504587916 10/10/2017 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4634628

SUBMISSION TYPE:		NEW ASSIGNMENT		
NATURE OF CONVEYAN	NCE:	ASSIGNMENT	ASSIGNMENT	
CONVEYING PARTY D	ΑΤΑ			
		Name	Execution Date	
Helen WEBSTER			08/07/2017	
Luke HAMILTON			09/21/2017	
Murad KHADER			08/16/2017	
Robert GRASSE			08/09/2017	
RECEIVING PARTY DA	ТА			
Name:	Rolls-ro	yce Plc		
Street Address:	62 Buck	ingham Gate		
City:	London			
State/Country:	Great B	ritain		
Postal Code:	SW1E6	SAT		
Property Type		Number		
Droporty Type		Number		
Property Type Application Number:		Number 15681829		
Application Number:		15681829		
Application Number: CORRESPONDENCE D Fax Number:	• ATA	703)836-2787		
Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i>	ATA (e sent to	15681829		
Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i>	ATA (e sent to provided	15681829 (703)836-2787 the e-mail address first; if that is unsuc		
Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p	ATA (e sent to provided	15681829 703)836-2787 <i>the e-mail address first; if that is unsucc</i> <i>; if that is unsuccessful, it will be sent vi</i>		
Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name:	ATA (e sent to provided	15681829 (703)836-2787 <i>the e-mail address first; if that is unsuce</i> <i>; if that is unsuccessful, it will be sent vi</i> 703-836-6400 email@oliff.com JAMES A. OLIFF		
Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if µ Phone: Email: Correspondent Name: Address Line 1:	ATA e sent to provided	15681829 (703)836-2787 <i>the e-mail address first; if that is unsuce</i> <i>; if that is unsuccessful, it will be sent vi</i> 703-836-6400 email@oliff.com JAMES A. OLIFF OLIFF PLC		
Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i> <i>using a fax number, if µ</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 2:	ATA (e sent to provided	15681829 (703)836-2787 <i>the e-mail address first; if that is unsuce</i> <i>; if that is unsuccessful, it will be sent via</i> 703-836-6400 email@oliff.com JAMES A. OLIFF DLIFF PLC P.O. BOX 320850		
Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if µ Phone: Email: Correspondent Name: Address Line 1:	ATA (e sent to provided	15681829 (703)836-2787 <i>the e-mail address first; if that is unsuce</i> <i>; if that is unsuccessful, it will be sent vi</i> 703-836-6400 email@oliff.com JAMES A. OLIFF OLIFF PLC		
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Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i> <i>using a fax number, if µ</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4:	ATA (e sent to provided	15681829 (703)836-2787 <i>the e-mail address first; if that is unsuce</i> <i>; if that is unsuccessful, it will be sent via</i> 703-836-6400 email@oliff.com JAMES A. OLIFF OLIFF PLC P.O. BOX 320850 ALEXANDRIA, VIRGINIA 22320-4850		
Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4: ATTORNEY DOCKET NU	ATA (e sent to provided	15681829 (703)836-2787 the e-mail address first; if that is unsuce ; if that is unsuccessful, it will be sent via 703-836-6400 email@oliff.com JAMES A. OLIFF DLIFF PLC P.O. BOX 320850 ALEXANDRIA, VIRGINIA 22320-4850 178014		
Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4: ATTORNEY DOCKET NUNAME OF SUBMITTER:	ATA (e sent to provided	15681829 (703)836-2787 the e-mail address first; if that is unsuce ; if that is unsuccessful, it will be sent via 703-836-6400 email@oliff.com JAMES A. OLIFF DLIFF PLC P.O. BOX 320850 ALEXANDRIA, VIRGINIA 22320-4850 178014 JASMINE L. BARFIELD		
Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 2: Address Line 4: ATTORNEY DOCKET NUN NAME OF SUBMITTER: SIGNATURE:	ATA (e sent to provided	15681829 703)836-2787 <i>the e-mail address first; if that is unsuce</i> <i>; if that is unsuccessful, it will be sent via</i> 703-836-6400 email@oliff.com JAMES A. OLIFF DLIFF PLC P.O. BOX 320850 ALEXANDRIA, VIRGINIA 22320-4850 178014 JASMINE L. BARFIELD /Jasmine L. Barfield/	a US Mail.	

