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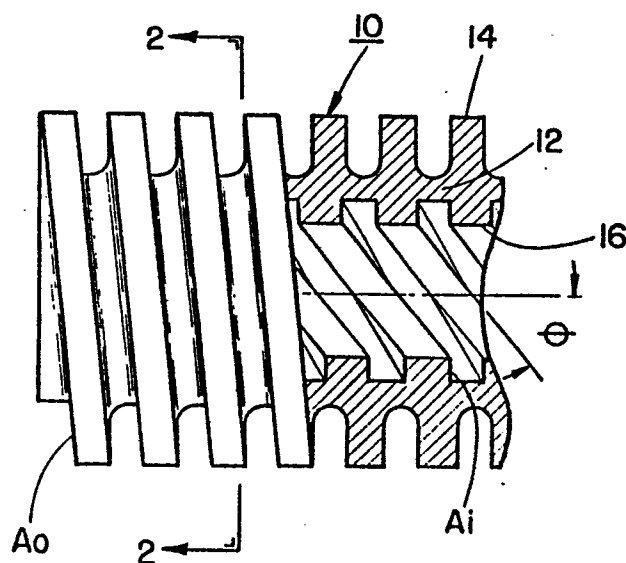
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54 **Finned heat exchanger tube having optimized heat transfer characteristics.**

57 A metal heat exchanger tube (10) which provides for optimized heat transfer characteristics and which is particularly adapted for use in the direct expansion shell and tube type evaporators of mechanical refrigeration systems. The metal heat exchanger tube (10) incorporates integral external (14) and internal fins (16) wherein the dimensional and geometrical proportions of the surface or heat transfer areas of the external (14) and internal fins (16) and the cross-sectional flow area of the heat exchanger tube (10), in conjunction with the lead angle of the internal helical fins (16) have been correlated in conformance with predetermined mathematical criteria in order to optimize the heat transfer capacities of the tubes, particularly when the tubes are to be employed in direct expansion evaporator of mechanical refrigeration systems.





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. 3)
X	US-A-4 305 460 (YAMPOLSKY) * Whole document *	1, 2, 3 4, 8, 9 10, 11 12, 16	F 28 F 1/42
X	FR-A-1 275 867 (CALUMET & HECLA) * Whole document *	1, 2, 3 4	
A	US-A-4 365 487 (DOBNEY) * Whole document *	1, 2, 3 4, 5, 7 8	
D, A	US-A-3 826 304 (WITHERS) * Column 2, line 43 - column 5, line 55; figures 2, 3 *	1, 2, 3 4, 5, 6 7, 8	TECHNICAL FIELDS SEARCHED (Int. Cl. 3) F 28 F F 25 B
D, A	US-A-4 118 944 (LORD) * Column 3, line 28 - column 4, line 59; figures 1, 2 *	5, 6, 7	
A	US-A-3 559 437 (WITHERS) * Column 2, line 36 - column 4, line 26; figures 1, 2, 3 *	9, 10, 11, 12, 13, 16	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 02-05-1984	Examiner SCHOUFOUR F.L.
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	

