502778038 04/22/2014

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT2824634

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------|----------------|
| KOHTARO KAWAMURA | 04/10/2014 |
| TOYOJI SHINOHARA | 04/10/2014 |
| TETSURO SUGIURA | 04/10/2014 |
| HIDEO ARAI | 03/19/2014 |
| TAKASHI KYOTANI | 03/18/2014 |
| TOSHIHARU NAKAZAWA | 04/10/2014 |
| KEIICHI ISHIKAWA | 04/10/2014 |
| SEIJI KASHIWAGI | 04/10/2014 |
| YASUHIKO SUZUKI | 04/10/2014 |

RECEIVING PARTY DATA

| Name: | EBARA CORPORATION |
|-----------------|---------------------------------|
| Street Address: | 11-1, HANEDA ASAHI-CHO, OHTA-KU |
| City: | TOKYO |
| State/Country: | JAPAN |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14226741 |

CORRESPONDENCE DATA

Fax Number: (215)568-3439

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via

US Mail.

Phone: 215-568-3100

Email: RPRICEFISCHER@BAKERLAW.COM

Correspondent Name: BAKER & HOSTETLER LLP

Address Line 1: 2929 ARCH STREET

Address Line 2: CIRA CENTRE, 12TH FLOOR

Address Line 4: PHILADELPHIA, PENNSYLVANIA 19104-2891

ATTORNEY DOCKET NUMBER: 101716.000064

NAME OF SUBMITTER: ROZELL PRICE FISCHER

SIGNATURE: /ROZELL PRICE FISCHER/

502778038 REEL: 032731 FRAME: 0286

PATENT

| DATE SIGNED: | 04/22/2014 | |
|---|------------|--|
| Total Attachments: 18 | | |
| source=101716-000064_Assignments#p | page1.tif | |
| source=101716-000064_Assignments#p | page2.tif | |
| source=101716-000064_Assignments#p | page3.tif | |
| source=101716-000064_Assignments# | page4.tif | |
| source=101716-000064_Assignments#p | page5.tif | |
| source=101716-000064_Assignments# | page6.tif | |
| source=101716-000064_Assignments# | page7.tif | |
| source=101716-000064_Assignments# | page8.tif | |
| source=101716-000064_Assignments#page9.tif | | |
| source=101716-000064_Assignments#page10.tif | | |
| source=101716-000064_Assignments#page11.tif | | |
| source=101716-000064_Assignments#page12.tif | | |
| source=101716-000064_Assignments#page13.tif | | |
| source=101716-000064_Assignments#page14.tif | | |
| source=101716-000064_Assignments#page15.tif | | |
| source=101716-000064_Assignments#page16.tif | | |
| source=101716-000064_Assignments#page17.tif | | |
| source=101716-000064_Assignments#p | page18.tif | |

PATENT REEL: 032731 FRAME: 0287

ASSIGNMENT

WHEREAS, I, Kohtaro KAWAMURA, a citizen of Japan, residing at c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Number 101716.000064 ("the invention"), which is entitled "VACUUM PUMP WITH ABATEMENT FUNCTION" ("the subject application"), and which claims priority to Japanese patent application number 2013-069730 filed March 28, 2013 ("the priority application"). I authorize and direct any of the attorneys responsible for prosecuting the subject application on behalf of the ASSIGNEE to insert the application number and filing date of the subject application in the final paragraph of this assignment.

