

Group of inventions relates to separation of solid substances from fuel gas with circulating quasi-liquefied layer. Devices have set of vertical separators of baffler type placed in the boiler. Separators are placed as adjoining and at distance one from another in horizon with formation of several rows placed in chess order. Each separator has set of vertical cooling pipes for motion of cooling medium through those. One of variants of separator has set of fit with slide elements that surrounds cooling pipes. Those elements form collector channel along the length of cooled pipes. In the other variants walls of collector channel form at least three neighboring cooling pipes to which chevron-like collector element is connected, and rectangular or omega-like tubular elements welded to each other, through those cooling medium goes. Cross section of separators can be U-like, E-like, W-like or concave, like a cup. Vertical cooling pipes can be provided with stable to erosion mean. The inventions promote increase of erosion stability and thermal stability of separators and length of those, this makes it possible to decrease general area of separator compartment of boiler.