



UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/166,142	08/17/2021	11094992	024607-02-5080-US	1038

24341 7590 07/28/2021

Morgan, Lewis & Bockius LLP (PA)
1400 Page Mill Road
Palo Alto, CA 94304-1124

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 354 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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

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

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

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

Bolin Zhou, Ningde, CHINA;
Ningde Amperex Technology Limited, Ningde, 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.

IR103 (Rev. 10/09)

PART B - FEE(S) TRANSMITTAL

Electronically filed July 13, 2021

Complete and send this form with applicable fee(s), to: Mail

Mail Stop ISSUE FEE
 Commissioner of Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 (571) 273-2885

or Fax

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

CURRENT CORRESPONDENCE ADDRESS

MORGAN, LEWIS & BOCKIUS LLP
 1400 Page Mill Road
 Palo Alto, CA 94304

Note: A certificate of mailing below 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.

Certificate of Mailing

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

(Depositor's name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTY'S DOCKET NO.	CONFIRMATION NO.
16/166,142	10/21/2018	Bolin Zhou	024607-02-5080-US	1038

TITLE OF INVENTION BATTERY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	0	\$1200	07/14/2021

EXAMINER	ART UNIT	CLASS-SUB CLASS
SHEIKH, HAROON S	1724	429-096000

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

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

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47) 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. Morgan, Lewis & Bockius LLP

2. _____

3. _____

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

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

(A) NAME OF ASSIGNEE:

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

NINGDE AMPEREX TECHNOLOGY LIMITED

(C) NINGDE, FUJIAN, 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. The following fee(s) are submitted:

☒ Issue Fee☐ Advanced Order - # of Copies _____

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

☐ A check in the amount of the fee(s) enclosed☐ Payment by credit card. Form PTO-2038 is attached.☒ The Director is hereby authorized to charge the required fee(s), or credit any overpayment, to Deposit Account Number 50-0310 (order no. 024607-02-5080-US).5. **Change in Small Entity Status** (from status indicated above)☐ a. Applicant certifying micro entity status. See 37 CFR 1.29.

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

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

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

☐ Applicant changing to regular undiscounted fee status.

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

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

Authorized Signature /Yalei Sun/

Date: July 13, 2021

Printed Name: Yalei Sun

Registration No. 57,765

Ningde Amperex Tech. Exhibit No. 2018
Zhuhai CosMX Battery Co. Ltd. v. Ningde Amperex Tech.
IPR2026-00408, U.S. Patent No. 11,699,808

Page 2 of 107

Electronic Patent Application Fee Transmittal				
Application Number:		16166142		
Filing Date:		21-Oct-2018		
Title of Invention:		BATTERY		
First Named Inventor/Applicant Name:		Bolin Zhou		
Filer:		Yalei Sun/Cheryl Rogers		
Attorney Docket Number:		024607-02-5080-US		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	1200	1200

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1200

Electronic Acknowledgement Receipt	
EFS ID:	43240204
Application Number:	16166142
International Application Number:	
Confirmation Number:	1038
Title of Invention:	BATTERY
First Named Inventor/Applicant Name:	Bolin Zhou
Customer Number:	24341
Filer:	Yalei Sun
Filer Authorized By:	
Attorney Docket Number:	024607-02-5080-US
Receipt Date:	13-JUL-2021
Filing Date:	21-OCT-2018
Time Stamp:	18:56:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$1200
RAM confirmation Number	E20217CI56302335
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	024607-02-5080- US_Issue_Fee_Transmittal.pdf	115165	no	1
			7a35e4821f0f9d81c7fabf102c929bd6bfdc489b		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	29691	no	2
			9950b52d609ae110df256293ddadc7349fc7ee20		
Warnings:					
Information:					
Total Files Size (in bytes):			144856		
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					



UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

24341 7590 04/14/2021
Morgan, Lewis & Bockius LLP (PA)
1400 Page Mill Road
Palo Alto, CA 94304-1124

EXAMINER

SHEIKH, HAROON S

ART UNIT

PAPER NUMBER

1724

DATE MAILED: 04/14/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/166,142	10/21/2018	Bolin Zhou	024607-02-5080-US	1038

TITLE OF INVENTION: BATTERY

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	07/14/2021

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

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

HOW TO REPLY TO THIS NOTICE:

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

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

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

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

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

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

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

Page 1 of 3

PTOL-85 (Rev. 02/11)

PART B - FEE(S) TRANSMITTAL

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

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

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

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

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

24341 7590 04/14/2021
Morgan, Lewis & Bockius LLP (PA)
1400 Page Mill Road
Palo Alto, CA 94304-1124

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

Certificate of Mailing or Transmission

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

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/166,142	10/21/2018	Bolin Zhou	024607-02-5080-US	1038

TITLE OF INVENTION: BATTERY

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	07/14/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
SHEIKH, HAROON S	1724	429-096000

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

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 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) ☐ Advance Order - # of Copies _____

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

- ☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

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

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

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

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

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/166,142	10/21/2018	Bolin Zhou	024607-02-5080-US	1038
24341	7590	04/14/2021	EXAMINER	
Morgan, Lewis & Bockius LLP (PA)			SHEIKH, HAROON S	
1400 Page Mill Road			ART UNIT	
Palo Alto, CA 94304-1124			PAPER NUMBER	
			1724	
DATE MAILED: 04/14/2021				

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

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

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

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

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

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

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

Privacy Act Statement

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

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

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

Notice of Allowability	Application No. 16/166,142	Applicant(s) Zhou, Bolin	
	Examiner HAROON S SHEIKH	Art Unit 1724	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 amendments filed 3/2/2021.
☐ 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 1-16 and 20. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
Certified copies:
a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: _____.

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

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

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

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)	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 _____.	

/Haroon S. Sheikh/ Primary Examiner, Art Unit 1724	
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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.

Status of Application

Applicant's arguments, see pp. 5-9, filed 3/2/2021, with respect to amended claim 1 have been fully considered and are persuasive. The 35 U.S.C. 102 and 35 U.S.C. 103 rejections in the previous Office Action are withdrawn.

The application is in condition for allowance. See Reasons for Allowance.

Reasons for Allowance

Claims 1-16 and 20 are allowed.

The following is an examiner's statement of reasons for allowance: the claimed battery is novel over the closest prior art – Applicant Admitted Prior Art, AARP (Specification – pp. 5, 1st paragraph, pp. 10-11; Table 1; Fig. 2) and Kodama (US 2017/0005300 A1).

Regarding **Claim 1**, each of AARP and Kodama disclose the claimed battery except the feature, "wherein the protrusion segment is of a curved structure." The instant specification teaches that when the protrusion segment of the flange portion has a curved structure, the battery side which nestles against the flange forms a structure having a reliable seal and the space occupied by the side of the battery occupies less space [PgPublication of instant application – par. 0003]. The instant specification further teaches that the structure formed by the claimed configuration ensures the amount of glue at the valley bottom of the side as much as possible, so that the adhesive force here is improved, the tightness of the valley bottom is ensured and the problem of opening the flange portion when transporting, using, or storing is reduced as much as possible [Abstract]. Neither of these advantages

are considered by the cited prior art. Thus, the claimed invention is novel and in condition for allowance.

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

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAROON S SHEIKH whose telephone number is (571)270-0302. The examiner can normally be reached on 9-5.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MIRIAM STAGG can be reached on (571) 270-5256. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

HAROON S. SHEIKH
Examiner
Art Unit 1724

/Haroon S. Sheikh/
Primary Examiner, Art Unit 1724

Issue Classification 	Application/Control No. 16/166,142	Applicant(s)/Patent Under Reexamination Zhou, Bolin	
	Examiner HAROON S SHEIKH	Art Unit 1724	

CPC						
Symbol					Type	Version
H01M	/	50	/	209	F	2021-01-01
H01M	/	10	/	0525	I	2013-01-01
H01M	/	10	/	0436	I	2013-01-01
H01M	/	50	/	10	I	2021-01-01
H01M	/	50	/	24	I	2021-01-01
H01M	/	50	/	116	I	2021-01-01
H01M	/	50	/	183	I	2021-01-01

CPC Combination Sets							
Symbol				Type	Set	Ranking	Version
	/		/				

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	17	
/Haroon S. Sheikh/ Primary Examiner, Art Unit 1724	10 April 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20210410

Issue Classification 	Application/Control No. 16/166,142	Applicant(s)/Patent Under Reexamination Zhou, Bolin
	Examiner HAROON S SHEIKH	Art Unit 1724

INTERNATIONAL CLASSIFICATION				
CLAIMED				
H01M	/	10	/	0525
H01M	/	2	/	10
NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

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

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	17	
/Haroon S. Sheikh/ Primary Examiner, Art Unit 1724	10 April 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20210410

Issue Classification 	Application/Control No. 16/166,142	Applicant(s)/Patent Under Reexamination Zhou, Bolin
	Examiner HAROON S SHEIKH	Art Unit 1724

☒ 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	1	10	10												
2	2	11	11												
3	3	12	12												
4	4	13	13												
5	5	14	14												
6	6	15	15												
7	7	16	16												
8	8	17	20												
9	9														

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	17	
/Haroon S. Sheikh/ Primary Examiner, Art Unit 1724	10 April 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20210410

Search Notes 	Application/Control No. 16/166,142	Applicant(s)/Patent Under Reexamination Zhou, Bolin
	Examiner HAROON S SHEIKH	Art Unit 1724

CPC - Searched*		
Symbol	Date	Examiner
h01m2\$.cpc. h01m10\$.cpc.	12/05/2020	hs

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
h01m2\$.cpc. h01m10\$.cpc.	12/05/2020	hs
Assignee/Inventor search	12/05/2020	hs
Google Patent search	12/05/2020	hs
Forward/Backwad Citation search	12/05/2020	hs

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
h01m2\$	all	04/10/2021	hs
h01m10\$	all	04/10/2021	hs

/Haroon S. Sheikh/ Primary Examiner, Art Unit 1724	
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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	1038	((("ZHOU") near3 ("Bolin"))).INV. ((("NINGDE") near3 ("AMPEREX") near3 ("TECHNOLOGY") near3 ("LIMITED"))).AS,AANM	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2020/12/05 07:12 AM
L2	878714	h01m2\$.cpc. h01m10\$.cpc.	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2020/12/05 07:12 AM
L3	418	1 AND 2	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2020/12/05 07:12 AM
L4	418	3 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell)))	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2020/12/05 07:12 AM
L5	35	4 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2020/12/05 07:12 AM
L6	28674	2 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2020/12/05 07:12 AM

L7	6973	2 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) near4 (end distal side) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2020/12/05 07:12 AM
L8	474	2 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) near4 (end distal side) WITH (flange rib) near3 (member portion part segment piece structure) WITH (protrusion protrud\$3 project\$3)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2020/12/05 07:12 AM
L9	160051	2 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) near4 (end distal side edge corner)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2021/02/25 01:02 PM
L10	19083	9 AND (end distal side edge corner) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2021/02/25 01:02 PM
L11	15171	2 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) WITH (end distal side edge corner) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2021/02/25 01:02 PM

