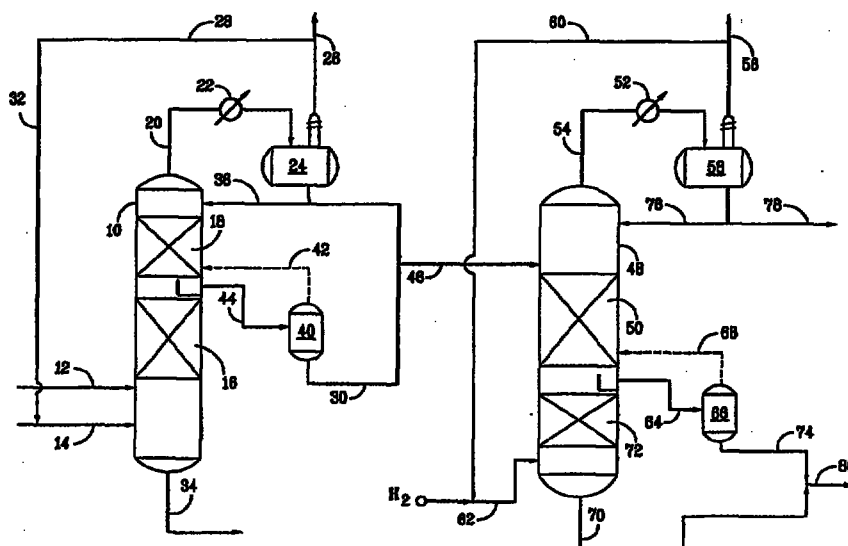




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(54) Title: APPARATUS AND PROCESS FOR HYDROGENATIONS



(57) Abstract

An apparatus and process for treating a complex mixture of hydrocarbons containing undesirable olefinic compounds to remove the mono olefins and diolefins in two stages and separate a desirable key component from the mixture, by first treating the key component in a reactive distillation column (10) having a secondary bed (18), primary bed (16) and sidedraw (44), under mild conditions to hydrogenate diolefin then separating the diolefin-depleted key component and lighter materials to a second reactive distillation column (48) having secondary bed (72), primary bed (50) and sidedraw (64) where the lights are removed overhead and the diolefin-depleted key component is hydrogenated under more severe conditions to remove the mono olefins.