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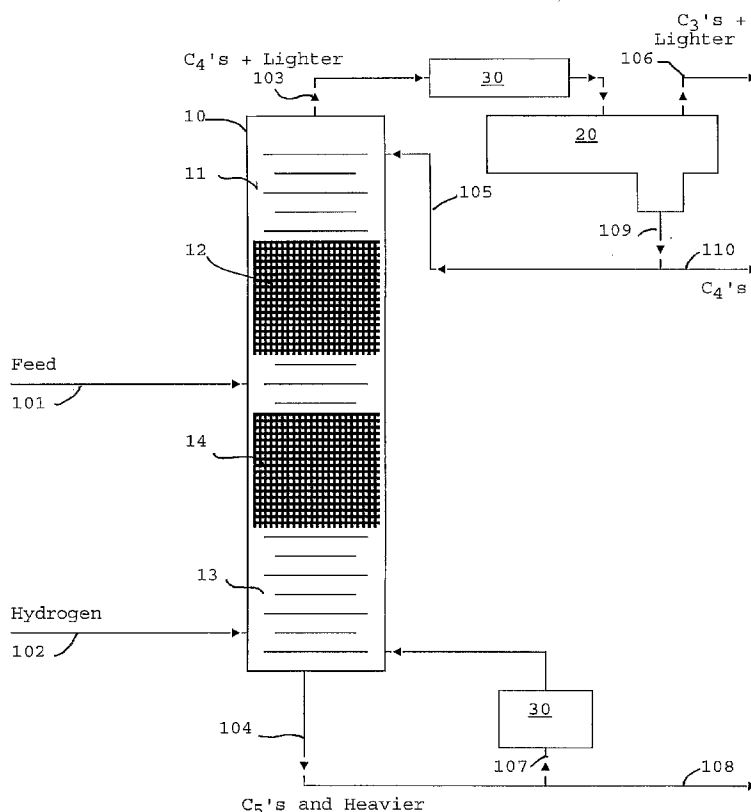
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(54) Title: PROCESS AND CATALYST FOR SELECTIVE HYDROGENATION OF DIENES AND ACETYLENES



(57) Abstract: A process for the selective hydrogenation of dienes and acetylenes in a mixed hydrocarbon stream from a pyrolysis steam cracker in which a front end one step acetylene hydrogenation is carried out using catalyst comprising (A) 1 to 30 wt.% based on the total weight of the catalyst of a catalytic component of nickel only or nickel and one or more elements selected from the group consisting of copper, rhenium, palladium, zinc, gold, silver, magnesium, molybdenum, calcium and bismuth deposited on (B) a support having the a BET surface area of from 1 to about 100 m²/gram, total nitrogen pore volume of from 0.2 to about 0.9 cc/gram and an average pore diameter of from about 110 to 450 Å under conditions of temperature and pressure to selectively hydrogenate acetylenes and dienes. The process hydrogenates the dienes and acetylenes to olefins without loss of ethylene and propylene in the light and heavy products which eliminates the need for further processing of the heavier stream. In addition the amount of polymerization in the lower part of the distillation column reactor is reduced.



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