UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/214,317	01/12/2021	10890723	USCO-053-03	7700

152017 7590 12/22/2020

Us Conec Ltd.
1138 25th Street Southeast
Hickory, NC 28602

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Hiep V. Nguyen, Fort Mill, SC;
US Conec, Ltd, Hickory, NC
Darrell R. Childers, Hickory, NC;
Michael E. Hughes, Hickory, NC;
Jillcha Fekadu Wakjira, Hickory, NC;
Joseph P. Howard, Hickory, NC;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
16214317	10-Dec-2018	Hiep Nguyen	USCO-053-03	7700

TITLE OF INVENTION :

ALIGNMENT ADAPTER AND ALIGNMENT DESIGN FOR A CONNECTOR THEREFOR

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Regular Undiscounted	Utility under 35 USC 111(a)	2883	059000	OMAR ROJAS

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$1000	$0	$1000	10-Dec-2020	$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
152017 Us Conec Ltd. 1138 25th Street Southeast Hickory NC 28602 UNITED STATES 828-323-8883 eofficeaction@appcoll.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

○ Applicant asserting small entity status. See 37 CFR 1.27.
Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

◉ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☒ Issue Fee	☐ I authorize USPTO to apply my previously paid issue fee to the current fees due
☐ Publication Fee	☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____
☐ Advance Order - # of copies _____	☐ If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number _____ . The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. Michael L. Leetzow, P.A.
2. Shubhrangshu Sengupta
3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
US Conec, Ltd.	Hickory	NORTH CAROLINA	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Michael L. Leetzow/	**Date**	12-09-2020
Name	MICHAEL LEETZOW	**Registration Number**	35932

Electronic Patent Application Fee Transmittal

Application Number:	16214317
Filing Date:	10-Dec-2018
Title of Invention:	ALIGNMENT ADAPTER AND ALIGNMENT DESIGN FOR A CONNECTOR THEREFOR
First Named Inventor/Applicant Name:	Hiep V. Nguyen
Filer:	MICHAEL LEETZOW
Attorney Docket Number:	USCO-053-03

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1000**

Electronic Acknowledgement Receipt

EFS ID:	41340250
Application Number:	16214317
International Application Number:	
Confirmation Number:	7700
Title of Invention:	ALIGNMENT ADAPTER AND ALIGNMENT DESIGN FOR A CONNECTOR THEREFOR
First Named Inventor/Applicant Name:	Hiep V. Nguyen
Customer Number:	152017
Filer:	MICHAEL LEETZOW
Filer Authorized By:	
Attorney Docket Number:	USCO-053-03
Receipt Date:	09-DEC-2020
Filing Date:	10-DEC-2018
Time Stamp:	16:40:41
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1000
RAM confirmation Number	E2020B9G40378870
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	45992 2bd170f7f97f18efd5e33a08ae6ff9f3a8caa9de	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	31850 f8d7fa7e784ce2bc0314247fe5ae55f05c3785d9	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	77842		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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NOTICE OF ALLOWANCE AND FEE(S) DUE

152017 7590 09/10/2020

Us Conec Ltd.
1138 25th Street Southeast
Hickory, NC 28602

EXAMINER
ROJAS, OMAR R

ART UNIT	PAPER NUMBER
2883	

DATE MAILED: 09/10/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/214,317	12/10/2018	Hiep V. Nguyen	USCO-053-03	7700

TITLE OF INVENTION: ALIGNMENT ADAPTER AND ALIGNMENT DESIGN FOR A CONNECTOR THEREFOR

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	12/10/2020

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

Senko Advanced Components v. US Conec Ltd.
Senko EX1023-A
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PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

152017 7590 09/10/2020

Us Conec Ltd.
1138 25th Street Southeast
Hickory, NC 28602

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/214,317	12/10/2018	Hiep V. Nguyen	USCO-053-03	7700

TITLE OF INVENTION: ALIGNMENT ADAPTER AND ALIGNMENT DESIGN FOR A CONNECTOR THEREFOR

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	12/10/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
ROJAS, OMAR R	2883	385-059000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

Senko Advanced Components v. US Conec Ltd.
Senko EX1023-A
Page 9

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/214,317	12/10/2018	Hiep V. Nguyen	USCO-053-03	7700

152017 7590 09/10/2020

Us Conec Ltd.
1138 25th Street Southeast
Hickory, NC 28602

EXAMINER	
ROJAS, OMAR R	
ART UNIT	PAPER NUMBER
2883	

DATE MAILED: 09/10/2020

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 16/214,317	Applicant(s) Nguyen et al.	
	Examiner Omar R Rojas	Art Unit 2883	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the terminal disclaimer filed 08/05/2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 15-31 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☑ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/Omar R Rojas/
Primary Examiner, Art Unit 2883

EXAMINER'S AMENDMENT/COMMENT

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

Terminal Disclaimer

The terminal disclaimer filed on 08/05/2020 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent No. 10,156,684 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar R. Rojas whose telephone number is (571)272-2357. The examiner can normally be reached on Monday-Friday, 10AM-6PM EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Hollweg can be reached on 571-270-1739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to

the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Omar R Rojas/
Primary Examiner
Art Unit 2883

or
September 1, 2020

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/214,317	Nguyen et al.
	Examiner	**Art Unit**
	Omar R Rojas	2883

CPC						
Symbol					**Type**	**Version**
G02B	/	6	/	3879	F	2013-01-01
G02B	/	6	/	3817	I	2013-01-01
G02B	/	6	/	3825	I	2013-01-01
G02B	/	6	/	3881	I	2013-01-01
G02B	/	6	/	3885	I	2013-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	17	
/Omar R Rojas/ Primary Examiner, Art Unit 2883	01 September 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	15	3

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/214,317	Nguyen et al.
	Examiner	**Art Unit**
	Omar R Rojas	2883

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G02B6/38	/	6	/	38

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 17	
/Omar R Rojas/ Primary Examiner, Art Unit 2883 (Primary Examiner) 01 September 2020 (Date)	O.G. Print Claim(s) 15	O.G. Print Figure 3

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/214,317	Nguyen et al.
	Examiner	**Art Unit**
	Omar R Rojas	2883

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	17	
/Omar R Rojas/ Primary Examiner, Art Unit 2883	01 September 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	15	3

U.S. Patent and Trademark Office

Part of Paper No.: 20200901

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/214,317	Nguyen et al.
	Examiner	Art Unit
	Omar R Rojas	2883

CPC - Searched*		
Symbol	**Date**	**Examiner**
G02B6/3825,3879	07/23/2020	/ORR/
Updated above.	08/31/2020	/ORR/
G02B6/3885	09/01/2020	/ORR/

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

/Omar R Rojas/ Primary Examiner, Art Unit 2883	

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/214,317	Nguyen et al.
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	Omar R Rojas	2883

Search Notes		
Search Notes	**Date**	**Examiner**
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EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	06/21/2019	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	06/22/2019	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	10/17/2019	/ORR/
Checked refs. for 15/855,788	10/17/2019	/ORR/
Updated previous EAST search - See Search History Printout.	02/27/2020	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	02/27/2020	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	02/28/2020	/ORR/
Updated previous EAST search - See Search History Printout.	07/23/2020	/ORR/
Updated previous EAST search - See Search History Printout.	09/01/2020	/ORR/

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
PGPUB - text search	See EAST printout.	09/01/2020	/ORR/

/Omar R Rojas/ Primary Examiner, Art Unit 2883	

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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S788	736	(US-20180321449-$ or US-20190004252-$ or US-20170059785-$ or US-20190137700-$ or US-20130158512-$ or US-20180364422-$ or US-20150378113-$ or US-20200012052-$ or US-20100054668-$ or US-20060093274-$ or US-20140029900-$ or US-20190004251-$ or US-20190258010-$ or US-20140153878-$ or US-20180128988-$ or US-20190170931-$ or US-20140153879-$ or US-20190137697-$ or US-20190137695-$ or US-20160349458-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20170176691-$ or US-20100322563-$).did. or (US-20190033531-$ or US-20170261696-$ or US-20180364436-$ or US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180217336-$ or US-20110058774-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180120517-$ or US-20170363818-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/08/31 19:11

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	$ or US-20020142634-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$ or US-20190219775-$ or US-20200200977-$ or US-20200183092-$).did. or (US-20200150374-$ or US-20200124805-$ or US-20200081193-$ or US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$).did. or (US-10324264-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-5971625-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6179476-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$).did. or (US-6364537-$ or US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-5717533-$ or US-5212752-$ or US-6179477-$ or US-6130977-$ or US-5546281-$ or US-6062739-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$).did. or (US-5577146-$ or US-5436994-$ or US-5121454-$ or US-5400428-$ or US-5396572-$ or US-5265182-$ or US-5329604-$ or US-5261019-$ or US-5289554-$ or US-5276755-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or				

US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$ or US-5067783-$).did. or (US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$ or US-4728171-$).did. or (US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$ or US-10670824-$ or US-10444442-$).did. or (CA-3068131-$ or EP-3180644-$ or WO-2016140710-$ or WO-2018009426-$ or WO-2015070382-$ or EP-3123221-$ or WO-2019246241-$ or EP-3579031-$ or GB-201905648-$ or CN-105683795-$ or WO-2018044728-$ or WO-2019086961-$ or EP-2852856-$ or WO-2017182535-$ or EP-3330757-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$ or CN-107636504-$ or CN-206479676-$ or WO-2016174980-$ or AU-2004274992-$ or CA-2866107-$ or WO-2012015713-$ or FR-2997767-$ or CN-102520489-$).did. or (CN-102445735-$ or CN-103676018-$ or AU-2006295165-$ or WO-2015120031-$ or GB-

9525323-$ or GB-201220748-$ or CN-102385113-$ or WO-2014054357-$ or CA-2593676-$ or DE-102010021179-$ or GB-201004720-$ or EP-1762871-$ or DE-112006003952-$ or CA-2441872-$ or DE-60026115-$ or WO-2008033262-$ or KR-20040020797-$ or EP-1783524-$ or KR-100452879-$ or WO-9723794-$ or DE-19601949-$ or CA-2302068-$ or DE-20111078-$ or DE-10031931-$ or DE-19834723-$ or MX-9201992-$ or DE-19525739-$).did. or (DE-29614436-$ or DE-3914978-$ or EP-0339876-$ or EP-0546936-$ or CH-687105-$ or GB-9408857-$ or EP-0324272-$ or FR-2707402-$ or IT-MI913184-$ or WO-9415232-$ or EP-0183820-$ or GB-9025881-$ or EP-0253426-$ or DE-4203966-$ or GB-9103982-$ or CH-676513-$ or DE-9012174-$ or DE-9010357-$ or EP-0154781-$ or DE-8911081-$ or DE-8911080-$ or EP-0292024-$ or KR-870005264-$ or EP-0166636-$ or DE-8901052-$ or DE-8900623-$ or DE-8812341-$).did. or (DE-3737842-$ or FR-2528984-$ or DE-3701421-$ or EP-0249406-$ or EP-0098190-$ or EP-0098205-$ or EP-0153249-$ or DE-2932986-$ or GB-2086602-$ or DE-2832839-$ or EP-0045271-$ or FR-2502798-$ or AU-3682878-$ or WO-8002213-$ or GB-1450760-$ or GB-1526682-$ or FR-2316611-$ or FR-2268370-$ or WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$).did. or (JP-2005258017-$ or JP-2000241670-$ or JP-03059503-$ or JP-61028909-$ or JP-61129605-$ or JP-59036207-$ or JP-58190910-$ or JP-59038707-$ or JP-56062212-$ or JP-2002098860-$ or JP-05215939-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-

55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$ or JP-2019184942-$).did. or (US-20190369336-$ or EP-3579031-$ or CN-110376684-$ or US-20190162914-$ or US-20190162917-$ or US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or CN-108983368-$ or US-20180372962-$ or US-20180364422-$ or KR-2018131725-$).did. or (US-20180341069-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or CN-207965228-$ or CN-207965231-$ or US-20180292612-$ or CN-108508541-$ or CN-108490551-$ or CN-108279462-$ or JP-6363784-$ or US-20180203196-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or WO-2018057615-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018006987-$ or WO-2018008399-$ or CN-107479141-$).did. or (EP-3249434-$ or WO-2017182535-$ or KR-2017103050-$ or US-20170264045-$ or US-20180231722-$ or US-20170261698-$ or US-20170261696-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017095928-$ or WO-2017106514-$ or US-20170176691-$ or US-20170176692-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-

20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$).did. or (US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or CN-104914515-$ or WO-2015142551-$ or US-20150260923-$ or WO-2015126470-$ or WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-$ or EP-2821830-$ or US-20140233892-$ or US-20140219610-$ or US-20140161392-$ or US-20140153878-$ or US-20140147078-$ or WO-2014078261-$ or FR-2997767-$ or US-20140029900-$ or US-20140022627-$).did. or (US-20140003771-$ or US-20130322825-$ or US-20130202254-$ or WO-2013049494-$ or JP-2013045047-$ or US-20120315000-$ or WO-2012157276-$ or CN-102520489-$ or WO-2012078697-$ or WO-2012078701-$ or US-20120093462-$ or WO-2012029013-$ or WO-2012015713-$ or WO-2012015734-$ or WO-2011116167-$ or CN-102122031-$ or US-20110058774-$ or US-20100322563-$ or US-20090135429-$ or US-20090098760-$ or DE-102007023250-$ or WO-2008112183-$ or US-20080124033-$ or US-20080112672-$ or EP-1762871-$ or WO-2006130549-$ or US-20060257075-$).did. or (US-20060204178-$ or US-20060153504-$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$ or US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or

WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$).did. or (EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$ or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9637793-$ or DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-4041425-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$).did. or (EP-440447-$ or EP-420490-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or EP-335531-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$ or EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$).did. or (EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$ or GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$ or US-20200209492-$ or US-20200200977-$ or US-20200200979-$ or US-20200183093-$ or US-20200166716-$ or US-20200150374-$ or US-20200142141-$ or US-20200124805-$ or US-20200116949-$ or US-20200116952-$).did. or (US-20200116953-$ or US-20200116954-$ or US-20200110224-$ or US-20200103598-$ or US-20200103599-$ or US-20200096709-$ or US-20200096710-$ or US-20200096708-$ or US-20200081198-$ or US-20200057205-$ or US-20200049899-

		$ or US-20200033539-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$).did. or (EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190219775-$ or US-20190204513-$ or US-20200081193-$ or US-20200012053-$ or US-20200003961-$ or US-20190227240-$).did.				
S789	2,183	(US-20200225425-$ or US-20200225424-$ or US-20200225422-$ or US-20190056557-$ or US-20190179086-$ or US-20190064447-$ or US-20180217337-$ or US-20200183093-$ or US-20160018593-$ or US-20200166716-$ or US-20110222819-$ or US-20170285282-$ or US-20180246282-$ or US-20160259135-$ or US-20180143384-$ or US-20200142133-$ or US-20190041584-$ or US-20200132934-$ or US-20200116957-$ or US-20200110224-$ or US-20200096708-$ or US-20200088954-$ or US-20160274311-$ or US-20200088949-$ or US-20200073059-$ or US-20200018909-$).did. or (US-20160124160-$ or US-20190146160-$ or US-20140064665-$ or US-20170139158-$ or US-20190377139-$ or US-20160209599-$ or US-20160025942-$ or US-20140072265-$ or US-20180329158-$ or US-20180011254-$ or US-20080175541-$ or US-20190018201-$ or US-20180267255-$ or US-20180081127-$ or US-20170373756-$ or US-20160216454-$ or US-20170219779-$ or US-20090148101-$ or US-20180252872-$ or US-20190187392-$ or US-20190179085-$ or US-20130216186-$ or US-20190170957-$ or US-20180156985-$ or US-20190154924-$ or US-20160327757-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/08/31 19:11

$ or US-20190113691-$).did. or (US-20160161680-$ or US-20190101709-$ or US-20190086617-$ or US-20190033533-$ or US-20190025523-$ or US-20190025522-$ or US-20190004261-$ or US-20180364421-$ or US-20180348443-$ or US-20180341072-$ or US-20160018604-$ or US-20180329155-$ or US-20180329153-$ or US-20180292618-$ or US-20180292612-$ or US-20160139346-$ or US-20160349464-$ or US-20180239091-$ or US-20180231730-$ or US-20160209610-$ or US-20180231722-$ or US-20170219789-$ or US-20160131857-$ or US-20180217338-$ or US-20180210155-$ or US-20180210154-$ or US-20180210153-$).did. or (US-20180196204-$ or US-20180196202-$ or US-20180188460-$ or US-20180180819-$ or US-20180172942-$ or US-20180164510-$ or US-20180157002-$ or US-20180156988-$ or US-20180149813-$ or US-20180143381-$ or US-20180136410-$ or US-20180128991-$ or US-20150036980-$ or US-20180113268-$ or US-20180113259-$ or US-20180106975-$ or US-20180106973-$ or US-20180095232-$ or US-20180088289-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180081139-$ or US-20180081128-$ or US-20180081125-$ or US-20180081122-$).did. or (US-20180078781-$ or US-20180077472-$ or US-20180074277-$ or US-20180059338-$ or US-20180052288-$ or US-20150362681-$ or US-20180031782-$ or US-20180031775-$ or US-20180031774-$ or US-20180024302-$ or US-20180024301-$ or US-20180024300-$ or US-20180024294-$ or US-20180017740-$ or US-20180013228-$ or US-20180013227-$ or US-20180011261-$ or US-20180011258-$ or US-20180003910-$ or US-20180003903-$ or US-20170371118-$ or US-20170371116-$ or US-20170371107-$ or US-20170363829-$ or US-

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	$ or US-20170160478-$ or US-20170160477-$ or US-20170160476-$ or US-20170153398-$).did. or (US-20170153394-$ or US-20170146749-$ or US-20170139157-$ or US-20170139150-$ or US-20170138131-$ or US-20170131481-$ or US-20170123171-$ or US-20170123163-$ or US-20170115457-$ or US-20170108659-$ or US-20160004017-$ or US-20170108653-$ or US-20170108430-$ or US-20170102507-$ or US-20170102506-$ or US-20170102504-$ or US-20170097485-$ or US-20140219624-$ or US-20170097471-$ or US-20170090128-$ or US-20170090127-$ or US-20170082806-$ or US-20170068063-$ or US-20170059784-$ or US-20170059782-$ or US-20170045701-$ or US-20170045698-$).did. or (US-20170045691-$ or US-20170035275-$ or US-20150331201-$ or US-20170003459-$ or US-20160370549-$ or US-20160370548-$ or US-20160370544-$ or US-20160365685-$ or US-20160356966-$ or US-20160356965-$ or US-20160334586-$ or US-20160324402-$ or US-20160320571-$ or US-20160320570-$ or US-20160320567-$ or US-20160320566-$ or US-20160313513-$ or US-20160085045-$ or US-20160306123-$ or US-20160306121-$ or US-20160291263-$ or US-20160291259-$ or US-20160282566-$ or US-20160282562-$ or US-20160266330-$ or US-20160266329-$ or US-20160266327-$).did. or (US-20160252687-$ or US-20160252685-$ or US-20160246011-$ or US-20160238804-$ or US-20160238798-$ or US-20160238794-$ or US-20160238789-$ or US-20160223763-$ or US-20160216460-$ or US-20160209605-$ or US-20160202429-$ or US-20160195683-$ or US-20160195681-$ or US-20160187589-$ or US-20160178860-$ or US-20160178859-$ or US-20160178855-$ or US-20160170152-$ or US-20160161679-$ or US-20160154190-$ or US-20160147022-$ or US-				

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	$ or US-20020166226-$ or US-20020164899-$ or US-20020159745-$ or US-20020159714-$ or US-20020159712-$ or US-20020159710-$ or US-20020150353-$ or US-20020150346-$ or US-20020150345-$ or US-20020150344-$ or US-20020150343-$ or US-20020150342-$ or US-20020146213-$ or US-20020131720-$ or US-20020126961-$ or US-20020122652-$ or US-20020118926-$ or US-20020114589-$ or US-20020114582-$).did. or (US-20020114581-$ or US-20020106167-$ or US-20020106162-$ or US-20020094727-$ or US-20020090177-$ or US-20020081076-$ or US-20020064349-$ or US-20020061171-$ or US-20020031313-$ or US-20020031310-$ or US-20020031309-$ or US-20020028055-$ or US-20020025125-$ or US-20020025121-$ or US-20020025099-$ or US-20020012503-$ or US-20020012502-$ or US-20020012501-$ or US-20020012238-$ or US-20020006253-$ or US-20020003932-$ or US-20010048790-$ or US-20010043776-$ or US-20010041030-$ or US-20010038737-$ or US-20010033730-$ or US-20010016102-$).did. or (US-20010010741-$ or US-20190204513-$ or US-20200064561-$ or US-20200057208-$ or US-20200041730-$ or US-20190235182-$ or US-20190391350-$ or US-20190384017-$ or US-20190353852-$ or US-20190346631-$ or US-20190317281-$ or US-20190310432-$ or US-20190278039-$ or US-20190278025-$ or US-20190271816-$ or US-20190250340-$ or US-20190243083-$ or US-20190235178-$ or US-20190227244-$ or US-20190219772-$).did. or (US-10718914-$ or US-10718911-$ or US-10718909-$ or US-10705306-$ or US-10295760-$ or US-10261275-$ or US-10156683-$ or US-10146014-$ or US-10107967-$ or US-10067302-$ or US-10067300-$ or US-10018787-$ or US-10007069-$ or US-9989710-$ or US-9948017-$ or US-9946038-$				

or US-9946037-$ or US-9946036-$ or US-9939600-$ or US-9939590-$ or US-9939589-$ or US-9933586-$ or US-9933583-$ or US-9933582-$ or US-9927582-$ or US-9915793-$).did. or (US-9910229-$ or US-9910228-$ or US-9910226-$ or US-9904021-$ or US-9904020-$ or US-9904019-$ or US-9897767-$ or US-9893813-$ or US-9891392-$ or US-9891390-$ or US-9891387-$ or US-9891385-$ or US-9885841-$ or US-9880365-$ or US-9880357-$ or US-9876309-$ or US-9874702-$ or US-9869826-$ or US-9869824-$ or US-9864151-$ or US-9857545-$ or US-9857537-$ or US-9851512-$ or US-9846283-$ or US-9841566-$ or US-9835808-$ or US-9835807-$).did. or (US-9829650-$ or US-9829643-$ or US-9827438-$ or US-9823428-$ or US-9817195-$ or US-9810860-$ or US-9810858-$ or US-9810856-$ or US-9804342-$ or US-9804340-$ or US-9804337-$ or US-9798096-$ or US-9798090-$ or US-9797806-$ or US-9784928-$ or US-9778425-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9759874-$ or US-9759869-$ or US-9746625-$ or US-9746368-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9735523-$).did. or (US-9733436-$ or US-9733434-$ or US-9733123-$ or US-9726830-$ or US-9726829-$ or US-9722367-$ or US-9720184-$ or US-9709753-$ or US-9703062-$ or US-9696497-$ or US-9696477-$ or US-9684134-$ or US-9678286-$ or US-9678283-$ or US-9678282-$ or US-9671570-$ or US-9671568-$ or US-9664864-$ or US-9658407-$ or US-9645335-$ or US-9645326-$ or US-9638871-$ or US-9638868-$ or US-9632267-$ or US-9625658-$ or US-9625657-$ or US-9625655-$).did. or (US-9606303-$ or US-9551831-$ or US-9482825-$ or US-9453972-$ or US-9448369-$ or US-9389368-$ or US-9377591-$ or US-9323007-$ or US-9316794-$ or US-9316791-$ or US-9291781-$ or US-9229177-$ or US-9229170-$ or US-

9207454-$ or US-9002168-$ or US-8953922-$ or US-8814443-$ or US-8757893-$ or US-8588571-$ or US-8517614-$ or US-8459879-$ or US-8388235-$ or US-8206040-$ or US-8070366-$ or US-7972066-$ or US-7738757-$ or US-7712970-$).did. or (US-7706657-$ or US-7630609-$ or US-7588373-$ or US-7585118-$ or US-7530845-$ or US-7412148-$ or US-7232261-$ or US-7229220-$ or US-7192198-$ or US-7052186-$ or US-7036996-$ or US-6944378-$ or US-6895146-$ or US-6856748-$ or US-6848834-$ or US-6840680-$ or US-6839583-$ or US-6830382-$ or US-6817777-$ or US-6793399-$ or US-6789953-$ or US-6786647-$ or US-6712521-$ or US-6702475-$ or US-6695485-$ or US-6688782-$ or US-6667803-$).did. or (US-6644866-$ or US-6634794-$ or US-6632023-$ or US-6623172-$ or US-6619859-$ or US-6619856-$ or US-6612750-$ or US-6601995-$ or US-6599032-$ or US-6595696-$ or US-6582132-$ or US-6572276-$ or US-6572273-$ or US-6561699-$ or US-6558044-$ or US-6554486-$ or US-6554482-$ or US-6543941-$ or US-6533469-$ or US-6533465-$ or US-6527450-$ or US-6526210-$ or US-6524015-$ or US-6510267-$ or US-6508593-$ or US-6501900-$ or US-6498882-$).did. or (US-6497518-$ or US-6497516-$ or US-6226429-$ or US-6491442-$ or US-6487343-$ or US-6485192-$ or US-6481900-$ or US-6481899-$ or US-6474876-$ or US-6471417-$ or US-6471412-$ or US-6467971-$ or US-6467970-$ or US-6466724-$ or US-6464406-$ or US-6461055-$ or US-6461054-$ or US-6461053-$ or US-6457876-$ or US-6456768-$ or US-6450698-$ or US-6447172-$ or US-6445867-$ or US-6437894-$ or US-6435946-$ or US-6431762-$ or US-6425694-$).did. or (US-6425692-$ or US-6422761-$ or US-6422760-$ or US-6422759-$ or US-6419810-$ or US-6412987-$ or US-6412986-$ or US-6409394-$ or US-6409392-$ or US-6409391-$ or

US-6402393-$ or US-6402390-$ or US-6402388-$ or US-6389212-$ or US-6386768-$ or US-6384896-$ or US-6382843-$ or US-6382839-$ or US-6379052-$ or US-6377840-$ or US-6375363-$ or US-6305849-$ or US-6371659-$ or US-6371657-$ or US-6367986-$ or US-6367984-$ or US-6364536-$).did. or (US-6361218-$ or US-6357932-$ or US-6357931-$ or US-6354746-$ or US-6352372-$ or US-6349164-$ or US-6347889-$ or US-6347888-$ or US-6343950-$ or US-6334715-$ or US-6331079-$ or US-6328481-$ or US-6318904-$ or US-6318903-$ or US-6318902-$ or US-6089759-$ or US-6309111-$ or US-6302592-$ or US-6301004-$ or US-6095695-$ or US-6293706-$ or US-6290527-$ or US-6283640-$ or US-6045270-$ or US-6273618-$ or US-6267513-$ or US-6264375-$).did. or (US-6264373-$ or US-6264372-$ or US-6259839-$ or US-6256446-$ or US-6250817-$ or US-6247851-$ or US-6247849-$ or US-6243526-$ or US-6243518-$ or US-6240235-$ or US-6240229-$ or US-6238249-$ or US-6234681-$ or US-6231244-$ or US-6227719-$ or US-6227718-$ or US-6224269-$ or US-6220763-$ or US-6220762-$ or US-6219479-$ or US-6217226-$ or US-6215944-$ or US-6210045-$ or US-6206577-$ or US-6200040-$ or US-6196729-$ or US-6195477-$).did. or (US-6193420-$ or US-6190616-$ or US-6188827-$ or US-6188825-$ or US-6186670-$ or US-6179480-$ or US-6179475-$ or US-6173099-$ or US-6164835-$ or US-6164834-$ or US-6154597-$ or US-6149315-$ or US-6149313-$ or US-6142676-$ or US-6139346-$ or US-6132105-$ or US-6116789-$ or US-6116101-$ or US-6108482-$ or US-6104856-$ or US-6102581-$ or US-6095694-$ or US-6088502-$ or US-6081647-$ or US-6079881-$ or US-6076975-$ or US-6064791-$).did. or (US-6059461-$ or US-6053639-$ or US-6048103-$ or US-6048102-$ or US-6045269-$ or US-6041155-$ or US-6027252-$

or US-6024498-$ or US-6022149-$ or US-6017154-$ or US-6012852-$ or US-6007256-$ or US-6004043-$ or US-6004042-$ or US-5993071-$ or US-5987203-$ or US-5984533-$ or US-5980117-$ or US-5971626-$ or US-5969294-$ or US-5963689-$ or US-5960137-$ or US-5956444-$ or US-5953474-$ or US-5953473-$ or US-5949946-$ or US-5862289-$).did. or (US-5940561-$ or US-5940559-$ or US-5937121-$ or US-5930426-$ or US-5930425-$ or US-5923805-$ or US-5921796-$ or US-5920670-$ or US-5920669-$ or US-5915058-$ or US-5909526-$ or US-5909298-$ or US-5742720-$ or US-5737463-$ or US-5896477-$ or US-5892870-$ or US-5887100-$ or US-5887098-$ or US-5881191-$ or US-5870515-$ or US-5867894-$ or US-5867621-$ or US-5862282-$ or US-5845036-$ or US-5727097-$ or US-5838856-$ or US-5838855-$).did. or (US-5832158-$ or US-5825955-$ or US-5818993-$ or US-5815621-$ or US-5815618-$ or US-5809191-$ or US-5799122-$ or US-5796896-$ or US-5781680-$ or US-5778123-$ or US-5778122-$ or US-5774612-$ or US-5774611-$ or US-5768738-$ or US-5548677-$ or US-5764043-$ or US-5761359-$ or US-5751874-$ or US-5748818-$ or US-5737464-$ or US-5734770-$ or US-5732174-$ or US-5732173-$ or US-5727102-$ or US-5721799-$ or US-5701380-$ or US-5694507-$).did. or (US-5694506-$ or US-5692089-$ or US-5692080-$ or US-5687268-$ or US-5682449-$ or US-5680494-$ or US-5673346-$ or US-5671310-$ or US-5668904-$ or US-5666456-$ or US-5666449-$ or US-5664955-$ or US-5661833-$ or US-5581644-$ or US-5651084-$ or US-5647043-$ or US-5645449-$ or US-5642450-$ or US-5633969-$ or US-5620634-$ or US-5619610-$ or US-5386485-$ or US-5611017-$ or US-5611010-$ or US-5607323-$ or US-5603631-$ or US-5602951-$).did. or (US-5600749-$ or US-5600746-$ or US-5325454-$ or US-

		5592323-$ or US-5588086-$ or US-5588079-$ or US-5579429-$ or US-5574817-$ or US-5574813-$ or US-5570445-$ or US-5563978-$ or US-5563974-$ or US-5563971-$ or US-5555332-$ or US-5550943-$ or US-5548674-$ or US-5542015-$ or US-5537501-$ or US-5530783-$ or US-5528711-$ or US-5521998-$ or US-5521997-$ or US-5519799-$ or US-5506922-$ or US-5499310-$ or US-5497444-$ or US-5485537-$).did. or (US-5483608-$ or US-5473717-$ or US-5452391-$ or US-5450519-$ or US-5446817-$ or US-5444806-$ or US-5420951-$ or US-5418875-$ or US-5339376-$ or US-5414786-$ or US-5408557-$ or US-5367595-$ or US-5384885-$ or US-5379360-$ or US-5372758-$ or US-5367594-$ or US-5366383-$ or US-5363460-$ or US-5359688-$ or US-5339377-$ or US-5335301-$ or US-5333225-$ or US-5333222-$ or US-5333221-$ or US-5329541-$ or US-5323475-$ or US-5317663-$).did. or (US-5315679-$ or US-5315678-$ or US-5305409-$ or US-5297227-$ or US-5293581-$ or US-5282259-$ or US-5280552-$ or US-5274729-$ or US-5267342-$ or US-5265181-$ or US-5259052-$ or US-5239606-$ or US-5233675-$ or US-5233674-$ or US-5231685-$ or US-5228104-$ or US-5222168-$ or US-5214730-$ or US-5210815-$ or US-5199093-$ or US-5179607-$ or US-5177808-$ or US-5166995-$ or US-5159654-$ or US-5157749-$ or US-5155795-$ or US-5134677-$).did. or (US-5134676-$ or US-5134673-$ or US-5133032-$ or US-5129024-$ or US-5127073-$ or US-5124506-$ or US-5119455-$ or US-5115484-$ or US-5109468-$ or US-5109453-$ or US-5101463-$ or US-5091991-$ or US-5091990-$ or US-5082346-$ or US-5082344-$ or US-5077815-$ or US-5076656-$ or US-5073042-$ or US-5064268-$ or US-5058983-$ or US-5052774-$ or US-5048916-$ or US-5042891-$ or US-5018823-$ or US-5016972-$ or US-5016970-$ or US-5015060-$).did. or			

(US-5013124-$ or US-4998797-$ or US-4998796-$ or US-4995688-$ or US-4993803-$ or US-4991929-$ or US-4986762-$ or US-4986622-$ or US-4976510-$ or US-4973127-$ or US-4973126-$ or US-4964688-$ or US-4960317-$ or US-4955976-$ or US-4953929-$ or US-4944079-$ or US-4921325-$ or US-4915472-$ or US-4900118-$ or US-4898446-$ or US-4892380-$ or US-4886335-$ or US-4877303-$ or US-4856866-$ or US-4854664-$ or US-4852963-$ or US-4850671-$).did. or (US-4850536-$ or US-4848870-$ or US-4846544-$ or US-4844570-$ or US-4842361-$ or US-4834486-$ or US-4830456-$ or US-4824196-$ or US-4818058-$ or US-4813760-$ or US-4807957-$ or US-4805980-$ or US-4795231-$ or US-4793683-$ or US-4789216-$ or US-4787700-$ or US-4786135-$ or US-4784456-$ or US-4783137-$ or US-4781429-$ or US-4773725-$ or US-4767178-$ or US-4762389-$ or US-4762387-$ or US-4759600-$ or US-4759599-$ or US-4758719-$).did. or (US-4741590-$ or US-4740052-$ or US-4737009-$ or US-4722081-$ or US-4718744-$ or US-4717234-$ or US-4715674-$ or US-4714318-$ or US-4714317-$ or US-4714315-$ or US-4699460-$ or US-4688887-$ or US-4687291-$ or US-4681398-$ or US-4674831-$ or US-4666241-$ or US-4648688-$ or US-4645296-$ or US-4615581-$ or US-4614402-$ or US-4579418-$ or US-4575183-$ or US-4548467-$ or US-4526438-$ or US-4515434-$ or US-4506946-$ or US-4497536-$).did. or (US-4487474-$ or US-4486072-$ or US-4484796-$ or US-4477146-$ or US-4466009-$ or US-4464817-$ or US-4461539-$ or US-4447121-$ or US-4445753-$ or US-4444461-$ or US-4422716-$ or US-4415232-$ or US-4387957-$ or US-4385801-$ or US-4371233-$ or US-4368948-$ or US-4354731-$ or US-4341439-$ or US-4330172-$ or US-4327964-$ or US-4320938-$ or US-4310218-$ or US-4295707-$ or US-4291943-$ or

US-4279469-$ or US-4268115-$ or US-4268114-$).did. or (US-4252407-$ or US-4240695-$ or US-4223976-$ or US-4218113-$ or US-4214812-$ or US-4201445-$ or US-4201444-$ or US-4186997-$ or US-4186996-$ or US-4168109-$ or US-4167304-$ or US-4160580-$ or US-4140365-$ or US-4101198-$ or US-4087158-$ or US-4080044-$ or US-3999837-$ or US-3933409-$ or US-10545295-$ or US-10502903-$ or US-10401575-$ or US-10353155-$).did. or (EP-3258301-$ or EP-3054333-$ or CA-2885821-$ or EP-2444827-$ or WO-2018004847-$ or JP-6173629-$ or WO-2015043158-$ or CN-206584076-$ or WO-2016161341-$ or DE-202016103178-$ or WO-2016082160-$ or EP-3021145-$ or JP-5905950-$ or CA-2689768-$ or CA-2928026-$ or CA-2762411-$ or CA-2859345-$ or DE-202013012295-$ or WO-2016004347-$ or WO-2015190211-$ or EP-2942653-$ or CN-204595258-$ or WO-2015116589-$ or WO-2015103783-$ or GB-201507758-$ or CA-2932688-$).did. or (WO-2015068103-$ or EP-2843452-$ or WO-2014143748-$ or JP-5433802-$ or CN-102870023-$ or WO-2012151175-$ or WO-2014049469-$ or WO-2014009463-$ or CA-2912155-$ or WO-2013126068-$ or WO-2013115791-$ or WO-2013115789-$ or CA-2662854-$ or WO-2011152874-$ or GB-201218194-$ or CN-102456976-$ or WO-2011139938-$ or WO-2011044724-$ or CN-101122658-$ or CN-101931134-$ or WO-2010068896-$ or WO-2010025180-$ or EP-2138880-$ or WO-2009110421-$ or CA-2503690-$ or WO-2008006402-$ or CN-1331421-$).did. or (EP-1168016-$ or EP-1172672-$ or EP-1530068-$ or CA-2321428-$ or AU-2003291687-$ or JP-3106420-$ or EP-1168018-$ or CA-2191600-$ or WO-03093883-$ or CA-2484569-$ or DE-10114144-$ or CN-1118443-$ or WO-03016975-$ or NL-1018440-$ or CA-2284331-$ or

EP-0690319-$ or CA-2030897-$ or WO-0155762-$ or CA-2418331-$ or DE-20118858-$ or EP-1124147-$ or EP-1172673-$ or WO-0137010-$ or CA-2198522-$ or WO-0161397-$ or EP-1039324-$ or EP-1039322-$).did. or (EP-1033595-$ or EP-1033594-$ or GB-0007281-$ or EP-0992819-$ or GB-9919699-$ or CA-2262351-$ or CA-2294930-$ or EP-0696748-$ or WO-9734176-$ or CA-2171494-$ or WO-9627811-$ or EP-0633485-$ or EP-0249237-$ or EP-0262847-$ or CA-2082276-$ or GB-9106183-$ or DE-9107960-$ or GB-9103604-$ or WO-9015350-$ or DE-8626183-$ or EP-0262631-$ or EP-0061243-$ or WO-8600147-$ or DE-3112078-$ or GB-2081468-$ or IT-8323399-$ or IT-8323399-$).did. or (GB-2057158-$ or GB-8306227-$ or DK-208682-$ or FR-2487528-$ or FR-2435053-$ or BE-871785-$ or CA-1097111-$ or IT-7925110-$ or FR-2363124-$ or BE-871785-$ or CA-1043604-$ or WO-2019190616-$ or CN-110068899-$).did. or (JP-09033756-$ or JP-04214510-$ or JP-11072659-$ or JP-04220604-$ or JP-56074211-$ or JP-2017138535-$ or JP-05313040-$ or JP-62111222-$ or JP-59140411-$ or JP-59075218-$ or JP-57044113-$ or JP-56066811-$ or JP-55101904-$ or JP-54034251-$).did. or (US-20190107679-$ or US-20180224615-$ or WO-2018125706-$ or US-20180156985-$ or US-20180128988-$ or US-20180120519-$ or US-20180106973-$ or US-20180081128-$ or US-20180052288-$ or US-20180011258-$ or US-20180003903-$ or US-20180364421-$ or US-20170371109-$ or CN-107450131-$ or US-20170336577-$ or US-20170343760-$ or US-9804340-$ or US-20170307830-$ or FR-3050286-$ or US-20170299820-$ or US-20170293088-$ or US-20170261699-$ or US-20170254967-$ or US-20170254966-$ or US-20170227720-$ or US-9726830-$).did. or (US-20170219779-$ or JP-6173629-$ or US-20170205587-$ or

US-9709753-$ or US-20170184790-$ or US-9678283-$ or US-20170153398-$ or US-20170139150-$ or US-20170139156-$ or US-20170102504-$ or US-20170115457-$ or WO-2017065999-$ or US-20170090127-$ or WO-2017038704-$ or US-20170059784-$ or US-20170031106-$ or US-20160377819-$ or US-20160349466-$ or US-20160341908-$ or US-20160341911-$ or WO-2016182556-$ or US-20160327757-$ or US-9482820-$ or WO-2016161341-$ or US-20160282566-$ or CN-105978629-$ or US-20160259135-$).did. or (US-20170329090-$ or EP-3054333-$ or US-9389368-$ or WO-2016105567-$ or US-9377591-$ or US-20160178852-$ or US-20160178859-$ or US-20160161680-$ or EP-3021145-$ or US-20160131854-$ or US-20160124158-$ or JP-5905950-$ or WO-2016053853-$ or WO-2016043922-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016024014-$ or JP-5860948-$ or CA-2859345-$ or US-20160025937-$ or US-20160004016-$ or US-20160004018-$ or US-20150378110-$ or WO-2015190211-$ or EP-2947485-$).did. or (US-20150331201-$ or CN-104950402-$ or DE-102015106225-$ or US-20160306125-$ or US-20150286012-$ or WO-2015144883-$ or US-20150241644-$ or US-20150226926-$ or US-20150226925-$ or WO-2015116589-$ or US-20150219864-$ or WO-2015103783-$ or CN-104570229-$ or CN-104516061-$ or US-20150177463-$ or US-20150162982-$ or WO-2015070382-$ or WO-2015068103-$ or WO-2015028433-$ or US-20150049989-$ or WO-2015009435-$ or US-20150023637-$ or EP-2818903-$ or US-20140363131-$ or WO-2014197701-$ or US-20140321808-$ or WO-2014165175-$).did. or (WO-2014143748-$ or US-20140219624-$ or EP-2759860-$ or WO-

2014113753-$ or US-20140205247-$ or US-20140199034-$ or US-20140153879-$ or US-20140147081-$ or ES-1110405-$ or WO-2014049469-$ or TW-474924-$ or US-20140064688-$ or JP-5433802-$ or EP-2700992-$ or WO-2014011898-$ or US-20140016901-$ or WO-2014011283-$ or WO-2013177234-$ or WO-2013155395-$ or US-20130259429-$ or US-20130230283-$ or WO-2013126068-$ or WO-2013122865-$ or WO-2013117598-$ or WO-2013115789-$ or WO-2013115791-$ or US-20130121645-$).did. or (CN-103091793-$ or WO-2013036843-$ or US-20130051749-$ or TW-201309089-$ or CN-102870023-$ or US-20120308183-$ or WO-2012151175-$ or US-20120263419-$ or US-20120251051-$ or US-20120251054-$ or TW-201233549-$ or US-20120099822-$ or EP-2444827-$ or US-20120082416-$ or US-20120057824-$ or KR-2012000895-$ or US-20120027355-$ or KR-2012000895-$ or WO-2011152874-$ or US-20110274437-$ or US-20110249942-$ or EP-2302431-$ or WO-2010137426-$ or EP-2206458-$ or WO-2010068896-$ or US-7712970-$ or WO-2010025180-$).did. or (US-20100040330-$ or WO-2009110421-$ or US-20090060423-$ or US-20090041411-$ or US-7435009-$ or US-20070098327-$ or US-20070077010-$ or US-20070058907-$ or EP-1752805-$ or US-20060193562-$ or US-20060165352-$ or US-20060153503-$ or WO-2006022840-$ or US-20050053342-$ or US-20040228589-$ or US-20040223699-$ or US-20040062498-$ or EP-1394584-$ or WO-03094297-$ or WO-03093883-$ or US-20030044125-$ or US-20030031437-$ or WO-02061481-$ or US-6422760-$ or WO-02056060-$ or DE-20118858-$ or EP-1172673-$).did. or (EP-1172672-$ or EP-1168020-$ or EP-1168018-$ or EP-

		1168016-$ or US-20010041030-$ or WO-0181965-$ or EP-1124147-$ or EP-1107031-$ or WO-0140839-$ or EP-1092995-$ or EP-1091225-$ or EP-1041416-$ or EP-1041414-$ or EP-1020745-$ or EP-1016885-$ or EP-1010999-$ or GB-2341455-$ or WO-9947958-$ or US-5940561-$ or WO-9928774-$ or WO-9857208-$ or DE-19626036-$ or WO-9746900-$ or US-5692080-$ or EP-803750-$ or WO-9734176-$ or WO-9723794-$).did. or (EP-758099-$ or WO-9634176-$ or WO-9627811-$ or JP-08201656-$ or WO-9616080-$ or EP-697608-$ or EP-696748-$ or WO-9600917-$ or EP-663602-$ or EP-663601-$ or EP-660145-$ or EP-660144-$ or EP-505197-$ or EP-490698-$ or US-5101463-$ or EP-458608-$ or WO-9117540-$ or US-5064268-$ or GB-2241794-$ or EP-430107-$ or WO-9015350-$ or US-4953929-$ or EP-262631-$ or EP-249237-$ or WO-8600147-$ or US-4496213-$ or EP-125398-$).did. or (DE-3208797-$ or GB-2098354-$ or EP-61243-$ or GB-2081468-$ or GB-2057158-$ or DE-2932986-$ or BE-871785-$ or DE-2805949-$ or DE-2558445-$ or US-10502903-$).did.				
S790	1,871	(G02B6/3879).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/08/31 19:11
S791	6,057	(G02B6/3885).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/08/31 19:11
S792	1,321	S790 not (S786 S787 S788 S789)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/08/31 19:11
S793	696	(US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/08/31 19:11

		$ or US-20190219775-$ or US-20190170931-$ or US-20190137700-$ or US-20190137697-$ or US-20190137695-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20190033531-$ or US-20190004252-$ or US-20190004251-$ or US-20180364422-$ or US-20180364436-$).did. or (US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180321449-$ or US-20180217336-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180128988-$ or US-20170363818-$ or US-20170261696-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170205586-$ or US-20170176691-$ or US-20170176692-$ or US-20170068064-$ or US-20170059785-$ or US-20170063464-$ or US-20170023746-$ or US-20160349458-$ or US-20160327756-$ or US-20160306122-$ or US-20160282565-$).did. or (US-20160274314-$ or US-20160223774-$ or US-20160202428-$ or US-20160091674-$ or US-20150378113-$ or US-20150277059-$ or US-20150260924-$ or US-20150260923-$ or US-20150198774-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20140205257-$ or US-20140169727-$ or US-20140168987-$ or US-20140161392-$ or US-20140153878-$ or US-20140153879-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140037253-$ or US-20140029900-$ or US-20140022627-$ or US-20140016901-$ or US-20140003771-$).did. or (US-20130322825-$ or US-20130158512-$ or US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20120155803-$ or US-20120093462-$ or US-20110299266-$ or US-20110229092-$ or US-20110229083-			

		$ or US-20110064361-$ or US-20110058774-$ or US-20100322563-$ or US-20100178014-$ or US-20100178010-$ or US-20100054668-$ or US-20100027942-$ or US-20090135429-$ or US-20080317415-$ or US-20080273840-$ or US-20080226235-$ or US-20080124033-$ or US-20080090433-$ or US-20080013889-$ or US-20070292084-$ or US-20070031103-$).did. or (US-20060275007-$ or US-20060257075-$ or US-20060257076-$ or US-20060204178-$ or US-20060171640-$ or US-20060171639-$ or US-20060140543-$ or US-20060127028-$ or US-20060093274-$ or US-20060083466-$ or US-20060063436-$ or US-20060045428-$ or US-20060018603-$ or US-20050271338-$ or US-20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20040157499-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020176960-$ or US-20020142634-$).did. or (US-20020126960-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$).did. or (US-10444442-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9977197-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$ or US-6364537-$).did. or (US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-6179476-$ or US-6179477-$ or US-6130977-$ or US-6062739-$ or US-5971625-$ or US-5970598-$ or US-			

		5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717533-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$ or US-5577146-$).did. or (US-5546281-$ or US-5436994-$ or US-5400428-$ or US-5396572-$ or US-5329604-$ or US-5289554-$ or US-5276755-$ or US-5265182-$ or US-5261019-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212752-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5121454-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$).did. or (US-5067783-$ or US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$).did. or (US-4728171-$ or US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$).did. or (WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$ or WO-2019086961-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$			

or EP-3330757-$ or WO-2018044728-$ or EP-3278153-$ or CN-107636504-$ or WO-2018009426-$ or WO-2017182535-$ or CN-206479676-$ or EP-3180644-$ or EP-3123221-$ or WO-2016174980-$ or WO-2016140710-$ or CN-105683795-$ or WO-2015120031-$ or WO-2015070382-$ or EP-2852856-$ or WO-2015009435-$ or FR-2997767-$ or WO-2014054357-$ or CN-103676018-$).did. or (CA-2866107-$ or GB-201220748-$ or CN-102520489-$ or CN-102445735-$ or CN-102385113-$ or WO-2012015713-$ or DE-102010021179-$ or GB-201004720-$ or DE-112006003952-$ or CA-2593676-$ or WO-2008033262-$ or EP-1783524-$ or AU-2006295165-$ or EP-1762871-$ or DE-60026115-$ or KR-100452879-$ or AU-2004274992-$ or CA-2441872-$ or KR-20040020797-$ or CN-1334472-$ or DE-20111078-$ or DE-10031931-$ or CA-2302068-$ or DE-19834723-$ or WO-9723794-$ or DE-29614436-$ or DE-19525739-$).did. or (CH-687105-$ or DE-19601949-$ or GB-9525323-$ or FR-2707402-$ or WO-9415232-$ or GB-9408857-$ or EP-0546936-$ or MX-9201992-$ or DE-4203966-$ or IT-MI913184-$ or GB-9103982-$ or CH-676513-$ or GB-9025881-$ or DE-3914978-$ or DE-9012174-$ or DE-9010357-$ or DE-8911081-$ or DE-8911080-$ or EP-0339876-$ or EP-0324272-$ or DE-8901052-$ or DE-8900623-$ or EP-0292024-$ or DE-8812341-$ or DE-3737842-$ or DE-3701421-$ or EP-0253426-$).did. or (EP-0249406-$ or KR-870005264-$ or EP-0183820-$ or EP-0166636-$ or EP-0154781-$ or EP-0153249-$ or EP-0098190-$ or EP-0098205-$ or FR-2528984-$ or FR-2502798-$ or GB-2086602-$ or EP-0045271-$ or WO-8002213-$ or DE-2932986-$ or DE-2832839-$ or AU-3682878-$ or GB-1526682-$ or FR-2316611-$ or GB-1450760-$ or FR-2268370-$).did. or (JP-

2019184942-$ or JP-2005258017-$ or JP-2000241670-$ or JP-05215939-$ or JP-03059503-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-61129605-$ or JP-61028909-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-59038707-$ or JP-59036207-$ or JP-58190910-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56062212-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$).did. or (US-20200033539-$ or US-20200012053-$ or US-20200003961-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$ or EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190227240-$ or US-20190219775-$ or US-20190204513-$ or US-20190162914-$ or US-20190162917-$).did. or (US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or US-20180372962-$ or US-20180364422-$ or CN-108983368-$ or KR-2018131725-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or US-20180292612-$ or CN-108490551-$).did. or (US-20180231722-$ or JP-6363784-$ or

US-20180203196-$ or CN-108279462-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018008399-$ or CN-107479141-$ or EP-3249434-$ or WO-2017182535-$ or US-20170264045-$ or US-20170261698-$ or US-20170261696-$ or KR-2017103050-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017106514-$).did. or (US-20170176691-$ or US-20170176692-$ or WO-2017095928-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$ or US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or WO-2015142551-$ or US-20150260923-$ or CN-104914515-$ or WO-2015126470-$).did. or (WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-$ or EP-2821830-$ or US-20140233892-$ or US-20140219610-$ or US-20140161392-$ or US-20140153878-$ or US-20140147078-$ or WO-2014078261-$ or FR-2997767-$ or US-20140029900-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-$ or US-20130202254-$ or WO-2013049494-$ or JP-2013045047-$ or US-20120315000-$ or WO-2012157276-$ or CN-102520489-$ or WO-2012078697-$ or WO-2012078701-$ or US-20120093462-$ or WO-2012029013-$).did. or (WO-

2012015713-$ or WO-2012015734-$ or WO-2011116167-$ or CN-102122031-$ or US-20110058774-$ or US-20100322563-$ or US-20090135429-$ or US-20090098760-$ or DE-102007023250-$ or WO-2008112183-$ or US-20080124033-$ or US-20080112672-$ or EP-1762871-$ or WO-2006130549-$ or US-20060257075-$ or US-20060204178-$ or US-20060153504-$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$).did. or (US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$ or EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$ or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9723794-$ or WO-9637793-$).did. or (DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-4041425-$ or EP-420490-$ or EP-335531-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$ or EP-440447-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$).did. or (EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-

		3344864-$ or EP-118804-$ or EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$).did. or (GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$).did.				
S794	1,321	S792 not S793	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/08/31 19:11
S795	5,306	(G02B6/3825).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/08/31 19:11
S796	2,725	S795 not (S786 S787 S788 S789 S794)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/08/31 19:11
S797	4,518	S791 not (S786 S787 S788 S789 S794 S796)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/08/31 19:11
S798	3,186	S791 not (S786 S787 S788 S789 S794 S796)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2020/08/31 19:14
S799	55	(US-20140241689-$ or US-20200057205-$ or US-20200070211-$ or US-20190377139-$ or US-20190346644-$ or US-20190331862-$ or US-20190285806-$ or US-20190278028-$ or US-20190101703-$ or US-20180031783-$ or US-20160062050-$ or US-20160035201-$ or US-20150241650-$ or US-20150063758-$ or US-20140348481-$ or US-20140348467-$ or US-20140241688-$ or US-20140233893-$ or US-20140219609-$ or US-20130272671-$ or US-20130259429-$ or US-20130051733-$ or US-20130044978-$ or US-20120251051-$ or US-20110038592-$ or US-20100322580-$).did. or (US-20100199447-$ or US-20100111484-	US-PGPUB; USPAT; DERWENT	OR	ON	2020/09/01 11:59

		$ or US-20100054665-$ or US-20090274432-$ or US-20080273837-$ or US-20050163431-$ or US-20050111810-$ or US-20050111809-$ or US-20030190130-$ or US-20030108301-$).did. or (US-8858089-$ or US-6857900-$ or US-6705765-$ or US-6547585-$ or US-6485189-$ or US-6412986-$ or US-6146023-$ or US-6041155-$ or US-5870515-$ or US-5675682-$ or US-5600747-$).did. or (US-10459172-$ or US-20150063758-$ or US-20140348467-$ or US-20140348481-$ or US-20140241688-$ or US-20140241689-$ or WO-2013155395-$ or US-20130259429-$).did.				
S800	623	(US-20150260936-$ or US-20190324218-$ or US-20150219864-$ or US-20160170154-$ or US-20200150353-$ or US-20180267258-$ or US-20200132941-$ or US-20180335577-$ or US-20200116950-$ or US-20190181586-$ or US-20200088955-$ or US-20200081194-$ or US-20200057204-$ or US-20200057199-$ or US-20200049902-$ or US-20190129104-$ or US-20190377138-$ or US-20190369335-$ or US-20190353865-$ or US-20190346635-$ or US-20190346634-$ or US-20180217339-$ or US-20190331862-$ or US-20190302371-$ or US-20190190199-$ or US-20160195682-$).did. or (US-20190271815-$ or US-20190243084-$ or US-20090238522-$ or US-20190243075-$ or US-20190235174-$ or US-20180292617-$ or US-20190200103-$ or US-20190187383-$ or US-20170227719-$ or US-20190113693-$ or US-20190113692-$ or US-20190113689-$ or US-20190101706-$ or US-20190101705-$ or US-20190101704-$ or US-20190079252-$ or US-20190072729-$ or US-20190064452-$ or US-20190049678-$ or US-20190041587-$ or US-20190025526-$ or US-20170371109-$ or US-20180356600-$ or US-20180335571-$ or US-20180329154-$ or US-20180314018-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 11:59

	$ or US-20140321808-$).did. or (US-20170045702-$ or US-20180306984-$ or US-20180299624-$ or US-20180284357-$ or US-20180267256-$ or US-20130089293-$ or US-20180136416-$ or US-20180100982-$ or US-20180081129-$ or US-20180052287-$ or US-20170293090-$ or US-20170205590-$ or US-20160062050-$ or US-20160320572-$ or US-20160341905-$ or US-20160306125-$ or US-20150162982-$ or US-20160223757-$ or US-20150063815-$ or US-20140363131-$ or US-20140321810-$ or US-20140301701-$ or US-20140241671-$ or US-20120257865-$ or US-20080311781-$ or US-20110274437-$ or US-20120128302-$).did. or (US-20120099819-$ or US-20120057824-$ or US-20110091158-$ or US-20110059642-$ or US-20100310213-$ or US-20100226610-$ or US-20100104355-$ or US-20070077010-$ or US-20080248691-$ or US-20080175543-$ or US-20080131055-$ or US-20070292082-$ or US-20080037934-$ or US-20080032536-$ or US-20070116412-$ or US-20050226567-$ or US-20050164536-$ or US-20050163429-$ or US-20050095899-$ or US-20050018973-$ or US-20040228582-$ or US-20030031448-$ or US-20030031437-$ or US-20030012520-$ or US-20020167793-$).did. or (US-10571641-$ or US-10539745-$ or US-10527803-$ or US-10514518-$ or US-10429592-$ or US-10401574-$ or US-10302874-$ or US-10234635-$ or US-10133009-$ or US-10120140-$ or US-10120138-$ or US-10101570-$ or US-10094768-$ or US-9971103-$ or US-9678294-$ or US-9658405-$ or US-9645323-$ or US-9606300-$ or US-9581767-$ or US-9557508-$ or US-9557491-$ or US-9551835-$ or US-9482840-$ or US-9482823-$ or US-9448368-$ or US-9366829-$).did. or (US-9335488-$ or US-9291785-$ or US-9274300-$ or US-9110249-$ or US-9103990-$ or US-9057845-$ or US-				

9052475-$ or US-9033588-$ or US-9022666-$ or US-8985862-$ or US-8979388-$ or US-8845206-$ or US-8821036-$ or US-8801297-$ or US-8573854-$ or US-8419291-$ or US-8406588-$ or US-8202009-$ or US-8157455-$ or US-8104973-$ or US-8009959-$ or US-7980769-$ or US-7887243-$ or US-7758255-$ or US-7744285-$ or US-7717625-$ or US-7374347-$).did. or (US-7336884-$ or US-7261471-$ or US-7234876-$ or US-7111990-$ or US-7090407-$ or US-7073953-$ or US-6994478-$ or US-6945702-$ or US-6920255-$ or US-6872006-$ or US-6866424-$ or US-6832858-$ or US-6805493-$ or US-6789950-$ or US-6769814-$ or US-6762941-$ or US-6761488-$ or US-6572276-$ or US-6554486-$ or US-6513989-$ or US-6459843-$ or US-6435728-$ or US-6434316-$ or US-6434315-$ or US-6398422-$ or US-6364539-$ or US-6357928-$).did. or (US-6351590-$ or US-6264374-$ or US-6259856-$ or US-6257917-$ or US-6256448-$ or US-6203208-$ or US-6149313-$ or US-6146023-$ or US-6139194-$ or US-5963698-$ or US-5600747-$ or US-5511138-$ or US-5428702-$ or US-5335301-$ or US-5265181-$ or US-5216732-$ or US-5183408-$ or US-5166995-$ or US-4986769-$ or US-4950048-$ or US-4904199-$ or US-4711511-$ or US-4657338-$ or US-4580868-$ or US-4478485-$ or US-4448467-$ or US-4376565-$).did. or (US-4186997-$).did. or (WO-2019012006-$ or CA-2864886-$ or WO-2020047283-$ or WO-2017147401-$ or WO-2018183496-$ or GB-201311768-$ or GB-201906387-$ or CN-110618492-$ or WO-2018140873-$ or AU-2015318357-$ or WO-2019222189-$ or WO-2016077167-$ or CN-105425341-$ or WO-2012106510-$ or WO-2019200066-$ or WO-2016086881-$ or WO-2019125963-$ or WO-2016053673-$ or FR-3021415-$ or WO-2019089220-$ or WO-2019060293-$ or WO-

	2017139430-$ or EP-3330758-$ or WO-2019036297-$ or WO-2018169759-$ or WO-2016049208-$).did. or (CA-2869770-$ or WO-2018045232-$ or WO-2015029585-$ or CN-105283786-$ or WO-2017123460-$ or JP-5805344-$ or CN-205992071-$ or WO-2016068966-$ or WO-2015191024-$ or WO-2011019581-$ or EP-2818903-$ or WO-2014116785-$ or WO-2013049082-$ or CA-2546593-$ or WO-2008045560-$ or WO-2011130445-$ or CA-2304082-$ or WO-2010103465-$ or EP-2251724-$ or AU-2002243312-$ or WO-9909442-$ or CN-1231430-$ or CA-2537354-$ or EP-1221630-$ or WO-0008503-$ or CA-2276631-$ or EP-1229366-$).did. or (EP-1879060-$ or CA-2594549-$ or CN-1258011-$ or WO-2005022228-$ or WO-2004008214-$ or WO-2004107001-$ or EP-1334394-$ or WO-2006007120-$ or CA-2276627-$ or EP-1415186-$ or WO-2005047946-$ or EP-1257012-$ or EP-1299758-$ or CA-2283016-$ or WO-9746900-$ or WO-9857208-$ or CA-2339502-$ or CA-2327007-$ or CA-2136212-$ or CN-1231429-$ or EP-0927899-$ or EP-0927898-$ or WO-0075701-$ or AU-1587897-$ or CA-2288247-$ or EP-1273944-$ or CA-2068453-$).did. or (GB-9011424-$ or WO-0182374-$ or EP-0927895-$ or CA-2312241-$ or MX-9202155-$ or CA-2330965-$ or DE-19846731-$ or EP-1039323-$ or FR-2752951-$ or WO-9964917-$ or GB-9622511-$ or EP-0961142-$ or CA-2237481-$ or WO-9931539-$ or EP-0821253-$ or CA-2222237-$ or EP-0323920-$ or EP-0490698-$ or CA-1299407-$ or AU-1019788-$ or WO-9308493-$ or FR-2648240-$ or DE-9108955-$ or GB-8614272-$ or CA-1239820-$ or DE-3633340-$ or IT-7925047-$).did. or (GB-8332694-$ or EP-0109870-$ or DE-2933790-$ or DE-3021001-$ or GB-2058392-$).did. or (JP-2016009081-$ or JP-2016122050-$ or JP-2016085422-$ or JP-10050400-$ or JP-				

2002048946-$ or JP-08110439-$ or JP-09145959-$ or JP-10311934-$ or JP-09145957-$ or JP-07248434-$ or JP-01177508-$ or JP-59157605-$ or JP-56060409-$).did. or (US-20200174200-$ or US-20200166717-$ or US-20200142140-$ or US-20200124802-$ or US-20190384018-$ or US-20190339464-$ or US-20190339470-$ or US-20190324218-$ or US-20190302376-$ or US-20190285811-$ or US-20190243076-$ or US-20190235174-$ or CN-110031940-$ or US-20190219776-$ or US-20190212504-$ or US-20190200103-$ or US-20190190199-$ or US-20190179089-$ or US-20190179086-$ or US-20190179088-$ or US-20190181586-$ or US-20190154928-$ or US-20190129104-$ or US-20190101704-$ or US-20190101705-$ or WO-2019060293-$).did. or (US-20200088955-$ or US-10234635-$ or US-20190079252-$ or US-10222562-$ or KR-2019006212-$ or WO-2019012006-$ or US-20190025526-$ or US-20190011645-$ or US-20190064452-$ or US-20180356600-$ or KR-2018129442-$ or US-20180329154-$ or US-20180335571-$ or US-20180335577-$ or US-20180335581-$ or US-10107967-$ or US-20180314014-$ or US-20180306997-$ or US-10107972-$ or US-20180299624-$ or US-10101570-$ or US-20180292617-$ or WO-2018183496-$ or US-20180267255-$ or US-20180239093-$ or US-20180217338-$ or US-20180217339-$).did. or (US-20180210155-$ or US-10018787-$ or US-20180188455-$ or CN-108227089-$ or US-20180156988-$ or US-9989712-$ or US-20190113692-$ or US-20180136416-$ or WO-2018085767-$ or US-9933582-$ or US-20180077472-$ or WO-2018045232-$ or WO-2018045234-$ or US-20180011261-$ or US-20170357060-$ or EP-3258301-$ or US-9823428-$ or US-20170299831-$ or US-20170293089-$ or WO-2017172600-

$ or US-20170285277-$ or WO-2017160697-$ or WO-2017147401-$ or CN-106918869-$ or US-20170242199-$ or WO-2017136437-$ or US-20170227719-$).did. or (JP-2017134310-$ or US-20170212316-$ or US-20170205591-$ or US-20170192182-$ or WO-2017066139-$ or US-20170045702-$ or US-20170045695-$ or US-20170003456-$ or US-20160349464-$ or US-9482823-$ or US-9482825-$ or US-20160306124-$ or EP-3078999-$ or US-20160282562-$ or US-9448369-$ or WO-2016137934-$ or US-20160238789-$ or WO-2016123128-$ or US-20160223757-$ or US-20160223763-$ or US-20160195682-$ or WO-2016104132-$ or US-20160161681-$ or WO-2016086881-$ or WO-2016082160-$ or US-20160139345-$ or EP-3021144-$).did. or (EP-3021146-$ or WO-2016068966-$ or US-20160109676-$ or WO-2016053852-$ or WO-2016053673-$ or WO-2016049208-$ or US-20160091673-$ or US-20160085045-$ or US-20160077284-$ or WO-2016039383-$ or US-20150370017-$ or WO-2015191024-$ or US-20160370549-$ or US-20150355417-$ or JP-5805344-$ or US-20150309279-$ or WO-2015158564-$ or WO-2015150149-$ or US-20150253518-$ or AU-2014101479-$ or US-20150131946-$ or WO-2015047380-$ or WO-2015029585-$ or WO-2014186436-$ or US-20140314385-$ or US-20140294339-$ or US-20140241667-$).did. or (US-20140219615-$ or US-20140205241-$ or AU-2014100325-$ or CN-103645545-$ or US-20140072265-$ or US-20180100982-$ or US-20130302004-$ or WO-2013126429-$ or US-20130209041-$ or US-20130170796-$ or US-20130170797-$ or WO-2013077969-$ or US-20130089293-$ or WO-2013019622-$ or WO-2013019189-$ or US-20120263423-$ or WO-2012106510-$ or WO-2012106513-$ or WO-2012106518-$ or JP-

2012120095-$ or US-20120141070-$ or US-20110243504-$ or US-20110150396-$ or US-20110081798-$ or US-20110044590-$ or WO-2011019581-$ or KR-2011002571-$).did. or (US-20100322554-$ or US-20100310213-$ or WO-2010138446-$ or EP-2251724-$ or US-20100135618-$ or US-20100074616-$ or US-20090290838-$ or US-20090238522-$ or WO-2009023673-$ or EP-1990665-$ or US-20080253719-$ or WO-2008045560-$ or EP-1887395-$ or US-20070160327-$ or US-20050271328-$ or US-20050226567-$ or WO-2005022229-$ or WO-2005022228-$ or WO-2005022227-$ or US-20040223701-$ or US-20040105628-$ or US-20040062486-$ or WO-2004008214-$ or US-20040008494-$ or KR-2003071425-$ or US-20030044127-$ or KR-2003012941-$).did. or (US-20030031448-$ or US-20030031419-$ or EP-1257012-$ or KR-2002019797-$ or WO-0219002-$ or WO-0216989-$ or WO-0216530-$ or WO-0182374-$ or EP-1150149-$ or CA-2339502-$ or WO-0155762-$ or EP-1116974-$ or WO-0137010-$ or WO-0075701-$ or WO-0070381-$ or EP-1054278-$ or EP-1039322-$ or JP-2000199833-$ or EP-1016886-$ or EP-1014126-$ or EP-997753-$ or WO-0008503-$ or EP-969299-$ or EP-969298-$ or WO-9964917-$ or EP-961142-$ or WO-9957786-$).did. or (EP-949522-$ or EP-927899-$ or EP-927898-$ or WO-9931539-$ or US-5915058-$ or WO-9928773-$ or US-5909526-$ or EP-916974-$ or WO-9909442-$ or US-5867621-$ or WO-9859271-$ or US-5778122-$ or EP-821253-$ or US-5666456-$ or JP-09145959-$ or GB-2306696-$ or US-5555332-$ or EP-712015-$ or US-5519799-$ or WO-9323777-$ or EP-514722-$ or US-5134673-$ or EP-323920-$ or EP-277390-$ or GB-2176629-$ or GB-2151040-$ or GB-2058392-$).did. or (EP-8329-$).did.

