PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6934168

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Natalie C WONG	02/04/2021
Thomas S BINNINGTON	02/17/2021
DAVID A JONES	09/24/2021
Daniel BLACKER	02/18/2021

RECEIVING PARTY DATA

Name:	Rolls-Royce plc
Street Address:	Kings Place
Internal Address:	90 York Way
City:	London
State/Country:	United Kingdom
Postal Code:	N1 9FX

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17484096

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: AARON L. WEBB

Address Line 1: OLIFF PLC
Address Line 2: P.O. BOX 320850

1.0. DOX 020000

Address Line 4: ALEXANDRIA, VIRGINIA 22320-4850

ATTORNEY DOCKET NUMBER:	197927
NAME OF SUBMITTER:	JOVITA RUDD
SIGNATURE:	/Jovita Rudd/
DATE SIGNED:	09/24/2021
	•

Total Attachments: 9



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 Inventor(s)) of	Natalie C WONG	
(1-8)	Insert Legal Name(s Inventor(s)) of	Thomas S BINNINGTON	
(1-8)	Insert Legal Name(s Inventor(s)) of	David A JONES	
(1-8)	Insert Legal Name(s Inventor(s)) of	Daniel BLACKER	
			r ($\$1.00$) and other good and valuable consideration paid to each of the undersigned, the eby acknowledged, each undersigned agrees to assign, and hereby does assign, transfer and	
(9)	Insert Name of Assig	gnee	Rolls-Royce plc	
(10)	Insert Address of Assignee		Kings Place, 90 York Way, London, N1 9FX, United Kingdom	
	interest for the United States o any and all provisional, non-pr	f America ovisional	and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and a as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including , divisional, continuation, international, confirmation, substitute and reissue application(s), es and reexamination certificates that may be granted on the invention known as	
(11)	Insert Identification such as Title, Case	(11)	An Improved Turbofan Gas Turbine Engine	
	Number, or Foreign		2020P00326	
	Application Number	(Attor	rney Docket No. 197927	
(12)	Alternative Identification for	(12)	U.S. Application Number 17/484,096	
	filed applications	filed	September 24, 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.

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 $37 \text{ CFR } \S 1.56$.

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)			
Natalie C WONG			
		C	4/02/2021
		X N Wong	
Date: 4 February 2021	Inventor Signature:	Natalie Wong Design Engineer Signed by: Wong, Natalie	(SEAL)
Thomas S BINNINGTON			` ,
Date:	Inventor Signature:		(SEAL)
David A JONES			
	Inventor Signature:		(SEAL)
Daniel BLACKER			
Date:	Inventor Signature:		(SEAL)
		re: (a) a Notary Public if within the U signed before at least two witnesses v	
Date	Witness		

ъ.	****	
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 Inventor(s)		Natalie C WONG	
(1-8)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$			20000
(1-8)	Insert Legal Name(s Inventor(s)) of	David A JONES	
(1-8)	Insert Legal Name(s Inventor(s)) of	Daniel BLACKER	
			r (\$1.00) and other good and valuable consideration paid to each of the undersigned, the day acknowledged, each undersigned agrees to assign, and hereby does assign, transfer and	
(9)	Insert Name of Assig	gnee	Rolls-Royce pic	
(10)	Insert Address of As	signee	Kings Place, 90 York Way, London, N1 9FX, United Kingdom	
/8.5\	imerest for the United States of any and all provisional, non-pe	f America rovisional ms, reissu	and Assigned's heirs, successors, assigns and legal representatives, the entire right, title and a steffined in 35 U.S.C. § 100, is the invention, and in all applications for patent including divisional, continuation, international, confirmation, substitute and reissue application(s), as and reexamination certificates that may be granted on the invention known as	
(11)	such as Title, Case	(11)	An Improved Turbofan Gas Turbine Engine	*****
	Number, or Foreign		2020P00326	*****
	Application Number	(Auor	ney Docket No. 197927)
(12)	Alternative	(12)	U.S. Application Number 17/484,096	
	Identification for filed applications	filed	September 24, 2021	
	patent for the invention and patents as the Ass. 2) Each undersigned again may be declared concerns as a signee in every way. 3) Each undersigned aganecessary in connection Industrial Property or 4) Each undersigned agar or confirm by reissue. 5) Each undersigned autoffice and other issuit	n and a ignee retrees to erning a possib grees to on with similar grees to or reext athorize ag authe	execute all papers necessary in connection with any interference which my application or patents for the invention and to cooperate with the le in obtaining 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	

conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs,

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.

successors, assigns and legal representatives.

