

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT7127751

|   |   |
|---|---|
| <b>SUBMISSION TYPE:</b>   | CORRECTIVE ASSIGNMENT   |
| <b>NATURE OF CONVEYANCE:</b>  | Corrective Assignment to correct the RECEIVING PARTY STREET ADDRESS previously recorded on Reel 050701 Frame 0843. Assignor(s) hereby confirms the EXECUTED UPDATED DOCUMENT. |
| <b>CONVEYING PARTY DATA</b>   |   |
| <b>Name</b>   | <b>Execution Date</b>   |
| THERMAL AND FLUIDS SOLUTIONS GROUP, LLC   | 07/10/2018  |
| <b>RECEIVING PARTY DATA</b>   |   |
| <b>Name:</b>  | ROLLS-ROYCE NORTH AMERICAN TECHNOLOGIES INC.  |
| <b>Street Address:</b>  | 2059 S. TIBBS AVE.  |
| <b>City:</b>  | INDIANAPOLIS  |
| <b>State/Country:</b>   | INDIANA   |
| <b>Postal Code:</b>   | 46241   |
| <b>PROPERTY NUMBERS Total: 1</b>  |   |
| <b>Property Type</b>  | <b>Number</b>   |
| <b>Application Number:</b>  | 16605041  |
| <b>CORRESPONDENCE DATA</b>  |   |
| <b>Fax Number:</b>  | (317)231-7433   |
| <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> |   |
| <b>Email:</b>   | aholt@btlaw.com   |
| <b>Correspondent Name:</b>  | BARNES & THORNBURG LLP  |
| <b>Address Line 1:</b>  | 11 S. MERIDIAN STREET   |
| <b>Address Line 4:</b>  | INDIANAPOLIS, INDIANA 46204   |
| <b>ATTORNEY DOCKET NUMBER:</b>  | 27163-302461  |
| <b>NAME OF SUBMITTER:</b>   | SAMUEL C. GIESTING  |
| <b>SIGNATURE:</b>   | /SCG/   |
| <b>DATE SIGNED:</b>   | 01/19/2022  |
| <b>Total Attachments: 7</b>   |   |
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## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5767791

|   |  |                       |
|---|--|-----------------------|
| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                               |                       |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                                   |                       |
| <b>CONVEYING PARTY DATA</b>   |  |                       |
|   | <b>Name</b>                                  | <b>Execution Date</b> |
|   | THERMAL AND FLUIDS SOLUTIONS GROUP, LLC      | 07/10/2018            |
| <b>RECEIVING PARTY DATA</b>   |  |                       |
| <b>Name:</b>  | ROLLS-ROYCE NORTH AMERICAN TECHNOLOGIES INC. |                       |
| <b>Street Address:</b>  | 450 SOUTH MERIDIAN STREET                    |                       |
| <b>City:</b>  | INDIANAPOLIS                                 |                       |
| <b>State/Country:</b>   | INDIANA                                      |                       |
| <b>Postal Code:</b>   | 46225  |                       |
| <b>PROPERTY NUMBERS Total: 1</b>  |  |                       |
|   | <b>Property Type</b>                         | <b>Number</b>         |
|   | Application Number:                          | 16605041              |
| <b>CORRESPONDENCE DATA</b>  |  |                       |
| <b>Fax Number:</b>  |  |                       |
| <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> |  |                       |
| <b>Phone:</b>   | 202-776-7800                                 |                       |
| <b>Email:</b>   | amherrman@duanemorris.com                    |                       |
| <b>Correspondent Name:</b>  | DUANE MORRIS LLP (RRC)                       |                       |
| <b>Address Line 1:</b>  | 505 9TH ST. NW                               |                       |
| <b>Address Line 2:</b>  | SUITE 1000                                   |                       |
| <b>Address Line 4:</b>  | WASHINGTON, D.C. 20004                       |                       |
| <b>ATTORNEY DOCKET NUMBER:</b>  | G3106-00299 / LWA12263                       |                       |
| <b>NAME OF SUBMITTER:</b>   | D. JOSEPH ENGLISH                            |                       |
| <b>SIGNATURE:</b>   | /D. Joseph English/                          |                       |
| <b>DATE SIGNED:</b>   | 10/14/2019                                   |                       |
| <b>Total Attachments: 3</b>   |  |                       |
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**EXHIBIT A**