AND WHEREAS, EBARA CORPORATION, ASSIGNEE, having a place of business at 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority application, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority application and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in the prosecution of any application for industrial property protection describing and/or claiming

| DOCKET NO.: 101716.0000 |)64 , | | |
|---|--|--|---------------------------------------|
| IN TESTIMONY W my signature. | HEREOF, I have signed | d my name below on the d | ate indicated above |
| Executed this 10th | _day of _ April | , year of2014 | |
| Signature (Kohtaro KAWAM *********************************** | :************** ESS | | ****** |
| (City) | (Countr | y) | |
| This day of | , 201 | | |
| I, | | whose full | |
| residence address is | | | |
| | | | |
| was personally present and day of person described in such do | , 201, and such | execute the above assignor is personally known | assignment on the own to me to be the |
| Signature of Witness | | | |
| ******** | ******* | ******* | ****** |
| The foregoing assignment c March 26, 2014 | overs patent application | number <u>14/226,741</u> | , filed on |
| | /Michael J. Swop | pe/ | |
| | Name of Attorney: Registration No.: Date of Insertion: | Michael J. Swope 38,041 April 22, 2014 | |

ASSIGNMENT

WHEREAS, I, Toyoji SHINOHARA, a citizen of Japan, residing at c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Number 101716.000064 ("the invention"), which is entitled "VACUUM PUMP WITH ABATEMENT FUNCTION" ("the subject application"), and which claims priority to Japanese patent application number 2013-069730 filed March 28, 2013 ("the priority application"). I authorize and direct any of the attorneys responsible for prosecuting the subject application on behalf of the ASSIGNEE to insert the application number and filing date of the subject application in the final paragraph of this assignment.

AND WHEREAS, EBARA CORPORATION, ASSIGNEE, having a place of business at 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority application, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority application and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in the prosecution of any application for industrial property protection describing and/or claiming

| DOCKET NO.: 101716 | 5.000064 | | | | |
|--|-------------------------------|--|--|-----------------------------|---|
| IN TESTIMON my signature. | Y WHEREOF, | I have signe | ed my name be | low on the o | late indicated above |
| Executed this10th | day of _ | April | , year of _ | 2014 | |
| Topoji Shinosh | na | | | | |
| Signature (Toyoji SHIN ************* | IOHARA) | ***** | ****** | ***** | ****** |
| STATEMENT OF W SIGNED at | | | | | 5 1 |
| (City) | | (Count | ry) | | |
| This day of | | _, 201 | | | |
| I, | | | who | se full | |
| residence address is | | | | | |
| was personally presen day of person described in suc | t and did see, 20 h document. | | executh assignor is p | e the above ersonally kn | e assignment on the own to me to be the |
| Signature of Witness | | | | | |
| ******* | ****** | ****** | ****** | ***** | ****** |
| The foregoing assignm March 26, 2014 | ent covers pate | nt applicatio | n number1 | 4/226,741 | , filed on |
| • | | | . Swope/ | | |
| | Registra | f Attorney: tion No.: Insertion: | Michael J. S 38,041 April 22, 20 | | |

ASSIGNMENT

WHEREAS, I, Tetsuro SUGIURA, a citizen of Japan, residing at c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Number 101716.000064 ("the invention"), which is entitled "VACUUM PUMP WITH ABATEMENT FUNCTION" ("the subject application"), and which claims priority to Japanese patent application number 2013-069730 filed March 28, 2013 ("the priority application"). I authorize and direct any of the attorneys responsible for prosecuting the subject application on behalf of the ASSIGNEE to insert the application number and filing date of the subject application in the final paragraph of this assignment.

AND WHEREAS, EBARA CORPORATION, ASSIGNEE, having a place of business at 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority application, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority application and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in the prosecution of any application for industrial property protection describing and/or claiming

| DOCKET NO.: 101716.000 | 0064 | | |
|--|--|---|---------------------------------------|
| IN TESTIMONY W my signature. | /HEREOF, I have sign | ed my name below on the d | ate indicated above |
| Executed this10th | day ofApril | , year of2014 | |
| Signature (Tetsuro SUGIUR | | | |
| Signature (Tetsuro SUGIUR ************ | A) ******* | ******* | ****** |
| STATEMENT OF WITN SIGNED at | | , | |
| (City) | (Coun | try) | |
| This day of | , 201 | | |
| Ι, | | whose full | |
| residence address is | | | |
| day of | , 201, and suc | execute the above hassignor is personally known | assignment on the own to me to be the |
| person described in such do | ocument. | | |
| | | | |
| Signature of Witness | | | |
| ******* | ******* | ******** | ****** |
| The foregoing assignment of March 26, 2014 | covers patent application | on number <u>14/226,741</u> | , filed on |
| | /Michael J. | Swope/ | |
| | Name of Attorney: Registration No.: Date of Insertion: | Michael J. Swope 38,041 April 22, 2014 | |

