### 503947628 08/05/2016

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3994284

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

### **CONVEYING PARTY DATA**

| Name                  | Execution Date |
|-----------------------|----------------|
| YURI ANATOLY KARPENKO | 07/28/2016     |
| J. CHRIS OAKWOOD      | 07/28/2016     |
| PETER KOWALOW         | 07/28/2016     |
| CHARLES K. EVANS      | 07/28/2016     |
| JAMES MAURICE BOILEAU | 07/29/2016     |
| LAURA DAMMEYER        | 08/02/2016     |
| STEVEN SWISHER        | 07/28/2016     |

### **RECEIVING PARTY DATA**

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

### **PROPERTY NUMBERS Total: 1**

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 15227337 |

### **CORRESPONDENCE DATA**

Fax Number:

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.

Email: docketing@jonesrobb.com

Correspondent Name: JONES ROBB, PLLC (W/ FORD MOTOR CO.)

Address Line 1: 1951 KIDWELL DRIVE

Address Line 2: SUITE 740

Address Line 4: TYSONS CORNER, VIRGINIA 22182

| ATTORNEY DOCKET NUMBER: | 83654073                              |
|-------------------------|---------------------------------------|
| NAME OF SUBMITTER:      | ASHLEY N. NICHOLLS                    |
| SIGNATURE:              | /Ashley N. Nicholls, Reg. No. 54,361/ |

PATENT 503947628 REEL: 039350 FRAME: 0243

| DATE SIGNED:                      | 08/05/2016   |
|-----------------------------------|--|
|                                   | This document serves as an Oath/Declaration (37 CFR 1.63). |
| Total Attachments: 7              |  |
| source=2016-08-05_83654073_100801 | 08_01_Assignments_asFiled#page1.tif                        |
| source=2016-08-05_83654073_100801 | 08_01_Assignments_asFiled#page2.tif                        |
| source=2016-08-05_83654073_100801 | 08_01_Assignments_asFiled#page3.tif                        |
| source=2016-08-05_83654073_100801 | 08_01_Assignments_asFiled#page4.tif                        |
| source=2016-08-05_83654073_100801 | 08_01_Assignments_asFiled#page5.tif                        |
| source=2016-08-05_83654073_100801 | 08_01_Assignments_asFiled#page6.tif                        |

 $source = 2016 - 08 - 05\_83654073\_10080108\_01\_Assignments\_asFiled \# page 7.tif$ 

Please direct all correspondence to: 73,442

|                        | *****    |
|------------------------|----------|
| Attorney Docket Number | 83654073 |

## 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 DAMI   |  |   | BRAKE<br><u>'URING THE</u>   | COMPONENTS<br>SAME   | AND.  | METHOUS   | OF  |
|---|--|---|--|--|---|---|---|
| This declaration i  | s direct   | ed to:  |  |  |   |   |   |
|   | United   |   | or PCT internat  | ional application numbers  |   | <del></del> !>  |   |
| The above-identi  | fied app   | lication was made   | or authorized to   | be made by me.   |   |   |   |
| I hereby state the including the claim  |  | e reviewed and t  | inderstand the co  | ontents of the specifica   | ition in the al   | bove-identified appli   | ication,  |
| I believe that I an   | n the or   | iginal inventor or  | an original joint i  | nventor of a claimed in  | vention in the  | application.  |   |
| continuation-in-p   | art app  | lications, materia  | il information w   | terial to patentability as<br>thich became available<br>of the continuation-in-  | e between th  | e filing date of the  | ling for<br>e prior   |
| FORD GLOBAL of the State of E hereinafter referrinterest, domestic of the ASSIGNE for the invention name or names, insert the serial 15/227, 3 ASSIGNEE, its applications, in a including all apreexaminations a And I hereby agincluding applications, are | TECH Delawar red to a c and fo E, its s s and di cor in my/applica 37 successund to the plication and reissure for ations find to pe | NOLOGIES, LLC e, having its prine s the ASSIGNEE reign, in and to the accessors, assigns scoveries in any a y name, at its or th ation number and Filing Da sors, assigns or ne inventions and ns claiming bene and applications.  myself, my heirs, or Letters Patent or rform any and all | C, a Ford Motor C cipal place of but, its successors, he inventions and or other legal remaind all countries, heir election (and if filing date of the August other legal reproduction of the filing successors, assigned any and all king acts which the August of the filing | or by contractual obligation of the company subsidiary, or assigns or other legal indiscoveries in the above presentatives to make a entities and intergoveried in the application to read a company of the company of the application to read a company of the application of the applicat | ganized and expunty of Way representative re-identified in applications as mental organ ASSIGNEE of ceive Letters. I hereby sell, of priority, ities and intertions, continuations, continuations, continuations, assigns of countries, entors, assigns of countries. | xisting by virtue of the control of | he laws ichigan, itle and he right is Patent eir own orney to ial No. r to the visional izations sionals, papers, nmental |
| And I hereby rep  | resent a   | and warrant that I l  | have not granted   | any rights inconsistent  | with the rights   | granted herein.   |   |
| or imprisonment   | of not i   | nore than five (5)  |  | e in this declaration is   | punishable ur   | ider 18 U.S.C. 1001   | by fine   |
| LEGAL NAME  |  |   |  | W  |   | 07/28/20/   | 6   |
| Inventor: Y   | (un An   | itoly Karpenko  |  | υ  | ate:  | 1/24/   | <u> </u>  |
| Signature:  |  | M. Kary   | ra lo  |  |   |   |   |
| Note: An Applie   | ation Da   | a Sheet (PTO/SB/1   | 4 or equivalent), ir   | cluding naming the entir   | z inventive enti  | ty, must accompany th   | nis form.   |
|   |  | as from for acids and   |  | and the second second second   | Control of the second   | in and the second   |   |

