503310907 05/18/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3357525

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

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------------|----------------|
| KENNETH JAMES MILLER | 05/07/2015 |
| DOUGLAS RAYMOND MARTIN | 05/07/2015 |
| THOMAS G. LEONE | 05/07/2015 |

RECEIVING PARTY DATA

| Name: | FORD GLOBAL TECHNOLOGIES, LLC | |
|-------------------|---------------------------------|--|
| Street Address: | FAIRLANE PLAZA SOUTH, SUITE 800 | |
| Internal Address: | 330 TOWN CENTER DRIVE | |
| City: | DEARBORN | |
| State/Country: | MICHIGAN | |
| Postal Code: | 48126 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14713586 |

CORRESPONDENCE DATA

Fax Number: (248)358-3351

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.

Phone: 248-358-4400

Email: svachon@brookskushman.com
Correspondent Name: BROOKS KUSHMAN P.C.

Address Line 1: 1000 TOWN CENTER, 22ND FLOOR Address Line 4: SOUTHFIELD, MICHIGAN 48075

| ATTORNEY DOCKET NUMBER: | 83528214 (FMC5936PUS) | |
|-------------------------|-----------------------|--|
| NAME OF SUBMITTER: | JAMES A. BERTINO | |
| SIGNATURE: | /James A. Bertino/ | |
| DATE SIGNED: | 05/15/2015 | |

Total Attachments: 3

source=Assignments#page1.tif source=Assignments#page2.tif source=Assignments#page3.tif

PATENT 503310907 REEL: 035659 FRAME: 0212

| | ~ |
|------------------------|----------|
| Attorney Docket Number | 83528214 |

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY, PROVISIONAL OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

| Title of Invent | ion HYBRID VEHICLE AND METHOD OF HEATING ENGINE | COOLANT |
|--|--|---|
| This declaration | is directed to: | SASSIFICATION CONTRACTOR AND |
| X | The attached application, or United States application or PCT international application number filed on | |
| The above-identi | fied application was made or authorized to be made by me. | |
| I hereby state the including the class | nat I have reviewed and understand the contents of the specification in the above-id ims. | lentified application, |
| I believe that I ar | m the original inventor or an original joint inventor of a claimed invention in the applica | ation. |
| continuation-in-p | e duty to disclose information which is material to patentability as defined in 37 C.F.R part applications, material information which became available between the filing he national or PCT international filing date of the continuation-in-part application. | t. 1.56, including for g date of the prior |
| FORD GLOBAL of the State of I hereinafter referi interest, domestic of the ASSIGNE for the invention name or names, insert the serial 14/713,586 ASSIGNEE, its applications, in a including all ap | employment agreement heretofore made or by contractual obligation, I do sell, assign TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing Delaware, having its principal place of business at Dearborn, County of Wayne, and red to as the ASSIGNEE, its successors, assigns or other legal representatives, the control of the inventions and discoveries in the above-identified inventions. It is successors, assigns or other legal representatives to make applications and to respond to the invention or in my name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNED and filing date of the application to receive Letters Patent Filing Date May 15, 2015 and I hereby sell, assign successors, assigns or other legal representatives, all rights of priority, including to the inventions and discoveries in any and all countries, entities and intergovernical polications claiming benefit of the filing date hereof, continuations, continuations, and reissue applications. | by virtue of the laws I State of Michigan, entire right, title and in including the right eceive Letters Patent is, in its or their own IGNEE's attorney to herein: Serial No. I and set over to the ing any provisional mental organizations |
| including applications, and | ree for myself, my heirs, successors, assigns or other legal representatives to execute ations for Letters Patent of any and all kinds and in any and all countries, entities and to perform any and all acts which the ASSIGNEE, its successors, assigns or other sary to secure thereto the rights herein sold, assigned and set over. | d intergovernmental |
| And I hereby rep | present and warrant that I have not granted any rights inconsistent with the rights granted | d herein. |
| | dedge that any willful false statement made in this declaration is punishable under 18 of not more than five (5) years or both. | U.S.C. 1001 by fine |
| LEGAL NAME | | 2015 |
| | Leanneth James Willer | AND |
| Signature: | | |
| Note: An Applica | ition Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must declaration form for each additional inventor. | accompany this form. |

| Attorney Docket Number | 83528214 |
|------------------------|----------|
| | |