ASSIGNMENT

WHEREAS, I, Hideo ARAI, a citizen of Japan, residing at c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Number 101716.000064 ("the invention"), which is entitled "VACUUM PUMP WITH ABATEMENT FUNCTION" ("the subject application"), and which claims priority to Japanese patent application number 2013-069730 filed March 28, 2013 ("the priority application"). I authorize and direct any of the attorneys responsible for prosecuting the subject application on behalf of the ASSIGNEE to insert the application number and filing date of the subject application in the final paragraph of this assignment.

AND WHEREAS, EBARA CORPORATION, ASSIGNEE, having a place of business at 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority application, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority application and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in the prosecution of any application for industrial property protection describing and/or claiming

| OOCKET NO.: 101716.000064 |
|--|
| IN TESTIMONY WHEREOF, I have signed my name below on the date indicated above my signature. |
| Executed this 19th day of March, year of 2014. |
| Gignature (Hideo ARAI) *********************************** |
| SIGNED at |
| (City) (Country) |
| Γhis day of, 201 |
| whose full |
| residence address is |
| was personally present and did see execute the above assignment on the day of, 201, and such assignor is personally known to me to be the person described in such document. |
| |
| Signature of Witness |
| ************************************ |
| The foregoing assignment covers patent application number 14/226,741 , filed on March 26, 2014 . |

/Michael J. Swope/

Name of Attorney: Registration No.: Date of Insertion:

Michael J. Swope

38,041

April 22, 2014

ASSIGNMENT

WHEREAS, I, Takashi KYOTANI, a citizen of Japan, residing at c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Number 101716.000064 ("the invention"), which is entitled "VACUUM PUMP WITH ABATEMENT FUNCTION" ("the subject application"), and which claims priority to Japanese patent application number 2013-069730 filed March 28, 2013 ("the priority application"). I authorize and direct any of the attorneys responsible for prosecuting the subject application on behalf of the ASSIGNEE to insert the application number and filing date of the subject application in the final paragraph of this assignment.

AND WHEREAS, EBARA CORPORATION, ASSIGNEE, having a place of business at 11-1, Hancda Asahi-cho, Ohta-ku, Tokyo, Japan, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority application, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority application and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in the prosecution of any application for industrial property protection describing and/or claiming

| DOCKET NO.: 101716.0000 | 064 | | | | |
|---|-------------------------------|--|--|------------------------------|--------------------------------------|
| IN TESTIMONY W my signature. | HEREOF, | , I have signe | ed my name bel | ow on the da | ate indicated above |
| Executed this18th | day of _ | March | , year of | 2014 | |
| Johashi Kyotal ************************************ | NI) ******* E SS | | | ***** | ****** |
| SIGNED at(City) | | (Count | | | |
| This day of | | • | (y) | | |
| I, | | | who | se full | |
| residence address is | | | | | |
| was personally present and day of person described in such do | , 20 | 1, and suc | execute execute execute | e the above ersonally kno | assignment on the wn to me to be the |
| Signature of Witness | | | | | |
| ******** | ****** | ******* | ********* | ******* | ****** |
| The foregoing assignment c March 26, 2014 . | overs pate | nt application | n number <u>14/</u> 2 | 226,741 | _, filed on |
| | | ichael J. | | | |
| | Name of Registra | f Attorney: tion No.: Insertion: | Michael J. Sv 38,041 April 22, 201 | vope 4 | |

ASSIGNMENT

WHEREAS, I, Toshiharu NAKAZAWA, a citizen of Japan, residing at c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Number 101716.000064 ("the invention"), which is entitled "VACUUM PUMP WITH ABATEMENT FUNCTION" ("the subject application"), and which claims priority to Japanese patent application number 2013-069730 filed March 28, 2013 ("the priority application"). I authorize and direct any of the attorneys responsible for prosecuting the subject application on behalf of the ASSIGNEE to insert the application number and filing date of the subject application in the final paragraph of this assignment.

