

ABSTRACTSAND WASHING APPARATUS

A sand washing apparatus is comprised a cleaning tank having a sand inlet port provided in the upper section and a sand outlet port provided in the lower section for storing therein sand and cleaning water, an agitation tank provided in its erect posture in this cleaning tank and having openings in the upper and lower edge sections, and a screw conveyor rotating in this agitation tank; wherein said screw conveyor projects from a top surface of a layer of sand deposited in the agitation tank as well as from a top surface of the water therein and has a fluidized sand up-flow section for flowing fluidized sand to be washed up to an upper edge opening of the agitation tank.

The sand washing apparatus according to the present invention has a fluidized sand up-flow section provided in the screw conveyor, so that the fluidized sand generated a discontinuous eddy flow, which generates friction between sand gains with the cleaning effect achieved. For this reason, contaminants deposited on or covering a surface of a grain sand can effectively be removed. Also the fluidized sand shows the scrubbing effect between the sand grains, but the sand grains little collide against members having a higher hardness, so that an excessive force causing pulverization is not loaded to the sand grains. In addition, there is always cleaning water between sand grains, so that contaminants separated from a surface of each sand grain are dissolved in and flown away with the water. Further only a top surface of the vane contact the sand in the fluidized sand up-flow section, so that the agitation member is worn little.

