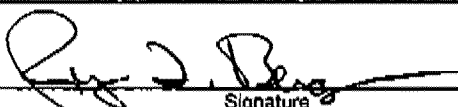


Form PTO-1595 (Rev. 03-11)
OMB No. 0651-0027 (exp. 03/31/2015)

U.S. DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

**RECORDATION FORM COVER SHEET
PATENTS ONLY**

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies): Feng Lin (02/13/2014), Renji Zhang (02/13/2014), Qianming Gong (02/13/2014), Lei Zhang (02/13/2014), Additional name(s) of conveying party(ies) attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2. Name and address of receiving party(ies) Name: <u> Tsinghua University </u> Internal Address: _____ Street Address: _____ Qinghuayuan Haidian District Beijing 100084 PEOPLE'S REPUBLIC OF CHINA City: _____ State: _____ Country: _____ Zip: _____ Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3. Nature of conveyance/Execution Date(s): Execution Date(s): <u>in parentheses after inventor name</u> <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Change of Name <input type="checkbox"/> Security Agreement <input type="checkbox"/> Joint Research Agreement <input type="checkbox"/> Government Interest Assignment <input type="checkbox"/> Executive Order 9424, Confirmatory License <input type="checkbox"/> Other _____		4. Application or patent number(s): <input type="checkbox"/> This document is being filed together with a new application. A. Patent Application No.(s) <u>14/238,626</u> B. Patent No.(s) Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Name and address to whom correspondence concerning document should be mailed: Name: Ryan L. Bergeron LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP Internal Address: <u>Atty. Dkt.: 9TIP 3.3-030</u> Street Address: <u>600 South Avenue West</u> City: <u> Westfield </u> State: <u> NJ </u> Zip: <u> 07090 </u> Phone Number: <u> 908-654-6000 </u> Fax Number: <u> 908-654-7866 </u> Email Address: <u> mcormier@ldikm.com </u>		6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 1.21(h) & 3.41) \$ <u> 40.00 </u> <input checked="" type="checkbox"/> Authorized to be charged to deposit account <input type="checkbox"/> Enclosed <input type="checkbox"/> None required (government interest not affecting title)	
8. Payment information Deposit Account Number <u> 12-1095 </u> Authorized User Name <u> Ryan L. Bergeron </u>		9. Signature: <div style="text-align: center;">  _____ Signature </div> <div style="text-align: right;"> <u> February 14, 2014 </u> Date </div> <div style="text-align: center;"> <u> Ryan L. Bergeron - 66,377 </u> Name of Person Signing </div>	
		Total number of pages including cover sheet, attachments, and documents: 9	

CH \$40.00 121095 14238626

**RECORDATION FORM COVER SHEET (PTO-1595)
(supplemental sheet)**

Additional Conveying Party(ies)/Execution Date(s) (1. Continued):

Ting Zhang (02/13/2014), Xiao Yuan (02/13/2014), and Wentao Yan (02/13/2014)

Additional Assignees (2. Continued):

Assignee Name: _____

Internal Address:

Street Address:

City: _____ State: _____ Country: _____ Zip: _____

Assignee Name: _____

Internal Address:

Street Address:

City: _____ State: _____ Country: _____ Zip: _____

Assignee Name: _____

Internal Address:

Street Address:

City: _____ State: _____ Country: _____ Zip: _____

Additional Applications and/or Patents (4. Continued):

Additional Patent Application Numbers
4A. Continued:

Additional Patent Numbers
4B. Continued:

Additional numbers attached?

Yes No

former PTO/SB/15 (6-00) Modified LDLKAM

ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) 9TIP 3.3-030
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Whereas, I, Feng Lin of Qinghuayuan, Haidian District, Beijing, 100084, People's Republic of China

hereafter referred to as assignor, have with others invented certain new and useful improvements in ROTOR DEVICE, TURBINE ROTOR DEVICE, AND GAS TURBINE AND TURBINE ENGINE HAVING SAME


- for which an application for a United States Letters Patent was filed on February 12, 2014
Application Number 14/238,626
- for which an application for a United States Letters Patent was executed by me on _____
- for which an International Application was filed on July 11, 2012, as PCT/CN2012/078518, designating the United States.

