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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/322,066	05/23/2023	Weikai JIANG	0178/0316PUS1	1778
60601	7590	05/21/2024		
Muncy, Geissler, Olds & Lowe, P.C. 125 S. Royal St. Alexandria, VA 22314			EXAMINER TUMBO, TSION M	
			ART UNIT	PAPER NUMBER
			2875	
			NOTIFICATION DATE	DELIVERY MODE
			05/21/2024	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):

MAILROOM@MG-IP.COM

APPLICATION NO.	ISSUE DATE	PATENT NO.
18/322,066	21-May-2024	11988373

Muncy, Geissler, Olds & Lowe, P.C.
125 S. Royal St.
Alexandria, VA 22314

EGRANT NOTIFICATION

Your electronic patent grant (eGrant) is now available, which can be accessed via Patent Center at <https://patentcenter.uspto.gov>

The electronic patent grant is the official patent grant under 35 U.S.C. 153. For more information, please visit <https://www.uspto.gov/electronicgrants>



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/322,066	05/21/2024	11988373	0178/0316PUS1	1778

60601 7590 05/01/2024
Muncy, Geissler, Olds & Lowe, P.C.
125 S. Royal St.
Alexandria, VA 22314

ISSUE NOTIFICATION

The projected patent number and issue date are specified above. The patent will issue electronically. The electronically issued patent is the official patent grant pursuant to 35 U.S.C. § 153. The patent may be accessed on or after the issue date through Patent Center at <https://patentcenter.uspto.gov/>. The patent will be available in both the public and the private sides of Patent Center. Further assistance in electronically accessing the patent, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-888-217-9197.

The USPTO is implementing electronic patent issuance with a transition period, during which period the USPTO will mail a ceremonial paper copy of the electronic patent grant to the correspondence address of record. Additional copies of the patent (i.e., certified and presentation copies) may be ordered for a fee from the USPTO's Certified Copy Center at <https://certifiedcopycenter.uspto.gov/index.html>. The Certified Copy Center may be reached at (800)972-6382.

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 Center (<https://patentcenter.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 Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

INVENTOR(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional inventors):

Weikai JIANG, Guangzhou, CHINA;
Jinjian CAI, Guangzhou, CHINA;
Wenfeng CHEN, Guangzhou, CHINA;
Qingbi HE, Guangzhou, CHINA;
Yinru PENG, Guangzhou, CHINA;

APPLICANT(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional applicants):

Guangzhou Haoyang Electronic Co., Ltd., Guangzhou, CHINA;

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](https://selectusa.gov).

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
18/322,066RECEIPT DATE / TIME
04/17/2024 01:00:51 PM Z ETATTORNEY DOCKET #
0178/0316PUS1

Title of Invention

Light fixture with self-test ability of sealing

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 1778

FILED BY Dara West

PATENT CENTER # 65129144

FILING DATE 05/23/2023

CUSTOMER # 60601

FIRST NAMED
INVENTOR Weikai JIANGCORRESPONDENCE
ADDRESS -

AUTHORIZED BY Joe Muncy

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
2024-04-17_IFTransmittal.pdf	1	Issue Fee Payment (PTO-85B)	189 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
2024-04-17_IFTransmittal.pdf	7F623AB1B30218C15A54D426C82DA38343494C936DD1A601C D3AD27934B7E3A3EC2ECDFF7A32A7FFE7284076B29673DE01 D538AFA3BB03A3AA0635B9CFBC4D39

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 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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

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

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

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence 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. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

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

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

Certificate of Mailing or Transmission

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

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/322,066	05/23/2023	Weikai JIANG	0178/0316PUS1	1778

TITLE OF INVENTION: Light fixture with self-test ability of sealing

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	04/18/2024

EXAMINER	ART UNIT	CLASS-SUBCLASS
TUMBO, TSION M	2875	362-362000

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/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or 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 MUNCY, GEISSLER, OLDS
& LOWE, PC

2

3

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

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

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

GUANGZHOU HAORYANG ELECTRONIC CO., LTD.

GUANGDONG, GUANGZHOU, CHINA

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

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required)

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

☒ Electronic Payment via the USPTO patent electronic filing system ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 503828

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 /Bob Gnuse/ Robert F Gnuse Reg No 27295

Date April 17, 2024

Typed or printed name Joe McKinney Muncy

Registration No. 32334

UNITED STATES
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ELECTRONIC PAYMENT RECEIPT

APPLICATION #
18/322,066RECEIPT DATE / TIME
04/17/2024 01:00:51 PM Z ETATTORNEY DOCKET #
0178/0316PUS1

Title of Invention

Light fixture with self-test ability of sealing

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 1778

FILED BY Dara West

PATENT CENTER # 65129144

AUTHORIZED BY Joe Muncy

CUSTOMER # 60601

FILING DATE 05/23/2023

CORRESPONDENCE
ADDRESS -FIRST NAMED
INVENTOR Weikai JIANG

Payment Information

PAYMENT METHOD
CARD / 4002PAYMENT TRANSACTION ID
E20244GD01486454PAYMENT AUTHORIZED BY
Dara West

FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
1501	UTILITY ISSUE FEE	1200.00	1	1200.00
TOTAL AMOUNT:				\$1,200.00

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 filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

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

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage

submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

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



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NOTICE OF ALLOWANCE AND FEE(S) DUE

60601 7590 01/18/2024
Muncy, Geissler, Olds & Lowe, P.C.
125 S. Royal St.
Alexandria, VA 22314

EXAMINER

TUMBO, TSION M

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 01/18/2024

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/322,066	05/23/2023	Weikai JIANG	0178/0316PUS1	1778

TITLE OF INVENTION: Light fixture with self-test ability of sealing

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	04/18/2024

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 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted 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. 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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

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

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

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

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

Certificate of Mailing or Transmission

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

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/322,066	05/23/2023	Weikai JIANG	0178/0316PUS1	1778

TITLE OF INVENTION: Light fixture with self-test ability of sealing

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	04/18/2024

EXAMINER	ART UNIT	CLASS-SUBCLASS
TUMBO, TSION M	2875	362-362000

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/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or 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,

1 _____

(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.

2 _____

3 _____

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

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

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

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

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required)

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

☐ Electronic Payment via the USPTO patent electronic filing system ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

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

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

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

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

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/322,066	05/23/2023	Weikai JIANG	0178/0316PUS1	1778
60601	7590	01/18/2024	EXAMINER	
Muncy, Geissler, Olds & Lowe, P.C. 125 S. Royal St. Alexandria, VA 22314			TUMEBO, TSION M	
			ART UNIT	PAPER NUMBER
			2875	
DATE MAILED: 01/18/2024				

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

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

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

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

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

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

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

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013).

<https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf>

Routine uses of the information in this record may include disclosure to:

- 1) law enforcement, in the event that the system of records indicates a violation or potential violation of law;
- 2) a federal, state, local, or international agency, in response to its request;
- 3) a contractor of the USPTO having need for the information in order to perform a contract;
- 4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record;
- 5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record;
- 6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations;
- 7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals;
- 8) 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));
- 9) the Office of Personnel Management (OPM) for personnel research purposes; and
- 10) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Notice of Allowability	Application No. 18/322,066	Applicant(s) JIANG et al.	
	Examiner TSION TUMEBO	Art Unit 2875	AIA (FITF) 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 12/22/2023.
☐ 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 1-13. 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)	5. ☒ Examiner's Amendment/Comment
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.	6. ☒ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.	7. ☐ Other _____.
4. ☒ Interview Summary (PTO-413), Paper No./Mail Date. _____.	

/TSION TUMEBO/ Primary Examiner, Art Unit 2875	
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EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

Notice of Pre-AIA or AIA Status

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

Response to Amendment

The amendment filed 12/22/2023 has been entered.

EXAMINER'S AMENDMENT

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 an interview with Yu-Te Chen, Reg. No. 80,359 on 01/10/2023.

The application has been amended as follows:

1. (Currently Amended) A light fixture with self-test ability of sealing, comprising a light head having a head housing; a light source for emitting light and generating heat, which is arranged in the head housing, the light emitted by the light source being projected through a light outlet of the head housing; a temperature sensor and an air pressure sensor for respectively detecting temperature and air pressure inside the head

housing, which are arranged in the head housing; and a controller configured to determine sealing performance of the head housing based on detection results of the temperature sensor and the air pressure sensor, wherein the head housing is provided with a waterproof breathable valve allowing an internal space of the head housing in air communication with an external space of the light fixture; and a switch is further provided, which is configured to make the internal space of the head housing in air communication with the external ~~apace~~ space of the light fixture by unblocking the waterproof breathable valve when the light fixture is in normal operation, so as to keep air pressure balance between inside and outside of the head housing, and configured to make the internal space of the head housing not in air communication with the external ~~apace~~ space of the light fixture by blocking the waterproof breathable valve when the light fixture is in testing of sealing performance.

Allowable Subject Matter

1. Claims 1-13 are allowed.
2. The following is an examiner's statement of reasons for allowance: the claims are allowable due to the Applicant amending the independent claim 1, and a persuasive argument by the applicant (Remarks/Arguments dated 12/22/2023, pgs. 7-12). Specifically, argument(s) regarding the difference between the prior arts and the limitation "the switch is configured to make the internal space of the head housing in air communication with the external apace of the light fixture by unblocking the waterproof breathable valve when the light fixture is in normal operation, so as to keep air pressure balance between inside and outside of the head housing, and configured to make the internal space of the head housing not in air communication with the external apace of

the light fixture by blocking the waterproof breathable valve when the light fixture is in testing of sealing performance" as recited in claim 1.

Dependent claims 2-13 are allowed by virtue of their dependency from allowed claim 1.

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."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tsion Tumebo whose telephone number is 571-270-1668. The examiner can normally be reached on 7:30 am to 4:00 pm, Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571)272-7044. 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

Art Unit: 2875

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.

/TSION TUMEBO/

Primary Examiner, Art Unit 2875

<i>Examiner-Initiated Interview Summary</i>	Application No. 18/322,066	Applicant(s) JIANG et al.		
	Examiner TSION TUMEBO	Art Unit 2875	AIA (First Inventor to File) Status Yes	Page 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
TSION TUMEBO	Primary Examiner	Telephonic
Yu-Te Chen, Reg. No. 80,359	Agent	

Date of Interview: 10 January 2024

Issues Discussed:

Proposed Amendment(s)

A proposed amendment to claim 1 was discussed. The Examiner explained that in claim 1 the world " apace" in lines 14 and 17 should be corrected to --space--.

/TSION TUMEBO/ Primary Examiner, Art Unit 2875	
Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04 Please further see: MPEP 713.04 Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b) 37 CFR § 1.2 Business to be transacted in writing	

Applicant recordation instructions:It is not necessary for applicant to provide a separate record of the substance of interview.

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

Issue Classification 	Application/Control No. 18/322,066	Applicant(s)/Patent Under Reexamination JIANG et al.
	Examiner TSION TUMEB0	Art Unit 2875

CPC						
Symbol					Type	Version
F21V	/	31	/	03	F	2013-01-01
F21V	/	21	/	30	I	2013-01-01
F21V	/	23	/	009	I	2013-01-01
F21V	/	31	/	005	I	2013-01-01
F21V	/	15	/	01	I	2013-01-01

CPC Combination Sets				
Symbol		Type	Set	Ranking
/	/			

NONE	Total Claims Allowed:	
(Assistant Examiner)	(Date)	13
/TSION TUMEB0/ Primary Examiner, Art Unit 2875	10 January 2024	O.G. Print Claim(s)
(Primary Examiner)	(Date)	1
		O.G. Print Figure
		2

Issue Classification 	Application/Control No. 18/322,066	Applicant(s)/Patent Under Reexamination JIANG et al.
	Examiner TSION TUMEBO	Art Unit 2875

INTERNATIONAL CLASSIFICATION				
CLAIMED				
F21V31/03	/	31	/	03
F21V21/30	/	21	/	30
F21V23/00	/	23	/	00
F21V31/00	/	31	/	00
F21V15/01	/	15	/	01
NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

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

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	13	
/TSION TUMEBO/ Primary Examiner, Art Unit 2875 (Primary Examiner)	10 January 2024 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 2

Issue Classification 	Application/Control No. 18/322,066	Applicant(s)/Patent Under Reexamination JIANG et al.
	Examiner TSION TUMBO	Art Unit 2875

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		10												
	2		11												
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	6														
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NONE	Total Claims Allowed:	
(Assistant Examiner)	(Date)	13
/TSION TUMBO/ Primary Examiner, Art Unit 2875	10 January 2024	O.G. Print Claim(s)
(Primary Examiner)	(Date)	1
		O.G. Print Figure
		2

Search Notes 	Application/Control No. 18/322,066	Applicant(s)/Patent Under Reexamination JIANG et al.
	Examiner TSION TUMEBO	Art Unit 2875

CPC - Searched*		
Symbol	Date	Examiner
F21V31/03; F21V15/01; F21V21/30; F21V23/009; F21V31/005	09/21/2023	T.T.
Updated PE2E search, see attached	01/10/2024	T.T.

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner
INVENTOR search, CPC scheme searching, TEXT searching, FORWARD/BACKWARD searching, IQ.IP.COM search on PGPub and text searching, MORE LIKE THIS searching on relevant art, FACET searching, SIMILARITY searching, NPL searching. See attached SEARCH search history printout.	09/21/2023	T.T.
Updated PE2E search, see attached	01/10/2024	T.T.

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
All classes	US-PUGPUB PE2E text search- see print out	01/10/2024	T.T.

/TSION TUMEBO/ Primary Examiner, Art Unit 2875	
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Bibliographic Data

Application No: 18/322,066

Foreign Priority claimed: ☒ Yes ☐ No

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

Verified and Acknowledged: /TSION TUMEBO/

Examiner's Signature

Initials

Title: Light fixture with self-test ability of sealing

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
05/23/2023	362	2875	0178/0316PUS1
RULE			

APPLICANTS

Guangzhou Haoyang Electronic Co., Ltd., Guangzhou, CHINA

INVENTORS

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Jinjian CAI, Guangzhou, CHINA

Wenfeng CHEN, Guangzhou, CHINA

Qingbi HE, Guangzhou, CHINA

Yinru PENG, Guangzhou, CHINA

CONTINUING DATA

FOREIGN APPLICATIONS

CHINA CN202320673598.5 03/30/2023

IF REQUIRED, FOREIGN LICENSE GRANTED**

06/09/2023

STATE OR COUNTRY

CHINA

ADDRESS

Muncy, Geissler, Olds & Lowe, P.C.

125 S. Royal St.

Alexandria, VA 22314

UNITED STATES

FILING FEE RECEIVED

\$1,820

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
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L5	3	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:03 AM

L6	0	light NEAR fixture AND base AND sealing AND waterproof AND valve AND 3 (F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND light NEAR fixture AND base AND sealing AND waterproof AND valve AND 1	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:04 AM
L7	0	light NEAR fixture AND base AND sealing AND waterproof AND valve AND 1	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:04 AM
L8	0	light NEAR fixture AND base AND sealing AND waterproof AND valve AND 2	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:04 AM
L9	6	sealing AND waterproof AND valve AND 2	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:04 AM
L10	10	stage NEAR light AND waterproof AND valve AND temperature NEAR sensor AND air NEAR pressure	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 09:47 AM
L11	14	stage NEAR light AND waterproof AND temperature NEAR sensor AND air NEAR pressure	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 09:48 AM
L12	18	stage NEAR light AND waterproof AND temperature NEAR sensor AND pressure	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:48 AM
L13	307	stage NEAR light AND temperature NEAR sensor AND pressure	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:49 AM
L14	268	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND temperature NEAR sensor AND pressure	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:51 AM
L15	0	("2022/0325883").urpn.	(US-PGPUB; USPAT;	OR	ON	ON	2023/09/20

L16	629	AND (PGPB USPT USOC).dbnm. (Jurik NEAR Pavel OR Valchar NEAR Josef).inv.	USOCR) (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	09:56 AM 2023/09/20 09:58 AM
L17	201	(Jurik NEAR Pavel OR Valchar NEAR Josef).inv.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:58 AM
L18	2	(Jurik NEAR Pavel OR Valchar NEAR Josef).inv. AND seal\$5 AND temperature NEAR sensor AND pressure	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:58 AM
L19	3	("4405974" "4701833" "9777917").pn. OR ("11549679").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:59 AM
L20	4	(Jurik NEAR Pavel OR Valchar NEAR Josef).inv. AND seal\$5 AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:59 AM
L21	5	("6621239" "6664745" "20070200955" "20090046255" "20100118279").pn. OR ("10422520").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:00 AM
L22	116	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND stage AND seal\$5 AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:01 AM
L23	0	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND waterproof WITH seal\$5 SAME test AND (temperature OR pressure) NEAR	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:04 AM

L24	899266	sensor (F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND seal\$5 SAME test\$5AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:04 AM
L25	18	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND seal\$5 SAME test\$5 AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:04 AM
L26	10	("2017/0184288").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:13 AM
L27	10	("6621239" "7458690" "8854220" "20060126025" "20060150817" "20140356005" "20150179037" "20160095188" "20170184288" "20180042087").pn. OR ("11143392").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:16 AM
L28	15	("3621330" "3673424" "4053759" "4672271" "4702716" "5879159" "5961203" "6362573" "6376992" "6561675" "6621239" "20020145875" "20060055897").pn. OR ("7458690").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:31 AM
L29	0	("20170184288" "11143 392" "7458690" "20060 126025").PN. AND test\$5 WITH seal\$5 AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:39 AM
L30	1	("20170184288" "11143 392" "7458690" "20060	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:39 AM

L31	1	126025").PN. AND test\$5 SAME seal\$5 AND (temperature OR pressure) NEAR sensor ("20170184288" "11143 392" "7458690" "20060 126025").PN. AND test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer)	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:41 AM
L32	295	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND (breath\$6 WITH valve OR unblocking OR blocking) AND switch	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:44 AM
L33	13	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND breath\$6 WITH valve AND (unblocking OR blocking) AND switch	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:45 AM
L34	231	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND valve AND (unblocking OR blocking) AND switch	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:46 AM
L35	406	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:47 AM

L36	429	contro\$7 AND valve AND switch 35 NOT 34	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 10:47 AM
L37	175	35 NOT 34	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:48 AM
L38	31	((US-20220325883-A1 OR US-20180352121- A1 OR US- 20230041557-A1 OR US-20180343772-A1 OR US-20170184288- A1 OR US- 20170175963-A1 OR US-20150173148-A1 OR US-20100204841- A1 OR US- 20100014293-A1 OR US-20050128751-A1 OR US-20180149347- A1 OR US- 20100118279-A1 OR US-20090046255-A1 OR US-20070200955- A1 OR US- 20210162912-A1 OR US-20200363044-A1 OR US-20200318825- A1 OR US- 20180279924-A1 OR US-20060126025- A1).did. AND PGPB.dbnm.) OR ((US- 11073271-B1 OR US- 7175297-B2 OR US- 11549679-B2 OR US- 9777917-B2 OR US- 4701833-A OR US- 4405974-A OR US- 10422520-B2 OR US- 6664745-B2 OR US- 6621239-B1 OR US- 11143392-B2 OR US- 10634297-B2 OR US- 7458690-B2).did. AND USPT.dbnm.)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 10:48 AM
L39	0	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:49 AM

L40	0	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND valve AND switch AND 38 (light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch AND 38	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:49 AM
L41	0	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND 38	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:49 AM
L42	1	(light NEAR source OR emitting NEAR light) AND test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND 38	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:49 AM
L43	2	(light NEAR source OR emitting NEAR light) AND test\$5 AND seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND 38	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:50 AM
L44	2	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND ("10502400" "9857066"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:52 AM

		"20170184288" "20180142872" "9420074" "11708945" "7922354" "20230160542" "10724724" "20170089557" "11499681" "20090046457" "11655943" "20110304268" "20230160544" "20100182786" "20230160543" "7948184" "20150327412" "10352550" "20080116814" "8444283" "3221319" "9285109" "11192063" "20130223059" "20140111998" "11655966" "11549679" "10047921" "20200222849" "11029015" "9655203" "10215394" "20230258318" "10222014" "20220325883" "20230138515" "8836232" "20210278062" "20050201088" "20150035451" "20230107396" "20180128437" "10578509" "10260722" "20130057177" "20180340662" "9420661" "11671684" "20150035437" "9629220" "20190041291" "10551047" "20160040841" "11355676" "11114592" "20190234603" "10336202" "4031742" "7845825" "20180160509" "8441214" "8746050" "20200358931" "8201967" "20220085256" "20210193883" "11217733" "8754595" "8334644" "8089207"					
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		"20100172122" "20130257285" "20120073361" "20170166067" "20230053659" "20100231131" "20210367114" "9163802" "20100259917" "20110127557" "9765742" "20220029064" "7646029" "20120007125" "10054287" "8080819" "8162498" "20110175520" "8033677" "8632230" "10655833" "20140230531" "20230273088" "20060022214" "20130009189" "20170343185" "5339678" "20130009567" "20110128718" "11221127" "10497555" "20100171145" "20230056649" "8330373" "20180156437" "20220090765" "5600070" "20200278107" "20110121734" "9388973" "11339951" "10008378" "10401007" "8926138" "10364971" "4157656" "20120262771").pn. ("10132712" "20140230525" "20170049164").pn. OR ("10578509").urpn. AND (PGPB USPT USOC).dbnm.					
L45	3		(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:54 AM
L46	3	test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND ("10502400" "9857066" "20170184288" "20180142872"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:56 AM

		"9420074" "11708945" "7922354" "20230160542" "10724724" "20170089557" "11499681" "20090046457" "11655943" "20110304268" "20230160544" "20100182786" "20230160543" "7948184" "20150327412" "10352550" "20080116814" "8444283" "3221319" "9285109" "11192063" "20130223059" "20140111998" "11655966" "11549679" "10047921" "20200222849" "11029015" "9655203" "10215394" "20230258318" "10222014" "20220325883" "20230138515" "8836232" "20210278062" "20050201088" "20150035451" "20230107396" "20180128437" "10578509" "10260722" "20130057177" "20180340662" "9420661" "11671684" "20150035437" "9629220" "20190041291" "10551047" "20160040841" "11355676" "11114592" "20190234603" "10336202" "4031742" "7845825" "20180160509" "8441214" "8746050" "20200358931" "8201967" "20220085256" "20210193883" "11217733" "8754595" "8334644" "8089207" "20100172122" "20130257285"					
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		"20120073361" "20170166067" "20230053659" "20100231131" "20210367114" "9163802" "20100259917" "20110127557" "9765742" "20220029064" "7646029" "20120007125" "10054287" "8080819" "8162498" "20110175520" "8033677" "8632230" "10655833" "20140230531" "20230273088" "20060022214" "20130009189" "20170343185" "5339678" "20130009567" "20110128718" "11221127" "10497555" "20100171145" "20230056649" "8330373" "20180156437" "20220090765" "5600070" "20200278107" "20110121734" "9388973" "11339951" "10008378" "10401007" "8926138" "10364971" "4157656" "20120262771").pn. test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking) AND ("10502400" "9857066" "20170184288" "20180142872" "9420074" "11708945" "7922354" "20230160542" "10724724" "20170089557" "11499681" "20090046457"					
L47	0	test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking) AND ("10502400" "9857066" "20170184288" "20180142872" "9420074" "11708945" "7922354" "20230160542" "10724724" "20170089557" "11499681" "20090046457"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:57 AM

		"11655943" "20110304268" "20230160544" "20100182786" "20230160543" "7948184" "20150327412" "10352550" "20080116814" "8444283" "3221319" "9285109" "11192063" "20130223059" "20140111998" "11655966" "11549679" "10047921" "20200222849" "11029015" "9655203" "10215394" "20230258318" "10222014" "20220325883" "20230138515" "8836232" "20210278062" "20050201088" "20150035451" "20230107396" "20180128437" "10578509" "10260722" "20130057177" "20180340662" "9420661" "11671684" "20150035437" "9629220" "20190041291" "10551047" "20160040841" "11355676" "11114592" "20190234603" "10336202" "4031742" "7845825" "20180160509" "8441214" "8746050" "20200358931" "8201967" "20220085256" "20210193883" "11217733" "8754595" "8334644" "8089207" "20100172122" "20130257285" "20120073361" "20170166067" "20230053659" "20100231131" "20210367114" "9163802" "20100259917"					
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		"20110127557" "9765742" "20220029064" "7646029" "20120007125" "10054287" "8080819" "8162498" "20110175520" "8033677" "8632230" "10655833" "20140230531" "20230273088" "20060022214" "20130009189" "20170343185" "5339678" "20130009567" "20110128718" "11221127" "10497555" "20100171145" "20230056649" "8330373" "20180156437" "20220090765" "5600070" "20200278107" "20110121734" "9388973" "11339951" "10008378" "10401007" "8926138" "10364971" "4157656" "20120262771").pn.					
L48	1202	test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking)	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:57 AM
L49	0	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking) AND self NEAR test WITH sealing	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:58 AM
L50	2	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking) AND self NEAR test WITH sea\$7	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:58 AM

