| Form PTO-1595 (Rev. 697-64) OMB No. 0681-0027 (axp. 6/00/2005) | U.S. DEPARTMENT OF COMMER United States Patent and Trademork O | |
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| RECORDATION FO | RM COVER SHEET | |
| PATENTS ONLY | | |
| To the Director of the U.S. Palent and Trademark Office: Pleas | se record the attached documents or the new address(es) below | |
| 1. Name of conveying party(les)/Execution Date(s): SANG-YOUNG LEE (07/07/2010). SEOK-KOO KIM (07/07/2010). JONG-HUN KIM (07/07/2010), AND JANG-HYUK HONG (07/07/2010) | 2. Name and address of receiving party(ies) Name: LG CHEM, LTD. | |
| Execution Date(s): in parentheses after inventor name Additional name(s) of conveying party(es) attached? Yes X No 3. Nature of Conveyance: | Internal Address: Street Address: | |
| X Assignment Merger Security Agreement Change of Name Government Interest Assignment Executive Order 9424, Confirmatory License Other | City: SEOUL. State: Country: REPUBLIC OF KOREA zm. 150-721 Additional name(s) 8 address(es) Yes X No attached. | |
| A Patent Application No.(s) 12/864,734 Additional numbers attached | B. Patent No.(s) | |
| . Name and address to whom correspondence concerning document should be mailed: | Total number of applications and polonts involved; | |
| Name: Kelly Y. Hwang LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP | 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 | |
| Internal Address, Atty. Okt.: LGCHEM 3,3-154 Street Address: 600 South Avenue West | Authorized to be charged by credit card X Authorized to be charged to deposit account Enclosed None required (government interest not affecting title | |
| City: Westfield | 8. Payment Information | |
| State: N.J Zip: 07090 Phone Number: (908) 518-6320 Fax Numbor: (908) 654-0415 Simail Address: khwang@ldlkm.com | a. Credit Card Last 4 Numbers Expiration Date b. Deposit Account Number 12-1095 Authorzed User Name Kelly Y. Elwang | |
| Signature: Signature Kelly Y. Hwang - 51,831 Name of Person Signing | July 28, 2010 Date Total number of pages including cover sheet, attachments, and documents | |

PATENT REEL: 024757 FRAME: 0596

former PTO/SBV15 (6-50) Modernat LDLICAM Docket Number (Optional) ASSIGNMENT OF PATENT APPLICATION LGCHEM Whereas, I, LEE, Sang-Young 103-904, Expo Apt., Jeonmin-dong, Yuseong-gu, Daejeon 305-761 Republic of Korea hereafter referred to as assignor, have with others invented certain new and useful improvements in SEPARATOR FOR PROGRESSING UNITED FORCE TO ELECTRODE AND ELECTROCHEMICAL CONTAINING THE SAME. [X] for which an application for a United States Letters Patent was filed on 07/27/2010Application Number 12/864,734 for which an application for a United States Letters Patent was executed by me on for which an International Application was filed on January 14, 2009 as PCT/KR2009/000186 ___, designating the United States. And Whereas, LG Chem, Ltd. a corporation of Korea_Republic of herein referred to as "assignee" whose mailing address is 20, Yoldo-dong, Youngdungpo-gu, Seoul 150-721 REPUBLIC OF KOREA is desirous of acquiring the entire right, title and interest in the same; NOW, THEREFORE, in consideration of the sum of gag.), the receipt whereof dollars (\$ <u>1,00</u> is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesald utility patent application and all original divisional continuation, substitute or release applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks in hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, helra and assigns do hereby agree and coverant without further remuneration, to execute and deliver all original, divisional, continuation, release and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to tostify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful caths, and to do generally everything necessary to aid assignes, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee. And I do hereby authorize my attorneys to insert on this deed the filing date and application number of soid application SONG, MI-Ran Typed Name of Witness

"Total of [X]

forms are supplified;

