



(51) International Patent Classification:

A47L 15/18 (2006.01) A47L 15/42 (2006.01)

(21) International Application Number:

PCT/TR2020/050582

(22) International Filing Date:

06 July 2020 (06.07.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2019/08870 14 June 2019 (14.06.2019) TR

(71) Applicant: **ARCELIK ANONIM SIRKETI** [TR/TR]; Karaagac Caddesi 2-6, Sutluce, 34445 Beyoglu/Istanbul (TR).

(72) Inventors: **MOZA, Ahmet Onur**; Karaagac Caddesi 2-6, Sutluce, 34445 Beyoglu/Istanbul (TR). **GURSOY, Hasret**; Karaagac Caddesi 2-6, Sutluce, 34445 Beyoglu/Istanbul (TR). **DIRIK, Karyia**; Karaagac Caddesi 2-6, Sutluce, 34445 Beyoglu/Istanbul (TR).

(74) Agent: **ANKARA PATENT BUREAU**; Kavaklidere Mahallesi Bestekar Caddesi No:10, 06680 Ankara (TR).

(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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, KM, ML, MR, NE, SN, TD, TG).

(54) Title: A DISHWASHER COMPRISING AN ADDITIONAL SPRAYING MEMBER

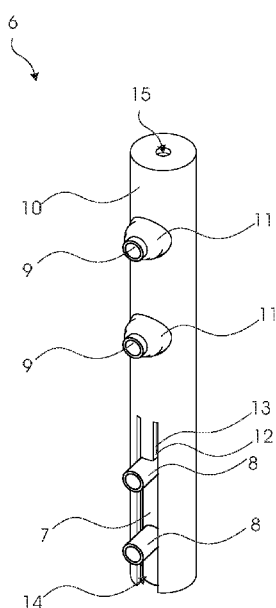


Figure 2

(57) Abstract: The present invention relates to a dishwasher (1) comprising a body (2); a washing tub (3) which is arranged in the body (2) and wherein the washing process is realized; at least one rack (4) which is disposed in the washing tub (3) and whereon the dishes to be washed are placed; at least one spraying member (5) which enables the water to be sprayed onto the rack (4) and the kitchen items to be cleaned; and an additional spraying member (6) which is disposed on the rack (4) and whereon the kitchen items with greater depth such as glass, bottle, etc. are placed.

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))
- with information concerning request for restoration of the right of priority in respect of one or more priority claims (Rules 26bis.3 and 48.2(b)(vii))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE

A DISHWASHER COMPRISING AN ADDITIONAL SPRAYING MEMBER

The present invention relates to a dishwasher comprising an additional spraying member.

5 In dishwashers, the washing process is realized by spraying the water received from the main delivery line onto the dishes by means of spray arms. The spraying members provided on the spray arm enable the water to be sprayed onto the dishes at a certain pressure. The flow rate and pressure of the sprayed water are critical in terms of cleaning of the dishes. In the dishwashers, washing areas are formed to clean heavy
10 stains. Additional spraying members are used to clean the stains in the washing areas. The kitchen items placed onto the rack are cleaned with water pressure and detergent. Therefore, the layout of the dishes on the rack is important to perform a highly-efficient washing process. Especially tall kitchen items such as bottles and glasses with a narrow mouth cannot contact water and thus, cannot be cleaned. Therefore, a plurality of
15 arrangement apparatuses are used in dishwashers. However, the arrangement apparatuses occupy additional space and decrease the usable volume of the rack. When not in use, the arrangement apparatuses prevent the proper arrangement.

In the state of the art United States of America Patent Application Document No. US2977963, a washing machine is disclosed, comprising intensive washing sections.

20 The aim of the present invention is the realization of a dishwasher with improved washing effectiveness.

The dishwasher realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a body; a washing tub which is disposed in the body, wherein the washing process is performed; at least one rack
25 which is disposed in the washing tub; and at least one spraying member which sprays water onto the racks. The kitchen items to be washed are placed onto the rack. The water is delivered onto the dishes by means of the spraying member. Consequently, the cleaning process is performed. An additional spraying member is provided on the rack. Kitchen items with greater depth such as bottles and glasses are placed onto the

additional spraying member. Thus, kitchen items with greater depth are enabled to be easily cleaned.

