

Title (en)

LOW ENERGY PROCESS FOR PRODUCING SYNTHESIS GAS WITH A HIGH METHANE CONTENT

Publication

EP 0182992 A3 19870121 (DE)

Application

EP 85111795 A 19850918

Priority

DE 3439487 A 19841027

Abstract (en)

[origin: US4678480A] A process for producing a synthesis gas containing methane and using a reactor having a fuel containing carbon comprises directing gasification gases in a circulation system through a bed of fuel containing carbon to form a synthesis gas containing methane and carbon dioxide. Thereafter, the synthesis gas is cooled in a regenerator and subjected to the gas separation wherein the syngas is subjected to a gas cleansing by means of a pressure change absorption in a gas scrubber to remove most of the methane and carbon dioxide and its water content is increased. The separated gas is then heated and subsequently the portion is returned into the system together with the waste gases and fuel containing carbon. The process includes a 4-pole heater which includes the first heat exchange passage for the syngas which is cooled and a second heat exchange passage for the recirculation of the syngas and is further cooled and passed through a scrubber. The system includes a heater which is arranged after the 4-pole heater which operates the gas and then the gas is passed through a reduction reactor back through a heating element of the regenerator that initially cooled the gas. A portion of the gas is also used to drive a steam turbine and to direct the excess steam from the turbine into the initial reactor which has a fluidized bed of the carbon material such as coal.

IPC 1-7

C10J 3/54; **C21B 13/00**

IPC 8 full level

C10J 3/54 (2006.01); **C21B 13/00** (2006.01)

CPC (source: EP US)

C10J 3/463 (2013.01 - EP US); **C10J 3/54** (2013.01 - EP US); **C10K 1/02** (2013.01 - EP US); **C10K 1/04** (2013.01 - EP US); **C10J 2300/093** (2013.01 - EP US); **C10J 2300/0959** (2013.01 - EP US); **C10J 2300/0976** (2013.01 - EP US); **C10J 2300/1675** (2013.01 - EP US); **C10J 2300/1884** (2013.01 - EP US); **Y10S 48/01** (2013.01 - EP US)

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Designated contracting state (EPC)

BE DE FR GB IT NL

DOCDB simple family (publication)

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DOCDB simple family (application)

EP 85111795 A 19850918; AU 4786585 A 19850925; BR 8505349 A 19851025; DE 3439487 A 19841027; DE 3565996 T 19850918; IN 942MA1985 A 19851121; US 79032585 A 19851023; ZA 857652 A 19851003