503138676 01/15/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3185287

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------|----------------|
| KI HONG MIN | 05/24/2013 |
| SUNG MIN HWANG | 06/16/2013 |
| JIHOON CHO | 05/16/2013 |
| TAEYOON JUNG | 07/29/2013 |
| CHANGMIN HAN | 08/30/2013 |
| HYUN-SOOK BAIK | 05/16/2013 |
| JEONG SAM SON | 09/03/2013 |
| JAE HOON YOU | 05/16/2013 |
| SU TAEK JUNG | 05/16/2013 |
| HYEONG KIM | 05/24/2013 |
| SUNG HYUN KIM | 08/01/2013 |
| KI HUN SONG | 08/30/2013 |
| SANG HYUCK PARK | 07/29/2013 |
| HAN SUNG LEE | 05/20/2013 |
| BYEONG GEUN KIM | 12/19/2014 |

RECEIVING PARTY DATA

| Name: LG CHEM, LTD. | |
|--|---------|
| Street Address: 20, YOIDO-DONG, YOUNGDUNGPO-GU | |
| City: SEOUL | |
| State/Country: KOREA, REPUBLIC OF | |
| Postal Code: | 150-721 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13874503 |

CORRESPONDENCE DATA

Fax Number: (703)205-8050

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 7032058000

> **PATENT** REEL: 034731 FRAME: 0690

503138676

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Address Line 1: 8110 GATEHOUSE RD

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| ATTORNEY DOCKET NUMBER: | 5097-0421PUS1 |
|-------------------------|------------------|
| NAME OF SUBMITTER: | MAYRA CASTILLO |
| SIGNATURE: | /Mayra Castillo/ |
| DATE SIGNED: | 01/15/2015 |

Total Attachments: 6

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PATENT REEL: 034731 FRAME: 0691

BIRCH, STEWART, KOLASCH & BIRCH, LLP

P.O. Box 747 • Falls Church, Virginia 22040-0747

Telephone: (703) 205-8000 • Facsimile: (703) 205-8050 • Email: mailroom@bskb.com

DECLARATION AND ASSIGNMENT FOR PATENT AND DESIGN APPLICATIONS

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

| Title of Invention | → METHOD FOR MANUFACTURING BATTERY CELL AND BATTERY CELL MANUFACTURED USING THE SAME |
|-------------------------------|---|
| | As a below named inventor (hereinafter designated as the undersigned), I hereby declare that: |
| | This declaration is directed to the application attached hereto. |
| Application not Attached | If the application is not attached hereto, the application is as identified by the attorney docket number a set forth above and/or the following: |
| Enter Appln. No. | ⇔ United States Application Number or PCT International Appln. No. 13/874,503 |
| Enter Filing Date | ⇒ filed on May 1, 2013 |
| | The above-identified application was made or authorized to be made by me. |
| | I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. |
| | I have reviewed and understand the contents of the above-identified application, including the claims. |
| | I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations § 1.56. |
| | WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified. |
| Insert Name of Assignee | ♦ WHEREAS, LG CHEM, LTD. |
| Insert Address of Assignee | ⇔ of 20, Yoido-dong, Youngdungpo-gu, Seoul 150-721, Republic of Korea, |
| Ü | its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s that may be granted therefor in the United States of America and |
| Check Box if Appropriate | in any foreign countries. |
| | NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged the undersigned has sold, assigned and transferred, and by these presents does (do) sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America, its territories |

Page 1

terms for which the same may be granted.

dependencies and possessions, and if the box above is designated, in any and all foreign countries; and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or

BSKB-DECASSIGN(09-12)

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

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

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

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

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

The undersigned hereby grants the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office

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

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

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

LEGAL NAME OF INVENTOR

| Inventor's Name | 8 | Inventor: | Ki Hong MIN | Date: | ≥ : | May. 34. 2 | 013 |
|----------------------|---|------------|-------------|-------|------------|------------|-----|
| Inventor's Signature | ₽ | Signature: | Als | ey | | | |
| | | | - | 7 | | | |

An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use a separate form for each inventor; or check the box below and complete the attached page(s) to list additional inventors.

Additional inventors are being named on the 2 supplemental sheet(s) attached hereto.

