504931998 05/25/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4978744

| SUBMISSION TYPE: NEW ASSIGNMENT | | | | | | |
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| NATURE OF CONVEY | ANCE: | ASSIGNMENT | | | | |
| CONVEYING PARTY | DATA | | | | | |
| | Execution Date | | | | | |
| ZHIGUO PAN | | | 05/24/2018 | | | |
| SANDEEP BALA | | | 05/25/2018 | | | |
| LIMING LIU | | | 05/24/2018 | | | |
| YUXIANG SHI | | | 05/24/2018 | | | |
| RECEIVING PARTY D | ΑΤΑ | | | | | |
| Name: | ABB S | CHWEIZ AG | | | | |
| Street Address: | BROW | N BOVERI STRASSE 6 | | | | |
| City: | BADE | N | | | | |
| State/Country: | SWITZ | ZERLAND | | | | |
| Postal Code: | 5400 | | | | | |
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| PROPERTY NUMBER | IS Total: 1 | | 1 | | | |
| Property Type | e | Number | | | | |
| Application Number: | | 15989667 | | | | |
| CORRESPONDENCE | DATA | | | | | |
| SUMEDENCE | | | | | | |
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| Fax Number: Correspondence will | be sent to | o the e-mail address first; if that is uns | | | | |
| Fax Number: <i>Correspondence will</i> <i>using a fax number, i</i> | be sent to | d; if that is unsuccessful, it will be sen | | | | |
| Fax Number: Correspondence will | be sent to | | | | | |
| Fax Number: <i>Correspondence will using a fax number, i</i> Phone: | be sent to if provide | <i>d; if that is unsuccessful, it will be sen</i> 317-713-3500 | it via US Mail. | | | |
| Fax Number: <i>Correspondence will using a fax number, i</i> Phone: Email: | be sent to if provide | <i>d; if that is unsuccessful, it will be sen</i> 317-713-3500 taft-ip-docket@taftlaw.com | it via US Mail. | | | |
| Fax Number: <i>Correspondence will using a fax number, i</i> Phone: Email: Correspondent Name | be sent to if provide | <i>d; if that is unsuccessful, it will be sen</i> 317-713-3500 taft-ip-docket@taftlaw.com ABB INC. TAFT, STETTINIUS & HOLLIS | it via US Mail. | | | |
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| Fax Number: Correspondence will using a fax number, i Phone: Email: Correspondent Name Address Line 1: Address Line 2: | be sent to if provided | d; if that is unsuccessful, it will be sen 317-713-3500 taft-ip-docket@taftlaw.com ABB INC. TAFT, STETTINIUS & HOLLIS ONE INDIANA SQUARE SUITE 3500 INDIANAPOLIS, INDIANA 46204-2023 | it via US Mail. | | | |
| Fax Number: <i>Correspondence will using a fax number, i</i> Phone: Email: Correspondent Name Address Line 1: Address Line 2: Address Line 4: | be sent to if provide : : NUMBER: | d; if that is unsuccessful, it will be sen 317-713-3500 taft-ip-docket@taftlaw.com ABB INC. TAFT, STETTINIUS & HOLLIS ONE INDIANA SQUARE SUITE 3500 INDIANAPOLIS, INDIANA 46204-2023 | it via US Mail. | | | |
| Fax Number: Correspondence will using a fax number, i Phone: Email: Correspondent Name Address Line 1: Address Line 2: Address Line 4: | be sent to if provide : : NUMBER: | d; if that is unsuccessful, it will be sen 317-713-3500 taft-ip-docket@taftlaw.com ABB INC. TAFT, STETTINIUS & HOLLIS ONE INDIANA SQUARE SUITE 3500 INDIANAPOLIS, INDIANA 46204-2023 ABBI-2576 | it via US Mail. | | | |
| Fax Number: Correspondence will using a fax number, i Phone: Email: Correspondent Name Address Line 1: Address Line 2: Address Line 4: ATTORNEY DOCKET I NAME OF SUBMITTER | be sent to if provide : : NUMBER: | d; if that is unsuccessful, it will be sen 317-713-3500 taft-ip-docket@taftlaw.com ABB INC. TAFT, STETTINIUS & HOLLIS ONE INDIANA SQUARE SUITE 3500 INDIANAPOLIS, INDIANA 46204-2023 ABBI-2576 CAROLINE E. WILSON | it via US Mail. | | | |
| Fax Number: <i>Correspondence will</i> <i>using a fax number, i</i> Phone: Email: Correspondent Name Address Line 1: Address Line 2: Address Line 4: ATTORNEY DOCKET I NAME OF SUBMITTER SIGNATURE: | be sent to if provide : : NUMBER: | d; if that is unsuccessful, it will be sen 317-713-3500 taft-ip-docket@taftlaw.com ABB INC. TAFT, STETTINIUS & HOLLIS ONE INDIANA SQUARE SUITE 3500 INDIANAPOLIS, INDIANA 46204-2023 ABBI-2576 CAROLINE E. WILSON /Caroline E. Wilson/ | ot via US Mail. STER LL | | | |

