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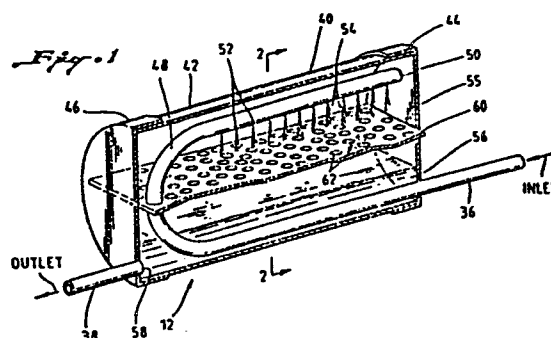
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54 **Condensing sub-cooler for refrigeration systems.**

57 A fixed, mechanical condenser sub-cooler (12) for a refrigeration system (10) which increases the efficiency of the system is provided. The sub-cooler includes a shell (40) defining a chamber having a spray bar (48) mounted therein through which high pressure liquid refrigerants is passed such that its pressure is reduced so as to cool the liquid refrigerant (56). The sub-cooler is positioned in the high pressure liquid line (38) prior to a metering device (14) such as an expansion valve.





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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
X	US-A-4 142 381 (LAVIGNE, Jr.) * Whole document *	1,2,6-14	F 25 B 1/00 F 25 B 39/04
Y		5	
X	US-A-2 183 346 (BUCHANAN) * Whole document *	1	
Y		5	
A		7,9,13	
X	FR-A-2 526 137 (CARRIER CORP.) * Whole document *	1,6,13	TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
A		2,7-11	F 25 B
A	US-A-2 518 587 (ZEARFOSS, Jr.) * Whole document *	1,2,7, 10,11, 13,14	
A	US-A-3 553 974 (OSBORNE)		
A	US-A-2 489 680 (SHOEMAKER et al.) -/-		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 20-03-1986	Examiner SILVIS H.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			



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A	US-A-4 207 749 (LAVIGNE, Jr.) -----		
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