

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4592631

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
HO-JUNG RYU	09/08/2017
DAL-HEE BAE	09/05/2017
SUNG-HO JO	09/05/2017
SEUNG-YONG LEE	09/05/2017
CHANG-KEUN YI	09/05/2017
GYOUNG-TAE JIN	09/05/2017
DO-WON SHUN	09/05/2017
JAE-HYEON PARK	09/05/2017
YOUNG CHEOL PARK	09/05/2017
JONG-HO MOON	09/05/2017
HYO JIN LEE	09/05/2017
DO YEON LEE	09/05/2017
DONG-HO LEE	09/05/2017
JEOM IN BAEK	09/05/2017
RECEIVING PARTY DATA	
Name:	KOREA INSTITUTE OF ENERGY RESEARCH
Street Address:	152, GAJEONG-RO, YUSEONG-GU
City:	DAEJEON
State/Country:	KOREA, REPUBLIC OF
Postal Code:	34129
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15689526
CORRESPONDENCE DATA	
Fax Number:	(703)205-8050
<i>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.</i>	
Phone:	703-205-8000
Email:	Spencer.Garth@bskb.com, mailroom@bskb.com

Correspondent Name: BIRCH, STEWART, KOLASCH & BIRCH, LLP
Address Line 1: 8110 GATEHOUSE ROAD
Address Line 2: SUITE 100E
Address Line 4: FALLS CHURCH, VIRGINIA 22042

ATTORNEY DOCKET NUMBER: 6886-0101PUS1

NAME OF SUBMITTER: SPENCER GARTH

SIGNATURE: /spencer garth/

DATE SIGNED: 09/13/2017

This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 4

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BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road, Suite 100 East, Falls Church, Virginia 22042-1248
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 ⇨ FLUIDIZED BED SYSTEM HAVING SPARGER CAPABLE OF MINIMIZING BLOCKAGE BY SOLIDS AND CONTROLLING METHOD THEREOF

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 as set forth above and/or the following:

Enter Appln. No. ⇨ United States Application Number or PCT International Appln. No. 15/689,526

Enter Filing Date ⇨ filed on August 29, 2017

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, KOREA INSTITUTE OF ENERGY RESEARCH

Insert Address of Assignee ⇨ of 152, Gajeong-ro Yuseong-gu, Daejeon 34129,, Republic of Korea,

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

The undersigned 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.

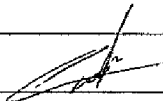
The undersigned hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

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 ⇒ Inventor: Ho-Jung RYU Date: Sep. 8, 2019

Inventor's Signature ⇒ Signature: 

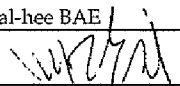
An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use a separate form for each inventor; or check the box below and complete the attached page(s) to list additional inventors.

Additional inventors are being named on the 2 supplemental sheets attached hereto.

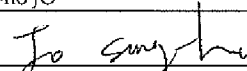
**SUPPLEMENTAL SHEET FOR
DECLARATION AND ASSIGNMENT**

ADDITIONAL INVENTOR(S)
Supplemental Sheet Page 1 of 2

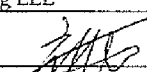
LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Dal-hee BAE Date: 5/sep./2017
Inventor's Signature ⇨ Signature: 


LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Sung-ho JO Date: 5/sep/2017
Inventor's Signature ⇨ Signature: 


LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Seung-yong LEE Date: 5/sep./2017
Inventor's Signature ⇨ Signature: 

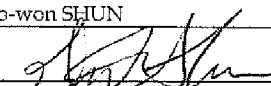
LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Chang-keun YI Date: 5/sep./2017
Inventor's Signature ⇨ Signature: 

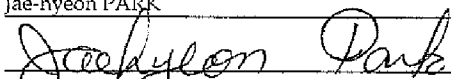
LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Gyoung-tae JIN Date: 5/sep/2017
Inventor's Signature ⇨ Signature: 

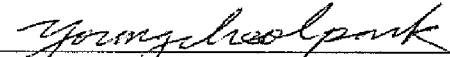
LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Do-won SHUN Date: 5/sep./2017
Inventor's Signature ⇨ Signature: 

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Jae-hyeon PARK Date: 5/sep./2017
Inventor's Signature ⇨ Signature: 

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: Young Cheol PARK Date: 5/sep/2017
Inventor's Signature ⇨ Signature: 

**SUPPLEMENTAL SHEET FOR COMBINED
DECLARATION AND POWER OF ATTORNEY**

ADDITIONAL INVENTOR(S)
Supplemental Sheet Page 2 of 2

LEGAL NAME OF JOINT INVENTOR, IF ANY

Jong-ho MOON

Inventor's Name ⇨ Inventor: _____ Date: 5 Sep 2017

Inventor's Signature ⇨ Signature: Jong-Ho Moon

LEGAL NAME OF JOINT INVENTOR, IF ANY

Hyo Jin LEE

Inventor's Name ⇨ Inventor: _____ Date: 5 Sep 2017

Inventor's Signature ⇨ Signature: [Signature]

LEGAL NAME OF JOINT INVENTOR, IF ANY

Do Yeon LEE

Inventor's Name ⇨ Inventor: _____ Date: 5/sep./2017

Inventor's Signature ⇨ Signature: [Signature]

LEGAL NAME OF JOINT INVENTOR, IF ANY

Dong-ho LEE

Inventor's Name ⇨ Inventor: Dong-ho LEE Date: 5/sep./2017

Inventor's Signature ⇨ Signature: [Signature]

LEGAL NAME OF JOINT INVENTOR, IF ANY

Jeom In BAEK

Inventor's Name ⇨ Inventor: _____ Date: 5/sep./2017

Inventor's Signature ⇨ Signature: Jeom-In Baek

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ⇨ Inventor: _____ Date: _____

Inventor's Signature ⇨ Signature: _____