PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Steven Wooldridge	08/19/2013
Gopichandra Surnilla	08/08/2013
Brad Alan Boyer	08/19/2013
James Alfred Hilditch	08/16/2013
Michael Howard Shelby	08/19/2013
Chris Paul Glugla	08/13/2013
Benjamin Richard Petersen	08/16/2013

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
A	pplication Number:	13975063

CORRESPONDENCE DATA

5034594142 Fax Number:

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

Phone: 503-459-4141 Email: fulton@ahmrt.com

ALLEMAN HALL MCCOY RUSSELL & TUTTLE, LLP Correspondent Name:

806 S.W. BROADWAY, SUITE 600 Address Line 1: Address Line 4: PORTLAND, OREGON 97205

83379704 ATTORNEY DOCKET NUMBER:

NAME OF SUBMITTER:	Maxfield Fulton
Signature:	/Maxfield Fulton/
Date:	08/26/2013
Total Attachments: 7 source=Executed Assignment 83379704#ps	age2.tif age3.tif age4.tif age5.tif age6.tif

Attorney Docket	Number	83379704	

Title of Invention	METHOD AND SYSTEM FOR KNOCK CONTROL		
This declaration is directed to:			
	tached application, or 1 States application or PCT international application number filed on		
The above-identified app	elication 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.		
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.			
FORD GLOBAL TECH of the State of Delawar hereinafter referred to a interest, domestic and for of the ASSIGNEE, its sfor the inventions and dname or names, or in minsert the serial/applications and dname or names, or in minsert the serial/applications.	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 Dearborn, County of Wayne, and State of Michigan, is the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and oreign, 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 discoveries 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 attoin number and filing date of the application to receive Letters Patent herein: Serial No. Filing Date August 23, 2013), and I hereby sell, assign and set over to the sors, assigns or other legal representatives, all rights of priority, including any provisional me inventions and discoveries in any and all countries, entities and intergovernmental organizations are claiming benefit of the filing date hereof, continuations, continuations-in-part, divisionals, the 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 INV	AND		
Inventor: Steven \	<u>Vooldridge</u> Date: <u>タ//タ/てゃ/3</u>		
Signature: 15 4 4 5			
	la Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.		

83379704

Title of Invention	METHOD AND SYSTEM FOR KNOCK CONTROL		
This declaration is directed to:			
	The attached application, or Inited States application or PCT international application numberfiled on		
The above-identifie	d application was made or authorized to be made by me.		
I hereby state that including the claim	I have reviewed and understand the contents of the specification in the above-identified application, s.		
I believe that I am t	he original inventor or an original joint inventor of a claimed invention in the application.		
continuation-in-par	luty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for tapplications, material information which became available between the filing date of the prior national or PCT international filing date of the continuation-in-part application.		
FORD GLOBAL. To the State of De hereinafter referred interest, domestic a of the ASSIGNEE for the inventions mame or names, or insert the serial/a 13/975,063. ASSIGNEE, its applications, in and including all applications and	reployment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws laware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, I to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and and foreign, in and to the inventions and discoveries in the above-identified invention including the right, its successors, assigns or other legal representatives to make applications and to receive Letters Patent and discoveries in any and all countries, entities and intergovernmental organizations, in its or their own in my name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to application number and filing date of the application to receive Letters Patent herein: Serial No. ———————————————————————————————————		
including applicati organizations, and	e for myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, ons for Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental to perform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives by to secure thereto the rights herein sold, assigned and set over.		
And I hereby repre	sent and warrant that I have not granted any rights inconsistent with the rights granted herein.		
	dge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine foot more than five (5) years or both.		
LEGAL NAME O	FINVENTOR C/C/2012		
Inventor: Go			
Signature:	Jan Lande		
	on Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.		

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Attorney Docket Number	83379704
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continuation-in-p	art app	o disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for blications, 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 of the State of L hereinaster referr interest, domestic of the ASSIGNE for the invention name or names, sinsert the serial 13/975,06 ASSIGNEE, its applications, in a including all apreexaminations a And I hereby againcluding application application of the serial app	TECH Delawar ed to a and fo E, its s s and d or in my applica Succes and to the plication and reiss ree for ations f	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 Dearborn, County of Wayne, and State of Michigan, is the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and breign, 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 iscoveries in any and all countries, entities and intergovernmental organizations, in its or their own yname, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to attoin number and filing date of the application to receive Letters Patent herein: Serial No., Filing Date August 23, 2013, and I hereby sell, assign and set over to the sors, assigns or other legal representatives, all rights of priority, including any provisional me inventions and discoveries in any and all countries, entities and intergovernmental organizations are claiming benefit of the filing date hereof, continuations, continuations-in-part, divisionals, and applications. 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 reform 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.			
		nat any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine more than five (5) years or both.	
LEGAL NAME		/FNTOR	
		n Boyer Dute: \$ 19 - 2013	
Signature:	42		
		ta Sheet (PTC)/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 Number	83379704	