**CONFIRMATORY PATENT ASSIGNMENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**ASSIGNMENT**

**WHEREAS**, Thermal and Fluids Solutions Group, LLC, a Virginia limited liability company with principal offices at 357 Decatur Road, Stafford, Virginia 22554 ("ASSIGNOR") is the owner of the patent applications listed in Exhibit A-1 (attached hereto and incorporated by reference) ("PATENT PORTFOLIO")

**WHEREAS**, Rolls-Royce North American Technologies Inc., a Delaware corporation with principal offices at 450 South Meridian Street, Indianapolis, Indiana 46225 ("ASSIGNEE") desires to acquire all of the right, title and interest of ASSIGNOR in, to and under the PATENT PORTFOLIO;

**WHEREAS**, ASSIGNOR and ASSIGNEE have entered into a certain Technology Transfer and Assignment Agreement, having an effective date of July 10, 2018, pursuant to which ASSIGNOR assigned, among other things, all right, title and interest in and to the PATENT PORTFOLIO to ASSIGNEE;

**NOW, THEREFORE**, in consideration of the terms of the Technology Transfer and Assignment Agreement and other good and valuable consideration, the receipt and sufficiency of which hereby is acknowledged, ASSIGNOR does hereby irrevocably sell, assign, transfer and convey unto ASSIGNEE its entire right, title and interest in and to the PATENT PORTFOLIO in the United States and its territorial possessions and in all foreign countries and to all Letters Patent or similar legal protection in the United States and its territorial possessions and in any and all foreign countries to be obtained for said invention by said applications including all divisions, continuations, continuations-in-part, reexaminations, substitutions, reissues, extensions, and renewals of the applications and registrations for the PATENT PORTFOLIO (and the right to apply for any of the foregoing); all rights to causes of action and remedies related thereto (including, without limitation, the right to sue for past, present or future infringement, misappropriation or violation of rights related to the foregoing); and any and all other rights and interests arising out of, in connection with or in relation to the PATENT PORTFOLIO.

**IN WITNESS WHEREOF**, ASSIGNOR has caused this Assignment to be duly executed on the 10<sup>th</sup> day of July, 2018.

*[Signature and Notary to Follow.]*

ASSIGNOR:

By: [Signature]

Name: Eugene C. Jansen, P.E.

Title: President and Chief Engineer

State of Indiana

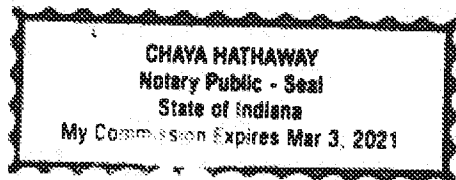
County of Marion .ss

On this 10 day of July, 2018, before me, the undersigned Notary Public, personally appeared Eugene C. Jansen, P.E., personally known to me or proved to me on the basis of satisfactory evidence to be the individual who signed the foregoing document as an ASSIGNOR and acknowledged to me that he executed the same in his authorized capacity, and that by such signature, the person executed the instrument.

WITNESS my hand and official seal.

My Commission Expires:

[Signature]  
Signature of Notary Public



**EXHIBIT A-1**

**TFSG PATENT PORTFOLIO**

| <b>Patent<br/>Application<br/>No.</b> | <b>Title</b>   | <b>Inventor(s)</b>                    | <b>Filing Date</b> |
|---------------------------------------|--|---------------------------------------|--------------------|
| 62/492,986                            | System for Direct Control of Two-Phase Isothermal Evaporation at a Specified Temperature                     | Eugene Charles Jansen                 | May 2, 2017        |
| 62/656,168                            | Mechanically Pumped System for Direct Control of Two-Phase Isothermal Evaporation at a Specified Temperature | Eugene Charles Jansen                 | April 11, 2018     |
| PCT/US18/29782                        | Method and Apparatus for Isothermal Cooling  | Eugene Charles Jansen                 | April 27, 2018     |
| 62/508074                             | Single-Pass Expendable Two-Phase Thermal Pumper with Power Recovery  | Eugene Charles Jansen<br>Jeffrey Chen | May 18, 2017       |
| PCT/US18/33543                        | Two-Phase Thermal Pump   | Eugene Charles Jansen<br>Jeffrey Chen | May 18, 2018       |