L51	12	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND self NEAR test WITH sea\$7	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:58 AM
L52	3	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND ("20170184288" "11143392" "7458690" "20060126025" "20190041291").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:01 AM
L53	3	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 WITH seal\$7 AND ("20170184288" "11143392" "7458690" "20060126025" "20190041291").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:32 AM
L54	2	valve AND contro\$7 AND (switch\$5 OR activ\$5) AND ("20170184288" "11143392" "7458690" "20060126025" "20190041291").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:55 AM
L55	7	("20170184288" "11143392" "7458690" "20060126025" "20190041291").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2023/09/20 02:11 PM
L56	1	(effect OR patt\$6) SAME head SAME receive AND ("4031742" "3221319" "10305265" "20230273088" "20170373475" "11389112" "6580221" "4157656" "7241986" "8091422" "9274408" "20100058837" "11506722" "9022578" "11412980" "9625383" "10307101" "10485475" "9954389" "8122763" "10998750"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:06 PM

L57	12	"20020057569" "11602281" "20050103988" "6125290" "10126164" "20130070208" "5275053" "20230069662" "3578404" "20150212400" "20090096619" "20150049335" "20200379053" "4752141" "8035822" "10107755" "4947036" "20180241241" "7460009" "20220139207" "5982288" "20090126482" "5808541" "10502400" "20190246977" "20160097501" "20060192968" "20170038251" "7874207" "5670946" "2357353" "8291759" "7928394" "4703174" "4672199" "7140733" "8091860" "10989755" "8746050" "10709388" "20110304268").pn. (effect OR patt\$6) SAME receiv\$5 AND ("4031742" "3221319" "10305265" "20230273088" "20170373475" "11389112" "6580221" "4157656" "7241986" "8091422" "9274408" "20100058837" "11506722" "9022578" "11412980" "9625383" "10307101" "10485475" "9954389" "8122763" "10998750" "20020057569" "11602281" "20050103988" "6125290" "10126164" "20130070208" "5275053" "20230069662" "3578404" "20150212400" "20090096619" "20150049335"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:07 PM
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L58	257	"20200379053" "4752141" "8035822" "10107755" "4947036" "20180241241" "7460009" "20220139207" "5982288" "20090126482" "5808541" "10502400" "20190246977" "20160097501" "20060192968" "20170038251" "7874207" "5670946" "2357353" "8291759" "7928394" "4703174" "4672199" "7140733" "8091860" "10989755" "8746050" "10709388" "20110304268").pn. ("4031742" "3221319" "10305265" "20230273088" "20170373475" "11389112" "6580221" "4157656" "7241986" "8091422" "9274408" "20100058837" "11506722" "9022578" "11412980" "9625383" "10307101" "10485475" "9954389" "8122763" "10998750" "20020057569" "11602281" "20050103988" "6125290" "10126164" "20130070208" "5275053" "20230069662" "3578404" "20150212400" "20090096619" "20150049335" "20200379053" "4752141" "8035822" "10107755" "4947036" "20180241241" "7460009" "20220139207" "5982288" "20090126482" "5808541" "10502400" "20190246977" "20160097501" "20060192968" "20170038251"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:08 PM
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L59	65	"7874207" "5670946" "2357353" "8291759" "7928394" "4703174" "4672199" "7140733" "8091860" "10989755" "8746050" "10709388" "20110304268").pn. ("4031742" "3221319" "10305265" "20230273088" "20170373475" "11389112" "6580221" "4157656" "7241986" "8091422" "9274408" "20100058837" "11506722" "9022578" "11412980" "9625383" "10307101" "10485475" "9954389" "8122763" "10998750" "20020057569" "11602281" "20050103988" "6125290" "10126164" "20130070208" "5275053" "20230069662" "3578404" "20150212400" "20090096619" "20150049335" "20200379053" "4752141" "8035822" "10107755" "4947036" "20180241241" "7460009" "20220139207" "5982288" "20090126482" "5808541" "10502400" "20190246977" "20160097501" "20060192968" "20170038251" "7874207" "5670946" "2357353" "8291759" "7928394" "4703174" "4672199" "7140733" "8091860" "10989755" "8746050" "10709388" "20110304268").pn.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:08 PM
L60	33	((US-20220325883-A1 OR US-20180352121- A1 OR US- 20230041557-A1 OR US-20180343772-A1 OR US-20170184288-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2023/09/20 03:08 PM

		A1 OR US- 20170175963-A1 OR US-20150173148-A1 OR US-20100204841- A1 OR US- 20100014293-A1 OR US-20050128751-A1 OR US-20180149347- A1 OR US- 20100118279-A1 OR US-20090046255-A1 OR US-20070200955- A1 OR US- 20210162912-A1 OR US-20200363044-A1 OR US-20200318825- A1 OR US- 20180279924-A1 OR US-20060126025-A1 OR US-20190041291- A1).did. AND PGPB.dbnm.) OR ((US- 11073271-B1 OR US- 7175297-B2 OR US- 11549679-B2 OR US- 9777917-B2 OR US- 4701833-A OR US- 4405974-A OR US- 10422520-B2 OR US- 6664745-B2 OR US- 6621239-B1 OR US- 11143392-B2 OR US- 10634297-B2 OR US- 7458690-B2 OR US- 10709388-B2).did. AND USPT.dbnm.)	JPO; DERWENT; IBM_TDB)				
L61	33	((US-20220325883-A1 OR US-20180352121- A1 OR US- 20230041557-A1 OR US-20180343772-A1 OR US-20170184288- A1 OR US- 20170175963-A1 OR US-20150173148-A1 OR US-20100204841- A1 OR US- 20100014293-A1 OR US-20050128751-A1 OR US-20180149347- A1 OR US- 20100118279-A1 OR US-20090046255-A1 OR US-20070200955- A1 OR US- 20210162912-A1 OR US-20200363044-A1	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:09 PM

		OR US-20200318825-A1 OR US-20180279924-A1 OR US-20060126025-A1 OR US-20190041291-A1).did. AND PGPB.dbnm.) OR ((US-11073271-B1 OR US-7175297-B2 OR US-11549679-B2 OR US-9777917-B2 OR US-4701833-A OR US-4405974-A OR US-10422520-B2 OR US-6664745-B2 OR US-6621239-B1 OR US-11143392-B2 OR US-10634297-B2 OR US-7458690-B2 OR US-10709388-B2).did. AND USPT.dbnm.)					
L62	0	("2022/0325883").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:09 PM
L63	3	("9777917" "4405974" "4701833").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:10 PM
L64	5	("20090122570" "20110222305" "20150070927").pn. OR ("9777917").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:11 PM
L65	3	("4405974" "4701833" "9777917").pn. OR ("11549679").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:14 PM
L66	14	("6283600" "6545416" "D618377" "7789525" "9777917" "10197234" "20080062692" "20080089066" "20080116475" "20090027890" "20100044589" "20140119019" "20150103553").pn. OR ("10753594").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:16 PM
L67	26	("4164784" "4674015" "4701833" "5136493" "5640061" "6290375" "6866402" "6926427" "6964503" "6969181"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:17 PM

L68	47	"7172316").pn. OR ("7789525").urpn. AND (PGPB USPT USOC).dbnm. ((US-20220325883-A1 OR US-20180352121- A1 OR US- 20230041557-A1 OR US-20180343772-A1 OR US-20170184288- A1 OR US- 20170175963-A1 OR US-20150173148-A1 OR US-20100204841- A1 OR US- 20100014293-A1 OR US-20050128751-A1 OR US-20180149347- A1 OR US- 20100118279-A1 OR US-20090046255-A1 OR US-20070200955- A1 OR US- 20210162912-A1 OR US-20200363044-A1 OR US-20200318825- A1 OR US- 20180279924-A1 OR US-20060126025-A1 OR US-20190041291- A1 OR US- 20150103553-A1 OR US-20140119019-A1 OR US-20100044589- A1 OR US- 20080116475-A1 OR US-20080089066-A1 OR US-20080062692- A1).did. AND PGPB.dbnm.) OR ((US- 11073271-B1 OR US- 7175297-B2 OR US- 11549679-B2 OR US- 9777917-B2 OR US- 4701833-A OR US- 4405974-A OR US- 10422520-B2 OR US- 6664745-B2 OR US- 6621239-B1 OR US- 11143392-B2 OR US- 10634297-B2 OR US- 7458690-B2 OR US- 10709388-B2 OR US- 10753594-B2 OR US- 10197234-B2 OR US- 7789525-B2 OR US- D618377-S OR US-	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:21 PM
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L69	47	6545416-B1 OR US-6283600-B1 OR US-6969181-B1 OR US-6964503-B2).did. AND USPT.dbnm.) ((US-20220325883-A1 OR US-20180352121-A1 OR US-20230041557-A1 OR US-20180343772-A1 OR US-20170184288-A1 OR US-20170175963-A1 OR US-20150173148-A1 OR US-20100204841-A1 OR US-20100014293-A1 OR US-20050128751-A1 OR US-20180149347-A1 OR US-20100118279-A1 OR US-20090046255-A1 OR US-20070200955-A1 OR US-20210162912-A1 OR US-20200363044-A1 OR US-20200318825-A1 OR US-20180279924-A1 OR US-20060126025-A1 OR US-20190041291-A1 OR US-20150103553-A1 OR US-20140119019-A1 OR US-20100044589-A1 OR US-20080116475-A1 OR US-20080089066-A1 OR US-20080062692-A1).did. AND PGPB.dbnm.) OR ((US-11073271-B1 OR US-7175297-B2 OR US-11549679-B2 OR US-9777917-B2 OR US-4701833-A OR US-4405974-A OR US-10422520-B2 OR US-6664745-B2 OR US-6621239-B1 OR US-11143392-B2 OR US-10634297-B2 OR US-7458690-B2 OR US-10709388-B2 OR US-10753594-B2 OR US-10197234-B2 OR US-7789525-B2 OR US-	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:21 PM
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L70	14	D618377-S OR US-6545416-B1 OR US-6283600-B1 OR US-6969181-B1 OR US-6964503-B2).did. AND USPT.dbnm.) (effect OR patt\$6) SAME emitt\$6 AND 69	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:21 PM
L71	14	(effect OR patt\$6) SAME emitt\$6 AND 69	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:21 PM
L72	54	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/09/20 03:31 PM
L73	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND (temperature OR pressure) NEAR sensor AND contro\$7 AND switch\$5 AND test\$5 WITH sea\$	(USPAT)	OR	ON	ON	2023/09/20 03:40 PM
L74	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND (temperature OR pressure) NEAR sensor AND contro\$7 AND switch\$5 AND test\$5 AND sea\$	(USPAT)	OR	ON	ON	2023/09/20 03:40 PM
L75	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND sensor AND contro\$7 AND switch\$5 AND test\$5 AND sea\$	(USPAT)	OR	ON	ON	2023/09/20 03:40 PM
L76	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND sensor AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:40 PM

L77	6	contro\$7 AND switch\$5 AND test\$5 AND sea\$ (((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND sensor AND contro\$7 AND switch\$5 AND sea\$	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:41 PM
L78	16	(((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND contro\$7 AND switch\$5 AND sea\$	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:43 PM
L79	13	("3644728" "5882107" "6605907" "6866402" "8201974" "20070145937" "20090080204" "20090323363" "20130120984" "20140009949").pn. OR ("10969087").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:44 PM
L80	27	("2097537" "6291951" "6321883" "6483268" "6633286" "8528878" "10488024" "20040165385" "20050047142" "20060006751" "20070285037" "20080062692" "20080156597" "20090323363" "20100007299" "20110164428" "20110261568" "20140177258" "20150003099" "20160377256" "20170033714" "20170063259" "20170130945" "20180313521" "20190089273").pn. OR ("11060700").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:44 PM
L81	69	((US-20220325883-A1 OR US-20180352121- A1 OR US-	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD,	OR	ON	ON	2023/09/20 03:46 PM

		20230041557-A1 OR US-20180343772-A1 OR US-20170184288- A1 OR US- 20170175963-A1 OR US-20150173148-A1 OR US-20100204841- A1 OR US- 20100014293-A1 OR US-20050128751-A1 OR US-20180149347- A1 OR US- 20100118279-A1 OR US-20090046255-A1 OR US-20070200955- A1 OR US- 20210162912-A1 OR US-20200363044-A1 OR US-20200318825- A1 OR US- 20180279924-A1 OR US-20060126025-A1 OR US-20190041291- A1 OR US- 20150103553-A1 OR US-20140119019-A1 OR US-20100044589- A1 OR US- 20080116475-A1 OR US-20080089066-A1 OR US-20080062692- A1 OR US- 20130120984-A1 OR US-20150003099-A1 OR US-20110261568- A1 OR US- 20050047142-A1).did. AND PGPB.dbnm.) OR ((US-11073271-B1 OR US-7175297-B2 OR US-11549679-B2 OR US-9777917-B2 OR US-4701833-A OR US- 4405974-A OR US- 10422520-B2 OR US- 6664745-B2 OR US- 6621239-B1 OR US- 11143392-B2 OR US- 10634297-B2 OR US- 7458690-B2 OR US- 10709388-B2 OR US- 10753594-B2 OR US- 10197234-B2 OR US- 7789525-B2 OR US- D618377-S OR US- 6545416-B1 OR US- 6283600-B1 OR US- 6969181-B1 OR US-	DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
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		6964503-B2 OR US-11662088-B1 OR US-11592164-B2 OR US-11493188-B2 OR US-11421858-B2 OR US-11378266-B2 OR US-11339956-B2 OR US-11131505-B2 OR US-11105477-B2 OR US-11060700-B2 OR US-11060713-B2 OR US-10969094-B2 OR US-10969087-B1 OR US-10962215-B2 OR US-10823389-B2 OR US-10816186-B2 OR US-10533734-B2 OR US-10174911-B2 OR US-9863607-B2).did. AND USPT.dbnm.)					
L82	1	81 AND seal\$5 AND pipeline AND block\$5	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:48 PM
L83	35	81 AND seal\$5	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:49 PM
L84	35	81 AND seal\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:49 PM
L85	2	("20170184288" "11143392" "7458690" "20060126025" "20190041291" "11549679" "9777917" "10634297" "20150103553" "20140119019" "1060713" "10969094"). PN. AND switch\$7 AND valve AND heat\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:58 PM
L86	1	("20170184288" "11143392" "7458690" "20060126025" "20190041291" "11549679" "9777917" "10634297" "20150103553" "20140119019" "1060713" "10969094" "20210095834").PN. AND switch\$7 AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:02 PM

L87	2	valve AND heat\$5 AND effe\$5 ("20170184288" "11143392" "7458690" "20060126025" "20190041291" "11549679" "9777917" "10634297" "20150103553" "20140119019" "11060713" "10969094" "20210095834").PN. AND switch\$7 AND effe\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:02 PM
L88	120	("10054285" "20030202349" "20020024808" "6953265" "20170370553" "6729746" "9212812" "4630182" "9028087" "20140226339" "20120134153" "20150241050" "9255705" "10863061" "9534775" "20190289181" "20160153649" "20140218941" "11562770" "10551726" "9435519" "20080278941" "20110090684" "20190079374" "20110216538" "7878683" "8434897" "8408741" "20150252982" "20220301591" "10228111" "20140268747" "20110063831" "20160273752" "9052075" "10378749" "10571112" "6080101" "20070263393" "8197098" "9222632" "8651704" "7722220").pn.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 08:15 PM
L89	43	("10054285" "20030202349" "20020024808" "6953265" "20170370553" "6729746" "9212812" "4630182" "9028087" "20140226339" "20120134153" "20150241050"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:15 PM

		"9255705" "10863061" "9534775" "20190289181" "20160153649" "20140218941" "11562770" "10551726" "9435519" "20080278941" "20110090684" "20190079374" "20110216538" "7878683" "8434897" "8408741" "20150252982" "20220301591" "10228111" "20140268747" "20110063831" "20160273752" "9052075" "10378749" "10571112" "6080101" "20070263393" "8197098" "9222632" "8651704" "7722220").pn.					
L90	0	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:02 PM
L91	0	stage NEAR light AND waterproof AND temperature NEAR sensor AND pressure AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:03 PM
L92	0	stage NEAR light AND sensor AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:03 PM
L93	0	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND switch AND electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:04 PM
L94	46	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:04 PM

L95	3	F21V31/005).cpc. AND switch AND electromagnetic AND valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:06 PM
L96	15	stage NEAR light AND sensor AND switch AND electromagnetic SAME valve ("11078877" "20200032751" "6538428" "20030042893" "20230279965" "6427971" "9382693" "20150345112" "20010003972" "6378473" "4953590" "5101856" "6044814" "20030080306" "6759640").pn.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:08 PM
L97	561	stage NEAR light AND sensor AND switch\$5 AND electromagnetic	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:09 PM
L98	133	stage NEAR light AND sensor AND switch\$5 SAME electromagnetic	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:09 PM
L99	2	stage NEAR light AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:10 PM
L100	3673	proj\$7 AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:11 PM
L101	232	Proje\$7 WITH light AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:12 PM
L102	598	light NEAR source AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:15 PM
L103	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND switch AND electromagnetic AND valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:16 PM
L104	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:16 PM

L105	0	AND switch AND \$7magnetic AND valve (((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND switch AND \$7magnet\$5 AND valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:16 PM
L106	13	(((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND switch AND \$7magnet\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:16 PM
L107	3055	(F21V15/01 OR F21V23/009 OR F21V31/005).cpc. AND light WITH shield\$5	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/21 07:52 AM
L108	752	(F21V15/01 OR F21V23/009 OR F21V31/005).cpc. AND light WITH shield\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:52 AM
L109	52	(F21V15/01 OR F21V23/009 OR F21V31/005).cpc. AND light WITH shield\$5 AND self AND test\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:52 AM
L110	13574	light WITH shield\$5 AND self AND test\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:55 AM
L111	517	light WITH shield\$5 AND self AND test\$5 SAME sealing	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:56 AM
L112	39	light WITH shield\$5 AND self SAME test\$5 SAME sealing	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:56 AM
L113	2	light WITH shield\$5 AND self NEAR test\$5 SAME sealing	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:57 AM
L114	40	light WITH shield\$5 SAME heat AND self NEAR test\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:58 AM
L115	139	(((("JIANG") near3 ("Weikai")) OR (("CAI") near3 ("Jinjian")) OR (("CHEN") near3 ("Wenfeng")) OR (("HE") near3 ("Qingbi")) OR	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/09/21 10:19 AM

L116	5	((("PENG") near3 ("Yinru"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/09/21 10:19 AM
L117	5	((("JIANG") near3 ("Weikai")) OR (("CAI") near3 ("Jinjian")) OR (("CHEN") near3 ("Wenfeng")) OR (("HE") near3 ("Qingbi")) OR (("PENG") near3 ("Yinru"))).INV. AND auxiliary AND heat\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 10:31 AM
L118	0	("20060181894" "20120127744" "20120201031" "20130107531" "20130135857").pn. OR ("11131505").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 10:33 AM
L119	0	light AND shield\$5 AND heat\$5 AND test\$5 AND effect\$ AND ("20170184288" "11143392" "7458690" "20060126025" "20190041291" "11549679" "9777917" "10634297" "20150103553" "20140119019" "11060713" "10969094" "20210095834").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 10:33 AM
L120	13	light AND shield\$5 AND heat\$5 AND test\$5 AND effect\$ AND ("20170184288" "11143392" "7458690" "20060126025" "20190041291" "11549679" "9777917" "10634297" "20150103553" "20140119019" "11060713" "10969094" "20210095834").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 10:34 AM
L121	2	"20140334149".pn.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2023/09/21 11:35 AM

L122	13	("20170184288" "11143392" "7458690" "20060126025" "20190041291" "11549679" "9777917" "10634297" "20150103553" "20140119019" "11060713" "10969094" "20210095834").PN.	JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 11:50 AM
L123	8	("20170184288" "11143392" "20140119019" "20060126025" "20190041291" "20210095834" "20150103553" "11060713").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 12:12 PM
L124	78	((US-20220325883-A1 OR US-20180352121-A1 OR US-20230041557-A1 OR US-20180343772-A1 OR US-20170184288-A1 OR US-20170175963-A1 OR US-20150173148-A1 OR US-20100204841-A1 OR US-20100014293-A1 OR US-20050128751-A1 OR US-20180149347-A1 OR US-20100118279-A1 OR US-20090046255-A1 OR US-20070200955-A1 OR US-20210162912-A1 OR US-20200363044-A1 OR US-20200318825-A1 OR US-20180279924-A1 OR US-20060126025-A1 OR US-20190041291-A1 OR US-20150103553-A1 OR US-20140119019-A1 OR US-20100044589-A1 OR US-20080116475-A1 OR US-20080089066-A1 OR US-20080062692-A1 OR US-20130120984-A1 OR US-20150003099-A1 OR US-20110261568-A1 OR US-20050047142-A1 OR US-20190079374-A1	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/21 12:58 PM

		OR US-20100168762-A1 OR US-20220057059-A1 OR US-20170188438-A1 OR US-20210095834-A1 OR US-20200173725-A1).did. AND PGPB.dbnm.) OR ((US-11073271-B1 OR US-7175297-B2 OR US-11549679-B2 OR US-9777917-B2 OR US-4701833-A OR US-4405974-A OR US-10422520-B2 OR US-6664745-B2 OR US-6621239-B1 OR US-11143392-B2 OR US-10634297-B2 OR US-7458690-B2 OR US-10709388-B2 OR US-10753594-B2 OR US-10197234-B2 OR US-7789525-B2 OR US-D618377-S OR US-6545416-B1 OR US-6283600-B1 OR US-6969181-B1 OR US-6964503-B2 OR US-11662088-B1 OR US-11592164-B2 OR US-11493188-B2 OR US-11421858-B2 OR US-11378266-B2 OR US-11339956-B2 OR US-11131505-B2 OR US-11105477-B2 OR US-11060700-B2 OR US-11060713-B2 OR US-10969094-B2 OR US-10969087-B1 OR US-10962215-B2 OR US-10823389-B2 OR US-10816186-B2 OR US-10533734-B2 OR US-10174911-B2 OR US-9863607-B2 OR US-4630182-A OR US-11007292-B1 OR US-3860818-A).did. AND USPT.dbnm.)					
L125	11	("20050052872" "20080247025" "20090231854" "20090303723" "20100061100" "20110103074"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 12:58 PM

L126	8	"20130058094" "20140233244" "20160238217" "20190390840" "20200191362").pn. OR ("11493188").urpn. AND (PGPB USPT USOC).dbnm. ("4701833" "10174924" "20050036316" "20130094193" "20140119019" "20190049103" "20190390840" "20200173725").pn. OR ("11060713").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 01:07 PM
L127	6	("20170184288" "20140119019").pn.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/01/09 03:16 PM
L128	2	("20170184288" "20140119019").pn.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2024/01/09 03:16 PM
L129	14530	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2024/01/10 01:14 PM
L130	0	(air NEAR communication WITH external AND block\$5 SAME valve SAME test\$5 AND seal\$5).clm.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/01/10 01:25 PM
L131	0	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND (air NEAR communication WITH external AND block\$5 SAME valve SAME test\$5 AND seal\$5)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/01/10 01:26 PM
L132	1	(F21V31/03 OR F21V15/01 OR F21V21/30 OR	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD,	OR	ON	ON	2024/01/10 01:28 PM

L133	5	F21V23/009 OR F21V31/005).cpc. AND (air AND external AND block\$5 SAME valve SAME test\$5 AND seal\$5)	DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/01/10 01:31 PM
L134	330	("20220325883" "4405974" "4701833" "9777917" "11549679").PN. (air AND external AND block\$5 SAME valve SAME test\$5 WITH seal\$5).clm.	(US-PGPUB; USPAT; USOCR) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/01/10 01:32 PM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N1	0	(air NEAR communication WITH external AND block\$5 SAME valve SAME test\$5 AND seal\$5).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2024/01/10 01:26 PM
N2	3	(air AND external AND block\$5 SAME valve SAME test\$5 WITH seal\$5).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2024/01/10 01:32 PM



UNITED STATES
PATENT AND TRADEMARK OFFICE

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
18/322,066

RECEIPT DATE / TIME
12/22/2023 11:41:02 AM Z ET

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0178/0316PUS1

Title of Invention

Light fixture with self-test ability of sealing

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 1778

FILED BY Samantha Pittenger

PATENT CENTER # 63722957

FILING DATE 05/23/2023

CUSTOMER # 60601

FIRST NAMED
INVENTOR Weikai JIANG

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY Joe Muncy

Documents

TOTAL DOCUMENTS: 4

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
2023-12-22 Amendment.pdf		12	-	204 KB
2023-12-22 Amendment- A....pdf	(1-1)	1	Amendment/Request for Reconsideration-After Non- Final Rejection	80 KB
2023-12-22 Amendment- SPEC.pdf	(2-3)	2	Specification	122 KB
2023-12-22 Amendment- CLM.pdf	(4-6)	3	Claims	124 KB
2023-12-22 Amendment- REM.pdf	(7-12)	6	Applicant Arguments/Remarks Made in an Amendment	190 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
2023-12-22 AmendmentI.pdf	945B9CD7089E5104EFF8D3A33C143C996D5C3F477BA39D791 D76258217C2E46A70B83E39F224AFD95DC03A7BAA104ACE1B 48BDEDAF4D037F6CD5C4D271954880
2023-12-22 Amendment-A....pdf	3B4AD67D1164965987044FF2AF53BF7D7FFA6EDA01BBC7743 CA89DAB56E3C37362E15CDE2240AC51219A4600751EB208CE B80D6D50F822F826FE3680C3F2BB2E
2023-12-22 Amendment- SPEC.pdf	BE9D36A1AA8094650D21EFE8DCA9062992504BEFA9CBD3063 F52A3A76EE44AC616621A3C10E165712796623402096D00E74 598B00B44EE5A046740571119F816
2023-12-22 Amendment- CLM.pdf	6B05EFEAFE127B6B1088C3FDEDEFEB4B6CBBBD481AFCC6F6 E4D0C9EAA63A1CDDE9648C6DA09EF2DCFC24F87CB6FA0E1 8E5C254830EC2790D80167C4F69F22FE3B
2023-12-22 Amendment- REM.pdf	1DEB17521DD937DA7D1A47F69FA67A302068F65DE9A97FC83 C887109A6BCE37F105900644EEAEDBC159DBFEF998F3943A0 815FECA53CDEA092F5F50EE3AA7521

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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 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

First Named Inventor: JIANG, Weikai	Examiner: TUMBO, TSION M
Application No.: 18/322,066	Art Unit: 2875
Filed: May 23, 2023	Confirmation Number: 1778
Title: LIGHT FIXTURE WITH SELF-TEST ABILITY OF SEALING	
Attorney Docket No.: 0178/0316PUS1	

MS AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

AMENDMENT

Dear Sir:

In response to the Office Action of Sep 26, 2023, the following are provided:

Amendments to the Specification;

Amendments to the Claims; and

Remarks.

AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0031] of the specification, as follows:

[0031] In a preferred embodiment of the present disclosure, in combination with FIG. 4, an effect assembly ~~180~~ for receiving the light emitted by the light source 120 and generating a light effect is further provided inside the head housing 110. With the configuration of the effect assembly ~~180~~, the light projected through the light outlet 150 of the light head 100 can exhibit different effects, such as light with different divergence angle, brightness, color, shape, and the like. Such effect assembly ~~180~~ can be one or more of a blade module, a color filter module, a pattern sheet module 181, a color sheet module, a shading module 182, a focusing module, a prism module 183, a light homogenizing module 184, or an amplification module 185, which are all common components in the art and will not be described in detail in this disclosure.

Please amend paragraph [0033] of the specification, as follows:

[0033] It should be noted that the light shielding member 190 may be additionally provided, or may be the existing effect assembly ~~180~~, such as the blade module, the color filter module, the pattern sheet module 181, the color sheet module, the shading module 182, the focusing module, the prism module 183, the light homogenizing module 184 or the amplification module 185, as long as the light emitted from the light outlet 150 can be reduced to improve efficiency of heating the inside of the head housing 110 during sealing performance test. For example, the blade module, the pattern sheet module 181 and the shading module 182 can directly shield light to reduce light projected; the color filter module and the color sheet module can reduce the brightness of light projected to improve efficiency of heating; the focusing module, the prism module 183, the light homogenizing module 184, and the amplification module 185 can increase the beam divergence angle to disperse the light projected, and thus reduce the light emitted from the light outlet 150 with less light projected through the light outlet.

Please amend paragraph [0046] of the specification, as follows:

[0046] Referring back to FIG. 1, according to a preferred embodiment of the present disclosure, a heat homogenizing assembly ~~400~~ is further provided in the head housing 110 or the base housing 310. The heat homogenizing assembly ~~400~~ can make the temperature inside the head housing 110

or the base housing 310 consistent in every position, as such situation is more conforming to an ideal gas state equation.

Please amend paragraph [0047] of the specification, as follows:

[0047] The heat homogenizing assembly ~~400~~ may be a fan 410 or a heat conducting member, such as cooling fins or a heat transfer mesh.

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A light fixture with self-test ability of sealing, comprising
a light head having a head housing;
a light source for emitting light and generating heat, which is arranged in the head housing,
the light emitted by the light source being projected through a light outlet of the head housing;
a temperature sensor and an air pressure sensor for respectively detecting temperature and
air pressure inside the head housing, which are arranged in the head housing; and
a controller configured to determine sealing performance of the head housing based on
detection results of the temperature sensor and the air pressure sensor,
wherein the head housing is provided with a waterproof breathable valve allowing an
internal space of the head housing in air communication with an external space of the light fixture;
and a switch is further provided, which is ~~capable of switching between two states by
unblocking/blocking the waterproof breathable valve to make the internal space of the head
housing in air communication with the external space of the light fixture or not~~ configured to make
the internal space of the head housing in air communication with the external space of the light
fixture by unblocking the waterproof breathable valve when the light fixture is in normal operation,
so as to keep air pressure balance between inside and outside of the head housing, and configured
to make the internal space of the head housing not in air communication with the external space
of the light fixture by blocking the waterproof breathable valve when the light fixture is in testing
of sealing performance.
2. (Original) The light fixture according to claim 1, wherein an effect assembly is further
provided inside the head housing, which is configured to receive the light emitted by the light
source and generate a light effect.
3. (Original) The light fixture according to claim 1, wherein a light shielding member for
intercepting the light emitted by the light source is provided to improve efficiency of heating the
inside of the head housing when the internal space of the head housing is isolated from the external
space of the light fixture.

4. (Original) The light fixture according to claim 1, further comprising a support arm for supporting the light head to rotate, and a base for supporting the support arm, the base having a base housing.

5. (Original) The light fixture according to claim 4, wherein the base further comprises a switching mode power supply arranged inside the base housing for supplying power and generating heat; and

an additional temperature sensor and an additional air pressure sensor for respectively detecting the temperature and air pressure inside the base housing,

wherein the base housing is provided with an additional waterproof breathable valve allowing an internal space of the base housing in air communication with the external space of the light fixture; and a switch is further provided, which is capable of switching between two states by unblocking/blocking the additional waterproof breathable valve to make the internal space of the base housing in air communication with the external space of the light fixture or not.

6. (Original) The light fixture according to claim 4, wherein a pipeline is configured to communicate the head housing with the base housing, with a joint therebetween sealed.

7. (Original) The light fixture according to claim 6, wherein the pipeline is provided with a blocking device for selectively blocking mutual air flow between the head housing and the base housing.

8. (Original) The light fixture according to claim 6, further comprising a temperature control system for synchronously increasing the temperature inside the head housing and the base housing.

9. (Currently Amended) The light fixture according to claim 1, wherein a heat homogenizing assembly is further provided in the head housing ~~or the base housing~~.

10. (Currently Amended) The light fixture according to claim 1, wherein an auxiliary heating assembly is further provided in the head housing ~~or the base housing~~.

11. (Original) The light fixture according to claim 1, wherein the switch is in form of an electromagnetic valve.
12. (New) The light fixture according to claim 5, wherein a heat homogenizing assembly is further provided in the base housing.
13. (New) The light fixture according to claim 5, wherein an auxiliary heating assembly is further provided in the base housing.

REMARKS

Claims 1-13 are now present in this application.

The specification, and claims 1, 9 and 10 have been amended. Claims 12 and 13 have been newly presented. Favorable consideration of the application, as amended, is respectfully requested.

Entry of Amendments

Claim 1 has been amended based on at least paragraphs [0006]-[0007] and [0024]-[0025] of the specification as originally filed.

New claims 12 and 13 are respectively based on claims 9 and 10 as originally filed.

Paragraphs [0031] and [0033] of the specification have been amended to delete reference sign “180”, and paragraphs [0046] and [0047] of the specification have been amended to delete the reference sign “400”.

It is respectfully submitted that the foregoing amendments do not contain new matter. As such, the Examiner is respectfully requested to enter the same.

Objections to the Drawings

The drawings are objected to as failing to comply with 37 CFR 1,84(p)(5) because they do not include the following reference sign(s) mentioned in the description:” the effect assembly 180”, “homogenizing assembly 400”.

Reference sign “180” in paragraphs [0031] and [0033] of the description and reference sign “400” in paragraphs [0046] and [0047] of the description have been deleted.

In view of the foregoing amendments, it is respectfully submitted that these informalities have been addressed. Reconsideration and withdrawal of any objection to the drawings are respectfully requested.

Rejections under 35 USC 112

Claims 9 and 10 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention. This rejection is respectfully traversed.

Claims 9 and 10 have been amended to remove the limitation “the base housing”. Claims 12 and 13 have been newly presented to recite the limitation “the base housing” by referring to claim 5 which is depended on claim 4.

In view of the foregoing amendments, it is respectfully submitted that all claims particularly point out and distinctly claim the subject matter of the instant invention. Reconsideration and withdrawal of the 35 USC 112 rejection are respectfully requested.

Rejections under 35 USC 103

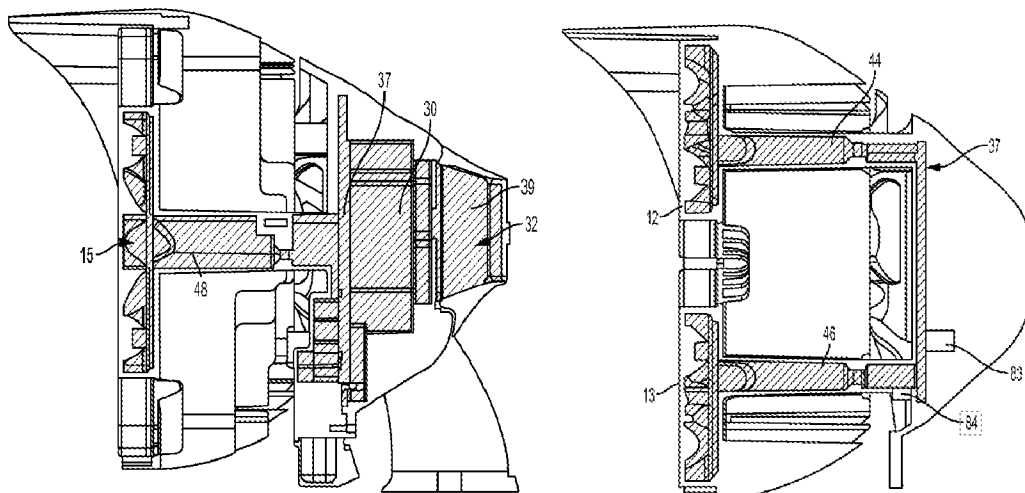
Claims 1-9 are rejected under 35 U.S.C. 103 as being unpatentable over Owens et al. (US 2017/0184288 hereinafter refer as “Owens”) in view of HSU (US 2014/0119019). Claim 10 is rejected under 35 U.S.C. 103 as being unpatentable over Owens in view of HSU and further in view of Bialik et al. (US 2019/0041291 hereinafter refer as “Bialik”). Claim 11 is rejected under 35 U.S.C. 103 as being unpatentable over Owens in view of HSU and further in view of Jiang (US 2021/0095834). These rejections are respectfully traversed.

Claim 1 is directed to a light fixture with self-test ability of sealing, including a light head having a head housing; a light source for emitting light and generating heat, which is arranged in the head housing, the light emitted by the light source being projected through a light outlet of the head housing; a temperature sensor and an air pressure sensor for respectively detecting temperature and air pressure inside the head housing, which are arranged in the head housing; and a controller configured to determine sealing performance of the head housing based on detection results of the temperature sensor and the air pressure sensor, wherein the head housing is provided with a waterproof breathable valve allowing an internal space of the head housing in air communication with an external space of the light fixture; and **a switch is further provided, which is configured to make the internal space of the head housing in air communication with the external space of the light fixture by unblocking the waterproof breathable valve when the light fixture is in normal operation, so as to keep air pressure balance between inside and outside of the head housing, and configured to make the internal space of the head housing not in air communication with the external space of the light fixture by blocking the waterproof breathable valve when the light fixture is in testing of sealing performance.**

Owens relates to a light fixture including a sealed path between a group of LED modules and a sensor cavity. The light fixture 10 can perform self-diagnosis and implements corrective measures upon detection of one or more environmental condition changes in the sealed path. In response to detecting an environmental condition change, the light fixture will automatically implement a corrective measure.

Specifically, the illumination device 10 includes a housing 25 that encases various components of a light fixture. As shown in FIG. 1, the housing 25 includes an opening in which a set of light emitting diode (LED) modules 11- 15 are secured to form a multi-module LED structure.

As FIG. 5 (reproduced below) shown, the power supply unit 30 is connected to an electronic control board 37 and one or more sensors 39 that are contained in the sensor cavity 32. Some or all of the LED modules 15 are connected to the housing and also to one or more conduits 48 that provide a sealed path via which wires or other conductors extend between the sensor cavity 32, power supply 30 and/or control board 37 and the LED modules 15 for delivery of power and/or control signals. In an alternate embodiment, one or more sensors may also be included in the conduit. Each LED module may include a corresponding conduit so that each LED may receive its power and control signals from the control board 37, and so that the environment within the conduit may be monitored by the sensors 39 in the sensor cavity 32 and/or the conduit. FIG. 6 (reproduced below) illustrates a different cutaway section showing how conduits 44, 46 may lead from LED modules 12, 13 to a channel that contains the control board 37. Examples of the one or more sensors may include, without limitation, a pressure sensor (such as barometer), a temperature sensor, a humidity sensor, a chemical substance sensor, a fire sensor, a particulate sensor, a biological agent sensor, a moisture sensor, an air speed detector, a micro-electro-mechanical system type sensor (such as an accelerometer, gyroscope or other orientation sensor, a pressure sensor), or the like. (See paragraph [0036] of Owens)



FIGs. 5 and 6 in Owens

The conduits 44, 46, 48 are sealed to the LED modules at one end and to the sensor cavity 32 at the other end, and thus provide a sealed path that is sealed to external elements and is airtight and water-resistant. In this way, the desired optimal conditions may be maintained in the conduit (sealed path), such as a constant air pressure, constant temperature, or the like. For example, in an embodiment, the sealed path may be maintained at a pressure of about 0.9 atm to about 1.1 atm. Furthermore, the sensors may be able to monitor the conditions within the sealed path without external influence, which may be used as an indication of the conditions associated with the LED modules and/or the LEDs. For example, the sensors may include a humidity, temperature, and/or pressure sensor positioned to monitor the air pressure, temperature, and/or the humidity within the sealed path. A chemical sensor may be included to detect the presence of one or more particular substances in the sealed path. (See paragraph [0037] of Owens)

In response to detecting an environmental condition change, the light fixture will automatically implement a corrective measure. Examples of corrective measures include, without limitation: (i) activating a switch or otherwise interrupting current to shut off power to the LED module in response to detection of high humidity levels (i.e., a humidity sensor detecting a humidity level above a threshold in the sealed cavity, or a rate of change of the humidity level in the cavity exceeding a threshold) in order to avoid short-circuiting of components while other modules such as communication modules may be kept active; (ii) causing a motor to adjust a position of the device in response to detecting that the device is not properly oriented; (iii) opening a vent (such as vent 84), which may include a valve, in the sealed cavity to release pressure in the cavity until a threshold pressure is achieved; (iv) activating a pump (such as pump 83) to increase pressure in the cavity until a threshold pressure is achieved; or other protective actions. In an embodiment, the processor may shut down all LED modules of the illumination device rather than just a single module. In an embodiment, the processor may shut down the illumination device completely until the corrective action is complete. (See paragraph [0044] of Owens)

According to the disclosure in Owens mentioned above, the sensors 39 in the sensor cavity 32 and/or the conduit is used to monitor the environment within the conduit. Once detecting an environmental condition change, the light fixture will automatically implement a corrective measure, such as activate a switch to shut off power to the LED module in response to detection of high humidity levels, or open a vent 84 in the sealed cavity to release pressure in the cavity until a threshold pressure is achieved. That is, all the endeavor made by Owens is to maintain a proper

environment conditions within the sealed conduit, such as keep a certain pressure in the sealed conduit, which is obviously not for testing of sealing performance. Although switch and/or valve have been provided in Owens, such structures are configured to correct the environmental condition change, such as increase or release pressure in the cavity, and such structures are only activated when this is environmental condition change, otherwise always keep open or close.

However, according to the present invention, the switch 170 is configured to unblock the waterproof breathable valve 160 to make the internal space of the head housing 310 in air communication with the external space of the light fixture, so that air pressure inside and outside the light fixture can keep balanced to work normally. While to have testing of sealing performance, the switch 170 is configured to block the waterproof breathable valve 160 to make the internal space of the head housing 310 not in air communication with the external space of the light fixture, so that the temperature and pressure inside the head housing 310 will increase with the heat energy generated by the light source 120. Therefore, according to the temperature and air pressure inside the base housing 310 detected by the temperature sensor 130 and the air pressure sensor 140, the associated controller 500 can determine the sealing performance of the base housing 310. See paragraphs [0006]-[0007] and [0024]-[0025] of the specification in the present invention.

That is, the switch 170 in the present invention is used to perform testing of sealing performance, is not to implement a corrective measure to maintain a proper environment conditions within the sealed conduit as Owens does. All the endeavor made in the present invention is to conduct testing of sealing performance, while as well as without influence on the normal operation of the light fixture, so that the sealing performance of the light fixture can be monitored at any time.

As such, Owens does not disclose or teach at least features “the switch is configured to make the internal space of the head housing in air communication with the external space of the light fixture by unblocking the waterproof breathable valve when the light fixture is in normal operation, so as to keep air pressure balance between inside and outside of the head housing, and configured to make the internal space of the head housing not in air communication with the external space of the light fixture by blocking the waterproof breathable valve when the light fixture is in testing of sealing performance”, as recited in claim 1 of the present invention.

In addition, HSU only discloses a stage light structure and keeps quiet about testing of sealing performance. Other documents are cited for the independent claims.

Therefore, claim 1 should be patentable over the cited documents. The dependent claims set forth additional limitations not found in the prior art, and are also allowable based at least on their dependency from allowable independent claim 1.

In view of the foregoing amendments and remarks, it is respectfully submitted that the prior art utilized by the Examiner fails to teach or suggest all the features of independent claim 1 and its dependent claims. Reconsideration and withdrawal of the 35 USC 103 rejections are respectfully requested.

Conclusion

Favorable reconsideration and an early Notice of Allowance are earnestly solicited.

Because the additional prior art cited by the Examiner has been included merely to show the state of the prior art and has not been utilized to reject the claims, no further comments concerning these documents are considered necessary at this time.

Applicant has made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require action, it is respectfully requested that the Examiner telephone Joe McKinney Muncy, Applicant's Attorney, at 703.621.7140 so that such issues may be resolved as expeditiously as possible.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 50-3828 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; in particular, extension of time fees.

Date: December 22, 2023

Muncy, Geissler, Olds & Lowe, P.C.
125 S Royal St
Alexandria, VA 22314
Tel. 703.621.7140
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Respectfully submitted,

/Bob Gnuse/

Robert F. Gnuse Reg. No. 27,295

Joe McKinney Muncy
Attorney/Agent for Applicant(s)
Reg. No. 32334

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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 18/322,066	Filing Date 05/23/2023	☐ To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	x \$100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	x \$480 =	
☐ 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)	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	12/22/2023	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		
	Total (37 CFR 1.16(i))	* 13	Minus	** 20	= 0	x \$100 =	0
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	= 0	x \$480 =	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		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".						/TERRANCE R LAWRENCE/	
*** 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.
18/322,066	05/23/2023	Weikai JIANG	0178/0316PUS1	1778
60601	7590	09/26/2023		
Muncy, Geissler, Olds & Lowe, P.C. 125 S. Royal St. Alexandria, VA 22314			EXAMINER TUMBO, TSION M	
			ART UNIT	PAPER NUMBER
			2875	
			NOTIFICATION DATE	DELIVERY MODE
			09/26/2023	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):

MAILROOM@MG-IP.COM

Office Action Summary	Application No. 18/322,066	Applicant(s) JIANG et al.	
	Examiner TSION TUMBO	Art Unit 2875	AIA (FITF) 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 05/23/2023.

☐ 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) 1-11 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) 1-11 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 05/23/2023 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)

3) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date ____.

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)

4) ☐ Other: ____.

Paper No(s)/Mail Date ____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "the effect assembly 180", "homogenizing assembly 400". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 9 and 10 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention.

Claims 9 and 10 recite the limitation "the base housing" in line 2. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, the applicant is advised that, claims 9 and 10 being interpreted and examined as if they depend from claim 4 or other claims that depend on claim 4.

Claim Rejections - 35 USC § 103

2. 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, 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.

3. **Claims 1-9 are rejected under 35 U.S.C. 103 as being unpatentable over Owens et al. (US 2017/0184288 hereinafter refer as "Owens") in view of HSU (US 2014/0119019).**

Regarding claim 1, Owens discloses a light fixture with self-test ability of sealing (see Para. 0039, 0047), comprising a light head having a head housing (25, see Fig. 2, Para. 0027); a light source (LED modules 11-15, see Figs. 1 and 2, Para. 0028) for emitting

light and generating heat, which is arranged in the head housing; a temperature sensor and an air pressure sensor (one or more sensors 39, see Fig. 5, Para. 0036) for respectively detecting temperature and air pressure inside the head housing (see Para. 0037-0038), which are arranged in the head housing; and a controller (one or more sensors 39, see Figs. 2 and 5) configured to determine sealing performance of the head housing based on detection results of the temperature sensor and the air pressure sensor (see Fig. 7, Para. 0047), wherein the head housing is provided with a waterproof breathable valve (e.g., vent 84, see Fig. 6, Para. 0039, 0044, 0047) allowing an internal space of the head housing in air communication with an external space of the light fixture; and a switch (e.g., control, see Para. 0044 and 0047) is further provided, which is capable of switching between two states by unblocking/blocking the waterproof breathable valve to make the internal space of the head housing in air communication with the external space of the light fixture or not (Para. 0044). **Owens** further discloses a lens cover (see Para. 0039).

However, **Owens** does not explicitly disclose light emitted by the light source being projected through a light outlet of the head housing.

HSU teaches a stage light (10, see Fig. 1) that includes head housing (2), a base (1), a lighting module (3) arranged in the head housing, wherein the light emitted by the light module (3) being projected through a light outlet (e.g., optical lens 33, an emitting lens 4, see Fig. 1, Para. 0021) of the head housing; wherein the optical lens (33, see Para. 0026) can have function of converging light or diverging light according to practical application.

Therefore, in view of **HSU**, it would have been obvious for a person of ordinary skill in the art before the effective filing date of the claimed invention to modify **Owens** by providing an optical lens so that the light beam being projected through the light outlet in order to provide a desired light output. One would have been motivated to make this combination to provide converging light or diverging light according to practical application.

Regarding claim 2, the teachings of **Owens** have been discussed above.

However, **Owens** is silent with respect to an effect assembly is further provided inside the head housing, which is configured to receive the light emitted by the light source and generate a light effect.

HSU further teach the stage light includes an effect assembly (a dimming module 5, a light-convergent assembly 6, and a prism 7, see Fig. 5) provided inside the head housing (2), which is configured to receive the light emitted by a light source and generate a light effect (see Para. 0021, 0029-0031).

Therefore, in view of **HSU**, it would have been obvious for a person of ordinary skill in the art before the effective filing date of the claimed invention to modify **Owens** to use the effect assembly system of **HSU** so as to generate various light effects as suggested by **HSU**. One would have been motivated to make this combination to provide an improved light fixture by adjusting the lighting effects as desire.

Regarding claim 3, the teachings of **Owens** have been discussed above.

However, **Owens** is silent with respect to a light shielding member for intercepting the light emitted by the light source is provided to improve efficiency of heating the inside of the head housing when the internal space of the head housing is isolated from the external space of the light fixture.

HSU further teach the stage light includes a light shielding member (e.g., dimming module 5, see Figs. 1 and 4, see Para. 0029) intercepting the light emitted by the light source therefore the light can be adjusted to different colors.

Therefore, in view of **HSU**, it would have been obvious for a person of ordinary skill in the art before the effective filing date of the claimed invention to modify **Owens** to include a light shielding member such as the dimming module of **HSU** in order to control the light output, since it has been held by the courts that combining prior art elements according to known methods to yield predictable results or choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success, is not sufficient to distinguish over the prior art, as it requires only ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007). In this case, using the dimming module as a light shield would have flown naturally to one of ordinary skill in the art as necessitated by the specific requirements of a given application.

Regarding claim 4, Owens further discloses comprising a support arm (40, see Fig. 2, Para. 0030) for supporting the light head to rotate, and a base (the rear of the body (i.e., at the bottom of the bowl), see Para. 0029-0030) for supporting the support arm, the base having a base housing (a base or mounting yoke, optionally by one or more connectors 81, see Para. 0030).

HSU further teach the stage light includes a support arm (see Fig. 1) for supporting the light head to rotate, and a base (1) for supporting the support arm, the base having a base housing.

Regarding claim 5, Owens further discloses the base further comprises a switching mode power supply (30, Para. 0029, 0044) arranged inside the base housing (the rear of the body (i.e., at the bottom of the bowl), see Para. 0029-0030) for supplying power and generating heat; and an additional temperature sensor and an additional air pressure sensor for respectively detecting the temperature and air pressure inside the base housing (one or more sensors may also be included in the conduit, see Para. 0036), wherein the base housing is provided with an additional waterproof breathable valve allowing an internal space of the base housing in air communication with the external space of the light fixture.

