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Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:
16 January 2014

(54) Title: CLEANING CARTRIDGE FOR A HEATING APPARATUS FOR COOKING FOOD AND MECHANISM FOR OPENING CARTRIDGE

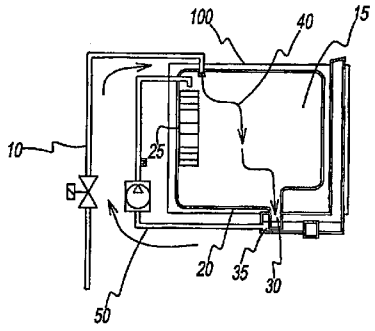


FIG. 1

(57) Abstract: A cleaning agent/rinsing agent for cleaning a heating apparatus for cooking food are contained in a cartridge. The cartridge is sealed to prevent premature release of the cleaning/rinsing agents. Inside the cavity of the heating apparatus, a mechanism for opening the cartridge is located in the drain of the cavity of the heating apparatus. By pushing the cartridge onto the mechanism and twisting the cartridge, protruding edges of the mechanism penetrate the seal. Upon lifting the cartridge, the cleaning/rinsing agent drops out and into the cavity drain. The rinsing agent may be retained above the drain and cleaning box via encapsulation or the rinsing agent and configuration of the mechanism. The empty cartridge is removed and the cavity of the heating apparatus is ready for cleaning.

WO 2013/088227 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2012/002699

A. CLASSIFICATION OF SUBJECT MATTER
INV. F24C14/00 C11D17/04
ADD.

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)
F24C C11D A47L

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 20 2010 012989 U1 (RATIONAL AG [DE]) 17 February 2011 (2011-02-17) abstract; figure 1 paragraphs [0001], [0007], [0023], [0024]	1-11
A	US 2002/086806 A1 (GIBLIN EDWARD JOHN [US] ET AL) 4 July 2002 (2002-07-04) abstract; figures 1-4 paragraphs [0054] - [0059]	1-11
A	EP 2 324 752 A2 (MIELE & CIE [DE]) 25 May 2011 (2011-05-25) abstract; figures 1-6	1-11

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[X] Further documents are listed in the continuation of Box C.

[X] 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

"E" earlier application or patent but published on or after the international filing date

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"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

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Date of the actual completion of the international search	Date of mailing of the international search report
11 October 2013	21/10/2013

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Moreno Rey, Marcos

INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2008/087426 A1 (RECKITT BENCKISER NV [NL]; RECKITT BENCKISER UK LTD [GB]; MOREUX FREDE) 24 July 2008 (2008-07-24) abstract; figures 1-2	1-11
A	WO 2004/081162 A1 (UNILEVER PLC [GB]; UNILEVER NV [NL]; LEVER HINDUSTAN LTD [IN]; DONKER) 23 September 2004 (2004-09-23) abstract; figures 1,2 page 5, lines 14-19	1-11
Y	EP 1 978 309 A1 (ALTO SHAAM INC [US]) 8 October 2008 (2008-10-08) abstract; figures 6,7 paragraphs [0019], [0037]	12-14
Y	EP 2 110 606 A2 (CONVOTHERM ELEKTROGERAETE [DE]) 21 October 2009 (2009-10-21) abstract; figures 2,7-9	12-14
A	DE 20 2008 010295 U1 (WEBER LOTHAR ERNST WILHELM [DE]) 8 October 2009 (2009-10-08) abstract; figures 1-4	12-14
A	EP 1 628 079 A1 (SAMSUNG ELECTRONICS CO LTD [KR]) 22 February 2006 (2006-02-22) abstract; figures 6-9	12-14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2012/002699

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 202010012989 U1	17-02-2011	NONE	
US 2002086806 A1	04-07-2002	AR 032063 A1	22-10-2003
		AT 368101 T	15-08-2007
		BR 0116582 A	06-01-2004
		CA 2432125 A1	11-07-2002
		DE 60129592 T2	06-12-2007
		EP 1346023 A1	24-09-2003
		ES 2290197 T3	16-02-2008
		US 2002086806 A1	04-07-2002
		WO 02053696 A1	11-07-2002
EP 2324752 A2	25-05-2011	DE 102009044539 A1	19-05-2011
		EP 2324752 A2	25-05-2011
WO 2008087426 A1	24-07-2008	AT 537247 T	15-12-2011
		AU 2008206797 A1	24-07-2008
		BR PI0806731 A2	13-09-2011
		CA 2675899 A1	24-07-2008
		CN 101583707 A	18-11-2009
		CN 103320245 A	25-09-2013
		EP 2121894 A1	25-11-2009
		ES 2375885 T3	07-03-2012
		US 2010105596 A1	29-04-2010
		US 2012192900 A1	02-08-2012
		WO 2008087426 A1	24-07-2008
WO 2004081162 A1	23-09-2004	AT 362522 T	15-06-2007
		DE 602004006497 T2	31-10-2007
		EP 1601754 A1	07-12-2005
		ES 2286606 T3	01-12-2007
		WO 2004081162 A1	23-09-2004
EP 1978309 A1	08-10-2008	NONE	
EP 2110606 A2	21-10-2009	NONE	
DE 202008010295 U1	08-10-2009	NONE	
EP 1628079 A1	22-02-2006	AT 357633 T	15-04-2007
		CN 1736302 A	22-02-2006
		DE 602005000738 T2	06-12-2007
		EP 1628079 A1	22-02-2006
		JP 4049787 B2	20-02-2008
		JP 2006058003 A	02-03-2006
		KR 20060017063 A	23-02-2006
		US 2007006864 A1	11-01-2007

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2012/002699

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.:
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:

3. ☐ Claims Nos.:
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:

see additional sheet

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 fees, this Authority did not invite payment of additional fees.

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11

   Cleaning cartridge system

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2. claims: 12-14

   Mechanism and method for opening a cleaning cartridge