**EXHIBIT A****CONFIRMATORY PATENT ASSIGNMENT****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE****ASSIGNMENT**

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**WHEREAS**, Rolls-Royce North American Technologies Inc., a Delaware corporation with principal offices at ~~450 South Meridian Street, Indianapolis, Indiana 46225~~ <sup>2059 S. Gibbs Ave., Indianapolis, IN 46241</sup> ("ASSIGNEE") desires to acquire all of the right, title and interest of ASSIGNOR in, to and under the PATENT PORTFOLIO;

**WHEREAS**, ASSIGNOR and ASSIGNEE have entered into a certain Technology Transfer and Assignment Agreement, having an effective date of July 10, 2018, pursuant to which ASSIGNOR assigned, among other things, all right, title and interest in and to the PATENT PORTFOLIO to ASSIGNEE;

**NOW, THEREFORE**, in consideration of the terms of the Technology Transfer and Assignment Agreement and other good and valuable consideration, the receipt and sufficiency of which hereby is acknowledged, ASSIGNOR does hereby irrevocably sell, assign, transfer and convey unto ASSIGNEE its entire right, title and interest in and to the PATENT PORTFOLIO in the United States and its territorial possessions and in all foreign countries and to all Letters Patent or similar legal protection in the United States and its territorial possessions and in any and all foreign countries to be obtained for said invention by said applications including all divisions, continuations, continuations-in-part, reexaminations, substitutions, reissues, extensions, and renewals of the applications and registrations for the PATENT PORTFOLIO (and the right to apply for any of the foregoing); all rights to causes of action and remedies related thereto (including, without limitation, the right to sue for past, present or future infringement, misappropriation or violation of rights related to the foregoing); and any and all other rights and interests arising out of, in connection with or in relation to the PATENT PORTFOLIO.

**IN WITNESS WHEREOF**, ASSIGNOR has caused this Assignment to be duly executed on the 10<sup>th</sup> day of July, 2018.

Initials: ELJ per MPEP 323

1/18/2022

*[Signature and Notary to Follow.]*

ASSIGNOR:

By: 

Name: Eugene C. Jansen, P.E.

Title: President and Chief Engineer

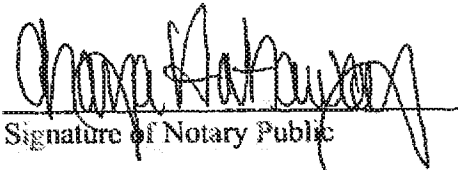
State of Indiana

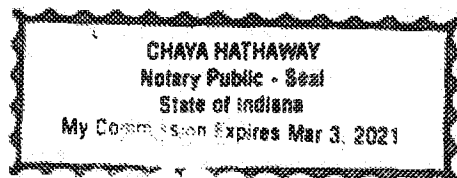
County of Marion.ss

On this 10 day of July, 2018, before me, the undersigned Notary Public, personally appeared Eugene C. Jansen, P.E., personally known to me or proved to me on the basis of satisfactory evidence to be the individual who signed the foregoing document as an ASSIGNOR and acknowledged to me that he executed the same in his authorized capacity, and that by such signature, the person executed the instrument.

WITNESS my hand and official seal.

My Commission Expires:

  
Signature of Notary Public



**EXHIBIT A-1****TFSG PATENT PORTFOLIO**

| <b>Patent<br/>Application<br/>No.</b> | <b>Title</b>   | <b>Inventor(s)</b>                    | <b>Filing Date</b> |
|---------------------------------------|--|---------------------------------------|--------------------|
| 62/492,986                            | System for Direct Control of Two-Phase Isothermal Evaporation at a Specified Temperature                     | Eugene Charles Jansen                 | May 2, 2017        |
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| PCT/US18/33543                        | Two-Phase Thermal Pump   | Eugene Charles Jansen<br>Jeffrey Chen | May 18, 2018       |

**PATENT****RECORDED: 01/19/2022****REEL: 058768 FRAME: 0054**