Regarding adding additional switch, for switching between two states by unblocking/blocking the additional waterproof breathable valve to make the internal space of the base housing in air communication with the external space of the light fixture or not, it would have been obvious for a person of ordinary skill in the art before the effective filing date of the claimed invention to modify **Owens** by including additional switch to be able to connect the additional sensors, since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 6, Owens further discloses a pipeline (48, see Fig. 5) is configured to communicate the head housing with the base housing, with a joint therebetween sealed (see Fig. 5, Para. 0036).

Regarding claim 7, Owens further discloses the pipeline (48, see Fig. 5) is provided with a blocking device for selectively blocking mutual air flow between the head housing and the base housing.

Regarding claim 8, Owens further discloses a temperature control system(e.g., conduits 44, 46, 48 may be made of aluminum and fins 22a . . . 22n, see Figs. 5 and 6, Para. 0028 and 0037) for synchronously increasing the temperature inside the head housing and the base housing.

Regarding claim 9, Owens further discloses a heat homogenizing assembly (e.g., conduits 44, 46, 48 may be made of aluminum, see Figs. 5 and 6, Para. 0037) is further provided in the head housing or the base housing (see Para. 0028).

4. **Claim 10 is rejected under 35 U.S.C. 103 as being unpatentable over Owens in view of HSU and further in view of Bialik et al. (US 2019/0041291 hereinafter refer as “Bialik”).**

Regarding claim 10, Owens further discloses having a pump (83, see Fig. 6, Para. 0039) and activating the pump to increase pressure in the cavity until a threshold pressure is achieved (see Para. 0044, 0047).

However, **Owens** is silent with respect an auxiliary heating assembly is further provided in the head housing or the base housing.

Bialik teaches a systems and methods for verifying sealing integrity in a portable electronic device (100, see Fig. 1); wherein the portable electronic device (100, see Fig. 1) includes a heat source (160) to raise the temperature by a desired amount for verifying sealing integrity in the portable electronic device (100, see Para. 0009, 0025, 0026).

It would have been obvious for a person of ordinary skill in the art before the effective filing date of the claimed invention to modify **Owens** to include an auxiliary heating assembly in order to raise the temperature by a desired amount for verifying sealing integrity in the light fixture, since it has been held by the courts that combining prior art elements according to known methods to yield predictable results or choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success, is not sufficient to distinguish over the prior art, as it requires only ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007). In this case, using an auxiliary heating assembly would have flown naturally to one of ordinary skill in the art as necessitated by the specific requirements of a given application.

5. **Claim 11 is rejected under 35 U.S.C. 103 as being unpatentable over Owens in view of HSU and further in view of Jiang (US 2021/0095834).**

Regarding claim 11, the teachings of **Owens** have been discussed above.

However, **Owens** is silent with respect to the switch is in form of an electromagnetic valve.

Jiang further teach the switch is in form of an electromagnetic valve (see Fig. 4, Para. 0032).

Therefore, in view of **Jiang**, it would have been obvious for a person of ordinary skill in the art before the effective filing date of the claimed invention to modify **Owens's** switch to be in form of an electromagnetic valve so that the switching of light effects is becoming faster as suggested by **Jiang**, since it has been held by the courts that combining prior art elements according to known methods to yield predictable results, simple substitution of one known element for another to obtain predictable results, or choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success, is not sufficient to distinguish over the prior art, as it requires only ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007). In this case, forming the switch to be in form of an electromagnetic valve would have flown naturally to one of ordinary skill in the art as necessitated by the specific requirements of a given application.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jiang (US 11,143,392) discloses a humidity alarm monitoring system for a stage light including a humidity detection module located inside the chamber for detecting the humidity of the chamber; a light control module connected to the humidity detection module; and a light source control module and a display module which are connected to the light control module; Belliveau (US 2006/0126025) teach a lamp housing (230) for an image projection lighting device (10). Jiang (US 11,060,713)

discloses an internal-circulating heat dissipation system for a stage light, the system comprising a support arm, a light holder and a circulating heat dissipation system, wherein the light holder is pivotally connected to the support arm through a pivot shaft.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tsion Tumebo whose telephone number is 571-270-1668. The examiner can normally be reached on 7:30 am to 4:00 pm, Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571)272-7044. 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.

/TSION TUMBO/
Primary Examiner, Art Unit 2875

<i>Notice of References Cited</i>	Application/Control No. 18/322,066		Applicant(s)/Patent Under Reexamination JIANG et al.	
	Examiner TSION TUMBO		Art Unit 2875	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-20170184288-A1	06-2017	Owens; Walten Peter	H05B47/19	1/1
*	B	US-11143392-B2	10-2021	Jiang; Weikai	G08B21/20	1/1
*	C	US-20140119019-A1	05-2014	HSU; Shu-Cheng	F21S10/007	362/269
*	D	US-20060126025-A1	06-2006	Belliveau; Richard S.	G03B37/04	353/31
*	E	US-20190041291-A1	02-2019	Bialik; Evgeny	G01M3/02	1/1
*	F	US-20210095834-A1	04-2021	Jiang; Weikai	F21V21/15	1/1
*	G	US-20150103553-A1	04-2015	JURIK; Pavel	G02B6/0096	362/551
*	H	US-11060713-B2	07-2021	Jiang; Weikai	H05K7/20263	1/1
	I					
	J					
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FOREIGN PATENT DOCUMENTS					
*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	CPC Classification
	N				
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NON-PATENT DOCUMENTS		
*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	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.

<i>Search Notes</i> 	Application/Control No. 18/322,066	Applicant(s)/Patent Under Reexamination JIANG et al.
	Examiner TSION TUMBO	Art Unit 2875

CPC - Searched*		
Symbol	Date	Examiner
F21V31/03; F21V15/01; F21V21/30; F21V23/009; F21V31/005	09/21/2023	T.T.

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner
INVENTOR search, CPC scheme searching, TEXT searching, FORWARD/BACKWARD searching, IQ.IP.COM search on PGPub and text searching, MORE LIKE THIS searching on relevant art, FACET searching, SIMILARITY searching, NPL searching. See attached SEARCH search history printout.	09/21/2023	T.T.

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

/TSION TUMBO/ Primary Examiner, Art Unit 2875	
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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	1144	("115585438" "216897237" "2008300086" "202002065" "102221186" "102691993" "102691993" "104235804" "102691992" "102691992" "101852418" "101329058" "101852418" "101718425" "102384453" "101718425" "102384453" "108253327" "115821807" "203375409" "210052026" "103277693" "2002008417" "201289056" "204301015" "2014002911" "107013859" "104456151" "204165004" "104676295" "104676560" "20160095011" "2023107911" "104075853" "104676295" "101725165" "20180142857" "2004332889" "2003346549" "3299697" "10648639" "203298016" "2986756" "2023151470" "104075853" "201787544" "4195830" "11073271" "101769526" "204301923" "115866956" "101761907" "102479816" "104930481" "103292294" "101769526"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 07:55 AM

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L3	14329	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:01 AM
L4	0	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND light NEAR fixture AND head AND base AND sealing AND waterproof AND breathable AND valve AND 3	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:03 AM
L5	3	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND light NEAR fixture AND base AND sealing AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:03 AM

L6	0	waterproof AND valve AND 3 (F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND light NEAR fixture AND base AND sealing AND waterproof AND valve AND 1	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:04 AM
L7	0	light NEAR fixture AND base AND sealing AND waterproof AND valve AND 1	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:04 AM
L8	0	light NEAR fixture AND base AND sealing AND waterproof AND valve AND 2	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:04 AM
L9	6	sealing AND waterproof AND valve AND 2	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:04 AM
L10	10	stage NEAR light AND waterproof AND valve AND temperature NEAR sensor AND air NEAR pressure	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 09:47 AM
L11	14	stage NEAR light AND waterproof AND temperature NEAR sensor AND air NEAR pressure	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 09:48 AM
L12	18	stage NEAR light AND waterproof AND temperature NEAR sensor AND pressure	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:48 AM
L13	307	stage NEAR light AND temperature NEAR sensor AND pressure	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:49 AM
L14	268	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND temperature NEAR sensor AND pressure	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:51 AM
L15	0	("2022/0325883").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:56 AM

L16	629	(Jurik NEAR Pavel OR Valchar NEAR Josef).inv.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 09:58 AM
L17	201	(Jurik NEAR Pavel OR Valchar NEAR Josef).inv.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:58 AM
L18	2	(Jurik NEAR Pavel OR Valchar NEAR Josef).inv. AND seal\$5 AND temperature NEAR sensor AND pressure	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:58 AM
L19	3	("4405974" "4701833" "9777917").pn. OR ("11549679").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:59 AM
L20	4	(Jurik NEAR Pavel OR Valchar NEAR Josef).inv. AND seal\$5 AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 09:59 AM
L21	5	("6621239" "6664745" "20070200955" "20090046255" "20100118279").pn. OR ("10422520").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:00 AM
L22	116	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND stage AND seal\$5 AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:01 AM
L23	0	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND waterproof WITH seal\$5 SAME test AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:04 AM
L24	899266	(F21V31/03 OR	(US-PGPUB; USPAT;	OR	ON	ON	2023/09/20

		F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND seal\$5 SAME test\$5AND (temperature OR pressure) NEAR sensor	USOCR)				10:04 AM
L25	18	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND seal\$5 SAME test\$5 AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:04 AM
L26	10	("2017/0184288").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:13 AM
L27	10	("6621239" "7458690" "8854220" "20060126025" "20060150817" "20140356005" "20150179037" "20160095188" "20170184288" "20180042087").pn. OR ("11143392").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:16 AM
L28	15	("3621330" "3673424" "4053759" "4672271" "4702716" "5879159" "5961203" "6362573" "6376992" "6561675" "6621239" "20020145875" "20060055897").pn. OR ("7458690").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:31 AM
L29	0	("20170184288" "11143 392" "7458690" "20060 126025").PN. AND test\$5 WITH seal\$5 AND (temperature OR pressure) NEAR sensor	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:39 AM
L30	1	("20170184288" "11143 392" "7458690" "20060 126025").PN. AND test\$5 SAME seal\$5 AND (temperature OR	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:39 AM

L31	1	pressure) NEAR sensor ("20170184288" "11143392" "7458690" "20060126025").PN. AND test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer)	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:41 AM
L32	295	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND (breath\$6 WITH valve OR unblocking OR blocking) AND switch	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:44 AM
L33	13	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND breath\$6 WITH valve AND (unblocking OR blocking) AND switch	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:45 AM
L34	231	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND valve AND (unblocking OR blocking) AND switch	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:46 AM
L35	406	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND valve AND switch	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:47 AM
L36	429	35 NOT 34	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20

			USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				10:47 AM
L37	175	35 NOT 34	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:48 AM
L38	31	((US-20220325883-A1 OR US-20180352121-A1 OR US-20230041557-A1 OR US-20180343772-A1 OR US-20170184288-A1 OR US-20170175963-A1 OR US-20150173148-A1 OR US-20100204841-A1 OR US-20100014293-A1 OR US-20050128751-A1 OR US-20180149347-A1 OR US-20100118279-A1 OR US-20090046255-A1 OR US-20070200955-A1 OR US-20210162912-A1 OR US-20200363044-A1 OR US-20200318825-A1 OR US-20180279924-A1 OR US-20060126025-A1).did. AND PGPB.dbnm.) OR ((US-11073271-B1 OR US-7175297-B2 OR US-11549679-B2 OR US-9777917-B2 OR US-4701833-A OR US-4405974-A OR US-10422520-B2 OR US-6664745-B2 OR US-6621239-B1 OR US-11143392-B2 OR US-10634297-B2 OR US-7458690-B2).did. AND USPT.dbnm.)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 10:48 AM
L39	0	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:49 AM

L40	0	contro\$7 AND valve AND switch AND 38 (light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch AND 38	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:49 AM
L41	0	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND 38	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:49 AM
L42	1	(light NEAR source OR emitting NEAR light) AND test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND 38	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:49 AM
L43	2	(light NEAR source OR emitting NEAR light) AND test\$5 AND seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND 38	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:50 AM
L44	2	(light NEAR source OR emitting NEAR light) AND test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND ("10502400" "9857066" "20170184288" "20180142872" "9420074" "11708945" "7922354"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:52 AM

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		"20230053659" "20100231131" "20210367114" "9163802" "20100259917" "20110127557" "9765742" "20220029064" "7646029" "20120007125" "10054287" "8080819" "8162498" "20110175520" "8033677" "8632230" "10655833" "20140230531" "20230273088" "20060022214" "20130009189" "20170343185" "5339678" "20130009567" "20110128718" "11221127" "10497555" "20100171145" "20230056649" "8330373" "20180156437" "20220090765" "5600070" "20200278107" "20110121734" "9388973" "11339951" "10008378" "10401007" "8926138" "10364971" "4157656" "20120262771").pn. ("10132712" "20140230525" "20170049164").pn. OR ("10578509").urpn. AND (PGPB USPT USOC).dbnm.					
L45	3		(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:54 AM
L46	3	test\$5 WITH seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND ("10502400" "9857066" "20170184288" "20180142872" "9420074" "11708945" "7922354" "20230160542" "10724724"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:56 AM

		"20170089557" "11499681" "20090046457" "11655943" "20110304268" "20230160544" "20100182786" "20230160543" "7948184" "20150327412" "10352550" "20080116814" "8444283" "3221319" "9285109" "11192063" "20130223059" "20140111998" "11655966" "11549679" "10047921" "20200222849" "11029015" "9655203" "10215394" "20230258318" "10222014" "20220325883" "20230138515" "8836232" "20210278062" "20050201088" "20150035451" "20230107396" "20180128437" "10578509" "10260722" "20130057177" "20180340662" "9420661" "11671684" "20150035437" "9629220" "20190041291" "10551047" "20160040841" "11355676" "11114592" "20190234603" "10336202" "4031742" "7845825" "20180160509" "8441214" "8746050" "20200358931" "8201967" "20220085256" "20210193883" "11217733" "8754595" "8334644" "8089207" "20100172122" "20130257285" "20120073361" "20170166067" "20230053659" "20100231131"					
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		"20210367114" "9163802" "20100259917" "20110127557" "9765742" "20220029064" "7646029" "20120007125" "10054287" "8080819" "8162498" "20110175520" "8033677" "8632230" "10655833" "20140230531" "20230273088" "20060022214" "20130009189" "20170343185" "5339678" "20130009567" "20110128718" "11221127" "10497555" "20100171145" "20230056649" "8330373" "20180156437" "20220090765" "5600070" "20200278107" "20110121734" "9388973" "11339951" "10008378" "10401007" "8926138" "10364971" "4157656" "20120262771").pn. test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking) AND ("10502400" "9857066" "20170184288" "20180142872" "9420074" "11708945" "7922354" "20230160542" "10724724" "20170089557" "11499681" "20090046457" "11655943" "20110304268" "20230160544" "20100182786" "20230160543"					
L47	0	test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking) AND ("10502400" "9857066" "20170184288" "20180142872" "9420074" "11708945" "7922354" "20230160542" "10724724" "20170089557" "11499681" "20090046457" "11655943" "20110304268" "20230160544" "20100182786" "20230160543"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:57 AM

		"7948184" "20150327412" "10352550" "20080116814" "8444283" "3221319" "9285109" "11192063" "20130223059" "20140111998" "11655966" "11549679" "10047921" "20200222849" "11029015" "9655203" "10215394" "20230258318" "10222014" "20220325883" "20230138515" "8836232" "20210278062" "20050201088" "20150035451" "20230107396" "20180128437" "10578509" "10260722" "20130057177" "20180340662" "9420661" "11671684" "20150035437" "9629220" "20190041291" "10551047" "20160040841" "11355676" "11114592" "20190234603" "10336202" "4031742" "7845825" "20180160509" "8441214" "8746050" "20200358931" "8201967" "20220085256" "20210193883" "11217733" "8754595" "8334644" "8089207" "20100172122" "20130257285" "20120073361" "20170166067" "20230053659" "20100231131" "20210367114" "9163802" "20100259917" "20110127557" "9765742" "20220029064" "7646029" "20120007125"					
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		"10054287" "8080819" "8162498" "20110175520" "8033677" "8632230" "10655833" "20140230531" "20230273088" "20060022214" "20130009189" "20170343185" "5339678" "20130009567" "20110128718" "11221127" "10497555" "20100171145" "20230056649" "8330373" "20180156437" "20220090765" "5600070" "20200278107" "20110121734" "9388973" "11339951" "10008378" "10401007" "8926138" "10364971" "4157656" "20120262771").pn.					
L48	1202	test\$5 SAME seal\$5 AND (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking)	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:57 AM
L49	0	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking) AND self NEAR test WITH sealing	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:58 AM
L50	2	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND (unblocking OR blocking) AND self NEAR test WITH sea\$7	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:58 AM
L51	12	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 10:58 AM

L52	3	AND self NEAR test WITH sea\$7 (temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 AND switch\$5 AND ("20170184288" "11143 392" "7458690" "20060 126025" "20190041291 ").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:01 AM
L53	3	(temperature NEAR sensor) AND (pressure NEAR sensor OR barometer) AND contro\$7 WITH seal\$7 AND ("20170184288" "11143 392" "7458690" "20060 126025" "20190041291 ").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:32 AM
L54	2	valve AND contro\$7 AND (switch\$5 OR activ\$5) AND ("20170184288" "11143 392" "7458690" "20060 126025" "20190041291 ").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:55 AM
L55	7	("20170184288" "11143 392" "7458690" "20060 126025" "20190041291 ").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2023/09/20 02:11 PM
L56	1	(effect OR patt\$6) SAME head SAME receive AND ("4031742" "3221319" "10305265" "20230273088" "20170373475" "11389112" "6580221" "4157656" "7241986" "8091422" "9274408" "20100058837" "11506722" "9022578" "11412980" "9625383" "10307101" "10485475" "9954389" "8122763" "10998750" "20020057569" "11602281" "20050103988" "6125290" "10126164" "20130070208"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:06 PM

L57	12	"5275053" "20230069662" "3578404" "20150212400" "20090096619" "20150049335" "20200379053" "4752141" "8035822" "10107755" "4947036" "20180241241" "7460009" "20220139207" "5982288" "20090126482" "5808541" "10502400" "20190246977" "20160097501" "20060192968" "20170038251" "7874207" "5670946" "2357353" "8291759" "7928394" "4703174" "4672199" "7140733" "8091860" "10989755" "8746050" "10709388" "20110304268").pn. (effect OR patt\$6) SAME receiv\$5 AND ("4031742" "3221319" "10305265" "20230273088" "20170373475" "11389112" "6580221" "4157656" "7241986" "8091422" "9274408" "20100058837" "11506722" "9022578" "11412980" "9625383" "10307101" "10485475" "9954389" "8122763" "10998750" "20020057569" "11602281" "20050103988" "6125290" "10126164" "20130070208" "5275053" "20230069662" "3578404" "20150212400" "20090096619" "20150049335" "20200379053" "4752141" "8035822" "10107755" "4947036" "20180241241" "7460009" "20220139207"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:07 PM
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L58	257	"5982288" "20090126482" "5808541" "10502400" "20190246977" "20160097501" "20060192968" "20170038251" "7874207" "5670946" "2357353" "8291759" "7928394" "4703174" "4672199" "7140733" "8091860" "10989755" "8746050" "10709388" "20110304268").pn. ("4031742" "3221319" "10305265" "20230273088" "20170373475" "11389112" "6580221" "4157656" "7241986" "8091422" "9274408" "20100058837" "11506722" "9022578" "11412980" "9625383" "10307101" "10485475" "9954389" "8122763" "10998750" "20020057569" "11602281" "20050103988" "6125290" "10126164" "20130070208" "5275053" "20230069662" "3578404" "20150212400" "20090096619" "20150049335" "20200379053" "4752141" "8035822" "10107755" "4947036" "20180241241" "7460009" "20220139207" "5982288" "20090126482" "5808541" "10502400" "20190246977" "20160097501" "20060192968" "20170038251" "7874207" "5670946" "2357353" "8291759" "7928394" "4703174" "4672199" "7140733" "8091860" "10989755" "8746050" "10709388" "20110304268").pn.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:08 PM
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L59	65	("4031742" "3221319" "10305265" "20230273088" "20170373475" "11389112" "6580221" "4157656" "7241986" "8091422" "9274408" "20100058837" "11506722" "9022578" "11412980" "9625383" "10307101" "10485475" "9954389" "8122763" "10998750" "20020057569" "11602281" "20050103988" "6125290" "10126164" "20130070208" "5275053" "20230069662" "3578404" "20150212400" "20090096619" "20150049335" "20200379053" "4752141" "8035822" "10107755" "4947036" "20180241241" "7460009" "20220139207" "5982288" "20090126482" "5808541" "10502400" "20190246977" "20160097501" "20060192968" "20170038251" "7874207" "5670946" "2357353" "8291759" "7928394" "4703174" "4672199" "7140733" "8091860" "10989755" "8746050" "10709388" "20110304268").pn.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:08 PM
L60	33	((US-20220325883-A1 OR US-20180352121- A1 OR US- 20230041557-A1 OR US-20180343772-A1 OR US-20170184288- A1 OR US- 20170175963-A1 OR US-20150173148-A1 OR US-20100204841- A1 OR US- 20100014293-A1 OR US-20050128751-A1 OR US-20180149347-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:08 PM

L61	33	A1 OR US- 20100118279-A1 OR US-20090046255-A1 OR US-20070200955- A1 OR US- 20210162912-A1 OR US-20200363044-A1 OR US-20200318825- A1 OR US- 20180279924-A1 OR US-20060126025-A1 OR US-20190041291- A1).did. AND PGPB.dbnm.) OR ((US- 11073271-B1 OR US- 7175297-B2 OR US- 11549679-B2 OR US- 9777917-B2 OR US- 4701833-A OR US- 4405974-A OR US- 10422520-B2 OR US- 6664745-B2 OR US- 6621239-B1 OR US- 11143392-B2 OR US- 10634297-B2 OR US- 7458690-B2 OR US- 10709388-B2).did. AND USPT.dbnm.) ((US-20220325883-A1 OR US-20180352121- A1 OR US- 20230041557-A1 OR US-20180343772-A1 OR US-20170184288- A1 OR US- 20170175963-A1 OR US-20150173148-A1 OR US-20100204841- A1 OR US- 20100014293-A1 OR US-20050128751-A1 OR US-20180149347- A1 OR US- 20100118279-A1 OR US-20090046255-A1 OR US-20070200955- A1 OR US- 20210162912-A1 OR US-20200363044-A1 OR US-20200318825- A1 OR US- 20180279924-A1 OR US-20060126025-A1 OR US-20190041291- A1).did. AND PGPB.dbnm.) OR ((US- 11073271-B1 OR US- 7175297-B2 OR US-	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:09 PM
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L62	0	11549679-B2 OR US-9777917-B2 OR US-4701833-A OR US-4405974-A OR US-10422520-B2 OR US-6664745-B2 OR US-6621239-B1 OR US-11143392-B2 OR US-10634297-B2 OR US-7458690-B2 OR US-10709388-B2).did. AND USPT.dbnm.)	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:09 PM
L63	3	("2022/0325883").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:10 PM
L64	5	("9777917" "4405974" "4701833").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:11 PM
L65	3	("20090122570" "20110222305" "20150070927").pn. OR ("9777917").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:14 PM
L66	14	("4405974" "4701833" "9777917").pn. OR ("11549679").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:16 PM
L67	26	("6283600" "6545416" "D618377" "7789525" "9777917" "10197234" "20080062692" "20080089066" "20080116475" "20090027890" "20100044589" "20140119019" "20150103553").pn. OR ("10753594").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:17 PM
L68	47	("4164784" "4674015" "4701833" "5136493" "5640061" "6290375" "6866402" "6926427" "6964503" "6969181" "7172316").pn. OR ("7789525").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:21 PM
		((US-20220325883-A1 OR US-20180352121-A1 OR US-20230041557-A1 OR US-20180343772-A1	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2023/09/20 03:21 PM

		OR US-20170184288-A1 OR US-20170175963-A1 OR US-20150173148-A1 OR US-20100204841-A1 OR US-20100014293-A1 OR US-20050128751-A1 OR US-20180149347-A1 OR US-20100118279-A1 OR US-20090046255-A1 OR US-20070200955-A1 OR US-20210162912-A1 OR US-20200363044-A1 OR US-20200318825-A1 OR US-20180279924-A1 OR US-20060126025-A1 OR US-20190041291-A1 OR US-20150103553-A1 OR US-20140119019-A1 OR US-20100044589-A1 OR US-20080116475-A1 OR US-20080089066-A1 OR US-20080062692-A1).did. AND PGPB.dbnm.) OR ((US-11073271-B1 OR US-7175297-B2 OR US-11549679-B2 OR US-9777917-B2 OR US-4701833-A OR US-4405974-A OR US-10422520-B2 OR US-6664745-B2 OR US-6621239-B1 OR US-11143392-B2 OR US-10634297-B2 OR US-7458690-B2 OR US-10709388-B2 OR US-10753594-B2 OR US-10197234-B2 OR US-7789525-B2 OR US-D618377-S OR US-6545416-B1 OR US-6283600-B1 OR US-6969181-B1 OR US-6964503-B2).did. AND USPT.dbnm.)	SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L69	47	((US-20220325883-A1 OR US-20180352121-A1 OR US-20230041557-A1 OR US-20180343772-A1	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:21 PM