S801	736	(US-20180321449-$ or US-20190004252-$ or US-20170059785-$ or US-20190137700-$ or US-20130158512-$ or US-20180364422-$ or US-20150378113-$ or US-20200012052-$ or US-20100054668-$ or US-20060093274-$ or US-20140029900-$ or US-20190004251-$ or US-20190258010-$ or US-20140153878-$ or US-20180128988-$ or US-20190170931-$ or US-20140153879-$ or US-20190137697-$ or US-20190137695-$ or US-20160349458-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20170176691-$ or US-20100322563-$).did. or (US-20190033531-$ or US-20170261696-$ or US-20180364436-$ or US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180217336-$ or US-20110058774-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180120517-$ or US-20170363818-$ or US-20160274314-$ or US-20170205586-$ or US-20140169727-$ or US-20160223774-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170176692-$ or US-20120093462-$ or US-20170068064-$ or US-20170063464-$ or US-20170023746-$).did. or (US-20110299266-$ or US-20140016901-$ or US-20160327756-$ or US-20160306122-$ or US-20150260924-$ or US-20160282565-$ or US-20160202428-$ or US-20140205257-$ or US-20160091674-$ or US-20150277059-$ or US-20150260923-$ or US-20150198774-$ or US-20140037253-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20120155803-$ or US-20140168987-$ or US-20140161392-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 11:59

		$ or US-20110064361-$).did. or (US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20110229092-$ or US-20110229083-$ or US-20080226235-$ or US-20080273840-$ or US-20100178014-$ or US-20100178010-$ or US-20040157499-$ or US-20080013889-$ or US-20100027942-$ or US-20090135429-$ or US-20020126960-$ or US-20060127028-$ or US-20080317415-$ or US-20080090433-$ or US-20060257075-$ or US-20080124033-$ or US-20060083466-$ or US-20070292084-$ or US-20060018603-$ or US-20060204178-$ or US-20070031103-$ or US-20060275007-$ or US-20060257076-$).did. or (US-20060171640-$ or US-20060171639-$ or US-20060140543-$ or US-20060063436-$ or US-20060045428-$ or US-20050271338-$ or US-20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20020176960-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20020142634-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$ or US-20190219775-$ or US-20200200977-$ or US-20200183092-$).did. or (US-20200150374-$ or US-20200124805-$ or US-20200081193-$ or US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$).did. or (US-10324264-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$			

or US-7857523-$ or US-7572063-$ or US-5971625-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6179476-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$).did. or (US-6364537-$ or US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-5717533-$ or US-5212752-$ or US-6179477-$ or US-6130977-$ or US-5546281-$ or US-6062739-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$).did. or (US-5577146-$ or US-5436994-$ or US-5121454-$ or US-5400428-$ or US-5396572-$ or US-5265182-$ or US-5329604-$ or US-5261019-$ or US-5289554-$ or US-5276755-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$ or US-5067783-$).did. or (US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$ or US-4728171-$).did. or (US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-

4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$ or US-10670824-$ or US-10444442-$).did. or (CA-3068131-$ or EP-3180644-$ or WO-2016140710-$ or WO-2018009426-$ or WO-2015070382-$ or EP-3123221-$ or WO-2019246241-$ or EP-3579031-$ or GB-201905648-$ or CN-105683795-$ or WO-2018044728-$ or WO-2019086961-$ or EP-2852856-$ or WO-2017182535-$ or EP-3330757-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$ or CN-107636504-$ or CN-206479676-$ or WO-2016174980-$ or AU-2004274992-$ or CA-2866107-$ or WO-2012015713-$ or FR-2997767-$ or CN-102520489-$).did. or (CN-102445735-$ or CN-103676018-$ or AU-2006295165-$ or WO-2015120031-$ or GB-9525323-$ or GB-201220748-$ or CN-102385113-$ or WO-2014054357-$ or CA-2593676-$ or DE-102010021179-$ or GB-201004720-$ or EP-1762871-$ or DE-112006003952-$ or CA-2441872-$ or DE-60026115-$ or WO-2008033262-$ or KR-20040020797-$ or EP-1783524-$ or KR-100452879-$ or WO-9723794-$ or DE-19601949-$ or CA-2302068-$ or DE-20111078-$ or DE-10031931-$ or DE-19834723-$ or MX-9201992-$ or DE-19525739-$).did. or (DE-29614436-$ or DE-3914978-$ or EP-0339876-$ or EP-0546936-$ or CH-687105-$ or GB-9408857-$ or EP-0324272-$ or FR-2707402-$ or IT-MI913184-$ or WO-9415232-$ or EP-0183820-$ or GB-9025881-$ or EP-0253426-$ or DE-4203966-$ or GB-9103982-$ or CH-676513-$ or DE-9012174-$ or DE-9010357-$ or EP-0154781-$ or DE-8911081-$ or DE-8911080-$ or EP-0292024-$ or KR-870005264-$ or

EP-0166636-$ or DE-8901052-$ or DE-8900623-$ or DE-8812341-$).did. or (DE-3737842-$ or FR-2528984-$ or DE-3701421-$ or EP-0249406-$ or EP-0098190-$ or EP-0098205-$ or EP-0153249-$ or DE-2932986-$ or GB-2086602-$ or DE-2832839-$ or EP-0045271-$ or FR-2502798-$ or AU-3682878-$ or WO-8002213-$ or GB-1450760-$ or GB-1526682-$ or FR-2316611-$ or FR-2268370-$ or WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$).did. or (JP-2005258017-$ or JP-2000241670-$ or JP-03059503-$ or JP-61028909-$ or JP-61129605-$ or JP-59036207-$ or JP-58190910-$ or JP-59038707-$ or JP-56062212-$ or JP-2002098860-$ or JP-05215939-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$ or JP-2019184942-$).did. or (US-20190369336-$ or EP-3579031-$ or CN-110376684-$ or US-20190162914-$ or US-20190162917-$ or US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or CN-108983368-$ or US-20180372962-$ or US-20180364422-$ or KR-2018131725-$).did. or (US-20180341069-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or CN-207965228-$ or CN-207965231-$ or US-

		20180292612-$ or CN-108508541-$ or CN-108490551-$ or CN-108279462-$ or JP-6363784-$ or US-20180203196-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or WO-2018057615-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018006987-$ or WO-2018008399-$ or CN-107479141-$).did. or (EP-3249434-$ or WO-2017182535-$ or KR-2017103050-$ or US-20170264045-$ or US-20180231722-$ or US-20170261698-$ or US-20170261696-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017095928-$ or WO-2017106514-$ or US-20170176691-$ or US-20170176692-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$).did. or (US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or CN-104914515-$ or WO-2015142551-$ or US-20150260923-$ or WO-2015126470-$ or WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-$ or EP-2821830-$ or US-20140233892-$ or US-20140219610-$ or US-20140161392-$ or US-20140153878-$ or US-20140147078-$ or WO-2014078261-$ or FR-2997767-$ or US-20140029900-$ or US-20140022627-$).did. or (US-20140003771-$ or US-20130322825-$ or US-20130202254-$ or WO-2013049494-$ or JP-2013045047-$			

		or US-20120315000-$ or WO-2012157276-$ or CN-102520489-$ or WO-2012078697-$ or WO-2012078701-$ or US-20120093462-$ or WO-2012029013-$ or WO-2012015713-$ or WO-2012015734-$ or WO-2011116167-$ or CN-102122031-$ or US-20110058774-$ or US-20100322563-$ or US-20090135429-$ or US-20090098760-$ or DE-102007023250-$ or WO-2008112183-$ or US-20080124033-$ or US-20080112672-$ or EP-1762871-$ or WO-2006130549-$ or US-20060257075-$).did. or (US-20060204178-$ or US-20060153504-$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$ or US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$).did. or (EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$ or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9637793-$ or DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-4041425-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$).did. or (EP-440447-$ or EP-420490-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or EP-335531-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$ or EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-			

		220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$).did. or (EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$ or GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$ or US-20200209492-$ or US-20200200977-$ or US-20200200979-$ or US-20200183093-$ or US-20200166716-$ or US-20200150374-$ or US-20200142141-$ or US-20200124805-$ or US-20200116949-$ or US-20200116952-$).did. or (US-20200116953-$ or US-20200116954-$ or US-20200110224-$ or US-20200103598-$ or US-20200103599-$ or US-20200096709-$ or US-20200096710-$ or US-20200096708-$ or US-20200081198-$ or US-20200057205-$ or US-20200049899-$ or US-20200033539-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$).did. or (EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190219775-$ or US-20190204513-$ or US-20200081193-$ or US-20200012053-$ or US-20200003961-$ or US-20190227240-$).did.				
S802	2,183	(US-20200225425-$ or US-20200225424-$ or US-20200225422-$ or US-20190056557-$ or US-20190179086-$ or US-20190064447-$ or US-20180217337-$ or US-20200183093-$ or US-20160018593-$ or US-20200166716-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 11:59

		20110222819-$ or US-20170285282-$ or US-20180246282-$ or US-20160259135-$ or US-20180143384-$ or US-20200142133-$ or US-20190041584-$ or US-20200132934-$ or US-20200116957-$ or US-20200110224-$ or US-20200096708-$ or US-20200088954-$ or US-20160274311-$ or US-20200088949-$ or US-20200073059-$ or US-20200018909-$).did. or (US-20160124160-$ or US-20190146160-$ or US-20140064665-$ or US-20170139158-$ or US-20190377139-$ or US-20160209599-$ or US-20160025942-$ or US-20140072265-$ or US-20180329158-$ or US-20180011254-$ or US-20080175541-$ or US-20190018201-$ or US-20180267255-$ or US-20180081127-$ or US-20170373756-$ or US-20160216454-$ or US-20170219779-$ or US-20090148101-$ or US-20180252872-$ or US-20190187392-$ or US-20190179085-$ or US-20130216186-$ or US-20190170957-$ or US-20180156985-$ or US-20190154924-$ or US-20160327757-$ or US-20190113691-$).did. or (US-20160161680-$ or US-20190101709-$ or US-20190086617-$ or US-20190033533-$ or US-20190025523-$ or US-20190025522-$ or US-20190004261-$ or US-20180364421-$ or US-20180348443-$ or US-20180341072-$ or US-20160018604-$ or US-20180329155-$ or US-20180329153-$ or US-20180292618-$ or US-20180292612-$ or US-20160139346-$ or US-20160349464-$ or US-20180239091-$ or US-20180231730-$ or US-20160209610-$ or US-20180231722-$ or US-20170219789-$ or US-20160131857-$ or US-20180217338-$ or US-20180210155-$ or US-20180210154-$ or US-20180210153-$).did. or (US-20180196204-$ or US-20180196202-$ or US-20180188460-$ or US-20180180819-$ or US-20180172942-$ or US-20180164510-$ or US-20180157002-$ or US-20180156988-$ or US-20180149813-$ or US-			

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		$ or US-20170276883-$ or US-20170276881-$ or US-20170269312-$ or US-20170269309-$ or US-20170261699-$ or US-20170261698-$ or US-20170254967-$ or US-20170254966-$ or US-20170254962-$ or US-20170254961-$ or US-20170254960-$ or US-20170248762-$ or US-20170242200-$ or US-20170242199-$ or US-20170242198-$ or US-20170242196-$ or US-20170235077-$ or US-20170235060-$ or US-20170227727-$).did. or (US-20170227720-$ or US-20170227718-$ or US-20170222347-$ or US-20170212310-$ or US-20170212309-$ or US-20170205591-$ or US-20170205588-$ or US-20170205587-$ or US-20170199338-$ or US-20170199336-$ or US-20170192182-$ or US-20170184800-$ or US-20170184798-$ or US-20170184790-$ or US-20170176252-$ or US-20130266268-$ or US-20170168244-$ or US-20170163573-$ or US-20170162978-$ or US-20170160500-$ or US-20170160496-$ or US-20170160494-$ or US-20170160486-$ or US-20170160478-$ or US-20170160477-$ or US-20170160476-$ or US-20170153398-$).did. or (US-20170153394-$ or US-20170146749-$ or US-20170139157-$ or US-20170139150-$ or US-20170138131-$ or US-20170131481-$ or US-20170123171-$ or US-20170123163-$ or US-20170115457-$ or US-20170108659-$ or US-20160004017-$ or US-20170108653-$ or US-20170108430-$ or US-20170102507-$ or US-20170102506-$ or US-20170102504-$ or US-20170097485-$ or US-20140219624-$ or US-20170097471-$ or US-20170090128-$ or US-20170090127-$ or US-20170082806-$ or US-20170068063-$ or US-20170059784-$ or US-20170059782-$ or US-20170045701-$ or US-20170045698-$).did. or (US-20170045691-$ or US-20170035275-$ or US-20150331201-$ or US-20170003459-$ or US-20160370549-$ or US-20160370548-$ or US-			

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	$ or US-20150370017-$ or US-20150362682-$ or US-20150362678-$ or US-20150355417-$ or US-20150355414-$ or US-20150346452-$ or US-20150346449-$ or US-20150346434-$ or US-20150338583-$ or US-20150323752-$ or US-20150309279-$ or US-20150301293-$ or US-20150301290-$ or US-20150301288-$ or US-20150301286-$ or US-20150277066-$ or US-20150288449-$ or US-20150288447-$ or US-20150286014-$ or US-20150286013-$ or US-20150286011-$ or US-20150285999-$).did. or (US-20150280355-$ or US-20150277062-$ or US-20150277061-$ or US-20150277058-$ or US-20150277057-$ or US-20150268424-$ or US-20150260927-$ or US-20150260926-$ or US-20130183001-$ or US-20130156379-$ or US-20150253183-$ or US-20150247977-$ or US-20150241650-$ or US-20150241644-$ or US-20150241642-$ or US-20150241635-$ or US-20150234131-$ or US-20150234128-$ or US-20150226926-$ or US-20150226923-$ or US-20150219857-$ or US-20150219856-$ or US-20150212284-$ or US-20150212279-$ or US-20150205060-$ or US-20150205053-$ or US-20010043777-$).did. or (US-20150198766-$ or US-20150192744-$ or US-20150185423-$ or US-20150177467-$ or US-20140270652-$ or US-20150177463-$ or US-20150160420-$ or US-20150153516-$ or US-20150147036-$ or US-20150147033-$ or US-20150147031-$ or US-20150139589-$ or US-20150139588-$ or US-20100202730-$ or US-20150093077-$ or US-20150078710-$ or US-20150071591-$ or US-20150063761-$ or US-20150063758-$ or US-20150060539-$ or US-20150055928-$ or US-20150055917-$ or US-20150050002-$ or US-20150049989-$ or US-20150030323-$ or US-20150023637-$ or US-20150023634-$).did. or (US-20150016781-$ or US-20150012072-$ or US-20100069721-$ or US-				

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US-9798090-$ or US-9797806-$ or US-9784928-$ or US-9778425-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9759874-$ or US-9759869-$ or US-9746625-$ or US-9746368-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9735523-$).did. or (US-9733436-$ or US-9733434-$ or US-9733123-$ or US-9726830-$ or US-9726829-$ or US-9722367-$ or US-9720184-$ or US-9709753-$ or US-9703062-$ or US-9696497-$ or US-9696477-$ or US-9684134-$ or US-9678286-$ or US-9678283-$ or US-9678282-$ or US-9671570-$ or US-9671568-$ or US-9664864-$ or US-9658407-$ or US-9645335-$ or US-9645326-$ or US-9638871-$ or US-9638868-$ or US-9632267-$ or US-9625658-$ or US-9625657-$ or US-9625655-$).did. or (US-9606303-$ or US-9551831-$ or US-9482825-$ or US-9453972-$ or US-9448369-$ or US-9389368-$ or US-9377591-$ or US-9323007-$ or US-9316794-$ or US-9316791-$ or US-9291781-$ or US-9229177-$ or US-9229170-$ or US-9207454-$ or US-9002168-$ or US-8953922-$ or US-8814443-$ or US-8757893-$ or US-8588571-$ or US-8517614-$ or US-8459879-$ or US-8388235-$ or US-8206040-$ or US-8070366-$ or US-7972066-$ or US-7738757-$ or US-7712970-$).did. or (US-7706657-$ or US-7630609-$ or US-7588373-$ or US-7585118-$ or US-7530845-$ or US-7412148-$ or US-7232261-$ or US-7229220-$ or US-7192198-$ or US-7052186-$ or US-7036996-$ or US-6944378-$ or US-6895146-$ or US-6856748-$ or US-6848834-$ or US-6840680-$ or US-6839583-$ or US-6830382-$ or US-6817777-$ or US-6793399-$ or US-6789953-$ or US-6786647-$ or US-6712521-$ or US-6702475-$ or US-6695485-$ or US-6688782-$ or US-6667803-$).did. or (US-6644866-$ or US-6634794-$ or US-6632023-$ or US-6623172-$ or US-6619859-$ or US-6619856-$ or US-6612750-$ or US-6601995-$ or US-6599032-$

or US-6595696-$ or US-6582132-$ or US-6572276-$ or US-6572273-$ or US-6561699-$ or US-6558044-$ or US-6554486-$ or US-6554482-$ or US-6543941-$ or US-6533469-$ or US-6533465-$ or US-6527450-$ or US-6526210-$ or US-6524015-$ or US-6510267-$ or US-6508593-$ or US-6501900-$ or US-6498882-$).did. or (US-6497518-$ or US-6497516-$ or US-6226429-$ or US-6491442-$ or US-6487343-$ or US-6485192-$ or US-6481900-$ or US-6481899-$ or US-6474876-$ or US-6471417-$ or US-6471412-$ or US-6467971-$ or US-6467970-$ or US-6466724-$ or US-6464406-$ or US-6461055-$ or US-6461054-$ or US-6461053-$ or US-6457876-$ or US-6456768-$ or US-6450698-$ or US-6447172-$ or US-6445867-$ or US-6437894-$ or US-6435946-$ or US-6431762-$ or US-6425694-$).did. or (US-6425692-$ or US-6422761-$ or US-6422760-$ or US-6422759-$ or US-6419810-$ or US-6412987-$ or US-6412986-$ or US-6409394-$ or US-6409392-$ or US-6409391-$ or US-6402393-$ or US-6402390-$ or US-6402388-$ or US-6389212-$ or US-6386768-$ or US-6384896-$ or US-6382843-$ or US-6382839-$ or US-6379052-$ or US-6377840-$ or US-6375363-$ or US-6305849-$ or US-6371659-$ or US-6371657-$ or US-6367986-$ or US-6367984-$ or US-6364536-$).did. or (US-6361218-$ or US-6357932-$ or US-6357931-$ or US-6354746-$ or US-6352372-$ or US-6349164-$ or US-6347889-$ or US-6347888-$ or US-6343950-$ or US-6334715-$ or US-6331079-$ or US-6328481-$ or US-6318904-$ or US-6318903-$ or US-6318902-$ or US-6089759-$ or US-6309111-$ or US-6302592-$ or US-6301004-$ or US-6095695-$ or US-6293706-$ or US-6290527-$ or US-6283640-$ or US-6045270-$ or US-6273618-$ or US-6267513-$ or US-6264375-$).did. or (US-6264373-$ or US-6264372-$ or US-6259839-$ or US-6256446-$ or US-6250817-$ or US-

6247851-$ or US-6247849-$ or US-6243526-$ or US-6243518-$ or US-6240235-$ or US-6240229-$ or US-6238249-$ or US-6234681-$ or US-6231244-$ or US-6227719-$ or US-6227718-$ or US-6224269-$ or US-6220763-$ or US-6220762-$ or US-6219479-$ or US-6217226-$ or US-6215944-$ or US-6210045-$ or US-6206577-$ or US-6200040-$ or US-6196729-$ or US-6195477-$).did. or (US-6193420-$ or US-6190616-$ or US-6188827-$ or US-6188825-$ or US-6186670-$ or US-6179480-$ or US-6179475-$ or US-6173099-$ or US-6164835-$ or US-6164834-$ or US-6154597-$ or US-6149315-$ or US-6149313-$ or US-6142676-$ or US-6139346-$ or US-6132105-$ or US-6116789-$ or US-6116101-$ or US-6108482-$ or US-6104856-$ or US-6102581-$ or US-6095694-$ or US-6088502-$ or US-6081647-$ or US-6079881-$ or US-6076975-$ or US-6064791-$).did. or (US-6059461-$ or US-6053639-$ or US-6048103-$ or US-6048102-$ or US-6045269-$ or US-6041155-$ or US-6027252-$ or US-6024498-$ or US-6022149-$ or US-6017154-$ or US-6012852-$ or US-6007256-$ or US-6004043-$ or US-6004042-$ or US-5993071-$ or US-5987203-$ or US-5984533-$ or US-5980117-$ or US-5971626-$ or US-5969294-$ or US-5963689-$ or US-5960137-$ or US-5956444-$ or US-5953474-$ or US-5953473-$ or US-5949946-$ or US-5862289-$).did. or (US-5940561-$ or US-5940559-$ or US-5937121-$ or US-5930426-$ or US-5930425-$ or US-5923805-$ or US-5921796-$ or US-5920670-$ or US-5920669-$ or US-5915058-$ or US-5909526-$ or US-5909298-$ or US-5742720-$ or US-5737463-$ or US-5896477-$ or US-5892870-$ or US-5887100-$ or US-5887098-$ or US-5881191-$ or US-5870515-$ or US-5867894-$ or US-5867621-$ or US-5862282-$ or US-5845036-$ or US-5727097-$ or US-5838856-$ or US-5838855-$).did. or (US-5832158-$ or US-5825955-$ or

US-5818993-$ or US-5815621-$ or US-5815618-$ or US-5809191-$ or US-5799122-$ or US-5796896-$ or US-5781680-$ or US-5778123-$ or US-5778122-$ or US-5774612-$ or US-5774611-$ or US-5768738-$ or US-5548677-$ or US-5764043-$ or US-5761359-$ or US-5751874-$ or US-5748818-$ or US-5737464-$ or US-5734770-$ or US-5732174-$ or US-5732173-$ or US-5727102-$ or US-5721799-$ or US-5701380-$ or US-5694507-$).did. or (US-5694506-$ or US-5692089-$ or US-5692080-$ or US-5687268-$ or US-5682449-$ or US-5680494-$ or US-5673346-$ or US-5671310-$ or US-5668904-$ or US-5666456-$ or US-5666449-$ or US-5664955-$ or US-5661833-$ or US-5581644-$ or US-5651084-$ or US-5647043-$ or US-5645449-$ or US-5642450-$ or US-5633969-$ or US-5620634-$ or US-5619610-$ or US-5386485-$ or US-5611017-$ or US-5611010-$ or US-5607323-$ or US-5603631-$ or US-5602951-$).did. or (US-5600749-$ or US-5600746-$ or US-5325454-$ or US-5592323-$ or US-5588086-$ or US-5588079-$ or US-5579429-$ or US-5574817-$ or US-5574813-$ or US-5570445-$ or US-5563978-$ or US-5563974-$ or US-5563971-$ or US-5555332-$ or US-5550943-$ or US-5548674-$ or US-5542015-$ or US-5537501-$ or US-5530783-$ or US-5528711-$ or US-5521998-$ or US-5521997-$ or US-5519799-$ or US-5506922-$ or US-5499310-$ or US-5497444-$ or US-5485537-$).did. or (US-5483608-$ or US-5473717-$ or US-5452391-$ or US-5450519-$ or US-5446817-$ or US-5444806-$ or US-5420951-$ or US-5418875-$ or US-5339376-$ or US-5414786-$ or US-5408557-$ or US-5367595-$ or US-5384885-$ or US-5379360-$ or US-5372758-$ or US-5367594-$ or US-5366383-$ or US-5363460-$ or US-5359688-$ or US-5339377-$ or US-5335301-$ or US-5333225-$ or US-5333222-$ or US-5333221-$ or US-5329541-$ or US-5323475-$ or

US-5317663-$).did. or (US-5315679-$ or US-5315678-$ or US-5305409-$ or US-5297227-$ or US-5293581-$ or US-5282259-$ or US-5280552-$ or US-5274729-$ or US-5267342-$ or US-5265181-$ or US-5259052-$ or US-5239606-$ or US-5233675-$ or US-5233674-$ or US-5231685-$ or US-5228104-$ or US-5222168-$ or US-5214730-$ or US-5210815-$ or US-5199093-$ or US-5179607-$ or US-5177808-$ or US-5166995-$ or US-5159654-$ or US-5157749-$ or US-5155795-$ or US-5134677-$).did. or (US-5134676-$ or US-5134673-$ or US-5133032-$ or US-5129024-$ or US-5127073-$ or US-5124506-$ or US-5119455-$ or US-5115484-$ or US-5109468-$ or US-5109453-$ or US-5101463-$ or US-5091991-$ or US-5091990-$ or US-5082346-$ or US-5082344-$ or US-5077815-$ or US-5076656-$ or US-5073042-$ or US-5064268-$ or US-5058983-$ or US-5052774-$ or US-5048916-$ or US-5042891-$ or US-5018823-$ or US-5016972-$ or US-5016970-$ or US-5015060-$).did. or (US-5013124-$ or US-4998797-$ or US-4998796-$ or US-4995688-$ or US-4993803-$ or US-4991929-$ or US-4986762-$ or US-4986622-$ or US-4976510-$ or US-4973127-$ or US-4973126-$ or US-4964688-$ or US-4960317-$ or US-4955976-$ or US-4953929-$ or US-4944079-$ or US-4921325-$ or US-4915472-$ or US-4900118-$ or US-4898446-$ or US-4892380-$ or US-4886335-$ or US-4877303-$ or US-4856866-$ or US-4854664-$ or US-4852963-$ or US-4850671-$).did. or (US-4850536-$ or US-4848870-$ or US-4846544-$ or US-4844570-$ or US-4842361-$ or US-4834486-$ or US-4830456-$ or US-4824196-$ or US-4818058-$ or US-4813760-$ or US-4807957-$ or US-4805980-$ or US-4795231-$ or US-4793683-$ or US-4789216-$ or US-4787700-$ or US-4786135-$ or US-4784456-$ or US-4783137-$ or US-4781429-$ or US-4773725-$ or US-4767178-$ or US-4762389-$

		or US-4762387-$ or US-4759600-$ or US-4759599-$ or US-4758719-$).did. or (US-4741590-$ or US-4740052-$ or US-4737009-$ or US-4722081-$ or US-4718744-$ or US-4717234-$ or US-4715674-$ or US-4714318-$ or US-4714317-$ or US-4714315-$ or US-4699460-$ or US-4688887-$ or US-4687291-$ or US-4681398-$ or US-4674831-$ or US-4666241-$ or US-4648688-$ or US-4645296-$ or US-4615581-$ or US-4614402-$ or US-4579418-$ or US-4575183-$ or US-4548467-$ or US-4526438-$ or US-4515434-$ or US-4506946-$ or US-4497536-$).did. or (US-4487474-$ or US-4486072-$ or US-4484796-$ or US-4477146-$ or US-4466009-$ or US-4464817-$ or US-4461539-$ or US-4447121-$ or US-4445753-$ or US-4444461-$ or US-4422716-$ or US-4415232-$ or US-4387957-$ or US-4385801-$ or US-4371233-$ or US-4368948-$ or US-4354731-$ or US-4341439-$ or US-4330172-$ or US-4327964-$ or US-4320938-$ or US-4310218-$ or US-4295707-$ or US-4291943-$ or US-4279469-$ or US-4268115-$ or US-4268114-$).did. or (US-4252407-$ or US-4240695-$ or US-4223976-$ or US-4218113-$ or US-4214812-$ or US-4201445-$ or US-4201444-$ or US-4186997-$ or US-4186996-$ or US-4168109-$ or US-4167304-$ or US-4160580-$ or US-4140365-$ or US-4101198-$ or US-4087158-$ or US-4080044-$ or US-3999837-$ or US-3933409-$ or US-10545295-$ or US-10502903-$ or US-10401575-$ or US-10353155-$).did. or (EP-3258301-$ or EP-3054333-$ or CA-2885821-$ or EP-2444827-$ or WO-2018004847-$ or JP-6173629-$ or WO-2015043158-$ or CN-206584076-$ or WO-2016161341-$ or DE-202016103178-$ or WO-2016082160-$ or EP-3021145-$ or JP-5905950-$ or CA-2689768-$ or CA-2928026-$ or CA-2762411-$ or CA-2859345-$ or DE-202013012295-$ or WO-2016004347-$ or WO-2015190211-$ or EP-2942653-$ or			

CN-204595258-$ or WO-2015116589-$ or WO-2015103783-$ or GB-201507758-$ or CA-2932688-$).did. or (WO-2015068103-$ or EP-2843452-$ or WO-2014143748-$ or JP-5433802-$ or CN-102870023-$ or WO-2012151175-$ or WO-2014049469-$ or WO-2014009463-$ or CA-2912155-$ or WO-2013126068-$ or WO-2013115791-$ or WO-2013115789-$ or CA-2662854-$ or WO-2011152874-$ or GB-201218194-$ or CN-102456976-$ or WO-2011139938-$ or WO-2011044724-$ or CN-101122658-$ or CN-101931134-$ or WO-2010068896-$ or WO-2010025180-$ or EP-2138880-$ or WO-2009110421-$ or CA-2503690-$ or WO-2008006402-$ or CN-1331421-$).did. or (EP-1168016-$ or EP-1172672-$ or EP-1530068-$ or CA-2321428-$ or AU-2003291687-$ or JP-3106420-$ or EP-1168018-$ or CA-2191600-$ or WO-03093883-$ or CA-2484569-$ or DE-10114144-$ or CN-1118443-$ or WO-03016975-$ or NL-1018440-$ or CA-2284331-$ or EP-0690319-$ or CA-2030897-$ or WO-0155762-$ or CA-2418331-$ or DE-20118858-$ or EP-1124147-$ or EP-1172673-$ or WO-0137010-$ or CA-2198522-$ or WO-0161397-$ or EP-1039324-$ or EP-1039322-$).did. or (EP-1033595-$ or EP-1033594-$ or GB-0007281-$ or EP-0992819-$ or GB-9919699-$ or CA-2262351-$ or CA-2294930-$ or EP-0696748-$ or WO-9734176-$ or CA-2171494-$ or WO-9627811-$ or EP-0633485-$ or EP-0249237-$ or EP-0262847-$ or CA-2082276-$ or GB-9106183-$ or DE-9107960-$ or GB-9103604-$ or WO-9015350-$ or DE-8626183-$ or EP-0262631-$ or EP-0061243-$ or WO-8600147-$ or DE-3112078-$ or GB-2081468-$ or IT-8323399-$ or IT-8323399-$).did. or (GB-2057158-$ or GB-8306227-$ or DK-208682-$ or FR-2487528-$ or FR-2435053-$ or BE-871785-$ or CA-1097111-$ or IT-7925110-$ or FR-2363124-$ or BE-871785-$ or CA-1043604-$ or

WO-2019190616-$ or CN-110068899-$).did. or (JP-09033756-$ or JP-04214510-$ or JP-11072659-$ or JP-04220604-$ or JP-56074211-$ or JP-2017138535-$ or JP-05313040-$ or JP-62111222-$ or JP-59140411-$ or JP-59075218-$ or JP-57044113-$ or JP-56066811-$ or JP-55101904-$ or JP-54034251-$).did. or (US-20190107679-$ or US-20180224615-$ or WO-2018125706-$ or US-20180156985-$ or US-20180128988-$ or US-20180120519-$ or US-20180106973-$ or US-20180081128-$ or US-20180052288-$ or US-20180011258-$ or US-20180003903-$ or US-20180364421-$ or US-20170371109-$ or CN-107450131-$ or US-20170336577-$ or US-20170343760-$ or US-9804340-$ or US-20170307830-$ or FR-3050286-$ or US-20170299820-$ or US-20170293088-$ or US-20170261699-$ or US-20170254967-$ or US-20170254966-$ or US-20170227720-$ or US-9726830-$).did. or (US-20170219779-$ or JP-6173629-$ or US-20170205587-$ or US-9709753-$ or US-20170184790-$ or US-9678283-$ or US-20170153398-$ or US-20170139150-$ or US-20170139156-$ or US-20170102504-$ or US-20170115457-$ or WO-2017065999-$ or US-20170090127-$ or WO-2017038704-$ or US-20170059784-$ or US-20170031106-$ or US-20160377819-$ or US-20160349466-$ or US-20160341908-$ or US-20160341911-$ or WO-2016182556-$ or US-20160327757-$ or US-9482820-$ or WO-2016161341-$ or US-20160282566-$ or CN-105978629-$ or US-20160259135-$).did. or (US-20170329090-$ or EP-3054333-$ or US-9389368-$ or WO-2016105567-$ or US-9377591-$ or US-20160178852-$ or US-20160178859-$ or US-20160161680-$ or EP-3021145-$ or US-20160131854-$ or US-20160124158-$ or JP-5905950-$ or WO-2016053853-$ or WO-2016043922-$ or WO-2016033577-$

or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016024014-$ or JP-5860948-$ or CA-2859345-$ or US-20160025937-$ or US-20160004016-$ or US-20160004018-$ or US-20150378110-$ or WO-2015190211-$ or EP-2947485-$).did. or (US-20150331201-$ or CN-104950402-$ or DE-102015106225-$ or US-20160306125-$ or US-20150286012-$ or WO-2015144883-$ or US-20150241644-$ or US-20150226926-$ or US-20150226925-$ or WO-2015116589-$ or US-20150219864-$ or WO-2015103783-$ or CN-104570229-$ or CN-104516061-$ or US-20150177463-$ or US-20150162982-$ or WO-2015070382-$ or WO-2015068103-$ or WO-2015028433-$ or US-20150049989-$ or WO-2015009435-$ or US-20150023637-$ or EP-2818903-$ or US-20140363131-$ or WO-2014197701-$ or US-20140321808-$ or WO-2014165175-$).did. or (WO-2014143748-$ or US-20140219624-$ or EP-2759860-$ or WO-2014113753-$ or US-20140205247-$ or US-20140199034-$ or US-20140153879-$ or US-20140147081-$ or ES-1110405-$ or WO-2014049469-$ or TW-474924-$ or US-20140064688-$ or JP-5433802-$ or EP-2700992-$ or WO-2014011898-$ or US-20140016901-$ or WO-2014011283-$ or WO-2013177234-$ or WO-2013155395-$ or US-20130259429-$ or US-20130230283-$ or WO-2013126068-$ or WO-2013122865-$ or WO-2013117598-$ or WO-2013115789-$ or WO-2013115791-$ or US-20130121645-$).did. or (CN-103091793-$ or WO-2013036843-$ or US-20130051749-$ or TW-201309089-$ or CN-102870023-$ or US-20120308183-$ or WO-2012151175-$ or US-20120263419-$ or US-20120251051-$ or US-20120251054-$ or TW-201233549-$ or US-20120099822-$ or EP-2444827-$ or US-20120082416-$ or

US-20120057824-$ or KR-2012000895-$ or US-20120027355-$ or KR-2012000895-$ or WO-2011152874-$ or US-20110274437-$ or US-20110249942-$ or EP-2302431-$ or WO-2010137426-$ or EP-2206458-$ or WO-2010068896-$ or US-7712970-$ or WO-2010025180-$).did. or (US-20100040330-$ or WO-2009110421-$ or US-20090060423-$ or US-20090041411-$ or US-7435009-$ or US-20070098327-$ or US-20070077010-$ or US-20070058907-$ or EP-1752805-$ or US-20060193562-$ or US-20060165352-$ or US-20060153503-$ or WO-2006022840-$ or US-20050053342-$ or US-20040228589-$ or US-20040223699-$ or US-20040062498-$ or EP-1394584-$ or WO-03094297-$ or WO-03093883-$ or US-20030044125-$ or US-20030031437-$ or WO-02061481-$ or US-6422760-$ or WO-02056060-$ or DE-20118858-$ or EP-1172673-$).did. or (EP-1172672-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or US-20010041030-$ or WO-0181965-$ or EP-1124147-$ or EP-1107031-$ or WO-0140839-$ or EP-1092995-$ or EP-1091225-$ or EP-1041416-$ or EP-1041414-$ or EP-1020745-$ or EP-1016885-$ or EP-1010999-$ or GB-2341455-$ or WO-9947958-$ or US-5940561-$ or WO-9928774-$ or WO-9857208-$ or DE-19626036-$ or WO-9746900-$ or US-5692080-$ or EP-803750-$ or WO-9734176-$ or WO-9723794-$).did. or (EP-758099-$ or WO-9634176-$ or WO-9627811-$ or JP-08201656-$ or WO-9616080-$ or EP-697608-$ or EP-696748-$ or WO-9600917-$ or EP-663602-$ or EP-663601-$ or EP-660145-$ or EP-660144-$ or EP-505197-$ or EP-490698-$ or US-5101463-$ or EP-458608-$ or WO-9117540-$ or US-5064268-$ or GB-2241794-$ or EP-430107-$ or WO-9015350-$ or US-4953929-$ or EP-262631-$ or EP-249237-$ or WO-8600147-$ or US-

		4496213-$ or EP-125398-$).did. or (DE-3208797-$ or GB-2098354-$ or EP-61243-$ or GB-2081468-$ or GB-2057158-$ or DE-2932986-$ or BE-871785-$ or DE-2805949-$ or DE-2558445-$ or US-10502903-$).did.				
S803	1,872	(G02B6/3879).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59
S804	1,322	S803 not (S799 S800 S801 S802)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59
S805	696	(US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$ or US-20190219775-$ or US-20190170931-$ or US-20190137700-$ or US-20190137697-$ or US-20190137695-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20190033531-$ or US-20190004252-$ or US-20190004251-$ or US-20180364422-$ or US-20180364436-$).did. or (US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180321449-$ or US-20180217336-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180128988-$ or US-20170363818-$ or US-20170261696-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170205586-$ or US-20170176691-$ or US-20170176692-$ or US-20170068064-$ or US-20170059785-$ or US-20170063464-$ or US-20170023746-$ or US-20160349458-$ or US-20160327756-$ or US-20160306122-$ or US-20160282565-$).did. or (US-20160274314-$ or US-20160223774-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 11:59

$ or US-20160202428-$ or US-20160091674-$ or US-20150378113-$ or US-20150277059-$ or US-20150260924-$ or US-20150260923-$ or US-20150198774-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20140205257-$ or US-20140169727-$ or US-20140168987-$ or US-20140161392-$ or US-20140153878-$ or US-20140153879-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140037253-$ or US-20140029900-$ or US-20140022627-$ or US-20140016901-$ or US-20140003771-$).did. or (US-20130322825-$ or US-20130158512-$ or US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20120155803-$ or US-20120093462-$ or US-20110299266-$ or US-20110229092-$ or US-20110229083-$ or US-20110064361-$ or US-20110058774-$ or US-20100322563-$ or US-20100178014-$ or US-20100178010-$ or US-20100054668-$ or US-20100027942-$ or US-20090135429-$ or US-20080317415-$ or US-20080273840-$ or US-20080226235-$ or US-20080124033-$ or US-20080090433-$ or US-20080013889-$ or US-20070292084-$ or US-20070031103-$).did. or (US-20060275007-$ or US-20060257075-$ or US-20060257076-$ or US-20060204178-$ or US-20060171640-$ or US-20060171639-$ or US-20060140543-$ or US-20060127028-$ or US-20060093274-$ or US-20060083466-$ or US-20060063436-$ or US-20060045428-$ or US-20060018603-$ or US-20050271338-$ or US-20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20040157499-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020176960-$ or US-20020142634-$).did. or (US-

		20020126960-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$).did. or (US-10444442-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9977197-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$ or US-6364537-$).did. or (US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-6179476-$ or US-6179477-$ or US-6130977-$ or US-6062739-$ or US-5971625-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717533-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$ or US-5577146-$).did. or (US-5546281-$ or US-5436994-$ or US-5400428-$ or US-5396572-$ or US-5329604-$ or US-5289554-$ or US-5276755-$ or US-5265182-$ or US-5261019-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212752-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5121454-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$).did. or (US-5067783-$ or US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$			

or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$).did. or (US-4728171-$ or US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$).did. or (WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$ or WO-2019086961-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$ or EP-3330757-$ or WO-2018044728-$ or EP-3278153-$ or CN-107636504-$ or WO-2018009426-$ or WO-2017182535-$ or CN-206479676-$ or EP-3180644-$ or EP-3123221-$ or WO-2016174980-$ or WO-2016140710-$ or CN-105683795-$ or WO-2015120031-$ or WO-2015070382-$ or EP-2852856-$ or WO-2015009435-$ or FR-2997767-$ or WO-2014054357-$ or CN-103676018-$).did. or (CA-2866107-$ or GB-201220748-$ or CN-102520489-$ or CN-102445735-$ or CN-102385113-$ or WO-2012015713-$ or DE-102010021179-$ or GB-201004720-$ or DE-112006003952-$ or CA-2593676-$ or WO-2008033262-$ or EP-1783524-$ or AU-2006295165-$ or EP-1762871-$ or DE-60026115-$ or KR-100452879-$ or AU-2004274992-$ or CA-2441872-$ or KR-20040020797-$ or CN-1334472-$ or DE-20111078-$ or DE-10031931-$ or CA-2302068-$ or DE-19834723-$ or WO-9723794-$ or DE-29614436-$ or DE-19525739-$).did. or (CH-

687105-$ or DE-19601949-$ or GB-9525323-$ or FR-2707402-$ or WO-9415232-$ or GB-9408857-$ or EP-0546936-$ or MX-9201992-$ or DE-4203966-$ or IT-MI913184-$ or GB-9103982-$ or CH-676513-$ or GB-9025881-$ or DE-3914978-$ or DE-9012174-$ or DE-9010357-$ or DE-8911081-$ or DE-8911080-$ or EP-0339876-$ or EP-0324272-$ or DE-8901052-$ or DE-8900623-$ or EP-0292024-$ or DE-8812341-$ or DE-3737842-$ or DE-3701421-$ or EP-0253426-$).did. or (EP-0249406-$ or KR-870005264-$ or EP-0183820-$ or EP-0166636-$ or EP-0154781-$ or EP-0153249-$ or EP-0098190-$ or EP-0098205-$ or FR-2528984-$ or FR-2502798-$ or GB-2086602-$ or EP-0045271-$ or WO-8002213-$ or DE-2932986-$ or DE-2832839-$ or AU-3682878-$ or GB-1526682-$ or FR-2316611-$ or GB-1450760-$ or FR-2268370-$).did. or (JP-2019184942-$ or JP-2005258017-$ or JP-2000241670-$ or JP-05215939-$ or JP-03059503-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-61129605-$ or JP-61028909-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-59038707-$ or JP-59036207-$ or JP-58190910-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56062212-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$).did. or (US-20200033539-$ or US-20200012053-$ or US-20200003961-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$ or EP-3518011-$ or US-20190227237-$ or

US-20190227241-$ or US-20190227240-$ or US-20190219775-$ or US-20190204513-$ or US-20190162914-$ or US-20190162917-$).did. or (US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or US-20180372962-$ or US-20180364422-$ or CN-108983368-$ or KR-2018131725-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or US-20180292612-$ or CN-108490551-$).did. or (US-20180231722-$ or JP-6363784-$ or US-20180203196-$ or CN-108279462-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018008399-$ or CN-107479141-$ or EP-3249434-$ or WO-2017182535-$ or US-20170264045-$ or US-20170261698-$ or US-20170261696-$ or KR-2017103050-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017106514-$).did. or (US-20170176691-$ or US-20170176692-$ or WO-2017095928-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$ or US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-

20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or WO-2015142551-$ or US-20150260923-$ or CN-104914515-$ or WO-2015126470-$).did. or (WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-$ or EP-2821830-$ or US-20140233892-$ or US-20140219610-$ or US-20140161392-$ or US-20140153878-$ or US-20140147078-$ or WO-2014078261-$ or FR-2997767-$ or US-20140029900-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-$ or US-20130202254-$ or WO-2013049494-$ or JP-2013045047-$ or US-20120315000-$ or WO-2012157276-$ or CN-102520489-$ or WO-2012078697-$ or WO-2012078701-$ or US-20120093462-$ or WO-2012029013-$).did. or (WO-2012015713-$ or WO-2012015734-$ or WO-2011116167-$ or CN-102122031-$ or US-20110058774-$ or US-20100322563-$ or US-20090135429-$ or US-20090098760-$ or DE-102007023250-$ or WO-2008112183-$ or US-20080124033-$ or US-20080112672-$ or EP-1762871-$ or WO-2006130549-$ or US-20060257075-$ or US-20060204178-$ or US-20060153504-$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$).did. or (US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$ or EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$

		or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9723794-$ or WO-9637793-$).did. or (DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-4041425-$ or EP-420490-$ or EP-335531-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$ or EP-440447-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$).did. or (EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$ or EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$).did. or (GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$).did.				
S806	1,322	S804 not S805	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59
S807	5,309	(G02B6/3825).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59
S808	55	(US-20140241689-$ or US-20200057205-$ or US-20200070211-$ or US-20190377139-$ or US-20190346644-$ or US-20190331862-$ or US-20190285806-$ or US-20190278028-$ or US-20190101703-$ or US-20180031783-$ or US-20160062050-$ or US-20160035201-$ or US-20150241650-$ or US-	US-PGPUB; USPAT; DERWENT	OR	ON	2020/09/01 11:59

		20150063758-$ or US-20140348481-$ or US-20140348467-$ or US-20140241688-$ or US-20140233893-$ or US-20140219609-$ or US-20130272671-$ or US-20130259429-$ or US-20130051733-$ or US-20130044978-$ or US-20120251051-$ or US-20110038592-$ or US-20100322580-$).did. or (US-20100199447-$ or US-20100111484-$ or US-20100054665-$ or US-20090274432-$ or US-20080273837-$ or US-20050163431-$ or US-20050111810-$ or US-20050111809-$ or US-20030190130-$ or US-20030108301-$).did. or (US-8858089-$ or US-6857900-$ or US-6705765-$ or US-6547585-$ or US-6485189-$ or US-6412986-$ or US-6146023-$ or US-6041155-$ or US-5870515-$ or US-5675682-$ or US-5600747-$).did. or (US-10459172-$ or US-20150063758-$ or US-20140348467-$ or US-20140348481-$ or US-20140241688-$ or US-20140241689-$ or WO-2013155395-$ or US-20130259429-$).did.				
S809	623	(US-20150260936-$ or US-20190324218-$ or US-20150219864-$ or US-20160170154-$ or US-20200150353-$ or US-20180267258-$ or US-20200132941-$ or US-20180335577-$ or US-20200116950-$ or US-20190181586-$ or US-20200088955-$ or US-20200081194-$ or US-20200057204-$ or US-20200057199-$ or US-20200049902-$ or US-20190129104-$ or US-20190377138-$ or US-20190369335-$ or US-20190353865-$ or US-20190346635-$ or US-20190346634-$ or US-20180217339-$ or US-20190331862-$ or US-20190302371-$ or US-20190190199-$ or US-20160195682-$).did. or (US-20190271815-$ or US-20190243084-$ or US-20090238522-$ or US-20190243075-$ or US-20190235174-$ or US-20180292617-$ or US-20190200103-$ or US-20190187383-$ or US-20170227719-$ or US-20190113693-$ or US-20190113692-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 11:59

		$ or US-20190113689-$ or US-20190101706-$ or US-20190101705-$ or US-20190101704-$ or US-20190079252-$ or US-20190072729-$ or US-20190064452-$ or US-20190049678-$ or US-20190041587-$ or US-20190025526-$ or US-20170371109-$ or US-20180356600-$ or US-20180335571-$ or US-20180329154-$ or US-20180314018-$ or US-20140321808-$).did. or (US-20170045702-$ or US-20180306984-$ or US-20180299624-$ or US-20180284357-$ or US-20180267256-$ or US-20130089293-$ or US-20180136416-$ or US-20180100982-$ or US-20180081129-$ or US-20180052287-$ or US-20170293090-$ or US-20170205590-$ or US-20160062050-$ or US-20160320572-$ or US-20160341905-$ or US-20160306125-$ or US-20150162982-$ or US-20160223757-$ or US-20150063815-$ or US-20140363131-$ or US-20140321810-$ or US-20140301701-$ or US-20140241671-$ or US-20120257865-$ or US-20080311781-$ or US-20110274437-$ or US-20120128302-$).did. or (US-20120099819-$ or US-20120057824-$ or US-20110091158-$ or US-20110059642-$ or US-20100310213-$ or US-20100226610-$ or US-20100104355-$ or US-20070077010-$ or US-20080248691-$ or US-20080175543-$ or US-20080131055-$ or US-20070292082-$ or US-20080037934-$ or US-20080032536-$ or US-20070116412-$ or US-20050226567-$ or US-20050164536-$ or US-20050163429-$ or US-20050095899-$ or US-20050018973-$ or US-20040228582-$ or US-20030031448-$ or US-20030031437-$ or US-20030012520-$ or US-20020167793-$).did. or (US-10571641-$ or US-10539745-$ or US-10527803-$ or US-10514518-$ or US-10429592-$ or US-10401574-$ or US-10302874-$ or US-10234635-$ or US-10133009-$ or US-10120140-$ or US-10120138-$ or US-10101570-$ or US-10094768-			

$ or US-9971103-$ or US-9678294-$ or US-9658405-$ or US-9645323-$ or US-9606300-$ or US-9581767-$ or US-9557508-$ or US-9557491-$ or US-9551835-$ or US-9482840-$ or US-9482823-$ or US-9448368-$ or US-9366829-$).did. or (US-9335488-$ or US-9291785-$ or US-9274300-$ or US-9110249-$ or US-9103990-$ or US-9057845-$ or US-9052475-$ or US-9033588-$ or US-9022666-$ or US-8985862-$ or US-8979388-$ or US-8845206-$ or US-8821036-$ or US-8801297-$ or US-8573854-$ or US-8419291-$ or US-8406588-$ or US-8202009-$ or US-8157455-$ or US-8104973-$ or US-8009959-$ or US-7980769-$ or US-7887243-$ or US-7758255-$ or US-7744285-$ or US-7717625-$ or US-7374347-$).did. or (US-7336884-$ or US-7261471-$ or US-7234876-$ or US-7111990-$ or US-7090407-$ or US-7073953-$ or US-6994478-$ or US-6945702-$ or US-6920255-$ or US-6872006-$ or US-6866424-$ or US-6832858-$ or US-6805493-$ or US-6789950-$ or US-6769814-$ or US-6762941-$ or US-6761488-$ or US-6572276-$ or US-6554486-$ or US-6513989-$ or US-6459843-$ or US-6435728-$ or US-6434316-$ or US-6434315-$ or US-6398422-$ or US-6364539-$ or US-6357928-$).did. or (US-6351590-$ or US-6264374-$ or US-6259856-$ or US-6257917-$ or US-6256448-$ or US-6203208-$ or US-6149313-$ or US-6146023-$ or US-6139194-$ or US-5963698-$ or US-5600747-$ or US-5511138-$ or US-5428702-$ or US-5335301-$ or US-5265181-$ or US-5216732-$ or US-5183408-$ or US-5166995-$ or US-4986769-$ or US-4950048-$ or US-4904199-$ or US-4711511-$ or US-4657338-$ or US-4580868-$ or US-4478485-$ or US-4448467-$ or US-4376565-$).did. or (US-4186997-$).did. or (WO-2019012006-$ or CA-2864886-$ or WO-2020047283-$ or WO-2017147401-$ or WO-2018183496-$ or GB-201311768-$ or GB-

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		EP-821253-$ or US-5666456-$ or JP-09145959-$ or GB-2306696-$ or US-5555332-$ or EP-712015-$ or US-5519799-$ or WO-9323777-$ or EP-514722-$ or US-5134673-$ or EP-323920-$ or EP-277390-$ or GB-2176629-$ or GB-2151040-$ or GB-2058392-$).did. or (EP-8329-$).did.				
S810	736	(US-20180321449-$ or US-20190004252-$ or US-20170059785-$ or US-20190137700-$ or US-20130158512-$ or US-20180364422-$ or US-20150378113-$ or US-20200012052-$ or US-20100054668-$ or US-20060093274-$ or US-20140029900-$ or US-20190004251-$ or US-20190258010-$ or US-20140153878-$ or US-20180128988-$ or US-20190170931-$ or US-20140153879-$ or US-20190137697-$ or US-20190137695-$ or US-20160349458-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20170176691-$ or US-20100322563-$).did. or (US-20190033531-$ or US-20170261696-$ or US-20180364436-$ or US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180217336-$ or US-20110058774-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180120517-$ or US-20170363818-$ or US-20160274314-$ or US-20170205586-$ or US-20140169727-$ or US-20160223774-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170176692-$ or US-20120093462-$ or US-20170068064-$ or US-20170063464-$ or US-20170023746-$).did. or (US-20110299266-$ or US-20140016901-$ or US-20160327756-$ or US-20160306122-$ or US-20150260924-$ or US-20160282565-$ or US-20160202428-$ or US-20140205257-$ or US-20160091674-$ or US-20150277059-$ or US-20150260923-$ or US-20150198774-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 11:59

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		$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$).did. or (US-10324264-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-5971625-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6179476-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$).did. or (US-6364537-$ or US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-5717533-$ or US-5212752-$ or US-6179477-$ or US-6130977-$ or US-5546281-$ or US-6062739-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$).did. or (US-5577146-$ or US-5436994-$ or US-5121454-$ or US-5400428-$ or US-5396572-$ or US-5265182-$ or US-5329604-$ or US-5261019-$ or US-5289554-$ or US-5276755-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$ or US-5067783-$).did. or (US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$			

or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$ or US-4728171-$).did. or (US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$ or US-10670824-$ or US-10444442-$).did. or (CA-3068131-$ or EP-3180644-$ or WO-2016140710-$ or WO-2018009426-$ or WO-2015070382-$ or EP-3123221-$ or WO-2019246241-$ or EP-3579031-$ or GB-201905648-$ or CN-105683795-$ or WO-2018044728-$ or WO-2019086961-$ or EP-2852856-$ or WO-2017182535-$ or EP-3330757-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$ or CN-107636504-$ or CN-206479676-$ or WO-2016174980-$ or AU-2004274992-$ or CA-2866107-$ or WO-2012015713-$ or FR-2997767-$ or CN-102520489-$).did. or (CN-102445735-$ or CN-103676018-$ or AU-2006295165-$ or WO-2015120031-$ or GB-9525323-$ or GB-201220748-$ or CN-102385113-$ or WO-2014054357-$ or CA-2593676-$ or DE-102010021179-$ or GB-201004720-$ or EP-1762871-$ or DE-112006003952-$ or CA-2441872-$ or DE-60026115-$ or WO-2008033262-$ or KR-20040020797-$ or EP-1783524-$ or KR-100452879-$ or WO-9723794-$ or DE-19601949-$ or CA-2302068-$ or DE-20111078-$ or DE-10031931-$ or DE-19834723-$ or MX-9201992-$ or DE-19525739-$).did. or (DE-29614436-$ or DE-3914978-$ or EP-0339876-$ or EP-0546936-$ or CH-687105-$ or GB-

9408857-$ or EP-0324272-$ or FR-2707402-$ or IT-MI913184-$ or WO-9415232-$ or EP-0183820-$ or GB-9025881-$ or EP-0253426-$ or DE-4203966-$ or GB-9103982-$ or CH-676513-$ or DE-9012174-$ or DE-9010357-$ or EP-0154781-$ or DE-8911081-$ or DE-8911080-$ or EP-0292024-$ or KR-870005264-$ or EP-0166636-$ or DE-8901052-$ or DE-8900623-$ or DE-8812341-$).did. or (DE-3737842-$ or FR-2528984-$ or DE-3701421-$ or EP-0249406-$ or EP-0098190-$ or EP-0098205-$ or EP-0153249-$ or DE-2932986-$ or GB-2086602-$ or DE-2832839-$ or EP-0045271-$ or FR-2502798-$ or AU-3682878-$ or WO-8002213-$ or GB-1450760-$ or GB-1526682-$ or FR-2316611-$ or FR-2268370-$ or WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$).did. or (JP-2005258017-$ or JP-2000241670-$ or JP-03059503-$ or JP-61028909-$ or JP-61129605-$ or JP-59036207-$ or JP-58190910-$ or JP-59038707-$ or JP-56062212-$ or JP-2002098860-$ or JP-05215939-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$ or JP-2019184942-$).did. or (US-20190369336-$ or EP-3579031-$ or CN-110376684-$ or US-20190162914-$ or US-20190162917-$ or US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-

$ or US-20190004256-$ or US-20190004258-$ or CN-108983368-$ or US-20180372962-$ or US-20180364422-$ or KR-2018131725-$).did. or (US-20180341069-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or CN-207965228-$ or CN-207965231-$ or US-20180292612-$ or CN-108508541-$ or CN-108490551-$ or CN-108279462-$ or JP-6363784-$ or US-20180203196-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or WO-2018057615-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018006987-$ or WO-2018008399-$ or CN-107479141-$).did. or (EP-3249434-$ or WO-2017182535-$ or KR-2017103050-$ or US-20170264045-$ or US-20180231722-$ or US-20170261698-$ or US-20170261696-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017095928-$ or WO-2017106514-$ or US-20170176691-$ or US-20170176692-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$).did. or (US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or CN-104914515-$ or WO-2015142551-$ or US-20150260923-$ or WO-2015126470-$ or WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-$ or EP-2821830-$ or US-

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	5067783-$ or EP-448162-$).did. or (EP-440447-$ or EP-420490-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or EP-335531-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$ or EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$).did. or (EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$ or GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$ or US-20200209492-$ or US-20200200977-$ or US-20200200979-$ or US-20200183093-$ or US-20200166716-$ or US-20200150374-$ or US-20200142141-$ or US-20200124805-$ or US-20200116949-$ or US-20200116952-$).did. or (US-20200116953-$ or US-20200116954-$ or US-20200110224-$ or US-20200103598-$ or US-20200103599-$ or US-20200096709-$ or US-20200096710-$ or US-20200096708-$ or US-20200081198-$ or US-20200057205-$ or US-20200049899-$ or US-20200033539-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$).did. or (EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190219775-$ or US-20190204513-$ or US-20200081193-$ or US-			

		20200012053-$ or US-20200003961-$ or US-20190227240-$).did.				
S811	2,183	(US-20200225425-$ or US-20200225424-$ or US-20200225422-$ or US-20190056557-$ or US-20190179086-$ or US-20190064447-$ or US-20180217337-$ or US-20200183093-$ or US-20160018593-$ or US-20200166716-$ or US-20110222819-$ or US-20170285282-$ or US-20180246282-$ or US-20160259135-$ or US-20180143384-$ or US-20200142133-$ or US-20190041584-$ or US-20200132934-$ or US-20200116957-$ or US-20200110224-$ or US-20200096708-$ or US-20200088954-$ or US-20160274311-$ or US-20200088949-$ or US-20200073059-$ or US-20200018909-$).did. or (US-20160124160-$ or US-20190146160-$ or US-20140064665-$ or US-20170139158-$ or US-20190377139-$ or US-20160209599-$ or US-20160025942-$ or US-20140072265-$ or US-20180329158-$ or US-20180011254-$ or US-20080175541-$ or US-20190018201-$ or US-20180267255-$ or US-20180081127-$ or US-20170373756-$ or US-20160216454-$ or US-20170219779-$ or US-20090148101-$ or US-20180252872-$ or US-20190187392-$ or US-20190179085-$ or US-20130216186-$ or US-20190170957-$ or US-20180156985-$ or US-20190154924-$ or US-20160327757-$ or US-20190113691-$).did. or (US-20160161680-$ or US-20190101709-$ or US-20190086617-$ or US-20190033533-$ or US-20190025523-$ or US-20190025522-$ or US-20190004261-$ or US-20180364421-$ or US-20180348443-$ or US-20180341072-$ or US-20160018604-$ or US-20180329155-$ or US-20180329153-$ or US-20180292618-$ or US-20180292612-$ or US-20160139346-$ or US-20160349464-$ or US-20180239091-$ or US-20180231730-$ or US-20160209610-$ or US-20180231722-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 11:59

20170219789-$ or US-20160131857-$ or US-20180217338-$ or US-20180210155-$ or US-20180210154-$ or US-20180210153-$).did. or (US-20180196204-$ or US-20180196202-$ or US-20180188460-$ or US-20180180819-$ or US-20180172942-$ or US-20180164510-$ or US-20180157002-$ or US-20180156988-$ or US-20180149813-$ or US-20180143381-$ or US-20180136410-$ or US-20180128991-$ or US-20150036980-$ or US-20180113268-$ or US-20180113259-$ or US-20180106975-$ or US-20180106973-$ or US-20180095232-$ or US-20180088289-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180081139-$ or US-20180081128-$ or US-20180081125-$ or US-20180081122-$).did. or (US-20180078781-$ or US-20180077472-$ or US-20180074277-$ or US-20180059338-$ or US-20180052288-$ or US-20150362681-$ or US-20180031782-$ or US-20180031775-$ or US-20180031774-$ or US-20180024302-$ or US-20180024301-$ or US-20180024300-$ or US-20180024294-$ or US-20180017740-$ or US-20180013228-$ or US-20180013227-$ or US-20180011261-$ or US-20180011258-$ or US-20180003910-$ or US-20180003903-$ or US-20170371118-$ or US-20170371116-$ or US-20170371107-$ or US-20170363829-$ or US-20170363827-$ or US-20170363815-$ or US-20170363810-$).did. or (US-20170363509-$ or US-20170359091-$ or US-20170357060-$ or US-20170357059-$ or US-20170351038-$ or US-20170351037-$ or US-20170343760-$ or US-20170343742-$ or US-20170343741-$ or US-20170341972-$ or US-20170336577-$ or US-20170336571-$ or US-20170331234-$ or US-20170329090-$ or US-20170315308-$ or US-20170315307-$ or US-20170315305-$ or US-20170315304-$ or US-20170315303-$ or US-20170307832-

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$ or US-20160047996-$ or US-20160047994-$ or US-20160041356-$ or US-20160033723-$ or US-20160025937-$ or US-20160018606-$ or US-20160011383-$ or US-20160011381-$ or US-20160011376-$ or US-20160004018-$).did. or (US-20160004016-$ or US-20150378117-$ or US-20150378112-$ or US-20150378111-$ or US-20150376956-$ or US-20150370017-$ or US-20150362682-$ or US-20150362678-$ or US-20150355417-$ or US-20150355414-$ or US-20150346452-$ or US-20150346449-$ or US-20150346434-$ or US-20150338583-$ or US-20150323752-$ or US-20150309279-$ or US-20150301293-$ or US-20150301290-$ or US-20150301288-$ or US-20150301286-$ or US-20150277066-$ or US-20150288449-$ or US-20150288447-$ or US-20150286014-$ or US-20150286013-$ or US-20150286011-$ or US-20150285999-$).did. or (US-20150280355-$ or US-20150277062-$ or US-20150277061-$ or US-20150277058-$ or US-20150277057-$ or US-20150268424-$ or US-20150260927-$ or US-20150260926-$ or US-20130183001-$ or US-20130156379-$ or US-20150253183-$ or US-20150247977-$ or US-20150241650-$ or US-20150241644-$ or US-20150241642-$ or US-20150241635-$ or US-20150234131-$ or US-20150234128-$ or US-20150226926-$ or US-20150226923-$ or US-20150219857-$ or US-20150219856-$ or US-20150212284-$ or US-20150212279-$ or US-20150205060-$ or US-20150205053-$ or US-20010043777-$).did. or (US-20150198766-$ or US-20150192744-$ or US-20150185423-$ or US-20150177467-$ or US-20140270652-$ or US-20150177463-$ or US-20150160420-$ or US-20150153516-$ or US-20150147036-$ or US-20150147033-$ or US-20150147031-$ or US-20150139589-$ or US-20150139588-$ or US-20100202730-$ or US-20150093077-$ or US-

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9864151-$ or US-9857545-$ or US-9857537-$ or US-9851512-$ or US-9846283-$ or US-9841566-$ or US-9835808-$ or US-9835807-$).did. or (US-9829650-$ or US-9829643-$ or US-9827438-$ or US-9823428-$ or US-9817195-$ or US-9810860-$ or US-9810858-$ or US-9810856-$ or US-9804342-$ or US-9804340-$ or US-9804337-$ or US-9798096-$ or US-9798090-$ or US-9797806-$ or US-9784928-$ or US-9778425-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9759874-$ or US-9759869-$ or US-9746625-$ or US-9746368-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9735523-$).did. or (US-9733436-$ or US-9733434-$ or US-9733123-$ or US-9726830-$ or US-9726829-$ or US-9722367-$ or US-9720184-$ or US-9709753-$ or US-9703062-$ or US-9696497-$ or US-9696477-$ or US-9684134-$ or US-9678286-$ or US-9678283-$ or US-9678282-$ or US-9671570-$ or US-9671568-$ or US-9664864-$ or US-9658407-$ or US-9645335-$ or US-9645326-$ or US-9638871-$ or US-9638868-$ or US-9632267-$ or US-9625658-$ or US-9625657-$ or US-9625655-$).did. or (US-9606303-$ or US-9551831-$ or US-9482825-$ or US-9453972-$ or US-9448369-$ or US-9389368-$ or US-9377591-$ or US-9323007-$ or US-9316794-$ or US-9316791-$ or US-9291781-$ or US-9229177-$ or US-9229170-$ or US-9207454-$ or US-9002168-$ or US-8953922-$ or US-8814443-$ or US-8757893-$ or US-8588571-$ or US-8517614-$ or US-8459879-$ or US-8388235-$ or US-8206040-$ or US-8070366-$ or US-7972066-$ or US-7738757-$ or US-7712970-$).did. or (US-7706657-$ or US-7630609-$ or US-7588373-$ or US-7585118-$ or US-7530845-$ or US-7412148-$ or US-7232261-$ or US-7229220-$ or US-7192198-$ or US-7052186-$ or US-7036996-$ or US-6944378-$ or US-6895146-$ or US-6856748-$ or US-6848834-$ or US-6840680-$ or

US-6839583-$ or US-6830382-$ or US-6817777-$ or US-6793399-$ or US-6789953-$ or US-6786647-$ or US-6712521-$ or US-6702475-$ or US-6695485-$ or US-6688782-$ or US-6667803-$).did. or (US-6644866-$ or US-6634794-$ or US-6632023-$ or US-6623172-$ or US-6619859-$ or US-6619856-$ or US-6612750-$ or US-6601995-$ or US-6599032-$ or US-6595696-$ or US-6582132-$ or US-6572276-$ or US-6572273-$ or US-6561699-$ or US-6558044-$ or US-6554486-$ or US-6554482-$ or US-6543941-$ or US-6533469-$ or US-6533465-$ or US-6527450-$ or US-6526210-$ or US-6524015-$ or US-6510267-$ or US-6508593-$ or US-6501900-$ or US-6498882-$).did. or (US-6497518-$ or US-6497516-$ or US-6226429-$ or US-6491442-$ or US-6487343-$ or US-6485192-$ or US-6481900-$ or US-6481899-$ or US-6474876-$ or US-6471417-$ or US-6471412-$ or US-6467971-$ or US-6467970-$ or US-6466724-$ or US-6464406-$ or US-6461055-$ or US-6461054-$ or US-6461053-$ or US-6457876-$ or US-6456768-$ or US-6450698-$ or US-6447172-$ or US-6445867-$ or US-6437894-$ or US-6435946-$ or US-6431762-$ or US-6425694-$).did. or (US-6425692-$ or US-6422761-$ or US-6422760-$ or US-6422759-$ or US-6419810-$ or US-6412987-$ or US-6412986-$ or US-6409394-$ or US-6409392-$ or US-6409391-$ or US-6402393-$ or US-6402390-$ or US-6402388-$ or US-6389212-$ or US-6386768-$ or US-6384896-$ or US-6382843-$ or US-6382839-$ or US-6379052-$ or US-6377840-$ or US-6375363-$ or US-6305849-$ or US-6371659-$ or US-6371657-$ or US-6367986-$ or US-6367984-$ or US-6364536-$).did. or (US-6361218-$ or US-6357932-$ or US-6357931-$ or US-6354746-$ or US-6352372-$ or US-6349164-$ or US-6347889-$ or US-6347888-$ or US-6343950-$ or US-6334715-$ or US-6331079-$ or US-6328481-$ or US-6318904-$

	or US-6318903-$ or US-6318902-$ or US-6089759-$ or US-6309111-$ or US-6302592-$ or US-6301004-$ or US-6095695-$ or US-6293706-$ or US-6290527-$ or US-6283640-$ or US-6045270-$ or US-6273618-$ or US-6267513-$ or US-6264375-$).did. or (US-6264373-$ or US-6264372-$ or US-6259839-$ or US-6256446-$ or US-6250817-$ or US-6247851-$ or US-6247849-$ or US-6243526-$ or US-6243518-$ or US-6240235-$ or US-6240229-$ or US-6238249-$ or US-6234681-$ or US-6231244-$ or US-6227719-$ or US-6227718-$ or US-6224269-$ or US-6220763-$ or US-6220762-$ or US-6219479-$ or US-6217226-$ or US-6215944-$ or US-6210045-$ or US-6206577-$ or US-6200040-$ or US-6196729-$ or US-6195477-$).did. or (US-6193420-$ or US-6190616-$ or US-6188827-$ or US-6188825-$ or US-6186670-$ or US-6179480-$ or US-6179475-$ or US-6173099-$ or US-6164835-$ or US-6164834-$ or US-6154597-$ or US-6149315-$ or US-6149313-$ or US-6142676-$ or US-6139346-$ or US-6132105-$ or US-6116789-$ or US-6116101-$ or US-6108482-$ or US-6104856-$ or US-6102581-$ or US-6095694-$ or US-6088502-$ or US-6081647-$ or US-6079881-$ or US-6076975-$ or US-6064791-$).did. or (US-6059461-$ or US-6053639-$ or US-6048103-$ or US-6048102-$ or US-6045269-$ or US-6041155-$ or US-6027252-$ or US-6024498-$ or US-6022149-$ or US-6017154-$ or US-6012852-$ or US-6007256-$ or US-6004043-$ or US-6004042-$ or US-5993071-$ or US-5987203-$ or US-5984533-$ or US-5980117-$ or US-5971626-$ or US-5969294-$ or US-5963689-$ or US-5960137-$ or US-5956444-$ or US-5953474-$ or US-5953473-$ or US-5949946-$ or US-5862289-$).did. or (US-5940561-$ or US-5940559-$ or US-5937121-$ or US-5930426-$ or US-5930425-$ or US-5923805-$ or US-5921796-$ or US-5920670-$ or US-5920669-$ or US-				

5915058-$ or US-5909526-$ or US-5909298-$ or US-5742720-$ or US-5737463-$ or US-5896477-$ or US-5892870-$ or US-5887100-$ or US-5887098-$ or US-5881191-$ or US-5870515-$ or US-5867894-$ or US-5867621-$ or US-5862282-$ or US-5845036-$ or US-5727097-$ or US-5838856-$ or US-5838855-$).did. or (US-5832158-$ or US-5825955-$ or US-5818993-$ or US-5815621-$ or US-5815618-$ or US-5809191-$ or US-5799122-$ or US-5796896-$ or US-5781680-$ or US-5778123-$ or US-5778122-$ or US-5774612-$ or US-5774611-$ or US-5768738-$ or US-5548677-$ or US-5764043-$ or US-5761359-$ or US-5751874-$ or US-5748818-$ or US-5737464-$ or US-5734770-$ or US-5732174-$ or US-5732173-$ or US-5727102-$ or US-5721799-$ or US-5701380-$ or US-5694507-$).did. or (US-5694506-$ or US-5692089-$ or US-5692080-$ or US-5687268-$ or US-5682449-$ or US-5680494-$ or US-5673346-$ or US-5671310-$ or US-5668904-$ or US-5666456-$ or US-5666449-$ or US-5664955-$ or US-5661833-$ or US-5581644-$ or US-5651084-$ or US-5647043-$ or US-5645449-$ or US-5642450-$ or US-5633969-$ or US-5620634-$ or US-5619610-$ or US-5386485-$ or US-5611017-$ or US-5611010-$ or US-5607323-$ or US-5603631-$ or US-5602951-$).did. or (US-5600749-$ or US-5600746-$ or US-5325454-$ or US-5592323-$ or US-5588086-$ or US-5588079-$ or US-5579429-$ or US-5574817-$ or US-5574813-$ or US-5570445-$ or US-5563978-$ or US-5563974-$ or US-5563971-$ or US-5555332-$ or US-5550943-$ or US-5548674-$ or US-5542015-$ or US-5537501-$ or US-5530783-$ or US-5528711-$ or US-5521998-$ or US-5521997-$ or US-5519799-$ or US-5506922-$ or US-5499310-$ or US-5497444-$ or US-5485537-$).did. or (US-5483608-$ or US-5473717-$ or US-5452391-$ or US-5450519-$ or US-5446817-$ or US-5444806-$ or

US-5420951-$ or US-5418875-$ or US-5339376-$ or US-5414786-$ or US-5408557-$ or US-5367595-$ or US-5384885-$ or US-5379360-$ or US-5372758-$ or US-5367594-$ or US-5366383-$ or US-5363460-$ or US-5359688-$ or US-5339377-$ or US-5335301-$ or US-5333225-$ or US-5333222-$ or US-5333221-$ or US-5329541-$ or US-5323475-$ or US-5317663-$).did. or (US-5315679-$ or US-5315678-$ or US-5305409-$ or US-5297227-$ or US-5293581-$ or US-5282259-$ or US-5280552-$ or US-5274729-$ or US-5267342-$ or US-5265181-$ or US-5259052-$ or US-5239606-$ or US-5233675-$ or US-5233674-$ or US-5231685-$ or US-5228104-$ or US-5222168-$ or US-5214730-$ or US-5210815-$ or US-5199093-$ or US-5179607-$ or US-5177808-$ or US-5166995-$ or US-5159654-$ or US-5157749-$ or US-5155795-$ or US-5134677-$).did. or (US-5134676-$ or US-5134673-$ or US-5133032-$ or US-5129024-$ or US-5127073-$ or US-5124506-$ or US-5119455-$ or US-5115484-$ or US-5109468-$ or US-5109453-$ or US-5101463-$ or US-5091991-$ or US-5091990-$ or US-5082346-$ or US-5082344-$ or US-5077815-$ or US-5076656-$ or US-5073042-$ or US-5064268-$ or US-5058983-$ or US-5052774-$ or US-5048916-$ or US-5042891-$ or US-5018823-$ or US-5016972-$ or US-5016970-$ or US-5015060-$).did. or (US-5013124-$ or US-4998797-$ or US-4998796-$ or US-4995688-$ or US-4993803-$ or US-4991929-$ or US-4986762-$ or US-4986622-$ or US-4976510-$ or US-4973127-$ or US-4973126-$ or US-4964688-$ or US-4960317-$ or US-4955976-$ or US-4953929-$ or US-4944079-$ or US-4921325-$ or US-4915472-$ or US-4900118-$ or US-4898446-$ or US-4892380-$ or US-4886335-$ or US-4877303-$ or US-4856866-$ or US-4854664-$ or US-4852963-$ or US-4850671-$).did. or (US-4850536-$ or US-4848870-$ or US-4846544-$

or US-4844570-$ or US-4842361-$ or US-4834486-$ or US-4830456-$ or US-4824196-$ or US-4818058-$ or US-4813760-$ or US-4807957-$ or US-4805980-$ or US-4795231-$ or US-4793683-$ or US-4789216-$ or US-4787700-$ or US-4786135-$ or US-4784456-$ or US-4783137-$ or US-4781429-$ or US-4773725-$ or US-4767178-$ or US-4762389-$ or US-4762387-$ or US-4759600-$ or US-4759599-$ or US-4758719-$).did. or (US-4741590-$ or US-4740052-$ or US-4737009-$ or US-4722081-$ or US-4718744-$ or US-4717234-$ or US-4715674-$ or US-4714318-$ or US-4714317-$ or US-4714315-$ or US-4699460-$ or US-4688887-$ or US-4687291-$ or US-4681398-$ or US-4674831-$ or US-4666241-$ or US-4648688-$ or US-4645296-$ or US-4615581-$ or US-4614402-$ or US-4579418-$ or US-4575183-$ or US-4548467-$ or US-4526438-$ or US-4515434-$ or US-4506946-$ or US-4497536-$).did. or (US-4487474-$ or US-4486072-$ or US-4484796-$ or US-4477146-$ or US-4466009-$ or US-4464817-$ or US-4461539-$ or US-4447121-$ or US-4445753-$ or US-4444461-$ or US-4422716-$ or US-4415232-$ or US-4387957-$ or US-4385801-$ or US-4371233-$ or US-4368948-$ or US-4354731-$ or US-4341439-$ or US-4330172-$ or US-4327964-$ or US-4320938-$ or US-4310218-$ or US-4295707-$ or US-4291943-$ or US-4279469-$ or US-4268115-$ or US-4268114-$).did. or (US-4252407-$ or US-4240695-$ or US-4223976-$ or US-4218113-$ or US-4214812-$ or US-4201445-$ or US-4201444-$ or US-4186997-$ or US-4186996-$ or US-4168109-$ or US-4167304-$ or US-4160580-$ or US-4140365-$ or US-4101198-$ or US-4087158-$ or US-4080044-$ or US-3999837-$ or US-3933409-$ or US-10545295-$ or US-10502903-$ or US-10401575-$ or US-10353155-$).did. or (EP-3258301-$ or EP-3054333-$ or CA-2885821-$ or EP-2444827-$ or WO-

2018004847-$ or JP-6173629-$ or WO-2015043158-$ or CN-206584076-$ or WO-2016161341-$ or DE-202016103178-$ or WO-2016082160-$ or EP-3021145-$ or JP-5905950-$ or CA-2689768-$ or CA-2928026-$ or CA-2762411-$ or CA-2859345-$ or DE-202013012295-$ or WO-2016004347-$ or WO-2015190211-$ or EP-2942653-$ or CN-204595258-$ or WO-2015116589-$ or WO-2015103783-$ or GB-201507758-$ or CA-2932688-$).did. or (WO-2015068103-$ or EP-2843452-$ or WO-2014143748-$ or JP-5433802-$ or CN-102870023-$ or WO-2012151175-$ or WO-2014049469-$ or WO-2014009463-$ or CA-2912155-$ or WO-2013126068-$ or WO-2013115791-$ or WO-2013115789-$ or CA-2662854-$ or WO-2011152874-$ or GB-201218194-$ or CN-102456976-$ or WO-2011139938-$ or WO-2011044724-$ or CN-101122658-$ or CN-101931134-$ or WO-2010068896-$ or WO-2010025180-$ or EP-2138880-$ or WO-2009110421-$ or CA-2503690-$ or WO-2008006402-$ or CN-1331421-$).did. or (EP-1168016-$ or EP-1172672-$ or EP-1530068-$ or CA-2321428-$ or AU-2003291687-$ or JP-3106420-$ or EP-1168018-$ or CA-2191600-$ or WO-03093883-$ or CA-2484569-$ or DE-10114144-$ or CN-1118443-$ or WO-03016975-$ or NL-1018440-$ or CA-2284331-$ or EP-0690319-$ or CA-2030897-$ or WO-0155762-$ or CA-2418331-$ or DE-20118858-$ or EP-1124147-$ or EP-1172673-$ or WO-0137010-$ or CA-2198522-$ or WO-0161397-$ or EP-1039324-$ or EP-1039322-$).did. or (EP-1033595-$ or EP-1033594-$ or GB-0007281-$ or EP-0992819-$ or GB-9919699-$ or CA-2262351-$ or CA-2294930-$ or EP-0696748-$ or WO-9734176-$ or CA-2171494-$ or WO-9627811-$ or EP-0633485-$ or EP-0249237-$ or EP-0262847-$ or CA-2082276-$ or GB-9106183-$ or DE-9107960-$ or GB-9103604-$ or

WO-9015350-$ or DE-8626183-$ or EP-0262631-$ or EP-0061243-$ or WO-8600147-$ or DE-3112078-$ or GB-2081468-$ or IT-8323399-$ or IT-8323399-$).did. or (GB-2057158-$ or GB-8306227-$ or DK-208682-$ or FR-2487528-$ or FR-2435053-$ or BE-871785-$ or CA-1097111-$ or IT-7925110-$ or FR-2363124-$ or BE-871785-$ or CA-1043604-$ or WO-2019190616-$ or CN-110068899-$).did. or (JP-09033756-$ or JP-04214510-$ or JP-11072659-$ or JP-04220604-$ or JP-56074211-$ or JP-2017138535-$ or JP-05313040-$ or JP-62111222-$ or JP-59140411-$ or JP-59075218-$ or JP-57044113-$ or JP-56066811-$ or JP-55101904-$ or JP-54034251-$).did. or (US-20190107679-$ or US-20180224615-$ or WO-2018125706-$ or US-20180156985-$ or US-20180128988-$ or US-20180120519-$ or US-20180106973-$ or US-20180081128-$ or US-20180052288-$ or US-20180011258-$ or US-20180003903-$ or US-20180364421-$ or US-20170371109-$ or CN-107450131-$ or US-20170336577-$ or US-20170343760-$ or US-9804340-$ or US-20170307830-$ or FR-3050286-$ or US-20170299820-$ or US-20170293088-$ or US-20170261699-$ or US-20170254967-$ or US-20170254966-$ or US-20170227720-$ or US-9726830-$).did. or (US-20170219779-$ or JP-6173629-$ or US-20170205587-$ or US-9709753-$ or US-20170184790-$ or US-9678283-$ or US-20170153398-$ or US-20170139150-$ or US-20170139156-$ or US-20170102504-$ or US-20170115457-$ or WO-2017065999-$ or US-20170090127-$ or WO-2017038704-$ or US-20170059784-$ or US-20170031106-$ or US-20160377819-$ or US-20160349466-$ or US-20160341908-$ or US-20160341911-$ or WO-2016182556-$ or US-20160327757-$ or US-9482820-$ or WO-2016161341-$ or US-20160282566-$ or CN-105978629-$

		or US-20160259135-$).did. or (US-20170329090-$ or EP-3054333-$ or US-9389368-$ or WO-2016105567-$ or US-9377591-$ or US-20160178852-$ or US-20160178859-$ or US-20160161680-$ or EP-3021145-$ or US-20160131854-$ or US-20160124158-$ or JP-5905950-$ or WO-2016053853-$ or WO-2016043922-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016024014-$ or JP-5860948-$ or CA-2859345-$ or US-20160025937-$ or US-20160004016-$ or US-20160004018-$ or US-20150378110-$ or WO-2015190211-$ or EP-2947485-$).did. or (US-20150331201-$ or CN-104950402-$ or DE-102015106225-$ or US-20160306125-$ or US-20150286012-$ or WO-2015144883-$ or US-20150241644-$ or US-20150226926-$ or US-20150226925-$ or WO-2015116589-$ or US-20150219864-$ or WO-2015103783-$ or CN-104570229-$ or CN-104516061-$ or US-20150177463-$ or US-20150162982-$ or WO-2015070382-$ or WO-2015068103-$ or WO-2015028433-$ or US-20150049989-$ or WO-2015009435-$ or US-20150023637-$ or EP-2818903-$ or US-20140363131-$ or WO-2014197701-$ or US-20140321808-$ or WO-2014165175-$).did. or (WO-2014143748-$ or US-20140219624-$ or EP-2759860-$ or WO-2014113753-$ or US-20140205247-$ or US-20140199034-$ or US-20140153879-$ or US-20140147081-$ or ES-1110405-$ or WO-2014049469-$ or TW-474924-$ or US-20140064688-$ or JP-5433802-$ or EP-2700992-$ or WO-2014011898-$ or US-20140016901-$ or WO-2014011283-$ or WO-2013177234-$ or WO-2013155395-$ or US-20130259429-$ or US-20130230283-$ or WO-2013126068-$ or WO-2013122865-$ or WO-2013117598-$ or WO-2013115789-$ or WO-2013115791-$ or US-			

20130121645-$).did. or (CN-103091793-$ or WO-2013036843-$ or US-20130051749-$ or TW-201309089-$ or CN-102870023-$ or US-20120308183-$ or WO-2012151175-$ or US-20120263419-$ or US-20120251051-$ or US-20120251054-$ or TW-201233549-$ or US-20120099822-$ or EP-2444827-$ or US-20120082416-$ or US-20120057824-$ or KR-2012000895-$ or US-20120027355-$ or KR-2012000895-$ or WO-2011152874-$ or US-20110274437-$ or US-20110249942-$ or EP-2302431-$ or WO-2010137426-$ or EP-2206458-$ or WO-2010068896-$ or US-7712970-$ or WO-2010025180-$).did. or (US-20100040330-$ or WO-2009110421-$ or US-20090060423-$ or US-20090041411-$ or US-7435009-$ or US-20070098327-$ or US-20070077010-$ or US-20070058907-$ or EP-1752805-$ or US-20060193562-$ or US-20060165352-$ or US-20060153503-$ or WO-2006022840-$ or US-20050053342-$ or US-20040228589-$ or US-20040223699-$ or US-20040062498-$ or EP-1394584-$ or WO-03094297-$ or WO-03093883-$ or US-20030044125-$ or US-20030031437-$ or WO-02061481-$ or US-6422760-$ or WO-02056060-$ or DE-20118858-$ or EP-1172673-$).did. or (EP-1172672-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or US-20010041030-$ or WO-0181965-$ or EP-1124147-$ or EP-1107031-$ or WO-0140839-$ or EP-1092995-$ or EP-1091225-$ or EP-1041416-$ or EP-1041414-$ or EP-1020745-$ or EP-1016885-$ or EP-1010999-$ or GB-2341455-$ or WO-9947958-$ or US-5940561-$ or WO-9928774-$ or WO-9857208-$ or DE-19626036-$ or WO-9746900-$ or US-5692080-$ or EP-803750-$ or WO-9734176-$ or WO-9723794-$).did. or (EP-758099-$ or WO-9634176-$ or WO-9627811-$ or JP-08201656-$ or WO-9616080-$ or

		EP-697608-$ or EP-696748-$ or WO-9600917-$ or EP-663602-$ or EP-663601-$ or EP-660145-$ or EP-660144-$ or EP-505197-$ or EP-490698-$ or US-5101463-$ or EP-458608-$ or WO-9117540-$ or US-5064268-$ or GB-2241794-$ or EP-430107-$ or WO-9015350-$ or US-4953929-$ or EP-262631-$ or EP-249237-$ or WO-8600147-$ or US-4496213-$ or EP-125398-$).did. or (DE-3208797-$ or GB-2098354-$ or EP-61243-$ or GB-2081468-$ or GB-2057158-$ or DE-2932986-$ or BE-871785-$ or DE-2805949-$ or DE-2558445-$ or US-10502903-$).did.				
S812	1,872	(G02B6/3879).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59
S813	6,060	(G02B6/3885).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59
S814	1,322	S812 not (S808 S809 S810 S811)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59
S815	696	(US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$ or US-20190219775-$ or US-20190170931-$ or US-20190137700-$ or US-20190137697-$ or US-20190137695-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20190033531-$ or US-20190004252-$ or US-20190004251-$ or US-20180364422-$ or US-20180364436-$).did. or (US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180321449-$ or US-20180217336-$ or US-20180136417-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 11:59

$ or US-20180136414-$ or US-20180136412-$ or US-20180128988-$ or US-20170363818-$ or US-20170261696-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170205586-$ or US-20170176691-$ or US-20170176692-$ or US-20170068064-$ or US-20170059785-$ or US-20170063464-$ or US-20170023746-$ or US-20160349458-$ or US-20160327756-$ or US-20160306122-$ or US-20160282565-$).did. or (US-20160274314-$ or US-20160223774-$ or US-20160202428-$ or US-20160091674-$ or US-20150378113-$ or US-20150277059-$ or US-20150260924-$ or US-20150260923-$ or US-20150198774-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20140205257-$ or US-20140169727-$ or US-20140168987-$ or US-20140161392-$ or US-20140153878-$ or US-20140153879-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140037253-$ or US-20140029900-$ or US-20140022627-$ or US-20140016901-$ or US-20140003771-$).did. or (US-20130322825-$ or US-20130158512-$ or US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20120155803-$ or US-20120093462-$ or US-20110299266-$ or US-20110229092-$ or US-20110229083-$ or US-20110064361-$ or US-20110058774-$ or US-20100322563-$ or US-20100178014-$ or US-20100178010-$ or US-20100054668-$ or US-20100027942-$ or US-20090135429-$ or US-20080317415-$ or US-20080273840-$ or US-20080226235-$ or US-20080124033-$ or US-20080090433-$ or US-20080013889-$ or US-20070292084-$ or US-20070031103-$).did. or (US-20060275007-$ or US-20060257075-$ or US-20060257076-$ or US-20060204178-$ or US-20060171640-$ or US-20060171639-$ or US-

		20060140543-$ or US-20060127028-$ or US-20060093274-$ or US-20060083466-$ or US-20060063436-$ or US-20060045428-$ or US-20060018603-$ or US-20050271338-$ or US-20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20040157499-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020176960-$ or US-20020142634-$).did. or (US-20020126960-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$).did. or (US-10444442-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9977197-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$ or US-6364537-$).did. or (US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-6179476-$ or US-6179477-$ or US-6130977-$ or US-6062739-$ or US-5971625-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717533-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$ or US-5577146-$).did. or (US-5546281-$ or US-5436994-$ or US-5400428-$ or US-5396572-$ or US-5329604-$ or US-5289554-$ or US-5276755-$ or US-5265182-$ or US-5261019-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212752-$ or			

US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5121454-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$).did. or (US-5067783-$ or US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$).did. or (US-4728171-$ or US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$).did. or (WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$ or WO-2019086961-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$ or EP-3330757-$ or WO-2018044728-$ or EP-3278153-$ or CN-107636504-$ or WO-2018009426-$ or WO-2017182535-$ or CN-206479676-$ or EP-3180644-$ or EP-3123221-$ or WO-2016174980-$ or WO-2016140710-$ or CN-105683795-$ or WO-2015120031-$ or WO-2015070382-$ or EP-2852856-$ or WO-2015009435-$ or FR-2997767-$ or WO-2014054357-$ or CN-103676018-$).did. or (CA-2866107-$ or GB-201220748-$ or CN-102520489-$ or CN-102445735-$ or

CN-102385113-$ or WO-2012015713-$ or DE-102010021179-$ or GB-201004720-$ or DE-112006003952-$ or CA-2593676-$ or WO-2008033262-$ or EP-1783524-$ or AU-2006295165-$ or EP-1762871-$ or DE-60026115-$ or KR-100452879-$ or AU-2004274992-$ or CA-2441872-$ or KR-20040020797-$ or CN-1334472-$ or DE-20111078-$ or DE-10031931-$ or CA-2302068-$ or DE-19834723-$ or WO-9723794-$ or DE-29614436-$ or DE-19525739-$).did. or (CH-687105-$ or DE-19601949-$ or GB-9525323-$ or FR-2707402-$ or WO-9415232-$ or GB-9408857-$ or EP-0546936-$ or MX-9201992-$ or DE-4203966-$ or IT-MI913184-$ or GB-9103982-$ or CH-676513-$ or GB-9025881-$ or DE-3914978-$ or DE-9012174-$ or DE-9010357-$ or DE-8911081-$ or DE-8911080-$ or EP-0339876-$ or EP-0324272-$ or DE-8901052-$ or DE-8900623-$ or EP-0292024-$ or DE-8812341-$ or DE-3737842-$ or DE-3701421-$ or EP-0253426-$).did. or (EP-0249406-$ or KR-870005264-$ or EP-0183820-$ or EP-0166636-$ or EP-0154781-$ or EP-0153249-$ or EP-0098190-$ or EP-0098205-$ or FR-2528984-$ or FR-2502798-$ or GB-2086602-$ or EP-0045271-$ or WO-8002213-$ or DE-2932986-$ or DE-2832839-$ or AU-3682878-$ or GB-1526682-$ or FR-2316611-$ or GB-1450760-$ or FR-2268370-$).did. or (JP-2019184942-$ or JP-2005258017-$ or JP-2000241670-$ or JP-05215939-$ or JP-03059503-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-61129605-$ or JP-61028909-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-59038707-$ or JP-59036207-$ or JP-58190910-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56062212-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$

		or JP-53113562-$).did. or (US-20200033539-$ or US-20200012053-$ or US-20200003961-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$ or EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190227240-$ or US-20190219775-$ or US-20190204513-$ or US-20190162914-$ or US-20190162917-$).did. or (US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or US-20180372962-$ or US-20180364422-$ or CN-108983368-$ or KR-2018131725-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or US-20180292612-$ or CN-108490551-$).did. or (US-20180231722-$ or JP-6363784-$ or US-20180203196-$ or CN-108279462-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018008399-$ or CN-107479141-$ or EP-3249434-$ or WO-2017182535-$ or US-20170264045-$ or US-20170261698-$ or US-20170261696-$ or KR-2017103050-$ or US-20170242210-$ or WO-2017131717-$ or US-			

