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U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

RECORDATION FORM COVER SHEET
PATENTS ONLY

Our Docket No.: 13125

To the Honorable Commissioner of Patents and Trademarks:
Please record the attached original documents or copy thereof.

JCS11 U.S. P.
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<p>1. Name of conveying party(ies): Xiaoliu Liu</p> <p>Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>2. Name and address of receiving party(ies) Name: <u>Pratt & Whitney Canada Inc.</u></p> <p>Internal Address: _____</p> <p>Street Address: <u>1000 Marie Victorin (01BE5)</u></p>
<p>3. Nature of conveyance:</p> <p><input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____</p> <p>Execution Date: <u>04/14/99</u></p>	<p>City: <u>Longueuil</u> State: <u>Quebec</u> Zip: <u>J4G 1A1 CANADA</u></p> <p>Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: <u>04/14/99</u></p> <p>Title: <u>Method and Apparatus Having Improved High Pressure Turbine Cooling</u></p> <p>A. Patent Application No. (s) <u>0000015 0929877</u> B. Patent No. (s) <u>09,299,877</u></p> <p>Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
<p>5. Name and address of party to whom correspondence concerning document should be mailed: Name: <u>Ralph A. Dowell</u> Internal Address: _____ Street Address: <u>Suite 309, 1215 Jefferson Davis Highway Arlington, VA 22202-3124 (703) 415-2555</u></p>	<p>6. Total number of applications and patents involved: <u>1</u></p> <p>7. Total fee (37CFR 3.41).....\$ <u>40.00</u> <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account</p> <p>8. Deposit account number: _____ (Attach duplicate copy of this page if paying by deposit account)</p>
<p>DO NOT USE THIS SPACE</p>	
<p>9. Statement and signature. <i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i></p> <p><u>Ralph A. Dowell 26,868</u> <u>[Signature]</u> <u>04/27/99</u> Name of Person signing Signature Date</p> <p>Total number of pages including cover sheet, attachments and document: <u>3</u></p>	

Mail documents to be recorded with required cover sheet information to:
Commission of Patent & Trademarks, Box Assignments
Washington, D.C. 20231

PATENT
REEL: 9928 FRAME: 0801

05/05/1999 AWYES
02 FC:581

ASSIGNMENT

WHEREAS, I, **Xiaoliu Liu** of 2588 Credit Valley Road, Mississauga, Ontario, L5M 4K7, Canada, have invented certain new and useful improvements in a **TURBINE ENGINE HAVING IMPROVED HIGH PRESSURE TURBINE COOLING**, hereinafter the invention, for which I have made an application for letters patent of the United States which was executed herewith.

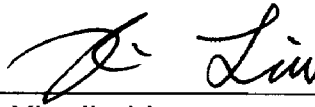
AND WHEREAS, **PRATT & WHITNEY CANADA INC.**, 1000 Marie Victorin, (01BE5) Longueuil, Quebec, J4G 1A1, Canada, hereafter the Assignee, is desirous of acquiring the entire right, title and interest to and under said invention and any United States letters patent that may be granted for such application.

NOW, for good and valuable consideration, the receipt of which is hereby acknowledged, I do hereby assign, sell and transfer to the Assignee the entire right, title and interest in and to said invention and said application for letters patent of the United States, and in and to all divisions and continuations of said application, and in and to any letters patent of the United States and all reissues and extensions thereof that may be granted, together with all rights of priority granted by local laws and treaties including any international convention for the protection of industrial property, together with the right to extend the protection for said letters patent of the United States to the various territorial possessions now owned or which may be hereafter acquired by the United States of America, and all applications for letters patent which may hereafter be filed for said invention in any country or countries foreign to the United States, and all extensions, renewals and reissues thereof, all said rights to be held and enjoyed by the Assignee, its successors, legal representatives and assigns, to the full end of the term for which said letters patent for all such countries may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment had not been made. I do hereby request and authorize that any and all letters patent, when granted, be issued in accordance with this assignment to the Assignee.

In further consideration of said good and valuable consideration, I covenant and agree with the Assignee that they have a full and unencumbered title to the invention hereby assigned, which title I warrant unto the Assignee, and I further agree that I will, without demanding any further consideration therefor, at the request but at the expense of the Assignee, do all lawful and just acts, including the execution and acknowledgment of instruments, furnishing of information and giving of testimony, that may be or become necessary for obtaining, sustaining, or reissuing United States and foreign letters patents for said invention, and for maintaining and perfecting the Assignee's right to said invention and letters patent, particularly in cases of interference and litigation.

IN TESTIMONY WHEREOF, I have hereunto set my hand, this 14 th day of April, 1999.

Signed at Mississauga, ONT.



Inventor: Xiaoliu Liu

Witness:



Name: JEFFREY ASTLE

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