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(54) Title: METHODS FOR DEHYDROGENATING HYDROCARBONS UTILIZING COMBUSTION UNITS

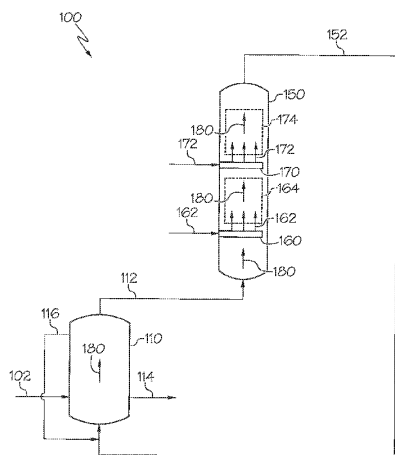


FIG. 1

(57) Abstract: According to one or more embodiments described herein, a method for dehydrogenating hydrocarbons may include contacting a feed stream including one or more hydrocarbons with a particulate solid, which may include an oxygen-carrier material, to form hydrogen and one or more products. At least a portion of the hydrogen may be reacted with oxygen from the oxygen-carrier material to form water and reduce the oxygen content in the oxygen-carrier material. The particulate solid may be passed from the dehydrogenation reactor to a combustion unit. The combustion unit may include a first gas inlet and a second gas inlet that may be above the first gas inlet. An oxygen-containing gas may enter into the combustion unit through the first gas inlet and a fuel may enter through the second gas inlet.

LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,
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