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54 **Refrigeration method and apparatus.**

57 In a mechanical refrigeration apparatus of the vapour compression kind, comprising a compressor 2, condenser 4, expansion valve 6, and evaporator 8; a sub-cooler 12 is employed to reduce the temperature of the condensed refrigerant to a value at which at least 90% by volume and preferably all of it remains in the liquid phase on passage through the expansion valve 6. The sub-cooler 12 is cooled by means of a supply of liquid nitrogen from vessel 14. Alternatively, liquid nitrogen is evaporated in a circulating heat exchange atmosphere in the sub-cooler 12. Increased heat load in chamber 10 may thus be met without there necessarily being any increase in the evaporating temperature and pressure.

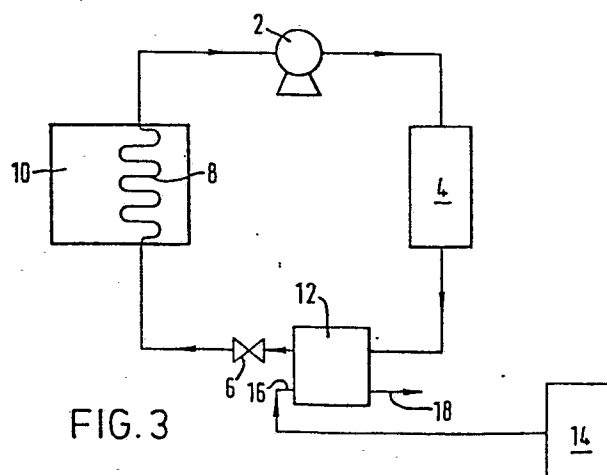


FIG. 3



DOCUMENTS CONSIDERED TO BE RELEVANT			EP 86305218.9
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	<u>DE - A1 - 3 025 439</u> (TYLER REFRIGERATION CORP.) * Pages 40-42; fig. 1 * --	1, 2, 5, 11, 13	F 25 B 25/00 F 25 B 41/00 F 25 B 1/00
A	<u>US - A - 4 285 205</u> (MARTIN) * Claims 6-8 * --	1, 11, 12	
A	<u>DE - A1 - 3 322 474</u> (LINDE AG) * Totality * -----	1, 11	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			F 25 B
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 03-07-1989	Examiner WITTMANN
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	