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| PATENT ASSIGNMENT COVER SHEET |
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Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT3524238

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| SUBMISSION TYPE: | CORRECTIVE ASSIGNMENT |
| NATURE OF CONVEYANCE: | Corrective Assignment to correct the ASSIGNEE STREET ADDRESS previously recorded on Reel 036492 Frame 0738. Assignor(s) hereby confirms the ASSIGNEE STREET ADDRESS IS 656 WEST KIRBY, DETROIT, MICHIGAN 48202. |

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------|----------------|
| TAMER H. BADAWY | 08/22/2015 |
| FADI A. ESTEFANOUS | 08/25/2015 |
| NAEIM A. HENEIN | 08/25/2015 |

RECEIVING PARTY DATA

| | |
|------------------------|------------------------|
| Name: | WAYNE STATE UNIVERSITY |
| Street Address: | 656 WEST KIRBY |
| City: | DETROIT |
| State/Country: | MICHIGAN |
| Postal Code: | 48202 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|----------------------------|----------|
| Application Number: | 14380993 |

CORRESPONDENCE DATA

Fax Number: (734)994-6331

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Address Line 2: SUITE 200

Address Line 4: ANN ARBOR, MICHIGAN 48104

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| ATTORNEY DOCKET NUMBER: | 10114-246 |
| NAME OF SUBMITTER: | ROBERT K. FERGAN |
| SIGNATURE: | /Robert K. Fergan/ |
| DATE SIGNED: | 09/14/2015 |

Total Attachments: 5

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

SEPTEMBER 7, 2015

PTAS

BRINKS GILSON & LIONE
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503466727

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

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PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE ASSIGNMENT RECORDATION BRANCH AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT RECORDATION BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 09/04/2015

REEL/FRAME: 036492/0738
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BRIEF: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

DOCKET NUMBER: 10114-246

ASSIGNOR:

BADAWY, TAMER H.

DOC DATE: 08/22/2015

ASSIGNOR:

ESTEFANOUS, FADI A.

DOC DATE: 08/25/2015

ASSIGNOR:

HENEIN, NAEIM A.

DOC DATE: 08/25/2015

ASSIGNEE:

WAYNE STATE UNIVERSITY
565 WEST KIRBY
DETROIT, MICHIGAN 48202

APPLICATION NUMBER: 14380993

FILING DATE: 08/26/2014

PATENT NUMBER:

ISSUE DATE:

TITLE: USING ION CURRENT SIGNAL FOR ENGINE PERFORMANCE AND EMISSIONS
MEASURING TECHNIQUES AND METHOD FOR DOING THE SAME

ASSIGNMENT RECORDATION BRANCH
PUBLIC RECORDS DIVISION

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| PATENT ASSIGNMENT COVER SHEET |
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Electronic Version v1.1
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EPAS ID: PAT3513352

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| TAMER H. BADAWY | 08/22/2015 |
| FADI A. ESTEFANOUS | 08/25/2015 |
| NAEIM A. HENEIN | 08/25/2015 |
| RECEIVING PARTY DATA | |
| Name: | WAYNE STATE UNIVERSITY |
| Street Address: | 565 WEST KIRBY |
| City: | DETROIT |
| State/Country: | MICHIGAN |
| Postal Code: | 48202 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 14380993 |
| CORRESPONDENCE DATA | |
| Fax Number: | (734)994-6331 |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> | |
| Email: | skean@brinksgilson.com, annarbordocketing@brinksgilson.com |
| Correspondent Name: | BRINKS GILSON & LIONE |
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| Address Line 2: | SUITE 200 |
| Address Line 4: | ANN ARBOR, MICHIGAN 48104 |
| ATTORNEY DOCKET NUMBER: | 10114-246 |
| NAME OF SUBMITTER: | ROBERT K. FERGAN |
| SIGNATURE: | /Robert K. Fergan/ |
| DATE SIGNED: | 09/04/2015 |
| Total Attachments: 2 | |
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| source=PTO_ExecutedAssignment_10114_246#page2.tif | |

ASSIGNMENT

WHEREAS, Tamer H. Badawy; Fadi A. Estefanous; and Naeim A. Henein, hereinafter called the "Assignors," have made the invention described in the PCT International Patent Application entitled USING ION CURRENT SIGNAL FOR ENGINE PERFORMANCE AND EMISSIONS MEASURING TECHNIQUES AND METHOD FOR DOING THE SAME, for a full description of which reference is here made to an application for Letters Patent of the United States filed on August 26, 2014, and assigned Application Serial No. 14/380,993; which claims the benefit of priority to PCT Application No. PCT/US2013/028231, filed February 28, 2013, which application claims the benefit of U.S. Provisional Patent Application No. 61/604,074, filed February 28, 2012.

WHEREAS, Wayne State University, existing under the laws of the State of Michigan, having a place of business at 656 West Kirby, Detroit, Michigan, 48202, hereinafter called the "Assignee," desires to acquire the entire right, title and interest in and to the invention and the patent application identified above, and all patents which may be obtained for said invention, as set forth below;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other valuable and legally sufficient consideration, the receipt of which by the Assignors from the Assignee is hereby acknowledged, the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer to the Assignee, the entire right, title and interest for the United States in and to the invention and the patent application identified above, and any patents that may issue for said invention in the United States; together with the entire right, title and interest in and to said invention and all patent applications and patents therefor in all countries foreign to the United States, including the full right to claim for any such application all benefits and priority rights under any applicable convention; together with the entire right, title and interest in and to all continuations, divisions, renewals and extensions of any of the patent applications and patents defined above; together with the right to recover all damages, including, but not limited to, a reasonable royalty, by reason of past, present, or future

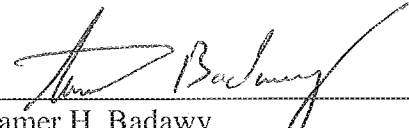
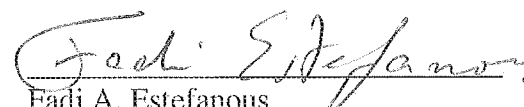

infringement or any other violation of patent or patent application rights; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for all such patents.

The Assignors hereby covenant and agree, for both the Assignors and the Assignors' legal representatives, that the Assignors will assist the Assignee in the prosecution of the patent application identified above; in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; in vesting in the Assignee like exclusive title in and to all such other patent applications and patents; and in the prosecution of any interference which may arise involving said invention, or any such patent application or patent; and that the Assignors will execute and deliver to the Assignee any and all additional papers which may be requested by the Assignee to carry out the terms of this Assignment.

Assignor hereby grants the attorney of record 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 and Trademark Office for the recordation of this document.

The Commissioner of Patents and Trademarks is hereby authorized and requested to issue patents to the Assignee in accordance with the terms of this Assignment.

IN TESTIMONY WHEREOF, the Assignors have executed this agreement.

| | | |
|--------|-------------------|--|
| Dated: | <u>08/22/15</u> |  Tamer H. Badawy |
| Dated: | <u>8/25/15</u> |  Fadi A. Estefanous |
| Dated: | <u>09/25/2015</u> |  Naeim A. Henein |