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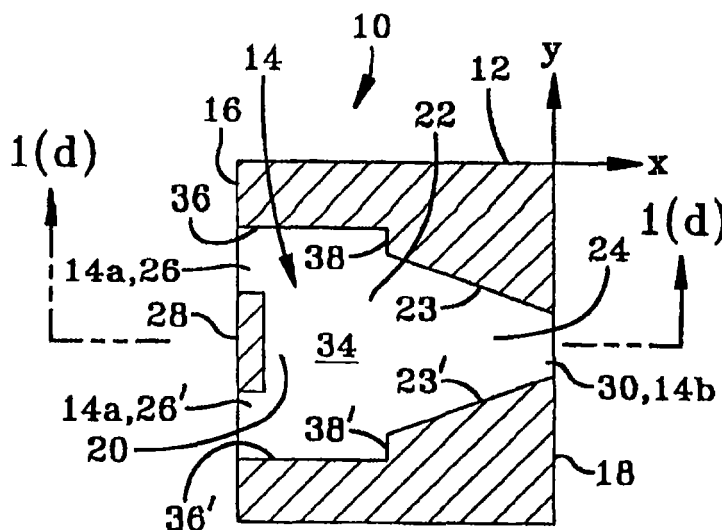


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(54) Title: PROCESS AND APPARATUS FOR ATOMIZING FCC FEED OIL

(57) Abstract

A liquid atomization process comprises forming a two-phase fluid mixture of a liquid and a gas, under pressure, dividing the fluid into two separate streams which are passed into and through an impingement mixing zone (22) in which they are impingement mixed to form a single stream of two-phase fluid. The mixed, single stream is then passed into and through a shear mixing zone (24) and then into a lower pressure expansion zone (30), in which atomization occurs to form a spray of atomized drops of the liquid. The impingement (22) and shear (24) mixing zones comprise respective upstream (16) and downstream (18) portions of a single fluid passageway (14) in a nozzle (10). This is useful for atomizing the hot feed oil in an FCC process.



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