### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4787248

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
CHRISTOPHER WOODRING	01/19/2018
GOPICHANDRA SURNILLA	01/16/2018
MOHANNAD HAKEEM	01/16/2018
CHRIS GLUGLA	01/12/2018

#### **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:	15876987

#### **CORRESPONDENCE DATA**

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ATTORNEY DOCKET NUMBER:	83902819
NAME OF SUBMITTER:	ASHLEY R. TAPIA
SIGNATURE:	/Ashley R. Tapia/
DATE SIGNED:	01/22/2018

**Total Attachments: 4** 

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PATENT REEL: 044691 FRAME: 0989

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Attorney Docket Number	- 82002010	
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THE THE PLOUDE COUNTY	( ひこれとけんひ ( ) /·	

### 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	SYSTEMS AND METHODS FOR CHARACTERIZATION OF AGED				
	FUEL FOR AN ENGINE COLD START				
This declaration is directed to:					
United					
The above-identified app	dication was made or authorized to be made by me.				
I hereby state that I have including the claims.	re reviewed and understand the contents of the specification in the above-identified application,				
I believe that I am the or	iginal inventor or an original joint inventor of a claimed invention in the application.				
continuation-in-part app	o disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for discations, material information which became available between the filing date of the prior nal 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, fitle 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. 15/876,987 , Filing Date					
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 INV	ZENTOR O TO THE STATE OF THE ST				
Inventor: <u>Christopl</u>	ner Woodring, Date: 18 January 2018				
Signature: 💯 🎉	5/1/00 log				
Note: An Application Dat	a Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.				
	on form for each additional inventor.				

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Attorney Docket Num	Sec.	839028	3.4	
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# 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 SYSTEMS AND METHODS FOR CHARACTERIZATION OF AGED				
	FUEL FOR AN ENGINE COLD START			
This declaration is directed to:				
United States	application, or application or PCT international application number filed on (I hereby authorize the insertion of the application	cation filing date and		
number into this form when they	y become known.)	The second section of the second seco		
The above-identified application	n was made or authorized to be made by me.			
I hereby state that I have revie including the claims.	ewed and understand the contents of the specification in the above-i	dentified application,		
I believe that I am the original in	nventor or an original joint inventor of a claimed invention in the applic	cation.		
continuation-in-part application	ose information which is material to patentability as defined in 37 C.F. ns, material information which became available between the filit PCT international filing date of the continuation-in-part application.	R. 1.56, including for ig date of the prior		
FORD GLOBAL TECHNOLOG of the State of Delaware, havir hereinafter referred to as the A interest, domestic and foreign, is of the ASSIGNEE, its successor for the inventions and discoveri- name or names, or in my name, insert the serial/application nu 15/876,987 ASSIGNEE, its successors, as	greement heretofore made or by contractual obligation, I do sell, assigned and existing of the principal place of business at Dearborn, County of Wayne, are ASSIGNEE, its successors, assigns or other legal representatives, the in and to the inventions and discoveries in the above-identified inventions, assigns or other legal representatives to make applications and to lies in any and all countries, entities and intergovernmental organization, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE and filing date of the application to receive Letters Pater, Filing Date	thy virtue of the laws of State of Michigan, entire right, title and on including the right receive Letters Patent as, in its or their own HGNEE's attorney to the herein: Serial No. In and set over to the ling any provisional		
applications, in and to the inventional including all applications claim reexaminations and reissue applications.	ntions and discoveries in any and all countries, entities and intergovers iming benefit of the filing date hereof, continuations, continuation lications.	nmental organizations s-in-part, divisionals,		
including applications for Lette organizations, and to perform a	, my heirs, successors, assigns or other legal representatives to execurers Patent of any and all kinds and in any and all countries, entities a any and all acts which the ASSIGNEE, its successors, assigns or other thereto the rights herein sold, assigned and set over.	nd intergovernmental		
And I hereby represent and warr	rant that I have not granted any rights inconsistent with the rights grant	ed herein.		
I hereby acknowledge that any or imprisonment of not more the	willful false statement made in this declaration is punishable under to an five (5) years or both.	8 U.S.C. 1001 by fine		
LEGAL NAME OF INVENTO		112018		
Inventor: <u>Gopichandra Sur</u>	milla Date // / /	<u> </u>		
Signature I	and the state of t	:		
Signature:	<u> </u>			
Note: An Application Data Sheet	(PTO/SB/14 or equivalent), including naming the entire inventive entity, mu	st accompany this form.		
Use an additional declaration form				

Attorney D	locket Number	83902819

## 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)

little of invention	SYSTEMS AND METHODS FOR CHARACTERIZATION OF AGED FUEL FOR AN ENGINE COLD START			
This declaration is direct				
	tached application, or  I States application or PCT international application number  filed on			
number into this form wh	hen they become known.)			
The above-identified app	olication 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 or	iginal inventor or an original joint inventor of a claimed invention in the application.			
continuation-in-part app	o disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for discations, 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 TECH of the State of Delawar hereinafter referred to a interest, domestic and fo of the ASSIGNEE, its stor the inventions and diname or names, or in my insert the serial/applica 15/876,987  ASSIGNEE, its success applications, in and to the	ment 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 Dearhorn, County of Wayne, and State of Michigan, is the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and preign, in and to the inventions and discoveries in the above-identified invention including the right successors, assigns or other legal representatives to make applications and to receive Letters Patent is coveries in any and all countries, entities and intergovernmental organizations, in its or their own y name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to attorney to the member and filing date of the application to receive Letters Patent herein: Serial No.  Filing Date			
including applications forganizations, and to pe	myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, or Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental rform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives secure thereto the rights herein sold, assigned and set over.			
And I hereby represent a	nd 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 INV	ENTOR , /, / / ,			
Inventor: Mohanna	d Hakeem Date: 1/1/2/2			
Signature:	444(em -			
	a Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.			
	on form for each additional inventor.			

**RECORDED: 01/22/2018** 

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This declaration is directed to:	
The attached application, or United States application or PCT international application number filed on	
number into this form when they become known.)	
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. 15/876,987 , Filing Date	
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 INV	
Inventor: <u>Chris/Gli</u>	igla Date 1 2 (3)
Signature: L=fsp-PHp-	
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.	