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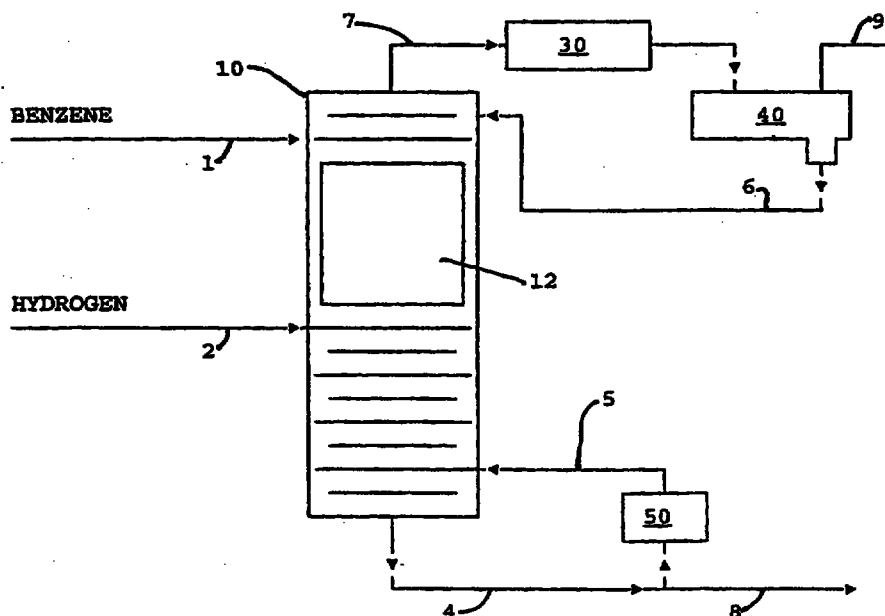
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(54) Title: HYDROGENATION OF BENZENE TO CYCLOHEXANE



(57) Abstract: A process for the production of cyclohexane by the hydrogenation of benzene is provided wherein the reactor is operated at a pressure wherein the reaction mixture is boiling under low hydrogen partial pressure in the range of about 0.1 PSIA to less than 200 PSIA at 0 to 350 PSIA overhead pressure. The catalyst is provided as a catalytic distillation structure (12) such that the reaction is concurrently occurring with a distillation. The benzene is fed at a point above the bed (1) and the hydrogen is fed below the bed (2). All of the overheads may be returned as reflux to provide cooling within the catalyst bed.

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