UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/044,838	12/18/2018	10158194	Senko.03611	1615

152878 7590 11/28/2018

Senko Advanced Components, Inc.
450 Donald Lynch Blvd
Unit D
Marlborough, MA 01752

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):

Kazuyoshi Takano, Southborough, MA;
Senko Advanced Components, Inc., Marlborough, MA;
Jeffrey Gniadek, Northbridge, MA;

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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (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)

152878 7590 09/12/2018
Senko Advanced Components, Inc.
450 Donald Lynch Blvd
Unit D
Marlborough, MA 01752

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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/044,838	02/16/2016	Kazuyoshi Takano	Senko.0361I	1615

TITLE OF INVENTION: Narrow Width Adapters and Connectors with Spring Loaded Remote Release

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0	$0	$500	12/12/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
TAVLYKAEV, ROBERT FUATOVICH	2883	385-076000

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 03-02 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 Edward S.
2 Jarmolowicz, Esq.
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 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.

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

Senko Advanced Components, Inc. 450 Donald Lynch Blvd., Marlborough, MA 01752

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

4a. The following fee(s) are submitted:
- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies ____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)
- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number ____ (enclose an extra copy of this form).

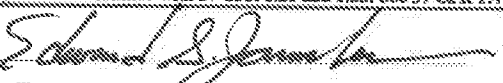
5. Change in Entity Status (from status indicated above)
- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

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 November 7th, 2018

Typed or printed name Edward S. Jarmolowicz Registration No. 47238

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Senko Ex. 2005, Page 2
US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

Electronic Patent Application Fee Transmittal

Application Number:	15044838
Filing Date:	16-Feb-2016
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Filer:	Edward Jarmolowicz
Attorney Docket Number:	Senko.03611

Filed as Small 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:				
UTILITY APPL ISSUE FEE	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**500**

Electronic Acknowledgement Receipt

EFS ID:	34237314
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Customer Number:	152878
Filer:	Edward Jarmolowicz
Filer Authorized By:	
Attorney Docket Number:	Senko.03611
Receipt Date:	07-NOV-2018
Filing Date:	16-FEB-2016
Time Stamp:	13:45:42
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$500
RAM confirmation Number	110718INTEFSW13460900
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)	S03611IssueFee.pdf	118116 3571f0197f5ae7afd9401ec1dce24ab19bf9931e	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30334 56f8b7c160f513c1057c647da3554766a5a27aa2	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	148450		

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

UNITED STATES DEPARTMENT OF COMMERCE
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www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

152878 7590 09/12/2018

Senko Advanced Components, Inc.
450 Donald Lynch Blvd
Unit D
Marlborough, MA 01752

EXAMINER
TAVLYKAEV, ROBERT FUATOVICH

ART UNIT	PAPER NUMBER
2883	

DATE MAILED: 09/12/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/044,838	02/16/2016	Kazuyoshi Takano	Senko.03611	1615

TITLE OF INVENTION: Narrow Width Adapters and Connectors with Spring Loaded Remote Release

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0	$0	$500	12/12/2018

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 Ex. 2005, Page 7
US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (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)

152878 7590 09/12/2018
Senko Advanced Components, Inc.
450 Donald Lynch Blvd
Unit D
Marlborough, MA 01752

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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/044,838	02/16/2016	Kazuyoshi Takano	Senko.03611	1615

TITLE OF INVENTION: Narrow Width Adapters and Connectors with Spring Loaded Remote Release

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0	$0	$500	12/12/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
TAVLYKAEV, ROBERT FUATOVICH	2883	385-076000

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 03-02 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 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.

(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. The following fee(s) are submitted:
❑ Issue Fee
❑ Publication Fee (No small entity discount permitted)
❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
❑ A check is enclosed.
❑ Payment by credit card. Form PTO-2038 is attached.
❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
❑ Applicant certifying micro entity status. See 37 CFR 1.29
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.
❑ 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.

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 Ex. 2005, Page 8
US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/044,838	02/16/2016	Kazuyoshi Takano	Senko.03611	1615

152878 7590 09/12/2018

Senko Advanced Components, Inc.
450 Donald Lynch Blvd
Unit D
Marlborough, MA 01752

EXAMINER	
TAVLYKAEV, ROBERT FUATOVICH	
ART UNIT	PAPER NUMBER
2883	

DATE MAILED: 09/12/2018

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 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, 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. 15/044,838	Applicant(s) TAKANO ET AL.	
	Examiner ROBERT TAVLYKAEV	Art Unit 2883	AIA (First Inventor to File) Status Yes

-- 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 *7/30/18*.
   ☐ 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 *1-20*. 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 _____.

/Robert Tavlykaev/
Primary Examiner

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

DETAILED ACTION

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Kurt James (Reg. No. 33,716) on 8/29/18.

The application has been amended as follows:

In the claims:

1. (Currently Amended) A narrow width fiber optic connector for releasable connection to a latch of one of an adapter or an SFP, the narrow width fiber optic connector comprising:

a plurality of optical fibers[[:]];

a housing configured to hold the plurality of optical fibers and further comprising a connector recess; and

a pull tab having a ramp area configured to disengage the latch of one of the adapter or the SFP from said connector recess, wherein the latch is within a main cavity of the one of the adapter and the SFP, the pull tab being mounted on the housing for movement between a

displaced position and an undisplaced position and including a spring biasing the pull tab toward the undisplaced position.

5. (Currently amended) A narrow pitch fiber optic connector for releasable connection to a latch of one of an adapter or an SFP, the narrow pitch fiber optic connector comprising:

a plurality of LC connectors arranged such that a pitch of said narrow pitch connector is less than about 5.25mm;

a housing configured to hold the plurality of LC connectors and further comprising a connector recess; and

a pull tab having a ramp area configured to disengage the latch of one of the adapter and the SFP from said connector recess, wherein the latch is within a main cavity of the one of the adapter and the SFP, the pull tab being mounted on the housing for movement between a displaced position and an undisplaced position and including a spring biasing the pull tab toward the undisplaced position.

Reasons for Allowance

2. Claims 1 and 5 are allowed for the following reasons:

The instant application is deemed to be directed to a non-obvious improvement over a fiber optic connector of the Wong – Reed – Gniadek combination.

Claims 1 and 5 are allowed because the prior art of record, taken alone or in combination, fails to provide a motivation for a fiber optic connector having the recited features and, in particular, comprising a pull tab having *a ramp area* configured to disengage a latch of one of an

adapter and an SFP from a connector recess, wherein *the latch is within a main cavity of the one of the adapter and the SFP*, and wherein the pull tab is mounted on a connector housing for movement between a displaced position and an undisplaced position and includes *a spring biasing the pull tab toward the undisplaced position*. While spring-biased/loaded pull tabs are known in the art of transponder (including SFP) modules, a person of ordinary skill in the art would *not* be motivated to incorporate a spring in the connector of Wong because its latch arms 218,220 flex inwardly and already apply a biasing force on an end portion of the connector (around a connector recess, as illustrated in Fig. 8 of Wong) and of any pull tab that could be incorporated therein. It would not be clear to a person of ordinary skill whether a spring incorporated into the connector would provide any additional advantage in terms of latching operation, while such spring would add to the complexity, material consumption, weight etc. of the structure.

Claims 2 – 4 and 6 – 20 are allowed by virtue of dependency on any one of claims 1 and 5.

Conclusion

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT TAVLYKAEV whose telephone number is (571)270-5634. The examiner can normally be reached on Mon - Thur 9 am - 6 pm EST.

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.

/Robert Tavlykaev/
Primary Patent Examiner, Art Unit 2883

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	**Art Unit**
	ROBERT TAVLYKAEV	2883

CPC						
Symbol					**Type**	**Version**
H01R		13	/	627	F	2013-01-01
G02B		6	/	3893	A	2013-01-01
G02B		6	/	3825	A	2013-01-01
H01R		13	/	6272	I	2013-01-01
H01R		13	/	6271	I	2013-01-01
H01R		13	/	62933	I	2013-01-01
G02B		6	/	4284	I	2013-01-01
G02B		6	/	3879	A	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/ROBERT TAVLYKAEV/ Primary Examiner.Art Unit 2883	8/29/18	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	15

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	**Art Unit**
	ROBERT TAVLYKAEV	2883

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION										
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED					
435	349	H	0	1	R	4 / 50 (2006.0)						
CROSS REFERENCE(S)		H	0	1	R	13 / 625 (2006.0)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)											

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 20	
/ROBERT TAVLYKAEV/ Primary Examiner.Art Unit 2883 (Primary Examiner)	8/29/18 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 15

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	**Art Unit**
	ROBERT TAVLYKAEV	2883

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

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	9	17												
2	2	18	18												
3	3	19	19												
4	4	20	20												
10	5														
11	6														
12	7														
13	8														
14	9														
15	10														
16	11														
17	12														
5	13														
6	14														
7	15														
8	16														

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 20	
/ROBERT TAVLYKAEV/ Primary Examiner.Art Unit 2883 (Primary Examiner)	8/29/18 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 15

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/29 21:38
S3	5	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:06
S4	7	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:06
S5	46	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:07
S6	128	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:07
S7	1	(13/286773).APP.	USPAT; USOCR	OR	OFF	2016/06/27 14:08
S8	99	("20040052473" | "20040136657" | "20040141693" | "20040161958" | "20060089049" | "20060269194" | "20070149062" | "20070230874" | "20070232115" | "20070243749" | "20080044137" | "20080069501" | "20080101757" | "20080226237" | "20080267566" | "20090028507" | "20090214162" | "20090220197" | "20100034502" | "20100322561" | "20110044588" | "20110131801" | "20110177710" | "4762388" | "4764129" | "4840451" | "5212752" | "5317663" | "5348487" | "5444806" | "5481634" | "5506922" | "5570445" | "5588079" | "5684903" | "5687268" | "5937130" | "5956444" | "5971626" | "6041155" | "6206577" | "6206581" | "6227717" | "6247849" | "6461054" | "6478472" | "6551117" | "6579014" | "6648520" | "6854894" | "7090406" | "7090407" | "7091421" | "7111990" | "7113679" | "7150567" | "7153041" | "7198409" | "7207724" | "7258493" | "7281859" | "7315682" | "7325976" | "7325980" | "7329137" | "7354291" | "7387447" | "7390203" | "7431604" | "7463803" | "7465180" | "7561775" | "7591595" | "7594766" | "7641398" | "7695199" | "7699533" | "7824113" | "8251733" | "D323143" | "D533504" |	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:08

		"D534124" | "D543146" | "D558675" | "D572661" | "D641708" | "RE37080").PN. OR ("8465317").URPN.				
S9	31	("5462457" | "5494457" | "6238251" | "6250949" | "6371787" | "7052186" | "7063554").PN. OR ("7465180").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:11
S10	720	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip member) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:25
S11	484	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:26
S12	2	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S13	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S14	26	("4953929" | "5608830" | "5675682" | "6409392" | "6511230").PN. OR ("6672898").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:41
S15	49	("5538438" | "5574812" | "5579425" | "5638474" | "5647043").PN. OR ("6250817").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:42
S16	31	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100304617" | "20110045683" | "20110124217" | "5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" | "6764333" | "7314384" | "7473124" | "7534128" | "7588373" | "7651361" | "8235745" | "8382506").PN. OR ("8556645").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:44
S17	0	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:47
S18	6884	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring not S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/06/27 14:47

			DERWENT; IBM_TDB			
S19	1327	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:48
S20	300	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:49
S21	25	(duplex near3 (connector plug)) with (small adj2 factor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:53
S22	0	(duplex near3 (connector plug)) with (small adj2 factor) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:55
S23	13	(duplex near3 (connector plug)) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:55
S24	31	(duplex near3 (connector plug)) same ((high large) near3 (density count))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:00
S25	1	(12/040986).APP.	USPAT; USOCR	OR	OFF	2016/06/27 15:05
S26	24	("20080037938" | "4645295" | "4784456" | "4787706" | "4871227" | "5579425" | "5731546" | "6048106" | "6250817" | "6325549" | "6485192" | "6551117" | "6607307" | "6632030" | "6762940" | "6824416" | "7013088" | "7031574" | "7077686" | "7090509" | "7178996" | "7350984" | "7421181" | "7488123").PN. OR ("7798727").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 15:05
S27	14	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:08

S28	6622	(connector plug adapter receptacle) same (pitch with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:10
S29	34	(connector plug adapter receptacle) same (pitch with mm with (ferrule fiber)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:11
S30	59	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:13
S31	4	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction) with mm) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:14
S32	3	(mini miniatur$5) with (duplex near3 (connector plug adapter receptacle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:18
S33	0	(duplex near3 (connector plug adapter receptacle)) and (pitch with "4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:32
S34	0	(duplex near3 (connector plug adapter receptacle)) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S35	66	(connector plug adapter receptacle) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S36	66	(connector plug adapter receptacle) with ("4.8 mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/06/27 15:33

			DERWENT; IBM_TDB			
S37	7	(connector plug adapter receptacle) with ("4.8mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S38	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:48
S39	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:48
S40	3	"20150111417"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/12 16:35
S41	8	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:32
S42	79	((Jeffrey) near2 (Gniadek)).INV. and connector	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:33
S43	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same sping and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:35
S44	313	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:35
S45	33	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100159742" | "20100304617" | "20110045683" | "20110124217" |	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 00:52

		"5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" | "6764333" | "7314384" | "7473124" | "7534128" | "7562116" | "7588373" | "7651361" | "8235745" | "8382506" | "8425247").PN. OR ("8747141").URPN.				
S46	795	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:00
S47	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:00
S48	59	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S44 not S47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:03
S49	1	("7052186").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 01:12
S50	0	(pull adj1 tab and disengage and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:17
S51	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:17
S52	10	(US-20160033723-$ or US-20160011383-$ or US-20150177463-$ or US-20140147082-$ or US-20140072263-$ or US-20140050443-$ or US-20120155810-$ or US-20030137651-$).did. or (US-6302596-$).did. or (US-20120155810-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2016/09/17 12:18
S53	6	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm)) not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:18
S54	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2016/09/17 12:20

			EPO; JPO; DERWENT; IBM_TDB			
S55	310	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S56	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54 not S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S57	32	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54 not S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:21
S58	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:23
S59	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:25
S60	37	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not S59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:26
S61	33	("7052186" | "20030063862" | "20060140543" | "20110058773" | "5845036" | "20150111417" | "20100239220" | "20110267742" | "6668113" | "20120237177" | "20120155810" | "6276840" | "7473124").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:41
S62	1	("6276840").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:50
S63	0	("201102677742").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:53
S64	1	("20110267742").PN.	US-PGPUB; USPAT;	OR	OFF	2016/09/17 14:53

			USOCR			
S65	1	("6668113").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:59
S66	1	("20110058773").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 20:56
S67	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2017/03/20 23:00
S68	8	((Kazuyoshi) near2 (Takano)).INV. not S67	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:00
S69	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.	US-PGPUB; FPRS; EPO	OR	OFF	2017/03/20 23:02
S70	81	((Jeffrey) near2 (Gniadek)).INV. and connector not S69	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:02
S71	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/03/20 23:03
S72	314	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03
S73	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/03/20 23:03

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S74	14	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S72 not S73 not S71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03
S75	18	(US-20150093925-$ or US-20140169749-$ or US-20140127930-$ or US-20130194753-$ or US-20120237177-$ or US-20120064754-$ or US-20110267742-$ or US-20110223792-$ or US-20050059290-$ or US-20040132327-$).did. or (US-9413110-$ or US-6666484-$ or US-6556450-$ or US-6434015-$ or US-6093044-$ or US-5709560-$ or US-5484297-$).did. or (US-20130210261-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2017/03/20 23:05
S76	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
S77	334	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S76	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
S78	33	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S76 not S77 not S75	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
S79	2	(US-20140273593-$).did. or (WO-2013037123-$).did.	US-PGPUB; FPRS	OR	OFF	2017/03/20 23:07
S80	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S79	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:07
S81	8	(US-20140273593-$ or US-20140235091-$ or US-20140127926-$).did. or (US-7717625-$ or US-7517241-$ or US-7168972-$ or US-6817272-$ or US-4846708-$).did.	US-PGPUB; USPAT	OR	OFF	2017/03/20 23:08
S82	1	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S81	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:08
S83	31	(US-20160156140-$ or US-20150132981-$ or US-	US-PGPUB;	OR	OFF	2017/03/20

		20140021915-$ or US-20110274402-$ or US-20110269340-$ or US-20110268412-$ or US-20110268411-$ or US-20110268410-$ or US-20110268409-$ or US-20110268408-$ or US-20110268407-$ or US-20110268406-$ or US-20090046981-$ or US-20090029585-$ or US-20080132101-$ or US-20080070446-$ or US-20040092165-$).did. or (US-8690591-$ or US-7913379-$ or US-6106320-$ or US-5959848-$ or US-5752850-$ or US-5734770-$ or US-5732174-$ or US-5711558-$ or US-5682450-$ or US-4798430-$ or US-4750890-$ or US-4182017-$).did. or (DE-3145444-$).did. or (US-20080070446-$).did.	USPAT; EPO; DERWENT			23:09
S84	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:09
S85	6	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not S84 not S83	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:09
S86	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:10
S87	0	(pull adj1 tab and disengage and narrow adj1 width and connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:11
S88	6	(US-20160195682-$).did. or (US-9595786-$ or US-9557491-$ or US-9470852-$).did. or (WO-2015191024-$).did. or (JP-2008155098-$).did.	US-PGPUB; USPAT; FPRS; JPO	OR	OFF	2017/07/19 13:32
S89	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:32
S90	6	((Kazuyoshi) near2 (Takano)).INV. not S89 not S88	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:32
S91	20	(US-20170059784-$ or US-20170003458-$ or US-20170003457-$ or US-20080138025-$ or US-20080008437-$).did. or (US-9595786-$ or US-9482825-$ or US-9448369-$ or US-9188747-$ or US-7680388-$).did. or (WO-2017003934-$ or WO-2016148741-$ or WO-2016140710-$ or WO-2015094768-$ or WO-2014182351-$ or WO-2013052070-$ or WO-2012162385-$ or EP-	US-PGPUB; USPAT; FPRS	OR	OFF	2017/07/19 13:33

		1896887-$ or CA-2604948-$).did.				
S92	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.	US-PGPUB; FPRS; EPO	OR	OFF	2017/07/19 13:33
S93	68	((Jeffrey) near2 (Gniadek)).INV. and connector not S92 not S91	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:33
S94	110	("20040052473" | "20040136657" | "20040141693" | "20040161958" | "20060089049" | "20060269194" | "20070149062" | "20070230874" | "20070232115" | "20070243749" | "20080044137" | "20080069501" | "20080101757" | "20080226237" | "20080267566" | "20090028507" | "20090214162" | "20090220197" | "20100034502" | "20100322561" | "20110044588" | "20110131801" | "20110177710" | "4762388" | "4764129" | "4840451" | "5212752" | "5317663" | "5348487" | "5444806" | "5481634" | "5506922" | "5570445" | "5588079" | "5684903" | "5687268" | "5937130" | "5956444" | "5971626" | "6041155" | "6206577" | "6206581" | "6227717" | "6247849" | "6461054" | "6478472" | "6551117" | "6579014" | "6648520" | "6854894" | "7090406" | "7090407" | "7091421" | "7111990" | "7113679" | "7150567" | "7153041" | "7198409" | "7207724" | "7258493" | "7281859" | "7315682" | "7325976" | "7325980" | "7329137" | "7354291" | "7387447" | "7390203" | "7431604" | "7463803" | "7465180" | "7561775" | "7591595" | "7594766" | "7641398" | "7695199" | "7699533" | "7824113" | "8251733" | "D323143" | "D533504" | "D534124" | "D543146" | "D558675" | "D572661" | "D641708" | "RE37080").PN. OR ("8465317").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/19 13:38
S95	10	(US-20050208822-$ or US-20040161207-$).did. or (US-8480424-$ or US-8388367-$ or US-8317534-$ or US-8277128-$ or US-7466544-$ or US-7377702-$ or US-7204712-$ or US-7130507-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:44
S96	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/07/19 13:44

		20130210261-$).did.				
S97	315	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:44
S98	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:44
S99	4	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S97 not S98 not S96 not S95	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:44
S100	16	(US-20170047679-$ or US-20160041349-$ or US-20130045623-$ or US-20070280604-$ or US-20060258201-$ or US-20050191892-$ or US-20050036743-$ or US-20030142917-$).did. or (US-9052473-$ or US-8814229-$ or US-8790022-$ or US-8670238-$ or US-8388367-$ or US-8317534-$ or US-6994478-$ or US-6887092-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:45
S101	18	(US-20150093925-$ or US-20140169749-$ or US-20140127930-$ or US-20130194753-$ or US-20120237177-$ or US-20120064754-$ or US-20110267742-$ or US-20110223792-$ or US-20050059290-$ or US-20040132327-$).did. or (US-9413110-$ or US-6666484-$ or US-6556450-$ or US-6434015-$ or US-6093044-$ or US-5709560-$ or US-5484297-$).did. or (US-20130210261-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2017/07/19 13:45
S102	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:45
S103	342	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S102	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:45
S104	19	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S102 not S103 not S101 not S100	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:45
S105	4	(US-9595786-$ or US-8979569-$).did. or (CN-103718392-$).did.	USPAT; FPRS	OR	OFF	2017/07/19 13:45

S106	2	(US-20140273593-$).did. or (WO-2013037123-$).did.	US-PGPUB; FPRS	OR	OFF	2017/07/19 13:47
S107	6	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S106 not S105	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:47
S108	8	(US-20140273593-$ or US-20140235091-$ or US-20140127926-$).did. or (US-7717625-$ or US-7517241-$ or US-7168972-$ or US-6817272-$ or US-4846708-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:48
S109	1	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S108	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:48
S110	6	(US-20160064860-$).did. or (US-8965168-$ or US-8705926-$ or US-8172608-$ or US-7611372-$ or US-7497721-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:50
S111	31	(US-20160156140-$ or US-20150132981-$ or US-20140021915-$ or US-20110274402-$ or US-20110269340-$ or US-20110268412-$ or US-20110268411-$ or US-20110268410-$ or US-20110268409-$ or US-20110268408-$ or US-20110268407-$ or US-20110268406-$ or US-20090046981-$ or US-20090029585-$ or US-20080132101-$ or US-20080070446-$ or US-20040092165-$).did. or (US-8690591-$ or US-7913379-$ or US-6106320-$ or US-5959848-$ or US-5752850-$ or US-5734770-$ or US-5732174-$ or US-5711558-$ or US-5682450-$ or US-4798430-$ or US-4750890-$ or US-4182017-$).did. or (DE-3145444-$).did. or (US-20080070446-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/07/19 13:50
S112	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:50
S113	0	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not S112 not S111 not S110	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:50
S114	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:50
S115	1	("8465317").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/19 21:54

S116	1	adaptor with latch$3 with hook$3 with (connector plug) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 23:13
S117	9	adaptor with latch$3 with hook$3 with (connector plug)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 23:13
S118	48	adaptor with latch$3 and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 23:14
S119	1	(13/678686).APP.	USPAT; USOCR	OR	OFF	2017/07/19 23:22
S120	9	("20020168148" | "20090220198" | "5037175" | "7373031" | "7785018").PN. OR ("8834038").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/19 23:22
S121	4	"20160116686"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 23:31
S122	1	("8465317").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/21 20:54
S123	1	(12/040986).APP.	USPAT; USOCR	OR	OFF	2018/03/01 22:28
S124	24	("20080037938" | "4645295" | "4784456" | "4787706" | "4871227" | "5579425" | "5731546" | "6048106" | "6250817" | "6325549" | "6485192" | "6551117" | "6607307" | "6632030" | "6762940" | "6824416" | "7013088" | "7031574" | "7077686" | "7090509" | "7178996" | "7350984" | "7421181" | "7488123").PN. OR ("7798727").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/01 22:28
S125	6	(US-20170139150-$ or US-20170031106-$).did. or (US-9709753-$ or US-9678283-$ or US-9618702-$).did. or (CN-105518503-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/03/01 22:31
S126	6	(US-20160195682-$).did. or (US-9595786-$ or US-9557491-$ or US-9470852-$).did. or (WO-2015191024-$).did. or (JP-2008155098-$).did.	US-PGPUB; USPAT; FPRS; JPO	OR	OFF	2018/03/01 22:32
S127	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2018/03/01 22:32
S128	14	((Kazuyoshi) near2 (Takano)).INV. not S127 not S126 not S125	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/03/01 22:32

			IBM_TDB			
S129	13	(US-20170168256-$ or US-20080013910-$).did. or (US-9658409-$ or US-9268103-$ or US-8465317-$ or US-7489849-$).did. or (WO-2017035212-$ or WO-2016176083-$ or WO-2006113726-$ or CN-101243344-$ or AU-2014366498-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/03/01 22:35
S130	20	(US-20170059784-$ or US-20170003458-$ or US-20170003457-$ or US-20080138025-$ or US-20080008437-$).did. or (US-9595786-$ or US-9482825-$ or US-9448369-$ or US-9188747-$ or US-7680388-$).did. or (WO-2017003934-$ or WO-2016148741-$ or WO-2016140710-$ or WO-2015094768-$ or WO-2014182351-$ or WO-2013052070-$ or WO-2012162385-$ or EP-1896887-$ or CA-2604948-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/03/01 22:35
S131	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.	US-PGPUB; FPRS; EPO	OR	OFF	2018/03/01 22:35
S132	77	((Jeffrey) near2 (Gniadek)).INV. and connector not S131 not S130 not S129	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 22:35
S133	3095	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:04
S134	10	(US-20050208822-$ or US-20040161207-$).did. or (US-8480424-$ or US-8388367-$ or US-8317534-$ or US-8277128-$ or US-7466544-$ or US-7377702-$ or US-7204712-$ or US-7130507-$).did.	US-PGPUB; USPAT	OR	OFF	2018/03/01 23:05
S135	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2018/03/01 23:05
S136	315	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same	US-PGPUB; USPAT;	OR	OFF	2018/03/01 23:05

		spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S137	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:05
S138	485	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S136 not S137 not S135 not S134	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:05
S139	29	("4026624" | "4548455" | "4632121" | "4681387" | "4726783" | "4925398" | "5207593" | "5318457" | "5330366" | "5334041" | "5634809" | "5919056" | "5951316" | "6030244" | "6113416" | "6149451" | "6174190" | "6358081" | "6368140" | "6386898" | "6475014" | "6494732" | "6497585").PN. OR ("6592390").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/01 23:34
S140	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:42
S141	927	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S140 not S138	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:43
S142	266	(connector plug) with (tab handle clip) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (latch spring lever catch) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S140 not S138	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:43
S143	1	(13/527129).APP.	USPAT; USOCR	OR	OFF	2018/03/01 23:53
S144	16	("5716049" | "7134914" | "7281937" | "7476117" | "7540755" | "7736171" | "7938669" | "8251735" | "8267713").PN. OR ("8444430").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/01 23:53
S145	1	(12/367677).APP.	USPAT; USOCR	OR	OFF	2018/03/02 00:09
S146	44	("20080037938" | "4645295" | "4784456" | "4787706" | "4871227" | "5579425" | "5731546" | "6048106" | "6250817" | "6325549" | "6485192" | "6551117" | "6607307" | "6632030" | "6762940" | "6824416" | "7013088" | "7031574" | "7077686" | "7090509" | "7178996" | "7350984" | "7421181" | "7488123").PN. OR	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/02 00:09

		("7824113").URPN.				
S147	36	(US-20160116686-$ or US-20160109661-$ or US-20160054527-$ or US-20140334780-$ or US-20140056562-$ or US-20120329304-$ or US-20120129379-$ or US-20120051699-$ or US-20100112845-$ or US-20100025480-$ or US-20070237472-$ or US-20070237471-$ or US-20070237470-$ or US-20070098329-$ or US-20060013542-$ or US-20030228777-$).did. or (US-8920045-$ or US-8083417-$ or US-7850371-$ or US-7445389-$ or US-7377699-$ or US-6149450-$ or US-5603630-$ or US-5429522-$ or US-5316495-$ or US-5124506-$ or US-4964809-$ or US-4462656-$ or US-4061411-$).did. or (US-2732531-$).did. or (US-20160109661-$ or US-20120329304-$ or US-20120129379-$ or EP-880106-$ or EP-2700992-$ or EP-1143570-$).did.	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2018/03/02 19:13
S148	1602	(adaptor receptacle) with latch$3 and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls. H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S147	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:15
S149	198	(adaptor receptacle) with latch$3 and (pull releas$3 extract$3) near3 (tab handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls. H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S147	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:20
S150	10	(US-20050208822-$ or US-20040161207-$).did. or (US-8480424-$ or US-8388367-$ or US-8317534-$ or US-8277128-$ or US-7466544-$ or US-7377702-$ or US-7204712-$ or US-7130507-$).did.	US-PGPUB; USPAT	OR	OFF	2018/03/02 19:22
S151	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2018/03/02 19:22
S152	315	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
S153	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1	US-PGPUB;	OR	OFF	2018/03/02

		out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			19:22
S154	485	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S152 not S153 not S151 not S150	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
S155	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
S156	266	(connector plug) with (tab handle clip) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (latch spring lever catch) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S155 not S154	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
S157	150	(adaptor receptacle) with latch$3 and (pull releas$3 extract$3) near3 (tab handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls. H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S147 not S154 not S156	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
S158	206	(adaptor receptacle transceiver transponder sfp) with latch$3 and (pull releas$3 extract$3) near3 (tab handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls. H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S147 not S154 not S156	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:24
S159	19	("5634809").PN. OR ("5915987").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/02 19:43
S160	3	(pull adj1 tab and ramp and disengage and connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:46
S161	11	(US-20180011258-$ or US-20180011254-$ or US-20170219779-$ or US-20170212316-$ or US-20170205591-$ or US-20170205587-$ or US-20170205586-$).did. or (US-9798090-$).did. or (WO-2017131717-$ or WO-2017123831-$ or WO-2017123247-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/08/29 11:29
S162	6	(US-20170139150-$ or US-20170031106-$).did. or (US-9709753-$ or US-9678283-$ or US-9618702-$).did. or (CN-105518503-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/08/29 11:29

S163	6	(US-20160195682-$).did. or (US-9595786-$ or US-9557491-$ or US-9470852-$).did. or (WO-2015191024-$).did. or (JP-2008155098-$).did.	US-PGPUB; USPAT; FPRS; JPO	OR	OFF	2018/08/29 11:29
S164	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2018/08/29 11:29
S165	13	((Kazuyoshi) near2 (Takano)).INV. not S164 not S163 not S162 not S161	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/29 11:29
S166	13	(US-20170168256-$ or US-20080013910-$).did. or (US-9658409-$ or US-9268103-$ or US-8465317-$ or US-7489849-$).did. or (WO-2017035212-$ or WO-2016176083-$ or WO-2006113726-$ or CN-101243344-$ or AU-2014366498-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/08/29 11:30
S167	20	(US-20170059784-$ or US-20170003458-$ or US-20170003457-$ or US-20080138025-$ or US-20080008437-$).did. or (US-9595786-$ or US-9482825-$ or US-9448369-$ or US-9188747-$ or US-7680388-$).did. or (WO-2017003934-$ or WO-2016148741-$ or WO-2016140710-$ or WO-2015094768-$ or WO-2014182351-$ or WO-2013052070-$ or WO-2012162385-$ or EP-1896887-$ or CA-2604948-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/08/29 11:30
S168	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.	US-PGPUB; FPRS; EPO	OR	OFF	2018/08/29 11:30
S169	87	((Jeffrey) near2 (Gniadek)).INV. and connector not S168 not S167 not S166	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/29 11:30
S170	376	(US-20170237201-$ or US-20160197421-$ or US-20160195685-$ or US-20160154190-$ or US-20160116686-$ or US-20160109661-$ or US-20160072226-$ or US-20160013584-$ or US-20150349442-$ or US-20150340807-$ or US-20150318639-$ or US-20150280337-$ or US-20150249305-$ or US-20150212282-$ or US-20150171551-$ or US-20150162709-$ or US-20150162705-$ or US-20150147033-$ or US-20150125118-$ or US-20150118883-$ or US-20150118882-$ or US-20150037996-$ or US-20140377977-$ or US-20140376864-$ or US-20140364001-$ or US-20140349506-$).did. or (US-20140322952-$ or US-20140322951-$ or US-20140322950-$ or US-20140322949-$ or US-20140315416-$ or US-20140308842-$ or US-20140273588-$ or US-20140226936-$ or US-20140199876-$ or US-20140179146-$ or US-20140148040-$ or US-20140148039-$ or US-20140106596-$ or US-20140062216-$ or US-20140057476-$ or US-	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2018/08/29 11:34

20140045358-$ or US-20140038447-$ or US-20140024229-$ or US-20130337675-$ or US-20130309897-$ or US-20130301993-$ or US-20130273766-$ or US-20130224985-$ or US-20130217252-$ or US-20130216188-$ or US-20130137287-$).did. or (US-20130130522-$ or US-20130102182-$ or US-20130090000-$ or US-20130089995-$ or US-20130023145-$ or US-20120329304-$ or US-20120302082-$ or US-20120252251-$ or US-20120252250-$ or US-20120238122-$ or US-20120129378-$ or US-20120088392-$ or US-20120083148-$ or US-20120076463-$ or US-20120064755-$ or US-20120064750-$ or US-20120061369-$ or US-20120040552-$ or US-20120015545-$ or US-20120015544-$ or US-20110312205-$ or US-20110306228-$ or US-20110300735-$ or US-20110287649-$ or US-20110281455-$ or US-20110263151-$ or US-20110263149-$).did. or (US-20110237109-$ or US-20110230076-$ or US-20110217865-$ or US-20110212644-$ or US-20110201224-$ or US-20110183541-$ or US-20110183535-$ or US-20110170832-$ or US-20110123157-$ or US-20110115494-$ or US-20110097922-$ or US-20110097920-$ or US-20110086533-$ or US-20110070763-$ or US-20110070756-$ or US-20110059642-$ or US-20110053405-$ or US-20110034053-$ or US-20110021058-$ or US-20100323549-$ or US-20100323548-$ or US-20100304598-$ or US-20100233897-$ or US-20100221939-$ or US-20100194119-$ or US-20100112846-$ or US-20100105238-$).did. or (US-20100029123-$ or US-20090318004-$ or US-20090305548-$ or US-20090291584-$ or US-20090286418-$ or US-20090275246-$ or US-20090239406-$ or US-20090239405-$ or US-20090176399-$ or US-20090099423-$ or US-20090075513-$ or US-20090047820-$ or US-20080311781-$ or US-20080261434-$ or US-20080254669-$ or US-20080248680-$ or US-20080214038-$ or US-20080090426-$ or US-20080056647-$ or US-20080003863-$ or US-20070237472-$ or US-20070237471-$ or US-20070237470-$ or US-20070087614-$ or US-20060252296-$ or US-20060246765-$ or US-20060246764-$).did. or (US-20060110972-$ or US-20060110971-$ or US-20060093285-$ or US-20060089039-$ or US-20060063415-$ or US-20060056774-$ or US-20060045435-$ or US-20060029336-$ or US-20060019526-$ or US-20060013539-$ or US-20050286838-$ or US-20050259924-$ or US-20050233631-$ or US-20050220426-$ or US-20050215106-$ or US-20050186830-$ or US-20050157987-$ or US-20050141827-$ or US-20050124200-$ or US-20050117855-$ or US-20050095899-$ or US-20050064756-$ or US-20040219819-$ or US-20040137779-$ or US-20040062493-$ or US-20030211771-$ or US-20030194899-$).did. or (US-20030169975-$ or US-20030148651-$ or US-20030063862-$ or US-20030048999-$ or US-20030017739-$ or US-20030012520-$ or US-20020197902-$ or US-20020177348-$ or US-20020119693-$ or US-

20020076968-$ or US-20010021602-$ or US-20010016444-$).did. or (US-9025343-$ or US-8905777-$ or US-8845352-$ or US-8734028-$ or US-8602804-$ or US-8167639-$ or US-8147279-$ or US-8123546-$ or US-8083417-$ or US-8070367-$ or US-8064207-$ or US-8043106-$ or US-8035975-$ or US-7988482-$ or US-7972164-$ or US-7824113-$ or US-7789690-$ or US-7771225-$ or US-7744286-$ or US-7708474-$ or US-7690939-$ or US-7686930-$ or US-7625135-$ or US-7621770-$ or US-7594766-$ or US-7553173-$).did. or (US-7549886-$ or US-7534125-$ or US-7510419-$ or US-7488123-$ or US-7476118-$ or US-7473124-$ or US-7465180-$ or US-7445389-$ or US-7442060-$ or US-7440670-$ or US-7431604-$ or US-7421181-$ or US-7409136-$ or US-7407410-$ or US-7381084-$ or US-7367842-$ or US-7350984-$ or US-7326074-$ or US-7267493-$ or US-7241056-$ or US-7192296-$ or US-7052186-$ or US-6997741-$ or US-6986686-$ or US-6953356-$ or US-6916123-$ or US-6878005-$).did. or (US-6857900-$ or US-6855558-$ or US-6851957-$ or US-6821024-$ or US-6793522-$ or US-6789958-$ or US-6702475-$ or US-6638096-$ or US-6634796-$ or US-6623287-$ or US-6595792-$ or US-6592390-$ or US-6570768-$ or US-6551117-$ or US-6547585-$ or US-6494623-$ or US-6491542-$ or US-6476318-$ or US-6454577-$ or US-6422763-$ or US-6409533-$ or US-6394824-$ or US-6383018-$ or US-6364685-$ or US-6352444-$ or US-6350063-$ or US-6332798-$).did. or (US-6328590-$ or US-6276841-$ or US-6254418-$ or US-6196858-$ or US-6179477-$ or US-6174190-$ or US-6123564-$ or US-6077101-$ or US-6050838-$ or US-6012941-$ or US-5971789-$ or US-5964604-$ or US-5926597-$ or US-5882220-$ or US-5862289-$ or US-5848910-$ or US-5848456-$ or US-5833484-$ or US-5803760-$ or US-5740012-$ or US-5675682-$ or US-5639256-$ or US-5632641-$ or US-5630727-$ or US-5613870-$ or US-5609498-$ or US-5570445-$).did. or (US-5556295-$ or US-5504648-$ or US-5480318-$ or US-5382176-$ or US-5380217-$ or US-5380216-$ or US-5368496-$ or US-5366315-$ or US-5352132-$ or US-5342215-$ or US-5338218-$ or US-5324210-$ or US-5308260-$ or US-5174293-$ or US-5169332-$ or US-5151961-$ or US-5120234-$ or US-5104253-$ or US-5069634-$ or US-5062806-$ or US-5051101-$ or US-5011425-$ or US-4975075-$ or US-4973859-$ or US-4969838-$ or US-4963103-$ or US-4828510-$).did. or (US-4810200-$ or US-4801275-$ or US-4767347-$ or US-4639061-$ or US-4603936-$ or US-4602839-$ or US-4582378-$ or US-4544225-$ or US-4530556-$ or US-4526433-$ or US-4526431-$ or US-4488764-$ or US-4431244-$ or US-4345122-$ or US-4188086-$ or US-4113179-$ or US-4002389-$ or US-3958852-$ or US-3926497-$ or US-3890028-$ or US-3846737-$ or US-3829821-$ or US-3824552-$ or US-3723944-$ or US-3699498-$).did. or (US-3417365-$ or US-3409859-$ or US-3281758-$ or US-2759159-$ or US-2665341-$ or US-2518464-$ or US-1559361-$ or US-1552346-$).did. or (GB-2166300-$ or EP-45834-$ or EP-26703-$ or DE-3804107-$).did. or (JP-06236780-$ or JP-03084880-$).did. or (WO-2014069395-$ or WO-2013145947-$ or WO-2010038283-$ or WO-2010029647-$ or WO-2009130529-$ or WO-2008100864-$ or US-20160126668-$ or US-20150162709-$ or US-20140193993-$ or US-20140148040-$ or US-20130089995-$ or US-

		20130045614-$ or US-20120238121-$ or US-20120190230-$ or US-20120088392-$ or US-20120047971-$ or US-20110189883-$ or US-20110189874-$ or US-20080311781-$ or US-20060030187-$ or US-20040166711-$ or US-20020081889-$ or US-20020076968-$ or GB-2083296-$ or EP-189979-$ or EP-1333540-$).did. or (DE-202011052551-$ or DE-19959024-$ or DE-102014109024-$ or DE-102014102197-$).did.				
S171	10	(US-20050208822-$ or US-20040161207-$).did. or (US-8480424-$ or US-8388367-$ or US-8317534-$ or US-8277128-$ or US-7466544-$ or US-7377702-$ or US-7204712-$ or US-7130507-$).did.	US-PGPUB; USPAT	OR	OFF	2018/08/29 11:34
S172	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2018/08/29 11:34
S173	316	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/29 11:34
S174	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/29 11:34
S175	113	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S173 not S174 not S172 not S171 not S170	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/29 11:34
S176	21	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S173 not S174 not S172 not S171 not S170	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/29 11:37
S177	158	(US-20180026413-$ or US-20170346231-$ or US-20170302040-$ or US-20170237197-$ or US-	US-PGPUB; USPAT;	OR	OFF	2018/08/29 11:38

		20170110832-$ or US-20170062984-$ or US-20170054249-$ or US-20170025791-$ or US-20160211610-$ or US-20160190737-$ or US-20160161681-$ or US-20160116685-$ or US-20160028185-$ or US-20150325950-$ or US-20150280362-$ or US-20150104967-$ or US-20150056832-$ or US-20140179143-$ or US-20140134898-$ or US-20140113480-$ or US-20140094055-$ or US-20140051277-$ or US-20140013593-$ or US-20130288507-$ or US-20130260595-$ or US-20130252448-$).did. or (US-20130210261-$ or US-20130130532-$ or US-20130122745-$ or US-20130045618-$ or US-20130012054-$ or US-20120294571-$ or US-20120058665-$ or US-20120052714-$ or US-20120045923-$ or US-20110312207-$ or US-20110111618-$ or US-20100325324-$ or US-20100248553-$ or US-20100144186-$ or US-20100091467-$ or US-20100091466-$ or US-20100087084-$ or US-20090291578-$ or US-20090220227-$ or US-20090178265-$ or US-20090042431-$ or US-20080267620-$ or US-20080248691-$ or US-20080248676-$ or US-20080064260-$ or US-20070237468-$ or US-20070087623-$).did. or (US-20070059960-$ or US-20060094281-$ or US-20060030192-$ or US-20050208806-$ or US-20050207135-$ or US-20050186824-$ or US-20050158051-$ or US-20040110406-$ or US-20040099072-$).did. or (US-9893457-$ or US-9887489-$ or US-9882309-$ or US-9853397-$ or US-9847598-$ or US-9748691-$ or US-9716342-$ or US-9698529-$ or US-9671580-$ or US-9644828-$ or US-9640906-$ or US-9608369-$ or US-9595789-$ or US-9595788-$ or US-9595786-$ or US-9509095-$ or US-9287661-$ or US-9257804-$ or US-9184538-$ or US-9160106-$ or US-9147972-$ or US-9124035-$ or US-9106015-$ or US-9106014-$ or US-9088110-$ or US-9071003-$).did. or (US-8187018-$ or US-7850494-$ or US-7534128-$ or US-7499616-$ or US-7465181-$ or US-7422471-$ or US-7422457-$ or US-7318740-$ or US-7194915-$ or US-7083459-$ or US-6994580-$ or US-6913482-$ or US-6896524-$ or US-6884099-$ or US-6776648-$ or US-6676430-$ or US-6659791-$ or US-6648665-$ or US-6641425-$ or US-6623300-$ or US-6589066-$ or US-6358080-$ or US-6045393-$ or US-6019630-$ or US-5997326-$ or US-5727966-$ or US-5664960-$).did. or (US-5645440-$ or US-5613869-$ or US-5571030-$ or US-5547388-$ or US-5538439-$ or US-5409393-$ or US-5350312-$ or US-5330362-$ or US-4681386-$ or US-4624472-$ or US-4586766-$ or US-4550961-$ or US-4458973-$ or US-4172626-$ or US-4113337-$ or US-4074928-$).did. or (US-3209303-$ or US-2748362-$).did. or (WO-2013037123-$ or WO-2012161295-$ or WO-2012107439-$ or GB-2347281-$ or GB-0706471-$ or EP-1267450-$ or DE-3731718-$ or DE-3515175-$ or DE-19723050-$ or CN-103579849-$ or CA-2142080-$).did. or (JP-2016134384-$ or JP-2012243639-$ or JP-2012243638-$).did. or (WO-2015153090-$ or WO-2012107439-$ or US-20160211610-$ or US-20090227139-$ or GB-2159345-$ or FR-2517128-$).did.	USOCR; FPRS; JPO; DERWENT			
S178	489	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and (385/76,77,88,92.ccls.	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/08/29 11:39

		439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S173 not S174 not S172 not S171	FPRS; EPO; JPO; DERWENT; IBM_TDB			
S179	21	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/29 11:39
S180	45	(connector plug) with (tab handle clip) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (latch spring lever catch) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S179 not S178 not S177	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/29 11:39

8/29/2018 9:39:00 PM
C:\Users\rtavlykaev\Documents\EAST\Workspaces\15044838.wsp

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	**Art Unit**
	ROBERT TAVLYKAEV	2883

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	09/17/2016	03/21/2017	07/19/2017	03/02/2018	08/29/2018				
1	1	✓	✓	✓	✓	=				
2	2	✓	✓	✓	✓	=				
3	3	✓	✓	✓	✓	=				
4	4	✓	✓	✓	✓	=				
10	5	✓	✓	✓	✓	=				
11	6	✓	✓	✓	✓	=				
12	7	✓	✓	✓	✓	=				
13	8	✓	✓	✓	✓	=				
14	9	✓	✓	✓	✓	=				
15	10	✓	✓	✓	✓	=				
16	11	✓	✓	✓	✓	=				
17	12	✓	✓	✓	✓	=				
5	13				✓	=				
6	14					=				
7	15					=				
8	16					=				
9	17					=				
18	18					=				
19	19					=				
20	20					=				

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	Art Unit
	ROBERT TAVLYKAEV	2883

CPC- SEARCHED		
Symbol	Date	Examiner
H01R13/627,6271,6272,6275,62933; G02B6/4284	8/29/18	RT

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
385	76,77,88,92	8/29/18	RT
439	133,304,345,346,350,352,353,354,357,358,370	8/29/18	RT

* 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
updated search in EAST	8/29/18	RT
updated inventor name search	8/29/18	RT
updated clm search	8/29/18	RT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
385	76,77,88,92	8/29/18	RT
439	133,304,345,346,350,352,353,354,357,358,370	8/29/18	RT

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IPR2024-00119

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Kazuyoshi Takano
Appln. No.	:	15/044,838
Filed	:	February 16, 2016
Confirmation No.	:	1615
Group Art Unit	:	2883
Examiner	:	Tavlykaev, Robert Fuatovich

Title: NARROW WIDTH ADAPTERS AND CONNECTORS WITH SPRING LOADED REMOTE RELEASE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Commissioner,

In response to the Office Action mailed March 28, 2017 in the above identified Application, Applicants respectfully submit the following remarks.

