

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT2741979

SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>STEPHEN M. HSU</td> <td>12/20/2013</td> </tr> <tr> <td>YANG JING</td> <td>01/18/2014</td> </tr> <tr> <td>YUFEI MO</td> <td>01/11/2014</td> </tr> <tr> <td>DONGYUN HUA</td> <td>01/04/2014</td> </tr> <tr> <td>MING CHEN</td> <td>11/25/2013</td> </tr> </tbody> </table>		Name	Execution Date	STEPHEN M. HSU	12/20/2013	YANG JING	01/18/2014	YUFEI MO	01/11/2014	DONGYUN HUA	01/04/2014	MING CHEN	11/25/2013
Name	Execution Date												
STEPHEN M. HSU	12/20/2013												
YANG JING	01/18/2014												
YUFEI MO	01/11/2014												
DONGYUN HUA	01/04/2014												
MING CHEN	11/25/2013												
RECEIVING PARTY DATA													
<table border="1"> <tr> <td>Name:</td> <td>THE GEORGE WASHINGTON UNIVERSITY</td> </tr> <tr> <td>Street Address:</td> <td>2300 EYE STREET, N.W., SUITE 712</td> </tr> <tr> <td>City:</td> <td>WASHINGTON</td> </tr> <tr> <td>State/Country:</td> <td>DISTRICT OF COLUMBIA</td> </tr> <tr> <td>Postal Code:</td> <td>20037</td> </tr> </table>		Name:	THE GEORGE WASHINGTON UNIVERSITY	Street Address:	2300 EYE STREET, N.W., SUITE 712	City:	WASHINGTON	State/Country:	DISTRICT OF COLUMBIA	Postal Code:	20037		
Name:	THE GEORGE WASHINGTON UNIVERSITY												
Street Address:	2300 EYE STREET, N.W., SUITE 712												
City:	WASHINGTON												
State/Country:	DISTRICT OF COLUMBIA												
Postal Code:	20037												
PROPERTY NUMBERS Total: 1													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>14000857</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	14000857								
Property Type	Number												
Application Number:	14000857												
CORRESPONDENCE DATA													
Fax Number:	(202)628-8844												
Phone:	202-624-2500												
Email:	lbuckler@crowell.com												
<i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>													
Correspondent Name:	CROWELL & MORING												
Address Line 1:	1001 PENNSYLVANIA AVENUE, NW												
Address Line 4:	WASHINGTON, DISTRICT OF COLUMBIA 20004												
ATTORNEY DOCKET NUMBER:	031778.63421US												
NAME OF SUBMITTER:	SCOTT L. BITTMAN, REG. NO. 55,007												

Signature:	/Scott L. Bittman/
Date:	02/25/2014
Total Attachments: 10 source=63421US-Assignment#page1.tif source=63421US-Assignment#page2.tif source=63421US-Assignment#page3.tif source=63421US-Assignment#page4.tif source=63421US-Assignment#page5.tif source=63421US-Assignment#page6.tif source=63421US-Assignment#page7.tif source=63421US-Assignment#page8.tif source=63421US-Assignment#page9.tif source=63421US-Assignment#page10.tif	

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto:

The George Washington University
2300 Eye Street, N.W., Suite 712
Washington, DC 20037

(hereinafter ASSIGNEE) all right, title and interest in and to his/her invention relating to:

FRICTION REDUCTION FOR ENGINE COMPONENTS

in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in all countries through the world and through the Patent Cooperation Treaty and/or the European Patent Convention, as set forth in his/her United States Patent Application (check one):

- ☐ executed concurrently herewith,
- ☐ executed on _____,
- ☐ Application No. _____, filed _____,
- ☒ PCT International Application No.: PCT/US2012/025949, filed February 21, 2012,

and in and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States which may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

Each of the undersigned hereby authorizes and requests the Director of the U.S. Patent and Trademark Office to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;

Each of the undersigned warrants and covenants that he/she has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he/she has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he/she will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him/her relating to said invention or Patent application and that he/she will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent which may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns or to assist said ASSIGNEE, its successors, legal representatives or assigns in obtaining, reissuing or enforcing Letters Patent of the United States for said invention;

Each of the undersigned hereby grants the firm of **CROWELL & MORING LLP**, or any partner thereof, the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

Signature:
Inventor one:
Citizenship:

Stephen M. HSU
USA

12/20/2013
DATE

Signature:
Inventor two:
Citizenship:

Yang JING
China

DATE

Signature:
Inventor three:
Citizenship:

Yufei MO
China

DATE

Signature:
Inventor four:
Citizenship:

Dongyun HUA
China

DATE

Signature:
Inventor five:
Citizenship:

Ming CHEN
China

DATE

12-20-2013
DATE

Aquinos Butler

Signature and/or seal of witness/
officer authorized to administer oaths

Note: Prima facie evidence of execution may optionally be obtained by execution of this document before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.