AND WHEREAS, EBARA CORPORATION, ASSIGNEE, having a place of business at 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority application, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority application and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in the prosecution of any application for industrial property protection describing and/or claiming

| DOCKET NO.: 101716.000 | 0064 | | |
|---|--|--|--|
| IN TESTIMONY V my signature. | WHEREOF, I have signe | d my name below on the | date indicated above |
| Executed this 10th | day of _ April | , year of2014 | |
| Tosh. havu Nakaza Signature (Toshiharu NAK. ************************************ | AZAWA) ********** | ******** | ****** |
| STATEMENT OF WITN SIGNED at | | | |
| (City) | (Countr | ry) | |
| This day of | , 201 | | |
| I, | | whose full | |
| residence address is | · | | |
| was personally present an day of person described in such | nd did see, 201, and such ocument. | execute the aboven assignor is personally kn | e assignment on the nown to me to be the |
| Signature of Witness | | | |
| ******** | ******* | ************* | ****** |
| The foregoing assignment March 26, 2014 | covers patent application | n number <u>14/226,741</u> | , filed on |
| | | Swope/ | |
| | Name of Attorney: Registration No.: Date of Insertion: | | |

ASSIGNMENT

WHEREAS, I, Keiichi ISHIKAWA, a citizen of Japan, residing at c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Number 101716.000064 ("the invention"), which is entitled "VACUUM PUMP WITH ABATEMENT FUNCTION" ("the subject application"), and which claims priority to Japanese patent application number 2013-069730 filed March 28, 2013 ("the priority application"). I authorize and direct any of the attorneys responsible for prosecuting the subject application on behalf of the ASSIGNEE to insert the application number and filing date of the subject application in the final paragraph of this assignment.

AND WHEREAS, EBARA CORPORATION, ASSIGNEE, having a place of business at 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority application, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority application and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in the prosecution of any application for industrial property protection describing and/or claiming

| DOCKET NO.: 101716.0000 | 064 |
|---|---|
| IN TESTIMONY W my signature. | HEREOF, I have signed my name below on the date indicated above |
| Executed this10th | _day of _April, year of2014 |
| Leichi Ashikawa Signature (Keiichi ISHIKAW ************************************ | ************************ |
| SIGNED at | |
| (City) | (Country) |
| This day of | , 201 |
| Ι, | whose full |
| | |
| | |
| was personally present and day of person described in such doc | did see execute the above assignment on the, 201, and such assignor is personally known to me to be the cument. |
| Signature of Witness | |
| ******** | *************************************** |
| The foregoing assignment commarch 26, 2014 | overs patent application number 14/226,741, filed on |
| | /Michael J. Swope/ |
| | Name of Attorney: Michael J. Swope Registration No.: 38,041 Date of Insertion: April 22, 2014 |

ASSIGNMENT

WHEREAS, I, Seiji KASHIWAGI, a citizen of Japan, residing at c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Number 101716.000064 ("the invention"), which is entitled "VACUUM PUMP WITH ABATEMENT FUNCTION" ("the subject application"), and which claims priority to Japanese patent application number 2013-069730 filed March 28, 2013 ("the priority application"). I authorize and direct any of the attorneys responsible for prosecuting the subject application on behalf of the ASSIGNEE to insert the application number and filing date of the subject application in the final paragraph of this assignment.

