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 UNION RHEIN BRAUNKOHLLEN *DE 3531-292-A
 02.09.85-DE-531292 (12.03.87) C10j-03/52
 Synthesis gas reactor - with controlled fixed bed for combustion
 residue below fluidised bed for charge
 C87-030578

E(31-A1) H(9-C)

Synthesis gas is produced at a high pressure from solid fuel in a reactor with a fluidised bed lying above a fixed bed of the combustion residue.

The gas is extracted from a sec. gasification space above the fluidised bed. The extn. rate from the fixed bed is controlled as a function of its height so that the top boundary of the fixed bed remains below the belt in which an oxygen contg. gasifying agent is introduced.

ADVANTAGE

This system is suitable for solid fuels with a greatly fluctuating content of non-gasifiable solids without interference for the trouble-free operation.

EMBODIMENTS

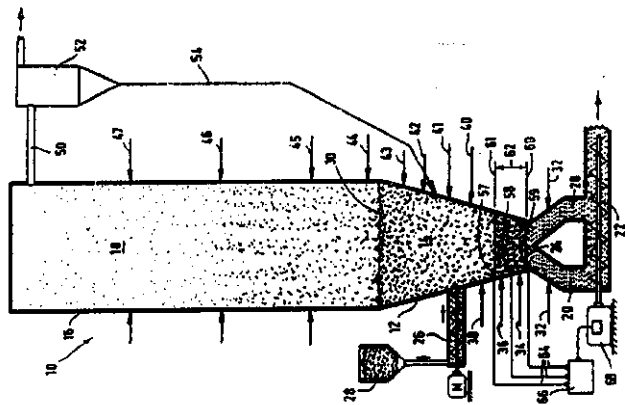
The reactor (10) has in the conical bottom (12) a fluidised bed (14) and a secondary gasification zone (18) in the upper

cylindrical part (16). The solid residue is collected in a fixed bed (24) and discharged by a screw conveyor (22). The fuel is charged from a bunker (28) by a screw conveyor (26).

An endothermic agent (steam, CO_2 , N_2) is injected through the inlet (32) to loosen the fixed bed. Gasifying agents are injected through the inlets (34, 36, 38, 40-47). Synthesis gas is extracted via a cyclone (52) and the separated solids are recycled through pipe (54).

The zone (62) between the levels (60, 61) defines the area within which the fixed bed is controlled by temperature sensors (57, 58, 59) acting on the control unit (66) for the drive (68) of the screw conveyor (22). (7pp39RBHDwgNo1/1).

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