And

Whereas, Tsinghua University a corporation of China herein referred to as "assignee" whose mailing address is Qinghuayuan, Haidian District, Beijing, 100084, People's Republic of China is desirous of acquiring the entire right, title and interest in the same;

NOW, THEREFORE, in consideration of the sum of one dollar (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.

And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.

<u>2/13/2014</u> Date <u>Renji Zhang</u> Witness <u>Renji Zhang</u> Typed Name of Witness	 _____ Feng Lin
--	---

*Total of 7 forms are submitted.

former PTO/SB/15 (8-00) Modified LDLK&M

ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional)
	9TIP 3.3-030

Whereas, I, Renji Zhang of Qinghuayuan, Haidian District, Beijing 100084, People's Republic of China

hereafter referred to as assignor, have with others invented certain new and useful improvements in ROTOR DEVICE, TURBINE ROTOR DEVICE, AND GAS TURBINE AND TURBINE ENGINE HAVING SAME

for which an application for a United States Letters Patent was filed on February 12, 2014 Application Number 14/238,626

for which an application for a United States Letters Patent was executed by me on _____

for which an International Application was filed on July 11, 2012, as PCT/CN2012/078518, designating the United States.

And

Whereas, Tsinghua University a corporation of China herein referred to as "assignee" whose mailing address is Qinghuayuan, Haidian District, Beijing 100084, People's Republic of China is desirous of acquiring the entire right, title and interest in the same;

NOW, THEREFORE, in consideration of the sum of one dollar (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.

And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.

Feb. 13, 2014
Date

Renji Zhang
Renji Zhang

[Signature]
Witness
Feng Lin
Typed Name of Witness

*Total of 7 forms are submitted.

former PTO/SB/16 (8-00) Modified LDLKM

ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) 9TIP 3.3-030
--	---

Whereas, I, Qianming Gong of Qinghuayuan, Haidian District, Beijing 100084, People's Republic of China

hereafter referred to as assignor, have with others invented certain new and useful improvements in **ROTOR DEVICE, TURBINE ROTOR DEVICE, AND GAS TURBINE AND TURBINE ENGINE HAVING SAME**

- for which an application for a United States Letters Patent was filed on February 12, 2014
Application Number 14/238,626
- for which an application for a United States Letters Patent was executed by me on _____
- for which an International Application was filed on July 11, 2012, as PCT/CN2012/078518, designating the United States.

And

Whereas, Tsinghua University a corporation of China herein referred to as "assignee" whose mailing address is Qinghuayuan, Haidian District, Beijing 100084, People's Republic of China

is desirous of acquiring the entire right, title and interest in the same;

NOW, THEREFORE, in consideration of the sum of one dollar (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.

And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.

2014.2.13
Date

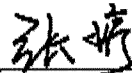

Qianming Gong
Qianming Gong

[Signature]
Witness

Feng Lin
Typed Name of Witness

*Total of 7 forms are submitted.

Former PTO/SB/15 (8-00) Modified LDLKM

ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) 9TIP 3.3-030
<p>Whereas, I, <u>Ting Zhang</u> of <u>Qinghuayuan, Haidian District, Beijing 100084, People's Republic of China</u> hereafter referred to as assignor, have with others invented certain new and useful improvements in ROTOR DEVICE, TURBINE ROTOR DEVICE, AND GAS TURBINE AND TURBINE ENGINE HAVING SAME</p> <p><input checked="" type="checkbox"/> for which an application for a United States Letters Patent was filed on <u>February 12, 2014</u> Application Number <u>14/238,626</u></p> <p><input type="checkbox"/> for which an application for a United States Letters Patent was executed by me on _____</p> <p><input checked="" type="checkbox"/> for which an International Application was filed on <u>July 11, 2012</u>, as <u>PCT/CN2012/078518</u>, designating the United States.</p> <p>And</p> <p>Whereas, <u>Tsinghua University</u> a corporation of <u>China</u> herein referred to as "assignee" whose mailing address is <u>Qinghuayuan, Haidian District, Beijing 100084, People's Republic of China</u> is desirous of acquiring the entire right, title and interest in the same;</p> <p>NOW, THEREFORE, in consideration of the sum of <u>one</u> dollar (\$ <u>1.00</u>), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.</p> <p>And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.</p> <p style="text-align: center;"> <u>2/13/2014.</u> Date </p> <p style="text-align: center;">  Ting Zhang </p> <p style="text-align: center;">  Witness Feng Lin Typed Name of Witness </p>	