L70	14	OR US-20170184288-A1 OR US-20170175963-A1 OR US-20150173148-A1 OR US-20100204841-A1 OR US-20100014293-A1 OR US-20050128751-A1 OR US-20180149347-A1 OR US-20100118279-A1 OR US-20090046255-A1 OR US-20070200955-A1 OR US-20210162912-A1 OR US-20200363044-A1 OR US-20200318825-A1 OR US-20180279924-A1 OR US-20060126025-A1 OR US-20190041291-A1 OR US-20150103553-A1 OR US-20140119019-A1 OR US-20100044589-A1 OR US-20080116475-A1 OR US-20080089066-A1 OR US-20080062692-A1).did. AND PGPB.dbnm.) OR ((US-11073271-B1 OR US-7175297-B2 OR US-11549679-B2 OR US-9777917-B2 OR US-4701833-A OR US-4405974-A OR US-10422520-B2 OR US-6664745-B2 OR US-6621239-B1 OR US-11143392-B2 OR US-10634297-B2 OR US-7458690-B2 OR US-10709388-B2 OR US-10753594-B2 OR US-10197234-B2 OR US-7789525-B2 OR US-D618377-S OR US-6545416-B1 OR US-6283600-B1 OR US-6969181-B1 OR US-6964503-B2).did. AND USPT.dbnm.) (effect OR patt\$6) SAME emitt\$6 AND 69	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2023/09/20 03:21 PM
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L71	14	(effect OR patt\$6) SAME emitt\$6 AND 69	SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:21 PM
L72	54	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/09/20 03:31 PM
L73	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND (temperature OR pressure) NEAR sensor AND contro\$7 AND switch\$5 AND test\$5 WITH sea\$	(USPAT)	OR	ON	ON	2023/09/20 03:40 PM
L74	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND (temperature OR pressure) NEAR sensor AND contro\$7 AND switch\$5 AND test\$5 AND sea\$	(USPAT)	OR	ON	ON	2023/09/20 03:40 PM
L75	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND sensor AND contro\$7 AND switch\$5 AND test\$5 AND sea\$	(USPAT)	OR	ON	ON	2023/09/20 03:40 PM
L76	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND sensor AND contro\$7 AND switch\$5 AND test\$5 AND sea\$	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:40 PM
L77	6	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND sensor AND contro\$7 AND switch\$5 AND sea\$	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:41 PM
L78	16	((("GUANGZHOU")	(US-PGPUB; USPAT;	OR	ON	ON	2023/09/20

L79	13	near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND contro\$7 AND switch\$5 AND sea\$	USOCR)				03:43 PM
		("3644728" "5882107" "6605907" "6866402" "8201974" "20070145937" "20090080204" "20090323363" "20130120984" "20140009949").pn. OR ("10969087").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:44 PM
L80	27	("2097537" "6291951" "6321883" "6483268" "6633286" "8528878" "10488024" "20040165385" "20050047142" "20060006751" "20070285037" "20080062692" "20080156597" "20090323363" "20100007299" "20110164428" "20110261568" "20140177258" "20150003099" "20160377256" "20170033714" "20170063259" "20170130945" "20180313521" "20190089273").pn. OR ("11060700").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:44 PM
L81	69	((US-20220325883-A1 OR US-20180352121- A1 OR US- 20230041557-A1 OR US-20180343772-A1 OR US-20170184288- A1 OR US- 20170175963-A1 OR US-20150173148-A1 OR US-20100204841- A1 OR US- 20100014293-A1 OR US-20050128751-A1 OR US-20180149347- A1 OR US-	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:46 PM

		20100118279-A1 OR US-20090046255-A1 OR US-20070200955- A1 OR US- 20210162912-A1 OR US-20200363044-A1 OR US-20200318825- A1 OR US- 20180279924-A1 OR US-20060126025-A1 OR US-20190041291- A1 OR US- 20150103553-A1 OR US-20140119019-A1 OR US-20100044589- A1 OR US- 20080116475-A1 OR US-20080089066-A1 OR US-20080062692- A1 OR US- 20130120984-A1 OR US-20150003099-A1 OR US-20110261568- A1 OR US- 20050047142-A1).did. AND PGPB.dbnm.) OR ((US-11073271-B1 OR US-7175297-B2 OR US-11549679-B2 OR US-9777917-B2 OR US-4701833-A OR US- 4405974-A OR US- 10422520-B2 OR US- 6664745-B2 OR US- 6621239-B1 OR US- 11143392-B2 OR US- 10634297-B2 OR US- 7458690-B2 OR US- 10709388-B2 OR US- 10753594-B2 OR US- 10197234-B2 OR US- 7789525-B2 OR US- D618377-S OR US- 6545416-B1 OR US- 6283600-B1 OR US- 6969181-B1 OR US- 6964503-B2 OR US- 11662088-B1 OR US- 11592164-B2 OR US- 11493188-B2 OR US- 11421858-B2 OR US- 11378266-B2 OR US- 11339956-B2 OR US- 11131505-B2 OR US- 11105477-B2 OR US- 11060700-B2 OR US- 11060713-B2 OR US- 10969094-B2 OR US-					
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L82	1	10969087-B1 OR US-10962215-B2 OR US-10823389-B2 OR US-10816186-B2 OR US-10533734-B2 OR US-10174911-B2 OR US-9863607-B2).did. AND USPT.dbnm.) 81 AND seal\$5 AND pipeline AND block\$5	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:48 PM
L83	35	81 AND seal\$5	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 03:49 PM
L84	35	81 AND seal\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:49 PM
L85	2	("20170184288" "11143392" "7458690" "20060126025" "20190041291" "11549679" "9777917" "10634297" "20150103553" "20140119019" "11060713" "10969094"). PN. AND switch\$7 AND valve AND heat\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 03:58 PM
L86	1	("20170184288" "11143392" "7458690" "20060126025" "20190041291" "11549679" "9777917" "10634297" "20150103553" "20140119019" "11060713" "10969094" "20210095834").PN. AND switch\$7 AND valve AND heat\$5 AND effe\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:02 PM
L87	2	("20170184288" "11143392" "7458690" "20060126025" "20190041291" "11549679" "9777917" "10634297" "20150103553" "20140119019" "11060713" "10969094" "20210095834").PN. AND switch\$7 AND effe\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:02 PM

L88	120	("10054285" "20030202349" "20020024808" "6953265" "20170370553" "6729746" "9212812" "4630182" "9028087" "20140226339" "20120134153" "20150241050" "9255705" "10863061" "9534775" "20190289181" "20160153649" "20140218941" "11562770" "10551726" "9435519" "20080278941" "20110090684" "20190079374" "20110216538" "7878683" "8434897" "8408741" "20150252982" "20220301591" "10228111" "20140268747" "20110063831" "20160273752" "9052075" "10378749" "10571112" "6080101" "20070263393" "8197098" "9222632" "8651704" "7722220").pn.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/20 08:15 PM
L89	43	("10054285" "20030202349" "20020024808" "6953265" "20170370553" "6729746" "9212812" "4630182" "9028087" "20140226339" "20120134153" "20150241050" "9255705" "10863061" "9534775" "20190289181" "20160153649" "20140218941" "11562770" "10551726" "9435519" "20080278941" "20110090684" "20190079374" "20110216538" "7878683" "8434897" "8408741"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 08:15 PM

		"20150252982" "20220301591" "10228111" "20140268747" "20110063831" "20160273752" "9052075" "10378749" "10571112" "6080101" "20070263393" "8197098" "9222632" "8651704" "7722220").pn.					
L90	0	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:02 PM
L91	0	stage NEAR light AND waterproof AND temperature NEAR sensor AND pressure AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:03 PM
L92	0	stage NEAR light AND sensor AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:03 PM
L93	0	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND switch AND electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:04 PM
L94	46	(F21V31/03 OR F21V15/01 OR F21V21/30 OR F21V23/009 OR F21V31/005).cpc. AND switch AND electromagnetic AND valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:04 PM
L95	3	stage NEAR light AND sensor AND switch AND electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:06 PM
L96	15	("11078877" "20200032751" "6538428" "20030042893" "20230279965"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:08 PM

L97	561	"6427971" "9382693" "20150345112" "20010003972" "6378473" "4953590" "5101856" "6044814" "20030080306" "6759640").pn. stage NEAR light AND sensor AND switch\$5 AND electromagnetic	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:09 PM
L98	133	stage NEAR light AND sensor AND switch\$5 SAME electromagnetic	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:09 PM
L99	2	stage NEAR light AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:10 PM
L100	3673	proj\$7 AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:11 PM
L101	232	Proje\$7 WITH light AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:12 PM
L102	598	light NEAR source AND switch SAME electromagnetic SAME valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:15 PM
L103	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND switch AND electromagnetic AND valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:16 PM
L104	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND switch AND \$7magnetic AND valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:16 PM
L105	0	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3 ("LTD"))).AS,AANM. AND switch AND \$7magnet\$5 AND valve	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:16 PM
L106	13	((("GUANGZHOU") near3 ("HAOYANG") near3 ("ELECTRONIC") near3 ("CO") near3	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/20 11:16 PM

L107	3055	("LTD"))).AS,AANM. AND switch AND \$7magnet\$5 (F21V15/01 OR F21V23/009 OR F21V31/005).cpc. AND light WITH shield\$5	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/21 07:52 AM
L108	752	(F21V15/01 OR F21V23/009 OR F21V31/005).cpc. AND light WITH shield\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:52 AM
L109	52	(F21V15/01 OR F21V23/009 OR F21V31/005).cpc. AND light WITH shield\$5 AND self AND test\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:52 AM
L110	13574	light WITH shield\$5 AND self AND test\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:55 AM
L111	517	light WITH shield\$5 AND self AND test\$5 SAME sealing	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:56 AM
L112	39	light WITH shield\$5 AND self SAME test\$5 SAME sealing	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:56 AM
L113	2	light WITH shield\$5 AND self NEAR test\$5 SAME sealing	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:57 AM
L114	40	light WITH shield\$5 SAME heat AND self NEAR test\$5	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 07:58 AM
L115	139	((("JIANG") near3 ("Weikai") OR ("CAI") near3 ("Jinjian")) OR (("CHEN") near3 ("Wenfeng")) OR (("HE") near3 ("Qingbi")) OR (("PENG") near3 ("Yinru"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/09/21 10:19 AM
L116	5	((("JIANG") near3 ("Weikai") OR ("CAI") near3 ("Jinjian")) OR (("CHEN") near3 ("Wenfeng")) OR (("HE") near3 ("Qingbi")) OR (("PENG") near3 ("Yinru"))).INV. AND auxiliary AND heat\$5	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/09/21 10:19 AM
L117	5	("20060181894"	(US-PGPUB; USPAT;	OR	ON	ON	2023/09/21

		"20120127744" "20120201031" "20130107531" "20130135857").pn. OR ("11131505").urpn. AND (PGPB USPT USOC).dbnm.	USOCR)				10:31 AM
L118	0	light AND shield\$5 AND heat AND test\$5 AND effect\$ AND ("20170184288" "11143 392" "7458690" "20060 126025" "20190041291 "11549679" "9777917" "10634297" "20150103 553" "20140119019" "1 1060713" "10969094" " 20210095834").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 10:33 AM
L119	0	light AND shield\$5 AND heat\$5 AND test\$5 AND effect\$ AND ("20170184288" "11143 392" "7458690" "20060 126025" "20190041291 "11549679" "9777917" "10634297" "20150103 553" "20140119019" "1 1060713" "10969094" " 20210095834").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 10:33 AM
L120	13	("20170184288" "11143 392" "7458690" "20060 126025" "20190041291 "11549679" "9777917" "10634297" "20150103 553" "20140119019" "1 1060713" "10969094" " 20210095834").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 10:34 AM
L121	2	"20140334149".pn.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/21 11:35 AM
L122	13	("20170184288" "11143 392" "7458690" "20060 126025" "20190041291 "11549679" "9777917" "10634297" "20150103 553" "20140119019" "1 1060713" "10969094" " 20210095834").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 11:50 AM
L123	8	("20170184288" "11143 392" "20140119019" "2 0060126025" "2019004	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2023/09/21 12:12 PM

		1291" "20210095834" "20150103553" "11060713").PN.					
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证 明

本证明之附件是向本局提交的下列专利申请文件副本。

申 请 号： 202320673598.5

申 请 类 型： 实用新型专利

发明 创造 名称： 一种具有密封自检功能的灯具

申 请 日： 2023年03月30日

申 请 人： 广州市浩洋电子股份有限公司

发明人或设计人： 不公布姓名、不公布姓名、不公布姓名、不公布姓名、彭颖茹

局长
申长雨

2023 年 04 月 06 日

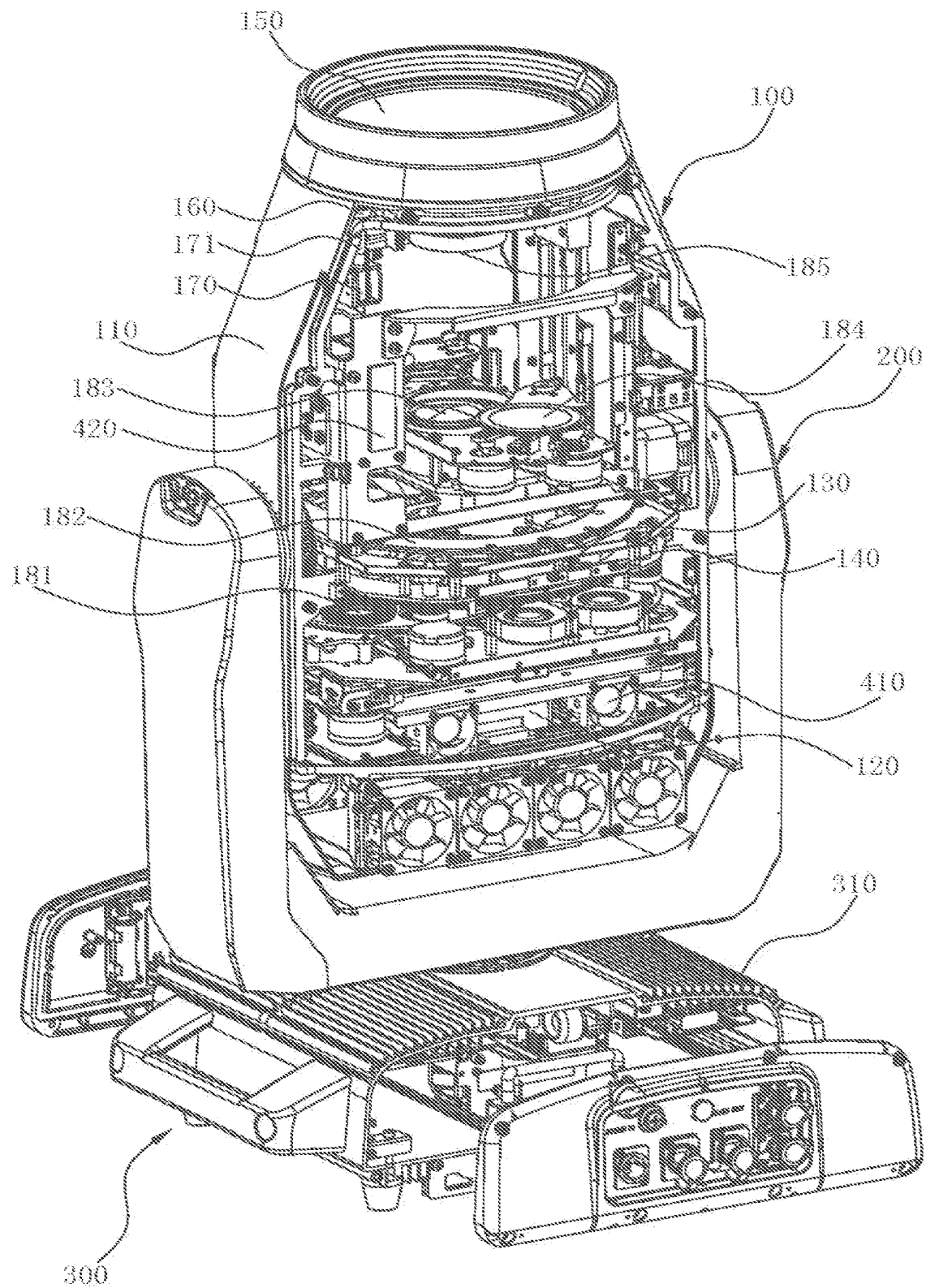


图 1

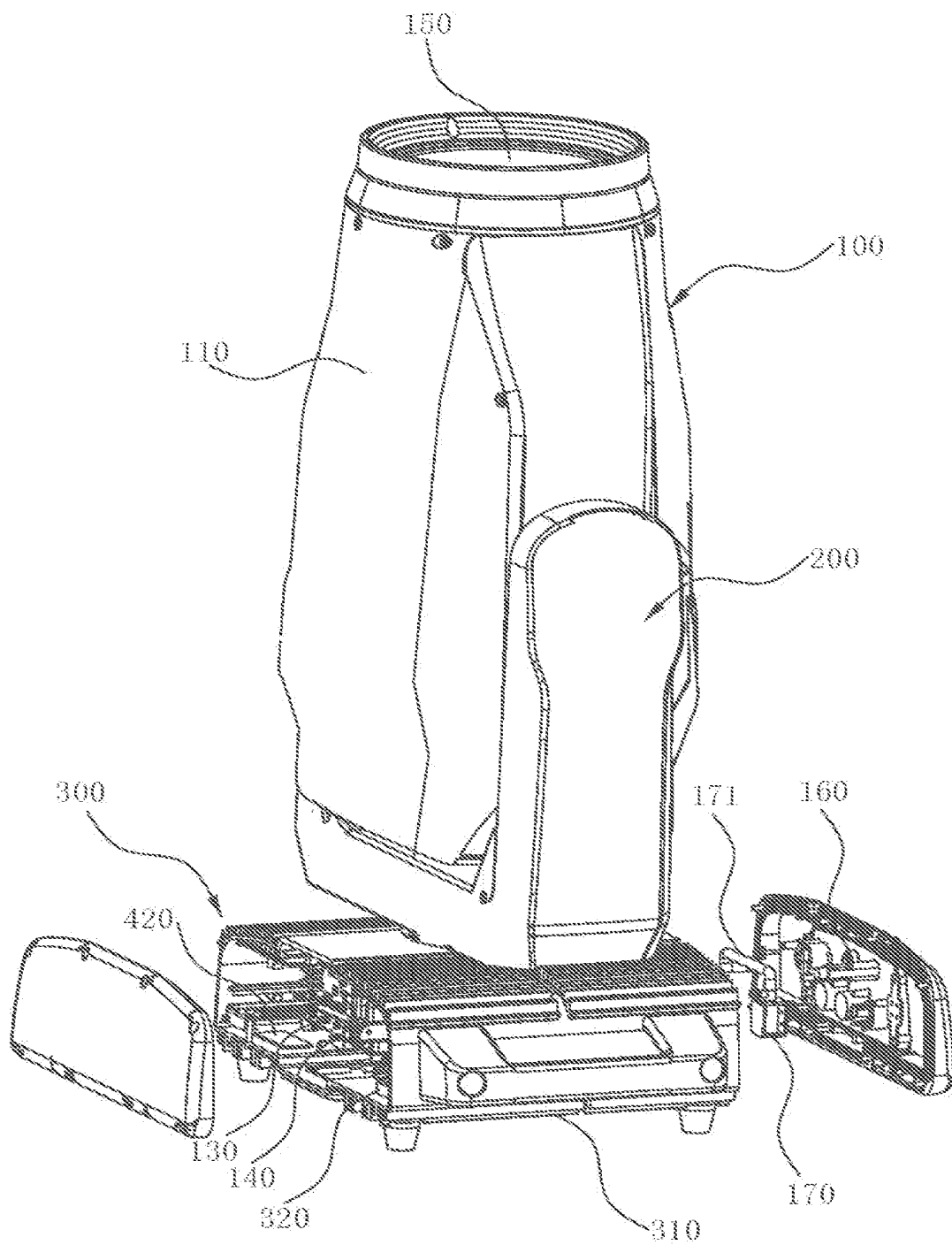


图 2

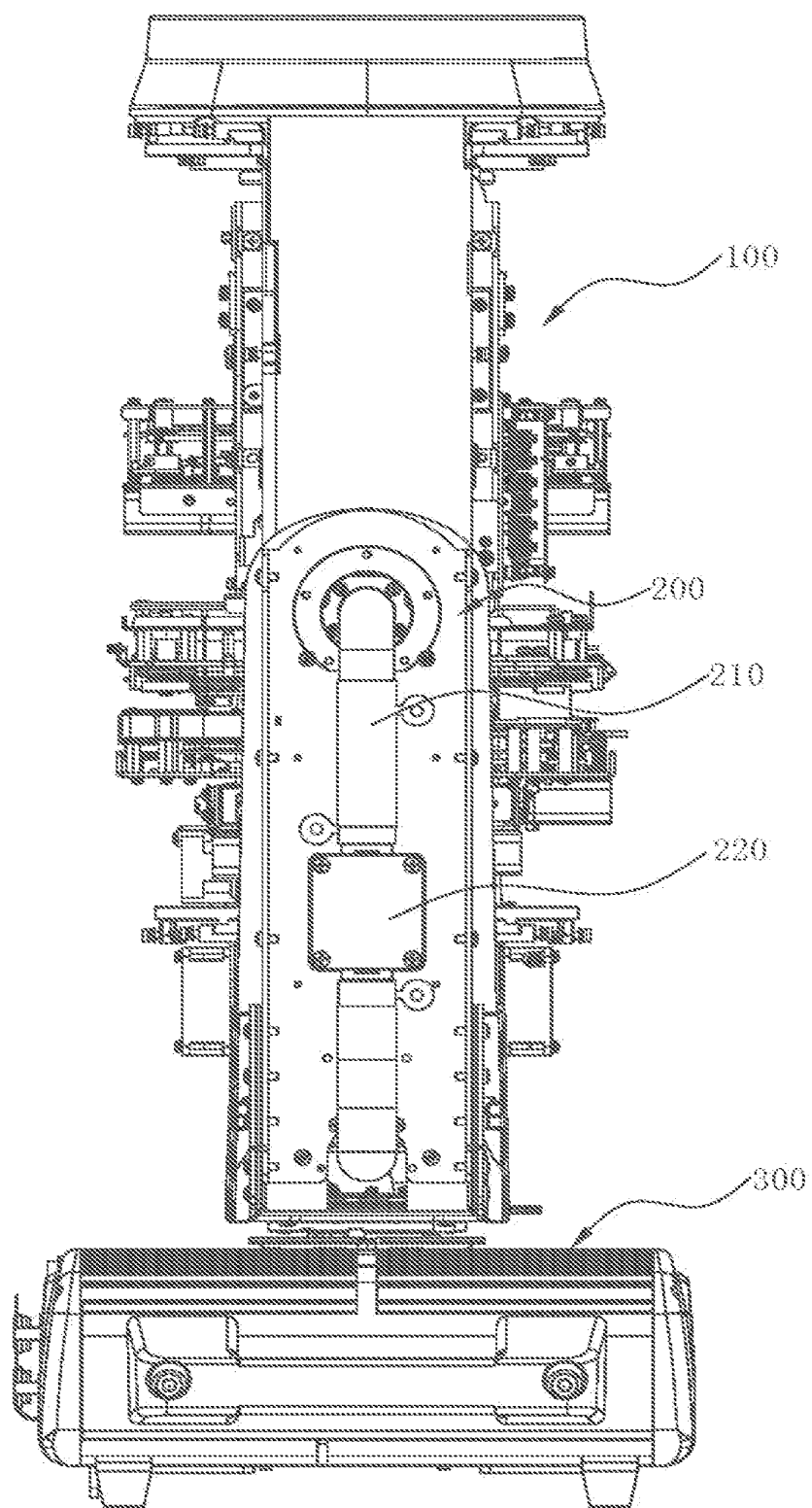


图 3

一种具有密封自检功能的灯具

技术领域

[0001] 本实用新型涉及舞台灯技术领域，更具体地，涉及一种具有密封自检功能的灯具。

背景技术

[0002] 目前的灯具为了适应户外或者环境的使用，会将灯具的外壳设置为密封结构，即外壳的拼接处均通过防水条或者防水胶密封。这样就要求在出厂前或者灯具打开外壳维修后进行密封性检测，通常的密封性检测是往外壳内充入一定量气体，然后通过观察气体的泄漏情况，判断密封性能。出厂前的密封性检测需要逐一进行，费时费力，维修后的密封性检测又缺少专用设备，十分不便，另外，在灯具使用过程中，也可能会因为密封条或者防水胶老化、外壳受到撞击等出现外壳密封性被破坏的情况，此时使用者是无法及时知晓的。因此需要一种可以随时进行密封自检的灯具。

