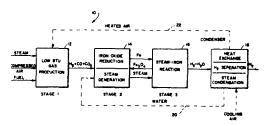
NEW PATENTS 775

4343624

ROTATING FLUIDIZED BED HYDROGEN PRODUCTION SYSTEM

William Belke; George B. Grim; assigned to Caterpillar Tractor Co.



A three stage hydrogen generator, comprises a low BTU, carbon monoxide and hydrogen containing gas generation stage, a first reactor stage for exothermically reducing ferric oxide with the low BTU gas and for generating superheated steam and a second reactor stage for endothermically reacting steam and iron to produce substantially pure hydrogen gas. The hydrogen gas together with unreacted steam from the third stage is directed to a condenser, preferably an air cooled unit, wherein the steam is condensed and the hydrogen gas recovered. The condensate is cycled back to the second reactor as the feed water for generating suerheated steam and the heated cooling air is directed to the first stage for use in the generation of the low BTU gas. At least one, and preferably all, of the stages utilize a rotating fluidized bed. Desirably the condenser is a rotating fluidized bed heat exchanger.

4343622

METHOD OF MAKING GRANULES BUILT UPL FROM A CORE AND AN ENVELOPE

Jean P. Bruynseels; assigned to Compagnie Neerlandaise de l'Azote

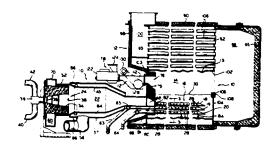
Manufacture of granules built up from a core and an envelope in a fluidized bed of nuclei. A stream of liquid containing the

enveloping material is hydraulically sprayed within the bed from the bottom upwards by means of at least one hydraulic sprayer surrounded by a coaxial, annular, converging aperture through which auxiliary gas is discharged at such a vertical velocity that the conical stream of droplets is narrowed to a stream having an apex angle of less than 20 degrees, and in such a quantity that a cavity of dilute fluidized phase is formed above each sprayer, which cavity is located entirely within the bed.

4343247

FLUIDIZED BED COMBUSTION METHOD AND APPARATUS

Robert A. Chronowski; assigned to Aqua-Chem Inc.



A fluidized bed combustion device adapted for use with a boiler has an air distributor consisting of a plurality of rows of generally horizontally oriented, apertured sparge pipes disposed in a bed of inert particulate material. The rows of pipes are vertically spaced apart with the upper row being connected to a start-up burner for receiving heated combustion products and excess air and the lower rows of pipes are connected to selectively receive air or inert gases through a separate delivery path. During start-up and low load conditions, only the upper row of pipes is pressurized and so that only the upper portion of the bed is fluidized to minimize the heat input requirements. Once the upper portion of the bed has been heated to the required temperature, primary fuel is delivered to sustain combustion without the start-up burner. At