L12	12154	10 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) WITH (end distal side edge corner) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2021/02/25 01:02 PM
L13	6109	9 AND (end distal side edge corner) near4 (flange rib protrusion protrud\$3 project\$3) ADJ (member portion part segment piece structure)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2021/02/25 01:02 PM
L14	3027	10 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) WITH (end distal side edge corner) near4 (flange rib protrusion protrud\$3 project\$3) ADJ (member portion part segment piece structure)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2021/02/25 01:02 PM
L15	214	14 AND (end distal side edge corner) near4 (flange rib protrusion protrud\$3 project\$3) ADJ (member portion part segment piece structure) WITH (curved curvature radius circle circular semi\$1circle semi\$1circular)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2021/02/25 01:02 PM
L16	70	15 AND (end distal side edge corner) near4 (flange rib protrusion protrud\$3 project\$3) ADJ (member portion part segment piece structure) WITH (seal\$3)	(US-PGPUB ; USPAT ; USOCR ; FIT (CN , FR , WO) ; FPRS ; EPO ; JPO ; DERWENT ; IBM_TDB)	OR	ON	ON	2021/02/25 01:02 PM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N1	122943	h01m2\$.cpc. h01m10\$.cpc.	(US-PGPUB ; USPAT)	OR	ON	ON	2021/04/10 11:04 PM

N2	33079	1 AND ((battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) WITH (end distal side edge corner)).clm.	(US-PGPUB ; USPAT)	OR	ON	ON	2021/04/10 11:04 PM
N4	2996	2 AND ((end distal side edge corner) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)).clm.	(US-PGPUB ; USPAT)	OR	ON	ON	2021/04/10 11:04 PM
N5	39	4 AND ((end distal side edge corner) WITH ((flange rib protrusion protrud\$3 project\$3) ADJ (member portion part segment piece structure)) WITH (curved curvature radius circle circular semi\$1circle semi\$1circular)).clm.	(US-PGPUB ; USPAT)	OR	ON	ON	2021/04/10 11:04 PM



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/166,142	10/21/2018	Bolin Zhou	024607-02-5080-US	1038
24341	7590	03/03/2021	EXAMINER	
Morgan, Lewis & Bockius LLP (PA)			SHEIKH, HAROON S	
1400 Page Mill Road			ART UNIT	PAPER NUMBER
Palo Alto, CA 94304-1124			1724	
			NOTIFICATION DATE	DELIVERY MODE
			03/03/2021	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):

padocketingdepartment@morganlewis.com
vskliba@morganlewis.com

<i>Applicant-Initiated Interview Summary</i>	Application No. 16/166,142	Applicant(s) Zhou, Bolin		
	Examiner HAROON S SHEIKH	Art Unit 1724	AIA (First Inventor to File) Status Yes	Page 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
HAROON S SHEIKH	Primary Examiner	Telephonic
YALEI SUN	Attorney of Record	

Date of Interview: 25 February 2021

Issues Discussed:

Proposed Amendment(s)

Applicant proposed amending claim 1 to recite, "wherein the protrusion segment is of a curved structure." The amendment overcomes the 35 USC 102 rejection in the most recent Office action. Further search/consideration is required to determine patentability of the proposed amendment.

☒ Attachment

/Haroon S. Sheikh/ Primary Examiner, Art Unit 1724	
<p>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</p> <p>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</p>	

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

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Bolin Zhou

Confirmation No.: 1038

Serial No.: 16/166,142

Art Unit: 1724

Filed: October 21, 2018

Examiner: Sheikh, Haroon S.

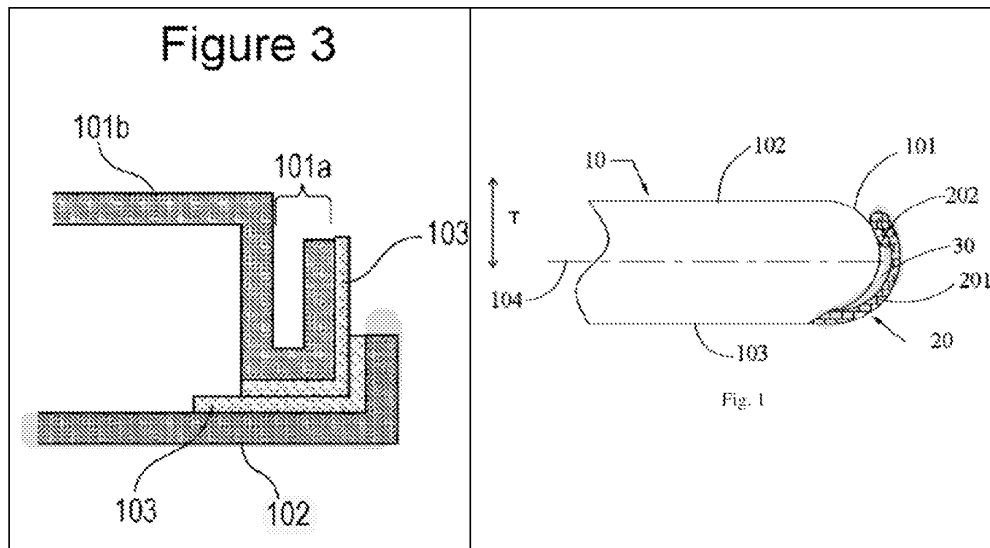
For: *Battery*

Attorney Docket No.: 024607-02-5080-
US

PHONE INTERVIEW AGENDA

1. (Currently Amended) A battery, comprising:
a battery body, and
a flange portion,
wherein the battery body comprises a side face protruding from a surface of the battery body;
the flange portion is arranged outside the battery body and comprises a protrusion segment connected to the battery body, and the protrusion segment protrudes away from the battery body, wherein the protrusion segment is of a curved structure.

Comparison:



Electronically filed March 2, 2021

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Bolin Zhou	Confirmation No.:	1038
Serial No.:	16/166,142	Art Unit:	1724
Filed:	October 21, 2018	Examiner:	Sheikh, Haroon S.
For:	<i>Battery</i>	Attorney Docket No.:	024607-02-5080-US

AMENDMENT AND RESPONSE TO NON-FINAL OFFICE ACTION

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

The enclosed Amendment is in response to the Office Action dated December 9, 2020 for the above identified patent application.

The Commissioner is hereby authorized to charge any required fee(s) to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 (order no. 024607-02-5080-US).

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A battery, comprising:
a battery body, and
a flange portion,
wherein the battery body comprises a side face protruding from a surface of the battery body;
the flange portion is arranged outside the battery body and comprises a protrusion segment connected to the battery body, and the protrusion segment protrudes away from the battery body, wherein the protrusion segment is of a curved structure.
2. (Original) The battery according to claim 1, wherein the flange portion further comprises an ending segment connected to an end of the protrusion segment and located between the protrusion segment and the side face.
3. (Original) The battery according to claim 2, the battery body comprises a first plane and a second plane in a thickness direction of the battery body,
wherein the protrusion segment is curved from an end of the second plane toward a side where the first plane is located; a connection between the ending segment and the protrusion segment is a starting end of the ending segment, and the distance of the starting end of the ending segment from the first plane is 0.2 to 0.5 mm.
4. (Original) The battery according to claim 3, wherein the distance of the end of the ending segment from a central plane of the battery body is greater than 0.2 mm, and the end of the ending segment is located between the first plane and the central plane in the thickness direction of the battery body.
5. (Original) The battery according to claim 2, further comprising an adhesive layer, wherein the adhesive layer is disposed between at least two of the protrusion segment, and the ending segment and the side face.
6. (Original) The battery according to claim 5, wherein a unit mass of the adhesive layer is 0.1 to 0.25 mg/mm in the thickness direction of the battery.

7. (Original) The battery according to claim 1, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.
8. (Original) The battery according to claim 2, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.
9. (Original) The battery according to claim 3, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.
10. (Original) The battery according to claim 4, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.
11. (Original) The battery according to claim 5, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.
12. (Original) The battery according to claim 6, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.
13. (Original) The battery according to claim 2, wherein a starting end of the ending segment is located between the first plane and the second plane in the thickness direction of the battery body.
14. (Original) The battery according to claim 3, wherein a starting end of the ending segment is located between the first plane and the second plane in the thickness direction of the battery body.
15. (Original) The battery according to claim 4, wherein a starting end of the ending segment is located between the first plane and the second plane in the thickness direction of the battery body.
16. (Original) The battery according to claim 5, wherein a starting end of the ending segment is located between the first plane and the second plane in the thickness direction of the battery body.
17. (Canceled)
18. (Canceled)
19. (Canceled)

20. (Currently Amended) The battery according to claim ~~[[17]]~~ 1, wherein the curved structure comprises an elliptical arc or a circular arc.

REMARKS

This amendment responds to the office action mailed December 9, 2020. In the office action, the Examiner:

- objected to drawings;
- rejected claims 1-5, 7-11, and 13-16 under 35 U.S.C. 102(a)(1) and 102(a)(2) as being anticipated by Applicant Admitted Prior Art (AAPR — pp. 5, 1st paragraph, pp. 10-11; Table 1; Fig. 2), hereinafter “AAPR”;
- rejected claims 1, 7, and 17 under 35 U.S.C. 102(a)(1) and 102(a)(2) as being anticipated by Kodama (US 2017/0005300);
- rejected claim 17 under 35 U.S.C. 103 as being unpatentable over Kodama, as applied to claim 1 above; and
- objected to claims 6, 12, and 18-20 to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

APPLICANT INITIATED INTERVIEW SUMMARY

Applicant would like to thank Examiner Sheikh for the opportunity to discuss the application during a telephone interview on February 25, 2021 with Applicant's attorney Yalei Sun. In the interview, the claims and the rejections in the Non-Final Office Action were discussed. The Examiner agreed that amending the independent claim 1 by incorporating claim 17 would overcome the current rejection based on the cited references, but indicated that an updated search may be required. Applicant has amended claim 1 by incorporating claim 17. Applicant herein submits the amended claims set along with the response to the Non-Final Office Action.

REMARKS CONCERNING CLAIMS

Claims 1 and 20 have been amended. Claim 1 has been amended by incorporating claim 17. Claims 17-19 has been canceled.

Support for the amendments can be found in at least paragraphs [0008] and [0034], and Figure 1 of the application as published. No new matter has been added.

Applicant respectfully requests reconsideration of the pending claims in view of the above amendments and the following remarks.

With respect to all amendments, Applicant has not dedicated or abandoned any unclaimed subject matter. Moreover, Applicant has not acquiesced to any characterizations of the invention, nor any rejections or objections of the claims, made by the Examiner. Moreover, the Applicant hereby rescinds any prior disclaimer of claim scope, to the extent they exist, made during the prosecution of this application or made during the prosecution of any patent or other related patents/applications, and advises the Examiner that any such previous disclaimers and the cited references that they were made to avoid may need to be revisited.

REMARKS CONCERNING OBJECTION

I. OBJECTION TO DRAWINGS

FIG. 2 is objected under MPEP § 608.02(g), as FIG. 2, which illustrates only that which is old, is not designated by a legend such as Prior Art.

With this response, Applicant has amended FIG. 2 by designating it as “Prior Art”, so the objection on FIG. 2 is moot.

REMARKS CONCERNING REJECTIONS UNDER 35 U.S.C. 102

II. REJECTION OF CLAIMS 1-5, 7-11, AND 13-16 UNDER 35 U.S.C. 102(A)(1) AND 102(A)(2) AS BEING ANTICIPATED BY AAPR

III. REJECTION OF CLAIMS 1, 7, AND 17 UNDER 35 U.S.C. 102(A)(1) AND 102(A)(2) AS BEING ANTICIPATED BY KODAMA

Claims 1-5, 7-11, and 13-16 stand rejected under 35 U.S.C. 102(A)(1) and 102(A)(2) as allegedly being anticipated by AAPR. Claims 1, 7, and 17 stand rejected under 35 U.S.C. 102(A)(1) and 102(A)(2) as allegedly being anticipated by Kodama. Applicant respectfully traverses these rejections. Neither AAPR Nor Kodama teach or disclose each and every element of these claims.

