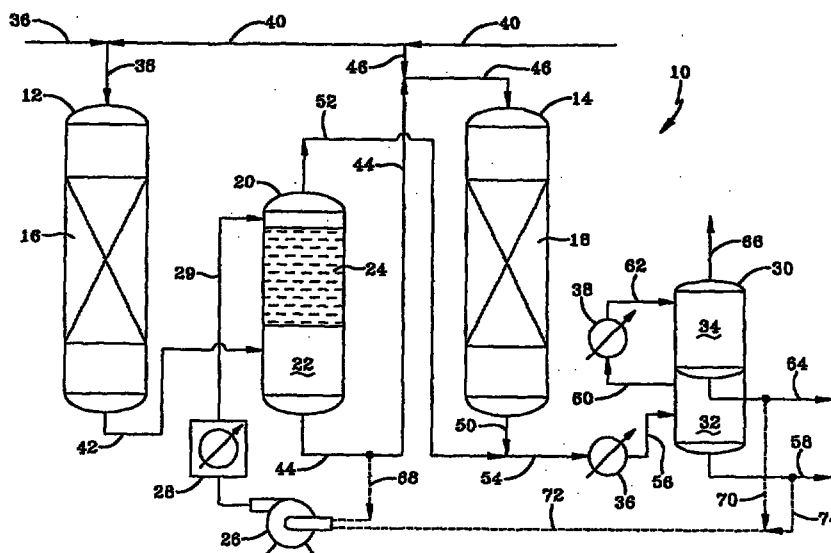




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(54) Title: TWO STAGE HYDROPROCESSING WITH VAPOR-LIQUID INTERSTAGE CONTACTING FOR VAPOR HETEROATOM REMOVAL



(57) Abstract

A hydroprocessing process is disclosed which includes two hydroprocessing reaction stages represented by vessels (12) and (14), both of which produce a liquid and vapor effluent represented by lines (42) and (54), and a liquid vapor contacting stage. The first vapor effluent contains impurities, such as heteroatom compounds, which are removed from the vapor by contact with processed liquid effluent derived from one or both reaction stages in contact vessel (20) and optionally also liquid recovered from processed vapor. The first and contact stage liquid effluents are passed into the second stage vessel (14) to finish the hydroprocessing. The contact and second stage vapor effluents are cooled to recover additional hydroprocessed product liquid in lines (58) and (64).