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY, PROVISIONAL OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

| Title of Invention | HYBRID VEHICLE AND METHOD OF HEATING ENGINE COOLANT |
|--|--|
| This declaration is direct | ed to: |
| United | tached application, or States application or PCT international application number filed on |
| The above-identified app | lication was made or authorized to be made by me. |
| I hereby state that I have including the claims. | ve reviewed and understand the contents of the specification in the above-identified application, |
| I believe that I am the ori | ginal inventor or an original joint inventor of a claimed invention in the application. |
| continuation-in-part app | disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for lications, material information which became available between the filing date of the prior nal or PCT international filing date of the continuation-in-part application. |
| FORD GLOBAL TECHI of the State of Delaward hereinafter referred to as interest, domestic and for of the ASSIGNEE, its sufor the inventions and disname or names, or in my insert the serial/applicat 14/713,586 ASSIGNEE, its success applications, in and to the including all application reexaminations and reissuand I hereby agree for many control of the state of the sta | nent agreement heretofore made or by contractual obligation, I do sell, assign and set over unto NOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws e, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, is the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and reign, in and to the inventions and discoveries in the above-identified invention including the right accessors, assigns or other legal representatives to make applications and to receive Letters Patent scoveries in any and all countries, entities and intergovernmental organizations, in its or their own rame, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to the innumber and filing date of the application to receive Letters Patent herein: Serial No. ——————————————————————————————————— |
| organizations, and to per | form any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives ecure thereto the rights herein sold, assigned and set over. |
| And I hereby represent ar | nd warrant that I have not granted any rights inconsistent with the rights granted herein. |
| or imprisonment of not m | at any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine tore than five (5) years or both. |
| LEGAL NAME OF INVI | |
| | Raymond Martin Date: $\frac{5}{7}$ |
| Signature: Novalo | R. Mita |
| | Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. |

PATENT REEL: 035659 FRAME: 0214

| Attorney Docket Number | 83528214 |
|------------------------|----------|

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY, PROVISIONAL OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

| Title of Invention HYBRID VEHICLE AND METHOD OF HEATING ENGINE COOLANT |
|---|
| This declaration is directed to: |
| X The attached application, or United States application or PCT international application number filed on |
| The above-identified application was made or authorized to be made by me. |
| I hereby state that I have reviewed and understand the contents of the specification in the above-identified application, including the claims. |
| I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. |
| I am aware of the duty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. |
| Pursuant to my employment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto FORD GLOBAL TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws of the State of Delaware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, hereinafter referred to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and interest, domestic and foreign, in and to the inventions and discoveries in the above-identified invention including the right of the ASSIGNEE, its successors, assigns or other legal representatives to make applications and to receive Letters Patent for the inventions and discoveries in any and all countries, entities and intergovernmental organizations, in its or their own name or names, or in my name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to insert the serial/application number and filing date of the application to receive Letters Patent herein: Serial No. 14/713,586 , Filing Date May 15, 2015), and I hereby sell, assign and set over to the ASSIGNEE, its successors, assigns or other legal representatives, all rights of priority, including any provisional applications, in and to the inventions and discoveries in any and all countries, entities and intergovernmental organizations including all applications claiming benefit of the filing date hereof, continuations, continuations-in-part, divisionals, reexaminations and reissue applications. |
| And I hereby agree for myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, including applications for Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental organizations, and to perform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives may deem necessary to secure thereto the rights herein sold, assigned and set over. |
| And I hereby represent and warrant that I have not granted any rights inconsistent with the rights granted herein. |
| I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years or both. |
| LEGAL NAME OF INVENTOR |
| Inventor: Thomas G. Leone Date: 2015 - 05 - 07 |
| Signature: tom from |
| Note: An Application Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional declaration form for each additional inventor. |

PATENT REEL: 035659 FRAME: 0215

RECORDED: 05/18/2015