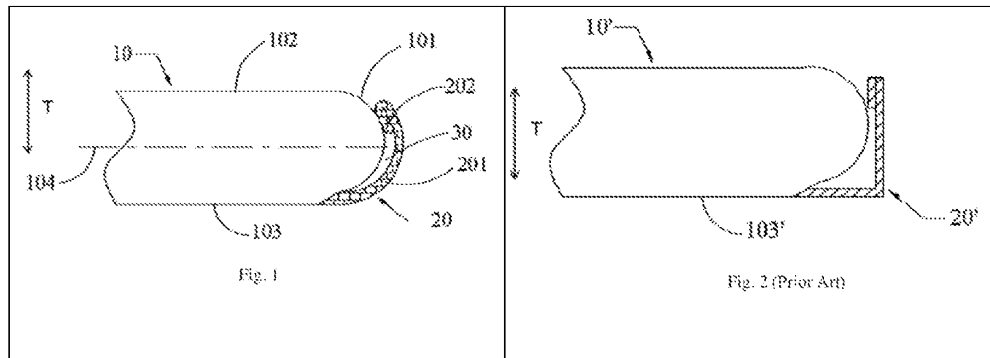
With this response, claim 1 has been amended by incorporating claim 17. Independent claim 1, as amended, recites, among others, that:

...

the flange portion is arranged outside the battery body and comprises a protrusion segment connected to the battery body, and the protrusion segment protrudes away from the battery body, wherein **the protrusion segment is of a curved structure.**

Emphases added.

As noted above, the Examiner agreed in the Applicant initiated interview that the amended claim 1 is not anticipated by AAPR. An exemplary embodiment of the battery recited in claim is shown in FIG. 1 (reproduced below).

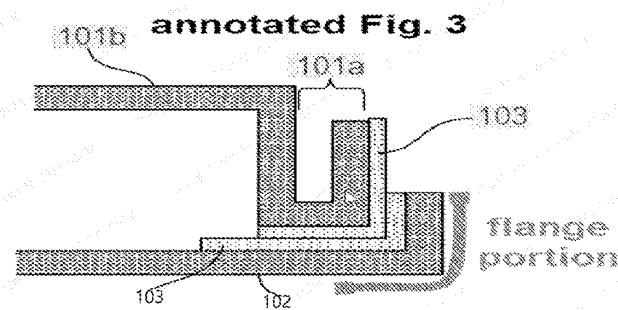


As depicted in FIG. 1 (reproduced above), the protrusion segment 201 of the present application is of a curved structure, which can “increase the gap between the protrusion segment 201 and the side face 101 and ensure the amount of the glue therebetween” (the present application, [0034]).

In contrast, neither AAPR nor Kodama teach “the protrusion segment is of a curved structure”.

As depicted in FIG. 2 (reproduced above), the flange portion 20' of AAPR does not have a curved structure. Instead, the flange portion 20' is of a vertical arrangement (the present application, [0026]). As a result, the amount of glue cannot be evenly distributed between the flange portion 20' and the side face of the battery body 10'. Accordingly, claim 1 is not anticipated by AAPR.

For reference, annotated FIG. 3 of Kodama is reproduced below. As depicted in annotated FIG. 3, bottom, outermost corner of the second metal sheet 102, which has been annotated as “flange portion” by the Examiner, is not of a curved structure. Accordingly, claim 1 is not anticipated by Kodama.



Claims 2-5, 7-11, and 13-16 depend from independent claim 1, and are thus patentable for at least the same reasons as stated above with respect to claim 1, and for the additional features recited therein.

Therefore, Applicant respectfully requests that the examiner reconsider and withdraw the rejection of claims 1-5, 7-11, and 13-16 under 35 U.S.C. 102(A)(1) and 102(A)(2).

REMARKS CONCERNING REJECTIONS UNDER 35 U.S.C. 103

IV. REJECTION OF CLAIM 17 UNDER 35 U.S.C. 103 AS BEING UNPATENTABLE OVER KODAMA, AS APPLIED TO CLAIM 1 ABOVE

Claim 17 stand rejected under 35 U.S.C. 103 as allegedly being unpatentable over Kodama alone. Applicant respectfully traverses the rejection.

Claim 17 depend from claim 1, and thus include all elements of claim 1. As set forth above, Kodama fails to disclose each and every element of independent claim 1. Further, Applicant respectfully submits that claim 1, as amended, is not obvious in view of Kodama.

As noted above, Kodama fails to teach that the “the protrusion segment is of a curved structure” as recited in claim 1. Applicant respectfully submits that a person having ordinary skill in the art will not be motivated to perform this substantial reconstruction to Kodama in view of other cited prior art references without involving inventive skill. In fact, the Examiner also agreed during the phone interview that the amended claim 1 overcome Kodama because the curved structure is not a design choice from the corner structure to those skilled in the art. Therefore, claim 1 is patentable over Kodama under 35 U.S.C. 103.

Because independent claim 1 is patentable over Kodama under 35 U.S.C. 103, claim 17 is therefore patentable for at least the same reasons above.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claim 17 under 35 U.S.C. 103.

REMARKS CONCERNING ALLOWABLE SUBJECT MATTER

V. **OBJECTION TO CLAIMS 6, 12, AND 18-20 TO AS BEING DEPENDENT UPON A REJECTED BASE CLAIM, BUT WOULD BE ALLOWABLE IF REWRITTEN IN INDEPENDENT FORM**

Applicant thanks the Examiner for indicating that claims 6, 12 and 18-20 would be allowable if rewritten in independent form. Because claims 6, 12 and 18-20 are dependent from the amended claim 1, they are also allowable for the same reasons above.

CONCLUDING REMARKS

By responding in the foregoing remarks only to particular positions asserted by the examiner, the Applicant does not necessarily acquiesce in other positions that have not been explicitly addressed. In addition, the Applicant's arguments for the patentability of a claim should not be understood as implying that no other reasons for the patentability of that claim exist.

In light of the above amendments and remarks, the Applicant respectfully requests that the Examiner reconsider this application with a view towards allowance. The Examiner is invited to call the undersigned attorney at (650) 843-7558, if a telephone call could help resolve any remaining items.

Respectfully submitted,

Date: March 2, 2021

/Yalei Sun/

57,765

Yalei Sun

(Reg. No.)

MORGAN, LEWIS & BOCKIUS LLP

1400 Page Mill Road

Palo Alto, CA 94304

Phone: (650) 843-7558

E-mail: yalei.sun@morganlewis.com

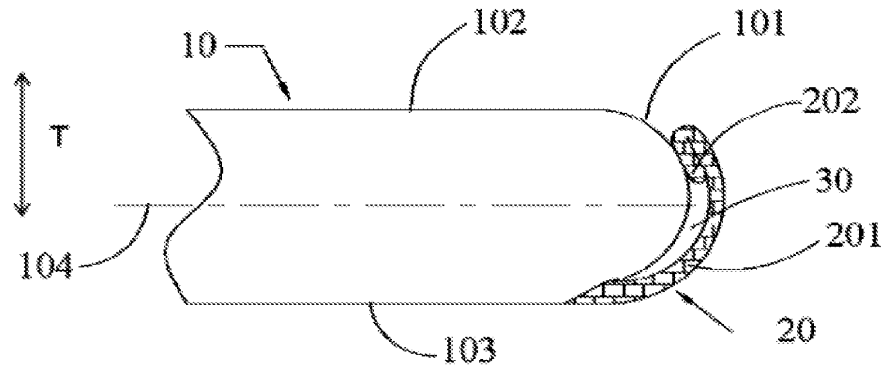


Fig. 1

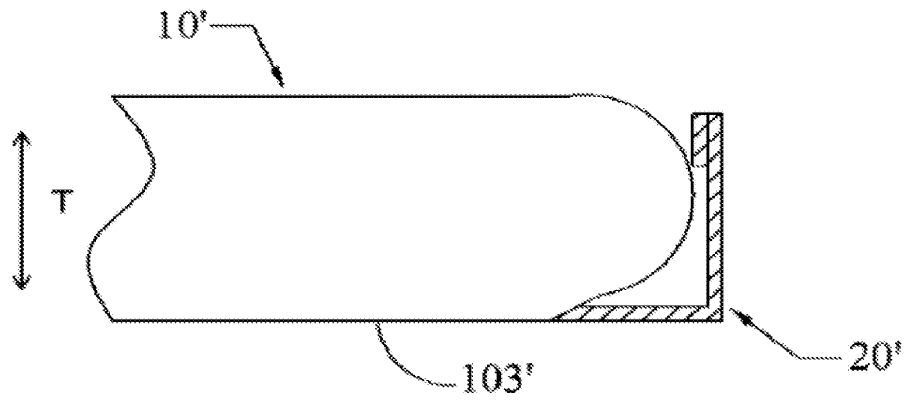


Fig. 2 (Prior Art)

Electronic Acknowledgement Receipt	
EFS ID:	42070432
Application Number:	16166142
International Application Number:	
Confirmation Number:	1038
Title of Invention:	BATTERY
First Named Inventor/Applicant Name:	Bolin Zhou
Customer Number:	24341
Filer:	Yalei Sun
Filer Authorized By:	
Attorney Docket Number:	024607-02-5080-US
Receipt Date:	02-MAR-2021
Filing Date:	21-OCT-2018
Time Stamp:	22:41:42
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		024607-02-5080-US_RNFOA.pdf	633563 65cd8aa514df190fdb990756541b17e055a d18fa	yes	10

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	4
	Applicant Arguments/Remarks Made in an Amendment	5	9
	Drawings-only black and white line drawings	10	10
Warnings:			
Information:			
Total Files Size (in bytes):		633563	
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>			

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 16/166,142		Filing Date 10/21/2018		☐ To be Mailed					
ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO													
APPLICATION AS FILED - PART I													
		(Column 1)		(Column 2)									
FOR		NUMBER FILED		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), (l), 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(l))		minus 20 = *				x \$100 =							
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *				x \$460 =							
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).											
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))													
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL							
APPLICATION AS AMENDED - PART II													
		(Column 1)		(Column 2)		(Column 3)							
AMENDMENT	03/02/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)			
	Total (37 CFR 1.16(j))	* 17	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(j))	*	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".										/TERESA J JACKSON WOODRUFF/			
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".													
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.													

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

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



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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/166,142	10/21/2018	Bolin Zhou	DEHE-1827-USPT

CONFIRMATION NO. 1038
POWER OF ATTORNEY NOTICE

129752
BYIP LTD.
5700 Granite Parkway, Suite 200
Plano, TX 75024



Date Mailed: 02/26/2021

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/22/2021.

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

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

/vnguyen/



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/166,142	10/21/2018	Bolin Zhou	024607-02-5080-US

CONFIRMATION NO. 1038

POA ACCEPTANCE LETTER



OC000000123616124

Date Mailed: 02/26/2021

24341
Morgan, Lewis & Bockius LLP (PA)
1400 Page Mill Road
Palo Alto, CA 94304-1124

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/22/2021.

