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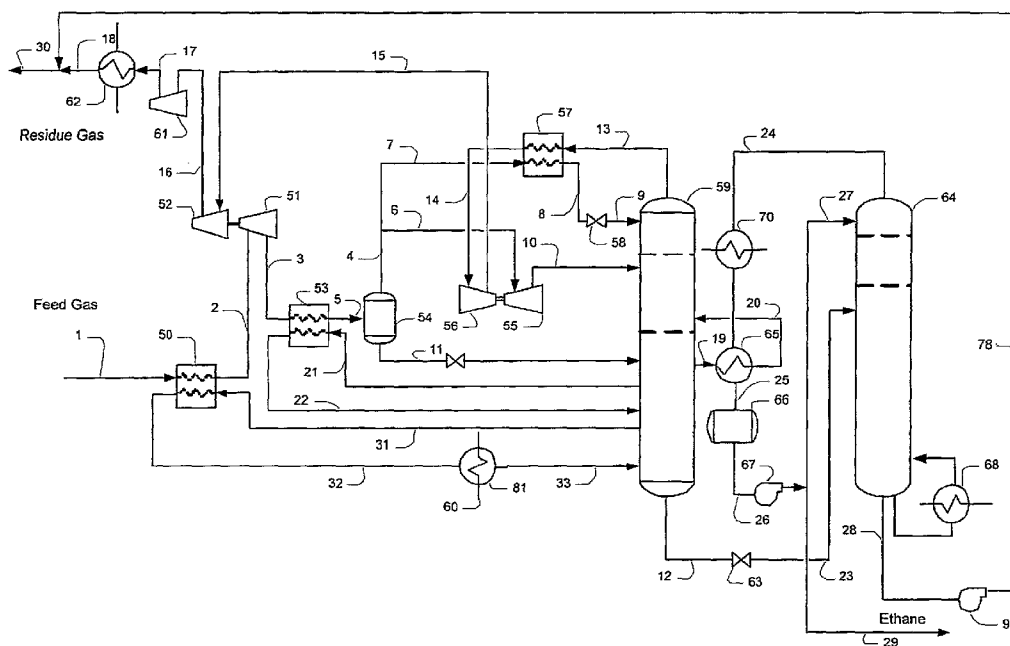
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(57) Abstract: Contemplated methods and configurations use a cooled ethane and CO₂-containing feed gas that is expanded in a first turbo-expander and subsequently heat-exchanged to allow for relatively high expander inlet temperatures to a second turbo expander. Consequently, the relatively warm demethanizer feed from the second expander effectively removes CO₂ from the ethane product and prevents carbon dioxide freezing in the demethanizer, while another portion of the heat-exchanged and expanded feed gas is further chilled and reduced in pressure to form a lean reflux for high ethane recovery.

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INTERNATIONAL SEARCH REPORT

International application No.

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<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - F25J 1/00 (2007.10) USPC - 62/612 According to International Patent Classification (IPC) or to both national classification and IPC</p>												
<p>B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC(8) - F17C 3/00, 3/08; F25J 1/00, 3/00 (2007.10) USPC - 62/45.1, 612, 613, 620</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PatBase</p>												
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X --- Y</td> <td>WO 98/59205 A2 (THOMAS et al) 30 December 1998 (30.12.1998) entire document</td> <td>1-10 ----- 11-20</td> </tr> <tr> <td>Y</td> <td>US 2005/0255012 A1 (MAK) 17 November 2005 (17.11.2005) entire document</td> <td>11-20</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X --- Y	WO 98/59205 A2 (THOMAS et al) 30 December 1998 (30.12.1998) entire document	1-10 ----- 11-20	Y	US 2005/0255012 A1 (MAK) 17 November 2005 (17.11.2005) entire document	11-20	
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<p><input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/></p>												
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