Listing of the Claims begins on page 2.

Remarks begin on page 5.

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PENDING CLAIMS

1. (Currently Amended) A narrow width fiber optic connector for releasable connection to a latch of one of an adapter or an SFP, the narrow width fiber optic connector comprising:

a plurality of optical fibers:

a housing configured to hold the plurality of optical fibers and

further comprising a connector recess; and

a pull tab having a ramp area configured to disengage [[a]] the latch of one of [[an]] the adapter ~~and~~ or [[an]] the SFP from said connector recess, ~~wherein the latch is within a main cavity of the one of the adapter and the SFP~~ the pull tab being mounted on the housing for movement between a displaced position and an undisplaced position and including a spring biasing the pull tab toward the undisplaced position.

2. (Previously presented) The narrow width fiber optic connector of claim 1, further comprising one of a multi-fiber MT ferrule and at least one LC ferrule.

3. (Original) The narrow width fiber optic connector of claim 1, wherein the width is less than or equal to about 9.6mm.

4. (Currently amended) The narrow width fiber optic connector of claim 1, wherein the ~~pull tab includes a~~ spring is configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

5. (Currently amended) A narrow pitch fiber optic connector for releasable connection to a latch of one of an adapter or an SFP, the narrow pitch fiber optic connector comprising:

a plurality of LC connectors arranged such that a pitch of said narrow pitch connector is less than about 5.25mm;

a housing configured to hold the plurality of LC connectors and further comprising a connector recess; and

a pull tab having a ramp area configured to disengage [[a]] the latch of one of [[an]] the adapter and [[an]] the SFP from said connector recess, ~~wherein the latch is within a main cavity~~

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~~of the one of the adapter and the SFP~~ the pull tab being mounted on the housing for movement between a displaced position and an undisplaced position and including a spring biasing the pull tab toward the undisplaced position.

6. (Original) The narrow pitch fiber optic connector of claim 5, wherein the pitch is less than or equal to about 4.8mm.

7. (Currently amended) The narrow pitch fiber optic connector of claim 5, wherein the ~~pull tab includes a~~ spring is configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

8. (Original) The narrow pitch fiber optic connector of claim 7, wherein the pull tab includes a distal end for remotely unlatching the narrow pitch connector.

9. (Original) The narrow pitch fiber optic connector of claim 5, wherein the narrow pitch connector is a duplex connector.

10. (Original) The narrow pitch fiber optic connector of claim 5, wherein the housing includes a bottom housing and a top housing coupled to the bottom housing.

11. (Original) The narrow pitch fiber optic connector of claim 10, wherein the bottom housing includes a side wall configured to open.

12. (Original) The narrow pitch fiber optic connector of claim 11, wherein the side wall includes a raised profile at a rear end thereof.

13. (Previously presented) The narrow width fiber optic connector of claim 1, wherein a width of said narrow width fiber optic connector is less than about 12.4mm.

14. (New) The narrow width fiber optic connector of claim 1 wherein the spring is supported by the housing.

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15. (New) The narrow width fiber optic connector of claim 14 wherein the spring directly engages the housing and the pull tab.

16. (New) The narrow width fiber optic connector of claim 14 wherein the housing includes a recess configured to accommodate at least a portion of the spring.

17. (New) The narrow width fiber optic connector of claim 1 further comprising a cable boot extending rearward from adjacent the housing along a cable boot length, wherein the pull tab comprises a single piece comprising a front end portion defining the ramp area and a tab portion extending rearward from the front end portion to a rear end of the pull tab, the tab portion overlapping the cable boot along at least a majority of the cable boot length.

18. (New) The narrow pitch fiber optic connector of claim 5 wherein the spring is supported by the housing.

19. (New) The narrow pitch fiber optic connector of claim 18 wherein the spring directly engages the housing and the pull tab.

20. (New) The narrow pitch fiber optic connector of claim 18 wherein the housing includes a recess configured to accommodate at least a portion of the spring.

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REMARKS

By this amendment, claims 14-20 are newly added and claims 1, 4, 5, and 7 are amended. No new matter is added by these amendments. Claims 1-20 are pending.

35 U.S.C. § 103

Claims 1-13 stand rejected under 35 U.S.C. § 103 as allegedly being rendered obvious by U.S. Patent Application Publication No. 2009/0220200 (Wong) in view of U.S. Patent No. 5,915,987 (Reed), and further in view of U.S. Patent No. 8,465,317 (Gniadek). Without conceding the propriety of the rejection, Applicant has amended claims 1 and 5 to further distinguish the applied references.

As amended, each of claims 1 and 5 recites an optical fiber connector comprising, among other elements:

> "**a pull tab having a ramp area** configured to disengage the latch of one of the adapter or the SFP from said connector recess, the pull tab being mounted on the housing for movement between a displaced position and an undisplaced position and **including a spring biasing the pull tab toward the undisplaced position**."

One non-limiting embodiment of an optical fiber connector 1300 encompassed in the scope of claims 1 and 5 can be understood in reference to FIGS. 14 and 15, which are reproduced below. The connector 1300 includes a housing that defines a recess 1404 for receiving a catch 1402 of an SFP 1302 therein. When the catch 1402 is received in the recess 1404, the catch locks the connector 1300 in place within the SFP 1302. A spring-loaded pull tab 1406 is attached to the housing of the connector 1300 and is movable relative to the housing from an undisplaced position (FIG. 14) to a displaced position (FIG. 15). A front end portion of the pull tab 1406 defines a ramp area 1502. As shown in FIG. 14, in the undisplaced position, the ramp area 1502 is spaced apart in front of the catch 1402 such that the catch can be received in the recess 1404. As shown in FIG. 15, in the displaced position, the pull tab is pulled rearward such that the ramp area engages the catch 1402 and forces the catch to move out of the recess 1404, thereby releasing the connector 1300 from the SFP 1302. The spring of the pull tab 1406 biases the pull tab toward the undisplaced position shown in FIG. 14. The configuration and arrangement of the spring can be the same as, for example, the spring 1220 shown in Figs. 12A and 12B. The spring 1220 is supported by the housing and directly engages the housing and pull tab. The spring can

be received in a recess (e.g., recess 530 shown in Fig. 8) of the housing. Thus, the spring biases the pull tab 1406 toward a position in which the ramp area 1502 of the pull tab permits the SFP catch 1402 to be lockingly received in the connector recess 1404. A user must provide a pulling force 1504 that overcomes the bias force of the spring to use the ramp area 1502 to force the catch 1402 out of the recess 1404. The spring and ramp of the pull tab 1406 thus provide a mechanism for releasing the catch 1402 from the connector recess 1404 when desired while maintaining a strong interlocked connection between the connector 1300 and the SFP 1302 at all other times.

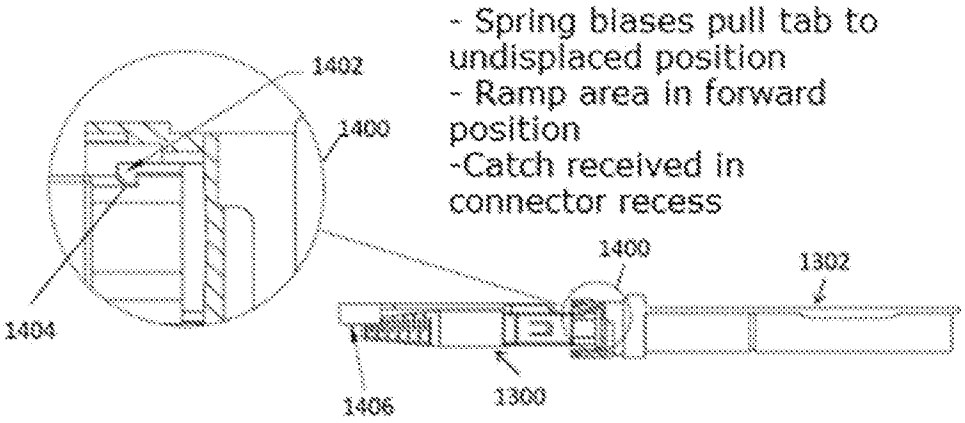


FIG. 14

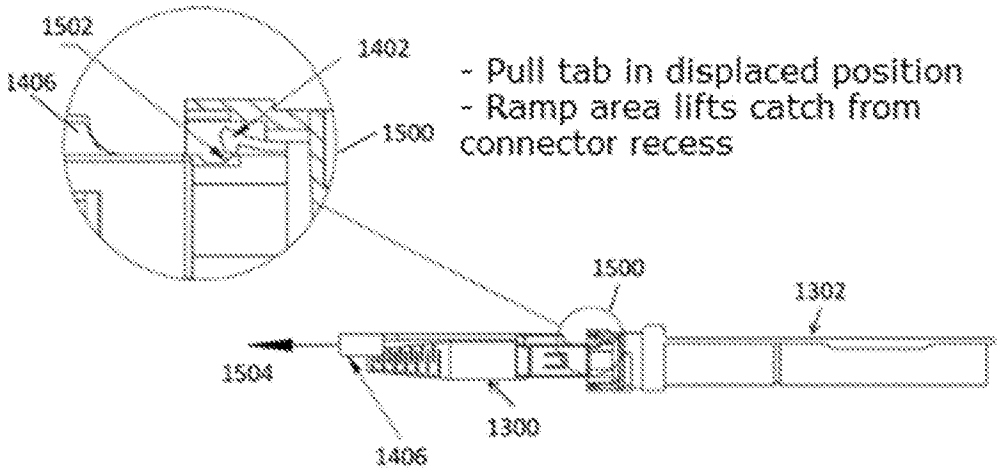


FIG. 15

Claims 1 and 5 are submitted to be nonobvious over the applied references because none of the applied references discloses a pull tab that includes both a ramp surface for releasing a catch from a connector recess and a spring for biasing the pull tab to a displaced position. On

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page 8, Examiner implicitly concedes that none of Wong, Reed, and Gniadek discloses a pull tab comprising a spring. Instead, Examiner takes official notice that spring-biased pull tabs are well known in the art of connectors with pull tabs. However, it is inappropriate for the Examiner to take Official notice of a spring-biased pull tabs generally when what is being claimed is a pull tab comprising both a biasing spring and a ramp surface for unlatching the connector from an SFP or adapter.

The Office has not shown that any prior art spring-biased pull tab would provide one skilled in the art reason to modify the ramp-bearing pull tab 36 of Reed to include a spring. Reed plainly fails to disclose that the pull tab 36 includes a spring that biases the pull tab to an undisplaced position. A general allegation that spring-biased pull tabs are well-known, even if true, would not establish that one skilled in the art would have a reason, based on the prior art, for further modifying the combination of Wong, Reed, and Gniadek such that a spring biases the ramp-bearing pull tab of Reed to an undisplaced position. The ways in which various springs could be used to impart a biasing force on a structure like a pull tab are manifold, and the Office has not explained how the allegedly well-known spring-biased pull tabs of the prior art are constructed or used. Without this information, it is impossible to determine whether one skilled in the art would have reason based on the prior art to further modify the pull tab 36 of Reed to include a spring that biases the pull tab to the non-displaced position. Examiner opines without explanation that it would be obvious to include a spring for the purpose of "engag[ing] the latch of the adapter with the connector recess." But this is a hindsight reconstruction of Applicant's invention and is not based on any identified teachings of the prior art as is required by *KSR* to support a reject under 35 U.S.C. § 103. Applicant submits that a spring that is specifically used to bias a ramp-bearing pull tab to an undisplaced location is not common knowledge or well-known to those skilled in the art. Accordingly, Applicant traverses the Office's finding that a spring-biased pull tab as set forth in claims 1 and 5 is common knowledge or well-known in the art.

For the foregoing reasons, Applicant submits that the Office has not shown that the prior art discloses or makes obvious the spring-biased, ramp-bearing pull tab recited in claims 1 and 5 and has therefore failed to set forth a proper *prima facie* case of obviousness under 35 U.S.C. § 103. Withdrawal of the rejections and allowance of claims 1 and 5 are thus respectfully requested.

Claims 2-4 and 13 depend from claim 1 and claims 6-12 depend from claim 5. Each of claims 2-4 and 6-13 is submitted to be non-obvious over the applied references for at least the same reasons as the independent claim from which it depends. Accordingly withdrawal of the rejections and allowance of claims 2-4 and 6-13 are respectfully requested.

New Claims

New claims 14-17 depend from claim 1 and new claims 18-20 depend from claim 5. Each of claims 14-20 is submitted to be non-obvious over the applied references for at least the same reasons as the independent claim from which it depends. Moreover, the new claims describe additional details regarding the arrangement of the spring not shown or suggested in the applied art. Accordingly favorable consideration and allowance of claims 14-20 are respectfully requested.

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CONCLUSION

A fee for an extension of time of one month is being submitted herewith. Applicant does not believe that any additional fee is required for the filing of this response. Should applicant be incorrect, the Commissioner is hereby authorized to charge the necessary fee to Deposit Account No. 19-1345.

Respectfully submitted,

/Kurt F. James/

Kurt F. James, Reg. No. 33,716
SENNIGER POWERS LLP
100 North Broadway, 17th Floor
St. Louis, Missouri 63102
(314) 345-7000

KFJ/JGP/jst/dss

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Electronic Patent Application Fee Transmittal

Application Number:	15044838
Filing Date:	16-Feb-2016
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Filer:	Jonathan G. Pollmann/Tina Townsend
Attorney Docket Number:	Senko.03611

Filed as Small 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 $0 paid	2251	1	100	100
Miscellaneous:				
		Total in USD ($)		**100**

Electronic Acknowledgement Receipt

EFS ID:	33321248
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Customer Number:	152878
Filer:	Jonathan G. Pollmann/Tina Townsend
Filer Authorized By:	Jonathan G. Pollmann
Attorney Docket Number:	Senko.03611
Receipt Date:	30-JUL-2018
Filing Date:	16-FEB-2016
Time Stamp:	17:26:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$100
RAM confirmation Number	073118INTEFSW17273500
Deposit Account	191345
Authorized User	Senniger Powers

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

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		03500725.PDF	247672 adeecd15fe9e914774e03fb5cf71eb5fc298326b	yes	9

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	4
Applicant Arguments/Remarks Made in an Amendment	5	9

Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30583 248a317e7433d5bbfde77eba6992e00d0f7cf0b5	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	278255		

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.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/044,838	Filing Date 02/16/2016	☐ 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 $40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $210 =	
☐ 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	07/30/2018	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $230 =	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".	/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.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/044,838	02/16/2016	Kazuyoshi Takano	133077.03611	1615

152878 7590 03/28/2018

Senko Advanced Components, Inc.
450 Donald Lynch Blvd
Unit D
Marlborough, MA 01752

EXAMINER	
TAVLYKAEV, ROBERT FUATOVICH	

ART UNIT	PAPER NUMBER
2883	

NOTIFICATION DATE	DELIVERY MODE
03/28/2018	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):

patents@senko.com

Office Action Summary	Application No. 15/044,838	Applicant(s) TAKANO ET AL.	
	Examiner ROBERT TAVLYKAEV	Art Unit 2883	AIA (First Inventor to File) Status Yes

-- 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 *11/20/17*.

☐ 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) *1-13* 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) *1-13* 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: _____.

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1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

2. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

DETAILED ACTION

3. Applicant's amendments and remarks filed 11/20/17 are acknowledged. Claims 1 and 2 have been amended and claim 13 added. Claims 1 – 13 are pending.

Response to Amendments / Arguments

4. Applicant's arguments regarding the amended claims versus the previously raised claim rejections under 35 USC 103 have been fully considered but they are moot in view of the new grounds of rejections, as necessitated by an updated prior art search that has yielded a reference by Reed et al (US 5,915,987), the latter disclosing a latched connector with a pull tab structure identical/similar to that of the claimed invention and more comprehensively covering the corresponding limitations recited by the claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

7. Claims 1 – 13 are rejected under 35 U.S.C. 103 as being unpatentable over Wong et al (US 2009/0220200 A1) in view of Reed et al (US 5,915,987), and further in view of Gniadek et al (US 8,465,317 B2).

Regarding claims 5, 6, and 9, Wong discloses (Figs. 4 – 8) a fiber optic connector comprising:

a plurality (two) of connectors (comprised in a duplex connector 100 and comprising ferrules 114 and 116 respectively; Figs. 3 – 5; par. 0008 and 0020) disposed at a distance/pitch therebetween;

a housing 102 configured to hold the plurality of connectors 100 and further comprising a connector recess 140 (comprising sloped surfaces 140 which are shown in Fig. 8 and act as a retention feature for flexible latch arms 218/220 of an adaptor 200 (shown in Figs. 2 and 8));

wherein a latch 218/220 of an adapter 200 engages the connector recess 140 when the connector 100 is inserted/plugged into the adaptor 200 (this plugged state is shown in detail in Fig. 8; par. 0024 and 0029),

wherein the latch 218/220 of the adapter 200 is disengaged from the connector recess 140 when the connector 100 is pulled out of the adaptor 200, and

wherein the latch 218/220 is within a main cavity of the adapter 200 (as seen in Figs. 2 and 8).

The connector 100 is latched in the adapter 200 by a force exerted by the protruding ends of the flexible/spring-like latch arms 218/220 on the connector recess 140 (par. 0029). The connector 100 is disengaged from the adapter 200 by being pulled out of it by a pulling force that is applied by the operator directly to the connector in order to release the protruding ends of the flexible latch arms 218/220 from the connector recess 140. Wong does not teach a pull tab that can facilitate the release of the latch arms and thereby the pull-out operation. However, Reed discloses (Figs. 1 – 3; 1:64 – 3:45) a connector 12 that has a housing 30 in which a connector recess 34 is formed. The connector 12 is latched in an adapter 14 that has a flexible/spring latch

arms 28, the latter formed within a main cavity of the adapter, as shown in Fig. 1 ("A latch pocket 34 defined in each edge face 32 provides a recess for engagement by a respective one of the latch springs 28" at 2:17 – 19). Reed expressly teaches a pull tab (comprising 36, 44, and 52) having a ramp area 94 configured to disengage the latch 28 of the adapter, as shown in Figs. 3a and 3b (3:24 – 45). It would have been obvious to a person of ordinary skill in the art at the time of the invention that the fiber optic connector taught by Wong can further comprise a pull tab with a ramp area, in accordance with the teachings of Reed, so that both a sufficient latching/retention force (in the latched/engaged state) and a reduced detachment force (for disengaging the connector from the adapter) can be achieved (1:4 – 7 of Reed) and both a reliable latched state and a facilitated pull-out operation can thereby be achieved. In the connector of the Wong – Reed combination, the ramp area 94 of the pull tab 36 of Reed would be disposed in the connector recess 140 of Wong (which directly corresponds to the connector recess 34 of Reed) and under the protruding ends/hooks of the flexible latch arms 218/220 (which directly correspond to the flexible latch arms 28 of Reed) in the engaged state.

As a relevant comment, it is also noted that the incorporation of a pull tab of Reed is especially beneficial for *high-density* connector applications with a small size/footprint (as intended by Wong; par. 0020) in which the connector size and spacings between adjacent connectors become too small (see below) for the operator's fingers to reliably grip an individual connector without applying a force/pressure on its neighbors. The use of a pull tab provides an advantage in that the operator can disengage the latch of the adapter by pulling the pull tab (its part 44) at a distance from the housing and without a risk of touching/disturbing neighboring connectors.

Wong considers (e.g., par. 0020) fiber optic connectors for *high-density* connector applications with a small size/footprint, but does not cite possible sizes/dimensions/pitches for the connector. However, Gniadek discloses (e.g., Figs. 6 and 11) a duplex connector (same type as that of Wong) with a pull tab 360 for high-density connector/panel applications (1:31 – 40) which require "shrinking the connector size and/or spacing". Gniadek exemplifies that the connector (width and height) size "may be any length between 0.01 millimeter and 10 centimeters, such as a length between 1 mm and 5 mm" (6:40 – 63) and that the distance/pitch "between each of the mating connectors 150 or the couplers 120 in the panel 100 along the width of the panel 100 may be an distance between 0 and 30 millimeters, such as 0.001 millimeters, … 1.6 millimeters" (7:3 – 25). It would have been obvious to a person of ordinary skill in the art at the time of the invention that the (duplex) connector of the Wong – Reed combination can have a small size/pitch, such as those cited by Gniadek, and be a narrow-pitch connector in order to enable and/or be compatible with high-density panel applications (shown in Figs. 15 and 16 of Gniadek; 14:50 – 61), as intended by Wong and expressly taught by Gniadek. In particular, the Wong – Reed – Gniadek combination considers that the pitch size (distance between the centers of 114 and 116 in Fig. 3 of Wong) can be less than 5.25 mm and less than 4.8 mm (7:3 – 25; 14:55 – 60 of Gniadek). The Wong – Reed – Gniadek combination also considers that the pair of connectors in the duplex connector can be LC-type connectors (2:54 – 56; 14:60 – 61 of Gniadek).

In light of the foregoing analysis, the Wong – Reed – Gniadek combination teaches expressly or renders obvious all of the recited limitations.

To sum up the applied prior art combination, Wong teaches a fiber optical connector with a connector recess for engaging latching arms of an adaptor that receives the connector. The latching arms are disposed in a main cavity of the adaptor. The teachings of Reed add a pull tab with a ramp area in order to facilitate the disengagement of the connector from the adaptor. Gniadek exemplifies a particular size/pitch for a small-size connector suitable for high-density panel applications which are considered/intended by Wong.

Regarding claim 8, the Wong – Reed – Gniadek combination considers (Figs. 1 – 3 of Reed) that the pull tab 36 includes a distal end 42 (which is connector to a distal member 44 via a tie member 52) for remotely unlatching the narrow pitch connector.

Regarding claim 10, the Wong – Reed – Gniadek combination considers (Figs. 3 and 4; par. 0026 of Wong) that the housing 102 includes a bottom housing 106 and a top housing 104 coupled to the bottom housing 106.

Regarding claims 11 and 12, the Wong – Reed – Gniadek combination considers (Fig. 3 of Wong) that the bottom housing 106 includes a side wall, the latter defined by the sidewalls of semi-circular channels 120 and grooves 130 and configured to open (when the upper housing 104 is in the open state, as shown in Fig. 3). The side wall includes a raised profile (raised back side wall of channel 120 at a rear end (right end in Fig. 3) thereof.

Regarding claims 1 – 3 and 13, the teachings of Wong, Reed, and Gniadek combine (see the arguments and motivation for combining as applied to claim 5 above) to teach expressly or render obvious all of the recited limitations.

For claims 1, 3, and 13, it is noted that the duplex connector of Wong is a multi-fiber connector 100 (comprising/connecting at least two fibers in cables 110, 112; par. 0026).

According to the teachings of Gniadek (6:40 – 63; 7:3 – 48), the size/width of the connector can be minimized for high-density panel applications and be less than 12.4 mm and less than 9.6 mm.

For claim 2, the Wong – Reed – Gniadek combination considers the fiber optical connector can comprise at least one ferrule (ferrules 114 and 116 in Fig. 3 of Wong) which can be an LC-type ferrule (2:54 – 56 of Gniadek).

Regarding claims 4 and 7, the Examiner takes official notice that *spring-biased*/loaded pull tabs are well known in the art of connectors with pull tabs. It would have been obvious to a person of ordinary skill in the art at the time of the invention that the pull tab of the connector of the Wong – Reed – Gniadek combination can further comprise a spring configured to bias/push the pull tab (bias the pull tab 3a to the left in Fig. 3a of Reed) in order engage the latch of the adapter with the connector recess, as shown for the engaged/latched state in Fig. 8 of Wong and Fig. 3a of Reed. The use of a spring would reset the pull tab to the left most position in Fig. 3a of Reed and make the connector ready to be latched (by the latch 28) of the adapter 14 (which corresponds to the adapter 200 in Fig. 2 of Wong).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT TAVLYKAEV whose telephone number is (571)270-5634. The examiner can normally be reached on Mon - Thur 9 am - 6 pm EST.

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.

/Robert Tavlykaev/
Primary Patent Examiner, Art Unit 2883

Notice of References Cited	Application/Control No. 15/044,838	Applicant(s)/Patent Under Reexamination TAKANO ET AL.	
	Examiner ROBERT TAVLYKAEV	Art Unit 2883	Page 1 of 1

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*	A	US-5,915,987 A	06-1999	Reed; Gary W.	H01R13/6275	439/258
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	C	US-				
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

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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.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	36	(US-20160116686-$ or US-20160109661-$ or US-20160054527-$ or US-20140334780-$ or US-20140056562-$ or US-20120329304-$ or US-20120129379-$ or US-20120051699-$ or US-20100112845-$ or US-20100025480-$ or US-20070237472-$ or US-20070237471-$ or US-20070237470-$ or US-20070098329-$ or US-20060013542-$ or US-20030228777-$).did. or (US-8920045-$ or US-8083417-$ or US-7850371-$ or US-7445389-$ or US-7377699-$ or US-6149450-$ or US-5603630-$ or US-5429522-$ or US-5316495-$ or US-5124506-$ or US-4964809-$ or US-4462656-$ or US-4061411-$).did. or (US-2732531-$).did. or (US-20160109661-$ or US-20120329304-$ or US-20120129379-$ or EP-880106-$ or EP-2700992-$ or EP-1143570-$).did.	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2018/03/02 19:13
L2	1602	(adaptor receptacle) with latch$3 and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls. H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not 1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:15
L3	198	(adaptor receptacle) with latch$3 and (pull releas$3 extract$3) near3 (tab handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls. H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not 1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:20
L4	10	(US-20050208822-$ or US-20040161207-$).did. or (US-8480424-$ or US-8388367-$ or US-8317534-$ or US-8277128-$ or US-7466544-$ or US-7377702-$ or US-7204712-$ or US-7130507-$).did.	US-PGPUB; USPAT	OR	OFF	2018/03/02 19:22
L5	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2018/03/02 19:22

		20130210261-$).did.				
L6	315	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
L7	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
L8	485	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not L6 not L7 not L5 not L4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
L9	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
L10	266	(connector plug) with (tab handle clip) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (latch spring lever catch) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not L9 not L8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
L11	150	(adaptor receptacle) with latch$3 and (pull releas$3 extract$3) near3 (tab handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls. H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not 1 not L8 not L10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:22
L12	206	(adaptor receptacle transceiver transponder sfp) with latch$3 and (pull releas$3 extract$3) near3 (tab handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls. H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not 1 not L8 not L10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:24
L13	19	("5634809").PN. OR ("5915987").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/02 19:43
L14	3	(pull adj1 tab and ramp and disengage and connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/02 19:46

S3	5	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:06
S4	7	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:06
S5	46	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:07
S6	128	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:07
S7	1	(13/286773).APP.	USPAT; USOCR	OR	OFF	2016/06/27 14:08
S8	99	("20040052473" | "20040136657" | "20040141693" | "20040161958" | "20060089049" | "20060269194" | "20070149062" | "20070230874" | "20070232115" | "20070243749" | "20080044137" | "20080069501" | "20080101757" | "20080226237" | "20080267566" | "20090028507" | "20090214162" | "20090220197" | "20100034502" | "20100322561" | "20110044588" | "20110131801" | "20110177710" | "4762388" | "4764129" | "4840451" | "5212752" | "5317663" | "5348487" | "5444806" | "5481634" | "5506922" | "5570445" | "5588079" | "5684903" | "5687268" | "5937130" | "5956444" | "5971626" | "6041155" | "6206577" | "6206581" | "6227717" | "6247849" | "6461054" | "6478472" | "6551117" | "6579014" | "6648520" | "6854894" | "7090406" | "7090407" | "7091421" | "7111990" | "7113679" | "7150567" | "7153041" | "7198409" | "7207724" | "7258493" | "7281859" | "7315682" | "7325976" | "7325980" | "7329137" | "7354291" | "7387447" | "7390203" | "7431604" | "7463803" | "7465180" | "7561775" | "7591595" | "7594766" | "7641398" | "7695199" | "7699533" | "7824113" | "8251733" | "D323143" | "D533504" | "D534124" | "D543146" | "D558675" | "D572661" | "D641708" | "RE37080").PN. OR ("8465317").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:08
S9	31	("5462457" | "5494457" | "6238251" | "6250949" | "6371787" | "7052186" | "7063554").PN. OR ("7465180").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:11
S10	720	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip member) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:25
S11	484	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/06/27 14:26

			DERWENT; IBM_TDB			
S12	2	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S13	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S14	26	("4953929" | "5608830" | "5675682" | "6409392" | "6511230").PN. OR ("6672898").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:41
S15	49	("5538438" | "5574812" | "5579425" | "5638474" | "5647043").PN. OR ("6250817").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:42
S16	31	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100304617" | "20110045683" | "20110124217" | "5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" | "6764333" | "7314384" | "7473124" | "7534128" | "7588373" | "7651361" | "8235745" | "8382506").PN. OR ("8556645").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:44
S17	0	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:47
S18	6884	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring not S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:47
S19	1327	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:48
S20	300	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:49
S21	25	(duplex near3 (connector plug)) with (small adj2 factor)	US-PGPUB;	OR	OFF	2016/06/27

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			14:53
S22	0	(duplex near3 (connector plug)) with (small adj2 factor) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:55
S23	13	(duplex near3 (connector plug)) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:55
S24	31	(duplex near3 (connector plug)) same ((high large) near3 (density count))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:00
S25	1	(12/040986).APP.	USPAT; USOCR	OR	OFF	2016/06/27 15:05
S26	24	("20080037938" | "4645295" | "4784456" | "4787706" | "4871227" | "5579425" | "5731546" | "6048106" | "6250817" | "6325549" | "6485192" | "6551117" | "6607307" | "6632030" | "6762940" | "6824416" | "7013088" | "7031574" | "7077686" | "7090509" | "7178996" | "7350984" | "7421181" | "7488123").PN. OR ("7798727").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 15:05
S27	14	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:08
S28	6622	(connector plug adapter receptacle) same (pitch with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:10
S29	34	(connector plug adapter receptacle) same (pitch with mm with (ferrule fiber)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:11
S30	59	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2016/06/27 15:13

			EPO; JPO; DERWENT; IBM_TDB			
S31	4	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction) with mm) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:14
S32	3	(mini miniatur$5) with (duplex near3 (connector plug adapter receptacle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:18
S33	0	(duplex near3 (connector plug adapter receptacle)) and (pitch with "4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:32
S34	0	(duplex near3 (connector plug adapter receptacle)) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S35	66	(connector plug adapter receptacle) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S36	66	(connector plug adapter receptacle) with ("4.8 mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S37	7	(connector plug adapter receptacle) with ("4.8mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S38	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:48
S39	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 width adj1	US-PGPUB; USPAT;	OR	OFF	2016/06/27 15:48

		connector).clm.	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S40	3	"20150111417"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/12 16:35
S41	8	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:32
S42	79	((Jeffrey) near2 (Gniadek)).INV. and connector	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:33
S43	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same sping and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:35
S44	313	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:35
S45	33	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100159742" | "20100304617" | "20110045683" | "20110124217" | "5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" | "6764333" | "7314384" | "7473124" | "7534128" | "7562116" | "7588373" | "7651361" | "8235745" | "8382506" | "8425247").PN. OR ("8747141").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 00:52
S46	795	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:00
S47	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2016/09/17 01:00

			EPO; JPO; DERWENT; IBM_TDB			
S48	59	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S44 not S47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:03
S49	1	("7052186").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 01:12
S50	0	(pull adj1 tab and disengage and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:17
S51	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:17
S52	10	(US-20160033723-$ or US-20160011383-$ or US-20150177463-$ or US-20140147082-$ or US-20140072263-$ or US-20140050443-$ or US-20120155810-$ or US-20030137651-$).did. or (US-6302596-$).did. or (US-20120155810-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2016/09/17 12:18
S53	6	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm)) not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:18
S54	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S55	310	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S56	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54 not S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20

S57	32	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54 not S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:21
S58	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:23
S59	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:25
S60	37	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not S59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:26
S61	33	("7052186" | "20030063862" | "20060140543" | "20110058773" | "5845036" | "20150111417" | "20100239220" | "20110267742" | "6668113" | "20120237177" | "20120155810" | "6276840" | "7473124").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:41
S62	1	("6276840").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:50
S63	0	("201102677742").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:53
S64	1	("20110267742").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:53
S65	1	("6668113").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:59
S66	1	("20110058773").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 20:56
S67	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2017/03/20 23:00
S68	8	((Kazuyoshi) near2 (Takano)).INV. not S67	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:00

S69	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.	US-PGPUB; FPRS; EPO	OR	OFF	2017/03/20 23:02
S70	81	((Jeffrey) near2 (Gniadek)).INV. and connector not S69	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:02
S71	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/03/20 23:03
S72	314	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03
S73	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03
S74	14	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S72 not S73 not S71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03
S75	18	(US-20150093925-$ or US-20140169749-$ or US-20140127930-$ or US-20130194753-$ or US-20120237177-$ or US-20120064754-$ or US-20110267742-$ or US-20110223792-$ or US-20050059290-$ or US-20040132327-$).did. or (US-9413110-$ or US-6666484-$ or US-6556450-$ or US-6434015-$ or US-6093044-$ or US-5709560-$ or US-	US-PGPUB; USPAT; DERWENT	OR	OFF	2017/03/20 23:05

		5484297-$).did. or (US-20130210261-$).did.				
S76	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
S77	334	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S76	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
S78	33	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S76 not S77 not S75	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
S79	2	(US-20140273593-$).did. or (WO-2013037123-$).did.	US-PGPUB; FPRS	OR	OFF	2017/03/20 23:07
S80	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S79	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:07
S81	8	(US-20140273593-$ or US-20140235091-$ or US-20140127926-$).did. or (US-7717625-$ or US-7517241-$ or US-7168972-$ or US-6817272-$ or US-4846708-$).did.	US-PGPUB; USPAT	OR	OFF	2017/03/20 23:08
S82	1	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S81	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:08
S83	31	(US-20160156140-$ or US-20150132981-$ or US-20140021915-$ or US-20110274402-$ or US-20110269340-$ or US-20110268412-$ or US-20110268411-$ or US-20110268410-$ or US-20110268409-$ or US-20110268408-$ or US-20110268407-$ or US-20110268406-$ or US-20090046981-$ or US-20090029585-$ or US-20080132101-$ or US-20080070446-$ or US-20040092165-$).did. or (US-8690591-$ or US-7913379-$ or US-6106320-$ or US-5959848-$ or US-5752850-$ or US-5734770-$ or US-5732174-$ or US-5711558-$ or US-5682450-$ or US-4798430-$ or US-4750890-$ or US-4182017-$).did. or (DE-3145444-$).did. or (US-20080070446-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/03/20 23:09
S84	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/03/20 23:09

			IBM_TDB			
S85	6	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not S84 not S83	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:09
S86	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:10
S87	0	(pull adj1 tab and disengage and narrow adj1 width and connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:11
S88	6	(US-20160195682-$).did. or (US-9595786-$ or US-9557491-$ or US-9470852-$).did. or (WO-2015191024-$).did. or (JP-2008155098-$).did.	US-PGPUB; USPAT; FPRS; JPO	OR	OFF	2017/07/19 13:32
S89	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:32
S90	6	((Kazuyoshi) near2 (Takano)).INV. not S89 not S88	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:32
S91	20	(US-20170059784-$ or US-20170003458-$ or US-20170003457-$ or US-20080138025-$ or US-20080008437-$).did. or (US-9595786-$ or US-9482825-$ or US-9448369-$ or US-9188747-$ or US-7680388-$).did. or (WO-2017003934-$ or WO-2016148741-$ or WO-2016140710-$ or WO-2015094768-$ or WO-2014182351-$ or WO-2013052070-$ or WO-2012162385-$ or EP-1896887-$ or CA-2604948-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2017/07/19 13:33
S92	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.	US-PGPUB; FPRS; EPO	OR	OFF	2017/07/19 13:33
S93	68	((Jeffrey) near2 (Gniadek)).INV. and connector not S92 not S91	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:33
S94	110	("20040052473" | "20040136657" | "20040141693" | "20040161958" | "20060089049" | "20060269194" |	US-PGPUB; USPAT;	OR	OFF	2017/07/19 13:38

		"20070149062" | "20070230874" | "20070232115" | "20070243749" | "20080044137" | "20080069501" | "20080101757" | "20080226237" | "20080267566" | "20090028507" | "20090214162" | "20090220197" | "20100034502" | "20100322561" | "20110044588" | "20110131801" | "20110177710" | "4762388" | "4764129" | "4840451" | "5212752" | "5317663" | "5348487" | "5444806" | "5481634" | "5506922" | "5570445" | "5588079" | "5684903" | "5687268" | "5937130" | "5956444" | "5971626" | "6041155" | "6206577" | "6206581" | "6227717" | "6247849" | "6461054" | "6478472" | "6551117" | "6579014" | "6648520" | "6854894" | "7090406" | "7090407" | "7091421" | "7111990" | "7113679" | "7150567" | "7153041" | "7198409" | "7207724" | "7258493" | "7281859" | "7315682" | "7325976" | "7325980" | "7329137" | "7354291" | "7387447" | "7390203" | "7431604" | "7463803" | "7465180" | "7561775" | "7591595" | "7594766" | "7641398" | "7695199" | "7699533" | "7824113" | "8251733" | "D323143" | "D533504" | "D534124" | "D543146" | "D558675" | "D572661" | "D641708" | "RE37080").PN. OR ("8465317").URPN.	USOCR			
S95	10	(US-20050208822-$ or US-20040161207-$).did. or (US-8480424-$ or US-8388367-$ or US-8317534-$ or US-8277128-$ or US-7466544-$ or US-7377702-$ or US-7204712-$ or US-7130507-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:44
S96	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/07/19 13:44
S97	315	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:44
S98	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:44
S99	4	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls.	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/07/19 13:44

		439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S97 not S98 not S96 not S95	FPRS; EPO; JPO; DERWENT; IBM_TDB			
S100	16	(US-20170047679-$ or US-20160041349-$ or US-20130045623-$ or US-20070280604-$ or US-20060258201-$ or US-20050191892-$ or US-20050036743-$ or US-20030142917-$).did. or (US-9052473-$ or US-8814229-$ or US-8790022-$ or US-8670238-$ or US-8388367-$ or US-8317534-$ or US-6994478-$ or US-6887092-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:45
S101	18	(US-20150093925-$ or US-20140169749-$ or US-20140127930-$ or US-20130194753-$ or US-20120237177-$ or US-20120064754-$ or US-20110267742-$ or US-20110223792-$ or US-20050059290-$ or US-20040132327-$).did. or (US-9413110-$ or US-6666484-$ or US-6556450-$ or US-6434015-$ or US-6093044-$ or US-5709560-$ or US-5484297-$).did. or (US-20130210261-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2017/07/19 13:45
S102	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:45
S103	342	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S102	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:45
S104	19	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S102 not S103 not S101 not S100	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:45
S105	4	(US-9595786-$ or US-8979569-$).did. or (CN-103718392-$).did.	USPAT; FPRS	OR	OFF	2017/07/19 13:45
S106	2	(US-20140273593-$).did. or (WO-2013037123-$).did.	US-PGPUB; FPRS	OR	OFF	2017/07/19 13:47
S107	6	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S106 not S105	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:47
S108	8	(US-20140273593-$ or US-20140235091-$ or US-20140127926-$).did. or (US-7717625-$ or US-7517241-$ or US-7168972-$ or US-6817272-$ or US-4846708-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:48
S109	1	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S108	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/07/19 13:48

			IBM_TDB			
S110	6	(US-20160064860-$).did. or (US-8965168-$ or US-8705926-$ or US-8172608-$ or US-7611372-$ or US-7497721-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:50
S111	31	(US-20160156140-$ or US-20150132981-$ or US-20140021915-$ or US-20110274402-$ or US-20110269340-$ or US-20110268412-$ or US-20110268411-$ or US-20110268410-$ or US-20110268409-$ or US-20110268408-$ or US-20110268407-$ or US-20110268406-$ or US-20090046981-$ or US-20090029585-$ or US-20080132101-$ or US-20080070446-$ or US-20040092165-$).did. or (US-8690591-$ or US-7913379-$ or US-6106320-$ or US-5959848-$ or US-5752850-$ or US-5734770-$ or US-5732174-$ or US-5711558-$ or US-5682450-$ or US-4798430-$ or US-4750890-$ or US-4182017-$).did. or (DE-3145444-$).did. or (US-20080070446-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/07/19 13:50
S112	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:50
S113	0	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not S112 not S111 not S110	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:50
S114	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:50
S115	1	("8465317").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/19 21:54
S116	1	adaptor with latch$3 with hook$3 with (connector plug) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 23:13
S117	9	adaptor with latch$3 with hook$3 with (connector plug)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 23:13
S118	48	adaptor with latch$3 and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/07/19 23:14

			DERWENT; IBM_TDB			
S119	1	(13/678686).APP.	USPAT; USOCR	OR	OFF	2017/07/19 23:22
S120	9	("20020168148" | "20090220198" | "5037175" | "7373031" | "7785018").PN. OR ("8834038").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/19 23:22
S121	4	"20160116686"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 23:31
S122	1	("8465317").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/21 20:54
S123	1	(12/040986).APP.	USPAT; USOCR	OR	OFF	2018/03/01 22:28
S124	24	("20080037938" | "4645295" | "4784456" | "4787706" | "4871227" | "5579425" | "5731546" | "6048106" | "6250817" | "6325549" | "6485192" | "6551117" | "6607307" | "6632030" | "6762940" | "6824416" | "7013088" | "7031574" | "7077686" | "7090509" | "7178996" | "7350984" | "7421181" | "7488123").PN. OR ("7798727").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/01 22:28
S125	6	(US-20170139150-$ or US-20170031106-$).did. or (US-9709753-$ or US-9678283-$ or US-9618702-$).did. or (CN-105518503-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/03/01 22:31
S126	6	(US-20160195682-$).did. or (US-9595786-$ or US-9557491-$ or US-9470852-$).did. or (WO-2015191024-$).did. or (JP-2008155098-$).did.	US-PGPUB; USPAT; FPRS; JPO	OR	OFF	2018/03/01 22:32
S127	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2018/03/01 22:32
S128	14	((Kazuyoshi) near2 (Takano)).INV. not S127 not S126 not S125	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 22:32
S129	13	(US-20170168256-$ or US-20080013910-$).did. or (US-9658409-$ or US-9268103-$ or US-8465317-$ or US-7489849-$).did. or (WO-2017035212-$ or WO-2016176083-$ or WO-2006113726-$ or CN-101243344-$ or AU-2014366498-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/03/01 22:35
S130	20	(US-20170059784-$ or US-20170003458-$ or US-20170003457-$ or US-20080138025-$ or US-20080008437-$).did. or (US-9595786-$ or US-9482825-$ or US-9448369-$ or US-9188747-$ or US-7680388-$).did. or (WO-2017003934-$ or WO-2016148741-$ or WO-2016140710-$ or WO-2015094768-$ or WO-2014182351-$ or WO-2013052070-$ or WO-2012162385-$ or EP-1896887-$ or CA-2604948-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2018/03/01 22:35
S131	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-	US-PGPUB; FPRS; EPO	OR	OFF	2018/03/01 22:35

		20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.				
S132	77	((Jeffrey) near2 (Gniadek)).INV. and connector not S131 not S130 not S129	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 22:35
S133	3095	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:04
S134	10	(US-20050208822-$ or US-20040161207-$).did. or (US-8480424-$ or US-8388367-$ or US-8317534-$ or US-8277128-$ or US-7466544-$ or US-7377702-$ or US-7204712-$ or US-7130507-$).did.	US-PGPUB; USPAT	OR	OFF	2018/03/01 23:05
S135	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2018/03/01 23:05
S136	315	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:05
S137	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:05
S138	485	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S136 not S137 not S135 not S134	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:05

S139	29	("4026624" | "4548455" | "4632121" | "4681387" | "4726783" | "4925398" | "5207593" | "5318457" | "5330366" | "5334041" | "5634809" | "5919056" | "5951316" | "6030244" | "6113416" | "6149451" | "6174190" | "6358081" | "6368140" | "6386898" | "6475014" | "6494732" | "6497585").PN. OR ("6592390").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/01 23:34
S140	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:42
S141	927	(connector plug) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (tab tool lever handle clip) with (latch spring lever catch) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S140 not S138	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:43
S142	266	(connector plug) with (tab handle clip) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) with (latch spring lever catch) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S140 not S138	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/01 23:43
S143	1	(13/527129).APP.	USPAT; USOCR	OR	OFF	2018/03/01 23:53
S144	16	("5716049" | "7134914" | "7281937" | "7476117" | "7540755" | "7736171" | "7938669" | "8251735" | "8267713").PN. OR ("8444430").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/01 23:53
S145	1	(12/367677).APP.	USPAT; USOCR	OR	OFF	2018/03/02 00:09
S146	44	("20080037938" | "4645295" | "4784456" | "4787706" | "4871227" | "5579425" | "5731546" | "6048106" | "6250817" | "6325549" | "6485192" | "6551117" | "6607307" | "6632030" | "6762940" | "6824416" | "7013088" | "7031574" | "7077686" | "7090509" | "7178996" | "7350984" | "7421181" | "7488123").PN. OR ("7824113").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/03/02 00:09

3/2/2018 7:47:39 PM
C:\Users\rtavlykaev\Documents\EAST\Workspaces\15044838.wsp

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	**Art Unit**
	ROBERT TAVLYKAEV	2883

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	09/17/2016	03/21/2017	07/19/2017	03/02/2018					
	1	✓	✓	✓	✓					
	2	✓	✓	✓	✓					
	3	✓	✓	✓	✓					
	4	✓	✓	✓	✓					
	5	✓	✓	✓	✓					
	6	✓	✓	✓	✓					
	7	✓	✓	✓	✓					
	8	✓	✓	✓	✓					
	9	✓	✓	✓	✓					
	10	✓	✓	✓	✓					
	11	✓	✓	✓	✓					
	12	✓	✓	✓	✓					
	13				✓					

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US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	Art Unit
	ROBERT TAVLYKAEV	2883

CPC- SEARCHED		
Symbol	Date	Examiner
H01R13/627,6271,6272,6275,62933; G02B6/4284	3/2/18	RT

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
385	76,77,88,92	3/2/18	RT
439	133,304,345,346,350,352,353,354,357,358,370	3/2/18	RT

* 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
updated search in EAST	3/2/18	RT
updated inventor name search	3/2/18	RT
updated clm search	3/2/18	RT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
385	76,77,88,92	3/2/18	RT
439	133,304,345,346,350,352,353,354,357,358,370	3/2/18	RT

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IPR2024-00119

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/044,838	02/16/2016	Kazuyoshi Takano	133077.03611

CONFIRMATION NO. 1615

POWER OF ATTORNEY NOTICE

136404
Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736

OC000000098018059

Date Mailed: 03/14/2018

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/09/2018.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/kxaysana/

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/044,838	02/16/2016	Kazuyoshi Takano	133077.03611

CONFIRMATION NO. 1615

POA ACCEPTANCE LETTER

152878
Senko Advanced Components, Inc.
450 Donald Lynch Blvd
Unit D
Marlborough, MA 01752

OC00000098018079

Date Mailed: 03/14/2018

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/09/2018.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/kxaysana/

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

☒ Practitioners associated with Customer Number: 000152878

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

☒ The address associated with Customer Number: 000152878

OR

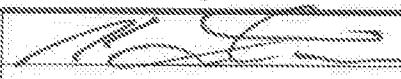
☐	Firm or Individual Name			
	Address			
	City		State	Zip
	Country			
	Telephone		Email	

Assignee Name and Address: Senko Advanced Components, Inc.
450 Donald Lynch Blvd, Unit D
Marlborough, MA 01752

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	3/9/2018
Name	Kazuyosho Takano	Telephone	5084949957
Title	Executive Vice President		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Senko Advanced Components, Inc.