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		
(Frint name)		
Natalie C WONG		
Date:	Inventor Signature:	(SEAL
Thomas S BINNINGTO	N.	
Date: 174 Februar	4 3 03 Inventor Signature: 7.	(SEAL
David A IONES		
Date:	Inventor Signature:	(SEAL
Daniel BLACKER		
Date:	Inventor Signature:	(SEAL
	should preferably be signed before: (a) a Notary Public S.A. If neither, then it should be signed before at least	
Date	Witness	
Date	Winess	

Incart Local Nama(c) of

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)	Inventor(s)	<i>,</i> 01	Natalie C WONG	
(1-8)	Insert Legal Name(s Inventor(s)) of	Thomas S BINNINGTON	
(1-8)	Insert Legal Name(s Inventor(s)) of	David A JONES	
(1-8)	Insert Legal Name(s Inventor(s)) of	Daniel BLACKER	
			ar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the reby acknowledged, each undersigned agrees to assign, and hereby does assign, transfer a	nd
(9)	Insert Name of Assig	gnee	Rolls-Royce plc	
(10)	Insert Address of As	signee	Kings Place, 90 York Way, London, N1 9FX, United Kingdom	
	interest for the United States of any and all provisional, non-p	f Americ rovisiona) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title as as defined in 35 U.S.C. §100, in the invention, and in all applications for patent includin I, divisional, continuation, international, confirmation, substitute and reissue application (success and reexamination certificates that may be granted on the invention known as	ng
(11)	Insert Identification	(11)	An Improved Turbofan Gas Turbine Engine	
	such as Title, Case Number, or Foreign		2020P00326	
	Application Number	(Atto	rney Docket No. 197927)
(12)	Alternative	(12)	U.S. Application Number 17/484,096	
	Identification for filed applications	filed	September 24, 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.

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)		
Natalie C WONG		
Date:1	Inventor Signature:	_(SEAL)
Thomas S BINNINGTON		
Date:]	Inventor Signature:	_(SEAL)
David A JONES	ر DocuSigned by:	
24-Sep-2021 08:28		_(SEAL)
Daniel BLACKER		
Date:1	Inventor Signature:	_(SEAL)
	ferably be signed before: (a) a Notary Public if within the U.S.A. (b) a ther, then it should be signed before at least two witnesses who also s	
Date	Witness	
D. de	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 Inventor(s)) of	Natalie C WONG	
(1-8)	Insert Legal Name(s) of Inventor(s)		Thomas S BINNINGTON	
(1-8)	Insert Legal Name(s) of Inventor(s)		David A JONES	
(1-8)	Insert Legal Name(s) of Inventor(s)		Daniel BLACKER	
			r (\$1.00) and other good and valuable consideration paid to each of the undersigned, the eby acknowledged, each undersigned agrees to assign, and hereby does assign, transfer and	
(9)	Insert Name of Assig	Rolls-Royce plc		
(10)	Insert Address of Assignee		Kings Place, 90 York Way, London, N1 9FX, United Kingdom	
	interest for the United States o any and all provisional, non-pr	f America rovisional	and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and a as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including divisional, continuation, international, confirmation, substitute and reissue application(s), less and reexamination certificates that may be granted on the invention known as	
(11)	Insert Identification such as Title, Case Number, or Foreign	(11)	An Improved Turbofan Gas Turbine Engine	
			2020P00326	
	Application Number	(Attor	rney Docket No. 197927)
(12)	Alternative	(12)	U.S. Application Number 17/484,096	
	Identification for filed applications	filed	September 24, 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.

© 2021 Rolls-Royce

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)							
Natalie C WONG							
Date:	Inventor Signature:		(SEAL)				
Thomas S BINNINGTON							
Date:	Inventor Signature:		(SEAL)				
David A JONES							
Date:	Inventor Signature:		(SEAL)				
Daniel BLACKER							
	1	Blacker					
Date: 18 Feb 2021 I	nventor 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						

© 2021 Rolls-Royce

Not Subject to Export Control