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

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

/vnguyen/

**POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE
THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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

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 the practitioners of Morgan, Lewis & Bockius LLP, Customer Number **24341** as attorneys or agents to represent the undersigned and to transact all business before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications and patents assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 C.F.R. § 3.73(c), said appointment to be to the exclusion of the inventor(s) and their attorney(s) in accordance with the provisions of 37 C.F.R. § 3.71, provided that, if any one of these attorneys ceases being affiliated with the law firm of Morgan, Lewis & Bockius LLP as partner, counsel, or employee, then the appointment of that attorney and all powers derived therefrom shall terminate on the date such attorney ceases being so affiliated.

Assignee Name and Address:

Ningde Amperex Technology Limited
No. 1, Xingang Road, Zhangwan Town
Jiaocheng Zone, Ningde City
Fujian Province, P. R. China 352100

SIGNATURE of Assignee of Record

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

Signature	<u>Hou Yong Li</u>		
Name	<u>Houyong Li</u>	Date	<u>Feb. 24, 2014</u>
Title	<u>IP Manager</u>	Telephone	<u>+86-0593-258-2597</u>

A copy of this form, together with a statement under 37 C.F.R. § 3.73(c) (Form PTO/SB96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 C.F.R. § 3.73(c) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee and must identify the application in which this Power of Attorney is to be filed.

10B2/ 24723704.1

Electronically filed February 22, 2021

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Bolin ZHOU	Confirmation No.:	1038
Serial No.:	16/166,142	Art Unit	1724
Filed:	October 21, 2018	Examiner:	SHEIKH, Haroon S
For:	BATTERY	Attorney Docket No.:	024607-02-5080-US

STATEMENT UNDER 37 C.F.R. § 3.73(c)

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

Sir:

NINGDE AMPEREX TECHNOLOGY LIMITED, a Corporation, states that it is the assignee of the entire right, title and interest in the patent application/patent identified above by virtue of an assignment from the inventor(s) inventor(s) of the patent application/patent identified above.

The assignment was recorded in the United States Patent and Trademark Office on October 22, 2018 at Reel 047247, Frame 0790, or for which a copy thereof is attached.

The undersigned is authorized to act on behalf of the assignee.

Date:	February 22, 2021	<u>/Yalei Sun/</u>	<u>57,765</u>
		Yalei Sun	(Reg. No.)
		MORGAN, LEWIS & BOCKIUS LLP	
		1400 Page Mill Road	
		Palo Alto, CA 94304	
		(650) 843-4000	

Electronic Acknowledgement Receipt	
EFS ID:	41989386
Application Number:	16166142
International Application Number:	
Confirmation Number:	1038
Title of Invention:	BATTERY
First Named Inventor/Applicant Name:	Bolin Zhou
Customer Number:	129752
Filer:	Yalei Sun
Filer Authorized By:	
Attorney Docket Number:	DEHE-1827-USPT
Receipt Date:	22-FEB-2021
Filing Date:	21-OCT-2018
Time Stamp:	19:49:41
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		024607-02-5080-US_Assignee_Statement_POA.pdf	148700 f415f99216dac70f3a7924c284d0204d193fcbb	yes	2

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Power of Attorney	2	2
	Assignee showing of ownership per 37 CFR 3.73	1	1
Warnings:			
Information:			
Total Files Size (in bytes):		148700	
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>			



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/166,142	10/21/2018	Bolin Zhou	DEHE-1827-USPT	1038
129752	7590	12/09/2020	EXAMINER	
BYIP LTD.			SHEIKH, HAROON S	
5700 Granite Parkway, Suite 200			ART UNIT	PAPER NUMBER
Plano, TX 75024			1724	
			NOTIFICATION DATE	DELIVERY MODE
			12/09/2020	ELECTRONIC

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

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

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

charles_ho@barron-young.com
charlesho@barron-young.com
cho@barron-young.com

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.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d). The certified copy has been filed in parent Application No. JP201721567327, filed on 9/3/2018.

Drawings

Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. 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 § 102

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

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.

(a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

Claim(s) 1-5, 7-11 and 13-16 is/are rejected under 35 U.S.C. 102(a)(1) and 102(a)(2) as being anticipated by Applicant Admitted Prior Art (AAPR – pp. 5, 1st paragraph, pp. 10-11; Table 1; Fig. 2).

Regarding **Claim 1**, AAPR discloses a battery, comprising:

- (A) a battery body **10'**, and
- (B) a flange portion **20'**,
- (C) wherein the battery body comprises a side face protruding from a surface of the battery body;
- (D) the flange portion is arranged outside the battery body and comprises a protrusion segment connected to the battery body, and the protrusion segment protrudes away from the battery body.

Regarding **Claim 2**, AAPR discloses wherein the flange portion further comprises an ending segment connected to an end of the protrusion segment and located between the protrusion segment and the side face [Fig. 2].

Regarding **Claim 3**, AAPR discloses the battery body comprises a first plane and a second plane in a thickness direction of the battery body, wherein the protrusion segment is curved from an end of the second plane toward a side where the first plane is located; a connection between the ending segment and the protrusion segment is a starting end of the ending segment, and the distance of the starting end of the ending segment from the first plane is 0.2 to 0.5 mm (i.e., the battery of the prior art example is disclosed to have the same structure as that of the embodiment of Fig. 1 which corresponds to the claimed invention) [*i.d.*].

Regarding **Claim 4**, AARP discloses wherein the distance of the end of the ending segment from a central plane of the battery body is greater than 0.2 mm, and the end of the ending segment is located between the first plane and the central plane in the thickness direction of the battery body [*i.d.*].

Regarding **Claim 5**, AARP discloses an adhesive layer, wherein the adhesive layer is disposed between at least two of the protrusion segment, and the ending segment and the side face [*i.d.*].

Regarding **Claims 7-11**, AARP discloses wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment [*i.d.*].

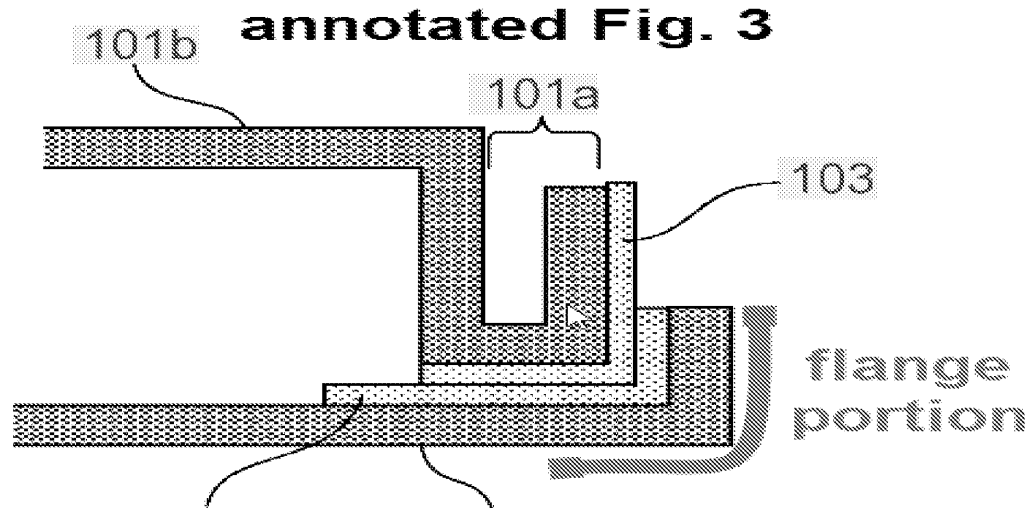
Regarding **Claims 13-16**, AARP discloses wherein a starting end of the ending segment is located between the first plane and the second plane in the thickness direction of the battery body.

Claim(s) 1, 7 and 17 is/are rejected under 35 U.S.C. 102(a)(1) and 102(a)(2) as being anticipated by Kodama (US 2017/0005300 A1).

Regarding **Claim 1**, Kodama discloses a battery **100**, comprising:

Battery [par. 0016-17; Fig. 2, annotated Fig. 3], comprising:

- (A) a battery body (first and second metal sheet **101,102**, and
- (B) a flange portion [annotated Fig. 3],
- (C) wherein the battery body comprises a side face (flange portion **101a**) protruding from a surface of the battery body;
- (D) the flange portion is arranged outside the battery body and comprises a protrusion segment connected to the battery body, and the protrusion segment protrudes away from the battery body.



Regarding **Claim 7**, Kodama discloses wherein the valley bottom of the side face is opposite to a valley bottom of the protrusion segment (i.e. bottom, outermost corner of metal sheet **102**) [annotated Fig. 3].

Claim Rejections - 35 USC § 103

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.

The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 17 is/are rejected under 35 U.S.C. 103 as being unpatentable over Kodama, as applied to claim 1 above.

Regarding **Claim 17**, Kodama teaches wherein the shape of the face of the second metal sheet **102** (i.e., the protruding segment) facing the flange portion **101a** (i.e., the protruding side face) and to be folded back depends on the shape of equipment in which the battery is used [par. 0040]. Therefore, before the effective filing date of the claimed invention, it would have been obvious for one having ordinary skill in the art to have modified the shape of the protrusion segment to comprise a curved structure as a mere design choice which is may be based on the shape of the equipment in which the battery is being used [MPEP 2144.04(I)].

Allowable Subject Matter

Claims 6, 12 and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAROON S SHEIKH whose telephone number is (571)270-0302. The examiner can normally be reached on 9-5.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MIRIAM STAGG can be reached on (571) 270-5256. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

HAROON S. SHEIKH
Examiner
Art Unit 1724

/Haroon S. Sheikh/
Primary Examiner, Art Unit 1724

<i>Notice of References Cited</i>	Application/Control No. 16/166,142	Applicant(s)/Patent Under Reexamination Zhou, Bolin	
	Examiner HAROON S SHEIKH	Art Unit 1724	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-20170005300-A1	01-2017	KODAMA; Yasunobu	H01M2/08	1/1
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

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

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

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PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 20201205

Search Notes 	Application/Control No. 16/166,142	Applicant(s)/Patent Under Reexamination Zhou, Bolin
	Examiner HAROON S SHEIKH	Art Unit 1724

CPC - Searched*		
Symbol	Date	Examiner
h01m2\$.cpc. h01m10\$.cpc.	12/05/2020	hs

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
h01m2\$.cpc. h01m10\$.cpc.	12/05/2020	hs
Assignee/Inventor search	12/05/2020	hs
Google Patent search	12/05/2020	hs
Forward/Backwad Citation search	12/05/2020	hs

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

/Haroon S. Sheikh/ Primary Examiner, Art Unit 1724	
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Bibliographic Data

Application No: 16/166,142

Foreign Priority claimed: ☒ Yes ☐ No

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

Verified and Acknowledged:

/Haroon S. Sheikh/

Examiner's Signature

Initials

Title:

BATTERY

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/21/2018	429	1724	DEHE-1827-USPT
RULE			