20170199339-$ or CN-106908906-$ or WO-2017106514-$).did. or (US-20170176691-$ or US-20170176692-$ or WO-2017095928-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$ or US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or WO-2015142551-$ or US-20150260923-$ or CN-104914515-$ or WO-2015126470-$).did. or (WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-$ or EP-2821830-$ or US-20140233892-$ or US-20140219610-$ or US-20140161392-$ or US-20140153878-$ or US-20140147078-$ or WO-2014078261-$ or FR-2997767-$ or US-20140029900-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-$ or US-20130202254-$ or WO-2013049494-$ or JP-2013045047-$ or US-20120315000-$ or WO-2012157276-$ or CN-102520489-$ or WO-2012078697-$ or WO-2012078701-$ or US-20120093462-$ or WO-2012029013-$).did. or (WO-2012015713-$ or WO-2012015734-$ or WO-2011116167-$ or CN-102122031-$ or US-20110058774-$ or US-20100322563-$ or US-20090135429-$ or US-20090098760-$ or DE-102007023250-$ or WO-2008112183-$ or US-20080124033-$ or US-20080112672-$ or EP-1762871-$ or WO-2006130549-$ or US-20060257075-$ or US-20060204178-$ or US-20060153504-$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-

		$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$).did. or (US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$ or EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$ or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9723794-$ or WO-9637793-$).did. or (DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-4041425-$ or EP-420490-$ or EP-335531-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$ or EP-440447-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$).did. or (EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$ or EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$).did. or (GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$).did.				
S816	1,322	S814 not S815	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59

S817	5,309	(G02B6/3825).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59
S818	2,727	S817 not (S808 S809 S810 S811 S816)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 11:59
S819	3,186	S813 not (S808 S809 S810 S811 S816 S818)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2020/09/01 11:59
S820	55	(US-20140241689-$ or US-20200057205-$ or US-20200070211-$ or US-20190377139-$ or US-20190346644-$ or US-20190331862-$ or US-20190285806-$ or US-20190278028-$ or US-20190101703-$ or US-20180031783-$ or US-20160062050-$ or US-20160035201-$ or US-20150241650-$ or US-20150063758-$ or US-20140348481-$ or US-20140348467-$ or US-20140241688-$ or US-20140233893-$ or US-20140219609-$ or US-20130272671-$ or US-20130259429-$ or US-20130051733-$ or US-20130044978-$ or US-20120251051-$ or US-20110038592-$ or US-20100322580-$).did. or (US-20100199447-$ or US-20100111484-$ or US-20100054665-$ or US-20090274432-$ or US-20080273837-$ or US-20050163431-$ or US-20050111810-$ or US-20050111809-$ or US-20030190130-$ or US-20030108301-$).did. or (US-8858089-$ or US-6857900-$ or US-6705765-$ or US-6547585-$ or US-6485189-$ or US-6412986-$ or US-6146023-$ or US-6041155-$ or US-5870515-$ or US-5675682-$ or US-5600747-$).did. or (US-10459172-$ or US-20150063758-$ or US-20140348467-$ or US-20140348481-$ or US-20140241688-$ or US-20140241689-$ or WO-2013155395-$ or US-20130259429-$).did.	US-PGPUB; USPAT; DERWENT	OR	ON	2020/09/01 13:06
S821	623	(US-20150260936-$ or US-20190324218-$ or US-20150219864-$ or US-20160170154-$ or US-20200150353-$ or US-20180267258-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:06

		$ or US-20200132941-$ or US-20180335577-$ or US-20200116950-$ or US-20190181586-$ or US-20200088955-$ or US-20200081194-$ or US-20200057204-$ or US-20200057199-$ or US-20200049902-$ or US-20190129104-$ or US-20190377138-$ or US-20190369335-$ or US-20190353865-$ or US-20190346635-$ or US-20190346634-$ or US-20180217339-$ or US-20190331862-$ or US-20190302371-$ or US-20190190199-$ or US-20160195682-$).did. or (US-20190271815-$ or US-20190243084-$ or US-20090238522-$ or US-20190243075-$ or US-20190235174-$ or US-20180292617-$ or US-20190200103-$ or US-20190187383-$ or US-20170227719-$ or US-20190113693-$ or US-20190113692-$ or US-20190113689-$ or US-20190101706-$ or US-20190101705-$ or US-20190101704-$ or US-20190079252-$ or US-20190072729-$ or US-20190064452-$ or US-20190049678-$ or US-20190041587-$ or US-20190025526-$ or US-20170371109-$ or US-20180356600-$ or US-20180335571-$ or US-20180329154-$ or US-20180314018-$ or US-20140321808-$).did. or (US-20170045702-$ or US-20180306984-$ or US-20180299624-$ or US-20180284357-$ or US-20180267256-$ or US-20130089293-$ or US-20180136416-$ or US-20180100982-$ or US-20180081129-$ or US-20180052287-$ or US-20170293090-$ or US-20170205590-$ or US-20160062050-$ or US-20160320572-$ or US-20160341905-$ or US-20160306125-$ or US-20150162982-$ or US-20160223757-$ or US-20150063815-$ or US-20140363131-$ or US-20140321810-$ or US-20140301701-$ or US-20140241671-$ or US-20120257865-$ or US-20080311781-$ or US-20110274437-$ or US-20120128302-$).did. or (US-20120099819-$ or US-20120057824-$ or US-20110091158-$ or US-20110059642-$ or US-20100310213-			

	$ or US-20100226610-$ or US-20100104355-$ or US-20070077010-$ or US-20080248691-$ or US-20080175543-$ or US-20080131055-$ or US-20070292082-$ or US-20080037934-$ or US-20080032536-$ or US-20070116412-$ or US-20050226567-$ or US-20050164536-$ or US-20050163429-$ or US-20050095899-$ or US-20050018973-$ or US-20040228582-$ or US-20030031448-$ or US-20030031437-$ or US-20030012520-$ or US-20020167793-$).did. or (US-10571641-$ or US-10539745-$ or US-10527803-$ or US-10514518-$ or US-10429592-$ or US-10401574-$ or US-10302874-$ or US-10234635-$ or US-10133009-$ or US-10120140-$ or US-10120138-$ or US-10101570-$ or US-10094768-$ or US-9971103-$ or US-9678294-$ or US-9658405-$ or US-9645323-$ or US-9606300-$ or US-9581767-$ or US-9557508-$ or US-9557491-$ or US-9551835-$ or US-9482840-$ or US-9482823-$ or US-9448368-$ or US-9366829-$).did. or (US-9335488-$ or US-9291785-$ or US-9274300-$ or US-9110249-$ or US-9103990-$ or US-9057845-$ or US-9052475-$ or US-9033588-$ or US-9022666-$ or US-8985862-$ or US-8979388-$ or US-8845206-$ or US-8821036-$ or US-8801297-$ or US-8573854-$ or US-8419291-$ or US-8406588-$ or US-8202009-$ or US-8157455-$ or US-8104973-$ or US-8009959-$ or US-7980769-$ or US-7887243-$ or US-7758255-$ or US-7744285-$ or US-7717625-$ or US-7374347-$).did. or (US-7336884-$ or US-7261471-$ or US-7234876-$ or US-7111990-$ or US-7090407-$ or US-7073953-$ or US-6994478-$ or US-6945702-$ or US-6920255-$ or US-6872006-$ or US-6866424-$ or US-6832858-$ or US-6805493-$ or US-6789950-$ or US-6769814-$ or US-6762941-$ or US-6761488-$ or US-6572276-$ or US-6554486-$ or US-6513989-$ or US-6459843-$ or US-6435728-$ or US-6434316-$				

		or US-6434315-$ or US-6398422-$ or US-6364539-$ or US-6357928-$).did. or (US-6351590-$ or US-6264374-$ or US-6259856-$ or US-6257917-$ or US-6256448-$ or US-6203208-$ or US-6149313-$ or US-6146023-$ or US-6139194-$ or US-5963698-$ or US-5600747-$ or US-5511138-$ or US-5428702-$ or US-5335301-$ or US-5265181-$ or US-5216732-$ or US-5183408-$ or US-5166995-$ or US-4986769-$ or US-4950048-$ or US-4904199-$ or US-4711511-$ or US-4657338-$ or US-4580868-$ or US-4478485-$ or US-4448467-$ or US-4376565-$).did. or (US-4186997-$).did. or (WO-2019012006-$ or CA-2864886-$ or WO-2020047283-$ or WO-2017147401-$ or WO-2018183496-$ or GB-201311768-$ or GB-201906387-$ or CN-110618492-$ or WO-2018140873-$ or AU-2015318357-$ or WO-2019222189-$ or WO-2016077167-$ or CN-105425341-$ or WO-2012106510-$ or WO-2019200066-$ or WO-2016086881-$ or WO-2019125963-$ or WO-2016053673-$ or FR-3021415-$ or WO-2019089220-$ or WO-2019060293-$ or WO-2017139430-$ or EP-3330758-$ or WO-2019036297-$ or WO-2018169759-$ or WO-2016049208-$).did. or (CA-2869770-$ or WO-2018045232-$ or WO-2015029585-$ or CN-105283786-$ or WO-2017123460-$ or JP-5805344-$ or CN-205992071-$ or WO-2016068966-$ or WO-2015191024-$ or WO-2011019581-$ or EP-2818903-$ or WO-2014116785-$ or WO-2013049082-$ or CA-2546593-$ or WO-2008045560-$ or WO-2011130445-$ or CA-2304082-$ or WO-2010103465-$ or EP-2251724-$ or AU-2002243312-$ or WO-9909442-$ or CN-1231430-$ or CA-2537354-$ or EP-1221630-$ or WO-0008503-$ or CA-2276631-$ or EP-1229366-$).did. or (EP-1879060-$ or CA-2594549-$ or CN-1258011-$ or WO-2005022228-$ or WO-			

2004008214-$ or WO-2004107001-$ or EP-1334394-$ or WO-2006007120-$ or CA-2276627-$ or EP-1415186-$ or WO-2005047946-$ or EP-1257012-$ or EP-1299758-$ or CA-2283016-$ or WO-9746900-$ or WO-9857208-$ or CA-2339502-$ or CA-2327007-$ or CA-2136212-$ or CN-1231429-$ or EP-0927899-$ or EP-0927898-$ or WO-0075701-$ or AU-1587897-$ or CA-2288247-$ or EP-1273944-$ or CA-2068453-$).did. or (GB-9011424-$ or WO-0182374-$ or EP-0927895-$ or CA-2312241-$ or MX-9202155-$ or CA-2330965-$ or DE-19846731-$ or EP-1039323-$ or FR-2752951-$ or WO-9964917-$ or GB-9622511-$ or EP-0961142-$ or CA-2237481-$ or WO-9931539-$ or EP-0821253-$ or CA-2222237-$ or EP-0323920-$ or EP-0490698-$ or CA-1299407-$ or AU-1019788-$ or WO-9308493-$ or FR-2648240-$ or DE-9108955-$ or GB-8614272-$ or CA-1239820-$ or DE-3633340-$ or IT-7925047-$).did. or (GB-8332694-$ or EP-0109870-$ or DE-2933790-$ or DE-3021001-$ or GB-2058392-$).did. or (JP-2016009081-$ or JP-2016122050-$ or JP-2016085422-$ or JP-10050400-$ or JP-2002048946-$ or JP-08110439-$ or JP-09145959-$ or JP-10311934-$ or JP-09145957-$ or JP-07248434-$ or JP-01177508-$ or JP-59157605-$ or JP-56060409-$).did. or (US-20200174200-$ or US-20200166717-$ or US-20200142140-$ or US-20200124802-$ or US-20190384018-$ or US-20190339464-$ or US-20190339470-$ or US-20190324218-$ or US-20190302376-$ or US-20190285811-$ or US-20190243076-$ or US-20190235174-$ or CN-110031940-$ or US-20190219776-$ or US-20190212504-$ or US-20190200103-$ or US-20190190199-$ or US-20190179089-$ or US-20190179086-$ or US-20190179088-$ or US-20190181586-$ or US-20190154928-$ or US-20190129104-$ or US-20190101704-$ or US-20190101705-$ or WO-2019060293-

$).did. or (US-20200088955-$ or US-10234635-$ or US-20190079252-$ or US-10222562-$ or KR-2019006212-$ or WO-2019012006-$ or US-20190025526-$ or US-20190011645-$ or US-20190064452-$ or US-20180356600-$ or KR-2018129442-$ or US-20180329154-$ or US-20180335571-$ or US-20180335577-$ or US-20180335581-$ or US-10107967-$ or US-20180314014-$ or US-20180306997-$ or US-10107972-$ or US-20180299624-$ or US-10101570-$ or US-20180292617-$ or WO-2018183496-$ or US-20180267255-$ or US-20180239093-$ or US-20180217338-$ or US-20180217339-$).did. or (US-20180210155-$ or US-10018787-$ or US-20180188455-$ or CN-108227089-$ or US-20180156988-$ or US-9989712-$ or US-20190113692-$ or US-20180136416-$ or WO-2018085767-$ or US-9933582-$ or US-20180077472-$ or WO-2018045232-$ or WO-2018045234-$ or US-20180011261-$ or US-20170357060-$ or EP-3258301-$ or US-9823428-$ or US-20170299831-$ or US-20170293089-$ or WO-2017172600-$ or US-20170285277-$ or WO-2017160697-$ or WO-2017147401-$ or CN-106918869-$ or US-20170242199-$ or WO-2017136437-$ or US-20170227719-$).did. or (JP-2017134310-$ or US-20170212316-$ or US-20170205591-$ or US-20170192182-$ or WO-2017066139-$ or US-20170045702-$ or US-20170045695-$ or US-20170003456-$ or US-20160349464-$ or US-9482823-$ or US-9482825-$ or US-20160306124-$ or EP-3078999-$ or US-20160282562-$ or US-9448369-$ or WO-2016137934-$ or US-20160238789-$ or WO-2016123128-$ or US-20160223757-$ or US-20160223763-$ or US-20160195682-$ or WO-2016104132-$ or US-20160161681-$ or WO-2016086881-$ or WO-2016082160-$ or US-20160139345-$ or EP-3021144-

$).did. or (EP-3021146-$ or WO-2016068966-$ or US-20160109676-$ or WO-2016053852-$ or WO-2016053673-$ or WO-2016049208-$ or US-20160091673-$ or US-20160085045-$ or US-20160077284-$ or WO-2016039383-$ or US-20150370017-$ or WO-2015191024-$ or US-20160370549-$ or US-20150355417-$ or JP-5805344-$ or US-20150309279-$ or WO-2015158564-$ or WO-2015150149-$ or US-20150253518-$ or AU-2014101479-$ or US-20150131946-$ or WO-2015047380-$ or WO-2015029585-$ or WO-2014186436-$ or US-20140314385-$ or US-20140294339-$ or US-20140241667-$).did. or (US-20140219615-$ or US-20140205241-$ or AU-2014100325-$ or CN-103645545-$ or US-20140072265-$ or US-20180100982-$ or US-20130302004-$ or WO-2013126429-$ or US-20130209041-$ or US-20130170796-$ or US-20130170797-$ or WO-2013077969-$ or US-20130089293-$ or WO-2013019622-$ or WO-2013019189-$ or US-20120263423-$ or WO-2012106510-$ or WO-2012106513-$ or WO-2012106518-$ or JP-2012120095-$ or US-20120141070-$ or US-20110243504-$ or US-20110150396-$ or US-20110081798-$ or US-20110044590-$ or WO-2011019581-$ or KR-2011002571-$).did. or (US-20100322554-$ or US-20100310213-$ or WO-2010138446-$ or EP-2251724-$ or US-20100135618-$ or US-20100074616-$ or US-20090290838-$ or US-20090238522-$ or WO-2009023673-$ or EP-1990665-$ or US-20080253719-$ or WO-2008045560-$ or EP-1887395-$ or US-20070160327-$ or US-20050271328-$ or US-20050226567-$ or WO-2005022229-$ or WO-2005022228-$ or WO-2005022227-$ or US-20040223701-$ or US-20040105628-$ or US-20040062486-$ or WO-2004008214-$ or US-20040008494-$ or KR-2003071425-$ or US-

		20030044127-$ or KR-2003012941-$).did. or (US-20030031448-$ or US-20030031419-$ or EP-1257012-$ or KR-2002019797-$ or WO-0219002-$ or WO-0216989-$ or WO-0216530-$ or WO-0182374-$ or EP-1150149-$ or CA-2339502-$ or WO-0155762-$ or EP-1116974-$ or WO-0137010-$ or WO-0075701-$ or WO-0070381-$ or EP-1054278-$ or EP-1039322-$ or JP-2000199833-$ or EP-1016886-$ or EP-1014126-$ or EP-997753-$ or WO-0008503-$ or EP-969299-$ or EP-969298-$ or WO-9964917-$ or EP-961142-$ or WO-9957786-$).did. or (EP-949522-$ or EP-927899-$ or EP-927898-$ or WO-9931539-$ or US-5915058-$ or WO-9928773-$ or US-5909526-$ or EP-916974-$ or WO-9909442-$ or US-5867621-$ or WO-9859271-$ or US-5778122-$ or EP-821253-$ or US-5666456-$ or JP-09145959-$ or GB-2306696-$ or US-5555332-$ or EP-712015-$ or US-5519799-$ or WO-9323777-$ or EP-514722-$ or US-5134673-$ or EP-323920-$ or EP-277390-$ or GB-2176629-$ or GB-2151040-$ or GB-2058392-$).did. or (EP-8329-$).did.				
S822	736	(US-20180321449-$ or US-20190004252-$ or US-20170059785-$ or US-20190137700-$ or US-20130158512-$ or US-20180364422-$ or US-20150378113-$ or US-20200012052-$ or US-20100054668-$ or US-20060093274-$ or US-20140029900-$ or US-20190004251-$ or US-20190258010-$ or US-20140153878-$ or US-20180128988-$ or US-20190170931-$ or US-20140153879-$ or US-20190137697-$ or US-20190137695-$ or US-20160349458-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20170176691-$ or US-20100322563-$).did. or (US-20190033531-$ or US-20170261696-$ or US-20180364436-$ or US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:06

$ or US-20180217336-$ or US-20110058774-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180120517-$ or US-20170363818-$ or US-20160274314-$ or US-20170205586-$ or US-20140169727-$ or US-20160223774-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170176692-$ or US-20120093462-$ or US-20170068064-$ or US-20170063464-$ or US-20170023746-$).did. or (US-20110299266-$ or US-20140016901-$ or US-20160327756-$ or US-20160306122-$ or US-20150260924-$ or US-20160282565-$ or US-20160202428-$ or US-20140205257-$ or US-20160091674-$ or US-20150277059-$ or US-20150260923-$ or US-20150198774-$ or US-20140037253-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20120155803-$ or US-20140168987-$ or US-20140161392-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-$ or US-20110064361-$).did. or (US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20110229092-$ or US-20110229083-$ or US-20080226235-$ or US-20080273840-$ or US-20100178014-$ or US-20100178010-$ or US-20040157499-$ or US-20080013889-$ or US-20100027942-$ or US-20090135429-$ or US-20020126960-$ or US-20060127028-$ or US-20080317415-$ or US-20080090433-$ or US-20060257075-$ or US-20080124033-$ or US-20060083466-$ or US-20070292084-$ or US-20060018603-$ or US-20060204178-$ or US-20070031103-$ or US-20060275007-$ or US-20060257076-$).did. or (US-20060171640-$ or US-20060171639-$ or US-20060140543-$ or US-20060063436-$ or US-20060045428-$ or US-20050271338-$ or US-

20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20020176960-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20020142634-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$ or US-20190219775-$ or US-20200200977-$ or US-20200183092-$).did. or (US-20200150374-$ or US-20200124805-$ or US-20200081193-$ or US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$).did. or (US-10324264-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-5971625-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6179476-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$).did. or (US-6364537-$ or US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-5717533-$ or US-5212752-$ or US-6179477-$ or US-6130977-$ or US-5546281-$ or US-6062739-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$).did. or (US-5577146-$ or US-5436994-$ or US-5121454-$ or US-5400428-$ or

US-5396572-$ or US-5265182-$ or US-5329604-$ or US-5261019-$ or US-5289554-$ or US-5276755-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$ or US-5067783-$).did. or (US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$ or US-4728171-$).did. or (US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$ or US-10670824-$ or US-10444442-$).did. or (CA-3068131-$ or EP-3180644-$ or WO-2016140710-$ or WO-2018009426-$ or WO-2015070382-$ or EP-3123221-$ or WO-2019246241-$ or EP-3579031-$ or GB-201905648-$ or CN-105683795-$ or WO-2018044728-$ or WO-2019086961-$ or EP-2852856-$ or WO-2017182535-$ or EP-3330757-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$ or CN-107636504-$ or CN-206479676-$ or WO-2016174980-$ or AU-2004274992-$ or CA-

2866107-$ or WO-2012015713-$ or FR-2997767-$ or CN-102520489-$).did. or (CN-102445735-$ or CN-103676018-$ or AU-2006295165-$ or WO-2015120031-$ or GB-9525323-$ or GB-201220748-$ or CN-102385113-$ or WO-2014054357-$ or CA-2593676-$ or DE-102010021179-$ or GB-201004720-$ or EP-1762871-$ or DE-112006003952-$ or CA-2441872-$ or DE-60026115-$ or WO-2008033262-$ or KR-20040020797-$ or EP-1783524-$ or KR-100452879-$ or WO-9723794-$ or DE-19601949-$ or CA-2302068-$ or DE-20111078-$ or DE-10031931-$ or DE-19834723-$ or MX-9201992-$ or DE-19525739-$).did. or (DE-29614436-$ or DE-3914978-$ or EP-0339876-$ or EP-0546936-$ or CH-687105-$ or GB-9408857-$ or EP-0324272-$ or FR-2707402-$ or IT-MI913184-$ or WO-9415232-$ or EP-0183820-$ or GB-9025881-$ or EP-0253426-$ or DE-4203966-$ or GB-9103982-$ or CH-676513-$ or DE-9012174-$ or DE-9010357-$ or EP-0154781-$ or DE-8911081-$ or DE-8911080-$ or EP-0292024-$ or KR-870005264-$ or EP-0166636-$ or DE-8901052-$ or DE-8900623-$ or DE-8812341-$).did. or (DE-3737842-$ or FR-2528984-$ or DE-3701421-$ or EP-0249406-$ or EP-0098190-$ or EP-0098205-$ or EP-0153249-$ or DE-2932986-$ or GB-2086602-$ or DE-2832839-$ or EP-0045271-$ or FR-2502798-$ or AU-3682878-$ or WO-8002213-$ or GB-1450760-$ or GB-1526682-$ or FR-2316611-$ or FR-2268370-$ or WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$).did. or (JP-2005258017-$ or JP-2000241670-$ or JP-03059503-$ or JP-61028909-$ or JP-61129605-$ or JP-59036207-$ or JP-58190910-$ or JP-59038707-$ or JP-56062212-$ or JP-2002098860-$ or JP-05215939-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or

JP-59136709-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$ or JP-2019184942-$).did. or (US-20190369336-$ or EP-3579031-$ or CN-110376684-$ or US-20190162914-$ or US-20190162917-$ or US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or CN-108983368-$ or US-20180372962-$ or US-20180364422-$ or KR-2018131725-$).did. or (US-20180341069-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or CN-207965228-$ or CN-207965231-$ or US-20180292612-$ or CN-108508541-$ or CN-108490551-$ or CN-108279462-$ or JP-6363784-$ or US-20180203196-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or WO-2018057615-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018006987-$ or WO-2018008399-$ or CN-107479141-$).did. or (EP-3249434-$ or WO-2017182535-$ or KR-2017103050-$ or US-20170264045-$ or US-20180231722-$ or US-20170261698-$ or US-20170261696-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017095928-$ or WO-2017106514-$ or US-20170176691-$ or US-20170176692-

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S823	2,183	(US-20200225425-$ or US-20200225424-$ or US-20200225422-$ or US-20190056557-$ or US-20190179086-$ or US-20190064447-$ or US-20180217337-$ or US-20200183093-$ or US-20160018593-$ or US-20200166716-$ or US-20110222819-$ or US-20170285282-$ or US-20180246282-$ or US-20160259135-$ or US-20180143384-$ or US-20200142133-$ or US-20190041584-$ or US-20200132934-$ or US-20200116957-$ or US-20200110224-$ or US-20200096708-$ or US-20200088954-$ or US-20160274311-$ or US-20200088949-$ or US-20200073059-$ or US-20200018909-$).did. or (US-20160124160-$ or US-20190146160-$ or US-20140064665-$ or US-20170139158-$ or US-20190377139-$ or US-20160209599-$ or US-20160025942-$ or US-20140072265-$ or US-20180329158-$ or US-20180011254-$ or US-20080175541-$ or US-20190018201-$ or US-20180267255-$ or US-20180081127-$ or US-20170373756-$ or US-20160216454-$ or US-20170219779-$ or US-20090148101-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:06

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9453972-$ or US-9448369-$ or US-9389368-$ or US-9377591-$ or US-9323007-$ or US-9316794-$ or US-9316791-$ or US-9291781-$ or US-9229177-$ or US-9229170-$ or US-9207454-$ or US-9002168-$ or US-8953922-$ or US-8814443-$ or US-8757893-$ or US-8588571-$ or US-8517614-$ or US-8459879-$ or US-8388235-$ or US-8206040-$ or US-8070366-$ or US-7972066-$ or US-7738757-$ or US-7712970-$).did. or (US-7706657-$ or US-7630609-$ or US-7588373-$ or US-7585118-$ or US-7530845-$ or US-7412148-$ or US-7232261-$ or US-7229220-$ or US-7192198-$ or US-7052186-$ or US-7036996-$ or US-6944378-$ or US-6895146-$ or US-6856748-$ or US-6848834-$ or US-6840680-$ or US-6839583-$ or US-6830382-$ or US-6817777-$ or US-6793399-$ or US-6789953-$ or US-6786647-$ or US-6712521-$ or US-6702475-$ or US-6695485-$ or US-6688782-$ or US-6667803-$).did. or (US-6644866-$ or US-6634794-$ or US-6632023-$ or US-6623172-$ or US-6619859-$ or US-6619856-$ or US-6612750-$ or US-6601995-$ or US-6599032-$ or US-6595696-$ or US-6582132-$ or US-6572276-$ or US-6572273-$ or US-6561699-$ or US-6558044-$ or US-6554486-$ or US-6554482-$ or US-6543941-$ or US-6533469-$ or US-6533465-$ or US-6527450-$ or US-6526210-$ or US-6524015-$ or US-6510267-$ or US-6508593-$ or US-6501900-$ or US-6498882-$).did. or (US-6497518-$ or US-6497516-$ or US-6226429-$ or US-6491442-$ or US-6487343-$ or US-6485192-$ or US-6481900-$ or US-6481899-$ or US-6474876-$ or US-6471417-$ or US-6471412-$ or US-6467971-$ or US-6467970-$ or US-6466724-$ or US-6464406-$ or US-6461055-$ or US-6461054-$ or US-6461053-$ or US-6457876-$ or US-6456768-$ or US-6450698-$ or US-6447172-$ or US-6445867-$ or US-6437894-$ or US-6435946-$ or US-6431762-$ or US-6425694-$).did. or

(US-6425692-$ or US-6422761-$ or US-6422760-$ or US-6422759-$ or US-6419810-$ or US-6412987-$ or US-6412986-$ or US-6409394-$ or US-6409392-$ or US-6409391-$ or US-6402393-$ or US-6402390-$ or US-6402388-$ or US-6389212-$ or US-6386768-$ or US-6384896-$ or US-6382843-$ or US-6382839-$ or US-6379052-$ or US-6377840-$ or US-6375363-$ or US-6305849-$ or US-6371659-$ or US-6371657-$ or US-6367986-$ or US-6367984-$ or US-6364536-$).did. or (US-6361218-$ or US-6357932-$ or US-6357931-$ or US-6354746-$ or US-6352372-$ or US-6349164-$ or US-6347889-$ or US-6347888-$ or US-6343950-$ or US-6334715-$ or US-6331079-$ or US-6328481-$ or US-6318904-$ or US-6318903-$ or US-6318902-$ or US-6089759-$ or US-6309111-$ or US-6302592-$ or US-6301004-$ or US-6095695-$ or US-6293706-$ or US-6290527-$ or US-6283640-$ or US-6045270-$ or US-6273618-$ or US-6267513-$ or US-6264375-$).did. or (US-6264373-$ or US-6264372-$ or US-6259839-$ or US-6256446-$ or US-6250817-$ or US-6247851-$ or US-6247849-$ or US-6243526-$ or US-6243518-$ or US-6240235-$ or US-6240229-$ or US-6238249-$ or US-6234681-$ or US-6231244-$ or US-6227719-$ or US-6227718-$ or US-6224269-$ or US-6220763-$ or US-6220762-$ or US-6219479-$ or US-6217226-$ or US-6215944-$ or US-6210045-$ or US-6206577-$ or US-6200040-$ or US-6196729-$ or US-6195477-$).did. or (US-6193420-$ or US-6190616-$ or US-6188827-$ or US-6188825-$ or US-6186670-$ or US-6179480-$ or US-6179475-$ or US-6173099-$ or US-6164835-$ or US-6164834-$ or US-6154597-$ or US-6149315-$ or US-6149313-$ or US-6142676-$ or US-6139346-$ or US-6132105-$ or US-6116789-$ or US-6116101-$ or US-6108482-$ or US-6104856-$ or US-6102581-$ or US-6095694-$ or US-6088502-$ or US-6081647-$ or

US-6079881-$ or US-6076975-$ or US-6064791-$).did. or (US-6059461-$ or US-6053639-$ or US-6048103-$ or US-6048102-$ or US-6045269-$ or US-6041155-$ or US-6027252-$ or US-6024498-$ or US-6022149-$ or US-6017154-$ or US-6012852-$ or US-6007256-$ or US-6004043-$ or US-6004042-$ or US-5993071-$ or US-5987203-$ or US-5984533-$ or US-5980117-$ or US-5971626-$ or US-5969294-$ or US-5963689-$ or US-5960137-$ or US-5956444-$ or US-5953474-$ or US-5953473-$ or US-5949946-$ or US-5862289-$).did. or (US-5940561-$ or US-5940559-$ or US-5937121-$ or US-5930426-$ or US-5930425-$ or US-5923805-$ or US-5921796-$ or US-5920670-$ or US-5920669-$ or US-5915058-$ or US-5909526-$ or US-5909298-$ or US-5742720-$ or US-5737463-$ or US-5896477-$ or US-5892870-$ or US-5887100-$ or US-5887098-$ or US-5881191-$ or US-5870515-$ or US-5867894-$ or US-5867621-$ or US-5862282-$ or US-5845036-$ or US-5727097-$ or US-5838856-$ or US-5838855-$).did. or (US-5832158-$ or US-5825955-$ or US-5818993-$ or US-5815621-$ or US-5815618-$ or US-5809191-$ or US-5799122-$ or US-5796896-$ or US-5781680-$ or US-5778123-$ or US-5778122-$ or US-5774612-$ or US-5774611-$ or US-5768738-$ or US-5548677-$ or US-5764043-$ or US-5761359-$ or US-5751874-$ or US-5748818-$ or US-5737464-$ or US-5734770-$ or US-5732174-$ or US-5732173-$ or US-5727102-$ or US-5721799-$ or US-5701380-$ or US-5694507-$).did. or (US-5694506-$ or US-5692089-$ or US-5692080-$ or US-5687268-$ or US-5682449-$ or US-5680494-$ or US-5673346-$ or US-5671310-$ or US-5668904-$ or US-5666456-$ or US-5666449-$ or US-5664955-$ or US-5661833-$ or US-5581644-$ or US-5651084-$ or US-5647043-$ or US-5645449-$ or US-5642450-$ or US-5633969-$ or US-5620634-$ or US-5619610-$

or US-5386485-$ or US-5611017-$ or US-5611010-$ or US-5607323-$ or US-5603631-$ or US-5602951-$).did. or (US-5600749-$ or US-5600746-$ or US-5325454-$ or US-5592323-$ or US-5588086-$ or US-5588079-$ or US-5579429-$ or US-5574817-$ or US-5574813-$ or US-5570445-$ or US-5563978-$ or US-5563974-$ or US-5563971-$ or US-5555332-$ or US-5550943-$ or US-5548674-$ or US-5542015-$ or US-5537501-$ or US-5530783-$ or US-5528711-$ or US-5521998-$ or US-5521997-$ or US-5519799-$ or US-5506922-$ or US-5499310-$ or US-5497444-$ or US-5485537-$).did. or (US-5483608-$ or US-5473717-$ or US-5452391-$ or US-5450519-$ or US-5446817-$ or US-5444806-$ or US-5420951-$ or US-5418875-$ or US-5339376-$ or US-5414786-$ or US-5408557-$ or US-5367595-$ or US-5384885-$ or US-5379360-$ or US-5372758-$ or US-5367594-$ or US-5366383-$ or US-5363460-$ or US-5359688-$ or US-5339377-$ or US-5335301-$ or US-5333225-$ or US-5333222-$ or US-5333221-$ or US-5329541-$ or US-5323475-$ or US-5317663-$).did. or (US-5315679-$ or US-5315678-$ or US-5305409-$ or US-5297227-$ or US-5293581-$ or US-5282259-$ or US-5280552-$ or US-5274729-$ or US-5267342-$ or US-5265181-$ or US-5259052-$ or US-5239606-$ or US-5233675-$ or US-5233674-$ or US-5231685-$ or US-5228104-$ or US-5222168-$ or US-5214730-$ or US-5210815-$ or US-5199093-$ or US-5179607-$ or US-5177808-$ or US-5166995-$ or US-5159654-$ or US-5157749-$ or US-5155795-$ or US-5134677-$).did. or (US-5134676-$ or US-5134673-$ or US-5133032-$ or US-5129024-$ or US-5127073-$ or US-5124506-$ or US-5119455-$ or US-5115484-$ or US-5109468-$ or US-5109453-$ or US-5101463-$ or US-5091991-$ or US-5091990-$ or US-5082346-$ or US-5082344-$ or US-5077815-$ or US-5076656-$ or US-

		5073042-$ or US-5064268-$ or US-5058983-$ or US-5052774-$ or US-5048916-$ or US-5042891-$ or US-5018823-$ or US-5016972-$ or US-5016970-$ or US-5015060-$).did. or (US-5013124-$ or US-4998797-$ or US-4998796-$ or US-4995688-$ or US-4993803-$ or US-4991929-$ or US-4986762-$ or US-4986622-$ or US-4976510-$ or US-4973127-$ or US-4973126-$ or US-4964688-$ or US-4960317-$ or US-4955976-$ or US-4953929-$ or US-4944079-$ or US-4921325-$ or US-4915472-$ or US-4900118-$ or US-4898446-$ or US-4892380-$ or US-4886335-$ or US-4877303-$ or US-4856866-$ or US-4854664-$ or US-4852963-$ or US-4850671-$).did. or (US-4850536-$ or US-4848870-$ or US-4846544-$ or US-4844570-$ or US-4842361-$ or US-4834486-$ or US-4830456-$ or US-4824196-$ or US-4818058-$ or US-4813760-$ or US-4807957-$ or US-4805980-$ or US-4795231-$ or US-4793683-$ or US-4789216-$ or US-4787700-$ or US-4786135-$ or US-4784456-$ or US-4783137-$ or US-4781429-$ or US-4773725-$ or US-4767178-$ or US-4762389-$ or US-4762387-$ or US-4759600-$ or US-4759599-$ or US-4758719-$).did. or (US-4741590-$ or US-4740052-$ or US-4737009-$ or US-4722081-$ or US-4718744-$ or US-4717234-$ or US-4715674-$ or US-4714318-$ or US-4714317-$ or US-4714315-$ or US-4699460-$ or US-4688887-$ or US-4687291-$ or US-4681398-$ or US-4674831-$ or US-4666241-$ or US-4648688-$ or US-4645296-$ or US-4615581-$ or US-4614402-$ or US-4579418-$ or US-4575183-$ or US-4548467-$ or US-4526438-$ or US-4515434-$ or US-4506946-$ or US-4497536-$).did. or (US-4487474-$ or US-4486072-$ or US-4484796-$ or US-4477146-$ or US-4466009-$ or US-4464817-$ or US-4461539-$ or US-4447121-$ or US-4445753-$ or US-4444461-$ or US-4422716-$ or US-4415232-$ or US-4387957-$ or US-4385801-$ or			

US-4371233-$ or US-4368948-$ or US-4354731-$ or US-4341439-$ or US-4330172-$ or US-4327964-$ or US-4320938-$ or US-4310218-$ or US-4295707-$ or US-4291943-$ or US-4279469-$ or US-4268115-$ or US-4268114-$).did. or (US-4252407-$ or US-4240695-$ or US-4223976-$ or US-4218113-$ or US-4214812-$ or US-4201445-$ or US-4201444-$ or US-4186997-$ or US-4186996-$ or US-4168109-$ or US-4167304-$ or US-4160580-$ or US-4140365-$ or US-4101198-$ or US-4087158-$ or US-4080044-$ or US-3999837-$ or US-3933409-$ or US-10545295-$ or US-10502903-$ or US-10401575-$ or US-10353155-$).did. or (EP-3258301-$ or EP-3054333-$ or CA-2885821-$ or EP-2444827-$ or WO-2018004847-$ or JP-6173629-$ or WO-2015043158-$ or CN-206584076-$ or WO-2016161341-$ or DE-202016103178-$ or WO-2016082160-$ or EP-3021145-$ or JP-5905950-$ or CA-2689768-$ or CA-2928026-$ or CA-2762411-$ or CA-2859345-$ or DE-202013012295-$ or WO-2016004347-$ or WO-2015190211-$ or EP-2942653-$ or CN-204595258-$ or WO-2015116589-$ or WO-2015103783-$ or GB-201507758-$ or CA-2932688-$).did. or (WO-2015068103-$ or EP-2843452-$ or WO-2014143748-$ or JP-5433802-$ or CN-102870023-$ or WO-2012151175-$ or WO-2014049469-$ or WO-2014009463-$ or CA-2912155-$ or WO-2013126068-$ or WO-2013115791-$ or WO-2013115789-$ or CA-2662854-$ or WO-2011152874-$ or GB-201218194-$ or CN-102456976-$ or WO-2011139938-$ or WO-2011044724-$ or CN-101122658-$ or CN-101931134-$ or WO-2010068896-$ or WO-2010025180-$ or EP-2138880-$ or WO-2009110421-$ or CA-2503690-$ or WO-2008006402-$ or CN-1331421-$).did. or (EP-1168016-$ or EP-1172672-$ or EP-1530068-$ or CA-2321428-$ or AU-2003291687-$ or

JP-3106420-$ or EP-1168018-$ or CA-2191600-$ or WO-03093883-$ or CA-2484569-$ or DE-10114144-$ or CN-1118443-$ or WO-03016975-$ or NL-1018440-$ or CA-2284331-$ or EP-0690319-$ or CA-2030897-$ or WO-0155762-$ or CA-2418331-$ or DE-20118858-$ or EP-1124147-$ or EP-1172673-$ or WO-0137010-$ or CA-2198522-$ or WO-0161397-$ or EP-1039324-$ or EP-1039322-$).did. or (EP-1033595-$ or EP-1033594-$ or GB-0007281-$ or EP-0992819-$ or GB-9919699-$ or CA-2262351-$ or CA-2294930-$ or EP-0696748-$ or WO-9734176-$ or CA-2171494-$ or WO-9627811-$ or EP-0633485-$ or EP-0249237-$ or EP-0262847-$ or CA-2082276-$ or GB-9106183-$ or DE-9107960-$ or GB-9103604-$ or WO-9015350-$ or DE-8626183-$ or EP-0262631-$ or EP-0061243-$ or WO-8600147-$ or DE-3112078-$ or GB-2081468-$ or IT-8323399-$ or IT-8323399-$).did. or (GB-2057158-$ or GB-8306227-$ or DK-208682-$ or FR-2487528-$ or FR-2435053-$ or BE-871785-$ or CA-1097111-$ or IT-7925110-$ or FR-2363124-$ or BE-871785-$ or CA-1043604-$ or WO-2019190616-$ or CN-110068899-$).did. or (JP-09033756-$ or JP-04214510-$ or JP-11072659-$ or JP-04220604-$ or JP-56074211-$ or JP-2017138535-$ or JP-05313040-$ or JP-62111222-$ or JP-59140411-$ or JP-59075218-$ or JP-57044113-$ or JP-56066811-$ or JP-55101904-$ or JP-54034251-$).did. or (US-20190107679-$ or US-20180224615-$ or WO-2018125706-$ or US-20180156985-$ or US-20180128988-$ or US-20180120519-$ or US-20180106973-$ or US-20180081128-$ or US-20180052288-$ or US-20180011258-$ or US-20180003903-$ or US-20180364421-$ or US-20170371109-$ or CN-107450131-$ or US-20170336577-$ or US-20170343760-$ or US-9804340-$ or US-20170307830-$ or FR-3050286-$ or US-20170299820-$ or US-20170293088-$ or US-

20170261699-$ or US-20170254967-$ or US-20170254966-$ or US-20170227720-$ or US-9726830-$).did. or (US-20170219779-$ or JP-6173629-$ or US-20170205587-$ or US-9709753-$ or US-20170184790-$ or US-9678283-$ or US-20170153398-$ or US-20170139150-$ or US-20170139156-$ or US-20170102504-$ or US-20170115457-$ or WO-2017065999-$ or US-20170090127-$ or WO-2017038704-$ or US-20170059784-$ or US-20170031106-$ or US-20160377819-$ or US-20160349466-$ or US-20160341908-$ or US-20160341911-$ or WO-2016182556-$ or US-20160327757-$ or US-9482820-$ or WO-2016161341-$ or US-20160282566-$ or CN-105978629-$ or US-20160259135-$).did. or (US-20170329090-$ or EP-3054333-$ or US-9389368-$ or WO-2016105567-$ or US-9377591-$ or US-20160178852-$ or US-20160178859-$ or US-20160161680-$ or EP-3021145-$ or US-20160131854-$ or US-20160124158-$ or JP-5905950-$ or WO-2016053853-$ or WO-2016043922-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016024014-$ or JP-5860948-$ or CA-2859345-$ or US-20160025937-$ or US-20160004016-$ or US-20160004018-$ or US-20150378110-$ or WO-2015190211-$ or EP-2947485-$).did. or (US-20150331201-$ or CN-104950402-$ or DE-102015106225-$ or US-20160306125-$ or US-20150286012-$ or WO-2015144883-$ or US-20150241644-$ or US-20150226926-$ or US-20150226925-$ or WO-2015116589-$ or US-20150219864-$ or WO-2015103783-$ or CN-104570229-$ or CN-104516061-$ or US-20150177463-$ or US-20150162982-$ or WO-2015070382-$ or WO-2015068103-$ or WO-2015028433-$ or US-20150049989-$ or WO-2015009435-$ or US-20150023637-$ or EP-2818903-$ or

US-20140363131-$ or WO-2014197701-$ or US-20140321808-$ or WO-2014165175-$).did. or (WO-2014143748-$ or US-20140219624-$ or EP-2759860-$ or WO-2014113753-$ or US-20140205247-$ or US-20140199034-$ or US-20140153879-$ or US-20140147081-$ or ES-1110405-$ or WO-2014049469-$ or TW-474924-$ or US-20140064688-$ or JP-5433802-$ or EP-2700992-$ or WO-2014011898-$ or US-20140016901-$ or WO-2014011283-$ or WO-2013177234-$ or WO-2013155395-$ or US-20130259429-$ or US-20130230283-$ or WO-2013126068-$ or WO-2013122865-$ or WO-2013117598-$ or WO-2013115789-$ or WO-2013115791-$ or US-20130121645-$).did. or (CN-103091793-$ or WO-2013036843-$ or US-20130051749-$ or TW-201309089-$ or CN-102870023-$ or US-20120308183-$ or WO-2012151175-$ or US-20120263419-$ or US-20120251051-$ or US-20120251054-$ or TW-201233549-$ or US-20120099822-$ or EP-2444827-$ or US-20120082416-$ or US-20120057824-$ or KR-2012000895-$ or US-20120027355-$ or KR-2012000895-$ or WO-2011152874-$ or US-20110274437-$ or US-20110249942-$ or EP-2302431-$ or WO-2010137426-$ or EP-2206458-$ or WO-2010068896-$ or US-7712970-$ or WO-2010025180-$).did. or (US-20100040330-$ or WO-2009110421-$ or US-20090060423-$ or US-20090041411-$ or US-7435009-$ or US-20070098327-$ or US-20070077010-$ or US-20070058907-$ or EP-1752805-$ or US-20060193562-$ or US-20060165352-$ or US-20060153503-$ or WO-2006022840-$ or US-20050053342-$ or US-20040228589-$ or US-20040223699-$ or US-20040062498-$ or EP-1394584-$ or WO-03094297-$ or WO-03093883-$ or US-20030044125-$ or US-

		20030031437-$ or WO-02061481-$ or US-6422760-$ or WO-02056060-$ or DE-20118858-$ or EP-1172673-$).did. or (EP-1172672-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or US-20010041030-$ or WO-0181965-$ or EP-1124147-$ or EP-1107031-$ or WO-0140839-$ or EP-1092995-$ or EP-1091225-$ or EP-1041416-$ or EP-1041414-$ or EP-1020745-$ or EP-1016885-$ or EP-1010999-$ or GB-2341455-$ or WO-9947958-$ or US-5940561-$ or WO-9928774-$ or WO-9857208-$ or DE-19626036-$ or WO-9746900-$ or US-5692080-$ or EP-803750-$ or WO-9734176-$ or WO-9723794-$).did. or (EP-758099-$ or WO-9634176-$ or WO-9627811-$ or JP-08201656-$ or WO-9616080-$ or EP-697608-$ or EP-696748-$ or WO-9600917-$ or EP-663602-$ or EP-663601-$ or EP-660145-$ or EP-660144-$ or EP-505197-$ or EP-490698-$ or US-5101463-$ or EP-458608-$ or WO-9117540-$ or US-5064268-$ or GB-2241794-$ or EP-430107-$ or WO-9015350-$ or US-4953929-$ or EP-262631-$ or EP-249237-$ or WO-8600147-$ or US-4496213-$ or EP-125398-$).did. or (DE-3208797-$ or GB-2098354-$ or EP-61243-$ or GB-2081468-$ or GB-2057158-$ or DE-2932986-$ or BE-871785-$ or DE-2805949-$ or DE-2558445-$ or US-10502903-$).did.				
S824	1,872	(G02B6/3879).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:06
S825	1,322	S824 not (S820 S821 S822 S823)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:06
S826	696	(US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:06

20190227240-$ or US-20190227237-$ or US-20190219775-$ or US-20190170931-$ or US-20190137700-$ or US-20190137697-$ or US-20190137695-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20190033531-$ or US-20190004252-$ or US-20190004251-$ or US-20180364422-$ or US-20180364436-$).did. or (US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180321449-$ or US-20180217336-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180128988-$ or US-20170363818-$ or US-20170261696-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170205586-$ or US-20170176691-$ or US-20170176692-$ or US-20170068064-$ or US-20170059785-$ or US-20170063464-$ or US-20170023746-$ or US-20160349458-$ or US-20160327756-$ or US-20160306122-$ or US-20160282565-$).did. or (US-20160274314-$ or US-20160223774-$ or US-20160202428-$ or US-20160091674-$ or US-20150378113-$ or US-20150277059-$ or US-20150260924-$ or US-20150260923-$ or US-20150198774-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20140205257-$ or US-20140169727-$ or US-20140168987-$ or US-20140161392-$ or US-20140153878-$ or US-20140153879-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140037253-$ or US-20140029900-$ or US-20140022627-$ or US-20140016901-$ or US-20140003771-$).did. or (US-20130322825-$ or US-20130158512-$ or US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20120155803-$ or US-20120093462-$ or US-20110299266-$ or US-

20110229092-$ or US-20110229083-$ or US-20110064361-$ or US-20110058774-$ or US-20100322563-$ or US-20100178014-$ or US-20100178010-$ or US-20100054668-$ or US-20100027942-$ or US-20090135429-$ or US-20080317415-$ or US-20080273840-$ or US-20080226235-$ or US-20080124033-$ or US-20080090433-$ or US-20080013889-$ or US-20070292084-$ or US-20070031103-$).did. or (US-20060275007-$ or US-20060257075-$ or US-20060257076-$ or US-20060204178-$ or US-20060171640-$ or US-20060171639-$ or US-20060140543-$ or US-20060127028-$ or US-20060093274-$ or US-20060083466-$ or US-20060063436-$ or US-20060045428-$ or US-20060018603-$ or US-20050271338-$ or US-20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20040157499-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020176960-$ or US-20020142634-$).did. or (US-20020126960-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$).did. or (US-10444442-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9977197-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$ or US-6364537-$).did. or (US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-6179476-$ or US-6179477-$ or US-6130977-$ or US-6062739-$ or US-

5971625-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717533-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$ or US-5577146-$).did. or (US-5546281-$ or US-5436994-$ or US-5400428-$ or US-5396572-$ or US-5329604-$ or US-5289554-$ or US-5276755-$ or US-5265182-$ or US-5261019-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212752-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5121454-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$).did. or (US-5067783-$ or US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$).did. or (US-4728171-$ or US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$).did. or (WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$ or WO-2019086961-$ or WO-2019006195-$ or WO-

2019006176-$ or CN-108693606-$ or EP-3330757-$ or WO-2018044728-$ or EP-3278153-$ or CN-107636504-$ or WO-2018009426-$ or WO-2017182535-$ or CN-206479676-$ or EP-3180644-$ or EP-3123221-$ or WO-2016174980-$ or WO-2016140710-$ or CN-105683795-$ or WO-2015120031-$ or WO-2015070382-$ or EP-2852856-$ or WO-2015009435-$ or FR-2997767-$ or WO-2014054357-$ or CN-103676018-$).did. or (CA-2866107-$ or GB-201220748-$ or CN-102520489-$ or CN-102445735-$ or CN-102385113-$ or WO-2012015713-$ or DE-102010021179-$ or GB-201004720-$ or DE-112006003952-$ or CA-2593676-$ or WO-2008033262-$ or EP-1783524-$ or AU-2006295165-$ or EP-1762871-$ or DE-60026115-$ or KR-100452879-$ or AU-2004274992-$ or CA-2441872-$ or KR-20040020797-$ or CN-1334472-$ or DE-20111078-$ or DE-10031931-$ or CA-2302068-$ or DE-19834723-$ or WO-9723794-$ or DE-29614436-$ or DE-19525739-$).did. or (CH-687105-$ or DE-19601949-$ or GB-9525323-$ or FR-2707402-$ or WO-9415232-$ or GB-9408857-$ or EP-0546936-$ or MX-9201992-$ or DE-4203966-$ or IT-MI913184-$ or GB-9103982-$ or CH-676513-$ or GB-9025881-$ or DE-3914978-$ or DE-9012174-$ or DE-9010357-$ or DE-8911081-$ or DE-8911080-$ or EP-0339876-$ or EP-0324272-$ or DE-8901052-$ or DE-8900623-$ or EP-0292024-$ or DE-8812341-$ or DE-3737842-$ or DE-3701421-$ or EP-0253426-$).did. or (EP-0249406-$ or KR-870005264-$ or EP-0183820-$ or EP-0166636-$ or EP-0154781-$ or EP-0153249-$ or EP-0098190-$ or EP-0098205-$ or FR-2528984-$ or FR-2502798-$ or GB-2086602-$ or EP-0045271-$ or WO-8002213-$ or DE-2932986-$ or DE-2832839-$ or AU-3682878-$ or GB-1526682-$ or FR-2316611-$ or GB-1450760-$ or

FR-2268370-$).did. or (JP-2019184942-$ or JP-2005258017-$ or JP-2000241670-$ or JP-05215939-$ or JP-03059503-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-61129605-$ or JP-61028909-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-59038707-$ or JP-59036207-$ or JP-58190910-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56062212-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$).did. or (US-20200033539-$ or US-20200012053-$ or US-20200003961-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$ or EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190227240-$ or US-20190219775-$ or US-20190204513-$ or US-20190162914-$ or US-20190162917-$).did. or (US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or US-20180372962-$ or US-20180364422-$ or CN-108983368-$ or KR-2018131725-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or US-20180292612-$ or CN-108490551-$).did. or (US-

20180231722-$ or JP-6363784-$ or US-20180203196-$ or CN-108279462-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018008399-$ or CN-107479141-$ or EP-3249434-$ or WO-2017182535-$ or US-20170264045-$ or US-20170261698-$ or US-20170261696-$ or KR-2017103050-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017106514-$).did. or (US-20170176691-$ or US-20170176692-$ or WO-2017095928-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$ or US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or WO-2015142551-$ or US-20150260923-$ or CN-104914515-$ or WO-2015126470-$).did. or (WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-$ or EP-2821830-$ or US-20140233892-$ or US-20140219610-$ or US-20140161392-$ or US-20140153878-$ or US-20140147078-$ or WO-2014078261-$ or FR-2997767-$ or US-20140029900-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-$ or US-20130202254-$ or WO-2013049494-$ or JP-2013045047-$ or US-20120315000-$ or WO-2012157276-$ or CN-102520489-$ or WO-2012078697-$ or WO-2012078701-$ or US-20120093462-$

or WO-2012029013-$).did. or (WO-2012015713-$ or WO-2012015734-$ or WO-2011116167-$ or CN-102122031-$ or US-20110058774-$ or US-20100322563-$ or US-20090135429-$ or US-20090098760-$ or DE-102007023250-$ or WO-2008112183-$ or US-20080124033-$ or US-20080112672-$ or EP-1762871-$ or WO-2006130549-$ or US-20060257075-$ or US-20060204178-$ or US-20060153504-$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$).did. or (US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$ or EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$ or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9723794-$ or WO-9637793-$).did. or (DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-4041425-$ or EP-420490-$ or EP-335531-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$ or EP-440447-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$).did. or (EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-

		156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$ or EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$).did. or (GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$).did.				
S827	1,322	S825 not S826	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:06
S828	5,309	(G02B6/3825).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:06
S829	55	(US-20140241689-$ or US-20200057205-$ or US-20200070211-$ or US-20190377139-$ or US-20190346644-$ or US-20190331862-$ or US-20190285806-$ or US-20190278028-$ or US-20190101703-$ or US-20180031783-$ or US-20160062050-$ or US-20160035201-$ or US-20150241650-$ or US-20150063758-$ or US-20140348481-$ or US-20140348467-$ or US-20140241688-$ or US-20140233893-$ or US-20140219609-$ or US-20130272671-$ or US-20130259429-$ or US-20130051733-$ or US-20130044978-$ or US-20120251051-$ or US-20110038592-$ or US-20100322580-$).did. or (US-20100199447-$ or US-20100111484-$ or US-20100054665-$ or US-20090274432-$ or US-20080273837-$ or US-20050163431-$ or US-20050111810-$ or US-20050111809-$ or US-20030190130-$ or US-20030108301-$).did. or (US-8858089-$ or US-6857900-$ or US-6705765-$ or US-6547585-$ or US-6485189-$ or US-6412986-$ or US-6146023-$ or US-6041155-$ or US-5870515-$ or US-5675682-$ or US-5600747-$).did. or (US-10459172-$ or US-20150063758-$ or US-	US-PGPUB; USPAT; DERWENT	OR	ON	2020/09/01 13:06

		20140348467-$ or US-20140348481-$ or US-20140241688-$ or US-20140241689-$ or WO-2013155395-$ or US-20130259429-$).did.				
S830	623	(US-20150260936-$ or US-20190324218-$ or US-20150219864-$ or US-20160170154-$ or US-20200150353-$ or US-20180267258-$ or US-20200132941-$ or US-20180335577-$ or US-20200116950-$ or US-20190181586-$ or US-20200088955-$ or US-20200081194-$ or US-20200057204-$ or US-20200057199-$ or US-20200049902-$ or US-20190129104-$ or US-20190377138-$ or US-20190369335-$ or US-20190353865-$ or US-20190346635-$ or US-20190346634-$ or US-20180217339-$ or US-20190331862-$ or US-20190302371-$ or US-20190190199-$ or US-20160195682-$).did. or (US-20190271815-$ or US-20190243084-$ or US-20090238522-$ or US-20190243075-$ or US-20190235174-$ or US-20180292617-$ or US-20190200103-$ or US-20190187383-$ or US-20170227719-$ or US-20190113693-$ or US-20190113692-$ or US-20190113689-$ or US-20190101706-$ or US-20190101705-$ or US-20190101704-$ or US-20190079252-$ or US-20190072729-$ or US-20190064452-$ or US-20190049678-$ or US-20190041587-$ or US-20190025526-$ or US-20170371109-$ or US-20180356600-$ or US-20180335571-$ or US-20180329154-$ or US-20180314018-$ or US-20140321808-$).did. or (US-20170045702-$ or US-20180306984-$ or US-20180299624-$ or US-20180284357-$ or US-20180267256-$ or US-20130089293-$ or US-20180136416-$ or US-20180100982-$ or US-20180081129-$ or US-20180052287-$ or US-20170293090-$ or US-20170205590-$ or US-20160062050-$ or US-20160320572-$ or US-20160341905-$ or US-20160306125-$ or US-20150162982-$ or US-20160223757-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:06

20150063815-$ or US-20140363131-$ or US-20140321810-$ or US-20140301701-$ or US-20140241671-$ or US-20120257865-$ or US-20080311781-$ or US-20110274437-$ or US-20120128302-$).did. or (US-20120099819-$ or US-20120057824-$ or US-20110091158-$ or US-20110059642-$ or US-20100310213-$ or US-20100226610-$ or US-20100104355-$ or US-20070077010-$ or US-20080248691-$ or US-20080175543-$ or US-20080131055-$ or US-20070292082-$ or US-20080037934-$ or US-20080032536-$ or US-20070116412-$ or US-20050226567-$ or US-20050164536-$ or US-20050163429-$ or US-20050095899-$ or US-20050018973-$ or US-20040228582-$ or US-20030031448-$ or US-20030031437-$ or US-20030012520-$ or US-20020167793-$).did. or (US-10571641-$ or US-10539745-$ or US-10527803-$ or US-10514518-$ or US-10429592-$ or US-10401574-$ or US-10302874-$ or US-10234635-$ or US-10133009-$ or US-10120140-$ or US-10120138-$ or US-10101570-$ or US-10094768-$ or US-9971103-$ or US-9678294-$ or US-9658405-$ or US-9645323-$ or US-9606300-$ or US-9581767-$ or US-9557508-$ or US-9557491-$ or US-9551835-$ or US-9482840-$ or US-9482823-$ or US-9448368-$ or US-9366829-$).did. or (US-9335488-$ or US-9291785-$ or US-9274300-$ or US-9110249-$ or US-9103990-$ or US-9057845-$ or US-9052475-$ or US-9033588-$ or US-9022666-$ or US-8985862-$ or US-8979388-$ or US-8845206-$ or US-8821036-$ or US-8801297-$ or US-8573854-$ or US-8419291-$ or US-8406588-$ or US-8202009-$ or US-8157455-$ or US-8104973-$ or US-8009959-$ or US-7980769-$ or US-7887243-$ or US-7758255-$ or US-7744285-$ or US-7717625-$ or US-7374347-$).did. or (US-7336884-$ or US-7261471-$ or US-7234876-$ or US-7111990-$ or US-7090407-$

or US-7073953-$ or US-6994478-$ or US-6945702-$ or US-6920255-$ or US-6872006-$ or US-6866424-$ or US-6832858-$ or US-6805493-$ or US-6789950-$ or US-6769814-$ or US-6762941-$ or US-6761488-$ or US-6572276-$ or US-6554486-$ or US-6513989-$ or US-6459843-$ or US-6435728-$ or US-6434316-$ or US-6434315-$ or US-6398422-$ or US-6364539-$ or US-6357928-$).did. or (US-6351590-$ or US-6264374-$ or US-6259856-$ or US-6257917-$ or US-6256448-$ or US-6203208-$ or US-6149313-$ or US-6146023-$ or US-6139194-$ or US-5963698-$ or US-5600747-$ or US-5511138-$ or US-5428702-$ or US-5335301-$ or US-5265181-$ or US-5216732-$ or US-5183408-$ or US-5166995-$ or US-4986769-$ or US-4950048-$ or US-4904199-$ or US-4711511-$ or US-4657338-$ or US-4580868-$ or US-4478485-$ or US-4448467-$ or US-4376565-$).did. or (US-4186997-$).did. or (WO-2019012006-$ or CA-2864886-$ or WO-2020047283-$ or WO-2017147401-$ or WO-2018183496-$ or GB-201311768-$ or GB-201906387-$ or CN-110618492-$ or WO-2018140873-$ or AU-2015318357-$ or WO-2019222189-$ or WO-2016077167-$ or CN-105425341-$ or WO-2012106510-$ or WO-2019200066-$ or WO-2016086881-$ or WO-2019125963-$ or WO-2016053673-$ or FR-3021415-$ or WO-2019089220-$ or WO-2019060293-$ or WO-2017139430-$ or EP-3330758-$ or WO-2019036297-$ or WO-2018169759-$ or WO-2016049208-$).did. or (CA-2869770-$ or WO-2018045232-$ or WO-2015029585-$ or CN-105283786-$ or WO-2017123460-$ or JP-5805344-$ or CN-205992071-$ or WO-2016068966-$ or WO-2015191024-$ or WO-2011019581-$ or EP-2818903-$ or WO-2014116785-$ or WO-2013049082-$ or CA-2546593-$ or WO-2008045560-$ or WO-

2011130445-$ or CA-2304082-$ or WO-2010103465-$ or EP-2251724-$ or AU-2002243312-$ or WO-9909442-$ or CN-1231430-$ or CA-2537354-$ or EP-1221630-$ or WO-0008503-$ or CA-2276631-$ or EP-1229366-$).did. or (EP-1879060-$ or CA-2594549-$ or CN-1258011-$ or WO-2005022228-$ or WO-2004008214-$ or WO-2004107001-$ or EP-1334394-$ or WO-2006007120-$ or CA-2276627-$ or EP-1415186-$ or WO-2005047946-$ or EP-1257012-$ or EP-1299758-$ or CA-2283016-$ or WO-9746900-$ or WO-9857208-$ or CA-2339502-$ or CA-2327007-$ or CA-2136212-$ or CN-1231429-$ or EP-0927899-$ or EP-0927898-$ or WO-0075701-$ or AU-1587897-$ or CA-2288247-$ or EP-1273944-$ or CA-2068453-$).did. or (GB-9011424-$ or WO-0182374-$ or EP-0927895-$ or CA-2312241-$ or MX-9202155-$ or CA-2330965-$ or DE-19846731-$ or EP-1039323-$ or FR-2752951-$ or WO-9964917-$ or GB-9622511-$ or EP-0961142-$ or CA-2237481-$ or WO-9931539-$ or EP-0821253-$ or CA-2222237-$ or EP-0323920-$ or EP-0490698-$ or CA-1299407-$ or AU-1019788-$ or WO-9308493-$ or FR-2648240-$ or DE-9108955-$ or GB-8614272-$ or CA-1239820-$ or DE-3633340-$ or IT-7925047-$).did. or (GB-8332694-$ or EP-0109870-$ or DE-2933790-$ or DE-3021001-$ or GB-2058392-$).did. or (JP-2016009081-$ or JP-2016122050-$ or JP-2016085422-$ or JP-10050400-$ or JP-2002048946-$ or JP-08110439-$ or JP-09145959-$ or JP-10311934-$ or JP-09145957-$ or JP-07248434-$ or JP-01177508-$ or JP-59157605-$ or JP-56060409-$).did. or (US-20200174200-$ or US-20200166717-$ or US-20200142140-$ or US-20200124802-$ or US-20190384018-$ or US-20190339464-$ or US-20190339470-$ or US-20190324218-$ or US-20190302376-$ or US-20190285811-$ or US-20190243076-$ or US-20190235174-$ or CN-

		110031940-$ or US-20190219776-$ or US-20190212504-$ or US-20190200103-$ or US-20190190199-$ or US-20190179089-$ or US-20190179086-$ or US-20190179088-$ or US-20190181586-$ or US-20190154928-$ or US-20190129104-$ or US-20190101704-$ or US-20190101705-$ or WO-2019060293-$).did. or (US-20200088955-$ or US-10234635-$ or US-20190079252-$ or US-10222562-$ or KR-2019006212-$ or WO-2019012006-$ or US-20190025526-$ or US-20190011645-$ or US-20190064452-$ or US-20180356600-$ or KR-2018129442-$ or US-20180329154-$ or US-20180335571-$ or US-20180335577-$ or US-20180335581-$ or US-10107967-$ or US-20180314014-$ or US-20180306997-$ or US-10107972-$ or US-20180299624-$ or US-10101570-$ or US-20180292617-$ or WO-2018183496-$ or US-20180267255-$ or US-20180239093-$ or US-20180217338-$ or US-20180217339-$).did. or (US-20180210155-$ or US-10018787-$ or US-20180188455-$ or CN-108227089-$ or US-20180156988-$ or US-9989712-$ or US-20190113692-$ or US-20180136416-$ or WO-2018085767-$ or US-9933582-$ or US-20180077472-$ or WO-2018045232-$ or WO-2018045234-$ or US-20180011261-$ or US-20170357060-$ or EP-3258301-$ or US-9823428-$ or US-20170299831-$ or US-20170293089-$ or WO-2017172600-$ or US-20170285277-$ or WO-2017160697-$ or WO-2017147401-$ or CN-106918869-$ or US-20170242199-$ or WO-2017136437-$ or US-20170227719-$).did. or (JP-2017134310-$ or US-20170212316-$ or US-20170205591-$ or US-20170192182-$ or WO-2017066139-$ or US-20170045702-$ or US-20170045695-$ or US-20170003456-$ or US-20160349464-$ or US-9482823-$ or US-9482825-$ or US-20160306124-$ or EP-3078999-$ or			

US-20160282562-$ or US-9448369-$ or WO-2016137934-$ or US-20160238789-$ or WO-2016123128-$ or US-20160223757-$ or US-20160223763-$ or US-20160195682-$ or WO-2016104132-$ or US-20160161681-$ or WO-2016086881-$ or WO-2016082160-$ or US-20160139345-$ or EP-3021144-$).did. or (EP-3021146-$ or WO-2016068966-$ or US-20160109676-$ or WO-2016053852-$ or WO-2016053673-$ or WO-2016049208-$ or US-20160091673-$ or US-20160085045-$ or US-20160077284-$ or WO-2016039383-$ or US-20150370017-$ or WO-2015191024-$ or US-20160370549-$ or US-20150355417-$ or JP-5805344-$ or US-20150309279-$ or WO-2015158564-$ or WO-2015150149-$ or US-20150253518-$ or AU-2014101479-$ or US-20150131946-$ or WO-2015047380-$ or WO-2015029585-$ or WO-2014186436-$ or US-20140314385-$ or US-20140294339-$ or US-20140241667-$).did. or (US-20140219615-$ or US-20140205241-$ or AU-2014100325-$ or CN-103645545-$ or US-20140072265-$ or US-20180100982-$ or US-20130302004-$ or WO-2013126429-$ or US-20130209041-$ or US-20130170796-$ or US-20130170797-$ or WO-2013077969-$ or US-20130089293-$ or WO-2013019622-$ or WO-2013019189-$ or US-20120263423-$ or WO-2012106510-$ or WO-2012106513-$ or WO-2012106518-$ or JP-2012120095-$ or US-20120141070-$ or US-20110243504-$ or US-20110150396-$ or US-20110081798-$ or US-20110044590-$ or WO-2011019581-$ or KR-2011002571-$).did. or (US-20100322554-$ or US-20100310213-$ or WO-2010138446-$ or EP-2251724-$ or US-20100135618-$ or US-20100074616-$ or US-20090290838-$ or US-20090238522-$ or WO-2009023673-$ or EP-1990665-$ or US-20080253719-$ or WO-2008045560-

		$ or EP-1887395-$ or US-20070160327-$ or US-20050271328-$ or US-20050226567-$ or WO-2005022229-$ or WO-2005022228-$ or WO-2005022227-$ or US-20040223701-$ or US-20040105628-$ or US-20040062486-$ or WO-2004008214-$ or US-20040008494-$ or KR-2003071425-$ or US-20030044127-$ or KR-2003012941-$).did. or (US-20030031448-$ or US-20030031419-$ or EP-1257012-$ or KR-2002019797-$ or WO-0219002-$ or WO-0216989-$ or WO-0216530-$ or WO-0182374-$ or EP-1150149-$ or CA-2339502-$ or WO-0155762-$ or EP-1116974-$ or WO-0137010-$ or WO-0075701-$ or WO-0070381-$ or EP-1054278-$ or EP-1039322-$ or JP-2000199833-$ or EP-1016886-$ or EP-1014126-$ or EP-997753-$ or WO-0008503-$ or EP-969299-$ or EP-969298-$ or WO-9964917-$ or EP-961142-$ or WO-9957786-$).did. or (EP-949522-$ or EP-927899-$ or EP-927898-$ or WO-9931539-$ or US-5915058-$ or WO-9928773-$ or US-5909526-$ or EP-916974-$ or WO-9909442-$ or US-5867621-$ or WO-9859271-$ or US-5778122-$ or EP-821253-$ or US-5666456-$ or JP-09145959-$ or GB-2306696-$ or US-5555332-$ or EP-712015-$ or US-5519799-$ or WO-9323777-$ or EP-514722-$ or US-5134673-$ or EP-323920-$ or EP-277390-$ or GB-2176629-$ or GB-2151040-$ or GB-2058392-$).did. or (EP-8329-$).did.				
S831	736	(US-20180321449-$ or US-20190004252-$ or US-20170059785-$ or US-20190137700-$ or US-20130158512-$ or US-20180364422-$ or US-20150378113-$ or US-20200012052-$ or US-20100054668-$ or US-20060093274-$ or US-20140029900-$ or US-20190004251-$ or US-20190258010-$ or US-20140153878-$ or US-20180128988-$ or US-20190170931-$ or US-20140153879-$ or US-20190137697-$ or US-20190137695-$ or US-20160349458-$ or US-20190121032-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:06

		$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20170176691-$ or US-20100322563-$).did. or (US-20190033531-$ or US-20170261696-$ or US-20180364436-$ or US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180217336-$ or US-20110058774-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180120517-$ or US-20170363818-$ or US-20160274314-$ or US-20170205586-$ or US-20140169727-$ or US-20160223774-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170176692-$ or US-20120093462-$ or US-20170068064-$ or US-20170063464-$ or US-20170023746-$).did. or (US-20110299266-$ or US-20140016901-$ or US-20160327756-$ or US-20160306122-$ or US-20150260924-$ or US-20160282565-$ or US-20160202428-$ or US-20140205257-$ or US-20160091674-$ or US-20150277059-$ or US-20150260923-$ or US-20150198774-$ or US-20140037253-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20120155803-$ or US-20140168987-$ or US-20140161392-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-$ or US-20110064361-$).did. or (US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20110229092-$ or US-20110229083-$ or US-20080226235-$ or US-20080273840-$ or US-20100178014-$ or US-20100178010-$ or US-20040157499-$ or US-20080013889-$ or US-20100027942-$ or US-20090135429-$ or US-20020126960-$ or US-20060127028-$ or US-20080317415-$ or US-20080090433-$ or US-20060257075-$ or US-20080124033-			

		$ or US-20060083466-$ or US-20070292084-$ or US-20060018603-$ or US-20060204178-$ or US-20070031103-$ or US-20060275007-$ or US-20060257076-$).did. or (US-20060171640-$ or US-20060171639-$ or US-20060140543-$ or US-20060063436-$ or US-20060045428-$ or US-20050271338-$ or US-20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20020176960-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20020142634-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$ or US-20190219775-$ or US-20200200977-$ or US-20200183092-$).did. or (US-20200150374-$ or US-20200124805-$ or US-20200081193-$ or US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$).did. or (US-10324264-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-5971625-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6179476-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$).did. or (US-6364537-$ or US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-5717533-$ or US-5212752-$ or US-6179477-$ or US-6130977-$ or US-5546281-$ or US-6062739-$ or US-5970598-$ or US-			

5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$).did. or (US-5577146-$ or US-5436994-$ or US-5121454-$ or US-5400428-$ or US-5396572-$ or US-5265182-$ or US-5329604-$ or US-5261019-$ or US-5289554-$ or US-5276755-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$ or US-5067783-$).did. or (US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$ or US-4728171-$).did. or (US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$ or US-10670824-$ or US-10444442-$).did. or (CA-3068131-$ or EP-3180644-$ or WO-2016140710-$ or WO-2018009426-$ or WO-2015070382-$ or EP-3123221-$ or WO-2019246241-$ or EP-3579031-$ or GB-201905648-$ or

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US-20060257075-$).did. or (US-20060204178-$ or US-20060153504-$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$ or US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$).did. or (EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$ or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9637793-$ or DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-4041425-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$).did. or (EP-440447-$ or EP-420490-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or EP-335531-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$ or EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$).did. or (EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$ or GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$ or US-

		20200209492-$ or US-20200200977-$ or US-20200200979-$ or US-20200183093-$ or US-20200166716-$ or US-20200150374-$ or US-20200142141-$ or US-20200124805-$ or US-20200116949-$ or US-20200116952-$).did. or (US-20200116953-$ or US-20200116954-$ or US-20200110224-$ or US-20200103598-$ or US-20200103599-$ or US-20200096709-$ or US-20200096710-$ or US-20200096708-$ or US-20200081198-$ or US-20200057205-$ or US-20200049899-$ or US-20200033539-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$).did. or (EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190219775-$ or US-20190204513-$ or US-20200081193-$ or US-20200012053-$ or US-20200003961-$ or US-20190227240-$).did.				
S832	2,183	(US-20200225425-$ or US-20200225424-$ or US-20200225422-$ or US-20190056557-$ or US-20190179086-$ or US-20190064447-$ or US-20180217337-$ or US-20200183093-$ or US-20160018593-$ or US-20200166716-$ or US-20110222819-$ or US-20170285282-$ or US-20180246282-$ or US-20160259135-$ or US-20180143384-$ or US-20200142133-$ or US-20190041584-$ or US-20200132934-$ or US-20200116957-$ or US-20200110224-$ or US-20200096708-$ or US-20200088954-$ or US-20160274311-$ or US-20200088949-$ or US-20200073059-$ or US-20200018909-$).did. or (US-20160124160-$ or US-20190146160-$ or US-20140064665-$ or US-20170139158-$ or US-20190377139-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:06

$ or US-20160209599-$ or US-20160025942-$ or US-20140072265-$ or US-20180329158-$ or US-20180011254-$ or US-20080175541-$ or US-20190018201-$ or US-20180267255-$ or US-20180081127-$ or US-20170373756-$ or US-20160216454-$ or US-20170219779-$ or US-20090148101-$ or US-20180252872-$ or US-20190187392-$ or US-20190179085-$ or US-20130216186-$ or US-20190170957-$ or US-20180156985-$ or US-20190154924-$ or US-20160327757-$ or US-20190113691-$).did. or (US-20160161680-$ or US-20190101709-$ or US-20190086617-$ or US-20190033533-$ or US-20190025523-$ or US-20190025522-$ or US-20190004261-$ or US-20180364421-$ or US-20180348443-$ or US-20180341072-$ or US-20160018604-$ or US-20180329155-$ or US-20180329153-$ or US-20180292618-$ or US-20180292612-$ or US-20160139346-$ or US-20160349464-$ or US-20180239091-$ or US-20180231730-$ or US-20160209610-$ or US-20180231722-$ or US-20170219789-$ or US-20160131857-$ or US-20180217338-$ or US-20180210155-$ or US-20180210154-$ or US-20180210153-$).did. or (US-20180196204-$ or US-20180196202-$ or US-20180188460-$ or US-20180180819-$ or US-20180172942-$ or US-20180164510-$ or US-20180157002-$ or US-20180156988-$ or US-20180149813-$ or US-20180143381-$ or US-20180136410-$ or US-20180128991-$ or US-20150036980-$ or US-20180113268-$ or US-20180113259-$ or US-20180106975-$ or US-20180106973-$ or US-20180095232-$ or US-20180088289-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180081139-$ or US-20180081128-$ or US-20180081125-$ or US-20180081122-$).did. or (US-20180078781-$ or US-20180077472-$ or US-20180074277-$ or US-

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or US-9678283-$ or US-9678282-$ or US-9671570-$ or US-9671568-$ or US-9664864-$ or US-9658407-$ or US-9645335-$ or US-9645326-$ or US-9638871-$ or US-9638868-$ or US-9632267-$ or US-9625658-$ or US-9625657-$ or US-9625655-$).did. or (US-9606303-$ or US-9551831-$ or US-9482825-$ or US-9453972-$ or US-9448369-$ or US-9389368-$ or US-9377591-$ or US-9323007-$ or US-9316794-$ or US-9316791-$ or US-9291781-$ or US-9229177-$ or US-9229170-$ or US-9207454-$ or US-9002168-$ or US-8953922-$ or US-8814443-$ or US-8757893-$ or US-8588571-$ or US-8517614-$ or US-8459879-$ or US-8388235-$ or US-8206040-$ or US-8070366-$ or US-7972066-$ or US-7738757-$ or US-7712970-$).did. or (US-7706657-$ or US-7630609-$ or US-7588373-$ or US-7585118-$ or US-7530845-$ or US-7412148-$ or US-7232261-$ or US-7229220-$ or US-7192198-$ or US-7052186-$ or US-7036996-$ or US-6944378-$ or US-6895146-$ or US-6856748-$ or US-6848834-$ or US-6840680-$ or US-6839583-$ or US-6830382-$ or US-6817777-$ or US-6793399-$ or US-6789953-$ or US-6786647-$ or US-6712521-$ or US-6702475-$ or US-6695485-$ or US-6688782-$ or US-6667803-$).did. or (US-6644866-$ or US-6634794-$ or US-6632023-$ or US-6623172-$ or US-6619859-$ or US-6619856-$ or US-6612750-$ or US-6601995-$ or US-6599032-$ or US-6595696-$ or US-6582132-$ or US-6572276-$ or US-6572273-$ or US-6561699-$ or US-6558044-$ or US-6554486-$ or US-6554482-$ or US-6543941-$ or US-6533469-$ or US-6533465-$ or US-6527450-$ or US-6526210-$ or US-6524015-$ or US-6510267-$ or US-6508593-$ or US-6501900-$ or US-6498882-$).did. or (US-6497518-$ or US-6497516-$ or US-6226429-$ or US-6491442-$ or US-6487343-$ or US-6485192-$ or US-6481900-$ or US-6481899-$ or US-6474876-$ or US-