Application No./Patent No.: 15/044,838 Filed/Issue Date: February 16, 2016

Titled: Narrow Width Adapters and Connectors With Spring Loaded Remote Release

Senko Advanced Components, Inc., a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. [x] The assignee of the entire right, title, and interest.

2. [ ] An assignee of less than the entire right, title, and interest (check applicable box):

   [ ] The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   [ ] There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. [ ] The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. [ ] The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. [x] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 37502, Frame 0423, or for which a copy thereof is attached.

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

   The document was recorded in the United States Patent and Trademark Office at

   Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

   The document was recorded in the United States Patent and Trademark Office at

   Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). 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. 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.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. 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.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

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6. From: _____ To: _____

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☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature	03/092018
	Date
Edward S. Jarmolowicz	47,238
Printed or Typed Name	Title or Registration Number

Electronic Acknowledgement Receipt

EFS ID:	32007337
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Customer Number:	136404
Filer:	Edward Jarmolowicz
Filer Authorized By:	
Attorney Docket Number:	133077.03611
Receipt Date:	09-MAR-2018
Filing Date:	16-FEB-2016
Time Stamp:	12:49:42
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		03611.pdf	248946 26d7bfe6c9a1a61560223a5a1e529f14bc23639a	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Power of Attorney	1	1
	Assignee showing of ownership per 37 CFR 3.73	2	3
Warnings:			
Information:			
	Total Files Size (in bytes):	248946	

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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.

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/044,838	Filing Date 02/16/2016	☐ 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 $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ 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

AMENDMENT **11/20/2017**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 13	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $210 =	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

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ 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.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** 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.

LIE
HALLEY MASSEY

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

In re Application of	:	Kazuyoshi Takano
Appln. No.	:	15/044,838
Filed	:	February 16, 2016
Confirmation No.	:	1615
Group Art Unit	:	2883
Examiner	:	Tavlykaev, Robert Fuatovich

Title: NARROW WIDTH ADAPTERS AND CONNECTORS WITH SPRING LOADED REMOTE RELEASE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Commissioner,

In response to the Office Action mailed July 28, 2017 in the above identified Application, Applicants respectfully submit the following amendments and remarks.

Amendments to the Claims begins on page 2.

Remarks begin on page 5.

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IPR2024-00119

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A narrow width fiber optic connector comprising:

a plurality of optical fibers; ~~a multi-fiber connector, wherein a width of said narrow width fiber optic connector is less than about 12.4mm;~~

a housing configured to hold the ~~multi-fiber connector~~ plurality of optical fibers and further comprising a connector recess; and

a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess, wherein the latch is within a main cavity of the one of the adapter and the SFP.

2. (Currently Amended) The narrow width fiber optic connector of claim 1, ~~wherein the multi-fiber connector includes~~ further comprising one of a multi-fiber MT ferrule and at least one LC ferrule.

3. (Original) The narrow width fiber optic connector of claim 1, wherein the width is less than or equal to about 9.6mm.

4. (Original) The narrow width fiber optic connector of claim 1, wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

5. (Previously Presented) A narrow pitch fiber optic connector comprising:

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IPR2024-00119

a plurality of LC connectors arranged such that a pitch of said narrow pitch connector is less than about 5.25mm;

a housing configured to hold the plurality of LC connectors and further comprising a connector recess; and

a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess, wherein the latch is within a main cavity of the one of the adapter and the SFP.

6. (Original) The narrow pitch fiber optic connector of claim 5, wherein the pitch is less than or equal to about 4.8mm.

7. (Original) The narrow pitch fiber optic connector of claim 5, wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

8. (Original) The narrow pitch fiber optic connector of claim 7, wherein the pull tab includes a distal end for remotely unlatching the narrow pitch connector.

9. (Original) The narrow pitch fiber optic connector of claim 5, wherein the narrow pitch connector is a duplex connector.

10. (Original) The narrow pitch fiber optic connector of claim 5, wherein the housing includes a bottom housing and a top housing coupled to the bottom housing.

11. (Original) The narrow pitch fiber optic connector of claim 10, wherein the bottom housing includes a side wall configured to open.

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IPR2024-00119

12. (Original) The narrow pitch fiber optic connector of claim 11, wherein the side wall includes a raised profile at a rear end thereof.

13. (New) The narrow width fiber optic connector of claim 1, wherein a width of said narrow width fiber optic connector is less than about 12.4mm.

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US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

REMARKS

Applicants respectfully submit the following remarks. Claims 1 and 2 have been amended and claim 13 has been added. No claims have been canceled herein. Support for the claim amendments is found in the application as filed, for example in the original claims and at paragraphs [0060] and [0069] of the corresponding application publication No. US 2017/0205591. No new matter is added. For the reasons set forth below, Applicants respectfully request that the rejections of the claims be withdrawn.

Rejection of Claims 1-12 under 35 U.S.C. 103

Claims 1 and 3-12 were rejected under 35 U.S.C. 103 as being unpatentable over Wong (US 2009/0220200 A1) in view of Briant (US 7,473,124) and further in view of Gniadek (US 8,465,317).

Applicants respectfully disagree that the cited references, either alone or in combination, disclose or suggest each and every element of claim 1. Claim 1 has been amended, for example to delete "a width of said narrow width fiber optic connector is less than about 12.4mm." This feature has been added as new dependent claim 13. No new matter is added.

Wong discloses a duplex optical transceiver module with an integrally formed housing having flexible retaining elements for retaining ferrules of a connector (See e.g. Wong Abstract). As illustrated in FIG. 8 of Wong, reproduced below, Wong discloses connector retention features 140 held by the flexible retaining elements of the transceiver module (Wong paragraph [0029]).

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IPR2024-00119

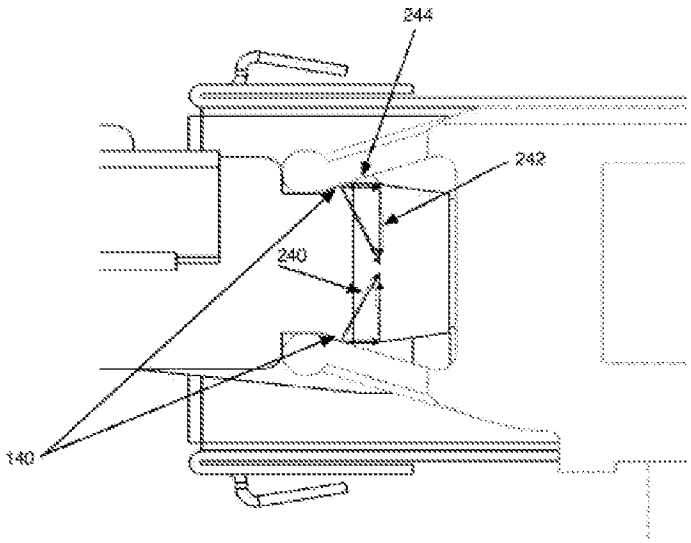


FIG. 8

As acknowledged by the Examiner, Wong does not disclose or suggest "a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess" as recited in claim 1 (See Office Action Pages 5-6).

Briant discloses an electrical plug having a push-pull actuator (See, e.g., Figs. 1-2 and Abstract of Briant). As shown in FIG. 2 of Briant, reproduced below, the actuator 104 is positioned between the housing 108 and a latch 106 movably coupled to the housing 108 (Briant Col. 2, line 48-Col. 3, line 16, and Col. 7, line 23-28).

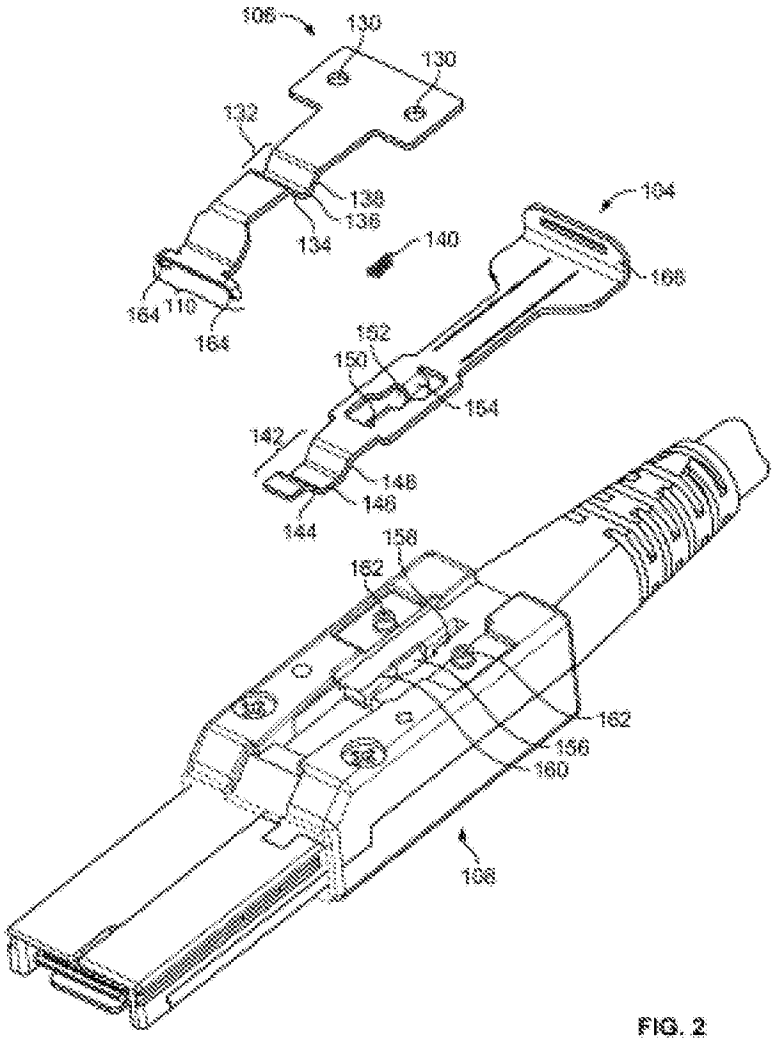


FIG. 2

Applicants respectfully disagree that one of ordinary skill in the art would have been motivated to combine Wong with Briant as proposed by the Examiner. Applicants respectfully submit that the combination of Wong with Briant is improper at least because the Office Action relies on information gleaned solely from Applicants' specification. MPEP § 2142 states that "impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art."

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IPR2024-00119

The actuator 104 of Briant requires a latch 106 coupled to the housing 108, in contrast with Wong, which discloses a transceiver module having flexible retaining elements interpreted by the Examiner as latches within an adapter. Briant does not disclose or suggest that the actuator 104 may be used where the latch is separate from the housing, such as within an external adapter, and does not provide any motivation for doing so. Moreover, Wong does not disclose or suggest use of a pull tab of the type "having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess" as recited in claim 1, and does not provide any motivation for doing so.

The Examiner argues that the motivation to combine the references is that "a pull tab is especially beneficial for high-density connector applications with a small size/footprint" (See Office Action Page 5). However, even if a pull tab is generally beneficial for high-density applications, the prior art still does not disclose or suggest any motivation for combining Wong with the actuator of Briant that requires a latch coupled to the housing, as discussed above. The system of Briant relies on interaction of the actuator with a latch of the connector to release it from a recess/hole of the receptacle (Col. 3, lines 1-5 of Briant) rather than interaction with a latch of an adapter. The combination of "a pull tab having a ramp area" in conjunction with "a latch is within a main cavity of the one of the adapter and the SFP" is an exercise of impermissible hindsight, gleaned solely from Applicants' own specification (See, e.g., paragraphs [0074] to [0077] of Applicants' published application No. US 2017/0205591 A1).

Accordingly, one of ordinary skill in the art would not have been motivated to combine Wong with Briant by using the actuator of Briant with the optical transceiver module and connector of Wong. Further, Applicants do not concede that one of ordinary skill in the art would have been motivated to combine Gniadek with the already improper combination of Wong and Briant.

In view of the foregoing reasons, claim 1 is patentable over the cited references. Accordingly, withdrawal of the rejection of claim 1 is respectfully requested.

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IPR2024-00119

Claim 5 recites "a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess," similarly to claim 1. Therefore, claim 5 is also patentable for at least the same reasons provided above for claim 1, and withdrawal of the rejection of claim 5 is also respectfully requested.

Claims 3-12 depend directly or indirectly on one of independent claims 1 and 5, and are patentable over the cited references for at least the same reasons provided above for claims 1 and 5. Accordingly, withdrawal of the rejection of claims 3-12 is also respectfully requested.

Claim 2 was rejected under 35 U.S.C. 103 as being unpatentable over Wong in view of Briant and Gniadek and further in view of Weiss (US 6,276,840).

Applicants do not concede that Weiss can be combined with the already improper combination of Wong, Briant and Gniadek. Weiss does not cure the deficiencies of Wong and Briant as discussed above for independent claim 1. Claim 2 depends directly on independent claim 1. Therefore, it is patentable for at least the same reasons provided above for claim 1. Accordingly, withdrawal of the rejection of claim 2 is also respectfully requested.

New claim 13 depends directly on independent claim 1 and is therefore patentable over the cited references for at least the same reasons provided above for claim 1.

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US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

Authorization

The Commissioner is hereby authorized to charge additional fees which may be required for this response, or credit any overpayment, to deposit account no. 50-0436.

Applicants believe the claims presented herein are in condition for allowance and respectfully request notice to such effect. Should the Examiner believe for any reason that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned directly.

Respectfully submitted,
PEPPER HAMILTON LLP

/Alison L. McCarthy/

Reg. No. 51,998

Pepper Hamilton LLP
125 High Street
19th Floor, High Street Tower
Boston, MA 02110
Telephone: (617) 204-5100
Facsimile: (617) 204-5150

Date: November 20, 2017

Electronic Patent Application Fee Transmittal

Application Number:	15044838
Filing Date:	16-Feb-2016
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Filer:	Alison L. McCarthy
Attorney Docket Number:	133077.03611

Filed as Small 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 $0 paid	2251	1	100	100
Miscellaneous:				
		Total in USD ($)		**100**

Electronic Acknowledgement Receipt

EFS ID:	30998017
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Customer Number:	136404
Filer:	Alison L. McCarthy
Filer Authorized By:	
Attorney Docket Number:	133077.03611
Receipt Date:	20-NOV-2017
Filing Date:	16-FEB-2016
Time Stamp:	15:15:41
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$100
RAM confirmation Number	112117INTEFSW15171200
Deposit Account	500436
Authorized User	Sharon Calhoun

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

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		3611-Response-to-NF-OA.pdf	148634 9ea9e03dfd105423bf706cc6834f3b33eaf8ba79	yes	10
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	4	
	Applicant Arguments/Remarks Made in an Amendment		5	10	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30457 ef023f603241e38aa0df42c62af5c41b385e6faa	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	179091		

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Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736

Courtesy Reminder for
Application Serial No: 15/044,838

Attorney Docket No: 133077.03611
Customer Number: 136404
Date of Electronic Notification: 07/28/2017

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:
docketingbn@pepperlaw.com
davisdr@pepperlaw.com

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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/044,838	02/16/2016	Kazuyoshi Takano	133077.03611	1615

136404 7590 07/28/2017

Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736

EXAMINER
TAVLYKAEV, ROBERT FUATOVICH

ART UNIT	PAPER NUMBER
2883	

NOTIFICATION DATE	DELIVERY MODE
07/28/2017	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):

docketingbn@pepperlaw.com
davisdr@pepperlaw.com

Office Action Summary	Application No. 15/044,838	Applicant(s) TAKANO ET AL.	
	Examiner ROBERT TAVLYKAEV	Art Unit 2883	AIA (First Inventor to File) Status Yes

-- 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 *6/29/17*.

☐ 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) *1-12* 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) *1-12* 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: _____.

Senko Ex. 2005, Page 1 of 16
US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

2. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

DETAILED ACTION

3. 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 6/29/17 has been entered. Claims 1 and 5 have been amended. Claims 1 – 12 are pending.

Response to Amendments / Arguments

4. Applicant's arguments regarding the previously raised claim rejections under 35 USC 103 have been fully considered but they are moot in view of the new grounds of rejections, as necessitated by Applicant's amendments. Specifically, the new limitations in independent claims 1 and 5 define that the latch is disposed within a main cavity of one of the adapter and the SFP. Accordingly, the Examiner has applied a reference by Wong et al (US 2009/0220200 A1) that

has been yielded by an updated prior art search, discloses a latch disposed within a main cavity of an adapter and engaging a connector recess, and, in combination with the other prior art of record, teaches expressly or renders obvious all of the limitations recited by the amended claims, as detailed below.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date

of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

7. Claims 1 and 3 – 12 are rejected under 35 U.S.C. 103 as being unpatentable over Wong et al (US 2009/0220200 A1) in view of Briant et al (US Pat. # 7,473,124), and further in view of Gniadek et al (US 8,465,317 B2).

Regarding claims 5, 6, and 9, Wong discloses (Figs. 4 – 8) a fiber optic connector comprising:

a plurality (two) of connectors (comprised in a duplex connector 100 and comprising ferrules 114 and 116 respectively; Figs. 3 – 5; par. 0008 and 0020);

a housing 102 configured to hold the plurality of connectors 100 and further comprising a connector recess 140 (comprising sloped surfaces 140 (shown in Fig. 8) and acting as a retention feature for flexible latch arms 218/220 of an adaptor 200 (shown in Fig. 2));

wherein a latch 218/220 of an adapter 200 engages the connector recess 140 when the connector 100 is inserted/plugged into the adaptor 200 (this plugged state is shown in detail in Fig. 8; par. 0024 and 0029),

wherein the latch 218/220 of the adapter 200 is disengaged from the connector recess 140 when the connector 100 is pulled out of the adaptor 200, and

wherein the latch 218/220 is within a main cavity of the adapter 200 (as seen in Figs. 2 and 8).

The connector 100 is latched in the adapter 200 by a force exerted by the protruding ends of the flexible latch arms 218/220 on the connector recess 140 (par. 0029). The connector 100 is

disengaged from the adapter 200 by being pulled out of it by a pulling force that is applied directly to the connector in order to release the protruding ends of the flexible latch arms 218/220 from the connector recess 140. Wong does not teach a pull tab that can facilitate both the release of the latch arms and the pull-out operation. However, Briant expressly teaches (Fig. 5; 3:50 – 65) that a connector 100 comprises a pull tab 104 (shown in detail in Fig. 2) having a ramp area 144/110 that is configured to disengage a latch arm 106 (its portion 132) from a recess 116 (when the pull tab 104 is pulled in a pull direction 120, as explicitly illustrated in Fig. 5). The pull tab 104 serves two purposes: (i) to apply a pulling force to the connector in order to pull it out of an adaptor 114 and (ii) move, by the "lifting" action of the ramp area 144/110, the latching arms/hooks from the recesses that they engage in the engaged/plugged state of the connector. It would have been obvious to a person of ordinary skill in the art at the time of the invention that the fiber optic connector taught by Wong can further comprise a pull tab with a ramp area, in accordance with the teachings of Briant. In the connector of the Wong – Briant combination, the ramp area of the pull tab would be disposed in the connector recess 140 and under the protruding ends/hooks of the latch arms 218/220 (in the engaged state). The benefit is that the connector 100 of Wong can readily be disengaged from the adapter 200 by pulling the pull tab and thereby unlatching the protruding ends/hooks of the latch arms 218/220 from the connector recess 140 by the "lifting" action of the ramp area that pushes the protruding ends/hooks out of the recess (in accordance with Figs. 5 and 6 of Briant). The implementation/use of a pull tab is especially beneficial for *high-density* connector applications with a small size/footprint (as intended by Wong; par. 0020) in which the connector size and spacings between adjacent connectors become

too small (see below) for the operator's fingers to reliably grip an individual connector without affecting its neighbors.

Wong considers (e.g., par. 0020) fiber optic connectors for *high-density* connector applications with a small size/footprint, but does not cite possible sizes/dimensions/pitches for the connector. However, Gniadek discloses (e.g., Figs. 6 and 11) a duplex connector (same type as that of Wong) with a pull tab 360 for high-density connector/panel applications (1:31 – 40) which require "shrinking the connector size and/or spacing". Gniadek exemplifies that the connector (width and height) size "may be any length between 0.01 millimeter and 10 centimeters, such as a length between 1 mm and 5 mm" (6:40 – 63) and that the distance/pitch "between each of the mating connectors 150 or the couplers 120 in the panel 100 along the width of the panel 100 may be an distance between 0 and 30 millimeters, such as 0.001 millimeters, … 1.6 millimeters" (7:3 – 25). It would have been obvious to a person of ordinary skill in the art at the time of the invention that the (duplex) connector of the Wong – Briant combination can have a small size/pitch, such as those cited by Gniadek, and be a narrow-pitch connector in order to enable and/or be compatible with high-density panel applications (shown in Figs. 15 and 16 of Gniadek; 14:50 – 61), as intended by Wong and expressly taught by Gniadek. In particular, the Wong – Briant – Gniadek combination considers that the pitch size (distance between the centers of 114 and 116 in Fig. 3 of Wong) can be less than 5.25 mm and less than 4.8 mm (7:3 – 25; 14:55 – 60 of Gniadek). The Wong – Briant – Gniadek combination also considers that the pair of connectors in the duplex connector can be LC-type connectors (2:54 – 56; 14:60 – 61 of Gniadek).

In light of the foregoing analysis, the Wong – Briant – Gniadek combination teaches expressly or renders obvious all of the recited limitations.

To sum up the applied prior art combination, Wong teaches a fiber optical connector with a connector recess for engaging latching arms of an adaptor that receives the connector. The latching arms are disposed in a main cavity of the adaptor. The teachings of Briant add a pull tab with a ramp area in order to facilitate the disengagement of the connector from the adaptor. Gniadek suggests using small-size connectors for high-density panel applications.

Regarding claim 7, the Wong – Briant – Gniadek combination considers (Figs. 3 – 6) that the pull tab can include a spring 140 configured to allow the latch of the adapter (134/136 in Fig. 5 of Briant which can correspond to latching hooks 218/220 in Figs. 2 and 8 of Wong) to engage with the connector recess (146 in Fig. 5 of Briant which corresponds to 140 in Fig. 8 of Wong).

Regarding claim 8, the Wong – Briant – Gniadek combination considers (Fig. 2 of Briant) that the pull tab 104 includes a distal end (defined by 166) for remotely unlatching the narrow pitch connector.

Regarding claim 10, the Wong – Briant – Gniadek combination considers (Figs. 3 and 4; par. 0026 of Wong) that the housing 102 includes a bottom housing 106 and a top housing 104 coupled to the bottom housing 106.

Regarding claims 11 and 12, the Wong – Briant – Gniadek combination considers (Fig. 3 of Wong) that the bottom housing 106 includes a side wall, the latter defined by the sidewalls of semi-circular channels 120 and grooves 130 and configured to open (when the upper housing

104 is in the open state, as shown in Fig. 3). The side wall includes a raised profile (raised back side wall of channel 120 at a rear end (right end in Fig. 3) thereof.

Regarding claims 1, 3, and 4, the teachings of Wong, Briant, and Gniadek combine (see the arguments and motivation for combining as applied to claim 5 above) to teach expressly or render obvious all of the recited limitations.

For claims 1 and 3, it is noted that the duplex connector of Wong is a multi-fiber connector 100 (comprising/connecting at least two fibers in cables 110, 112; par. 0026). According to the teachings of Gniadek (6:40 – 63; 7:3 – 48), the size/width of the connector can be minimized for high-density panel applications and be less than 12.4 mm and less than 9.6 mm.

For claim 4, the Wong – Briant – Gniadek combination considers (Figs. 3 – 6) that the pull tab can include a spring 140 configured to allow the latch of the adapter (134/136 in Fig. 5 of Briant which can correspond to latching hooks 218/220 in Figs. 2 and 8 of Wong) to engage with the connector recess (146 in Fig. 5 of Briant which corresponds to 140 in Fig. 8 of Wong).

8. Claim 2 is rejected under 35 U.S.C. 103 as being unpatentable over Wong in view of Briant, in view of Gniadek, and further in view of Weiss et al (US Pat. # 6,276,840 B1).

Regarding claim 2, Gniadek cites (2:54 – 56; 14:60 – 61) a well-known LC type of connector, but the Wong – Briant – Gniadek combination does not expressly teach another well-known connector type suitable for the contemplated connector. However, Weiss discloses (Figs. 1, 4, 5, and 9; 6:45 – 8:16; 10:6 – 58) a narrow-width fiber optic connector 5 comprising:

a multi-fiber connector comprising a *ferrule* 30 holding a plurality (e.g., 12) of optical fibers 50; 7:11 – 17), wherein the narrow width connector has a small cross-section of 8.99 mm x 7.39 mm (of its end face 15 that is to be inserted into an adapter/receptacle 100; Figs. 4 and 5; 2:42 – 45), i.e., has a width that is less than 9.6 mm.

Weiss expressly teaches (16:51 – 65) that the connector can be of a well-known MTO type in which case the ferrule 30 is an MTO ferrule. It would have been obvious to a person of ordinary skill in the art at the time of the invention that a narrow-width *duplex* connector (e.g., of LC type) of the Wong – Briant – Gniadek combination can alternatively be implemented as a *multi-fiber* MTO connector. Compared to a duplex connector, which connects only 2 optical fibers, an MTO connector can hold a significantly larger number of fibers (e.g., 12 as cited by Weiss; 7:11 – 17) and thereby achieve a much higher density of optical connections, which furthers the goal of the Wong – Briant – Gniadek combination to have a connector suitable for high-density panel applications (see the arguments for claims 1 and 5 above).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Durrant et al (US 2016/0116686) discloses (Figs. 1, 10, and 12) a fiber optical connector 10 that has a connector recess 26 formed in the body in order to receive latch arms 72 of an adapter 40 which are in a main cavity thereof.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT TAVLYKAEV whose telephone number is (571)270-5634. The examiner can normally be reached on Mon - Thur 9 am - 6 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Hollweg can be reached on **(571)27**0-1739. 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.

/Robert Tavlykaev/
Primary Patent Examiner, Art Unit 2883

Notice of References Cited	Application/Control No. 15/044,838	Applicant(s)/Patent Under Reexamination TAKANO ET AL.	
	Examiner ROBERT TAVLYKAEV	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-8,465,317 B2	06-2013	Gniadek; Jeffrey	H01R13/6335	439/344
*	B	US-2009/0220200 A1	09-2009	Sheau Tung Wong; Tom	G02B6/3878	385/89
*	C	US-2016/0116686 A1	04-2016	Durrant; Richard C. E.	G02B6/3825	385/86
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

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.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	**Art Unit**
	ROBERT TAVLYKAEV	2883

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	09/17/2016	03/21/2017	07/19/2017						
	1	✓	✓	✓						
	2	✓	✓	✓						
	3	✓	✓	✓						
	4	✓	✓	✓						
	5	✓	✓	✓						
	6	✓	✓	✓						
	7	✓	✓	✓						
	8	✓	✓	✓						
	9	✓	✓	✓						
	10	✓	✓	✓						
	11	✓	✓	✓						
	12	✓	✓	✓						

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6	(US-20160195682-$).did. or (US-9595786-$ or US-9557491-$ or US-9470852-$).did. or (WO-2015191024-$).did. or (JP-2008155098-$).did.	US-PGPUB; USPAT; FPRS; JPO	OR	OFF	2017/07/19 13:32
L2	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:32
L3	6	((Kazuyoshi) near2 (Takano)).INV. not L2 not 1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:32
L4	20	(US-20170059784-$ or US-20170003458-$ or US-20170003457-$ or US-20080138025-$ or US-20080008437-$).did. or (US-9595786-$ or US-9482825-$ or US-9448369-$ or US-9188747-$ or US-7680388-$).did. or (WO-2017003934-$ or WO-2016148741-$ or WO-2016140710-$ or WO-2015094768-$ or WO-2014182351-$ or WO-2013052070-$ or WO-2012162385-$ or EP-1896887-$ or CA-2604948-$).did.	US-PGPUB; USPAT; FPRS	OR	OFF	2017/07/19 13:33
L5	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.	US-PGPUB; FPRS; EPO	OR	OFF	2017/07/19 13:33
L6	68	((Jeffrey) near2 (Gniadek)).INV. and connector not L5 not 4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:33
L7	110	("20040052473" | "20040136657" | "20040141693" | "20040161958" | "20060089049" | "20060269194" | "20070149062" | "20070230874" | "20070232115" | "20070243749" | "20080044137" | "20080069501" | "20080101757" | "20080226237" | "20080267566" | "20090028507" | "20090214162" | "20090220197" | "20100034502" | "20100322561" | "20110044588" | "20110131801" | "20110177710" | "4762388" | "4764129" | "4840451" | "5212752" | "5317663" | "5348487" | "5444806" | "5481634" | "5506922" | "5570445" | "5588079" | "5684903" | "5687268" | "5937130" | "5956444" | "5971626" | "6041155" | "6206577" | "6206581" | "6227717" | "6247849" | "6461054" | "6478472" | "6551117" | "6579014" | "6648520" | "6854894" | "7090406" | "7090407" | "7091421" |	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/19 13:38

		"7111990" | "7113679" | "7150567" | "7153041" | "7198409" | "7207724" | "7258493" | "7281859" | "7315682" | "7325976" | "7325980" | "7329137" | "7354291" | "7387447" | "7390203" | "7431604" | "7463803" | "7465180" | "7561775" | "7591595" | "7594766" | "7641398" | "7695199" | "7699533" | "7824113" | "8251733" | "D323143" | "D533504" | "D534124" | "D543146" | "D558675" | "D572661" | "D641708" | "RE37080").PN. OR ("8465317").URPN.				
L8	10	(US-20050208822-$ or US-20040161207-$).did. or (US-8480424-$ or US-8388367-$ or US-8317534-$ or US-8277128-$ or US-7466544-$ or US-7377702-$ or US-7204712-$ or US-7130507-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:44
L9	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/07/19 13:44
L10	315	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:44
L11	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:44
L12	4	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not L10 not L11 not L9 not 8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:44
L13	16	(US-20170047679-$ or US-20160041349-$ or US-20130045623-$ or US-20070280604-$ or US-20060258201-$ or US-20050191892-$ or US-20050036743-$ or US-20030142917-$).did. or (US-9052473-$ or US-8814229-$ or US-8790022-$ or US-8670238-$ or US-8388367-$ or US-8317534-$ or US-6994478-$ or US-6887092-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:45
L14	18	(US-20150093925-$ or US-20140169749-$ or US-20140127930-$ or US-20130194753-$ or US-	US-PGPUB; USPAT;	OR	OFF	2017/07/19 13:45

		20120237177-$ or US-20120064754-$ or US-20110267742-$ or US-20110223792-$ or US-20050059290-$ or US-20040132327-$).did. or (US-9413110-$ or US-6666484-$ or US-6556450-$ or US-6434015-$ or US-6093044-$ or US-5709560-$ or US-5484297-$).did. or (US-20130210261-$).did.	DERWENT			
L15	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:45
L16	342	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not L15	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:45
L17	19	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not L15 not L16 not L14 not 13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:45
L18	4	(US-9595786-$ or US-8979569-$).did. or (CN-103718392-$).did.	USPAT; FPRS	OR	OFF	2017/07/19 13:45
L19	2	(US-20140273593-$).did. or (WO-2013037123-$).did.	US-PGPUB; FPRS	OR	OFF	2017/07/19 13:47
L20	6	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not L19 not 18	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:47
L21	8	(US-20140273593-$ or US-20140235091-$ or US-20140127926-$).did. or (US-7717625-$ or US-7517241-$ or US-7168972-$ or US-6817272-$ or US-4846708-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:48
L22	1	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not L21	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:48
L23	6	(US-20160064860-$).did. or (US-8965168-$ or US-8705926-$ or US-8172608-$ or US-7611372-$ or US-7497721-$).did.	US-PGPUB; USPAT	OR	OFF	2017/07/19 13:50
L24	31	(US-20160156140-$ or US-20150132981-$ or US-20140021915-$ or US-20110274402-$ or US-20110269340-$ or US-20110268412-$ or US-20110268411-$ or US-20110268410-$ or US-20110268409-$ or US-20110268408-$ or US-20110268407-$ or US-20110268406-$ or US-20090046981-$ or US-20090029585-$ or US-20080132101-$ or US-20080070446-$ or US-20040092165-$).did. or (US-8690591-$ or US-7913379-$	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/07/19 13:50

		or US-6106320-$ or US-5959848-$ or US-5752850-$ or US-5734770-$ or US-5732174-$ or US-5711558-$ or US-5682450-$ or US-4798430-$ or US-4750890-$ or US-4182017-$).did. or (DE-3145444-$).did. or (US-20080070446-$).did.				
L25	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:50
L26	0	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not L25 not L24 not 23	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:50
L27	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/07/19 13:50
S3	5	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:06
S4	7	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:06
S5	46	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:07
S6	128	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:07
S7	1	(13/286773).APP.	USPAT; USOCR	OR	OFF	2016/06/27 14:08
S8	99	("20040052473" | "20040136657" | "20040141693" | "20040161958" | "20060089049" | "20060269194" | "20070149062" | "20070230874" | "20070232115" | "20070243749" | "20080044137" | "20080069501" | "20080101757" | "20080226237" | "20080267566" | "20090028507" | "20090214162" | "20090220197" | "20100034502" | "20100322561" | "20110044588" | "20110131801" | "20110177710" | "4762388" | "4764129" | "4840451" | "5212752" | "5317663" | "5348487" | "5444806" | "5481634" | "5506922" | "5570445" | "5588079" | "5684903" | "5687268" | "5937130" | "5956444" | "5971626" | "6041155" | "6206577" | "6206581" | "6227717" | "6247849" | "6461054" |	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:08

		"6478472" | "6551117" | "6579014" | "6648520" | "6854894" | "7090406" | "7090407" | "7091421" | "7111990" | "7113679" | "7150567" | "7153041" | "7198409" | "7207724" | "7258493" | "7281859" | "7315682" | "7325976" | "7325980" | "7329137" | "7354291" | "7387447" | "7390203" | "7431604" | "7463803" | "7465180" | "7561775" | "7591595" | "7594766" | "7641398" | "7695199" | "7699533" | "7824113" | "8251733" | "D323143" | "D533504" | "D534124" | "D543146" | "D558675" | "D572661" | "D641708" | "RE37080").PN. OR ("8465317").URPN.				
S9	31	("5462457" | "5494457" | "6238251" | "6250949" | "6371787" | "7052186" | "7063554").PN. OR ("7465180").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:11
S10	720	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip member) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:25
S11	484	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:26
S12	2	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S13	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S14	26	("4953929" | "5608830" | "5675682" | "6409392" | "6511230").PN. OR ("6672898").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:41
S15	49	("5538438" | "5574812" | "5579425" | "5638474" | "5647043").PN. OR ("6250817").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:42
S16	31	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100304617" | "20110045683" | "20110124217" | "5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" | "6764333" | "7314384" | "7473124" | "7534128" | "7588373" | "7651361" | "8235745" | "8382506").PN. OR ("8556645").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:44
S17	0	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2016/06/27 14:47

			EPO; JPO; DERWENT; IBM_TDB			
S18	6884	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring not S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:47
S19	1327	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:48
S20	300	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:49
S21	25	(duplex near3 (connector plug)) with (small adj2 factor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:53
S22	0	(duplex near3 (connector plug)) with (small adj2 factor) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:55
S23	13	(duplex near3 (connector plug)) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:55
S24	31	(duplex near3 (connector plug)) same ((high large) near3 (density count))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:00
S25	1	(12/040986).APP.	USPAT; USOCR	OR	OFF	2016/06/27 15:05
S26	24	("20080037938" | "4645295" | "4784456" | "4787706" | "4871227" | "5579425" | "5731546" | "6048106" | "6250817" | "6325549" | "6485192" | "6551117" | "6607307" | "6632030" | "6762940" | "6824416" | "7013088" | "7031574" | "7077686" | "7090509" | "7178996" | "7350984" | "7421181" | "7488123").PN. OR ("7798727").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 15:05

S27	14	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:08
S28	6622	(connector plug adapter receptacle) same (pitch with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:10
S29	34	(connector plug adapter receptacle) same (pitch with mm with (ferrule fiber)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:11
S30	59	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:13
S31	4	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction) with mm) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:14
S32	3	(mini miniatur$5) with (duplex near3 (connector plug adapter receptacle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:18
S33	0	(duplex near3 (connector plug adapter receptacle)) and (pitch with "4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:32
S34	0	(duplex near3 (connector plug adapter receptacle)) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S35	66	(connector plug adapter receptacle) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/06/27 15:33

			DERWENT; IBM_TDB			
S36	66	(connector plug adapter receptacle) with ("4.8 mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S37	7	(connector plug adapter receptacle) with ("4.8mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S38	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:48
S39	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:48
S40	3	"20150111417"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/12 16:35
S41	8	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:32
S42	79	((Jeffrey) near2 (Gniadek)).INV. and connector	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:33
S43	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same sping and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:35
S44	313	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls.	US-PGPUB; USPAT; USOCR;	OR	OFF	2016/09/17 00:35

		439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	FPRS; EPO; JPO; DERWENT; IBM_TDB			
S45	33	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100159742" | "20100304617" | "20110045683" | "20110124217" | "5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" | "6764333" | "7314384" | "7473124" | "7534128" | "7562116" | "7588373" | "7651361" | "8235745" | "8382506" | "8425247").PN. OR ("8747141").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 00:52
S46	795	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:00
S47	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:00
S48	59	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S44 not S47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:03
S49	1	("7052186").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 01:12
S50	0	(pull adj1 tab and disengage and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:17
S51	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:17
S52	10	(US-20160033723-$ or US-20160011383-$ or US-20150177463-$ or US-20140147082-$ or US-20140072263-$ or US-20140050443-$ or US-20120155810-$ or US-20030137651-$).did. or (US-6302596-$).did. or (US-20120155810-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2016/09/17 12:18
S53	6	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm)) not S52	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2016/09/17 12:18

			EPO; JPO; DERWENT; IBM_TDB			
S54	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S55	310	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S56	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54 not S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S57	32	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54 not S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:21
S58	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:23
S59	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:25
S60	37	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not S59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:26
S61	33	("7052186" | "20030063862" | "20060140543" | "20110058773" | "5845036" | "20150111417" | "20100239220" | "20110267742" | "6668113" | "20120237177" | "20120155810" | "6276840" | "7473124").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:41
S62	1	("6276840").PN.	US-PGPUB; USPAT;	OR	OFF	2016/09/17 14:50

			USOCR			
S63	0	("201102677742").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:53
S64	1	("20110267742").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:53
S65	1	("6668113").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:59
S66	1	("20110058773").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 20:56
S67	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2017/03/20 23:00
S68	8	((Kazuyoshi) near2 (Takano)).INV. not S67	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:00
S69	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.	US-PGPUB; FPRS; EPO	OR	OFF	2017/03/20 23:02
S70	81	((Jeffrey) near2 (Gniadek)).INV. and connector not S69	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:02
S71	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/03/20 23:03
S72	314	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls.	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/03/20 23:03

		439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	FPRS; EPO; JPO; DERWENT; IBM_TDB			
S73	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03
S74	14	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S72 not S73 not S71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03
S75	18	(US-20150093925-$ or US-20140169749-$ or US-20140127930-$ or US-20130194753-$ or US-20120237177-$ or US-20120064754-$ or US-20110267742-$ or US-20110223792-$ or US-20050059290-$ or US-20040132327-$).did. or (US-9413110-$ or US-6666484-$ or US-6556450-$ or US-6434015-$ or US-6093044-$ or US-5709560-$ or US-5484297-$).did. or (US-20130210261-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2017/03/20 23:05
S76	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
S77	334	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S76	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
S78	33	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S76 not S77 not S75	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
S79	2	(US-20140273593-$).did. or (WO-2013037123-$).did.	US-PGPUB; FPRS	OR	OFF	2017/03/20 23:07
S80	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S79	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:07
S81	8	(US-20140273593-$ or US-20140235091-$ or US-20140127926-$).did. or (US-7717625-$ or US-7517241-$ or US-7168972-$ or US-6817272-$ or US-4846708-$).did.	US-PGPUB; USPAT	OR	OFF	2017/03/20 23:08
S82	1	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull	US-PGPUB;	OR	OFF	2017/03/20

		adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S81	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			23:08
S83	31	(US-20160156140-$ or US-20150132981-$ or US-20140021915-$ or US-20110274402-$ or US-20110269340-$ or US-20110268412-$ or US-20110268411-$ or US-20110268410-$ or US-20110268409-$ or US-20110268408-$ or US-20110268407-$ or US-20110268406-$ or US-20090046981-$ or US-20090029585-$ or US-20080132101-$ or US-20080070446-$ or US-20040092165-$).did. or (US-8690591-$ or US-7913379-$ or US-6106320-$ or US-5959848-$ or US-5752850-$ or US-5734770-$ or US-5732174-$ or US-5711558-$ or US-5682450-$ or US-4798430-$ or US-4750890-$ or US-4182017-$).did. or (DE-3145444-$).did. or (US-20080070446-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/03/20 23:09
S84	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:09
S85	6	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not S84 not S83	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:09
S86	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:10
S87	0	(pull adj1 tab and disengage and narrow adj1 width and connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:11

7/19/2017 1:51:35 PM
C:\Users\rtavlykaev\Documents\EAST\Workspaces\15044838.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	Art Unit
	ROBERT TAVLYKAEV	2883

CPC- SEARCHED		
Symbol	Date	Examiner
H01R13/627,6271,6272,6275,62933; G02B6/4284	7/19/17	RT

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
385	76,77,88,92	7/19/17	RT
439	133,304,345,346,350,352,353,354,357,358,370	7/19/17	RT

* 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
updated search in EAST	7/19/17	RT
updated inventor name search	7/19/17	RT
updated clm search	7/19/17	RT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
385	76,77,88,92	7/19/17	RT
439	133,304,345,346,350,352,353,354,357,358,370	7/19/17	RT

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IPR2024-00119

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/044,838	02/16/2016	Kazuyoshi Takano	133077.03611

CONFIRMATION NO. 1615

136404
Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736

PUBLICATION NOTICE

OC00000092911010

Title: Narrow Width Adapters and Connectors with Spring Loaded Remote Release

Publication No.US-2017-0205591-A1
Publication Date:07/20/2017

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PTO/SB/30EFS (07-14)
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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	15044838	Filing Date	2016-02-16	Docket Number (if applicable)	133077.03611	Art Unit	2883
First Named Inventor	Kazuyoshi Takano			Examiner Name	Robert Fuatovich Tavlykaev		

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, to any international application that does not comply with the requirements of 35 U.S.C. 371, 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 _____

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 500436

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. OMB 0651-0031
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Signature of Registered U.S. Patent Practitioner			
Signature	/Alison L. McCarthy/	Date (YYYY-MM-DD)	2017-06-28
Name	Alison L. McCarthy	Registration Number	51998

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.

