



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
06.05.2009 Bulletin 2009/19

(51) Int Cl.:
F28F 9/02 (2006.01)

(43) Date of publication A2:
16.03.2005 Bulletin 2005/11

(21) Application number: **04460017.9**

(22) Date of filing: **31.05.2004**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL HR LT LV MK

(72) Inventors:
• **Borowczyk, Pawel**
63-400 Ostrow Wielkopolski (PL)
• **Racz, Robert**
63-440 Raszkow (PL)

(30) Priority: **10.09.2003 GB 0321092**

(74) Representative: **Lukaszyk, Szymon**
Kancelaria Patentowa Lukaszyk
ul. Głowackiego 8
40-062 Katowice (PL)

(71) Applicant: **Delphi Technologies, Inc.**
Troy, MI 48007 (US)

(54) **A method of manufacturing a brazed profiled tube, in particular a header tank of a heat exchanger**

(57) The invention relates to a method of manufacturing a brazed profiled tube, in particular a header tank of a heat exchanger comprising the steps of:
(i) preparing an aluminium sheet plate coated with a cladding layer, having a length corresponding to the length of a profiled tube to be formed and provided with an overlap on the first of its longitudinal edges and rectangular projections having a width corresponding substantially to the thickness of a sheet plate, on the second longitudinal

dinal edge,
(ii) forming in said overlap a number of rectangular openings corresponding to said projections, having a width greater than the thickness of the sheet plate,
(iii) folding said sheet plate so as to form a profiled tube, and inserting said projections into said openings,
(iv) closing the tubular element by bulge forming ends of said projections inside said openings; and,
(v) brazing the profiled tube.

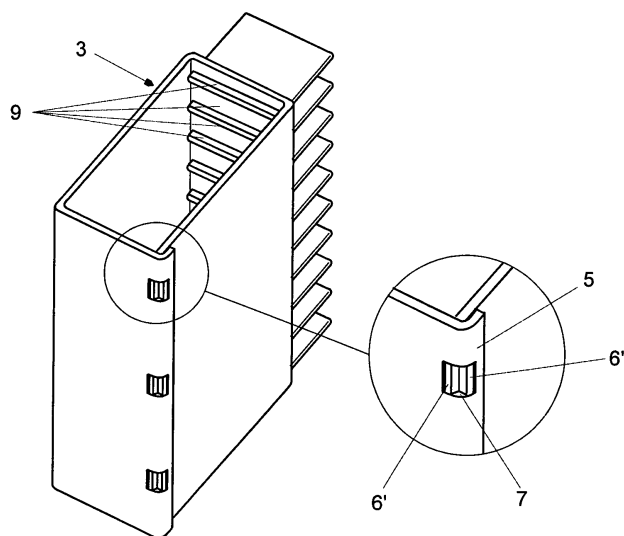


Fig 5



EUROPEAN SEARCH REPORT

 Application Number
 EP 04 46 0017

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
D,A	EP 1 191 298 A (VISTEON GLOBAL TECH INC [US]) 27 March 2002 (2002-03-27) * figures *	1-6	INV. F28F9/02
A	----- EP 1 308 688 A (MODINE MFG CO [US]) 7 May 2003 (2003-05-07) * figures *	1-6	
A	----- DE 42 17 062 A1 (ZEXEL CORP [JP]) 26 November 1992 (1992-11-26) * figures *	1-6	

			TECHNICAL FIELDS SEARCHED (IPC)
			F28F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 25 March 2009	Examiner Mellado Ramirez, 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			

 1
 EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 46 0017

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-03-2009

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1191298	A	27-03-2002	DE 60110872 D1	23-06-2005
			DE 60110872 T2	04-05-2006
			GB 2371505 A	31-07-2002

EP 1308688	A	07-05-2003	BR 0204359 A	16-09-2003
			JP 2003139482 A	14-05-2003
			US 2003205367 A1	06-11-2003

DE 4217062	A1	26-11-1992	JP 2546505 Y2	03-09-1997
			JP 4138579 U	25-12-1992
			US 5205349 A	27-04-1993