APPLICANTS

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INVENTORS

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CONTINUING DATA

FOREIGN APPLICATIONS

CHINA CN201721567327.2 11/17/2017

IF REQUIRED, FOREIGN LICENSE GRANTED**

11/09/2018

STATE OR COUNTRY

CHINA

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FILING FEE RECEIVED

\$1,720

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	1038	((("ZHOU") near3 ("Bolin"))).INV. (((("NINGDE") near3 ("AMPEREX") near3 ("TECHNOLOGY") near3 ("LIMITED")))).AS,AANM.	US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	ON	2020/12/05 07:26 AM
L2	878714	h01m2\$.cpc. h01m10\$.cpc.	US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	ON	2020/12/05 07:26 AM
L3	418	1 AND 2	US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	ON	2020/12/05 07:26 AM
L4	418	3 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell)))	US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	ON	2020/12/05 07:29 AM
L5	35	4 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)	US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	ON	2020/12/05 07:32 AM
L6	28674	2 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)	US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	ON	2020/12/05 07:38 AM
L7	6973	2 AND (battery cell accumulator ((energy electro\$1chemical	US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO;	OR	ON	ON	2020/12/05 07:39 AM

		electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) near4 (end distal side) WITH (flange rib protrusion protrud\$3 project\$3) near3 (member portion part segment piece structure)	DERWENT; IBM_TDB				
L8	474	2 AND (battery cell accumulator ((energy electro\$1chemical electric\$3 power) near2 (cell device store storing produc\$3 generat\$3 battery cell))) near4 (end distal side) WITH (flange rib) near3 (member portion part segment piece structure) WITH (protrusion protrud\$3 project\$3)	US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	ON	2020/12/05 07:40 AM

PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/166,142	10/21/2018	Bolin Zhou	DEHE-1827-USPT

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Frisco, TX 75035



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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：201721567327.2

申 请 类 型：实用新型专利

发 明 创 造 名 称：电池

申 请 日：2017 年 11 月 17 日

申 请 人：宁德新能源科技有限公司

发明人或设计人：周伯林

局 长

申长雨

2018 年 09 月 05 日



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权 利 要 求 书

- 1、一种电池，其特征在于，包括电池主体和折边部，
所述电池主体包括侧面，所述侧面从所述电池主体表面凸起；
所述折边部设置于所述电池主体的外部，所述折边部包括连接于所述电池主体的凸起段，所述凸起段向远离所述电池主体的方向凸起。
- 2、根据权利要求 1 所述的电池，其特征在于，所述折边部还包括收尾段，所述收尾段连接于所述凸起段的末端，所述收尾段位于所述凸起段与所述侧面之间。
- 3、根据权利要求 2 所述的电池，其特征在于，沿所述电池主体的厚度方向，所述电池主体包括第一平面和第二平面，
所述凸起段自所述第二平面的端部向所述第一平面所在的一侧弯曲；
所述收尾段与所述凸起段的连接处为所述收尾段的起始端，所述收尾段的起始端距离所述第一平面的距离为 0.2~0.5mm。
- 4、根据权利要求 3 所述的电池，其特征在于，在所述电池主体的厚度方向，所述收尾段的末端距离所述电池主体的中心面的距离大于 0.2mm，且所述收尾段的末端位于所述第一平面与所述中心面之间。
- 5、根据权利要求 2 所述的电池，其特征在于，还包括粘接层，所述凸起段、所述收尾段以及所述侧面三者中至少相邻的两者之间具有粘接层。
- 6、根据权利要求 5 所述的电池，其特征在于，在所述电池的厚度方向，所述粘接层的单位质量范围为 0.1~0.25mg/mm。
- 7、根据权利要求 1-6 任一项所述的电池，其特征在于，所述侧面的谷底部位与所述凸起段的谷底部位相对。
- 8、根据权利要求 2-6 任一项所述的电池，其特征在于，沿所述电池主体的厚度方向，所述收尾段的起始端位于所述第一平面与所述第二平面之间。
- 9、根据权利要求 1-6 任一项所述的电池，其特征在于，所述凸起段为弧形结构。
- 10、根据权利要求 9 所述的电池，其特征在于，所述弧形结构包括橢

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圓弧形或圓弧形。



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说明书

电池

技术领域

本申请涉及储能器件生产技术领域，尤其涉及一种电池。

背景技术

现有技术中的电池，如锂离子电池中的软包电池，通常将电池侧封边贴靠在电池侧面，贴靠后的侧封边是沿电池厚度方向的竖直结构，这种结构密封可靠性差，且提高了电池侧边的空间占用。

实用新型内容

本申请提供了一种电池，能够解决上述问题。

本申请提供了一种电池，其特征在于，包括电池主体和折边部，

所述电池主体包括侧面，所述侧面从所述电池主体表面凸起；

所述折边部设置于所述电池主体的外部，所述折边部包括连接于所述电池主体的凸起段，所述凸起段向远离所述电池主体的方向凸起。

优选地，所述折边部还包括收尾段，所述收尾段连接于所述凸起段的末端，所述收尾段位于所述凸起段与所述侧面之间。

优选地，沿所述电池主体的厚度方向，所述电池主体包括第一平面和第二平面，

所述凸起段自所述第二平面的端部向所述第一平面所在的一侧弯曲；所述收尾段与所述凸起段的连接处为所述收尾段的起始端，所述收尾段的起始端距离所述第一平面的距离为 0.2~0.5mm。

优选地，在所述电池主体的厚度方向，所述收尾段的末端距离所述电池主体的中心面的距离大于 0.2mm，且所述收尾段的末端位于所述第一平面与所述中心面之间。

优选地，还包括粘接层，所述凸起段、所述收尾段以及所述侧面三者中至少相邻的两者之间具有粘接层。



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优选地，在所述电池的厚度方向，所述粘接层的单位质量范围为0.1~0.25mg/mm。

优选地，所述侧面的谷底部位与所述凸起段的谷底部位相对。

优选地，沿所述电池主体的厚度方向，所述收尾段的起始端位于所述第一平面与所述第二平面之间。

优选地，所述凸起段为弧形结构。

优选地，所述弧形结构包括椭圆弧形或圆弧形。

本申请提供的技术方案可以达到以下有益效果：

本申请所提供的电池，包括电池主体和凸起段，凸起段向远离电池主体的方向凸出，凸起段与电池主体的侧面的谷底部位之间的间隙不会突然变小，避免在谷底部位的胶液由于受到挤压而减少，以尽可能保证在谷底部位的胶液量，提高该处的粘接力，进而保证谷底部位与凸起段的紧贴度，尽可能减少在运输、使用或者存储后折边部张开的问题。

应当理解的是，以上的一般描述和后文的细节描述仅是示例性的，并不能限制本申请。

附图说明

图1为本申请所提供的电池一种具体实施例的结构示意图；

图2为对比例所提供的电池的结构示意图。

附图标记：

在图1中：

10-电池主体；

101-侧面；

102-第一平面；

103-第二平面；

104-中心面；

20-折边部；

201-凸起段；

202-收尾段；

30-粘接层；



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在图 2 中：

10'-电池主体；

103'-第二平面；

20'-折边部。

此处的附图被并入说明书中并构成本说明书的一部分，示出了符合本申请的实施例，并与说明书一起用于解释本申请的原理。

具体实施方式

下面通过具体的实施例并结合附图对本申请做进一步的详细描述。

本申请实施例提供了一种电池，该电池可以为软包电池，或者从加工工艺上说该电池可以为叠片电池。电池包括电池主体 10 和折边部 20，电池主体 10 内包裹有裸电芯，如图 1 中，电池主体 10 的宽度方向为水平方向，厚度方向 T 为竖直方向，高度方向为垂直于水平方向与竖直方向的方向。

具体地，电池主体 10 包括侧面 101，以及沿电池主体 10 的厚度方向设置的第一平面 102 与第二平面 103，第一平面 102 和第二平面 103 分别连接于侧面 101 的两端，沿电池主体 10 的厚度方向，第一平面 102 与第二平面 103 相对。沿电池主体 10 的高度方向，侧面 101 的投影向电池主体 10 的外侧凸出，即侧面 101 由靠近第一平面 102 的一端到靠近第二平面 103 的一端形成凸起结构，且凸向远离电池的方向。

沿电池主体 10 的宽度方向，折边部 20 与侧面 101 相对，折边部 20 包括连接于电池主体 10 的凸起段 201，凸起段 201 向远离电池主体 10 的方向凸起，可以理解地，沿电池主体 10 的高度方向，凸起段 201 的投影向远离电池主体 10 的投影的方向凸出，即凸起段 201 也为凸起结构，并且凸起段 201 的凸出方向与侧面 101 的凸出方向相同。

上述结构中，电池主体 10 的侧面 101 和凸起段 201 均采用凸起结构，且二者的凸起方向相同，在实施时，在折边部 20 涂覆或者滴入胶液，由于凸起段 201 采用凸起结构，在侧面 101 的谷底处能够避免现有技术中由于折边部垂直设置，造成的折边部 20 与侧面 101 的间隙减小问题，使侧面 101 的谷底部位与折边部 20 之间仍有足够的间隙，以容纳较多的胶液，



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防止在此处胶液由于受到挤压而减少，提高该处的粘接力，从而保证谷底部位与凸起段 201 的紧贴度，以尽可能减少在运输、使用或者存储后折边部 20 张开的问题。

可以理解地，折边部 20 可以仅包括凸起段 201，凸起段 201 的一端与电池主体 10 连接，另一端与电池主体 10 粘接固定。也可以折边部 20 包括凸起段 201 和收尾段 202，收尾段 202 连接于凸起段 201 的末端（凸起段 201 的末端指凸起段 201 远离其与电池主体 10 连接处的一端），且收尾段 202 与侧面 101 连接，即凸起段 201 的末端通过收尾段 202 与电池主体 10 连接。

其中，收尾段 202 与凸起段 201 可以沿电池主体 10 的厚度方向布置，即沿电池主体 10 的厚度方向，收尾段 202 的投影与凸起段 201 的投影不存在重合部分。

不论是折边部 20 只包括凸起段 201，还是收尾段 202 沿电池主体 10 的厚度方向 T 布置，在折边部 20 与电池主体 10 粘贴压紧时，胶液会随着折边部 20 的延伸方向流出，在后续装配或者运输过程中，电池可能会与其它部件发生粘接。为了解决上述问题，收尾段 202 位于凸起段 201 与电池主体 10 之间，即沿电池主体 10 的宽度方向，收尾段 202 的投影与凸起段 201 的投影存在重合部分，也就是说收尾段 202 与凸起段 201 至少部分交叠，且收尾段 202 位于凸起段 201 靠近电池主体 10 的一侧，在折边部 20 与电池主体 10 压紧粘接时，收尾段 202 能够尽可能地阻止凸起段 201 与电池主体 10 之间的胶液流出，进而保证折边部 20 与电池主体 10 之间的粘接力。

可以理解地，凸起段 201 自第二平面 103 的端部向第一平面 102 所在的一侧弯折，收尾段 202 自凸起段 201 的末端向第二平面 103 所在的一侧弯折。为了防止收尾段 202 伸出电池主体 10，收尾段 202 与凸起段 201 的连接处，距离第一平面的距离为 0.2~0.5mm，即该距离可以为 0.2mm、0.3mm、0.45mm、0.5mm。当然，收尾段 202 与凸起段 201 的连接处，距离第一平面的距离也可以小于 0.2mm，如 0.19mm、0.15mm、0.1mm 等；或者该距离也可以大于 0.5mm，如 0.55mm、0.6mm、0.7mm 等等。

