

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 65051774PC02	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2018/067818	International filing date (<i>day/month/year</i>) 28 December 2018 (28.12.2018)	(Earliest) Priority Date (<i>day/month/year</i>) 29 December 2017 (29.12.2017)
Applicant KIMBERLY-CLARK WORLDWIDE, INC.		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of :

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2018/067818**A. CLASSIFICATION OF SUBJECT MATTER****A47K 5/06(2006.01)i, A47K 5/12(2006.01)i, G06Q 50/10(2012.01)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)

A47K 5/06; A47K 17/00; A47K 5/12; E03B 7/07; E03C 1/05; G01F 23/26; G01M 3/28; G05D 7/00; G06F 19/00; G06Q 50/10

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: dispenser, washroom, monitoring, hygiene, water flow, dispense cycle, fault, faucet, toilet, urinal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1708602 B1 (KIMBERLY-CLARK WORLDWIDE, INC.) 13 June 2012 See paragraphs [0102], [0142]-[0145], [0150] and figure 31.	1-4, 12, 14-15
Y		13, 16-18
A		5-11
Y	KR 10-0765153 B1 (COZYNGO) 15 October 2007 See paragraphs [0035]-[0036] and figure 2.	13, 16-18
X	US 2017-0131174 A1 (BELKIN INTERNATIONAL, INC.) 11 May 2017 See paragraphs [0054]-[0058], [0063], claims 1-2 and figures 2, 5.	1, 2, 12
A	US 5217035 A (VAN MARCKE, KAREL C.) 08 June 1993 See column 20, lines 20-31 and figure 1.	1-18
A	US 4914758 A (SHAW, DANIEL C.) 10 April 1990 See column 4, line 26 - column 5, line 38 and figures 1-2.	1-18
A	US 2013-0186196 A1 (MASCO CORPORATION OF INDIANA) 25 July 2013 See paragraphs [0008], [0017]-[0020], [0030]-[0034] and figure 2.	1-18



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

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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"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

17 April 2019 (17.04.2019)

Date of mailing of the international search report

17 April 2019 (17.04.2019)

Name and mailing address of the ISA/KR

International Application Division

Korean Intellectual Property Office

189 Cheongsa-ro, Seo-gu, Daejeon, 35208, Republic of Korea



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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2018/067818

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1708602 B1	13/06/2012	CA 2552123 A1 CA 2552123 C CN 100901829 A CN 100901829 B EP 1708602 A1 JP 2007-525258 A JP 2008-525258 A5 JP 5039997 B2 US 2005-0171634 A1 US 7783380 B2 WO 2005-065509 A1	21/07/2005 20/03/2012 24/01/2007 01/12/2010 11/10/2006 06/09/2007 14/02/2008 03/10/2012 04/08/2005 24/08/2010 21/07/2005
KR 10-0765153 B1	15/10/2007	None	
US 2017-0131174 A1	11/05/2017	AU 2016-353089 A1 CA 3004832 A1 CN 108700486 A EP 3374747 A1 JP 2018-536874 A WO 2017-083547 A1	31/05/2018 18/05/2017 23/10/2018 19/09/2018 13/12/2018 18/05/2017
US 5217035 A	08/06/1993	EP 0574372 A1 EP 0574372 B1	15/12/1993 26/08/1998
US 4914758 A	10/04/1990	CA 1311987 C EP 0348886 A1 EP 0348886 B1 JP 02-113200 A JP 3056750 B2	29/12/1992 03/01/1990 20/01/1993 25/04/1990 26/06/2000
US 2013-0186196 A1	25/07/2013	US 2012-0318364 A1 US 2016-0029854 A1 US 8973612 B2 US 9163972 B2 US 9603493 B2	20/12/2012 04/02/2016 10/03/2015 20/10/2015 28/03/2017