The dishwasher of the present invention comprises the additional spraying member having an inner pipe, an outer pipe and at least one fixed spraying means and at least one movable spraying means which are disposed on the inner pipe. The outer pipe is positioned around the inner pipe so as to at least partially surround the inner pipe. The fixed spraying means and the movable spraying means provide the delivery of water.

In an embodiment of the present invention, the dishwasher comprises the additional spraying member having a first position and a second position. When the additional spraying member is in the first position, the outer pipe moves upwards by sliding over the inner pipe. The movable spraying means also move upwards together with the outer pipe. Thus, the movable spraying means enable the kitchen items to be easily cleaned. When the additional spraying member is in the second position, the movable spraying means are parallel to the fixed spraying means. Thus, intensive washing is performed.

In an embodiment of the present invention, the dishwasher comprises a sealing member which is positioned between the movable spraying means and the outer pipe. The sealing member completely surrounds the movable spraying means. Thus, the sealing member enables the movement of the outer pipe to be transmitted to the spraying means.

In an embodiment of the present invention, the dishwasher comprises the sealing member which is produced from a flexible material. Thus, the sealing member can move in various directions.

In an embodiment of the present invention, the dishwasher comprises a claw and a housing wherein the claw is seated, which are respectively disposed on the outer pipe and the inner pipe and which together enable the inner pipe and the outer pipe to be interlocked in the first position and the second position. As the claw engages with the housing, the inner pipe and the outer pipe interlock in the first position and the second position.

In an embodiment of the present invention, the dishwasher comprises a slot which is arranged on the outer pipe. The fixed spraying means pass through the slot so as to extend into the washing tub.

5 In an embodiment of the present invention, the dishwasher comprises an opening which is arranged on the upper surface of the outer pipe. By means of the opening, the water is directly delivered to the bases of the kitchen items.

By means of the present invention, a dishwasher with increased washing efficiency is realized. By means of the fixed and movable spraying means, kitchen items with different sizes can be washed.

10 A dishwasher realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the perspective view of a dishwasher.

Figure 2 - is the perspective view of the additional spraying member in an embodiment of the present invention.

15

The elements illustrated in the figures are numbered as follows:

- 1- Dishwasher
- 2- Body
- 3- Washing tub
- 20 4- Rack
- 5- Spraying member
- 6- Additional spraying member
- 7- Inner pipe
- 8- Fixed spraying means
- 25 9- Movable spraying means
- 10- Outer pipe

11- Sealing member

12- Claw

13- Housing

14- Slot

5 15- Opening

The dishwasher (1) comprises a body (2); a washing tub (3) which is arranged in the body (2) and wherein the washing process is realized; at least one rack (4) which is disposed in the washing tub (3) and whereon the dishes to be washed are placed; at least one spraying member (5) which enables the water to be sprayed onto the rack (4) and the kitchen items to be cleaned; and an additional spraying member (6) which is disposed on the rack (4) and whereon the kitchen items with greater depth such as glass, bottle, etc. are placed. The kitchen items are placed onto the rack (4) by the user. The cleaning is performed by sending pressurized water onto the rack (4) by means of the spraying members (5). Kitchen items with heavy stains or kitchen items with greater depth such as glasses and bottles are cleaned by means of intensive washing. Intensive washing is realized by means of the additional spraying members (6).

The dishwasher (1) of the present invention comprises the additional spraying member (6) having an inner pipe (7), at least one fixed spraying means (8) and at least one movable spraying means (9) which are disposed on the inner pipe (7); an outer pipe (10) which is positioned so as to at least partially surround the inner pipe (7). The outer pipe (10) is positioned so as to at least partially surround the inner pipe (7) and slidably moves. The fixed spraying means (8) and the movable spraying means (9) are disposed on the inner pipe (7). Thus, intensive washing is performed.

