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Old Ridgebury Road, Danbury, CT 06810 (US).(81) Designated States (unless otherwise indicated, for every
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MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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(54) Title: AIR SEPARATION METHOD AND APPARATUS

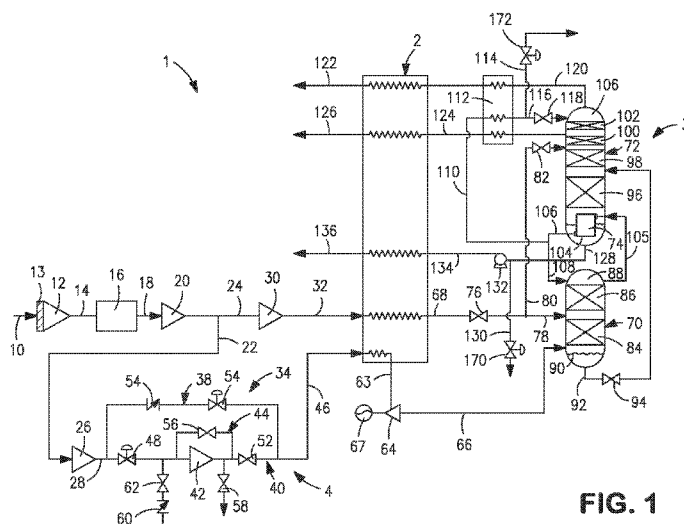


FIG. 1

(57) **Abstract:** A method and apparatus for separating air in which production of the liquid products can be selectively varied between high and low production rates by varying the pressure ratio across a turboexpander (64) used in imparting refrigeration with the use of a branched flow path (34). The branched flow path (34) has a system of valves to selectively and gradually introduce a compressed refrigerant air stream into either a booster compressor branch (40) having a booster compressor (42) to increase the pressure ratio during high modes of liquid production or a bypass branch (38) that bypasses the booster compressor (42) to decrease the pressure ratio during low modes of liquid production. A recycle branch (44) is connected to the booster compressor branch (40) to allow compressed air to be independently recycled from the outlet to the inlet of the booster compressor (42) during turndown from the high to the low liquid mode of liquid production to prevent surge.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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ADD.

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)
F25J

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

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

EPO-Internal, WPI Data

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Further documents are listed in the continuation of Box C.



See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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Y	EP 1 186 844 A2 (PRAXAIR TECHNOLOGY INC [US]) 13 March 2002 (2002-03-13) column 5, paragraph 0030 - column 6, paragraph 0032; figure 2 column 8, paragraph 0044 - column 9, paragraph 0047; figure 1 -----	1-20
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