

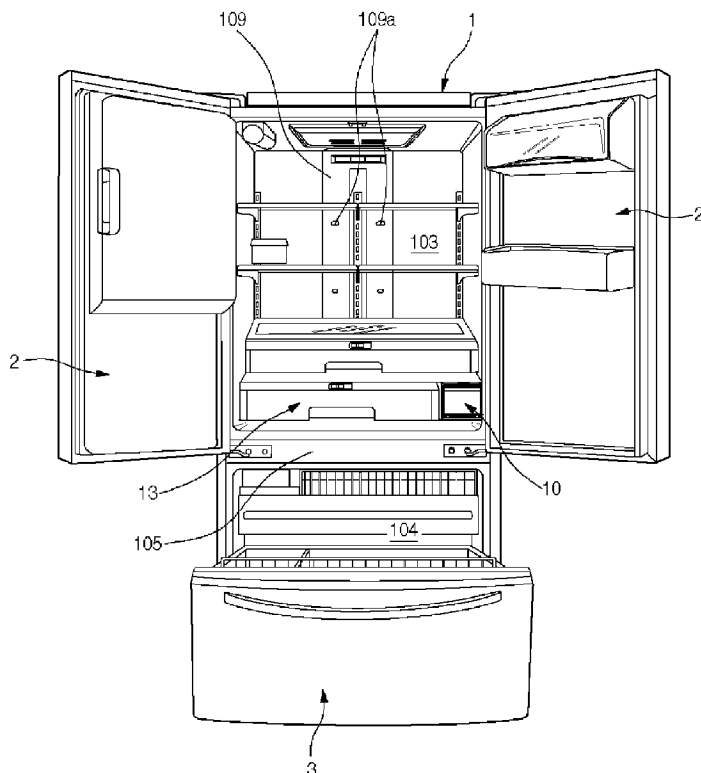


- (51) **International Patent Classification:**
F25D 11/02 (2006.01) **F25D 25/00** (2006.01)
F25D 29/00 (2006.01) **F25D 19/00** (2006.01)
- (21) **International Application Number:** PCT/KR2011/005158
- (22) **International Filing Date:** 13 July 2011 (13.07.2011)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
 10-2010-0067196 13 July 2010 (13.07.2010) KR
 10-2010-0068244 15 July 2010 (15.07.2010) KR
 10-2010-0068461 15 July 2010 (15.07.2010) KR
 10-2010-0068466 15 July 2010 (15.07.2010) KR
 10-2010-0069358 19 July 2010 (19.07.2010) KR
 10-2010-0115536 19 November 2010 (19.11.2010) KR
 10-2010-0115549 19 November 2010 (19.11.2010) KR
- (61/415,537 19 November 2010 (19.11.2010) US
 61/415,519 19 November 2010 (19.11.2010) US
 10-2011-0062878 28 June 2011 (28.06.2011) KR
- (71) **Applicant (for all designated States except US):** **LG ELECTRONICS INC.** [KR/KR]; 20 Yeouido-dong, Yeongdeungpo-gu, Seoul 150-721 (KR).
- (72) **Inventors; and**
 (75) **Inventors/Applicants (for US only):** **CHO, Yeonwoo** [KR/KR]; LG Electronics Inc. IP Group, 327-23 Gasandong, Geumcheon-gu, Seoul 153-802 (KR). **KIM, Yanggyu** [KR/KR]; LG Electronics Inc. IP Group, 327-23 Gasandong, Geumcheon-gu, Seoul 153-802 (KR). **LEE, Younseok** [KR/KR]; LG Electronics Inc. IP Group, 327-23 Gasandong, Geumcheon-gu, Seoul 153-802 (KR).
- (74) **Agent:** **HAW, Yong-Noke**; 6th Fl., Hyun Juk Bldg., 832-41, Yeoksam-dong, Gangnam-gu, Seoul 135-080 (KR).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,

[Continued on next page]

(54) **Title:** REFRIGERATOR AND COOLING APPARATUS

[Fig. 2]



(57) **Abstract:** Provided are a refrigerator and a cooling apparatus. The cooling apparatus includes a case configured to receive the container holding the liquid, an agitating member that is positioned within the case and that is configured to agitate the container holding the liquid, and a power generator configured to generate a driving force that causes the agitating member to agitate the container holding the liquid. and the power generator includes a motor configured to generate a rotation force, and a power transmission unit that connects to the motor, that connects to the agitating member, and that is configured to move the agitating member based on the rotation force generated by the motor.



CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,

LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

31 May 2012

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2011/005158**A. CLASSIFICATION OF SUBJECT MATTER*****F25D 11/02(2006.01)i, F25D 29/00(2006.01)i, F25D 25/00(2006.01)i, F25D 19/00(2006.01)i***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F25D 11/02; F25D 17/04; F25D 3/12; F25D 11/00; F25D 23/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: cooling , agitate, transmission, container

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	KR 10-2005-0041036 A (LG ELECTRONICS INC.) 04 May 2005 See pages 2- 4, and figures 4, 11.	1,3 2,4,5
A	US 2007-0151284 A1 (JON FREESMEIER. et al.) 05 July 2007 See paragraphs [0020] - [0023], and figures 1, 3.	1-5
A	KR 10-2000-0009208 A (SAMSUNG ELECTRONICS CO., LTD.) 15 February 2000 See abstract, and figure 4.	1-5
A	KR 10-2002-0027724 A (LG ELECTRONICS INC.) 15 April 2002 See abstract, and figures 1, 3.	1-5

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

30 MARCH 2012 (30.03.2012)

Date of mailing of the international search report

04 APRIL 2012 (04.04.2012)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsu-ro,
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM, Young Hun

Telephone No. 82-42-481-5894



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2011/005158**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 7, 11, 14, 15
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
Claims 7, 11, 14, 15 are not to make meaningful search, because the claims refer multiple dependent claim.
3. ☒ Claims Nos.: 6, 8-10, 12, 13, 16
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2011/005158

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-2005-0041036 A	04.05.2005	None	
US 2007-0151284 A1	05.07.2007	US 7343748 B2	18.03.2008
KR 10-2000-0009208 A	15.02.2000	None	
KR 10-2002-0027724 A	15.04.2002	None	