

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT6955832

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
Stephen J BRADBROOK	02/10/2021
Martin N GOODHAND	03/11/2021
Paul M HIELD	05/13/2021
Andrew PARSLEY	02/26/2021
Natalie C WONG	09/29/2021
Robert J CORIN	02/10/2021
Thomas S BINNINGTON	02/17/2021
RECEIVING PARTY DATA	
Name:	ROLLS-ROYCE PLC
Street Address:	KINGS PLACE, 90 YORK WAY
City:	LONDON
State/Country:	GREAT BRITAIN
Postal Code:	N1 9FX
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	17495418
CORRESPONDENCE DATA	
Fax Number:	(703)836-2787
<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:	703-836-6400
Email:	email@oliff.com
Correspondent Name:	AARON L. WEBB
Address Line 1:	OLIFF PLC
Address Line 2:	P.O. BOX 320850
Address Line 4:	ALEXANDRIA, VIRGINIA 22320-4850
ATTORNEY DOCKET NUMBER:	198008
NAME OF SUBMITTER:	KIMBERLY SCOTT
SIGNATURE:	/Kimberly C. Scott/ for Aaron L. Webb
DATE SIGNED:	10/06/2021

PATENT

Total Attachments: 28

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ASSIGNMENT (BEING FILED FOR DUAL PURPOSE UNDER 37 CFR 1.63(e))

For Application with Filing Date on or after September 16, 2012

ASSIGNMENT

(1-8) Insert Legal Name(s) of Inventor(s) Stephen J BRADBROOK

(1-8) Insert Legal Name(s) of Inventor(s) Martin N GOODHAND

(1-8) Insert Legal Name(s) of Inventor(s) Paul M HIELD

(1-8) Insert Legal Name(s) of Inventor(s) Andrew PARSLEY

(1-8) Insert Legal Name(s) of Inventor(s) Natalie C WONG

(1-8) Insert Legal Name(s) of Inventor(s) Robert J CORIN

(1-8) Insert Legal Name(s) of Inventor(s) Thomas S BINNINGTON

In consideration of the sum of one dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and sufficiency of which are hereby acknowledged, each undersigned agrees to assign, and hereby does assign, transfer and set over to

(9) Insert Name of Assignee Rolls-Royce plc

(10) Insert Address of Assignee Kings Place, 90 York Way, London N1 9FX, United Kingdom

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, confirmation, substitute and rescue application(s), and all Letters Patent, extensions, renewals and reexamination certificates that may be granted on the invention known as

(11)	Insert Identification such as Title, Case Number, or Foreign Application Number	(11)	A Heat Exchanger 2020P06331 GB (Attorney Docket No. 198008)
(12)	Alternative Identification for filed applications	(12)	U.S. Application Number 17/495,418 filed October 6, 2021

- 1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.
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- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office and other issuing authorities to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.
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(13) Declaration

As an above named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of a claimed invention (or claimed design) in the above-identified application for which this declaration is being submitted.

The application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified application, including the claims, and am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

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.

In witness whereof, executed by the undersigned on the date opposite the undersigned name.

Inventor (Print name)	
Stephen J BRADBROOK	
Date: 10th February 2021	Inventor
Signature: 	(SEAL)
Martin N GOODHAND	
Date: _____	Inventor
Signature: _____	(SEAL)
Paul M HIELD	
Date: _____	Inventor
Signature: _____	(SEAL)
Andrew PARSLEY	
Date: _____	Inventor
Signature: _____	(SEAL)
Natalie C WONG	
Date: _____	Inventor
Signature: _____	(SEAL)
Robert J CORIN	
Date: _____	Inventor
Signature: _____	(SEAL)

Thomas S BINNINGTON

Date: _____ Inventor

Signature: _____ (SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date		Witness	
Date		Witness	

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(9)	Insert Name of Assignee	Rolls-Royce plc
(10)	Insert Address of Assignee	Kings Place, 90 York Way, London N1 9FX, United Kingdom