实用新型

[0003] 本实用新型为克服上述现有技术所述的至少一种缺陷，提供一种具有密封自检功能的灯具，能够随时自行检测其密封性，方便快捷。

[0004] 为解决上述技术问题，本实用新型采用的技术方案是：一种具有密封自检功能的灯具，包括具有头部壳体的灯头，所述头部壳体内设置有用发出光线并且产生热量的光源，以及用于检测所述头部壳体内部温度与气压的温度传感器和气压传感器，还包括用于根据所述温度传感器和所述气压传感器的检测结果判断所述头部壳体密封性的控制器，所述光源的光线从所述头部壳体的出光口射出，所述头部壳体设置有将所述头部壳体内部空间与灯具外部空间连通的防水透气阀，还包括封堵所述防水透气阀的密封开关，所述密封开关使所述头部壳体内部空间在与灯具外部空间隔绝或者连通的两种状态之间切换。

[0005] 所述具有密封自检功能的灯具正常工作时，所述灯头的密封开关打开，将所述头部壳体内部空间在与灯具外部空间连通，保证所述头部壳体内部与灯具外部气压平衡，避免由于所述头部壳体内部温度升高或降低引起气压变化，从而破坏所述头部壳体的密封性；在进行密封性检测时，密封开关关闭，将所述头部壳体内部空间在与灯具外部空间隔绝，然后利用光源发热，提高所述头部壳体内部气压，再根据所述温度传感器和所述气压传感器检测到的所述头部壳体内部的温度和气压，从而判断所述头部壳体的密封性。

[0006] 进一步地，所述头部壳体内部还设置有用接收所述光源发出的光线并产生光效的效

果组件。通过所述效果组件可以使所述灯头自所述出光口射出的光线，呈现出不同的效果，包括发散角、亮度、颜色、形状等。

[0007] 进一步地，所述头部壳体内还设置有用拦截所述光源发出的光线从而提高对所述头部壳体内部加热效率的遮光件。利用所述遮光件，可以减少自所述出光口射出的光线，从而使得光线聚集在所述头部壳体的内部，被所述遮光件或者其它元器件吸收后升高温度，加快对所述头部壳体内部的加热效率。

[0008] 进一步地，还包括用于支撑所述灯头旋转的支撑臂以及支撑所述支撑臂的机箱，所述机箱包括箱部壳体。所述灯头相对于所述支撑臂旋转，从而可以将光线投射向多个方向。

[0009] 进一步地，所述机箱还包括位于所述箱部壳体内部用于供电并且产生热量的开关电源，以及用于检测所述箱部壳体内部温度与气压的温度传感器和气压传感器，所述箱部壳体设置有将所述箱部壳体内部空间与灯具外部空间连通的防水透气阀，还包括封堵所述防水透气阀的密封开关，所述密封开关使所述箱部壳体内部空间在与灯具外部空间隔绝或者连通的两种状态之间切换。所述机箱的密封开关打开，将所述箱部壳体内部空间在与灯具外部空间连通，保证所述箱部壳体内部与灯具外部气压平衡，避免由于所述箱部壳体内部温度升高或降低引起气压变化，从而破坏所述箱部壳体的密封性；在进行密封性检测时，密封开关关闭，将所述箱部壳体内部空间在与灯具外部空间隔绝，然后利用光源发热，提高所述箱部壳体内部气压，再根据所述温度传感器和所述气压传感器检测到的所述箱部壳体内部的温度和气压，从而判断所述箱部壳体的密封性。

[0010] 进一步地，所述头部壳体与所述箱部壳体之间通过管道连通，且连接处密封。便于所述灯头与所述机箱之间的电力传输线缆与信号传输线缆通过，且不破坏所述头部壳体与所述箱部壳体的密封性。

[0011] 进一步地，所述管道设置有选择性隔断两者气体相互流动的隔断装置。利用所述隔断装置隔断所述头部壳体与所述箱部壳体气体相互流动，可以使所述灯头与所述机箱相互独立，温度与气压互不影响，避免影响所述头部壳体密封性检测判断。

[0012] 进一步地，还包括使所述头部壳体与所述箱部壳体内部温度同步升高的温控系统。所述温控系统协调控制所述头部壳体与所述箱部壳体内部温度，使两者保持一致，从而将两者当做一个整体进行气密性检测，避免两者的气压相互影响而温度不同步，导致根据温度和气压判断密封性不准确。

[0013] 进一步地，所述头部壳体或者所述箱部壳体内部还设置有匀热组件。所述匀热组件使

所述头部壳体或者所述箱部壳体内部各处的温度一致，更加符合理想气体状态方程。

[0014] 进一步地，所述头部壳体或者所述箱部壳体内部还设置有辅助加热组件提高加热速度。

[0015] 进一步地，所述密封开关为电磁阀。所述电磁阀通过导气管与所述防水透气阀连接。

[0016] 附图说明

图 1 是本实用新型灯头的内部结构示意图。

[0017] 图 2 是本实用新型机箱的爆炸结构示意图。

[0018] 图 3 是本实用新型管道连通所述头部壳体与所述箱部壳体的结构示意图。

[0019] 图中：

100、灯头；110、头部壳体；120、光源；130、温度传感器；140、气压传感器；150、出光口；160、防水透气阀；170、密封开关；171、导气管；181、图案片模组；182、切割器模组；183、棱镜模组；184、匀光模组；185、放大模组；200、支撑臂；210、管道；220、隔断装置；300、机箱；310、箱部壳体；320、开关电源；410、风扇；420、辅助加热组件。

实施方式

[0020] 附图仅用于示例性说明，不能理解为对本专利的限制；为了更好说明本实施例，附图某些部件会有省略、放大或缩小，并不代表实际产品的尺寸；对于本领域技术人员来说，附图中某些公知结构及其说明可能省略是可以理解的。附图中描述位置关系仅用于示例性说明，不能理解为对本专利的限制。

[0021] 如图 1，本实用新型提供一种具有密封自检功能的灯具，包括具有头部壳体 110 的灯头 100，所述头部壳体 110 内设置有用于发出光线并且产生热量的光源 120，以及用于检测所述头部壳体 110 内部温度与气压的温度传感器 130 和气压传感器 140，还包括用于根据所述温度传感器 130 和所述气压传感器 140 的检测结果判断所述头部壳体 110 密封性的控制器，所述光源 120 的光线从所述头部壳体 110 的出光口 150 射出，所述头部壳体 110 设置有将所述头部壳体 110 内部空间与灯具外部空间连通的防水透气阀 160，还包括封堵所述防水透气阀 160 的密封开关 170，所述密封开关 170 使所述头部壳体 110 内部空间在与灯具外部空间隔绝或者连通的两种状态之间切换。

[0022] 所述具有密封自检功能的灯具正常工作时，所述灯头 100 的密封开关 170 打开，将所述头部壳体 110 内部空间在与灯具外部空间连通，保证所述头部壳体 110 内部与灯具外部气压平衡，避免由于所述头部壳体 110 内部温度升高或降低引起气压变化，从而破坏所述头部壳体 110 的密封性；在进行密封性检测时，密封开关 170 关闭，将所述头部壳体 110 内部空

间在与灯具外部空间隔绝，然后利用光源 120 发热（光源 120 在发出光线的同时会产生大量的热），提高所述头部壳体 110 内部气压，再根据所述温度传感器 130 和所述气压传感器 140 检测到的所述头部壳体 110 内部的温度和气压，从而判断所述头部壳体 110 的密封性。

[0023] 需要说明的是，所述头部壳体 110 内部空间与灯具外部空间隔绝，不局限于所述头部壳体 110 内部空间自成一体，而是所述头部壳体 110 也可以与灯具内的其它元器件连通，只要该元器件可以实现与其外界空间隔绝即可。另外，防水透气阀 160 可以防止水进入所述头部壳体 110 内部，但是不影响气体进出。

[0024] 根据所述温度传感器 130 和所述气压传感器 140 检测到的所述头部壳体 110 内部的温度和气压，从而判断所述头部壳体 110 的密封性，可以是检测随着温度升高或降低，头部壳体 110 内部空间的气压变化是否线性，也可以是恒温条件下的气压浮动情况。

[0025] 本实用新型优选检测在一定温度范围内随着温度升到，头部壳体 110 内部空间的气压变化是否线性，进行密封性判断。

[0026] 优选地，所述密封开关 170 位于所述头部壳体 110 内部。

[0027] 可选地，所述温度传感器 130 位于所述头部壳体 110 内远离所述光源 120 一端。

[0028] 在本实用新型优选地实施例中，所述头部壳体 110 内部还设置有用接收所述光源 120 发出的光线并产生光效的效果组件。通过所述效果组件可以使所述灯头 100 自所述出光口 150 射出的光线，呈现出不同的效果，包括发散角、亮度、颜色、形状等。所述效果组件可以为频闪模组、滤光模组、图案片模组 181、色片模组、切割器模组 182、调焦模组、棱镜模组 183、匀光模组 184 或放大模组 185 中的一种或者多种，均为本领域常见元器件，不进行赘述。

[0029] 在本实用新型优选地实施例中，所述头部壳体 110 内还设置有用拦截所述光源 120 发出的光线从而提高对所述头部壳体 110 内部加热效率的遮光件。利用所述遮光件，可以减少自所述出光口 150 射出的光线，从而使得光线聚集在所述头部壳体 110 的内部，被所述遮光件或者其它元器件吸收后升高温度，加快对所述头部壳体 110 内部的加热效率。

[0030] 需要说明的是，所述遮光件可以额外设置，也可以利用现有的效果组件，例如频闪模组、滤光模组、图案片模组 181、色片模组、切割器模组 182、调焦模组、棱镜模组 183、匀光模组 184 或放大模组 185 来替代，只要能减少从所述出光口 150 射出的光线即可，从而可以提高所述头部壳体 110 内部的加热效率，例如频闪模组、图案片模组 181 及切割器模组 182 直接遮光，滤光模组及色片模组降低亮度，调焦模组、棱镜模组 183、匀光模组 184 及放大

模组 185 增大光束发散角，使光线分散，减少从所述出光口 150 射出的光线。

[0031] 在本实用新型优选地实施例中，还包括用于支撑所述灯头 100 旋转的支撑臂 200 以及支撑所述支撑臂 200 的机箱 300，所述机箱 300 包括箱部壳体 310。所述灯头 100 相对于所述支撑臂 200 旋转，从而可以将光线投射向多个方向。

[0032] 优选地，所述支撑臂 200 也可以相对于所述机箱 300 旋转。

[0033] 如图 2，在本实用新型优选地实施例中，所述机箱 300 还包括位于所述箱部壳体 310 内部用于供电并且产生热量的开关电源 320，以及用于检测所述箱部壳体 310 内部温度与气压的温度传感器 130 和气压传感器 140，所述箱部壳体 310 设置有将所述箱部壳体 310 内部空间与灯具外部空间连通的防水透气阀 160，还包括封堵所述防水透气阀 160 的密封开关 170，所述密封开关 170 使所述箱部壳体 310 内部空间在与灯具外部空间隔绝或者连通的两种状态之间切换。所述机箱 300 的密封开关 170 打开，将所述箱部壳体 310 内部空间在与灯具外部空间连通，保证所述箱部壳体 310 内部与灯具外部气压平衡，避免由于所述箱部壳体 310 内部温度升高或降低引起气压变化，从而破坏所述箱部壳体 310 的密封性；在进行密封性检测时，密封开关 170 关闭，将所述箱部壳体 310 内部空间在与灯具外部空间隔绝，然后利用开关电源 320 发热（开关电源 320 在工作的同时会产生大量的热），提高所述箱部壳体 310 内部气压，再根据所述温度传感器 130 和所述气压传感器 140 检测到的所述箱部壳体 310 内部的温度和气压，从而判断所述箱部壳体 310 的密封性。

[0034] 需要说明的是，所述箱部壳体 310 内部空间与灯具外部空间隔绝，不局限于所述箱部壳体 310 内部空间自成一体，而是所述箱部壳体 310 也可以与灯具内的其它元器件连通，只要该元器件可以实现与其外界空间隔绝即可。另外，防水透气阀 160 可以防止水进入所述箱部壳体 310 内部，但是不影响气体进出。

[0035] 如图 3，在本实用新型优选地实施例中，所述头部壳体 110 与所述箱部壳体 310 之间通过管道 210 连通，且连接处密封。便于所述灯头 100 与所述机箱 300 之间的电力传输线缆与信号传输线缆通过，且不破坏所述头部壳体 110 与所述箱部壳体 310 的密封性。

[0036] 在本实施例中，所述管道 210 与所述头部壳体 110 和所述箱部壳体 310 的连接处通过可旋转密封空气联轴器连接，例如常见的油封，实现即可相对旋转，又不会漏气。

[0037] 在本实用新型优选地实施例中，所述管道 210 设置有选择性隔断两者气体相互流动的隔断装置 220。利用所述隔断装置 220 隔断所述头部壳体 110 与所述箱部壳体 310 气体相互流动，可以使所述灯头 100 与所述机箱 300 相互独立，温度与气压互不影响，避免影响所述头

部壳体 110 或者所述箱部壳体 310 密封性检测判断。

[0038] 所述隔断装置 220 可以为具有过线孔的密封塞，或者使用电磁阀。

[0039] 在本实用新型优选地实施例中，还包括使所述头部壳体 110 与所述箱部壳体 310 内部温度同步升高的温控系统。所述温控系统协调控制所述头部壳体 110 与所述箱部壳体 310 内部温度，使两者保持一致，从而将两者当做一个整体进行气密性检测，避免两者的气压相互影响（一致）而温度不同步，导致根据温度和气压判断密封性不准确。

[0040] 可选地，当所述箱部壳体 310 内部没有密封自检组件（包括温度传感器 130、气压传感器 140 和加热件）时，所述温控系统为设置于所述管道 210 促进所述头部壳体 110 与所述箱部壳体 310 内部气体相互流动的促流装置（例如风机）。利用所述促流装置促进所述头部壳体 110 与所述箱部壳体 310 内部气体相互流动，可以使所述头部壳体 110 与所述箱部壳体 310 内部的温度一致。

[0041] 当所述箱部壳体 310 内部设有密封自检组件（包括温度传感器 130、气压传感器 140 和加热件）时，所述温控系统为协调所述头部壳体 110 与所述箱部壳体 310 内部加热元件加热功率的微处理器（可以用控制器替代）和温度传感器 130。控制各自加热元件的加热功率，使温度传感器 130 检测到的温度同步上升，从而实现所述头部壳体 110 与所述箱部壳体 310 内部的温度与气压均同步变化。

[0042] 如图 1，在本实用新型优选地实施例中，所述头部壳体 110 或者所述箱部壳体 310 内部还设置有匀热组件。所述匀热组件使所述头部壳体 110 或者所述箱部壳体 310 内部各处的温度一致，更加符合理想气体状态方程。

[0043] 可选地，所述匀热组件为风扇 410 或者导热件，例如散热鳍片或者传热网。

[0044] 在本实用新型优选地实施例中，所述头部壳体 110 或者所述箱部壳体 310 内部还设置有辅助加热组件 420 提高加热速度。

[0045] 可选地，所述辅助加热组件 420 设置在与所述头部壳体 110 内与所述光源 120 远离一端，或者所述箱部壳体 310 内与所述开关电源 320 远离一端，加热更均匀。

[0046] 在本实用新型优选地实施例中，所述密封开关 170 为电磁阀。所述电磁阀通过导气管 171 与所述防水透气阀 160 连接。

[0047] 所述电磁阀一般具有进气口与出气口，所述导气管 171 与所述进气口连接，所述出气口裸露。

[0048] 显然，本实用新型的上述实施例仅仅是为了清楚地说明本实用新型所作的举例，而

说明书

并非是对本实用新型的实施方式的限定。对于所属领域的普通技术人员来说，在上述说明的基础上还可以做出其它不同形式的变化或变动。这里无需也无法对所有的实施方式予以穷举。凡在本实用新型的精神和原则之内所作的任何修改、等同替换和改进等，均应包含在本实用新型权利要求的保护范围之内。

1. 一种具有密封自检功能的灯具，其特征在于，包括具有头部壳体(110)的灯头(100)，所述头部壳体(110)内设置有用于发出光线并且产生热量的光源(120)，以及用于检测所述头部壳体(110)内部温度与气压的温度传感器(130)和气压传感器(140)，还包括用于根据所述温度传感器(130)和所述气压传感器(140)的检测结果判断所述头部壳体(110)密封性的控制器，所述光源(120)的光线从所述头部壳体(110)的出光口(150)射出，所述头部壳体(110)设置有将所述头部壳体(110)内部空间与灯具外部空间连通的防水透气阀(160)，还包括封堵所述防水透气阀(160)的密封开关(170)，所述密封开关(170)使所述头部壳体(110)内部空间在与灯具外部空间隔绝或者连通的两种状态之间切换。
2. 根据权利要求 1 所述的具有密封自检功能的灯具，其特征在于，所述头部壳体(110)内部还设置有用于接收所述光源(120)发出的光线并产生光效的效果组件。
3. 根据权利要求 1 所述的具有密封自检功能的灯具，其特征在于，所述头部壳体(110)内还设置有用于拦截所述光源(120)发出的光线从而提高对所述头部壳体(110)内部加热效率的遮光件。
4. 根据权利要求 1 所述的具有密封自检功能的灯具，其特征在于，还包括用于支撑所述灯头(100)旋转的支撑臂(200)以及支撑所述支撑臂(200)的机箱(300)，所述机箱(300)包括箱部壳体(310)。
5. 根据权利要求 4 所述的具有密封自检功能的灯具，其特征在于，所述机箱(300)还包括位于所述箱部壳体(310)内部用于供电并且产生热量的开关电源(320)，以及用于检测所述箱部壳体(310)内部温度与气压的温度传感器(130)和气压传感器(140)，所述箱部壳体(310)设置有将所述箱部壳体(310)内部空间与灯具外部空间连通的防水透气阀(160)，还包括封堵所述防水透气阀(160)的密封开关(170)，所述密封开关(170)使所述箱部壳体(310)内部空间在与灯具外部空间隔绝或者连通的两种状态之间切换。
6. 根据权利要求 4 或 5 所述的具有密封自检功能的灯具，其特征在于，所述头部壳体(110)与所述箱部壳体(310)之间通过管道(210)连通，且连接处密封。
7. 根据权利要求 6 所述的具有密封自检功能的灯具，其特征在于，所述管道(210)设置有选择性隔断两者气体相互流动的隔断装置(220)。
8. 根据权利要求 6 所述的具有密封自检功能的灯具，其特征在于，还包括使所述头部壳体(110)与所述箱部壳体(310)内部温度同步升高的温控系统。
9. 根据权利要求 1 或 5 所述的具有密封自检功能的灯具，其特征在于，所述头部壳体(110)

权 利 要 求 书

或者所述箱部壳体(310)内部还设置有匀热组件。

10. 根据权利要求 1 或 5 所述的具有密封自检功能的灯具，其特征在于，所述头部壳体(110)或者所述箱部壳体(310)内部还设置有辅助加热组件(420)。

11. 根据权利要求 1 或 5 所述的具有密封自检功能的灯具，其特征在于，所述密封开关(170)为电磁阀。



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	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
18/322,066	05/23/2023		1820	0178/0316PUS1	11	1

CONFIRMATION NO. 1778

60601

Muncy, Geissler, Olds & Lowe, P.C.
125 S. Royal St.
Alexandria, VA 22314

FILING RECEIPT



0000000058096082

Date Mailed: 06/14/2023

Receipt is acknowledged of this non-provisional utility 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 FIRST INVENTOR, 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 corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction 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 provided that the request is grantable.

Inventor(s)

Weikai JIANG, Guangzhou, CHINA;
Jinjian CAI, Guangzhou, CHINA;
Wenfeng CHEN, Guangzhou, CHINA;
Qingbi HE, Guangzhou, CHINA;
Yinru PENG, Guangzhou, CHINA;

Applicant(s)

Guangzhou Haoyang Electronic Co., Ltd., Guangzhou, CHINA;

Power of Attorney: The patent practitioners associated with Customer Number 60601

Domestic Applications for which benefit is claimed - None.

A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

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.)

CHINA 202320673598.5 03/30/2023 Access Code Provided

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.

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 06/09/2023

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 18/322,066**

Projected Publication Date: 10/03/2024

Non-Publication Request: No

Early Publication Request: No
Title

Light fixture with self-test ability of sealing

Preliminary Class

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).

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 Assets Control, 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).

SelectUSA

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.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number
18/322,066

APPLICATION AS FILED - PART I

(Column 1)		(Column 2)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	320
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	700
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	800
TOTAL CLAIMS (37 CFR 1.16(i))	11 minus 20 =	*			OR	x =	0
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1 minus 3 =	*				x =	0
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
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1820

APPLICATION AS AMENDED - PART II

AMENDMENT A	(Column 1)	(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)		ADDITIONAL FEE(\$)	RATE(\$)
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))							OR	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR	
				TOTAL ADD'L FEE			OR	TOTAL ADD'L FEE

AMENDMENT B	(Column 1)	(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)		ADDITIONAL FEE(\$)	RATE(\$)
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))							OR	
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.

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.

UTILITY PATENT APPLICATION TRANSMITTAL <i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i>		Attorney Docket No. 0178/0316PUS1	
		First Named Inventor Weikai JIANG	
		Title Light fixture with self-test ability of sealing	
		Priority Mail Express® Label No.	

APPLICATION ELEMENTS <i>See MPEP chapter 600 concerning utility patent application contents.</i>	Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450
1. ☒ Fee Transmittal Form (PTO/SB/17 or equivalent) 2. ☐ Applicant asserts small entity status. See 37 CFR 1.27 3. ☐ Applicant certifies micro entity status. See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent. 4. ☒ Specification [Total Pages <u>14</u>] Both the claims and abstract must start on a new page. (See MPEP § 608.01(a) for information on the preferred arrangement) 5. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets <u>4</u>] 6. Inventor's Oath or Declaration [Total Pages <u>3</u>] (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e)) a. ☒ Newly executed (original or copy) b. ☐ A copy from a prior application (37 CFR 1.63(d)) 7. ☒ Application Data Sheet * See note below. See 37 CFR 1.76 (PTO/AIA/14 or equivalent) 8. CD-ROM or CD-R in duplicate, large table, or Computer Program (Appendix) ☐ Landscape Table on CD 9. Nucleotide and/or Amino Acid Sequence Submission (if applicable, items a. – c. are required) a. ☐ Computer Readable Form (CRF) b. ☐ Specification Sequence Listing on: i. ☐ CD-ROM or CD-R (2 copies); or ii. ☐ Paper c. ☐ Statements verifying identity of above copies	ACCOMPANYING APPLICATION PAPERS 10. ☐ Assignment Papers (cover sheet & document(s)) Name of Assignee <u>Guangzhou Haoyang Electronic Co., Ltd.</u> 11. ☐ 37 CFR 3.73(c) Statement ☒ Power of Attorney (when there is an assignee) 12. ☐ English Translation Document (if applicable) 13. ☐ Information Disclosure Statement (PTO/SB/08 or PTO-1449) ☐ Copies of citations attached 14. ☐ Preliminary Amendment 15. ☐ Return Receipt Postcard (MPEP § 503) (Should be specifically itemized) 16. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed) 17. ☐ Nonpublication Request Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent. 18. ☒ Other: <u>PTO/SB/439</u> _____ _____ _____ _____

***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must** be included in an Application Data Sheet (ADS).
 (2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS					
☒ The address associated with Customer Number: <u>60601</u> OR ☐ Correspondence address below					
Name	Muncy, Geissler, Olds & Lowe, P.C.				
Address	4000 Legato Road, Suite 310				
City	Fairfax	State	VA	Zip Code	22033
Country	US	Telephone	703-621-7140	Email	mailroom@mg-ip.com

Signature	/Floyd Canfield/, Floyd Canfield, Reg. No. 69151	Date	2023-05-23
Name (Print/Type)	Joe McKinney Muncy	Registration No. (Attorney/Agent)	32334

This collection of information is required by 37 CFR 1.53(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.**

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FEE TRANSMITTAL		Complete if known	
		Application Number	New
		Filing Date	2023-05-23
☐ Applicant asserts small entity status. See 37 CFR 1.27.		First Named Inventor	Weikai JIANG
☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.		Examiner Name	
		Art Unit	
TOTAL AMOUNT OF PAYMENT	(\$ 1820	Practitioner Docket No.	0178/0316PUS1

METHOD OF PAYMENT (check all that apply)☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____☒ Deposit Account Deposit Account Number: 50-3828 Deposit Account Name: MG-IP Law, P.C.

For the above-identified deposit account, the Director is hereby authorized to (check all that apply):

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**☒ Charge any additional fee(s) or underpayment of fee(s) ☐ Credit any overpayment of fee(s)
under 37 CFR 1.16 and 1.17**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES (U = undiscounted fee; S = small entity fee; M = micro entity fee)**

Application Type	FILING FEES			SEARCH FEES			EXAMINATION FEES			Fees Paid (\$)
	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	
Utility	320	128*	64	700	280	140	800	320	160	1820
Design	220	88	44	160	64	32	640	256	128	
Plant	220	88	44	440	176	88	660	264	132	
Reissue	320	128	64	700	280	140	2,320	928	464	
Provisional	300	120	60	0	0	0	0	0	0	

* The \$128 small entity filing fee for a utility application is further reduced to \$64 for a small entity applicant who files the application via Patent Center or EFS-Web.

