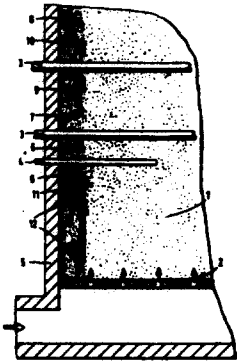


The invention provides a conveyer for receiving bed drain material from a coal-burning fluid bed combustor and consists of a jacketed water cooled casing in which is a helical flight for conveying said material, the flight being mounted on an outer tube which is supported by a bearing at one end only in cantilever fashion with its other end within the closed end of the water cooled tube, an inner water cooling tube being located within the outer tube for water to circulate through the inner tube and back through the outer tube.

4407355

METHOD AND APPARATUS FOR DECREASING THE HEAT AND MATERIAL EXCHANGE IN THE DIRECT VICINITY OF THE WALLS OF FLUIDIZED BED REACTORS

Berhard Bonn, Franz Giertz, Lothar Holl, Heinz Schreckenber, Essen, Federal Republic Of Germany assigned to Bergwerksverband GmbH

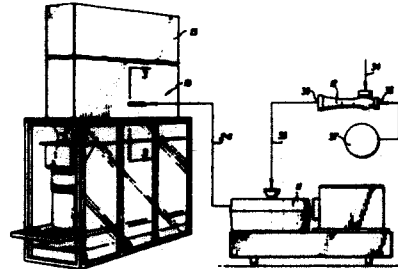


In a method for decreasing the heat, impulse and material exchange in the direct vicinity of the walls of fluidized bed reactors, the flow resistance to the fluid (agitating medium) conducted through the fluidized bed will be increased in the vicinity of the walls to such an extent that the fluidized bed does not do much agitating in this region; moreover the components sticking out of the interior walls of the reactor serve to extend the rib-shapes from the wall projecting into the reaction space or parallel to the reactor wall while forming a slit with the latter. The components can be pre-fabricated segments and the distance of the annular components in the direction of flow of the fluid should at most be about half as great as the height of the ribs lateral thereto.

4406410

METHOD AND APPARATUS FOR ADDING AND MIXING SECOND COHESIVE POWDERS IN A FLUIDIZED BED BLENDER

Richard I Larson, Henry C Brassfield, John T Adomitis assigned to General Electric Company



A method and apparatus for the introduction of second cohesive powders into an improved fluidized bed blender containing UO₂ powder, and for blending such second cohesive powders with the UO₂ powder in the fluidized bed blender. The apparatus comprises an eductor, an improved pressurized vortec mill, a pneumatic conveying system that operates in turbulent flow, and an improved fluidized bed blender. The method and apparatus provide for injection and uniform dispersion of a second cohesive powdered ingredient or ingredients having hydrophobic, hydrophilic or hygroscopic properties in the fluid bed blender adjacent the bottom of the fluidized bed therein during the blending operation, thereby minimizing entrainment of the second powder mixture and providing a homogeneous blend of powders.

4406128

COMBINED CYCLE POWER PLANT WITH CIRCULATING FLUIDIZED BED HEAT TRANSFER

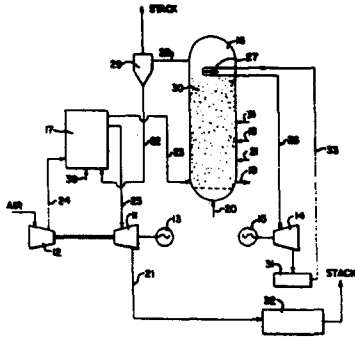
John P Fanaritis, James S Davis assigned to Struthers-Wells Corporation

In a combined generating plant utilizing a fluidized bed combustor in which coal or other carbonaceous fuel is burned at substantially atmospheric pressure, an external heat transfer unit is provided through which a portion of the hot solids of the fluidized bed is circulated through tubular channels. Clean air from an air

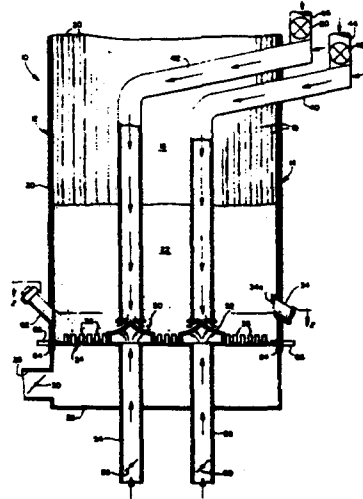
4404755

FLUIDIZED BED HEAT EXCHANGER UTILIZING INDUCED DIFFUSION AND CIRCULATION

Robert Stewart, Robert Gamble assigned to Foster Wheeler Energy Corporation



compressor is passed through the heat exchanger unit around the outside of the tubular channels, so receiving heat through them from the hot solids circulating therethrough, and is expanded in a gas turbine. The flow of hot solids through the tubular channels is controlled independently of the operation of the combustor so as to accommodate varying loads on the generating units. Steam for a other uses is generated by a conventional boiler and superheater in the combustor.



A fluidized bed heat exchanger in which a perforated plate is disposed within a housing for supporting a bed of particulate material. Air is passed through the plate to fluidize the particulate material and a mixture of air and additional particulate material is introduced to said bed and deflected into said bed in a manner to induce diffusion and circulation of the bed materials in the bed.

4405561

DRAIN AND SAMPLING VALVE ASSEMBLY FOR A FLUIDIZED BED REACTOR

Thomas J Neale, Frederick C Alverson, John S Karg assigned to Foster Wheeler Energy Corporation

A drain and sampling valve assembly for a fluidized bed reactor in which a pipe extends from the fluidized bed supporting structure to a location externally of said reactor. A valve seat is supported by said supporting structure and a valve stem is disposed in the pipe and extends for the length of the pipe and has a valve head mounted at one end of the stem for cooperating with the valve seat. A mechanical actuator assembly is provided externally of said reactor for selectively moving the stem relative to the pipe and the movement of the valve head relative to the valve seat to control the flow of material from the fluidized bed into the pipe. A discharge pipe and a sampling valve cooperate with the other end of the first mentioned pipe for selectively controlling the discharge of material from said latter pipe for permitting samples to be taken.

4404083

FLUID BED RETORTING PROCESS AND SYSTEM

Iacovos Vasalos assigned to Standard Oil Company(Indiana)

A fluid bed process and system for retorting hydrocarbon-containing material, such as oil shale, coal and tar sand, in which hydrocarbon-containing material and heat carrier material are fed into a mixing chamber, mixed and rapidly transported upwardly by a lift gas through a lift pipe into a solids-containing vessel to retort the hydrocarbon-containing material with minimal