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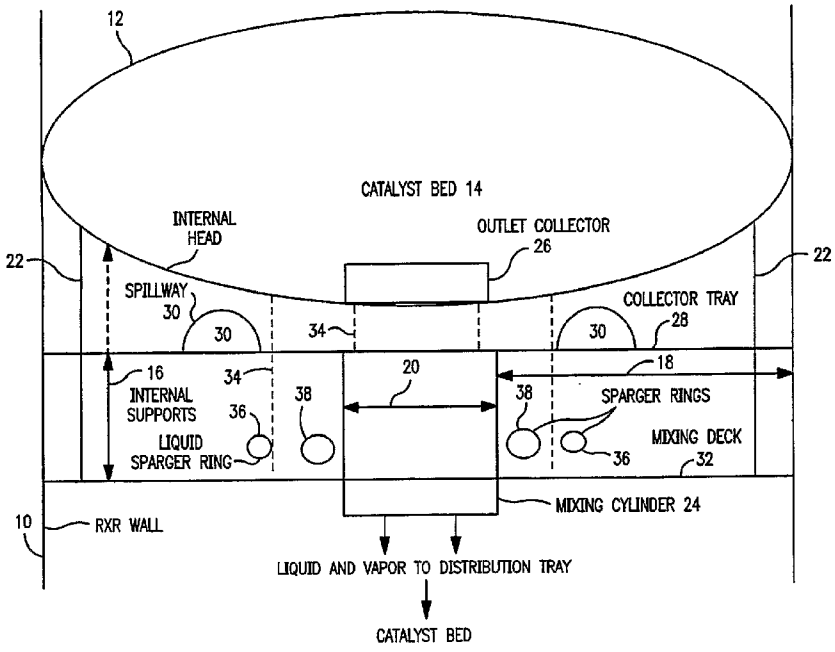
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(54) Title: DUAL GAS-LIQUID SPARGERS FOR CATALYTIC PROCESSING UNITS



(57) Abstract: This invention relates to a quenching device for temperature control in catalytic processes. More particularly, the quenching device includes gas and liquid spargers for interbed temperature control in an interbed mixing zone in a catalytic reactor. The quenching device includes a first injector for injecting a first quenching fluid into an outer mixing zone and a second injector for injecting a second quenching fluid into an inner mixing zone. The quenching fluids include both gaseous and liquid quenching fluids.

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