

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:
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Date of mailing
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Applicant's or agent's file reference 65051769PC02		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/US2018/058569	International filing date (day/month/year) 31 October 2018 (31.10.2018)	Priority date(day/month/year) 31 October 2017 (31.10.2017)	
International Patent Classification (IPC) or both national classification and IPC A47K 10/32(2006.01)i, A47K 10/38(2006.01)i, A47K 10/36(2006.01)i, A47K 5/12(2006.01)i			
Applicant KIMBERLY-CLARK WORLDWIDE, INC.			

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis. I(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

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 Facsimile No. +82-42-481-8578	Date of completion of this opinion 20 February 2019 (20.02.2019)	Authorized officer HWANG, Chan Yoon Telephone No. +82-42-481-3347
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US2018/058569

Box No. 1 Basis of this opinion

1. With regard to the **language**, this opinion has been established 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))
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*. I(a))
3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. ☐ forming part of the international application as filed:
 - ☐ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13*ter*. I(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13*ter*. I(a)).
 - ☐ on paper or in the form of an image file (Rule 13*ter*. I(b) and Administrative Instructions, Section 713).
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US2018/058569

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-16</u>	YES
	Claims	<u>NONE</u>	NO
Inventive step (IS)	Claims	<u>NONE</u>	YES
	Claims	<u>1-16</u>	NO
Industrial applicability (IA)	Claims	<u>1-16</u>	YES
	Claims	<u>NONE</u>	NO

2. Citations and explanations :

Reference is made to the following document:

D1: US 2006-0173576 A1 (GOERG et al.) 03 August 2006

D2: WO 2017-032697 A1 (POSTERFY OY.) 02 March 2017

D3: WO 2007-068270 A1 (SCA HYGIENE PRODUCTS AB et al.) 21 June 2007

D4: JP 2003-038384 A (DENSO CORP.) 12 February 2003

1. Novelty and Inventive Step

1.1 Independent Claim 1

D1, which is considered to be the closest prior art to the subject matter of claim 1, discloses a dispenser (10) for dispensing of a product (14), the dispenser (10) comprising: a consumable product storage area configured to store the product (14) within the dispenser (10); a dispensing mechanism operatively coupled to the product (14) and configured to facilitate a movement of a portion of product (14), wherein the movement of the product (14) causes a vibration; a sensor (56) detecting the vibration; and a data communications unit (1038) communicating with the sensor (56) to receive identification information about the product (14) (see claims 1, 19, 22; and figures 1, 31). Claim 1 differs from D1 in that a value of a vibrational characteristic changes as a function of an amount of consumable product remaining in a dispenser. However, this feature would be easily conceived by a person skilled in the art from the feature of D1 considering that the sensor (56) detects the vibration to acquire identification information about the product (14) (see claim 19; and figure 1). Accordingly, claim 1 would have been obvious over D1. Therefore, claim 1 lacks an

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inventive step under PCT Article 33(3).

1.2 Dependent Claims 2-12

1.2.1 Concerning Claim 2

The additional feature of claim 2 is identical to the feature of D1 in that the sensor (56, 2020) is an accelerometer (see paragraph [0260]; and figure 1). Accordingly, claim 2 would have been obvious over D1. Therefore, claim 2 lacks an inventive step under PCT Article 33(3).

1.2.2 Concerning Claims 3-8

The additional features of claims 3-8 are merely matters of design option when the general knowledge in relevant field of the art is used. Accordingly, claims 3-8 would have been obvious over D1. Therefore, claims 3-8 lack an inventive step under PCT Article 33(3).

1.2.3 Concerning Claim 9

The additional feature of claim 9 is identical to the feature of D1 in a dispenser housing (16) at least partially enclosing the product storage area, wherein the sensor (56) is mounted to the housing (16) (see paragraph [0108]; and figure 1). Accordingly, claim 9 would have been obvious over D1. Therefore, claim 9 lacks an inventive step under PCT Article 33(3).

1.2.4 Concerning Claim 10

The additional feature of claim 10 is the general knowledge in relevant field of the art, so it can be easily derived by a person skilled in the art. Accordingly, claim 10 would have been obvious over D1. Therefore, claim 10 lacks an inventive step under PCT Article 33(3).

1.2.5 Concerning Claim 11

The additional feature of claim 11 is identical to the feature of D1 in that the data

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communications unit (1038) comprises a wireless transmitter (see paragraph [0167]; and figure 17). Accordingly, claim 11 would have been obvious over D1. Therefore, claim 11 lacks an inventive step under PCT Article 33(3).

1.2.6 Concerning Claim 12

The additional feature of claim 12, characterized in that the vibrational characteristic changes as a linear function of the amount of consumable product remaining, would be easily conceived by a person skilled in the art from the feature of D1 considering that the sensor (56) detects the vibration to acquire identification information about the product (14) (see claim 19; and figure 1). Accordingly, claim 12 would have been obvious over D1. Therefore, claim 12 lack an inventive step under PCT Article 33(3).

1.3 Independent Claim 13

D1, which is considered to be the closest prior art to the subject matter of claim 13, discloses a method for monitoring a product (14), the method comprising the steps of: mounting a sensor (56) to a dispenser (10), wherein the sensor (56) detects the vibration; detecting the vibration; and providing an identification information about the product to a remote receiver (see paragraphs [0003], [0108]; claim 19; and figures 1, 31). Claim 13 differs from D1 in that a value of a vibrational characteristic changes as a function of an amount of consumable product remaining in a dispenser. However, this feature would be easily conceived by a person skilled in the art from the feature of D1 considering that the sensor (56) detects the vibration to acquire identification information about the product (14) (see claim 19; and figure 1). Accordingly, claim 13 would have been obvious over D1. Therefore, claim 13 lacks an inventive step under PCT Article 33(3).

1.4 Dependent Claims 14-16

1.4.1 Concerning Claim 14

The additional feature of claim 14 is identical to the feature of D1 in that the sensor (56,

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2020) is an accelerometer (see paragraph [0260]; and figure 1). Accordingly, claim 14 would have been obvious over D1. Therefore, claim 14 lacks an inventive step under PCT Article 33(3).

1.4.2 Concerning Claim 15

The additional features of claim 15, characterized in that: the dispenser is a motorized hand towel dispenser for dispensing paper towels from a roll and comprises arms holding the roll; and the method comprises the step of placing the vibration sensing device on one of the arms, would be easily conceived by a person skilled in the art from the feature of D1 considering that the dispenser (10) is a paper towel dispenser, wherein the sensor (56) is mounted to the dispenser (10) (see paragraphs [0018], [0108]; and figure 1). Accordingly, claim 15 would have been obvious over D1. Therefore, claim 15 lack an inventive step under PCT Article 33(3).

1.4.3 Concerning Claim 16

The additional features of claim 16, characterized in that: the dispenser is a liquid soap dispenser for dispensing liquid soap and comprises a bottle containing the liquid soap; and the method comprises the step of placing the vibration sensing device on the bottle, would be easily conceived by a person skilled in the art from the feature of D1 considering that the dispenser (10) is a soap dispenser, wherein the sensor (56) is mounted to the dispenser (10) (see paragraphs [0018], [0108]; and figure 1). Accordingly, claim 16 would have been obvious over D1. Therefore, claim 16 lack an inventive step under PCT Article 33(3).

(*Note: With respect to 1. Novelty and Inventive step, it seems that claims 1, 13 would have been obvious over D2, D3 or D4.)

2. Industrial Applicability

Claims 1-16 are industrially applicable under PCT Article 33(4).