AND WHEREAS, EBARA CORPORATION, ASSIGNEE, having a place of business at 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority application, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority application and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in the prosecution of any application for industrial property protection describing and/or claiming

| DOCKET NO.: 101716.0000 | 64 | | |
|--|--|--|--|
| IN TESTIMONY WE my signature. | HEREOF, I have sign | ned my name below on | the date indicated above |
| Executed this 10th | _day of _ April | , year of2014 | _' |
| Seiji Kashiwazi Signature (Seiji KASHIWAG | I) | | · · |
| ************************************** | ************************************** | | ******* |
| (City) | (Country) | | |
| This day of | , 201 | • | |
| I, | | whose full | |
| residence address is | · | | |
| was personally present and day of person described in such doc | did see, 201, and su | execute the a ch assignor is personall | bove assignment on the y known to me to be the |
| Signature of Witness | | - | |
| ********** | ****** | ********* | ******* |
| The foregoing assignment co | overs patent applicati | on number14/226,74 | 41 , filed on |
| | | Swope/ | |
| | Name of Attorney: Registration No.: Date of Insertion: | 38,041 | |

ASSIGNMENT

WHEREAS, I, Yasuhiko SUZUKI, a citizen of Japan, residing at c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, ASSIGNOR, am an inventor of one or more inventions disclosed, described and/or claimed in the application referred to as Docket Number 101716.000064 ("the invention"), which is entitled "VACUUM PUMP WITH ABATEMENT FUNCTION" ("the subject application"), and which claims priority to Japanese patent application number 2013-069730 filed March 28, 2013 ("the priority application"). I authorize and direct any of the attorneys responsible for prosecuting the subject application on behalf of the ASSIGNEE to insert the application number and filing date of the subject application in the final paragraph of this assignment.

AND WHEREAS, EBARA CORPORATION, ASSIGNEE, having a place of business at 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo, Japan, is desirous of obtaining my entire right, title, and interest in, to, and under the invention:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the ASSIGNOR, hereby sell, assign, transfer, and set over, unto the ASSIGNEE, its successors, legal representatives, and assigns, my entire right, title, and interest in, to, and under the invention, and all applications for industrial property protection, including without limitation, all applications for patents, utility models, inventors' certificates, and designs that have been filed, and that may hereafter be filed, in any country, that disclose, describe, and/or claim the invention, including, without limitation, the subject application and the priority application, and all extensions, renewals, and reissues of such applications, including all divisions and continuations in whole or in part; all patents granted on such applications in any country, and all extensions, renewals, and reissues of such patents, including all divisions and continuations in whole or in part; the right to file such applications in any country; and the right to claim for such applications in any country the priority rights derived from the priority application and the subject application under the International Convention for the Protection of Industrial Property, the Patent Laws of the United States, any other international agreement or protection, or the domestic laws of any country in which any such application is filed, as may be applicable.

AND I HEREBY covenant and agree that I have full right to convey my entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives, and assigns, any facts known to me respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all disclaimers and all divisional, continuing, reissue, and foreign applications, make all rightful oaths, deliver upon request all papers, documents, affidavits, or other instruments that may be necessary or helpful in the prosecution of any application for industrial property protection describing and/or claiming

| DOCKET NO.: 101716.0 | 00064 | | |
|--|-------------------------------------|--|--|
| IN TESTIMONY my signature. | WHEREOF, I have sig | med my name below on the | e date indicated above |
| Executed this 10th | day ofApril | , year of | |
| Yasuhiko SUZ | ZUKI | | |
| Signature (Yasuhiko SUZ *********** | | ****** | ******* |
| STATEMENT OF WIT | | | |
| (City) | (Cou | | |
| This day of | , 201 | | |
| I, | | whose full | |
| residence address is | | | |
| was personally present a day of person described in such | and did see, 201, and sudocument. | execute the about the about the about the assignor is personally k | we assignment on the known to me to be the |
| Signature of Witness | | | |
| ******* | ******* | ******** | ******* |
| The foregoing assignment March 26, 2014 | nt covers patent applicat | ion number 14/226,741 | , filed on |
| | | . Swope/ | |
| | Name of Attorney: Registration No.: | Michael J. Swope 38,041 | |

Page 2 of 2

Date of Insertion: April 22, 2014