通常，侧面 101 的谷底部位位于中心面 104 附近，上述中心面 104（该



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中心面为非实体结构)指电池主体 10 中同时平行于上述宽度方向 and 高度方向的中心平面。如果收尾段 202 的末端(收尾段 202 的末端指收尾段 202 远离其与凸起段 201 的连接处的一端)向第二平面 103 延伸的长度较长,甚至超过中心面 104,则会减小侧面 101 的谷底部位与折边部 20 的间隙,因此,收尾段 202 的末端距离电池主体 10 的中心面 104 的距离大于 0.2mm,如 0.21mm、0.25mm、0.3mm、0.4mm 等,且收尾段 202 位于中心面靠近第一平面 102 的一侧。当然,收尾段 202 的末端距离电池主体 10 的中心面 104 的距离也可以小于等于 0.2mm,如 0.2mm、0.18mm、0.15mm、0.1mm。

可以理解地,收尾段 202 可以仅其与凸起段 201 的连接处距离第一平面 102 的距离为 0.2~0.5mm,或者,收尾段 202 的末端距离中心面 104 的距离大于 0.2mm。优选地,收尾段 202 与凸起段 201 的连接处距离第一平面 102 的距离为 0.2~0.5mm,且收尾段 202 的末端距离中心面 104 的距离大于 0.2mm,同时,收尾段 202 位于中心面 104 靠近第一平面 102 的一侧。

上述各实施例中,为了进一步增加侧面 101 的谷底部位与折边部 20 的间隙,侧面 101 的谷底部位与凸起段 201 的谷底部位相对,可选地,侧面 101 的谷底部位指向凸起段 201 的谷底部位的方向平行于电池主体 10 的宽度方向。需要说明的是,侧面 101 的谷底部位也可以与凸起段 201 的其它部位相对。

凸起段 201 可以为椭圆弧结构、圆弧形结构、V 字型结构等。通常,沿电池主体 10 的高度方向,侧面 101 为弧形结构,尤其是软包电池的侧面,而叠片电池由于其宽度方向存在一定的隔膜错位,且隔膜为可压缩结构,因此,为了不增加叠片电池的厚度,叠片电池的侧面也会制备成弧形结构。相应地,凸起段 201 沿该高度方向的投影也为弧形结构,以使凸起段 201 与侧面 101 仿形设计,进一步增加侧面 101 与凸起段 201 之间的间隙,保证二者之间的胶液量。上述弧形结构可以包括椭圆弧结构或者圆弧形结构,优选为圆弧形结构,如图 1 所示,以便于制造。

在凸起段 201 为圆弧形结构时,圆弧形结构的圆心角为 0° ~ 90° ,如 0° 、 15° 、 30° 、 45° 、 70° 、 80° 、 90° 等,尤其在收尾段 202 与凸起段 201 的连接处距离第一平面 102 的距离大于 0.2mm 时,能够在侧面 101 的谷底部位处,通过凸起段 201 的弯曲,使凸起段 201 与侧面 101 之

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间的间隙更大，进一步防止胶液的挤出。当然，圆弧形结构的圆心角也可以大于 90° ，如 95° 、 100° 、 110° 等。

进一步地，为了保证折边部 20 不伸出电池主体 10，沿电池主体 10 的宽度方向，电池主体 10 的投影的外轮廓包围折边部 20 的投影的外轮廓，也就是说，沿电池主体 10 的宽度方向，折边部 20 的投影可以位于电池主体 10 的投影的外轮廓内；也可以折边部 20 的投影的外轮廓与电池主体 10 的投影的外轮廓重合；或者折边部 20 的投影的外轮廓的一部分与电池主体 10 的投影的外轮廓重合，其余部分位于电池主体 10 的投影的外轮廓内。如图 1 所示，沿电池主体 10 的厚度方向，折边部 20 包括第一端和第二端，沿电池主体 10 的宽度方向，第一端的投影与第二平面 103 重合，第二端的投影位于第一平面 102 的投影与第二平面 103 的投影之间。

通常，电池还包括粘接层 30，粘接层 30 可以为热熔胶，如丙烯酸酯结构胶、聚氨酯热熔胶或者环氧树脂结构胶，凸起段 201、收尾段 202 以及侧面 101 三者中任意相邻的两者之间均通过粘接层 30 粘接，即凸起段 201 与收尾段 202 相对的两个部分、凸起段 201 与电池主体 10 相对的两个部分以及收尾段 202 与电池主体 10 相对的两个部分均通过粘接胶 30 粘接固定，以保证折边部 20 的各个部分以及其与电池主体 10 之间的贴合度，进而防止运输、使用或者放置过程中折边部 20 的张开。

上述各实施例中，为了保证折边部 20 与电池主体 10 压紧粘贴时不会有溢胶现象，且能够保证折边部 20 与电池主体 10 的贴合度，沿折边部 20 的延伸方向，粘接层 30 的单位质量范围为 $0.1\sim 0.25\text{mg/mm}$ ，即折边部 20 在每毫米的长度内涂覆或者滴入 $0.1\sim 0.25\text{mg}$ ，如 0.1mg 、 0.15mg 、 0.2mg 、 0.24mg 、 0.25mg 。当然，粘接胶 30 的胶量也可以小于 0.1mg/mm ，如 0.9mg/mm 、 0.6mg/mm ，或者粘接胶 30 的胶量大于 0.25mg/mm ，如 0.27mg/mm 、 0.30mg/mm 等。

下面以上述实施例的结构与对比例作对比，其中，本实施例采用本申请中如图 1 所示的电池，折边部 20 同时包括凸起段 201 与收尾段 202，且粘接胶 30 的胶量控制在 $0.1\sim 0.25\text{mg/mm}$ ；对比例中的电池的结构如图 2 所示，折边部 20' 与电池主体 10' 的第二平面 103' 垂直，这两种电池同时通过高铁拉力机测量，其中剥离强度为大于 $12\text{N}/8\text{mm}$ ，且测试环境的相对湿



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度为 90%RH。具体地，二者在试验中的参数及结果见表 1。

表 1

电池	存储时间	存储前宽度	存储后宽度	存储前后宽度差
本实施例	30 天	38.223mm	38.225mm	0.002mm
对比例	30 天	38.240mm	38.308mm	0.068mm

通过上述实施例与对比例的对比，可以看出，本申请的电池存储前后的电池的宽度差较对比例小，说明折边部 20 的张开较小，显然，本申请的实施例较对比例能够更好地减小折边部 20 的张开问题。其中，表 1 中的存储前（或者后）宽度指电池沿电池主体 10（10'）的宽度方向的尺寸。

以上所述仅为本申请的优选实施例而已，并不用于限制本申请，对于本领域的技术人员来说，本申请可以有各种更改和变化。凡在本申请的精神和原则之内，所作的任何修改、等同替换、改进等，均应包含在本申请的保护范围之内。

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说明书附图

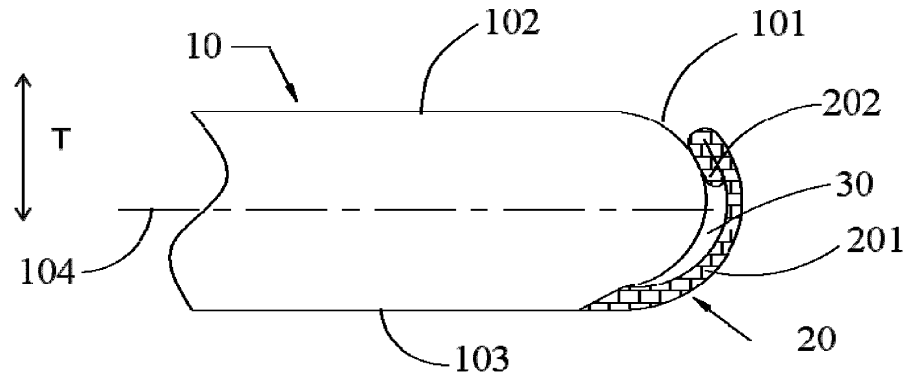


图 1

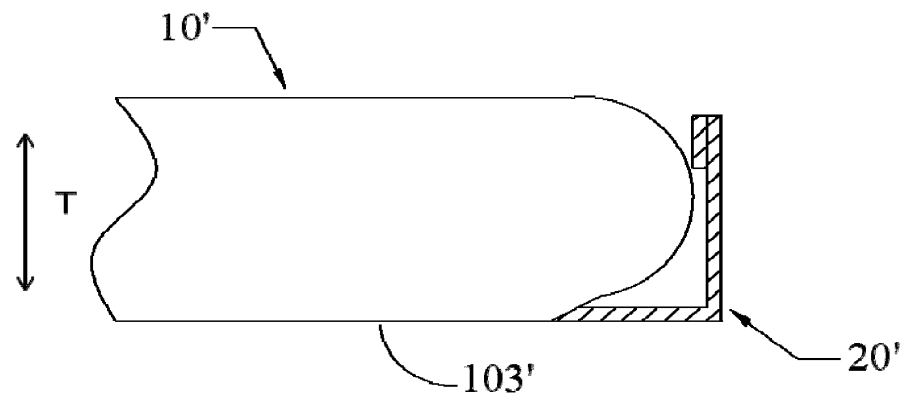


图 2

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 16/166,142				
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	300			
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	660			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760			
TOTAL CLAIMS (37 CFR 1.16(i))	20	minus 20 = *				x 100 =	0.00			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 = *				x 460 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1720			
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE				TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE				TOTAL ADD'L FEE	
<div style="font-size: x-small;"> * 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. </div>										



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
16/166,142	10/21/2018	1726	1720	DEHE-1827-USPT	20	1

CONFIRMATION NO. 1038

FILING RECEIPT



0000000103737584

129752
BYIP
9622 Landmark Place
Frisco, TX 75035

Date Mailed: 11/14/2018

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Bolin Zhou, Ningde, CHINA;

Applicant(s)

Ningde Amperex Technology Limited, Ningde, CHINA;

Power of Attorney: The patent practitioners associated with Customer Number 129752**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.

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CHINA 201721567327.2 11/17/2017 Access Code Provided

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The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/166,142**

Projected Publication Date: 05/23/2019

Non-Publication Request: No

Early Publication Request: No

Title

BATTERY

Preliminary Class

429

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

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page 2 of 3

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Application Number	Not Yet Assigned
Filing Date	
First Named Inventor	Bolin Zhou
Title	BATTERY
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	DEHE-1827-USPT

SIGNATURE of Applicant or Patent Practitioner

Signature	/Charles Ho/	Date (Optional)	
Name	Charles Ho	Registration Number	51,807
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

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*Total of 1 forms are submitted.

