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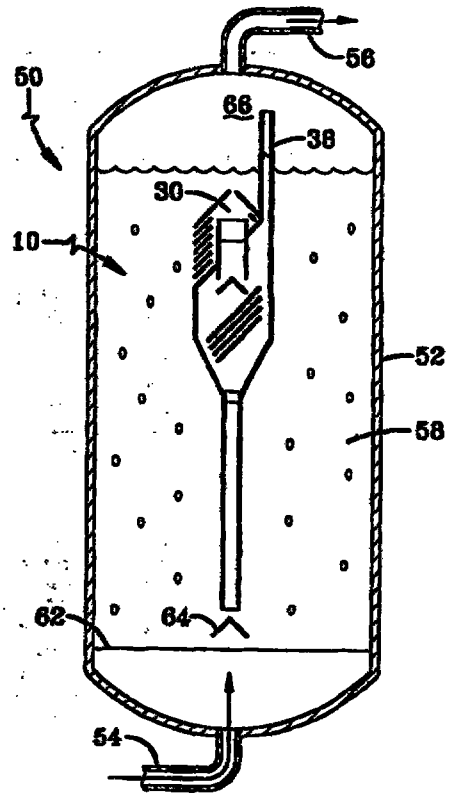
(54) Title: GAS AND SOLIDS REDUCING SLURRY DOWNCOMER

(57) Abstract

Particulate solids and gas are removed from a three phase hydrocarbon synthesis slurry of solid catalyst particles, gas and liquid, by successively passing slurry from a slurry body through solids and gas disengaging zones in fluid communication, with the solids disengaging zone upstream of the gas disengaging zone. This is accomplished using a solids and gas disengaging downcomer immersed in the slurry wherein solids are disengaged in a quiescent zone adjacent the slurry body, from which the solids reduced slurry passes through an enclosed cup in which gas is disengaged and removed. The bottom of the cup terminates in a downwardly depending downcomer which hydraulically feeds the densified, solids and gas reduced slurry to the bottom of the reactor or to filtration.