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COMBINED DECLARATION AND ASSIGNMENT OF PATENT RIGHTS

WHEREAS, the below-named persons (hereinafter referred to as "Assignors" or "Inventors") have made one or more new and useful inventions which are claimed, disclosed and/or described in the patent application identified in Section I. below (hereinafter collectively referred to as "the Invention");

WHEREAS, ABB Schweiz AG (hereinafter referred to as "Assignee") a legal entity organized under the laws of Switzerland, desires to acquire the entire right, title and interest in, to and under the Invention and any and all United States, foreign and international patent applications and patents which claim, disclose and/or describe the Invention; and

NOW, THEREFORE, for good, valuable and sufficient consideration to the Assignors, the receipt and sufficiency of which are hereby acknowledged, Assignors and Assignee agree as follows:

L DECLARATION

As one of the below-named Inventors I hereby declare that:

This declaration is directed to the application entitled PHOTOVOLTAIC STRING OPTIMIZER which:

X is attached hereto, or

____was filed as U.S. or PCT Application No._____on _____.

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 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.

II. ASSIGNMENT OF PATENT RIGHTS

A. Assignment of Patent Rights

Assignors hereby assign and transfer to Assignee, its successors and assigns, the entire right, title, and interest in to and under (i) the Invention, (ii) any and all United States, foreign and international patent applications which claim, disclose or describe the Invention including, without limitation, the application identified in Section I. above, (iii) any and all continuations, continuations-in-part, divisionals, foreign counterparts, reexaminations, reissues, extensions and applications claiming the benefit of or priority to any of the foregoing, (iv) any and all rights to claim priority to any of the foregoing, and (v) any and all rights to bring an action under, receive and collect damages for infringement of any of the foregoing and/or obtain injunctive relief for infringement of any of foregoing (hereinafter collectively referred to as "the Assigned Patent Rights").

Assignors acknowledge and agree that the Assigned Patent Rights include any and all future applications not filed at the time of execution of this agreement which disclose, describe and/or claim subject matter of the Invention, or which claim priority to or the benefit of an application or patent which discloses, describes and/or claims subject matter of the Invention. With respect to such future applications, Assignors hereby authorize Assignee, its counsel, or its agents to append information identifying such applications as an Exhibit A to this document or to add information identifying such applications to Section I, above at the discretion of Assignee, its attorneys, or its agents.

B. Agreement to Execute Additional Documents and Provide Further Assistance

Assignors agree to execute any and all other documents necessary or desirable to document, memorialize or perfect Assignee's interest in the Assigned Patent Rights and to execute any and all other documents and to provide any further assistance necessary or desirable for the procurement of

PATENT REEL: 046245 FRAME: 0864

patent rights on the above referenced invention in the United Sates and all foreign countries.

C. Binding, Complete and Enforceable Agreement

Assignors acknowledge that (i) this is an enforceable agreement; (ii) this agreement embodies the entire and only understanding between Assignors and Assignee with respect to the subject matter of this agreement; (iii) no oral explanation or oral information by either party hereto shall alter the meaning or interpretation of this agreement; and (iv) if any provision of this agreement is held to be unlawful or unenforceable, such provision shall be limited or eliminated to the minimum extent necessary so that the remainder of this agreement will continue in full force and effect and be enforceable.