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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.

Electronic Patent Application Fee Transmittal

Application Number:	15044838
Filing Date:	16-Feb-2016
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Filer:	Alison L. McCarthy
Attorney Docket Number:	133077.03611

Filed as Small 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($)
Miscellaneous:				
RCE- 1st Request	2801	1	600	600
		Total in USD ($)		**600**

Electronic Acknowledgement Receipt

EFS ID:	29638095
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Customer Number:	136404
Filer:	Alison L. McCarthy/Sharon Calhoun
Filer Authorized By:	Alison L. McCarthy
Attorney Docket Number:	133077.03611
Receipt Date:	29-JUN-2017
Filing Date:	16-FEB-2016
Time Stamp:	10:26:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$600
RAM confirmation Number	062917INTEFSW10271800
Deposit Account	500436
Authorized User	Sharon Calhoun

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

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		3611-Response-Final-OA.pdf	158669 8a174297d19e237a742a05b95c7c027f1561bc90	yes	8
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	3	
	Applicant Arguments/Remarks Made in an Amendment		4	8	
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	3611-RCE-sb0030efs.pdf	1363979 5a2cd3ba753dc09a28a11afe6d5c684274f40306	no	3
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30389 04f751d719cc173b5bdaea449a4251240bf31360	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1553037		

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

In re application of:	:	Kazuyoshi Takano
Filed	:	February 16, 2016
Confirmation No.	:	1615
Application No.	:	15/044,838
Group Art Unit	:	2883
Examiner	:	Robert Fuatovich Tavlykaev

Title: OPTICAL FIBER ENCLOSURE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

Dear Commissioner:

This Amendment, together with the concurrently filed Request for Continued Examination, constitutes a complete and timely reply to the Final Office Action mailed March 29, 2017 in the above-identified application. The following remarks are respectfully submitted.

Amendments to the Claims begin on page 2.

Remarks begin on page 4.

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US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions and listings of the claims in the present application.

1. (Currently amended) A narrow width fiber optic connector comprising:

a multi-fiber connector, wherein a width of said narrow width fiber optic connector is less than about 12.4mm;

a housing configured to hold the multi-fiber connector and ~~further~~ comprising a connector recess; and

a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess, wherein the latch is within a main cavity of the one of the adapter and the SFP.

2. (Original) The narrow width fiber optic connector of claim 1, wherein the multi-fiber connector includes a multi-fiber MT ferrule.

3. (Original) The narrow width fiber optic connector of claim 1, wherein the width is less than or equal to about 9.6mm.

4. (Original) The narrow width fiber optic connector of claim 1, wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

5. (Currently amended) A narrow pitch fiber optic connector comprising:

a plurality of LC connectors arranged such that a pitch of said narrow pitch connector is less than about 5.25mm;

a housing configured to hold the plurality of LC connectors and ~~further~~ comprising a connector recess; and

a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess, wherein the latch is within a main cavity of the one of the adapter and the SFP.

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6. (Original) The narrow pitch fiber optic connector of claim 5, wherein the pitch is less than or equal to about 4.8mm.

7. (Original) The narrow pitch fiber optic connector of claim 5, wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

8. (Original) The narrow pitch fiber optic connector of claim 7, wherein the pull tab includes a distal end for remotely unlatching the narrow pitch connector.

9. (Original) The narrow pitch fiber optic connector of claim 5, wherein the narrow pitch connector is a duplex connector.

10. (Original) The narrow pitch fiber optic connector of claim 5, wherein the housing includes a bottom housing and a top housing coupled to the bottom housing.

11. (Original) The narrow pitch fiber optic connector of claim 10, wherein the bottom housing includes a side wall configured to open.

12. (Original) The narrow pitch fiber optic connector of claim 11, wherein the side wall includes a raised profile at a rear end thereof.

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REMARKS

Applicant would like to thank the Examiner for the substantive examination in this case. In the Office Action, the Office has rejected all pending claims. More particularly:

- The Office has rejected claims 1-4 under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 6,276,840 to Weiss et al. ("Weiss") in view of U.S. Patent No. 7,473,124 to Briant et al. ("Briant"); and

- The Office has rejected claims 5-12 under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 7,052,186 to Bates ("Bates") in view of Briant.

Claims 1 and 5 have been amended. Support for the amendments to claims 1 and 5 may be found in the application as filed at least at paragraph [0074]. Accordingly, no new matter has been added as a result of these amendments.

It should be noted that Applicant is not conceding that the claims amended herein are unpatentable over the prior art cited by the Examiner because the present claim amendments are made only to facilitate expeditious prosecution. Applicant respectfully reserves the right to pursue these and other claims in one or more continuation and/or divisional patent applications. Applicant specifically states that no amendment to any claim should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Upon entry of these amendments, claims 1-12 will remain pending. For the reasons set forth herein, Applicant respectfully requests that the rejections associated with claims 1-12 be withdrawn.

Rejections under 35 U.S.C. 103

Claim 1

Independent claim 1 is patentable over Weiss in view of Briant at least because Weiss and Briant, whether considered alone or in combination, fail to teach or suggest each and every recitation of claim 1. For example, Weiss and Briant fail to teach or suggest, among other things, "a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess, **wherein the latch is within a main cavity of the one of the adapter and the SFP**," as required by claim 1.

Weiss discloses a massive parallel (MP) connector that includes a fiber optic connector having multiple fibers mounted in V-grooves and beveled edges of the ferrule providing for

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alignment of the ferrule when the MP fiber optic connector is mated to a receptacle having an alignment assembly and an alignment member to allow for precision alignment. Weiss further discloses a receptacle assembly having first and second receptacle halves for receiving fiber optic connectors having different form factors. *See* Weiss at Abstract.

Briant discloses an electrical plug assembly that includes a housing configured to mate with a receptacle assembly, a latch, and an actuator. The latch is movably coupled to the housing and has a latching end configured to latch and unlatch the receptacle assembly. The actuator is interconnected with the housing and the latch and is movable in push and pull directions. The actuator raises the latching end when pushed along a longitudinal axis in the push direction or pulled along the pull direction. *See* Briant at Abstract. Briant further discloses a guide track including distal and proximal ramp areas and a flat portion. *See id.* at 3:30-42; 3:50-65; FIGS. 2, 5, and 6.

Claim 1 requires a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess where the latch is within a main cavity of the one of the adapter and the SFP. The Office states that "the structure of Weiss does not incorporate a pull tab." Office Action at 7. Applicant agrees with the Office in this regard.

However, Briant does not resolve the deficiencies of Weiss. Briant discloses a guide track including distal and proximal ramp areas and a flat portion. *See id.* at 3:30-42; 3:50-65; FIGS. 2, 5, and 6. The Office further states that Briant expressly teaches that a pulling force is applied to *the pulling tab* 104 of the connector 5 in order to unlatch disengage the *flexible latching hooks* 164. The pull tab has a ramp portion that converts a horizontal (pulling) motion into a vertical (unlatching) motion (as shown in Figs. 4 and 5 of Briant), the latter pushing the flexible hooks 110/111 of Weiss outward and thereby releasing the connector 5 from the adaptor 120."

Neither the flexible hooks 110/111 of Weiss nor the flexible latching hooks 164 of Briant are "within a main cavity of the one of the adapter and the SFP," as required by claim 1. Rather each of Weiss and Briant disclose attachment mechanisms that are outside of the main cavity of the disclosed assemblies. As such, neither Weiss nor Briant teach or suggest all of the recitations of claim 1.

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For at least the reasons stated above, claim 1 is patentable over the combination of Weiss and Briant. Because claims 2-4 depend from and incorporate all of the recitations of claim 1, claims 2-4 are likewise patentable over Weiss and Briant. *See* MPEP §2143.03 ("If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious."). Accordingly, Applicant respectfully requests that the rejections associated with claims 1-4 be withdrawn.

Claim 5

Independent claim 5 is patentable over Bates in view of Briant at least because Bates and Briant, whether considered alone or in combination, fail to teach or suggest each and every recitation of claim 5. For example, Bates and Briant fail to teach or suggest, among other things, "a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess, **wherein the latch is within a main cavity of the one of the adapter and the SFP**," as required by claim 5.

Bates discloses a plurality of connectors having a primary latch with a handle that can be depressed so the connector can be pulled out of a receiver passage, and a secondary latch with a sleeve that can be slid forward to wedge a part under the handle so it canoe be depressed. *See* Bates at Abstract.

Briant discloses an electrical plug assembly that includes a housing configured to mate with a receptacle assembly, a latch, and an actuator. The latch is movably coupled to the housing and has a latching end configured to latch and unlatch the receptacle assembly. The actuator is interconnected with the housing and the latch and is movable in push and pull directions. The actuator raises the latching end when pushed along a longitudinal axis in the push direction or pulled along the pull direction. *See* Briant at Abstract. Briant further discloses a guide track including distal and proximal ramp areas and a flat portion. *See id.* at 3:30-42; 3:50-65; FIGS. 2, 5, and 6.

Claim 5 requires a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess where the latch is within a main cavity of the one of the adapter and the SFP. The Office states that "Bates does not teach alternative

releasing/unlatching arrangements with a pull tab." Office Action at 9. Applicant agrees with the Office in this regard.

Briant does not resolve the deficiencies of Bates. Neither the handle 50 or sleeves (60/62) of Bates nor the flexible latching hooks 164 of Briant are "within a main cavity of the one of the adapter and the SFP," as required by claim 1. Rather each of Weiss and Briant disclose attachment mechanisms that are outside of the main cavity of the disclosed assemblies. As such, neither Weiss nor Briant teach or suggest all of the recitations of claim 5.

For at least the reasons stated above, claim 5 is patentable over the combination of Bates and Briant. Because claims 6-12 depend from and incorporate all of the recitations of claim 5, claims 6-12 are likewise patentable over Bates and Briant. *See* MPEP §2143.03 ("If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious."). Accordingly, Applicant respectfully requests that the rejections associated with claims 5-12 be withdrawn.

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Office reconsider and withdraw all presently outstanding rejections. There being no other rejections, Applicant respectfully requests that the current application be allowed and passed to issue.

If the Examiner believes for any reason that personal communication will expedite prosecution of this application, I invite the Examiner to telephone me directly.

AUTHORIZATION

No fees are believed to be due for this submission. However, the Commissioner is hereby authorized to charge any additional fees that may be required for this Amendment, or credit any overpayment, to Deposit Account No. 50-0436.

Respectfully submitted,
PEPPER HAMILTON LLP

/Alison L. McCarthy/

Alison L. McCarthy
Registration No. 51,998

Pepper Hamilton LLP
125 High Street
19th Floor, High Street Tower
Boston, MA 02110
Telephone: (617) 204-5100
Facsimile: (617) 204-5150

Date: June 28, 2017

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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 15/044,838	Filing Date 02/16/2016	☐ 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 $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ 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

AMENDMENT **06/29/2017**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 12	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $210 =	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

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ 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.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** 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.

LIE
DOROTHY BELL

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.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/044,838	02/16/2016	Kazuyoshi Takano	133077.03611	1615

136404 7590 03/29/2017

Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736

EXAMINER
TAVLYKAEV, ROBERT FUATOVICH

ART UNIT	PAPER NUMBER
2883	

NOTIFICATION DATE	DELIVERY MODE
03/29/2017	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):

docketingbn@pepperlaw.com
davisdr@pepperlaw.com

Office Action Summary	Application No. 15/044,838	Applicant(s) TAKANO ET AL.	
	Examiner ROBERT TAVLYKAEV	Art Unit 2883	AIA (First Inventor to File) Status Yes

-- 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 *12/22/16*.

☐ 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) *1-12* 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) *1-12* 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: _____.

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1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

2. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

DETAILED ACTION

3. Applicant's amendments and remarks filed 12/22/16 are acknowledged. No claims have been amended. Claims 1 – 12 are pending.

Response to Amendments / Arguments

4. Applicant's arguments regarding the previously raised rejections under 35 USC 103(a) have been fully considered but they are not persuasive for the following reasons:

Claim 1:

Applicant asserts (1st par. on page 6 of Remarks) that "The actuator of Briant requires a latch coupled to the housing, which will interfere with the operation of the precision alignment mechanism that is disposed within the receptacle 100 as the connector 5 is inserted into the receptacle of Weiss. To avoid any interference with the alignment mechanism, Weiss discloses a system where the latch members are positioned on the exterior of the receptacle 100 rather than on the housing that is inserted into the receptacle. Further, Weiss uses side latches 110 and 111, which will not work with the actuator 104 of Briant. Therefore, one of ordinary skill in the art

would not be motivated to use the actuator of Briant with the precision alignment system disclosed by Weiss (See MPEP 2143.01, part V)".

The Examiner respectfully disagrees and notes the following:

(i) Applicant's argument is based on an attempt to literally incorporate the physical structure of Briant into the connector of Weiss, without even properly adjusting their relative spatial orientations, which leads Applicant to assert that *horizontally disposed* "side latches 110 and 111, which will not work with the actuator 104 of Briant" (as shown in Fig. 4 of Weiss) are not compatible with a *vertically disposed* latch 106. However, a simple axial rotation by 90° of one of the two structures relative to the other immediately shows a spatial correspondence/compatibility between the latches 110/111 of Weiss and the latch 106 of Briant.

(ii) While the structure of Weiss does not incorporate a pull tab and, instead, replies on a pulling force applied directly *to the body 10* of the connector 5 in order to unlatch it from the *flexible latching hooks* 110/111, Briant expressly teaches that a pulling force is applied *to the pulling tab* 104 of the connector 5 in order to unlatch/disengage the *flexible latching hooks* 164. A person of ordinary skill in the art would be able and motivated to make a (straightforward) addition/inclusion of the pull tab of Briant to/on the outside surface of the connector of Weiss, the addition of the pull tab providing a corresponding benefit, as stated in the Office Action of 9/22/16 and detailed below.

(iii) The pull tab of Briant would be disposed on the outer surface of the connector body of Weiss and not interfere with optical alignment, contrary to Applicant's assertion. The pull tab has a ramp portion that converts a horizontal (pulling) motion into a vertical (unlatching) motion (as shown in Figs. 4 and 5 of Briant), the latter pushing the flexible hooks 110/111

outward and thereby releasing the connector 5 from the adaptor 120. The use of the pull tab mechanism, in accordance with the *teachings* of Briant, improves the ability to disengage the connector from the adapter by extending an effective length of the connector that can be gripped and pulled by the human operator/technician, which greatly facilitates unplugging of short/small-sized connectors, especially in high-density connector apparatuses with small distances between adjacent adaptors and connectors.

Claim 5:

Applicant asserts (page 8) that "The actuator of Briant requires the type of latch 106 shown in FIG. 2 of Briant, reproduced above. In contrast, the sleeve of Bates requires the type of latch having a handle as shown in FIG. 1 of Bates, reproduced above. Thus, replacing the type of latch in the connector of Bates will result in a different type of connector for which a sleeve will not be required.

Accordingly, the Examiner's proposed modification will render the invention of Bates unsuitable for its intended purpose of providing a sleeve for a specific type of connector. Accordingly, one of ordinary skill in the art would not be motivated to combine these references (See MPEP 2143.01, part V)".

The Examiner respectfully disagrees and notes the following:

(a) The pull tab of Briant would be disposed on the outer surface of the sleeve 60/62 of Bates and do not require its removal, contrary to Applicant's assertion.

(b) The pull tab of Briant would be incorporated into the structure of Bates and facilitate its unlatching, as detailed for item (iii) above. Such modification has an associated benefit and is well within the ordinary skill in the art.

5. In light of the foregoing analysis, independent claims 1 and 5 are rejected as provided below, and so are the dependent claims for which Applicant does not provide any additional substantial arguments and which therefore stand or fall together with the respective independent claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date

of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

8. Claims 1 – 4 are rejected under 35 U.S.C. 103 as being unpatentable over Weiss et al (US Pat. # 6,276,840 B1) in view of Briant et al (US Pat. # 7,473,124).

Regarding claims 1 and 3, Weiss discloses (Figs. 1, 4, and 5; col. 6, line 45 through col. 8, line 16; col. 10, lines 6 – 58) a narrow width fiber optic connector (5) comprising:

a multi-fiber connector (comprising a ferrule (30) holding a plurality (e.g., 12) of optical fibers (50); col. 7, lines 11 – 17), wherein the narrow width connector has a small cross-section of 8.99 mm x 7.39 mm (of its end face (15) that is to be inserted into an adapter/receptacle (100); Figs. 4 and 5; col. 2, lines 42 – 45), i.e., has a width that is less than 9.6 mm; and

a housing (comprising (10)) configured to hold the multi-fiber connector (its parts (30) and (70)) and further comprising a connector recess (defined by a rear surface of shoulders (17)) for engaging a latch (110)/(111) of an adapter (100) in the latched/engaged state (Figs. 4 and 5; col. 11, lines 32 – 38).

Weiss states that "In order to *release* the connector 5 from the receptacle 100, *any means may be incorporated*" (col. 11, lines 38 – 40, emphasis added) but illustrates, *by way of example but not limitation*, only a release sleeve (81) and does not teach other/*alternative* possible means for releasing/disengaging the connector 5 from the receptacle 100, even though such a releasing/disengaging means as a pull tab is well known in the art of connectors. In this regard, Briant discloses (e.g., Figs. 1 – 6; col. 2, line 48 through col. 4, line 45) a connector/plug (100) (shown in detail in Fig. 2) configured to be inserted/plugged into an adapter (identified as a

receptacle (114) in Fig. 1) and *releasably* latched therein. In the engaged/latched state, a portion (132) of a latch (106) engages a connector recess (146) and thereby latches the connector (100) to the adapter (114). Briant expressly teaches (Fig. 5; col. 3, lines 50 – 65) that the connector (100) comprises a pull tab (104) (shown in detail in Fig. 2) having a ramp area (148)/(144) that is configured to disengage the latch (106) (its portion (132)) from the connector recess (146) when the pull tab ((104) is pulled in a pull direction (120), as explicitly illustrated in Fig. 5. It would have been obvious to a person of ordinary skill in the art at the time of the invention that a release/disengaging means of a narrow width fiber optic connector, as taught by Weiss, can be implemented as a pull tab arrangement in accordance with the teachings of Briant. The benefit is that the connector can be securely fastened/latched in the adapter and, when needed, can readily be disengaged from the adapter by pulling the pull tab and thereby unlatching the latch from the connector recess.

In the fiber optic connector of the Weiss – Briant combination, the housing (10) of the connector (5) has a connector recess (corresponding to an area behind (17) in Fig. 5 of Weiss and also corresponding to the connector recess (146) in Fig. 5 of Briant) that receives a portion of an adapter latch ((110)/(111) of Weiss which corresponds to (132)/(106) of Briant) in the engaged/latched state. According to Briant (Fig. 5), the connector can be disengaged from the adapter by pulling the pull tab (104) in the pull direction (120) (away from the adapter) so that the ramp area (148) of the pull tab (104) disengages the latch ((106) in Briant *which corresponds to (110)/(111) in Weiss*) of the adapter ((100) in Weiss).

To sum up the applied prior-art combination, the structure of Weiss does not incorporate a pull tab and, instead, replies on a pulling force applied directly *to the body 10* of the connector

5 in order to unlatch it from the *flexible latching hooks* 110/111. However, Briant expressly teaches that a pulling force is applied *to the pulling tab* 104 of the connector 5 in order to unlatch/disengage the *flexible latching hooks* 164. The pull tab has a ramp portion that converts a horizontal (pulling) motion into a vertical (unlatching) motion (as shown in Figs. 4 and 5 of Briant), the latter pushing the flexible hooks 110/111 of Weiss outward and thereby releasing the connector 5 from the adaptor 120. The use of the pull tab mechanism, in accordance with the *teachings* of Briant, improves the ability to disengage the connector from the adapter by extending an effective length of the connector that can be gripped and pulled by the human operator/technician, which greatly facilitates unplugging of short/small-sized connectors, especially in high-density connector apparatuses with small distances between adjacent adaptors and connectors.

In light of the foregoing analysis, the Weiss – Briant combination teaches expressly or renders obvious all of the recited limitations.

As an aside, it is noted that the Weiss – Briant combination renders obvious alternative design choices wherein the latch is disposed/mounted on either the adapter (as (110)/(111) in Fig. 4 of Weiss) or the connector (as (106) in Fig. 2 of Briant).

Regarding claim 2, Weiss expressly teaches (col. 5, lines 37 – 39; col. 7, lines 10 – 17) that the multi-fiber connector includes a multi-fiber MT ferrule.

Regarding claim 4, the Weiss – Briant combination considers (Figs. 2 – 6; e.g., col. 3, line 66 through col. 4, line 18 of Briant) that the pull tab can include a spring (140) configured to allow the latch of the adapter to engage with the connector recess.

9. Claims 5 – 12 are rejected under 35 U.S.C. 103 as being unpatentable over Bates (US Pat. # 7,052,186 B1) in view of Briant.

Regarding claim 5, Bates discloses (Figs. 1 – 4) a narrow pitch fiber optic connector comprising:

a plurality (two) *miniature* optic fiber connectors ((12) and (14) that are each insertable into a corresponding passages (20) and (22) of a receiver/receptacle (24); Fig. 1; col. 2, lines 29-32), the plurality of connectors arranged such that a pitch of the narrow pitch connector is less than about 5.25 mm (the pitch is equal to a pitch (center-to-center) distance A (Fig. 4) between the receiver passages, the distance being 0.2 inch = 5.08 mm, col. 3, lines 21 – 25); and

a housing (comprising interconnected sleeves (60) and (62)) configured to hold the plurality of fiber optic connectors (12)/(14).

Bates teaches only latching arms that can be pressed down to disengage the connector (10) from the adapter (24) and does not teach *alternative* releasing/unlatching arrangements with a *pull* tab. However, Briant discloses (e.g., Figs. 1 – 6; col. 2, line 48 through col. 4, line 45) a connector/plug (100) (shown in detail in Fig. 2) configured to be inserted/plugged into an adapter (identified as a receptacle (114) in Fig. 1) and *releasably* latched therein. In the engaged/plugged state, a portion (132) of a latch (106) engages a connector recess (146) and thereby latches the connector (100) to/in the adapter (114). Briant expressly teaches (Fig. 5; col. 3, lines 50 – 65) that the connector (100) comprises a *pull tab* (104) (shown in detail in Fig. 2) having *a ramp area* (148)/(144) that is configured to disengage the latch (106) (its portion (132)) from the connector recess (146) when the pull tab ((104) is pulled in a pull direction (120), as explicitly

illustrated in Fig. 5. It would have been obvious to a person of ordinary skill in the art at the time of the invention that a release/disengaging means of a narrow pitch fiber optic connector of Bates can be implemented as a pull tab arrangement, in accordance with the teachings of Briant. The benefit is that the connector can be securely fastened/latched in the adapter and, when needed, can readily be disengaged from the adapter by pulling the pull tab and thereby unlatching the latch from the connector recess. Advantageously, a pull tab of Briant can be pulled, in a *single* operation, to disengage a *duplex* connector *at once,* while Bates requires pressing down both arms (50) in order to disengage each connector of the duplex connector. Hence, the modification of Bates with a pull tab of Briant simplifies the operation of unlatching. Furthermore, the pull tab of Briant is disposed *horizontally* and therefore can be made of an extended length (to facilitate remote release/disengagement of the connector) without increasing the overall height of the connector, as opposed to the arrangement of Bates for which an increase in the length of *upwardly inclined* arms (50) would lead to an increase in the overall height of the connector. Hence, the use of a pull tab taught by Briant can also decrease an overall size/height of the connector of Bates which furthers the goal of Bates to produce a miniature connector (e.g., col. 1, lines 6 – 38). Additionally, the use of the pull tab mechanism, in accordance with the *teachings* of Briant, improves the ability to disengage the connector from the adapter by extending an effective length of the connector that can be gripped and pulled by the human operator/technician, which greatly facilitates unplugging of short/small-sized connectors, especially in high-density connector apparatuses with small distances between adjacent adaptors and connectors.

The Bates – Briant combination renders obvious both of the recited alternative design choices wherein the latch is disposed/mounted on an outer surface of either the connector (on its sleeve (60)/(62) by using pins/holes (162)/(130) as in Fig. 2 of Briant) or the adapter (using the same mounting means, i.e., pins and hole). The latter arrangement is a design choice rendered obvious by the Bates - Briant combination and would work equal well with the first design choice in terms of engaging/disengaging the connector and the adapter while providing flexibility in arranging components of the adapter and connector. Furthermore, the second design choice would need only one latch (mounted on the adapter), while a plurality of matching connectors would not need to have latches (only recesses), which would require fewer parts and less material compared to forming a latch of each connector as in the first design choice.

While Bates does not expressly state that the connectors (12)/(14) can be shaped as LC connectors, the Examiner took official notice in the Office Action of 9/22/16 that this standard type was well known in the art. Since Applicant has not traversed the official notice, the fact of common knowledge has become applicant admitted prior art. It would have been obvious to a person of ordinary skill in the art at the time of the invention that each connector of the Bates – Briant combination can be shaped as an LC connector, as a matter of design choice, in order to extend conformance/similarity to standard connector types.

In light of the foregoing analysis, the Bates – Briant combination teaches expressly or renders obvious all of the recited limitations (see also the arguments in the Section "Response to Amendments / Arguments" above).

Regarding claim 6, while Bates considers, by way of example, a pitch of about 5.08 mm, it would have been obvious to one of ordinary skill in the art at the time the invention that the

connector could have a smaller pitch, e.g., less than or equal to about 4.8 mm, in order to provide/enable an even more compact optical device, given the current trends of connector/receptacle miniaturization, and thereby enable a higher density of optical ports/adapters (receiving connectors) on panels of telecommunication equipment. It is also noted that (i) the upper range limit depends on a particular application (desired port density); that (ii) the instant application does not provide any criticality for the exact value of the recited upper limit; and that (iii) it has been held that discovering the optimum or workable ranges of prior art involves only routine skill in the art (In re Aller, 105 USPQ 233).

Regarding claim 7, the Bates – Briant combination considers (Figs. 2 – 6; e.g., col. 3, line 66 through col. 4, line 18 of Briant) that the pull tab can include a spring (140) configured to allow the latch of the adapter to engage with the connector recess.

Regarding claim 8, the Bates – Briant combination considers (Fig. 2 of Briant) that the pull tab (104) includes a distal end (defined by (166)) for remotely unlatching the narrow pitch connector.

Regarding claim 9, Bates teaches (Fig. 1) that the narrow pitch connector is a duplex connector.

Regarding claim 10, Bates teaches (Fig. 2 and 3) that the housing (60)/(62) includes a bottom housing (lower part of (70)) and a top housing (upper part of (70)) coupled to (by being integrally formed with) the bottom housing.

10. Claims 11 and 12 are rejected under 35 U.S.C. 103 as being unpatentable over Bates in view of Briant, and further in view of Peterhans (US Pub. # 2011/0058773 A1).

Regarding claim 11, the Bates – Briant combination does not teach that the bottom housing can include a side wall configured to open. However, Peterhans teaches a plug connector comprising an unlock mechanism (Abstract) having a bottom housing that includes a side wall configured to open (the optical plug connector (1) comprises a connector clamp (3) including side walls and an open top; Figs. 1, 2 and 3). It would have been obvious to a person of ordinary skill in the art at the time of the invention that the bottom housing of the Bates – Briant combination can include a side wall configured to open, in accordance with the teachings of Peterhans, in order to provide a means of securing the connectors for a specific application. Furthermore, the use of a side wall configured to open enables/facilitates a replacement of a connector in a duplex connector if it becomes damaged during use.

Regarding claim 12, Peterhans teaches (Figs. 1, 2 and 3) that the side wall includes a raised profile at a rear end thereof (the connector clamp (3) includes side wall rear ends with a raised profile).

Conclusion

11. Applicant's arguments filed 12/22/16 have been fully considered but they are not persuasive and have failed to place the instant application in condition for allowance. 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.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT TAVLYKAEV whose telephone number is (571)270-5634. The examiner can normally be reached on Mon - Thur 9 am - 6 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Hollweg can be reached on **(571)27**0-1739. 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.

/Robert Tavlykaev/
Primary Patent Examiner, Art Unit 2883

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	**Art Unit**
	ROBERT TAVLYKAEV	2883

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	09/17/2016	03/21/2017							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	Art Unit
	ROBERT TAVLYKAEV	2883

CPC- SEARCHED		
Symbol	Date	Examiner
H01R13/627,6271,6272,6275,62933; G02B6/4284	3/21/16	RT

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
385	76,77,88,92	3/21/16	RT
439	133,304,345,346,350,352,353,354,357,358,370	3/21/16	RT

SEARCH NOTES		
Search Notes	Date	Examiner
updated search in EAST	3/21/16	RT
updated inventor name search	3/21/16	RT
updated clm search	3/21/16	RT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
385	76,77,88,92	3/21/16	RT
439	133,304,345,346,350,352,353,354,357,358,370	3/21/16	RT

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	5	(US-20160178852-$ or US-20160131849-$ or US-20150355417-$ or US-20150331201-$).did. or (US-9274287-$).did.	US-PGPUB; USPAT	OR	OFF	2017/03/20 23:00
L2	8	((Kazuyoshi) near2 (Takano)).INV. not 1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:00
L3	18	(US-20160266326-$ or US-20160259135-$ or US-20150177467-$ or US-20140334780-$ or US-20140023322-$ or US-20130089995-$ or US-20120301080-$ or US-20090220197-$ or US-20060153517-$ or US-20060093303-$ or US-20060008231-$).did. or (WO-2006138460-$ or EP-3009870-$ or CN-204116649-$ or CN-204116648-$ or AU-2006236409-$).did. or (WO-2006113726-$).did.	US-PGPUB; FPRS; EPO	OR	OFF	2017/03/20 23:02
L4	81	((Jeffrey) near2 (Gniadek)).INV. and connector not 3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:02
L5	45	(US-20160054527-$ or US-20160041349-$ or US-20150253524-$ or US-20140193121-$ or US-20140127930-$ or US-20140023324-$ or US-20130095688-$ or US-20120064754-$ or US-20110268390-$ or US-20110223792-$ or US-20100120274-$ or US-20100098385-$ or US-20070280604-$ or US-20060258201-$ or US-20060118942-$ or US-20040228582-$ or US-20040081395-$ or US-20030059167-$).did. or (US-8814229-$ or US-8506172-$ or US-7993063-$ or US-7500789-$ or US-7349228-$ or US-7349200-$ or US-7317862-$ or US-7182623-$ or US-7040911-$ or US-7033204-$ or US-6994478-$ or US-6966703-$ or US-6945809-$ or US-6746158-$ or US-6434015-$ or US-6398574-$ or US-6093044-$ or US-5387122-$ or US-5288239-$ or US-4911646-$ or US-4557047-$ or US-4136919-$ or US-3951495-$ or US-3917372-$).did. or (GB-2177265-$).did. or (US-6887091-$ or US-20130210261-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/03/20 23:03
L6	314	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03

L7	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03
L8	14	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not L6 not L7 not 5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:03
L9	18	(US-20150093925-$ or US-20140169749-$ or US-20140127930-$ or US-20130194753-$ or US-20120237177-$ or US-20120064754-$ or US-20110267742-$ or US-20110223792-$ or US-20050059290-$ or US-20040132327-$).did. or (US-9413110-$ or US-6666484-$ or US-6556450-$ or US-6434015-$ or US-6093044-$ or US-5709560-$ or US-5484297-$).did. or (US-20130210261-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2017/03/20 23:05
L10	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
L11	334	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not L10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
L12	33	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not L10 not L11 not 9	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:05
L13	2	(US-20140273593-$).did. or (WO-2013037123-$).did.	US-PGPUB; FPRS	OR	OFF	2017/03/20 23:07
L14	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not 13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:07
L15	8	(US-20140273593-$ or US-20140235091-$ or US-20140127926-$).did. or (US-7717625-$ or US-7517241-$ or US-7168972-$ or US-6817272-$ or US-4846708-$).did.	US-PGPUB; USPAT	OR	OFF	2017/03/20 23:08
L16	1	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not 15	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/03/20 23:08

			IBM_TDB			
L17	31	(US-20160156140-$ or US-20150132981-$ or US-20140021915-$ or US-20110274402-$ or US-20110269340-$ or US-20110268412-$ or US-20110268411-$ or US-20110268410-$ or US-20110268409-$ or US-20110268408-$ or US-20110268407-$ or US-20110268406-$ or US-20090046981-$ or US-20090029585-$ or US-20080132101-$ or US-20080070446-$ or US-20040092165-$).did. or (US-8690591-$ or US-7913379-$ or US-6106320-$ or US-5959848-$ or US-5752850-$ or US-5734770-$ or US-5732174-$ or US-5711558-$ or US-5682450-$ or US-4798430-$ or US-4750890-$ or US-4182017-$).did. or (DE-3145444-$).did. or (US-20080070446-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2017/03/20 23:09
L18	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:09
L19	6	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not L18 not 17	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:09
L20	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:10
L21	0	(pull adj1 tab and disengage and narrow adj1 width and connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/03/20 23:11
S3	5	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:06
S4	7	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:06
S5	46	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:07
S6	128	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/06/27 14:07

			DERWENT; IBM_TDB			
S7	1	(13/286773).APP.	USPAT; USOCR	OR	OFF	2016/06/27 14:08
S8	99	("20040052473" | "20040136657" | "20040141693" | "20040161958" | "20060089049" | "20060269194" | "20070149062" | "20070230874" | "20070232115" | "20070243749" | "20080044137" | "20080069501" | "20080101757" | "20080226237" | "20080267566" | "20090028507" | "20090214162" | "20090220197" | "20100034502" | "20100322561" | "20110044588" | "20110131801" | "20110177710" | "4762388" | "4764129" | "4840451" | "5212752" | "5317663" | "5348487" | "5444806" | "5481634" | "5506922" | "5570445" | "5588079" | "5684903" | "5687268" | "5937130" | "5956444" | "5971626" | "6041155" | "6206577" | "6206581" | "6227717" | "6247849" | "6461054" | "6478472" | "6551117" | "6579014" | "6648520" | "6854894" | "7090406" | "7090407" | "7091421" | "7111990" | "7113679" | "7150567" | "7153041" | "7198409" | "7207724" | "7258493" | "7281859" | "7315682" | "7325976" | "7325980" | "7329137" | "7354291" | "7387447" | "7390203" | "7431604" | "7463803" | "7465180" | "7561775" | "7591595" | "7594766" | "7641398" | "7695199" | "7699533" | "7824113" | "8251733" | "D323143" | "D533504" | "D534124" | "D543146" | "D558675" | "D572661" | "D641708" | "RE37080").PN. OR ("8465317").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:08
S9	31	("5462457" | "5494457" | "6238251" | "6250949" | "6371787" | "7052186" | "7063554").PN. OR ("7465180").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:11
S10	720	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip member) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:25
S11	484	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:26
S12	2	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S13	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S14	26	("4953929" | "5608830" | "5675682" | "6409392" | "6511230").PN. OR ("6672898").URPN.	US-PGPUB; USPAT;	OR	OFF	2016/06/27 14:41

			USOCR			
S15	49	("5538438" | "5574812" | "5579425" | "5638474" | "5647043").PN. OR ("6250817").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:42
S16	31	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100304617" | "20110045683" | "20110124217" | "5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" | "6764333" | "7314384" | "7473124" | "7534128" | "7588373" | "7651361" | "8235745" | "8382506").PN. OR ("8556645").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:44
S17	0	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:47
S18	6884	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring not S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:47
S19	1327	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:48
S20	300	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:49
S21	25	(duplex near3 (connector plug)) with (small adj2 factor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:53
S22	0	(duplex near3 (connector plug)) with (small adj2 factor) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:55
S23	13	(duplex near3 (connector plug)) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2016/06/27 14:55

			IBM_TDB			
S24	31	(duplex near3 (connector plug)) same ((high large) near3 (density count))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:00
S25	1	(12/040986).APP.	USPAT; USOCR	OR	OFF	2016/06/27 15:05
S26	24	("20080037938" | "4645295" | "4784456" | "4787706" | "4871227" | "5579425" | "5731546" | "6048106" | "6250817" | "6325549" | "6485192" | "6551117" | "6607307" | "6632030" | "6762940" | "6824416" | "7013088" | "7031574" | "7077686" | "7090509" | "7178996" | "7350984" | "7421181" | "7488123").PN. OR ("7798727").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 15:05
S27	14	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:08
S28	6622	(connector plug adapter receptacle) same (pitch with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:10
S29	34	(connector plug adapter receptacle) same (pitch with mm with (ferrule fiber)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:11
S30	59	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:13
S31	4	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction) with mm) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:14
S32	3	(mini miniatur$5) with (duplex near3 (connector plug adapter receptacle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:18
S33	0	(duplex near3 (connector plug adapter receptacle)) and	US-PGPUB;	OR	OFF	2016/06/27

		(pitch with "4.8" adj1 mm)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:32
S34	0	(duplex near3 (connector plug adapter receptacle)) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S35	66	(connector plug adapter receptacle) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S36	66	(connector plug adapter receptacle) with ("4.8 mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S37	7	(connector plug adapter receptacle) with ("4.8mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S38	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:48
S39	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:48
S40	3	"20150111417"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/12 16:35
S41	8	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2016/09/17 00:32

			IBM_TDB			
S42	79	((Jeffrey) near2 (Gniadek)).INV. and connector	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:33
S43	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same sping and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:35
S44	313	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:35
S45	33	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100159742" | "20100304617" | "20110045683" | "20110124217" | "5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" | "6764333" | "7314384" | "7473124" | "7534128" | "7562116" | "7588373" | "7651361" | "8235745" | "8382506" | "8425247").PN. OR ("8747141").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 00:52
S46	795	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:00
S47	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:00
S48	59	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S44 not S47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:03
S49	1	("7052186").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 01:12
S50	0	(pull adj1 tab and disengage and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/09/17 12:17

			DERWENT; IBM_TDB			
S51	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:17
S52	10	(US-20160033723-$ or US-20160011383-$ or US-20150177463-$ or US-20140147082-$ or US-20140072263-$ or US-20140050443-$ or US-20120155810-$ or US-20030137651-$).did. or (US-6302596-$).did. or (US-20120155810-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2016/09/17 12:18
S53	6	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm)) not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:18
S54	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S55	310	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S56	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54 not S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
S57	32	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S54 not S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:21
S58	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:23
S59	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/09/17 12:25

			DERWENT; IBM_TDB			
S60	37	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not S59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:26
S61	33	("7052186" | "20030063862" | "20060140543" | "20110058773" | "5845036" | "20150111417" | "20100239220" | "20110267742" | "6668113" | "20120237177" | "20120155810" | "6276840" | "7473124").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:41
S62	1	("6276840").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:50
S63	0	("201102677742").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:53
S64	1	("20110267742").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:53
S65	1	("6668113").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 14:59
S66	1	("20110058773").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 20:56

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Kazuyoshi Takano
Appln. No.	:	15/044,838
Filed	:	February 16, 2016
Confirmation No.	:	1615
Group Art Unit	:	2883
Examiner	:	Tavlykaev, Robert Fuatovich

Title: NARROW WIDTH ADAPTERS AND CONNECTORS WITH SPRING LOADED REMOTE RELEASE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Commissioner,

In response to the Office Action mailed September 22, 2016 in the above identified Application, Applicants respectfully submit the following remarks.

Listing of the Pending Claims begins on page 2.

Remarks begin on page 4.

PENDING CLAIMS

1. (Original) A narrow width fiber optic connector comprising:

a multi-fiber connector, wherein a width of said narrow width fiber optic connector is less than about 12.4mm;

a housing configured to hold the multi-fiber connector and further comprising a connector recess; and

a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess.

2. (Original) The narrow width fiber optic connector of claim 1, wherein the multi-fiber connector includes a multi-fiber MT ferrule.

3. (Original) The narrow width fiber optic connector of claim 1, wherein the width is less than or equal to about 9.6mm.

4. (Original) The narrow width fiber optic connector of claim 1, wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

5. (Original) A narrow pitch fiber optic connector comprising:

a plurality of LC connectors arranged such that a pitch of said narrow pitch connector is less than about 5.25mm;

a housing configured to hold the plurality of LC connectors and further comprising a connector recess; and

a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess.

6. (Original) The narrow pitch fiber optic connector of claim 5, wherein the pitch is less than or equal to about 4.8mm.

7. (Original) The narrow pitch fiber optic connector of claim 5, wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

8. (Original) The narrow pitch fiber optic connector of claim 7, wherein the pull tab includes a distal end for remotely unlatching the narrow pitch connector.

9. (Original) The narrow pitch fiber optic connector of claim 5, wherein the narrow pitch connector is a duplex connector.

10. (Original) The narrow pitch fiber optic connector of claim 5, wherein the housing includes a bottom housing and a top housing coupled to the bottom housing.

11. (Original) The narrow pitch fiber optic connector of claim 10, wherein the bottom housing includes a side wall configured to open.

12. (Original) The narrow pitch fiber optic connector of claim 11, wherein the side wall includes a raised profile at a rear end thereof.