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I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.			
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		129752	
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SIGNATURE of Applicant for Patent			
The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).			
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Name	Cheng ChiLin		
Title	Manager		
NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.			
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Title of Invention	BATTERY
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Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		BATTERY		
First Named Inventor/Applicant Name:		Bolin Zhou		
Filer:		Charles S. Ho		
Attorney Docket Number:		DEHE-1827-USPT		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1720

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First Named Inventor/Applicant Name:	Bolin Zhou
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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Spec.PDF	142989	yes	17
			26a517c17c429206d835c0a53bfa072d9d94a784		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Drawings-only black and white line drawings		17	17	
	Abstract		16	16	
	Claims		13	15	
	Specification		1	12	
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2	Application Data Sheet	Application_Data_Sheet_DEHE-1827-USPT.PDF	1255362	no	8
			dc2b606ffa920d94e7e48f671b93f18bf3f16c88		
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5	Fee Worksheet (SB06)	fee-info.pdf	<div>34650</div> <div>b11159969da43922ffec0d8fb016f83cf5ef9992</div>	no	2
Warnings:					
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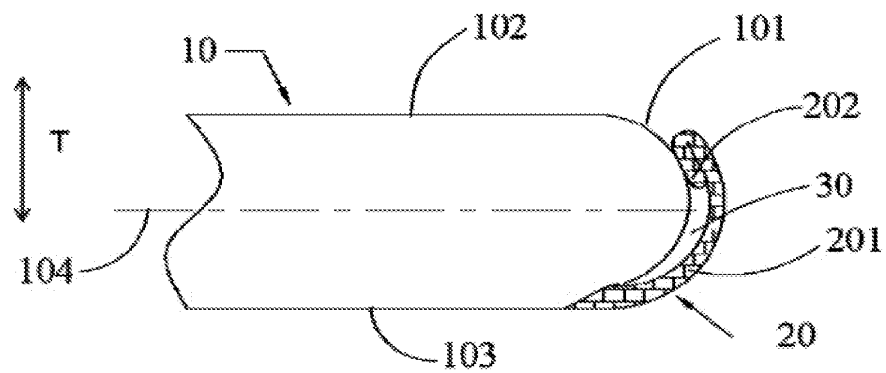


Fig. 1

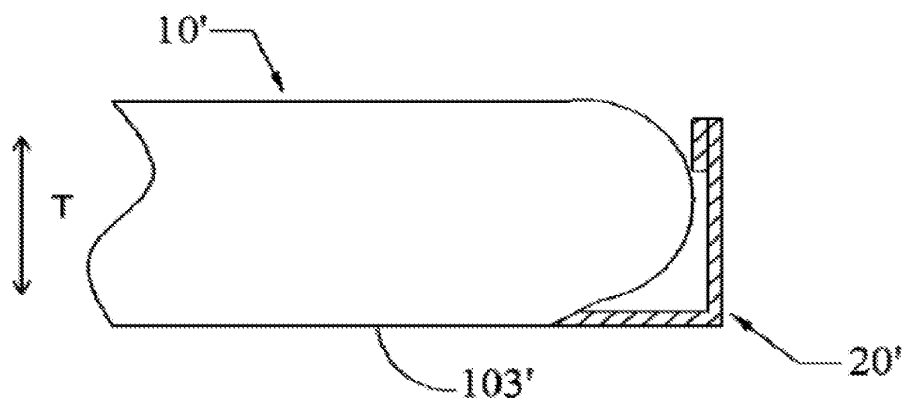


Fig. 2

ABSTRACT

The present application relates to the field of energy storage device production technology, in particular, to a battery comprising a battery body and a flange portion; the battery body includes a first side face protruding from a surface of the battery body; the flange portion is arranged outside the battery body and includes a protrusion segment connected to the battery body, the protrusion segment protruding away from the battery body. The present application ensures the amount of glue at the valley bottom of the side as much as possible, so that the adhesive force here is improved, the tightness of the valley bottom is ensured and the problem of opening the flange portion when transporting, using, or storing is reduced as much as possible.

What is claimed is

1. A battery, comprising:

a battery body, and

a flange portion,

wherein the battery body comprises a side face protruding from a surface of the battery body;

the flange portion is arranged outside the battery body and comprises a protrusion segment connected to the battery body, and the protrusion segment protrudes away from the battery body.

2. The battery according to claim 1, wherein the flange portion further comprises an ending segment connected to an end of the protrusion segment and located between the protrusion segment and the side face.

3. The battery according to claim 2, the battery body comprises a first plane and a second plane in a thickness direction of the battery body,

wherein the protrusion segment is curved from an end of the second plane toward a side where the first plane is located; a connection between the ending segment and the protrusion segment is a starting end of the ending segment, and the distance of the starting end of the ending segment from the first plane is 0.2 to 0.5 mm.

4. The battery according to claim 3, wherein the distance of the end of the ending segment from a central plane of the battery body is greater than 0.2 mm, and the end of the ending segment is located between the first plane and the central plane in the thickness direction of the battery body.

5. The battery according to claim 2, further comprising an adhesive

layer, wherein the adhesive layer is disposed between at least two of the protrusion segment, and the ending segment and the side face.

6. The battery according to claim 5, wherein a unit mass of the adhesive layer is 0.1 to 0.25 mg/mm in the thickness direction of the battery.

7. The battery according to claim 1, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.

8. The battery according to claim 2, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.

9. The battery according to claim 3, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.

10. The battery according to claim 4, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.

11. The battery according to claim 5, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.

12. The battery according to claim 6, wherein a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.

13. The battery according to claim 2, wherein a starting end of the ending segment is located between the first plane and the second plane in the thickness direction of the battery body.

14. The battery according to claim 3, wherein a starting end of the ending segment is located between the first plane and the second plane in the thickness direction of the battery body.

15. The battery according to claim 4, wherein a starting end of the ending segment is located between the first plane and the second plane in the thickness direction of the battery body.

16. The battery according to claim 5, wherein a starting end of the ending segment is located between the first plane and the second plane in the thickness direction of the battery body.

17. The battery according to claim 1, wherein the protrusion segment is of a curved structure.

18. The battery according to claim 2, wherein the protrusion segment is of a curved structure.

19. The battery according to claim 3, wherein the protrusion segment is of a curved structure.

20. The battery according to claim 17, wherein the curved structure comprises an elliptical arc or a circular arc.

BATTERY

CROSS REFERENCE TO RELATED APPLICATIONS

The present application claims the benefit of Chinese Patent Application No. 201721567327.2 filed on November 17, 2017. All the above are hereby incorporated by reference.

FIELD OF THE APPLICATION

The present application relates to the field of energy storage device production technologies, in particular, to a battery.

BACKGROUND OF THE APPLICATION

A battery, such as a soft pack battery in a lithium-ion battery, generally has a battery side seal nestling the side of the battery, and the nestled side seal is a vertical structure along the thickness direction of the battery. This structure has poor sealing reliability and increases the space occupying by the side of the battery.

SUMMARY OF THE APPLICATION

The present application provides a battery, which may solve above problems.

The present application provides a battery characterized by comprising a battery body and a flange portion, the battery body includes a side face protruding from a surface of the battery body;

The flange portion is arranged outside the battery body and includes a protrusion segment connected to the battery body, the protrusion segment protruding away from the battery body.

Preferably, the flange portion further includes an ending segment connected to an end of the protrusion segment and located between the

protrusion segment and the side face.

Preferably, the battery body includes a first plane and a second plane in a thickness direction of the battery body, the protrusion segment is curved from an end of the second plane toward a side where the first plane is located; a connection between the ending segment and the protrusion segment is a starting end of the ending segment, and the distance of the starting end of the ending segment from the first plane is 0.2 to 0.5 mm.

Preferably, in the thickness direction of the battery body, the distance of the end of the ending segment from a central plane of the battery body is greater than 0.2 mm, and the end of the ending segment is located between the first plane and the central plane.

Preferably, the battery further includes an adhesive layer, the adhesive layer is disposed between at least two of the protrusion segment, the ending segment and the side face.

Preferably, in the thickness direction of the battery, a unit mass of the adhesive layer is 0.1 to 0.25 mg/mm.

Preferably, a valley bottom of the side face is opposite to a valley bottom of the protrusion segment.

Preferably, in the thickness direction of the battery body, a starting end of the ending segment is located between the first plane and the second plane.

Preferably, the protrusion segment is of a curved structure.

Preferably, the curved structure includes an elliptical arc or a circular arc.

The technical solution provided by the present application may

achieve the following beneficial effects:

The battery provided by the present application includes a battery body and a protrusion segment, the protrusion segment protruding away from the battery body, so that the gap between the protrusion segment and the valley bottom of the side face of the battery body will not become smaller sharply to avoid the glue at the valley bottom to decrease due to the squeeze, so that the amount of glue in the valley bottom can be guaranteed for improving the adhesive force there, and the tightness of the valley bottom and protrusion segment may be further guaranteed to reduce the problem of opening the flange portion when transporting, using, or storing is reduced as much as possible.

The above general description and the following detailed description are merely exemplary and are not intended to be limiting.

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

Fig. 1 is a structural view of a specific embodiment of a battery provided by the present application;

Fig. 2 is a view showing the structure of a battery provided in the comparative example.

The drawings herein are incorporated in and constitute a part of the specification. Embodiments consistent with the present application are shown and used in conjunction with the specification to explain the principles of the application.

DETAILED DESCRIPTION OF THE PREFERRED EXAMPLES

The present application will be further described in detail below

through the specific embodiments and the accompanying drawings.

The embodiment of the present application provides a battery, which may be a soft pack battery, or the battery may be a laminated battery in terms of processing technology. The battery includes a battery body 10 and a flange portion 20, and a bare battery is wrapped in the battery body 10. As shown in Fig. 1, the width direction of the battery body 10 is a horizontal direction, the thickness direction T is a vertical direction, and the height direction is a direction perpendicular to the horizontal direction and the vertical direction.

Specifically, the battery body 10 includes a side face 101, and a first plane 102 and a second plane 103 arranged in the thickness direction of the battery body 10. The first plane 102 and the second plane 103 are respectively connected at both ends of the side face 101; in the thickness direction of the battery body 10, the first plane 102 is opposed to the second plane 103. In the height direction of the battery body 10, the projection of the side face 101 protrudes toward the outside of the battery body 10, i.e., the side face 101 is formed with a protrusion structure from one end close to the first plane 102 to another one end close to the second plane 103, and protrudes away from the battery.

In the width direction of the battery body 10, the flange portion 20 is opposed to the side face 101. The flange portion 20 includes a protrusion segment 201 connected to the battery body 10, and the protrusion segment 201 protrudes away from the battery body 10. It may be understood that in the height direction of the battery body 10, the projection of the protrusion segment 201 protrudes away from the projection of the battery body 10, i.e., the protrusion segment 201 is also a protrusion structure, and the protrusion segment 201 has a protrude direction the same to a protrude direction of the side face 101.

In above structure, the side face 101 of the battery body 10 and the protrusion segment 201 are both protrusion structures, and the protrusion directions of the two are the same. In embodiments, the glue is coated and dripped to the flange portion 20, and since the protrusion segment 201 has the protrusion structure, it is possible to avoid the problem of the gap reduction between the flange portion 20 and the side face 101 caused by the vertical arrangement of the flange portion in the prior art at the valley bottom of the side face 101, so that there is still enough gap between the valley bottom of the side face 101 and the flange portion 20 to accommodate more glue for preventing glue from decreasing due to the squeeze and increasing the adhesive force there, thereby ensuring the tightness of the valley bottom and the protrusion segment 201 and reducing the problem of opening the flange portion 20 when transporting, using, or storing as much as possible.

It is to be understood that the flange portion 20 may comprise only the protrusion segment 201; one end of the protrusion segment 201 is connected to the battery body 10, and the other end is bonding fixed to the battery body 10. It is also possible that the flange portion 20 includes the protrusion segment 201 and an ending segment 202, and the ending segment 202 is connected to an end of the protrusion segment 201 (the end of the protrusion segment 201 refers to the end of the protrusion segment 201 away from the connection with the battery body 10); and the ending segment 202 is connected to the side face 101, i.e., the end of the protrusion segment 201 is connected to the battery body 10 through the ending segment 202.

