PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT4047596

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Andrew SWIFT	09/08/2016
Stewart T THORNTON	09/07/2016
Paul SIMMS	08/24/2016
Glenn A KNIGHT	08/24/2016

RECEIVING PARTY DATA

Name: ROLLS-ROYCE PLC	
Street Address: 62 BUCKINGHAM GATE	
City:	LONDON
State/Country: UNITED KINGDOM	
Postal Code:	SW1E 6AT

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15262612

CORRESPONDENCE DATA

Fax Number: (703)836-2787

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.

Phone: 703-836-6400 Email: email@oliff.com **Correspondent Name:** JAMES A. OLIFF **OLIFF PLC** Address Line 1:

Address Line 2: P.O. BOX 320850

Address Line 4: ALEXANDRIA, VIRGINIA 22320-4850

ATTORNEY DOCKET NUMBER:	173056
NAME OF SUBMITTER:	ALYSON STRAND
SIGNATURE:	/alyson strand/
DATE SIGNED:	09/12/2016

Total Attachments: 8

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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

			Swift, Andrew	
1-8)	Insert Legal Name(s) of		Thornton, Stewart T	
8-693	Inventor(s)		Simms, Paul	
			Knight, Glenn A	
	In consideration of the sum of sufficiency of which are hereb	one dolla y acknov	r (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receips an ledged, each undersigned agrees to assign, and hereby does assign, transfer and set over to	d
9)	Insert Name of Assi	guee	ROLLS-ROYCE plc	
(10)	Insert Address of A	ssignee	62 Buckingham Gate, London, SW1E 6AT, Great Britain	••••
	for the United States of Amer provisional, non-provisional,	ica as defi divisio <mark>nal</mark>	and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interent in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all continuation, international, confirmation, substitute and reissue application(s), and all Letters instinates that may be granted on the invention known as	SS
(11)	Insert Identification	(11)	A Shafting Arrangement for a Gas Turbine Engine	
	soch as Title, Case Number, or Foreign		5931 ACH	
	Application Number	(Atto	ncy Docker No.)
(12)	Alternative	(12)	U.S. Application Number	
	Identification for			
	filed applications	filed		
			execute all papers necessary in connection with any application and/or patent execute separate assignments in connection with such applications and patent	

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.

also A Gleeco	10 %			
(Print Date {	th Coda har 2-11	Inventur Signature	thill	A. SWIFT (SEAL)
Consi	This assignment should preferably be all if outside the U.S.A. If neither, then it			
Dute	8 September 2016	Witness	NA	
Date	89 Spter 2016	Witness	BEL	<u> </u>

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ASSIGNMENT

		<u>Swift,</u> Andrew		
/N 0%	Insert Legal Name(s) of	Thornton, Stewart T		
(1-8)	Inventor(s)	Simms, Paul		
		Knighi, Glenn A		
		llar (\$1.00) and other good and valuable considerated wheelight and other good and valuable considerated agrees to assign, and other good and valuable considerated agrees to assign.		
(9)	Insert Name of Assignce	ROLLS-ROYCE plc		
(10)	Insert Address of Assigns	e 62 Buckingham Gate, London, S	SW1E 6AT, Great Britain	5555 555555
(11)	for the United States of America as d provisional, non-provisional, division Patent, extensions, reissues and reexa Insert Identification (1)	ee) and Assignee's heirs, successors, gasigns and effined in 35 U.S.C. § 100, in the invention, and i tal, continuation, international, confirmation, sul- mination certificates that may be granted on the A Shafting Arrangement for a Gas	in all applications for patent including ar batium and missue application(s), and a mission known as	iy and all
	such as Title, Case Number, or Foreign	5931 ACH		;
	Application Number (Au	orney Docket No.	***)
(12)	Alternative (12) Identification for filed applications files	U.S. Application Number		•
	for the invention and also to as the Assignee may deem 2) Each undersigned agrees be declared concerning any every way possible in obtail 3) Each undersigned agrees necessary in connection will Industrial Property or simil 4) Each undersigned agrees confirm by reissue or reexall 5) Each undersigned authorities to as Assignee of the entire in assigned, and that he has magrees that this assignment representatives.	to execute all papers necessary in con- application or patents for the inventi- ning evidence and going forward with to execute all papers and documents a th claims or provisions of the Internal ar agreements. to perform all affirmative acts which amination a grant of a valid United Str zes and requests the Commissioner of issue any and all patents resulting fro terest, and covenants that he has full of executed, and will not execute, any is binding on Assignor and Assignor	mection with such applications mection with any interference won and to cooperate with the Ash such interference, and perform any act which may tional Convention for Protection may be necessary to obtain, mates patent to the Assignee. If the U.S. Patent and Trademark maid application(s) to the said right to convey the entire interest agreement(s) in conflict herew is heirs, successors, assigns and	and patents which may ssignee in be t of intain or Office and Assignee, st herein ith, and legal
	identification that may be r	grants the firm of Oliff plc the power secessary or desirable in order to com-	ply with the rules of the United	