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US-6179475-$ or US-6173099-$ or US-6164835-$ or US-6164834-$ or US-6154597-$ or US-6149315-$ or US-6149313-$ or US-6142676-$ or US-6139346-$ or US-6132105-$ or US-6116789-$ or US-6116101-$ or US-6108482-$ or US-6104856-$ or US-6102581-$ or US-6095694-$ or US-6088502-$ or US-6081647-$ or US-6079881-$ or US-6076975-$ or US-6064791-$).did. or (US-6059461-$ or US-6053639-$ or US-6048103-$ or US-6048102-$ or US-6045269-$ or US-6041155-$ or US-6027252-$ or US-6024498-$ or US-6022149-$ or US-6017154-$ or US-6012852-$ or US-6007256-$ or US-6004043-$ or US-6004042-$ or US-5993071-$ or US-5987203-$ or US-5984533-$ or US-5980117-$ or US-5971626-$ or US-5969294-$ or US-5963689-$ or US-5960137-$ or US-5956444-$ or US-5953474-$ or US-5953473-$ or US-5949946-$ or US-5862289-$).did. or (US-5940561-$ or US-5940559-$ or US-5937121-$ or US-5930426-$ or US-5930425-$ or US-5923805-$ or US-5921796-$ or US-5920670-$ or US-5920669-$ or US-5915058-$ or US-5909526-$ or US-5909298-$ or US-5742720-$ or US-5737463-$ or US-5896477-$ or US-5892870-$ or US-5887100-$ or US-5887098-$ or US-5881191-$ or US-5870515-$ or US-5867894-$ or US-5867621-$ or US-5862282-$ or US-5845036-$ or US-5727097-$ or US-5838856-$ or US-5838855-$).did. or (US-5832158-$ or US-5825955-$ or US-5818993-$ or US-5815621-$ or US-5815618-$ or US-5809191-$ or US-5799122-$ or US-5796896-$ or US-5781680-$ or US-5778123-$ or US-5778122-$ or US-5774612-$ or US-5774611-$ or US-5768738-$ or US-5548677-$ or US-5764043-$ or US-5761359-$ or US-5751874-$ or US-5748818-$ or US-5737464-$ or US-5734770-$ or US-5732174-$ or US-5732173-$ or US-5727102-$ or US-5721799-$ or US-5701380-$ or US-5694507-$).did. or (US-5694506-$ or US-5692089-$ or US-5692080-$

or US-5687268-$ or US-5682449-$ or US-5680494-$ or US-5673346-$ or US-5671310-$ or US-5668904-$ or US-5666456-$ or US-5666449-$ or US-5664955-$ or US-5661833-$ or US-5581644-$ or US-5651084-$ or US-5647043-$ or US-5645449-$ or US-5642450-$ or US-5633969-$ or US-5620634-$ or US-5619610-$ or US-5386485-$ or US-5611017-$ or US-5611010-$ or US-5607323-$ or US-5603631-$ or US-5602951-$).did. or (US-5600749-$ or US-5600746-$ or US-5325454-$ or US-5592323-$ or US-5588086-$ or US-5588079-$ or US-5579429-$ or US-5574817-$ or US-5574813-$ or US-5570445-$ or US-5563978-$ or US-5563974-$ or US-5563971-$ or US-5555332-$ or US-5550943-$ or US-5548674-$ or US-5542015-$ or US-5537501-$ or US-5530783-$ or US-5528711-$ or US-5521998-$ or US-5521997-$ or US-5519799-$ or US-5506922-$ or US-5499310-$ or US-5497444-$ or US-5485537-$).did. or (US-5483608-$ or US-5473717-$ or US-5452391-$ or US-5450519-$ or US-5446817-$ or US-5444806-$ or US-5420951-$ or US-5418875-$ or US-5339376-$ or US-5414786-$ or US-5408557-$ or US-5367595-$ or US-5384885-$ or US-5379360-$ or US-5372758-$ or US-5367594-$ or US-5366383-$ or US-5363460-$ or US-5359688-$ or US-5339377-$ or US-5335301-$ or US-5333225-$ or US-5333222-$ or US-5333221-$ or US-5329541-$ or US-5323475-$ or US-5317663-$).did. or (US-5315679-$ or US-5315678-$ or US-5305409-$ or US-5297227-$ or US-5293581-$ or US-5282259-$ or US-5280552-$ or US-5274729-$ or US-5267342-$ or US-5265181-$ or US-5259052-$ or US-5239606-$ or US-5233675-$ or US-5233674-$ or US-5231685-$ or US-5228104-$ or US-5222168-$ or US-5214730-$ or US-5210815-$ or US-5199093-$ or US-5179607-$ or US-5177808-$ or US-5166995-$ or US-5159654-$ or US-5157749-$ or US-5155795-$ or US-5134677-

$).did. or (US-5134676-$ or US-5134673-$ or US-5133032-$ or US-5129024-$ or US-5127073-$ or US-5124506-$ or US-5119455-$ or US-5115484-$ or US-5109468-$ or US-5109453-$ or US-5101463-$ or US-5091991-$ or US-5091990-$ or US-5082346-$ or US-5082344-$ or US-5077815-$ or US-5076656-$ or US-5073042-$ or US-5064268-$ or US-5058983-$ or US-5052774-$ or US-5048916-$ or US-5042891-$ or US-5018823-$ or US-5016972-$ or US-5016970-$ or US-5015060-$).did. or (US-5013124-$ or US-4998797-$ or US-4998796-$ or US-4995688-$ or US-4993803-$ or US-4991929-$ or US-4986762-$ or US-4986622-$ or US-4976510-$ or US-4973127-$ or US-4973126-$ or US-4964688-$ or US-4960317-$ or US-4955976-$ or US-4953929-$ or US-4944079-$ or US-4921325-$ or US-4915472-$ or US-4900118-$ or US-4898446-$ or US-4892380-$ or US-4886335-$ or US-4877303-$ or US-4856866-$ or US-4854664-$ or US-4852963-$ or US-4850671-$).did. or (US-4850536-$ or US-4848870-$ or US-4846544-$ or US-4844570-$ or US-4842361-$ or US-4834486-$ or US-4830456-$ or US-4824196-$ or US-4818058-$ or US-4813760-$ or US-4807957-$ or US-4805980-$ or US-4795231-$ or US-4793683-$ or US-4789216-$ or US-4787700-$ or US-4786135-$ or US-4784456-$ or US-4783137-$ or US-4781429-$ or US-4773725-$ or US-4767178-$ or US-4762389-$ or US-4762387-$ or US-4759600-$ or US-4759599-$ or US-4758719-$).did. or (US-4741590-$ or US-4740052-$ or US-4737009-$ or US-4722081-$ or US-4718744-$ or US-4717234-$ or US-4715674-$ or US-4714318-$ or US-4714317-$ or US-4714315-$ or US-4699460-$ or US-4688887-$ or US-4687291-$ or US-4681398-$ or US-4674831-$ or US-4666241-$ or US-4648688-$ or US-4645296-$ or US-4615581-$ or US-4614402-$ or US-4579418-$ or US-4575183-$ or US-4548467-$ or US-

4526438-$ or US-4515434-$ or US-4506946-$ or US-4497536-$).did. or (US-4487474-$ or US-4486072-$ or US-4484796-$ or US-4477146-$ or US-4466009-$ or US-4464817-$ or US-4461539-$ or US-4447121-$ or US-4445753-$ or US-4444461-$ or US-4422716-$ or US-4415232-$ or US-4387957-$ or US-4385801-$ or US-4371233-$ or US-4368948-$ or US-4354731-$ or US-4341439-$ or US-4330172-$ or US-4327964-$ or US-4320938-$ or US-4310218-$ or US-4295707-$ or US-4291943-$ or US-4279469-$ or US-4268115-$ or US-4268114-$).did. or (US-4252407-$ or US-4240695-$ or US-4223976-$ or US-4218113-$ or US-4214812-$ or US-4201445-$ or US-4201444-$ or US-4186997-$ or US-4186996-$ or US-4168109-$ or US-4167304-$ or US-4160580-$ or US-4140365-$ or US-4101198-$ or US-4087158-$ or US-4080044-$ or US-3999837-$ or US-3933409-$ or US-10545295-$ or US-10502903-$ or US-10401575-$ or US-10353155-$).did. or (EP-3258301-$ or EP-3054333-$ or CA-2885821-$ or EP-2444827-$ or WO-2018004847-$ or JP-6173629-$ or WO-2015043158-$ or CN-206584076-$ or WO-2016161341-$ or DE-202016103178-$ or WO-2016082160-$ or EP-3021145-$ or JP-5905950-$ or CA-2689768-$ or CA-2928026-$ or CA-2762411-$ or CA-2859345-$ or DE-202013012295-$ or WO-2016004347-$ or WO-2015190211-$ or EP-2942653-$ or CN-204595258-$ or WO-2015116589-$ or WO-2015103783-$ or GB-201507758-$ or CA-2932688-$).did. or (WO-2015068103-$ or EP-2843452-$ or WO-2014143748-$ or JP-5433802-$ or CN-102870023-$ or WO-2012151175-$ or WO-2014049469-$ or WO-2014009463-$ or CA-2912155-$ or WO-2013126068-$ or WO-2013115791-$ or WO-2013115789-$ or CA-2662854-$ or WO-2011152874-$ or GB-201218194-$ or CN-102456976-$ or WO-2011139938-$ or WO-

2011044724-$ or CN-101122658-$ or CN-101931134-$ or WO-2010068896-$ or WO-2010025180-$ or EP-2138880-$ or WO-2009110421-$ or CA-2503690-$ or WO-2008006402-$ or CN-1331421-$).did. or (EP-1168016-$ or EP-1172672-$ or EP-1530068-$ or CA-2321428-$ or AU-2003291687-$ or JP-3106420-$ or EP-1168018-$ or CA-2191600-$ or WO-03093883-$ or CA-2484569-$ or DE-10114144-$ or CN-1118443-$ or WO-03016975-$ or NL-1018440-$ or CA-2284331-$ or EP-0690319-$ or CA-2030897-$ or WO-0155762-$ or CA-2418331-$ or DE-20118858-$ or EP-1124147-$ or EP-1172673-$ or WO-0137010-$ or CA-2198522-$ or WO-0161397-$ or EP-1039324-$ or EP-1039322-$).did. or (EP-1033595-$ or EP-1033594-$ or GB-0007281-$ or EP-0992819-$ or GB-9919699-$ or CA-2262351-$ or CA-2294930-$ or EP-0696748-$ or WO-9734176-$ or CA-2171494-$ or WO-9627811-$ or EP-0633485-$ or EP-0249237-$ or EP-0262847-$ or CA-2082276-$ or GB-9106183-$ or DE-9107960-$ or GB-9103604-$ or WO-9015350-$ or DE-8626183-$ or EP-0262631-$ or EP-0061243-$ or WO-8600147-$ or DE-3112078-$ or GB-2081468-$ or IT-8323399-$ or IT-8323399-$).did. or (GB-2057158-$ or GB-8306227-$ or DK-208682-$ or FR-2487528-$ or FR-2435053-$ or BE-871785-$ or CA-1097111-$ or IT-7925110-$ or FR-2363124-$ or BE-871785-$ or CA-1043604-$ or WO-2019190616-$ or CN-110068899-$).did. or (JP-09033756-$ or JP-04214510-$ or JP-11072659-$ or JP-04220604-$ or JP-56074211-$ or JP-2017138535-$ or JP-05313040-$ or JP-62111222-$ or JP-59140411-$ or JP-59075218-$ or JP-57044113-$ or JP-56066811-$ or JP-55101904-$ or JP-54034251-$).did. or (US-20190107679-$ or US-20180224615-$ or WO-2018125706-$ or US-20180156985-$ or US-20180128988-$ or US-20180120519-$ or US-20180106973-$ or US-

20180081128-$ or US-20180052288-$ or US-20180011258-$ or US-20180003903-$ or US-20180364421-$ or US-20170371109-$ or CN-107450131-$ or US-20170336577-$ or US-20170343760-$ or US-9804340-$ or US-20170307830-$ or FR-3050286-$ or US-20170299820-$ or US-20170293088-$ or US-20170261699-$ or US-20170254967-$ or US-20170254966-$ or US-20170227720-$ or US-9726830-$).did. or (US-20170219779-$ or JP-6173629-$ or US-20170205587-$ or US-9709753-$ or US-20170184790-$ or US-9678283-$ or US-20170153398-$ or US-20170139150-$ or US-20170139156-$ or US-20170102504-$ or US-20170115457-$ or WO-2017065999-$ or US-20170090127-$ or WO-2017038704-$ or US-20170059784-$ or US-20170031106-$ or US-20160377819-$ or US-20160349466-$ or US-20160341908-$ or US-20160341911-$ or WO-2016182556-$ or US-20160327757-$ or US-9482820-$ or WO-2016161341-$ or US-20160282566-$ or CN-105978629-$ or US-20160259135-$).did. or (US-20170329090-$ or EP-3054333-$ or US-9389368-$ or WO-2016105567-$ or US-9377591-$ or US-20160178852-$ or US-20160178859-$ or US-20160161680-$ or EP-3021145-$ or US-20160131854-$ or US-20160124158-$ or JP-5905950-$ or WO-2016053853-$ or WO-2016043922-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016024014-$ or JP-5860948-$ or CA-2859345-$ or US-20160025937-$ or US-20160004016-$ or US-20160004018-$ or US-20150378110-$ or WO-2015190211-$ or EP-2947485-$).did. or (US-20150331201-$ or CN-104950402-$ or DE-102015106225-$ or US-20160306125-$ or US-20150286012-$ or WO-2015144883-$ or US-20150241644-$ or US-20150226926-$ or US-20150226925-$ or WO-

2015116589-$ or US-20150219864-$ or WO-2015103783-$ or CN-104570229-$ or CN-104516061-$ or US-20150177463-$ or US-20150162982-$ or WO-2015070382-$ or WO-2015068103-$ or WO-2015028433-$ or US-20150049989-$ or WO-2015009435-$ or US-20150023637-$ or EP-2818903-$ or US-20140363131-$ or WO-2014197701-$ or US-20140321808-$ or WO-2014165175-$).did. or (WO-2014143748-$ or US-20140219624-$ or EP-2759860-$ or WO-2014113753-$ or US-20140205247-$ or US-20140199034-$ or US-20140153879-$ or US-20140147081-$ or ES-1110405-$ or WO-2014049469-$ or TW-474924-$ or US-20140064688-$ or JP-5433802-$ or EP-2700992-$ or WO-2014011898-$ or US-20140016901-$ or WO-2014011283-$ or WO-2013177234-$ or WO-2013155395-$ or US-20130259429-$ or US-20130230283-$ or WO-2013126068-$ or WO-2013122865-$ or WO-2013117598-$ or WO-2013115789-$ or WO-2013115791-$ or US-20130121645-$).did. or (CN-103091793-$ or WO-2013036843-$ or US-20130051749-$ or TW-201309089-$ or CN-102870023-$ or US-20120308183-$ or WO-2012151175-$ or US-20120263419-$ or US-20120251051-$ or US-20120251054-$ or TW-201233549-$ or US-20120099822-$ or EP-2444827-$ or US-20120082416-$ or US-20120057824-$ or KR-2012000895-$ or US-20120027355-$ or KR-2012000895-$ or WO-2011152874-$ or US-20110274437-$ or US-20110249942-$ or EP-2302431-$ or WO-2010137426-$ or EP-2206458-$ or WO-2010068896-$ or US-7712970-$ or WO-2010025180-$).did. or (US-20100040330-$ or WO-2009110421-$ or US-20090060423-$ or US-20090041411-$ or US-7435009-$ or US-20070098327-$ or US-20070077010-$ or US-20070058907-

		$ or EP-1752805-$ or US-20060193562-$ or US-20060165352-$ or US-20060153503-$ or WO-2006022840-$ or US-20050053342-$ or US-20040228589-$ or US-20040223699-$ or US-20040062498-$ or EP-1394584-$ or WO-03094297-$ or WO-03093883-$ or US-20030044125-$ or US-20030031437-$ or WO-02061481-$ or US-6422760-$ or WO-02056060-$ or DE-20118858-$ or EP-1172673-$).did. or (EP-1172672-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or US-20010041030-$ or WO-0181965-$ or EP-1124147-$ or EP-1107031-$ or WO-0140839-$ or EP-1092995-$ or EP-1091225-$ or EP-1041416-$ or EP-1041414-$ or EP-1020745-$ or EP-1016885-$ or EP-1010999-$ or GB-2341455-$ or WO-9947958-$ or US-5940561-$ or WO-9928774-$ or WO-9857208-$ or DE-19626036-$ or WO-9746900-$ or US-5692080-$ or EP-803750-$ or WO-9734176-$ or WO-9723794-$).did. or (EP-758099-$ or WO-9634176-$ or WO-9627811-$ or JP-08201656-$ or WO-9616080-$ or EP-697608-$ or EP-696748-$ or WO-9600917-$ or EP-663602-$ or EP-663601-$ or EP-660145-$ or EP-660144-$ or EP-505197-$ or EP-490698-$ or US-5101463-$ or EP-458608-$ or WO-9117540-$ or US-5064268-$ or GB-2241794-$ or EP-430107-$ or WO-9015350-$ or US-4953929-$ or EP-262631-$ or EP-249237-$ or WO-8600147-$ or US-4496213-$ or EP-125398-$).did. or (DE-3208797-$ or GB-2098354-$ or EP-61243-$ or GB-2081468-$ or GB-2057158-$ or DE-2932986-$ or BE-871785-$ or DE-2805949-$ or DE-2558445-$ or US-10502903-$).did.				
S833	1,872	(G02B6/3879).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:06
S834	6,060	(G02B6/3885).CPC.	US-PGPUB; USPAT; EPO;	OR	ON	2020/09/01 13:06

			JPO; DERWENT			
S835	1,322	S833 not (S829 S830 S831 S832)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:06
S836	696	(US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$ or US-20190219775-$ or US-20190170931-$ or US-20190137700-$ or US-20190137697-$ or US-20190137695-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20190033531-$ or US-20190004252-$ or US-20190004251-$ or US-20180364422-$ or US-20180364436-$).did. or (US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180321449-$ or US-20180217336-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180128988-$ or US-20170363818-$ or US-20170261696-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170205586-$ or US-20170176691-$ or US-20170176692-$ or US-20170068064-$ or US-20170059785-$ or US-20170063464-$ or US-20170023746-$ or US-20160349458-$ or US-20160327756-$ or US-20160306122-$ or US-20160282565-$).did. or (US-20160274314-$ or US-20160223774-$ or US-20160202428-$ or US-20160091674-$ or US-20150378113-$ or US-20150277059-$ or US-20150260924-$ or US-20150260923-$ or US-20150198774-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20140205257-$ or US-20140169727-$ or US-20140168987-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:06

		20140161392-$ or US-20140153878-$ or US-20140153879-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140037253-$ or US-20140029900-$ or US-20140022627-$ or US-20140016901-$ or US-20140003771-$).did. or (US-20130322825-$ or US-20130158512-$ or US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20120155803-$ or US-20120093462-$ or US-20110299266-$ or US-20110229092-$ or US-20110229083-$ or US-20110064361-$ or US-20110058774-$ or US-20100322563-$ or US-20100178014-$ or US-20100178010-$ or US-20100054668-$ or US-20100027942-$ or US-20090135429-$ or US-20080317415-$ or US-20080273840-$ or US-20080226235-$ or US-20080124033-$ or US-20080090433-$ or US-20080013889-$ or US-20070292084-$ or US-20070031103-$).did. or (US-20060275007-$ or US-20060257075-$ or US-20060257076-$ or US-20060204178-$ or US-20060171640-$ or US-20060171639-$ or US-20060140543-$ or US-20060127028-$ or US-20060093274-$ or US-20060083466-$ or US-20060063436-$ or US-20060045428-$ or US-20060018603-$ or US-20050271338-$ or US-20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20040157499-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020176960-$ or US-20020142634-$).did. or (US-20020126960-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$).did. or (US-10444442-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9977197-$ or US-9927581-$ or US-9195013-$ or US-9086546-$			

or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$ or US-6364537-$).did. or (US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-6179476-$ or US-6179477-$ or US-6130977-$ or US-6062739-$ or US-5971625-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717533-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$ or US-5577146-$).did. or (US-5546281-$ or US-5436994-$ or US-5400428-$ or US-5396572-$ or US-5329604-$ or US-5289554-$ or US-5276755-$ or US-5265182-$ or US-5261019-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212752-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5121454-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$).did. or (US-5067783-$ or US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$).did. or (US-4728171-$ or US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-

4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$).did. or (WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$ or WO-2019086961-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$ or EP-3330757-$ or WO-2018044728-$ or EP-3278153-$ or CN-107636504-$ or WO-2018009426-$ or WO-2017182535-$ or CN-206479676-$ or EP-3180644-$ or EP-3123221-$ or WO-2016174980-$ or WO-2016140710-$ or CN-105683795-$ or WO-2015120031-$ or WO-2015070382-$ or EP-2852856-$ or WO-2015009435-$ or FR-2997767-$ or WO-2014054357-$ or CN-103676018-$).did. or (CA-2866107-$ or GB-201220748-$ or CN-102520489-$ or CN-102445735-$ or CN-102385113-$ or WO-2012015713-$ or DE-102010021179-$ or GB-201004720-$ or DE-112006003952-$ or CA-2593676-$ or WO-2008033262-$ or EP-1783524-$ or AU-2006295165-$ or EP-1762871-$ or DE-60026115-$ or KR-100452879-$ or AU-2004274992-$ or CA-2441872-$ or KR-20040020797-$ or CN-1334472-$ or DE-20111078-$ or DE-10031931-$ or CA-2302068-$ or DE-19834723-$ or WO-9723794-$ or DE-29614436-$ or DE-19525739-$).did. or (CH-687105-$ or DE-19601949-$ or GB-9525323-$ or FR-2707402-$ or WO-9415232-$ or GB-9408857-$ or EP-0546936-$ or MX-9201992-$ or DE-4203966-$ or IT-MI913184-$ or GB-9103982-$ or CH-676513-$ or GB-9025881-$ or DE-3914978-$ or DE-9012174-$ or DE-9010357-$ or DE-8911081-$ or DE-8911080-$ or EP-

0339876-$ or EP-0324272-$ or DE-8901052-$ or DE-8900623-$ or EP-0292024-$ or DE-8812341-$ or DE-3737842-$ or DE-3701421-$ or EP-0253426-$).did. or (EP-0249406-$ or KR-870005264-$ or EP-0183820-$ or EP-0166636-$ or EP-0154781-$ or EP-0153249-$ or EP-0098190-$ or EP-0098205-$ or FR-2528984-$ or FR-2502798-$ or GB-2086602-$ or EP-0045271-$ or WO-8002213-$ or DE-2932986-$ or DE-2832839-$ or AU-3682878-$ or GB-1526682-$ or FR-2316611-$ or GB-1450760-$ or FR-2268370-$).did. or (JP-2019184942-$ or JP-2005258017-$ or JP-2000241670-$ or JP-05215939-$ or JP-03059503-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-61129605-$ or JP-61028909-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-59038707-$ or JP-59036207-$ or JP-58190910-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56062212-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$).did. or (US-20200033539-$ or US-20200012053-$ or US-20200003961-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$ or EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190227240-$ or US-20190219775-$ or US-20190204513-$ or US-20190162914-$ or US-20190162917-$).did. or (US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$

or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or US-20180372962-$ or US-20180364422-$ or CN-108983368-$ or KR-2018131725-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or US-20180292612-$ or CN-108490551-$).did. or (US-20180231722-$ or JP-6363784-$ or US-20180203196-$ or CN-108279462-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018008399-$ or CN-107479141-$ or EP-3249434-$ or WO-2017182535-$ or US-20170264045-$ or US-20170261698-$ or US-20170261696-$ or KR-2017103050-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017106514-$).did. or (US-20170176691-$ or US-20170176692-$ or WO-2017095928-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$ or US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or WO-2015142551-$ or US-20150260923-$ or CN-104914515-$ or WO-2015126470-$).did. or (WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-

$ or EP-2821830-$ or US-20140233892-$ or US-20140219610-$ or US-20140161392-$ or US-20140153878-$ or US-20140147078-$ or WO-2014078261-$ or FR-2997767-$ or US-20140029900-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-$ or US-20130202254-$ or WO-2013049494-$ or JP-2013045047-$ or US-20120315000-$ or WO-2012157276-$ or CN-102520489-$ or WO-2012078697-$ or WO-2012078701-$ or US-20120093462-$ or WO-2012029013-$).did. or (WO-2012015713-$ or WO-2012015734-$ or WO-2011116167-$ or CN-102122031-$ or US-20110058774-$ or US-20100322563-$ or US-20090135429-$ or US-20090098760-$ or DE-102007023250-$ or WO-2008112183-$ or US-20080124033-$ or US-20080112672-$ or EP-1762871-$ or WO-2006130549-$ or US-20060257075-$ or US-20060204178-$ or US-20060153504-$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$).did. or (US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$ or EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$ or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9723794-$ or WO-9637793-$).did. or (DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-

		4041425-$ or EP-420490-$ or EP-335531-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$ or EP-440447-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$).did. or (EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$ or EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$).did. or (GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$).did.				
S837	1,322	S835 not S836	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:06
S838	5,309	(G02B6/3825).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:06
S839	2,727	S838 not (S829 S830 S831 S832 S837)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:06
S840	3,186	S834 not (S829 S830 S831 S832 S837 S839)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2020/09/01 13:06
S841	1,686	S828 not (S820 S821 S822 S823 S827 S840)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2020/09/01 13:06
S842	0	S833 not (S820 S821 S822 S823 S827 S840 S841)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2020/09/01 13:19
S843	1,322	S833 not (S829 S830 S831 S832 S840 S841)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/09/01 13:20

S844	81	(US-20040101250-$ or US-20140205247-$ or US-20170160486-$ or US-20180239091-$).did. or (US-3999837-$ or US-4252407-$ or US-6116790-$ or US-6371659-$ or US-6461053-$ or US-6585423-$ or US-7001079-$ or US-9039298-$ or US-9823424-$).did. or (DE-2558445-$ or FR-2296862-$ or BR-7508734-$ or ES-444034-$ or GB-1503979-$ or IT-7869677-$ or CA-1043604-$ or BE-871785-$ or DK-522978-$ or NL-7811579-$ or DE-2849975-$ or GB-2009440-$ or FR-2435053-$ or FR-2446496-$ or CA-1097111-$ or IT-1050771-$ or FR-2446496-$ or FR-2435053-$ or CH-628152-$ or GB-2009440-$ or DE-3112078-$ or FR-2296862-$ or DE-2558445-$ or DE-3112078-$ or IT-1109638-$ or DE-2849975-$).did. or (DK-151733-$ or DK-151733-$ or DK-151733-$ or DE-19626036-$ or WO-9800741-$ or AU-2975197-$ or WO-9928774-$ or EP-0985161-$ or EP-1034445-$ or EP-1092995-$ or EP-1092995-$ or EP-1034445-$ or EP-0985161-$ or ES-2202617-$ or EP-1092995-$ or DE-60010402-$ or DE-60010402-$ or JP-3984293-$ or EP-2138880-$ or JP-4514004-$ or WO-2016053853-$ or WO-2017065999-$ or WO-2017065999-$ or EP-3201668-$ or CN-108351473-$ or CN-208140982-$ or EP-3201668-$).did. or (JP-2001154062-$).did. or (DE-2558445-$ or BE-871785-$ or DE-19626036-$ or WO-9928774-$ or EP-1092995-$ or US-20140205247-$ or CN-104516061-$ or CN-104570229-$ or WO-2016053853-$ or WO-2017065999-$ or US-20180364421-$).did.	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:27
S845	1,140	(US-20010010741-$ or US-20010016102-$ or US-20010033730-$ or US-20010038737-$ or US-20010043776-$ or US-20010048790-$ or US-20020006253-$ or US-20020012503-$ or US-20020012502-$ or US-20020012501-$ or US-20020012238-$ or US-20020025121-$ or US-20020025099-$ or US-	US-PGPUB; USPAT; JPO	OR	ON	2020/09/01 13:27

20020028055-$ or US-20020031310-$ or US-20020031309-$ or US-20020061171-$ or US-20020064349-$ or US-20020081076-$ or US-20020090177-$ or US-20020094727-$ or US-20020106167-$ or US-20020114581-$ or US-20020118926-$ or US-20020126961-$ or US-20020131720-$).did. or (US-20020150344-$ or US-20020150343-$ or US-20020150353-$ or US-20020150346-$ or US-20020150345-$ or US-20020150342-$ or US-20020159745-$ or US-20020159714-$ or US-20020159712-$ or US-20020168149-$ or US-20020166226-$ or US-20020172469-$ or US-20020177364-$ or US-20020181888-$ or US-20020181884-$ or US-20020186934-$ or US-20020186742-$ or US-20020191881-$ or US-20020197017-$ or US-20020197018-$ or US-20030002816-$ or US-20030002808-$ or US-20030007739-$ or US-20030012512-$ or US-20030031449-$ or US-20030031422-$ or US-20030044122-$).did. or (US-20030044115-$ or US-20030053760-$ or US-20030063868-$ or US-20030063866-$ or US-20030063862-$ or US-20030068135-$ or US-20030072536-$ or US-20030081905-$ or US-20030087505-$ or US-20030091292-$ or US-20030095780-$ or US-20030095779-$ or US-20030103730-$ or US-20030108320-$ or US-20030113086-$ or US-20030128934-$ or US-20030142918-$ or US-20030147597-$ or US-20030147230-$ or US-20030156796-$ or US-20030169975-$ or US-20030169974-$ or US-20030174996-$ or US-20030174972-$ or US-20030174922-$ or US-20030180005-$ or US-20030185520-$).did. or (US-20030189214-$ or US-20030194188-$ or US-20030198029-$ or US-20030231838-$ or US-20040013369-$ or US-20040028340-$ or US-20040033050-$ or US-20040033028-$ or US-20040033027-$ or US-20040036987-$ or US-20040042710-$ or US-20040052471-$ or US-

20040054761-$ or US-20040062488-$ or US-20040062486-$ or US-20040072454-$ or US-20040071438-$ or US-20040074852-$ or US-20040081418-$ or US-20040091228-$ or US-20040101253-$ or US-20040105325-$ or US-20040105278-$ or US-20040120652-$ or US-20040131315-$ or US-20040136656-$ or US-20040141692-$).did. or (US-20040151464-$ or US-20040151438-$ or US-20040156592-$ or US-20040161204-$ or US-20040165830-$ or US-20040179787-$ or US-20040184740-$ or US-20040182971-$ or US-20040197053-$ or US-20040202431-$ or US-20040208459-$ or US-20040223701-$ or US-20040240793-$ or US-20040247255-$ or US-20040264873-$ or US-20040266257-$ or US-20040264908-$ or US-20040264876-$ or US-20050008300-$ or US-20050013547-$ or US-20050041928-$ or US-20050069263-$ or US-20050074211-$ or US-20050094948-$ or US-20050094943-$ or US-20050112939-$ or US-20050111796-$).did. or (US-20050118880-$ or US-20050135753-$ or US-20050141817-$ or US-20050185894-$ or US-20050207708-$ or US-20050215119-$ or US-20050220423-$ or US-20050220420-$ or US-20050226586-$ or US-20050232552-$ or US-20050238289-$ or US-20050281526-$ or US-20050281509-$ or US-20050286833-$ or US-20050286835-$ or US-20060013539-$ or US-20060056769-$ or US-20060072878-$ or US-20060083468-$ or US-20060083467-$ or US-20060088248-$ or US-20060093275-$ or US-20060098914-$ or US-20060133758-$ or US-20060140542-$ or US-20060147156-$ or US-20060147155-$).did. or (US-20060154529-$ or US-20060153503-$ or US-20060159401-$ or US-20060159399-$ or US-20060169856-$ or US-20060177182-$ or US-20060197943-$ or US-20060204200-$ or US-20060204180-$ or US-20060245711-$ or US-20060263011-

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(US-4898446-$ or US-4960317-$ or US-4964688-$ or US-4976510-$ or US-4986762-$ or US-4986622-$ or US-4991929-$ or US-4993803-$ or US-4995688-$ or US-4998797-$ or US-5013124-$ or US-5015060-$ or US-5016970-$ or US-5018823-$ or US-5042891-$ or US-5048916-$ or US-5052774-$ or US-5058983-$ or US-5073042-$ or US-5077815-$ or US-5091991-$ or US-5091990-$ or US-5109453-$ or US-5115484-$ or US-5119455-$ or US-5124506-$ or US-5127073-$).did. or (US-5129024-$ or US-5133032-$ or US-5134677-$ or US-5134676-$ or US-5155795-$ or US-5159654-$ or US-5177808-$ or US-5179607-$ or US-5210815-$ or US-5214730-$ or US-5228104-$ or US-5233675-$ or US-5233674-$ or US-5239606-$ or US-5267342-$ or US-5274729-$ or US-5280552-$ or US-5282259-$ or US-5293581-$ or US-5297227-$ or US-5317663-$ or US-5323475-$ or US-5329541-$ or US-5333222-$ or US-5333221-$ or US-5359688-$ or US-5363460-$).did. or (US-5367594-$ or US-5366383-$ or US-5384885-$ or US-5386485-$ or US-5408557-$ or US-5418875-$ or US-5420951-$ or US-5444806-$ or US-5446817-$ or US-5450519-$ or US-5452391-$ or US-5485537-$ or US-5497444-$ or US-5506922-$ or US-5519799-$ or US-5521998-$ or US-5528711-$ or US-5530783-$ or US-5537501-$ or US-5542015-$ or US-5548674-$ or US-5550943-$ or US-5563978-$ or US-5563971-$ or US-5570445-$ or US-5574813-$ or US-5579429-$).did. or (US-5581644-$ or US-5588086-$ or US-5592323-$ or US-5600746-$ or US-5603631-$ or US-5607323-$ or US-5619610-$ or US-5633969-$ or US-5642450-$ or US-5647043-$ or US-5645449-$ or US-5661833-$ or US-5666449-$ or US-5664955-$ or US-5668904-$ or US-5671310-$ or US-5673346-$ or US-5680494-$ or US-5682449-$ or US-5687268-$ or US-5694507-$ or US-5694506-$ or US-5701380-$ or US-5721799-$ or

US-5727102-$ or US-5732174-$ or US-5734770-$).did. or (US-5737464-$ or US-5751874-$ or US-5761359-$ or US-5764043-$ or US-5774611-$ or US-5774612-$ or US-5778122-$ or US-5781680-$ or US-5796896-$ or US-5799122-$ or US-5809191-$ or US-5815618-$ or US-5818993-$ or US-5825955-$ or US-5832158-$ or US-5838856-$ or US-5838855-$ or US-5845036-$ or US-5862282-$ or US-5867621-$ or US-5881191-$ or US-5887100-$ or US-5887098-$ or US-5892870-$ or US-5896477-$ or US-5909526-$ or US-5909298-$).did. or (US-5915058-$ or US-5923805-$ or US-5930426-$ or US-5930425-$ or US-5937121-$ or US-5940561-$ or US-5940559-$ or US-5949946-$ or US-5953474-$ or US-5953473-$ or US-5956444-$ or US-5960137-$ or US-5969294-$ or US-5971626-$ or US-5980117-$ or US-5987203-$ or US-5993071-$ or US-6004043-$ or US-6022149-$ or US-6027252-$ or US-6041155-$ or US-6048103-$ or US-6048102-$ or US-6053639-$ or US-6059461-$ or US-6064791-$ or US-6076973-$).did. or (US-6076975-$ or US-6081647-$ or US-6079881-$ or US-6088502-$ or US-6095694-$ or US-6104856-$ or US-6102581-$ or US-6108482-$ or US-6116790-$ or US-6116789-$ or US-6116101-$ or US-6132105-$ or US-6139346-$ or US-6142676-$ or US-6149315-$ or US-6154597-$ or US-6164835-$ or US-6164834-$ or US-6173099-$ or US-6179480-$ or US-6179475-$ or US-6188827-$ or US-6188825-$ or US-6186670-$ or US-6190616-$ or US-6195477-$ or US-6193420-$).did. or (US-6196729-$ or US-6200040-$ or US-6206577-$ or US-6217226-$ or US-6220763-$ or US-6220762-$ or US-6224269-$ or US-6227719-$ or US-6227718-$ or US-6240229-$ or US-6238249-$ or US-6243526-$ or US-6247851-$ or US-6247849-$ or US-6256446-$ or US-6259839-$ or US-6264373-$ or US-6264372-$ or US-6267513-$ or US-6273618-$ or US-6290527-$

or US-6301004-$ or US-6302592-$ or US-6309111-$ or US-6318904-$ or US-6318903-$ or US-6334715-$).did. or (US-6349164-$ or US-6347889-$ or US-6347888-$ or US-6354746-$ or US-6357932-$ or US-6361218-$ or US-6364536-$ or US-6367986-$ or US-6367984-$ or US-6371659-$ or US-6377840-$ or US-6375363-$ or US-6384896-$ or US-6382843-$ or US-6382839-$ or US-6389212-$ or US-6402393-$ or US-6402390-$ or US-6402388-$ or US-6409391-$ or US-6412987-$ or US-6419810-$ or US-6422759-$ or US-6425692-$ or US-6425694-$ or US-6431762-$ or US-6437894-$).did. or (US-6435946-$ or US-6445867-$ or US-6456768-$ or US-6457876-$ or US-6461055-$ or US-6461054-$ or US-6461053-$ or US-6466724-$ or US-6464406-$ or US-6467971-$ or US-6467970-$ or US-6471417-$ or US-6471412-$ or US-6474876-$ or US-6478472-$ or US-6481900-$ or US-6481899-$ or US-6485192-$ or US-6497518-$ or US-6497516-$ or US-6501900-$ or US-6508593-$ or US-6526210-$ or US-6524015-$ or US-6527450-$ or US-6533469-$ or US-6543941-$).did. or (US-6554482-$ or US-6558044-$ or US-6561699-$ or US-6572276-$ or US-6572273-$ or US-6582132-$ or US-6595696-$ or US-6601995-$ or US-6612750-$ or US-6619859-$ or US-6619856-$ or US-6632023-$ or US-6634794-$ or US-6644866-$ or US-6667803-$ or US-6695485-$ or US-6702477-$ or US-6702475-$ or US-6786647-$ or US-6789953-$ or US-6793399-$ or US-6840680-$ or US-6856748-$ or US-6895146-$ or US-7232261-$ or US-7435009-$ or US-7530845-$).did. or (US-7585118-$ or US-7588373-$ or US-7706657-$ or US-7738757-$ or US-7972066-$ or US-8070366-$ or US-8206040-$ or US-8517614-$ or US-8588571-$ or US-8953922-$ or US-9229177-$ or US-9229170-$ or US-9291781-$ or US-9316794-$ or US-9323007-$ or US-9448369-$ or US-9453972-$ or US-

		9482825-$ or US-9551831-$ or US-9625655-$ or US-9632267-$ or US-9638871-$ or US-9638868-$ or US-9645335-$ or US-9658407-$ or US-9671570-$ or US-9671568-$).did. or (US-9678282-$ or US-9696477-$ or US-9722367-$ or US-9720184-$ or US-9726829-$ or US-9735523-$ or US-9733123-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9746625-$ or US-9746368-$ or US-9759874-$ or US-9759869-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9784928-$ or US-9798090-$ or US-9797806-$ or US-9810860-$ or US-9810858-$ or US-9810856-$ or US-9817195-$ or US-9823428-$ or US-9829643-$ or US-9827438-$).did. or (US-9835807-$ or US-9841566-$ or US-9857545-$ or US-9857537-$ or US-9864151-$ or US-9869824-$ or US-9876309-$ or US-9874702-$ or US-9880365-$ or US-9880357-$ or US-9885841-$ or US-9893813-$ or US-9891392-$ or US-9891387-$ or US-9891385-$ or US-9897767-$ or US-9904021-$ or US-9904020-$ or US-9910228-$ or US-9910226-$ or US-9915793-$ or US-9933586-$ or US-9933583-$ or US-9933582-$ or US-9939600-$ or US-9939590-$ or US-9948017-$).did. or (US-9946036-$ or US-10007069-$ or US-10018787-$).did. or (JP-2016095432-$ or JP-2016095410-$ or JP-2016122100-$ or JP-2016177309-$ or JP-2016188927-$ or JP-2017053937-$ or JP-2017090798-$ or JP-2017111444-$ or JP-2017134118-$ or JP-2017138535-$ or JP-2017151338-$ or JP-2017219768-$).did.				
S846	738	(US-20010041030-$ or US-20020025125-$ or US-20020106162-$ or US-20020114589-$ or US-20020159710-$ or US-20030031452-$ or US-20030044127-$ or US-20030044125-$ or US-20030180004-$ or US-20030223703-$ or US-20040008494-$ or US-20040017983-$ or US-20040017981-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:27

20040038558-$ or US-20040052472-$ or US-20040062498-$ or US-20040105628-$ or US-20040131317-$ or US-20040223699-$ or US-20040228589-$ or US-20050036744-$ or US-20050053342-$ or US-20050111795-$ or US-20050123246-$ or US-20050135755-$ or US-20050135752-$).did. or (US-20050271328-$ or US-20060045430-$ or US-20060051028-$ or US-20060093282-$ or US-20060153504-$ or US-20060193562-$ or US-20060280409-$ or US-20060285807-$ or US-20070058907-$ or US-20070098327-$ or US-20070160327-$ or US-20080069501-$ or US-20080112672-$ or US-20080124031-$ or US-20080131055-$ or US-20080253719-$ or US-20090003772-$ or US-20090290839-$ or US-20090305542-$ or US-20100322561-$ or US-20110038590-$ or US-20110075971-$ or US-20110091159-$ or US-20110222819-$ or US-20110249942-$ or US-20120027355-$ or US-20120057824-$).did. or (US-20120076459-$ or US-20120082416-$ or US-20120099822-$ or US-20120141070-$ or US-20120251054-$ or US-20120251051-$ or US-20120263423-$ or US-20120263419-$ or US-20120308183-$ or US-20130051749-$ or US-20130064508-$ or US-20130077914-$ or US-20130121645-$ or US-20130129280-$ or US-20130183001-$ or US-20130216189-$ or US-20130230283-$ or US-20130259429-$ or US-20130272671-$ or US-20130308908-$ or US-20140056560-$ or US-20140064665-$ or US-20140064688-$ or US-20140072265-$ or US-20140086545-$ or US-20140147081-$ or US-20140205241-$).did. or (US-20140219614-$ or US-20140219624-$ or US-20140314385-$ or US-20140341510-$ or US-20150003785-$ or US-20150023637-$ or US-20150049989-$ or US-20150071591-$ or US-20150177463-$ or US-20150226926-$ or US-20150241644-$ or US-20150301286-$ or US-

20150331201-$ or US-20150338583-$ or US-20150370017-$ or US-20150378112-$ or US-20160004018-$ or US-20160004016-$ or US-20160025937-$ or US-20160077287-$ or US-20160077284-$ or US-20160109661-$ or US-20160131854-$ or US-20160131849-$ or US-20160161680-$ or US-20160178859-$ or US-20160259135-$).did. or (US-20160282566-$ or US-20160282562-$ or US-20160320571-$ or US-20160349464-$ or US-20170059784-$ or US-20170090128-$ or US-20170090127-$ or US-20170102506-$ or US-20170102504-$ or US-20170108653-$ or US-20170115457-$ or US-20170139150-$ or US-20170153398-$ or US-20170184798-$ or US-20170184790-$ or US-20170205587-$ or US-20170219779-$ or US-20170227720-$ or US-20170235060-$ or US-20170242200-$ or US-20170242199-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170261698-$ or US-20170269309-$ or US-20170276883-$).did. or (US-20170276881-$ or US-20170293088-$ or US-20170293087-$ or US-20170307831-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170357060-$ or US-20170357059-$ or US-20170363827-$ or US-20180003903-$ or US-20180011258-$ or US-20180011254-$ or US-20180031774-$ or US-20180052288-$ or US-20180077472-$ or US-20180081128-$ or US-20180081125-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180106973-$ or US-20180156988-$ or US-20180156985-$ or US-20180210154-$).did. or (US-4240695-$ or US-4320938-$ or US-4330172-$ or US-4477146-$ or US-4687291-$ or US-4737009-$ or US-4854664-$ or US-4856866-$ or US-4886335-$ or US-4915472-$ or US-4953929-$ or US-4955976-$ or US-5064268-$ or US-5076656-$ or US-5082346-$ or US-

5082344-$ or US-5101463-$ or US-5134673-$ or US-5157749-$ or US-5166995-$ or US-5199093-$ or US-5259052-$ or US-5555332-$ or US-5666456-$ or US-5692080-$ or US-5867894-$).did. or (US-5870515-$ or US-5883995-$ or US-5920670-$ or US-5920669-$ or US-5984533-$ or US-6012852-$ or US-6095695-$ or US-6210045-$ or US-6250817-$ or US-6305849-$ or US-6318902-$ or US-6331079-$ or US-6379052-$ or US-6409392-$ or US-6422761-$ or US-6422760-$ or US-6450698-$ or US-6487343-$ or US-6491442-$ or US-6533465-$ or US-6554486-$ or US-6623172-$ or US-6688782-$ or US-6712521-$ or US-6764222-$ or US-6839583-$ or US-6848834-$).did. or (US-6944378-$ or US-7036996-$ or US-8388235-$ or US-9207454-$ or US-9316791-$ or US-9377591-$ or US-9389368-$ or US-9482820-$ or US-9606303-$ or US-9625657-$ or US-9664864-$ or US-9678283-$ or US-9678286-$ or US-9684134-$ or US-9696497-$ or US-9703062-$ or US-9709753-$ or US-9726830-$ or US-9733436-$ or US-9733434-$ or US-9798096-$ or US-9804342-$ or US-9804340-$ or US-9804337-$ or US-9829650-$ or US-9835808-$ or US-9846283-$).did. or (US-9851512-$ or US-9891390-$ or US-9904019-$ or US-9910229-$ or US-9927582-$ or US-9939589-$ or US-9946037-$).did. or (IT-7819792-$ or FR-2363124-$ or IT-7925110-$ or GB-2057158-$ or FR-2487528-$ or GB-2081468-$ or EP-0061243-$ or DK-208682-$ or GB-8306227-$ or IT-8323399-$ or JP-S5856846-$ or EP-0125398-$ or FR-2535069-$ or WO-8600147-$ or EP-0249237-$ or EP-0262847-$ or EP-0262631-$ or DE-8626183-$ or WO-9015350-$ or EP-0408852-$ or GB-9103604-$ or GB-9106183-$ or CA-2030897-$ or DE-9107960-$ or GB-9206076-$ or CA-2057559-$).did. or (CA-2082276-$ or EP-0633485-$ or EP-0690319-$ or CA-2191600-$ or EP-0696748-$ or EP-0697608-$ or CN-1118443-$

or WO-9627811-$ or EP-0758099-$ or WO-9734176-$ or CA-2198522-$ or EP-0803750-$ or NL-1003147-$ or EP-0807837-$ or CA-2254335-$ or CA-2294930-$ or CA-2262351-$ or EP-0938003-$ or JP-2945144-$ or CA-2324565-$ or GB-9919699-$ or EP-0992819-$ or CA-2284331-$ or GB-0007281-$ or CA-2288249-$ or DE-19728960-$ or EP-1033595-$).did. or (EP-1033594-$ or EP-1039324-$ or EP-1039322-$ or EP-1041416-$ or EP-1041414-$ or JP-3106420-$ or CA-2321428-$ or EP-1091225-$ or WO-0137010-$ or EP-1107031-$ or KR-20010062142-$ or WO-0155762-$ or EP-1124147-$ or WO-0161397-$ or WO-0181965-$ or CA-2350290-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or KR-20020000530-$ or KR-20020001574-$ or CN-1331421-$ or EP-1172672-$ or EP-1172673-$ or KR-20020006481-$ or KR-20020006480-$ or DE-20118858-$).did. or (CA-2418331-$ or KR-20020050140-$ or WO-02056060-$ or WO-02061481-$ or DE-10114144-$ or NL-1018440-$ or WO-03016975-$ or WO-03093883-$ or CA-2484569-$ or EP-1394584-$ or AU-2003291687-$ or EP-1530068-$ or CA-2503690-$ or CN-1677147-$ or CN-1707299-$ or WO-2008006402-$ or EP-1887395-$ or CN-101122658-$ or WO-2008029850-$ or CA-2662854-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or CA-2689768-$ or EP-2206458-$ or WO-2010137426-$ or CA-2762411-$).did. or (EP-2302431-$ or WO-2011139938-$ or WO-2011152874-$ or EP-2444827-$ or WO-2012054174-$ or WO-2012054174-$ or WO-2012151175-$ or GB-201218194-$ or CN-102870023-$ or WO-2013115791-$ or WO-2013115789-$ or WO-2013126068-$ or CA-2912155-$ or WO-2014009463-$ or WO-2014011898-$ or EP-2700992-$ or JP-5433802-$ or WO-2014049469-$

		or WO-2014113753-$ or CA-2836675-$ or WO-2014143748-$ or WO-2014165175-$ or WO-2014197701-$ or CN-104241938-$ or CA-2917189-$ or EP-2840425-$ or EP-2843452-$).did. or (WO-2015028433-$ or CA-2885821-$ or WO-2015068103-$ or CA-2932688-$ or GB-201507758-$ or WO-2015103783-$ or WO-2015116589-$ or CN-204595258-$ or WO-2015144883-$ or EP-2942653-$ or EP-2947485-$ or WO-2015190211-$ or WO-2016004347-$ or CN-105278047-$ or DE-202013012295-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or CA-2928026-$ or WO-2016043922-$ or JP-5905950-$ or WO-2016067668-$ or EP-3021145-$ or WO-2016082160-$ or WO-2016103821-$ or DE-202016103178-$ or EP-3054333-$).did. or (WO-2016161341-$ or WO-2017038704-$ or JP-6173629-$ or WO-2017180257-$ or CN-206584076-$ or EP-3258301-$ or WO-2018003776-$ or WO-2018004847-$).did. or (JP-54034251-$ or JP-55101904-$ or JP-56066811-$ or JP-56074211-$ or JP-59075218-$ or JP-04214510-$ or JP-04220604-$ or JP-05313040-$ or JP-08015541-$ or JP-09005575-$ or JP-09033756-$ or JP-10104469-$ or JP-11072659-$ or JP-2000089061-$ or JP-2000284146-$ or JP-2000292655-$ or JP-2000310724-$ or JP-2001013372-$ or JP-2001021764-$ or JP-2001242361-$ or JP-2009294343-$ or JP-2012053420-$ or JP-2012078513-$ or JP-2015022131-$).did. or (DE-2805949-$ or DE-2932986-$ or GB-2057158-$ or GB-2081468-$ or EP-61243-$ or GB-2098354-$ or DE-3208797-$ or EP-125398-$ or US-4496213-$ or WO-8600147-$ or EP-249237-$ or EP-262631-$ or US-4953929-$ or WO-9015350-$ or GB-2241794-$ or US-5064268-$ or WO-9117540-$ or EP-458608-$ or US-5101463-$ or EP-490698-$ or EP-505197-$ or EP-430107-$ or EP-660145-$ or EP-			

660144-$ or EP-663602-$ or EP-663601-$).did. or (WO-9600917-$ or EP-696748-$ or EP-697608-$ or WO-9627811-$ or EP-758099-$ or WO-9734176-$ or EP-803750-$ or US-5692080-$ or WO-9746900-$ or WO-9857208-$ or WO-9947958-$ or GB-2341455-$ or EP-1041416-$ or EP-1041414-$ or EP-1091225-$ or WO-0140839-$ or EP-1107031-$ or EP-1124147-$ or WO-0181965-$ or US-20010041030-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or EP-1172673-$ or EP-1172672-$ or DE-20118858-$ or WO-02056060-$).did. or (US-6422760-$ or WO-02061481-$ or US-20030031437-$ or US-20030044125-$ or WO-03094297-$ or WO-03093883-$ or EP-1394584-$ or US-20040062498-$ or US-20040223699-$ or US-20040228589-$ or US-20050053342-$ or WO-2006022840-$ or US-20060153503-$ or US-20060165352-$ or US-20060193562-$ or EP-1752805-$ or US-20070058907-$ or US-20070077010-$ or US-20070098327-$ or US-20090041411-$ or US-20090060423-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or EP-2206458-$ or WO-2010137426-$ or EP-2302431-$).did. or (US-20110249942-$ or US-20110274437-$ or WO-2011152874-$ or KR-2012000895-$ or US-20120027355-$ or US-20120057824-$ or US-20120082416-$ or EP-2444827-$ or US-20120099822-$ or US-20120251051-$ or US-20120251054-$ or US-20120263419-$ or WO-2012151175-$ or US-20120308183-$ or CN-102870023-$ or TW-201309089-$ or US-20130051749-$ or WO-2013036843-$ or CN-103091793-$ or US-20130121645-$ or WO-2013115789-$ or WO-2013115791-$ or WO-2013122865-$ or WO-2013126068-$ or US-20130230283-$ or US-20130259429-$ or WO-2013155395-$).did. or (WO-2013177234-$ or WO-2014011898-$ or US-20140016901-$

		or EP-2700992-$ or JP-5433802-$ or US-20140064688-$ or TW-474924-$ or WO-2014049469-$ or US-20140147081-$ or US-20140153879-$ or ES-1110405-$ or WO-2014113753-$ or EP-2759860-$ or US-20140219624-$ or WO-2014143748-$ or WO-2014165175-$ or US-20140321808-$ or US-20140363131-$ or WO-2014197701-$ or EP-2818903-$ or WO-2015009435-$ or US-20150023637-$ or US-20150049989-$ or WO-2015028433-$ or WO-2015068103-$ or WO-2015070382-$ or US-20150162982-$).did. or (US-20150177463-$ or WO-2015103783-$ or WO-2015116589-$ or US-20150219864-$ or US-20150226926-$ or US-20150226925-$ or US-20150241644-$ or CN-104950402-$ or WO-2015144883-$ or US-20150286012-$ or DE-102015106225-$ or US-20150331201-$ or EP-2947485-$ or WO-2015190211-$ or US-20150378110-$ or US-20160004016-$ or US-20160004018-$ or US-20160025937-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016043922-$ or JP-5905950-$).did. or (US-20160124158-$ or US-20160131854-$ or EP-3021145-$ or US-20160161680-$ or US-20160178852-$ or US-20160178859-$ or US-9377591-$ or US-9389368-$ or EP-3054333-$ or US-20160259135-$ or CN-105978629-$ or US-20160282566-$ or WO-2016161341-$ or US-20160306125-$ or US-9482820-$ or US-20160341908-$ or US-20160341911-$ or US-20160349466-$ or US-20160377819-$ or US-20170031106-$ or US-20170059784-$ or WO-2017038704-$ or US-20170090127-$ or US-20170102504-$ or US-20170115457-$ or US-20170139150-$ or US-20170139156-$).did. or (US-20170153398-$ or US-9678283-$ or			

		US-20170184790-$ or US-9709753-$ or US-20170205587-$ or JP-6173629-$ or US-20170219779-$ or US-9726830-$ or US-20170227720-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170293088-$ or US-20170307830-$ or US-9804340-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170371109-$ or US-20180003903-$ or US-20180011258-$ or US-20180052288-$ or US-20180081128-$ or US-20180106973-$ or US-20180120519-$ or US-20180128988-$).did.				
S847	136	(US-20020176671-$ or US-20040017980-$ or US-20040126118-$ or US-20040197054-$ or US-20070172177-$ or US-20070286554-$ or US-20100008635-$ or US-20100129034-$ or US-20100290745-$ or US-20110116749-$ or US-20110222830-$ or US-20110229096-$ or US-20110229095-$ or US-20110225792-$ or US-20110255831-$ or US-20110262078-$ or US-20110262077-$ or US-20120014648-$ or US-20120063724-$ or US-20120275749-$ or US-20130136402-$ or US-20130315538-$ or US-20140286610-$ or US-20150016781-$ or US-20150110448-$ or US-20160124170-$).did. or (US-20160202429-$ or US-20170045691-$ or US-20170285277-$ or US-20170299820-$ or US-20180120519-$ or US-20180143380-$ or US-20180231722-$ or US-20180239093-$ or US-20180267255-$ or US-20180292618-$ or US-20180292612-$ or US-20180364421-$ or US-20190107679-$ or US-20190107678-$ or US-20190113691-$ or US-20190137701-$ or US-20190179085-$).did. or (US-5504825-$ or US-5613021-$ or US-5661826-$ or US-6045270-$ or US-6276840-$ or US-6293708-$ or US-6623170-$ or US-6796717-$ or US-6848840-$ or US-6866425-$ or US-6932514-$ or US-6944387-$ or US-6976793-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/09/01 13:27

		7094091-$ or US-7178994-$ or US-7182522-$ or US-7234874-$ or US-7241056-$ or US-7300216-$ or US-7536075-$ or US-7654748-$ or US-7891882-$ or US-7912336-$ or US-8052333-$ or US-8231282-$ or US-8235600-$).did. or (US-8262296-$ or US-8317407-$ or US-8346047-$ or US-8348519-$ or US-8348518-$ or US-8376634-$ or US-8406583-$ or US-8417074-$ or US-8494329-$ or US-8496384-$ or US-8529138-$ or US-8542972-$ or US-8550725-$ or US-8550724-$ or US-8579521-$ or US-8690593-$ or US-8714835-$ or US-8821038-$ or US-8821037-$ or US-8915653-$ or US-8958679-$ or US-9014527-$ or US-9031364-$ or US-9057848-$ or US-9146376-$ or US-9146360-$ or US-9417401-$).did. or (US-9513442-$ or US-9541711-$ or US-9557497-$ or US-9563025-$ or US-9606297-$ or US-9632255-$ or US-9645318-$ or US-9658409-$ or US-9684139-$ or US-9739949-$ or US-9753228-$ or US-9772464-$ or US-9857538-$ or US-9977199-$ or US-9989710-$ or US-10012801-$ or US-10054747-$ or US-10061090-$ or US-10067302-$ or US-10067300-$ or US-10088636-$ or US-10101539-$ or US-10139570-$ or US-10146014-$ or US-10156684-$ or US-10209473-$).did. or (WO-2010083369-$ or EP-2380054-$ or CN-102282495-$ or WO-2014152675-$ or WO-2015043158-$ or CN-104516073-$ or CN-102282495-$ or WO-2018125706-$).did. or (JP-57044113-$).did. or (US-20160327757-$ or US-20170299820-$ or WO-2018125706-$ or US-20190107679-$).did.				
S848	2,088	S844 S845 S846 S847	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/09/01 13:27

S849	56,732	(ferrule connector) with insert$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S850	67,189	G02B6/38$.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/09/01 13:27
S851	2,566	S849 and S850	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/09/01 13:27
S852	14,810	adapter with (groove channel) with (top bottom upper lower)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S853	105	S851 and S852	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S854	65	S853 not S848	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S855	1,212,659	(groove channel) with upper with lower	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S856	762,779	(groove channel) with top with bottom	US-PGPUB; USPAT; USOCR;	OR	ON	2020/09/01 13:27

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S857	452	S851 and (S855 S856)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/09/01 13:27
S858	328	S857 not (S848 S854)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S859	15,804	("ferrules" "connectors") with align$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S860	2,211	S850 and S859	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S861	358	S860 and (S855 S856)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/09/01 13:27
S862	169	S861 not (S848 S854 S858)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S863	11,633	G02B6/3825,3826.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2020/09/01 13:27

			DERWENT; IBM_TDB			
S864	451	S859 and S863	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/09/01 13:27
S865	215	S864 not (S848 S854 S858 S862)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S866	26,225	("ferrules" "connectors") with align$4 with (groove channel slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S867	721	S866 and S863	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/09/01 13:27
S868	157	S867 not (S848 S854 S858 S862 S865)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S869	3,022	S848 S854 S858 S862 S865 S868	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:27
S870	2,871	G02B6/3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2020/09/01 13:29

			DERWENT; IBM_TDB			
S871	2,494	S870 not S869	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S872	38	("20010026661" | "20020167793" | "20040228582" | "20050095899" | "20060140543" | "20080032536" | "20080248691" | "20080311781" | "20110059642" | "20120190230" | "20120257865" | "4186997" | "4376565" | "4448467" | "4580868" | "4645295" | "4711511" | "4904199" | "4979792" | "4986769" | "5166995" | "5183408" | "5265181" | "5289554" | "6149313" | "6257917" | "6538882" | "6634796" | "6910911" | "6994478" | "7182523" | "7325975" | "7374347" | "7476118" | "7674046" | "8167638" | "8262403" | "8724955").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/09/01 13:29
S873	2,900	ferrule with (mt$2 mpo)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S874	133	S871 and S873	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S875	2,163,412	(slot groove channel key$4) with (upper lower top bottom) with (center central$4 middle through)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S876	45	S871 and S875	US-PGPUB; USPAT; FPRS; EPO; JPO;	OR	ON	2020/09/01 13:29

			DERWENT; IBM_TDB			
S877	43	S876 not (S874)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S878	9,356,685	(slot groove channel key$4) with (upper lower top bottom center central$4 middle through)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S879	425	S871 and S878	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S880	295	S879 not (S874 S877)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S881	471	S874 S877 S880	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S882	20,964	(multiple plural$4) adj2 (key$4 key$way) with (surface top bottom side wall)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S883	15,316	G02B6/3825-3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S884	29	S882 and S883	US-PGPUB; USPAT; USOCR;	OR	ON	2020/09/01 13:29

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S885	16	S884 not (S872 S881)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S886	517	S872 S881 S885	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S887	12,989	G02B6/3881,3885.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S888	13,505	G02B6/3879,3825.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S889	23,514	S888 S887	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S890	24,985	S848 S854 S858 S862 S889 S869 S871 S886	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:29
S891	5,174	S848 S854 S858 S862 S871 S886	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2020/09/01 13:35

			JPO; DERWENT; IBM_TDB			
S892	3,158	S848 S854 S858 S862 S886	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:36
S893	2,361	S871 not S873	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:40
S894	2,361	S893 not S869	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:40
S895	2,260	S894 not S824	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:40
S896	2,094	S895 not S828	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/09/01 13:41

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S897	169	((adapter ferrule) and body and opening and central$3 and groove).clm.	US-PGPUB	OR	ON	2020/09/01 13:46

9/1/2020 3:29:47 PM
C:\Users\orojas1\Documents\EAST\Workspaces\16214317.wsp

Bibliographic Data

Application No: 16/214,317

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /Omar R Rojas/ Examiner's Signature | Initials

Title: Alignment Adapter and Alignment Design for a Connector Therefor

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
12/10/2018	385	2883	USCO-053-03
RULE			

APPLICANTS

US Conec, Ltd., Hickory, NC, UNITED STATES

INVENTORS

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Michael E. Hughes, Hickory, NC, UNITED STATES

Jillcha Fekadu Wakjira, Hickory, NC, UNITED STATES

Joseph P. Howard, Hickory, NC, UNITED STATES

CONTINUING DATA

This application is a CON of 15855750 12/27/2017 PAT 10156684

15855750 is a DIV of 14214931 03/15/2014 PAT 9857538

14214931 has PRO of 61789499 03/15/2013

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

12/27/2018

STATE OR COUNTRY

UNITED STATES

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FILING FEE RECEIVED

$1,720

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Hiep V. Nguyen	)
		) Group Art Unit: 2883
Serial No.:	16/214,317	)
		) Examiner: Rojas, Omar
Filing Date:	December 10, 2018	)
		)
Title:	Alignment Adapter and Alignment Design for a Connector Therefor	)

Mail Box AF
Commissioner for Patents
PO Box 1450
Arlington VA 22313-1450

NOTICE

Applicant hereby brings to the attention of the Examiner and the Office that a Terminal Disclaimer was filed and approved on August 5, 2020. In the Office Action mailed on July 28, 2020, the only requirement was that a Terminal Disclaimer be filed. That having been done on August 5, 2020, Applicant asserts that the application should be passed to issuance.

Respectfully submitted,

/Michael L. Leetzow/

Michael L. Leetzow
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Michael L. Leetzow, P.A.
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Date: August 14, 2020

Electronic Acknowledgement Receipt

EFS ID:	40290543
Application Number:	16214317
International Application Number:	
Confirmation Number:	7700
Title of Invention:	Alignment Adapter and Alignment Design for a Connector Therefor
First Named Inventor/Applicant Name:	Hiep V. Nguyen
Customer Number:	152017
Filer:	MICHAEL LEETZOW
Filer Authorized By:	
Attorney Docket Number:	USCO-053-03
Receipt Date:	14-AUG-2020
Filing Date:	10-DEC-2018
Time Stamp:	15:34:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	NoticeTDUSCO05303.pdf	58045 06b2e052844612d8c20c742fdeefdfc4ba5df7f3	no	1

Warnings:

Information:	
Total Files Size (in bytes):	58045

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: DIST.E.FILE **Document Description: Electronic Terminal Disclaimer - Filed**	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	16214317
Filing Date	10-Dec-2018
First Named Inventor	Hiep Nguyen
Attorney Docket Number	USCO-053-03
Title of Invention	Alignment Adapter and Alignment Design for a Connector Therefor

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
US Conec, Ltd.	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

10156684

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

◉ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

○	I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.

Applicant claims the following fee status:

○ Small Entity

○ Micro Entity

◉ Regular Undiscounted

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

Registration Number 35932

○ A sole inventor

○ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application

○ A joint inventor; all of whom are signing this request

Signature	/Michael L. Leetzow/
Name	MICHAEL L LEETZOW

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal

Application Number:	16214317
Filing Date:	10-Dec-2018
Title of Invention:	Alignment Adapter and Alignment Design for a Connector Therefor
First Named Inventor/Applicant Name:	Hiep V. Nguyen
Filer:	MICHAEL LEETZOW
Attorney Docket Number:	USCO-053-03

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	160	160
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**160**

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 16214317

Filing Date: 10-Dec-2018

Applicant/Patent under Reexamination: Nguyen

Electronic Terminal Disclaimer filed on August 5, 2020

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	40202811
Application Number:	16214317
International Application Number:	
Confirmation Number:	7700
Title of Invention:	Alignment Adapter and Alignment Design for a Connector Therefor
First Named Inventor/Applicant Name:	Hiep V. Nguyen
Customer Number:	152017
Filer:	MICHAEL LEETZOW
Filer Authorized By:	
Attorney Docket Number:	USCO-053-03
Receipt Date:	05-AUG-2020
Filing Date:	10-DEC-2018
Time Stamp:	15:37:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$160
RAM confirmation Number	E202085F37146744
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33512 e03c876a186bae5c12ebd868f50ed9780258ee0a	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30436 ec1abf572cc9f8965cd2dd979a436716f40796d0d	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	63948		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/214,317	12/10/2018	Hiep V. Nguyen	USCO-053-03	7700

152017 7590 **07/28/20**20

Us Conec Ltd.
1138 25th Street Southeast
Hickory, NC 28602

EXAMINER
ROJAS, OMAR R

ART UNIT	PAPER NUMBER
2883	

NOTIFICATION DATE	DELIVERY MODE
07/28/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eofficeaction@appcoll.com
michael@leetzow.com
ssengupta@usconec.com

Office Action Summary	Application No. 16/214,317	Applicant(s) Nguyen et al.	
	Examiner Omar R Rojas	Art Unit 2883	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 07/06/2020.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 15-31 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 15-31 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/06/2020 has been entered.

Response to Amendment

3. With regards to the amendment filed on 07/06/2020, all the requested changes to the claims have been entered. Applicant's constructive efforts to advance prosecution are appreciated. Claim(s) 15-3 are pending.

Response to Arguments

4. Applicant's arguments, see page 5, filed 07/06/2020, with respect to claims 15, 16, 20-22, 24, and 27-30 have been fully considered and are persuasive. The rejection of claims 15, 16, 20-22, 24, and 27-30 has been withdrawn.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not

patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(1) - 706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

6. **Claims 15-31 are rejected on the ground of nonstatutory double patenting as being**

unpatentable over claims 1-11 of U.S. Patent No. 10,156,684 (hereinafter "the '684 patent"). Although the claims at issue are not identical, they are not patentably distinct from each other because both sets of claims are directed to the same underlying embodiment and the same disclosure. Claims 1-11 of the '684 patent only differ from pending claims 15-31in that the patented claims do not recite all of the additional aspects recited in pending claims 15-31. It would have been obvious to one of ordinary skill in the art before the effective filing date to modify the invention of claims 1-11 of the '684 patent to include additional unclaimed aspects from the underlying embodiment of the patented claims, thereby obtaining the invention specified by pending claims 15-31. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date to obtain the invention specified by claims 15-31 in view of claims 1-11 of the '684 patent.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patent No. 9,366,829 discloses an adapter (70) for aligning multiple fiber connectors (20) inserted from first and second sides of the adapter (70).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar R. Rojas whose telephone number is (571)272-2357. The examiner can normally be reached on Monday-Friday, 10AM-6PM EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas Hollweg can be reached on 571-270-1739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Omar R Rojas/
Primary Examiner
Art Unit 2883

or
July 23, 2020

Notice of References Cited	Application/Control No. 16/214,317	Applicant(s)/Patent Under Reexamination Nguyen et al.	
	Examiner Omar R Rojas	Art Unit 2883	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-10156684-B2	12-2018	Nguyen; Hiep V.	G02B6/3885	1/1
*	B	US-9366829-B2	06-2016	Czosnowski; Wladyslaw	G02B6/3879	1/1
	C					
	D					
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	I					
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/214,317	Nguyen et al.
	Examiner	Art Unit
	Omar R Rojas	2883

CPC - Searched*		
Symbol	Date	Examiner
G02B6/3825,3879	07/23/2020	/ORR/

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

/Omar R Rojas/ Primary Examiner, Art Unit 2883	

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/214,317	Nguyen et al.
	Examiner	**Art Unit**
	Omar R Rojas	2883

Search Notes		
Search Notes	**Date**	**Examiner**
Checked refs. for 15/855,750	06/21/2019	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	06/21/2019	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	06/22/2019	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	10/17/2019	/ORR/
Checked refs. for 15/855,788	10/17/2019	/ORR/
Updated previous EAST search - See Search History Printout.	02/27/2020	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	02/27/2020	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	02/28/2020	/ORR/
Updated previous EAST search - See Search History Printout.	07/23/2020	/ORR/

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**

/Omar R Rojas/ Primary Examiner, Art Unit 2883	

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Senko EX1023-A
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S562	38	("20010026661" | "20020167793" | "20040228582" | "20050095899" | "20060140543" | "20080032536" | "20080248691" | "20080311781" | "20110059642" | "20120190230" | "20120257865" | "4186997" | "4376565" | "4448467" | "4580868" | "4645295" | "4711511" | "4904199" | "4979792" | "4986769" | "5166995" | "5183408" | "5265181" | "5289554" | "6149313" | "6257917" | "6538882" | "6634796" | "6910911" | "6994478" | "7182523" | "7325975" | "7374347" | "7476118" | "7674046" | "8167638" | "8262403" | "8724955").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/07/22 17:53
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		DE-60010402-$ or DE-60010402-$ or JP-3984293-$ or EP-2138880-$ or JP-4514004-$ or WO-2016053853-$ or WO-2017065999-$ or WO-2017065999-$ or EP-3201668-$ or CN-108351473-$ or CN-208140982-$ or EP-3201668-$).did. or (JP-2001154062-$).did. or (DE-2558445-$ or BE-871785-$ or DE-19626036-$ or WO-9928774-$ or EP-1092995-$ or US-20140205247-$ or CN-104516061-$ or CN-104570229-$ or WO-2016053853-$ or WO-2017065999-$ or US-20180364421-$).did.				
S564	1,140	(US-20010010741-$ or US-20010016102-$ or US-20010033730-$ or US-20010038737-$ or US-20010043776-$ or US-20010048790-$ or US-20020006253-$ or US-20020012503-$ or US-20020012502-$ or US-20020012501-$ or US-20020012238-$ or US-20020025121-$ or US-20020025099-$ or US-20020028055-$ or US-20020031310-$ or US-20020031309-$ or US-20020061171-$ or US-20020064349-$ or US-20020081076-$ or US-20020090177-$ or US-20020094727-$ or US-20020106167-$ or US-20020114581-$ or US-20020118926-$ or US-20020126961-$ or US-20020131720-$).did. or (US-20020150344-$ or US-20020150343-$ or US-20020150353-$ or US-20020150346-$ or US-20020150345-$ or US-20020150342-$ or US-20020159745-$ or US-20020159714-$ or US-20020159712-$ or US-20020168149-$ or US-20020166226-$ or US-20020172469-$ or US-20020177364-$ or US-20020181888-$ or US-20020181884-$ or US-20020186934-$ or US-20020186742-$ or US-20020191881-$ or US-20020197017-$ or US-20020197018-$ or US-20030002816-$ or US-20030002808-$ or US-20030007739-$ or US-20030012512-$ or US-20030031449-$ or US-20030031422-$ or US-20030044122-$).did. or (US-20030044115-$ or US-20030053760-	US-PGPUB; USPAT; JPO	OR	ON	2020/07/22 17:53

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US-6526210-$ or US-6524015-$ or US-6527450-$ or US-6533469-$ or US-6543941-$).did. or (US-6554482-$ or US-6558044-$ or US-6561699-$ or US-6572276-$ or US-6572273-$ or US-6582132-$ or US-6595696-$ or US-6601995-$ or US-6612750-$ or US-6619859-$ or US-6619856-$ or US-6632023-$ or US-6634794-$ or US-6644866-$ or US-6667803-$ or US-6695485-$ or US-6702477-$ or US-6702475-$ or US-6786647-$ or US-6789953-$ or US-6793399-$ or US-6840680-$ or US-6856748-$ or US-6895146-$ or US-7232261-$ or US-7435009-$ or US-7530845-$).did. or (US-7585118-$ or US-7588373-$ or US-7706657-$ or US-7738757-$ or US-7972066-$ or US-8070366-$ or US-8206040-$ or US-8517614-$ or US-8588571-$ or US-8953922-$ or US-9229177-$ or US-9229170-$ or US-9291781-$ or US-9316794-$ or US-9323007-$ or US-9448369-$ or US-9453972-$ or US-9482825-$ or US-9551831-$ or US-9625655-$ or US-9632267-$ or US-9638871-$ or US-9638868-$ or US-9645335-$ or US-9658407-$ or US-9671570-$ or US-9671568-$).did. or (US-9678282-$ or US-9696477-$ or US-9722367-$ or US-9720184-$ or US-9726829-$ or US-9735523-$ or US-9733123-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9746625-$ or US-9746368-$ or US-9759874-$ or US-9759869-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9784928-$ or US-9798090-$ or US-9797806-$ or US-9810860-$ or US-9810858-$ or US-9810856-$ or US-9817195-$ or US-9823428-$ or US-9829643-$ or US-9827438-$).did. or (US-9835807-$ or US-9841566-$ or US-9857545-$ or US-9857537-$ or US-9864151-$ or US-9869824-$ or US-9876309-$ or US-9874702-$ or US-9880365-$ or US-9880357-$ or US-9885841-$ or US-9893813-$ or US-9891392-$ or US-9891387-$ or US-9891385-$ or US-9897767-$ or US-9904021-$ or US-9904020-$ or US-9910228-$

		or US-9910226-$ or US-9915793-$ or US-9933586-$ or US-9933583-$ or US-9933582-$ or US-9939600-$ or US-9939590-$ or US-9948017-$).did. or (US-9946036-$ or US-10007069-$ or US-10018787-$).did. or (JP-2016095432-$ or JP-2016095410-$ or JP-2016122100-$ or JP-2016177309-$ or JP-2016188927-$ or JP-2017053937-$ or JP-2017090798-$ or JP-2017111444-$ or JP-2017134118-$ or JP-2017138535-$ or JP-2017151338-$ or JP-2017219768-$).did.				
S565	737	(US-20010041030-$ or US-20020025125-$ or US-20020106162-$ or US-20020114589-$ or US-20020159710-$ or US-20030031452-$ or US-20030044127-$ or US-20030044125-$ or US-20030180004-$ or US-20030223703-$ or US-20040008494-$ or US-20040017983-$ or US-20040017981-$ or US-20040038558-$ or US-20040052472-$ or US-20040062498-$ or US-20040105628-$ or US-20040131317-$ or US-20040223699-$ or US-20040228589-$ or US-20050036744-$ or US-20050053342-$ or US-20050111795-$ or US-20050123246-$ or US-20050135755-$ or US-20050135752-$).did. or (US-20050271328-$ or US-20060045430-$ or US-20060051028-$ or US-20060093282-$ or US-20060153504-$ or US-20060193562-$ or US-20060280409-$ or US-20060285807-$ or US-20070058907-$ or US-20070098327-$ or US-20070160327-$ or US-20080069501-$ or US-20080112672-$ or US-20080124031-$ or US-20080131055-$ or US-20080253719-$ or US-20090003772-$ or US-20090290839-$ or US-20090305542-$ or US-20100322561-$ or US-20110038590-$ or US-20110075971-$ or US-20110091159-$ or US-20110222819-$ or US-20110249942-$ or US-20120027355-$ or US-20120057824-$).did. or (US-20120076459-$ or US-20120082416-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 17:53

$ or US-20120099822-$ or US-20120141070-$ or US-20120251054-$ or US-20120251051-$ or US-20120263423-$ or US-20120263419-$ or US-20120308183-$ or US-20130051749-$ or US-20130064508-$ or US-20130077914-$ or US-20130121645-$ or US-20130129280-$ or US-20130183001-$ or US-20130216189-$ or US-20130230283-$ or US-20130259429-$ or US-20130272671-$ or US-20130308908-$ or US-20140056560-$ or US-20140064665-$ or US-20140064688-$ or US-20140072265-$ or US-20140086545-$ or US-20140147081-$ or US-20140205241-$).did. or (US-20140219614-$ or US-20140219624-$ or US-20140314385-$ or US-20140341510-$ or US-20150003785-$ or US-20150023637-$ or US-20150049989-$ or US-20150071591-$ or US-20150177463-$ or US-20150226926-$ or US-20150241644-$ or US-20150301286-$ or US-20150331201-$ or US-20150338583-$ or US-20150370017-$ or US-20150378112-$ or US-20160004018-$ or US-20160004016-$ or US-20160025937-$ or US-20160077287-$ or US-20160077284-$ or US-20160109661-$ or US-20160131854-$ or US-20160131849-$ or US-20160161680-$ or US-20160178859-$ or US-20160259135-$).did. or (US-20160282566-$ or US-20160282562-$ or US-20160320571-$ or US-20160349464-$ or US-20170059784-$ or US-20170090128-$ or US-20170090127-$ or US-20170102506-$ or US-20170102504-$ or US-20170108653-$ or US-20170115457-$ or US-20170139150-$ or US-20170153398-$ or US-20170184798-$ or US-20170184790-$ or US-20170205587-$ or US-20170219779-$ or US-20170227720-$ or US-20170235060-$ or US-20170242200-$ or US-20170242199-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170261698-$ or US-20170269309-$ or US-20170276883-$).did. or (US-

20170276881-$ or US-20170293088-$ or US-20170293087-$ or US-20170307831-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170357060-$ or US-20170357059-$ or US-20170363827-$ or US-20180003903-$ or US-20180011258-$ or US-20180011254-$ or US-20180031774-$ or US-20180052288-$ or US-20180077472-$ or US-20180081128-$ or US-20180081125-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180106973-$ or US-20180156988-$ or US-20180156985-$ or US-20180210154-$).did. or (US-4240695-$ or US-4320938-$ or US-4330172-$ or US-4477146-$ or US-4687291-$ or US-4737009-$ or US-4854664-$ or US-4856866-$ or US-4886335-$ or US-4915472-$ or US-4953929-$ or US-4955976-$ or US-5064268-$ or US-5076656-$ or US-5082346-$ or US-5082344-$ or US-5101463-$ or US-5134673-$ or US-5157749-$ or US-5166995-$ or US-5199093-$ or US-5259052-$ or US-5555332-$ or US-5666456-$ or US-5692080-$ or US-5867894-$).did. or (US-5870515-$ or US-5883995-$ or US-5920670-$ or US-5920669-$ or US-5984533-$ or US-6012852-$ or US-6095695-$ or US-6210045-$ or US-6250817-$ or US-6305849-$ or US-6318902-$ or US-6331079-$ or US-6379052-$ or US-6409392-$ or US-6422761-$ or US-6422760-$ or US-6450698-$ or US-6487343-$ or US-6491442-$ or US-6533465-$ or US-6554486-$ or US-6623172-$ or US-6688782-$ or US-6712521-$ or US-6764222-$ or US-6839583-$ or US-6848834-$).did. or (US-6944378-$ or US-7036996-$ or US-8388235-$ or US-9207454-$ or US-9316791-$ or US-9377591-$ or US-9389368-$ or US-9482820-$ or US-9606303-$ or US-9625657-$ or US-9664864-$ or US-9678283-$ or US-9678286-$ or US-9684134-$ or US-9696497-$ or US-9703062-$ or US-9709753-$ or US-

9726830-$ or US-9733436-$ or US-9733434-$ or US-9798096-$ or US-9804342-$ or US-9804340-$ or US-9804337-$ or US-9829650-$ or US-9835808-$ or US-9846283-$).did. or (US-9851512-$ or US-9891390-$ or US-9904019-$ or US-9910229-$ or US-9927582-$ or US-9939589-$ or US-9946037-$).did. or (IT-7819792-$ or FR-2363124-$ or IT-7925110-$ or GB-2057158-$ or FR-2487528-$ or GB-2081468-$ or EP-0061243-$ or DK-208682-$ or GB-8306227-$ or IT-8323399-$ or JP-S5856846-$ or EP-0125398-$ or FR-2535069-$ or WO-8600147-$ or EP-0249237-$ or EP-0262847-$ or EP-0262631-$ or DE-8626183-$ or WO-9015350-$ or EP-0408852-$ or GB-9103604-$ or GB-9106183-$ or CA-2030897-$ or DE-9107960-$ or GB-9206076-$ or CA-2057559-$).did. or (CA-2082276-$ or EP-0633485-$ or EP-0690319-$ or CA-2191600-$ or EP-0696748-$ or EP-0697608-$ or CN-1118443-$ or WO-9627811-$ or EP-0758099-$ or WO-9734176-$ or CA-2198522-$ or EP-0803750-$ or NL-1003147-$ or EP-0807837-$ or CA-2254335-$ or CA-2294930-$ or CA-2262351-$ or EP-0938003-$ or JP-2945144-$ or CA-2324565-$ or GB-9919699-$ or EP-0992819-$ or CA-2284331-$ or GB-0007281-$ or CA-2288249-$ or DE-19728960-$ or EP-1033595-$).did. or (EP-1033594-$ or EP-1039324-$ or EP-1039322-$ or EP-1041416-$ or EP-1041414-$ or JP-3106420-$ or CA-2321428-$ or EP-1091225-$ or WO-0137010-$ or EP-1107031-$ or KR-20010062142-$ or WO-0155762-$ or EP-1124147-$ or WO-0161397-$ or WO-0181965-$ or CA-2350290-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or KR-20020000530-$ or KR-20020001574-$ or CN-1331421-$ or EP-1172672-$ or EP-1172673-$ or KR-20020006481-$ or KR-20020006480-$ or DE-20118858-$).did. or (CA-2418331-$ or KR-20020050140-$ or WO-02056060-$ or WO-02061481-$ or DE-10114144-

