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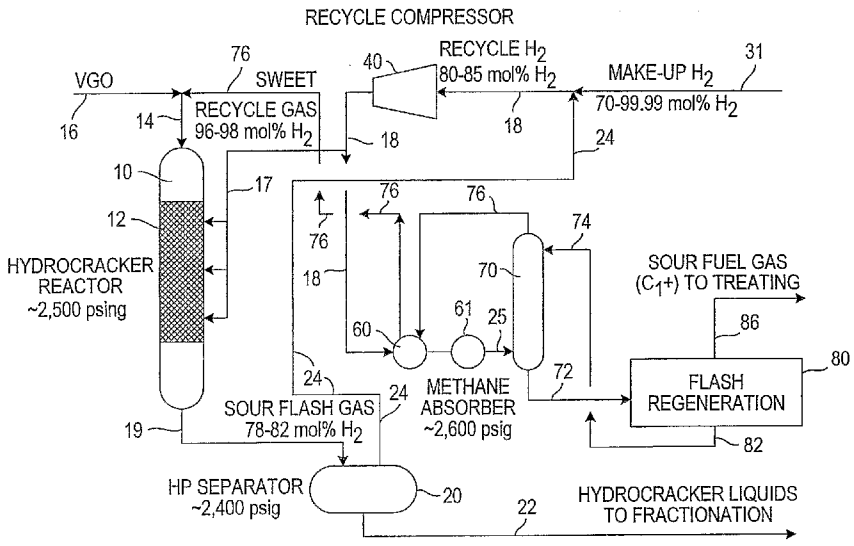
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(54) Title: HYDROGEN PURIFICATION FOR MAKE-UP GAS IN HYDROPROCESSING PROCESSES



(57) Abstract: The recycle gas stream containing hydrogen that is part of the feedstream to a hydroprocessing reactor is mixed with the low purity make-up hydrogen and the sour flash gases upstream of the recycle gas compressor and compressed by the recycle gas compressor, The compressed gases pass through a methane and higher (C_1+) absorber to produce a sweet hydrogen recycle gas stream that is delivered to the hydroprocessing reactor at 96-98 mol% hydrogen. The process can be used to advantage in existing process facilities to increase the hydrogen partial pressure in the feedstream to the hydroprocessor where the existing recycle gas compressor is not designed for compressing the high purity hydrogen.

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