AQUINOS BUTLER
NOTARY PUBLIC DISTRICT OF COLUMBIA
My Commission Expires November 20, 2014

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto:

**The George Washington University
2300 Eye Street, N.W., Suite 712
Washington, DC 20037**

(hereinafter ASSIGNEE) all right, title and interest in and to his/her invention relating to:

FRICTION REDUCTION FOR ENGINE COMPONENTS

in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in all countries through the world and through the Patent Cooperation Treaty and/or the European Patent Convention, as set forth in his/her United States Patent Application (check one):

- ☐ executed concurrently herewith,
☐ executed on _____,
☐ Application No. _____, filed _____,
☒ PCT International Application No.: PCT/US2012/025949, filed February 21, 2012.


and in and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States which may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

Each of the undersigned hereby authorizes and requests the Director of the U.S. Patent and Trademark Office to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;


Each of the undersigned warrants and covenants that he/she has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he/she has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he/she will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him/her relating to said invention or Patent application and that he/she will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent which may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns or to assist said ASSIGNEE, its successors, legal representatives or assigns in obtaining, reissuing or enforcing Letters Patent of the United States for said invention;

Each of the undersigned hereby grants the firm of **CROWELL & MORING LLP**, or any partner thereof, the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

Signature:	_____	_____
Inventor one:	Stephen M. HSU	DATE
Citizenship:	USA	
Signature:		<u>01/18/14</u>
Inventor two:	Yang JING	DATE
Citizenship:	China	
Signature:	_____	_____
Inventor three:	Yufei MO	DATE
Citizenship:	China	
Signature:	_____	_____
Inventor four:	Dongyun HUA	DATE
Citizenship:	China	
Signature:	_____	_____
Inventor five:	Ming CHEN	DATE
Citizenship:	China	

1/18/14
DATE

 *Notary Public*

Signature and/or seal of witness/
officer authorized to administer oaths

Note: Prima facie evidence of execution may optionally be obtained by execution of this document before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto:

**The George Washington University
2300 Eye Street, N.W., Suite 712
Washington, DC 20037**

(hereinafter ASSIGNEE) all right, title and interest in and to his/her invention relating to:

FRICTION REDUCTION FOR ENGINE COMPONENTS

in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in all countries through the world and through the Patent Cooperation Treaty and/or the European Patent Convention, as set forth in his/her United States Patent Application (check one):

- ☐ executed concurrently herewith,
- ☐ executed on _____,
- ☐ Application No. _____, filed _____,
- ☒ PCT International Application No.: PCT/US2012/025949, filed February 21, 2012.

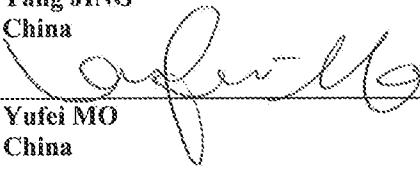
and in and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States which may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

Each of the undersigned hereby authorizes and requests the Director of the U.S. Patent and Trademark Office to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;

Each of the undersigned warrants and covenants that he/she has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he/she has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he/she will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him/her relating to said invention or Patent application and that he/she will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent which may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns or to assist said ASSIGNEE, its successors, legal representatives or assigns in obtaining, reissuing or enforcing Letters Patent of the United States for said invention;

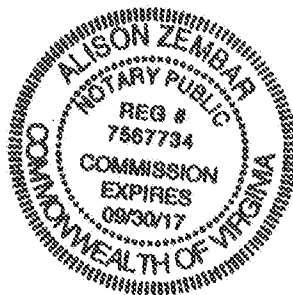
Each of the undersigned hereby grants the firm of **CROWELL & MORING LLP**, or any partner thereof, the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

Signature:	_____	_____
Inventor one:	Stephen M. HSU	DATE
Citizenship:	USA	
Signature:	_____	_____
Inventor two:	Yang JING	DATE
Citizenship:	China	
Signature:		01/11/2014
Inventor three:	Yufei MO	DATE
Citizenship:	China	
Signature:	_____	_____
Inventor four:	Dongyun HUA	DATE
Citizenship:	China	
Signature:	_____	_____
Inventor five:	Ming CHEN	DATE
Citizenship:	China	

_____	_____
DATE	Signature and/or seal of witness/ officer authorized to administer oaths

Note: Prima facie evidence of execution may optionally be obtained by execution of this document before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.