$ or NL-1018440-$ or WO-03016975-$ or WO-03093883-$ or CA-2484569-$ or EP-1394584-$ or AU-2003291687-$ or EP-1530068-$ or CA-2503690-$ or CN-1677147-$ or CN-1707299-$ or WO-2008006402-$ or EP-1887395-$ or CN-101122658-$ or WO-2008029850-$ or CA-2662854-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or CA-2689768-$ or EP-2206458-$ or WO-2010137426-$ or CA-2762411-$).did. or (EP-2302431-$ or WO-2011139938-$ or WO-2011152874-$ or EP-2444827-$ or WO-2012054174-$ or WO-2012054174-$ or WO-2012151175-$ or GB-201218194-$ or CN-102870023-$ or WO-2013115791-$ or WO-2013115789-$ or WO-2013126068-$ or CA-2912155-$ or WO-2014009463-$ or WO-2014011898-$ or EP-2700992-$ or JP-5433802-$ or WO-2014049469-$ or WO-2014113753-$ or CA-2836675-$ or WO-2014143748-$ or WO-2014165175-$ or WO-2014197701-$ or CN-104241938-$ or CA-2917189-$ or EP-2840425-$ or EP-2843452-$).did. or (WO-2015028433-$ or CA-2885821-$ or WO-2015068103-$ or CA-2932688-$ or GB-201507758-$ or WO-2015103783-$ or WO-2015116589-$ or CN-204595258-$ or WO-2015144883-$ or EP-2942653-$ or EP-2947485-$ or WO-2015190211-$ or WO-2016004347-$ or CN-105278047-$ or DE-202013012295-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or CA-2928026-$ or WO-2016043922-$ or JP-5905950-$ or WO-2016067668-$ or EP-3021145-$ or WO-2016082160-$ or WO-2016103821-$ or DE-202016103178-$ or EP-3054333-$).did. or (WO-2016161341-$ or WO-2017038704-$ or JP-6173629-$ or WO-2017180257-$ or CN-206584076-$ or EP-3258301-$ or WO-2018003776-$ or WO-2018004847-$).did. or (JP-

54034251-$ or JP-55101904-$ or JP-56066811-$ or JP-56074211-$ or JP-59075218-$ or JP-04214510-$ or JP-04220604-$ or JP-05313040-$ or JP-08015541-$ or JP-09005575-$ or JP-09033756-$ or JP-10104469-$ or JP-11072659-$ or JP-2000089061-$ or JP-2000284146-$ or JP-2000292655-$ or JP-2000310724-$ or JP-2001013372-$ or JP-2001021764-$ or JP-2001242361-$ or JP-2009294343-$ or JP-2012053420-$ or JP-2012078513-$ or JP-2015022131-$).did. or (DE-2805949-$ or DE-2932986-$ or GB-2057158-$ or GB-2081468-$ or EP-61243-$ or GB-2098354-$ or DE-3208797-$ or EP-125398-$ or US-4496213-$ or WO-8600147-$ or EP-249237-$ or EP-262631-$ or US-4953929-$ or WO-9015350-$ or GB-2241794-$ or US-5064268-$ or WO-9117540-$ or EP-458608-$ or US-5101463-$ or EP-490698-$ or EP-505197-$ or EP-430107-$ or EP-660145-$ or EP-660144-$ or EP-663602-$ or EP-663601-$).did. or (WO-9600917-$ or EP-696748-$ or EP-697608-$ or WO-9627811-$ or EP-758099-$ or WO-9734176-$ or EP-803750-$ or US-5692080-$ or WO-9746900-$ or WO-9857208-$ or WO-9947958-$ or GB-2341455-$ or EP-1041416-$ or EP-1041414-$ or EP-1091225-$ or WO-0140839-$ or EP-1107031-$ or EP-1124147-$ or WO-0181965-$ or US-20010041030-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or EP-1172673-$ or EP-1172672-$ or DE-20118858-$ or WO-02056060-$).did. or (US-6422760-$ or WO-02061481-$ or US-20030031437-$ or US-20030044125-$ or WO-03094297-$ or WO-03093883-$ or EP-1394584-$ or US-20040062498-$ or US-20040223699-$ or US-20040228589-$ or US-20050053342-$ or WO-2006022840-$ or US-20060153503-$ or US-20060165352-$ or US-20060193562-$ or EP-1752805-$ or US-20070058907-$ or US-20070077010-$ or US-20070098327-$ or US-20090041411-

$ or US-20090060423-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or EP-2206458-$ or WO-2010137426-$ or EP-2302431-$).did. or (US-20110249942-$ or US-20110274437-$ or WO-2011152874-$ or KR-2012000895-$ or US-20120027355-$ or US-20120057824-$ or US-20120082416-$ or EP-2444827-$ or US-20120099822-$ or US-20120251051-$ or US-20120251054-$ or US-20120263419-$ or WO-2012151175-$ or US-20120308183-$ or CN-102870023-$ or TW-201309089-$ or US-20130051749-$ or WO-2013036843-$ or CN-103091793-$ or US-20130121645-$ or WO-2013115789-$ or WO-2013115791-$ or WO-2013122865-$ or WO-2013126068-$ or US-20130230283-$ or US-20130259429-$ or WO-2013155395-$).did. or (WO-2013177234-$ or WO-2014011898-$ or US-20140016901-$ or EP-2700992-$ or JP-5433802-$ or US-20140064688-$ or TW-474924-$ or WO-2014049469-$ or US-20140147081-$ or US-20140153879-$ or ES-1110405-$ or WO-2014113753-$ or EP-2759860-$ or US-20140219624-$ or WO-2014143748-$ or WO-2014165175-$ or US-20140321808-$ or US-20140363131-$ or WO-2014197701-$ or EP-2818903-$ or WO-2015009435-$ or US-20150023637-$ or US-20150049989-$ or WO-2015028433-$ or WO-2015068103-$ or WO-2015070382-$ or US-20150162982-$).did. or (US-20150177463-$ or WO-2015103783-$ or WO-2015116589-$ or US-20150219864-$ or US-20150226926-$ or US-20150226925-$ or US-20150241644-$ or CN-104950402-$ or WO-2015144883-$ or US-20150286012-$ or DE-102015106225-$ or US-20150331201-$ or EP-2947485-$ or WO-2015190211-$ or US-20150378110-$ or US-20160004016-$ or US-20160004018-$ or US-

		20160025937-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016043922-$ or JP-5905950-$).did. or (US-20160124158-$ or US-20160131854-$ or EP-3021145-$ or US-20160161680-$ or US-20160178852-$ or US-20160178859-$ or US-9377591-$ or US-9389368-$ or EP-3054333-$ or US-20160259135-$ or CN-105978629-$ or US-20160282566-$ or WO-2016161341-$ or US-20160306125-$ or US-9482820-$ or US-20160341908-$ or US-20160341911-$ or US-20160349466-$ or US-20160377819-$ or US-20170031106-$ or US-20170059784-$ or WO-2017038704-$ or US-20170090127-$ or US-20170102504-$ or US-20170115457-$ or US-20170139150-$ or US-20170139156-$).did. or (US-20170153398-$ or US-9678283-$ or US-20170184790-$ or US-9709753-$ or US-20170205587-$ or JP-6173629-$ or US-20170219779-$ or US-9726830-$ or US-20170227720-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170293088-$ or US-20170307830-$ or US-9804340-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170371109-$ or US-20180003903-$ or US-20180011258-$ or US-20180052288-$ or US-20180081128-$ or US-20180106973-$ or US-20180120519-$ or US-20180128988-$).did.				
S566	136	(US-20020176671-$ or US-20040017980-$ or US-20040126118-$ or US-20040197054-$ or US-20070172177-$ or US-20070286554-$ or US-20100008635-$ or US-20100129034-$ or US-20100290745-$ or US-20110116749-$ or US-20110222830-$ or US-20110229096-$ or US-20110229095-$ or US-20110225792-$ or US-20110255831-$ or US-20110262078-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 17:53

20110262077-$ or US-20120014648-$ or US-20120063724-$ or US-20120275749-$ or US-20130136402-$ or US-20130315538-$ or US-20140286610-$ or US-20150016781-$ or US-20150110448-$ or US-20160124170-$).did. or (US-20160202429-$ or US-20170045691-$ or US-20170285277-$ or US-20170299820-$ or US-20180120519-$ or US-20180143380-$ or US-20180231722-$ or US-20180239093-$ or US-20180267255-$ or US-20180292618-$ or US-20180292612-$ or US-20180364421-$ or US-20190107679-$ or US-20190107678-$ or US-20190113691-$ or US-20190137701-$ or US-20190179085-$).did. or (US-5504825-$ or US-5613021-$ or US-5661826-$ or US-6045270-$ or US-6276840-$ or US-6293708-$ or US-6623170-$ or US-6796717-$ or US-6848840-$ or US-6866425-$ or US-6932514-$ or US-6944387-$ or US-6976793-$ or US-7094091-$ or US-7178994-$ or US-7182522-$ or US-7234874-$ or US-7241056-$ or US-7300216-$ or US-7536075-$ or US-7654748-$ or US-7891882-$ or US-7912336-$ or US-8052333-$ or US-8231282-$ or US-8235600-$).did. or (US-8262296-$ or US-8317407-$ or US-8346047-$ or US-8348519-$ or US-8348518-$ or US-8376634-$ or US-8406583-$ or US-8417074-$ or US-8494329-$ or US-8496384-$ or US-8529138-$ or US-8542972-$ or US-8550725-$ or US-8550724-$ or US-8579521-$ or US-8690593-$ or US-8714835-$ or US-8821038-$ or US-8821037-$ or US-8915653-$ or US-8958679-$ or US-9014527-$ or US-9031364-$ or US-9057848-$ or US-9146376-$ or US-9146360-$ or US-9417401-$).did. or (US-9513442-$ or US-9541711-$ or US-9557497-$ or US-9563025-$ or US-9606297-$ or US-9632255-$ or US-9645318-$ or US-9658409-$ or US-9684139-$ or US-9739949-$ or US-9753228-$ or US-9772464-$ or US-9857538-$ or US-9977199-$ or US-9989710-$ or US-

		10012801-$ or US-10054747-$ or US-10061090-$ or US-10067302-$ or US-10067300-$ or US-10088636-$ or US-10101539-$ or US-10139570-$ or US-10146014-$ or US-10156684-$ or US-10209473-$).did. or (WO-2010083369-$ or EP-2380054-$ or CN-102282495-$ or WO-2014152675-$ or WO-2015043158-$ or CN-104516073-$ or CN-102282495-$ or WO-2018125706-$).did. or (JP-57044113-$).did. or (US-20160327757-$ or US-20170299820-$ or WO-2018125706-$ or US-20190107679-$).did.				
S567	2,087	S563 S564 S565 S566	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S568	56,021	(ferrule connector) with insert$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S569	66,377	G02B6/38$.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S570	2,541	S568 and S569	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S571	14,591	adapter with (groove channel) with (top bottom upper lower)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53

S572	102	S570 and S571	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S573	62	S572 not S567	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S574	1,186,315	(groove channel) with upper with lower	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S575	735,634	(groove channel) with top with bottom	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S576	447	S570 and (S574 S575)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S577	325	S576 not (S567 S573)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S578	15,680	("ferrules" "connectors") with align$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S579	2,186	S569 and S578	US-PGPUB; USPAT;	OR	ON	2020/07/22 17:53

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S580	353	S579 and (S574 S575)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S581	167	S580 not (S567 S573 S577)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S582	11,374	G02B6/3825,3826.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S583	441	S578 and S582	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S584	206	S583 not (S567 S573 S577 S581)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S585	26,017	("ferrules" "connectors") with align$4 with (groove channel slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S586	705	S585 and S582	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	2020/07/22 17:53

			JPO; DERWENT; IBM_TDB			
S587	151	S586 not (S567 S573 S577 S581 S584)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S588	2,998	S567 S573 S577 S581 S584 S587	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S589	2,792	G02B6/3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S590	2,427	S589 not S588	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S591	2,864	ferrule with (mt$2 mpo)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S592	129	S590 and S591	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S593	2,107,838	(slot groove channel key$4) with (upper lower top bottom) with (center central$4 middle through)	US-PGPUB; USPAT; FPRS; EPO; JPO;	OR	ON	2020/07/22 17:53

			DERWENT; IBM_TDB			
S594	42	S590 and S593	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S595	40	S594 not (S592)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S596	9,201,619	(slot groove channel key$4) with (upper lower top bottom center central$4 middle through)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S597	416	S590 and S596	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S598	291	S597 not (S592 S595)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S599	460	S592 S595 S598	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S600	20,748	(multiple plural$4) adj2 (key$4 key$way) with (surface top bottom side wall)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S601	15,013	G02B6/3825-3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2020/07/22 17:53

			JPO; DERWENT; IBM_TDB			
S602	28	S600 and S601	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S603	15	S602 not (S562 S599)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S604	81	(US-20040101250-$ or US-20140205247-$ or US-20170160486-$ or US-20180239091-$).did. or (US-3999837-$ or US-4252407-$ or US-6116790-$ or US-6371659-$ or US-6461053-$ or US-6585423-$ or US-7001079-$ or US-9039298-$ or US-9823424-$).did. or (DE-2558445-$ or FR-2296862-$ or BR-7508734-$ or ES-444034-$ or GB-1503979-$ or IT-7869677-$ or CA-1043604-$ or BE-871785-$ or DK-522978-$ or NL-7811579-$ or DE-2849975-$ or GB-2009440-$ or FR-2435053-$ or FR-2446496-$ or CA-1097111-$ or IT-1050771-$ or FR-2446496-$ or FR-2435053-$ or CH-628152-$ or GB-2009440-$ or DE-3112078-$ or FR-2296862-$ or DE-2558445-$ or DE-3112078-$ or IT-1109638-$ or DE-2849975-$).did. or (DK-151733-$ or DK-151733-$ or DK-151733-$ or DE-19626036-$ or WO-9800741-$ or AU-2975197-$ or WO-9928774-$ or EP-0985161-$ or EP-1034445-$ or EP-1092995-$ or EP-1092995-$ or EP-1034445-$ or EP-0985161-$ or ES-2202617-$ or EP-1092995-$ or DE-60010402-$ or DE-60010402-$ or JP-3984293-$ or EP-2138880-$ or JP-4514004-$ or WO-2016053853-$ or WO-2017065999-$ or WO-2017065999-$ or EP-3201668-$ or CN-108351473-$ or CN-208140982-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 17:53

		$ or EP-3201668-$).did. or (JP-2001154062-$).did. or (DE-2558445-$ or BE-871785-$ or DE-19626036-$ or WO-9928774-$ or EP-1092995-$ or US-20140205247-$ or CN-104516061-$ or CN-104570229-$ or WO-2016053853-$ or WO-2017065999-$ or US-20180364421-$).did.				
S605	1,140	(US-20010010741-$ or US-20010016102-$ or US-20010033730-$ or US-20010038737-$ or US-20010043776-$ or US-20010048790-$ or US-20020006253-$ or US-20020012503-$ or US-20020012502-$ or US-20020012501-$ or US-20020012238-$ or US-20020025121-$ or US-20020025099-$ or US-20020028055-$ or US-20020031310-$ or US-20020031309-$ or US-20020061171-$ or US-20020064349-$ or US-20020081076-$ or US-20020090177-$ or US-20020094727-$ or US-20020106167-$ or US-20020114581-$ or US-20020118926-$ or US-20020126961-$ or US-20020131720-$).did. or (US-20020150344-$ or US-20020150343-$ or US-20020150353-$ or US-20020150346-$ or US-20020150345-$ or US-20020150342-$ or US-20020159745-$ or US-20020159714-$ or US-20020159712-$ or US-20020168149-$ or US-20020166226-$ or US-20020172469-$ or US-20020177364-$ or US-20020181888-$ or US-20020181884-$ or US-20020186934-$ or US-20020186742-$ or US-20020191881-$ or US-20020197017-$ or US-20020197018-$ or US-20030002816-$ or US-20030002808-$ or US-20030007739-$ or US-20030012512-$ or US-20030031449-$ or US-20030031422-$ or US-20030044122-$).did. or (US-20030044115-$ or US-20030053760-$ or US-20030063868-$ or US-20030063866-$ or US-20030063862-$ or US-20030068135-$ or US-20030072536-$ or US-20030081905-$ or US-20030087505-$ or US-20030091292-$ or US-20030095780-	US-PGPUB; USPAT; JPO	OR	ON	2020/07/22 17:53

		$ or US-20030095779-$ or US-20030103730-$ or US-20030108320-$ or US-20030113086-$ or US-20030128934-$ or US-20030142918-$ or US-20030147597-$ or US-20030147230-$ or US-20030156796-$ or US-20030169975-$ or US-20030169974-$ or US-20030174996-$ or US-20030174972-$ or US-20030174922-$ or US-20030180005-$ or US-20030185520-$).did. or (US-20030189214-$ or US-20030194188-$ or US-20030198029-$ or US-20030231838-$ or US-20040013369-$ or US-20040028340-$ or US-20040033050-$ or US-20040033028-$ or US-20040033027-$ or US-20040036987-$ or US-20040042710-$ or US-20040052471-$ or US-20040054761-$ or US-20040062488-$ or US-20040062486-$ or US-20040072454-$ or US-20040071438-$ or US-20040074852-$ or US-20040081418-$ or US-20040091228-$ or US-20040101253-$ or US-20040105325-$ or US-20040105278-$ or US-20040120652-$ or US-20040131315-$ or US-20040136656-$ or US-20040141692-$).did. or (US-20040151464-$ or US-20040151438-$ or US-20040156592-$ or US-20040161204-$ or US-20040165830-$ or US-20040179787-$ or US-20040184740-$ or US-20040182971-$ or US-20040197053-$ or US-20040202431-$ or US-20040208459-$ or US-20040223701-$ or US-20040240793-$ or US-20040247255-$ or US-20040264873-$ or US-20040266257-$ or US-20040264908-$ or US-20040264876-$ or US-20050008300-$ or US-20050013547-$ or US-20050041928-$ or US-20050069263-$ or US-20050074211-$ or US-20050094948-$ or US-20050094943-$ or US-20050112939-$ or US-20050111796-$).did. or (US-20050118880-$ or US-20050135753-$ or US-20050141817-$ or US-20050185894-$ or US-20050207708-$ or US-20050215119-$ or US-20050220423-$ or US-20050220420-$ or US-20050226586-$ or US-			

20050232552-$ or US-20050238289-$ or US-20050281526-$ or US-20050281509-$ or US-20050286833-$ or US-20050286835-$ or US-20060013539-$ or US-20060056769-$ or US-20060072878-$ or US-20060083468-$ or US-20060083467-$ or US-20060088248-$ or US-20060093275-$ or US-20060098914-$ or US-20060133758-$ or US-20060140542-$ or US-20060147156-$ or US-20060147155-$).did. or (US-20060154529-$ or US-20060153503-$ or US-20060159401-$ or US-20060159399-$ or US-20060169856-$ or US-20060177182-$ or US-20060197943-$ or US-20060204200-$ or US-20060204180-$ or US-20060245711-$ or US-20060263011-$ or US-20060269205-$ or US-20060269206-$ or US-20060269212-$ or US-20070019913-$ or US-20070036487-$ or US-20070098330-$ or US-20070098329-$ or US-20070105452-$ or US-20070116414-$ or US-20070116411-$ or US-20070140623-$ or US-20070154135-$ or US-20070165984-$ or US-20070183780-$ or US-20070190834-$ or US-20070196053-$).did. or (US-20070196052-$ or US-20070201808-$ or US-20070201798-$ or US-20070212002-$ or US-20070223862-$ or US-20070230874-$ or US-20070263959-$ or US-20070280599-$ or US-20070285194-$ or US-20070297725-$ or US-20080008425-$ or US-20080013897-$ or US-20080013891-$ or US-20080019642-$ or US-20080019656-$ or US-20080044139-$ or US-20080050072-$ or US-20080085082-$ or US-20080095502-$ or US-20080095501-$ or US-20080100456-$ or US-20080170827-$ or US-20080175541-$ or US-20080175550-$ or US-20080175542-$ or US-20080175546-$ or US-20080175545-$).did. or (US-20080175532-$ or US-20080193086-$ or US-20080205825-$ or US-20080240658-$ or US-20080269845-$ or US-20080267566-$ or US-20080273837-$ or US-20080279503-

$ or US-20080304792-$ or US-20080310796-$ or US-20080310800-$ or US-20080310795-$ or US-20080317411-$ or US-20090010600-$ or US-20090028507-$ or US-20090034912-$ or US-20090047800-$ or US-20090046981-$ or US-20090060422-$ or US-20090060418-$ or US-20090074359-$ or US-20090103878-$ or US-20090116791-$ or US-20090148101-$ or US-20090156043-$ or US-20090185778-$ or US-20090202214-$).did. or (US-20090214164-$ or US-20090226141-$ or US-20090226137-$ or US-20090232455-$ or US-20090232454-$ or US-20090257722-$ or US-20090257719-$ or US-20090274431-$ or US-20090274432-$ or US-20090285534-$ or US-20090285530-$ or US-20090290838-$ or US-20090304335-$ or US-20100002999-$ or US-20100021111-$ or US-20100029117-$ or US-20100027944-$ or US-20100027943-$ or US-20100046893-$ or US-20100054665-$ or US-20100061681-$ or US-20100074616-$ or US-20100080513-$ or US-20100092134-$ or US-20100092131-$ or US-20100104355-$ or US-20100111484-$).did. or (US-20100129032-$ or US-20100129028-$ or US-20100135618-$ or US-20100141934-$ or US-20100146764-$ or US-20100158444-$ or US-20100183265-$ or US-20100202730-$ or US-20100202737-$ or US-20100209063-$ or US-20100209050-$ or US-20100215318-$ or US-20100215322-$ or US-20100226654-$ or US-20100232757-$ or US-20100239220-$ or US-20100239213-$ or US-20100247057-$ or US-20100247040-$ or US-20100260457-$ or US-20100266245-$ or US-20100272408-$ or US-20100278497-$ or US-20100278488-$ or US-20100284655-$ or US-20100296792-$ or US-20100303408-$).did. or (US-20100322580-$ or US-20100322576-$ or US-20100322554-$ or US-20100329604-$ or US-20100329602-$ or US-20110019964-$ or US-

20110038592-$ or US-20110038581-$ or US-20110044583-$ or US-20110058772-$ or US-20110075969-$ or US-20110081798-$ or US-20110081116-$ or US-20110085774-$ or US-20110085765-$ or US-20110091166-$ or US-20110091154-$ or US-20110103797-$ or US-20110116748-$ or US-20110123156-$ or US-20110129186-$ or US-20110142398-$ or US-20110150396-$ or US-20110158593-$ or US-20110158586-$ or US-20110170830-$ or US-20110176777-$).did. or (US-20110188809-$ or US-20110188000-$ or US-20110194828-$ or US-20110200286-$ or US-20110198324-$ or US-20110200294-$ or US-20110206335-$ or US-20110206325-$ or US-20110206324-$ or US-20110211792-$ or US-20110229094-$ or US-20110243508-$ or US-20110243505-$ or US-20110243504-$ or US-20110268391-$ or US-20110293223-$ or US-20110299814-$ or US-20110311186-$ or US-20110317976-$ or US-20120002928-$ or US-20120002925-$ or US-20120033918-$ or US-20120039569-$ or US-20120057831-$ or US-20120057830-$ or US-20120057827-$ or US-20120063735-$).did. or (US-20120069348-$ or US-20120099870-$ or US-20120106901-$ or US-20120114295-$ or US-20120128307-$ or US-20120141084-$ or US-20120155808-$ or US-20120163757-$ or US-20120170895-$ or US-20120195555-$ or US-20120219253-$ or US-20120224823-$ or US-20120237223-$ or US-20120237171-$ or US-20120243831-$ or US-20120243829-$ or US-20120251067-$ or US-20120252244-$ or US-20120251050-$ or US-20120257859-$ or US-20120263426-$ or US-20120294572-$ or US-20120301088-$ or US-20120301080-$ or US-20120321269-$ or US-20120321266-$ or US-20120321254-$).did. or (US-20130011099-$ or US-20130064517-$ or US-20130071068-$ or US-20130071067-$ or US-20130084041-

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		or US-6601995-$ or US-6612750-$ or US-6619859-$ or US-6619856-$ or US-6632023-$ or US-6634794-$ or US-6644866-$ or US-6667803-$ or US-6695485-$ or US-6702477-$ or US-6702475-$ or US-6786647-$ or US-6789953-$ or US-6793399-$ or US-6840680-$ or US-6856748-$ or US-6895146-$ or US-7232261-$ or US-7435009-$ or US-7530845-$).did. or (US-7585118-$ or US-7588373-$ or US-7706657-$ or US-7738757-$ or US-7972066-$ or US-8070366-$ or US-8206040-$ or US-8517614-$ or US-8588571-$ or US-8953922-$ or US-9229177-$ or US-9229170-$ or US-9291781-$ or US-9316794-$ or US-9323007-$ or US-9448369-$ or US-9453972-$ or US-9482825-$ or US-9551831-$ or US-9625655-$ or US-9632267-$ or US-9638871-$ or US-9638868-$ or US-9645335-$ or US-9658407-$ or US-9671570-$ or US-9671568-$).did. or (US-9678282-$ or US-9696477-$ or US-9722367-$ or US-9720184-$ or US-9726829-$ or US-9735523-$ or US-9733123-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9746625-$ or US-9746368-$ or US-9759874-$ or US-9759869-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9784928-$ or US-9798090-$ or US-9797806-$ or US-9810860-$ or US-9810858-$ or US-9810856-$ or US-9817195-$ or US-9823428-$ or US-9829643-$ or US-9827438-$).did. or (US-9835807-$ or US-9841566-$ or US-9857545-$ or US-9857537-$ or US-9864151-$ or US-9869824-$ or US-9876309-$ or US-9874702-$ or US-9880365-$ or US-9880357-$ or US-9885841-$ or US-9893813-$ or US-9891392-$ or US-9891387-$ or US-9891385-$ or US-9897767-$ or US-9904021-$ or US-9904020-$ or US-9910228-$ or US-9910226-$ or US-9915793-$ or US-9933586-$ or US-9933583-$ or US-9933582-$ or US-9939600-$ or US-9939590-$ or US-9948017-$).did. or (US-9946036-$ or US-10007069-$ or US-10018787-$).did.			

		or (JP-2016095432-$ or JP-2016095410-$ or JP-2016122100-$ or JP-2016177309-$ or JP-2016188927-$ or JP-2017053937-$ or JP-2017090798-$ or JP-2017111444-$ or JP-2017134118-$ or JP-2017138535-$ or JP-2017151338-$ or JP-2017219768-$).did.				
S606	737	(US-20010041030-$ or US-20020025125-$ or US-20020106162-$ or US-20020114589-$ or US-20020159710-$ or US-20030031452-$ or US-20030044127-$ or US-20030044125-$ or US-20030180004-$ or US-20030223703-$ or US-20040008494-$ or US-20040017983-$ or US-20040017981-$ or US-20040038558-$ or US-20040052472-$ or US-20040062498-$ or US-20040105628-$ or US-20040131317-$ or US-20040223699-$ or US-20040228589-$ or US-20050036744-$ or US-20050053342-$ or US-20050111795-$ or US-20050123246-$ or US-20050135755-$ or US-20050135752-$).did. or (US-20050271328-$ or US-20060045430-$ or US-20060051028-$ or US-20060093282-$ or US-20060153504-$ or US-20060193562-$ or US-20060280409-$ or US-20060285807-$ or US-20070058907-$ or US-20070098327-$ or US-20070160327-$ or US-20080069501-$ or US-20080112672-$ or US-20080124031-$ or US-20080131055-$ or US-20080253719-$ or US-20090003772-$ or US-20090290839-$ or US-20090305542-$ or US-20100322561-$ or US-20110038590-$ or US-20110075971-$ or US-20110091159-$ or US-20110222819-$ or US-20110249942-$ or US-20120027355-$ or US-20120057824-$).did. or (US-20120076459-$ or US-20120082416-$ or US-20120099822-$ or US-20120141070-$ or US-20120251054-$ or US-20120251051-$ or US-20120263423-$ or US-20120263419-$ or US-20120308183-$ or US-20130051749-$ or US-20130064508-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 17:53

$ or US-20130077914-$ or US-20130121645-$ or US-20130129280-$ or US-20130183001-$ or US-20130216189-$ or US-20130230283-$ or US-20130259429-$ or US-20130272671-$ or US-20130308908-$ or US-20140056560-$ or US-20140064665-$ or US-20140064688-$ or US-20140072265-$ or US-20140086545-$ or US-20140147081-$ or US-20140205241-$).did. or (US-20140219614-$ or US-20140219624-$ or US-20140314385-$ or US-20140341510-$ or US-20150003785-$ or US-20150023637-$ or US-20150049989-$ or US-20150071591-$ or US-20150177463-$ or US-20150226926-$ or US-20150241644-$ or US-20150301286-$ or US-20150331201-$ or US-20150338583-$ or US-20150370017-$ or US-20150378112-$ or US-20160004018-$ or US-20160004016-$ or US-20160025937-$ or US-20160077287-$ or US-20160077284-$ or US-20160109661-$ or US-20160131854-$ or US-20160131849-$ or US-20160161680-$ or US-20160178859-$ or US-20160259135-$).did. or (US-20160282566-$ or US-20160282562-$ or US-20160320571-$ or US-20160349464-$ or US-20170059784-$ or US-20170090128-$ or US-20170090127-$ or US-20170102506-$ or US-20170102504-$ or US-20170108653-$ or US-20170115457-$ or US-20170139150-$ or US-20170153398-$ or US-20170184798-$ or US-20170184790-$ or US-20170205587-$ or US-20170219779-$ or US-20170227720-$ or US-20170235060-$ or US-20170242200-$ or US-20170242199-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170261698-$ or US-20170269309-$ or US-20170276883-$).did. or (US-20170276881-$ or US-20170293088-$ or US-20170293087-$ or US-20170307831-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170357060-$ or US-20170357059-$ or US-

20170363827-$ or US-20180003903-$ or US-20180011258-$ or US-20180011254-$ or US-20180031774-$ or US-20180052288-$ or US-20180077472-$ or US-20180081128-$ or US-20180081125-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180106973-$ or US-20180156988-$ or US-20180156985-$ or US-20180210154-$).did. or (US-4240695-$ or US-4320938-$ or US-4330172-$ or US-4477146-$ or US-4687291-$ or US-4737009-$ or US-4854664-$ or US-4856866-$ or US-4886335-$ or US-4915472-$ or US-4953929-$ or US-4955976-$ or US-5064268-$ or US-5076656-$ or US-5082346-$ or US-5082344-$ or US-5101463-$ or US-5134673-$ or US-5157749-$ or US-5166995-$ or US-5199093-$ or US-5259052-$ or US-5555332-$ or US-5666456-$ or US-5692080-$ or US-5867894-$).did. or (US-5870515-$ or US-5883995-$ or US-5920670-$ or US-5920669-$ or US-5984533-$ or US-6012852-$ or US-6095695-$ or US-6210045-$ or US-6250817-$ or US-6305849-$ or US-6318902-$ or US-6331079-$ or US-6379052-$ or US-6409392-$ or US-6422761-$ or US-6422760-$ or US-6450698-$ or US-6487343-$ or US-6491442-$ or US-6533465-$ or US-6554486-$ or US-6623172-$ or US-6688782-$ or US-6712521-$ or US-6764222-$ or US-6839583-$ or US-6848834-$).did. or (US-6944378-$ or US-7036996-$ or US-8388235-$ or US-9207454-$ or US-9316791-$ or US-9377591-$ or US-9389368-$ or US-9482820-$ or US-9606303-$ or US-9625657-$ or US-9664864-$ or US-9678283-$ or US-9678286-$ or US-9684134-$ or US-9696497-$ or US-9703062-$ or US-9709753-$ or US-9726830-$ or US-9733436-$ or US-9733434-$ or US-9798096-$ or US-9804342-$ or US-9804340-$ or US-9804337-$ or US-9829650-$ or US-9835808-$ or US-9846283-$).did. or (US-9851512-$ or US-9891390-$ or

US-9904019-$ or US-9910229-$ or US-9927582-$ or US-9939589-$ or US-9946037-$).did. or (IT-7819792-$ or FR-2363124-$ or IT-7925110-$ or GB-2057158-$ or FR-2487528-$ or GB-2081468-$ or EP-0061243-$ or DK-208682-$ or GB-8306227-$ or IT-8323399-$ or JP-S5856846-$ or EP-0125398-$ or FR-2535069-$ or WO-8600147-$ or EP-0249237-$ or EP-0262847-$ or EP-0262631-$ or DE-8626183-$ or WO-9015350-$ or EP-0408852-$ or GB-9103604-$ or GB-9106183-$ or CA-2030897-$ or DE-9107960-$ or GB-9206076-$ or CA-2057559-$).did. or (CA-2082276-$ or EP-0633485-$ or EP-0690319-$ or CA-2191600-$ or EP-0696748-$ or EP-0697608-$ or CN-1118443-$ or WO-9627811-$ or EP-0758099-$ or WO-9734176-$ or CA-2198522-$ or EP-0803750-$ or NL-1003147-$ or EP-0807837-$ or CA-2254335-$ or CA-2294930-$ or CA-2262351-$ or EP-0938003-$ or JP-2945144-$ or CA-2324565-$ or GB-9919699-$ or EP-0992819-$ or CA-2284331-$ or GB-0007281-$ or CA-2288249-$ or DE-19728960-$ or EP-1033595-$).did. or (EP-1033594-$ or EP-1039324-$ or EP-1039322-$ or EP-1041416-$ or EP-1041414-$ or JP-3106420-$ or CA-2321428-$ or EP-1091225-$ or WO-0137010-$ or EP-1107031-$ or KR-20010062142-$ or WO-0155762-$ or EP-1124147-$ or WO-0161397-$ or WO-0181965-$ or CA-2350290-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or KR-20020000530-$ or KR-20020001574-$ or CN-1331421-$ or EP-1172672-$ or EP-1172673-$ or KR-20020006481-$ or KR-20020006480-$ or DE-20118858-$).did. or (CA-2418331-$ or KR-20020050140-$ or WO-02056060-$ or WO-02061481-$ or DE-10114144-$ or NL-1018440-$ or WO-03016975-$ or WO-03093883-$ or CA-2484569-$ or EP-1394584-$ or AU-2003291687-$ or EP-1530068-$ or CA-2503690-$ or CN-1677147-$ or CN-1707299-$ or WO-

2008006402-$ or EP-1887395-$ or CN-101122658-$ or WO-2008029850-$ or CA-2662854-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or CA-2689768-$ or EP-2206458-$ or WO-2010137426-$ or CA-2762411-$).did. or (EP-2302431-$ or WO-2011139938-$ or WO-2011152874-$ or EP-2444827-$ or WO-2012054174-$ or WO-2012054174-$ or WO-2012151175-$ or GB-201218194-$ or CN-102870023-$ or WO-2013115791-$ or WO-2013115789-$ or WO-2013126068-$ or CA-2912155-$ or WO-2014009463-$ or WO-2014011898-$ or EP-2700992-$ or JP-5433802-$ or WO-2014049469-$ or WO-2014113753-$ or CA-2836675-$ or WO-2014143748-$ or WO-2014165175-$ or WO-2014197701-$ or CN-104241938-$ or CA-2917189-$ or EP-2840425-$ or EP-2843452-$).did. or (WO-2015028433-$ or CA-2885821-$ or WO-2015068103-$ or CA-2932688-$ or GB-201507758-$ or WO-2015103783-$ or WO-2015116589-$ or CN-204595258-$ or WO-2015144883-$ or EP-2942653-$ or EP-2947485-$ or WO-2015190211-$ or WO-2016004347-$ or CN-105278047-$ or DE-202013012295-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or CA-2928026-$ or WO-2016043922-$ or JP-5905950-$ or WO-2016067668-$ or EP-3021145-$ or WO-2016082160-$ or WO-2016103821-$ or DE-202016103178-$ or EP-3054333-$).did. or (WO-2016161341-$ or WO-2017038704-$ or JP-6173629-$ or WO-2017180257-$ or CN-206584076-$ or EP-3258301-$ or WO-2018003776-$ or WO-2018004847-$).did. or (JP-54034251-$ or JP-55101904-$ or JP-56066811-$ or JP-56074211-$ or JP-59075218-$ or JP-04214510-$ or JP-04220604-$ or JP-05313040-$ or JP-08015541-$ or JP-09005575-$ or JP-09033756-$ or JP-10104469-$ or JP-

11072659-$ or JP-2000089061-$ or JP-2000284146-$ or JP-2000292655-$ or JP-2000310724-$ or JP-2001013372-$ or JP-2001021764-$ or JP-2001242361-$ or JP-2009294343-$ or JP-2012053420-$ or JP-2012078513-$ or JP-2015022131-$).did. or (DE-2805949-$ or DE-2932986-$ or GB-2057158-$ or GB-2081468-$ or EP-61243-$ or GB-2098354-$ or DE-3208797-$ or EP-125398-$ or US-4496213-$ or WO-8600147-$ or EP-249237-$ or EP-262631-$ or US-4953929-$ or WO-9015350-$ or GB-2241794-$ or US-5064268-$ or WO-9117540-$ or EP-458608-$ or US-5101463-$ or EP-490698-$ or EP-505197-$ or EP-430107-$ or EP-660145-$ or EP-660144-$ or EP-663602-$ or EP-663601-$).did. or (WO-9600917-$ or EP-696748-$ or EP-697608-$ or WO-9627811-$ or EP-758099-$ or WO-9734176-$ or EP-803750-$ or US-5692080-$ or WO-9746900-$ or WO-9857208-$ or WO-9947958-$ or GB-2341455-$ or EP-1041416-$ or EP-1041414-$ or EP-1091225-$ or WO-0140839-$ or EP-1107031-$ or EP-1124147-$ or WO-0181965-$ or US-20010041030-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or EP-1172673-$ or EP-1172672-$ or DE-20118858-$ or WO-02056060-$).did. or (US-6422760-$ or WO-02061481-$ or US-20030031437-$ or US-20030044125-$ or WO-03094297-$ or WO-03093883-$ or EP-1394584-$ or US-20040062498-$ or US-20040223699-$ or US-20040228589-$ or US-20050053342-$ or WO-2006022840-$ or US-20060153503-$ or US-20060165352-$ or US-20060193562-$ or EP-1752805-$ or US-20070058907-$ or US-20070077010-$ or US-20070098327-$ or US-20090041411-$ or US-20090060423-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or EP-2206458-$ or WO-2010137426-$ or EP-2302431-$).did. or (US-20110249942-$ or US-20110274437-

$ or WO-2011152874-$ or KR-2012000895-$ or US-20120027355-$ or US-20120057824-$ or US-20120082416-$ or EP-2444827-$ or US-20120099822-$ or US-20120251051-$ or US-20120251054-$ or US-20120263419-$ or WO-2012151175-$ or US-20120308183-$ or CN-102870023-$ or TW-201309089-$ or US-20130051749-$ or WO-2013036843-$ or CN-103091793-$ or US-20130121645-$ or WO-2013115789-$ or WO-2013115791-$ or WO-2013122865-$ or WO-2013126068-$ or US-20130230283-$ or US-20130259429-$ or WO-2013155395-$).did. or (WO-2013177234-$ or WO-2014011898-$ or US-20140016901-$ or EP-2700992-$ or JP-5433802-$ or US-20140064688-$ or TW-474924-$ or WO-2014049469-$ or US-20140147081-$ or US-20140153879-$ or ES-1110405-$ or WO-2014113753-$ or EP-2759860-$ or US-20140219624-$ or WO-2014143748-$ or WO-2014165175-$ or US-20140321808-$ or US-20140363131-$ or WO-2014197701-$ or EP-2818903-$ or WO-2015009435-$ or US-20150023637-$ or US-20150049989-$ or WO-2015028433-$ or WO-2015068103-$ or WO-2015070382-$ or US-20150162982-$).did. or (US-20150177463-$ or WO-2015103783-$ or WO-2015116589-$ or US-20150219864-$ or US-20150226926-$ or US-20150226925-$ or US-20150241644-$ or CN-104950402-$ or WO-2015144883-$ or US-20150286012-$ or DE-102015106225-$ or US-20150331201-$ or EP-2947485-$ or WO-2015190211-$ or US-20150378110-$ or US-20160004016-$ or US-20160004018-$ or US-20160025937-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016043922-$ or JP-5905950-$).did.

		or (US-20160124158-$ or US-20160131854-$ or EP-3021145-$ or US-20160161680-$ or US-20160178852-$ or US-20160178859-$ or US-9377591-$ or US-9389368-$ or EP-3054333-$ or US-20160259135-$ or CN-105978629-$ or US-20160282566-$ or WO-2016161341-$ or US-20160306125-$ or US-9482820-$ or US-20160341908-$ or US-20160341911-$ or US-20160349466-$ or US-20160377819-$ or US-20170031106-$ or US-20170059784-$ or WO-2017038704-$ or US-20170090127-$ or US-20170102504-$ or US-20170115457-$ or US-20170139150-$ or US-20170139156-$).did. or (US-20170153398-$ or US-9678283-$ or US-20170184790-$ or US-9709753-$ or US-20170205587-$ or JP-6173629-$ or US-20170219779-$ or US-9726830-$ or US-20170227720-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170293088-$ or US-20170307830-$ or US-9804340-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170371109-$ or US-20180003903-$ or US-20180011258-$ or US-20180052288-$ or US-20180081128-$ or US-20180106973-$ or US-20180120519-$ or US-20180128988-$).did.				
S607	136	(US-20020176671-$ or US-20040017980-$ or US-20040126118-$ or US-20040197054-$ or US-20070172177-$ or US-20070286554-$ or US-20100008635-$ or US-20100129034-$ or US-20100290745-$ or US-20110116749-$ or US-20110222830-$ or US-20110229096-$ or US-20110229095-$ or US-20110225792-$ or US-20110255831-$ or US-20110262078-$ or US-20110262077-$ or US-20120014648-$ or US-20120063724-$ or US-20120275749-$ or US-20130136402-$ or US-20130315538-$ or US-20140286610-$ or US-20150016781-$ or US-20150110448-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 17:53

20160124170-$).did. or (US-20160202429-$ or US-20170045691-$ or US-20170285277-$ or US-20170299820-$ or US-20180120519-$ or US-20180143380-$ or US-20180231722-$ or US-20180239093-$ or US-20180267255-$ or US-20180292618-$ or US-20180292612-$ or US-20180364421-$ or US-20190107679-$ or US-20190107678-$ or US-20190113691-$ or US-20190137701-$ or US-20190179085-$).did. or (US-5504825-$ or US-5613021-$ or US-5661826-$ or US-6045270-$ or US-6276840-$ or US-6293708-$ or US-6623170-$ or US-6796717-$ or US-6848840-$ or US-6866425-$ or US-6932514-$ or US-6944387-$ or US-6976793-$ or US-7094091-$ or US-7178994-$ or US-7182522-$ or US-7234874-$ or US-7241056-$ or US-7300216-$ or US-7536075-$ or US-7654748-$ or US-7891882-$ or US-7912336-$ or US-8052333-$ or US-8231282-$ or US-8235600-$).did. or (US-8262296-$ or US-8317407-$ or US-8346047-$ or US-8348519-$ or US-8348518-$ or US-8376634-$ or US-8406583-$ or US-8417074-$ or US-8494329-$ or US-8496384-$ or US-8529138-$ or US-8542972-$ or US-8550725-$ or US-8550724-$ or US-8579521-$ or US-8690593-$ or US-8714835-$ or US-8821038-$ or US-8821037-$ or US-8915653-$ or US-8958679-$ or US-9014527-$ or US-9031364-$ or US-9057848-$ or US-9146376-$ or US-9146360-$ or US-9417401-$).did. or (US-9513442-$ or US-9541711-$ or US-9557497-$ or US-9563025-$ or US-9606297-$ or US-9632255-$ or US-9645318-$ or US-9658409-$ or US-9684139-$ or US-9739949-$ or US-9753228-$ or US-9772464-$ or US-9857538-$ or US-9977199-$ or US-9989710-$ or US-10012801-$ or US-10054747-$ or US-10061090-$ or US-10067302-$ or US-10067300-$ or US-10088636-$ or US-10101539-$ or US-10139570-$ or US-10146014-$ or US-10156684-$ or US-10209473-

		$).did. or (WO-2010083369-$ or EP-2380054-$ or CN-102282495-$ or WO-2014152675-$ or WO-2015043158-$ or CN-104516073-$ or CN-102282495-$ or WO-2018125706-$).did. or (JP-57044113-$).did. or (US-20160327757-$ or US-20170299820-$ or WO-2018125706-$ or US-20190107679-$).did.				
S608	2,087	S604 S605 S606 S607	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S609	56,021	(ferrule connector) with insert$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S610	66,377	G02B6/38$.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S611	2,541	S609 and S610	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S612	14,591	adapter with (groove channel) with (top bottom upper lower)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S613	102	S611 and S612	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53

S614	62	S613 not S608	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S615	1,186,315	(groove channel) with upper with lower	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S616	735,634	(groove channel) with top with bottom	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S617	447	S611 and (S615 S616)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S618	325	S617 not (S608 S614)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S619	15,680	("ferrules" "connectors") with align$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S620	2,186	S610 and S619	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S621	353	S620 and (S615 S616)	US-PGPUB; USPAT;	OR	OFF	2020/07/22 17:53

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S622	167	S621 not (S608 S614 S618)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S623	11,374	G02B6/3825,3826.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S624	441	S619 and S623	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S625	206	S624 not (S608 S614 S618 S622)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S626	26,017	("ferrules" "connectors") with align$4 with (groove channel slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S627	705	S626 and S623	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 17:53
S628	151	S627 not (S608 S614 S618 S622 S625)	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2020/07/22 17:53

			JPO; DERWENT; IBM_TDB			
S629	2,998	S608 S614 S618 S622 S625 S628	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S630	2,792	G02B6/3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S631	2,427	S630 not S629	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S632	38	("20010026661" | "20020167793" | "20040228582" | "20050095899" | "20060140543" | "20080032536" | "20080248691" | "20080311781" | "20110059642" | "20120190230" | "20120257865" | "4186997" | "4376565" | "4448467" | "4580868" | "4645295" | "4711511" | "4904199" | "4979792" | "4986769" | "5166995" | "5183408" | "5265181" | "5289554" | "6149313" | "6257917" | "6538882" | "6634796" | "6910911" | "6994478" | "7182523" | "7325975" | "7374347" | "7476118" | "7674046" | "8167638" | "8262403" | "8724955").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/07/22 17:53
S633	2,864	ferrule with (mt$2 mpo)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S634	129	S631 and S633	US-PGPUB; USPAT;	OR	ON	2020/07/22 17:53

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S635	2,107,838	(slot groove channel key$4) with (upper lower top bottom) with (center central$4 middle through)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S636	42	S631 and S635	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S637	40	S636 not (S634)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S638	20,748	(multiple plural$4) adj2 (key$4 key$way) with (surface top bottom side wall)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S639	15,013	G02B6/3825-3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S640	28	S638 and S639	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S641	12,760	G02B6/3881,3885.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53

S642	13,201	G02B6/3879,3825.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S643	23,087	S642 S641	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S644	533	gang$4 with (adapter adaptor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S645	75	S643 and S644	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S646	146,261	G02B6/38$3.cpc. G02B6/42$3.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S647	92	S644 and S646	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53
S648	17	S647 not S645	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 17:53

S649	81	(US-20040101250-$ or US-20140205247-$ or US-20170160486-$ or US-20180239091-$).did. or (US-3999837-$ or US-4252407-$ or US-6116790-$ or US-6371659-$ or US-6461053-$ or US-6585423-$ or US-7001079-$ or US-9039298-$ or US-9823424-$).did. or (DE-2558445-$ or FR-2296862-$ or BR-7508734-$ or ES-444034-$ or GB-1503979-$ or IT-7869677-$ or CA-1043604-$ or BE-871785-$ or DK-522978-$ or NL-7811579-$ or DE-2849975-$ or GB-2009440-$ or FR-2435053-$ or FR-2446496-$ or CA-1097111-$ or IT-1050771-$ or FR-2446496-$ or FR-2435053-$ or CH-628152-$ or GB-2009440-$ or DE-3112078-$ or FR-2296862-$ or DE-2558445-$ or DE-3112078-$ or IT-1109638-$ or DE-2849975-$).did. or (DK-151733-$ or DK-151733-$ or DK-151733-$ or DE-19626036-$ or WO-9800741-$ or AU-2975197-$ or WO-9928774-$ or EP-0985161-$ or EP-1034445-$ or EP-1092995-$ or EP-1092995-$ or EP-1034445-$ or EP-0985161-$ or ES-2202617-$ or EP-1092995-$ or DE-60010402-$ or DE-60010402-$ or JP-3984293-$ or EP-2138880-$ or JP-4514004-$ or WO-2016053853-$ or WO-2017065999-$ or WO-2017065999-$ or EP-3201668-$ or CN-108351473-$ or CN-208140982-$ or EP-3201668-$).did. or (JP-2001154062-$).did. or (DE-2558445-$ or BE-871785-$ or DE-19626036-$ or WO-9928774-$ or EP-1092995-$ or US-20140205247-$ or CN-104516061-$ or CN-104570229-$ or WO-2016053853-$ or WO-2017065999-$ or US-20180364421-$).did.	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 18:13
S650	1,140	(US-20010010741-$ or US-20010016102-$ or US-20010033730-$ or US-20010038737-$ or US-20010043776-$ or US-20010048790-$ or US-20020006253-$ or US-20020012503-$ or US-20020012502-$ or US-20020012501-$ or US-20020012238-$ or US-20020025121-$ or US-20020025099-$ or US-	US-PGPUB; USPAT; JPO	OR	ON	2020/07/22 18:13

20020028055-$ or US-20020031310-$ or US-20020031309-$ or US-20020061171-$ or US-20020064349-$ or US-20020081076-$ or US-20020090177-$ or US-20020094727-$ or US-20020106167-$ or US-20020114581-$ or US-20020118926-$ or US-20020126961-$ or US-20020131720-$).did. or (US-20020150344-$ or US-20020150343-$ or US-20020150353-$ or US-20020150346-$ or US-20020150345-$ or US-20020150342-$ or US-20020159745-$ or US-20020159714-$ or US-20020159712-$ or US-20020168149-$ or US-20020166226-$ or US-20020172469-$ or US-20020177364-$ or US-20020181888-$ or US-20020181884-$ or US-20020186934-$ or US-20020186742-$ or US-20020191881-$ or US-20020197017-$ or US-20020197018-$ or US-20030002816-$ or US-20030002808-$ or US-20030007739-$ or US-20030012512-$ or US-20030031449-$ or US-20030031422-$ or US-20030044122-$).did. or (US-20030044115-$ or US-20030053760-$ or US-20030063868-$ or US-20030063866-$ or US-20030063862-$ or US-20030068135-$ or US-20030072536-$ or US-20030081905-$ or US-20030087505-$ or US-20030091292-$ or US-20030095780-$ or US-20030095779-$ or US-20030103730-$ or US-20030108320-$ or US-20030113086-$ or US-20030128934-$ or US-20030142918-$ or US-20030147597-$ or US-20030147230-$ or US-20030156796-$ or US-20030169975-$ or US-20030169974-$ or US-20030174996-$ or US-20030174972-$ or US-20030174922-$ or US-20030180005-$ or US-20030185520-$).did. or (US-20030189214-$ or US-20030194188-$ or US-20030198029-$ or US-20030231838-$ or US-20040013369-$ or US-20040028340-$ or US-20040033050-$ or US-20040033028-$ or US-20040033027-$ or US-20040036987-$ or US-20040042710-$ or US-20040052471-$ or US-

20040054761-$ or US-20040062488-$ or US-20040062486-$ or US-20040072454-$ or US-20040071438-$ or US-20040074852-$ or US-20040081418-$ or US-20040091228-$ or US-20040101253-$ or US-20040105325-$ or US-20040105278-$ or US-20040120652-$ or US-20040131315-$ or US-20040136656-$ or US-20040141692-$).did. or (US-20040151464-$ or US-20040151438-$ or US-20040156592-$ or US-20040161204-$ or US-20040165830-$ or US-20040179787-$ or US-20040184740-$ or US-20040182971-$ or US-20040197053-$ or US-20040202431-$ or US-20040208459-$ or US-20040223701-$ or US-20040240793-$ or US-20040247255-$ or US-20040264873-$ or US-20040266257-$ or US-20040264908-$ or US-20040264876-$ or US-20050008300-$ or US-20050013547-$ or US-20050041928-$ or US-20050069263-$ or US-20050074211-$ or US-20050094948-$ or US-20050094943-$ or US-20050112939-$ or US-20050111796-$).did. or (US-20050118880-$ or US-20050135753-$ or US-20050141817-$ or US-20050185894-$ or US-20050207708-$ or US-20050215119-$ or US-20050220423-$ or US-20050220420-$ or US-20050226586-$ or US-20050232552-$ or US-20050238289-$ or US-20050281526-$ or US-20050281509-$ or US-20050286833-$ or US-20050286835-$ or US-20060013539-$ or US-20060056769-$ or US-20060072878-$ or US-20060083468-$ or US-20060083467-$ or US-20060088248-$ or US-20060093275-$ or US-20060098914-$ or US-20060133758-$ or US-20060140542-$ or US-20060147156-$ or US-20060147155-$).did. or (US-20060154529-$ or US-20060153503-$ or US-20060159401-$ or US-20060159399-$ or US-20060169856-$ or US-20060177182-$ or US-20060197943-$ or US-20060204200-$ or US-20060204180-$ or US-20060245711-$ or US-20060263011-

	$ or US-20060269205-$ or US-20060269206-$ or US-20060269212-$ or US-20070019913-$ or US-20070036487-$ or US-20070098330-$ or US-20070098329-$ or US-20070105452-$ or US-20070116414-$ or US-20070116411-$ or US-20070140623-$ or US-20070154135-$ or US-20070165984-$ or US-20070183780-$ or US-20070190834-$ or US-20070196053-$).did. or (US-20070196052-$ or US-20070201808-$ or US-20070201798-$ or US-20070212002-$ or US-20070223862-$ or US-20070230874-$ or US-20070263959-$ or US-20070280599-$ or US-20070285194-$ or US-20070297725-$ or US-20080008425-$ or US-20080013897-$ or US-20080013891-$ or US-20080019642-$ or US-20080019656-$ or US-20080044139-$ or US-20080050072-$ or US-20080085082-$ or US-20080095502-$ or US-20080095501-$ or US-20080100456-$ or US-20080170827-$ or US-20080175541-$ or US-20080175550-$ or US-20080175542-$ or US-20080175546-$ or US-20080175545-$).did. or (US-20080175532-$ or US-20080193086-$ or US-20080205825-$ or US-20080240658-$ or US-20080269845-$ or US-20080267566-$ or US-20080273837-$ or US-20080279503-$ or US-20080304792-$ or US-20080310796-$ or US-20080310800-$ or US-20080310795-$ or US-20080317411-$ or US-20090010600-$ or US-20090028507-$ or US-20090034912-$ or US-20090047800-$ or US-20090046981-$ or US-20090060422-$ or US-20090060418-$ or US-20090074359-$ or US-20090103878-$ or US-20090116791-$ or US-20090148101-$ or US-20090156043-$ or US-20090185778-$ or US-20090202214-$).did. or (US-20090214164-$ or US-20090226141-$ or US-20090226137-$ or US-20090232455-$ or US-20090232454-$ or US-20090257722-$ or US-20090257719-$ or US-20090274431-$ or US-20090274432-$ or US-				

20090285534-$ or US-20090285530-$ or US-20090290838-$ or US-20090304335-$ or US-20100002999-$ or US-20100021111-$ or US-20100029117-$ or US-20100027944-$ or US-20100027943-$ or US-20100046893-$ or US-20100054665-$ or US-20100061681-$ or US-20100074616-$ or US-20100080513-$ or US-20100092134-$ or US-20100092131-$ or US-20100104355-$ or US-20100111484-$).did. or (US-20100129032-$ or US-20100129028-$ or US-20100135618-$ or US-20100141934-$ or US-20100146764-$ or US-20100158444-$ or US-20100183265-$ or US-20100202730-$ or US-20100202737-$ or US-20100209063-$ or US-20100209050-$ or US-20100215318-$ or US-20100215322-$ or US-20100226654-$ or US-20100232757-$ or US-20100239220-$ or US-20100239213-$ or US-20100247057-$ or US-20100247040-$ or US-20100260457-$ or US-20100266245-$ or US-20100272408-$ or US-20100278497-$ or US-20100278488-$ or US-20100284655-$ or US-20100296792-$ or US-20100303408-$).did. or (US-20100322580-$ or US-20100322576-$ or US-20100322554-$ or US-20100329604-$ or US-20100329602-$ or US-20110019964-$ or US-20110038592-$ or US-20110038581-$ or US-20110044583-$ or US-20110058772-$ or US-20110075969-$ or US-20110081798-$ or US-20110081116-$ or US-20110085774-$ or US-20110085765-$ or US-20110091166-$ or US-20110091154-$ or US-20110103797-$ or US-20110116748-$ or US-20110123156-$ or US-20110129186-$ or US-20110142398-$ or US-20110150396-$ or US-20110158593-$ or US-20110158586-$ or US-20110170830-$ or US-20110176777-$).did. or (US-20110188809-$ or US-20110188000-$ or US-20110194828-$ or US-20110200286-$ or US-20110198324-$ or US-20110200294-$ or US-20110206335-$ or US-20110206325-

$ or US-20110206324-$ or US-20110211792-$ or US-20110229094-$ or US-20110243508-$ or US-20110243505-$ or US-20110243504-$ or US-20110268391-$ or US-20110293223-$ or US-20110299814-$ or US-20110311186-$ or US-20110317976-$ or US-20120002928-$ or US-20120002925-$ or US-20120033918-$ or US-20120039569-$ or US-20120057831-$ or US-20120057830-$ or US-20120057827-$ or US-20120063735-$).did. or (US-20120069348-$ or US-20120099870-$ or US-20120106901-$ or US-20120114295-$ or US-20120128307-$ or US-20120141084-$ or US-20120155808-$ or US-20120163757-$ or US-20120170895-$ or US-20120195555-$ or US-20120219253-$ or US-20120224823-$ or US-20120237223-$ or US-20120237171-$ or US-20120243831-$ or US-20120243829-$ or US-20120251067-$ or US-20120252244-$ or US-20120251050-$ or US-20120257859-$ or US-20120263426-$ or US-20120294572-$ or US-20120301088-$ or US-20120301080-$ or US-20120321269-$ or US-20120321266-$ or US-20120321254-$).did. or (US-20130011099-$ or US-20130064517-$ or US-20130071068-$ or US-20130071067-$ or US-20130084041-$ or US-20130094827-$ or US-20130094815-$ or US-20130094811-$ or US-20130101257-$ or US-20130108231-$ or US-20130121643-$ or US-20130129285-$ or US-20130156379-$ or US-20130156382-$ or US-20130163937-$ or US-20130163933-$ or US-20130170797-$ or US-20130170796-$ or US-20130183018-$ or US-20130195405-$ or US-20130195418-$ or US-20130209040-$ or US-20130209049-$ or US-20130209052-$ or US-20130209051-$ or US-20130209050-$ or US-20130209041-$).did. or (US-20130216186-$ or US-20130216188-$ or US-20130284844-$ or US-20130287358-$ or US-20130302004-$ or US-20130322828-$ or US-

20130323940-$ or US-20130322826-$ or US-20130330957-$ or US-20130343764-$ or US-20130343707-$ or US-20140016902-$ or US-20140023322-$ or US-20140038462-$ or US-20140044394-$ or US-20140064690-$ or US-20140064664-$ or US-20140072297-$ or US-20140072263-$ or US-20140082913-$ or US-20140093210-$ or US-20140104808-$ or US-20140126875-$ or US-20140126874-$ or US-20140124140-$ or US-20140133821-$ or US-20140133803-$).did. or (US-20140141649-$ or US-20140147082-$ or US-20140161394-$ or US-20140161407-$ or US-20140161400-$ or US-20140169732-$ or US-20140178007-$ or US-20140205253-$ or US-20140205247-$ or US-20140219615-$ or US-20140220794-$ or US-20140219619-$ or US-20140241690-$ or US-20140241689-$ or US-20140241688-$ or US-20140241667-$ or US-20140273584-$ or US-20140270646-$ or US-20140294339-$ or US-20140308010-$ or US-20140308008-$ or US-20140321813-$ or US-20140321814-$ or US-20140328063-$ or US-20140334790-$ or US-20140334780-$ or US-20140334778-$).did. or (US-20140348481-$ or US-20140348467-$ or US-20140355936-$ or US-20140376870-$ or US-20150003774-$ or US-20150012072-$ or US-20150030323-$ or US-20150050002-$ or US-20150055917-$ or US-20150055928-$ or US-20150063758-$ or US-20150060539-$ or US-20150078710-$ or US-20150139588-$ or US-20150147033-$ or US-20150147031-$ or US-20150153516-$ or US-20150177467-$ or US-20150185423-$ or US-20150192744-$ or US-20150205060-$ or US-20150205053-$ or US-20150212284-$ or US-20150212279-$ or US-20150219856-$ or US-20150219857-$ or US-20150226923-$).did. or (US-20150234131-$ or US-20150234128-$ or US-20150241650-$ or US-20150247977-$ or US-20150253183-

	$ or US-20150260927-$ or US-20150268424-$ or US-20150277057-$ or US-20150277061-$ or US-20150277058-$ or US-20150288449-$ or US-20150288447-$ or US-20150286014-$ or US-20150286013-$ or US-20150286011-$ or US-20150285999-$ or US-20150301288-$ or US-20150301293-$ or US-20150309279-$ or US-20150323752-$ or US-20150346452-$ or US-20150346449-$ or US-20150355417-$ or US-20150355414-$ or US-20150362678-$ or US-20150378117-$ or US-20150378111-$).did. or (US-20160004017-$ or US-20160011383-$ or US-20160011376-$ or US-20160018604-$ or US-20160018606-$ or US-20160033723-$ or US-20160041356-$ or US-20160047994-$ or US-20160062051-$ or US-20160070081-$ or US-20160085045-$ or US-20160085035-$ or US-20160085031-$ or US-20160091673-$ or US-20160111808-$ or US-20160109676-$ or US-20160116685-$ or US-20160116683-$ or US-20160116681-$ or US-20160131857-$ or US-20160139342-$ or US-20160139339-$ or US-20160147022-$ or US-20160154190-$ or US-20160161679-$ or US-20160170152-$ or US-20160178860-$).did. or (US-20160178855-$ or US-20160187589-$ or US-20160195683-$ or US-20160195681-$ or US-20160209605-$ or US-20160216454-$ or US-20160216460-$ or US-20160223763-$ or US-20160238798-$ or US-20160238794-$ or US-20160238789-$ or US-20160246011-$ or US-20160252685-$ or US-20160266330-$ or US-20160266329-$ or US-20160266327-$ or US-20160274311-$ or US-20160291259-$ or US-20160306123-$ or US-20160306121-$ or US-20160313513-$ or US-20160320567-$ or US-20160320566-$ or US-20160327757-$ or US-20160324402-$ or US-20160356966-$ or US-20160365685-$).did. or (US-20160370549-$ or US-20160370548-$ or US-20170003459-$ or US-				

		20170035275-$ or US-20170059782-$ or US-20170068063-$ or US-20170082806-$ or US-20170097485-$ or US-20170097471-$ or US-20170102507-$ or US-20170108659-$ or US-20170108430-$ or US-20170123171-$ or US-20170123163-$ or US-20170131481-$ or US-20170139158-$ or US-20170139157-$ or US-20170146749-$ or US-20170153394-$ or US-20170163573-$ or US-20170162978-$ or US-20170160500-$ or US-20170160496-$ or US-20170160486-$ or US-20170160478-$ or US-20170160477-$ or US-20170160476-$).did. or (US-20170168244-$ or US-20170176252-$ or US-20170184800-$ or US-20170192182-$ or US-20170199338-$ or US-20170199336-$ or US-20170205591-$ or US-20170205588-$ or US-20170212310-$ or US-20170212309-$ or US-20170222347-$ or US-20170227727-$ or US-20170227718-$ or US-20170235077-$ or US-20170242198-$ or US-20170242196-$ or US-20170248762-$ or US-20170254962-$ or US-20170254961-$ or US-20170254960-$ or US-20170276887-$ or US-20170276886-$ or US-20170285272-$ or US-20170293091-$ or US-20170299821-$ or US-20170299818-$ or US-20170299817-$).did. or (US-20170307832-$ or US-20170307829-$ or US-20170315307-$ or US-20170315305-$ or US-20170315304-$ or US-20170315303-$ or US-20170331234-$ or US-20170336571-$ or US-20170343742-$ or US-20170343741-$ or US-20170341972-$ or US-20170351038-$ or US-20170351037-$ or US-20170359091-$ or US-20170363815-$ or US-20170363810-$ or US-20170363509-$ or US-20170371118-$ or US-20170371107-$ or US-20180003910-$ or US-20180011261-$ or US-20180017740-$ or US-20180024302-$ or US-20180024301-$ or US-20180024300-$ or US-20180024294-$ or US-20180031782-$).did. or (US-20180031775-$ or US-20180059338-			

$ or US-20180074277-$ or US-20180081127-$ or US-20180081122-$ or US-20180078781-$ or US-20180095232-$ or US-20180106975-$ or US-20180113268-$ or US-20180113259-$ or US-20180136410-$ or US-20180143384-$ or US-20180143381-$ or US-20180149813-$ or US-20180157002-$ or US-20180180819-$ or US-20180188460-$ or US-20180196204-$ or US-20180210155-$ or US-20180210153-$).did. or (US-3933409-$ or US-3999837-$ or US-4080044-$ or US-4087158-$ or US-4101198-$ or US-4140365-$ or US-4167304-$ or US-4168109-$ or US-4186996-$ or US-4201445-$ or US-4214812-$ or US-4218113-$ or US-4223976-$ or US-4252407-$ or US-4268115-$ or US-4268114-$ or US-4279469-$ or US-4291943-$ or US-4295707-$ or US-4327964-$ or US-4354731-$ or US-4368948-$ or US-4371233-$ or US-4387957-$ or US-4415232-$ or US-4422716-$).did. or (US-4444461-$ or US-4445753-$ or US-4447121-$ or US-4461539-$ or US-4466009-$ or US-4484796-$ or US-4487474-$ or US-4497536-$ or US-4526438-$ or US-4548467-$ or US-4614402-$ or US-4615581-$ or US-4645296-$ or US-4648688-$ or US-4666241-$ or US-4674831-$ or US-4681398-$ or US-4688887-$ or US-4699460-$ or US-4714318-$ or US-4714317-$ or US-4714315-$ or US-4715674-$ or US-4717234-$ or US-4718744-$ or US-4722081-$ or US-4740052-$).did. or (US-4741590-$ or US-4758719-$ or US-4759600-$ or US-4759599-$ or US-4762389-$ or US-4767178-$ or US-4773725-$ or US-4781429-$ or US-4783137-$ or US-4786135-$ or US-4787700-$ or US-4789216-$ or US-4793683-$ or US-4795231-$ or US-4805980-$ or US-4807957-$ or US-4813760-$ or US-4824196-$ or US-4834486-$ or US-4842361-$ or US-4844570-$ or US-4846544-$ or US-4848870-$ or US-4850536-$ or US-4852963-$ or US-4877303-$ or US-4892380-$).did. or

(US-4898446-$ or US-4960317-$ or US-4964688-$ or US-4976510-$ or US-4986762-$ or US-4986622-$ or US-4991929-$ or US-4993803-$ or US-4995688-$ or US-4998797-$ or US-5013124-$ or US-5015060-$ or US-5016970-$ or US-5018823-$ or US-5042891-$ or US-5048916-$ or US-5052774-$ or US-5058983-$ or US-5073042-$ or US-5077815-$ or US-5091991-$ or US-5091990-$ or US-5109453-$ or US-5115484-$ or US-5119455-$ or US-5124506-$ or US-5127073-$).did. or (US-5129024-$ or US-5133032-$ or US-5134677-$ or US-5134676-$ or US-5155795-$ or US-5159654-$ or US-5177808-$ or US-5179607-$ or US-5210815-$ or US-5214730-$ or US-5228104-$ or US-5233675-$ or US-5233674-$ or US-5239606-$ or US-5267342-$ or US-5274729-$ or US-5280552-$ or US-5282259-$ or US-5293581-$ or US-5297227-$ or US-5317663-$ or US-5323475-$ or US-5329541-$ or US-5333222-$ or US-5333221-$ or US-5359688-$ or US-5363460-$).did. or (US-5367594-$ or US-5366383-$ or US-5384885-$ or US-5386485-$ or US-5408557-$ or US-5418875-$ or US-5420951-$ or US-5444806-$ or US-5446817-$ or US-5450519-$ or US-5452391-$ or US-5485537-$ or US-5497444-$ or US-5506922-$ or US-5519799-$ or US-5521998-$ or US-5528711-$ or US-5530783-$ or US-5537501-$ or US-5542015-$ or US-5548674-$ or US-5550943-$ or US-5563978-$ or US-5563971-$ or US-5570445-$ or US-5574813-$ or US-5579429-$).did. or (US-5581644-$ or US-5588086-$ or US-5592323-$ or US-5600746-$ or US-5603631-$ or US-5607323-$ or US-5619610-$ or US-5633969-$ or US-5642450-$ or US-5647043-$ or US-5645449-$ or US-5661833-$ or US-5666449-$ or US-5664955-$ or US-5668904-$ or US-5671310-$ or US-5673346-$ or US-5680494-$ or US-5682449-$ or US-5687268-$ or US-5694507-$ or US-5694506-$ or US-5701380-$ or US-5721799-$ or

US-5727102-$ or US-5732174-$ or US-5734770-$).did. or (US-5737464-$ or US-5751874-$ or US-5761359-$ or US-5764043-$ or US-5774611-$ or US-5774612-$ or US-5778122-$ or US-5781680-$ or US-5796896-$ or US-5799122-$ or US-5809191-$ or US-5815618-$ or US-5818993-$ or US-5825955-$ or US-5832158-$ or US-5838856-$ or US-5838855-$ or US-5845036-$ or US-5862282-$ or US-5867621-$ or US-5881191-$ or US-5887100-$ or US-5887098-$ or US-5892870-$ or US-5896477-$ or US-5909526-$ or US-5909298-$).did. or (US-5915058-$ or US-5923805-$ or US-5930426-$ or US-5930425-$ or US-5937121-$ or US-5940561-$ or US-5940559-$ or US-5949946-$ or US-5953474-$ or US-5953473-$ or US-5956444-$ or US-5960137-$ or US-5969294-$ or US-5971626-$ or US-5980117-$ or US-5987203-$ or US-5993071-$ or US-6004043-$ or US-6022149-$ or US-6027252-$ or US-6041155-$ or US-6048103-$ or US-6048102-$ or US-6053639-$ or US-6059461-$ or US-6064791-$ or US-6076973-$).did. or (US-6076975-$ or US-6081647-$ or US-6079881-$ or US-6088502-$ or US-6095694-$ or US-6104856-$ or US-6102581-$ or US-6108482-$ or US-6116790-$ or US-6116789-$ or US-6116101-$ or US-6132105-$ or US-6139346-$ or US-6142676-$ or US-6149315-$ or US-6154597-$ or US-6164835-$ or US-6164834-$ or US-6173099-$ or US-6179480-$ or US-6179475-$ or US-6188827-$ or US-6188825-$ or US-6186670-$ or US-6190616-$ or US-6195477-$ or US-6193420-$).did. or (US-6196729-$ or US-6200040-$ or US-6206577-$ or US-6217226-$ or US-6220763-$ or US-6220762-$ or US-6224269-$ or US-6227719-$ or US-6227718-$ or US-6240229-$ or US-6238249-$ or US-6243526-$ or US-6247851-$ or US-6247849-$ or US-6256446-$ or US-6259839-$ or US-6264373-$ or US-6264372-$ or US-6267513-$ or US-6273618-$ or US-6290527-$

or US-6301004-$ or US-6302592-$ or US-6309111-$ or US-6318904-$ or US-6318903-$ or US-6334715-$).did. or (US-6349164-$ or US-6347889-$ or US-6347888-$ or US-6354746-$ or US-6357932-$ or US-6361218-$ or US-6364536-$ or US-6367986-$ or US-6367984-$ or US-6371659-$ or US-6377840-$ or US-6375363-$ or US-6384896-$ or US-6382843-$ or US-6382839-$ or US-6389212-$ or US-6402393-$ or US-6402390-$ or US-6402388-$ or US-6409391-$ or US-6412987-$ or US-6419810-$ or US-6422759-$ or US-6425692-$ or US-6425694-$ or US-6431762-$ or US-6437894-$).did. or (US-6435946-$ or US-6445867-$ or US-6456768-$ or US-6457876-$ or US-6461055-$ or US-6461054-$ or US-6461053-$ or US-6466724-$ or US-6464406-$ or US-6467971-$ or US-6467970-$ or US-6471417-$ or US-6471412-$ or US-6474876-$ or US-6478472-$ or US-6481900-$ or US-6481899-$ or US-6485192-$ or US-6497518-$ or US-6497516-$ or US-6501900-$ or US-6508593-$ or US-6526210-$ or US-6524015-$ or US-6527450-$ or US-6533469-$ or US-6543941-$).did. or (US-6554482-$ or US-6558044-$ or US-6561699-$ or US-6572276-$ or US-6572273-$ or US-6582132-$ or US-6595696-$ or US-6601995-$ or US-6612750-$ or US-6619859-$ or US-6619856-$ or US-6632023-$ or US-6634794-$ or US-6644866-$ or US-6667803-$ or US-6695485-$ or US-6702477-$ or US-6702475-$ or US-6786647-$ or US-6789953-$ or US-6793399-$ or US-6840680-$ or US-6856748-$ or US-6895146-$ or US-7232261-$ or US-7435009-$ or US-7530845-$).did. or (US-7585118-$ or US-7588373-$ or US-7706657-$ or US-7738757-$ or US-7972066-$ or US-8070366-$ or US-8206040-$ or US-8517614-$ or US-8588571-$ or US-8953922-$ or US-9229177-$ or US-9229170-$ or US-9291781-$ or US-9316794-$ or US-9323007-$ or US-9448369-$ or US-9453972-$ or US-

		9482825-$ or US-9551831-$ or US-9625655-$ or US-9632267-$ or US-9638871-$ or US-9638868-$ or US-9645335-$ or US-9658407-$ or US-9671570-$ or US-9671568-$).did. or (US-9678282-$ or US-9696477-$ or US-9722367-$ or US-9720184-$ or US-9726829-$ or US-9735523-$ or US-9733123-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9746625-$ or US-9746368-$ or US-9759874-$ or US-9759869-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9784928-$ or US-9798090-$ or US-9797806-$ or US-9810860-$ or US-9810858-$ or US-9810856-$ or US-9817195-$ or US-9823428-$ or US-9829643-$ or US-9827438-$).did. or (US-9835807-$ or US-9841566-$ or US-9857545-$ or US-9857537-$ or US-9864151-$ or US-9869824-$ or US-9876309-$ or US-9874702-$ or US-9880365-$ or US-9880357-$ or US-9885841-$ or US-9893813-$ or US-9891392-$ or US-9891387-$ or US-9891385-$ or US-9897767-$ or US-9904021-$ or US-9904020-$ or US-9910228-$ or US-9910226-$ or US-9915793-$ or US-9933586-$ or US-9933583-$ or US-9933582-$ or US-9939600-$ or US-9939590-$ or US-9948017-$).did. or (US-9946036-$ or US-10007069-$ or US-10018787-$).did. or (JP-2016095432-$ or JP-2016095410-$ or JP-2016122100-$ or JP-2016177309-$ or JP-2016188927-$ or JP-2017053937-$ or JP-2017090798-$ or JP-2017111444-$ or JP-2017134118-$ or JP-2017138535-$ or JP-2017151338-$ or JP-2017219768-$).did.				
S651	737	(US-20010041030-$ or US-20020025125-$ or US-20020106162-$ or US-20020114589-$ or US-20020159710-$ or US-20030031452-$ or US-20030044127-$ or US-20030044125-$ or US-20030180004-$ or US-20030223703-$ or US-20040008494-$ or US-20040017983-$ or US-20040017981-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 18:13

20040038558-$ or US-20040052472-$ or US-20040062498-$ or US-20040105628-$ or US-20040131317-$ or US-20040223699-$ or US-20040228589-$ or US-20050036744-$ or US-20050053342-$ or US-20050111795-$ or US-20050123246-$ or US-20050135755-$ or US-20050135752-$).did. or (US-20050271328-$ or US-20060045430-$ or US-20060051028-$ or US-20060093282-$ or US-20060153504-$ or US-20060193562-$ or US-20060280409-$ or US-20060285807-$ or US-20070058907-$ or US-20070098327-$ or US-20070160327-$ or US-20080069501-$ or US-20080112672-$ or US-20080124031-$ or US-20080131055-$ or US-20080253719-$ or US-20090003772-$ or US-20090290839-$ or US-20090305542-$ or US-20100322561-$ or US-20110038590-$ or US-20110075971-$ or US-20110091159-$ or US-20110222819-$ or US-20110249942-$ or US-20120027355-$ or US-20120057824-$).did. or (US-20120076459-$ or US-20120082416-$ or US-20120099822-$ or US-20120141070-$ or US-20120251054-$ or US-20120251051-$ or US-20120263423-$ or US-20120263419-$ or US-20120308183-$ or US-20130051749-$ or US-20130064508-$ or US-20130077914-$ or US-20130121645-$ or US-20130129280-$ or US-20130183001-$ or US-20130216189-$ or US-20130230283-$ or US-20130259429-$ or US-20130272671-$ or US-20130308908-$ or US-20140056560-$ or US-20140064665-$ or US-20140064688-$ or US-20140072265-$ or US-20140086545-$ or US-20140147081-$ or US-20140205241-$).did. or (US-20140219614-$ or US-20140219624-$ or US-20140314385-$ or US-20140341510-$ or US-20150003785-$ or US-20150023637-$ or US-20150049989-$ or US-20150071591-$ or US-20150177463-$ or US-20150226926-$ or US-20150241644-$ or US-20150301286-$ or US-

20150331201-$ or US-20150338583-$ or US-20150370017-$ or US-20150378112-$ or US-20160004018-$ or US-20160004016-$ or US-20160025937-$ or US-20160077287-$ or US-20160077284-$ or US-20160109661-$ or US-20160131854-$ or US-20160131849-$ or US-20160161680-$ or US-20160178859-$ or US-20160259135-$).did. or (US-20160282566-$ or US-20160282562-$ or US-20160320571-$ or US-20160349464-$ or US-20170059784-$ or US-20170090128-$ or US-20170090127-$ or US-20170102506-$ or US-20170102504-$ or US-20170108653-$ or US-20170115457-$ or US-20170139150-$ or US-20170153398-$ or US-20170184798-$ or US-20170184790-$ or US-20170205587-$ or US-20170219779-$ or US-20170227720-$ or US-20170235060-$ or US-20170242200-$ or US-20170242199-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170261698-$ or US-20170269309-$ or US-20170276883-$).did. or (US-20170276881-$ or US-20170293088-$ or US-20170293087-$ or US-20170307831-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170357060-$ or US-20170357059-$ or US-20170363827-$ or US-20180003903-$ or US-20180011258-$ or US-20180011254-$ or US-20180031774-$ or US-20180052288-$ or US-20180077472-$ or US-20180081128-$ or US-20180081125-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180106973-$ or US-20180156988-$ or US-20180156985-$ or US-20180210154-$).did. or (US-4240695-$ or US-4320938-$ or US-4330172-$ or US-4477146-$ or US-4687291-$ or US-4737009-$ or US-4854664-$ or US-4856866-$ or US-4886335-$ or US-4915472-$ or US-4953929-$ or US-4955976-$ or US-5064268-$ or US-5076656-$ or US-5082346-$ or US-

