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U.S. Department of Commerce
Patent and Trademark Office

Our Ref.: 427-30

Commissioner of Patents and Trademarks
Box Assignment, Washington, D.C. 20231

4-27-00

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

1. Name of conveying party(ies): Tanehiro Shinohara Yutaka Ozawa Kouchi Akagi Akihiro Kawaguchi Masanori Yuri Setunori Sakakibara Masahiko Toyoda Zenichi Yoshida		2. Name and address of receiving party(ies): Name: <u> MITSUBISHI HEAVY INDUSTRIES, LTD. </u> Internal Address: _____ Street Address: <u> 5-1 Marunouchi 2-chome </u> Chiyoda-ku City: Tokyo State/Country: <u> Japan </u> Zip: _____	
Additional name/s of conveying party/ies attached? <input checked="" type="checkbox"/>		Additional name/s & address/es attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Assignment <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____ Execution Date: <u> March 3, 2000 </u>			
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> March 3, 2000 </u> A. Patent Application No(s). (1) <u> 09/525,317 </u> (2) _____ (3) _____ Additional numbers attached <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No B. Patent No(s). (1) _____ (2) _____ (3) _____			
5. Name and address of party to whom correspondence concerning document should be mailed: Name: <u> Arthur R. Crawford </u> Internal Address: _____ Street Address: <u> Nixon & Vanderhye P.C. </u> <u> 1100 North Glebe Road </u> <u> 8th Floor </u> City: <u> Arlington </u> State: <u> VA </u> Zip: <u> 22201 </u>		6. Total number of applications & patents involved: <u> 1 </u> 7. Total fee (37 CFR 3.41) \$ <u> 40.00 </u> <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account #14-1140 8. The Commissioner is hereby authorized to charge any deficiency in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper thereafter filed in this application by this firm) to our Account No. 14-1140.	
<div>05/08/2000 JSH/BRZ 00000306 0952/317</div> <div>01 F:1581 40.00 (H)</div> <div>DO NOT USE THIS SPACE</div>			
9. Statements and signature. 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. <u> Arthur R. Crawford </u> <u> [Signature] </u> <u> April 27, 2000 </u> Name of Person Signing Signature Date Reg. No. 25,327 Total number of pages including original cover sheet, attachments, and document: <u> [4] </u>			

PATENT
REEL: 010761 FRAME: 0261

410094

RECORDATION FORM COVER SHEET

PATENTS ONLY

Our Ref: 427-30

Commissioner of Patents and Trademarks
Box Assignment, Washington, D.C. 20231

1. Name of conveying party(ies):

Nobuhiro Kunitake
Takahiro Ohta
Hidehiko Nakane
Eisaku Ito
Yutaka Kawata
Koji Takeshita

2. Name:

Street Address:
City:
State:
Zip:

4. Application number(s) or patent number(s):

A. Patent Application No(s).

(4)
(5)
(6)
(7)
(8)
(9)

B. Patent No(s).

(4)
(5)
(6)
(7)
(8)
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PATENT

410094

REEL: 010761 FRAME: 0262

ASSIGNMENT OF U.S. PATENT RIGHTS

(Inventors) (1) Tanehiro Shinohara; (2) Kouichi Akagi; (3) Masanori Yuri;
(4) Masahiko Toyoda; (5) Yutaka Ozawa; (6) Akihiro Kawaguchi;
(7) Setunori Sakakibara; (8) Zenichi Yoshida; (9) Nobuhiro Kunitake;
(10) Takahiro Ohwa; (11) Hidehiko Nakane; (12) Eisaku Ito;
(13) Yutaka Kawata; and (14) Koji Takeshita

In consideration of the sum of one dollar (\$1.00) and other good and valuable considerations paid to each of the undersigned, the undersigned agree(s) to assign, and hereby does assign, transfer and set over to

(Assignee) mitsubishi heavy industries, LTD.

(Address) 5-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, Japan

(Title) (hereinafter designated as the Assignee) the undersigned's entire right, title and interest for the United States, its territories, dependencies and possessions in the invention, and all applications for patent and any Letters Patent which may be granted therefore, known as
SHAFT SEAL AND TURBINE USING THE SAME

for which the undersigned has (have) executed on even date herewith an application for patent in the United States of America or, if not on even date, then has executed on
March 3, 2000 or has already filed U.S. application Serial No. 09/525,317
on March 13, 2000

The undersigned acknowledges an obligation of assignment of this invention to said assignee at the time the invention was made.

The undersigned agree(s) to execute all papers and documents necessary in connection with the application or any interference which may be declared and any continuing or divisional applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient and further to 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.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from said application or any division or divisions or continuing applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the firm of NIXON & VANDERHUYE P.C. the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned signature(s).

Date	<u>March 3, 2000</u>	Signature of Inventor
Date	<u>March 3, 2000</u>	Signature of Inventor
Date	<u>March 3, 2000</u>	Signature of Inventor
Date	<u>March 3, 2000</u>	Signature of Inventor
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<u>Tanehiro Shinohara</u>	Tanehiro Shinohara
<u>Kouichi Akagi</u>	Kouichi Akagi
<u>Masanori Yuri</u>	Masanori Yuri
<u>Masahiko Toyoda</u>	Masahiko Toyoda
<u>Yutaka Ozawa</u>	Yutaka Ozawa
<u>Akihiro Kawaguchi</u>	Akihiro Kawaguchi
<u>Setunori Sakakibara</u>	Setunori Sakakibara
<u>Zenichi Yoshida</u>	Zenichi Yoshida

Date March 3, 2000 Signature of inventor
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Date March 3, 2000 Signature of inventor
Date March 3, 2000 Signature of inventor
Date _____ Signature of inventor
Date _____ Signature of inventor
Witnessed by: *Arata Satoh*
Witnessed by: *Arata Satoh*
Arata Satoh

Nobuhiro Kunitake
Nobuhiro Kunitake
Takahiro Ohta
Takahiro Ohta
Hidehiko Nakane
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Eisaku Ito
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Date March 3, 2000
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