505378573 03/16/2019

PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| TED J. FREEMAN | 12/03/2018 |

RECEIVING PARTY DATA

| Name: | ROLLS-ROYCE NORTH AMERICAN TECHNOLOGIES INC. | |
|-----------------|--|--|
| Street Address: | 2059 S. TIBBS AVE. | |
| City: | INDIANAPOLIS | |
| State/Country: | INDIANA | |
| Postal Code: | 46241 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16249430 |

CORRESPONDENCE DATA

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using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Correspondent Name: **BARNES & THORNBURG LLP** Address Line 1: 11 S. MERIDIAN STREET

Address Line 4: INDIANAPOLIS, INDIANA 46204

| ATTORNEY DOCKET NUMBER: | 27163-289375/RCA11496 |
|-------------------------|-----------------------|
| NAME OF SUBMITTER: | SAMUEL C. GIESTING |
| SIGNATURE: | /SCG/ |
| DATE SIGNED: | 03/16/2019 |

Total Attachments: 2

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PATENT REEL: 048617 FRAME: 0637 505378573

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| Attorney Docket No.: | 27163-253979 |
|-----------------------|--------------|
| Client Reference No.: | RCA11496 |

NUNC PRO TUNC PATENT ASSIGNMENT

| | For good and valuable consideration, the receipt of which is hereby acknowledged, |
|--|---|
| Name(s) of Inventor(s) | Ted J. Freeman |
| | maker(s) of an invention which is the subject of an application for Letters Patent of the United State ("Application") entitled |
| Title of Application | TURBINE SHROUD WITH MOVABLE ATTACHMENT FEATURES |
| Serial No.: Filing Date: | 15/179,295 06/10/2016 |
| | the undersigned (hereinafter "Assignors") hereby sell(s), assign(s), and set(s) over to |
| Name of Assignee | Rolls-Royce North American Technologies Inc. |
| Address of principal | |
| place of business | Indianapolis, IN 46241 |
| Insert State of Incorporation (if applicable) or "Not Applicable" | a corporation of <u>Delaware</u> |

(hereinafter designated as the Assignee) their entire right, title, and interest in, to, and under the Application, including all priority rights for other countries arising therefrom, all inventions therein disclosed, and any and all Letters Patent of the United States and of all other countries, including Canada, which may be granted for such inventions, or any of them, all such inventions and all rights in such Application and Letters Patent to be held and enjoyed by Assignee for its own use and enjoyment to the full end of the term or terms for which such Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by them had this assignment and sale not been made.

The undersigned agree(s) to execute all papers necessary in connection with the application(s) in the United States and foreign countries and any continuing, divisional, or reissue applications thereof, and any reexamination of any of such applications, and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared or litigation concerning the application(s) or continuation, division, reissue, or reexamination thereof, and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or litigation.

The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

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The undersigned agree(s) to do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States and in all other countries where Assignee may desire to have such inventions, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from said application(s) or any division or divisions or continuing or reissue applications thereof, and any reexamination of any of such applications, to the said Assignee, as Assignee of the entire interest, and hereby covenants that the undersigned has full right to convey the interest herein assigned, and that the undersigned has not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the attorney of record the power to insert on this assignment any further identification 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.

| 12/3/2018 | ted J. Freeman |
|-----------|----------------------|
| Date | Inventor (Signature) |
| | |
| | Ted J. Freeman |
| | Inventor (Printed) |