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(54) Title: PROCESS AND APPARATUS FOR PRODUCING DIESEL

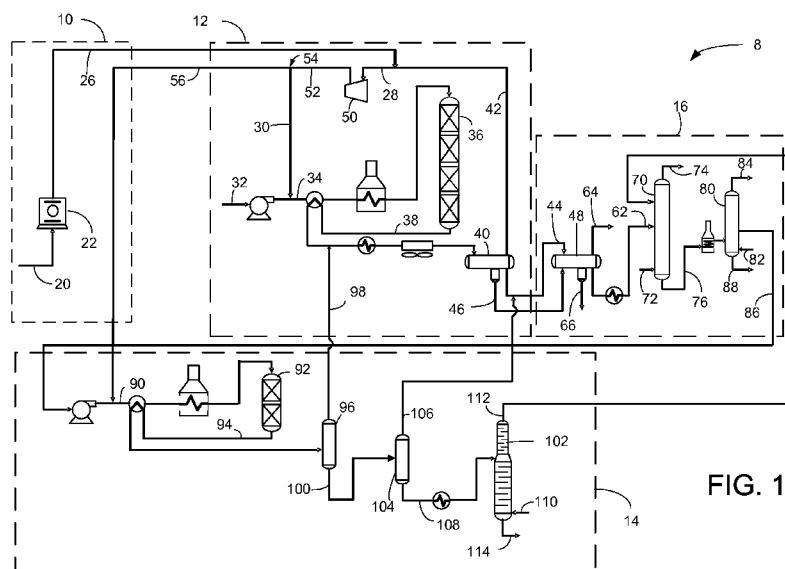


FIG. 1

(57) Abstract: A process and apparatus are disclosed for hydrocracking hydrocarbon feed in a hydrocracking unit and hydrotreating a diesel product from the hydrocracking unit in a hydrotreating unit. The hydrocracking unit and the hydrotreating unit may share the same recycle gas compressor. A make-up hydrogen stream may also be compressed in the recycle gas compressor. A warm separator separates recycle gas and hydrocarbons from diesel in the hydrotreating effluent, so fraction of the diesel is relatively simple. The warm separator also keeps the diesel product separate from the more sulfurous diesel in the hydrocracking effluent, and still retains heat needed for fractionation of lighter components from the low sulfur diesel product.



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A. CLASSIFICATION OF SUBJECT MATTER*C10G 65/02(2006.01)i, C10G 47/00(2006.01)i, C10G 45/00(2006.01)i, C10L 1/08(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C10G 65/02; C10G 69/02; C10G 45/00; C10G 45/08; C10G 65/12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: diesel, make-up hydrogen, hydrocracking, catalyst, separating, compressing, hydrotreating, fractionating

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5447621 A (HUNTER) 05 September 1995 See the abstract; claims; figure; column 5, line 16 - column 7, line 43.	1-10
A	US 7238276 B2 (FANG et al.) 03 July 2007 See the abstract; claims; figures; column 6, line 65 - column 8, line 65.	1-10
A	US 2009/0095655 A1 (KOKAYEFF et al.) 16 April 2009 See the abstract; claims; figures; paragraphs [0052]-[0068].	1-10
A	US 2007/0017851 A1 (MEHRA et al.) 25 January 2007 See the abstract; claims; figures; paragraphs [0023]-[0026].	1-10



Further documents are listed in the continuation of Box C.



See patent family annex.

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Information on patent family members

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