2. EXCESS CLAIM FEES

Fee Description	Undiscounted Fee (\$)	Small Entity Fee (\$)	Micro Entity Fee (\$)
Each claim over 20 (including Reissues)	100	40	20
Each independent claim over 3 (including Reissues)	480	192	96
Multiple dependent claims	860	344	172
Total Claims			
11 -20 or HP = _____ x _____ = _____			
HP = highest number of total claims paid for, if greater than 20.			
Indep. Claims			
1 -3 or HP = _____ x _____ = _____			
HP = highest number of independent claims paid for, if greater than 3.			

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$420 (\$168 for small entity) (\$84 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
15	- 100 = _____ / 50 = _____ (round up to a whole number)	x _____	= _____	

4. OTHER FEE(S)

Non-English specification, \$140 fee (\$56 for small entity) (\$28 for micro entity)

Non-electronic filing fee under 37 CFR 1.16(t) for a utility application, \$400 fee (\$200 small or micro entity)

Other (e.g., late filing surcharge): _____

SUBMITTED BY			
Signature	/Floyd Canfield/, Floyd Canfield, Reg. No. 69151	Registration No. (Attorney/Agent) 32334	Telephone 703-621-7140
Name (Print/Type)	Joe McKinney Muncy		Date 2023-05-23

A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with an information collection subject to the requirements of the Paperwork Reduction Act of 1995, unless the information collection has a currently valid OMB Control Number. The OMB Control Number for this information collection is 0651-0032. Public burden for this form is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to the Chief Administrative Officer, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 or email InformationCollection@uspto.gov. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.** If filing this completed form by mail, 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.

IPR2025-01016 EX1003

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. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013). <https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf>

Routine uses of the information in this record may include disclosure to: 1) law enforcement, in the event that the system of records indicates a violation or potential violation of law; 2) a Federal, state, local, or international agency, in response to its request; 3) a contractor of the USPTO having need for the information in order to perform a contract; 4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record; 5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record; 6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations; 7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals; 8) 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)); 9) the Office of Personnel Management (OPM) for personnel research purposes; and 9) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Additional Uses

Additional USPTO uses of the information in this record may include disclosure to: 1) the International Bureau of the World Intellectual Property Organization, if the record is related to an international application filed under the Patent Cooperation Treaty; 2) the public i) after publication of the application pursuant to 35 U.S.C. 122(b), ii) after issuance of a patent pursuant to 35 U.S.C. 151, iii) 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, or iv) without publication of the application or patent under the specific circumstances provided for by 37 CFR 1.14(a)(1)(v)-(vii); and/or 3) the National Archives and Records Administration, for inspection of records.

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0178/0316PUS1
		Application Number	
Title of Invention	Light fixture with self-test ability of sealing		
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	
	Weikai		JIANG		
Residence Information (Select One) US Residency ☒ Non US Residency Active US Military Service					
City	Guangzhou		Country of Residence ⁱ	CN	
Mailing Address of Inventor:					
Address 1		No.109, Hai Yong Road, Shi Ji Town, Pan Yu			
Address 2		Guangdong			
City	Guangzhou		State/Province		
Postal Code	511450		Country ⁱ	CN	
Inventor	2				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Jinjian		CAI		
Residence Information (Select One) US Residency ☒ Non US Residency Active US Military Service					
City	Guangzhou		Country of Residence ⁱ	CN	
Mailing Address of Inventor:					
Address 1		No.109, Hai Yong Road, Shi Ji Town, Pan Yu			
Address 2		Guangdong			
City	Guangzhou		State/Province		
Postal Code	511450		Country ⁱ	CN	
Inventor	3				Remove
Legal Name					

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0178/0316PUS1
		Application Number	
Title of Invention	Light fixture with self-test ability of sealing		

Prefix	Given Name	Middle Name	Family Name	Suffix
	Wenfeng		CHEN	
Residence Information (Select One) US Residency ☒ Non US Residency Active US Military Service				
City	Guangzhou	Country of Residence ⁱ	CN	

Mailing Address of Inventor:

Address 1	No.109, Hai Yong Road, Shi Ji Town, Pan Yu			
Address 2	Guangdong			
City	Guangzhou	State/Province		
Postal Code	511450	Country ⁱ	CN	
Inventor	4			Remove
Legal Name				

Prefix	Given Name	Middle Name	Family Name	Suffix
	Qingbi		HE	
Residence Information (Select One) US Residency ☒ Non US Residency Active US Military Service				
City	Guangzhou	Country of Residence ⁱ	CN	

Mailing Address of Inventor:

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Postal Code	511450	Country ⁱ	CN	
Inventor	5			Remove
Legal Name				

Prefix	Given Name	Middle Name	Family Name	Suffix
	Yinru		PENG	
Residence Information (Select One) US Residency ☒ Non US Residency Active US Military Service				
City	Guangzhou	Country of Residence ⁱ	CN	

Mailing Address of Inventor:

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0178/0316PUS1
		Application Number	
Title of Invention	Light fixture with self-test ability of sealing		

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button.

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Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ An Address is being provided for the correspondence Information of this application.

Customer Number	60601		
Email Address	mailroom@mg-ip.com	Add Email	Remove Email

Application Information:

Title of the Invention	Light fixture with self-test ability of sealing		
Attorney Docket Number	0178/0316PUS1	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	3

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

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☐ **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.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0178/0316PUS1
		Application Number	
Title of Invention	Light fixture with self-test ability of sealing		
Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	60601		

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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		Remove
Application Number	Continuity Type	Prior Application Number
Filing or 371(c) Date (YYYY-MM-DD)		
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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).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ^j (if applicable)
202320673598.5	CN	2023-03-30	F6FA
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	0178/0316PUS1
		Application Number	
Title of Invention	Light fixture with self-test ability of sealing		

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.

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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.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0178/0316PUS1
		Application Number	
Title of Invention	Light fixture with self-test ability of sealing		

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	Guangzhou Haoyang Electronic Co., Ltd.	
Mailing Address Information For Applicant:		
Address 1	No.109, Hai Yong Road, Shi Ji Town, Pan Yu	
Address 2	Guangdong	
City	Guangzhou	State/Province
Country	CN	Postal Code
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:

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0178/0316PUS1
		Application Number	
Title of Invention	Light fixture with self-test ability of sealing		

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.				
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Mailing Address Information For Assignee including Non-Applicant Assignee:				
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City		State/Province		
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Signature:

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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	/Floyd Canfield/		Date (YYYY-MM-DD)	2023-05-23	
First Name	Floyd E.	Last Name	Canfield	Registration Number	69151
Additional Signature may be generated within this form by selecting the Add button. Add					

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0178/0316PUS1
		Application Number	
Title of Invention	Light fixture with self-test ability of sealing		

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

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

I hereby appoint:



Practitioners associated with Customer Number:

60601

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:



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Firm or Individual Name	Muncy, Geissler, Olds & Lowe, P.C.		
Address	4000 Legato Rd., Suite 310		
City	Fairfax	State VA	Zip 22033
Country	US		
Telephone	703-621-7140	Email	mailroom@mg-ip.com

Assignee Name and Address: GUANGZHOU HAOYANG ELECTRONIC CO., LTD.
No. 109, Hai Yong Road, Shi Ji Town, Pan Yu, Guangzhou, Guangdong 511450, China

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	<i>Weikai Jiang</i>	Date	01/31/2019
Name	WEIKAI JIANG	Telephone	
Title	President of GUANGZHOU HAOYANG ELECTRONIC CO., LTD.		

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.

LIGHT FIXTURE WITH SELF-TEST ABILITY OF SEALING

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims priorities from Chinese Application No. CN 202320673598.5 filed on March 30, 2023, all of which are hereby incorporated herein by reference.

TECHNICAL FIELD

[0002] The present disclosure relates to the technical field of stage light fixtures, in particular to a light fixture with self-test ability of sealing.

BACKGROUND

[0003] Generally, in order to adapt to outdoor or specific environment, houses of the light fixtures are designed into sealed structures, such as that the spliced positions of the houses are sealed by waterproof strips or waterproof glue. Accordingly, sealing performance test is required before the light fixture leave the factory or after the house of the light fixture has been maintained. Typically, the method for sealing performance test is to determine the sealing performance by observing the degree of gas leakage, with the house filled a certain amount of gas. However, such method has disadvantages that it is required to conduct sealing performance test one by one before the light fixtures leaving the factory, which is considered as time-consuming and labor-intensive, and it is inconvenient for sealing performance test subsequent to the maintenance after the light fixtures leaving the factory, due to lack of professional test equipment. In addition, during the use of the light fixtures, the sealing performance of the houses of the light fixture may be damaged due to the aging of the sealing strip or waterproof glue, or being hit. While such situation will not be known timely by the.

[0004] Therefore, there is a need to provide a light fixture which can be subjected to a sealing performance test at any time, when required, without any external professional test equipment.

SUMMARY

[0005] The present disclosure thus provides a light fixture with self-test ability of sealing, which can perform sealing performance test on its own at any time, without any external professional test equipment, having advantages of convenient and fast operation.

[0006] According to the present disclosure, the light fixture with self-test ability of sealing includes a light head with a head housing. In the head housing, a light source for emitting light and generating heat, and a temperature sensor and an air pressure sensor for respectively detecting the temperature and air pressure inside the head housing are provided. The light emitted by the light source is projected through the light outlet of the head housing. A controller is further provided for determining the sealing performance of the head housing based on the detection results of the temperature sensor and the air pressure sensor. In the present disclosure, the head housing is provided with a waterproof breathable valve allowing the internal space of the head housing in air communication with the external space of the light fixture. A switch is further configured, which is capable of switching between two states by unblocking/blocking the waterproof breathable valve to make the internal space of the head housing in air communication with the external space of the light fixture or not.

[0007] During normal operation, the switch of the light head is switched to make the internal space of the head housing in air communicate with the external space of the light fixture to ensure that the air pressure inside the head housing is balanced with the air pressure outside the light fixture, thereby avoiding damage of the sealing performance of the head housing caused by the air pressure change due to increase or decrease of the temperature inside the head housing. While during sealing performance test, the switch is switched to make the internal space of the head housing not in air communicate with the external space of the light fixture. In this case, heat energy generated by the light source will increase the air pressure inside the head housing. According to the temperature and air pressure inside the head housing detected by the temperature sensor and the air pressure sensor, the sealing performance of the head housing thus can be determined by the associated controller.

[0008] According to the present disclosure, in order to exhibit different effects by the light projected through the light outlet of the light head, such as light projected with different

divergence angle, brightness, color, shape, and the like, an effect assembly for receiving the light emitted by the light source and generating a light effect is further provided inside the head housing.

[0009] To reduce the light projected through the light outlet during the sealing performance test and thus gather the light emitted by the light source in the head housing, a light shielding member for intercepting the light emitted by the light source can be provided. In such configuration, the temperature inside of the head housing will increase with the light absorbed by the light shielding member or other components inside of the head housing. The efficiency of heating the inside of the head housing thus will be improved in such easy way. As a result, the sealing performance test can be completed in a fraction of the time, achieving time saving in an easy way.

[0010] A support arm for supporting the light head to rotate, and a base for supporting the support arm may be further included. The base has a base housing. Accordingly, the light head can rotate relative to the support arm, so that the light emitted by the light source can be projected in multiple directions.

[0011] According to the present disclosure, similar to the head housing, the base housing may be also provided with a sealing self-test system. In such configuration, the base further includes a switching mode power supply arranged inside the base housing for supplying power and generating heat, and a temperature sensor and an air pressure sensor for respectively detecting the temperature and air pressure inside the base housing. The base housing is provided with a waterproof breathable valve allowing the internal space of the base housing in air communication with the external space of the light fixture. A switch is further provided, which can be switched between two states by unblocking/blocking the waterproof breathable valve to make the internal space of the base housing in air communication with the external space of the light fixture, or not in air communication with the external space of the light fixture. Another associated controller may be provided to determine sealing performance of the head housing based on detection results of the temperature sensor and the air pressure sensor of the base housing. However, the sealing self-test system in the base housing and the head housing

can share one common controller.

[0012] In this situation, during normal operation of the light fixture, the switch of the base housing is switched to make the internal space of the base housing in air communication with the external space of the light fixture, namely the waterproof breathable valve of the base housing is not blocked, to ensure that the air pressure inside the base housing is balanced with the air pressure outside the light fixture, thereby avoiding damage of the sealing performance of the base housing caused by the air pressure change due to the increase or decrease of the temperature inside the base housing. While during sealing performance test, the switch is switched to make the internal space of the base housing not in air communication with the external space of the light fixture, namely the waterproof breathable valve of the base housing is blocked. In this case, heat energy generated by the switching mode power supply will make the air pressure inside the base housing increase. The sealing performance of the base housing thus can be determined by the associated controller, according to the temperature and air pressure inside the base housing detected by the temperature sensor and the air pressure sensor.

[0013] In a bid to facilitate passing of a power transmission cable and a signal transmission cable between the light head and the base, while without any damage to the sealing performance of the head housing and the base housing, a pipeline is configured to communicate the head housing with the base housing, with joints therebetween sealed.

[0014] The pipeline may be provided with a blocking device for selectively blocking the mutual air flow between the head housing and the base housing. With the mutual air flow between the head housing and the base housing blocked, the light head and the base can be independent of each other, making the temperature and air pressure therein do not affect each other, thus avoiding affecting the respective determination results of the sealing performance of the head housing or the casing housing in the sealing test. Therefore, individual sealing performance test for the head housing and the base housing can be achieved simultaneously.

[0015] According to a preferred embodiment, for the situation of taking the head housing and the base housing as a whole system, in order to achieve sealing performance test of the whole system, a temperature control system for synchronously increasing the temperature inside the

head housing and the base housing is further included. The temperature control system can coordinately control the temperature inside the head housing and the base housing to keep the temperature therein consistent, thus avoiding temperature asynchronous due to mutual influence of air pressure of the head housing and the base housing, such temperature asynchronous may result in inaccurate determination on the sealing performance of the whole system.

[0016] Additionally, a heat homogenizing assembly may be provided in the head housing or the base housing, which can make the temperature inside the head housing or the base housing consistent in every position, forming the system more conforming to an ideal gas state equation.

[0017] For increasing the heating rate during the sealing formation test, an auxiliary heating assembly may be further provided in the head housing or the base housing.

[0018] The switch is preferably in form of an electromagnetic valve, which is connected with the waterproof breathable valve via an air guide pipe.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] FIG. 1 is a schematic view of a light fixture according to an embodiment of the present disclosure, especially showing an internal structure of a light head of the light fixture;

[0020] FIG. 2 is a schematic view of a light fixture according to an embodiment of the present disclosure, especially showing an internal structure of a base of the light fixture; and

[0021] FIG. 3 is a view showing the head housing communicated with the base housing via a pipeline according to an embodiment of the present disclosure.

[0022] FIG. 4 is a diagram showing a signal control flow according to an embodiment of the present disclosure.

DETAILED DESCRIPTION

[0023] The accompanying drawings are for exemplary illustration only, and should not be construed as limitations on this disclosure; in order to better illustrate this embodiment, some parts in the accompanying drawings may be omitted, enlarged or reduced, and they do not

represent the size of the actual product; for those skilled in the art, it is understandable that certain well-known structures and descriptions thereof in the drawings may be omitted. The positional relationship described in the drawings is only for exemplary illustration, and should not be construed as limitations on this disclosure.

[0024] FIG. 1 depicts a light fixture with self-test ability of sealing, in which a light head of the light fixture is provided with a sealing self-test system. The light fixture in this embodiment includes a light head 100 having a head housing 110. A light source 120 for emitting light and generating heat, and a temperature sensor 130 and an air pressure sensor 140 for respectively detecting the temperature and air pressure inside the head housing 110 are provided in the head housing 110. A controller 500, as shown in FIG. 4, is further provided for determining the sealing performance of the head housing 110 based on the detection results of the temperature sensor 130 and the air pressure sensor 140. The light emitted by the light source 120 is projected through a light outlet 150 of the head housing 110. In the present embodiment, the head housing 110 is provided with a waterproof breathable valve 160 allowing the internal space of the head housing 110 in air communication with the external space of the light fixture. A switch 170 is further provided, which is capable of switching between two states by unblocking/blocking the waterproof breathable valve to make the internal space of the head housing 110 in air communicating with the external space of the light fixture or not.

[0025] Referring to FIG. 4, the switch 170 can be controlled by the controller 500. According to the present embodiment, during normal operation, the switch 170 of the light head 100 is switched by the controller 500 to make the internal space of the head housing 110 in air communication with the external space of the light fixture, namely the waterproof breathable valve is not blocked, to ensure that the air pressure inside the head housing 110 is balanced with the air pressure outside the light fixture, thereby avoiding damage of the sealing performance of the head housing 110 caused by the air pressure change due to the increase or decrease of the temperature inside the head housing 110. While during testing of the sealing performance, the switch 170 is switched by the controller 500 to make the internal space of the head housing 110 not in air communication with the external space of the light fixture. In this

case, heat energy generated by the light source 120 (the light source 120 generates a large amount of heat when emitting light) will make the air pressure inside the head housing 110 increase. According to the temperature and air pressure inside the head housing 110 detected by the temperature sensor 130 and the air pressure sensor 140, the associated controller 500 thus can determine the sealing performance of the head housing 110.

[0026] It should be noted that the situation, that the internal space of the head housing 110 is not in air communication with the external space of the light fixture, is not limited to the internal space of the head housing 110 being a single isolated whole, which may include that the head housing 110 may be communicated with other components in the light fixture as long as the component can be not in air communication with the outside space thereof. It should be further known that the waterproof breathable valve 160 can prevent water from entering the inside of the head housing 110, but does not affect air to get in or out of the head housing 110.

[0027] According to the text of the present disclosure, the sealing performance of the head housing 110 can be determined, according to the temperature and air pressure inside the head housing 110 detected by the temperature sensor 130 and the air pressure sensor 140, by detecting whether the air pressure change of the internal space of the head housing 110 is linear as the temperature increases or decreases, or by detecting the air pressure fluctuation in a constant temperature condition.

[0028] However, it is preferable to determine the sealing performance by detecting whether the air pressure change of the internal space of the head housing 110 is linear as the temperature rises, within a certain temperature range.

[0029] In the present embodiment, the switch 170 is arranged inside the head housing 110.

[0030] The temperature sensor 130 may be located at the end of the head housing 110 away from the light source 120.

[0031] In a preferred embodiment of the present disclosure, in combination with FIG. 4, an effect assembly 180 for receiving the light emitted by the light source 120 and generating a light effect is further provided inside the head housing 110. With the configuration of the effect assembly 180, the light projected through the light outlet 150 of the light head 100 can exhibit

different effects, such as light with different divergence angle, brightness, color, shape, and the like. Such effect assembly 180 can be one or more of a blade module, a color filter module, a pattern sheet module 181, a color sheet module, a shading module 182, a focusing module, a prism module 183, a light homogenizing module 184, or an amplification module 185, which are all common components in the art and will not be described in detail in this disclosure.

[0032] According to a preferred embodiment of the present disclosure, in combination with FIG. 4, in order to improve the efficiency of heating the inside of the head housing 110 during sealing performance test, a light shielding member 190 for intercepting the light emitted from the light source 120 is further provided inside the head housing 110. With reference to FIG. 4, the light shielding member 190 can be, but not limited to, controlled by the controller 500. With the light shielding member 190, the light projected through the light outlet 150 can be reduced during the test, so that the light is gathered inside the head housing 110, the temperature inside of the head housing 110 thus can be increased with the light absorbed by the light shielding member 190 or other components inside of the head housing 110. In such an easy way, the efficiency of heating the inside of the head housing 110 is accordingly improved. As a result, the sealing performance test can be completed in a fraction of the time, achieving time saving in an easy way.

[0033] It should be noted that the light shielding member 190 may be additionally provided, or may be the existing effect assembly 180, such as the blade module, the color filter module, the pattern sheet module 181, the color sheet module, the shading module 182, the focusing module, the prism module 183, the light homogenizing module 184 or the amplification module 185, as long as the light emitted from the light outlet 150 can be reduced to improve efficiency of heating the inside of the head housing 110 during sealing performance test. For example, the blade module, the pattern sheet module 181 and the shading module 182 can directly shield light to reduce light projected; the color filter module and the color sheet module can reduce the brightness of light projected to improve efficiency of heating; the focusing module, the prism module 183, the light homogenizing module 184, and the amplification module 185 can increase the beam divergence angle to disperse the light projected, and thus reduce the light

emitted from the light outlet 150 with less light projected through the light outlet.

[0034] As shown in FIG. 1, a support arm 200 for supporting the light head 100 to rotate, and a base 300 for supporting the support arm 200 are further included. The base 300 has a base housing 310. The light head 100 in such case thus can rotate relative to the support arm 200 to allow the light projected in multiple directions.

[0035] The support arm 200 can also be capable of rotating relative to the base 300 in other embodiments of the present disclosure.

[0036] FIG. 2 shows the base housing 310 is also provided with a sealing self-test system, similar to the head housing shown in FIG. 1. In this embodiment, the base 300 further includes a switching mode power supply 320 arranged inside the base housing 310 for supplying power and generating heat, and a temperature sensor 130 and an air pressure sensor 140 for respectively detecting the temperature and air pressure inside the base housing 310. The base housing 310 is provided with a waterproof breathable valve 160 allowing the internal space of the base housing 310 in air communication with the external space of the light fixture. A switch 170 is further provided for selectively blocking the waterproof breathable valve 160, which is capable of switching between two states by unblocking/blocking the waterproof breathable valve 160 to make the internal space of the base housing 310 in communicating with the external space of the light fixture or not in communicating with the external space of the light fixture.

[0037] According to the this embodiment, during normal operation of the light fixture, the switch 170 of the base 300 is switched make the internal space of the base housing 310 in air communication with the external space of the light fixture, namely the waterproof breathable valve of the base housing 310 is not blocked, to ensure that the air pressure inside the base housing 310 is balanced with the air pressure outside the light fixture, thereby avoiding damage of the sealing performance of the base housing 310 caused by the air pressure change due to the increase or decrease of the temperature inside the base housing 310. While during the sealing performance test of the base housing 310, the switch 170 is switched to make the internal space of the base housing 310 in air communication with the external space of the light

fixture, namely the waterproof breathable valve of the base housing is blocked. In this case, heat energy generated by the switching mode power supply 320 (the switching mode power supply 320 generates a large amount of heat during operating) will make the air pressure inside the base housing 310 increase. As Fig. 4 shown, according to the temperature and air pressure inside the base housing 310 detected by the temperature sensor 130 and the air pressure sensor 140, the associated controller 500 thus can determine the sealing performance of the base housing 310.

[0038] It should be noted that the situation, that the internal space of the base housing 310 is not in air communication with the external space of the light fixture, is not limited to the internal space of the base housing 310 being a single isolated whole, which may include that the base housing 310 may be communicated with other components in the light fixture as long as the component can be not in air communication with the outside space thereof. It should be further known that the waterproof breathable valve 160 can prevent water from entering the inside of the base housing 310, but does not affect air to get in or out of the base housing 310.

[0039] As in FIG. 3, in this embodiment, the head housing 110 is communicated with the base housing 310 via a pipeline 210, with the joints therebetween sealed. Such configuration facilitates the passage of a power transmission cable and a signal transmission cable between the light head 100 and the base 300, while without damage to the sealing performance of the head housing 110 and the base housing 310.

[0040] In this embodiment, the head housing 110 and the base housing 310 are individually joined with the pipeline 210 by rotatable sealed couplings, such as a conventional oil seal, that is, such coupling can achieve relative rotation, while without air leak.

[0041] Additionally, according to a preferred embodiment of the present disclosure, the pipeline 210 is provided with a blocking device 220 for selectively blocking the mutual air flow between the head housing 110 and the base housing 310. With the configuration of the blocking device 220, the mutual air flow between the head housing 110 and the base housing 310 can be blocked, so that the light head 100 and the base 300 can be independent of each other, making the temperature and air pressure therein not affect each other to avoid affecting

the respective determination results of the sealing performance of the head housing 110 or the casing housing 310 in the sealing test.

[0042] The blocking device 220 may be a sealing plug with a wire hole, or an electromagnetic valve.

[0043] According to a preferred embodiment of the present disclosure, in combination with FIG. 4, a temperature control system 600 for synchronously increasing the temperature inside the head housing 110 and the base housing 310 is further provided. For the situation of taking the head housing and the base housing as a whole system, in order to conduct sealing testing of the whole system, the temperature control system 600 is configured to coordinately control the temperature inside the head housing 110 and the base housing 310 to keep the temperature therein consistent, thus avoiding temperature asynchronous due to mutual influence of air pressure of the head housing and the base housing, such temperature asynchronous may result in inaccurate determination, according to the temperature and air pressure on the sealing performance of the whole system. With reference to FIG. 4, the temperature control system can be, but not limited to, controlled by the controller 500.

[0044] Particularly, in a case that the base housing 310 is not provided with the sealing self-test assembly, including the temperature sensor 130, the air pressure sensor 140, and a heating member, the temperature control system 600 is in form of a flow-promoting device, such as a fan, provided to the pipeline 210 to promote the mutual air flow inside the head housing 110 and the base housing 310. The temperature inside the head housing 110 and the base housing 310 thus can be kept consistent by promoting the mutual air flow inside the head housing 110 and the base housing 310 via the flow-promoting device.

