

FLUIDIZED-BED HEAT RECOVERY APPARATUS

ABSTRACT

5 The present invention relates to a fluidized-bed heat recovery apparatus for uniformly combusting solid materials including incombustibles, and for recovering heat energy while discharging the incombustibles. In a fluidized-bed reactor (1), a gas diffuser configured to give different fluidizing velocities in a fluidized-bed is provided at a furnace bed. A first weakly fluidized region (WF) having a small fluidizing velocity is
10 formed to generate a downward flow of the fluidized medium in the first fluidized region (WF), and a strongly fluidized region (SF) having a large fluidizing velocity is formed to generate an upward flow of the fluidized medium in the strongly fluidized region (SF), thereby forming a swirling flow of the fluidized medium in the fluidized bed. Outside the strongly fluidized region (SF), a second weakly fluidized region (WF) having a small
15 fluidizing velocity is formed to generate a downward flow of the fluidized medium, so that a part of the fluidized medium flows from the strongly fluidized region (SF) into the second weakly fluidized region (WF). A heat recovery device having a heat transfer surface is located in the second weakly fluidized region (WF).

20 Fig. 1