In an embodiment of the present invention, the dishwasher (1) comprises the additional spraying member (6) having a first position wherein the outer pipe (10) moves upwards by sliding over the inner pipe (7) and turns the movable spraying means (9) in the upward direction, and a second position wherein the outer pipe (10)

moves downwards by sliding over the inner pipe (7) and turns the movable spraying means (9) in the downward direction so as to be parallel to the fixed spraying means (8). The outer pipe (10) moves upwards/downwards in the vertical plane by sliding over the inner pipe (7). The outer pipe (10) moves upwards so as to reach the first position. Thus, the movable spraying means (9) are enabled to also move upwards. By means of the movable spraying means (9) which spray water upwards, the kitchen items with greater depth such as bottle, glass, etc. can be cleaned. When the additional spraying member (6) is in the first position, the outer pipe (10) moves downwards so as to reach the second position. When the additional spraying member (6) is in the second position, the fixed spraying means (8) and the movable spraying means (9) are parallel to each other. Thus, intensive washing is performed.

In an embodiment of the present invention, the dishwasher (1) comprises a sealing member (11) which is disposed between the movable spraying means (9) and the outer pipe (10), which enables the movement of the outer pipe (10) to be transmitted to the movable spraying means (9), which prevents the water delivered from the movable spraying means (9) from reaching the inner pipe (7), and which completely surrounds the movable spraying means (9). The sealing member (11) surrounds the movable spraying means (9) and is positioned between the inner pipe (7) and the outer pipe (10). Thus, the water delivered from the movable spraying means (9) is prevented from returning to the inner pipe (7).

In an embodiment of the present invention, the dishwasher (1) comprises the sealing member (11) which is produced from a flexible material. By means of the flexible structure of the sealing member (11), the sealing member (11) stretches as the outer pipe (10) moves upwards/downwards so as to adapt to the movement and enables the movable spraying means (9) to move.

In an embodiment of the present invention, the dishwasher (1) comprises at least one claw (12) and a housing (13) wherein the claw (12) is seated, which together enable the outer pipe (10) to be locked onto the inner pipe (7) in the first position and the second position. By means of the interoperability of the claw (12) and the

housing (13), the additional spraying member (6) remains fixed in the first and second positions.

In an embodiment of the present invention, the dishwasher (1) comprises a slot (14) which is arranged on the outer pipe (10) and through which the fixed spraying means (8) pass so as to extend into the washing tub (3). The fixed spraying means (8) pass through the slot (14) and extend into the washing tub (3) from the inner pipe (7). The side of the slot (14) remaining below the fixed spraying means (8) is open. Thus, the outer pipe (10) is enabled to easily move upwards/downwards.

In an embodiment of the present invention, the dishwasher (1) comprises an opening (15) which is arranged on the upper surface of the outer pipe (10) and which enables the water to be sprayed directly onto the bases of kitchen items such as glass, bottle, etc. By means of the opening (15) arranged on the upper surface of the outer pipe (10), the water is directly delivered onto the kitchen item placed over the additional spraying member (6).

By means of the present invention, the kitchen items with greater depth which are hard to clean are enabled to be effectively cleaned. By means of the movable spraying means (9), the kitchen items with various heights can be cleaned. Thus, ease of use is provided for the user.

CLAIMS

- 1- A dishwasher (1) **comprising** a body (2); a washing tub (3) which is arranged in the body (2) and wherein the washing process is realized; at least one rack (4) which is disposed in the washing tub (3) and whereon the dishes to be washed are placed; at least one spraying member (5) which enables the water to be sprayed onto the rack (4) and the kitchen items to be cleaned; and an additional spraying member (6) which is disposed on the rack (4) and whereon the kitchen items with greater depth such as glass, bottle, etc. are placed, **characterized by** the additional spraying member (6) having an inner pipe (7), at least one fixed spraying means (8) and at least one movable spraying means (9) which are disposed on the inner pipe (7); an outer pipe (10) which is positioned so as to at least partially surround the inner pipe (7).
- 2- A dishwasher (1) as in Claim 1, **characterized by** the additional spraying member (6) having a first position wherein the outer pipe (10) moves upwards by sliding over the inner pipe (7) and turns the movable spraying means (9) in the upward direction, and a second position wherein the outer pipe (10) moves downwards by sliding over the inner pipe (7) and turns the movable spraying means (9) in the downward direction so as to be parallel to the fixed spraying means (8).
- 3- A dishwasher (1) as in Claim 1 or Claim 2, **characterized by** a sealing member (11) which is disposed between the movable spraying means (9) and the outer pipe (10), which enables the movement of the outer pipe (10) to be transmitted to the movable spraying means (9), which prevents the water delivered from the movable spraying means (9) from reaching the inner pipe (7), and which completely surrounds the movable spraying means (9).
- 4- A dishwasher (1) as in Claim 3, **characterized by** the sealing member (11) which is produced from a flexible material.
- 5- A dishwasher (1) as in any one of the Claims 2 to 4, **characterized by** at least one claw (12) and a housing (13) wherein the claw (12) is seated, which

together enable the outer pipe (10) to be locked onto the inner pipe (7) in the first position and the second position.

