505800715 12/03/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
AYOUNG LEE	08/13/2019
DAE HUN KIM	08/13/2019
CHONG KYU SHIN	08/13/2019
PHILL LEE	08/13/2019
KYUNGHOON MIN	08/13/2019
BUMJOO KIM	11/02/2019

RECEIVING PARTY DATA

Name:	LG CHEM, LTD.	
Street Address:	eet Address: 128, YEOUI-DAERO	
Internal Address:	ternal Address: YEONGDEUNGPO-GU	
City:	SEOUL	
State/Country:	te/Country: KOREA, REPUBLIC OF	
Postal Code:	07336	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16618958

CORRESPONDENCE DATA

Fax Number: (619)595-8135

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.

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ATTORNEY DOCKET NUMBER:	29137.02934.US00
NAME OF SUBMITTER:	FRANK J. MISKIEL
SIGNATURE:	/Frank J. Miskiel/
DATE SIGNED:	12/03/2019

505800715 PATENT REEL: 051164 FRAME: 0324

Total Attachments: 4

source=CPO2018-0313US_Declaration and Assignment#page1.tif source=CPO2018-0313US_Declaration and Assignment#page2.tif source=CPO2018-0313US_Declaration and Assignment#page3.tif source=CPO2018-0313US_Declaration and Assignment#page4.tif

PATENT REEL: 051164 FRAME: 0325

	TION AND ASSIGNMENT FOR OR DESIGN APPLICATION	Attorney Docket Number: P2017-2815PCUS		
Title of Invention	FEED SPACER HAVING TI	FEED SPACER HAVING THREE-LAYERED STRUCTURE, AND REVERSE OSMOSIS MEMBRANE FILTER MODULE INCLUDING SAME		
As the below-named inventor(s) (hereinafter designated as the undersigned), I/We hereby declare that: This declaration is directed to:				
☐ The attached application, or				
⊠	☑ United States application or PCT international application number PCT/KR2018/012230 , filed on October 17, 2018.			

The above-identified application was made or authorized to be made by me/us.

I/We believe that I am/We are the original inventor or an original joint inventor of a claimed invention in the application.

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

Whereas, the undersigned as a sole inventor (if only one name is listed below) or as a joint inventor (if plural names are listed below) has invented certain new and useful improvements in the application identified above.

And, whereas LG CHEM, LTD., ("assignee"), a corporation of Korea whose mailing address is 128, Yeoui-daero, Yeongdeungpo-gu, Seoul 07336, Republic of Korea, is desirous of acquiring the entire right, title, and interest in the same

Now, in consideration of the sum of five dollars, and for other good and valuable consideration, the receipt whereof is hereby acknowledged, I/We, by these presents hereby agree to sell, assign, and transfer unto assignee, and assignee's heirs, successors, and assigns, the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all provisional, non-provisional, divisional, continuation, continuation-in-part, substitute, and reissue applications, and all Letters Patent, extensions, reissues, and reexamination certificates which may be granted therefore in the United States and its territorial possessions and in any and all foreign countries.

I/We hereby authorize and request the Patent Office Officials in the United States and Its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to assignee as the assignee of my/our entire right, title, and interest in and to the same, for the sole use and behalf of assignee, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me/us had this Assignment and sale not been made.

Further, I/We agree that I/We will communicate to said assignce or its (his) representatives any facts known to me/us respecting said invention, and perform all affirmative acts which may be necessary in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to assignee, make all rightful oaths, and, generally do everything possible to aid assignee, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

The undersigned hereby grant(s) the firm of Dentons US LLP, Attorneys at Law, 1900 K Street, N.W., Washington, D.C. 20006 the power to insert on this assignment any further identification, including the application number and filing date, which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

1.	Date: 1018.8.19	Ayoung Lee	
		Name LEE, Ayoung	(Signature of Inventor)
2.	Date: 2018, 8, 13	kīm Dae Hun	
		Name KIM, Dae Hun	(Signature of Inventor)
3.	Date:		
		Name KIM, Bumjoo	(Signature of Inventor)
4.	Date: 2018 8 13	Changleyn Shin Name SHIN, Chong Kyu	
		Name SHIN Chong Kyu	(Signature of Inventor)
5.	Date: >018. 8.13	Phill Lee	
		Name LEE, Phill	(Signature of Inventor)
6.	Date: 2018.8.13	Min Kyany bon Name MIN, Kyunghoon	
		Name MIN, Kyunghoon	(Signature of Inventor)

DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION

Attorney Docket Number: P2817-2815PCUS

Title of Invention:

FEED SPACER HAVING THREE-LAYERED STRUCTURE, AND REVERSE OSMOSIS MEMBRANE FILTER MODULE INCLUDING SAME

As the below-named inventor(s) (hereinafter designated as the undersigned), I/We hereby declare that:
This declaration is directed to:

- The attached application, or
- Winted States application or PCT international application number <u>PCT/KR2018/012230</u>, filed on <u>October 17, 2018</u>.

The above-identified application was made or authorized to be made by me/us.

I/We believe that I am/We are the original inventor or an original joint inventor of a claimed invention in the application.

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

Whereas, the undersigned as a sole inventor (if only one name is listed below) or as a joint inventor (if plural names are listed below) has invented certain new and useful improvements in the explication identified above.

And, whereas LG CHEM, LTD., ("assignee"), a corporation of Korea whose mailing address is 128, Yeoui-daero, Yeongdeungpo-gu, Seoul 07336, Republic of Korea, is desirous of acquiring the entire right, title, and interest in the same.

Now, in consideration of the sum of five dollars, and for other good and valuable consideration, the receipt whereof is hereby acknowledged, I/We, by these presents hereby agree to sell, assign, and transfer unto assignee, and assignee's heirs, successors, and assigns, the full and exclusive right to said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all provisional, non-provisional, divisional, continuation, continuation-in-part, substitute, and reissue applications, and all Letters Patent, extensions, reissues, and reexamination certificates which may be granted therefore in the United States and its territorial possessions and in any and all foreign countries.

I/We hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to assignee as the assignee of my/our entire right, title, and interest in and to the same, for the sole use and behalf of assignee, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me/us had this Assignment and sale not been made.

Further, I/We agree that I/We will communicate to said assignee or its (his) representatives any facts known to me/us respecting said invention, and perform all affirmative acts which may be necessary in any legal proceeding, sign all lawful papers, execute all divisional, communicate, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to assignee, make all rightful oaths, and, generally do everything possible to aid assignee, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

The undersigned hereby grant(s) the firm of Dentons US LLP, Attorneys at Law, 1900 K. Street, N.W., Washington, D.C. 20006 the power to insert on this assignment any further identification, including the application number and filing date, which may be necessary or desirable in order to comply with the rules of the United States. Patent and Trademark Office for recordation of this document.

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1.	Date:		
	***************************************		(Signature of Inventor)
2.	Date:		
		Name KIM, Dae Hun	(Signature of Inventor)
3 .	Date: 2018, 11,02		also
	***************************************	Name KIM, Bumjoo	(Signature of Inventor)
•			
4.	Date:		
		Name SHIN, Chong Kyu	(Signature of Inventor)
5.	Date:	X Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	671
		Name LEE, Phill	(Signature of Inventor)
6.	Date:		
	are where	Name MIN Kranghaan	(Signature of Inventor)