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, confirmation, substitute and reissue applications), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

(11)	Insert Identification such as Title, Case Number, or Foreign Application Number	(11)	A Heat Exchanger 2020P00331 GB (Attorney Docket No. 198008)
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(12)	Alternative Identification for filed applications	(12)	U.S. Application Number 17/495,418 filed October 6, 2021
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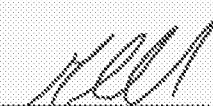
I have reviewed and understand the contents of the above-identified application, including the claims, and am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

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In witness whereof, executed by the undersigned on the date opposite the undersigned name.

Inventor

(Print name)

Stephen J BRADBROOK
Date: _____ Inventor Signature: _____ (SEAL)
Martin N GOODHAND
Date: 11 March 2021 Inventor Signature:  (SEAL)
Paul M HIELD
Date: _____ Inventor Signature: _____ (SEAL)
Andrew PARSLEY
Date: _____ Inventor Signature: _____ (SEAL)
Natalie C WONG
Date: _____ Inventor Signature: _____ (SEAL)
Robert J CORIN
Date: _____ Inventor Signature: _____ (SEAL)
Thomas S BINNINGTON
Date: _____ Inventor Signature: _____ (SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date 11/03/2021

Witness

D JONES DANIEL JONES

Date 11/3/21

Witness

H BAKMORC [Signature]

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(9)	Insert Name of Assignee	Rolls-Royce plc
(10)	Insert Address of Assignee	Kings Place, 90 York Way, London N1 9FX, United Kingdom

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(12)	Alternative Identification for filed applications	(12)	U.S. Application Number 17/495,418 filed October 6, 2021

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In witness whereof, executed by the undersigned on the date opposite the undersigned name.

Inventor

(Print name)

Stephen J BRADBROOK	Date: _____	Inventor Signature: _____	(SEAL)
Martin N GOODHAND	Date: _____	Inventor Signature: _____	(SEAL)
Paul M HIELD	13-May-2021 18:12 BST	Inventor Signature: <i>Paul Hield</i>	(SEAL)
Andrew PARSLEY	Date: _____	Inventor Signature: _____	(SEAL)
Natalie C WONG	Date: _____	Inventor Signature: _____	(SEAL)
Robert J CORIN	Date: _____	Inventor Signature: _____	(SEAL)
Thomas S BINNINGTON	Date: _____	Inventor Signature: _____	(SEAL)

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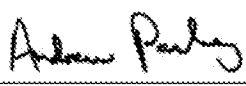
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Inventor

(Print name)

Stephen J BRADBROOK
Date: _____ Inventor Signature: _____ (SEAL)
Martin N GOODHAND
Date: _____ Inventor Signature: _____ (SEAL)
Paul M HIELD
Date: _____ Inventor Signature: _____ (SEAL)
Andrew PARSLEY
Date: 26 FEBRUARY 2021 _____ Inventor Signature:  _____ (SEAL)
Natalie C WONG
Date: _____ Inventor Signature: _____ (SEAL)
Robert J CORIN
Date: _____ Inventor Signature: _____ (SEAL)
Thomas S BINNINGTON
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Paul M HIELD	Date: _____	Inventor Signature: _____	(SEAL)
Andrew PARSLEY	Date: _____	Inventor Signature: _____	(SEAL)
Natalie C WONG	29-Sep-2021 12:09 BST	Inventor Signature: _____	(SEAL)
Robert J CORIN	Date: _____	Inventor Signature: _____	(SEAL)
Thomas S BINNINGTON	Date: _____	Inventor Signature: _____	(SEAL)

DocuSigned by:
/ Natalie C Wong /
 30FC38528221456

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(9)	Insert Name of Assignee	Rolls-Royce plc
(10)	Insert Address of Assignee	Kings Place, 90 York Way, London N1 9EX, United Kingdom

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, confirmation, subordinate and reissue applications(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

(11)	Insert Identification such as Title, Case Number, or Foreign Application Number	(11)	A Heat Exchanger 2020P00331 GB (Attorney Docket No. 198008)
(12)	Alternative Identification for filed applications	(12)	U.S. Application Number 17/495,418 filed October 6, 2021

- 1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.
- 2) Each undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning any application or patents for the invention and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.
- 3) Each undersigned agrees 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.
- 4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office and other issuing authorities to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.