5082344-$ or US-5101463-$ or US-5134673-$ or US-5157749-$ or US-5166995-$ or US-5199093-$ or US-5259052-$ or US-5555332-$ or US-5666456-$ or US-5692080-$ or US-5867894-$).did. or (US-5870515-$ or US-5883995-$ or US-5920670-$ or US-5920669-$ or US-5984533-$ or US-6012852-$ or US-6095695-$ or US-6210045-$ or US-6250817-$ or US-6305849-$ or US-6318902-$ or US-6331079-$ or US-6379052-$ or US-6409392-$ or US-6422761-$ or US-6422760-$ or US-6450698-$ or US-6487343-$ or US-6491442-$ or US-6533465-$ or US-6554486-$ or US-6623172-$ or US-6688782-$ or US-6712521-$ or US-6764222-$ or US-6839583-$ or US-6848834-$).did. or (US-6944378-$ or US-7036996-$ or US-8388235-$ or US-9207454-$ or US-9316791-$ or US-9377591-$ or US-9389368-$ or US-9482820-$ or US-9606303-$ or US-9625657-$ or US-9664864-$ or US-9678283-$ or US-9678286-$ or US-9684134-$ or US-9696497-$ or US-9703062-$ or US-9709753-$ or US-9726830-$ or US-9733436-$ or US-9733434-$ or US-9798096-$ or US-9804342-$ or US-9804340-$ or US-9804337-$ or US-9829650-$ or US-9835808-$ or US-9846283-$).did. or (US-9851512-$ or US-9891390-$ or US-9904019-$ or US-9910229-$ or US-9927582-$ or US-9939589-$ or US-9946037-$).did. or (IT-7819792-$ or FR-2363124-$ or IT-7925110-$ or GB-2057158-$ or FR-2487528-$ or GB-2081468-$ or EP-0061243-$ or DK-208682-$ or GB-8306227-$ or IT-8323399-$ or JP-S5856846-$ or EP-0125398-$ or FR-2535069-$ or WO-8600147-$ or EP-0249237-$ or EP-0262847-$ or EP-0262631-$ or DE-8626183-$ or WO-9015350-$ or EP-0408852-$ or GB-9103604-$ or GB-9106183-$ or CA-2030897-$ or DE-9107960-$ or GB-9206076-$ or CA-2057559-$).did. or (CA-2082276-$ or EP-0633485-$ or EP-0690319-$ or CA-2191600-$ or EP-0696748-$ or EP-0697608-$ or CN-1118443-$

or WO-9627811-$ or EP-0758099-$ or WO-9734176-$ or CA-2198522-$ or EP-0803750-$ or NL-1003147-$ or EP-0807837-$ or CA-2254335-$ or CA-2294930-$ or CA-2262351-$ or EP-0938003-$ or JP-2945144-$ or CA-2324565-$ or GB-9919699-$ or EP-0992819-$ or CA-2284331-$ or GB-0007281-$ or CA-2288249-$ or DE-19728960-$ or EP-1033595-$).did. or (EP-1033594-$ or EP-1039324-$ or EP-1039322-$ or EP-1041416-$ or EP-1041414-$ or JP-3106420-$ or CA-2321428-$ or EP-1091225-$ or WO-0137010-$ or EP-1107031-$ or KR-20010062142-$ or WO-0155762-$ or EP-1124147-$ or WO-0161397-$ or WO-0181965-$ or CA-2350290-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or KR-20020000530-$ or KR-20020001574-$ or CN-1331421-$ or EP-1172672-$ or EP-1172673-$ or KR-20020006481-$ or KR-20020006480-$ or DE-20118858-$).did. or (CA-2418331-$ or KR-20020050140-$ or WO-02056060-$ or WO-02061481-$ or DE-10114144-$ or NL-1018440-$ or WO-03016975-$ or WO-03093883-$ or CA-2484569-$ or EP-1394584-$ or AU-2003291687-$ or EP-1530068-$ or CA-2503690-$ or CN-1677147-$ or CN-1707299-$ or WO-2008006402-$ or EP-1887395-$ or CN-101122658-$ or WO-2008029850-$ or CA-2662854-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or CA-2689768-$ or EP-2206458-$ or WO-2010137426-$ or CA-2762411-$).did. or (EP-2302431-$ or WO-2011139938-$ or WO-2011152874-$ or EP-2444827-$ or WO-2012054174-$ or WO-2012054174-$ or WO-2012151175-$ or GB-201218194-$ or CN-102870023-$ or WO-2013115791-$ or WO-2013115789-$ or WO-2013126068-$ or CA-2912155-$ or WO-2014009463-$ or WO-2014011898-$ or EP-2700992-$ or JP-5433802-$ or WO-2014049469-$

or WO-2014113753-$ or CA-2836675-$ or WO-2014143748-$ or WO-2014165175-$ or WO-2014197701-$ or CN-104241938-$ or CA-2917189-$ or EP-2840425-$ or EP-2843452-$).did. or (WO-2015028433-$ or CA-2885821-$ or WO-2015068103-$ or CA-2932688-$ or GB-201507758-$ or WO-2015103783-$ or WO-2015116589-$ or CN-204595258-$ or WO-2015144883-$ or EP-2942653-$ or EP-2947485-$ or WO-2015190211-$ or WO-2016004347-$ or CN-105278047-$ or DE-202013012295-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or CA-2928026-$ or WO-2016043922-$ or JP-5905950-$ or WO-2016067668-$ or EP-3021145-$ or WO-2016082160-$ or WO-2016103821-$ or DE-202016103178-$ or EP-3054333-$).did. or (WO-2016161341-$ or WO-2017038704-$ or JP-6173629-$ or WO-2017180257-$ or CN-206584076-$ or EP-3258301-$ or WO-2018003776-$ or WO-2018004847-$).did. or (JP-54034251-$ or JP-55101904-$ or JP-56066811-$ or JP-56074211-$ or JP-59075218-$ or JP-04214510-$ or JP-04220604-$ or JP-05313040-$ or JP-08015541-$ or JP-09005575-$ or JP-09033756-$ or JP-10104469-$ or JP-11072659-$ or JP-2000089061-$ or JP-2000284146-$ or JP-2000292655-$ or JP-2000310724-$ or JP-2001013372-$ or JP-2001021764-$ or JP-2001242361-$ or JP-2009294343-$ or JP-2012053420-$ or JP-2012078513-$ or JP-2015022131-$).did. or (DE-2805949-$ or DE-2932986-$ or GB-2057158-$ or GB-2081468-$ or EP-61243-$ or GB-2098354-$ or DE-3208797-$ or EP-125398-$ or US-4496213-$ or WO-8600147-$ or EP-249237-$ or EP-262631-$ or US-4953929-$ or WO-9015350-$ or GB-2241794-$ or US-5064268-$ or WO-9117540-$ or EP-458608-$ or US-5101463-$ or EP-490698-$ or EP-505197-$ or EP-430107-$ or EP-660145-$ or EP-

660144-$ or EP-663602-$ or EP-663601-$).did. or (WO-9600917-$ or EP-696748-$ or EP-697608-$ or WO-9627811-$ or EP-758099-$ or WO-9734176-$ or EP-803750-$ or US-5692080-$ or WO-9746900-$ or WO-9857208-$ or WO-9947958-$ or GB-2341455-$ or EP-1041416-$ or EP-1041414-$ or EP-1091225-$ or WO-0140839-$ or EP-1107031-$ or EP-1124147-$ or WO-0181965-$ or US-20010041030-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or EP-1172673-$ or EP-1172672-$ or DE-20118858-$ or WO-02056060-$).did. or (US-6422760-$ or WO-02061481-$ or US-20030031437-$ or US-20030044125-$ or WO-03094297-$ or WO-03093883-$ or EP-1394584-$ or US-20040062498-$ or US-20040223699-$ or US-20040228589-$ or US-20050053342-$ or WO-2006022840-$ or US-20060153503-$ or US-20060165352-$ or US-20060193562-$ or EP-1752805-$ or US-20070058907-$ or US-20070077010-$ or US-20070098327-$ or US-20090041411-$ or US-20090060423-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or EP-2206458-$ or WO-2010137426-$ or EP-2302431-$).did. or (US-20110249942-$ or US-20110274437-$ or WO-2011152874-$ or KR-2012000895-$ or US-20120027355-$ or US-20120057824-$ or US-20120082416-$ or EP-2444827-$ or US-20120099822-$ or US-20120251051-$ or US-20120251054-$ or US-20120263419-$ or WO-2012151175-$ or US-20120308183-$ or CN-102870023-$ or TW-201309089-$ or US-20130051749-$ or WO-2013036843-$ or CN-103091793-$ or US-20130121645-$ or WO-2013115789-$ or WO-2013115791-$ or WO-2013122865-$ or WO-2013126068-$ or US-20130230283-$ or US-20130259429-$ or WO-2013155395-$).did. or (WO-2013177234-$ or WO-2014011898-$ or US-20140016901-$

or EP-2700992-$ or JP-5433802-$ or US-20140064688-$ or TW-474924-$ or WO-2014049469-$ or US-20140147081-$ or US-20140153879-$ or ES-1110405-$ or WO-2014113753-$ or EP-2759860-$ or US-20140219624-$ or WO-2014143748-$ or WO-2014165175-$ or US-20140321808-$ or US-20140363131-$ or WO-2014197701-$ or EP-2818903-$ or WO-2015009435-$ or US-20150023637-$ or US-20150049989-$ or WO-2015028433-$ or WO-2015068103-$ or WO-2015070382-$ or US-20150162982-$).did. or (US-20150177463-$ or WO-2015103783-$ or WO-2015116589-$ or US-20150219864-$ or US-20150226926-$ or US-20150226925-$ or US-20150241644-$ or CN-104950402-$ or WO-2015144883-$ or US-20150286012-$ or DE-102015106225-$ or US-20150331201-$ or EP-2947485-$ or WO-2015190211-$ or US-20150378110-$ or US-20160004016-$ or US-20160004018-$ or US-20160025937-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016043922-$ or JP-5905950-$).did. or (US-20160124158-$ or US-20160131854-$ or EP-3021145-$ or US-20160161680-$ or US-20160178852-$ or US-20160178859-$ or US-9377591-$ or US-9389368-$ or EP-3054333-$ or US-20160259135-$ or CN-105978629-$ or US-20160282566-$ or WO-2016161341-$ or US-20160306125-$ or US-9482820-$ or US-20160341908-$ or US-20160341911-$ or US-20160349466-$ or US-20160377819-$ or US-20170031106-$ or US-20170059784-$ or WO-2017038704-$ or US-20170090127-$ or US-20170102504-$ or US-20170115457-$ or US-20170139150-$ or US-20170139156-$).did. or (US-20170153398-$ or US-9678283-$ or

		US-20170184790-$ or US-9709753-$ or US-20170205587-$ or JP-6173629-$ or US-20170219779-$ or US-9726830-$ or US-20170227720-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170293088-$ or US-20170307830-$ or US-9804340-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170371109-$ or US-20180003903-$ or US-20180011258-$ or US-20180052288-$ or US-20180081128-$ or US-20180106973-$ or US-20180120519-$ or US-20180128988-$).did.				
S652	136	(US-20020176671-$ or US-20040017980-$ or US-20040126118-$ or US-20040197054-$ or US-20070172177-$ or US-20070286554-$ or US-20100008635-$ or US-20100129034-$ or US-20100290745-$ or US-20110116749-$ or US-20110222830-$ or US-20110229096-$ or US-20110229095-$ or US-20110225792-$ or US-20110255831-$ or US-20110262078-$ or US-20110262077-$ or US-20120014648-$ or US-20120063724-$ or US-20120275749-$ or US-20130136402-$ or US-20130315538-$ or US-20140286610-$ or US-20150016781-$ or US-20150110448-$ or US-20160124170-$).did. or (US-20160202429-$ or US-20170045691-$ or US-20170285277-$ or US-20170299820-$ or US-20180120519-$ or US-20180143380-$ or US-20180231722-$ or US-20180239093-$ or US-20180267255-$ or US-20180292618-$ or US-20180292612-$ or US-20180364421-$ or US-20190107679-$ or US-20190107678-$ or US-20190113691-$ or US-20190137701-$ or US-20190179085-$).did. or (US-5504825-$ or US-5613021-$ or US-5661826-$ or US-6045270-$ or US-6276840-$ or US-6293708-$ or US-6623170-$ or US-6796717-$ or US-6848840-$ or US-6866425-$ or US-6932514-$ or US-6944387-$ or US-6976793-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 18:13

		7094091-$ or US-7178994-$ or US-7182522-$ or US-7234874-$ or US-7241056-$ or US-7300216-$ or US-7536075-$ or US-7654748-$ or US-7891882-$ or US-7912336-$ or US-8052333-$ or US-8231282-$ or US-8235600-$).did. or (US-8262296-$ or US-8317407-$ or US-8346047-$ or US-8348519-$ or US-8348518-$ or US-8376634-$ or US-8406583-$ or US-8417074-$ or US-8494329-$ or US-8496384-$ or US-8529138-$ or US-8542972-$ or US-8550725-$ or US-8550724-$ or US-8579521-$ or US-8690593-$ or US-8714835-$ or US-8821038-$ or US-8821037-$ or US-8915653-$ or US-8958679-$ or US-9014527-$ or US-9031364-$ or US-9057848-$ or US-9146376-$ or US-9146360-$ or US-9417401-$).did. or (US-9513442-$ or US-9541711-$ or US-9557497-$ or US-9563025-$ or US-9606297-$ or US-9632255-$ or US-9645318-$ or US-9658409-$ or US-9684139-$ or US-9739949-$ or US-9753228-$ or US-9772464-$ or US-9857538-$ or US-9977199-$ or US-9989710-$ or US-10012801-$ or US-10054747-$ or US-10061090-$ or US-10067302-$ or US-10067300-$ or US-10088636-$ or US-10101539-$ or US-10139570-$ or US-10146014-$ or US-10156684-$ or US-10209473-$).did. or (WO-2010083369-$ or EP-2380054-$ or CN-102282495-$ or WO-2014152675-$ or WO-2015043158-$ or CN-104516073-$ or CN-102282495-$ or WO-2018125706-$).did. or (JP-57044113-$).did. or (US-20160327757-$ or US-20170299820-$ or WO-2018125706-$ or US-20190107679-$).did.				
S653	2,087	S649 S650 S651 S652	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:13

S654	56,021	(ferrule connector) with insert$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S655	66,377	G02B6/38$.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:13
S656	2,541	S654 and S655	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:13
S657	14,591	adapter with (groove channel) with (top bottom upper lower)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S658	102	S656 and S657	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S659	62	S658 not S653	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S660	1,186,315	(groove channel) with upper with lower	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S661	735,634	(groove channel) with top with bottom	US-PGPUB; USPAT; USOCR;	OR	ON	2020/07/22 18:13

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S662	447	S656 and (S660 S661)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:13
S663	325	S662 not (S653 S659)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S664	15,680	("ferrules" "connectors") with align$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S665	2,186	S655 and S664	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S666	353	S665 and (S660 S661)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:13
S667	167	S666 not (S653 S659 S663)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S668	11,374	G02B6/3825,3826.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2020/07/22 18:13

			DERWENT; IBM_TDB			
S669	441	S664 and S668	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:13
S670	206	S669 not (S653 S659 S663 S667)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S671	26,017	("ferrules" "connectors") with align$4 with (groove channel slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S672	705	S671 and S668	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:13
S673	151	S672 not (S653 S659 S663 S667 S670)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S674	2,998	S653 S659 S663 S667 S670 S673	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:13
S675	81	(US-20040101250-$ or US-20140205247-$ or US-20170160486-$ or US-20180239091-$).did. or (US-3999837-$ or US-4252407-$ or US-6116790-$ or US-6371659-$ or US-6461053-$ or US-6585423-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 18:14

		7001079-$ or US-9039298-$ or US-9823424-$).did. or (DE-2558445-$ or FR-2296862-$ or BR-7508734-$ or ES-444034-$ or GB-1503979-$ or IT-7869677-$ or CA-1043604-$ or BE-871785-$ or DK-522978-$ or NL-7811579-$ or DE-2849975-$ or GB-2009440-$ or FR-2435053-$ or FR-2446496-$ or CA-1097111-$ or IT-1050771-$ or FR-2446496-$ or FR-2435053-$ or CH-628152-$ or GB-2009440-$ or DE-3112078-$ or FR-2296862-$ or DE-2558445-$ or DE-3112078-$ or IT-1109638-$ or DE-2849975-$).did. or (DK-151733-$ or DK-151733-$ or DK-151733-$ or DE-19626036-$ or WO-9800741-$ or AU-2975197-$ or WO-9928774-$ or EP-0985161-$ or EP-1034445-$ or EP-1092995-$ or EP-1092995-$ or EP-1034445-$ or EP-0985161-$ or ES-2202617-$ or EP-1092995-$ or DE-60010402-$ or DE-60010402-$ or JP-3984293-$ or EP-2138880-$ or JP-4514004-$ or WO-2016053853-$ or WO-2017065999-$ or WO-2017065999-$ or EP-3201668-$ or CN-108351473-$ or CN-208140982-$ or EP-3201668-$).did. or (JP-2001154062-$).did. or (DE-2558445-$ or BE-871785-$ or DE-19626036-$ or WO-9928774-$ or EP-1092995-$ or US-20140205247-$ or CN-104516061-$ or CN-104570229-$ or WO-2016053853-$ or WO-2017065999-$ or US-20180364421-$).did.				
S676	1,140	(US-20010010741-$ or US-20010016102-$ or US-20010033730-$ or US-20010038737-$ or US-20010043776-$ or US-20010048790-$ or US-20020006253-$ or US-20020012503-$ or US-20020012502-$ or US-20020012501-$ or US-20020012238-$ or US-20020025121-$ or US-20020025099-$ or US-20020028055-$ or US-20020031310-$ or US-20020031309-$ or US-20020061171-$ or US-20020064349-$ or US-20020081076-$ or US-20020090177-$ or US-20020094727-$ or US-20020106167-$ or US-	US-PGPUB; USPAT; JPO	OR	ON	2020/07/22 18:14

20020114581-$ or US-20020118926-$ or US-20020126961-$ or US-20020131720-$).did. or (US-20020150344-$ or US-20020150343-$ or US-20020150353-$ or US-20020150346-$ or US-20020150345-$ or US-20020150342-$ or US-20020159745-$ or US-20020159714-$ or US-20020159712-$ or US-20020168149-$ or US-20020166226-$ or US-20020172469-$ or US-20020177364-$ or US-20020181888-$ or US-20020181884-$ or US-20020186934-$ or US-20020186742-$ or US-20020191881-$ or US-20020197017-$ or US-20020197018-$ or US-20030002816-$ or US-20030002808-$ or US-20030007739-$ or US-20030012512-$ or US-20030031449-$ or US-20030031422-$ or US-20030044122-$).did. or (US-20030044115-$ or US-20030053760-$ or US-20030063868-$ or US-20030063866-$ or US-20030063862-$ or US-20030068135-$ or US-20030072536-$ or US-20030081905-$ or US-20030087505-$ or US-20030091292-$ or US-20030095780-$ or US-20030095779-$ or US-20030103730-$ or US-20030108320-$ or US-20030113086-$ or US-20030128934-$ or US-20030142918-$ or US-20030147597-$ or US-20030147230-$ or US-20030156796-$ or US-20030169975-$ or US-20030169974-$ or US-20030174996-$ or US-20030174972-$ or US-20030174922-$ or US-20030180005-$ or US-20030185520-$).did. or (US-20030189214-$ or US-20030194188-$ or US-20030198029-$ or US-20030231838-$ or US-20040013369-$ or US-20040028340-$ or US-20040033050-$ or US-20040033028-$ or US-20040033027-$ or US-20040036987-$ or US-20040042710-$ or US-20040052471-$ or US-20040054761-$ or US-20040062488-$ or US-20040062486-$ or US-20040072454-$ or US-20040071438-$ or US-20040074852-$ or US-20040081418-$ or US-20040091228-$ or US-20040101253-$ or US-

		20040105325-$ or US-20040105278-$ or US-20040120652-$ or US-20040131315-$ or US-20040136656-$ or US-20040141692-$).did. or (US-20040151464-$ or US-20040151438-$ or US-20040156592-$ or US-20040161204-$ or US-20040165830-$ or US-20040179787-$ or US-20040184740-$ or US-20040182971-$ or US-20040197053-$ or US-20040202431-$ or US-20040208459-$ or US-20040223701-$ or US-20040240793-$ or US-20040247255-$ or US-20040264873-$ or US-20040266257-$ or US-20040264908-$ or US-20040264876-$ or US-20050008300-$ or US-20050013547-$ or US-20050041928-$ or US-20050069263-$ or US-20050074211-$ or US-20050094948-$ or US-20050094943-$ or US-20050112939-$ or US-20050111796-$).did. or (US-20050118880-$ or US-20050135753-$ or US-20050141817-$ or US-20050185894-$ or US-20050207708-$ or US-20050215119-$ or US-20050220423-$ or US-20050220420-$ or US-20050226586-$ or US-20050232552-$ or US-20050238289-$ or US-20050281526-$ or US-20050281509-$ or US-20050286833-$ or US-20050286835-$ or US-20060013539-$ or US-20060056769-$ or US-20060072878-$ or US-20060083468-$ or US-20060083467-$ or US-20060088248-$ or US-20060093275-$ or US-20060098914-$ or US-20060133758-$ or US-20060140542-$ or US-20060147156-$ or US-20060147155-$).did. or (US-20060154529-$ or US-20060153503-$ or US-20060159401-$ or US-20060159399-$ or US-20060169856-$ or US-20060177182-$ or US-20060197943-$ or US-20060204200-$ or US-20060204180-$ or US-20060245711-$ or US-20060263011-$ or US-20060269205-$ or US-20060269206-$ or US-20060269212-$ or US-20070019913-$ or US-20070036487-$ or US-20070098330-$ or US-20070098329-$ or US-20070105452-$ or US-20070116414-			

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US-5016970-$ or US-5018823-$ or US-5042891-$ or US-5048916-$ or US-5052774-$ or US-5058983-$ or US-5073042-$ or US-5077815-$ or US-5091991-$ or US-5091990-$ or US-5109453-$ or US-5115484-$ or US-5119455-$ or US-5124506-$ or US-5127073-$).did. or (US-5129024-$ or US-5133032-$ or US-5134677-$ or US-5134676-$ or US-5155795-$ or US-5159654-$ or US-5177808-$ or US-5179607-$ or US-5210815-$ or US-5214730-$ or US-5228104-$ or US-5233675-$ or US-5233674-$ or US-5239606-$ or US-5267342-$ or US-5274729-$ or US-5280552-$ or US-5282259-$ or US-5293581-$ or US-5297227-$ or US-5317663-$ or US-5323475-$ or US-5329541-$ or US-5333222-$ or US-5333221-$ or US-5359688-$ or US-5363460-$).did. or (US-5367594-$ or US-5366383-$ or US-5384885-$ or US-5386485-$ or US-5408557-$ or US-5418875-$ or US-5420951-$ or US-5444806-$ or US-5446817-$ or US-5450519-$ or US-5452391-$ or US-5485537-$ or US-5497444-$ or US-5506922-$ or US-5519799-$ or US-5521998-$ or US-5528711-$ or US-5530783-$ or US-5537501-$ or US-5542015-$ or US-5548674-$ or US-5550943-$ or US-5563978-$ or US-5563971-$ or US-5570445-$ or US-5574813-$ or US-5579429-$).did. or (US-5581644-$ or US-5588086-$ or US-5592323-$ or US-5600746-$ or US-5603631-$ or US-5607323-$ or US-5619610-$ or US-5633969-$ or US-5642450-$ or US-5647043-$ or US-5645449-$ or US-5661833-$ or US-5666449-$ or US-5664955-$ or US-5668904-$ or US-5671310-$ or US-5673346-$ or US-5680494-$ or US-5682449-$ or US-5687268-$ or US-5694507-$ or US-5694506-$ or US-5701380-$ or US-5721799-$ or US-5727102-$ or US-5732174-$ or US-5734770-$).did. or (US-5737464-$ or US-5751874-$ or US-5761359-$ or US-5764043-$ or US-5774611-$ or US-5774612-$ or US-5778122-$ or US-5781680-$ or US-5796896-$

or US-5799122-$ or US-5809191-$ or US-5815618-$ or US-5818993-$ or US-5825955-$ or US-5832158-$ or US-5838856-$ or US-5838855-$ or US-5845036-$ or US-5862282-$ or US-5867621-$ or US-5881191-$ or US-5887100-$ or US-5887098-$ or US-5892870-$ or US-5896477-$ or US-5909526-$ or US-5909298-$).did. or (US-5915058-$ or US-5923805-$ or US-5930426-$ or US-5930425-$ or US-5937121-$ or US-5940561-$ or US-5940559-$ or US-5949946-$ or US-5953474-$ or US-5953473-$ or US-5956444-$ or US-5960137-$ or US-5969294-$ or US-5971626-$ or US-5980117-$ or US-5987203-$ or US-5993071-$ or US-6004043-$ or US-6022149-$ or US-6027252-$ or US-6041155-$ or US-6048103-$ or US-6048102-$ or US-6053639-$ or US-6059461-$ or US-6064791-$ or US-6076973-$).did. or (US-6076975-$ or US-6081647-$ or US-6079881-$ or US-6088502-$ or US-6095694-$ or US-6104856-$ or US-6102581-$ or US-6108482-$ or US-6116790-$ or US-6116789-$ or US-6116101-$ or US-6132105-$ or US-6139346-$ or US-6142676-$ or US-6149315-$ or US-6154597-$ or US-6164835-$ or US-6164834-$ or US-6173099-$ or US-6179480-$ or US-6179475-$ or US-6188827-$ or US-6188825-$ or US-6186670-$ or US-6190616-$ or US-6195477-$ or US-6193420-$).did. or (US-6196729-$ or US-6200040-$ or US-6206577-$ or US-6217226-$ or US-6220763-$ or US-6220762-$ or US-6224269-$ or US-6227719-$ or US-6227718-$ or US-6240229-$ or US-6238249-$ or US-6243526-$ or US-6247851-$ or US-6247849-$ or US-6256446-$ or US-6259839-$ or US-6264373-$ or US-6264372-$ or US-6267513-$ or US-6273618-$ or US-6290527-$ or US-6301004-$ or US-6302592-$ or US-6309111-$ or US-6318904-$ or US-6318903-$ or US-6334715-$).did. or (US-6349164-$ or US-6347889-$ or US-6347888-$ or US-6354746-$ or US-6357932-$ or US-

6361218-$ or US-6364536-$ or US-6367986-$ or US-6367984-$ or US-6371659-$ or US-6377840-$ or US-6375363-$ or US-6384896-$ or US-6382843-$ or US-6382839-$ or US-6389212-$ or US-6402393-$ or US-6402390-$ or US-6402388-$ or US-6409391-$ or US-6412987-$ or US-6419810-$ or US-6422759-$ or US-6425692-$ or US-6425694-$ or US-6431762-$ or US-6437894-$).did. or (US-6435946-$ or US-6445867-$ or US-6456768-$ or US-6457876-$ or US-6461055-$ or US-6461054-$ or US-6461053-$ or US-6466724-$ or US-6464406-$ or US-6467971-$ or US-6467970-$ or US-6471417-$ or US-6471412-$ or US-6474876-$ or US-6478472-$ or US-6481900-$ or US-6481899-$ or US-6485192-$ or US-6497518-$ or US-6497516-$ or US-6501900-$ or US-6508593-$ or US-6526210-$ or US-6524015-$ or US-6527450-$ or US-6533469-$ or US-6543941-$).did. or (US-6554482-$ or US-6558044-$ or US-6561699-$ or US-6572276-$ or US-6572273-$ or US-6582132-$ or US-6595696-$ or US-6601995-$ or US-6612750-$ or US-6619859-$ or US-6619856-$ or US-6632023-$ or US-6634794-$ or US-6644866-$ or US-6667803-$ or US-6695485-$ or US-6702477-$ or US-6702475-$ or US-6786647-$ or US-6789953-$ or US-6793399-$ or US-6840680-$ or US-6856748-$ or US-6895146-$ or US-7232261-$ or US-7435009-$ or US-7530845-$).did. or (US-7585118-$ or US-7588373-$ or US-7706657-$ or US-7738757-$ or US-7972066-$ or US-8070366-$ or US-8206040-$ or US-8517614-$ or US-8588571-$ or US-8953922-$ or US-9229177-$ or US-9229170-$ or US-9291781-$ or US-9316794-$ or US-9323007-$ or US-9448369-$ or US-9453972-$ or US-9482825-$ or US-9551831-$ or US-9625655-$ or US-9632267-$ or US-9638871-$ or US-9638868-$ or US-9645335-$ or US-9658407-$ or US-9671570-$ or US-9671568-$).did. or (US-9678282-$ or US-9696477-$ or

		US-9722367-$ or US-9720184-$ or US-9726829-$ or US-9735523-$ or US-9733123-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9746625-$ or US-9746368-$ or US-9759874-$ or US-9759869-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9784928-$ or US-9798090-$ or US-9797806-$ or US-9810860-$ or US-9810858-$ or US-9810856-$ or US-9817195-$ or US-9823428-$ or US-9829643-$ or US-9827438-$).did. or (US-9835807-$ or US-9841566-$ or US-9857545-$ or US-9857537-$ or US-9864151-$ or US-9869824-$ or US-9876309-$ or US-9874702-$ or US-9880365-$ or US-9880357-$ or US-9885841-$ or US-9893813-$ or US-9891392-$ or US-9891387-$ or US-9891385-$ or US-9897767-$ or US-9904021-$ or US-9904020-$ or US-9910228-$ or US-9910226-$ or US-9915793-$ or US-9933586-$ or US-9933583-$ or US-9933582-$ or US-9939600-$ or US-9939590-$ or US-9948017-$).did. or (US-9946036-$ or US-10007069-$ or US-10018787-$).did. or (JP-2016095432-$ or JP-2016095410-$ or JP-2016122100-$ or JP-2016177309-$ or JP-2016188927-$ or JP-2017053937-$ or JP-2017090798-$ or JP-2017111444-$ or JP-2017134118-$ or JP-2017138535-$ or JP-2017151338-$ or JP-2017219768-$).did.				
S677	737	(US-20010041030-$ or US-20020025125-$ or US-20020106162-$ or US-20020114589-$ or US-20020159710-$ or US-20030031452-$ or US-20030044127-$ or US-20030044125-$ or US-20030180004-$ or US-20030223703-$ or US-20040008494-$ or US-20040017983-$ or US-20040017981-$ or US-20040038558-$ or US-20040052472-$ or US-20040062498-$ or US-20040105628-$ or US-20040131317-$ or US-20040223699-$ or US-20040228589-$ or US-20050036744-$ or US-20050053342-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 18:14

20050111795-$ or US-20050123246-$ or US-20050135755-$ or US-20050135752-$).did. or (US-20050271328-$ or US-20060045430-$ or US-20060051028-$ or US-20060093282-$ or US-20060153504-$ or US-20060193562-$ or US-20060280409-$ or US-20060285807-$ or US-20070058907-$ or US-20070098327-$ or US-20070160327-$ or US-20080069501-$ or US-20080112672-$ or US-20080124031-$ or US-20080131055-$ or US-20080253719-$ or US-20090003772-$ or US-20090290839-$ or US-20090305542-$ or US-20100322561-$ or US-20110038590-$ or US-20110075971-$ or US-20110091159-$ or US-20110222819-$ or US-20110249942-$ or US-20120027355-$ or US-20120057824-$).did. or (US-20120076459-$ or US-20120082416-$ or US-20120099822-$ or US-20120141070-$ or US-20120251054-$ or US-20120251051-$ or US-20120263423-$ or US-20120263419-$ or US-20120308183-$ or US-20130051749-$ or US-20130064508-$ or US-20130077914-$ or US-20130121645-$ or US-20130129280-$ or US-20130183001-$ or US-20130216189-$ or US-20130230283-$ or US-20130259429-$ or US-20130272671-$ or US-20130308908-$ or US-20140056560-$ or US-20140064665-$ or US-20140064688-$ or US-20140072265-$ or US-20140086545-$ or US-20140147081-$ or US-20140205241-$).did. or (US-20140219614-$ or US-20140219624-$ or US-20140314385-$ or US-20140341510-$ or US-20150003785-$ or US-20150023637-$ or US-20150049989-$ or US-20150071591-$ or US-20150177463-$ or US-20150226926-$ or US-20150241644-$ or US-20150301286-$ or US-20150331201-$ or US-20150338583-$ or US-20150370017-$ or US-20150378112-$ or US-20160004018-$ or US-20160004016-$ or US-20160025937-$ or US-20160077287-$ or US-20160077284-$ or US-

20160109661-$ or US-20160131854-$ or US-20160131849-$ or US-20160161680-$ or US-20160178859-$ or US-20160259135-$).did. or (US-20160282566-$ or US-20160282562-$ or US-20160320571-$ or US-20160349464-$ or US-20170059784-$ or US-20170090128-$ or US-20170090127-$ or US-20170102506-$ or US-20170102504-$ or US-20170108653-$ or US-20170115457-$ or US-20170139150-$ or US-20170153398-$ or US-20170184798-$ or US-20170184790-$ or US-20170205587-$ or US-20170219779-$ or US-20170227720-$ or US-20170235060-$ or US-20170242200-$ or US-20170242199-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170261698-$ or US-20170269309-$ or US-20170276883-$).did. or (US-20170276881-$ or US-20170293088-$ or US-20170293087-$ or US-20170307831-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170357060-$ or US-20170357059-$ or US-20170363827-$ or US-20180003903-$ or US-20180011258-$ or US-20180011254-$ or US-20180031774-$ or US-20180052288-$ or US-20180077472-$ or US-20180081128-$ or US-20180081125-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180106973-$ or US-20180156988-$ or US-20180156985-$ or US-20180210154-$).did. or (US-4240695-$ or US-4320938-$ or US-4330172-$ or US-4477146-$ or US-4687291-$ or US-4737009-$ or US-4854664-$ or US-4856866-$ or US-4886335-$ or US-4915472-$ or US-4953929-$ or US-4955976-$ or US-5064268-$ or US-5076656-$ or US-5082346-$ or US-5082344-$ or US-5101463-$ or US-5134673-$ or US-5157749-$ or US-5166995-$ or US-5199093-$ or US-5259052-$ or US-5555332-$ or US-5666456-$ or US-5692080-$ or US-5867894-$).did. or (US-5870515-$

or US-5883995-$ or US-5920670-$ or US-5920669-$ or US-5984533-$ or US-6012852-$ or US-6095695-$ or US-6210045-$ or US-6250817-$ or US-6305849-$ or US-6318902-$ or US-6331079-$ or US-6379052-$ or US-6409392-$ or US-6422761-$ or US-6422760-$ or US-6450698-$ or US-6487343-$ or US-6491442-$ or US-6533465-$ or US-6554486-$ or US-6623172-$ or US-6688782-$ or US-6712521-$ or US-6764222-$ or US-6839583-$ or US-6848834-$).did. or (US-6944378-$ or US-7036996-$ or US-8388235-$ or US-9207454-$ or US-9316791-$ or US-9377591-$ or US-9389368-$ or US-9482820-$ or US-9606303-$ or US-9625657-$ or US-9664864-$ or US-9678283-$ or US-9678286-$ or US-9684134-$ or US-9696497-$ or US-9703062-$ or US-9709753-$ or US-9726830-$ or US-9733436-$ or US-9733434-$ or US-9798096-$ or US-9804342-$ or US-9804340-$ or US-9804337-$ or US-9829650-$ or US-9835808-$ or US-9846283-$).did. or (US-9851512-$ or US-9891390-$ or US-9904019-$ or US-9910229-$ or US-9927582-$ or US-9939589-$ or US-9946037-$).did. or (IT-7819792-$ or FR-2363124-$ or IT-7925110-$ or GB-2057158-$ or FR-2487528-$ or GB-2081468-$ or EP-0061243-$ or DK-208682-$ or GB-8306227-$ or IT-8323399-$ or JP-S5856846-$ or EP-0125398-$ or FR-2535069-$ or WO-8600147-$ or EP-0249237-$ or EP-0262847-$ or EP-0262631-$ or DE-8626183-$ or WO-9015350-$ or EP-0408852-$ or GB-9103604-$ or GB-9106183-$ or CA-2030897-$ or DE-9107960-$ or GB-9206076-$ or CA-2057559-$).did. or (CA-2082276-$ or EP-0633485-$ or EP-0690319-$ or CA-2191600-$ or EP-0696748-$ or EP-0697608-$ or CN-1118443-$ or WO-9627811-$ or EP-0758099-$ or WO-9734176-$ or CA-2198522-$ or EP-0803750-$ or NL-1003147-$ or EP-0807837-$ or CA-2254335-$ or CA-2294930-$ or CA-2262351-$ or EP-0938003-$ or JP-2945144-$ or

CA-2324565-$ or GB-9919699-$ or EP-0992819-$ or CA-2284331-$ or GB-0007281-$ or CA-2288249-$ or DE-19728960-$ or EP-1033595-$).did. or (EP-1033594-$ or EP-1039324-$ or EP-1039322-$ or EP-1041416-$ or EP-1041414-$ or JP-3106420-$ or CA-2321428-$ or EP-1091225-$ or WO-0137010-$ or EP-1107031-$ or KR-20010062142-$ or WO-0155762-$ or EP-1124147-$ or WO-0161397-$ or WO-0181965-$ or CA-2350290-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or KR-20020000530-$ or KR-20020001574-$ or CN-1331421-$ or EP-1172672-$ or EP-1172673-$ or KR-20020006481-$ or KR-20020006480-$ or DE-20118858-$).did. or (CA-2418331-$ or KR-20020050140-$ or WO-02056060-$ or WO-02061481-$ or DE-10114144-$ or NL-1018440-$ or WO-03016975-$ or WO-03093883-$ or CA-2484569-$ or EP-1394584-$ or AU-2003291687-$ or EP-1530068-$ or CA-2503690-$ or CN-1677147-$ or CN-1707299-$ or WO-2008006402-$ or EP-1887395-$ or CN-101122658-$ or WO-2008029850-$ or CA-2662854-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or CA-2689768-$ or EP-2206458-$ or WO-2010137426-$ or CA-2762411-$).did. or (EP-2302431-$ or WO-2011139938-$ or WO-2011152874-$ or EP-2444827-$ or WO-2012054174-$ or WO-2012054174-$ or WO-2012151175-$ or GB-201218194-$ or CN-102870023-$ or WO-2013115791-$ or WO-2013115789-$ or WO-2013126068-$ or CA-2912155-$ or WO-2014009463-$ or WO-2014011898-$ or EP-2700992-$ or JP-5433802-$ or WO-2014049469-$ or WO-2014113753-$ or CA-2836675-$ or WO-2014143748-$ or WO-2014165175-$ or WO-2014197701-$ or CN-104241938-$ or CA-2917189-$ or EP-2840425-$ or EP-2843452-$).did. or (WO-

2015028433-$ or CA-2885821-$ or WO-2015068103-$ or CA-2932688-$ or GB-201507758-$ or WO-2015103783-$ or WO-2015116589-$ or CN-204595258-$ or WO-2015144883-$ or EP-2942653-$ or EP-2947485-$ or WO-2015190211-$ or WO-2016004347-$ or CN-105278047-$ or DE-202013012295-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or CA-2928026-$ or WO-2016043922-$ or JP-5905950-$ or WO-2016067668-$ or EP-3021145-$ or WO-2016082160-$ or WO-2016103821-$ or DE-202016103178-$ or EP-3054333-$).did. or (WO-2016161341-$ or WO-2017038704-$ or JP-6173629-$ or WO-2017180257-$ or CN-206584076-$ or EP-3258301-$ or WO-2018003776-$ or WO-2018004847-$).did. or (JP-54034251-$ or JP-55101904-$ or JP-56066811-$ or JP-56074211-$ or JP-59075218-$ or JP-04214510-$ or JP-04220604-$ or JP-05313040-$ or JP-08015541-$ or JP-09005575-$ or JP-09033756-$ or JP-10104469-$ or JP-11072659-$ or JP-2000089061-$ or JP-2000284146-$ or JP-2000292655-$ or JP-2000310724-$ or JP-2001013372-$ or JP-2001021764-$ or JP-2001242361-$ or JP-2009294343-$ or JP-2012053420-$ or JP-2012078513-$ or JP-2015022131-$).did. or (DE-2805949-$ or DE-2932986-$ or GB-2057158-$ or GB-2081468-$ or EP-61243-$ or GB-2098354-$ or DE-3208797-$ or EP-125398-$ or US-4496213-$ or WO-8600147-$ or EP-249237-$ or EP-262631-$ or US-4953929-$ or WO-9015350-$ or GB-2241794-$ or US-5064268-$ or WO-9117540-$ or EP-458608-$ or US-5101463-$ or EP-490698-$ or EP-505197-$ or EP-430107-$ or EP-660145-$ or EP-660144-$ or EP-663602-$ or EP-663601-$).did. or (WO-9600917-$ or EP-696748-$ or EP-697608-$ or WO-9627811-$ or EP-758099-$ or WO-9734176-$ or EP-803750-$ or US-5692080-$ or WO-9746900-$ or

WO-9857208-$ or WO-9947958-$ or GB-2341455-$ or EP-1041416-$ or EP-1041414-$ or EP-1091225-$ or WO-0140839-$ or EP-1107031-$ or EP-1124147-$ or WO-0181965-$ or US-20010041030-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or EP-1172673-$ or EP-1172672-$ or DE-20118858-$ or WO-02056060-$).did. or (US-6422760-$ or WO-02061481-$ or US-20030031437-$ or US-20030044125-$ or WO-03094297-$ or WO-03093883-$ or EP-1394584-$ or US-20040062498-$ or US-20040223699-$ or US-20040228589-$ or US-20050053342-$ or WO-2006022840-$ or US-20060153503-$ or US-20060165352-$ or US-20060193562-$ or EP-1752805-$ or US-20070058907-$ or US-20070077010-$ or US-20070098327-$ or US-20090041411-$ or US-20090060423-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or EP-2206458-$ or WO-2010137426-$ or EP-2302431-$).did. or (US-20110249942-$ or US-20110274437-$ or WO-2011152874-$ or KR-2012000895-$ or US-20120027355-$ or US-20120057824-$ or US-20120082416-$ or EP-2444827-$ or US-20120099822-$ or US-20120251051-$ or US-20120251054-$ or US-20120263419-$ or WO-2012151175-$ or US-20120308183-$ or CN-102870023-$ or TW-201309089-$ or US-20130051749-$ or WO-2013036843-$ or CN-103091793-$ or US-20130121645-$ or WO-2013115789-$ or WO-2013115791-$ or WO-2013122865-$ or WO-2013126068-$ or US-20130230283-$ or US-20130259429-$ or WO-2013155395-$).did. or (WO-2013177234-$ or WO-2014011898-$ or US-20140016901-$ or EP-2700992-$ or JP-5433802-$ or US-20140064688-$ or TW-474924-$ or WO-2014049469-$ or US-20140147081-$ or US-20140153879-$ or ES-1110405-$ or WO-2014113753-$ or EP-2759860-$ or

US-20140219624-$ or WO-2014143748-$ or WO-2014165175-$ or US-20140321808-$ or US-20140363131-$ or WO-2014197701-$ or EP-2818903-$ or WO-2015009435-$ or US-20150023637-$ or US-20150049989-$ or WO-2015028433-$ or WO-2015068103-$ or WO-2015070382-$ or US-20150162982-$).did. or (US-20150177463-$ or WO-2015103783-$ or WO-2015116589-$ or US-20150219864-$ or US-20150226926-$ or US-20150226925-$ or US-20150241644-$ or CN-104950402-$ or WO-2015144883-$ or US-20150286012-$ or DE-102015106225-$ or US-20150331201-$ or EP-2947485-$ or WO-2015190211-$ or US-20150378110-$ or US-20160004016-$ or US-20160004018-$ or US-20160025937-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016043922-$ or JP-5905950-$).did. or (US-20160124158-$ or US-20160131854-$ or EP-3021145-$ or US-20160161680-$ or US-20160178852-$ or US-20160178859-$ or US-9377591-$ or US-9389368-$ or EP-3054333-$ or US-20160259135-$ or CN-105978629-$ or US-20160282566-$ or WO-2016161341-$ or US-20160306125-$ or US-9482820-$ or US-20160341908-$ or US-20160341911-$ or US-20160349466-$ or US-20160377819-$ or US-20170031106-$ or US-20170059784-$ or WO-2017038704-$ or US-20170090127-$ or US-20170102504-$ or US-20170115457-$ or US-20170139150-$ or US-20170139156-$).did. or (US-20170153398-$ or US-9678283-$ or US-20170184790-$ or US-9709753-$ or US-20170205587-$ or JP-6173629-$ or US-20170219779-$ or US-9726830-$ or US-20170227720-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-

		$ or US-20170293088-$ or US-20170307830-$ or US-9804340-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170371109-$ or US-20180003903-$ or US-20180011258-$ or US-20180052288-$ or US-20180081128-$ or US-20180106973-$ or US-20180120519-$ or US-20180128988-$).did.				
S678	136	(US-20020176671-$ or US-20040017980-$ or US-20040126118-$ or US-20040197054-$ or US-20070172177-$ or US-20070286554-$ or US-20100008635-$ or US-20100129034-$ or US-20100290745-$ or US-20110116749-$ or US-20110222830-$ or US-20110229096-$ or US-20110229095-$ or US-20110225792-$ or US-20110255831-$ or US-20110262078-$ or US-20110262077-$ or US-20120014648-$ or US-20120063724-$ or US-20120275749-$ or US-20130136402-$ or US-20130315538-$ or US-20140286610-$ or US-20150016781-$ or US-20150110448-$ or US-20160124170-$).did. or (US-20160202429-$ or US-20170045691-$ or US-20170285277-$ or US-20170299820-$ or US-20180120519-$ or US-20180143380-$ or US-20180231722-$ or US-20180239093-$ or US-20180267255-$ or US-20180292618-$ or US-20180292612-$ or US-20180364421-$ or US-20190107679-$ or US-20190107678-$ or US-20190113691-$ or US-20190137701-$ or US-20190179085-$).did. or (US-5504825-$ or US-5613021-$ or US-5661826-$ or US-6045270-$ or US-6276840-$ or US-6293708-$ or US-6623170-$ or US-6796717-$ or US-6848840-$ or US-6866425-$ or US-6932514-$ or US-6944387-$ or US-6976793-$ or US-7094091-$ or US-7178994-$ or US-7182522-$ or US-7234874-$ or US-7241056-$ or US-7300216-$ or US-7536075-$ or US-7654748-$ or US-7891882-$ or US-7912336-$ or US-8052333-$ or US-8231282-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 18:14

		8235600-$).did. or (US-8262296-$ or US-8317407-$ or US-8346047-$ or US-8348519-$ or US-8348518-$ or US-8376634-$ or US-8406583-$ or US-8417074-$ or US-8494329-$ or US-8496384-$ or US-8529138-$ or US-8542972-$ or US-8550725-$ or US-8550724-$ or US-8579521-$ or US-8690593-$ or US-8714835-$ or US-8821038-$ or US-8821037-$ or US-8915653-$ or US-8958679-$ or US-9014527-$ or US-9031364-$ or US-9057848-$ or US-9146376-$ or US-9146360-$ or US-9417401-$).did. or (US-9513442-$ or US-9541711-$ or US-9557497-$ or US-9563025-$ or US-9606297-$ or US-9632255-$ or US-9645318-$ or US-9658409-$ or US-9684139-$ or US-9739949-$ or US-9753228-$ or US-9772464-$ or US-9857538-$ or US-9977199-$ or US-9989710-$ or US-10012801-$ or US-10054747-$ or US-10061090-$ or US-10067302-$ or US-10067300-$ or US-10088636-$ or US-10101539-$ or US-10139570-$ or US-10146014-$ or US-10156684-$ or US-10209473-$).did. or (WO-2010083369-$ or EP-2380054-$ or CN-102282495-$ or WO-2014152675-$ or WO-2015043158-$ or CN-104516073-$ or CN-102282495-$ or WO-2018125706-$).did. or (JP-57044113-$).did. or (US-20160327757-$ or US-20170299820-$ or WO-2018125706-$ or US-20190107679-$).did.				
S679	2,087	S675 S676 S677 S678	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:14
S680	56,021	(ferrule connector) with insert$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14

S681	66,377	G02B6/38$.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:14
S682	2,541	S680 and S681	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:14
S683	14,591	adapter with (groove channel) with (top bottom upper lower)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S684	102	S682 and S683	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S685	62	S684 not S679	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S686	1,186,315	(groove channel) with upper with lower	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S687	735,634	(groove channel) with top with bottom	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S688	447	S682 and (S686 S687)	US-PGPUB; USPAT; FPRS; EPO;	OR	OFF	2020/07/22 18:14

			JPO; DERWENT; IBM_TDB			
S689	325	S688 not (S679 S685)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S690	15,680	("ferrules" "connectors") with align$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S691	2,186	S681 and S690	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S692	353	S691 and (S686 S687)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:14
S693	167	S692 not (S679 S685 S689)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S694	11,374	G02B6/3825,3826.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 18:14
S695	441	S690 and S694	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2020/07/22 18:14

			DERWENT; IBM_TDB			
S696	206	S695 not (S679 S685 S689 S693)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S697	2,847	S679 S685 S689 S693 S696	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:14
S698	5	"51388255".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/07/22 18:51
S699	0	(13/795888).APP.	USPAT; USOCR	OR	ON	2020/07/22 18:52
S700	12,760	G02B6/3881,3885.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:53
S701	13,201	G02B6/3879,3825.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:53
S702	2,874	S701 and S700	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 18:53
S703	9	"48999326".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/07/22 18:53
S704	18	("20030108301" | "20030190130" | "20090274432" | "20100111484" | "20120251051" | "20130044978" | "20130051733" | "20140219609" |	US-PGPUB; USPAT; USOCR	OR	ON	2020/07/22 18:53

		"20140233893" | "5600747" | "5675682" | "5870515" | "6146023" | "6485189" | "6547585" | "6705765" | "6857900" | "8858089").PN.				
S705	2	"49235150".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/07/22 18:53
S706	2,998	S608 S614 S618 S622 S625 S628	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:18
S707	151	S706 not S697	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:19
S708	81	(US-20040101250-$ or US-20140205247-$ or US-20170160486-$ or US-20180239091-$).did. or (US-3999837-$ or US-4252407-$ or US-6116790-$ or US-6371659-$ or US-6461053-$ or US-6585423-$ or US-7001079-$ or US-9039298-$ or US-9823424-$).did. or (DE-2558445-$ or FR-2296862-$ or BR-7508734-$ or ES-444034-$ or GB-1503979-$ or IT-7869677-$ or CA-1043604-$ or BE-871785-$ or DK-522978-$ or NL-7811579-$ or DE-2849975-$ or GB-2009440-$ or FR-2435053-$ or FR-2446496-$ or CA-1097111-$ or IT-1050771-$ or FR-2446496-$ or FR-2435053-$ or CH-628152-$ or GB-2009440-$ or DE-3112078-$ or FR-2296862-$ or DE-2558445-$ or DE-3112078-$ or IT-1109638-$ or DE-2849975-$).did. or (DK-151733-$ or DK-151733-$ or DK-151733-$ or DE-19626036-$ or WO-9800741-$ or AU-2975197-$ or WO-9928774-$ or EP-0985161-$ or EP-1034445-$ or EP-1092995-$ or EP-1092995-$ or EP-1034445-$ or EP-0985161-$ or ES-2202617-$ or EP-1092995-$ or DE-60010402-$ or DE-60010402-$	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 19:24

		or JP-3984293-$ or EP-2138880-$ or JP-4514004-$ or WO-2016053853-$ or WO-2017065999-$ or WO-2017065999-$ or EP-3201668-$ or CN-108351473-$ or CN-208140982-$ or EP-3201668-$).did. or (JP-2001154062-$).did. or (DE-2558445-$ or BE-871785-$ or DE-19626036-$ or WO-9928774-$ or EP-1092995-$ or US-20140205247-$ or CN-104516061-$ or CN-104570229-$ or WO-2016053853-$ or WO-2017065999-$ or US-20180364421-$).did.				
S709	1,140	(US-20010010741-$ or US-20010016102-$ or US-20010033730-$ or US-20010038737-$ or US-20010043776-$ or US-20010048790-$ or US-20020006253-$ or US-20020012503-$ or US-20020012502-$ or US-20020012501-$ or US-20020012238-$ or US-20020025121-$ or US-20020025099-$ or US-20020028055-$ or US-20020031310-$ or US-20020031309-$ or US-20020061171-$ or US-20020064349-$ or US-20020081076-$ or US-20020090177-$ or US-20020094727-$ or US-20020106167-$ or US-20020114581-$ or US-20020118926-$ or US-20020126961-$ or US-20020131720-$).did. or (US-20020150344-$ or US-20020150343-$ or US-20020150353-$ or US-20020150346-$ or US-20020150345-$ or US-20020150342-$ or US-20020159745-$ or US-20020159714-$ or US-20020159712-$ or US-20020168149-$ or US-20020166226-$ or US-20020172469-$ or US-20020177364-$ or US-20020181888-$ or US-20020181884-$ or US-20020186934-$ or US-20020186742-$ or US-20020191881-$ or US-20020197017-$ or US-20020197018-$ or US-20030002816-$ or US-20030002808-$ or US-20030007739-$ or US-20030012512-$ or US-20030031449-$ or US-20030031422-$ or US-20030044122-$).did. or (US-20030044115-$ or US-20030053760-$ or US-20030063868-$ or US-	US-PGPUB; USPAT; JPO	OR	ON	2020/07/22 19:24

20030063866-$ or US-20030063862-$ or US-20030068135-$ or US-20030072536-$ or US-20030081905-$ or US-20030087505-$ or US-20030091292-$ or US-20030095780-$ or US-20030095779-$ or US-20030103730-$ or US-20030108320-$ or US-20030113086-$ or US-20030128934-$ or US-20030142918-$ or US-20030147597-$ or US-20030147230-$ or US-20030156796-$ or US-20030169975-$ or US-20030169974-$ or US-20030174996-$ or US-20030174972-$ or US-20030174922-$ or US-20030180005-$ or US-20030185520-$).did. or (US-20030189214-$ or US-20030194188-$ or US-20030198029-$ or US-20030231838-$ or US-20040013369-$ or US-20040028340-$ or US-20040033050-$ or US-20040033028-$ or US-20040033027-$ or US-20040036987-$ or US-20040042710-$ or US-20040052471-$ or US-20040054761-$ or US-20040062488-$ or US-20040062486-$ or US-20040072454-$ or US-20040071438-$ or US-20040074852-$ or US-20040081418-$ or US-20040091228-$ or US-20040101253-$ or US-20040105325-$ or US-20040105278-$ or US-20040120652-$ or US-20040131315-$ or US-20040136656-$ or US-20040141692-$).did. or (US-20040151464-$ or US-20040151438-$ or US-20040156592-$ or US-20040161204-$ or US-20040165830-$ or US-20040179787-$ or US-20040184740-$ or US-20040182971-$ or US-20040197053-$ or US-20040202431-$ or US-20040208459-$ or US-20040223701-$ or US-20040240793-$ or US-20040247255-$ or US-20040264873-$ or US-20040266257-$ or US-20040264908-$ or US-20040264876-$ or US-20050008300-$ or US-20050013547-$ or US-20050041928-$ or US-20050069263-$ or US-20050074211-$ or US-20050094948-$ or US-20050094943-$ or US-20050112939-$ or US-20050111796-$).did. or (US-20050118880-$ or US-20050135753-

$ or US-20050141817-$ or US-20050185894-$ or US-20050207708-$ or US-20050215119-$ or US-20050220423-$ or US-20050220420-$ or US-20050226586-$ or US-20050232552-$ or US-20050238289-$ or US-20050281526-$ or US-20050281509-$ or US-20050286833-$ or US-20050286835-$ or US-20060013539-$ or US-20060056769-$ or US-20060072878-$ or US-20060083468-$ or US-20060083467-$ or US-20060088248-$ or US-20060093275-$ or US-20060098914-$ or US-20060133758-$ or US-20060140542-$ or US-20060147156-$ or US-20060147155-$).did. or (US-20060154529-$ or US-20060153503-$ or US-20060159401-$ or US-20060159399-$ or US-20060169856-$ or US-20060177182-$ or US-20060197943-$ or US-20060204200-$ or US-20060204180-$ or US-20060245711-$ or US-20060263011-$ or US-20060269205-$ or US-20060269206-$ or US-20060269212-$ or US-20070019913-$ or US-20070036487-$ or US-20070098330-$ or US-20070098329-$ or US-20070105452-$ or US-20070116414-$ or US-20070116411-$ or US-20070140623-$ or US-20070154135-$ or US-20070165984-$ or US-20070183780-$ or US-20070190834-$ or US-20070196053-$).did. or (US-20070196052-$ or US-20070201808-$ or US-20070201798-$ or US-20070212002-$ or US-20070223862-$ or US-20070230874-$ or US-20070263959-$ or US-20070280599-$ or US-20070285194-$ or US-20070297725-$ or US-20080008425-$ or US-20080013897-$ or US-20080013891-$ or US-20080019642-$ or US-20080019656-$ or US-20080044139-$ or US-20080050072-$ or US-20080085082-$ or US-20080095502-$ or US-20080095501-$ or US-20080100456-$ or US-20080170827-$ or US-20080175541-$ or US-20080175550-$ or US-20080175542-$ or US-20080175546-$ or US-20080175545-$).did. or (US-

20080175532-$ or US-20080193086-$ or US-20080205825-$ or US-20080240658-$ or US-20080269845-$ or US-20080267566-$ or US-20080273837-$ or US-20080279503-$ or US-20080304792-$ or US-20080310796-$ or US-20080310800-$ or US-20080310795-$ or US-20080317411-$ or US-20090010600-$ or US-20090028507-$ or US-20090034912-$ or US-20090047800-$ or US-20090046981-$ or US-20090060422-$ or US-20090060418-$ or US-20090074359-$ or US-20090103878-$ or US-20090116791-$ or US-20090148101-$ or US-20090156043-$ or US-20090185778-$ or US-20090202214-$).did. or (US-20090214164-$ or US-20090226141-$ or US-20090226137-$ or US-20090232455-$ or US-20090232454-$ or US-20090257722-$ or US-20090257719-$ or US-20090274431-$ or US-20090274432-$ or US-20090285534-$ or US-20090285530-$ or US-20090290838-$ or US-20090304335-$ or US-20100002999-$ or US-20100021111-$ or US-20100029117-$ or US-20100027944-$ or US-20100027943-$ or US-20100046893-$ or US-20100054665-$ or US-20100061681-$ or US-20100074616-$ or US-20100080513-$ or US-20100092134-$ or US-20100092131-$ or US-20100104355-$ or US-20100111484-$).did. or (US-20100129032-$ or US-20100129028-$ or US-20100135618-$ or US-20100141934-$ or US-20100146764-$ or US-20100158444-$ or US-20100183265-$ or US-20100202730-$ or US-20100202737-$ or US-20100209063-$ or US-20100209050-$ or US-20100215318-$ or US-20100215322-$ or US-20100226654-$ or US-20100232757-$ or US-20100239220-$ or US-20100239213-$ or US-20100247057-$ or US-20100247040-$ or US-20100260457-$ or US-20100266245-$ or US-20100272408-$ or US-20100278497-$ or US-20100278488-$ or US-20100284655-$ or US-20100296792-

$ or US-20100303408-$).did. or (US-20100322580-$ or US-20100322576-$ or US-20100322554-$ or US-20100329604-$ or US-20100329602-$ or US-20110019964-$ or US-20110038592-$ or US-20110038581-$ or US-20110044583-$ or US-20110058772-$ or US-20110075969-$ or US-20110081798-$ or US-20110081116-$ or US-20110085774-$ or US-20110085765-$ or US-20110091166-$ or US-20110091154-$ or US-20110103797-$ or US-20110116748-$ or US-20110123156-$ or US-20110129186-$ or US-20110142398-$ or US-20110150396-$ or US-20110158593-$ or US-20110158586-$ or US-20110170830-$ or US-20110176777-$).did. or (US-20110188809-$ or US-20110188000-$ or US-20110194828-$ or US-20110200286-$ or US-20110198324-$ or US-20110200294-$ or US-20110206335-$ or US-20110206325-$ or US-20110206324-$ or US-20110211792-$ or US-20110229094-$ or US-20110243508-$ or US-20110243505-$ or US-20110243504-$ or US-20110268391-$ or US-20110293223-$ or US-20110299814-$ or US-20110311186-$ or US-20110317976-$ or US-20120002928-$ or US-20120002925-$ or US-20120033918-$ or US-20120039569-$ or US-20120057831-$ or US-20120057830-$ or US-20120057827-$ or US-20120063735-$).did. or (US-20120069348-$ or US-20120099870-$ or US-20120106901-$ or US-20120114295-$ or US-20120128307-$ or US-20120141084-$ or US-20120155808-$ or US-20120163757-$ or US-20120170895-$ or US-20120195555-$ or US-20120219253-$ or US-20120224823-$ or US-20120237223-$ or US-20120237171-$ or US-20120243831-$ or US-20120243829-$ or US-20120251067-$ or US-20120252244-$ or US-20120251050-$ or US-20120257859-$ or US-20120263426-$ or US-20120294572-$ or US-20120301088-$ or US-20120301080-$ or US-

20120321269-$ or US-20120321266-$ or US-20120321254-$).did. or (US-20130011099-$ or US-20130064517-$ or US-20130071068-$ or US-20130071067-$ or US-20130084041-$ or US-20130094827-$ or US-20130094815-$ or US-20130094811-$ or US-20130101257-$ or US-20130108231-$ or US-20130121643-$ or US-20130129285-$ or US-20130156379-$ or US-20130156382-$ or US-20130163937-$ or US-20130163933-$ or US-20130170797-$ or US-20130170796-$ or US-20130183018-$ or US-20130195405-$ or US-20130195418-$ or US-20130209040-$ or US-20130209049-$ or US-20130209052-$ or US-20130209051-$ or US-20130209050-$ or US-20130209041-$).did. or (US-20130216186-$ or US-20130216188-$ or US-20130284844-$ or US-20130287358-$ or US-20130302004-$ or US-20130322828-$ or US-20130323940-$ or US-20130322826-$ or US-20130330957-$ or US-20130343764-$ or US-20130343707-$ or US-20140016902-$ or US-20140023322-$ or US-20140038462-$ or US-20140044394-$ or US-20140064690-$ or US-20140064664-$ or US-20140072297-$ or US-20140072263-$ or US-20140082913-$ or US-20140093210-$ or US-20140104808-$ or US-20140126875-$ or US-20140126874-$ or US-20140124140-$ or US-20140133821-$ or US-20140133803-$).did. or (US-20140141649-$ or US-20140147082-$ or US-20140161394-$ or US-20140161407-$ or US-20140161400-$ or US-20140169732-$ or US-20140178007-$ or US-20140205253-$ or US-20140205247-$ or US-20140219615-$ or US-20140220794-$ or US-20140219619-$ or US-20140241690-$ or US-20140241689-$ or US-20140241688-$ or US-20140241667-$ or US-20140273584-$ or US-20140270646-$ or US-20140294339-$ or US-20140308010-$ or US-20140308008-$ or US-20140321813-$ or US-20140321814-

$ or US-20140328063-$ or US-20140334790-$ or US-20140334780-$ or US-20140334778-$).did. or (US-20140348481-$ or US-20140348467-$ or US-20140355936-$ or US-20140376870-$ or US-20150003774-$ or US-20150012072-$ or US-20150030323-$ or US-20150050002-$ or US-20150055917-$ or US-20150055928-$ or US-20150063758-$ or US-20150060539-$ or US-20150078710-$ or US-20150139588-$ or US-20150147033-$ or US-20150147031-$ or US-20150153516-$ or US-20150177467-$ or US-20150185423-$ or US-20150192744-$ or US-20150205060-$ or US-20150205053-$ or US-20150212284-$ or US-20150212279-$ or US-20150219856-$ or US-20150219857-$ or US-20150226923-$).did. or (US-20150234131-$ or US-20150234128-$ or US-20150241650-$ or US-20150247977-$ or US-20150253183-$ or US-20150260927-$ or US-20150268424-$ or US-20150277057-$ or US-20150277061-$ or US-20150277058-$ or US-20150288449-$ or US-20150288447-$ or US-20150286014-$ or US-20150286013-$ or US-20150286011-$ or US-20150285999-$ or US-20150301288-$ or US-20150301293-$ or US-20150309279-$ or US-20150323752-$ or US-20150346452-$ or US-20150346449-$ or US-20150355417-$ or US-20150355414-$ or US-20150362678-$ or US-20150378117-$ or US-20150378111-$).did. or (US-20160004017-$ or US-20160011383-$ or US-20160011376-$ or US-20160018604-$ or US-20160018606-$ or US-20160033723-$ or US-20160041356-$ or US-20160047994-$ or US-20160062051-$ or US-20160070081-$ or US-20160085045-$ or US-20160085035-$ or US-20160085031-$ or US-20160091673-$ or US-20160111808-$ or US-20160109676-$ or US-20160116685-$ or US-20160116683-$ or US-20160116681-$ or US-20160131857-$ or US-20160139342-$ or US-

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$ or US-20170276887-$ or US-20170276886-$ or US-20170285272-$ or US-20170293091-$ or US-20170299821-$ or US-20170299818-$ or US-20170299817-$).did. or (US-20170307832-$ or US-20170307829-$ or US-20170315307-$ or US-20170315305-$ or US-20170315304-$ or US-20170315303-$ or US-20170331234-$ or US-20170336571-$ or US-20170343742-$ or US-20170343741-$ or US-20170341972-$ or US-20170351038-$ or US-20170351037-$ or US-20170359091-$ or US-20170363815-$ or US-20170363810-$ or US-20170363509-$ or US-20170371118-$ or US-20170371107-$ or US-20180003910-$ or US-20180011261-$ or US-20180017740-$ or US-20180024302-$ or US-20180024301-$ or US-20180024300-$ or US-20180024294-$ or US-20180031782-$).did. or (US-20180031775-$ or US-20180059338-$ or US-20180074277-$ or US-20180081127-$ or US-20180081122-$ or US-20180078781-$ or US-20180095232-$ or US-20180106975-$ or US-20180113268-$ or US-20180113259-$ or US-20180136410-$ or US-20180143384-$ or US-20180143381-$ or US-20180149813-$ or US-20180157002-$ or US-20180180819-$ or US-20180188460-$ or US-20180196204-$ or US-20180210155-$ or US-20180210153-$).did. or (US-3933409-$ or US-3999837-$ or US-4080044-$ or US-4087158-$ or US-4101198-$ or US-4140365-$ or US-4167304-$ or US-4168109-$ or US-4186996-$ or US-4201445-$ or US-4214812-$ or US-4218113-$ or US-4223976-$ or US-4252407-$ or US-4268115-$ or US-4268114-$ or US-4279469-$ or US-4291943-$ or US-4295707-$ or US-4327964-$ or US-4354731-$ or US-4368948-$ or US-4371233-$ or US-4387957-$ or US-4415232-$ or US-4422716-$).did. or (US-4444461-$ or US-4445753-$ or US-4447121-$ or US-4461539-$ or US-4466009-$ or US-4484796-$ or US-4487474-$

or US-4497536-$ or US-4526438-$ or US-4548467-$ or US-4614402-$ or US-4615581-$ or US-4645296-$ or US-4648688-$ or US-4666241-$ or US-4674831-$ or US-4681398-$ or US-4688887-$ or US-4699460-$ or US-4714318-$ or US-4714317-$ or US-4714315-$ or US-4715674-$ or US-4717234-$ or US-4718744-$ or US-4722081-$ or US-4740052-$).did. or (US-4741590-$ or US-4758719-$ or US-4759600-$ or US-4759599-$ or US-4762389-$ or US-4767178-$ or US-4773725-$ or US-4781429-$ or US-4783137-$ or US-4786135-$ or US-4787700-$ or US-4789216-$ or US-4793683-$ or US-4795231-$ or US-4805980-$ or US-4807957-$ or US-4813760-$ or US-4824196-$ or US-4834486-$ or US-4842361-$ or US-4844570-$ or US-4846544-$ or US-4848870-$ or US-4850536-$ or US-4852963-$ or US-4877303-$ or US-4892380-$).did. or (US-4898446-$ or US-4960317-$ or US-4964688-$ or US-4976510-$ or US-4986762-$ or US-4986622-$ or US-4991929-$ or US-4993803-$ or US-4995688-$ or US-4998797-$ or US-5013124-$ or US-5015060-$ or US-5016970-$ or US-5018823-$ or US-5042891-$ or US-5048916-$ or US-5052774-$ or US-5058983-$ or US-5073042-$ or US-5077815-$ or US-5091991-$ or US-5091990-$ or US-5109453-$ or US-5115484-$ or US-5119455-$ or US-5124506-$ or US-5127073-$).did. or (US-5129024-$ or US-5133032-$ or US-5134677-$ or US-5134676-$ or US-5155795-$ or US-5159654-$ or US-5177808-$ or US-5179607-$ or US-5210815-$ or US-5214730-$ or US-5228104-$ or US-5233675-$ or US-5233674-$ or US-5239606-$ or US-5267342-$ or US-5274729-$ or US-5280552-$ or US-5282259-$ or US-5293581-$ or US-5297227-$ or US-5317663-$ or US-5323475-$ or US-5329541-$ or US-5333222-$ or US-5333221-$ or US-5359688-$ or US-5363460-$).did. or (US-5367594-$ or US-5366383-$ or US-5384885-$ or US-

5386485-$ or US-5408557-$ or US-5418875-$ or US-5420951-$ or US-5444806-$ or US-5446817-$ or US-5450519-$ or US-5452391-$ or US-5485537-$ or US-5497444-$ or US-5506922-$ or US-5519799-$ or US-5521998-$ or US-5528711-$ or US-5530783-$ or US-5537501-$ or US-5542015-$ or US-5548674-$ or US-5550943-$ or US-5563978-$ or US-5563971-$ or US-5570445-$ or US-5574813-$ or US-5579429-$).did. or (US-5581644-$ or US-5588086-$ or US-5592323-$ or US-5600746-$ or US-5603631-$ or US-5607323-$ or US-5619610-$ or US-5633969-$ or US-5642450-$ or US-5647043-$ or US-5645449-$ or US-5661833-$ or US-5666449-$ or US-5664955-$ or US-5668904-$ or US-5671310-$ or US-5673346-$ or US-5680494-$ or US-5682449-$ or US-5687268-$ or US-5694507-$ or US-5694506-$ or US-5701380-$ or US-5721799-$ or US-5727102-$ or US-5732174-$ or US-5734770-$).did. or (US-5737464-$ or US-5751874-$ or US-5761359-$ or US-5764043-$ or US-5774611-$ or US-5774612-$ or US-5778122-$ or US-5781680-$ or US-5796896-$ or US-5799122-$ or US-5809191-$ or US-5815618-$ or US-5818993-$ or US-5825955-$ or US-5832158-$ or US-5838856-$ or US-5838855-$ or US-5845036-$ or US-5862282-$ or US-5867621-$ or US-5881191-$ or US-5887100-$ or US-5887098-$ or US-5892870-$ or US-5896477-$ or US-5909526-$ or US-5909298-$).did. or (US-5915058-$ or US-5923805-$ or US-5930426-$ or US-5930425-$ or US-5937121-$ or US-5940561-$ or US-5940559-$ or US-5949946-$ or US-5953474-$ or US-5953473-$ or US-5956444-$ or US-5960137-$ or US-5969294-$ or US-5971626-$ or US-5980117-$ or US-5987203-$ or US-5993071-$ or US-6004043-$ or US-6022149-$ or US-6027252-$ or US-6041155-$ or US-6048103-$ or US-6048102-$ or US-6053639-$ or US-6059461-$ or US-6064791-$ or US-6076973-$).did. or

(US-6076975-$ or US-6081647-$ or US-6079881-$ or US-6088502-$ or US-6095694-$ or US-6104856-$ or US-6102581-$ or US-6108482-$ or US-6116790-$ or US-6116789-$ or US-6116101-$ or US-6132105-$ or US-6139346-$ or US-6142676-$ or US-6149315-$ or US-6154597-$ or US-6164835-$ or US-6164834-$ or US-6173099-$ or US-6179480-$ or US-6179475-$ or US-6188827-$ or US-6188825-$ or US-6186670-$ or US-6190616-$ or US-6195477-$ or US-6193420-$).did. or (US-6196729-$ or US-6200040-$ or US-6206577-$ or US-6217226-$ or US-6220763-$ or US-6220762-$ or US-6224269-$ or US-6227719-$ or US-6227718-$ or US-6240229-$ or US-6238249-$ or US-6243526-$ or US-6247851-$ or US-6247849-$ or US-6256446-$ or US-6259839-$ or US-6264373-$ or US-6264372-$ or US-6267513-$ or US-6273618-$ or US-6290527-$ or US-6301004-$ or US-6302592-$ or US-6309111-$ or US-6318904-$ or US-6318903-$ or US-6334715-$).did. or (US-6349164-$ or US-6347889-$ or US-6347888-$ or US-6354746-$ or US-6357932-$ or US-6361218-$ or US-6364536-$ or US-6367986-$ or US-6367984-$ or US-6371659-$ or US-6377840-$ or US-6375363-$ or US-6384896-$ or US-6382843-$ or US-6382839-$ or US-6389212-$ or US-6402393-$ or US-6402390-$ or US-6402388-$ or US-6409391-$ or US-6412987-$ or US-6419810-$ or US-6422759-$ or US-6425692-$ or US-6425694-$ or US-6431762-$ or US-6437894-$).did. or (US-6435946-$ or US-6445867-$ or US-6456768-$ or US-6457876-$ or US-6461055-$ or US-6461054-$ or US-6461053-$ or US-6466724-$ or US-6464406-$ or US-6467971-$ or US-6467970-$ or US-6471417-$ or US-6471412-$ or US-6474876-$ or US-6478472-$ or US-6481900-$ or US-6481899-$ or US-6485192-$ or US-6497518-$ or US-6497516-$ or US-6501900-$ or US-6508593-$ or US-6526210-$ or US-6524015-$ or

US-6527450-$ or US-6533469-$ or US-6543941-$).did. or (US-6554482-$ or US-6558044-$ or US-6561699-$ or US-6572276-$ or US-6572273-$ or US-6582132-$ or US-6595696-$ or US-6601995-$ or US-6612750-$ or US-6619859-$ or US-6619856-$ or US-6632023-$ or US-6634794-$ or US-6644866-$ or US-6667803-$ or US-6695485-$ or US-6702477-$ or US-6702475-$ or US-6786647-$ or US-6789953-$ or US-6793399-$ or US-6840680-$ or US-6856748-$ or US-6895146-$ or US-7232261-$ or US-7435009-$ or US-7530845-$).did. or (US-7585118-$ or US-7588373-$ or US-7706657-$ or US-7738757-$ or US-7972066-$ or US-8070366-$ or US-8206040-$ or US-8517614-$ or US-8588571-$ or US-8953922-$ or US-9229177-$ or US-9229170-$ or US-9291781-$ or US-9316794-$ or US-9323007-$ or US-9448369-$ or US-9453972-$ or US-9482825-$ or US-9551831-$ or US-9625655-$ or US-9632267-$ or US-9638871-$ or US-9638868-$ or US-9645335-$ or US-9658407-$ or US-9671570-$ or US-9671568-$).did. or (US-9678282-$ or US-9696477-$ or US-9722367-$ or US-9720184-$ or US-9726829-$ or US-9735523-$ or US-9733123-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9746625-$ or US-9746368-$ or US-9759874-$ or US-9759869-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9784928-$ or US-9798090-$ or US-9797806-$ or US-9810860-$ or US-9810858-$ or US-9810856-$ or US-9817195-$ or US-9823428-$ or US-9829643-$ or US-9827438-$).did. or (US-9835807-$ or US-9841566-$ or US-9857545-$ or US-9857537-$ or US-9864151-$ or US-9869824-$ or US-9876309-$ or US-9874702-$ or US-9880365-$ or US-9880357-$ or US-9885841-$ or US-9893813-$ or US-9891392-$ or US-9891387-$ or US-9891385-$ or US-9897767-$ or US-9904021-$ or US-9904020-$ or US-9910228-$ or US-9910226-$ or US-9915793-$

		or US-9933586-$ or US-9933583-$ or US-9933582-$ or US-9939600-$ or US-9939590-$ or US-9948017-$).did. or (US-9946036-$ or US-10007069-$ or US-10018787-$).did. or (JP-2016095432-$ or JP-2016095410-$ or JP-2016122100-$ or JP-2016177309-$ or JP-2016188927-$ or JP-2017053937-$ or JP-2017090798-$ or JP-2017111444-$ or JP-2017134118-$ or JP-2017138535-$ or JP-2017151338-$ or JP-2017219768-$).did.				
S710	737	(US-20010041030-$ or US-20020025125-$ or US-20020106162-$ or US-20020114589-$ or US-20020159710-$ or US-20030031452-$ or US-20030044127-$ or US-20030044125-$ or US-20030180004-$ or US-20030223703-$ or US-20040008494-$ or US-20040017983-$ or US-20040017981-$ or US-20040038558-$ or US-20040052472-$ or US-20040062498-$ or US-20040105628-$ or US-20040131317-$ or US-20040223699-$ or US-20040228589-$ or US-20050036744-$ or US-20050053342-$ or US-20050111795-$ or US-20050123246-$ or US-20050135755-$ or US-20050135752-$).did. or (US-20050271328-$ or US-20060045430-$ or US-20060051028-$ or US-20060093282-$ or US-20060153504-$ or US-20060193562-$ or US-20060280409-$ or US-20060285807-$ or US-20070058907-$ or US-20070098327-$ or US-20070160327-$ or US-20080069501-$ or US-20080112672-$ or US-20080124031-$ or US-20080131055-$ or US-20080253719-$ or US-20090003772-$ or US-20090290839-$ or US-20090305542-$ or US-20100322561-$ or US-20110038590-$ or US-20110075971-$ or US-20110091159-$ or US-20110222819-$ or US-20110249942-$ or US-20120027355-$ or US-20120057824-$).did. or (US-20120076459-$ or US-20120082416-$ or US-20120099822-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 19:24

20120141070-$ or US-20120251054-$ or US-20120251051-$ or US-20120263423-$ or US-20120263419-$ or US-20120308183-$ or US-20130051749-$ or US-20130064508-$ or US-20130077914-$ or US-20130121645-$ or US-20130129280-$ or US-20130183001-$ or US-20130216189-$ or US-20130230283-$ or US-20130259429-$ or US-20130272671-$ or US-20130308908-$ or US-20140056560-$ or US-20140064665-$ or US-20140064688-$ or US-20140072265-$ or US-20140086545-$ or US-20140147081-$ or US-20140205241-$).did. or (US-20140219614-$ or US-20140219624-$ or US-20140314385-$ or US-20140341510-$ or US-20150003785-$ or US-20150023637-$ or US-20150049989-$ or US-20150071591-$ or US-20150177463-$ or US-20150226926-$ or US-20150241644-$ or US-20150301286-$ or US-20150331201-$ or US-20150338583-$ or US-20150370017-$ or US-20150378112-$ or US-20160004018-$ or US-20160004016-$ or US-20160025937-$ or US-20160077287-$ or US-20160077284-$ or US-20160109661-$ or US-20160131854-$ or US-20160131849-$ or US-20160161680-$ or US-20160178859-$ or US-20160259135-$).did. or (US-20160282566-$ or US-20160282562-$ or US-20160320571-$ or US-20160349464-$ or US-20170059784-$ or US-20170090128-$ or US-20170090127-$ or US-20170102506-$ or US-20170102504-$ or US-20170108653-$ or US-20170115457-$ or US-20170139150-$ or US-20170153398-$ or US-20170184798-$ or US-20170184790-$ or US-20170205587-$ or US-20170219779-$ or US-20170227720-$ or US-20170235060-$ or US-20170242200-$ or US-20170242199-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170261698-$ or US-20170269309-$ or US-20170276883-$).did. or (US-20170276881-$ or US-20170293088-