REMARKS

Applicants respectfully submit the following remarks. No claims have been amended, added, or canceled herein. For the reasons set forth below, Applicants respectfully request that the rejections of the claims be withdrawn.

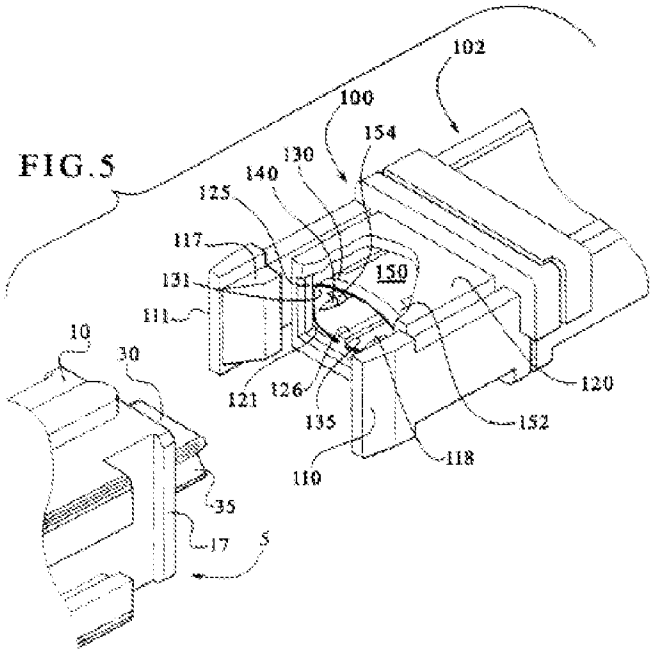
Rejection of Claims 1-12 under 35 U.S.C. 103

Claims 1-4 stand rejected under 35 U.S.C. 103 as being unpatentable over Weiss (US 6,276,840) in view of Briant (US 7,473,124).

Applicants respectfully disagree that the cited references, either alone or in combination, disclose or suggest each and every element of claim 1.

Weiss discloses a precision alignment system for aligning the ferrule of an MP connector with a receptacle having an alignment assembly, and discloses connectors configured for precision alignment (See Weiss Abstract, Cols. 22-23). As illustrated in FIG. 5 of Weiss, reproduced below, Weiss discloses a receptacle 100 having latch members 110 and 111 positioned on the sides of the receptacle (Weiss Col. 10, lines 9-14) and configured to engage the shoulder 17 of the connector 5 (Weiss Col. 11, lines 33-35).

FIG.5



As acknowledged by the Examiner, Weiss does not disclose or suggest "a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess" as recited in claim 1.

Briant discloses an electrical plug having a push-pull actuator (See, e.g., Figs. 1-2 and Abstract of Briant). As shown in FIG. 2 of Briant, reproduced below, the actuator 104 is positioned between the housing 108 and a latch 106 movably coupled to the housing 108 (Briant Col. 2, line 48-Col. 3, line 16, and Col. 7, line 23-28).

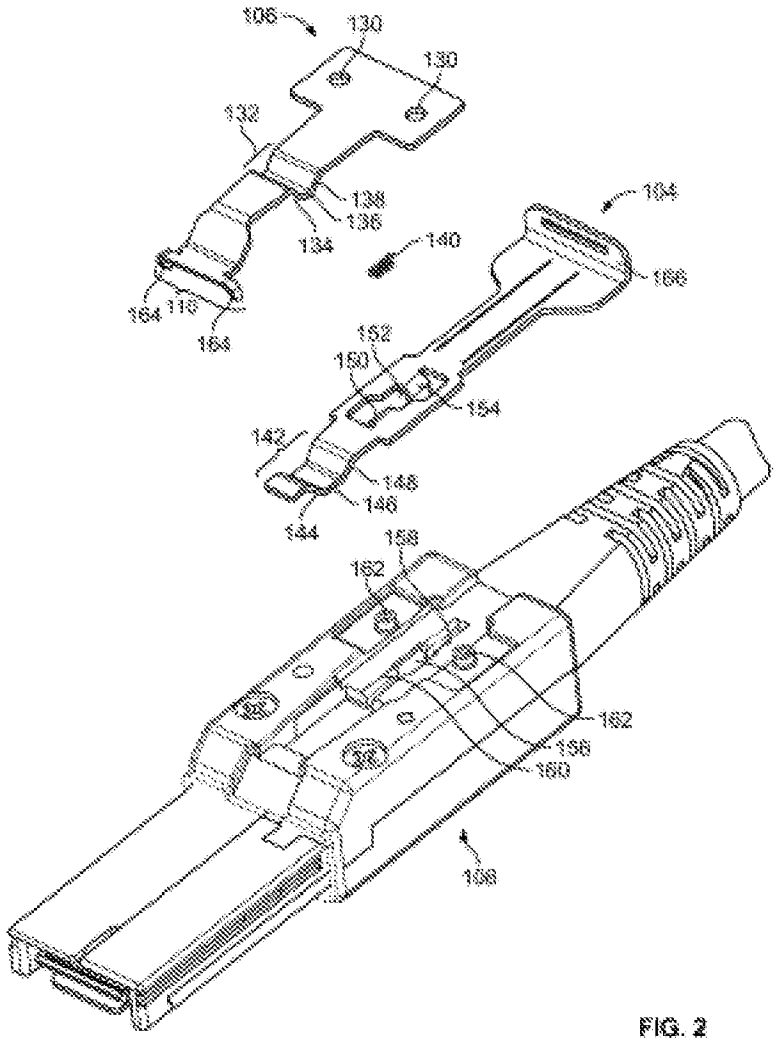


FIG. 2

Applicants respectfully disagree that Weiss can be combined with Briant as proposed by the Examiner. The actuator of Briant requires a latch coupled to the housing, which will interfere with the operation of the precision alignment mechanism that is disposed within the receptacle 100 as the connector 5 is inserted into the receptacle of Weiss. To avoid any interference with the alignment mechanism, Weiss discloses a system where the latch members are positioned on the exterior of the receptacle 100 rather than on the housing that is inserted into the receptacle. Further, Weiss uses side latches 110 and 111, which will not work with the actuator 104 of Briant. Therefore, one of ordinary skill in the art would not be motivated to use the actuator of Briant with the precision alignment system disclosed by Weiss (See MPEP 2143.01, part V).

However, even if the references were combined by using the push-pull actuator system of Briant in Weiss, the combination still does not disclose or suggest each and every element of claim 1. For example, the combination still does not disclose or suggest "a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess" as recited in claim 1. Even if the actuator 104 shown in FIG. 2 of Briant, reproduced above, is considered a pull tab having a ramp area, it is not configured to disengage a latch of an adapter or an SFP. Instead, the actuator 104 is configured to interact with the latch 106 of the connector rather than a latch of the adapter. The system of Briant relies on interaction of the actuator with a latch of the connector to release it from a recess/hole of the receptacle (Col. 3, lines 1-5 of Briant). In contrast, Applicants' claim 1 requires that the pull tab be configured to disengage the latch of an adapter or an SFP from a connector recess.

In view of the foregoing reasons, neither Weiss nor Briant, alone or in combination, discloses or suggests each and every element of claim 1. Accordingly, withdrawal of the rejection of claim 1 is respectfully requested.

Claims 2-4 depend directly on claim 1, and are patentable over the cited references for at least the same reasons provided above for claim 1. Accordingly, withdrawal of the rejection of claims 2-4 is also respectfully requested.

Claims 5-10 stand rejected under 35 U.S.C. 103 as being unpatentable over Bates (US 7,052,186) in view of Briant (US 7,473,124).

Applicants respectfully disagree that the cited references, either alone or in combination, disclose or suggest each and every element of claim 5.

Bates discloses a secondary latch sleeve 62 for connector 14 of the type having a primary latch 42 with a handle 50 that can be depressed, and a secondary latch 64 that can be slid underneath the primary latch using the sleeve 62 to prevent depression (See, e.g. Bates Abstract, FIG. 1 reproduced below). The sleeve 62 of Bates is designed specifically for this type of connector (See e.g. Bates Abstract).

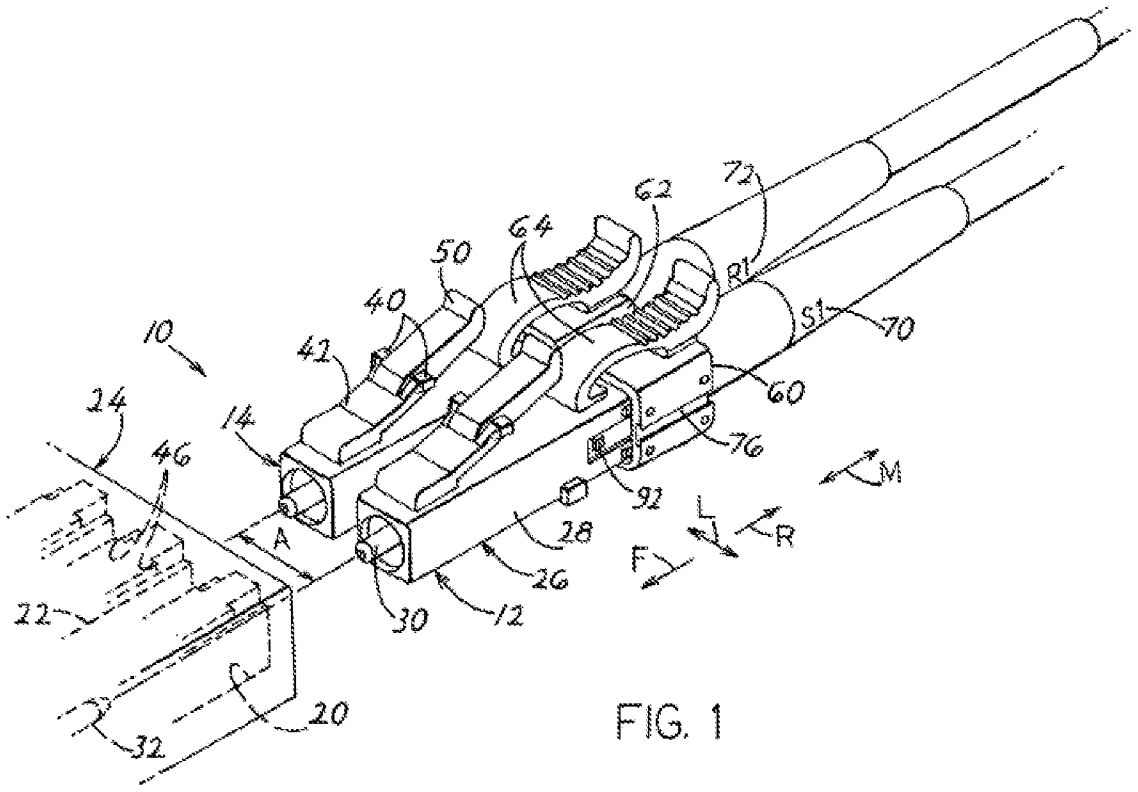


FIG. 1

As acknowledged by the Examiner, Bates does not disclose or suggest "a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess" as recited in claim 5.

Applicants respectfully disagree that Bates can be combined with Briant as proposed by the Examiner. The actuator of Briant requires the type of latch 106 shown in FIG. 2 of Briant, reproduced above. In contrast, the sleeve of Bates requires the type of latch having a handle as shown in FIG. 1 of Bates, reproduced above. Thus, replacing the type of latch in the connector of Bates will result in a different type of connector for which a sleeve will not be required. Accordingly, the Examiner's proposed modification will render the invention of Bates unsuitable for its intended purpose of providing a sleeve for a specific type of connector. Accordingly, one of ordinary skill in the art would not be motivated to combine these references (See MPEP 2143.01, part V).

However, even if the references were combined by using the push-pull actuator system of Briant in Bates, the combination still does not disclose or suggest each and every element of claim 1. For example, the combination still does not disclose or suggest "a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess" as recited in claim 5. Even if the actuator 104 shown in FIG. 2 of Briant, reproduced above, is considered a pull tab having a ramp area, it is not configured to disengage a latch of an adapter or an SFP. Instead, the actuator 104 interacts with the latch 106 of the connector rather than a latch of the adapter. The system of Briant relies on interaction of the pull tab with a latch of the connector to release it from a recess/hole of the receptacle (Col. 3, lines 1-5 of Briant). On the contrary, Applicants' claim requires that the pull tab be configured to disengage the latch of an adapter of an SFP from a connector recess.

In view of the foregoing reasons, neither Bates nor Briant, alone or in combination, discloses or suggests each and every element of claim 5. Accordingly, withdrawal of the rejection of claim 5 is respectfully requested.

Claims 6-10 depend either directly or indirectly on claim 5, and are patentable over the cited references for at least the same reasons provided above for claim 5. Accordingly, withdrawal of the rejection of claims 6-10 is also respectfully requested.

Claims 11-12 stand rejected under 35 U.S.C. 103 as being unpatentable over Bates (US 7,052,186) in view of Briant (US 7,473,124) and further in view of Peterhans (US Pub. No. 2011/0058773 A1).

Applicants do not concede that Peterhans can be combined with the already improper combination of Bates and Briant. However, even if the references could be combined, Peterhans does not cure the deficiencies of Bates and Briant as discussed above for independent claim 5. Each of dependent claims 11-12 depends indirectly on independent claim 5. Therefore, they are patentable for at least the same reasons provided above for claim 5. Accordingly, withdrawal of the rejection of each of claims 11-12 is also respectfully requested.

Authorization

The Commissioner is hereby authorized to charge additional fees which may be required for this response, or credit any overpayment, to deposit account no. 50-0436.

Applicants believe the claims presented herein are in condition for allowance and respectfully request notice to such effect. Should the Examiner believe for any reason that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned directly.

Respectfully submitted,
PEPPER HAMILTON LLP

/Alison L. McCarthy/

Alison L. McCarthy
Reg. No. 51,998

Pepper Hamilton LLP
125 High Street
19th Floor, High Street Tower
Boston, MA 02110
Telephone: (617) 204-5100
Facsimile: (617) 204-5150

Date: December 23, 2016

Electronic Acknowledgement Receipt

EFS ID:	27885864
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Customer Number:	136404
Filer:	Alison L. McCarthy/Prudence Fink
Filer Authorized By:	Alison L. McCarthy
Attorney Docket Number:	133077.03611
Receipt Date:	22-DEC-2016
Filing Date:	16-FEB-2016
Time Stamp:	17:15:22
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.pdf	184924 32a3401b0001eb586a489c2e9765ffe4d552eee4	yes	10

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	3
	Applicant Arguments/Remarks Made in an Amendment	4	10
Warnings:			
Information:			
	Total Files Size (in bytes):	184924	

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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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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/044,838	02/16/2016	Kazuyoshi Takano	133077.03611	1615

136404 7590 09/22/2016

Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736

EXAMINER
TAVLYKAEV, ROBERT FUATOVICH

ART UNIT	PAPER NUMBER
2883	

NOTIFICATION DATE	DELIVERY MODE
09/22/2016	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):

docketingbn@pepperlaw.com
davisdr@pepperlaw.com

Office Action Summary	Application No. 15/044,838	Applicant(s) TAKANO ET AL.	
	Examiner ROBERT TAVLYKAEV	Art Unit 2883	AIA (First Inventor to File) Status Yes

-- 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 _____.

☐ 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) *1-12* 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) *1-12* 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 *2/16/16* 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 *4/7/16,5/19/16*.

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

4) ☐ Other: _____.

Senko Ex. 2005, Page 2 of 2
US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

2. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

DETAILED ACTION

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

5. Claims 1 – 4 are rejected under 35 U.S.C. 103 as being unpatentable over Weiss et al (US Pat. # 6,276,840 B1) in view of Briant et al (US Pat. # 7,473,124).

Regarding claims 1 and 3, Weiss discloses (Figs. 1, 4, and 5; col. 6, line 45 through col. 8, line 16; col. 10, lines 6 – 58) a narrow width fiber optic connector (5) comprising:

a multi-fiber connector (comprising a ferrule (30) holding a plurality (e.g., 12) of optical fibers (50); col. 7, lines 11 – 17), wherein the narrow width connector has a small cross-section of 8.99 mm x 7.39 mm (of its end face (15) that is to be inserted into an adapter/receptacle (100); Figs. 4 and 5; col. 2, lines 42 – 45), i.e., has a width that is less than 9.6 mm; and

a housing (comprising (10)) configured to hold the multi-fiber connector (its parts (30) and (70)) and further comprising a connector recess (defined by a rear surface of shoulders (17)) for engaging a latch (110)/(111) of an adapter (100) in the latched/engaged state (Figs. 4 and 5; col. 11, lines 32 – 38).

Weiss states that "In order to *release* the connector 5 from the receptacle 100, *any means may be incorporated*" (col. 11, lines 38 – 40, emphasis added) but illustrates, by way of example

but not limitation, only a release sleeve (81) and does not teach other/*alternative* possible means for releasing/disengaging the connector 5 from the receptacle 100, even though such a releasing/disengaging means as a pull tab is well known in the art of connectors. In this regard, Briant discloses (e.g., Figs. 1 – 6; col. 2, line 48 through col. 4, line 45) a connector/plug (100) (shown in detail in Fig. 2) configured to be inserted/plugged into an adapter (identified as a receptacle (114) in Fig. 1) and *releasably* latched therein. In the engaged/latched state, a portion (132) of a latch (106) engages a connector recess (146) and thereby latches the connector (100) to the adapter (114). Briant expressly teaches (Fig. 5; col. 3, lines 50 – 65) that the connector (100) comprises a pull tab (104) (shown in detail in Fig. 2) having a ramp area (148)/(144) that is configured to disengage the latch (106) (its portion (132)) from the connector recess (146) when the pull tab ((104) is pulled in a pull direction (120), as explicitly illustrated in Fig. 5. It would have been obvious to a person of ordinary skill in the art at the time of the invention that a release/disengaging means of a narrow width fiber optic connector, as taught by Weiss, can be implemented as a pull tab arrangement in accordance with the teachings of Briant. The benefit is that the connector can be securely fastened/latched in the adapter and, when needed, can readily be disengaged from the adapter by pulling the pull tab and thereby unlatching the latch from the connector recess.

In the fiber optic connector of the Weiss – Briant combination, the housing (10) of the connector (5) has a connector recess (corresponding to an area behind (17) in Fig. 5 of Weiss and also corresponding to the connector recess (146) in Fig. 5 of Briant) that receives a portion of an adapter latch ((110)/(111) of Weiss which corresponds to (132)/(106) of Briant) in the engaged/latched state. According to Briant (Fig. 5), the connector can be disengaged from the

adapter by pulling the pull tab (104) in the pull direction (120) (away from the adapter) so that the ramp area (148) of the pull tab (104) disengages the latch ((106) in Briant *which corresponds to (110)/(111) in Weiss*) of the adapter ((100) in Weiss).

In light of the foregoing analysis, the Weiss – Briant combination teaches expressly or renders obvious all of the recited limitations.

As an aside, it is noted that the Weiss – Briant combination renders obvious alternative design choices wherein the latch is disposed/mounted on either the adapter (as (110)/(111) in Fig. 4 of Weiss) or the connector (as (106) in Fig. 2 of Briant).

Regarding claim 2, Weiss expressly teaches (col. 5, lines 37 – 39; col. 7, lines 10 – 17) that the multi-fiber connector includes a multi-fiber MT ferrule.

Regarding claim 4, the Weiss – Briant combination considers (Figs. 2 – 6; e.g., col. 3, line 66 through col. 4, line 18 of Briant) that the pull tab can include a spring (140) configured to allow the latch of the adapter to engage with the connector recess.

6. Claims 5 – 12 are rejected under 35 U.S.C. 103 as being unpatentable over Bates (US Pat. # 7,052,186 B1) in view of Briant.

Regarding claim 5, Bates discloses (Figs. 1 – 4) a narrow pitch fiber optic connector comprising:

a plurality (two) *miniature* optic fiber connectors ((12) and (14) that are each insertable into a corresponding passages (20) and (22) of a receiver/receptacle (24); Fig. 1; col. 2, lines 29-32), the plurality of connectors arranged such that a pitch of the narrow pitch connector is less

than about 5.25 mm (the pitch is equal to a pitch (center-to-center) distance A (Fig. 4) between the receiver passages, the distance being 0.2 inch = 5.08 mm, col. 3, lines 21 – 25); and

a housing (comprising interconnected sleeves (60) and (62)) configured to hold the plurality of fiber optic connectors (12)/(14).

Bates teaches only latching arms that can be *pressed down* to disengage the connector (10) from the adapter (24) and does not teach alternative releasing/unlatching arrangements with a *pull* tab. However, Briant discloses (e.g., Figs. 1 – 6; col. 2, line 48 through col. 4, line 45) a connector/plug (100) (shown in detail in Fig. 2) configured to be inserted/plugged into an adapter (identified as a receptacle (114) in Fig. 1) and *releasably* latched therein. In the engaged/plugged state, a portion (132) of a latch (106) engages a connector recess (146) and thereby latches the connector (100) to/in the adapter (114). Briant expressly teaches (Fig. 5; col. 3, lines 50 – 65) that the connector (100) comprises a pull tab (104) (shown in detail in Fig. 2) having a ramp area (148)/(144) that is configured to disengage the latch (106) (its portion (132)) from the connector recess (146) when the pull tab ((104) is pulled in a pull direction (120), as explicitly illustrated in Fig. 5. It would have been obvious to a person of ordinary skill in the art at the time of the invention that a release/disengaging means of a narrow pitch fiber optic connector of Bates can be implemented as a pull tab arrangement in accordance with the teachings of Briant. The benefit is that the connector can be securely fastened/latched in the adapter and, when needed, can readily be disengaged from the adapter by pulling the pull tab and thereby unlatching the latch from the connector recess. Advantageously, a pull tab of Briant can be pulled, in a *single* operation, to disengage a *duplex* connector *at once,* while Bates requires pressing down both arms (50) in order to disengage each connector of the duplex connector. Hence, the modification

of Bates with a pull tab of Briant simplifies the operation of unlatching. Furthermore, the pull tab of Briant is disposed *horizontally* and therefore can be made of an extended length (to facilitate remote release/disengagement of the connector) without increasing the overall height of the connector, as opposed to the arrangement of Bates for which an increase in the length of *upwardly inclined* arms (50) would lead to an increase in the overall height of the connector. Hence, the use of a pull tab taught by Briant can also decrease an overall size/height of the connector of Bates which furthers the goal of Bates to produce a miniature connector (e.g., col. 1, lines 6 – 38).

The Bates – Briant combination renders obvious alternative design choices wherein the latch is disposed/mounted on either the connector ((106) mounted by using pins/holes (162)/(130) as in Fig. 2 of Briant) or the adapter (using the same mounting means, i.e., pins and hole). The latter arrangement is a design choice rendered obvious by the Bates - Briant combination and would work equal well with the first design choice in terms of engaging/disengaging the connector and the adapter while providing flexibility in arranging components of the adapter and connector. Furthermore, the second design choice would need only one latch (mounted on the adapter), while a plurality of matching connectors would not need to have latches (only recesses), which would require fewer parts and less material compared to forming a latch of each connector as in the first design choice.

While Bates does not expressly state that the connectors (12)/(14) can be shaped as LC connectors, the Examiner takes official notice that this standard type is well known in the art. It would have been obvious to a person of ordinary skill in the art at the time of the invention that

each connector of the Bates – Briant combination can be shaped as an LC connector, as a matter of design choice, in order to extend conformance/similarity to standard connector types.

In light of the foregoing analysis, the Bates – Briant combination teaches expressly or renders obvious all of the recited limitations.

Regarding claim 6, while Bates considers, by way of example, a pitch of about 5.08 mm, it would have been obvious to one of ordinary skill in the art at the time the invention that the connector could have a smaller pitch, e.g., less than or equal to about 4.8 mm, in order to provide/enable an even more compact optical device, given the current trends of connector/receptacle miniaturization, and thereby enable a higher density of optical ports/adapters (receiving connectors) on panels of telecommunication equipment. It is also noted that (i) the upper range limit depends on a particular application (desired port density); that (ii) the instant application does not provide any criticality for the exact value of the recited upper limit; and that (iii) it has been held that discovering the optimum or workable ranges of prior art involves only routine skill in the art (In re Aller, 105 USPQ 233).

Regarding claim 7, the Bates – Briant combination considers (Figs. 2 – 6; e.g., col. 3, line 66 through col. 4, line 18 of Briant) that the pull tab can include a spring (140) configured to allow the latch of the adapter to engage with the connector recess.

Regarding claim 8, the Bates – Briant combination considers (Fig. 2 of Briant) that the pull tab (104) includes a distal end (defined by (166)) for remotely unlatching the narrow pitch connector.

Regarding claim 9, Bates teaches (Fig. 1) that the narrow pitch connector is a duplex connector.

Regarding claim 10, Bates teaches (Fig. 2 and 3) that the housing (60)/(62) includes a bottom housing (lower part of (70)) and a top housing (upper part of (70)) coupled to (by being integrally formed with) the bottom housing.

7. Claims 11 and 12 are rejected under 35 U.S.C. 103 as being unpatentable over Bates in view of Briant, and further in view of Peterhans (US Pub. # 2011/0058773 A1).

Regarding claim 11, the Bates – Briant combination does not teach that the bottom housing can include a side wall configured to open. However, Peterhans teaches a plug connector comprising an unlock mechanism (Abstract) having a bottom housing that includes a side wall configured to open (the optical plug connector (1) comprises a connector clamp (3) including side walls and an open top; Figs. 1, 2 and 3). It would have been obvious to a person of ordinary skill in the art at the time of the invention that the bottom housing of the Bates – Briant combination can include a side wall configured to open, in accordance with the teachings of Peterhans, in order to provide a means of securing the connectors for a specific application. Furthermore, the use of a side wall configured to open enables/facilitates a replacement of a connector in a duplex connector if it becomes damaged during use.

Regarding claim 12, Peterhans teaches (Figs. 1, 2 and 3) that the side wall includes a raised profile at a rear end thereof (the connector clamp (3) includes side wall rear ends with a raised profile).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT TAVLYKAEV whose telephone number is (571)270-5634. The examiner can normally be reached on Mon - Thur 9 am - 6 pm EST.

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.

/Robert Tavlykaev/
Primary Patent Examiner, Art Unit 2883

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BIB DATA SHEET

CONFIRMATION NO. 1615

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
15/044,838	02/16/2016	385	2883	133077.03611

APPLICANTS

Senko Advanced Components, Inc., Marlborough, MA;

INVENTORS

Kazuyoshi Takano, Southborough, MA;
Jeffrey Gniadek, Northbridge, MA;

**** CONTINUING DATA ***************************

This application is a CIP of 14/996,865 01/15/2016

**** FOREIGN APPLICATIONS ***************************

UNITED STATES OF AMERICA PCT/US16/13629 01/15/2016
TAIWAN 105101374 01/18/2016

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
03/01/2016

Foreign Priority claimed ☑ Yes ☐ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /ROBERT FUATOVICH TAVLYKAEV/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		MA	19	12	2

ADDRESS

Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736
UNITED STATES

TITLE

Narrow Width Adapters and Connectors with Spring Loaded Remote Release

FILING FEE RECEIVED		
800	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	**Art Unit**
	ROBERT TAVLYKAEV	2883

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	09/17/2016								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								
	11	✓								
	12	✓								

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15044838	TAKANO ET AL.
	Examiner	Art Unit
	ROBERT TAVLYKAEV	2883

CPC- SEARCHED		
Symbol	Date	Examiner
H01R13/627,6271,6272,6275,62933; G02B6/4284	9/17/16	RT

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
385	76,77,88,92	9/17/16	RT
439	133,304,345,346,350,352,353,354,357,358,370	9/17/16	RT

SEARCH NOTES		
Search Notes	Date	Examiner
search in EAST	9/17/16	RT
inventor name search	9/17/16	RT
clm search	9/17/16	RT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
385	76,77,88,92	9/17/16	RT
439	133,304,345,346,350,352,353,354,357,358,370	9/17/16	RT

US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15044838
Filing Date	2016-02-16
First Named Inventor	Kazuyoshi Takano
Art Unit	2833
Examiner Name	Not Yet Assigned
Attorney Docket Number	133077.03611

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/R.T./	1	5845036	A	1998-12-01	De Marchi	
/R.T./	2	7052186	B1	2006-05-30	Bates	
/R.T./	3	7473124	B1	2009-01-06	Briant et al.	

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/R.T./	1	20030063862	A1	2003-04-03	Fillion et al.	
/R.T./	2	20060140543	A1	2006-06-29	Abendschein et al.	
/R.T./	3	20110058773	A1	2011-03-10	Peterhans et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /R.T./

Receipt date: 04/07/2016	Application Number	15044838	15044838 - GAU: 2883
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date	2016-02-16	
(Not for submission under 37 CFR 1.99)	First Named Inventor	Kazuyoshi Takano	
	Art Unit	2833	
	Examiner Name	Not Yet Assigned	
	Attorney Docket Number	133077.03611	

/R.T./	4	20120237177	A1	2012-09-20	Minota	
/R.T./	5	20150111417	A1	2015-04-23	Vanderwoud	

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
/R.T./	1	International Search Report and Written Opinion dated March 17, 2016 from related International Application No. PCT/US16/13629, International Filing Date January 15, 2016.	

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EXAMINER SIGNATURE

Examiner Signature	/Robert Tavlykaev/	Date Considered	09/17/2016

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /R.T./

PTO/SB/08a (03-15)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15044838
Filing Date	2016-02-16
First Named Inventor	Kazuyoshi Takano
Art Unit	2833
Examiner Name	Not Yet Assigned
Attorney Docket Number	133077.03611

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/R.T./	1	6276840	B1	2001-08-21	Weiss et al.	
/R.T./	2	6668113	B1	2003-12-23	Togami et al.	

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/R.T./	1	20100239220	A1	2010-09-23	Lin et al.	
/R.T./	2	20110267742	A1	2011-11-03	Togami et al.	
/R.T./	3	20120155810	A1	2012-06-21	Nakagawa	

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Receipt date: 05/19/2016	Application Number	15044838 15044838 - GAU: 2883
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2016-02-16
	First Named Inventor	Kazuyoshi Takano
	Art Unit	2833
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	133077.03611

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/R.T./	1	International Search Report and Written Opinion dated May 6, 2016 from related International Application No. PCT/US16/18476, International Filing Date February 18, 2016.	

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Examiner Signature	/Robert Tavlykaev/	Date Considered	09/17/2016

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	(pull adj1 tab and disengage and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:17
L2	0	(pull adj1 tab and disengage and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:17
L3	10	(US-20160033723-$ or US-20160011383-$ or US-20150177463-$ or US-20140147082-$ or US-20140072263-$ or US-20140050443-$ or US-20120155810-$ or US-20030137651-$).did. or (US-6302596-$).did. or (US-20120155810-$).did.	US-PGPUB; USPAT; DERWENT	OR	OFF	2016/09/17 12:18
L4	6	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm)) not 3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:18
L5	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
L6	310	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not L5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
L7	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not L5 not L6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:20
L8	32	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (H01R13/627,6271,6272,6275,62933.cpc.	US-PGPUB; USPAT; USOCR;	OR	OFF	2016/09/17 12:21

		G02B6/4284.cpc.) not L5 not L6	FPRS; EPO; JPO; DERWENT; IBM_TDB			
L9	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:23
L10	9	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:25
L11	37	(spring adj1 loaded) with (remov$3 extract$3 pull$3 (pull adj1 out) releas$3 disengag$5) adj1 (tab tool lever handle clip) and ("385".clas. "439".clas.) not 10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:26
L12	33	("7052186" | "20030063862" | "20060140543" | "20110058773" | "5845036" | "20150111417" | "20100239220" | "20110267742" | "6668113" | "20120237177" | "20120155810" | "6276840" | "7473124").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 12:41
S3	5	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:06
S4	7	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:06
S5	46	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:07
S6	128	((Jeffrey) near2 (Gniadek)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:07
S7	1	(13/286773).APP.	USPAT; USOCR	OR	OFF	2016/06/27 14:08
S8	99	("20040052473" | "20040136657" | "20040141693" | "20040161958" | "20060089049" | "20060269194" | "20070149062" | "20070230874" | "20070232115" | "20070243749" | "20080044137" | "20080069501" | "20080101757" | "20080226237" | "20080267566" | "20090028507" | "20090214162" | "20090220197" |	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:08

		"20100034502" | "20100322561" | "20110044588" | "20110131801" | "20110177710" | "4762388" | "4764129" | "4840451" | "5212752" | "5317663" | "5348487" | "5444806" | "5481634" | "5506922" | "5570445" | "5588079" | "5684903" | "5687268" | "5937130" | "5956444" | "5971626" | "6041155" | "6206577" | "6206581" | "6227717" | "6247849" | "6461054" | "6478472" | "6551117" | "6579014" | "6648520" | "6854894" | "7090406" | "7090407" | "7091421" | "7111990" | "7113679" | "7150567" | "7153041" | "7198409" | "7207724" | "7258493" | "7281859" | "7315682" | "7325976" | "7325980" | "7329137" | "7354291" | "7387447" | "7390203" | "7431604" | "7463803" | "7465180" | "7561775" | "7591595" | "7594766" | "7641398" | "7695199" | "7699533" | "7824113" | "8251733" | "D323143" | "D533504" | "D534124" | "D543146" | "D558675" | "D572661" | "D641708" | "RE37080").PN. OR ("8465317").URPN.				
S9	31	("5462457" | "5494457" | "6238251" | "6250949" | "6371787" | "7052186" | "7063554").PN. OR ("7465180").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:11
S10	720	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip member) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:25
S11	484	(duplex near3 connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:26
S12	2	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S13	20	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:39
S14	26	("4953929" | "5608830" | "5675682" | "6409392" | "6511230").PN. OR ("6672898").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:41
S15	49	("5538438" | "5574812" | "5579425" | "5638474" | "5647043").PN. OR ("6250817").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:42
S16	31	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100304617" | "20110045683" | "20110124217" | "5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" |	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 14:44

		"6764333" | "7314384" | "7473124" | "7534128" | "7588373" | "7651361" | "8235745" | "8382506").PN. OR ("8556645").URPN.				
S17	0	(duplex near3 (connector plug)) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:47
S18	6884	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) with spring not S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:47
S19	1327	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:48
S20	300	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (H01R13/627,6271,6272,6275,62933.cpc. G02B6/4284.cpc.) not S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:49
S21	25	(duplex near3 (connector plug)) with (small adj2 factor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:53
S22	0	(duplex near3 (connector plug)) with (small adj2 factor) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:55
S23	13	(duplex near3 (connector plug)) with pitch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 14:55
S24	31	(duplex near3 (connector plug)) same ((high large) near3 (density count))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:00
S25	1	(12/040986).APP.	USPAT; USOCR	OR	OFF	2016/06/27 15:05

S26	24	("20080037938" | "4645295" | "4784456" | "4787706" | "4871227" | "5579425" | "5731546" | "6048106" | "6250817" | "6325549" | "6485192" | "6551117" | "6607307" | "6632030" | "6762940" | "6824416" | "7013088" | "7031574" | "7077686" | "7090509" | "7178996" | "7350984" | "7421181" | "7488123").PN. OR ("7798727").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/06/27 15:05
S27	14	(duplex near3 (connector plug adapter receptacle)) same (pitch with (small$3 reduc$3 reduction mm))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:08
S28	6622	(connector plug adapter receptacle) same (pitch with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:10
S29	34	(connector plug adapter receptacle) same (pitch with mm with (ferrule fiber)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:11
S30	59	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction mm)) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:13
S31	4	(duplex near3 (connector plug adapter receptacle)) same ((distance pitch spac$3) with (small$3 reduc$3 reduction) with mm) not S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:14
S32	3	(mini miniatur$5) with (duplex near3 (connector plug adapter receptacle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:18
S33	0	(duplex near3 (connector plug adapter receptacle)) and (pitch with "4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:32
S34	0	(duplex near3 (connector plug adapter receptacle)) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/06/27 15:33

			DERWENT; IBM_TDB			
S35	66	(connector plug adapter receptacle) with ("4.8" adj1 mm)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S36	66	(connector plug adapter receptacle) with ("4.8 mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S37	7	(connector plug adapter receptacle) with ("4.8mm")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:33
S38	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 pitch adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:48
S39	0	(pull adj1 tab and coupled and latching adj1 arms and remotely adj1 unlatch and narrow adj1 width adj1 connector).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/27 15:48
S40	3	"20150111417"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/12 16:35
S41	8	((Kazuyoshi) near2 (Takano)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:32
S42	79	((Jeffrey) near2 (Gniadek)).INV. and connector	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:33
S43	0	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same sping and (385/76,77,88,92.ccls.	US-PGPUB; USPAT; USOCR;	OR	OFF	2016/09/17 00:35

		439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	FPRS; EPO; JPO; DERWENT; IBM_TDB			
S44	313	(connector plug) same (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) near5 (tab tool lever handle clip) same spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 00:35
S45	33	("20030064630" | "20040009699" | "20040247252" | "20050277335" | "20090275228" | "20100159742" | "20100304617" | "20110045683" | "20110124217" | "5090096" | "5233674" | "5308260" | "5358430" | "5638474" | "5647765" | "6250817" | "6254418" | "6357934" | "6398569" | "6544076" | "6595805" | "6612856" | "6746264" | "6764333" | "7314384" | "7473124" | "7534128" | "7562116" | "7588373" | "7651361" | "8235745" | "8382506" | "8425247").PN. OR ("8747141").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 00:52
S46	795	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:00
S47	54	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with (spring adj1 load$3) and ("385".clas. "439".clas.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:00
S48	59	(connector plug) and (remov$3 extract$3 pull$3 (pull adj1 out) releas$3) adj3 (tab tool lever handle clip) with spring and (385/76,77,88,92.ccls. 439/133,304,345,346,350,352,353,354,357,358,370.ccls.) not S44 not S47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/09/17 01:03
S49	1	("7052186").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/09/17 01:12

9/17/2016 1:03:37 PM
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PTO/SB/08a (03-15)
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Application Number	15044838
Filing Date	2016-02-16
First Named Inventor	Kazuyoshi Takano
Art Unit	2833
Examiner Name	Not Yet Assigned
Attorney Docket Number	133077.03611

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	1	6276840	B1	2001-08-21	Weiss et al.	
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	1	20100239220	A1	2010-09-23	Lin et al.	
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	3	20120155810	A1	2012-06-21	Nakagawa	

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	Art Unit	2833
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	133077.03611

	1						

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	International Search Report and Written Opinion dated May 6, 2016 from related International Application No. PCT/US16/18476, International Filing Date February 18, 2016.	

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15044838
	Filing Date	2016-02-16
	First Named Inventor	Kazuyoshi Takano
	Art Unit	2833
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	133077.03611

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Alison L. McCarthy/	Date (YYYY-MM-DD)	2016-05-19
Name/Print	Alison L. McCarthy	Registration Number	51998

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 record s.

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.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Alison McCarthy
Pepper Hamilton LLP
125 High Street
19th Floor, High Street Tower
Boston, Massachusetts 02110
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 13307703612	Date of mailing *(day/month/year)* 06 MAY 2016 **FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US16/18476	International filing date *(day/month/year)* 18 February 2016 (18.02.2016)
Applicant SENKO ADVANCED COMPONENTS, INC.	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:
The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

How? Directly to the International Bureau of WIPO preferably through ePCT or on paper to, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
   - ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.
   - ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

The applicant may **submit comments on an informal basis on the written opinion of the International Searching Authority** to the International Bureau. These comments will be made available to the public after international publication. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established.

Shortly after the expiration of **18 months from the priority date, the international application will be published** by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for **entry into the national phase** before those designated Offices. In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months. For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Within 19 months from the priority date, the applicant may request that a supplementary international search be carried out by a different International Searching Authority that offers this service (Rule 45*bis* 1). The procedure for requesting supplementary international search is described in the *PCT Applicant's Guide*, International Phase, paragraphs 8.006-8.032.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2014)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 13307709612	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US16/18476	International filing date *(day/month/year)* 18 February 2016 (18.02.2016)	(Earliest) Priority Date *(day/month/year)* 15 January 2016 (15.01.2016)
Applicant SENKO ADVANCED COMPONENTS, INC.		

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

This international search report consists of a total of 2 sheets.

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

1. **Basis of the report**

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

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

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

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

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

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

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

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

☒ the text is approved as submitted by the applicant.

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

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

☒ the text is approved as submitted by the applicant.

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

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 5

☒ as suggested by the applicant.

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

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

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

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US16/18476

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H01R 13/62, 13/506, 13/635 (2016.01)
CPC - G02B 6/24, 6/36, 6/38
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): H01R 13/62, 13/506, 13/635 (2016.01)
CPC: G02B 6/24, 6/36, 6/38, 6/3893; H01R 13/6272

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatSeer (US, EP, WO, JP, DE, GB, CN, FR, KR, ES, AU, IN, CA, INPADOC Data); Google/Google Scholar/Google Patents, IEEE, Ebsco
KEYWORDS: width, narrow, small, girth, thickness, small thickness, fiber optic, optical fiber, optic cable, fiber optic line, disengagement latch, pull tab, tab, release tab, latch, release lever, disconnect latch, small form pluggable transceiver connector, SFP, adapter, converte

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 6,276,840 B1 (WEISS, R et al.) August 21, 2001; figures 1, 4, 5 & 8, column 6, lines 55-65, column 7, lines 1-12, column, lines 37-40 & 51-65 & column 16, lines 51-65	1-3 --- 4
Y	US 2011/0267742 A1 (TOGAMI, C et al.) November 3, 2011; figures 1C, 2B, 2C, 2E & 3B, paragraphs [0026]-[0029], [0035], [0037], [0039]-[0041] & [0045]-[0047]	4-12
Y	US 6,668,113 B2 (TOGAMI, C et al.) December 23, 2003; figure 2, column 1, lines 10-15 & column 3, lines 28-30	5-12
Y	US 2012/0155810 A1 (NAKAGAWA, M) June 21, 2012; figures 1 & 7, paragraphs [0024], [0026] & [0038]-[0039]	6-12
Y	US 2010/0239220 A1 (LIN, I et al.) September 23, 2010, figures 4 & 5, paragraph [0025]	10-12

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
17 April 2016 (17.04.2016)	06 MAY 2016
Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (January 2015)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Alison McCarthy
Pepper Hamilton LLP
125 High Street
19th Floor, High Street Tower
Boston, Massachusetts 02110
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	06 MAY 2016
Applicant's or agent's file reference 13307703612	FOR FURTHER ACTION See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US16/18476	18 February 2016 (18.02.2016)	15 January 2016 (15.01.2016)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H01R 13/62, 13/506, 13/635 (2016.01)
CPC - G02B 6/24, 6/36, 6/38

Applicant SENKO ADVANCED COMPONENTS, INC.

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

- [X] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [X] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. FURTHER ACTION

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

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

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/	Date of completion of this opinion	Authorized officer
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No.: 571-273-8300	17 April 2016 (17.04.2016)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (January 2015)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US16/18476

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

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

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

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).

3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:

   a. ☐ forming part of the international application as filed:

      ☐ in the form of an Annex C/ST.25 text file.

      ☐ on paper or in the form of an image file.

   b. ☐ furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.

   c. ☐ furnished subsequent to the international filing date for the purposes of international search only:

      ☐ in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).

      ☐ on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US16/18476

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

1. Statement

Novelty (N)	Claims	4-12	YES
	Claims	1-3	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-3 lack novelty under PCT Article 33(2) as being anticipated by US 6,276,840 B1 to Weiss, R et al. (hereinafter "Weiss").

As per claim 1, Weiss discloses a narrow width fiber optic connector (an MP optical connector 5 (narrow width fiber optic connector); figure 1, column 6, lines 55-65) comprising: a multi-fiber connector (a ferrule 30 (multi-fiber connector); figure 1, column 7, lines 1-12), wherein a width of said narrow width fiber optic connector is less than about 12.4mm (wherein a width of the connector end face 15, of the MP optical connector 5, is 8.99 mm; figure 1, column 6, lines 61-65); a housing configured to hold the multi-fiber connector and further comprising a connector recess (a plug body 10 (housing) configured to hold the ferrule 30 and further including a T-shaped slot 14 (connector recess); figures 1 & 2, column 9, lines 37-40); and a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess (and a sliding tab release sleeve 81 (pull tab) having a ridged area (ramped area) configured to disengage a latch member 110 of an MP optical receptacle100 (adapter) form the T-shaped slot 14; figures 4, 5 & 8, column 9, lines 33-43).

As per claim 2, Weiss discloses the narrow width fiber optic connector of claim 1. Weiss further discloses wherein the multi-fiber connector includes a multi-fiber MT ferrule (wherein the ferrule 30 includes a multi-fiber MT ferrule; figure 1, column 7, lines 1-5, column 16, lines 51-65).

