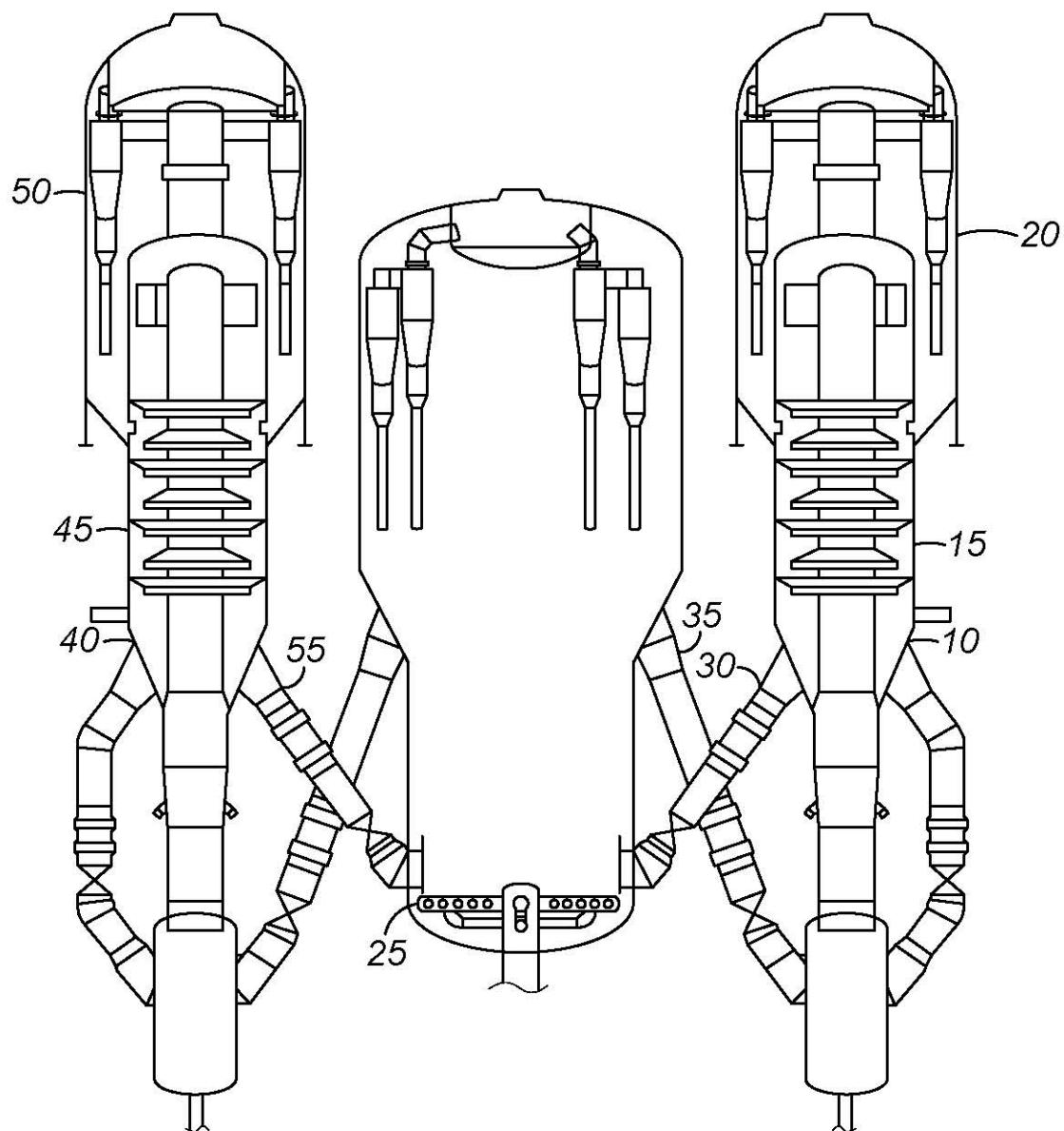


FIG. 2

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