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

Essvessti	5.g.			
(Print 1	name) STEWET T TH	PUTTON	e de La	
Date	75ept 2016	Inventor Signature		(SEAL)
Consu			a Notary Public if within the U.S.A. (d before at least two witnesses who als	
Date	75ep 2016	Witness	NOU	
	7ª S. A. 701			

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

ASSIGNMENT

			Swift, Andrew	
(1-8)	Insert Legal Name(s) of Inventor(s)		Thornton, Stewart T	
(1-8)			Simms, Paul	Simms, Paul
			Knight, Glenn A	
			ar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt as vledged, each undersigned agrees to assign, and hereby does assign, transfer and set over to	nd
(9)	Insert Name of Assig	gnee	ROLLS-ROYCE plc	
(10)	Insert Address of Assignee		62 Buckingham Gate, London, SW1E 6AT, Great Britain	
(11)	for the United States of Ameri provisional, non-provisional, o	ica as def divisional	and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interestined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all continuation, international, confirmation, substitute and reissue application(s), and all Letters ination certificates that may be granted on the invention known as A Shafting Arrangement for a Gas Turbine Engine	est
	Number, or Foreign		5931 ACH	
	Application Number	(Atto	rney Docket No.)
(12)	Alternative	(12)	U.S. Application Number	
	Identification for			
	filed applications	filed		
	1) Each undersigned as	rees to	execute all papers necessary in connection with any application and/or pater	nt

- 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 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.

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.

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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.

Inventor PAUL SIMMS	S	
(Print name)		
Date 24th August 2016	Inventor Signature	Simm (SEAL)
This assignment should preferably be Consul if outside the U.S.A. If neither, the	be signed before: (a) n it should be signed	a Notary Public if within the U.S.A. (b) a U.S. before at least two witnesses who also sign here:
Date 24 HAUGUST 2016	Witness	Alanen.
2 1 TM		mal to A
Date 27 1/2057 2016	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

Swift. Andrew

			51,123, 1 11,000
(1-8)	Insert Legal Name(s) of Inventor(s)		Thornton, Stewart T
			Simms, Paul
			Knight, Glenn A
			or (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and dedged, each undersigned agrees to assign, and hereby does assign, transfer and set over to
(9)	Insert Name of Assig	gnee	ROLLS-ROYCE plc
(10)	Insert Address of As	ssignee	62 Buckingham Gate, London, SW1E 6AT, Great Britain
	for the United States of Ameri provisional, non-provisional, o	ca as defi livisional	and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest ned in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all continuation, international, confirmation, substitute and reissue application(s), and all Letters ination certificates that may be granted on the invention known as
(11)	Insert Identification	(11)	A Shafting Arrangement for a Gas Turbine Engine
	such as Title, Case Number, or Foreign Application Number		5931 ACH
		(Attor	rney Docket No.
(12)	Alternative	(12)	U.S. Application Number
	Identification for		
	filed applications	filed	
	for the invention and as the Assignee may c 2) Each undersigned ag be declared concernin every way possible in 3) Each undersigned ag necessary in connection Industrial Property or	also to deem negrees to g any a obtaining the stood of the similar	execute all papers necessary in connection with any interference which may pplication 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

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.

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

confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.

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.

invent	or		
(Print name)			
Date	24 August 2016	Inventor Signature	(SEAL)
	Ú		
	This assignment should preferably b	e signed before: (a	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	24th Angust 2016	Witness	Lindy Inde
	•		7
	21th A of 2016		PM.

Witness