Title of Invention		METHOD AND SYSTEM FOR KNOCK CONTROL	
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The attached application, or United States application or PCT international application number filed on			
The above-identif	fied app	dication 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 or	iginal 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. 13/975,063 , Filing Date August 23, 2013), 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.			
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LEGAL NAME C Inventor: Jan		entropies and the second of th	
Inventor: James Alfred Hilditch Date: 4/16/20/3 Signature: 4/16/20/3			
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.			

cket Number	83379704	

Title of Inventi	METHOD AND SYSTEM FOR KNOCK CONTROL			
This declaration i	This declaration is directed to:			
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The above-identif	ed application was made or authorized to be made by me.			
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LEGAL NAME (FINVENTOR			
Inventor: M	chael Howard Shelby Date: 8/19/26(3			
Signature:	alu Hord Shily			
Mata/ As Assistan	s on Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form			
	an Data Sheet (P10/8B) 14 or equivarent), including haming the entire inventive entity, must accompany this form claration form for each additional inventor.			

Pilandlirect all correspondence to customer number: 36865

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Anome	V LJUCKEL	Number	833/9709		
			S. THE TANKS		

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

***		Invention	METHOD.	ND SYSTEM FOR KNOCK CONTROL
13)		aration is direct	ed to:	
			tached application, or I States application or PCT inte	national application number led on
*	30 30 40 3	-identified app	dication was made or authorize	I to be made by me.
		state that I have the claims.	ve reviewed and understand th	e contents of the specification in the above-identified application,
18		that I am the or	iginal inventor or an original jo	nt inventor of a claimed invention in the application.
233	* ******	ion-in-part app	fications, material information	material to patentability as defined in 37 C.F.R. 1.56, including for which became available between the filing date of the prior are of the continuation-in-part application.
FO of least		OBAL TECH the of Delawar referred to a comestic and fo SIGNEE, its si ventions and di names, or in my serial/applica 75,063 E, its success as, in and to the all application tions and reiss by agree for applications fo applications fo applications fo	NOLOGIES, LLC, a Ford Mote, having its principal place of the ASSIGNEE, its successoreign, in and to the inventions accessors, assigns or other legal secoveries in any and all country name, at its or their election (attention number and filing date filing Date Augustons, Filing Date Augustons, assigns or other legal in the inventions and discoveries in a claiming benefit of the filue applications. myself, my heirs, successors, a or Letters Patent of any and all form any and all acts which the	ic or by contractual obligation, I do sell, assign and set over unto be Company subsidiary, organized and existing by virtue of the laws business at Dearborn, County of Wayne, and State of Michigan, is, assigns or other legal representatives, the entire right, title and and discoveries in the above-identified invention including the right representatives to make applications and to receive Letters Patent es, entities and intergovernmental organizations, in its or their own and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to of the application to receive Letters Patent herein: Serial No. 23, 2013), and I hereby sell, assign and set over to the epresentatives, all rights of priority, including any provisional any and all countries, entities and intergovernmental organizations and date hereof, continuations, continuations-in-part, divisionals, kinds and in any and all countries, entities and intergovernmental appears, kinds and in any and all countries, entities and intergovernmental ASSIGNEE, its successors, assigns or other legal representatives
			ecure thereto the rights herein s nd warrant that I have not grant	ona, assigned and set over. Ed any rights inconsistent with the rights granted herein.
l la		scknowledge th	· · · · · · · · · · · · · · · · · · ·	eade in this declaration is punishable under 18 U.S.C. 1001 by fine
		NAME OF ANV	ENTOR d Gluela	1 Date: 8/13/2013
Sig			GR ASIA	
No.			a Sheet (PTO/SB/14 or equivalent in form for each additional inventor	including naming the entire inventive entity, must accompany this form.

RECORDED: 08/26/2013

83379704	*.	

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

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LEGAL NAME OF INVENTOR					
Inventor: Bo	:njamin	Richard Petersen Date: 8/16/2013			
Signature: Z	Zanar.				
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