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former PTC/GB/15 (8-00) Modified (DL)KRM

| ACCIONIMENT OF DATENT ADDITO ATION | Docket Number (Optional) | |
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| ASSIGNMENT OF PATENT APPLICATION | LGCHEM | |
| | | |
| Whereas, I, KiM, Seok-Koo | of | |
| 317-8, Jangdae-dong, Yuscong-gu, Daejeon 305-308 | Republic of Korea | |
| hereafter referred to as assignor, have with others invented certain new and useful improvements in SEPARATOR FOR PROGRESSING UNITED FORCE TO ELECTRODE AND ELECTROCHEMICAL CONTAINING THE SAME | | |
| for which an application for a United States Follows Pal Application Number 12/864,734 | ent was filed on 07/27/2010 | |
| for which an application for a United States Letters Pater | nt was executed by me on | |
| x for which an International Application was filed on | January 14, 2009 , as | |
| PCT/KR2009/000186 , designating the United | States. | |
| | | |
| Whereas, I.G Chem, Ltd. a corporation of <u>Korea, Republic of</u> herein referred to as "assignee" whose mailing address is 20, Yoldo-dong, <u>Youngdungpo-gu</u> , <u>Seoul 150-721 REPUBLIC OF KOREA</u> is desirous of acquiring the entire right, title and interest in the same; | | |
| is acknowledged, and other good and valuable consideration, it assignee my entire right, fille and interest for the United State invention and the aforesaid utility patent application and all of applications and patents applied for or granted therefor in the said invention, including without limitation all applications and patents applied for or granted therefor in the said invention, including without limitation all applications and pathe aforesaid utility application pursuant to any law or treaty, an infringement with the right to sue for and collect the same for its legal representatives, and including the right to claim such prior Trademarks is hereby authorized and requested to issue all passaid assignee herein, as assignee of the entire interest the representatives, heirs and assignee of the entire interest the representatives, heirs and assignee or its assigns, to community original, divisional, continuation, reissue and other application assignments thereof to said assignee or its assigns, to community to the undersigned respecting said improvements, whene legal proceedings in which any of said applications or patents may rightful oaths, and to do generally everything necessary to aid obtain patent protection for said improvements in all countries, if and paid by said assignee. | es of America and all other countries in and to said original, divisional, continuation, substitute or reissue United States of America and all other countries, for atents for said invention claiming priority or benefit of ad including all claims for damages by reason of past is own use and the use of its successors, assigns and ority or benefit and the Commissioner of Patents and tents on said improvements or resulting therefrom to identify and the undersigned for me and my legal at without further remuneration, to execute and deliver ons for Lotters Patent on said improvements and all incate to said assignce or its representatives all facts ever requested, to testify in any interferences or other try become involved, to sign all lawful papers, make all assignee, its successors, assigns and nominees to | |
| And I do hereby authorize my attorneys to insert on this deed the when known, | filing date and application number of said application | |
| | 7-/- | |
| Jaly 17, 2010 | | |
| Date // | KIM, Seok-Koo | |
| Witness , | | |
| SONG, MI-Ran Typed Name of Witness | | |
| v: *Total of 2) torse are submitted | | |

OVP102419US_ASSIGNMENT.DOC

Whereas, I,

ASSIGNMENT OF PATENT APPLICATION

KiM, Jong-Hun

former PTO/59/15 (8-90) Modified LOLKSM Docket Number (Optional) LGCHEM 218-1002 Saemmeori Apt., Dunsan-dong, Seo-gu, Daejeon 302-120 Republic of Korea KIM, Jong-Hun