As per claim 3, Weiss discloses the narrow width fiber optic connector of claim 1. Weiss further discloses wherein the width is less than or equal to about 9.6mm (wherein the width is 8.99 mm; figures 1 & 2, column 9, lines 37-40).

Claim 4 lacks an inventive step under PCT Article 33(3) as being obvious over Weiss in view of US 2011/0267742 A1 to Togami, C et al., (hereinafter "Togami '742").

As per claim 4, Weiss discloses the narrow width fiber optic connector of claim 1. Weiss fails to disclose wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess. However, Togami '742 discloses wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess (wherein collectively, a handle 300 and a latch return spring (600) and a release slab 400 (pull tab) includes the latch return spring 600 (spring) to allow an engagement pin 510 (latch) of a latch 500 (adapter) to engage with the latch recess 150 (connector recess); figures 1C, 2C, 2E & 3B, paragraphs [0035], [0039]-[0041]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connector of Weiss to provide wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess, as taught by Togami '742, in order to provide the advantages of being able to better secure the adapter and the connector together so as to ensure the connection remains connected when used in the field, therefore creating a more reliable and dependable configuration.

-***-Continued Within the Next Supplemental Box-***-

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

-***-Continued from Box V: Citations and Explanations-***-

Claims 5-9 lack an inventive step under PCT Article 33(3) as being obvious over US 2012/0155810 A1 to Nakagawa, M (hereinafter "Nakagawa") in view US 6,668,113 B2 to Togami, C et al. (hereinafter "Togami '113"), in further view of Togami '742.

As per claim 5, Nakagawa discloses a narrow pitch fiber optic connector (a duplex optical connector 1 (narrow pitch fiber optic connector); figure 1, paragraph [0038]) comprising: a plurality of LC connectors arranged such that a pitch of said narrow pitch connector is less than about 5.25mm (including a plurality of LC connectors arranged such that a pitch of said duplex optical connector 1 is less than about P2; figures 1 & 7, paragraphs [0026] & [0038]-[0039]); a housing configured to hold the plurality of LC connectors (a holder 30 (housing) configured to hold the plurality of LC connectors; figure 2, paragraphs [0024] & [0026]) and further comprising a connector recess (and further including a connector mounting portion 31 a (connector recess); figure 4, paragraph [0038]). Nakagawa fails to disclose wherein the pitch is less than 5.25 mm. However, Togami '113 discloses wherein the pitch is less than 5.25 mm (wherein the pitch is .75mm; figure 2, column 1, lines 10-15, column 3, lines 28-30). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connector of Nakagawa to provide wherein the pitch is less than 5.25 mm, as taught by Togami '113, in order to provide the advantages of being able to better service a multitude of devices in which the required connection pitch may vary in size and therefore increase the applicability of the connector in the field. Nakagawa further fails to disclose and a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess. However, Togami '742discloses and a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess (and collectively the handle 300 and latch return spring 600 and release slab 400 having a slide ramp 404 (ramp area) configured to disengage the engagement pin 510 of the latch 500 from said latch recess 150; figures 1C, 2B, 2C, 2E & 3B paragraphs [0045]-[0047]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connector of Nakagawa to provide a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess, as taught by Togami '742, in order to provide the advantages of being able to have a reliable and dependable field tested method, such as using a ramp disengagement system, for disengaging the adapter from the connector recess, so as to provide for a dependable disengagement mechanism.

As per claim 6, Nakagawa in view of Togami '113, in further view of Togami '742discloses the narrow pitch fiber optic connector of claim 5. Nakagawa further fails to disclose wherein the pitch is less than or equal to about 4.8mm. However, Togami '113 further discloses wherein the pitch is less than or equal to about 4.8mm (wherein the pitch is .75mm; figure 2, column 1, lines 10-15, column 3, lines 28-30). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connector of Nakagawa to provide wherein the pitch is less than 5.25 mm, as taught by Togami '113, in order to provide the advantages of being able to better service a multitude of devices in which may vary in a required pitch connection, thus increasing the applicability of the connector in the field.

As per claim 7, Nakagawa in view of Togami '113, in further view of Togami '742discloses the narrow pitch fiber optic connector of claim 5. Nakagawa further fails to disclose wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess. However, Togami '742discloses wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess (wherein collectively the handle 300 and latch return spring 600 and release slab 400 includes the latch return spring 600 to allow the engagement pin 510 of a latch 500 to engage with the latch recess 150; figures 1C, 2C, 2E & 3B, paragraphs [0037] & [0039]-[0041]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connector of Nakagawa to provide wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess, as taught by Togami '742, in order to provide the advantages of being able to have a reliable and dependable field tested method, such as using spring engagement system, for engaging the adapter from the connector recess, so as to provide for a dependable engagement mechanism.

As per claim 8, Nakagawa in view of Togami '113, in further view of Togami '742discloses the narrow pitch fiber optic connector of claim 7. Nakagawa further fails to disclose wherein the pull tab includes a distal end for remotely unlatching the narrow pitch connector. However, Togami '742further discloses wherein the pull tab includes a distal end for remotely unlatching the narrow pitch connector (wherein collectively the handle 300 and latch return spring 600 and release slab 400 includes a distal end for remotely unlatching a module 100 (narrow pitch connector), figure 1C, paragraphs [0028]-[0029] & [0040]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connector of Nakagawa to provide wherein the pull tab includes a distal end for remotely unlatching the narrow pitch connector, as taught by Togami '742, in order to provide the advantages of being able to have an end in which is available to grasp so as to apply the necessary forces for removal of the narrow pitch connector from another device to which it is attached, thus enabling a practical way of removing the narrow pitch connector.

As per claim 9, Nakagawa in view of Togami '113, in further view of Togami '742discloses the narrow pitch fiber optic connector of claim 5. Nakagawa further discloses wherein the narrow pitch connector is a duplex connector (wherein the duplex optical connector 1 is a duplex connector; figure 1, paragraph [0038]).

-***-Continued Within the Next Supplemental Box-***-

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

-***-Continued from Previous Supplemental Box-***-

Claims 10-12 lack an inventive step under PCT Article 33(3) as being obvious over Nakagawa Togami '113, and Togami '742, in further view of US 2010/0239220 A1 to Lin, I et al., (hereinafter "Lin").

As per claim 10, Nakagawa in view of Togami '113, and Togami '742discloses the narrow pitch fiber optic connector of claim 5. Nakagawa further fails to disclose wherein the housing includes a bottom housing and a top housing coupled to the bottom housing. However, Lin discloses wherein the housing includes a bottom housing and a top housing coupled to the bottom housing (wherein a housing includes a top housing coupled to a bottom housing; figure 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connector of Nakagawa to provide wherein the housing includes a bottom housing and a top housing coupled to the bottom housing, as taught by Lin, in order to provide the advantages of being able to have isolated housings so as to enable one to make changes to the components within a particular housing without the risk of interfering with other components which would otherwise be likely if all the components were located in but one housing.

As per claim 11, Nakagawa in view of Togami '113 and Togami '742, in further view of Lin discloses the narrow pitch fiber optic connector of claim 10. Nakagawa further fails to disclose wherein the bottom housing includes a side wall configured to open. However, Lin further discloses wherein the bottom housing includes a side wall configured to open (wherein the bottom housing incudes a cover 300 (side wall) configured to open; figure 4, paragraph [0025]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connector of Nakagawa to provide wherein the bottom housing includes a side wall configured to open, as taught by Lin, in order to provide the advantages of allowing for access to the components within the bottom chamber so as to make any necessary upgrades, routine services, or any other adaptations by virtue of opening wall for accessing said components.

As per claim 12, Nakagawa in view of Togami '113 and Togami' 742, in further view of Lin discloses the narrow pitch fiber optic connector of claim 11. Nakagawa further fails to disclose wherein the side wall includes a raised profile at a rear end thereof. However, Lin further discloses wherein the side wall includes a raised profile at a rear end thereof (wherein the side the cover 300 includes a protruding portion 330 (raised profile) raised profile at a rear end thereof; figures 4 & 5, paragraph [0024]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connector of Nakagawa to provide wherein the side wall includes a raised profile at a rear end thereof, as taught by Lin, in order to provide the advantages of being able to provide for a practical means of attaching the wall to the housing by virtue of creating a raised area which may be used as a connection member within to an attachment means for the wall.

Claims 1-12 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

Electronic Acknowledgement Receipt

EFS ID:	25823915
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Customer Number:	136404
Filer:	Alison L. McCarthy/Sharon Calhoun
Filer Authorized By:	Alison L. McCarthy
Attorney Docket Number:	133077.03611
Receipt Date:	19-MAY-2016
Filing Date:	16-FEB-2016
Time Stamp:	13:26:47
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	Transmittal Letter	3611-Supp-IDS-Transmittal.pdf	56702 5c3cd7f2d00123506bcf7d50cca2720057f0b0dc	no	2

Warnings:	
Information:	

2	Information Disclosure Statement (IDS) Form (SB08)	3611-Supp-updated_IDS.pdf	1035348 03db0f0555536e70466a2a75b5f3d44dfa2d2155	no	4
Warnings:					
Information:					
3	Other Reference-Patent/App/Search documents	3612-ISR-and-WO.pdf	581065 6c7ef545cf2c2cfdb612181fb230153d2ee55fc9	no	8
Warnings:					
Information:					
			Total Files Size (in bytes):	1673115	

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

In re Application of	:	Kazuyoshi Takano
Appln. No.	:	15/044,838
Filed	:	February 16, 2016
Confirmation No.	:	1615
Group Art Unit	:	2883
Examiner	:	Not Yet Assigned

Title: NARROW WIDTH ADAPTERS AND CONNECTORS WITH SPRING LOADED REMOTE RELEASE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the provisions of 37 C.F.R. §§ 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached form PTO/SB/08a. It is respectfully requested that such documents be expressly considered and that the documents be made of record and appear among the "References Cited" on any patent to issue therefrom.

The undersigned asserts that the items of information contained in this Supplemental Information Disclosure Statement were first cited in a communication from a foreign patent office in a related foreign application not more than three months prior to the filing of this information disclosure statement. Applicants submit the present paper without admission, and with reservation of all rights.

AUTHORIZATION

No fee is believed to be due with this submission. However, the commissioner is hereby authorized to charge any fees which may be required for this submission to Deposit Account 50-0436.

Respectfully submitted,
PEPPER HAMILTON LLP



Alison L. McCarthy
Registration No. 51,998

125 High Street
19th Floor, High Street Tower
Boston, MA 02110
(617) 204-5100
(617) 204-5150
Date: May 19, 2016

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. 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.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15044838
Filing Date	2016-02-16
First Named Inventor	Kazuyoshi Takano
Art Unit	2833
Examiner Name	Not Yet Assigned
Attorney Docket Number	133077.03611

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5845036	A	1998-12-01	De Marchi	
	2	7052186	B1	2006-05-30	Bates	
	3	7473124	B1	2009-01-06	Briant et al.	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20030063862	A1	2003-04-03	Fillion et al.	
	2	20060140543	A1	2006-06-29	Abendschein et al.	
	3	20110058773	A1	2011-03-10	Peterhans et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15044838
	Filing Date	2016-02-16
	First Named Inventor	Kazuyoshi Takano
	Art Unit	2833
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	133077.03611

	4	20120237177	A1	2012-09-20	Minota	
	5	20150111417	A1	2015-04-23	Vanderwoud	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	International Search Report and Written Opinion dated March 17, 2016 from related International Application No. PCT/US16/13629, International Filing Date January 15, 2016.	

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15044838
Filing Date	2016-02-16
First Named Inventor	Kazuyoshi Takano
Art Unit	2833
Examiner Name	Not Yet Assigned
Attorney Docket Number	133077.03611

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Alison L. McCarthy/	Date (YYYY-MM-DD)	2016-03-31
Name/Print	Alison L. McCarthy	Registration Number	51998

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 record s.

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.

Received
Pepper Hamilton LLP
MAR 21 2016

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: ALISON MCCARTHY
PEPPER HAMILTON LLP
125 HIGH STREET
19TH FLOOR, HIGH STREET TOWER
BOSTON, MA 02110

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

	Date of mailing *(day/month/year)* 17 MAR 2016
Applicant's or agent's file reference 133077-03602	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US2016/013629	International filing date *(day/month/year)* 15 January 2016
Applicant SENKO ADVANCED COMPONENTS, INC.	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:
The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

How? Directly to the International Bureau of WIPO preferably through ePCT or on paper to, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
   - ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.
   - ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

The applicant may **submit comments on an informal basis on the written opinion of the International Searching Authority** to the International Bureau. These comments will be made available to the public after international publication. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established.

Shortly after the expiration of **18 months from the priority date, the international application will be published** by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for **entry into the national phase** before those designated Offices. In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months. For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Within **19 months from the priority date, the applicant may request that a supplementary international search be carried out** by a different International Searching Authority that offers this service (Rule 45*bis*.1). The procedure for requesting supplementary international search is described in the *PCT Applicant's Guide*, International Phase, paragraphs 8.006-8.032.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2014)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 133077-03602	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2016/013629	International filing date *(day/month/year)* 15 January 2016	(Earliest) Priority Date *(day/month/year)*
Applicant SENKO ADVANCED COMPONENTS, INC.		

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

This international search report consists of a total of 2 sheets.

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

1. **Basis of the report**

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

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

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

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

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

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

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

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

   ☒ the text is approved as submitted by the applicant.

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

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

   ☒ the text is approved as submitted by the applicant.

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

6. With regard to the **drawings**,

   a. the figure of the drawings to be published with the abstract is Figure No. 5

   ☒ as suggested by the applicant.

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

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

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

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2016/013629

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H01R 13/633 (2016.01)
CPC - H01R 13/6335 (2016.02)
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G02B 6/36; H01R 13/62, 13/627, 13/629, 13/633, 13/635 (2016.01)
CPC - G02B 6/36, 6/3687, 6/3693, 6/3697; H01R 13/6272, 13/6273, 13/6335 (2016.02)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC 385/53, 139; 439/152, 159, 160, 344, 345, 350, 352, 353, 354, 357, 358, 372 (keyword delimited)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, Google Patents, Google Scholar, Google
Search terms used: spring, spring loaded, biasing, lock, unlock, latch, unlatch, release, fiber, fibre, optic, remote, pull, tab, finger, stem, handle, actuator, lever, connector, adapter, adaptor, pitch

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 7,052,186 B1 (BATES) 30 May 2006 (30.05.2006) entire document	1, 2, 7-19
Y	US 2003/0063862 A1 (FILLION et al) 03 April 2003 (03.04.2003) entire document	1, 2, 7-19
Y	US 2011/0058773 A1 (PETERHANS et al) 10 March 2011 (10.03.2011) entire document	9, 10, 15
Y	US 2015/0111417 A1 (FACEBOOK, INC.) 23 April 2015 (23.04.2015) entire document	13-16
Y	US 2006/0140543 A1 (ABENDSCHEIN et al) 29 June 2006 (29.06.2006) entire document	18
A	US 7,473,124 B1 (BRIANT et al) 06 January 2009 (06.01.2009) entire document	1-20
A	US 5,845,036 A (DE MARCHI) 01 December 1998 (01.12.1998) entire document	1-20
A	US 2012/0237177 A1 (MINOTA) 20 September 2012 (20.09.2012) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
04 March 2016	17 MAR 2016
Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (January 2015)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: ALISON MCCARTHY
PEPPER HAMILTON LLP
125 HIGH STREET
19TH FLOOR, HIGH STREET TOWER
BOSTON, MA 02110

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)* 17 MAR 2016

Applicant's or agent's file reference
133077-03602

FOR FURTHER ACTION
See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2016/013629	15 January 2016	

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H01R 13/633 (2016.01)
CPC - H01R 13/6335 (2016.02)

Applicant SENKO ADVANCED COMPONENTS, INC.

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

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

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

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

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/	Date of completion of this opinion	Authorized officer
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	04 March 2016	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (January 2015)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2016/013629

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

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

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

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).

3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:

a. ☐ forming part of the international application as filed:

☐ in the form of an Annex C/ST.25 text file.

☐ on paper or in the form of an image file.

b. ☐ furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.

c. ☐ furnished subsequent to the international filing date for the purposes of international search only:

☐ in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).

☐ on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2016/013629

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

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	3-6, 20	YES
	Claims	1, 2, 7-19	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1, 2, 7, 8, 11, 12, 17, and 19 lack an inventive step under PCT Article 33(3) as being obvious over Bates in view of Fillion et al (hereinafter Fillion).

Regarding Claim 1, Bates discloses a narrow pitch fiber optic connector (optical communication system 10 of the invention which includes two miniature optic fiber connectors 12, 14 that are each insertable into a corresponding passage 20,22 of a receiver 24, Col. 2, Lns. 29-32 & Fig. 1) comprising: a plurality of connectors arranged such that a pitch of said narrow pitch connector is less than about 5.25mm (receiver passages are spaced at a pitch (center-to-center) distance A (Fig. 4) of 0.2 inch, Col. 3, Lns. 21-25); a plurality of latching arms coupled to the plurality of connectors (optic fiber connectors 12 and 14 include connector latch 42, Fig. 1); a housing configured to hold the plurality of connectors (interconnected sleeves 60 and 62 (via toungue 74 and groove 76) hold optic fiber connectors 12 and 14, Fig. 1 and 4); and a tab (latch handle 50, Fig. 1) to remotely unlatch the narrow pitch connector (connector can be removed by depressing a latch handle 50 of the connector latch to lower the latch shoulders so they are out of line with the receiver shoulders so the connector can be removed, Col. 2, Lns. 41-44 & Fig. 1) but Bates fails to explicitly disclose LC connectors; and a pull tab coupled to the plurality of latching arms and configured to remotely unlatch the connector.
Fillion teaches a holder for optical loopbak assembly with release mechansim (Abstract) having LC connectors (an optical loopback assembly in the form of an LC connector, Para. [0007]); and a pull tab coupled to plurality of latching arms and configured to remotely unlatch the connector (pulling member 52 integral with pull tab 64 integral with release latch 38 that engages latch arms 12 and 13 to remotely unlatch LC connectors 10 and 11, Para. [0028], [0029] & Fig. 1, 3 and 4).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates with the teaching of Fillion having LC connectors; and a pull tab coupled to plurality of latching arms and configured to remotely unlatch the connector for the purpose of providing a single mechanism to release a plurality of fiber optics connectors.

Regarding Claim 2, modified Bates discloses the narrow pitch fiber optic connector of claim 1, a pitch (receiver passages are spaced at a pitch (center-to-center) distance A (Fig. 4) of 0.2 inch, Col. 3, Lns. 21-25) but Bates fails to explicitly disclose where the pitch is less than or equal to about 4.8mm.
It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a pitch that is less than or equal to about 4.8mm for the purpose of providing a more compact optical device, since discovering the optimum value of a result effective variable involves only routine skill in the art.

Regarding Claim 7, modified Bates discloses the narrow pitch fiber optic connector of claim 1, wherein the narrow pitch connector (optical communication system 10 of the invention which includes two miniature optic fiber connectors 12, 14 that are each insertable into a corresponding passage 20,22 of a receiver 24, Col. 2, Lns. 29-32 & Fig. 1) is a duplex connector (interconnected sleeves 60 and 62 (via toungue 74 and groove 76) hold optic fiber connectors 12 and 14, Fig. 1 and 4).

Regarding Claim 8, modified Bates discloses the narrow pitch fiber optic connector of claim 1, wherein the housing includes a bottom housing and a top housing coupled to the bottom housing (interconnected sleeves 60 and 62 include an upper portion integral with a bottom portion via side walls 70 and 72, Fig. 1 and 4).

Regarding Claim 11, modified Bates discloses the narrow pitch fiber optic connector of claim 8, but Bates fails to explicitly disclose wherein the top housing is configured to retain the pull tab.
Fillion teaches a holder for optical loopbak assembly with release mechansim (Abstract) having a top housing that is configured to retain the pull tab (cover 28 includes an upper portion that retains pulling member 52 integral with pull tab 64, 1, 3 and 4).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates with the teaching of Fillion having a top housing that is configured to retain the pull tab for the purpose of retaining the pull tab during use.

Regarding Claim 12, modified Bates discloses the narrow pitch fiber optic connector of claim 1, wherein the tab is further configured to be pushed down so as to unlatch the narrow pitch connector without resulting in any horizontal movement of the tab (connector can be removed by depressing a latch handle 50 of the connector latch to lower the latch shoulders so they are out of line with the receiver shoulders so the connector can be removed, Col. 2, Lns. 41-44 & Fig. 1) but Bates fails to explicitly disclose a pull tab.
Fillion teaches a holder for optical loopbak assembly with release mechansim (Abstract) having a pull tab (pulling member 52 integral with pull tab 64, Fig. 1, 3 and 4).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates with the teaching of Fillion having a pull tab for the purpose of providing a specific means to realease a plurality of fiber optics connectors.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding Claim 17, Bates discloses a narrow width fiber optic connector (optical communication system 10 of the invention which includes two miniature optic fiber connectors 12, 14 that are each insertable into a corresponding passage 20,22 of a receiver 24, Col. 2, Lns. 29-32 & Fig. 1) comprising: a multi-fiber connector (miniature connector, especially when it is used to couple two optical fibers, is commonly used in pairs, Col. 1, Lns. 17-24, and, optical communication system 10 of the invention which includes two miniature optic fiber connectors 12, 14 that are each insertable into a corresponding passage 20,22 of a receiver 24, Col. 2, Lns. 29-32 & Fig. 1), wherein a width of said narrow width fiber optic connector is less than about 12.4mm (receiver passages are spaced at a pitch (center-to-center) distance A (Fig. 4) of 0.2 inch, Col. 3, Lns. 21-25); at least one latching arm coupled to the multi-fiber connector (optic fiber connectors 12 and 14 include connector latch 42, Fig. 1); a housing configured to hold the multi-fiber connector (interconnected sleeves 60 and 62 (via tounge 74 and groove 76) hold optic fiber connectors 12 and 14, Fig. 1 and 4); and a tab (latch handle 50, Fig. 1) to remotely unlatch the narrow pitch connector (connector can be removed by depressing a latch handle 50 of the connector latch to lower the latch shoulders so they are out of line with the receiver shoulders so the connector can be removed, Col. 2, Lns. 41-44 & Fig. 1) but Bates fails to explicitly disclose a pull tab coupled to the at least one latching arms and configured to remotely unlatch the connector.
Fillion teaches a holder for optical loopbak assembly with release mechansim (Abstract) having a pull tab coupled to the at least one latching arms and configured to remotely unlatch the connector (pulling member 52 integral with pull tab 64 integral with release latch 38 that engages latch arms 12 and 13 to remotely unlatch LC connectors 10 and 11, Para. [0028], [0029] & Fig. 1, 3 and 4).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates with the teaching of Fillion having a pull tab coupled to the at least one latching arms and configured to remotely unlatch the connector for the purpose of providing a single mechanism to release a plurality of fiber optics connectors.

Regarding Claim 19, modified Bates discloses the narrow width fiber optic connector of claim 17, wherein the width is less than or equal to about 9.6mm (receiver passages are spaced at a pitch (center-to-center) distance A (Fig. 4) of 0.2 inch, Col. 3, Lns. 21-25).

Claims 9 and 10 lack an inventive step under PCT Article 33(3) as being obvious over Bates in view of Fillion et al. (hereinafter Fillion) and Peterhans et al. (hereinafter Peterhans).

Regarding Claim 9, modified Bates discloses the narrow pitch fiber optic connector of claim 8, but Bates fails to explicitly disclose wherein the bottom housing includes a side wall configured to open.
Peterhans teaches a plug connector having unlock mechanism (Abstract) having a bottom housing that includes a side wall configured to open (optical plug connector 1 includes connector clamp 3 including side walls and an open top, Fig. 1, 2 and 3)
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates with the teaching of Peterhans having a bottom housing that includes a side wall configured to open for the purpose of providing a means of securing the connectors for a specific application.

Regarding Claim 10, modified Bates discloses the narrow pitch fiber optic connector of claim 9, but Bates fails to explicitly disclose wherein the side wall includes a raised profile at a rear end thereof.
Peterhans teaches a plug connector having unlock mechanism (Abstract) having a side wall that includes a raised profile at a rear end thereof (connector clamp 3 includes side wall ends with a raised profile, Fig. 1, 2 and 3).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates with the teaching of Peterhans having a side wall that includes a raised profile at a rear end thereof for the purpose of providing a housing of optimum strength.

Claims 13, 14, and 16 lack an inventive step under PCT Article 33(3) as being obvious over Fillion et al. (hereinafter Fillion) in view of Bates and Facebook, Inc..

Regarding Claim 13, Fillion discloses a duplex fiber optic connector (duplex holder for an opticalloopback assembly, Abstract) comprising: two LC connectors (LC connectors 10 and 11, Fig. 1); and a pull tab coupled to said two LC connectors so as to remotely unlatch said duplex connector when pulled horizontally (pulling member 52 integral with pull tab 64 integral with release latch 38 that engages latch arms 12 and 13 to remotely unlatch LC connectors 10 and 11, Para. [0028], [0029] & Fig. 1, 3 and 4) but Fillion fails to explicitly disclose connectors arranged such that a pitch of said duplex connector is less than about 5.25mm.
Bates teaches a secondary latch sleeve for connector connections (Abstract) having connectors arranged such that a pitch of said duplex connector is less than about 6.25mm (receiver passages are spaced at a pitch (center-to-center) distance A (Fig. 4) of 0.2 inch, Col. 3, Lns. 21-25).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Fillion with the teaching of Bates having connectors arranged such that a pitch of said duplex connector is less than about 5.25mm for the purpose of providing a connector sized for a specific application.
Fillion further fails to explicitly disclose wherein the pull tab is spring loaded.
Facebook, Inc. teaches a pull tab actuator for connectors (Abstract) having a pull tab that is spring loaded (when the handle 118 is pulled, the nub 130 travels along the ramped region 128 to lift or actuate thelatch member 114, thereby disengaging the connector 110 from an associated device or component to which it is connected, it should be appreciated that in Fig. 6, the latch member 114 is shown in a latched position, and when actuated, the latch member 114 moves to an unlatched position, the latch member 114 is spring-biased to the latched position, for example, the latch member 114 can be comprised of a spring steel material, Para. [0029]).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Fillion with the teaching of Facebook, Inc. having a pull tab that is spring loaded for the purpose of providing an automatic means of returning the pull tab to a lock position.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding Claim 14, modified Fillion discloses the duplex fiber optic connector of claim 13, wherein the pull tab includes a proximal end configured to couple to respective latching arms of the two LC connectors (pulling member 52 integral with pull tab 64 integral with release latch 38 that engages latch arms 12 and 13 to remotely unlatch LC connectors 10 and 11, Para. [0028], [0029] & Fig. 1, 3 and 4).

Regarding Claim 16, modified Fillion discloses the duplex fiber optic connector of claim 13, wherein the pull tab is configured to unlatch the duplex connector (pulling member 52 integral with pull tab 64 integral with release latch 38 that engages latch arms 12 and 13 to remotely unlatch LC connectors 10 and 11, Para. [0028], [0029] & Fig. 1, 3 and 4) but Fillion fails to explicitly disclose the tab is further configured to be pushed down so as to unlatch the duplex connector without resulting in any horizontal movement of the tab.
Bates teaches a secondary latch sleeve for connector connections (Abstract) having a tab that is further configured to be pushed down so as to unlatch the duplex connector without resulting in any horizontal movement of the tab (connector can be removed by depressing a latch handle 50 of the connector latch to lower the latch shoulders so they are out of line with the receiver shoulders so the connector can be removed, Col. 2, Lns. 41-44 & Fig. 1).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Fillion with the teaching of Bates having a tab that is further configured to be pushed down so as to unlatch the duplex connector without resulting in any horizontal movement of the tab for the purpose of providing an actuation movement for a specific application.

Claim 15 lacks an inventive step under PCT Article 33(3) as being obvious over Fillion et al. (hereinafter Fillion) in view of Bates, Facebook, Inc., and Peterhans et al. (hereinafter Peterhans).

Regarding Claim 15, modified Fillion discloses the duplex fiber optic connector of claim 13, wherein the housing further comprises a top housing configured to receive the pull tab (cover 26 includes an upper portion that retains pulling member 52 integral with pull tab 64, 1, 3 and 4) but Fillion fails to explicitly disclose a housing having side walls configured to open.
Peterhans teaches a plug connector having unlock mechanism (Abstract) having a housing having side walls configured to open (optical plug connector 1 includes connector clamp 3 including side walls and an open top, Fig. 1, 2 and 3).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Fillion with the teaching of Peterhans having a housing having side walls configured to open for the purpose of providing a means of securing the connectors for a specific application.

Claim 18 lacks an inventive step under PCT Article 33(3) as being obvious over Bates in view of Fillion et al. (hereinafter Fillion) and Abendschein et al. (hereinafter Abendschein).

Regarding Claim 18, modified Bates discloses the narrow width fiber optic connector of claim 17, but Bates fails to explicitly disclose wherein the multi-fiber connector includes a multi-fiber MT ferrule.
Abendschein teaches a connector and receptacle containing a physical security feature (Abstract) having a multi-fiber connector that includes a multi-fiber MT ferrule (plugs and receptacles of the present invention are well known optical or electrical connectors, in fiberoptic applications, it is common for the conductive element to be contained in a ferrule, which in turn is housed by the plug, in a preferred embodiment, the ferrule is an MT-type ferrule, such as the MT and mini-MT ferrule, Para. [0019]).
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates with the teaching of Abendschein having a multi-fiber connector that includes a multi-fiber MT ferrule for the purpose of providing a specific ferrule for optimum performance.

Claims 3-6 and 20 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest:

Regarding claim 3, the prior art of record, individually or in combination, does not teach or fairly suggest the narrow pitch fiber optic connector of claim 1, wherein the pull tab includes a spring configured to provide a force such that the latching arms return to an undisplaced position.

Claims 4-6 depend from claim 3, and therefore meet the criteria set out in PCT Article 33(2)-(3) for at least the same reasons as claim 3.

Regarding claim 20, the prior art of record, individually or in combination, does not teach or fairly suggest the narrow width fiber optic connector of claim 17, wherein the pull tab includes a spring configured to provide a force such that the at least one latching arm returns to an undisplaced position.

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

Electronic Acknowledgement Receipt

EFS ID:	25362831
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Customer Number:	136404
Filer:	Alison L. McCarthy/Sharon Calhoun
Filer Authorized By:	Alison L. McCarthy
Attorney Docket Number:	133077.03611
Receipt Date:	07-APR-2016
Filing Date:	16-FEB-2016
Time Stamp:	12:41:39
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	Transmittal Letter	3611-IDS-Transmittal.pdf	57341 5af86ae4d6de842b07fc1dc0046172bc29305a5a	no	2

Warnings:	
Information:	

2	Information Disclosure Statement (IDS) Form (SB08)	3611-updated_IDS.pdf	1035541 0dc09a75d1e8e4ed7de57a4207165ff99585c2f8	no	4
Warnings:					
Information:					
3	Other Reference-Patent/App/Search documents	3602-ISR-WO.pdf	696486 8dde4aafdaea282e8a39b8ed2c9c6a450791d1de	no	8
Warnings:					
Information:					
			Total Files Size (in bytes):	1789368	

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

In re Application of	:	Kazuyoshi Takano
Appln. No.	:	15/044,838
Filed	:	February 16, 2016
Confirmation No.	:	1615
Group Art Unit	:	2883
Examiner	:	Not Yet Assigned

Title: NARROW WIDTH ADAPTERS AND CONNECTORS WITH SPRING LOADED REMOTE RELEASE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

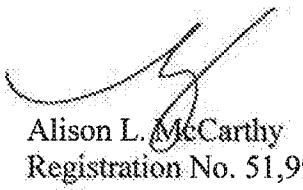
In accordance with the provisions of 37 C.F.R. §§ 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached form PTO/SB/08a. It is respectfully requested that such documents be expressly considered and that the documents be made of record and appear among the "References Cited" on any patent to issue therefrom.

The undersigned asserts that the items of information contained in this Information Disclosure Statement were first cited in a communication from a foreign patent office in a related foreign application not more than three months prior to the filing of this information disclosure statement. Applicants submit the present paper without admission, and with reservation of all rights.

AUTHORIZATION

No fee is believed to be due with this submission. However, the commissioner is hereby authorized to charge any fees which may be required for this submission to Deposit Account 50-0436.

Respectfully submitted,
PEPPER HAMILTON LLP



Alison L. McCarthy
Registration No. 51,998

125 High Street
19th Floor, High Street Tower
Boston, MA 02110
(617) 204-5100
(617) 204-5150
Date: March 31, 2016

Senko Ex. 2005, Page 255
US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	REQUEST ID
15/044,838		2883	14412

PAIR Correspondence Address/Fee Address Change

The following fields have been changed to Customer Number 136404 on 03/24/2016 via Private PAIR in view of the certification copied below that authorized the change.

- Correspondence Address

The address for Customer Number 136404 is:
136404
Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736

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

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

Signature:	/Alison L. McCarthy/
Name:	Alison L. McCarthy
Registration Number:	51998

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/044,838	02/16/2016	2883	800	133077.03611	12	2

CONFIRMATION NO. 1615

UPDATED FILING RECEIPT

21269
PEPPER HAMILTON LLP
500 GRANT STREET
SUITE 5000
PITTSBURGH, PA 15219-2507

OC000000008168146

Date Mailed: 03/22/2016

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Kazuyoshi Takano, Southborough, MA;
Jeffrey Gniadek, Northbridge, MA;

Applicant(s)

Senko Advanced Components, Inc., Marlborough, MA;

Power of Attorney: The patent practitioners associated with Customer Number 21269

Domestic Priority data as claimed by applicant

This application is a CIP of 14/996,865 01/15/2016

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
UNITED STATES OF AMERICA PCT/US16/13629 01/15/2016
TAIWAN 105101374 01/18/2016

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 03/01/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/044,838**

Projected Publication Date: 07/20/2017

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

Narrow Width Adapters and Connectors with Spring Loaded Remote Release

Preliminary Class

385

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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IPR2024-00119

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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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 U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/044,838	02/16/2016	Kazuyoshi Takano	133077.03611

CONFIRMATION NO. 1615

POA ACCEPTANCE LETTER

21269
PEPPER HAMILTON LLP
500 GRANT STREET
SUITE 5000
PITTSBURGH, PA 15219-2507

OC000000081608050

Date Mailed: 03/22/2016

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/10/2016.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/lqchau/

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 15/044,838

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	300		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	12 minus 20 =	*	x 40 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*	x 210 =	0.00			
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).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	730		TOTAL	

APPLICATION AS AMENDED - PART II

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

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

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** 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 found in the appropriate box in column 1.

Attorney Docket No. 133077.03611

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	
Kazuyoshi Takano et al.	:	Confirmation No. 1615
Serial No. 15/044,838	:	Group Art Unit: 2883
Filed: February 16, 2016	:	Examiner: Not Yet Assigned

For: NARROW WIDTH ADAPTERS AND CONNECTORS WITH SPRING LOADED REMOTE RELEASE

RESPONSE TO NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

Mail Stop MISSING PARTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notice to File Missing Parts of Non-Provisional Application dated February 1, 2016, submitted herewith are the following:

- Executed Declaration (37 C.F.R. § 1.63) for Utility or Design Application Using An Application Data Sheet (37 C.F.R. § 1.76) of Inventor Kazuyoshi Takano from the parent Application No. 14/996,865; and
- Executed Declaration (37 C.F.R. § 1.63) for Utility or Design Application Using An Application Data Sheet (37 C.F.R. § 1.76) of Inventor Jeffrey Gniadek from the parent Application No. 14/996,865;
- Fee in the amount of $70.00 as required by 37 C.F.R. § 1.16(f); and
- Executed Power of Attorney and Statement Under 37 C.F.R. § 3.73(c).

AUTHORIZATION

The commissioner is hereby authorized to charge any shortage in fees which may be required for this submission to Deposit Account No. 50-0436.

Respectfully submitted,

PEPPER HAMILTON LLP



Alison L. McCarthy
Registration No. 51998

19th Floor, High Street Tower
125 High Street
Boston, MA 02110
Phone: (617) 204-5100
Fax: (617) 204-5150
Date: March 10, 2016

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PTO/AIA/01 (06-12)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release

As the below named inventor, I hereby declare that:

This declaration is directed to:

- [x] The attached application, or
- [ ] United States application or PCT international application number _____ filed on _____

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Jeffrey Gniadek Date (Optional): 1-15-2016

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release

As the below named inventor, I hereby declare that:

This declaration is directed to:

- [■] The attached application, or
- [ ] United States application or PCT international application number _____ filed on _____

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Kazuyoshi Takano Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.**

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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 21269

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☑ The address associated with Customer Number: 21269

OR

☐ Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

Assignee Name and Address:

Senko Advanced Components, Inc.
450 Donald Lynch Blvd, Unit D
Marlboro, MA 01752

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	8/22/12
Name	Mr. Lenny Analetto	Telephone	
Title	Quality Assurance Manager		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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.

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Senko Advanced Components, Inc.

Application No./Patent No.: 15/044,838 Filed/Issue Date: February 16, 2016

Titled: Narrow Width Adapters and Connectors With Spring Loaded Remote Release

Senko Advanced Components, Inc., a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 37502, Frame 0423, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). 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. 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.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Alison L. McCarthy/	March 10, 2016
Signature	Date
Alison L. McCarthy	51998
Printed or Typed Name	Title or Registration 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.

Electronic Patent Application Fee Transmittal

Application Number:	15044838
Filing Date:	16-Feb-2016
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Filer:	Alison L. McCarthy
Attorney Docket Number:	133077.03611

Filed as Small 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:				
Late Filing Fee for Oath or Declaration	2051	1	70	70
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**70**

Electronic Acknowledgement Receipt

EFS ID:	25158972
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	Narrow Width Adapters and Connectors with Spring Loaded Remote Release
First Named Inventor/Applicant Name:	Kazuyoshi Takano
Customer Number:	136404
Filer:	Alison L. McCarthy/Sharon Calhoun
Filer Authorized By:	Alison L. McCarthy
Attorney Docket Number:	133077.03611
Receipt Date:	10-MAR-2016
Filing Date:	16-FEB-2016
Time Stamp:	14:24:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$70
RAM confirmation Number	650
Deposit Account	500436
Authorized User	MCCARTHY, ALISON

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

Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	3611-Response-NTFMP.pdf	54093 06a1df2955b89273821cb12025b19148f3ff1f3f	no	2
Warnings:					
Information:					
2	Oath or Declaration filed	3601-Gniadek-Declaration.pdf	52076 d660c582d33b4460232b4b4d6edb452e14da968a	no	1
Warnings:					
Information:					
3	Oath or Declaration filed	3601-Signed-Takano-Declaration.pdf	405874 281e5724ffd9ca7240fde1bce06a1cf5990f907f	no	1
Warnings:					
Information:					
4	Power of Attorney	POA.PDF	463922 f8255a0967a48465b4305b3f995977e4b691619e	no	1
Warnings:					
Information:					
5	Assignee showing of ownership per 37 CFR 3.73	3611-Assignee-statement_aia0096.pdf	118263 c06cc6aea5beb77e16a9469655f647c5094a2cc0	no	3
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	30475 0291c9f8abfbac8a9a0f12a76aaf02e9831f43fb	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1124703		

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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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/044,838	02/16/2016	2883	730	133077.03611	12	2

CONFIRMATION NO. 1615

FILING RECEIPT

136404
Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736

OC000000081080049

Date Mailed: 03/02/2016

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Kazuyoshi Takano, Southborough, MA;
Jeffrey Gniadek, Northbridge, MA;

Applicant(s)

Senko Advanced Components, Inc., Marlborough, MA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CIP of 14/996,865 01/15/2016

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
UNITED STATES OF AMERICA PCT/US16/13629 01/15/2016
TAIWAN 105101374 01/18/2016

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 03/01/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/044,838**

Projected Publication Date: 07/20/2017

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

Narrow Width Adapters and Connectors with Spring Loaded Remote Release

Preliminary Class

385

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/044,838	02/16/2016	Kazuyoshi Takano	133077.03611

CONFIRMATION NO. 1615

136404
Pepper Hamilton LLP/Boston
Attn: Boston IP Docketing Department
125 High Street
19th Floor
Boston, MA 02110-2736

FORMALITIES LETTER

OC000000081060050

Date Mailed: 03/02/2016

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing.

Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- Surcharge as set forth in 37 CFR 1.16(f) must be submitted.
  The surcharge is due for any one of:
  - late submission of the basic filing fee, search fee, or examination fee,
  - late submission of inventor's oath or declaration,
  - filing an application that does not contain at least one claim on filing, or
  - submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

The fee(s) required within **TWO MONTHS** from the date of this Notice to avoid abandonment is/are itemized below. Small entity discount is in effect. If applicant is qualified for micro entity status, an acceptable Certification of Micro Entity Status must be submitted to establish micro entity status. (See 37 CFR 1.29 and forms PTO/SB/15A and 15B.)

- $ **70** surcharge.
- $(**0**) previous unapplied payment amount.
- $ **70** TOTAL FEE BALANCE DUE.

Items Required To Avoid Processing Delays:

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):

Kazuyoshi Takano
Jeffrey Gniadek

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
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Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice". https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/symohammed/

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 15/044,838

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	300		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	12 minus 20 =	*	x 40 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*	x 210 =	0.00			
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).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	730		TOTAL	

APPLICATION AS AMENDED - PART II

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

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

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** 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 found in the appropriate box in column 1.

NARROW WIDTH ADAPTERS AND CONNECTORS WITH SPRING LOADED REMOTE RELEASE

CROSS-REFERENCE TO RELATED-APPLICATIONS

[0001] This application is a continuation-in-part of U.S. Patent Application No. 14/996,865 filed on January 15, 2016, and claims priority to International Application No. PCT/US16/13629 filed on January 15, 2016 and Taiwan Patent Application No. 105101374 filed on January 18, 2016, each of which are incorporated herein by reference in their entirety.

BACKGROUND

[0002] The present disclosure relates generally to connectors having remote release, and more specifically to narrow width adapters and connectors, such as narrow pitch distance LC duplex adapters and connectors with spring loaded remote release, and narrow width multi-fiber connectors.

[0003] The prevalence of the Internet has led to unprecedented growth in communication networks. Consumer demand for service and increased competition has caused network providers to continuously find ways to improve quality of service while reducing cost.

[0004] Certain solutions have included deployment of high-density interconnect panels. High-density interconnect panels may be designed to consolidate the increasing volume of interconnections necessary to support the fast-growing networks into a compacted form factor, thereby increasing quality of service and decreasing costs such as floor space and support overhead. However, the deployment of high-density interconnect panels have not been fully realized.

[0005] In communication networks, such as data centers and switching networks, numerous interconnections between mating connectors may be compacted into high-density

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panels. Panel and connector producers may optimize for such high densities by shrinking the connector size and/or the spacing between adjacent connectors on the panel. While both approaches may be effective to increase the panel connector density, shrinking the connector size and/or spacing may also increase the support cost and diminish the quality of service.

[0006] In a high-density panel configuration, adjacent connectors and cable assemblies may obstruct access to the individual release mechanisms. Such physical obstructions may impede the ability of an operator to minimize the stresses applied to the cables and the connectors. For example, these stresses may be applied when the user reaches into a dense group of connectors and pushes aside surrounding optical fibers and connectors to access an individual connector release mechanism with his/her thumb and forefinger. Overstressing the cables and connectors may produce latent defects, compromise the integrity and/or reliability of the terminations, and potentially cause serious disruptions to network performance.

[0007] While an operator may attempt to use a tool, such as a screwdriver, to reach into the dense group of connectors and activate the release mechanism, the adjacent cables and connectors may obstruct the operator's line of sight, making it difficult to guide the tool to the release mechanism without pushing aside the surrounding cables. Moreover, even when the operator has a clear line of sight, guiding the tool to the release mechanism may be a time-consuming process. Thus, using a tool may not be effective at reducing support time and increasing the quality of service.

[0008] Small Form Factor Pluggable Transceivers (SFP) are used presently in telecommunication infrastructures within rack mounted copper-to-fiber media converters, and are also known as Ethernet switches and/or patching hubs. These infrastructure Ethernet and fiber optic connections are evolving daily to increase connection density due to limited space for

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such equipment. Although fiber optic connectors have become smaller over the years, they have not been designed to be any smaller than necessary to plug into commonly sized and readily available SFPs. However, as transceiver technologies develop, smaller SFPs will be used to create higher density switches and/or patching hub equipment. Accordingly, there is a need for fiber optic connectors that will meet the needs of future developments in smaller SFPs.

