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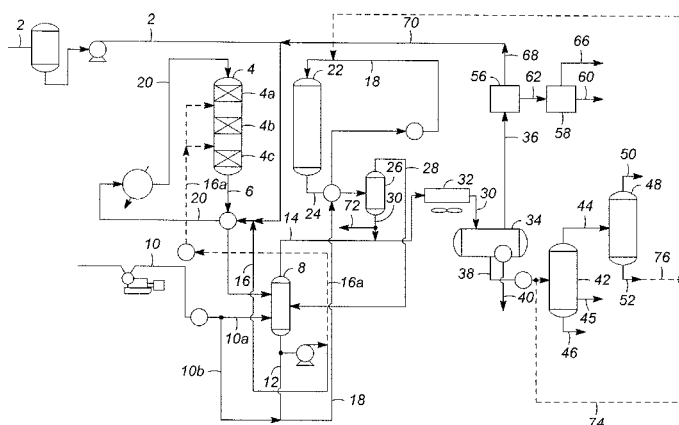


FIG. 1

(57) Abstract: A process for controlling the concurrent production of both diesel range hydrocarbons and aviation range hydrocarbons from renewable feedstocks such as plant oils and animal oils. The process involves determining the required specification of the desired products and the desired relative yields of the product that still meet the required specifications. The necessary isomerization and selective hydrocracking zone conditions are determined in order to create a mixture of paraffins which meet the required product specifications and yields. The necessary fractionation zone conditions are determined to separate the desired products. A renewable feedstock (2) is treated by hydrogenating and deoxygenating (4) to provide an effluent (6) comprising paraffins, isomerizing and selectively hydrogenating (22) at least a portion of the paraffins at the predetermined conditions, and separating by fractionation (42) at the predetermined fractionation conditions to generate a diesel range hydrocarbon product (46) and an aviation range hydrocarbon product (45).