Among them, the ending segment 202 and the protrusion segment 201 may be arranged in the thickness direction of the battery body 10, i.e., in the thickness direction of the battery body 10, there is no

overlapping parts between the projection of the ending segment 202 and the projection of the protrusion segment 201.

Whether the flange portion 20 includes only the protrusion segment 201 or the ending segment 202 is disposed in the thickness direction T of the battery body 10, when the flange portion 20 is press-bonded to the battery body 10, the glue flows out along the extending direction of the flange portion 20 and the battery may be bonded to other members during subsequent assembly or transportation. In order to solve above problem, the ending segment 202 is located between the protrusion segment 201 and the battery body 10, i.e., in the width direction of the battery body 10, the projection of the ending segment 202 overlaps with the projection of the protrusion segment 201, that is, the ending segment 202 at least partially overlaps with the protrusion segment 201; and the ending segment 202 is located on the side of the protrusion segment 201 close to the battery body 10, so when the flange portion 20 is press-bonded to the battery body 10, the ending segment 202 may prevent the glue between the protrusion segment 201 and the battery body 10 from flowing out as much as possible, thereby ensuring the adhesive force between the flange portion 20 and the battery body 10.

It is to be understood that the protrusion segment 201 is bent from the end of the second plane 103 toward the side where the first plane 102 is located, and the ending segment 202 is bent from the end of the protrusion segment 201 to the side where the second plane 103 is located. In order to prevent the ending segment 202 from extending out of the battery body 10, the distance from the connection of the ending segment 202 and the protrusion segment 201 to the first plane is 0.2 to 0.5 mm, that is, the distance may be 0.2 mm, 0.3 mm, 0.45 mm, or 0.5 mm. Of course, the distance from the connection of the ending segment 202 and

the protrusion segment 201 to the first plane may be less than 0.2 mm, such as 0.19 mm, 0.15 mm, 0.1 mm, etc.; or the distance may be larger than 0.5 mm, such as 0.55 mm, 0.6 mm, or 0.7 mm, etc..

Generally, the valley bottom of the side face 101 is located close to the central plane 104, and the central plane 104 (which is a non-solid structure) refers to a center plane of the battery body 10 which is parallel to the width direction and the height direction simultaneously. If the end of the ending segment 202 (the end of the ending segment 202 refers to the end of the ending section 202 away from its connection with the protrusion segment 201) extends to the second plane 103 for a longer length, even exceeding the central plane 104, the gap between the valley bottom of the side face 101 and the flange portion 20 is reduced. Therefore, the distance from the end of the ending segment 202 to the central plane 104 of the battery body 10 is greater than 0.2 mm, such as 0.21 mm, 0.25 mm, 0.3 mm, 0.4 mm, etc., and the ending segment 202 is located on the side of the central plane close to the first plane 102. Of course, the distance from the end of the ending segment 202 to the central plane 104 of the battery body 10 may be less than or equal to 0.2 mm, such as 0.2 mm, 0.18 mm, 0.15 mm, 0.1 mm.

It is to be understood that the ending segment 202 may only have a distance of 0.2 to 0.5 mm from the connection of the protrusion segment 201 therewith to the first plane 102, or the distance from the end of the ending segment 202 to the central plane 104 is larger than 0.2 mm. Preferably, the distance from the connection of the ending segment 202 and the protrusion segment 201 to the first plane 102 is 0.2 to 0.5 mm, and the distance from the end of the ending segment 202 to the central plane 104 is larger than 0.2 mm, at the same time, the ending segment 202 is located at the side of the central plane 104 close to the first plane

102.

In each of above embodiments, in order to further increase the gap between the valley bottom of the side face 101 and the flange portion 20, the valley bottom of the side face 101 is opposed to the valley bottom of the protrusion segment 201. Optionally, the direction of the valley bottom of the side face 101 pointing to the valley bottom of the protrusion segment 201 is parallel to the width direction of the battery body 10. It should be noted that the valley bottom of the side face 101 may be opposed to other parts of the protrusion segment 201.

The protrusion segment 201 may be an elliptical arc structure, a circular arc structure, a V-shaped structure, or the like. Generally, in the width direction of the battery body 10, the side face 101 is a arc-shaped structure, in particular, the side of the soft pack battery. However, there is a certain separator displacement in the width direction of the laminated battery, and the separator is a compressible structure. Therefore, in order not to increase the thickness of the laminated battery, the sides of the laminated battery are also prepared in an arc shape. Correspondingly, the projection of the protrusion segment 201 in the height direction is also an arc structure, so that the protrusion segment 201 and the side face 101 are contoured design, further increasing the gap between the side face 101 and the protrusion segment 201 to ensure the amount of the glue therebetween. The above-mentioned arc-shaped structure may comprise an elliptical arc structure or a circular arc structure, preferably a circular arc structure, as shown in Fig. 1, to facilitate the manufacture.

When the protrusion segment 201 has a circular arc structure, the central angle of the circular arc structure is 0° to 90° , such as 0° , 15° , 30° , 45° , 70° , 80° , 90° , etc.. Especially when the distance from the connection of the ending segment 202 and the protrusion segment 201 to the first

plane 102 is larger than 0.2 mm, the gap between the protrusion segment 201 and the side face 101 is made larger at the valley bottom of the side face 101 by the bending of the protrusion segment 201 to further prevent the extrusion of the glue. Of course, the central angle of the circular arc structure may also be larger than 90°, such as 95°, 100°, 110° etc..

Further, in order to ensure that the flange portion 20 does not extend go beyond the battery body 10, the outer contour of the projection of the battery body 10 surrounds the outer contour of the projection of the flange portion 20 in the width direction of the battery body 10, that is, the projection of the flange portion 20 may be located within the outer contour of the projection of the battery body 10 in the width direction of the battery body 10; it is also possible that the outer contour of the projection of the flange portion 20 coincides with the outer contour of the projection of the battery body 10; or a portion of the outer contour of the projection of the flange portion 20 coincides with the outer contour of the projection of the battery body 10, with the remainder being located within the outer contour of the projection of the battery body 10. As shown in Fig. 1, in the thickness direction of the battery body 10, the flange portion 20 includes a first end and a second end, and in the width direction of the battery body 10, the projection of the first end coincides with the second plane 103, the projection of the second end being located between the projection of the first plane 102 and the projection of the second plane 103.

Generally, the battery further includes an adhesive layer 30. The adhesive layer 30 may be a hot melt glue, such as an acrylate structural glue, a polyurethane hot melt glue or an epoxy structural glue. Any adjacent two of the protrusion segment 201, the ending segment 202, and the side face 101 are bonded by the adhesive layer 30, i.e., two opposite

portions of the protrusion segment 201 and the ending segment 202, two opposite portions of the protrusion segment 201 and the battery body 10 and two opposite portions of the ending segment 202 and the battery body 10 are all bonding fixed by the adhesive layer 30, so that the fit between each portion of the flange portion 20 and between the flange portion 20 and the battery body 10, are ensured, to further prevent the opening of the flange portion 20 during transportation, use, or placement.

In each of above embodiments, in order to ensure that the flange portion 20 and the battery body 10 are pressed and adhered without the overflowing of the glue while ensuring the fit between the flange portion 20 to the battery body 10, the unit mass of the adhesive layer 30 is 0.1 to 0.25 mg/mm in the extending direction of the flange portion 20, i.e., the flange portion 20 is coated or dripped with 0.1 to 0.25 mg per mm of length, such as 0.1 mg, 0.15 mg, 0.2 mg, 0.24 mg, 0.25 mg. Of course, the amount of the glue of the adhesive layer 30 may be less than 0.1 mg/mm, such as 0.09 mg/mm, 0.06 mg/mm, or the amount of the glue of the adhesive layer 30 may be larger than 0.25 mg/mm, such as 0.27 mg/mm, 0.30 mg/mm etc..

In the following, the structure of the above embodiment is compared with the comparative example, wherein the present embodiment applies the battery shown in Fig. 1 in the present application, the flange portion 20 includes a protrusion segment 201 and an ending segment 202 simultaneously, and the amount of the glue of the adhesive layer 30 is controlled to 0.1 to 0.25 mg/mm; the structure of the battery of the comparative example is shown in Fig. 2, the flange portion 20' is perpendicular to the second plane 103' of the battery body 10'. Both batteries were simultaneously measured by a high-speed iron tensile machine with a peel strength greater than 12 N/8 mm and a relative

humidity of 90% RH in the test environment. Specifically, the parameters and results of the two in the test are shown in Table 1.

Table 1

battery	storage time	width before storage	width after storage	width difference before and after storage
Present Embodiment	30 days	38.223 mm	38.225 mm	0.002 mm
Comparative Examples	30 days	38.240 mm	38.308 mm	0.068 mm

From the comparison of the above embodiment with the comparative example, it can be seen that the width difference of the battery in the present application before and after storage is smaller than that of the comparative example, indicating that the opening of the flange portion 20 is small. Obviously, the embodiment of the present application may better reduce the opening of the flange portion 20 compared with the comparative example. Among them, the width before (or after) storage in Table 1 refers to the dimension of the battery in the width direction of the battery body 10 (10').

The foregoing is merely illustrative of the preferred embodiments of the present application and is not intended to be limiting of the present application, and various changes and modifications may be made by those skilled in the art. Any modifications, equivalent substitutions, improvements, and the like within the spirit and principles of the

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DEHE-1827-USPT
		Application Number	
Title of Invention	BATTERY		
<p>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.</p> <p>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.</p>			

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Application Information:

Title of the Invention	BATTERY		
Attorney Docket Number	DEHE-1827-USPT	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DEHE-1827-USPT
		Application Number	
Title of Invention	BATTERY		

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	129752		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	<input type="text"/>	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
<input type="text"/>	<input type="text"/>		
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the <input type="button" value="Add"/> button.			

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DEHE-1827-USPT
		Application Number	
Title of Invention	BATTERY		

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)ⁱ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ^j (if applicable)	Remove
201721567327.2	CN	2017-11-17	8E4B	

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

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	DEHE-1827-USPT
		Application Number	
Title of Invention	BATTERY		

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

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	DEHE-1827-USPT
		Application Number	
Title of Invention	BATTERY		

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	<input type="button" value="Remove"/>	
<p>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.</p>			
		<input type="button" value="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:			
<div style="border: 1px solid black; height: 15px; width: 100%;"></div>			
Name of the Deceased or Legally Incapacitated Inventor: <div style="border: 1px solid black; width: 300px; height: 20px;"></div>			
If the Applicant is an Organization check here. ☒			
Organization Name	Ningde Amperex Technology Limited		
Mailing Address Information For Applicant:			
Address 1	No. 1 Xingang Road, Zhangwan Town, Jiaocheng Zone		
Address 2			
City	Ningde, Fujian	State/Province	
Country	CN	Postal Code	352100
Phone Number		Fax Number	
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button. <input type="button" value="Add"/>			

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

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	DEHE-1827-USPT
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Title of Invention	BATTERY		

Assignee	1			
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
Remove				
If the Assignee or Non-Applicant Assignee is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add				

Signature:[Remove](#)

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is **not** checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Charles Ho/		Date (YYYY-MM-DD)	2018-10-19
First Name	Charles	Last Name	Ho	Registration Number
				51,807
Additional Signature may be generated within this form by selecting the Add button. Add				

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DEHE-1827-USPT
		Application Number	
Title of Invention	BATTERY		

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.**

Privacy Act Statement

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

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

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