SUMMARY

[0009] Aspects of the present disclosure are directed to providing adapters and fiber optic connectors for future developments in smaller SFPs, including for example narrow pitch SFPs for LC type duplex connectors, as well as narrow width SFPs for MPO connectors. Aspects of the present disclosure also provide spring loaded remote release mechanisms to facilitate access and usage of the narrow pitch connectors in high density arrays or panels.

[0010] According to one aspect, there is provided a narrow width fiber optic connector comprising a multi-fiber connector, wherein a width of said narrow width fiber optic connector is less than about 12.4mm, a housing configured to hold the multi-fiber connector and further comprising a connector recess, and a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess. The multi-fiber connector may include a multi-fiber MT ferrule. In some embodiments, the width of said narrow width fiber optic connector may be less than or equal to about 9.6mm. The pull tab may include a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

[0011] According to another aspect, there is provided a narrow pitch fiber optic connector comprising a plurality of LC connectors arranged such that a pitch of said narrow

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pitch connector is less than about 5.25mm, a housing configured to hold the plurality of LC connectors and further comprising a connector recess, and a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess. In some embodiments, the pitch may be less than or equal to about 4.8mm. The pull tab may include a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess. In some embodiments, the pull tab may include a distal end for remotely unlatching the narrow pitch connector. The narrow pitch connector may be a duplex connector. In some embodiments, the housing may include a bottom housing and a top housing coupled to the bottom housing. The bottom housing may include a side wall configured to open. The side wall may include a raised profile at a rear end thereof.

[0012] According to another aspect, there is provided a narrow pitch fiber optic connector comprising a plurality of LC connectors arranged such that a pitch of said narrow pitch connector is less than about 5.25mm, a plurality of latching arms coupled to the plurality of LC connectors, a housing configured to hold the plurality of LC connectors, and a pull tab coupled to the plurality of latching arms and configured to remotely unlatch the narrow pitch connector. In some embodiments, the pitch may be less than or equal to about 4.8mm.

[0013] In some embodiments, the pull tab may include a spring configured to provide a force such that the latching arms return to an undisplaced position. The pull tab may include a distal end for remotely unlatching the narrow pitch connector and a proximal end configured to couple the pull tab to the plurality of latching arms. The proximal end may include a single prong configured to engage the plurality of latching arms. The proximal end may include a plurality of pins configured to slide along a semi-circular profile of the plurality of latching arms. In various embodiments, the narrow pitch connector is a duplex connector.

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[0014] In various embodiments, the housing may include a bottom housing and a top housing coupled to the bottom housing. The bottom housing may include a side wall configured to open. The side wall may include a raised profile at a rear end thereof. The top housing may be configured to retain the pull tab. The pull tab may be further configured to be pushed down so as to unlatch the narrow pitch connector without resulting in any horizontal movement of the pull tab.

[0015] According to another aspect, there is disclosed a duplex fiber optic connector comprising two LC connectors arranged such that a pitch of said duplex LC connector is less than about 5.25mm, and a pull tab coupled to said two LC connectors so as to remotely unlatch said duplex connector when pulled horizontally, wherein the pull tab is spring loaded. In one embodiment, the pitch may be less than or equal to about 4.8mm.

[0016] In some embodiments, the pull tab may include a proximal end configured to couple to respective latching arms of the two LC connectors. The duplex fiber optic connector may further comprise a housing having side walls configured to open. The housing may further comprise a top housing configured to receive the pull tab. The pull tab may be further configured to be pushed down so as to unlatch the duplex connector without resulting in any horizontal movement of the pull tab.

[0017] According to another aspect, there is disclosed a narrow pitch adapter comprising a recess configured to receive a duplex fiber optic connector having a pitch less than about 5.25mm. In some embodiments, the pitch may be less than or equal to about 4.8mm.

[0018] According to another aspect, there is disclosed a narrow width fiber optic connector comprising a multi-fiber connector, wherein a width of said narrow width fiber optic connector is less than about 12.4mm, at least one latching arm coupled to the multi-fiber

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connector, a housing configured to hold the multi-fiber connector, and a pull tab coupled to the at least one latching arms and configured to remotely unlatch the narrow width connector. The multi-fiber connector may include a multi-fiber MT ferrule. In some embodiments, the width may be less than or equal to about 9.6mm. In some embodiments, the pull tab may include a spring configured to provide a force such that the at least one latching arm returns to an undisplaced position.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] FIG. 1A is a perspective view of a prior art standard 6.25mm pitch LC connector SFP;

[0020] FIG. 1B is a perspective view of a prior art standard 6.25mm pitch LC adapter;

[0021] FIG. 1C is a top view of the prior art adapter of FIG. 1B;

[0022] FIG. 1D is a front view of the prior art adapter of FIG. 1B, showing the 6.25mm pitch;

[0023] FIG. 2A is a perspective view of a prior art LC duplex connector;

[0024] FIG. 2B is a perspective view of a prior art LC duplex connector with a remote release pull tab;

[0025] FIG. 2C is a top view of a prior art LC connector used in the embodiments shown in FIGS. 2A and 2B;

[0026] FIG. 2D is a side view of the prior art LC connector of FIG. 2C;

[0027] FIG. 3 is a perspective view of a future narrow pitch LC SFP for receiving connectors disclosed herein according to aspects of the present disclosure;

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[0028] FIG. 4A is a perspective view of one embodiment of a narrow pitch LC adapter according to aspects of the present disclosure;

[0029] FIG. 4B is a top view of the narrow pitch LC adapter of FIG. 4A;

[0030] FIG. 4C is a front view of the narrow pitch LC adapter of FIG. 4A, showing a 4.8mm pitch;

[0031] FIG. 5 is a perspective view of one embodiment of a narrow pitch LC duplex connector with remote release according to aspects of the present disclosure;

[0032] FIG. 6A is a top view of an LC connector used in the embodiment of FIG. 5 according to aspects of the present disclosure;

[0033] FIG. 6B is a side view of the LC connector of FIG. 6A according to aspects of the present disclosure;

[0034] FIG. 7 is a perspective view of narrow pitch LC duplex connector of FIG. 5, with the release mechanism being removed according to aspects of the present disclosure;

[0035] FIG. 8 is a perspective disassembled view of the narrow pitch LC duplex connector of FIG. 5 according to aspects of the present disclosure;

[0036] FIG. 9 is a perspective view of a prior art standard MPO SFP;

[0037] FIG. 10A is a perspective view of a prior art standard MPO connector;

[0038] FIG. 10B is a top view of the prior art MPO connector of FIG. 10A, having a width of 12.4mm;

[0039] FIG. 10C is a front view of the prior art MPO connector of FIG.10A;

[0040] FIG. 11 is a perspective view of a future narrow width multi-fiber SFP for receiving connectors disclosed herein according to aspects of the present disclosure;

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[0041] FIG. 12A is a perspective view of one embodiment of a narrow width multi-fiber connector with remote release according to aspects of the present disclosure;

[0042] FIG. 12B is a top view of the narrow width multi-fiber connector of FIG. 12A, having a width of 9.6mm according to aspects of the present disclosure;

[0043] FIG. 12C is a front view of the narrow width multi-fiber connector of FIG. 12A according to aspects of the present disclosure;

[0044] FIG. 13A is a perspective view of a narrow width multi-fiber connector inserted into a narrow width SFP having an SFP latch according to aspects of the present disclosure;

[0045] FIG. 13B is a perspective view of a narrow width multi-fiber connector inserted into a narrow width adapter having an adapter latch according to aspects of the present disclosure;

[0046] FIG. 14 is a side view of a narrow width multi-fiber connector of FIG. 13A having a recess engaged with an SFP latch in a normal pull tab position according to aspects of the present disclosure; and

[0047] FIG. 15 is a side view of the narrow width multi-fiber connector of FIG. 13A, being disengaged from the SFP latch by retracting the pull tab according to aspects of the present disclosure.

DETAILED DESCRIPTION

[0048] This disclosure is not limited to the particular systems, devices and methods described, as these may vary. The terminology used in the description is for the purpose of describing the particular versions or embodiments only, and is not intended to limit the scope.

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[0049] As used in this document, the singular forms "a," "an," and "the" include plural references unless the context clearly dictates otherwise. Unless defined otherwise, all technical and scientific terms used herein have the same meanings as commonly understood by one of ordinary skill in the art. Nothing in this disclosure is to be construed as an admission that the embodiments described in this disclosure are not entitled to antedate such disclosure by virtue of prior invention. As used in this document, the term "comprising" means "including, but not limited to."

[0050] The following terms shall have, for the purposes of this application, the respective meanings set forth below.

[0051] A connector, as used herein, refers to a device and/or components thereof that connects a first module or cable to a second module or cable. The connector may be configured for fiber optic transmission or electrical signal transmission. The connector may be any suitable type now known or later developed, such as, for example, a ferrule connector (FC), a fiber distributed data interface (FDDI) connector, an LC connector, a mechanical transfer (MT) connector, an SC connector, an SC duplex connector, or a straight tip (ST) connector. The connector may generally be defined by a connector housing body. In some embodiments, the housing body may incorporate any or all of the components described herein.

[0052] A "fiber optic cable" or an "optical cable" refers to a cable containing one or more optical fibers for conducting optical signals in beams of light. The optical fibers can be constructed from any suitable transparent material, including glass, fiberglass, and plastic. The cable can include a jacket or sheathing material surrounding the optical fibers. In addition, the cable can be connected to a connector on one end or on both ends of the cable.

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[0053] Various embodiments described herein generally provide a remote release mechanism such that a user can remove cable assembly connectors that are closely spaced together on a high density panel without damaging surrounding connectors, accidentally disconnecting surrounding connectors, disrupting transmissions through surrounding connectors, and/or the like. Various embodiments also provide narrow pitch LC duplex connectors and narrow width multi-fiber connectors, for use, for example, with future narrow pitch LC SFPs and future narrow width SFPs. The remote release mechanisms allow use of the narrow pitch LC duplex connectors and narrow width multi-fiber connectors in dense arrays of narrow pitch LC SFPs and narrow width multi-fiber SFPs.

[0054] FIG. 1A shows a perspective view of a prior art standard 6.25mm pitch LC connector SFP 100. The SFP 100 is configured to receive a duplex connector, and provides two receptacles 102, each for receiving a respective LC connector. The pitch 104 is defined as the axis-to-axis distance between the central longitudinal axes of each of the two receptacles 102. FIG. 1B shows a perspective view of a prior art standard 6.25mm pitch LC adapter 106. The adapter 106 is also configured to receive a duplex connector, and provides two receptacles 108, each for receiving a respective LC connector. FIG. 1C is a top view of the adapter 106 of FIG. 1B. The pitch 110 of the adapter 106 is defined similarly to that of the SFP 100, as the axis-to-axis distance between the central longitudinal axes of each of the two receptacles 108, as illustrated in FIG. 1D, which shows a front view of the adapter 106.

[0055] FIG. 2A shows a prior art LC duplex connector 200 that may be used with the conventional SFP 100 and the conventional adapter 106. The LC duplex connector 200 includes two conventional LC connectors 202. FIG. 2B shows another prior art LC duplex connector 204 having a remote release pull tab 206, and including two conventional LC connectors 208. As

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shown, the remote release pull tab includes two prongs 210, each configured to couple to the extending member 212 of a respective LC connector 208. FIGS. 2C and 2D show top and side views, respectively, of the conventional LC connector 208, having a width of 5.6mm, and further showing the extending member 212.

[0056] Various embodiments disclosed herein are configured for use with a future SFP, such as the narrow pitch LC SFP 300 shown in FIG. 3, having a pitch less than that of conventional 6.25mm and 5.25mm pitches. Various embodiments utilize LC type fiber optic connectors in duplex arrangements (having transmitting and receiving fibers) but with a connector axis-to-axis distance that is less than the conventional 6.25mm and 5.25mm pitches, as described further below.

[0057] According to another aspect, there is disclosed embodiments of narrow pitch duplex LC adapters. FIGS. 4A to 4C show one embodiment of a narrow pitch adapter 400. The narrow pitch adapter 400 has receptacles 402 on opposite ends thereof, configured for mating two narrow pitch LC duplex connectors according to aspects disclosed herein. FIG. 4B shows a top view of the adapter 400. FIG. 4C shows a front view, further illustrating that the adapter 400 has a pitch of 4.8 mm. The adapter 400 is configured to receive a duplex LC connector, with a pitch of the adapter corresponding to the axis-to-axis distance between the LC connectors of the LC duplex connector. Although the adapter 400 has a pitch of 4.8mm, various embodiments of narrow pitch adapters disclosed herein may have a different pitch that is less than that of the pitch of conventional adapters, for example less than 6.25mm and less than about 5.25mm. In some embodiments, the pitch may be about 4.8mm or less.

[0058] In addition to the need for narrow connectors, there is a need for remote unlatching of the narrow connectors used in dense narrow SFP arrays. This is because finger

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access to connectors is nearly impossible without disruption to the service of adjacent optical fibers. Although there are current designs of remotely unlatching fiber optic connectors, as shown for example in FIG. 2B, they have proven to be difficult to function as desired when plugged into the die cast construction that is typical of all SFP's. The die cast SFP is not one that is ever free of sharp edges and internal flashing (burrs) that can interfere with the normal flexing motion of the plastic latches of the fiber optic connectors. The interference between metal edges and burrs may prevent the fiber optic connector's plastic latch from either becoming fully engaged or easily disengaged, especially with latches that are remotely triggered by pull tabs that project a distance behind the connector so as to keep fingers from disturbing adjacent optical fibers.

[0059] To make the latching/unlatching of the connectors from the SFP more reliable, various embodiments disclosed herein add a spring force to the remote latching component (pull tab), for example as shown and described in relation to FIGS. 5, 7, 8 and 12 below, to ensure that the connector latches are allowed to return to the undisplaced position and thereby become fully engaged inside the SFP's recess.

[0060] FIG. 5 shows one embodiment of a narrow pitch connector 500 according to aspects disclosed herein. The narrow pitch connector 500 is a duplex LC connector including two LC connectors 502. Each of the LC connectors 502 includes a respective ferrule 503 and a respective extending member or latching arm 504. The connector 500 has a pitch of 4.8mm, defined as the axis-to-axis distance between the central axes of the LC connectors 502. In other embodiments, the connector pitch may be less than that of the pitch of conventional connectors, for example less than 6.25mm and less than about 5.25mm. In some embodiments, the pitch may be about 4.8mm or less.

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[0061] The connector 500 further includes a housing 506 having a bottom housing 508 and a top housing 510. The bottom housing 508 includes side walls 512. In various embodiments, the housing of the connector may be a switchable housing. The side walls may be configured to open so as to facilitate opening of the housing, for example to change polarity of the connector. The side walls 512 may be raised towards the rear of the connector, as shown in FIG. 5. One advantage of raising the side walls towards the rear of the connector is easier access. In other embodiments, the side walls may be raised at another location.

[0062] The connector 500 further includes a pull tab 514 having a distal end 516 and a proximal end 518. The pull tab 514 further includes a spring 520 configured to provide a force such that the connector latching arms 504 return to the undisplaced position and thereby become fully engaged inside the SFP's recess. The distal end 516 of the pull tab 514 may be pulled to remotely release the connector 500 from an SFP or adapter. The proximal end 518 of the pull tab 514 is uniquely shaped so as to engage with the unique profile of the latching arms 504 of the narrow pitch LC connector 500. The proximal end 518 engages both latching arms 504 of the duplex LC connector 500. That is, the proximal end 518 includes a single prong configured to engage the latching arms of both connectors 502. At the proximal end 518 of the pull tab 514 there are outwardly pointing pins 522 configured to rest directly above and slide along the semi-circular surface of latching arms 504 of the duplex LC connectors 502. The horizontal and rearward path direction of the pins 522 causes the semi-circular profile of the connector latching arms 504 to flex downward. Because the pins 522 are not contained inside ramped grooves of the connector latching arms 504, the pull tab 514 can also be pushed down at a location directly behind the LC connectors 502 rather than pulling the tab in a rearward motion from a remote distance behind the connectors, such as from the distal end 516. The action of pushing down the

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connectors' integral levers or latching arms 504 unlatches the connector 500. In some cases, the horizontal motion of the pull tab 514 may not be desirable. Thus, the connector latching arms 504 may be pushed down without resulting in a horizontal motion of the pull tab 514.

[0063] FIGS. 6A and 6B show top and side views, respectively, of the LC connector 502 of the narrow pitch connector 500. FIG. 6A further shows that the LC connector 502 has a width of 4.6mm. FIG. 6B shows the semi-circular profile of the latching arm 504.

[0064] FIG. 7 shows a partially disassembled view of the narrow pitch connector 500 of FIG. 5. The top housing 510 is separated from the bottom housing 508. The pull tab 514 is coupled to the top housing 510 and configured to slide longitudinally along the length of the connector. The top housing 510 also includes a restraint 524 configured to receive the pull tab 514.

[0065] FIG. 8 shows a further disassembled view of the narrow pitch connector 500. Specifically, the pull tab 514 is shown to be separated from the top housing 510, and the spring 520 is removed from the pull tab. The pull tab 514 includes a longitudinal recess 526 configured to receive the spring 520, and at least one restraint 528 configured to retain the spring. The top housing 510 also includes a recess 530 configured to accommodate at least a portion of the pull tab 514, such as the spring 520 and the proximal end 518. In various embodiments, the pull tab may be removably coupled to the connector via the top housing.

[0066] FIG. 9 shows a perspective view of a prior art standard MPO SFP 900. The SFP 900 is configured to receive a standard MPO connector, and provides a receptacle 902 for receiving an MPO connector having a conventional width, as shown for example in FIGS. 10A to 10C.

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[0067] FIG. 10A shows a perspective view of a conventional MPO connector 1000. As shown in FIG. 10B, the conventional MPO connector 1000 has a width of 12.4mm. FIG. 10C shows a front view of the MPO connector 1000.

[0068] FIG. 11 shows an embodiment of a future narrow width multi-fiber SFP 1100 according to aspects of the present disclosure. Various embodiments disclosed herein are configured for use with the narrow width multi-fiber SFP 1100, having a width less than that of conventional MPO connectors, that is less than about 12.4mm. The narrow width multi-fiber SFP has a receptacle 1102 configured to receive a narrow width multi-fiber connector, such as a narrow width connector having an MT ferrule.

[0069] FIG. 12A shows one embodiment of a narrow width connector 1200 according to aspects disclosed herein. The narrow width connector 1200 is a multi-fiber connector including a multi-fiber MT/MPO ferrule 1202. The connector 1200 includes two extending members or latching arms 1204. In other embodiments, the connector may include at least one latching arm. The connector 1200 has a width of 9.6mm, as shown in the top view of the connector 1200 in FIG. 12B. In other embodiments, the connector width may be less than that of the width of conventional multi-fiber connectors, for example less than the 12.4mm of the conventional MPO connector shown in FOG. 10B. In some embodiments, the width may be about 9.6mm or less.

[0070] The connector 1200 further includes a housing 1206 having a bottom housing 1208 and a top housing 1210. The bottom housing 1208 includes side walls 1212. In various embodiments, the housing of the connector may be a switchable housing. The side walls may be configured to open so as to facilitate opening of the housing, for example to change polarity of the connector. The side walls 1212 may be raised towards the rear of the connector. One

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advantage of raising the side walls towards the rear of the connector is easier access. The side walls may also be raised at another location.

[0071] The connector 1200 further includes a pull tab 1214 having a distal end 1216 and a proximal end 1218. The pull tab 1214 further includes a spring 1220 configured to provide a force such that the connector latching arms 1204 return to the undisplaced position and thereby become fully engaged inside the SFP's recess. The distal end 1216 of the pull tab 1214 may be pulled to remotely release the connector 1200 from an SFP or adapter. The proximal end 1218 of the pull tab 1214 is uniquely shaped so as to engage with the unique profile of the latching arms 1204 of the narrow width multi-fiber connector 1200. The proximal end 1218 engages both latching arms 1204 of the multi-fiber connector 1200. That is, the proximal end 1218 includes a single prong configured to engage the latching arms 1204. At the proximal end 1218 of the pull tab 1214 there are outwardly pointing pins 1222 configured to rest directly above and slide along the semi-circular surface of latching arms 1204. The horizontal and rearward path direction of the pins 1222 causes the semi-circular profile of the connector latching arms 1204 to flex downward. Because the pins 1222 are not contained inside ramped grooves of the connector latching arms 1204, the pull tab 1214 can also be pushed down at a location directly behind the latching arms 1204 rather than pulling the tab in a rearward motion from a remote distance behind the connector, such as from the distal end 1216. The action of pushing down the connector's integral levers or latching arms 1204 unlatches the connector 1200. In some cases, the horizontal motion of the pull tab 1214 may not be desirable. Thus, the connector latching arms 1204 may be pushed down without resulting in a horizontal motion of the pull tab 1214.

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[0072] FIGS. 12B and 12C show top and front views, respectively, of the narrow width multi-fiber connector 1200. FIG. 12B further shows that the connector 1200 has a width of 9.6mm.

[0073] In various embodiments described above, the narrow width connectors have latching arms configured to engage with a fixed or immovable recess within a narrow width SFP or a narrow width adapter. In these embodiments, the pull tab of the connector displaces the flexible latching arm of the connector so as to disengage the latching arm from the recess of the SFP or the adapter. For example, the latching arms bend down as the pull tab is pulled back, so as to disengage the connector from the SFP or the adapter.

[0074] In other embodiments, as further described for example in relation with FIGS. 13 to 15 below, the remote latch release pull tab may be configured to couple with a latch or a hook within the adapter or the SFP. In these embodiments, the flexible latching arm of the connector is moved into the main cavity of the SFP or the adapter, and the latch of the SFP or the adapter engages a recess of the connector when the pull tab is in a normal location that is pushed forward by a spring. The pull tab may be configured to have a ramp area such that when the pull tab is pulled back, the latch of the SFP or the adapter is lifted by the retracted pull tab, thereby disengaging the latch of the SFP or the adapter from the connector.

[0075] FIG. 13A shows a narrow pitch multi-fiber connector 1300 inserted into a narrow pitch SFP 1302 such that a recess of the connector engages an SFP latch. FIG. 13B shows the narrow pitch connector 1300 inserted into a narrow pitch adapter 1304 such that a recess of the connector engages a latch of the adapter.

[0076] FIG. 14 shows a side view of the narrow width connector 1300 of FIG. 13A coupled to the narrow width SFP 1302. Details of the coupling are shown within the circle 1400.

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Specifically, the SFP 1302 includes an SFP latch 1402. The connector 1300 includes a recess 1404. For example, the connector housing may comprise a recess 1404. The pull tab 1406 may be spring loaded as described in relation to various embodiments. This allows the pull tab 1406 to return to a position that will allow the SFP latch 1402 to engage with the connector recess 1404. When the pull tab 1406 is in the normal pull tab location, that is pushed forward by a spring, as shown in FIG. 14, the SFP latch 1402 is engaged with the connector recess 1404 as illustrated within the circle 1400.

[0077] FIG. 15 shows a side view of the narrow width connector 1300 of FIG. 13A as it is disengaged from the narrow width SFP 1302. Details of the decoupling are shown within the circle 1500. The pull tab 1406 includes a taper or a ramp area 1502. As the pull tab 1406 is pulled back in the direction of the arrow 1504 as shown, the SFP latch 1402 is lifted by the ramp area of the retracted pull tab, thereby disengaging the SFP latch 1402 from the connector as illustrated within the circle 1500. The same effect described herein in conjunction with FIG. 15 also occurs in other embodiments of connectors coupled to a narrow width adapter as shown for example in FIG. 13A.

[0078] Although FIGS. 14 and 15 illustrate coupling of the connector to a narrow width SFP, in other embodiments of the connector may be coupled to a narrow width adapter having an adapter latch, similar to that of the SFP latch. Further, although the embodiments shown in FIGS. 13 to 15 include a narrow width multi-fiber connector, embodiments also work with narrow pitch LC connectors.

[0079] In the above detailed description, reference is made to the accompanying drawings, which form a part hereof. In the drawings, similar symbols typically identify similar components, unless context dictates otherwise. The illustrative embodiments described in the

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detailed description, drawings, and claims are not meant to be limiting. Other embodiments may be used, and other changes may be made, without departing from the spirit or scope of the subject matter presented herein. It will be readily understood that the aspects of the present disclosure, as generally described herein, and illustrated in the Figures, can be arranged, substituted, combined, separated, and designed in a wide variety of different configurations, all of which are explicitly contemplated herein.

[0080] The present disclosure is not to be limited in terms of the particular embodiments described in this application, which are intended as illustrations of various aspects. Many modifications and variations can be made without departing from its spirit and scope, as will be apparent to those skilled in the art. Functionally equivalent methods and apparatuses within the scope of the disclosure, in addition to those enumerated herein, will be apparent to those skilled in the art from the foregoing descriptions. Such modifications and variations are intended to fall within the scope of the appended claims. The present disclosure is to be limited only by the terms of the appended claims, along with the full scope of equivalents to which such claims are entitled. It is to be understood that this disclosure is not limited to particular methods, reagents, compounds, compositions or biological systems, which can, of course, vary. It is also to be understood that the terminology used herein is for the purpose of describing particular embodiments only, and is not intended to be limiting.

[0081] With respect to the use of substantially any plural and/or singular terms herein, those having skill in the art can translate from the plural to the singular and/or from the singular to the plural as is appropriate to the context and/or application. The various singular/plural permutations may be expressly set forth herein for sake of clarity.

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[0082] It will be understood by those within the art that, in general, terms used herein, and especially in the appended claims (for example, bodies of the appended claims) are generally intended as "open" terms (for example, the term "including" should be interpreted as "including but not limited to," the term "having" should be interpreted as "having at least," the term "includes" should be interpreted as "includes but is not limited to," et cetera). While various compositions, methods, and devices are described in terms of "comprising" various components or steps (interpreted as meaning "including, but not limited to"), the compositions, methods, and devices can also "consist essentially of" or "consist of" the various components and steps, and such terminology should be interpreted as defining essentially closed-member groups. It will be further understood by those within the art that if a specific number of an introduced claim recitation is intended, such an intent will be explicitly recited in the claim, and in the absence of such recitation no such intent is present. For example, as an aid to understanding, the following appended claims may contain usage of the introductory phrases "at least one" and "one or more" to introduce claim recitations. However, the use of such phrases should not be construed to imply that the introduction of a claim recitation by the indefinite articles "a" or "an" limits any particular claim containing such introduced claim recitation to embodiments containing only one such recitation, even when the same claim includes the introductory phrases "one or more" or "at least one" and indefinite articles such as "a" or "an" (for example, "a" and/or "an" should be interpreted to mean "at least one" or "one or more"); the same holds true for the use of definite articles used to introduce claim recitations. In addition, even if a specific number of an introduced claim recitation is explicitly recited, those skilled in the art will recognize that such recitation should be interpreted to mean at least the recited number (for example, the bare recitation of "two recitations," without other modifiers, means at

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least two recitations, or two or more recitations). Furthermore, in those instances where a convention analogous to "at least one of A, B, and C, et cetera" is used, in general such a construction is intended in the sense one having skill in the art would understand the convention (for example, " a system having at least one of A, B, and C" would include but not be limited to systems that have A alone, B alone, C alone, A and B together, A and C together, B and C together, and/or A, B, and C together, et cetera). In those instances where a convention analogous to "at least one of A, B, or C, et cetera" is used, in general such a construction is intended in the sense one having skill in the art would understand the convention (for example, " a system having at least one of A, B, or C" would include but not be limited to systems that have A alone, B alone, C alone, A and B together, A and C together, B and C together, and/or A, B, and C together, et cetera). It will be further understood by those within the art that virtually any disjunctive word and/or phrase presenting two or more alternative terms, whether in the description, claims, or drawings, should be understood to contemplate the possibilities of including one of the terms, either of the terms, or both terms. For example, the phrase "A or B" will be understood to include the possibilities of "A" or "B" or "A and B."

[0083] In addition, where features or aspects of the disclosure are described in terms of Markush groups, those skilled in the art will recognize that the disclosure is also thereby described in terms of any individual member or subgroup of members of the Markush group.

[0084] As will be understood by one skilled in the art, for any and all purposes, such as in terms of providing a written description, all ranges disclosed herein also encompass any and all possible subranges and combinations of subranges thereof. Any listed range can be easily recognized as sufficiently describing and enabling the same range being broken down into at least equal halves, thirds, quarters, fifths, tenths, et cetera As a non-limiting example, each range

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discussed herein can be readily broken down into a lower third, middle third and upper third, et cetera As will also be understood by one skilled in the art all language such as "up to," "at least," and the like include the number recited and refer to ranges which can be subsequently broken down into subranges as discussed above. Finally, as will be understood by one skilled in the art, a range includes each individual member. Thus, for example, a group having 1-3 cells refers to groups having 1, 2, or 3 cells. Similarly, a group having 1-5 cells refers to groups having 1, 2, 3, 4, or 5 cells, and so forth.

[0085] Various of the above-disclosed and other features and functions, or alternatives thereof, may be combined into many other different systems or applications. Various presently unforeseen or unanticipated alternatives, modifications, variations or improvements therein may be subsequently made by those skilled in the art, each of which is also intended to be encompassed by the disclosed embodiments.

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CLAIMS

1. A narrow width fiber optic connector comprising:

a multi-fiber connector, wherein a width of said narrow width fiber optic connector is less than about 12.4mm;

a housing configured to hold the multi-fiber connector and further comprising a connector recess; and

a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess.

2. The narrow width fiber optic connector of claim 1, wherein the multi-fiber connector includes a multi-fiber MT ferrule.

3. The narrow width fiber optic connector of claim 1, wherein the width is less than or equal to about 9.6mm.

4. The narrow width fiber optic connector of claim 1, wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

5. A narrow pitch fiber optic connector comprising:

a plurality of LC connectors arranged such that a pitch of said narrow pitch connector is less than about 5.25mm;

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a housing configured to hold the plurality of LC connectors and further comprising a connector recess; and

a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess.

6. The narrow pitch fiber optic connector of claim 5, wherein the pitch is less than or equal to about 4.8mm.

7. The narrow pitch fiber optic connector of claim 5, wherein the pull tab includes a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

8. The narrow pitch fiber optic connector of claim 7, wherein the pull tab includes a distal end for remotely unlatching the narrow pitch connector.

9. The narrow pitch fiber optic connector of claim 5, wherein the narrow pitch connector is a duplex connector.

10. The narrow pitch fiber optic connector of claim 5, wherein the housing includes a bottom housing and a top housing coupled to the bottom housing.

11. The narrow pitch fiber optic connector of claim 10, wherein the bottom housing includes a side wall configured to open.

12. The narrow pitch fiber optic connector of claim 11, wherein the side wall includes a raised profile at a rear end thereof.

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ABSTRACT

Narrow width fiber optic connectors having spring loaded remote release mechanisms to facilitate access and usage of the connectors in high density arrays. A narrow width fiber optic connector comprises a multi-fiber connector, wherein a width of said narrow width fiber optic connector is less than about 12.4mm, a housing configured to hold the multi-fiber connector and further comprising a connector recess, and a pull tab having a ramp area configured to disengage a latch of one of an adapter and an SFP from said connector recess. The pull tab may include a spring configured to allow the latch of one of the adapter and the SFP to engage with the connector recess.

Senko Ex. 2005, Page 305
US Conec Ltd. v. Senko Advanced Components
IPR2024-00119

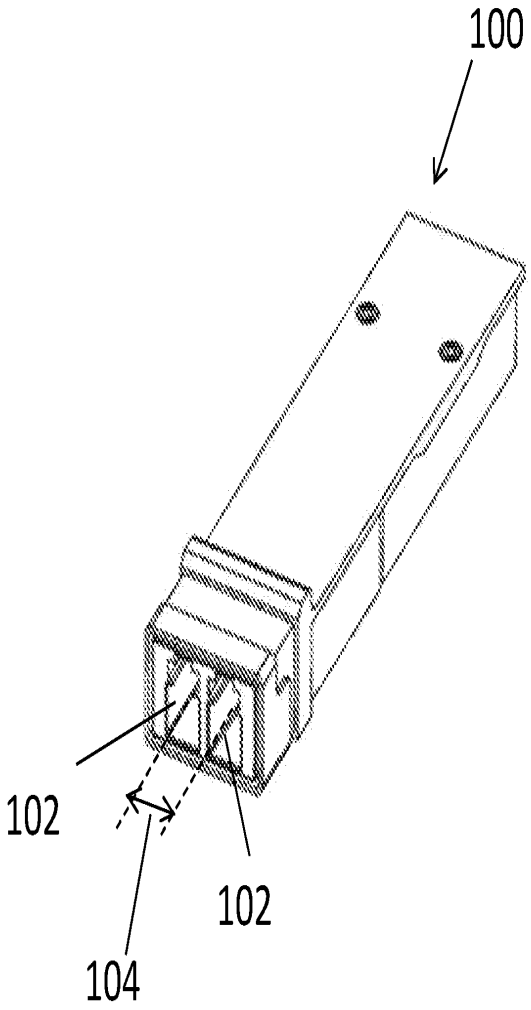


FIG. 1A
(Prior Art)

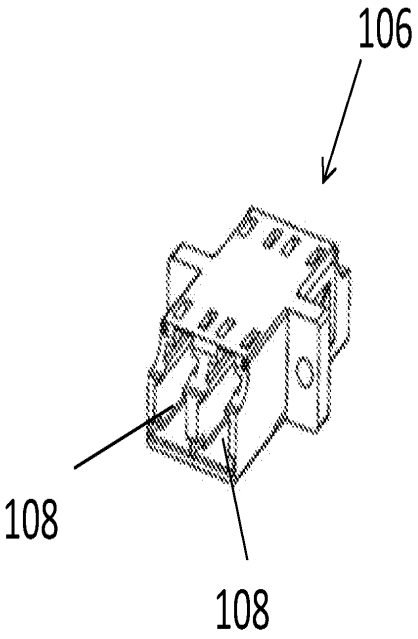


FIG. 1B
(Prior Art)

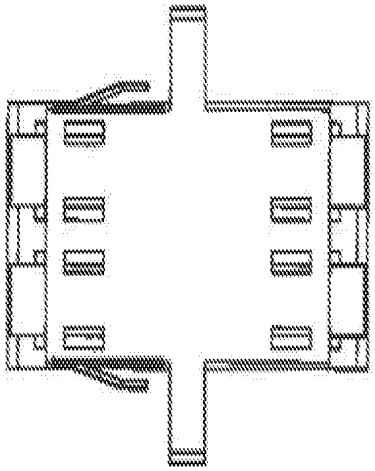


FIG. 1C
(Prior Art)

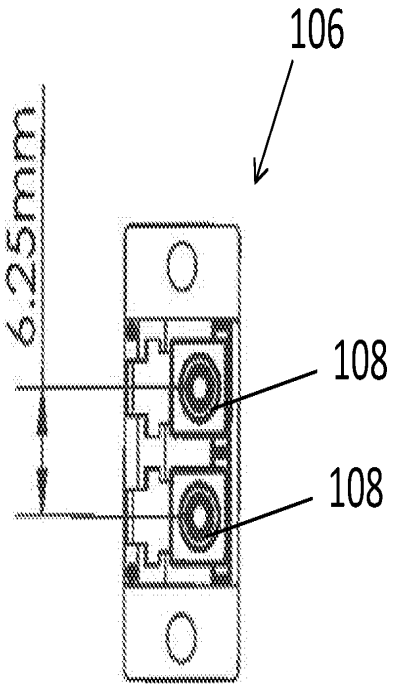


FIG. 1D
(Prior Art)

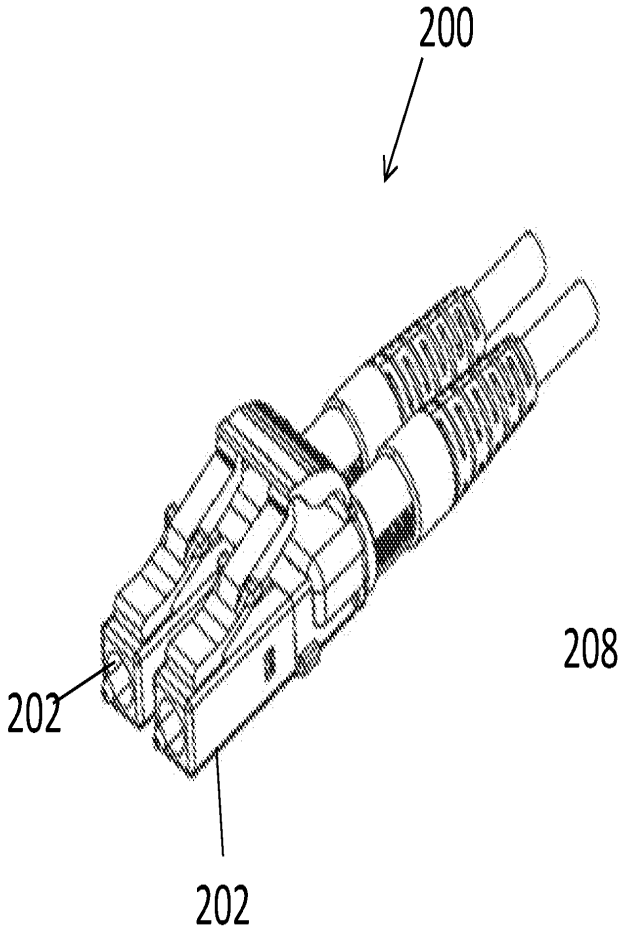


FIG. 2A
(Prior Art)

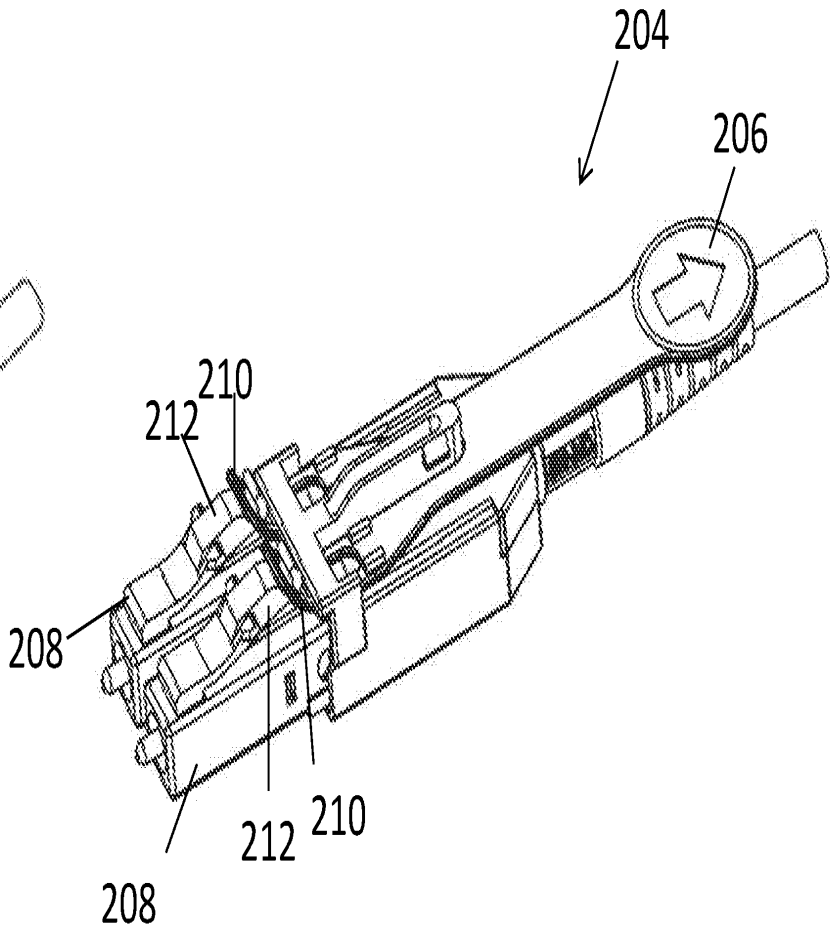


FIG. 2B
(Prior Art)

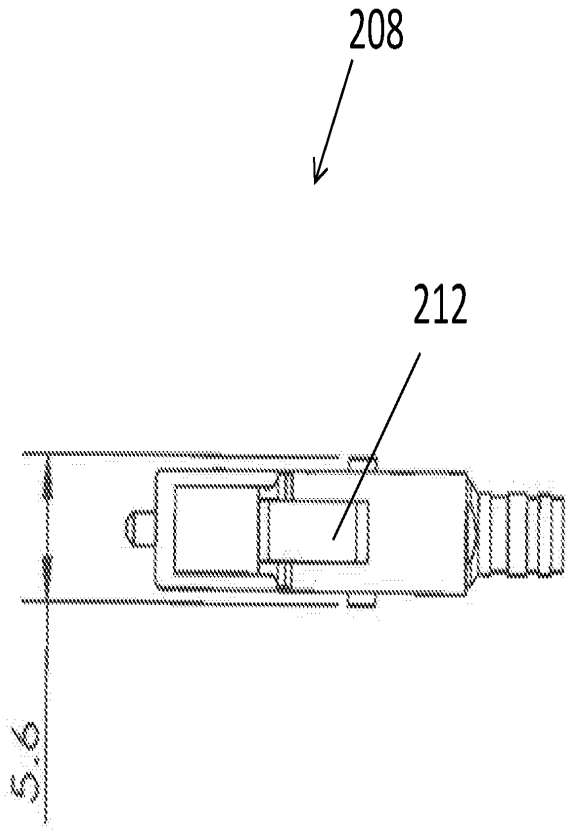


FIG. 2C
(Prior Art)

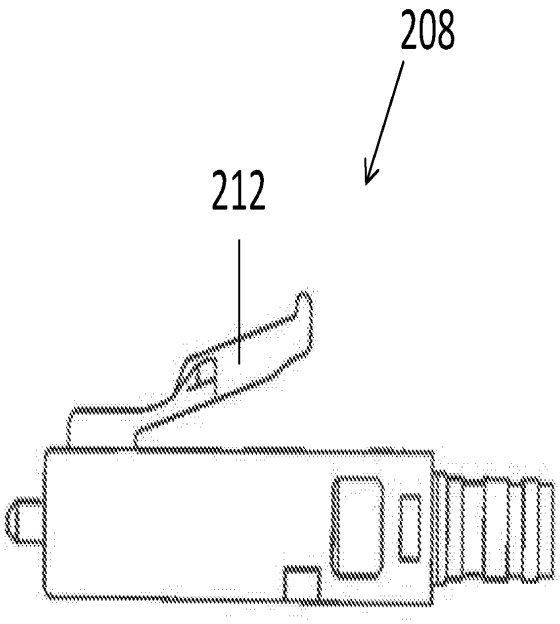


FIG. 2D
(Prior Art)