*Total of 7 forms are submitted.

former PTO/SB/15 (8-00) Modified LDLK&M

ASSIGNMENT OF UTILITY APPLICATION

Docket Number (Optional)

9TIP 3.3-030

Whereas, I, Xiao Yuan of
Qinghuayuan, Haidian District, Beijing 100084, People's Republic of China

hereafter referred to as assignor, have with others invented certain new and useful improvements in
ROTOR DEVICE, TURBINE ROTOR DEVICE, AND GAS TURBINE AND TURBINE ENGINE
HAVING SAME

- for which an application for a United States Letters Patent was filed on February 12, 2014
Application Number 14/238,626
- for which an application for a United States Letters Patent was executed by me on _____
- for which an International Application was filed on July 11, 2012, as
PCT/CN2012/078518, designating the United States.

And

Whereas, Tsinghua University
a corporation of China herein referred to as "assignee" whose mailing address is
Qinghuayuan, Haidian District, Beijing 100084, People's Republic of China
is desirous of acquiring the entire right, title and interest in the same;

NOW, THEREFORE, in consideration of the sum of one dollar (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.

And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.

2014.2.13
Date

Li Lin
Witness

Feng Lin
Typed Name of Witness

Xiao Yuan
Xiao Yuan

*Total of 7 forms are submitted.

former PTO/SB15 (8-00) Modified LDLK&M

ASSIGNMENT OF UTILITY APPLICATION

Docket Number (Optional)

9TIP 3.3-030

Whereas, I, Wentao Yan of Qinghuayuan, Haidian District, Beijing, 100084, People's Republic of China

hereafter referred to as assignor, have with others invented certain new and useful improvements in **ROTOR DEVICE, TURBINE ROTOR DEVICE, AND GAS TURBINE AND TURBINE ENGINE HAVING SAME**

- for which an application for a United States Letters Patent was filed on February 12, 2014
Application Number 14/238,626
- for which an application for a United States Letters Patent was executed by me on _____
- for which an International Application was filed on July 11, 2012, as PCT/CN2012/078518, designating the United States.

And

Whereas, Tsinghua University a corporation of China herein referred to as "assignee" whose mailing address is Qinghuayuan, Haidian District, Beijing, 100084, People's Republic of China is desirous of acquiring the entire right, title and interest in the same;

NOW, THEREFORE, in consideration of the sum of one dollar (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.

And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.

2014. 2. 13

Date

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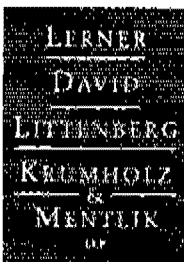
Wentao Yan

Li Lin
Witness

Feng Lin

Typed Name of Witness

*Total of 7 forms are submitted.



600 SOUTH AVENUE WEST • WESTFIELD, NEW JERSEY 07090
 908.654.5000 • FAX 908.654.7866 • WWW.LDLKM.COM

PATENTS, TRADEMARKS, COPYRIGHTS & UNFAIR COMPETITION

Facsimile Transmittal

To:	Fax Number	From
USPTO Assignment Division	571-273-0140	Phyllis Kelly 908-518-6456

Date: February 14, 2014
No. Pages: 10
File Name.: 9TIP 3.3-030
Client/Matter No: 9TIP/31
Attorney/Secretary: RLB/EAG

MESSAGE:

Please record the attached assignment and fax the Notice of Recordation to Phyllis Kelly at 908-654-7866.

NOTICE: The information contained herein is intended only for the addressee identified above. It may be or may include material that is confidential, attorney-client privileged, attorney work product, copyrighted, and/or inside information. If you are not the intended recipient, or a person responsible for delivering this message to the intended recipient, you are hereby notified that the unauthorized use, disclosure, distribution or copying is strictly prohibited and may be in violation of court order or otherwise unlawful. If you have received this transmission in error, please immediately notify us at 908 654 5000 (collect, if necessary) and return this document to us by mail.