5 **6-** A dishwasher (1) as in any one of the above claims, **characterized by** a slot (14) which is arranged on the outer pipe (10) and through which the fixed spraying means (8) pass so as to extend into the washing tub (3).

7- A dishwasher (1) as in any one of the above claims, **characterized by** an opening (15) which is arranged on the upper surface of the outer pipe (10) and which enables the water to be sprayed directly onto the bases of kitchen items such as glass, bottle, etc.

10

1 / 2

Figure 1

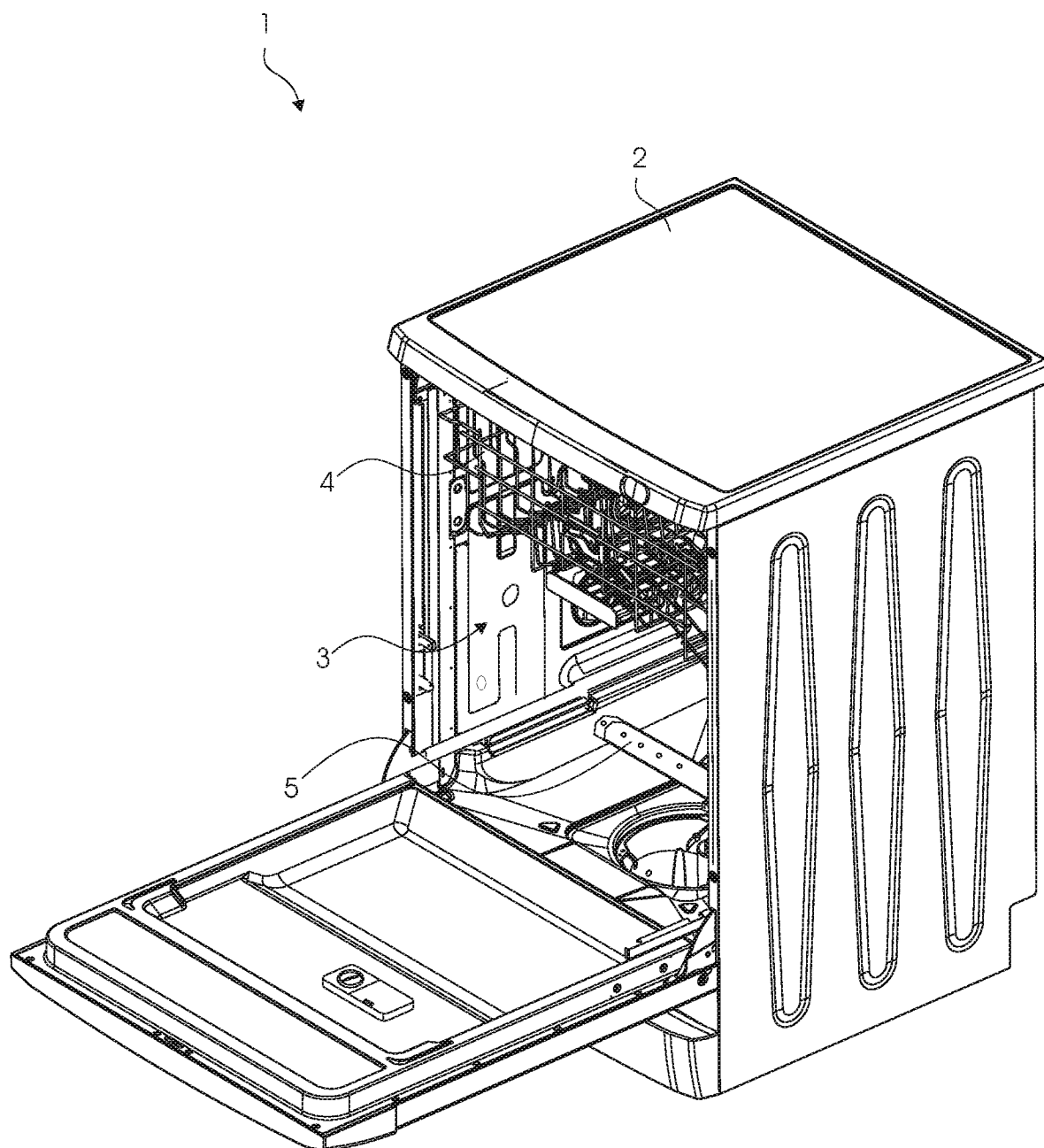
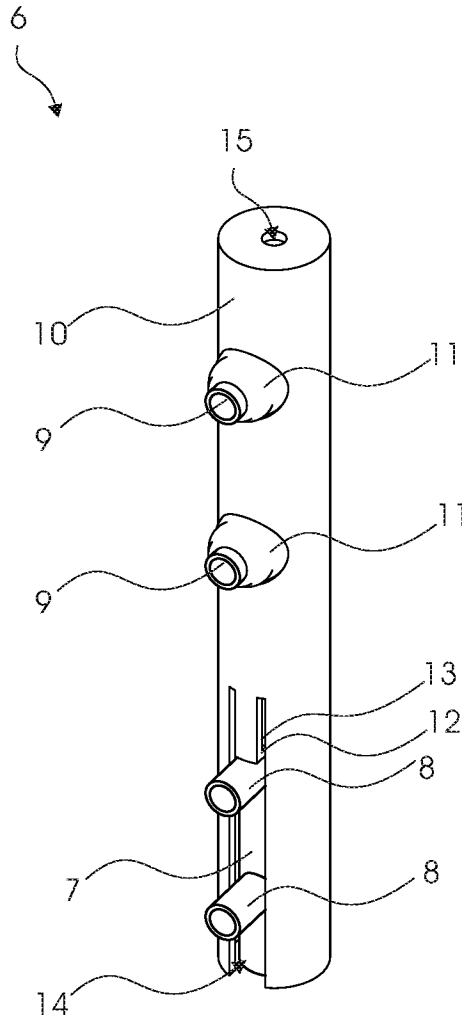


