

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5268986

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	STEPHEN A. ZAVODNY	12/04/2018
	CHRISTOPHER LUMAN	12/05/2018
RECEIVING PARTY DATA		
Name:	HITACHI AUTOMOTIVE SYSTEMS AMERICAS, INC.	
Street Address:	955 WARWICK ROAD	
City:	HARRODSBURG	
State/Country:	KENTUCKY	
Postal Code:	40330	
PROPERTY NUMBERS Total: 1		
	Property Type	Number
	Application Number:	16211328
CORRESPONDENCE DATA		
Fax Number:	(703)684-1157	
<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>		
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Email:	svannarath@mmpiaw.com	
Correspondent Name:	MATTINGLY & MALUR, PC	
Address Line 1:	1800 DIAGONAL ROAD	
Address Line 2:	SUITE 210	
Address Line 4:	ALEXANDRIA, VIRGINIA 22314	
ATTORNEY DOCKET NUMBER:	HTA-11799	
NAME OF SUBMITTER:	COLIN D. BARNITZ	
SIGNATURE:	/Colin D. Barnitz/	
DATE SIGNED:	12/06/2018	
Total Attachments: 2		
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ASSIGNMENT

As a below named inventor, I hereby declare that:

IN CONSIDERATION of the sum of One Dollar (\$1.00) or the equivalent thereof, and other good and valuable consideration paid to me by Hitachi Automotive Systems Americas, Inc. (hereinafter referred to as ASSIGNEE), a corporation organized under the laws of the Delaware, located at 955 Warwick Road, Harrodsburg, Kentucky, 40330, U.S.A., receipt and sufficiency of which is hereby acknowledged, I do hereby sell, assign, transfer, and convey to said ASSIGNEE, its successors and assigns, all my right, title, interest, and right of priority, in and for the United States of America, its territories, and all other countries throughout the world, in and to application serial no. _____, filed _____, and entitled:

ENERGY STORAGE DEVICE CHARGE BALANCING

(hereinafter referred to as the "Application") and the inventions and improvements (such inventions and improvements hereinafter referred to collectively as the "Inventions"), invented by me (if only one inventor is named below) or us (if plural inventors are named below) and described in the Application, executed on even date herewith and/or described above, and all United States letters patent which may be granted therefor, and all provisional applications, non-provisional applications, divisions, continuations, substitutes, renewals, reissues, reexaminations, or extensions thereof, including any international applications and including any foreign applications, foreign letters patent, or equivalents thereof in countries foreign to the United States, said interest including the entire ownership of said United States letters patent, foreign letters patent, or equivalents thereof, when granted, to be held and enjoyed by said ASSIGNEE, its successors, assigns or other legal representatives, to the full end of term for which said letters patents or equivalents may be granted, as fully and entirely as the same would have been held and enjoyed by me or us if this assignment and sale had not been made;

And I hereby covenant and agree to execute and deliver to ASSIGNEE, its successors, assigns and/or legal representatives, all documents or instruments that may be required, necessary, or desirable in connection with the filing, prosecution, litigation, maintenance, enforcement, and defense of the Application or in the preparation and prosecution of any continuing, continuation in part, substitute, divisional, renewal, reissue, foreign application, extension, or in any amendment, interference proceeding, post-grant proceeding, or for litigation regarding said letters patent, or for the purpose of otherwise securing or protecting the title to the Inventions and/or the letters patent and equivalents therefor for said ASSIGNEE, all without further consideration from ASSIGNEE;

And I agree to, without requesting or receiving additional consideration from ASSIGNEE, but at ASSIGNEE's expense, identify and communicate to ASSIGNEE, its successors, assigns and/or legal representatives all facts known to me relating to the Inventions and the history thereof, and to provide further assurances and testimony on behalf of ASSIGNEE, its successors, assigns and/or legal representatives that lawfully may be required, necessary, or desirable in respect to the filing, prosecution, litigation, maintenance, enforcement, and defense of any patent application or letters patent or equivalent encompassed within the terms of this Assignment, and further agree that my obligations under this Assignment shall extend to my heirs, executors, administrators, and legal representatives;

And I hereby covenant and agree that no assignment, grant, mortgage, license, or other agreement encumbering the rights and property herein conveyed has been made to others by me, and that the full right to convey the same as expressed herein is possessed by me or us;

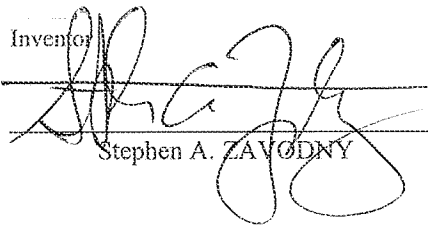
And I hereby authorize and request the Commissioner for Patents of the United States and any official of any country or countries foreign to the United States whose duty it is to issue letters patent or similar legal rights on applications aforesaid, to issue all such letters patent or similar rights for the Inventions to the ASSIGNEE, as assignee of the entire right, title and interest in and to the same, for the ASSIGNEE's own use and benefit, and for the use and benefit of the ASSIGNEE's successors, assigns and

legal representatives, to the full end of the term for which such letters patent or similar rights may be granted, as fully and entirely as the same would have been held and enjoyed by me or us had this assignment not been made;

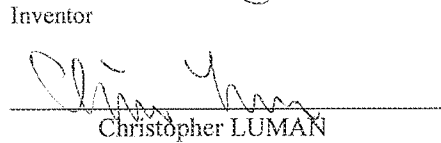
Whereby, I hereby grant the law firm of MATTINGLY & MALUR, PC, the legal representatives of the ASSIGNEE, the power to insert on this Assignment any further identification which may be necessary or desirable for recordation of this document, including inserting the application serial number and filing date when known.

This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

IN WITNESS WHEREOF, I/We have signed this Assignment as of the date(s) indicated below:

Inventor

Stephen A. ZAVODNY

Date Signed
12/04/2018

Inventor

Christopher LUMAN

Date Signed
12/05/2018