



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
26.07.2017 Bulletin 2017/30

(51) Int Cl.:
A47L 15/00 (2006.01)

(43) Date of publication A2:
07.05.2014 Bulletin 2014/19

(21) Application number: **13190311.4**

(22) Date of filing: **25.10.2013**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **01.11.2012 JP 2012241563**
06.08.2013 JP 2013163015

(71) Applicant: **Panasonic Corporation**
Kadoma-shi
Osaka 571-8501 (JP)

(72) Inventors:
• **Hiromatsu, Naoki**
Osaka 540-6207 (JP)
• **Shinkai, Kiyoyasu**
Osaka 540-6207 (JP)
• **Mishima, Takuhiro**
Osaka 540-6207 (JP)

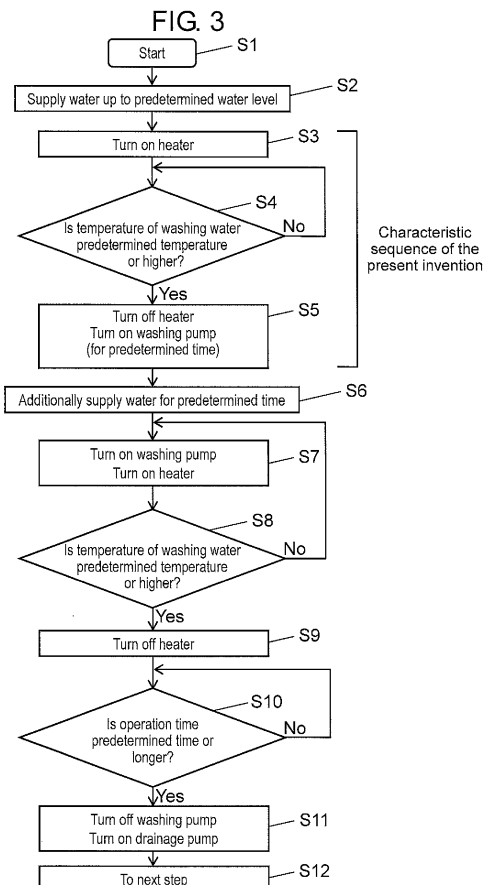
(74) Representative: **Schwabe - Sandmair - Marx**
Patentanwälte Rechtsanwalt
Partnerschaft mbB
Joseph-Wild-Straße 20
81829 München (DE)

(54) **Dishwasher**

(57) A dishwasher includes: a washing tub (3) that accommodates a washing object (7); a washing nozzle (6) that sprays washing water to the washing object (7); a heater (8) that heats the washing water; a water level detecting device (20) that detects a water level in the washing tub (3); a washing pump (5) that circulates the washing water in the washing tub (3); a water supply valve (15) that supplies water into the washing tub (3); and a control device (21) that controls respective steps of washing, rinsing and drying.

The control device (21) performs a control for opening the water supply valve (15) to start water supply, closing the water supply valve (15) to finish the water supply by receiving information indicating that the water level reaches a detection water level, detected by the water level detecting device (20), and heating the washing water by the heater (8) before the washing pump (5) is operated.

Accordingly, it is possible to realize a dishwasher that performs washing with high detergency from the start of a washing step using a liquid detergent with the same amount of detergent.





EUROPEAN SEARCH REPORT

 Application Number
 EP 13 19 0311

5

10

15

20

25

30

35

40

45

50

55

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 2008/236630 A1 (KENNICHI SHIMOTERA [KR]) ET AL) 2 October 2008 (2008-10-02)	1-6,9	INV. A47L15/00
Y	* paragraphs [0036] - [0072] * * paragraphs [0089] - [0091] * * figures 1-3C *	7,8	
X	WO 2012/014441 A1 (MATSUSHITA DENKI SANGYO KK) 2 February 2012 (2012-02-02) * abstract; claims 1-5; figures 1-6 * -& EP 2 599 425 A1 (PANASONIC CORP [JP]) 5 June 2013 (2013-06-05) * paragraphs [0015] - [0045] * * claims 1-5; figures 1-6 *	1,3,5,9	
Y	EP 2 319 384 A1 (MIELE & CIE [DE]) 11 May 2011 (2011-05-11)	7	TECHNICAL FIELDS SEARCHED (IPC) A47L
A	* paragraphs [0008] - [0011] * * paragraphs [0017] - [0019] * * figures 1-6 *	1-6	
Y	FR 2 593 697 A1 (ELTEK SPA [IT]) 7 August 1987 (1987-08-07) * page 3, line 17 - page 4, line 4 * * figure 2 *	8	
A	WO 2006/072481 A1 (BOSCH SIEMENS HAUSGERAETE GMBH) 13 July 2006 (2006-07-13) * abstract; claims 1-19; figures 1-4 *	5-9	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 14 June 2017	Examiner Weinberg, Ekkehard
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			

EPO FORM 1503 03.02 (P04C01)

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

EP 13 19 0311

5

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.

14-06-2017

10

15

20

25

30

35

40

45

50

55

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008236630 A1	02-10-2008	CN 101273871 A	01-10-2008
		KR 20080088122 A	02-10-2008
		US 2008236630 A1	02-10-2008
WO 2012014441 A1	02-02-2012	CN 103052348 A	17-04-2013
		EP 2599425 A1	05-06-2013
		JP 5170327 B2	27-03-2013
		KR 20130031371 A	28-03-2013
		TW 201208631 A	01-03-2012
		WO 2012014441 A1	02-02-2012
EP 2599425 A1	05-06-2013	CN 103052348 A	17-04-2013
		EP 2599425 A1	05-06-2013
		JP 5170327 B2	27-03-2013
		KR 20130031371 A	28-03-2013
		TW 201208631 A	01-03-2012
		WO 2012014441 A1	02-02-2012
EP 2319384 A1	11-05-2011	NONE	
FR 2593697 A1	07-08-1987	DE 3701404 A1	13-08-1987
		FR 2593697 A1	07-08-1987
		IT 1187895 B	23-12-1987
WO 2006072481 A1	13-07-2006	BR PI0519637 A2	03-03-2009
		CN 201012080 Y	30-01-2008
		DE 102004063284 A1	13-07-2006
		EP 1833350 A1	19-09-2007
		ES 2410855 T3	03-07-2013
		JP 4833996 B2	07-12-2011
		JP 2008525138 A	17-07-2008
		KR 20070089716 A	31-08-2007
		RU 2372831 C2	20-11-2009
		US 2010012158 A1	21-01-2010
		WO 2006072481 A1	13-07-2006