D. Execution

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This agreement may be executed in counterparts or duplicate originals, both of which shall be regarded as one and the same instrument, and which shall be the official and governing version in the interpretation of this agreement. This agreement may be executed by facsimile signatures or other electronic means and such signatures shall be deemed binding as if they were original signatures.

[Signature Pages Follow]

PATENT REEL: 046245 FRAME: 0865

| Signed and executed this <u>24</u> day of <u>Mary</u> | , 2018 |
|---|--------|
| 1 | |
| | |
| Zhiguo Pan | |
| , | |
| | |
| STATE OF North (avalua) | |

): \$\$

COUNTY OF White

Before me, a Notary Public, in and for said County and State, personally appeared Zhiguo Pan, who, being first duly sworn upon his or her oath, acknowledged the execution of the foregoing "Combined Declaration and Assignment of Patent Rights" as his or her voluntary act and deed.

| /will White | |
|--|--|
| Notary Public | NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN |
| Printed: Linda H. white | Store and a strengthe |
| Resident of <u>Wall</u> County My Commission Expires: <u>11 - 15 - 2020</u> | AVELY SE |

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| Signed and executed th | nis ZS | day of | $\gamma\gamma$ | lary | æ | | 2 | 018 |
|------------------------|--------|--------|----------------|------|---|--|-------|-----|
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| ekand 22 | | | | | | | | |
| Sandeep Bala | | | | • | | | | |

STATE OF North Carolin); SS COUNTY OF Wake); SS

Before me, a Notary Public, in and for said County and State, personally appeared Sandeep Bala, who, being first duly sworn upon his or her oath, acknowledged the execution of the foregoing "Combined Declaration and Assignment of Patent Rights" as his or her voluntary act and deed.

| WITNESS my signature and Notarial Seal this 25 day of N | Jun 2018 |
|---|---|
| Jusie White | () HIMMING AND |
| Printed: Linda A. White | AVELIC OF |
| Resident of Wake County | PUBLIO 0.2 11-15-49 15-15-49 10-15-49 1 |
| My Commission Expires: <u>11-15-2020</u> . | "Manning" |

PATENT REEL: 046245 FRAME: 0867

Signed and executed this $\frac{24}{3}$ day of $\frac{May}{3}$.

Liming Liu

lund); SS STATE OF COUNTY OF

Before me, a Notary Public, in and for said County and State, personally appeared Liming Liu, who, being first duly sworn upon his or her oath, acknowledged the execution of the foregoing "Combined Declaration and Assignment of Patent Rights" as his or her voluntary act and deed.

| WITNESS my signature and Notarial Seal this $\underline{24}$ day of | Maria , 2 | 018. |
|---|-------------------------------------|------|
| $\langle \langle \hat{\mathcal{A}} \rangle $ | 0 | |
| Notary Public | ANNINI MANA | |
| Printed: Lindh of White | STATISTICA PARTICIPALITY STATISTICS | |
| Resident of Wales County | | |
| My Commission Expires: $11-15-2020$, | 11-15-20 A. 11 | |
| | Winner COOLINY | |

Signed and executed this $\underline{24}$ day of $\underline{54a}$.

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Yuxiang Shi

(evolund): SS STATE OF COUNTY OF V

Before me, a Notary Public, in and for said County and State, personally appeared Yuxiang Shi, who, being first duly sworn upon his or her oath, acknowledged the execution of the foregoing "Combined Declaration and Assignment of Patent Rights" as his or her voluntary act and deed.

2016.

| WITNESS my signature and Notarial Seal this $\mathbb{Z}\mathcal{Y}_{-}$ day of \mathcal{Y}_{-} | Mary |
|--|--|
| Terse Twhite | ×0 |
| Notary Public | NUMBER OF THE WAR |
| Printed: Linda H. White | Support of the second s |
| Resident of Wale County | |
| My Commission Expires: $\frac{\mu - 15 - 2020}{20}$ | AUBLIO 02 |
| | THE COUNTER |