[0045] In a case that the base housing 310 is provided with the sealing self-test assembly, including the temperature sensor 130, the air pressure sensor 140, and a heating member, the temperature control system 600 includes a microprocessor (which may be replaced by a controller) that coordinates the heating power of heating elements inside the head housing 110 and the base housing 310, and the temperature sensor 130. In such configuration, the temperature detected by the temperature sensor 130 can synchronously increase by controlling

the heating power of the respective heating elements, thus achieving both synchronously change of the temperature and air pressure inside the head housing 110 and the base housing 310.

[0046] Referring back to FIG. 1, according to a preferred embodiment of the present disclosure, a heat homogenizing assembly 400 is further provided in the head housing 110 or the base housing 310. The heat homogenizing assembly 400 can make the temperature inside the head housing 110 or the base housing 310 consistent in every position, as such situation is more conforming to an ideal gas state equation.

[0047] The heat homogenizing assembly 400 may be a fan 410 or a heat conducting member, such as cooling fins or a heat transfer mesh.

[0048] According to a preferred embodiment of the present disclosure, in order to increase the heating rate, an auxiliary heating assembly 420 is further provided in the head housing 110 or the base housing 310.

[0049] The auxiliary heating assembly 420 can arrange at the end of the head housing 110 away from the light source 120, or at the end of the base housing 310 away from the switching mode power supply 320. Such configuration facilitates heating more uniform.

[0050] The switch 170 is preferably in form of an electromagnetic valve which is connected with the waterproof breathable valve 160 through an air guide pipe 171.

[0051] The electromagnetic valve generally has an air inlet and an air outlet. The air guide pipe 171 is connected to the air inlet, and the air outlet is exposed outside of the system.

[0052] Obviously, the above-mentioned embodiments of the present disclosure are only examples for clearly illustrating the present disclosure, rather than limiting the implementation modes of the present disclosure. For those of ordinary skill in the art, changes or modifications in other different forms can also be made on the basis of the above description. It is not needed and it is impossible to list all implementation modes here. Any modifications, equivalent replacements and improvements made within the spirit and principles of the present disclosure shall be included within the protection scope of the claims of the present disclosure.

Claims

1. A light fixture with self-test ability of sealing, comprising

a light head having a head housing;

a light source for emitting light and generating heat, which is arranged in the head housing, the light emitted by the light source being projected through a light outlet of the head housing;

a temperature sensor and an air pressure sensor for respectively detecting temperature and air pressure inside the head housing, which are arranged in the head housing; and

a controller configured to determine sealing performance of the head housing based on detection results of the temperature sensor and the air pressure sensor,

wherein the head housing is provided with a waterproof breathable valve allowing an internal space of the head housing in air communication with an external space of the light fixture; and a switch is further provided, which is capable of switching between two states by unblocking/blocking the waterproof breathable valve to make the internal space of the head housing in air communication with the external space of the light fixture or not.

2. The light fixture according to claim 1, wherein an effect assembly is further provided inside the head housing, which is configured to receive the light emitted by the light source and generate a light effect.

3. The light fixture according to claim 1, wherein a light shielding member for intercepting the light emitted by the light source is provided to improve efficiency of heating the inside of the head housing when the internal space of the head housing is isolated from the external space of the light fixture.

4. The light fixture according to claim 1, further comprising a support arm for supporting the light head to rotate, and a base for supporting the support arm, the base having a base housing.

5. The light fixture according to claim 4, wherein the base further comprises
- a switching mode power supply arranged inside the base housing for supplying power and generating heat; and
- an additional temperature sensor and an additional air pressure sensor for respectively detecting the temperature and air pressure inside the base housing,
- wherein the base housing is provided with an additional waterproof breathable valve allowing an internal space of the base housing in air communication with the external space of the light fixture; and a switch is further provided, which is capable of switching between two states by unblocking/blocking the additional waterproof breathable valve to make the internal space of the base housing in air communication with the external space of the light fixture or not.
6. The light fixture according to claim 4, wherein a pipeline is configured to communicate the head housing with the base housing, with a joint therebetween sealed.
7. The light fixture according to claim 6, wherein the pipeline is provided with a blocking device for selectively blocking mutual air flow between the head housing and the base housing.
8. The light fixture according to claim 6, further comprising a temperature control system for synchronously increasing the temperature inside the head housing and the base housing.
9. The light fixture according to claim 1, wherein a heat homogenizing assembly is further provided in the head housing or the base housing.
10. The light fixture according to claim 1, wherein an auxiliary heating assembly is further provided in the head housing or the base housing.
11. The light fixture according to claim 1, wherein the switch is in form of an electromagnetic

valve.

ABSTRACT

A light fixture with self-test ability of sealing includes a light head with a head housing, a light source for emitting light and generating heat, and a temperature sensor and an air pressure sensor for respectively detecting the temperature and air pressure inside the head housing are provided in the head housing. A controller is further included for determining the sealing performance of the head housing based on the detection results of the temperature sensor and the air pressure sensor. The head housing is provided with a waterproof breathable valve allowing the internal space of the head housing in air communication with the external space of the light fixture. A switch is configured which is capable of switching between two states by unblocking/blocking the waterproof breathable valve to make the internal space of the head housing in air communication with the external space of the light fixture or not.



ELECTRONIC ACKNOWLEDGEMENT RECEIPT

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Title of Invention

Light fixture with self-test ability of sealing

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 1778

FILED BY Rashida Moiyadi

PATENT CENTER # 62139167

FILING DATE -

CUSTOMER # 60601

FIRST NAMED
INVENTOR Weikai JIANG

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY Joe Muncy

Documents

TOTAL DOCUMENTS: 9

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
2023-05-23-ADS.pdf	9	Application Data Sheet	2174 KB
2023-05-23-INTAuth.pdf	1	Internet Communications Authorization	143 KB
2023-05-23-UT.pdf	1	Transmittal of New Application	235 KB
2023-05-23-FT.pdf	2	Fee Worksheet (SB06)	339 KB
2023-05-23-POA.pdf	1	Power of Attorney	2073 KB
2023-05-23-FD.pdf	4	Drawings-only black and white line drawings	880 KB

2023-05-23-Dec.pdf	4	Oath or Declaration filed	1859 KB
2023-05-23-Spec-docx-APP.TEXT.docx	16	Application body structured text document	48 KB

Warning: Document has [Balance SBCS characters and DBCS characters] option enabled and may result in reduction of pages, however, no data or text has been modified. Bookmarks were found and have been removed.

2023-05-23-Spec-backup.pdf	16	Auxiliary PDF of Application	165 KB
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Digest

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2023-05-23-Dec.pdf	EA3A333A28676FC09664D3B75E88477D7878608719F6996EF9 0F46FDAD2F4A9842B6C38CD18DE92CB36F97CC9143F6BFDD 627F5C4D790375FB2640CA74FBBBC9
2023-05-23-Spec-docx- APP.TEXT.docx	A7BBEBF5B0F97C02DB6C72E1B650B1B6B92BFE67A2E383AB 68E632BB95AF952234FE7C129057200BE19AE2159D9A785AA3 2BEE76FECE09D12358BDDF5BA88B4F
2023-05-23-Spec-backup.pdf	E6CB1088AC9E00EA069E58E8438FA72F5682D793D63206D8C 21F649753E535B531F191E011330ADAF6C890462A4D38AE2EB 16BBF0782507270A5168770BD2E58

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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 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.



ELECTRONIC PAYMENT RECEIPT

APPLICATION #
18/322,066

RECEIPT DATE / TIME
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ATTORNEY DOCKET #
0178/0316PUS1

Title of Invention

Light fixture with self-test ability of sealing

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 1778

FILED BY Rashida Molyadi

PATENT CENTER # 62139167

AUTHORIZED BY Joe Muncy

CUSTOMER # 60601

FILING DATE -

CORRESPONDENCE
ADDRESS -

FIRST NAMED
INVENTOR Weikai JIANG

Payment Information

PAYMENT METHOD
CARD / 3004

PAYMENT TRANSACTION ID
E20235ME39105702

PAYMENT AUTHORIZED BY
Rashida Molyadi

PRE-AUTHORIZED ACCOUNT
503828

PRE-AUTHORIZED CATEGORY

37 CFR 1.16 (National application filing, search, and examination fees); 37
CFR 1.17 (Patent application and reexamination processing fees)

FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
1111	UTILITY PATENT APPL. SEARCH FEE	700.00	1	700.00
1011	BASIC FILING FEE - UTILITY (PAPER FILING ALSO REQUIRES NON- ELECTRONIC FILING FEE UNDER 1.16(T))	320.00	1	320.00
1311	PATENT APPL. EXAMINATION FEE	800.00	1	800.00
TOTAL AMOUNT:				\$1,820.00

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AUTHORIZATION FOR INTERNET COMMUNICATIONS IN A PATENT APPLICATION OR REQUEST TO WITHDRAW AUTHORIZATION FOR INTERNET COMMUNICATIONS

Application No.	
Filing Date	May 23, 2023
First Named Inventor	Weikai JIANG
Art Unit	
Examiner Name	
Practitioner Docket No.	0178/0316PUS1

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

I. To authorize permission for Internet Communications.

☒ Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned and practitioners in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via video conferencing, instant messaging, or electronic mail. I understand that a copy of these communications will be made of record in the application file. (MPEP 502.03)

II. To withdraw authorization for Internet Communications.

☐ The authorization given on _____, to the USPTO to communicate with the undersigned and any practitioner in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via Internet communications such as video conferencing, instant messaging, or electronic mail is hereby withdrawn. I understand that the withdrawal is effective when approved rather than when received.

I am the

☐ applicant.

☒ attorney or agent of record. Registration number 32334.

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

/Floyd Canfield/, Floyd Canfield, Reg. No. 69151

May 23, 2023

Signature

Date

Joe McKinney Muncy

703-621-7140

Typed or printed name

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Juristic entities must be represented by a patent practitioner (see 37 CFR 1.31, which is applicable to any paper filed on or after September 16, 2012, that is presented on behalf of a juristic entity, regardless of application filing date). Submit multiple forms if more than one signature is required, see below*.

☒ * Total of 1 forms are submitted.

MUNCY, GEISSLER, OLDS & LOWE, P.C.

UNITED STATES PATENT RIGHTS, OR
UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

COMBINED DECLARATION AND ASSIGNMENT

Title of Invention: LIGHT FIXTURE WITH SELF-TEST ABILITY OF SEALING

As a below named inventor, I hereby declare that:

This declaration is directed to:

☒ The attached application; or

☐ United States application number 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.

Direct all correspondence to the address associated with Customer Number 60601.

WHEREAS, Guangzhou Haoyang Electronic Co., Ltd. of No.109, Hai Yong Road, Shi Ji Town, Pan Yu, Guangzhou, Guangdong 511450, China, its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor in the United States of America and ☐ in any foreign countries.

NOW, THEREFORE, in consideration of the sum of Ten Dollars (\$10.00) to the undersigned in hand paid, the receipt of which is hereby acknowledged, and other good and valuable consideration, the undersigned has (have) sold, assigned and transferred, and by these presents does sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America, its territories, dependencies and possessions, and if the box above

is designated, in any and all foreign countries; and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or terms for which the same may be granted.

The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letter Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

The undersigned agree(s) to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States of America patent(s) or a grant of a valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorize(s) and request(s) the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patents resulting from said application or any continuing, divisional, conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) the full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the law firm of Muncy, Geissler, Olds & Lowe, P.C. the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

The undersigned hereby covenant(s) that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

LEGAL NAME OF FIRST OR SOLE INVENTOR:

Weikai JIANG

Signature: Weikai Jiang Date: 12th May, 2023

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, IF ANY:

Jinjian CAI

Signature: Jinjian CAI Date: 12th May, 2023

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, IF ANY:

Wenfeng CHEN

Signature: Wenfeng CHEN Date: 12th May 2023

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, IF ANY:

Qingbi HE

Signature: Qingbi HE Date: 12th May, 2023

☒ Additional inventors are being named on separately numbered sheets attached hereto.

SUPPLEMENTAL SHEET FOR COMBINED DECLARATION AND ASSIGNMENT

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, IF ANY:

Yingru PENG

Signature: YINGRU PENG Date: 12th May, 2023

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, IF ANY:

Signature: _____ Date: _____

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Signature: _____ Date: _____

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Signature: _____ Date: _____

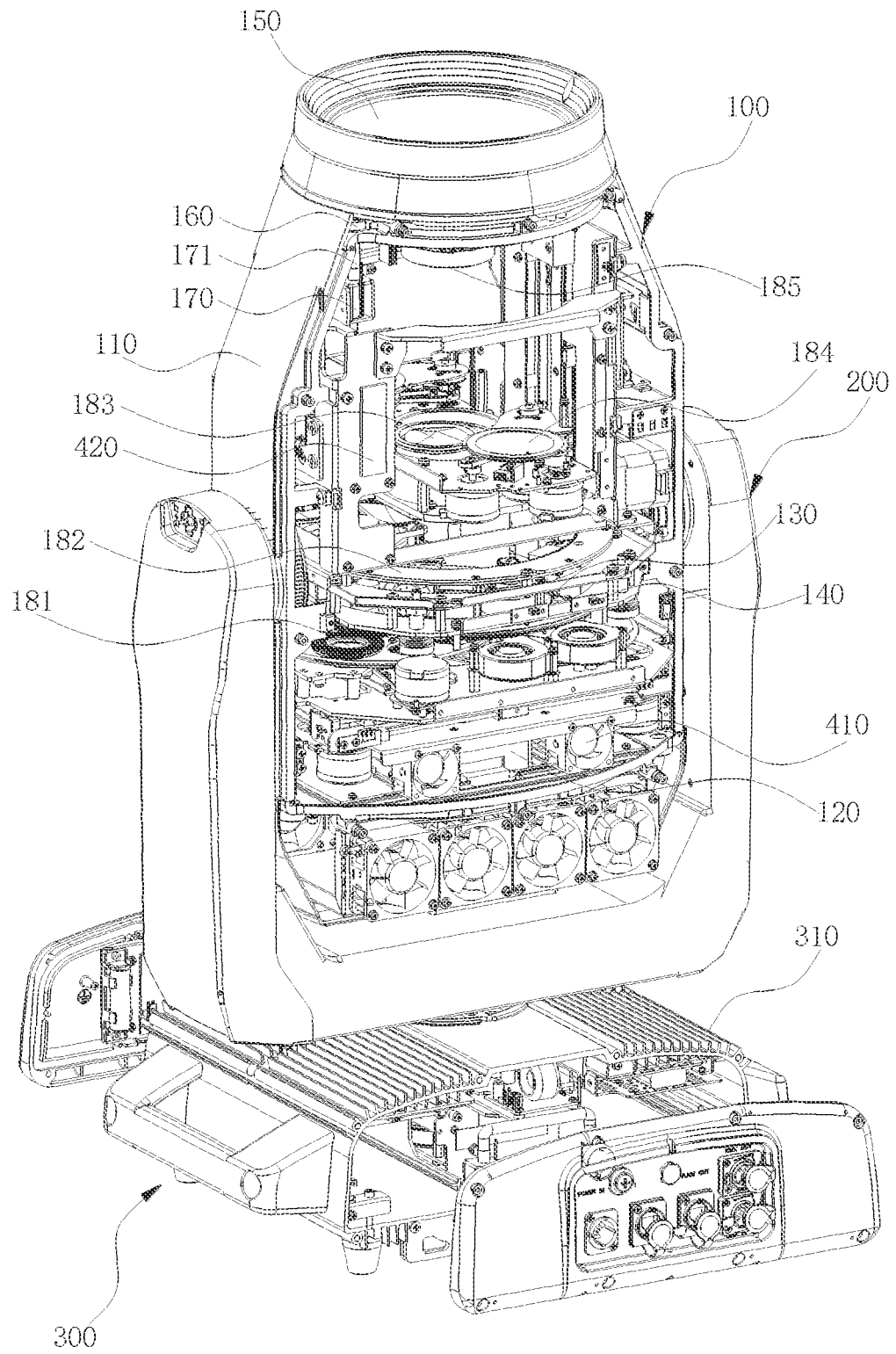


FIG. 1

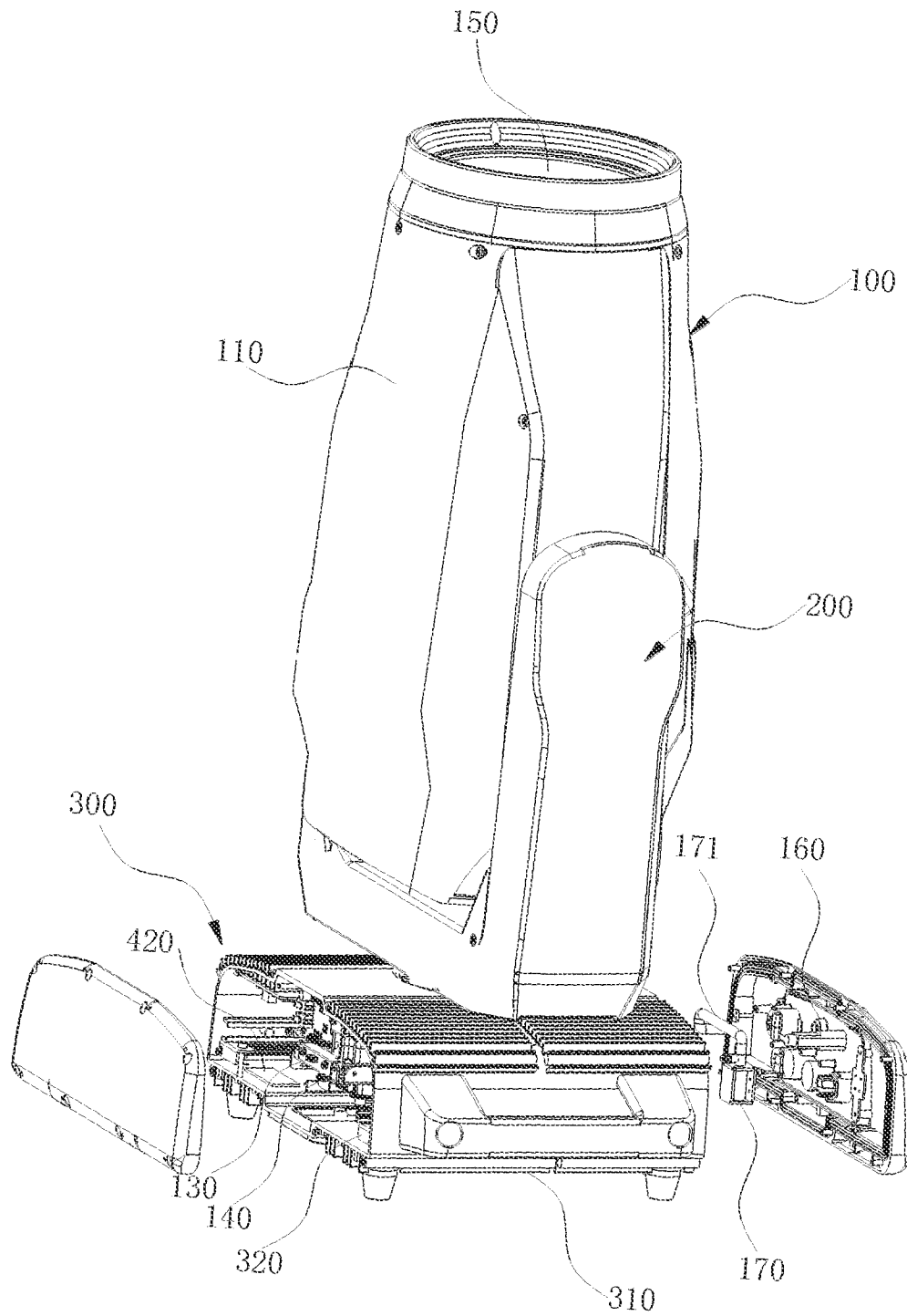


FIG. 2

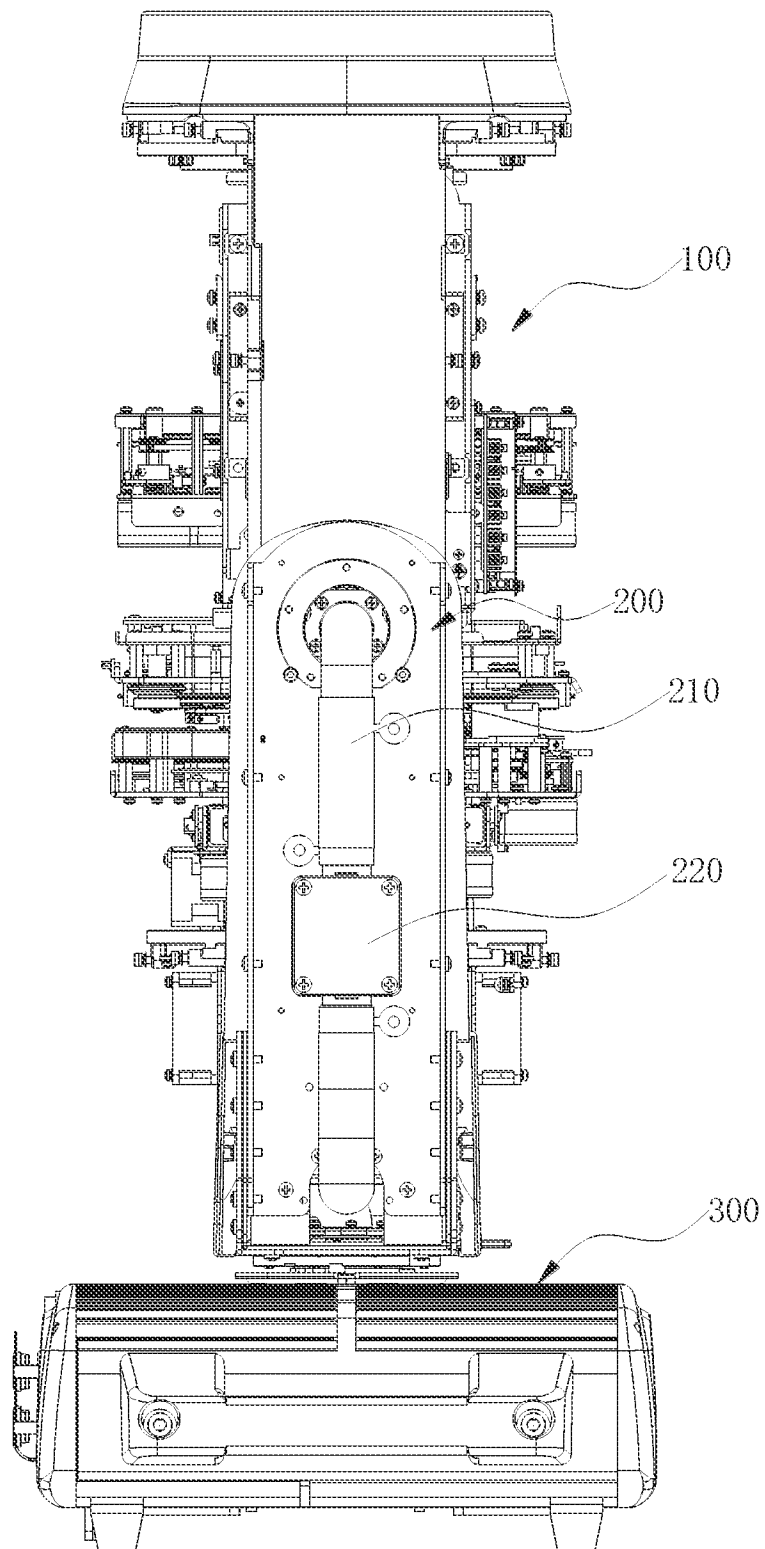


FIG. 3

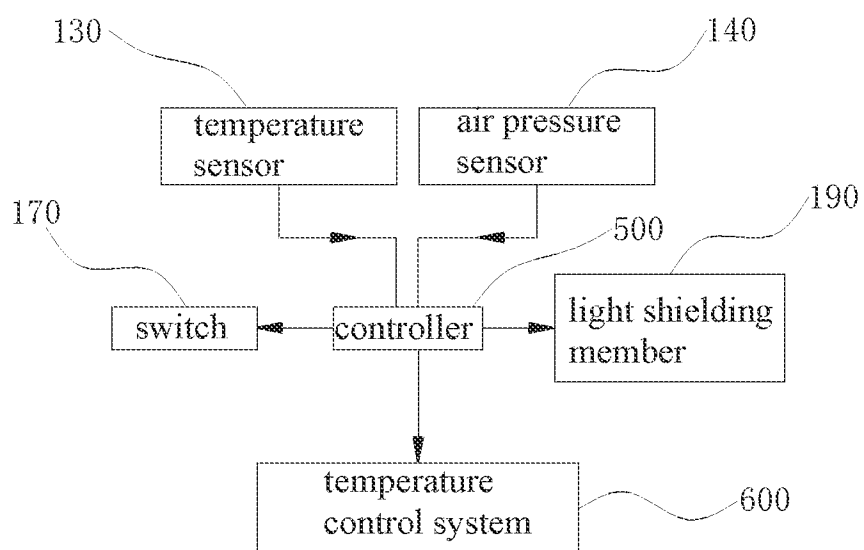


FIG. 4