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ASSIGNMENT

		WEBSTER, Helen
(1-8)	Insert Legal Name(s) of	HAMILTON, Luke
(1-0)	Inventor(s)	KHADER, Murad
		GRASSE, Roben
		(\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and ledged, each undersigned agrees to assign, and hereby does assign, transfer and juit over to
(9)	Insert Name of Assignee	ROLLS-ROYCE plc
(10)	Insert Address of Assignee	62 Buckingham Gate, London, SWIE 6AT, Great Britain
	(hereinafter designated as the Assignee)	and Assignee's herrs, successors, assigns and legal representatives, the entire right title and interest

(increments beingmane as the Assigner) and reasigners nerve, socie tors, assigns and regin representatives, the enter right, this 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 relisare applications), and all Letters Potent, extensions, reissues and reexamination contificates that may be granted on the invention known as

(11)	(11) Insert Identification such as Title, Case Number, or Forcign Application Number		Air Riding Seal Arrangement 6233 ACH
			(Attorney Docket No)
(12)	Alternative	(12)	U.S. Application Number
	Identification for		***************************************
	filed applications	tiled	
	for the invention and as the Assignee may a 2) Each undersigned a be declared concernin every way possible in	also to leem n grees to g any t obtain	execute all papers necessary in connection with any interference which may application or patents for the invention and to cooperate with the Assignee in ing evidence and going forward with such interference.
	• • • • • •	on with	 execute all papers and documents and perform any act which may be claims or provisions of the International Convention for Protection of r agreements.
		•	perform all affirmative acts which may be necessary to obtain, maintain or nination a grant of a valid United States patent to the Assignce.
			es 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(a) to the said Assignce, as Assignce 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 firm of Oliff plc 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.

PATENT REEL: 043828 FRAME: 0522

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) WEBSTER, Helen		
Date	7 th AU60 ST 2017	Investor 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:

Bate <u>7th August 2017</u> Bate <u>7th August 2017</u> Witness

Witness

PATENT REEL: 043828 FRAME: 0523

ASSIGNMENT

		WEBSTER, Helen
(1-8)	Insert Legal Name(s) of	HAMILTON, Luke
	Inventor(s)	KHADER, Murad
		GRASSE, Robert

In consideration of the sum of one dottar (\$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	62 Buckingham Gate, London, SW1E 6AT, Great Britain

(hereinafter designated as the Assignce) and Assignce'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 application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

(11)			Air Riding Seal Arrangement	
	such as Title, Case Number, or Foreign		6233 ACH	
Application Number	(Atto	rney Docket No.)	
(12)	Alternative Identification for	(12)	U.S. Application Number	
	filed applications	filed		

- 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 firm of Oliff ple 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.

As an above named inventor, I hereby declare that:

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

Inventor

(Print name) HAMILTON, Luke

Inventor Signature Date 21 12017 (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 <u>21/09/3017</u> Witness

OFYVIND WOLLER

Date <u>21/09/2017-</u>

Witness

RYAN FONG REPERTS

ASSIGNMENT

(1-8)) Insert Legal Name(s) of Inventor(s)		WEBSTER, Helen HAMILTON, Luke KHADER, Murad GRASSE, Roben	
	In consideration of the sum of sufficiency of which are beref	f one doll iy acknow	(\$1 00) and other good and valuable consideration paid to each of the undersigned, the receipt and designd, each undersigned agrees to assign, and hereby does assign, transfer and set over to	
(9)	Insert Name of Assi		ROLLS-ROYCE pic	
(10)	Insert Address of As	ssignee	62 Buckingham Gate, London, SW1E 6AT, Great Britain	
	for the United States of Ameri provisional, non-provisional, o Palent, extensions, reliables on	ica as def divisional	and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest need in 35 U S C, §100, in the invention, and in all applications for patent including any and all , continuation, international, confirmation, substitute and relasue application(s), and all Letters institut certificates that may be granted on the invention known as	
(11)	Insert Identification such as Title, Case	(11)	Air Riding Seal Arrangement	
	Number, or Foreign		6233 ACH	
	Application Number	(Attor	ney Dockei No)	
(12)	Alternative	(12)	U.S. Application Number	
	Identification for			
	filed applications	filed		
	 for the invention and it as the Assignee may of 2) Each undersigned ag be declared concernin every way possible in 3) Each undersigned ag necessary in connection Industrial Property or 4) Each undersigned ag confirm by reissue or 5) Each undersigned as other issuing authoritit as Assignee of the entities 	also to o leem ne press to g any a obtaini press to on with similar press to reexam thorize es to is: ire inter	execute all papers necessary in connection with any interference which may oplication or patents for the invention and to cooperate with the Assignee in ng evidence and going forward with such interference. execute all papers and documents and perform any act which may be claims or provisions of the International Convention for Protection of	

representatives. 6) Each undersigned hereby grants the firm of Oliff ple 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.

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

Inventor

(Print name)	KHADER, Murad		AT NO	
Date	16 AUGUST 2017	Inventor Signature	<u></u>	(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:

liste	162. Augusti 2017.	W livess
Date	16 th August 2017	Witness

PATENT REEL: 043828 FRAME: 0527

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ASSIGNMENT

(1-8)		WEBSTER, Helen
	Insert Legal Name(s) of	HAMILTON, Luke
	Inventor(s)	KHADER, Murad
		GRASSE, Robert

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 Assignce	ROLLS-ROYCE plc
(10)	Insert Address of Assignee	62 Buckingham Gate, London, SW1E 6AT, Great Britain

(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 application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

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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.

Ravestor

Date

GRASSE, Robert (Frint same avet 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:

Witness



9th Auguez 2017

ALEX PR0 66E

PATENT REEL: 043828 FRAME: 0529