		$ or US-20170293087-$ or US-20170307831-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170357060-$ or US-20170357059-$ or US-20170363827-$ or US-20180003903-$ or US-20180011258-$ or US-20180011254-$ or US-20180031774-$ or US-20180052288-$ or US-20180077472-$ or US-20180081128-$ or US-20180081125-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180106973-$ or US-20180156988-$ or US-20180156985-$ or US-20180210154-$).did. or (US-4240695-$ or US-4320938-$ or US-4330172-$ or US-4477146-$ or US-4687291-$ or US-4737009-$ or US-4854664-$ or US-4856866-$ or US-4886335-$ or US-4915472-$ or US-4953929-$ or US-4955976-$ or US-5064268-$ or US-5076656-$ or US-5082346-$ or US-5082344-$ or US-5101463-$ or US-5134673-$ or US-5157749-$ or US-5166995-$ or US-5199093-$ or US-5259052-$ or US-5555332-$ or US-5666456-$ or US-5692080-$ or US-5867894-$).did. or (US-5870515-$ or US-5883995-$ or US-5920670-$ or US-5920669-$ or US-5984533-$ or US-6012852-$ or US-6095695-$ or US-6210045-$ or US-6250817-$ or US-6305849-$ or US-6318902-$ or US-6331079-$ or US-6379052-$ or US-6409392-$ or US-6422761-$ or US-6422760-$ or US-6450698-$ or US-6487343-$ or US-6491442-$ or US-6533465-$ or US-6554486-$ or US-6623172-$ or US-6688782-$ or US-6712521-$ or US-6764222-$ or US-6839583-$ or US-6848834-$).did. or (US-6944378-$ or US-7036996-$ or US-8388235-$ or US-9207454-$ or US-9316791-$ or US-9377591-$ or US-9389368-$ or US-9482820-$ or US-9606303-$ or US-9625657-$ or US-9664864-$ or US-9678283-$ or US-9678286-$ or US-9684134-$ or US-9696497-$ or US-9703062-$ or US-9709753-$ or US-9726830-$ or US-			

9733434-$ or US-9798096-$ or US-9804342-$ or US-9804340-$ or US-9804337-$ or US-9829650-$ or US-9835808-$ or US-9846283-$).did. or (US-9851512-$ or US-9891390-$ or US-9904019-$ or US-9910229-$ or US-9927582-$ or US-9939589-$ or US-9946037-$).did. or (IT-7819792-$ or FR-2363124-$ or IT-7925110-$ or GB-2057158-$ or FR-2487528-$ or GB-2081468-$ or EP-0061243-$ or DK-208682-$ or GB-8306227-$ or IT-8323399-$ or JP-S5856846-$ or EP-0125398-$ or FR-2535069-$ or WO-8600147-$ or EP-0249237-$ or EP-0262847-$ or EP-0262631-$ or DE-8626183-$ or WO-9015350-$ or EP-0408852-$ or GB-9103604-$ or GB-9106183-$ or CA-2030897-$ or DE-9107960-$ or GB-9206076-$ or CA-2057559-$).did. or (CA-2082276-$ or EP-0633485-$ or EP-0690319-$ or CA-2191600-$ or EP-0696748-$ or EP-0697608-$ or CN-1118443-$ or WO-9627811-$ or EP-0758099-$ or WO-9734176-$ or CA-2198522-$ or EP-0803750-$ or NL-1003147-$ or EP-0807837-$ or CA-2254335-$ or CA-2294930-$ or CA-2262351-$ or EP-0938003-$ or JP-2945144-$ or CA-2324565-$ or GB-9919699-$ or EP-0992819-$ or CA-2284331-$ or GB-0007281-$ or CA-2288249-$ or DE-19728960-$ or EP-1033595-$).did. or (EP-1033594-$ or EP-1039324-$ or EP-1039322-$ or EP-1041416-$ or EP-1041414-$ or JP-3106420-$ or CA-2321428-$ or EP-1091225-$ or WO-0137010-$ or EP-1107031-$ or KR-20010062142-$ or WO-0155762-$ or EP-1124147-$ or WO-0161397-$ or WO-0181965-$ or CA-2350290-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or KR-20020000530-$ or KR-20020001574-$ or CN-1331421-$ or EP-1172672-$ or EP-1172673-$ or KR-20020006481-$ or KR-20020006480-$ or DE-20118858-$).did. or (CA-2418331-$ or KR-20020050140-$ or WO-02056060-$ or WO-02061481-$ or DE-10114144-$ or NL-1018440-$ or WO-

03016975-$ or WO-03093883-$ or CA-2484569-$ or EP-1394584-$ or AU-2003291687-$ or EP-1530068-$ or CA-2503690-$ or CN-1677147-$ or CN-1707299-$ or WO-2008006402-$ or EP-1887395-$ or CN-101122658-$ or WO-2008029850-$ or CA-2662854-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or CA-2689768-$ or EP-2206458-$ or WO-2010137426-$ or CA-2762411-$).did. or (EP-2302431-$ or WO-2011139938-$ or WO-2011152874-$ or EP-2444827-$ or WO-2012054174-$ or WO-2012054174-$ or WO-2012151175-$ or GB-201218194-$ or CN-102870023-$ or WO-2013115791-$ or WO-2013115789-$ or WO-2013126068-$ or CA-2912155-$ or WO-2014009463-$ or WO-2014011898-$ or EP-2700992-$ or JP-5433802-$ or WO-2014049469-$ or WO-2014113753-$ or CA-2836675-$ or WO-2014143748-$ or WO-2014165175-$ or WO-2014197701-$ or CN-104241938-$ or CA-2917189-$ or EP-2840425-$ or EP-2843452-$).did. or (WO-2015028433-$ or CA-2885821-$ or WO-2015068103-$ or CA-2932688-$ or GB-201507758-$ or WO-2015103783-$ or WO-2015116589-$ or CN-204595258-$ or WO-2015144883-$ or EP-2942653-$ or EP-2947485-$ or WO-2015190211-$ or WO-2016004347-$ or CN-105278047-$ or DE-202013012295-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or CA-2928026-$ or WO-2016043922-$ or JP-5905950-$ or WO-2016067668-$ or EP-3021145-$ or WO-2016082160-$ or WO-2016103821-$ or DE-202016103178-$ or EP-3054333-$).did. or (WO-2016161341-$ or WO-2017038704-$ or JP-6173629-$ or WO-2017180257-$ or CN-206584076-$ or EP-3258301-$ or WO-2018003776-$ or WO-2018004847-$).did. or (JP-54034251-$ or JP-55101904-$ or JP-

56066811-$ or JP-56074211-$ or JP-59075218-$ or JP-04214510-$ or JP-04220604-$ or JP-05313040-$ or JP-08015541-$ or JP-09005575-$ or JP-09033756-$ or JP-10104469-$ or JP-11072659-$ or JP-2000089061-$ or JP-2000284146-$ or JP-2000292655-$ or JP-2000310724-$ or JP-2001013372-$ or JP-2001021764-$ or JP-2001242361-$ or JP-2009294343-$ or JP-2012053420-$ or JP-2012078513-$ or JP-2015022131-$).did. or (DE-2805949-$ or DE-2932986-$ or GB-2057158-$ or GB-2081468-$ or EP-61243-$ or GB-2098354-$ or DE-3208797-$ or EP-125398-$ or US-4496213-$ or WO-8600147-$ or EP-249237-$ or EP-262631-$ or US-4953929-$ or WO-9015350-$ or GB-2241794-$ or US-5064268-$ or WO-9117540-$ or EP-458608-$ or US-5101463-$ or EP-490698-$ or EP-505197-$ or EP-430107-$ or EP-660145-$ or EP-660144-$ or EP-663602-$ or EP-663601-$).did. or (WO-9600917-$ or EP-696748-$ or EP-697608-$ or WO-9627811-$ or EP-758099-$ or WO-9734176-$ or EP-803750-$ or US-5692080-$ or WO-9746900-$ or WO-9857208-$ or WO-9947958-$ or GB-2341455-$ or EP-1041416-$ or EP-1041414-$ or EP-1091225-$ or WO-0140839-$ or EP-1107031-$ or EP-1124147-$ or WO-0181965-$ or US-20010041030-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or EP-1172673-$ or EP-1172672-$ or DE-20118858-$ or WO-02056060-$).did. or (US-6422760-$ or WO-02061481-$ or US-20030031437-$ or US-20030044125-$ or WO-03094297-$ or WO-03093883-$ or EP-1394584-$ or US-20040062498-$ or US-20040223699-$ or US-20040228589-$ or US-20050053342-$ or WO-2006022840-$ or US-20060153503-$ or US-20060165352-$ or US-20060193562-$ or EP-1752805-$ or US-20070058907-$ or US-20070077010-$ or US-20070098327-$ or US-20090041411-$ or US-20090060423-$ or WO-

2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or EP-2206458-$ or WO-2010137426-$ or EP-2302431-$).did. or (US-20110249942-$ or US-20110274437-$ or WO-2011152874-$ or KR-2012000895-$ or US-20120027355-$ or US-20120057824-$ or US-20120082416-$ or EP-2444827-$ or US-20120099822-$ or US-20120251051-$ or US-20120251054-$ or US-20120263419-$ or WO-2012151175-$ or US-20120308183-$ or CN-102870023-$ or TW-201309089-$ or US-20130051749-$ or WO-2013036843-$ or CN-103091793-$ or US-20130121645-$ or WO-2013115789-$ or WO-2013115791-$ or WO-2013122865-$ or WO-2013126068-$ or US-20130230283-$ or US-20130259429-$ or WO-2013155395-$).did. or (WO-2013177234-$ or WO-2014011898-$ or US-20140016901-$ or EP-2700992-$ or JP-5433802-$ or US-20140064688-$ or TW-474924-$ or WO-2014049469-$ or US-20140147081-$ or US-20140153879-$ or ES-1110405-$ or WO-2014113753-$ or EP-2759860-$ or US-20140219624-$ or WO-2014143748-$ or WO-2014165175-$ or US-20140321808-$ or US-20140363131-$ or WO-2014197701-$ or EP-2818903-$ or WO-2015009435-$ or US-20150023637-$ or US-20150049989-$ or WO-2015028433-$ or WO-2015068103-$ or WO-2015070382-$ or US-20150162982-$).did. or (US-20150177463-$ or WO-2015103783-$ or WO-2015116589-$ or US-20150219864-$ or US-20150226926-$ or US-20150226925-$ or US-20150241644-$ or CN-104950402-$ or WO-2015144883-$ or US-20150286012-$ or DE-102015106225-$ or US-20150331201-$ or EP-2947485-$ or WO-2015190211-$ or US-20150378110-$ or US-20160004016-$ or US-20160004018-$ or US-20160025937-$ or CA-2859345-$ or

		JP-5860948-$ or WO-2016024014-$ or WO-2016033577-$ or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016043922-$ or JP-5905950-$).did. or (US-20160124158-$ or US-20160131854-$ or EP-3021145-$ or US-20160161680-$ or US-20160178852-$ or US-20160178859-$ or US-9377591-$ or US-9389368-$ or EP-3054333-$ or US-20160259135-$ or CN-105978629-$ or US-20160282566-$ or WO-2016161341-$ or US-20160306125-$ or US-9482820-$ or US-20160341908-$ or US-20160341911-$ or US-20160349466-$ or US-20160377819-$ or US-20170031106-$ or US-20170059784-$ or WO-2017038704-$ or US-20170090127-$ or US-20170102504-$ or US-20170115457-$ or US-20170139150-$ or US-20170139156-$).did. or (US-20170153398-$ or US-9678283-$ or US-20170184790-$ or US-9709753-$ or US-20170205587-$ or JP-6173629-$ or US-20170219779-$ or US-9726830-$ or US-20170227720-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170293088-$ or US-20170307830-$ or US-9804340-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170371109-$ or US-20180003903-$ or US-20180011258-$ or US-20180052288-$ or US-20180081128-$ or US-20180106973-$ or US-20180120519-$ or US-20180128988-$).did.				
S711	136	(US-20020176671-$ or US-20040017980-$ or US-20040126118-$ or US-20040197054-$ or US-20070172177-$ or US-20070286554-$ or US-20100008635-$ or US-20100129034-$ or US-20100290745-$ or US-20110116749-$ or US-20110222830-$ or US-20110229096-$ or US-20110229095-$ or US-20110225792-$ or US-20110255831-$ or US-20110262078-$ or US-20110262077-$ or US-20120014648-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/22 19:24

$ or US-20120063724-$ or US-20120275749-$ or US-20130136402-$ or US-20130315538-$ or US-20140286610-$ or US-20150016781-$ or US-20150110448-$ or US-20160124170-$).did. or (US-20160202429-$ or US-20170045691-$ or US-20170285277-$ or US-20170299820-$ or US-20180120519-$ or US-20180143380-$ or US-20180231722-$ or US-20180239093-$ or US-20180267255-$ or US-20180292618-$ or US-20180292612-$ or US-20180364421-$ or US-20190107679-$ or US-20190107678-$ or US-20190113691-$ or US-20190137701-$ or US-20190179085-$).did. or (US-5504825-$ or US-5613021-$ or US-5661826-$ or US-6045270-$ or US-6276840-$ or US-6293708-$ or US-6623170-$ or US-6796717-$ or US-6848840-$ or US-6866425-$ or US-6932514-$ or US-6944387-$ or US-6976793-$ or US-7094091-$ or US-7178994-$ or US-7182522-$ or US-7234874-$ or US-7241056-$ or US-7300216-$ or US-7536075-$ or US-7654748-$ or US-7891882-$ or US-7912336-$ or US-8052333-$ or US-8231282-$ or US-8235600-$).did. or (US-8262296-$ or US-8317407-$ or US-8346047-$ or US-8348519-$ or US-8348518-$ or US-8376634-$ or US-8406583-$ or US-8417074-$ or US-8494329-$ or US-8496384-$ or US-8529138-$ or US-8542972-$ or US-8550725-$ or US-8550724-$ or US-8579521-$ or US-8690593-$ or US-8714835-$ or US-8821038-$ or US-8821037-$ or US-8915653-$ or US-8958679-$ or US-9014527-$ or US-9031364-$ or US-9057848-$ or US-9146376-$ or US-9146360-$ or US-9417401-$).did. or (US-9513442-$ or US-9541711-$ or US-9557497-$ or US-9563025-$ or US-9606297-$ or US-9632255-$ or US-9645318-$ or US-9658409-$ or US-9684139-$ or US-9739949-$ or US-9753228-$ or US-9772464-$ or US-9857538-$ or US-9977199-$ or US-9989710-$ or US-10012801-$ or US-10054747-$ or

		US-10061090-$ or US-10067302-$ or US-10067300-$ or US-10088636-$ or US-10101539-$ or US-10139570-$ or US-10146014-$ or US-10156684-$ or US-10209473-$).did. or (WO-2010083369-$ or EP-2380054-$ or CN-102282495-$ or WO-2014152675-$ or WO-2015043158-$ or CN-104516073-$ or CN-102282495-$ or WO-2018125706-$).did. or (JP-57044113-$).did. or (US-20160327757-$ or US-20170299820-$ or WO-2018125706-$ or US-20190107679-$).did.				
S712	2,087	S708 S709 S710 S711	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 19:24
S713	56,021	(ferrule connector) with insert$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S714	66,377	G02B6/38$.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 19:24
S715	2,541	S713 and S714	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 19:24
S716	14,591	adapter with (groove channel) with (top bottom upper lower)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S717	102	S715 and S716	US-PGPUB; USPAT;	OR	ON	2020/07/22 19:24

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S718	62	S717 not S712	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S719	1,186,315	(groove channel) with upper with lower	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S720	735,634	(groove channel) with top with bottom	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S721	447	S715 and (S719 S720)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 19:24
S722	325	S721 not (S712 S718)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S723	15,680	("ferrules" "connectors") with align$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S724	2,186	S714 and S723	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2020/07/22 19:24

			JPO; DERWENT; IBM_TDB			
S725	353	S724 and (S719 S720)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 19:24
S726	167	S725 not (S712 S718 S722)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S727	11,374	G02B6/3825,3826.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 19:24
S728	441	S723 and S727	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/22 19:24
S729	206	S728 not (S712 S718 S722 S726)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S730	26,017	("ferrules" "connectors") with align$4 with (groove channel slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S731	705	S730 and S727	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2020/07/22 19:24

			DERWENT; IBM_TDB			
S732	151	S731 not (S712 S718 S722 S726 S729)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S733	2,998	S712 S718 S722 S726 S729 S732	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S734	2,792	G02B6/3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S735	2,427	S734 not S733	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S736	38	("20010026661" | "20020167793" | "20040228582" | "20050095899" | "20060140543" | "20080032536" | "20080248691" | "20080311781" | "20110059642" | "20120190230" | "20120257865" | "4186997" | "4376565" | "4448467" | "4580868" | "4645295" | "4711511" | "4904199" | "4979792" | "4986769" | "5166995" | "5183408" | "5265181" | "5289554" | "6149313" | "6257917" | "6538882" | "6634796" | "6910911" | "6994478" | "7182523" | "7325975" | "7374347" | "7476118" | "7674046" | "8167638" | "8262403" | "8724955").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/07/22 19:24
S737	2,864	ferrule with (mt$2 mpo)	US-PGPUB; USPAT; USOCR;	OR	ON	2020/07/22 19:24

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S738	129	S735 and S737	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S739	2,107,838	(slot groove channel key$4) with (upper lower top bottom) with (center central$4 middle through)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S740	42	S735 and S739	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S741	40	S740 not (S738)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S742	9,201,619	(slot groove channel key$4) with (upper lower top bottom center central$4 middle through)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S743	416	S735 and S742	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S744	291	S743 not (S738 S741)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24

S745	460	S738 S741 S744	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S746	20,748	(multiple plural$4) adj2 (key$4 key$way) with (surface top bottom side wall)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S747	15,013	G02B6/3825-3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S748	28	S746 and S747	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S749	15	S748 not (S736 S745)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S750	505	S736 S745 S749	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S751	12,760	G02B6/3881,3885.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S752	13,201	G02B6/3879,3825.cpc.	US-PGPUB; USPAT; USOCR;	OR	ON	2020/07/22 19:24

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S753	2,874	S752 and S751	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S754	1,736	S753 not (S733 S735 S750)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S755	7,188	S733 S735 S750 S754	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:24
S756	4,202	S735 S750 S754	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:29
S757	2,427	S735	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:29
S758	2,241	S750 S754	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:29
S759	2,427	S735 not S733	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2020/07/22 19:30

			JPO; DERWENT; IBM_TDB			
S760	1,775	S758 not S757	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:31
S761	18	("20030108301" | "20030190130" | "20090274432" | "20100111484" | "20120251051" | "20130044978" | "20130051733" | "20140219609" | "20140233893" | "5600747" | "5675682" | "5870515" | "6146023" | "6485189" | "6547585" | "6705765" | "6857900" | "8858089").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/07/22 19:44
S762	2	"49235150".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/07/22 19:44
S763	12,760	G02B6/3881,3885.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:44
S764	13,201	G02B6/3879,3825.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:44
S765	23,087	S764 S763	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:44
S766	533	gang$4 with (adapter adaptor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:44

S767	75	S765 and S766	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:44
S768	146,261	G02B6/38$3.cpc. G02B6/42$3.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:44
S769	92	S766 and S768	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:44
S770	17	S769 not S767	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:44
S771	110	S761 S762 S767 S770	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/22 19:44
S772	55	(US-20140241689-$ or US-20200057205-$ or US-20200070211-$ or US-20190377139-$ or US-20190346644-$ or US-20190331862-$ or US-20190285806-$ or US-20190278028-$ or US-20190101703-$ or US-20180031783-$ or US-20160062050-$ or US-20160035201-$ or US-20150241650-$ or US-20150063758-$ or US-20140348481-$ or US-20140348467-$ or US-20140241688-$ or US-20140233893-$ or US-20140219609-$ or US-20130272671-$ or US-20130259429-$ or US-20130051733-$ or US-20130044978-$ or US-20120251051-$ or US-20110038592-$ or US-	US-PGPUB; USPAT; DERWENT	OR	ON	2020/07/23 11:13

		20100322580-$).did. or (US-20100199447-$ or US-20100111484-$ or US-20100054665-$ or US-20090274432-$ or US-20080273837-$ or US-20050163431-$ or US-20050111810-$ or US-20050111809-$ or US-20030190130-$ or US-20030108301-$).did. or (US-8858089-$ or US-6857900-$ or US-6705765-$ or US-6547585-$ or US-6485189-$ or US-6412986-$ or US-6146023-$ or US-6041155-$ or US-5870515-$ or US-5675682-$ or US-5600747-$).did. or (US-10459172-$ or US-20150063758-$ or US-20140348467-$ or US-20140348481-$ or US-20140241688-$ or US-20140241689-$ or WO-2013155395-$ or US-20130259429-$).did.				
S773	623	(US-20150260936-$ or US-20190324218-$ or US-20150219864-$ or US-20160170154-$ or US-20200150353-$ or US-20180267258-$ or US-20200132941-$ or US-20180335577-$ or US-20200116950-$ or US-20190181586-$ or US-20200088955-$ or US-20200081194-$ or US-20200057204-$ or US-20200057199-$ or US-20200049902-$ or US-20190129104-$ or US-20190377138-$ or US-20190369335-$ or US-20190353865-$ or US-20190346635-$ or US-20190346634-$ or US-20180217339-$ or US-20190331862-$ or US-20190302371-$ or US-20190190199-$ or US-20160195682-$).did. or (US-20190271815-$ or US-20190243084-$ or US-20090238522-$ or US-20190243075-$ or US-20190235174-$ or US-20180292617-$ or US-20190200103-$ or US-20190187383-$ or US-20170227719-$ or US-20190113693-$ or US-20190113692-$ or US-20190113689-$ or US-20190101706-$ or US-20190101705-$ or US-20190101704-$ or US-20190079252-$ or US-20190072729-$ or US-20190064452-$ or US-20190049678-$ or US-20190041587-$ or US-20190025526-$ or US-20170371109-$ or US-20180356600-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/23 11:13

		$ or US-20180335571-$ or US-20180329154-$ or US-20180314018-$ or US-20140321808-$).did. or (US-20170045702-$ or US-20180306984-$ or US-20180299624-$ or US-20180284357-$ or US-20180267256-$ or US-20130089293-$ or US-20180136416-$ or US-20180100982-$ or US-20180081129-$ or US-20180052287-$ or US-20170293090-$ or US-20170205590-$ or US-20160062050-$ or US-20160320572-$ or US-20160341905-$ or US-20160306125-$ or US-20150162982-$ or US-20160223757-$ or US-20150063815-$ or US-20140363131-$ or US-20140321810-$ or US-20140301701-$ or US-20140241671-$ or US-20120257865-$ or US-20080311781-$ or US-20110274437-$ or US-20120128302-$).did. or (US-20120099819-$ or US-20120057824-$ or US-20110091158-$ or US-20110059642-$ or US-20100310213-$ or US-20100226610-$ or US-20100104355-$ or US-20070077010-$ or US-20080248691-$ or US-20080175543-$ or US-20080131055-$ or US-20070292082-$ or US-20080037934-$ or US-20080032536-$ or US-20070116412-$ or US-20050226567-$ or US-20050164536-$ or US-20050163429-$ or US-20050095899-$ or US-20050018973-$ or US-20040228582-$ or US-20030031448-$ or US-20030031437-$ or US-20030012520-$ or US-20020167793-$).did. or (US-10571641-$ or US-10539745-$ or US-10527803-$ or US-10514518-$ or US-10429592-$ or US-10401574-$ or US-10302874-$ or US-10234635-$ or US-10133009-$ or US-10120140-$ or US-10120138-$ or US-10101570-$ or US-10094768-$ or US-9971103-$ or US-9678294-$ or US-9658405-$ or US-9645323-$ or US-9606300-$ or US-9581767-$ or US-9557508-$ or US-9557491-$ or US-9551835-$ or US-9482840-$ or US-9482823-$ or US-9448368-$ or US-9366829-$).did. or (US-9335488-$ or US-9291785-$ or US-			

9274300-$ or US-9110249-$ or US-9103990-$ or US-9057845-$ or US-9052475-$ or US-9033588-$ or US-9022666-$ or US-8985862-$ or US-8979388-$ or US-8845206-$ or US-8821036-$ or US-8801297-$ or US-8573854-$ or US-8419291-$ or US-8406588-$ or US-8202009-$ or US-8157455-$ or US-8104973-$ or US-8009959-$ or US-7980769-$ or US-7887243-$ or US-7758255-$ or US-7744285-$ or US-7717625-$ or US-7374347-$).did. or (US-7336884-$ or US-7261471-$ or US-7234876-$ or US-7111990-$ or US-7090407-$ or US-7073953-$ or US-6994478-$ or US-6945702-$ or US-6920255-$ or US-6872006-$ or US-6866424-$ or US-6832858-$ or US-6805493-$ or US-6789950-$ or US-6769814-$ or US-6762941-$ or US-6761488-$ or US-6572276-$ or US-6554486-$ or US-6513989-$ or US-6459843-$ or US-6435728-$ or US-6434316-$ or US-6434315-$ or US-6398422-$ or US-6364539-$ or US-6357928-$).did. or (US-6351590-$ or US-6264374-$ or US-6259856-$ or US-6257917-$ or US-6256448-$ or US-6203208-$ or US-6149313-$ or US-6146023-$ or US-6139194-$ or US-5963698-$ or US-5600747-$ or US-5511138-$ or US-5428702-$ or US-5335301-$ or US-5265181-$ or US-5216732-$ or US-5183408-$ or US-5166995-$ or US-4986769-$ or US-4950048-$ or US-4904199-$ or US-4711511-$ or US-4657338-$ or US-4580868-$ or US-4478485-$ or US-4448467-$ or US-4376565-$).did. or (US-4186997-$).did. or (WO-2019012006-$ or CA-2864886-$ or WO-2020047283-$ or WO-2017147401-$ or WO-2018183496-$ or GB-201311768-$ or GB-201906387-$ or CN-110618492-$ or WO-2018140873-$ or AU-2015318357-$ or WO-2019222189-$ or WO-2016077167-$ or CN-105425341-$ or WO-2012106510-$ or WO-2019200066-$ or WO-2016086881-$ or WO-2019125963-$ or WO-2016053673-$ or FR-

3021415-$ or WO-2019089220-$ or WO-2019060293-$ or WO-2017139430-$ or EP-3330758-$ or WO-2019036297-$ or WO-2018169759-$ or WO-2016049208-$).did. or (CA-2869770-$ or WO-2018045232-$ or WO-2015029585-$ or CN-105283786-$ or WO-2017123460-$ or JP-5805344-$ or CN-205992071-$ or WO-2016068966-$ or WO-2015191024-$ or WO-2011019581-$ or EP-2818903-$ or WO-2014116785-$ or WO-2013049082-$ or CA-2546593-$ or WO-2008045560-$ or WO-2011130445-$ or CA-2304082-$ or WO-2010103465-$ or EP-2251724-$ or AU-2002243312-$ or WO-9909442-$ or CN-1231430-$ or CA-2537354-$ or EP-1221630-$ or WO-0008503-$ or CA-2276631-$ or EP-1229366-$).did. or (EP-1879060-$ or CA-2594549-$ or CN-1258011-$ or WO-2005022228-$ or WO-2004008214-$ or WO-2004107001-$ or EP-1334394-$ or WO-2006007120-$ or CA-2276627-$ or EP-1415186-$ or WO-2005047946-$ or EP-1257012-$ or EP-1299758-$ or CA-2283016-$ or WO-9746900-$ or WO-9857208-$ or CA-2339502-$ or CA-2327007-$ or CA-2136212-$ or CN-1231429-$ or EP-0927899-$ or EP-0927898-$ or WO-0075701-$ or AU-1587897-$ or CA-2288247-$ or EP-1273944-$ or CA-2068453-$).did. or (GB-9011424-$ or WO-0182374-$ or EP-0927895-$ or CA-2312241-$ or MX-9202155-$ or CA-2330965-$ or DE-19846731-$ or EP-1039323-$ or FR-2752951-$ or WO-9964917-$ or GB-9622511-$ or EP-0961142-$ or CA-2237481-$ or WO-9931539-$ or EP-0821253-$ or CA-2222237-$ or EP-0323920-$ or EP-0490698-$ or CA-1299407-$ or AU-1019788-$ or WO-9308493-$ or FR-2648240-$ or DE-9108955-$ or GB-8614272-$ or CA-1239820-$ or DE-3633340-$ or IT-7925047-$).did. or (GB-8332694-$ or EP-0109870-$ or DE-2933790-$ or DE-3021001-$ or GB-2058392-$).did. or (JP-2016009081-$ or JP-

2016122050-$ or JP-2016085422-$ or JP-10050400-$ or JP-2002048946-$ or JP-08110439-$ or JP-09145959-$ or JP-10311934-$ or JP-09145957-$ or JP-07248434-$ or JP-01177508-$ or JP-59157605-$ or JP-56060409-$).did. or (US-20200174200-$ or US-20200166717-$ or US-20200142140-$ or US-20200124802-$ or US-20190384018-$ or US-20190339464-$ or US-20190339470-$ or US-20190324218-$ or US-20190302376-$ or US-20190285811-$ or US-20190243076-$ or US-20190235174-$ or CN-110031940-$ or US-20190219776-$ or US-20190212504-$ or US-20190200103-$ or US-20190190199-$ or US-20190179089-$ or US-20190179086-$ or US-20190179088-$ or US-20190181586-$ or US-20190154928-$ or US-20190129104-$ or US-20190101704-$ or US-20190101705-$ or WO-2019060293-$).did. or (US-20200088955-$ or US-10234635-$ or US-20190079252-$ or US-10222562-$ or KR-2019006212-$ or WO-2019012006-$ or US-20190025526-$ or US-20190011645-$ or US-20190064452-$ or US-20180356600-$ or KR-2018129442-$ or US-20180329154-$ or US-20180335571-$ or US-20180335577-$ or US-20180335581-$ or US-10107967-$ or US-20180314014-$ or US-20180306997-$ or US-10107972-$ or US-20180299624-$ or US-10101570-$ or US-20180292617-$ or WO-2018183496-$ or US-20180267255-$ or US-20180239093-$ or US-20180217338-$ or US-20180217339-$).did. or (US-20180210155-$ or US-10018787-$ or US-20180188455-$ or CN-108227089-$ or US-20180156988-$ or US-9989712-$ or US-20190113692-$ or US-20180136416-$ or WO-2018085767-$ or US-9933582-$ or US-20180077472-$ or WO-2018045232-$ or WO-2018045234-$ or US-20180011261-$ or US-20170357060-$ or EP-3258301-$ or US-9823428-$

		or US-20170299831-$ or US-20170293089-$ or WO-2017172600-$ or US-20170285277-$ or WO-2017160697-$ or WO-2017147401-$ or CN-106918869-$ or US-20170242199-$ or WO-2017136437-$ or US-20170227719-$).did. or (JP-2017134310-$ or US-20170212316-$ or US-20170205591-$ or US-20170192182-$ or WO-2017066139-$ or US-20170045702-$ or US-20170045695-$ or US-20170003456-$ or US-20160349464-$ or US-9482823-$ or US-9482825-$ or US-20160306124-$ or EP-3078999-$ or US-20160282562-$ or US-9448369-$ or WO-2016137934-$ or US-20160238789-$ or WO-2016123128-$ or US-20160223757-$ or US-20160223763-$ or US-20160195682-$ or WO-2016104132-$ or US-20160161681-$ or WO-2016086881-$ or WO-2016082160-$ or US-20160139345-$ or EP-3021144-$).did. or (EP-3021146-$ or WO-2016068966-$ or US-20160109676-$ or WO-2016053852-$ or WO-2016053673-$ or WO-2016049208-$ or US-20160091673-$ or US-20160085045-$ or US-20160077284-$ or WO-2016039383-$ or US-20150370017-$ or WO-2015191024-$ or US-20160370549-$ or US-20150355417-$ or JP-5805344-$ or US-20150309279-$ or WO-2015158564-$ or WO-2015150149-$ or US-20150253518-$ or AU-2014101479-$ or US-20150131946-$ or WO-2015047380-$ or WO-2015029585-$ or WO-2014186436-$ or US-20140314385-$ or US-20140294339-$ or US-20140241667-$).did. or (US-20140219615-$ or US-20140205241-$ or AU-2014100325-$ or CN-103645545-$ or US-20140072265-$ or US-20180100982-$ or US-20130302004-$ or WO-2013126429-$ or US-20130209041-$ or US-20130170796-$ or US-20130170797-$ or WO-2013077969-$ or US-20130089293-$ or WO-2013019622-$ or WO-2013019189-$ or US-20120263423-$ or WO-			

2012106510-$ or WO-2012106513-$ or WO-2012106518-$ or JP-2012120095-$ or US-20120141070-$ or US-20110243504-$ or US-20110150396-$ or US-20110081798-$ or US-20110044590-$ or WO-2011019581-$ or KR-2011002571-$).did. or (US-20100322554-$ or US-20100310213-$ or WO-2010138446-$ or EP-2251724-$ or US-20100135618-$ or US-20100074616-$ or US-20090290838-$ or US-20090238522-$ or WO-2009023673-$ or EP-1990665-$ or US-20080253719-$ or WO-2008045560-$ or EP-1887395-$ or US-20070160327-$ or US-20050271328-$ or US-20050226567-$ or WO-2005022229-$ or WO-2005022228-$ or WO-2005022227-$ or US-20040223701-$ or US-20040105628-$ or US-20040062486-$ or WO-2004008214-$ or US-20040008494-$ or KR-2003071425-$ or US-20030044127-$ or KR-2003012941-$).did. or (US-20030031448-$ or US-20030031419-$ or EP-1257012-$ or KR-2002019797-$ or WO-0219002-$ or WO-0216989-$ or WO-0216530-$ or WO-0182374-$ or EP-1150149-$ or CA-2339502-$ or WO-0155762-$ or EP-1116974-$ or WO-0137010-$ or WO-0075701-$ or WO-0070381-$ or EP-1054278-$ or EP-1039322-$ or JP-2000199833-$ or EP-1016886-$ or EP-1014126-$ or EP-997753-$ or WO-0008503-$ or EP-969299-$ or EP-969298-$ or WO-9964917-$ or EP-961142-$ or WO-9957786-$).did. or (EP-949522-$ or EP-927899-$ or EP-927898-$ or WO-9931539-$ or US-5915058-$ or WO-9928773-$ or US-5909526-$ or EP-916974-$ or WO-9909442-$ or US-5867621-$ or WO-9859271-$ or US-5778122-$ or EP-821253-$ or US-5666456-$ or JP-09145959-$ or GB-2306696-$ or US-5555332-$ or EP-712015-$ or US-5519799-$ or WO-9323777-$ or EP-514722-$ or US-5134673-$ or EP-323920-$ or EP-277390-$ or GB-2176629-$ or GB-2151040-$ or GB-2058392-$).did. or (EP-8329-$).did.

S774	735	(US-20180321449-$ or US-20190004252-$ or US-20170059785-$ or US-20190137700-$ or US-20130158512-$ or US-20180364422-$ or US-20150378113-$ or US-20200012052-$ or US-20100054668-$ or US-20060093274-$ or US-20140029900-$ or US-20190004251-$ or US-20190258010-$ or US-20140153878-$ or US-20180128988-$ or US-20190170931-$ or US-20140153879-$ or US-20190137697-$ or US-20190137695-$ or US-20160349458-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20170176691-$ or US-20100322563-$).did. or (US-20190033531-$ or US-20170261696-$ or US-20180364436-$ or US-20180364424-$ or US-20180364423-$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180217336-$ or US-20110058774-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180120517-$ or US-20170363818-$ or US-20160274314-$ or US-20170205586-$ or US-20140169727-$ or US-20160223774-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170176692-$ or US-20120093462-$ or US-20170068064-$ or US-20170063464-$ or US-20170023746-$).did. or (US-20110299266-$ or US-20140016901-$ or US-20160327756-$ or US-20160306122-$ or US-20150260924-$ or US-20160282565-$ or US-20160202428-$ or US-20140205257-$ or US-20160091674-$ or US-20150277059-$ or US-20150260923-$ or US-20150198774-$ or US-20140037253-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20120155803-$ or US-20140168987-$ or US-20140161392-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/23 11:14

$ or US-20110064361-$).did. or (US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20110229092-$ or US-20110229083-$ or US-20080226235-$ or US-20080273840-$ or US-20100178014-$ or US-20100178010-$ or US-20040157499-$ or US-20080013889-$ or US-20100027942-$ or US-20090135429-$ or US-20020126960-$ or US-20060127028-$ or US-20080317415-$ or US-20080090433-$ or US-20060257075-$ or US-20080124033-$ or US-20060083466-$ or US-20070292084-$ or US-20060018603-$ or US-20060204178-$ or US-20070031103-$ or US-20060275007-$ or US-20060257076-$).did. or (US-20060171640-$ or US-20060171639-$ or US-20060140543-$ or US-20060063436-$ or US-20060045428-$ or US-20050271338-$ or US-20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20020176960-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20020142634-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$ or US-20190219775-$ or US-20200200977-$ or US-20200183092-$).did. or (US-20200150374-$ or US-20200124805-$ or US-20200081193-$ or US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$).did. or (US-10324264-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$

or US-7857523-$ or US-7572063-$ or US-5971625-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6179476-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$).did. or (US-6364537-$ or US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-5717533-$ or US-5212752-$ or US-6179477-$ or US-6130977-$ or US-5546281-$ or US-6062739-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$).did. or (US-5577146-$ or US-5436994-$ or US-5121454-$ or US-5400428-$ or US-5396572-$ or US-5265182-$ or US-5329604-$ or US-5261019-$ or US-5289554-$ or US-5276755-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$ or US-5067783-$).did. or (US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$ or US-4728171-$).did. or (US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-

4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$ or US-10670824-$ or US-10444442-$).did. or (CA-3068131-$ or EP-3180644-$ or WO-2016140710-$ or WO-2018009426-$ or WO-2015070382-$ or EP-3123221-$ or WO-2019246241-$ or EP-3579031-$ or GB-201905648-$ or CN-105683795-$ or WO-2018044728-$ or WO-2019086961-$ or EP-2852856-$ or WO-2017182535-$ or EP-3330757-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$ or CN-107636504-$ or CN-206479676-$ or WO-2016174980-$ or AU-2004274992-$ or CA-2866107-$ or WO-2012015713-$ or FR-2997767-$ or CN-102520489-$).did. or (CN-102445735-$ or CN-103676018-$ or AU-2006295165-$ or WO-2015120031-$ or GB-9525323-$ or GB-201220748-$ or CN-102385113-$ or WO-2014054357-$ or CA-2593676-$ or DE-102010021179-$ or GB-201004720-$ or EP-1762871-$ or DE-112006003952-$ or CA-2441872-$ or DE-60026115-$ or WO-2008033262-$ or KR-20040020797-$ or EP-1783524-$ or KR-100452879-$ or WO-9723794-$ or DE-19601949-$ or CA-2302068-$ or DE-20111078-$ or DE-10031931-$ or DE-19834723-$ or MX-9201992-$ or DE-19525739-$).did. or (DE-29614436-$ or DE-3914978-$ or EP-0339876-$ or EP-0546936-$ or CH-687105-$ or GB-9408857-$ or EP-0324272-$ or FR-2707402-$ or IT-MI913184-$ or WO-9415232-$ or EP-0183820-$ or GB-9025881-$ or EP-0253426-$ or DE-4203966-$ or GB-9103982-$ or CH-676513-$ or DE-9012174-$ or DE-9010357-$ or EP-0154781-$ or DE-8911081-$ or DE-8911080-$ or EP-0292024-$ or KR-870005264-$ or

EP-0166636-$ or DE-8901052-$ or DE-8900623-$ or DE-8812341-$).did. or (DE-3737842-$ or FR-2528984-$ or DE-3701421-$ or EP-0249406-$ or EP-0098190-$ or EP-0098205-$ or EP-0153249-$ or DE-2932986-$ or GB-2086602-$ or DE-2832839-$ or EP-0045271-$ or FR-2502798-$ or AU-3682878-$ or WO-8002213-$ or GB-1450760-$ or GB-1526682-$ or FR-2316611-$ or FR-2268370-$ or WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$).did. or (JP-2005258017-$ or JP-2000241670-$ or JP-03059503-$ or JP-61028909-$ or JP-61129605-$ or JP-59036207-$ or JP-58190910-$ or JP-59038707-$ or JP-56062212-$ or JP-2002098860-$ or JP-05215939-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-56137322-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$ or JP-2019184942-$).did. or (US-20190369336-$ or EP-3579031-$ or CN-110376684-$ or US-20190162914-$ or US-20190162917-$ or US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or CN-108983368-$ or US-20180372962-$ or US-20180364422-$ or KR-2018131725-$).did. or (US-20180341069-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or CN-207965228-$ or CN-207965231-$ or US-

20180292612-$ or CN-108508541-$ or CN-108490551-$ or CN-108279462-$ or JP-6363784-$ or US-20180203196-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or WO-2018057615-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018006987-$ or WO-2018008399-$ or CN-107479141-$).did. or (EP-3249434-$ or WO-2017182535-$ or KR-2017103050-$ or US-20170264045-$ or US-20180231722-$ or US-20170261698-$ or US-20170261696-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017095928-$ or WO-2017106514-$ or US-20170176691-$ or US-20170176692-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$).did. or (US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or CN-104914515-$ or WO-2015142551-$ or US-20150260923-$ or WO-2015126470-$ or WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-$ or EP-2821830-$ or US-20140233892-$ or US-20140219610-$ or US-20140161392-$ or US-20140153878-$ or US-20140147078-$ or WO-2014078261-$ or FR-2997767-$ or US-20140029900-$ or US-20140022627-$).did. or (US-20140003771-$ or US-20130322825-$ or US-20130202254-$ or WO-2013049494-$ or JP-2013045047-$

or US-20120315000-$ or WO-2012157276-$ or CN-102520489-$ or WO-2012078697-$ or WO-2012078701-$ or US-20120093462-$ or WO-2012029013-$ or WO-2012015713-$ or WO-2012015734-$ or WO-2011116167-$ or CN-102122031-$ or US-20110058774-$ or US-20100322563-$ or US-20090135429-$ or US-20090098760-$ or DE-102007023250-$ or WO-2008112183-$ or US-20080124033-$ or US-20080112672-$ or EP-1762871-$ or WO-2006130549-$ or US-20060257075-$).did. or (US-20060204178-$ or US-20060153504-$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$ or US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$).did. or (EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$ or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9637793-$ or DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-4041425-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$).did. or (EP-440447-$ or EP-420490-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or EP-335531-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$ or EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-

		220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$).did. or (EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$ or GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$ or US-20200209492-$ or US-20200200977-$ or US-20200200979-$ or US-20200183093-$ or US-20200166716-$ or US-20200150374-$ or US-20200142141-$ or US-20200124805-$ or US-20200116949-$ or US-20200116952-$).did. or (US-20200116953-$ or US-20200116954-$ or US-20200110224-$ or US-20200103598-$ or US-20200103599-$ or US-20200096709-$ or US-20200096710-$ or US-20200096708-$ or US-20200081198-$ or US-20200057205-$ or US-20200049899-$ or US-20200033539-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$).did. or (EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190219775-$ or US-20190204513-$ or US-20200081193-$ or US-20200012053-$ or US-20200003961-$ or US-20190227240-$).did.				
S775	2,182	(US-20200225425-$ or US-20200225424-$ or US-20200225422-$ or US-20190056557-$ or US-20190179086-$ or US-20190064447-$ or US-20180217337-$ or US-20200183093-$ or US-20160018593-$ or US-20200166716-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/23 11:15

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or US-4762387-$ or US-4759600-$ or US-4759599-$ or US-4758719-$).did. or (US-4741590-$ or US-4740052-$ or US-4737009-$ or US-4722081-$ or US-4718744-$ or US-4717234-$ or US-4715674-$ or US-4714318-$ or US-4714317-$ or US-4714315-$ or US-4699460-$ or US-4688887-$ or US-4687291-$ or US-4681398-$ or US-4674831-$ or US-4666241-$ or US-4648688-$ or US-4645296-$ or US-4615581-$ or US-4614402-$ or US-4579418-$ or US-4575183-$ or US-4548467-$ or US-4526438-$ or US-4515434-$ or US-4506946-$ or US-4497536-$).did. or (US-4487474-$ or US-4486072-$ or US-4484796-$ or US-4477146-$ or US-4466009-$ or US-4464817-$ or US-4461539-$ or US-4447121-$ or US-4445753-$ or US-4444461-$ or US-4422716-$ or US-4415232-$ or US-4387957-$ or US-4385801-$ or US-4371233-$ or US-4368948-$ or US-4354731-$ or US-4341439-$ or US-4330172-$ or US-4327964-$ or US-4320938-$ or US-4310218-$ or US-4295707-$ or US-4291943-$ or US-4279469-$ or US-4268115-$ or US-4268114-$).did. or (US-4252407-$ or US-4240695-$ or US-4223976-$ or US-4218113-$ or US-4214812-$ or US-4201445-$ or US-4201444-$ or US-4186997-$ or US-4186996-$ or US-4168109-$ or US-4167304-$ or US-4160580-$ or US-4140365-$ or US-4101198-$ or US-4087158-$ or US-4080044-$ or US-3999837-$ or US-3933409-$ or US-10545295-$ or US-10502903-$ or US-10401575-$ or US-10353155-$).did. or (EP-3258301-$ or EP-3054333-$ or CA-2885821-$ or EP-2444827-$ or WO-2018004847-$ or JP-6173629-$ or WO-2015043158-$ or CN-206584076-$ or WO-2016161341-$ or DE-202016103178-$ or WO-2016082160-$ or EP-3021145-$ or JP-5905950-$ or CA-2689768-$ or CA-2928026-$ or CA-2762411-$ or CA-2859345-$ or DE-202013012295-$ or WO-2016004347-$ or WO-2015190211-$ or EP-2942653-$ or

CN-204595258-$ or WO-2015116589-$ or WO-2015103783-$ or GB-201507758-$ or CA-2932688-$).did. or (WO-2015068103-$ or EP-2843452-$ or WO-2014143748-$ or JP-5433802-$ or CN-102870023-$ or WO-2012151175-$ or WO-2014049469-$ or WO-2014009463-$ or CA-2912155-$ or WO-2013126068-$ or WO-2013115791-$ or WO-2013115789-$ or CA-2662854-$ or WO-2011152874-$ or GB-201218194-$ or CN-102456976-$ or WO-2011139938-$ or WO-2011044724-$ or CN-101122658-$ or CN-101931134-$ or WO-2010068896-$ or WO-2010025180-$ or EP-2138880-$ or WO-2009110421-$ or CA-2503690-$ or WO-2008006402-$ or CN-1331421-$).did. or (EP-1168016-$ or EP-1172672-$ or EP-1530068-$ or CA-2321428-$ or AU-2003291687-$ or JP-3106420-$ or EP-1168018-$ or CA-2191600-$ or WO-03093883-$ or CA-2484569-$ or DE-10114144-$ or CN-1118443-$ or WO-03016975-$ or NL-1018440-$ or CA-2284331-$ or EP-0690319-$ or CA-2030897-$ or WO-0155762-$ or CA-2418331-$ or DE-20118858-$ or EP-1124147-$ or EP-1172673-$ or WO-0137010-$ or CA-2198522-$ or WO-0161397-$ or EP-1039324-$ or EP-1039322-$).did. or (EP-1033595-$ or EP-1033594-$ or GB-0007281-$ or EP-0992819-$ or GB-9919699-$ or CA-2262351-$ or CA-2294930-$ or EP-0696748-$ or WO-9734176-$ or CA-2171494-$ or WO-9627811-$ or EP-0633485-$ or EP-0249237-$ or EP-0262847-$ or CA-2082276-$ or GB-9106183-$ or DE-9107960-$ or GB-9103604-$ or WO-9015350-$ or DE-8626183-$ or EP-0262631-$ or EP-0061243-$ or WO-8600147-$ or DE-3112078-$ or GB-2081468-$ or IT-8323399-$ or IT-8323399-$).did. or (GB-2057158-$ or GB-8306227-$ or DK-208682-$ or FR-2487528-$ or FR-2435053-$ or BE-871785-$ or CA-1097111-$ or IT-7925110-$ or FR-2363124-$ or BE-871785-$ or CA-1043604-$ or

WO-2019190616-$ or CN-110068899-$).did. or (JP-09033756-$ or JP-04214510-$ or JP-11072659-$ or JP-04220604-$ or JP-56074211-$ or JP-2017138535-$ or JP-05313040-$ or JP-62111222-$ or JP-59140411-$ or JP-59075218-$ or JP-57044113-$ or JP-56066811-$ or JP-55101904-$ or JP-54034251-$).did. or (US-20190107679-$ or US-20180224615-$ or WO-2018125706-$ or US-20180156985-$ or US-20180128988-$ or US-20180120519-$ or US-20180106973-$ or US-20180081128-$ or US-20180052288-$ or US-20180011258-$ or US-20180003903-$ or US-20180364421-$ or US-20170371109-$ or CN-107450131-$ or US-20170336577-$ or US-20170343760-$ or US-9804340-$ or US-20170307830-$ or FR-3050286-$ or US-20170299820-$ or US-20170293088-$ or US-20170261699-$ or US-20170254967-$ or US-20170254966-$ or US-20170227720-$ or US-9726830-$).did. or (US-20170219779-$ or JP-6173629-$ or US-20170205587-$ or US-9709753-$ or US-20170184790-$ or US-9678283-$ or US-20170153398-$ or US-20170139150-$ or US-20170139156-$ or US-20170102504-$ or US-20170115457-$ or WO-2017065999-$ or US-20170090127-$ or WO-2017038704-$ or US-20170059784-$ or US-20170031106-$ or US-20160377819-$ or US-20160349466-$ or US-20160341908-$ or US-20160341911-$ or WO-2016182556-$ or US-20160327757-$ or US-9482820-$ or WO-2016161341-$ or US-20160282566-$ or CN-105978629-$ or US-20160259135-$).did. or (US-20170329090-$ or EP-3054333-$ or US-9389368-$ or WO-2016105567-$ or US-9377591-$ or US-20160178852-$ or US-20160178859-$ or US-20160161680-$ or EP-3021145-$ or US-20160131854-$ or US-20160124158-$ or JP-5905950-$ or WO-2016053853-$ or WO-2016043922-$ or WO-2016033577-$

or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016024014-$ or JP-5860948-$ or CA-2859345-$ or US-20160025937-$ or US-20160004016-$ or US-20160004018-$ or US-20150378110-$ or WO-2015190211-$ or EP-2947485-$).did. or (US-20150331201-$ or CN-104950402-$ or DE-102015106225-$ or US-20160306125-$ or US-20150286012-$ or WO-2015144883-$ or US-20150241644-$ or US-20150226926-$ or US-20150226925-$ or WO-2015116589-$ or US-20150219864-$ or WO-2015103783-$ or CN-104570229-$ or CN-104516061-$ or US-20150177463-$ or US-20150162982-$ or WO-2015070382-$ or WO-2015068103-$ or WO-2015028433-$ or US-20150049989-$ or WO-2015009435-$ or US-20150023637-$ or EP-2818903-$ or US-20140363131-$ or WO-2014197701-$ or US-20140321808-$ or WO-2014165175-$).did. or (WO-2014143748-$ or US-20140219624-$ or EP-2759860-$ or WO-2014113753-$ or US-20140205247-$ or US-20140199034-$ or US-20140153879-$ or US-20140147081-$ or ES-1110405-$ or WO-2014049469-$ or TW-474924-$ or US-20140064688-$ or JP-5433802-$ or EP-2700992-$ or WO-2014011898-$ or US-20140016901-$ or WO-2014011283-$ or WO-2013177234-$ or WO-2013155395-$ or US-20130259429-$ or US-20130230283-$ or WO-2013126068-$ or WO-2013122865-$ or WO-2013117598-$ or WO-2013115789-$ or WO-2013115791-$ or US-20130121645-$).did. or (CN-103091793-$ or WO-2013036843-$ or US-20130051749-$ or TW-201309089-$ or CN-102870023-$ or US-20120308183-$ or WO-2012151175-$ or US-20120263419-$ or US-20120251051-$ or US-20120251054-$ or TW-201233549-$ or US-20120099822-$ or EP-2444827-$ or US-20120082416-$ or

US-20120057824-$ or KR-2012000895-$ or US-20120027355-$ or KR-2012000895-$ or WO-2011152874-$ or US-20110274437-$ or US-20110249942-$ or EP-2302431-$ or WO-2010137426-$ or EP-2206458-$ or WO-2010068896-$ or US-7712970-$ or WO-2010025180-$).did. or (US-20100040330-$ or WO-2009110421-$ or US-20090060423-$ or US-20090041411-$ or US-7435009-$ or US-20070098327-$ or US-20070077010-$ or US-20070058907-$ or EP-1752805-$ or US-20060193562-$ or US-20060165352-$ or US-20060153503-$ or WO-2006022840-$ or US-20050053342-$ or US-20040228589-$ or US-20040223699-$ or US-20040062498-$ or EP-1394584-$ or WO-03094297-$ or WO-03093883-$ or US-20030044125-$ or US-20030031437-$ or WO-02061481-$ or US-6422760-$ or WO-02056060-$ or DE-20118858-$ or EP-1172673-$).did. or (EP-1172672-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or US-20010041030-$ or WO-0181965-$ or EP-1124147-$ or EP-1107031-$ or WO-0140839-$ or EP-1092995-$ or EP-1091225-$ or EP-1041416-$ or EP-1041414-$ or EP-1020745-$ or EP-1016885-$ or EP-1010999-$ or GB-2341455-$ or WO-9947958-$ or US-5940561-$ or WO-9928774-$ or WO-9857208-$ or DE-19626036-$ or WO-9746900-$ or US-5692080-$ or EP-803750-$ or WO-9734176-$ or WO-9723794-$).did. or (EP-758099-$ or WO-9634176-$ or WO-9627811-$ or JP-08201656-$ or WO-9616080-$ or EP-697608-$ or EP-696748-$ or WO-9600917-$ or EP-663602-$ or EP-663601-$ or EP-660145-$ or EP-660144-$ or EP-505197-$ or EP-490698-$ or US-5101463-$ or EP-458608-$ or WO-9117540-$ or US-5064268-$ or GB-2241794-$ or EP-430107-$ or WO-9015350-$ or US-4953929-$ or EP-262631-$ or EP-249237-$ or WO-8600147-$ or US-

		4496213-$ or EP-125398-$).did. or (DE-3208797-$ or GB-2098354-$ or EP-61243-$ or GB-2081468-$ or GB-2057158-$ or DE-2932986-$ or BE-871785-$ or DE-2805949-$ or DE-2558445-$ or US-10502903-$).did.				
S776	13	(US-20160161680-$ or US-20170227720-$ or US-20060275007-$ or US-20010026661-$ or US-20080131055-$ or US-20140241689-$).did. or (US-5921796-$ or US-6293708-$ or US-5123071-$ or US-9310569-$ or US-4645295-$ or US-9366829-$).did. or (CN-202600189-$).did.	US-PGPUB; USPAT; DERWENT	OR	ON	2020/07/23 11:15
S777	7,352	(G02B6/3885 OR G02B6/3879).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/07/23 11:23
S778	1,848	(G02B6/3879).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/07/23 11:23
S779	6,000	(G02B6/3885).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/07/23 11:24
S780	1,297	S778 not (S772 S773 S774 S775)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/07/23 11:24
S781	695	(US-20200064562-$ or US-20200026019-$ or US-20200012053-$ or US-20200003961-$ or US-20190339458-$ or US-20190324215-$ or US-20190302374-$ or US-20190278032-$ or US-20190235183-$ or US-20190227241-$ or US-20190227240-$ or US-20190227237-$ or US-20190219775-$ or US-20190170931-$ or US-20190137700-$ or US-20190137697-$ or US-20190137695-$ or US-20190121032-$ or US-20190086615-$ or US-20190079249-$ or US-20190064448-$ or US-20190033531-$ or US-20190004252-$ or US-20190004251-$ or US-20180364422-$ or US-20180364436-$).did. or (US-20180364424-$ or US-20180364423-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/07/23 11:26

$ or US-20180348447-$ or US-20180335576-$ or US-20180329150-$ or US-20180321449-$ or US-20180217336-$ or US-20180136417-$ or US-20180136414-$ or US-20180136412-$ or US-20180128988-$ or US-20170363818-$ or US-20170261696-$ or US-20170264045-$ or US-20170254964-$ or US-20170242210-$ or US-20170205586-$ or US-20170176691-$ or US-20170176692-$ or US-20170068064-$ or US-20170059785-$ or US-20170063464-$ or US-20170023746-$ or US-20160349458-$ or US-20160327756-$ or US-20160306122-$ or US-20160282565-$).did. or (US-20160274314-$ or US-20160223774-$ or US-20160202428-$ or US-20160091674-$ or US-20150378113-$ or US-20150277059-$ or US-20150260924-$ or US-20150260923-$ or US-20150198774-$ or US-20150110443-$ or US-20150010276-$ or US-20140334779-$ or US-20140205257-$ or US-20140169727-$ or US-20140168987-$ or US-20140161392-$ or US-20140153878-$ or US-20140153879-$ or US-20140147078-$ or US-20140140660-$ or US-20140120746-$ or US-20140114198-$ or US-20140037253-$ or US-20140029900-$ or US-20140022627-$ or US-20140016901-$ or US-20140003771-$).did. or (US-20130322825-$ or US-20130158512-$ or US-20130136398-$ or US-20130084044-$ or US-20130039013-$ or US-20120251058-$ or US-20120155803-$ or US-20120093462-$ or US-20110299266-$ or US-20110229092-$ or US-20110229083-$ or US-20110064361-$ or US-20110058774-$ or US-20100322563-$ or US-20100178014-$ or US-20100178010-$ or US-20100054668-$ or US-20100027942-$ or US-20090135429-$ or US-20080317415-$ or US-20080273840-$ or US-20080226235-$ or US-20080124033-$ or US-20080090433-$ or US-20080013889-$ or US-20070292084-$ or US-20070031103-$).did. or (US-

20060275007-$ or US-20060257075-$ or US-20060257076-$ or US-20060204178-$ or US-20060171640-$ or US-20060171639-$ or US-20060140543-$ or US-20060127028-$ or US-20060093274-$ or US-20060083466-$ or US-20060063436-$ or US-20060045428-$ or US-20060018603-$ or US-20050271338-$ or US-20050202701-$ or US-20050191010-$ or US-20050157987-$ or US-20050058401-$ or US-20040264877-$ or US-20040247251-$ or US-20040184741-$ or US-20040157499-$ or US-20040028343-$ or US-20030185521-$ or US-20030128935-$ or US-20020176960-$ or US-20020142634-$).did. or (US-20020126960-$ or US-20020097964-$ or US-20020009905-$ or US-20010026662-$ or US-20010026661-$ or US-20010019654-$ or US-20010012428-$).did. or (US-10444442-$ or US-10317627-$ or US-10042129-$ or US-10025038-$ or US-9977197-$ or US-9927581-$ or US-9195013-$ or US-9086546-$ or US-8824841-$ or US-8676022-$ or US-8408815-$ or US-8388234-$ or US-7985027-$ or US-7857523-$ or US-7572063-$ or US-7284912-$ or US-7008117-$ or US-6672771-$ or US-6661961-$ or US-6464402-$ or US-6454464-$ or US-6419400-$ or US-6416334-$ or US-6386766-$ or US-6382842-$ or US-6364537-$).did. or (US-6357930-$ or US-6351593-$ or US-6296399-$ or US-6287018-$ or US-6254278-$ or US-6179476-$ or US-6179477-$ or US-6130977-$ or US-6062739-$ or US-5971625-$ or US-5970598-$ or US-5892871-$ or US-5864468-$ or US-5821510-$ or US-5800198-$ or US-5796897-$ or US-5734558-$ or US-5729644-$ or US-5719977-$ or US-5717533-$ or US-5717801-$ or US-5682451-$ or US-5658159-$ or US-5633970-$ or US-5619604-$ or US-5613025-$ or US-5577146-$).did. or (US-5546281-$ or US-5436994-$ or US-5400428-$ or US-5396572-$ or US-5329604-$ or US-5289554-$ or

US-5276755-$ or US-5265182-$ or US-5261019-$ or US-5242315-$ or US-5241618-$ or US-5214732-$ or US-5214731-$ or US-5212752-$ or US-5212753-$ or US-5187768-$ or US-5181267-$ or US-5167542-$ or US-5159652-$ or US-5129023-$ or US-5123071-$ or US-5121454-$ or US-5113463-$ or US-5109452-$ or US-5096276-$ or US-5091987-$ or US-5082378-$).did. or (US-5067783-$ or US-5066096-$ or US-5041025-$ or US-5028114-$ or US-5018822-$ or US-5016968-$ or US-4984867-$ or US-4982083-$ or US-4979792-$ or US-4953941-$ or US-4952798-$ or US-4902094-$ or US-4902092-$ or US-4900125-$ or US-4898449-$ or US-4887875-$ or US-4881792-$ or US-4875753-$ or US-4867525-$ or US-4820185-$ or US-4801191-$ or US-4792205-$ or US-4787706-$ or US-4775327-$ or US-4762388-$ or US-4744621-$ or US-4737004-$).did. or (US-4728171-$ or US-4712864-$ or US-4705352-$ or US-4699458-$ or US-4696540-$ or US-4693550-$ or US-4687288-$ or US-4684205-$ or US-4645295-$ or US-4634214-$ or US-4611887-$ or US-4607911-$ or US-4568145-$ or US-4529263-$ or US-4496213-$ or US-4493529-$ or US-4432603-$ or US-4309071-$ or US-4296999-$ or US-4272154-$ or US-4258977-$ or US-4233724-$ or US-4142776-$ or US-4140366-$ or US-3902785-$).did. or (WO-2019195106-$ or DE-202019103581-$ or WO-2019136047-$ or WO-2019086961-$ or WO-2019006195-$ or WO-2019006176-$ or CN-108693606-$ or EP-3330757-$ or WO-2018044728-$ or EP-3278153-$ or CN-107636504-$ or WO-2018009426-$ or WO-2017182535-$ or CN-206479676-$ or EP-3180644-$ or EP-3123221-$ or WO-2016174980-$ or WO-2016140710-$ or CN-105683795-$ or WO-2015120031-$ or WO-2015070382-$ or EP-2852856-$ or WO-2015009435-$ or FR-2997767-$ or

WO-2014054357-$ or CN-103676018-$).did. or (CA-2866107-$ or GB-201220748-$ or CN-102520489-$ or CN-102445735-$ or CN-102385113-$ or WO-2012015713-$ or DE-102010021179-$ or GB-201004720-$ or DE-112006003952-$ or CA-2593676-$ or WO-2008033262-$ or EP-1783524-$ or AU-2006295165-$ or EP-1762871-$ or DE-60026115-$ or KR-100452879-$ or AU-2004274992-$ or CA-2441872-$ or KR-20040020797-$ or CN-1334472-$ or DE-20111078-$ or DE-10031931-$ or CA-2302068-$ or DE-19834723-$ or WO-9723794-$ or DE-29614436-$ or DE-19525739-$).did. or (CH-687105-$ or DE-19601949-$ or GB-9525323-$ or FR-2707402-$ or WO-9415232-$ or GB-9408857-$ or EP-0546936-$ or MX-9201992-$ or DE-4203966-$ or IT-MI913184-$ or GB-9103982-$ or CH-676513-$ or GB-9025881-$ or DE-3914978-$ or DE-9012174-$ or DE-9010357-$ or DE-8911081-$ or DE-8911080-$ or EP-0339876-$ or EP-0324272-$ or DE-8901052-$ or DE-8900623-$ or EP-0292024-$ or DE-8812341-$ or DE-3737842-$ or DE-3701421-$ or EP-0253426-$).did. or (EP-0249406-$ or KR-870005264-$ or EP-0183820-$ or EP-0166636-$ or EP-0154781-$ or EP-0153249-$ or EP-0098190-$ or EP-0098205-$ or FR-2528984-$ or FR-2502798-$ or GB-2086602-$ or EP-0045271-$ or WO-8002213-$ or DE-2932986-$ or DE-2832839-$ or AU-3682878-$ or GB-1526682-$ or FR-2316611-$ or GB-1450760-$ or FR-2268370-$).did. or (JP-2019184942-$ or JP-2005258017-$ or JP-2000241670-$ or JP-05215939-$ or JP-03059503-$ or JP-63256908-$ or JP-63250614-$ or JP-62007009-$ or JP-61129605-$ or JP-61028909-$ or JP-60196706-$ or JP-59195609-$ or JP-59176714-$ or JP-59136709-$ or JP-59038707-$ or JP-59036207-$ or JP-58190910-$ or JP-58118614-$ or JP-58038913-$ or JP-57099605-$ or JP-57074714-$ or JP-

56137322-$ or JP-56062212-$ or JP-56052712-$ or JP-55143514-$ or JP-55143513-$).did. or (JP-55113009-$ or JP-55017156-$ or JP-53117437-$ or JP-53113562-$).did. or (US-20200033539-$ or US-20200012053-$ or US-20200003961-$ or US-20190384017-$ or US-20190361182-$ or US-20190339459-$ or US-20190339460-$ or US-20190339461-$ or US-20190339463-$ or EP-3564721-$ or US-20190324215-$ or US-20190317281-$ or KR-2019115580-$ or US-20190302374-$ or US-20190278032-$ or US-20190250338-$ or US-20190235178-$ or US-20190235181-$ or EP-3518011-$ or US-20190227237-$ or US-20190227241-$ or US-20190227240-$ or US-20190219775-$ or US-20190204513-$ or US-20190162914-$ or US-20190162917-$).did. or (US-20190154924-$ or WO-2019086961-$ or US-20190137700-$ or US-20190137695-$ or US-20190121032-$ or WO-2019054849-$ or US-20190086615-$ or US-20190079249-$ or US-20190072724-$ or US-20190049670-$ or US-20190033532-$ or WO-2019006176-$ or US-20190004251-$ or US-20190004252-$ or US-20190004255-$ or US-20190004256-$ or US-20190004258-$ or US-20180372962-$ or US-20180364422-$ or CN-108983368-$ or KR-2018131725-$ or US-20180329149-$ or US-20180329150-$ or US-20180329158-$ or CN-108646355-$ or US-20180292612-$ or CN-108490551-$).did. or (US-20180231722-$ or JP-6363784-$ or US-20180203196-$ or CN-108279462-$ or US-20180164504-$ or US-20180164511-$ or US-20180136412-$ or US-20180136417-$ or US-20180128987-$ or US-9927581-$ or WO-2018044728-$ or CN-107656339-$ or WO-2018017458-$ or US-20180011254-$ or WO-2018008399-$ or CN-107479141-$ or EP-3249434-$ or WO-2017182535-$ or US-

20170264045-$ or US-20170261698-$ or US-20170261696-$ or KR-2017103050-$ or US-20170242210-$ or WO-2017131717-$ or US-20170199339-$ or CN-106908906-$ or WO-2017106514-$).did. or (US-20170176691-$ or US-20170176692-$ or WO-2017095928-$ or US-20170146748-$ or WO-2017077050-$ or WO-2017075093-$ or KR-1716872-$ or US-20170063464-$ or US-20170059786-$ or US-20170052325-$ or US-20170023746-$ or US-20160341907-$ or WO-2016174980-$ or US-20160282565-$ or DE-202016103178-$ or US-20160223768-$ or US-20160202428-$ or WO-2016084113-$ or US-20160154186-$ or CN-105576433-$ or US-20160091674-$ or US-20160062053-$ or US-20150378113-$ or WO-2015142551-$ or US-20150260923-$ or CN-104914515-$ or WO-2015126470-$).did. or (WO-2015114480-$ or US-20150198774-$ or WO-2015093520-$ or US-20150131944-$ or US-20150110443-$ or EP-2821830-$ or US-20140233892-$ or US-20140219610-$ or US-20140161392-$ or US-20140153878-$ or US-20140147078-$ or WO-2014078261-$ or FR-2997767-$ or US-20140029900-$ or US-20140022627-$ or US-20140003771-$ or US-20130322825-$ or US-20130202254-$ or WO-2013049494-$ or JP-2013045047-$ or US-20120315000-$ or WO-2012157276-$ or CN-102520489-$ or WO-2012078697-$ or WO-2012078701-$ or US-20120093462-$ or WO-2012029013-$).did. or (WO-2012015713-$ or WO-2012015734-$ or WO-2011116167-$ or CN-102122031-$ or US-20110058774-$ or US-20100322563-$ or US-20090135429-$ or US-20090098760-$ or DE-102007023250-$ or WO-2008112183-$ or US-20080124033-$ or US-20080112672-$ or EP-1762871-$ or WO-2006130549-$ or US-20060257075-$ or US-20060204178-$ or US-20060153504-

	$ or WO-2006069093-$ or WO-2006069092-$ or WO-2006069045-$ or US-20060140543-$ or US-20060127028-$ or US-20060063436-$ or WO-2006017334-$ or US-20050271338-$ or EP-1574886-$ or US-20050191010-$).did. or (US-20050176308-$ or KR-2005072532-$ or WO-2005029147-$ or US-20040157499-$ or US-20030180004-$ or JP-2003098385-$ or US-20020126960-$ or EP-1203974-$ or WO-0225340-$ or US-6351593-$ or EP-1143276-$ or EP-1143275-$ or WO-0159493-$ or WO-0127660-$ or EP-1072914-$ or EP-1065543-$ or EP-1065542-$ or EP-1041417-$ or EP-1030202-$ or JP-2000089061-$ or EP-982609-$ or WO-0005610-$ or EP-973052-$ or EP-938003-$ or EP-819960-$ or WO-9723794-$ or WO-9637793-$).did. or (DE-19525739-$ or GB-2297007-$ or EP-719058-$ or WO-9419716-$ or US-5335301-$ or US-5329604-$ or WO-9415232-$ or EP-574686-$ or EP-546936-$ or US-5212752-$ or US-5129023-$ or DE-4041425-$ or EP-420490-$ or EP-335531-$ or EP-467631-$ or EP-462907-$ or US-5067783-$ or EP-448162-$ or EP-440447-$ or DE-4003597-$ or WO-9007139-$ or EP-351803-$ or EP-339876-$ or US-4867525-$ or EP-324272-$ or DE-3900091-$ or US-4820185-$).did. or (EP-292024-$ or WO-8805925-$ or EP-253426-$ or EP-246165-$ or EP-243962-$ or EP-220439-$ or EP-216470-$ or GB-2174821-$ or WO-8606504-$ or EP-184908-$ or WO-8600423-$ or EP-166636-$ or EP-156608-$ or EP-153249-$ or DE-3344864-$ or EP-118804-$ or EP-98205-$ or EP-98190-$ or EP-97575-$ or EP-73023-$ or EP-64618-$ or GB-2086602-$ or EP-45271-$ or GB-2069175-$ or WO-8002213-$ or EP-10505-$ or DE-2922705-$).did. or (GB-2019028-$ or US-4167303-$ or DE-2806138-$ or DE-2742084-$ or GB-1450760-$ or DE-2440609-$).did.			

S782	1,297	S780 not S781	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/07/23 11:26
S783	5,237	(G02B6/3825).CPC.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/07/23 11:43
S784	2,666	S783 not (S772 S773 S774 S775 S782)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2020/07/23 11:52
S785	1	("10156684").PN.	US-PGPUB; USPAT	OR	OFF	2020/07/23 13:13

EAST Search History (Interference)

<This search history is empty>

7/23/2020 3:48:07 PM
C:\Users\orojas1\Documents\EAST\Workspaces\16214317.wsp

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	16/214,317	Filing Date	2018-12-10	Docket Number (if applicable)	USCO-053-03	Art Unit	2883
First Named Inventor	Hiep V. Nguyen			Examiner Name	Omar R ROJAS		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☒ Other 1 Mo. EOT

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☐ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No _____

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Michael L. Leetzow/	Date (YYYY-MM-DD)	2020-07-06
Name	Michael Leetzow	Registration Number	35932

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/22 (03-13)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): USCO-053-03

Application Number: 16/214,317

Filed: 2018-12-10

For: Alignment Adapter and Alignment Design for a Connector Therefor

Art Unit: 2883

Examiner: Omar R ROJAS

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
☑ One month (37 CFR 1.17(a)(1))	$200	$100	$50	$ 200
☐ Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☐ Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐ Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐ Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number _____.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant.

☑ attorney or agent of record. Registration number 35932.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Michael L. Leetzow/ — Signature

2020-07-06 — Date

Michael Leetzow — Typed or printed name

407 302 9970 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Electronic Patent Application Fee Transmittal

Application Number:	16214317
Filing Date:	10-Dec-2018
Title of Invention:	Alignment Adapter and Alignment Design for a Connector Therefor
First Named Inventor/Applicant Name:	Hiep V. Nguyen
Filer:	MICHAEL LEETZOW
Attorney Docket Number:	USCO-053-03

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
RCE- 1ST REQUEST	1801	1	1300	1300
		Total in USD ($)		**1500**

Electronic Acknowledgement Receipt

EFS ID:	39919689
Application Number:	16214317
International Application Number:	
Confirmation Number:	7700
Title of Invention:	Alignment Adapter and Alignment Design for a Connector Therefor
First Named Inventor/Applicant Name:	Hiep V. Nguyen
Customer Number:	152017
Filer:	MICHAEL LEETZOW
Filer Authorized By:	
Attorney Docket Number:	USCO-053-03
Receipt Date:	06-JUL-2020
Filing Date:	10-DEC-2018
Time Stamp:	16:05:20
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1500
RAM confirmation Number	E202076G05443958
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	USCO-053-03_USPTO_SB30_20200703_170518.pdf	1364372 7dc9b1b2154f1c5be39c6ec9eea1d9f056a33d8e	no	3
Warnings:					
Information:					
2	Extension of Time	USCO-053-03_USPTO_AIA22_20200703_171617.pdf	111722 34a3de727671d8b82e2eb16ee5bb69ec37ffbd3b	no	1
Warnings:					
Information:					
3	Amendment Submitted/Entered with Filing of CPA/RCE	RCEAmendUSCO05303.pdf	82701 c6ffca5cdd3c06bb6681ab469c3bc994fe286085	no	6
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	32263 d6884376e14fbcc5c099dd73cf5d3602a8d7ab96	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1591058		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Hiep V. Nguyen	)
		) Group Art Unit: 2883
Serial No.:	16/214,317	)
		) Examiner: Rojas, Omar
Filing Date:	December 10, 2018	)
		)
Title:	Alignment Adapter and Alignment Design for a Connector Therefor	)

Mail Box AF
Commissioner for Patents
PO Box 1450
Arlington VA 22313-1450

AMENDMENT WITH REQUEST FOR CONTINUED EXAMINATION

In response to the final Office Action mailed on March 5, 2020, and the Advisory Action mailed on June 15, 2020, the time in which to respond has been extended by one month to July 6, 2020 (since July 5 falls on a weekend), Applicant amends the application as follows:

IN THE CLAIMS:

Claims 1-14. Canceled.

15. (Currently Amended) An adapter for aligning a first fiber optic ferrule inserted from a first side and a second fiber optic ferrule inserted from a second side ~~ferrules inserted from opposing sides~~ comprising:

a main body having an opening defined by two opposing side walls, a top surface and a bottom surface, the opening extending between ~~a first~~ the first side and ~~a second~~ the second side, the first side and the second side separated by a central portion inside the main body; and

a plurality of grooves disposed in a second top surface and a plurality of grooves disposed in a second bottom surface of the central portion, the second top surface and the second bottom surface being different from the top surface and the bottom surface in the main body, each of the plurality of grooves extending into the central portion from each of the first side and the second side.

16. (Currently Amended) The adapter according to claim 15, the opening having at least one groove ~~therein~~ in one of the bottom surface and top surface and extending in a direction from the first side to the second side.

17. (Previously Presented) The adapter according to claim 15, further comprising a wall disposed within and across the central portion of the main body and between the first side and the second side, the wall having at least one passage therein to allow at least a portion of the fiber optic ferrules inserted from the first and second sides to pass therethrough.

18. (Previously Presented) The adapter according to claim 17, wherein the at least one passage comprises a plurality of passages, the plurality of passages corresponding to the number of fiber optic ferrules.

19. (Previously Presented) The adapter according to claim 15, wherein the opening in the central portion of the main body is smaller than the opening in the first and second sides.

20. (Previously Presented) The adapter according to claim 15, further comprising an conductive elastomeric gasket encircling an external surface of the adapter to provide EMI shielding to the adapter.

21. (Previously Presented) The adapter according to claim 15, wherein the first and second sides are configured to receive a plurality of optical ferrules.

22. (Previously Presented) The adapter according to claim 15, wherein the plurality of grooves in the top surface of the central portion have a first width and the plurality of grooves in the bottom surface of the central portion have a second width, and the first and second widths are different.

23. (Previously Presented). The adapter according to claim 18, wherein the plurality of passages are sized to allow a ferrule holder to enter therein.

24. (Currently Amended) An adapter for aligning fiber optic ferrules inserted from opposing sides comprising;

a main body having an opening extending between a first side and a second side, the first side and the second side separated by a central portion inside the main body, the main body having at least one groove in the opening and extending in a direction from the first side to the second side; and

a plurality of grooves disposed in a top surface and bottom surface of the central portion, each of the plurality of grooves extending into the central portion from each of the first side and the second side, ~~each of~~ the plurality of grooves in the top surface ~~corresponding to a different fiber optic ferrule~~ configured to receive a plurality of fiber optic ferrules from each of the first side and the second side.

25. (Previously Presented) The adapter according to claim 24, further comprising a wall disposed within and across the central portion of the main body and between the first side and the second side, the wall having at least one passage therein to allow at least a portion of the fiber optic ferrules inserted from the first and second sides to pass therethrough.

26. (Previously Presented) The adapter according to claim 25, wherein the at least one passage comprises a plurality of passages, the plurality of passages corresponding to the number of fiber optic ferrules.

27. (Previously Presented) The adapter according to claim 24, wherein the opening in the central portion of the main body is smaller than the opening in the first and second sides.

28. (Previously Presented) The adapter according to claim 24, further comprising an conductive elastomeric gasket encircling an external surface of the adapter to provide EMI shielding to the adapter.

29. (Previously Presented) The adapter according to claim 24, wherein the first and second sides are configured to receive a plurality of optical ferrules.

30. (Previously Presented) The adapter according to claim 24, wherein the plurality of grooves in the top surface of the central portion have a first width and the plurality of grooves in the bottom surface of the central portion have a second width, and the first and second widths are different.

31. (Previously Presented). The adapter according to claim 26, wherein the plurality of passages are sized to allow a ferrule holder to enter therein.

REMARKS

In the above-referenced final Office Action, the Examiner rejected claims 15, 16, 19, 21, 24, and 29 under 35 U.S.C. § 102(3) as being anticipated by Bradley et al. (U.S. Patent Publication No. 2014/0241689); rejected claims 24, 27, and 29 under 35 U.S.C. § 103(a) as being unpatentable over Pronovost et al. (U.S. Patent No. 4,645,295); rejected claims 20 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Bradley et al. or Pronovost et al. as applied to claim 15 or 24 above, and further in view of Benner et al. (U.S. Patent Publication No. US 2002/0172469 A1); rejected claims 22 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Bradley et al. or Pronovost et al. as applied to claim 15 or 24 above, and further in view of Parkman et al. (U.S. Patent Publication No. US 2008/0131055 A1); and indicated that claims 17-19, 23, 25, 26, and 31 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. Applicant assumes that the reference to the § 112 rejections are from the previous Office Action since there were no §112 rejections in this Office Action.

In the Advisory Action mailed on June 15, 2020, the Examiner indicated that amended claim 15 overcame the prior art, but raised new issues. Amended claim 24 was not allowable over the art of record as the Examiner alleged that Pronovost et al. discloses multiple fiber optic plugs can fit within the opening of the adapter.

For the reasons noted in Applicant's prior response, claims 15-23 are allowable.

Applicant has further amended claim 24 to require that a plurality of fiber optic ferrules can be inserted from each of the first side and the second side. Clearly, Pronovost et al. is not able to receive a plurality of fiber optic ferrules in each side. Thus, the amended claim 24, and all of its dependent claims, is allowable over the prior art of record.

The Examiner is invited to telephone the undersigned in the event the Examiner would like to discuss the merits of the application or this response.