Figure 2



INTERNATIONAL SEARCH REPORT

International application No.

PCT/TR2020/050582

A. CLASSIFICATION OF SUBJECT MATTER

A47L 15/18 (2006.01)i; A47L 15/42 (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)

A47L 15/18; A47L 15/42; 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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP H0295327 A (MITSUBISHI ELECTRIC CORP) 06 April 1990 (1990-04-06) All Document	1-7
Y	US 2018220870 A1 (WHIRLPOOL CO [US]) 09 August 2018 (2018-08-09) All Document	1-7
A	US 2015164299 A1 (WHIRLPOOL CO [US]) 18 June 2015 (2015-06-18) Paragraphs 28,31,37,43, claims 3-8, figures 7,8,10a,10b	1-5
A	JP 2009089967 A (PANASONIC CORP) 30 April 2009 (2009-04-30) Abstract, figures 2,6,8	1,2,5,6



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

09 November 2020

Date of mailing of the international search report

09 November 2020

Name and mailing address of the ISA/TR

Turkish Patent and Trademark Office (Turkpatent)
Hipodrom Caddesi No. 13
06560 Yenimahalle
Ankara
Turkey

Telephone No. (90-312) 303 11 82

Facsimile No. +903123031220

Authorized officer

Besim AĞIR

Telephone No.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/TR2020/050582

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
JP	H0295327	A	06 April 1990	NONE			
US	2018220870	A1	09 August 2018	DE	102015103128	A1	09 December 2014
				US	2015257623	A1	09 December 2014
				US	9962063	B2	05 December 2017
				US	2018220870	A1	08 December 2017
				US	10463227	B2	01 November 2018
US	2015164299	A1	18 June 2015	US	2015164299	A1	06 December 2014
				US	10076225	B2	09 December 2017
JP	2009089967	A	30 April 2009	JP	2009089967	A	04 December 2008
				JP	4717866B	B2	07 December 2010