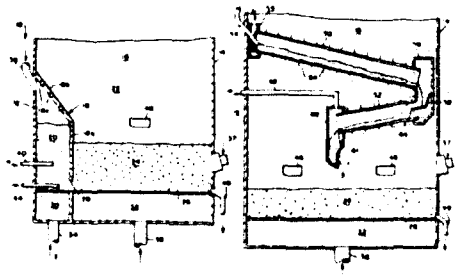
Klaus-Rudol Meyer; Karl-Hein Hornung; Rainer Feldmann; Hans-Jurge Smigerski; assigned to Chemische Werke Huls AG

Polyamide powder coating compositions for the coating of metals at high temperatures are obtained by the precipitation method from polyamides having at least 10 aliphatically bound carbon atoms per carbonamide group, copolyamides having at least 70% of these polyamides and mixtures of homopolyamides and copolyamides having at least 70% of these polyamides. A. For the preparation of powder coating compositions useful in the fluidized bed coating method the polyamides with 10 or more carbon atoms and having a relative viscosity between 1.4 and 1.8 are added to at least twice the amount by weight of ethanol and while the mixture is being mechanically mixed in a closed vessel is converted into a solution at temperatures between 130 degrees and 150 degrees C. This solution is adjusted to a precipitation temperature of between 100 degrees and 125 degrees C. while avoiding the formation of local sub-cooling and is agitated under an inert gas atmosphere to suppress boiling. Without further heat supply, powders with a grain size distribution of at least 99.5% by eight between 40 and 250 microns are precipitated at a low angular speed of agitation. When the particle formation is terminated, the suspension formed is cooled to at least 70 degrees C. and following partial mechanical separation of the ethanol, first drying takes place at reduce pressure with wall temperatures at not more than 100 degrees C. with mild mechanical agitation and after the onset of friability the wall temperatures can be increased up to 150 degrees C. with stronger mechanical agitation. B. For the preparation of powder coating compositions useful in the electrostatic coating method the method of A is modified in the precipitation step by using a higher angular speed of agitation for the purpose of preparing a grain size distribution of 100% by weight smaller than 100 microns.

4333909

FLUIDIZED BED BOILER UTILIZING PRECALCINATION OF ACCEPTORS

Robert D. Stewart; Robert L. Gamble; assigned toFoster Wheeler Energy Corporation

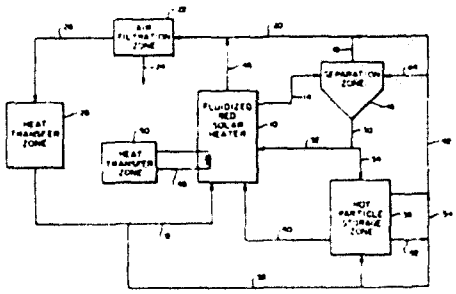


A fluidized bed boiler, and a method of operating same in which air is passed through a grate to fluidize a bed of particulate material containing fossil fuel disposed on the grate. A raw acceptor for the sulfur produced as a result of the combustion of the fuel is introduced into the housing and confined within an area of the housing isolated from the bed of particulate material. The area containing the acceptor is maintained at conditions optimal for calcining the acceptor, after which the latter is introduced into the fluidized bed.

4333445

FLUIDIZED BED SOLAR ENERGY HEATER

Donald M. Lee



Disclosed is an improved solar air heater which comprises an air fluidized bed unit having; (a) an inlet for incoming cool air; (b) an outlet for heated air; (c) a clear coverplate; (d) a solar heat collector element disposed within said unit for absorbing het from solar energy entering said unit through said cover plate; and (e) a fluidization zone disposed within said unit wherein a bed of particles is fluidized by said incoming cool air, said bed and said fluidizing cool air absorbing heat from solar energy entering said unit through said cover plate and/or from said solar heated collector element; said particles being resistant to appreciable attrition and substantially non-dusting.

4332835

PLENUM MOUNTED GRID FOR ELECTROSTATIC FLUIDIZED BED

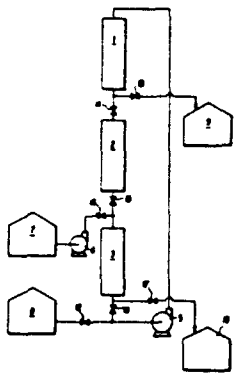
Walter G. Knudsen; assigned to Electrostatic Equipment Corp.

An apparatus, system and method are provided for the fluidized bed electrostatic coating of workpieces, especially those of continuous length, such as metal wires. The apparatus includes a control grid spanning the plenum chamber and establishing an electrical effect by which deposits of improved uniformity can be produced at lower operating voltages.

4332623

ADSORPTION SEPARATION METHOD AND APPARATUS THEREOF

Masao Ando; Tetsuya Hirota; Katashi Shioda; assigned to Mitsubishi Chemical Industries Ltd



A method for separating a starting fluid containing at least one component which is easy to adsorb and at least one component which is hard to adsorb into the respective components by the use of an adsorption separator which comprises a packed bed where an adsorbent for such components is packed and a fluid passage connecting the front and rear ends of said packed bed so that the fluid is able to be circulated, the method comprising the first step of feeding the starting fluid to an intermediate portion of the packed bed while withdrawing from the separator and fluid rich with either of the components in an amount equal to the feed of the starting fluid from a position downstream of the feed port, the second step of stopping the feed of the fluid to and the withdrawal of the fluid from the separator and moving the fluid remaining in the separator toward the downward direction, and the third step of feeding a desorbent fluid to the separator and simultaneously withdrawing from the separator a fluid rich with either of the components in an amount equal to the feed of the desorbent fluid from a position downstream of the desorbent feed port, the respective withdrawals of fluid from the separator being conducted at least two different positions, the adsorption bands being left in part of the packed bed in the third stepl. Apparatus for carrying out the method is disclosed.