6) Each undersigned hereby grants the Assignee's agent the power to insert on this assignment any further identification that 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.

(13) Declaration

As an above named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of a claimed invention (or claimed design) in the above-identified application for which this declaration is being submitted.

The application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified application, including the claims, and am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

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.

In witness whereof, executed by the undersigned on the date opposite the undersigned name.

Inventor

(Print name)

Stephen J BRADBROOK
Date: _____ Inventor Signature: _____ (SEAL)
Martin N GOODHAND
Date: _____ Inventor Signature: _____ (SEAL)
Paul M HIELD
Date: _____ Inventor Signature: _____ (SEAL)
Andrew PARSLEY
Date: _____ Inventor Signature: _____ (SEAL)
Natalie C WONG
Date: _____ Inventor Signature: _____ (SEAL)
Robert J CORIN
Date: 10 February 2021 Inventor Signature:  Digitally signed by Corin, Robert Date: 2021.02.10 16:38:15 Z (SEAL)
Thomas S BINNINGTON
Date: _____ Inventor Signature: _____ (SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date _____ Witness _____

Date _____ Witness _____

**ASSIGNMENT (BEING FILED FOR DUAL PURPOSE UNDER 37 CFR 1.63(e))
For Application with Filing Date on or after September 16, 2012**

ASSIGNMENT

(1-8) Insert Legal Name(s) of Inventor(s) Stephen J BRADBROOK

(1-8) Insert Legal Name(s) of Inventor(s) Martin N GOODHAND

(1-8) Insert Legal Name(s) of Inventor(s) Paul M HIELD

(1-8) Insert Legal Name(s) of Inventor(s) Andrew PARSLEY

(1-8) Insert Legal Name(s) of Inventor(s) Natalie C WONG

(1-8) Insert Legal Name(s) of Inventor(s) Robert J CORIN

(1-8) Insert Legal Name(s) of Inventor(s) Thomas S BINNINGTON

In consideration of the sum of one dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and sufficiency of which are hereby acknowledged, each undersigned agrees to assign, and hereby does assign, transfer and set over to

(9) Insert Name of Assignee Rolls-Royce plc

(10) Insert Address of Assignee Kings Place, 90 York Way, London N1 9PX, United Kingdom

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, confirmation, substitute and reissue applications), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

(11) Insert Identification such as Title, Case Number, or Foreign Application Number (11) A Heat Exchanger
2020PG0331 GB
(Attorney Docket No. 198008)

(12) Alternative Identification for filed applications (12) U.S. Application Number 17/495,418
filed October 6, 2021

- 1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.
- 2) Each undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning any application or patents for the invention and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.
- 3) Each undersigned agrees 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.
- 4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office and other issuing authorities to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.

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In witness whereof, executed by the undersigned on the date opposite the undersigned name.

Inventor

(Print name)

Stephen J BRADBROOK
Date: _____ Inventor Signature: _____ (SEAL)
Martin N GOODHAND
Date: _____ Inventor Signature: _____ (SEAL)
Paul M HIELD
Date: _____ Inventor Signature: _____ (SEAL)
Andrew PARSLEY
Date: _____ Inventor Signature: _____ (SEAL)
Natalie C WONG
Date: _____ Inventor Signature: _____ (SEAL)
Robert J CORIN
Date: _____ Inventor Signature: _____ (SEAL)
Thomas S BINNINGTON
Date: 17th February 2021 Inventor Signature: T. [Signature] (SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date _____ Witness _____

Date _____ Witness _____