

EUROPEAN PATENT APPLICATION

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Finned heat exchanger tubes and method and apparatus for making same.

Improved method and apparatus for making finned tubing from difficult-to-work materials such as titanium and stainless steel uses spaced sets (26, 28) of finning discs on a plurality of arbors to form a tube (11) against a mandrel having different diameters (14, 16) under each set of discs. By forming the tips of the fin turns (11') to their final O.D. in the first disc set (26) and by deepening their roots to bring the fin turns to their final height in the second disc set (28), tubes with higher fin turn counts and/or higher fin heights can be achieved than were formerly possible. The process of separately cold working the tips and roots also permits tubes to be made which are dimensionally identical to prior art tubes but with higher quality and productivity since tube stresses are greatly reduced. An improved titanium tube is also disclosed which has at least a fin turn per mm (26 fins per inch), a fin height of at least 0.86 mm (0.034") and an outside to inside surface area ratio of at least 3.0.

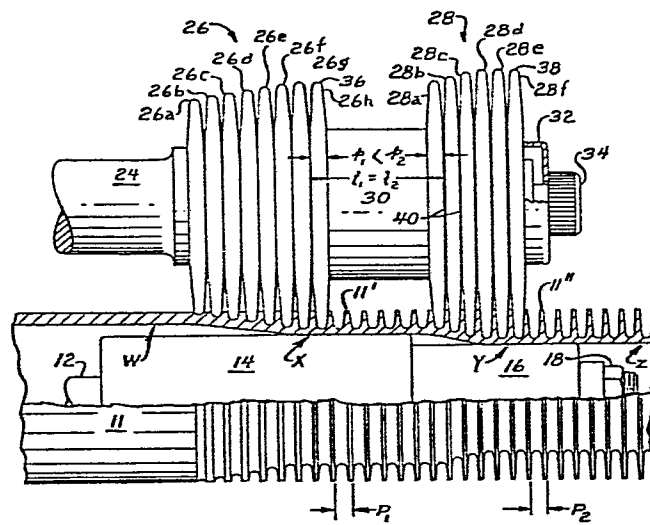


FIG. 1



European Patent
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EUROPEAN SEARCH REPORT

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EP 84 30 5270

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)
D,A	US-A-2 868 046 (GREENE)		B 21 C 37/20
D,A	US-A-3 383 893 (COUNTS)		
D,A	US-A-3 795 125 (LAING)		
	* Claim 1 *		
X	US-A-3 174 319 (KOYAMA)	1,4	
	* Claims 1,4; figures 3,4 *		
A	US-A-3 600 922 (SCHMELING)		
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
			B 21 C 37/00 B 21 H 3/00
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 22-04-1985	Examiner SCHLAITZ J
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	