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BSKB-DECASSIGN-SINGLE (09-12)

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 2

| | LEGAL IV | AME OF JOHN INVENTOR, IF AND | | |
|----------------------|--------------|------------------------------------|-------|--------------|
| Inventor's Name | ⇒ Inventor: | Sung Min HWANG | Date: | June 16,2013 |
| Inventor's Signature | ⇔ Signature: | Il Cat Havin | | |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | |
| Inventor's Name | ⇒ Inventor: | Jihoon CHO | Date: | 05/16/2013 |
| Inventor's Signature | ⇒ Signature: | 'Lynn | ···· | |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | |
| Inventor's Name | ⇔Inventor: | TaeYoon JUNG | Date: | 2013, 07, 29 |
| Inventor's Signature | ⇔Signature: | Jm | | V |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | |
| Inventor's Name | ⇒Inventor: | Changmin HAN | Date: | B13012013 |
| Inventor's Signature | ⇔Signature: | - 10 mg . | | |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | |
| Inventor's Name | ⇒Inventor: | Hyun-sook BAIK | Date: | 05/16/2013 |
| Inventor's Signature | ⇔Signature: | | | , L |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | _ · |
| inventor's Name | ⇒Inventor: | Jeong Sam SON | Date: | 13.09.03 |
| nventor's Signature | ⇒Signature: | | | |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | |
| inventor's Name | ⇒Inventor: | Jae Hoon YOU | Date: | 2013. 5.16 |
| nventor's Signature | ⇒5ignature: | QuV . | | |
| | LEGAL N. | \ AME OF JOINT INVENTOR, IF ANY | | |
| nventor's Name | ⊅Inventor: | Su Taek JUNG | Date: | 05/16/2013 |
| nventor's Signature | ⇒Signature: | Abbe | | |
| | | | | |

BSKB-DECASSIGN\(09-12)

PATENT REEL: 034731 FRAME: 0694

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 2 of 2

LEGAL NAME OF JOINT INVENTOR, IF ANY

| nventor's Name | ⇔Inventor: | Hyeong KIM | Date: | المهامز | May 20 | 13 |
|----------------------|-------------|-------------------------------|-------|---------|---------|------|
| inventor's Signature | ⇒Signature: | - Am | | | | |
| | LEGAL N. | AME OF JOINT INVENTOR, IF ANY | | | | |
| nventor's Name | ⇔Inventor: | Sung Hyun KIM | Date: | | 2013.8. | 1. |
| inventor's Signature | ⇔Signature: | - Goodwaykyer | | | | |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | | | |
| inventor's Name | ⇔Inventor; | Ki Hun SONG | Date: | 20/3 | , f. = | 30 |
| Inventor's Signature | ⇔Signature: | froy là Mm | | • | - | |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | | | |
| Inventor's Name | ⇔Inventor: | Sang Hyuck PARK | Date: | 20 | 13 -n- | - 29 |
| Inventor's Signature | ⇔Signature: | | | | | |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | | | |
| Inventor's Name | ⇔Inventor: | Han Sung LEE | Date: | 20 | 13/5/ | 20 |
| Inventor's Signature | ⇔Signature: | _ My | | | ···· | |
| | LEGAL N | AME OF JOINT INVENTOR, IF ANY | | | | |
| inventor's Name | ⇔Inventor: | Byeong Geun KIM | Date: | | 71 | |
| Inventor's Signature | ⇔Signature: | | | | | |

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PATENT REEL: 034731 FRAME: 0695 Doc code: Oath

Document Description: Oath or declaration filed

PTO/AJA/02 (07-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

| Title of Invention | METHOD FOR MANUFACTURING BATTI | ERY CELL AND BATTERY CE | ELL MANUFACTURED USING | THE SAME | | |
|--|--------------------------------|-------------------------|------------------------|----------|--|--|
| This statement is directed to: The attached application, OR United States application or PCT International application number 13/874,503 filed on May 1, 2013 LEGAL NAME of inventor to whom this substitute statement applies: (E.g., Given Name (first and middle (if any)) and Family Name or Surname) Byeong Geun KIM Residence (except for a deceased or legally incapacitated inventor): City Anyang-si, Gyeonggi-do State Country KR Mailing Address (except for a deceased or legally incapacitated inventor): | | | | | | |
| 9-201, Secan Villa, 55-9, Pyeongchon-dong, Dongan-gu City Anyang-si, Gyeonnggi-do State Zīp 431-070 Country KR | | | | | | |
| I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me. I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. | | | | | | |
| Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only), Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or Joint Inventor. | | | | | | |

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS, SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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



PATENT

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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement: Inventor is deceased, Inventor is under legal incapacity, Inventor cannot be found or reached after diligent effort, or Inventor has refused to execute the oath or declaration under 37 CFR 1.63. If there are joint inventors, please check the appropriate box below: An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted. An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b). **WARNING:** Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available. PERSON EXECUTING THIS SUBSTITUTE STATEMENT: December 19, 2014 SOO HEE JUNG Name: Date (Optional):

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT: If the applicant is a juristic entity, list the applicant name and the title of the signer. LG CHEM, LTD Applicant Name: Title of Person Executing General Manager This Substitute Statement: General Manager of 19 Department
The signer, whose title is supplied above, is authorized to act on behalf of the applicant.
Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent): Daejeon Country Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent) LG Chem Research Park, 188, Munji-ro, Yuseong-gu, Daejeon Lae ieon City Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

[Page 2 of 2]

