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COMPOSITION AND METHOD COMBINING FLUIDIZED BED RESIDUE WITH SCRUBBER SLUDGE

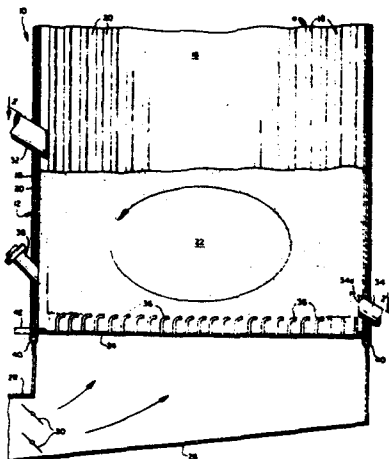
L Joh Minnick

A method of treating scrubber sludge removed from a gas scrubbing apparatus of the type adapted to reduce SO_x content in the treated gas, is provided. The method comprises collecting the spent residue from a fluidized combustion bed of the type wherein lime or calcium carbonate particles are suspended in a fluidized medium and wherein a carbonaceous fuel is ignited proximate said fluidized medium to absorb therein substantial amounts of SO_x which is generated upon ignition of said carbonaceous fuel. The fluidized bed combustion residue is then subjected to a separating treatment wherein a slurry of residue is mechanically agitated. The supernatant liquor from the slurry is separated therefrom, leaving a precipitate material which latter material is mixed with sludge. The novel composition comprises a combination of scrubber sludge and fluidized bed combustion residue precipitate, as above mentioned.

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FLUIDIZED BED HEAT EXCHANGER INCORPORATING INDUCED CIRCULATION UTILIZING DIRECTIONAL AND/OR DIFFERENTIAL BED FLUIDIZATION

Robert Gamble, Robert D Stewart



A fluidized bed heat exchanger in which a perforated plate is disposed within a housing for supporting a bed of particulate material which is introduced into the housing through an inlet. Air is passed through the plate to fluidize the particulate material and a drain pipe is provided for discharging the spent material from the bed. A plurality of nozzles are provided in association with the perforations in the plate for directing air toward the drain pipe to promote the circulation of the bed materials from the inlet to the drain pipe.

4396056

APPARATUS AND METHOD FOR CONTROLLING HEAT TRANSFER BETWEEN A FLUIDIZED BED AND TUBES IMMERSSED THEREIN

James L Hodges, Anthony Cerkanowicz

In a fluidized bed of solid particles having one or more heat exchange tubes immersed therein, the rate of heat transfer between the fluidized particles and a fluid flowing through the immersed heat exchange tubes is controlled by rotating an arcuate shield apparatus about each tube to selectively expose various portions of the tube to the fluidized particles.

4395830

PULSE COMBUSTION FLUIDIZING DRYER

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A fluid bed dryer includes a tank with an upright wall, a top, and a floor which rotates under a plurality of blades adjacent the floor and fixed to an inner annular baffle. A gas manifold is defined between the tank wall and the baffle, and opens under the baffle into a drying space in the tank. A pulse jet engine pumps pulsating hot gas and sonic waves to the gas manifold to fluidize a bed of moist particles which are introduced into the drying space above the blades. There is a time average uniform exposure of the bed to the