501896868 04/23/2012

PATENT ASSIGNMENT

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| Naofumi TAKENAKA | 03/29/2012 |
| Shinichi WAKAMOTO | 03/30/2012 |
| Koji YAMASHITA | 03/29/2012 |
| Hiroyuki MORIMOTO | 03/29/2012 |
| Takeshi HATOMURA | 03/29/2012 |
| Yusuke SHIMAZU | 03/30/2012 |

RECEIVING PARTY DATA

| Name: | MITSUBISHI ELECTRIC CORPORATION | |
|-----------------|-------------------------------------|--|
| Street Address: | 7-3, Marunouchi 2-chome, Chiyoda-ku | |
| City: | Tokyo | |
| State/Country: | Japan | |
| Postal Code: | 100-8310 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13503483 |

CORRESPONDENCE DATA

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via US Mail.

Correspondent Name: Oblon, Spivak, et al.

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| ATTORNEY DOCKET NUMBER: | 397607US2PCT |
|-------------------------|--------------|
| | |

PATENT REEL: 028089 FRAME: 0332 P \$40.00 13

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| NAME OF SUBMITTER: | Shewaye Getasetegne |
|--|---------------------|
| Total Attachments: 2 source=397607USassignment#page1.tif source=397607USassignment#page2.tif | |

PATENT REEL: 028089 FRAME: 0333

Assignment of Application

| INSERT NAMES |
|----------------|
| AND RESIDENCE |
| ADDRESS OF |
| THE INVENTORS: |

| WHEREAS, I (WE |) Naofumi TAKENAKA-c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, |
|---------------------|--|
| | Chiyoda-ku, Tokyo 100-8310, Japan, |
| | Shinichi WAKAMOTO-c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, |
| | Chiyoda-ku, Tokyo 100-8310, Japan, |
| | Koji YAMASHITA-c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, |
| | Chiyoda-ku, Tokyo 100-8310, Japan, |
| | Hiroyuki MORIMOTO-c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, |
| | Chiyoda-ku, Tokyo 100-8310, Japan, |
| | Takeshi HATOMURA-c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, |
| | Chiyoda-ku, Tokyo 100-8310, Japan, |
| | Yusuke SHIMAZU-c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, |
| | Chiyoda-ku, Tokyo 100-8310, Japan, |
| | |
| | |
| | |
| | , respectively, |
| have invented certa | in new and useful improvements in: HEAT PUMP |
| (Application Nol | PCT/JP2009/68358 , filed October 27, 2009), and |
| WHEREAS, 1 | Mitsubishi Electric Corporation |
| · - | |

INSERT NAME AND ADDRESS OF COMPANY OR

INSERT TITLE OF INVENTION:

(hereinafter referred to as "ASSIGNEE") having a place of business at: 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8310, Japan is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I (WE), by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application(s)) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I (WE) hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my (our) entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this Assignment and sale not been made.

Further, I (WE) agree that I (WE) will communicate to said ASSIGNEE or its (his) representatives any facts known to me (us) respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letter Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

The undersigned hereby grant(s) the firm of Oblon, Spivak, McClelland, Maier & Neustadt, L.L.P. of 1940 Duke Street, Alexandria, Virginia 22314 the power to insert on this assignment any further identification, including the application number and filing date, which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

| Date: March 29, 2012 | Naofuni Takenaka |
|----------------------|---|
| Date: March 30,2012 | (Signature of Inventor) Naofumi TAKENAKA |
| Date: March 29, 2012 | (Signature of Inventor) Shinichi WAKAMOTO Anji Yamashita |
| Date: March 29, 2012 | (Signature of Inventor) Koji YAMASHITA (Signature of Inventor) Hiroyuki MORIMOTO |
| Date: March 29, 20/2 | Jaklshi Hatemura (Signature of Inventor) Takeshi HATOMURA |
| Date: March 30, 2012 | Yusuke Shimozu |
| Date: | (Signature of Inventor) Yusuke SHIMAZU (Signature of Inventor) |
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OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

07/09

RECORDED: 04/23/2012

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