City/County of Loudoun
Commonwealth of Virginia
Subscribed and sworn to before me
this 11th day of January, 2014
by Yufei MO
Alison Zembor Notary
My commission expires 09/30/17



ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto:

**The George Washington University
2300 Eye Street, N.W., Suite 712
Washington, DC 20037**

(hereinafter ASSIGNEE) all right, title and interest in and to his/her invention relating to:

FRICTION REDUCTION FOR ENGINE COMPONENTS

in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in all countries through the world and through the Patent Cooperation Treaty and/or the European Patent Convention, as set forth in his/her United States Patent Application (check one):

- ☐ executed concurrently herewith,
- ☐ executed on _____,
- ☐ Application No. _____, filed _____,
- ☒ PCT International Application No.: PCT/US2012/025949, filed February 21, 2012.

and in and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States which may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

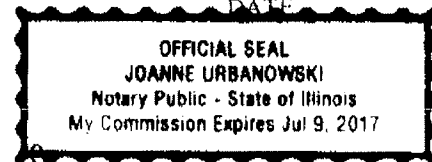
Each of the undersigned hereby authorizes and requests the Director of the U.S. Patent and Trademark Office to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;

Each of the undersigned warrants and covenants that he/she has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he/she has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he/she will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him/her relating to said invention or Patent application and that he/she will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent which may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns or to assist said ASSIGNEE, its successors, legal representatives or assigns in obtaining, reissuing or enforcing Letters Patent of the United States for said invention;

Each of the undersigned hereby grants the firm of **CROWELL & MORING LLP**, or any partner thereof, the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

Signature: _____	_____
Inventor one:	
Citizenship:	
	DATE
Signature: _____	_____
Inventor two:	
Citizenship:	
	DATE
Signature: _____	_____
Inventor three:	
Citizenship:	
	DATE
Signature: <u>Dongyun HUA</u>	<u>1/4/2014</u>
Inventor four:	
Citizenship:	
	DATE
Signature: _____	_____
Inventor five:	
Citizenship:	
	DATE



1-4-2014
DATE

[Signature]
Signature and/or seal of witness/
officer authorized to administer oaths

Note: Prima facie evidence of execution may optionally be obtained by execution of this document before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto:

**The George Washington University
2300 Eye Street, N.W., Suite 712
Washington, DC 20037**

(hereinafter ASSIGNEE) all right, title and interest in and to his/her invention relating to:

FRICTION REDUCTION FOR ENGINE COMPONENTS

in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in all countries through the world and through the Patent Cooperation Treaty and/or the European Patent Convention, as set forth in his/her United States Patent Application (check one):

- ☐ executed concurrently herewith,
- ☐ executed on _____,
- ☐ Application No. _____, filed _____,
- ☒ PCT International Application No.: PCT/US2012/025949, filed February 21, 2012,

and in and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States which may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

Each of the undersigned hereby authorizes and requests the Director of the U.S. Patent and Trademark Office to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;

Each of the undersigned warrants and covenants that he/she has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he/she has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he/she will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him/her relating to said invention or Patent application and that he/she will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent which may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns or to assist said ASSIGNEE, its successors, legal representatives or assigns in obtaining, reissuing or enforcing Letters Patent of the United States for said invention;

Each of the undersigned hereby grants the firm of **CROWELL & MORING LLP**, or any partner thereof, the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

Signature: _____
Inventor one: Stephen M. HSU
Citizenship: USA DATE

Signature: _____
Inventor two: Yang JING
Citizenship: China DATE

Signature: _____
Inventor three: Yufei MO
Citizenship: China DATE

Signature: _____
Inventor four: Dongyun HUA
Citizenship: China DATE

Signature: _____
Inventor five: Ming CHEN
Citizenship: China DATE

11/25/2013
DATE

Christina Wilson

Signature and/or seal of witness/
officer authorized to administer oaths



Note: Prima facie evidence of execution may optionally be obtained by execution of this document before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.