502476338 08/29/2013

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ALEXANDER SHUBS JR.	08/28/2013
FRANCIS VOGEL	08/28/2013

RECEIVING PARTY DATA

Name:	ELECTRO-MOTIVE DIESEL, INC.
Street Address:	9301 West 55th Street
City:	LaGrange
State/Country:	ILLINOIS
Postal Code:	60525

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14013054

CORRESPONDENCE DATA

Fax Number: 2024084400

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 2024084000

Email: faxserve@finnegan.com

Correspondent Name: CATERPILLAR/FINNEGAN, HENDERSON, L.L.P.

Address Line 1: 901 NEW YORK AVENUE, NW

Address Line 4: WASHINGTON, DISTRICT OF COLUMBIA 20001-4413

ATTORNEY DOCKET NUMBER:	08350.1173-00000
NAME OF SUBMITTER:	Abhay Watwe
Signature:	/Abhay Watwe/
Date:	08/29/2013

PATENT

REEL: 031106 FRAME: 0314

Total Attachments: 4
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PATENT REEL: 031106 FRAME: 0315

SOLE/JOINT INVENTION (Worldwide Rights) Attorney Docket No. 08350.1173-00000 Client Ref. No. 13-0834

ASSIGNMENT

WHEREAS I/We, the below named inventor(s), [hereinafter referred to as Assignor(s)], have made an invention entitled:

SAND MONITORING AND CONTROL SYSTEM FOR A MACHINE

for which I/We will or have filed a patent application; and

WHEREAS, **Electro-Motive Diesel, Inc.**, whose post office address is **9301 West 55th Street, LaGrange, IL 60525** (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, and in and to the patent application for this invention and any and all patents to be issued upon this application throughout the world;

NOW THEREFORE, be it known that for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/We, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention, and this application, and all divisions, and continuations thereof, and all patents which may be granted thereon, and all reissues thereof, as well as all rights to claim priority in any country or jurisdiction or patent office on the basis of this application, and all applications for patents which may hereafter be filed for this invention in any country or jurisdiction or patent office and all patents which may be granted on this invention in any country or jurisdiction or patent office, and all extensions, renewals, and reissues thereof; and I/We hereby authorize and request any official of any country or jurisdiction or patent office whose duty it is to issue patents on applications as described above, to issue all patents for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment;

AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in any country or jurisdiction or patent office, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns;

AND, I/WE HEREBY authorize Assignee or the attorneys/representatives of Assignee to insert here in parentheses the country, application number, and official filing date (USA Application No. 14/013, 054 filled 08/29/2013).

IN TESTIMONY WHEREOF, I/We have hereunto set our hands.

FULL NAME OF SOLE OF FIRST ASSIGNOR Alexander SHUBS Jr.	assignor's signature	DATE 08-28-2013
ADDRESS 2531 W Lyndale Street, Unit 1, Chicago, IL 60647		CITIZENSHIP USA

SOLE/JOINT INVENTION (Worldwide Rights) Attorney Docket No. **08350.1173-0000** Client Ref. No. **13-0834**

1. WITNESS NAME	WITNESS SIGNATURE	DATE
James Sewhon	Jan dem	8/28/13
ADDRESS	Number 1	CITIZENSHIP
4107 N Park St, Westmont	IL 60 559	USA
2. WITNESS NAME	WITNESS SIGNATURE	DATE
Guro PEMAS	Men Jelann	28 Aug 2013
ADDRESS 152 8t Francis C	Jun Jelan	28 Aug 2013 CITIZENSHIP
L		
2. FULL NAME OF SECOND ASSIGNOR, IF ANY	ASSIGNOR'S SIGNATURE	DATE
Francis VOGELS		
ADDRESS 87 Sandpiper Way N.W., Calgary, A	CITIZENSHIP Canada	
1. WITNESS NAME	WITNESS SIGNATURE	DATE
ANDREAG		CITIZENSHIP
ADDRESS	CHIZENSHIP	
2. WITNESS NAME	WITNESS SIGNATURE	DATE
ADDRESS		CITIZENSHIP

SOLE/JOINT INVENTION (Worldwide Rights) Attorney Docket No. 08350,1173-00000 Client Ref. No. 13-0834

ASSIGNMENT

WHEREAS I/We, the below named inventor(s), [hereinafter referred to as Assignor(s)], have made an invention entitled:

SAND MONITORING AND CONTROL SYSTEM FOR A MACHINE

for which I/We will or have filed a patent application; and

WHEREAS, Electro-Motive Diesel, Inc., whose post office address is 9301 West 55th Street, LaGrange, IL 60525 (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, and in and to the patent application for this invention and any and all patents to be issued upon this application throughout the world;

NOW THEREFORE, be it known that for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/We, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention, and this application, and all divisions, and continuations thereof, and all patients which may be granted thereon, and all reissues thereof, as well as all rights to claim priority in any country or jurisdiction or patient office on the basis of this application, and all applications for patients which may hereafter be filed for this invention in any country or jurisdiction or patient office, and all extensions, renewals, and reissues thereof, and I/We hereby authorize and request any official of any country or jurisdiction or patient office whose duty it is to issue patients on applications as described above, to issue all patients for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment;

AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in any country or jurisdiction or patent office, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns;

AND, I/WE HEREBY authorize Assignee or the attorneys/representatives of Assignee to insert here in parentheses the country, application number, and official filling date ($\frac{\text{USA}}{\text{08/29/2013}}$). Application No. $\frac{14/013,054}{\text{filled 08/29/2013}}$

IN TESTIMONY WHEREOF, I/We have hereunto set our hands.

1. FULL NAME OF SOLE OR FIRST ASSIGNOR	ASSIGNOR'S SIGNATURE	DATE
Alexander SHUBS Jr.		
ACCINESS 2531 W Lyndale Street, Unit 1, Chicago	, IL 60647	CITIZENSHIP USA

Page 1 of 2

SOLE/JOINT INVENTION (Worldwide Rights) Altorney Docket No. **08350,1173-00000** Client Ref. No. **13-0834**

1 WITNESS NAME	WITNESS SIGNATURE	DATE
ADDRESS		CITIZENSHIP
2. WITNESS NAME	WITNESS SIGNATURE	DATE
ADORESS		
ADLMESS		CITIZENSHIP
2. FULL NAME OF SECOND ASSIGNOR, IF ANY	ASSIGNORS SIGNATURE //	DATE , /
Francis VOGELS		B/28/13
ADDRESS 87 Sandpiper Way N.W., Calgary, Albe	na T3KAP8	cmzenship Canada
		Limitara
1. WINESS NAME	MITNESS SIGNATURE	DATE
WARREN BJORNSON	had the second	8/28/3
ADDRESS		CITIZENSHIP
RR"1 NEW MORNAY	ALBERTA TOB 3LO	CAMADIAN,
		<u>I</u>
2. WITNESS NAME	WITNESS SIGNATURE	DATE
GEOFREY MORCAN		28/8/13
ADDRESS		CITIZENSHIP
1/3 SIBLET ST NORT	H LAKES OLD 4509	AURRALIAN
AUSTRALIA		

Page 2 of 2

PATENT REEL: 031106 FRAME: 0319

RECORDED: 08/29/2013