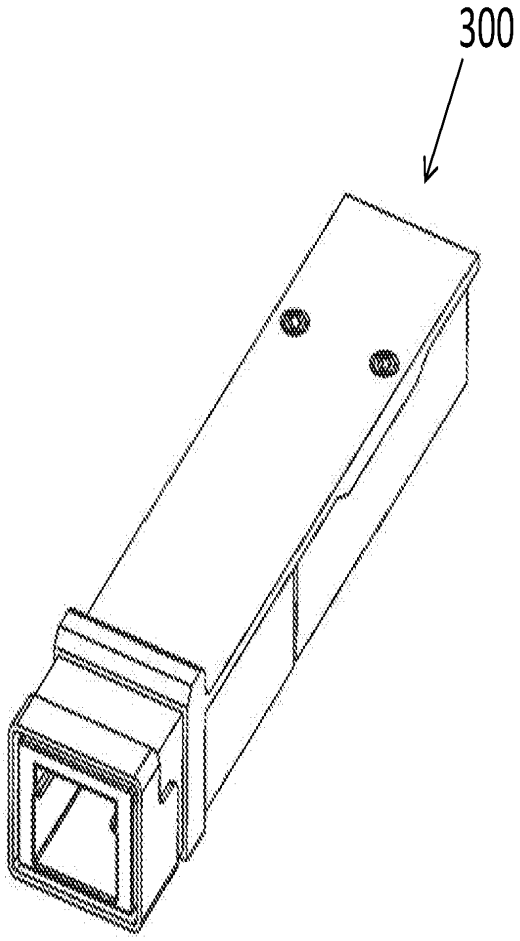


FIG. 3

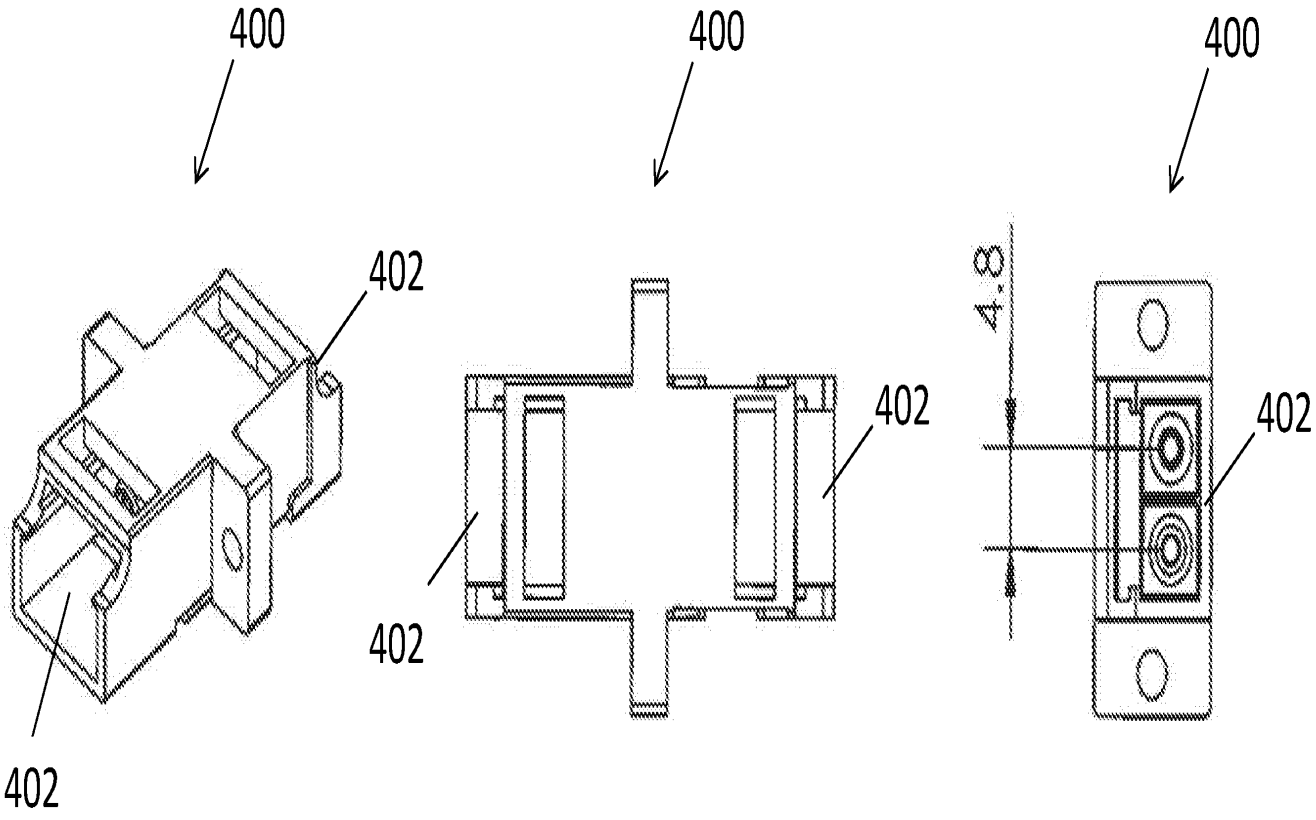


FIG. 4A FIG. 4B FIG. 4C

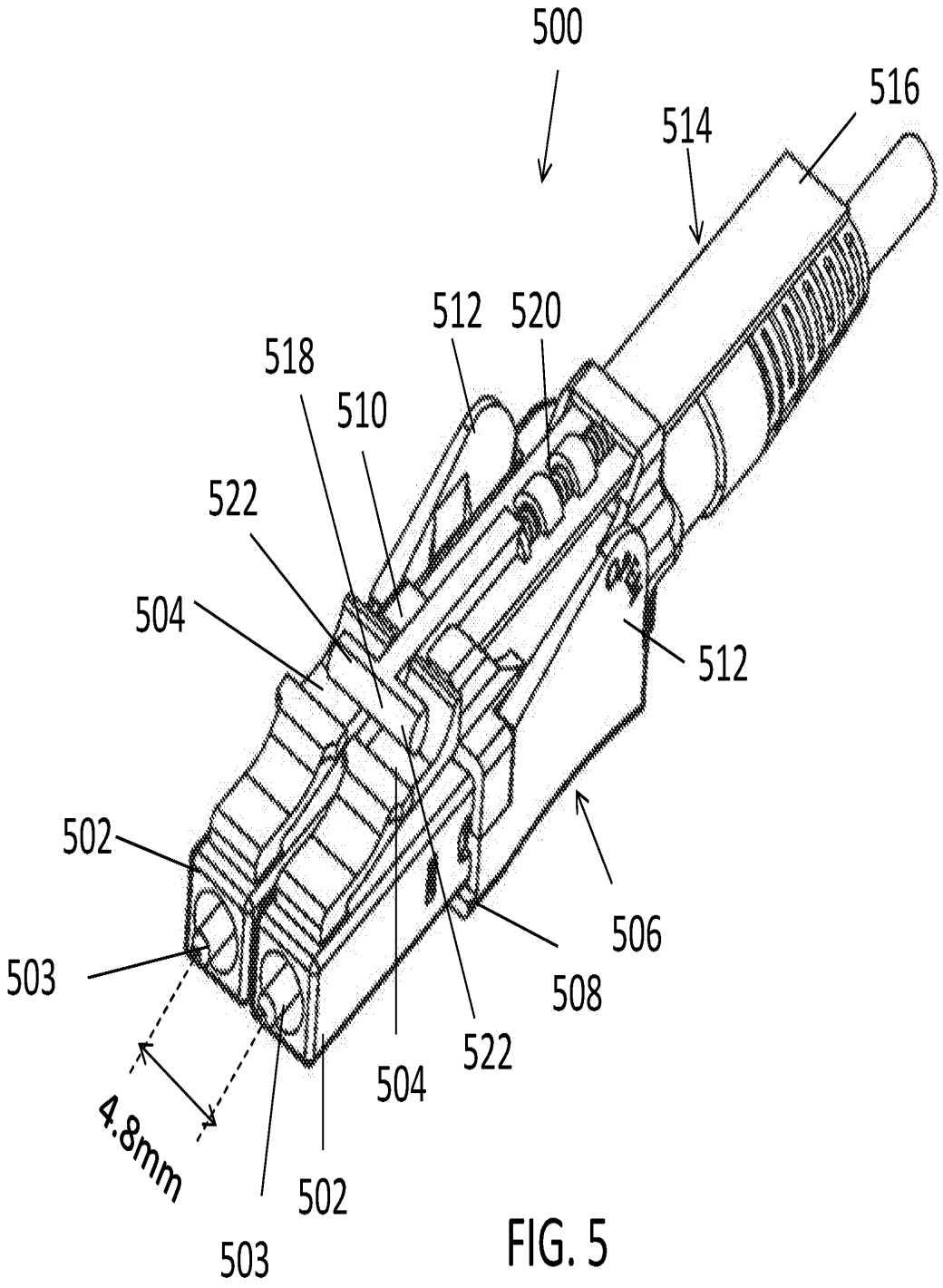

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FIG. 5

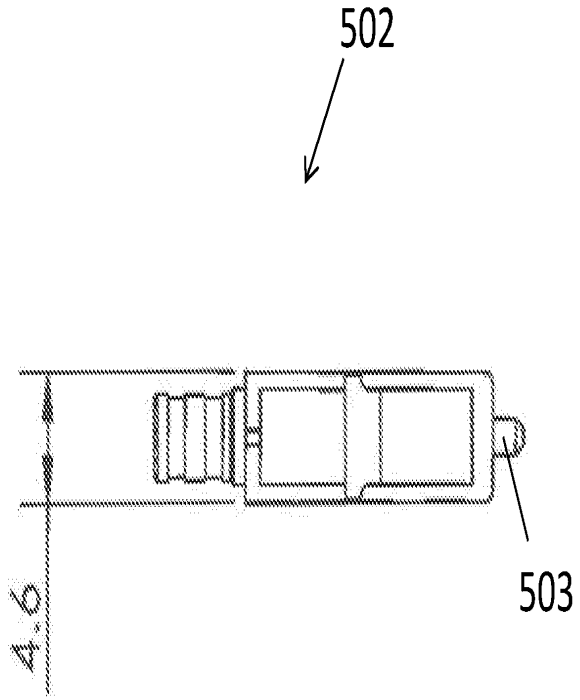


FIG. 6A

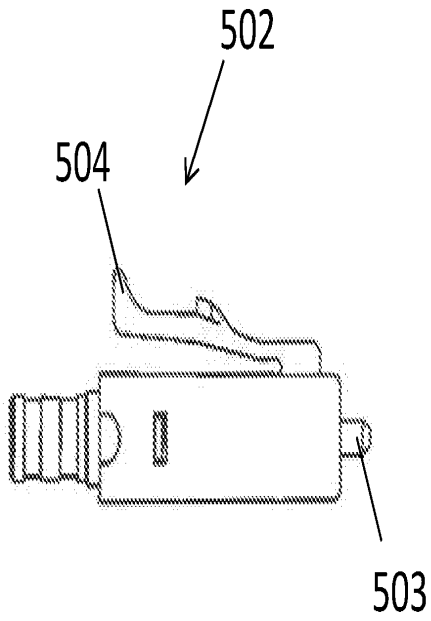


FIG. 6B

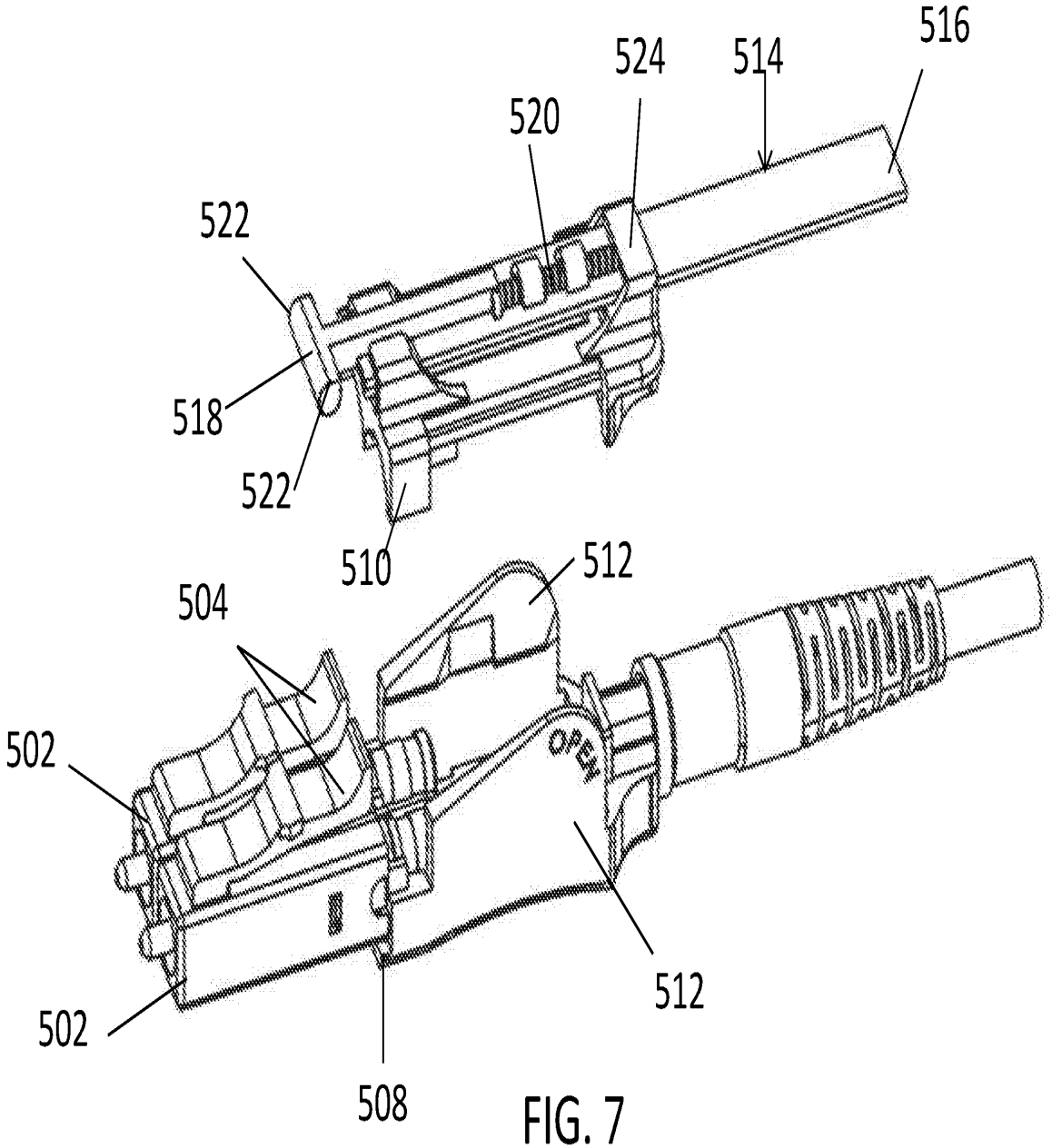


FIG. 7

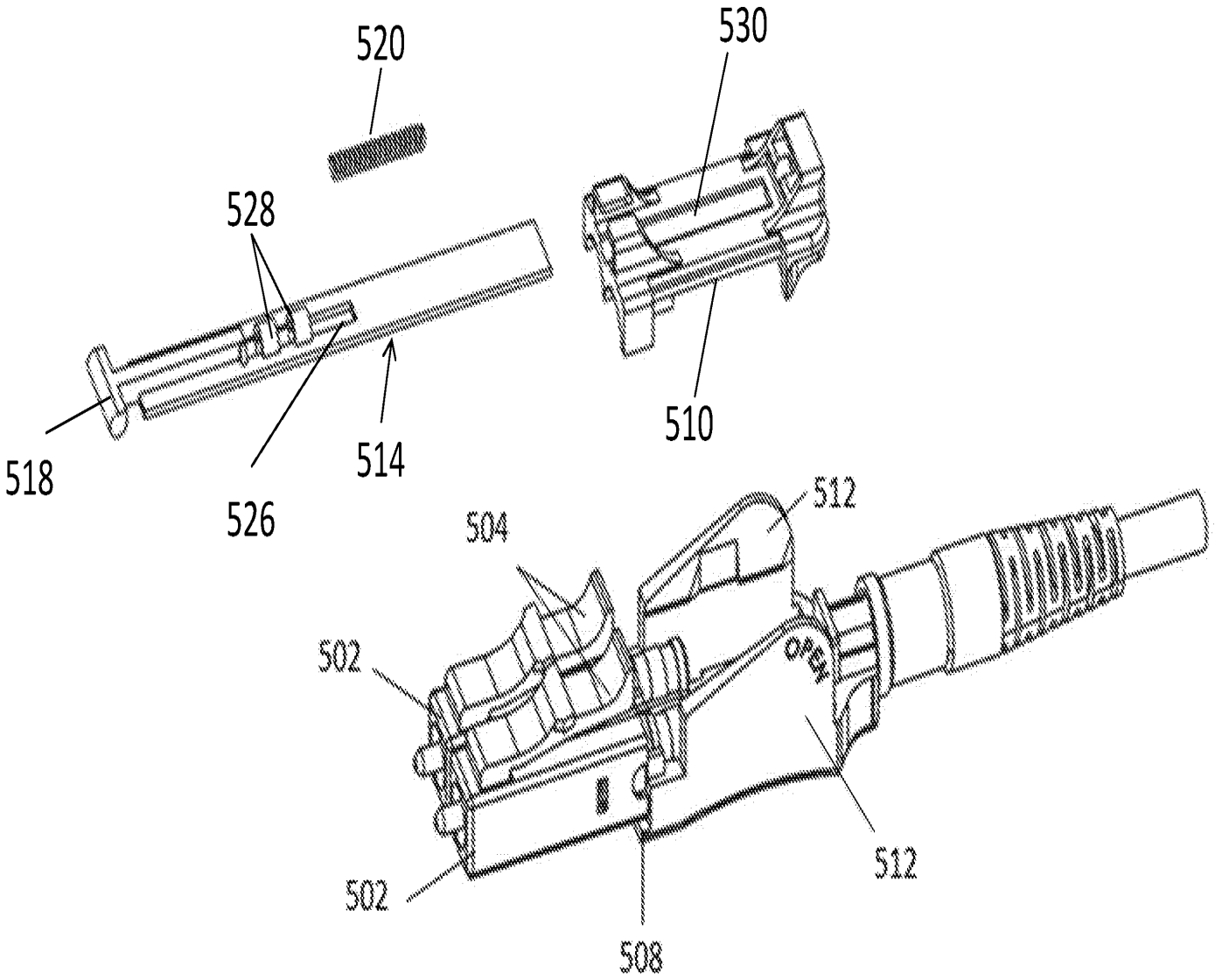


FIG. 8

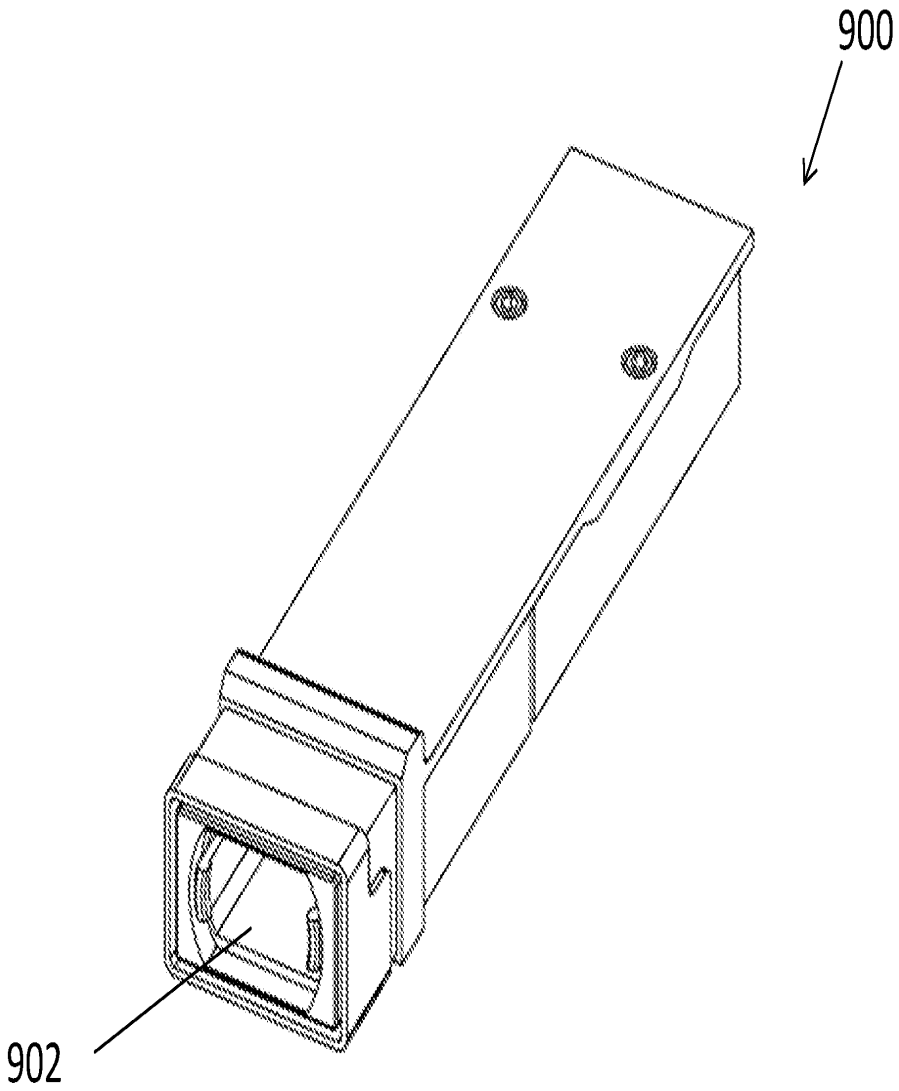


FIG. 9
(Prior Art)

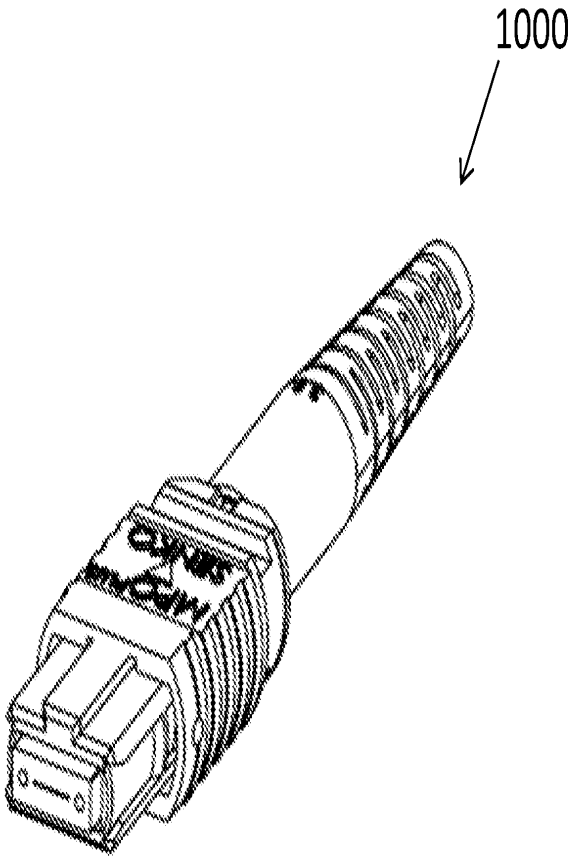


FIG. 10A
(Prior Art)

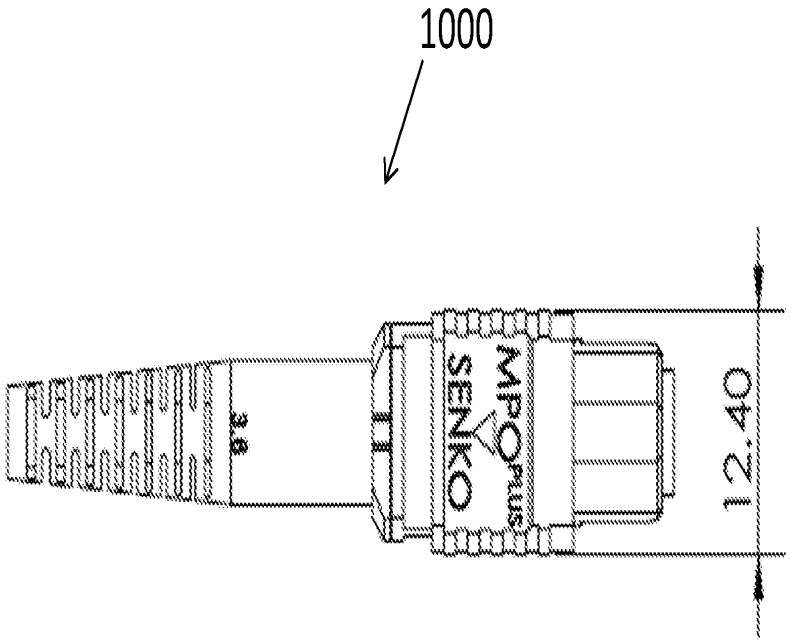


FIG. 10B
(Prior Art)



FIG. 10C
(Prior Art)

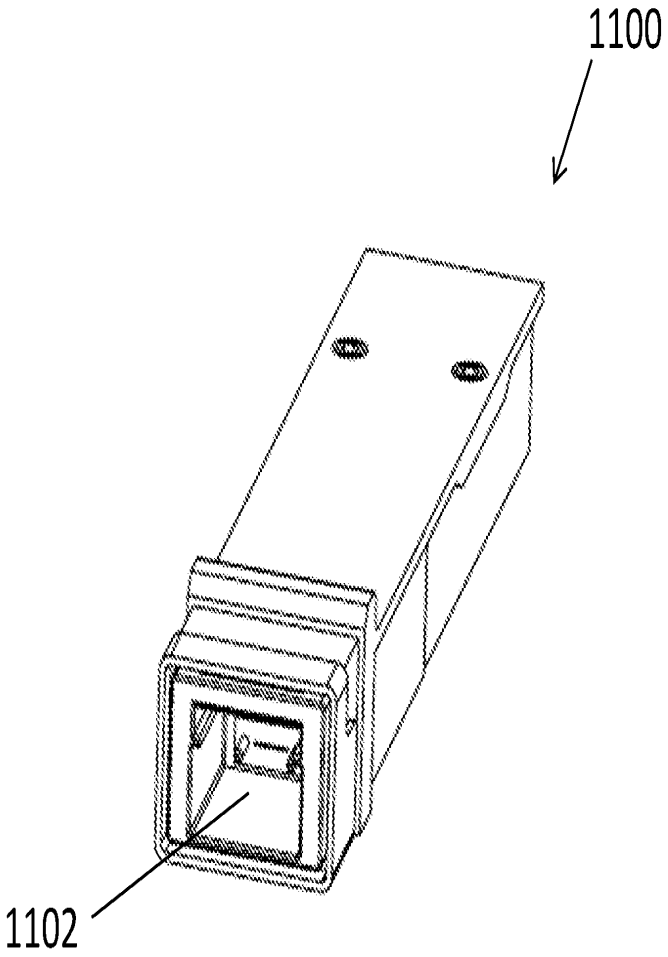


FIG. 11

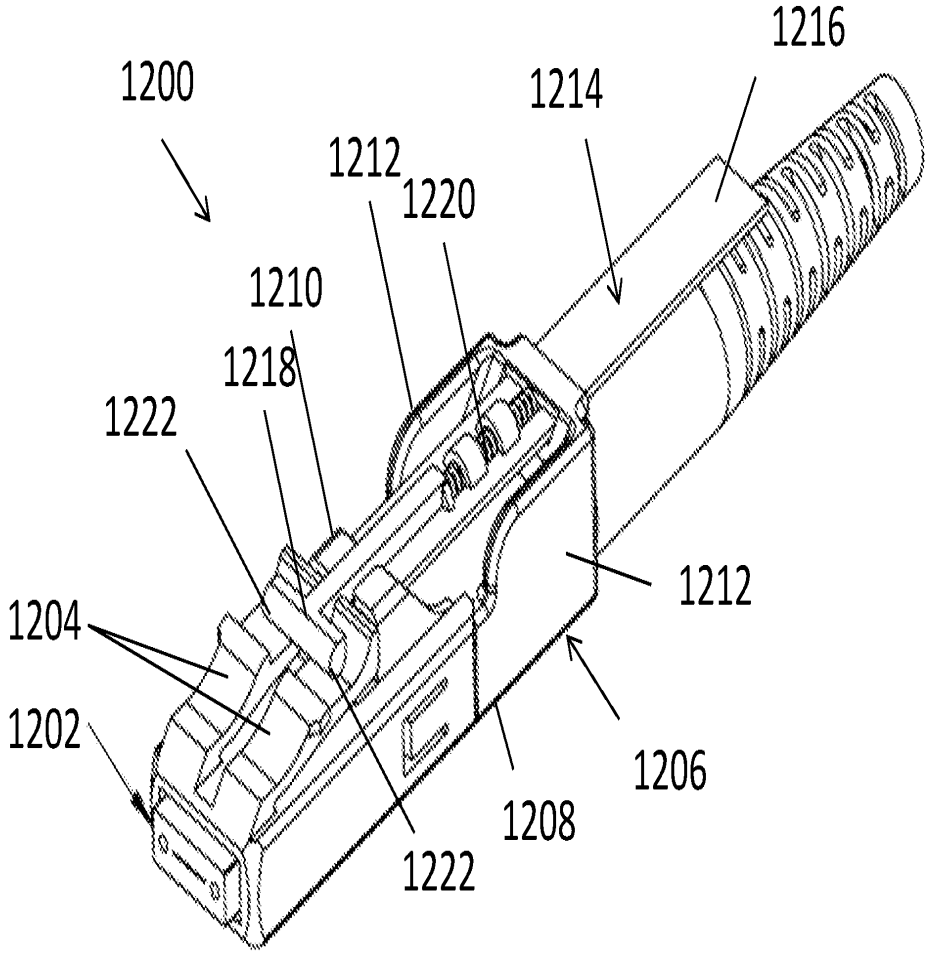

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FIG. 12A

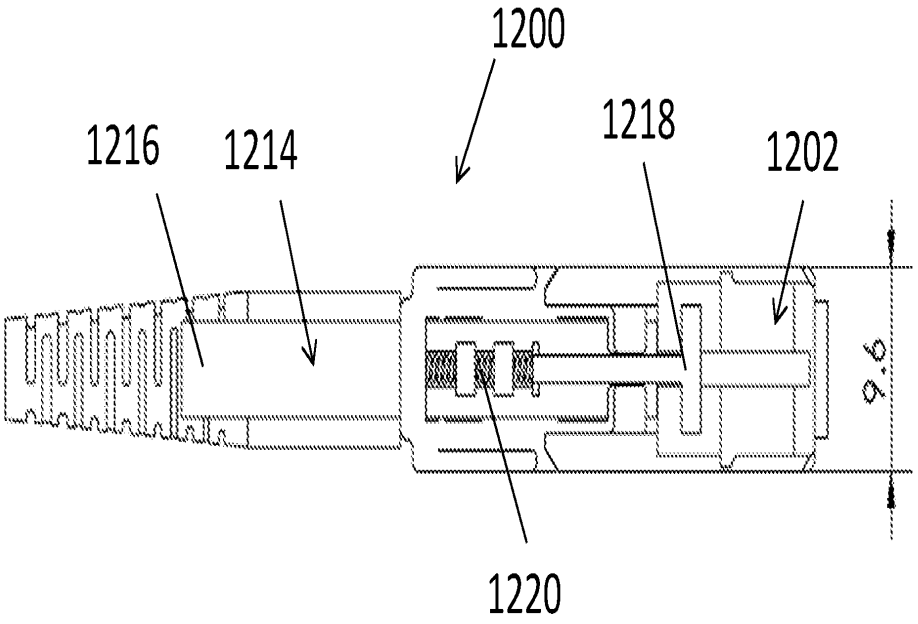


FIG. 12B

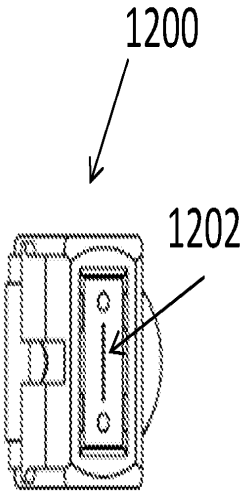


FIG. 12C

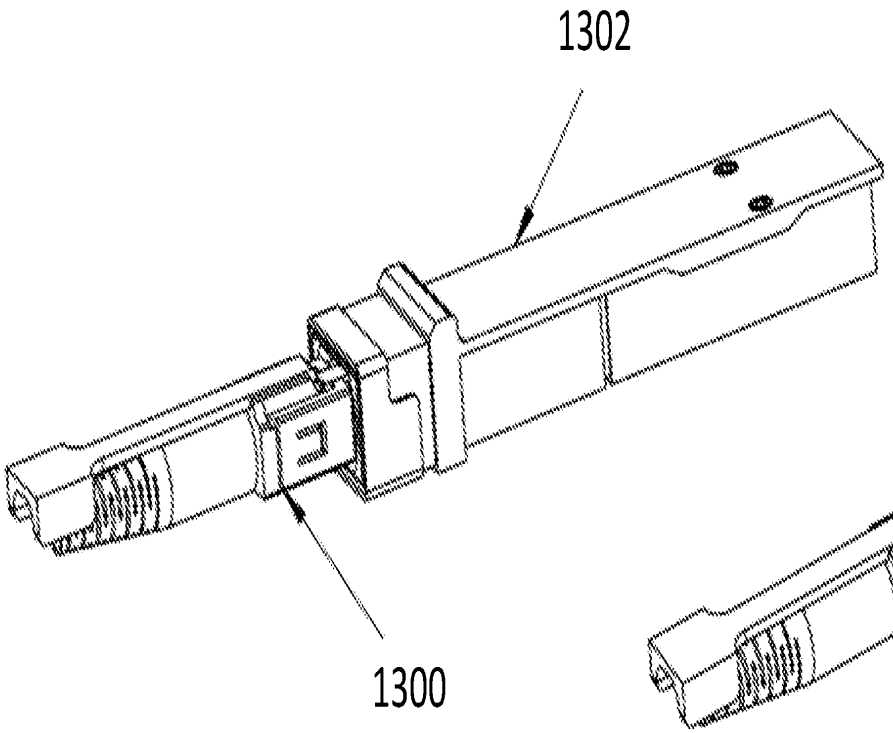


FIG. 13A

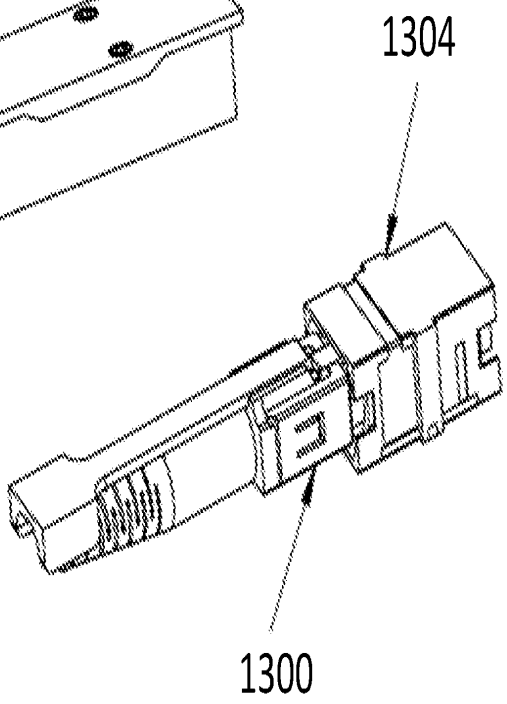


FIG. 13B

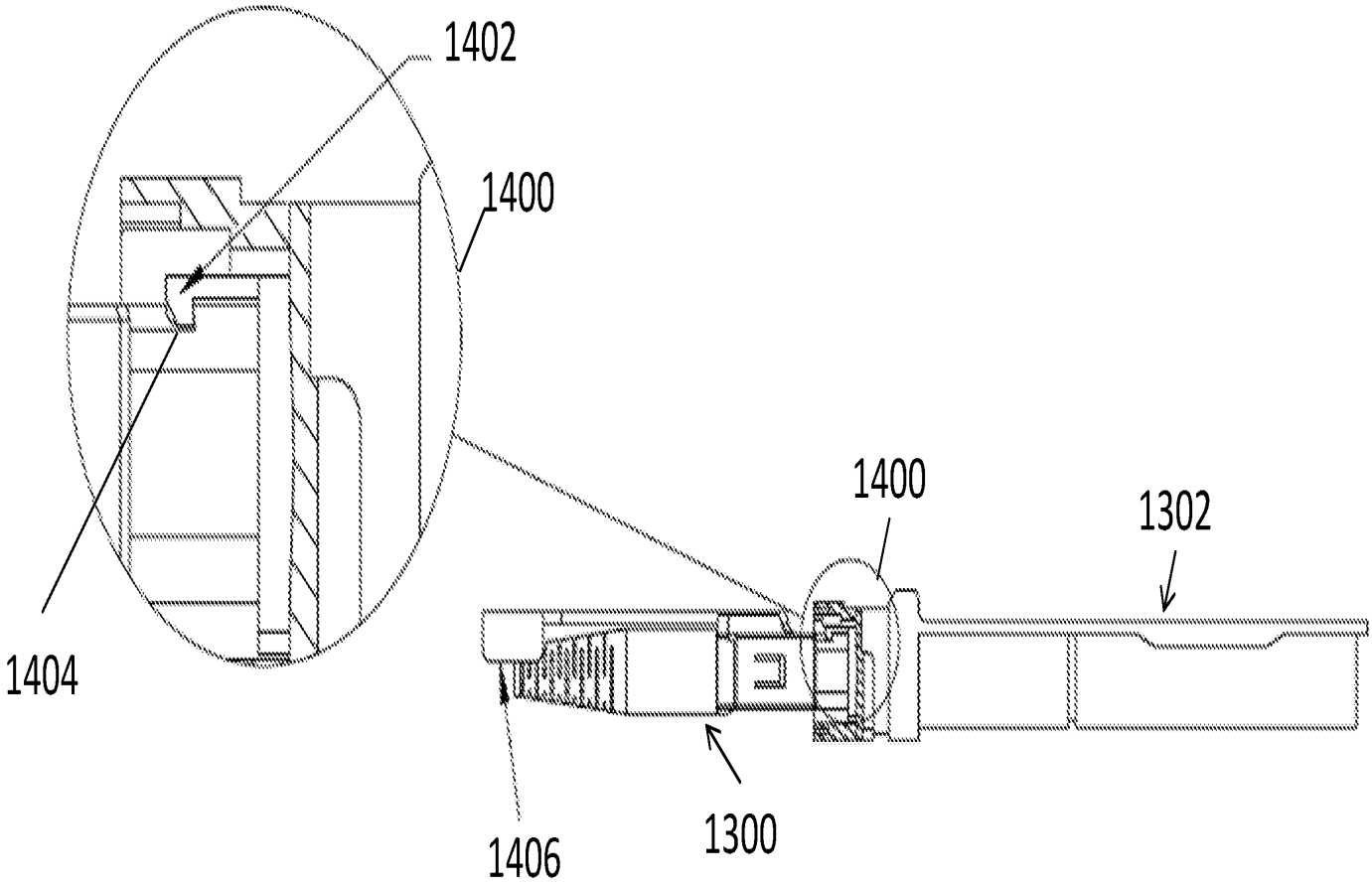


FIG. 14

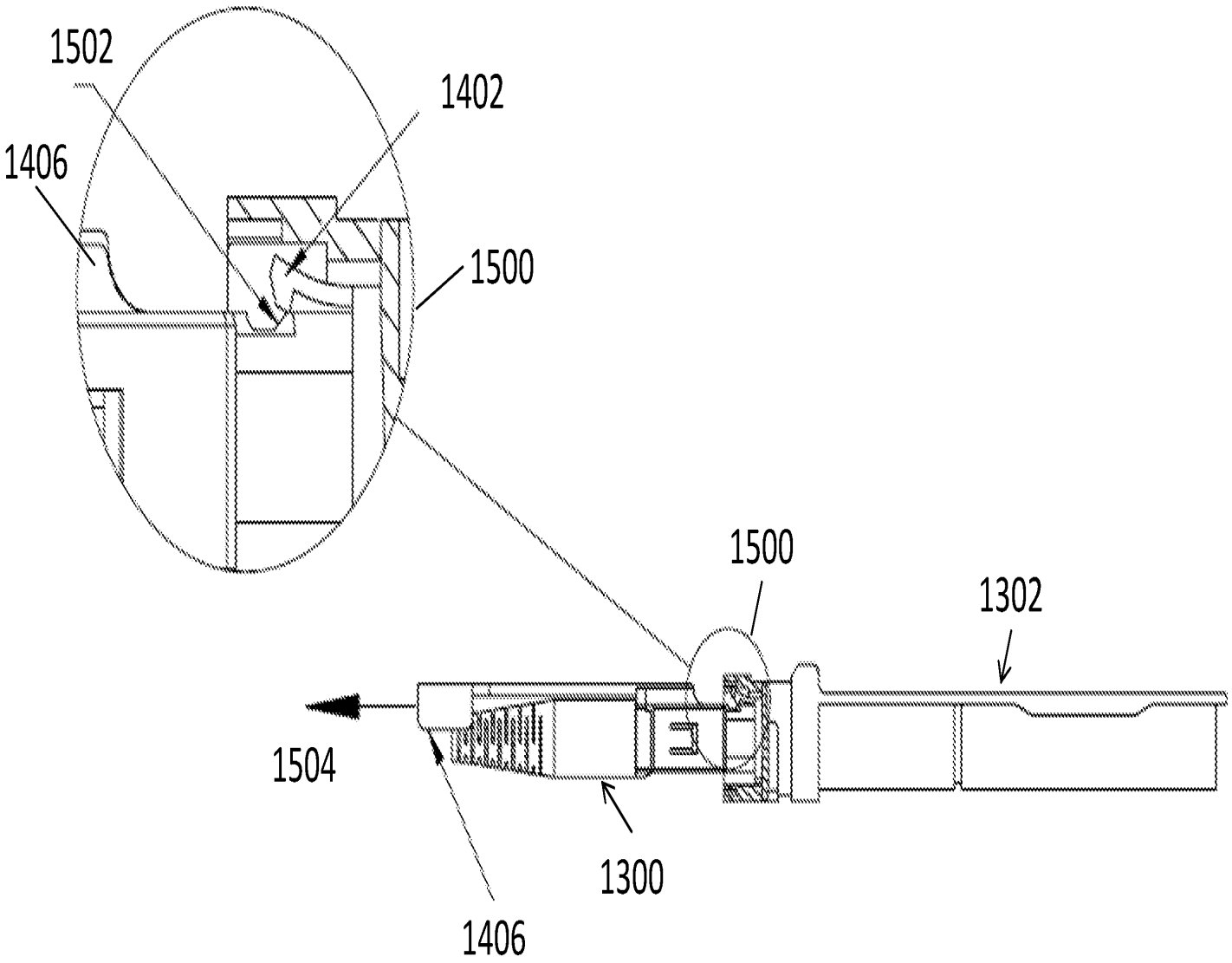


FIG. 15

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	133077.03611
	Application Number	
Title of Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Kazuyoshi		Takano	

Residence Information (Select One) ● US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
Southborough	MA	US

Mailing Address of Inventor:

Address 1	11 Fiddle Neck Lane
Address 2	

City	State/Province	Postal Code	Country
Southborough	MA	01772	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Jeffrey		Gniadek	

Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
Northbridge	MA	US

Mailing Address of Inventor:

Address 1	419 Kelly Road
Address 2	

City	State/Province	Postal Code	Country
Northbridge	MA	01535	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

PTO/AIA/14 (11-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	133077.03611
	Application Number	
Title of Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release	

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	136404		
Email Address	docketingBN@pepperlaw.com	Add Email	Remove Email

Application Information:

Title of the Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release		
Attorney Docket Number	133077.03611	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	16	**Suggested Figure for Publication (if any)**	5

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	136404		

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	133077.03611
	Application Number	
Title of Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release	

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation in part of	14996865	2016-01-15

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)
PCT/US16/13629	WO	2016-01-15	

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)
105101374	TW	2016-01-18	

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	133077.03611
	Application Number	
Title of Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	133077.03611
	Application Number	
Title of Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 — Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

● Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	Senko Advanced Components, Inc.		
Mailing Address Information For Applicant:			
Address 1	450 Donald Lynch Blvd., Unit D		
Address 2			
City	Marlborough	**State/Province**	MA
Country	US	Postal Code	01752
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	133077.03611
	Application Number	
Title of Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Alison L. McCarthy/			Date (YYYY-MM-DD)	2016-02-16
First Name	Alison	Last Name	McCarthy	Registration Number	51998

Additional Signature may be generated within this form by selecting the Add button. Add

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	133077.03611
	Application Number	
Title of Invention	Narrow Width Adapters and Connectors with Spring Loaded Remote Release	

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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.**

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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.

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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.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	NARROW WIDTH ADAPTERS AND CONNECTORS WITH SPRING LOADED REMOTE RELEASE
First Named Inventor/Applicant Name:	KAZUYOSHI TAKANO
Filer:	Alison L. McCarthy
Attorney Docket Number:	133077.03611

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	70	70
Utility Search Fee	2111	1	300	300
Utility Examination Fee	2311	1	360	360
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**730**

Electronic Acknowledgement Receipt

EFS ID:	24925594
Application Number:	15044838
International Application Number:	
Confirmation Number:	1615
Title of Invention:	NARROW WIDTH ADAPTERS AND CONNECTORS WITH SPRING LOADED REMOTE RELEASE
First Named Inventor/Applicant Name:	KAZUYOSHI TAKANO
Customer Number:	136404
Filer:	Alison L. McCarthy/Sharon Calhoun
Filer Authorized By:	Alison L. McCarthy
Attorney Docket Number:	133077.03611
Receipt Date:	16-FEB-2016
Filing Date:	
Time Stamp:	17:20:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$730
RAM confirmation Number	4761
Deposit Account	500436
Authorized User	MCCARTHY, ALISON

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

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		3611-CIP-Application.pdf	271706 f0c7c6a8142d6e4de0a685b3c0f8e94d994abb4e	yes	25

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Specification	1	22
	Claims	23	24
	Abstract	25	25

Warnings:					
Information:					
2	Drawings-only black and white line drawings	133077-3611-Figures.pdf	2408135 18edae6d6928b27bac4d7861d2d9b9c1f2c807d8	no	19
Warnings:					
Information:					
3	Application Data Sheet	3611_ADS_aia0014.pdf	1823419 932ae3aa3a283710a053e07a6b5aba98cf6eedbe	no	8
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	34884 eb1ae13e933bb2038cb6957b97dd3d4c4ef150d6	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	4538144		

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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.