hereafter referred to as assignor, have with others invented certain new and useful improvements in SEPARATOR FOR PROGRESSING UNITED FORCE TO ELECTRODE AND ELECTROCHEMICAL CONTAINING THE SAME for which an application for a United States Letters Patent was filed on 07/27/2010Application Number 12/864,734 for which an application for a United States Letters Patent was executed by me on for which an International Application was filed on - January 14, 2009 ${\rm PCT/KR2009/000186}__ \ \ , \ {\rm designating \ the \ United \ States}.$ And Whereas, LG Chem, Ltd. a corporation of Korea, Republic of herein referred to as "assignce" whose mailing address is 20, Yoldo-dong, Yaungdungpo-gu, Seoul 150-721 REPUBLIC OF KOREA is desirous of acquiring the entire right, title and interest in the same; NOW, THEREFORE, in consideration of the sum of one dollars (\$), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to dalm such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the enlire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignor or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawfol papers, make all rightful paths, and to do generally everything necessary to aid assignce, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee, And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known, SONG, Mi-Ran Typed Name of Witness *Total of forms are submitted. Х (10-515

former PTO/SB/15 (8-00) Modified LDLK&M

| ASSIGNMENT OF PATENT APPLICATION | Docket Number (Optional) | |
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| ASSIGNMENT OF PATENT APPLICATION | LGCHEM | |
| | | |
| Whereas, I. HONG, Jang-Hyuk of | | |
| Guyeonlip, LG Chemical Employee Apt., Doryong-dong, Yuseong-gu, Daejeon 305-340 Republic of Korea | | |
| hereafter referred to as assignor, have with others invented certa SEPARATOR FOR PROGRESSING UNITED FORCE ELECTROCHEMICAL CONTAINING THE SAME | in new and useful improvements in TO ELECTRODE AND | |
| For which an application for a United States Letters Pate Application Number 12/864,734 | nt was filed on 07/27/2010 | |
| for which an application for a United States Letters Paten | was executed by me on | |
| x for which an International Application was filed on | January 14, 2009 . as | |
| PCT/KR2009/000186 , designating the United | | |
| Whereas, LG Chem, Ltd. | | |
| a corporation of Korea, Republic of herein referred to as "assignee" whose mailing address is 20. Yoido-dong, Youngdungpo-gu, Seoul 150-721 REPUBLIC OF KOREA | | |
| is desirous of acquiring the entire right, title and interest in the sar | ne; | |
| is acknowledged, and other good and valuable consideration, I assignee my entire right, title and interest for the United States invention and the aforesaid utility patent application and all or applications and patents applied for or granted therefor in the Usaid invention, including without limitation all applications and patents aforesaid utility application pursuant to any law or treaty, and infringement with the right to sue for and collect the same for its legal representatives, and including the right to claim such priori. Tracemarks is hereby authorized and requested to issue all pate said assignee herein, as assignee of the entire interest the representatives, heirs and assignse of the entire interest the representatives, heirs and assignse or its assigns, to communicate the regional, divisional, continuation, reissue and other application assignments thereof to said assignee or its assigns, to communicate the region of the undersigned respecting said improvements, whenever its proceedings in which any of said applications or patents may rightful patent protection for said improvements in all countries, the and paid by said assignee. | s of America and all other countries in and to said iginal, divisional, continuation, substitute or reissue inited States of America and all other countries, for tents for said invention claiming priority or benefit of including all claims for damages by reason of past own use and the use of its successors, assigns and ity or benefit and the Commissioner of Patents and into on said improvements or resulting therefrom to rein; and the undersigned for me and my legal without further remuneration, to execute and deliver as for Letters Patent on said improvements and all cate to said assignee or its representatives all facts are requested, to testify in any interferences or other become involved, to sign all lawful papers, make all assignee, its successors, assigns and nominees to expenses incident to said applications to be borne. | |
| And I do hereby authorize my attorneys to insert on this deed the f when known | iling date and application number of said application | |
| 7/1/2010 | 7 | |
| Oate | HONG, Jang-Hyuk | |
| Witness SONG, Mi-Ran Typed Name of Witness | | |
| | | |
| x *Total of 4 forms are submitted. | | |

RECORDED: 07/29/2010