Respectfully submitted,

/Michael L. Leetzow/

Michael L. Leetzow
Registration No. 35,932
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170 Bella Vista Ter. Unit D
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Telephone: 407/302-9970

Date: July 6, 2020

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/214,317	Filing Date 12/10/2018	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	07/06/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	07/06/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/THERESA D DAWKINS/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/214,317	12/10/2018	Hiep V. Nguyen	USCO-053-03	7700

152017 7590 06/15/2020

Us Conec Ltd.
1138 25th Street Southeast
Hickory, NC 28602

EXAMINER
ROJAS, OMAR R

ART UNIT	PAPER NUMBER
2883	

NOTIFICATION DATE	DELIVERY MODE
06/15/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eofficeaction@appcoll.com
michael@leetzow.com
ssengupta@usconec.com

Advisory Action Before the Filing of an Appeal Brief	Application No. 16/214,317	Applicant(s) Nguyen et al.	
	Examiner Omar R Rojas	Art Unit 2883	AIA (FITF) Status No

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 02 June 2020 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☑ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:
   a) ☑ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection.The current period for reply expires ____ months from the mailing date of *the prior Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.
   Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANTS FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37CFR 41.37(a).

AMENDMENTS

3. ☑ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☑ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☐ They raise the issue of new matter (see NOTE below);
   c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: See Continuation Sheet (See 37CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicants reply has overcome the following rejection(s): _____
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☑ For purposes of appeal, the proposed amendment(s):(a) ☑ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____
9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
14. ☐ Other: _____.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:
    Claim(s) allowed:_____.
    Claim(s) objected to:17-19,23,25-26 and 31.
    Claim(s) rejected:15-16,20-22,24 and 27-30.
    Claim(s) withdrawn from consideration:_____.

/Omar R Rojas/
Primary Examiner, Art Unit 2883

Continuation of 3. NOTE: The proposed amendment to claim 15 filed 06/02/2020 would overcome all of the current prior art of record but presents new subject matter not previously examined that would require further search and/or consideration. The proposed amendment to claim 24 filed 06/02/2020 would overcome the prior art to Bradley et al. (Pat. Pub. No. US 2014/0241689 A1) but would not overcome the previously applied prior art to Pronovost et al. (Patent No. 4,645,295). This is because Pronovost does, in fact, teach that multiple fiber optic plugs/ferrules (16) can fit within the opening in his adapter (10) (col. 5, lines 52-59: "each plug 16 is axially inserted into its respective open end 12 or 14 of the socket 10 ... for proper coupling of the fiber optic cables 28 of the two plugs 16").

06/09/2020

DO NOT ENTER: /ORR/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Hiep V. Nguyen	)
		) Group Art Unit: 2883
Serial No.:	16/214,317	)
		) Examiner:Rojas, Omar
Filing Date:	December 10, 2018	)
		)
Title:	Alignment Adapter and Alignment Design for a Connector Therefor	)

Mail Box AF
Commissioner for Patents
PO Box 1450
Arlington VA 22313-1450

AMENDMENT AFTER FINAL

In response to the final Office Action mailed on March 5, 2020, Applicant amends the application as follows:

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/214,317	12/10/2018	Hiep V. Nguyen	USCO-053-03	7700

152017 7590 06/05/2020

Us Conec Ltd.
1138 25th Street Southeast
Hickory, NC 28602

EXAMINER
ROJAS, OMAR R

ART UNIT	PAPER NUMBER
2883	

NOTIFICATION DATE	DELIVERY MODE
06/05/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eofficeaction@appcoll.com
michael@leetzow.com
ssengupta@usconec.com

Applicant-Initiated Interview Summary	Application No. 16/214,317	Applicant(s) Nguyen et al.	
	Examiner Omar R Rojas	Art Unit 2883	AIA (FITF) Status No

All participants (applicant, applicants representative, PTO personnel):

(1) Omar R. Rojas. (3) _____.

(2) Michael L. Leetzow. (4) _____.

Date of Interview: 01 June 2020.

Type: ☑ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☑ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☑102 ☑103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 15-16 and 24.

Identification of prior art discussed: See Continuation Sheet.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Mr. Leetzow faxed an interview agenda. The arguments set forth in the fax were discussed. Examiner Rojas explained how a groove within a groove was shown in FIG. 2A of Bradley both within second bottom surface. The examiner pointed to the interior portion of the main body (113) of Bradley between a front side and a wall (117) as corresponding to the claimed central portion. Mr. Leetzow did not agree with the examiner's interpretation of Bradley and mentioned that the limitations of claim 16 were also missing from Bradley. The examiner responded by noting that the groove in claim 16 was interpreted as corresponding to one of the same grooves mentioned in claim 15. Examiner Rojas suggested amending claim 15 to recite that the grooves are separated from each other by a portion of the second top or bottom surface. Mr. Leetzow also suggested amending the preamble of claim 15 to clarify that the ferrules are inserted into the first and second sides. With respect to claim 24, the examiner noted that the grooves in Bradley could still receive different ferrules having the same shape. The 103 rejection to Pronovost was also briefly discussed but no agreement was reached. A copy of the interview agenda is attached.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☑ Attachment

/Omar R Rojas/ Primary Examiner, Art Unit 2883	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiners responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicants correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,-
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicants record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiners version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, Interview Record OK on the paper recording the substance of the interview along with the date and the examiners initials.

Continuation of Identification of prior art discussed: Pat. Pub. No. US 2014/0241689 A1 ("Bradley") and Pat. No. 4,645,295 ("Pronovost")

2393 CREST RIDGE CT
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407-302-9970 - OFFICE
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E-MAIL: MICHAEL@LEETZOW.COM

MICHAEL L. LEETZOW, PA

Fax

To:	USPTO - Ex Rojas	**From:**	Michael L. Leetzow
Fax:	571 273 2357	**Pages:**	5
Phone:		**Date:**	05/07/2019
Re:	US Ser. no. 16/214,317	**CC:**	

Urgent **For Review** **Please Comment** **Please Reply** **Please Recycle**

- Comments:

Agenda for Telecon on 6/1/2020 at 2 pm

Michael Leetzow

NOTICE: This facsimile message and all attachments transmitted with it may contain legally privileged and confidential information intended solely for the use of the addressee. If the reader of this message is not the intended recipient, you are hereby notified that any reading, dissemination, distribution, copying, or other use of this message or its attachments is strictly prohibited. If you have received this message in error, please notify the sender immediately by telephone (407-302-9970) or by electronic mail (michael@leetzow.com), and destroy this facsimile message and all copies thereof. Thank you.

For Interview on June 1, 2020 at 2:00 pm EST for 16/214,317

Ex. Rojas

There is no groove in bottom surface in the annotated picture. If you allege that big portion is the groove, then there are no corresponding first and second bottom surfaces. Additionally, there needs to be a plurality of grooves in the second top and bottom surfaces - there is only one groove in the bottom surface and only one in the second bottom surface in the figure in the Office Action. Moreover, the claimed second bottom portion is in the central portion, and the central portion separates the first and second sides. That claim limitation is not satisfied with the interpretation of Bradley - the central portion appears to run through both in Bradley.

It continues to be unclear where the central portion is located in the reference. There also need to be two sides - one for each of the fiber optic ferrules. It appears from the Office Action that the second side is where the element 117 - but that does not allow for fiber optic ferrules to be inserted from there.

With regard to claim 24 - that claim requires that there be a different ferrule in each of the grooves - so if there are two groves in the top surface, there are two ferrules. Clearly, Bradley can only have one ferrule in the opening 111 at a time. Thus, this claim is also not anticipated.

IN THE CLAIMS:

Claims 1-14. Canceled.

15. (Previously Presented) An adapter for aligning fiber optic ferrules inserted from opposing sides comprising:

a main body having an opening defined by two opposing side walls, a top surface and a bottom surface, the opening extending between a first side and a second side, the first side and the second side separated by a central portion inside the main body; and

a plurality of grooves disposed in a second top surface and a plurality of grooves disposed in a second bottom surface of the central portion, the second top surface and the second bottom surface being different from the top surface and the bottom surface in the

PAGE 2/5 * RCVD AT 5/28/2020 6:02:07 PM [Eastern Daylight Time] * SVR:W-PTOFAX-002/27 * DNIS:2732357 * CSID: * ANI:4073029973 * DURATION (mm-ss):02-24

main body, each of the plurality of grooves extending into the central portion from each of the first side and the second side.

16. (Previously Presented)The adapter according to claim 15, the opening having at least one groove therein and extending in a direction from the first side to the second side.

17. (Previously Presented) The adapter according to claim 15, further comprising a wall disposed within and across the central portion of the main body and between the first side and the second side, the wall having at least one passage therein to allow at least a portion of the fiber optic ferrules inserted from the first and second sides to pass therethrough.

18. (Previously Presented) The adapter according to claim 17, wherein the at least one passage comprises a plurality of passages, the plurality of passages corresponding to the number of fiber optic ferrules.

19. (Previously Presented) The adapter according to claim 15, wherein the opening in the central portion of the main body is smaller than the opening in the first and second sides.

20. (Previously Presented) The adapter according to claim 15, further comprising an conductive elastomeric gasket encircling an external surface of the adapter to provide EMI shielding to the adapter.

21. (Previously Presented) The adapter according to claim 15, wherein the first and second sides are configured to receive a plurality of optical ferrules.

22. (Previously Presented) The adapter according to claim 15, wherein the plurality of grooves in the top surface of the central portion have a first width and the plurality of

grooves in the bottom surface of the central portion have a second width, and the first and second widths are different.

23. (Previously Presented). The adapter according to claim 18, wherein the plurality of passages are sized to allow a ferrule holder to enter therein.

24. (Previously Presented) An adapter for aligning fiber optic ferrules inserted from opposing sides comprising;

a main body having an opening extending between a first side and a second side, the first side and the second side separated by a central portion inside the main body, the main body having at least one groove in the opening and extending in a direction from the first side to the second side; and

a plurality of grooves disposed in a top surface and bottom surface of the central portion, each of the plurality of grooves extending into the central portion from each of the first side and the second side, each of the plurality of grooves in the top surface corresponding to a different fiber optic ferrule.

25. (Previously Presented) The adapter according to claim 24, further comprising a wall disposed within and across the central portion of the main body and between the first side and the second side, the wall having at least one passage therein to allow at least a portion of the fiber optic ferrules inserted from the first and second sides to pass therethrough.

26. (Previously Presented) The adapter according to claim 25, wherein the at least one passage comprises a plurality of passages, the plurality of passages corresponding to the number of fiber optic ferrules.

27. (Previously Presented) The adapter according to claim 24, wherein the opening in the central portion of the main body is smaller than the opening in the first and second sides.

PAGE 4/5 * RCVD AT 5/28/2020 6:02:07 PM [Eastern Daylight Time] * SVR:W-PTOFAX-002/27 * DNIS:2732357 * CSID: * ANI:4073029973 * DURATION (mm-ss):01-24

28. (Previously Presented) The adapter according to claim 24, further comprising an conductive elastomeric gasket encircling an external surface of the adapter to provide EMI shielding to the adapter.

29. (Previously Presented) The adapter according to claim 24, wherein the first and second sides are configured to receive a plurality of optical ferrules.

30. (Previously Presented) The adapter according to claim 24, wherein the plurality of grooves in the top surface of the central portion have a first width and the plurality of grooves in the bottom surface of the central portion have a second width, and the first and second widths are different.

31. (Previously Presented). The adapter according to claim 26, wherein the plurality of passages are sized to allow a ferrule holder to enter therein.

PAGE 5/5 * RCVD AT 5/28/2020 6:02:07 PM [Eastern Daylight Time] * SVR:W-PTOFAX-002/27 * DNIS:2732357 * CSID: * ANI:4073029973 * DURATION (mm-ss):04-28

Electronic Acknowledgement Receipt

EFS ID:	39607478
Application Number:	16214317
International Application Number:	
Confirmation Number:	7700
Title of Invention:	Alignment Adapter and Alignment Design for a Connector Therefor
First Named Inventor/Applicant Name:	Hiep V. Nguyen
Customer Number:	152017
Filer:	MICHAEL LEETZOW
Filer Authorized By:	
Attorney Docket Number:	USCO-053-03
Receipt Date:	02-JUN-2020
Filing Date:	10-DEC-2018
Time Stamp:	20:44:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Response After Final Action	AmendUSCO05303Jun2020.pdf	92420 4800546bf37e8b6c2992f5816b5ccafb6aab7434	no	7

Warnings:

Information:	
Total Files Size (in bytes):	92420

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Hiep V. Nguyen	)
		) Group Art Unit: 2883
Serial No.:	16/214,317	)
		) Examiner:Rojas, Omar
Filing Date:	December 10, 2018	)
		)
Title:	Alignment Adapter and Alignment Design for a Connector Therefor	)

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Commissioner for Patents
PO Box 1450
Arlington VA 22313-1450

AMENDMENT AFTER FINAL

In response to the final Office Action mailed on March 5, 2020, Applicant amends the application as follows:

IN THE CLAIMS:

Claims 1-14. Canceled.

15. (Currently Amended) An adapter for aligning a first fiber optic ferrule inserted from a first side and a second fiber optic ferrule inserted from a second side ~~ferrules inserted from opposing sides~~ comprising:

a main body having an opening defined by two opposing side walls, a top surface and a bottom surface, the opening extending between ~~a first~~ the first side and ~~a second~~ the second side, the first side and the second side separated by a central portion inside the main body; and

a plurality of grooves disposed in a second top surface and a plurality of grooves disposed in a second bottom surface of the central portion, the second top surface and the second bottom surface being different from the top surface and the bottom surface in the main body, each of the plurality of grooves extending into the central portion from each of the first side and the second side.

16. (Currently Amended) The adapter according to claim 15, the opening having at least one groove ~~therein~~ in one of the bottom surface and top surface and extending in a direction from the first side to the second side.

17. (Previously Presented) The adapter according to claim 15, further comprising a wall disposed within and across the central portion of the main body and between the first side and the second side, the wall having at least one passage therein to allow at least a portion of the fiber optic ferrules inserted from the first and second sides to pass therethrough.

18. (Previously Presented) The adapter according to claim 17, wherein the at least one passage comprises a plurality of passages, the plurality of passages corresponding to the number of fiber optic ferrules.

19. (Previously Presented) The adapter according to claim 15, wherein the opening in the central portion of the main body is smaller than the opening in the first and second sides.

20. (Previously Presented) The adapter according to claim 15, further comprising an conductive elastomeric gasket encircling an external surface of the adapter to provide EMI shielding to the adapter.

21. (Previously Presented) The adapter according to claim 15, wherein the first and second sides are configured to receive a plurality of optical ferrules.

22. (Previously Presented) The adapter according to claim 15, wherein the plurality of grooves in the top surface of the central portion have a first width and the plurality of grooves in the bottom surface of the central portion have a second width, and the first and second widths are different.

23. (Previously Presented). The adapter according to claim 18, wherein the plurality of passages are sized to allow a ferrule holder to enter therein.

24. (Currently Amended) An adapter for aligning fiber optic ferrules inserted from opposing sides comprising;

a main body having an opening extending between a first side and a second side, the first side and the second side separated by a central portion inside the main body, the main body having at least one groove in the opening and extending in a direction from the first side to the second side; and

a plurality of grooves disposed in a top surface and bottom surface of the central portion, each of the plurality of grooves extending into the central portion from each of the first side and the second side, ~~each of~~ the plurality of grooves in the top surface ~~corresponding to a different fiber optic ferrule~~ configured to receive a plurality of fiber optic ferrules.

25. (Previously Presented) The adapter according to claim 24, further comprising a wall disposed within and across the central portion of the main body and between the first side and the second side, the wall having at least one passage therein to allow at least a portion of the fiber optic ferrules inserted from the first and second sides to pass therethrough.

26. (Previously Presented) The adapter according to claim 25, wherein the at least one passage comprises a plurality of passages, the plurality of passages corresponding to the number of fiber optic ferrules.

27. (Previously Presented) The adapter according to claim 24, wherein the opening in the central portion of the main body is smaller than the opening in the first and second sides.

28. (Previously Presented) The adapter according to claim 24, further comprising an conductive elastomeric gasket encircling an external surface of the adapter to provide EMI shielding to the adapter.

29. (Previously Presented) The adapter according to claim 24, wherein the first and second sides are configured to receive a plurality of optical ferrules.

30. (Previously Presented) The adapter according to claim 24, wherein the plurality of grooves in the top surface of the central portion have a first width and the plurality of grooves in the bottom surface of the central portion have a second width, and the first and second widths are different.

31. (Previously Presented). The adapter according to claim 26, wherein the plurality of passages are sized to allow a ferrule holder to enter therein.

REMARKS

In the above-referenced final Office Action, the Examiner rejected claims 15, 16, 19, 21, 24, and 29 under 35 U.S.C. § 102(3) as being anticipated by Bradley et al. (U.S. Patent Publication No. 2014/0241689); rejected claims 24, 27, and 29 under 35 U.S.C. § 103(a) as being unpatentable over Pronovost et al. (U.S. Patent No. 4,645,295); rejected claims 20 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Bradley et al. or Pronovost et al. as applied to claim 15 or 24 above, and further in view of Benner et al. (U.S. Patent Publication No. US 2002/0172469 A1); rejected claims 22 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Bradley et al. or Pronovost et al. as applied to claim 15 or 24 above, and further in view of Parkman et al. (U.S. Patent Publication No. US 2008/0131055 A1); and indicated that claims 17-19, 23, 25, 26, and 31 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. Applicant assumes that the reference to the § 112 rejections are from the previous Office Action since there were no §112 rejections in this Office Action.

Applicant appreciates the notification of allowable claims. Applicant has further amended claims 15 and 24 to further define the invention and, for the reasons set forth below, asserts that all of the claims are allowable over the cited references. Applicant appreciates the courtesies extended in the telephonic interview on Monday June 1, 2020. The undersigned and the Examiner discussed the references and the interpretations of those references, in particular the first and second sides, the central portion and the plurality of grooves in the claimed invention and the references, Bradley et al. in particular. While no agreement was reached, a better understanding of each other's claim interpretations was achieved. As a result of those discussions, Applicant has amended claims 15 and 24 to further define the invention.

Applicant has amended claim 15 to clarify where the first and second sides are located and that the fiber optic ferrules are inserted into the adapter from the claimed first and second sides. Applicant has amended claim 24 to clarify that there are a plurality of grooves in the top surface configured to receive a plurality of fiber optic ferrules. Both of

these amendments differentiate the claimed invention from the device disclosed in Bradley et al.

In the final Office Action, the Examiner alleged that the second side in Bradley et al. was at the surface 117. O.A. at p. 3. The Examiner also alleged that there was a central portion, but no central portion was identified by element number or on the annotated figure. Additionally, the claims require that there be a plurality of grooves in the second top and bottom surfaces. The annotated figure appears to identify the same groove as two grooves. Additionally, Applicant does not find a first and a second top and bottom surface in the device in Bradley et al. However, to further prosecution, Applicant has amended the claim 15 to further differentiate that claimed invention.

Amended claim 15 requires that there be a first side and a second side where fiber optic ferrules can be inserted. Clearly a fiber optic ferrule cannot be inserted at element 117 in the adapter in Bradley et al. Additionally, the first side and the second side are separated by a central portion and the plurality of grooves extend into the center section from each of the first and second sides. Applicant assumes that the central portion is now where element 117 is located, but there are not a plurality of grooves extending into the central portion from the second side 112. See Fig. 2B. For at least this reason, claim 15 and its dependent claims are allowable.

Claim 16 has also been amended to clarify where there is another groove, separate from and in addition to the plurality of grooves recited in claim 15. In this case, the groove is in one of the top surface and the bottom surface, which is different from the plurality of grooves that are in the second top surface and second bottom surface – again different from the top and bottom surface. For this additional reason, claim 16 is allowable.

Next, Applicant amended claim 24 to require that there are multiple fiber optic ferrrules that can received in the opening in the claimed adapter. However, in the opening in the main body of the adapter in Bradley et al., only one fiber optic ferrule can be received therein. For at least this reason, claim 24 is allowable over Bradley et al.

Amended claim 24 is also allowable over Pronovost et al. As noted in the prior Amendment, Pronovost et al. does not teach that multiple fiber optic ferrules can fit within

the opening in the adapter disclosed therein. With the amendment made to claim 24 above, it is clear (cf. Office Action at p. 2) there is sufficient reference and support for multiple fiber optic ferrules being present in the opening at the same time in the claimed adapter. This is impossible with any of the references used by the Examiner. For at least this reason, claim 24 (and its dependent claims) is allowable.

With regard to claims 20 and 28, the Examiner cited Benner et al. for the proposition of an elastomeric gasket. However, Benner et al. does not cure the defects of Bradley et al. and Pronovost et al. and these claims are allowable for the same reasons as claims 15 and 24 noted above.

Next the Examiner rejected claims 22 and 30 citing to Bradley et al. or Pronovost et al. and Parkman et al. Parkman et al. was cited for the different size of grooves. However, Parkman et al. does not cure the defects of Bradley et al. or Pronovost et al. noted above and these claims are allowable for at least the same reasons as claims 15 and 24.

The Examiner is invited to telephone the undersigned in the event the Examiner would like to discuss the merits of the application or this response.

Respectfully submitted,

/Michael L. Leetzow/
Michael L. Leetzow
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Telephone: 407/302-9970

Date: June 2, 2020

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/214,317	Filing Date 12/10/2018	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	06/02/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/AMANDA N FORD/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Hiep V. Nguyen	)
		) Group Art Unit: 2883
Serial No.:	16/214,317	)
		) Examiner:Rojas, Omar
Filing Date:	December 10, 2018	)
		)
Title:	Alignment Adapter and Alignment Design for a Connector Therefor	)

Mail Box AF
Commissioner for Patents
PO Box 1450
Arlington VA 22313-1450

AMENDMENT AFTER FINAL

In response to the final Office Action mailed on March 5, 2020, Applicant amends the application as follows:

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Us Conec Ltd.
1138 25th Street Southeast
Hickory, NC 28602

Courtesy Reminder for
Application Serial No: 16/214,317

Attorney Docket No: USCO-053-03
Customer Number: 152017
Date of Electronic Notification: 03/05/2020

This is a courtesy reminder that new correspondence is available for this application. If you have not done so already, please review the correspondence. The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

An email notification regarding the correspondence was sent to the following email address(es) associated with your customer number:

michael@leetzow.com
eofficeaction@appcoll.com
ssengupta@usconec.com

To view your correspondence online or update your email addresses, please visit us anytime at **https://ppair-my.uspto.gov/pair/PrivatePair.**
If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov or call 1-866-217-9197.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/214,317	12/10/2018	Hiep V. Nguyen	USCO-053-03	7700

152017 7590 03/05/2020

Us Conec Ltd.
1138 25th Street Southeast
Hickory, NC 28602

EXAMINER
ROJAS, OMAR R

ART UNIT	PAPER NUMBER
2883	

NOTIFICATION DATE	DELIVERY MODE
03/05/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eofficeaction@appcoll.com
michael@leetzow.com
ssengupta@usconec.com

Office Action Summary	Application No. 16/214,317	Applicant(s) Nguyen et al.	
	Examiner Omar R Rojas	Art Unit 2883	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 01/23/2020.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☑ This action is **FINAL.** 2b) ☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 15-31 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 15-16,20-22,24 and 27-30 is/are rejected.

8) ☑ Claim(s) 17-19,23,25-26 and 31 is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Response to Amendment

2. With regards to the amendment filed on 01/23/2020, all the requested changes to the claims have been entered. Applicant's constructive efforts to advance prosecution are appreciated. Claim(s) 15-31 are pending.

Response to Arguments

3. Applicant's arguments, see pages 2-5, filed 01/23/2020, with respect to the rejection(s) of claim(s) 15, 16, 19, 21, and 22 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

4. Applicant's arguments filed 01/23/2020 with respect to claims 24, 27, 29, and 30 have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "a different fiber optic ferrule is paired with each of the different grooves") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

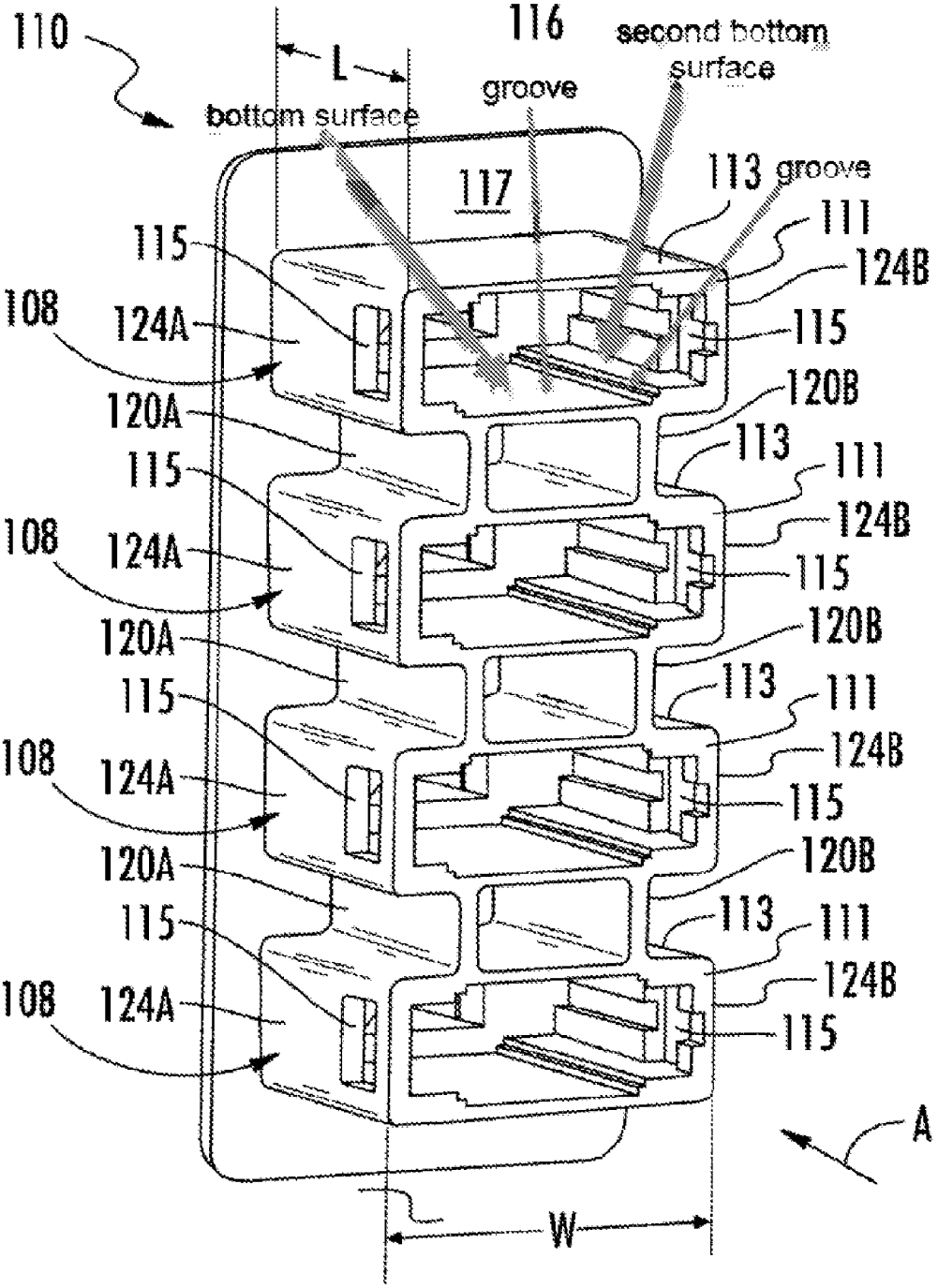
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim(s) 15, 16, 21, 24, and 29 is is/are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Patent Publication No. US 2014/0241689 A1 to Bradley et al. (hereinafter "Bradley").

In re claim 15, Bradley discloses, see FIGS. 2-5, an adapter (110) for aligning fiber optic ferrules (180) inserted from opposing sides comprising:

a main body (113) having an opening/port (111) defined by two opposing side walls, a top surface and a bottom surface, the opening (111) extending between a first/front side and a second/rear side at surface (117), the first side and the second side at surface (117) separated by a central portion inside of the main body (113); and

a plurality of grooves disposed in a second top surface and a plurality of grooves disposed in a second bottom surface of the central portion, the second top surface and the second bottom surface being different from the top surface and the bottom surface in the main body, each of the plurality of grooves extending into the central portion from each of the first side and the second side at surface (117). *See* paragraphs [0030]-[0043] of Bradley for further details. A modified FIG. 2A of Bradley has been reproduced below to more clearly show the claimed grooves and bottom surfaces. The claimed top surfaces correspond to upper surfaces within the opening (111) of Bradley that are opposed to the bottom surfaces and which further define additional grooves.



In re claim 16, the opening (111) having at least one groove therein corresponding to one of the aforementioned plurality of grooves and extending in a direction from the first side to the second side at surface (117).

In re claim 21, the adapter (110) is configured to receive a plurality of optical ferrules (180) at the first and second sides.

In re claim 24, Bradley discloses, see FIGS. 2-5, an adapter (110) for aligning fiber optic ferrules (180) inserted from opposing sides comprising;

a main body (110) having an opening (111) extending between a first/front side and a second/rear side at surface (117), the first side and the second side at surface (117) separated by a central portion inside the main body (110), the main body (110) having at least one groove in the opening (111) and extending in a direction from the first side to the second side at surface (117); and

a plurality of grooves disposed in a top surface and a bottom surface of the central portion, each of the plurality of grooves extending into the central portion from each of the first side and the second side at surface (117), each of the plurality of grooves in the top surface capable of corresponding to a different fiber optic ferrule (180) because different ferrules (180) of the same shape may be received by the plurality of grooves. *See* paragraphs [0030]-[0043] of Bradley for further details. *See also* the modified FIG. 2A of Bradley reproduced above which shows the claimed grooves and bottom surfaces. The claimed top surfaces would correspond to upper surfaces within the opening (111) of Bradley that are opposed to the bottom surfaces and which further define additional grooves.

In re claim 29, the adapter (110) is configured to receive a plurality of optical ferrules (180) at the first and second sides.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claim(s) 24, 27, and 29 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 4,645,295 to Pronovost et al. (hereinafter "Pronovost"). Pronovost was applied in a prior Office action.

In re claim 24, Pronovost discloses, see FIGS. 1-3, an adapter (10) for aligning fiber optic ferrules (16) inserted from opposing sides comprising;

a main body (10) having an opening extending between a first side and a second side, the first side and the second side separated by a central portion between recesses (56) inside the main body (10), the main body (10) having at least one groove (62) in the opening and extending in a direction from the first side to the second side; and

a groove/recesss (44) disposed in a top surface and a bottom surface of the central portion between recesses (56), each groove (44) extending into the central portion between recesses (56) from each of the first side and the second side, each groove (44) capable of corresponding to a different fiber optic ferrule (16) because different ferrules (16) of the same shape may be received by the grooves (44). *See* columns 5-6 of Pronovost for further details.

Thus, Pronovost only differs from claim 24 in that he does not teaches a plurality of his grooves (44) disposed in his top surface and bottom surface. The grooves (44) of Pronovost are used to provide "accurate lateral, angular and longitudinal alignment for proper coupling of the fiber optic cables 28 of the two plugs 16". In order to provide additional accuracy of the lateral, angular, and/or longitudinal alignment of his plugs (16), Pronovost would have been modified by

providing a plurality of his grooves (44) disposed in his top surface and bottom surface, thereby obtaining the invention specified by claim 24. Therefore, it would have been obvious to one ordinary skill in the art before the effective filing date of the claimed invention to obtain the invention specified by claim 24 in view of Pronovost.

In re claim 27, as seen in FIGS 1 and 3, the opening in the central portion of the main body (10) is smaller than the opening in the first and second sides due to the presence of shim (70) which partially blocks the opening within the central portion.

In re claim 29, as seen in FIG. 3, the first and second sides are configured to receive a plurality of optical ferrules (16).

9. Claims 20 and 28 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley or Pronovost as applied to claim 15 or 24 above, and further in view of Patent Publication No. US 2002/0172469 A1 to Benner et al. ("Benner"). Benner was cited in a prior Office action.

In re claims 20 and 28, Bradley or Pronovost as applied to claim 15 or 24 only differs in that neither Bradley nor Pronovost teaches an conductive elastomeric gasket encircling an external surface of their adapter (110) or (10) to provide EMI shielding to the adapter (110) or (10). Benner, on the other hand, teaches an conductive elastomeric gasket (62) encircling an external surface of an adapter (10) to provide EMI shielding to the adapter. *See* paragraphs [0025]-[0030] of Benner. In order to prevent EMI interference, an external surface of the adapter (110) or (10) of Bradley or Pronovost would have been modified to be encircled by the gasket (62) of Benner, thereby obtaining the invention specified by claims 20 and 28. Therefore, it would have been

obvious to one ordinary skill in the art before the effective filing date of the claimed invention to obtain the invention specified by claims 20 and 28 in view of Bradley or Pronovost combined with Benner.

10. Claims 22 and 30 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Bradley or Pronovost as applied to claim 15 or 24 above, and further in view of Patent Publication No. US 2008/0131055 A1 Parkman et al. ("Parkman"). Parkman was cited in a prior Office action.

In re claims 22 or 30, Bradley or Pronovost as applied to claim 15 or 24 only differs in that neither teaches that the grooves in the top surface of their central portion have a different width than that of the grooves in the bottom surface of their central portion. Parkman, on the other hand, teaches using channels of different widths in order to provide a more secure and/or a more complex keying configuration. *See* paragraph [0039] of Parkman. In order to provide a more secure and/or more complex keying configuration, Bradley or Pronovost as applied to claim 15 or 24 would have been further modified by providing the grooves in the top surface of their central portion with a different width than that of the grooves in the bottom surface of their central portion, thereby obtaining the invention specified by claim 22 or 30. Therefore, it would have been obvious to one ordinary skill in the art before the effective filing date of the claimed invention to obtain the invention specified by claim 22 or 30 in view of Bradley or Pronovost combined with Parkman.

Allowable Subject Matter

11. Claims 17-19, 23, 25, 26, and 31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this

Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

a. Regarding claims 17, 18, 23, 25, 26, and 31, the primary reason for indicating allowable subject matter is the inclusion of a wall disposed within and across the central portion of the main body and between the first side and the second sides, the wall having at least one passage therein to allow at least a portion of the fiber optic ferrules inserted from the first and second sides to pass therethrough.

b. Regarding claim 19, the primary reason for indicating allowable subject matter is the inclusion of the opening in the central portion of the main body is smaller than the opening in the first and second sides.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Omar R Rojas whose telephone number is (571)272-2357. The examiner can normally be reached on Monday-Friday, 10AM-6PM EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Hollweg can be reached on 571-270-1739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Omar R Rojas/
Primary Examiner
Art Unit 2883

or
March 2, 2020

Notice of References Cited	Application/Control No. 16/214,317	Applicant(s)/Patent Under Reexamination Nguyen et al.	
	Examiner Omar R Rojas	Art Unit 2883	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20140241689-A1	08-2014	Bradley; Mark Alan	G02B6/00	385/135
	B					
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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/214,317	Nguyen et al.
	Examiner	Art Unit
	Omar R Rojas	2883

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Checked refs. for 15/855,750	06/21/2019	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	06/21/2019	/ORR/
EAST (PGPUB,USPAT,FPRS,EPAB,JPAB,DWPI,IBMT) - See Search History Printout.	06/22/2019	/ORR/
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Updated previous EAST search - See Search History Printout.	02/27/2020	/ORR/
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/Omar R Rojas/ Primary Examiner, Art Unit 2883	

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/214,317	Nguyen et al.
	Examiner	**Art Unit**
	Omar R Rojas	2883

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S497	0	(11/633327).APP.	USPAT; USOCR	OR	ON	2020/02/27 19:33
S498	81	(US-20040101250-$ or US-20140205247-$ or US-20170160486-$ or US-20180239091-$).did. or (US-3999837-$ or US-4252407-$ or US-6116790-$ or US-6371659-$ or US-6461053-$ or US-6585423-$ or US-7001079-$ or US-9039298-$ or US-9823424-$).did. or (DE-2558445-$ or FR-2296862-$ or BR-7508734-$ or ES-444034-$ or GB-1503979-$ or IT-7869677-$ or CA-1043604-$ or BE-871785-$ or DK-522978-$ or NL-7811579-$ or DE-2849975-$ or GB-2009440-$ or FR-2435053-$ or FR-2446496-$ or CA-1097111-$ or IT-1050771-$ or FR-2446496-$ or FR-2435053-$ or CH-628152-$ or GB-2009440-$ or DE-3112078-$ or FR-2296862-$ or DE-2558445-$ or DE-3112078-$ or IT-1109638-$ or DE-2849975-$).did. or (DK-151733-$ or DK-151733-$ or DK-151733-$ or DE-19626036-$ or WO-9800741-$ or AU-2975197-$ or WO-9928774-$ or EP-0985161-$ or EP-1034445-$ or EP-1092995-$ or EP-1092995-$ or EP-1034445-$ or EP-0985161-$ or ES-2202617-$ or EP-1092995-$ or DE-60010402-$ or DE-60010402-$ or JP-3984293-$ or EP-2138880-$ or JP-4514004-$ or WO-2016053853-$ or WO-2017065999-$ or WO-2017065999-$ or EP-3201668-$ or CN-108351473-$ or CN-208140982-$ or EP-3201668-$).did. or (JP-2001154062-$).did. or (DE-2558445-$ or BE-871785-$ or DE-19626036-$ or WO-9928774-$ or EP-1092995-$ or US-20140205247-$ or CN-104516061-$ or CN-104570229-$ or WO-2016053853-$ or WO-2017065999-$ or US-20180364421-$).did.	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/02/27 19:35
S499	1140	(US-20010010741-$ or US-20010016102-$ or US-20010033730-$ or US-20010038737-$ or US-20010043776-$ or US-20010048790-$ or US-20020006253-$ or US-20020012503-$ or US-20020012502-$ or US-20020012501-$ or US-20020012238-$ or US-20020025121-$	US-PGPUB; USPAT; JPO	OR	ON	2020/02/27 19:35

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		20080044139-$ or US-20080050072-$ or US-20080085082-$ or US-20080095502-$ or US-20080095501-$ or US-20080100456-$ or US-20080170827-$ or US-20080175541-$ or US-20080175550-$ or US-20080175542-$ or US-20080175546-$ or US-20080175545-$).did. or (US-20080175532-$ or US-20080193086-$ or US-20080205825-$ or US-20080240658-$ or US-20080269845-$ or US-20080267566-$ or US-20080273837-$ or US-20080279503-$ or US-20080304792-$ or US-20080310796-$ or US-20080310800-$ or US-20080310795-$ or US-20080317411-$ or US-20090010600-$ or US-20090028507-$ or US-20090034912-$ or US-20090047800-$ or US-20090046981-$ or US-20090060422-$ or US-20090060418-$ or US-20090074359-$ or US-20090103878-$ or US-20090116791-$ or US-20090148101-$ or US-20090156043-$ or US-20090185778-$ or US-20090202214-$).did. or (US-20090214164-$ or US-20090226141-$ or US-20090226137-$ or US-20090232455-$ or US-20090232454-$ or US-20090257722-$ or US-20090257719-$ or US-20090274431-$ or US-20090274432-$ or US-20090285534-$ or US-20090285530-$ or US-20090290838-$ or US-20090304335-$ or US-20100002999-$ or US-20100021111-$ or US-20100029117-$ or US-20100027944-$ or US-20100027943-$ or US-20100046893-$ or US-20100054665-$ or US-20100061681-$ or US-20100074616-$ or US-20100080513-$ or US-20100092134-$ or US-20100092131-$ or US-20100104355-$ or US-20100111484-$).did. or (US-20100129032-$ or US-20100129028-$ or US-20100135618-$ or US-20100141934-$ or US-20100146764-$ or US-20100158444-$ or US-20100183265-$ or US-20100202730-$ or US-20100202737-$ or US-20100209063-$ or US-20100209050-$ or US-20100215318-$ or US-20100215322-$ or US-20100226654-$ or US-20100232757-$ or US-20100239220-$ or US-20100239213-$ or US-20100247057-$ or US-20100247040-$ or US-20100260457-$ or US-20100266245-$ or US-20100272408-$ or US-20100278497-$ or US-20100278488-$ or US-20100284655-$ or US-20100296792-$ or US-20100303408-$).did. or (US-20100322580-$ or US-20100322576-$ or US-20100322554-$ or US-				

		20100329604-$ or US-20100329602-$ or US-20110019964-$ or US-20110038592-$ or US-20110038581-$ or US-20110044583-$ or US-20110058772-$ or US-20110075969-$ or US-20110081798-$ or US-20110081116-$ or US-20110085774-$ or US-20110085765-$ or US-20110091166-$ or US-20110091154-$ or US-20110103797-$ or US-20110116748-$ or US-20110123156-$ or US-20110129186-$ or US-20110142398-$ or US-20110150396-$ or US-20110158593-$ or US-20110158586-$ or US-20110170830-$ or US-20110176777-$).did. or (US-20110188809-$ or US-20110188000-$ or US-20110194828-$ or US-20110200286-$ or US-20110198324-$ or US-20110200294-$ or US-20110206335-$ or US-20110206325-$ or US-20110206324-$ or US-20110211792-$ or US-20110229094-$ or US-20110243508-$ or US-20110243505-$ or US-20110243504-$ or US-20110268391-$ or US-20110293223-$ or US-20110299814-$ or US-20110311186-$ or US-20110317976-$ or US-20120002928-$ or US-20120002925-$ or US-20120033918-$ or US-20120039569-$ or US-20120057831-$ or US-20120057830-$ or US-20120057827-$ or US-20120063735-$).did. or (US-20120069348-$ or US-20120099870-$ or US-20120106901-$ or US-20120114295-$ or US-20120128307-$ or US-20120141084-$ or US-20120155808-$ or US-20120163757-$ or US-20120170895-$ or US-20120195555-$ or US-20120219253-$ or US-20120224823-$ or US-20120237223-$ or US-20120237171-$ or US-20120243831-$ or US-20120243829-$ or US-20120251067-$ or US-20120252244-$ or US-20120251050-$ or US-20120257859-$ or US-20120263426-$ or US-20120294572-$ or US-20120301088-$ or US-20120301080-$ or US-20120321269-$ or US-20120321266-$ or US-20120321254-$).did. or (US-20130011099-$ or US-20130064517-$ or US-20130071068-$ or US-20130071067-$ or US-20130084041-$ or US-20130094827-$ or US-20130094815-$ or US-20130094811-$ or US-20130101257-$ or US-20130108231-$ or US-20130121643-$ or US-20130129285-$ or US-20130156379-$ or US-20130156382-$ or US-20130163937-$ or US-20130163933-$ or US-20130170797-$ or US-20130170796-$ or US-				

		20130183018-$ or US-20130195405-$ or US-20130195418-$ or US-20130209040-$ or US-20130209049-$ or US-20130209052-$ or US-20130209051-$ or US-20130209050-$ or US-20130209041-$).did. or (US-20130216186-$ or US-20130216188-$ or US-20130284844-$ or US-20130287358-$ or US-20130302004-$ or US-20130322828-$ or US-20130323940-$ or US-20130322826-$ or US-20130330957-$ or US-20130343764-$ or US-20130343707-$ or US-20140016902-$ or US-20140023322-$ or US-20140038462-$ or US-20140044394-$ or US-20140064690-$ or US-20140064664-$ or US-20140072297-$ or US-20140072263-$ or US-20140082913-$ or US-20140093210-$ or US-20140104808-$ or US-20140126875-$ or US-20140126874-$ or US-20140124140-$ or US-20140133821-$ or US-20140133803-$).did. or (US-20140141649-$ or US-20140147082-$ or US-20140161394-$ or US-20140161407-$ or US-20140161400-$ or US-20140169732-$ or US-20140178007-$ or US-20140205253-$ or US-20140205247-$ or US-20140219615-$ or US-20140220794-$ or US-20140219619-$ or US-20140241690-$ or US-20140241689-$ or US-20140241688-$ or US-20140241667-$ or US-20140273584-$ or US-20140270646-$ or US-20140294339-$ or US-20140308010-$ or US-20140308008-$ or US-20140321813-$ or US-20140321814-$ or US-20140328063-$ or US-20140334790-$ or US-20140334780-$ or US-20140334778-$).did. or (US-20140348481-$ or US-20140348467-$ or US-20140355936-$ or US-20140376870-$ or US-20150003774-$ or US-20150012072-$ or US-20150030323-$ or US-20150050002-$ or US-20150055917-$ or US-20150055928-$ or US-20150063758-$ or US-20150060539-$ or US-20150078710-$ or US-20150139588-$ or US-20150147033-$ or US-20150147031-$ or US-20150153516-$ or US-20150177467-$ or US-20150185423-$ or US-20150192744-$ or US-20150205060-$ or US-20150205053-$ or US-20150212284-$ or US-20150212279-$ or US-20150219856-$ or US-20150219857-$ or US-20150226923-$).did. or (US-20150234131-$ or US-20150234128-$ or US-20150241650-$ or US-20150247977-$ or US-20150253183-$ or US-20150260927-$ or US-				

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		20170160500-$ or US-20170160496-$ or US-20170160486-$ or US-20170160478-$ or US-20170160477-$ or US-20170160476-$).did. or (US-20170168244-$ or US-20170176252-$ or US-20170184800-$ or US-20170192182-$ or US-20170199338-$ or US-20170199336-$ or US-20170205591-$ or US-20170205588-$ or US-20170212310-$ or US-20170212309-$ or US-20170222347-$ or US-20170227727-$ or US-20170227718-$ or US-20170235077-$ or US-20170242198-$ or US-20170242196-$ or US-20170248762-$ or US-20170254962-$ or US-20170254961-$ or US-20170254960-$ or US-20170276887-$ or US-20170276886-$ or US-20170285272-$ or US-20170293091-$ or US-20170299821-$ or US-20170299818-$ or US-20170299817-$).did. or (US-20170307832-$ or US-20170307829-$ or US-20170315307-$ or US-20170315305-$ or US-20170315304-$ or US-20170315303-$ or US-20170331234-$ or US-20170336571-$ or US-20170343742-$ or US-20170343741-$ or US-20170341972-$ or US-20170351038-$ or US-20170351037-$ or US-20170359091-$ or US-20170363815-$ or US-20170363810-$ or US-20170363509-$ or US-20170371118-$ or US-20170371107-$ or US-20180003910-$ or US-20180011261-$ or US-20180017740-$ or US-20180024302-$ or US-20180024301-$ or US-20180024300-$ or US-20180024294-$ or US-20180031782-$).did. or (US-20180031775-$ or US-20180059338-$ or US-20180074277-$ or US-20180081127-$ or US-20180081122-$ or US-20180078781-$ or US-20180095232-$ or US-20180106975-$ or US-20180113268-$ or US-20180113259-$ or US-20180136410-$ or US-20180143384-$ or US-20180143381-$ or US-20180149813-$ or US-20180157002-$ or US-20180180819-$ or US-20180188460-$ or US-20180196204-$ or US-20180210155-$ or US-20180210153-$).did. or (US-3933409-$ or US-3999837-$ or US-4080044-$ or US-4087158-$ or US-4101198-$ or US-4140365-$ or US-4167304-$ or US-4168109-$ or US-4186996-$ or US-4201445-$ or US-4214812-$ or US-4218113-$ or US-4223976-$ or US-4252407-$ or US-4268115-$ or US-4268114-$ or US-4279469-$ or US-4291943-$ or US-4295707-$ or US-4327964-$ or US-4354731-$ or US-			

		4368948-$ or US-4371233-$ or US-4387957-$ or US-4415232-$ or US-4422716-$).did. or (US-4444461-$ or US-4445753-$ or US-4447121-$ or US-4461539-$ or US-4466009-$ or US-4484796-$ or US-4487474-$ or US-4497536-$ or US-4526438-$ or US-4548467-$ or US-4614402-$ or US-4615581-$ or US-4645296-$ or US-4648688-$ or US-4666241-$ or US-4674831-$ or US-4681398-$ or US-4688887-$ or US-4699460-$ or US-4714318-$ or US-4714317-$ or US-4714315-$ or US-4715674-$ or US-4717234-$ or US-4718744-$ or US-4722081-$ or US-4740052-$).did. or (US-4741590-$ or US-4758719-$ or US-4759600-$ or US-4759599-$ or US-4762389-$ or US-4767178-$ or US-4773725-$ or US-4781429-$ or US-4783137-$ or US-4786135-$ or US-4787700-$ or US-4789216-$ or US-4793683-$ or US-4795231-$ or US-4805980-$ or US-4807957-$ or US-4813760-$ or US-4824196-$ or US-4834486-$ or US-4842361-$ or US-4844570-$ or US-4846544-$ or US-4848870-$ or US-4850536-$ or US-4852963-$ or US-4877303-$ or US-4892380-$).did. or (US-4898446-$ or US-4960317-$ or US-4964688-$ or US-4976510-$ or US-4986762-$ or US-4986622-$ or US-4991929-$ or US-4993803-$ or US-4995688-$ or US-4998797-$ or US-5013124-$ or US-5015060-$ or US-5016970-$ or US-5018823-$ or US-5042891-$ or US-5048916-$ or US-5052774-$ or US-5058983-$ or US-5073042-$ or US-5077815-$ or US-5091991-$ or US-5091990-$ or US-5109453-$ or US-5115484-$ or US-5119455-$ or US-5124506-$ or US-5127073-$).did. or (US-5129024-$ or US-5133032-$ or US-5134677-$ or US-5134676-$ or US-5155795-$ or US-5159654-$ or US-5177808-$ or US-5179607-$ or US-5210815-$ or US-5214730-$ or US-5228104-$ or US-5233675-$ or US-5233674-$ or US-5239606-$ or US-5267342-$ or US-5274729-$ or US-5280552-$ or US-5282259-$ or US-5293581-$ or US-5297227-$ or US-5317663-$ or US-5323475-$ or US-5329541-$ or US-5333222-$ or US-5333221-$ or US-5359688-$ or US-5363460-$).did. or (US-5367594-$ or US-5366383-$ or US-5384885-$ or US-5386485-$ or US-5408557-$ or US-5418875-$ or US-5420951-$ or US-5444806-$ or US-5446817-$ or US-5450519-$ or US-5452391-$ or US-5485537-$ or US-5497444-$ or US-5506922-$ or US-5519799-$ or				

		US-5521998-$ or US-5528711-$ or US-5530783-$ or US-5537501-$ or US-5542015-$ or US-5548674-$ or US-5550943-$ or US-5563978-$ or US-5563971-$ or US-5570445-$ or US-5574813-$ or US-5579429-$).did. or (US-5581644-$ or US-5588086-$ or US-5592323-$ or US-5600746-$ or US-5603631-$ or US-5607323-$ or US-5619610-$ or US-5633969-$ or US-5642450-$ or US-5647043-$ or US-5645449-$ or US-5661833-$ or US-5666449-$ or US-5664955-$ or US-5668904-$ or US-5671310-$ or US-5673346-$ or US-5680494-$ or US-5682449-$ or US-5687268-$ or US-5694507-$ or US-5694506-$ or US-5701380-$ or US-5721799-$ or US-5727102-$ or US-5732174-$ or US-5734770-$).did. or (US-5737464-$ or US-5751874-$ or US-5761359-$ or US-5764043-$ or US-5774611-$ or US-5774612-$ or US-5778122-$ or US-5781680-$ or US-5796896-$ or US-5799122-$ or US-5809191-$ or US-5815618-$ or US-5818993-$ or US-5825955-$ or US-5832158-$ or US-5838856-$ or US-5838855-$ or US-5845036-$ or US-5862282-$ or US-5867621-$ or US-5881191-$ or US-5887100-$ or US-5887098-$ or US-5892870-$ or US-5896477-$ or US-5909526-$ or US-5909298-$).did. or (US-5915058-$ or US-5923805-$ or US-5930426-$ or US-5930425-$ or US-5937121-$ or US-5940561-$ or US-5940559-$ or US-5949946-$ or US-5953474-$ or US-5953473-$ or US-5956444-$ or US-5960137-$ or US-5969294-$ or US-5971626-$ or US-5980117-$ or US-5987203-$ or US-5993071-$ or US-6004043-$ or US-6022149-$ or US-6027252-$ or US-6041155-$ or US-6048103-$ or US-6048102-$ or US-6053639-$ or US-6059461-$ or US-6064791-$ or US-6076973-$).did. or (US-6076975-$ or US-6081647-$ or US-6079881-$ or US-6088502-$ or US-6095694-$ or US-6104856-$ or US-6102581-$ or US-6108482-$ or US-6116790-$ or US-6116789-$ or US-6116101-$ or US-6132105-$ or US-6139346-$ or US-6142676-$ or US-6149315-$ or US-6154597-$ or US-6164835-$ or US-6164834-$ or US-6173099-$ or US-6179480-$ or US-6179475-$ or US-6188827-$ or US-6188825-$ or US-6186670-$ or US-6190616-$ or US-6195477-$ or US-6193420-$).did. or (US-6196729-$ or US-6200040-$ or US-6206577-$ or US-6217226-$ or US-6220763-$ or US-6220762-$ or US-6224269-$ or US-6227719-$ or					

US-6227718-$ or US-6240229-$ or US-6238249-$ or US-6243526-$ or US-6247851-$ or US-6247849-$ or US-6256446-$ or US-6259839-$ or US-6264373-$ or US-6264372-$ or US-6267513-$ or US-6273618-$ or US-6290527-$ or US-6301004-$ or US-6302592-$ or US-6309111-$ or US-6318904-$ or US-6318903-$ or US-6334715-$).did. or (US-6349164-$ or US-6347889-$ or US-6347888-$ or US-6354746-$ or US-6357932-$ or US-6361218-$ or US-6364536-$ or US-6367986-$ or US-6367984-$ or US-6371659-$ or US-6377840-$ or US-6375363-$ or US-6384896-$ or US-6382843-$ or US-6382839-$ or US-6389212-$ or US-6402393-$ or US-6402390-$ or US-6402388-$ or US-6409391-$ or US-6412987-$ or US-6419810-$ or US-6422759-$ or US-6425692-$ or US-6425694-$ or US-6431762-$ or US-6437894-$).did. or (US-6435946-$ or US-6445867-$ or US-6456768-$ or US-6457876-$ or US-6461055-$ or US-6461054-$ or US-6461053-$ or US-6466724-$ or US-6464406-$ or US-6467971-$ or US-6467970-$ or US-6471417-$ or US-6471412-$ or US-6474876-$ or US-6478472-$ or US-6481900-$ or US-6481899-$ or US-6485192-$ or US-6497518-$ or US-6497516-$ or US-6501900-$ or US-6508593-$ or US-6526210-$ or US-6524015-$ or US-6527450-$ or US-6533469-$ or US-6543941-$).did. or (US-6554482-$ or US-6558044-$ or US-6561699-$ or US-6572276-$ or US-6572273-$ or US-6582132-$ or US-6595696-$ or US-6601995-$ or US-6612750-$ or US-6619859-$ or US-6619856-$ or US-6632023-$ or US-6634794-$ or US-6644866-$ or US-6667803-$ or US-6695485-$ or US-6702477-$ or US-6702475-$ or US-6786647-$ or US-6789953-$ or US-6793399-$ or US-6840680-$ or US-6856748-$ or US-6895146-$ or US-7232261-$ or US-7435009-$ or US-7530845-$).did. or (US-7585118-$ or US-7588373-$ or US-7706657-$ or US-7738757-$ or US-7972066-$ or US-8070366-$ or US-8206040-$ or US-8517614-$ or US-8588571-$ or US-8953922-$ or US-9229177-$ or US-9229170-$ or US-9291781-$ or US-9316794-$ or US-9323007-$ or US-9448369-$ or US-9453972-$ or US-9482825-$ or US-9551831-$ or US-9625655-$ or US-9632267-$ or US-9638871-$ or US-9638868-$ or US-9645335-$ or US-9658407-$ or US-9671570-$ or US-9671568-$).did. or (US-9678282-$

		or US-9696477-$ or US-9722367-$ or US-9720184-$ or US-9726829-$ or US-9735523-$ or US-9733123-$ or US-9739955-$ or US-9739952-$ or US-9739951-$ or US-9746625-$ or US-9746368-$ or US-9759874-$ or US-9759869-$ or US-9772457-$ or US-9772456-$ or US-9772453-$ or US-9784928-$ or US-9798090-$ or US-9797806-$ or US-9810860-$ or US-9810858-$ or US-9810856-$ or US-9817195-$ or US-9823428-$ or US-9829643-$ or US-9827438-$).did. or (US-9835807-$ or US-9841566-$ or US-9857545-$ or US-9857537-$ or US-9864151-$ or US-9869824-$ or US-9876309-$ or US-9874702-$ or US-9880365-$ or US-9880357-$ or US-9885841-$ or US-9893813-$ or US-9891392-$ or US-9891387-$ or US-9891385-$ or US-9897767-$ or US-9904021-$ or US-9904020-$ or US-9910228-$ or US-9910226-$ or US-9915793-$ or US-9933586-$ or US-9933583-$ or US-9933582-$ or US-9939600-$ or US-9939590-$ or US-9948017-$).did. or (US-9946036-$ or US-10007069-$ or US-10018787-$).did. or (JP-2016095432-$ or JP-2016095410-$ or JP-2016122100-$ or JP-2016177309-$ or JP-2016188927-$ or JP-2017053937-$ or JP-2017090798-$ or JP-2017111444-$ or JP-2017134118-$ or JP-2017138535-$ or JP-2017151338-$ or JP-2017219768-$).did.				
S500	734	(US-20010041030-$ or US-20020025125-$ or US-20020106162-$ or US-20020114589-$ or US-20020159710-$ or US-20030031452-$ or US-20030044127-$ or US-20030044125-$ or US-20030180004-$ or US-20030223703-$ or US-20040008494-$ or US-20040017983-$ or US-20040017981-$ or US-20040038558-$ or US-20040052472-$ or US-20040062498-$ or US-20040105628-$ or US-20040131317-$ or US-20040223699-$ or US-20040228589-$ or US-20050036744-$ or US-20050053342-$ or US-20050111795-$ or US-20050123246-$ or US-20050135755-$ or US-20050135752-$).did. or (US-20050271328-$ or US-20060045430-$ or US-20060051028-$ or US-20060093282-$ or US-20060153504-$ or US-20060193562-$ or US-20060280409-$ or US-20060285807-$ or US-20070058907-$ or US-20070098327-$ or US-20070160327-$ or US-20080069501-$ or US-20080112672-$ or US-20080124031-$ or US-20080131055-$ or US-	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/02/27 19:35

		20080253719-$ or US-20090003772-$ or US-20090290839-$ or US-20090305542-$ or US-20100322561-$ or US-20110038590-$ or US-20110075971-$ or US-20110091159-$ or US-20110222819-$ or US-20110249942-$ or US-20120027355-$ or US-20120057824-$).did. or (US-20120076459-$ or US-20120082416-$ or US-20120099822-$ or US-20120141070-$ or US-20120251054-$ or US-20120251051-$ or US-20120263423-$ or US-20120263419-$ or US-20120308183-$ or US-20130051749-$ or US-20130064508-$ or US-20130077914-$ or US-20130121645-$ or US-20130129280-$ or US-20130183001-$ or US-20130216189-$ or US-20130230283-$ or US-20130259429-$ or US-20130272671-$ or US-20130308908-$ or US-20140056560-$ or US-20140064665-$ or US-20140064688-$ or US-20140072265-$ or US-20140086545-$ or US-20140147081-$ or US-20140205241-$).did. or (US-20140219614-$ or US-20140219624-$ or US-20140314385-$ or US-20140341510-$ or US-20150003785-$ or US-20150023637-$ or US-20150049989-$ or US-20150071591-$ or US-20150177463-$ or US-20150226926-$ or US-20150241644-$ or US-20150301286-$ or US-20150331201-$ or US-20150338583-$ or US-20150370017-$ or US-20150378112-$ or US-20160004018-$ or US-20160004016-$ or US-20160025937-$ or US-20160077287-$ or US-20160077284-$ or US-20160109661-$ or US-20160131854-$ or US-20160131849-$ or US-20160161680-$ or US-20160178859-$ or US-20160259135-$).did. or (US-20160282566-$ or US-20160282562-$ or US-20160320571-$ or US-20160349464-$ or US-20170059784-$ or US-20170090128-$ or US-20170090127-$ or US-20170102506-$ or US-20170102504-$ or US-20170108653-$ or US-20170115457-$ or US-20170139150-$ or US-20170153398-$ or US-20170184798-$ or US-20170184790-$ or US-20170205587-$ or US-20170219779-$ or US-20170227720-$ or US-20170235060-$ or US-20170242200-$ or US-20170242199-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170261698-$ or US-20170269309-$ or US-20170276883-$).did. or (US-20170276881-$ or US-20170293088-$ or US-20170293087-$ or US-				

		20170307831-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170357060-$ or US-20170357059-$ or US-20170363827-$ or US-20180003903-$ or US-20180011258-$ or US-20180011254-$ or US-20180031774-$ or US-20180052288-$ or US-20180077472-$ or US-20180081128-$ or US-20180081125-$ or US-20180088288-$ or US-20180088287-$ or US-20180088286-$ or US-20180088283-$ or US-20180106973-$ or US-20180156988-$ or US-20180156985-$ or US-20180210154-$).did. or (US-4240695-$ or US-4320938-$ or US-4330172-$ or US-4477146-$ or US-4687291-$ or US-4737009-$ or US-4854664-$ or US-4856866-$ or US-4886335-$ or US-4915472-$ or US-4953929-$ or US-4955976-$ or US-5064268-$ or US-5076656-$ or US-5082346-$ or US-5082344-$ or US-5101463-$ or US-5134673-$ or US-5157749-$ or US-5166995-$ or US-5199093-$ or US-5259052-$ or US-5555332-$ or US-5666456-$ or US-5692080-$ or US-5867894-$).did. or (US-5870515-$ or US-5883995-$ or US-5920670-$ or US-5920669-$ or US-5984533-$ or US-6012852-$ or US-6095695-$ or US-6210045-$ or US-6250817-$ or US-6305849-$ or US-6318902-$ or US-6331079-$ or US-6379052-$ or US-6409392-$ or US-6422761-$ or US-6422760-$ or US-6450698-$ or US-6487343-$ or US-6491442-$ or US-6533465-$ or US-6554486-$ or US-6623172-$ or US-6688782-$ or US-6712521-$ or US-6764222-$ or US-6839583-$ or US-6848834-$).did. or (US-6944378-$ or US-7036996-$ or US-8388235-$ or US-9207454-$ or US-9316791-$ or US-9377591-$ or US-9389368-$ or US-9482820-$ or US-9606303-$ or US-9625657-$ or US-9664864-$ or US-9678283-$ or US-9678286-$ or US-9684134-$ or US-9696497-$ or US-9703062-$ or US-9709753-$ or US-9726830-$ or US-9733436-$ or US-9733434-$ or US-9798096-$ or US-9804342-$ or US-9804340-$ or US-9804337-$ or US-9829650-$ or US-9835808-$ or US-9846283-$).did. or (US-9851512-$ or US-9891390-$ or US-9904019-$ or US-9910229-$ or US-9927582-$ or US-9939589-$ or US-9946037-$).did. or (IT-7819792-$ or FR-2363124-$ or IT-7925110-$ or GB-2057158-$ or FR-2487528-$ or GB-2081468-$ or EP-0061243-$ or DK-208682-$ or GB-8306227-$ or IT-8323399-$ or JP-				

		S5856846-$ or EP-0125398-$ or FR-2535069-$ or WO-8600147-$ or EP-0249237-$ or EP-0262847-$ or EP-0262631-$ or DE-8626183-$ or WO-9015350-$ or EP-0408852-$ or GB-9103604-$ or GB-9106183-$ or CA-2030897-$ or DE-9107960-$ or GB-9206076-$ or CA-2057559-$).did. or (CA-2082276-$ or EP-0633485-$ or EP-0690319-$ or CA-2191600-$ or EP-0696748-$ or EP-0697608-$ or CN-1118443-$ or WO-9627811-$ or EP-0758099-$ or WO-9734176-$ or CA-2198522-$ or EP-0803750-$ or NL-1003147-$ or EP-0807837-$ or CA-2254335-$ or CA-2294930-$ or CA-2262351-$ or EP-0938003-$ or JP-2945144-$ or CA-2324565-$ or GB-9919699-$ or EP-0992819-$ or CA-2284331-$ or GB-0007281-$ or CA-2288249-$ or DE-19728960-$ or EP-1033595-$).did. or (EP-1033594-$ or EP-1039324-$ or EP-1039322-$ or EP-1041416-$ or EP-1041414-$ or JP-3106420-$ or CA-2321428-$ or EP-1091225-$ or WO-0137010-$ or EP-1107031-$ or KR-20010062142-$ or WO-0155762-$ or EP-1124147-$ or WO-0161397-$ or WO-0181965-$ or CA-2350290-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or KR-20020000530-$ or KR-20020001574-$ or CN-1331421-$ or EP-1172672-$ or EP-1172673-$ or KR-20020006481-$ or KR-20020006480-$ or DE-20118858-$).did. or (CA-2418331-$ or KR-20020050140-$ or WO-02056060-$ or WO-02061481-$ or DE-10114144-$ or NL-1018440-$ or WO-03016975-$ or WO-03093883-$ or CA-2484569-$ or EP-1394584-$ or AU-2003291687-$ or EP-1530068-$ or CA-2503690-$ or CN-1677147-$ or CN-1707299-$ or WO-2008006402-$ or EP-1887395-$ or CN-101122658-$ or WO-2008029850-$ or CA-2662854-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or CA-2689768-$ or EP-2206458-$ or WO-2010137426-$ or CA-2762411-$).did. or (EP-2302431-$ or WO-2011139938-$ or WO-2011152874-$ or EP-2444827-$ or WO-2012054174-$ or WO-2012054174-$ or WO-2012151175-$ or GB-201218194-$ or CN-102870023-$ or WO-2013115791-$ or WO-2013115789-$ or WO-2013126068-$ or CA-2912155-$ or WO-2014009463-$ or WO-2014011898-$ or EP-2700992-$ or JP-5433802-$ or WO-2014049469-$ or WO-2014113753-$ or CA-2836675-$ or WO-2014143748-$ or WO-2014165175-$ or WO-2014197701-$					

		or CN-104241938-$ or CA-2917189-$ or EP-2840425-$ or EP-2843452-$).did. or (WO-2015028433-$ or CA-2885821-$ or WO-2015068103-$ or CA-2932688-$ or GB-201507758-$ or WO-2015103783-$ or WO-2015116589-$ or CN-204595258-$ or WO-2015144883-$ or EP-2942653-$ or EP-2947485-$ or WO-2015190211-$ or WO-2016004347-$ or CN-105278047-$ or DE-202013012295-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or CA-2928026-$ or WO-2016043922-$ or JP-5905950-$ or WO-2016067668-$ or EP-3021145-$ or WO-2016082160-$ or WO-2016103821-$ or DE-202016103178-$ or EP-3054333-$).did. or (WO-2016161341-$ or WO-2017038704-$ or JP-6173629-$ or WO-2017180257-$ or CN-206584076-$ or EP-3258301-$ or WO-2018003776-$ or WO-2018004847-$).did. or (JP-54034251-$ or JP-55101904-$ or JP-56066811-$ or JP-56074211-$ or JP-59075218-$ or JP-04214510-$ or JP-04220604-$ or JP-05313040-$ or JP-08015541-$ or JP-09005575-$ or JP-09033756-$ or JP-10104469-$ or JP-11072659-$ or JP-2000089061-$ or JP-2000284146-$ or JP-2000292655-$ or JP-2000310724-$ or JP-2001013372-$ or JP-2001021764-$ or JP-2001242361-$ or JP-2009294343-$ or JP-2012053420-$ or JP-2012078513-$ or JP-2015022131-$).did. or (DE-2805949-$ or DE-2932986-$ or GB-2057158-$ or GB-2081468-$ or EP-61243-$ or GB-2098354-$ or DE-3208797-$ or EP-125398-$ or US-4496213-$ or WO-8600147-$ or EP-249237-$ or EP-262631-$ or US-4953929-$ or WO-9015350-$ or GB-2241794-$ or US-5064268-$ or WO-9117540-$ or EP-458608-$ or US-5101463-$ or EP-490698-$ or EP-505197-$ or EP-430107-$ or EP-660145-$ or EP-660144-$ or EP-663602-$ or EP-663601-$).did. or (WO-9600917-$ or EP-696748-$ or EP-697608-$ or WO-9627811-$ or EP-758099-$ or WO-9734176-$ or EP-803750-$ or US-5692080-$ or WO-9746900-$ or WO-9857208-$ or WO-9947958-$ or GB-2341455-$ or EP-1041416-$ or EP-1041414-$ or EP-1091225-$ or WO-0140839-$ or EP-1107031-$ or EP-1124147-$ or WO-0181965-$ or US-20010041030-$ or EP-1168020-$ or EP-1168018-$ or EP-1168016-$ or EP-1172673-$ or EP-1172672-$ or DE-20118858-$ or WO-02056060-$).did. or (US-6422760-$ or WO-02061481-$ or US-20030031437-				

		$ or US-20030044125-$ or WO-03094297-$ or WO-03093883-$ or EP-1394584-$ or US-20040062498-$ or US-20040223699-$ or US-20040228589-$ or US-20050053342-$ or WO-2006022840-$ or US-20060153503-$ or US-20060165352-$ or US-20060193562-$ or EP-1752805-$ or US-20070058907-$ or US-20070077010-$ or US-20070098327-$ or US-20090041411-$ or US-20090060423-$ or WO-2009110421-$ or WO-2010025180-$ or WO-2010068896-$ or EP-2206458-$ or WO-2010137426-$ or EP-2302431-$).did. or (US-20110249942-$ or US-20110274437-$ or WO-2011152874-$ or KR-2012000895-$ or US-20120027355-$ or US-20120057824-$ or US-20120082416-$ or EP-2444827-$ or US-20120099822-$ or US-20120251051-$ or US-20120251054-$ or US-20120263419-$ or WO-2012151175-$ or US-20120308183-$ or CN-102870023-$ or TW-201309089-$ or US-20130051749-$ or WO-2013036843-$ or CN-103091793-$ or US-20130121645-$ or WO-2013115789-$ or WO-2013115791-$ or WO-2013122865-$ or WO-2013126068-$ or US-20130230283-$ or US-20130259429-$ or WO-2013155395-$).did. or (WO-2013177234-$ or WO-2014011898-$ or US-20140016901-$ or EP-2700992-$ or JP-5433802-$ or US-20140064688-$ or TW-474924-$ or WO-2014049469-$ or US-20140147081-$ or US-20140153879-$ or ES-1110405-$ or WO-2014113753-$ or EP-2759860-$ or US-20140219624-$ or WO-2014143748-$ or WO-2014165175-$ or US-20140321808-$ or US-20140363131-$ or WO-2014197701-$ or EP-2818903-$ or WO-2015009435-$ or US-20150023637-$ or US-20150049989-$ or WO-2015028433-$ or WO-2015068103-$ or WO-2015070382-$ or US-20150162982-$).did. or (US-20150177463-$ or WO-2015103783-$ or WO-2015116589-$ or US-20150219864-$ or US-20150226926-$ or US-20150226925-$ or US-20150241644-$ or CN-104950402-$ or WO-2015144883-$ or US-20150286012-$ or DE-102015106225-$ or US-20150331201-$ or EP-2947485-$ or WO-2015190211-$ or US-20150378110-$ or US-20160004016-$ or US-20160004018-$ or US-20160025937-$ or CA-2859345-$ or JP-5860948-$ or WO-2016024014-$ or WO-2016033577-$			

		or WO-2016033578-$ or WO-2016033579-$ or WO-2016033580-$ or WO-2016043922-$ or JP-5905950-$).did. or (US-20160124158-$ or US-20160131854-$ or EP-3021145-$ or US-20160161680-$ or US-20160178852-$ or US-20160178859-$ or US-9377591-$ or US-9389368-$ or EP-3054333-$ or US-20160259135-$ or CN-105978629-$ or US-20160282566-$ or WO-2016161341-$ or US-20160306125-$ or US-9482820-$ or US-20160341908-$ or US-20160341911-$ or US-20160349466-$ or US-20160377819-$ or US-20170031106-$ or US-20170059784-$ or WO-2017038704-$ or US-20170090127-$ or US-20170102504-$ or US-20170115457-$ or US-20170139150-$ or US-20170139156-$).did. or (US-20170153398-$ or US-9678283-$ or US-20170184790-$ or US-9709753-$ or US-20170205587-$ or JP-6173629-$ or US-20170219779-$ or US-9726830-$ or US-20170227720-$ or US-20170254967-$ or US-20170254966-$ or US-20170261699-$ or US-20170293088-$ or US-20170307830-$ or US-9804340-$ or US-20170329090-$ or US-20170336577-$ or US-20170343760-$ or US-20170371109-$ or US-20180003903-$ or US-20180011258-$ or US-20180052288-$ or US-20180081128-$ or US-20180106973-$ or US-20180120519-$ or US-20180128988-$).did.				
S501	136	(US-20020176671-$ or US-20040017980-$ or US-20040126118-$ or US-20040197054-$ or US-20070172177-$ or US-20070286554-$ or US-20100008635-$ or US-20100129034-$ or US-20100290745-$ or US-20110116749-$ or US-20110222830-$ or US-20110229096-$ or US-20110229095-$ or US-20110225792-$ or US-20110255831-$ or US-20110262078-$ or US-20110262077-$ or US-20120014648-$ or US-20120063724-$ or US-20120275749-$ or US-20130136402-$ or US-20130315538-$ or US-20140286610-$ or US-20150016781-$ or US-20150110448-$ or US-20160124170-$).did. or (US-20160202429-$ or US-20170045691-$ or US-20170285277-$ or US-20170299820-$ or US-20180120519-$ or US-20180143380-$ or US-20180231722-$ or US-20180239093-$ or US-20180267255-$ or US-20180292618-$ or US-20180292612-$ or US-20180364421-$ or US-20190107679-$ or US-20190107678-$	US-PGPUB; USPAT; FPRS; JPO; DERWENT	OR	ON	2020/02/27 19:35

		or US-20190113691-$ or US-20190137701-$ or US-20190179085-$).did. or (US-5504825-$ or US-5613021-$ or US-5661826-$ or US-6045270-$ or US-6276840-$ or US-6293708-$ or US-6623170-$ or US-6796717-$ or US-6848840-$ or US-6866425-$ or US-6932514-$ or US-6944387-$ or US-6976793-$ or US-7094091-$ or US-7178994-$ or US-7182522-$ or US-7234874-$ or US-7241056-$ or US-7300216-$ or US-7536075-$ or US-7654748-$ or US-7891882-$ or US-7912336-$ or US-8052333-$ or US-8231282-$ or US-8235600-$).did. or (US-8262296-$ or US-8317407-$ or US-8346047-$ or US-8348519-$ or US-8348518-$ or US-8376634-$ or US-8406583-$ or US-8417074-$ or US-8494329-$ or US-8496384-$ or US-8529138-$ or US-8542972-$ or US-8550725-$ or US-8550724-$ or US-8579521-$ or US-8690593-$ or US-8714835-$ or US-8821038-$ or US-8821037-$ or US-8915653-$ or US-8958679-$ or US-9014527-$ or US-9031364-$ or US-9057848-$ or US-9146376-$ or US-9146360-$ or US-9417401-$).did. or (US-9513442-$ or US-9541711-$ or US-9557497-$ or US-9563025-$ or US-9606297-$ or US-9632255-$ or US-9645318-$ or US-9658409-$ or US-9684139-$ or US-9739949-$ or US-9753228-$ or US-9772464-$ or US-9857538-$ or US-9977199-$ or US-9989710-$ or US-10012801-$ or US-10054747-$ or US-10061090-$ or US-10067302-$ or US-10067300-$ or US-10088636-$ or US-10101539-$ or US-10139570-$ or US-10146014-$ or US-10156684-$ or US-10209473-$).did. or (WO-2010083369-$ or EP-2380054-$ or CN-102282495-$ or WO-2014152675-$ or WO-2015043158-$ or CN-104516073-$ or CN-102282495-$ or WO-2018125706-$).did. or (JP-57044113-$).did. or (US-20160327757-$ or US-20170299820-$ or WO-2018125706-$ or US-20190107679-$).did.			
S502	2084	S498 S499 S500 S501	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/02/27 19:35
S503	53523	(ferrule connector) with insert$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2020/02/27 19:35

			IBM_TDB			
S504	65031	G02B6/38$.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/02/27 19:35
S505	2450	S503 and S504	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/02/27 19:35
S506	13830	adapter with (groove channel) with (top bottom upper lower)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S507	96	S505 and S506	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S508	56	S507 not S502	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S509	1110975	(groove channel) with upper with lower	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S510	664254	(groove channel) with top with bottom	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S511	424	S505 and (S509 S510)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/02/27 19:35
S512	307	S511 not (S502 S508)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35

S513	15210	("ferrules" "connectors") with align$4 with (groove channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S514	2116	S504 and S513	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S515	339	S514 and (S509 S510)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/02/27 19:35
S516	161	S515 not (S502 S508 S512)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S517	10996	G02B6/3825,3826.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/02/27 19:35
S518	428	S513 and S517	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/02/27 19:35
S519	200	S518 not (S502 S508 S512 S516)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S520	25335	("ferrules" "connectors") with align$4 with (groove channel slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S521	674	S520 and S517	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2020/02/27 19:35

			IBM_TDB			
S522	134	S521 not (S502 S508 S512 S516 S519)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S523	2942	S502 S508 S512 S516 S519 S522	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S524	2640	G02B6/3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S525	2284	S524 not S523	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:35
S526	3	"67299207".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/02/27 19:41
S527	38	("20010026661" | "20020167793" | "20040228582" | "20050095899" | "20060140543" | "20080032536" | "20080248691" | "20080311781" | "20110059642" | "20120190230" | "20120257865" | "4186997" | "4376565" | "4448467" | "4580868" | "4645295" | "4711511" | "4904199" | "4979792" | "4986769" | "5166995" | "5183408" | "5265181" | "5289554" | "6149313" | "6257917" | "6538882" | "6634796" | "6910911" | "6994478" | "7182523" | "7325975" | "7374347" | "7476118" | "7674046" | "8167638" | "8262403" | "8724955").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/02/27 19:48
S528	2733	ferrule with (mt$2 mpo)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S529	119	S525 and S528	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48

S530	1951553	(slot groove channel key$4) with (upper lower top bottom) with (center central$4 middle through)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S531	35	S525 and S530	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S532	34	S531 not (S529)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S533	8720774	(slot groove channel key$4) with (upper lower top bottom center central$4 middle through)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S534	381	S525 and S533	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S535	267	S534 not (S529 S532)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S536	420	S529 S532 S535	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S537	20045	(multiple plural$4) adj2 (key$4 key$way) with (surface top bottom side wall)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S538	14560	G02B6/3825-3831.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S539	29	S537 and S538	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2020/02/27 19:48

			DERWENT; IBM_TDB			
S540	16	S539 not (S527 S536)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:48
S541	466	S527 S536 S540	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 19:50
S542	12329	G02B6/3881,3885.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 20:44
S543	12781	G02B6/3879,3825.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 20:44
S544	2703	S543 and S542	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 20:45
S545	1680	S544 not (S523 S525 S541)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/27 20:45
S546	3	"61690020".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/02/28 17:09
S547	8	"48999326".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/02/28 17:10
S548	12	"22814831".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/02/28 17:12
S549	18	("20030108301" | "20030190130" | "20090274432" | "20100111484" | "20120251051" | "20130044978" | "20130051733" | "20140219609" | "20140233893" | "5600747" | "5675682" | "5870515" | "6146023" | "6485189" | "6547585" | "6705765" |	US-PGPUB; USPAT; USOCR	OR	ON	2020/02/28 17:15

		"6857900" | "8858089").PN.				
S550	1	("8801301").PN.	US-PGPUB; USPAT	OR	OFF	2020/02/28 17:15
S551	2	"49235150".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/02/28 17:16
S552	12329	G02B6/3881,3885.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/28 17:29
S553	12781	G02B6/3879,3825.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/28 17:29
S554	22407	S553 S552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/28 17:29
S555	523	gang$4 with (adapter adaptor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/28 17:30
S556	71	S554 and S555	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/28 17:30
S557	143244	G02B6/38$3.cpc. G02B6/42$3.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/28 18:35
S558	87	S555 and S557	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/28 18:35
S559	16	S558 not S556	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2020/02/28 18:35

			DERWENT; IBM_TDB			
S560	0	(13/795888).APP.	USPAT; USOCR	OR	ON	2020/02/28 18:46
S561	5	"51388255".FMID.	US-PGPUB; USPAT; FPRS; JPO	OR	ON	2020/02/28 18:46

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