



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
25.06.2008 Bulletin 2008/26

(51) Int Cl.:
F25B 5/02 (2006.01) F25B 39/02 (2006.01)
F24F 1/00 (2006.01)

(43) Date of publication A2:
30.08.2006 Bulletin 2006/35

(21) Application number: **06000843.0**

(22) Date of filing: **16.01.2006**

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

(72) Inventors:
• **Moon, Dong Soo**
Gwanak-gu,
Seoul 151-050 (KR)
• **Kim, Hyun Jong**
Seoul 110-521 (KR)
• **Chin, Sim Won**
Yangcheon-gu,
Seoul 158-054 (KR)

(30) Priority: **28.01.2005 KR 2005008074**

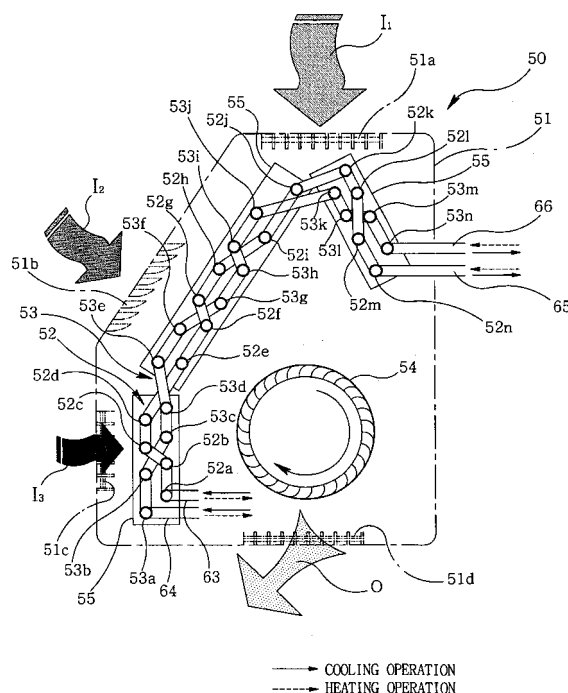
(71) Applicant: **LG Electronics, Inc.**
Seoul 150-875 (KR)

(74) Representative: **Vossius & Partner**
Siebertstrasse 4
81675 München (DE)

(54) **Heat exchanger for improving thermal efficiency and air conditioner mounted therewith**

(57) A heat exchanger of an air conditioner is disclosed whereby refrigerant is not biased to a particular heat exchange line but evenly flows in all the heat exchange lines. The heat exchanger comprises: a housing (51) having air inlets (51a,51b,51c) and an air outlet (51d); and a plurality of heat exchange lines (52,53) each formed inside the housing (51) in a serpentine shape for refrigerant to flow and switch the flow direction, and wherein the plurality of heat exchange lines (52,53) are arranged in such a manner that each line crosses each other before and after the infusion directions of air introduced via the air inlets.

FIG. 3





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 00 0843

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 5 542 271 A (KUDOH MITUO [JP] ET AL) 6 August 1996 (1996-08-06) * column 5, lines 8-13; figures 3,11 *	1,5,18	INV. F25B5/02 F25B39/02 F24F1/00
X	JP 04 359798 A (SHARP KK) 14 December 1992 (1992-12-14) * the whole document * * abstract *	1,5,9, 13,18	
X	JP 2003 214723 A (HITACHI LTD) 30 July 2003 (2003-07-30) * the whole document * * figure 2 *	1,5,9, 13,18	
A	JP 10 096525 A (FUJITSU GENERAL LTD) 14 April 1998 (1998-04-14) * the whole document *	1,5,9, 13,18	
			TECHNICAL FIELDS SEARCHED (IPC)
			F25B F24F F28F F28D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 May 2008	Examiner Lienhard, Dominique
<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>			

3
EPO FORM 1503 03.82 (P04C01)

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

EP 06 00 0843

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.

07-05-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5542271 A	06-08-1996	CN 1103711 A	14-06-1995
		JP 2979926 B2	22-11-1999
		JP 7113555 A	02-05-1995

JP 4359798 A	14-12-1992	NONE	

JP 2003214723 A	30-07-2003	NONE	

JP 10096525 A	14-04-1998	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82