|  | C. S. C. C. L. D. CO. C. |  |
|--|--------------------------|--|
| Attorney Docket Number                 | 83654073                 |  |
| PRODUCE STANLACTING                    | 1 000007070              |  |
| - * ********************************** |                          |  |

| Title of Invention  | MANUFACTURING THE SAME  |
|---|---|
| This declaration is direc   | rted to:  |
| Unite   | utached application, or d States application or PCT international application number filed on   |
| The above-identified ap   | oplication was made or authorized to be made by me.   |
| I hereby state that I hat including the claims.   | ave reviewed and understand the contents of the specification in the above-identified application,  |
| I believe that I am the o   | riginal inventor or an original joint inventor of a claimed invention in the application.   |
| continuation-in-part ap   | to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for oplications, material information which became available between the filing date of the prior onal or PCT international filing date of the continuation-in-part application. |
| FORD GLOBAL TECH of the State of Delawa hereinafter referred to interest, domestic and f of the ASSIGNEE, its for the inventions and chame or names, or in minsert the serial/applications, in and to including all applications and reist the serial applications.  And I hereby agree for | r myself, my heirs, successors, assigns or other legal representatives to execute any and all papers  |
| organizations, and to p   | for Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental<br>erform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives<br>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.   |
|   | that 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 OF IN  | VENTOR Z & NO. Z data   |
| Inventor: J. Chris  | 532 7300  |
| Signature:  | (his Cakrood  |
| Note: An Application Da   | ata Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form tion for each additional inventor.  |

| Attorney Docket Number | 83654073 |
|------------------------|----------|

| Title of Inven   | tion  | MANUFACTURING THE SAME   |
|--|---|--|
| This declaration   | is direct   | ed to:   |
|  | United  | tached application, or  f States application or PCT international application numberfiled on   |
| The above-iden   | tified app  | olication was made or authorized to be made by me.   |
| I hereby state t<br>including the cl   |   | ve reviewed and understand the contents of the specification in the above-identified application,  |
| I believe that I   | im 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 and or PCT international filing date of the continuation-in-part application.   |
| FORD GLOBA of the State of hereinafter referinterest, domes of the ASSIGN for the invention name or names insert the serit 15/227. ASSIGNEE, is applications, in including all a | I. TECH Delawar rred to a tic and fo tic and fo tics, its s ns and d , or in m tal/applica 3 7 s succes and to ti application | ment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto INOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws be, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, as 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 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.  ——————————————————————————————————— |
| including appli<br>organizations,  | cations f<br>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 arform 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 re  | epresent :  | and warrant that I have not granted any rights inconsistent with the rights granted herein.  |
| or imprisonme  | nt of not   | hat 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 NAM<br>Inventor:   | E OF IN <sup>®</sup><br>Peter Ke  |  |
| Signature;   | 1   | 16/600 CC  |
|  |   | ta Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, most accompany this form.  on form for each additional inventor.   |

| Attorney Docket Number | 83654073 |
|------------------------|----------|
|                        |          |

OF

### 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   | tion DAMPED BRAKE COMPONENTS AND METHODS O MANUFACTURING THE SAME   |
|---|---|
| This declaration  | is directed to:   |
|   | The attached application, or United States application or PCT international application numberfiled on  |
| The above-ident   | tified application was made or authorized to be made by me.   |
| I hereby state the including the cla  | hat I have reviewed and understand the contents of the specification in the above-identified application aims.  |
| I believe that I a  | am the original inventor or an original joint inventor of a claimed invention in the application.   |
| continuation-in-  | he duty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including to part applications, material information which became available between the filing date of the printernational filing date of the continuation-in-part application.  |
| FORD GLOBAL of the State of hereinafter refer interest, domesti of the ASSIGNI for the invention name or names, insert the seria 15/227.3 ASSIGNEE, its applications, in including all at reexaminations And I hereby as including applic | employment agreement heretofore made or by contractual obligation, I do sell, assign and set over un L TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the lar Delaware, having its principal place of business at Dearborn, County of Wayne, and State of Michigaried to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title a fict 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 Paterns and discoveries in any and all countries, entities and intergovernmental organizations, in its or their organization number and filing date of the application to receive Letters Patern herein: Serial March 1971, Filing Date August 3, 2016, and I hereby sell, assign and set over to the successors, assigns or other legal representatives, all rights of priority, including any provision and to the inventions and discoveries in any and all countries, entities and intergovernmental organization publications claiming benefit of the filing date hereof, continuations, continuations-in-part, divisional and reissue applications. |
| may deem neces  | and to perform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives assign to secure thereto the rights herein sold, assigned and set over.  |
|   | epresent and warrant that I have not granted any rights inconsistent with the rights granted herein.  |
|   | wledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fint of not more than five (5) years or both.  |
| LEGAL NAME  | E OF INVENTOR AND   |
| Inventor:(  | Charles K Evans Date: JV/Y 24, 2016   |
| Signature:  | (14461 +  |
| Note: An Applic   | cation Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this for  |

| Attorney Docket Number 83654073             | ······································ |                        |
|---|--|------------------------|
| Literature 1 and an included a literature 1 | 83654073                               | Attorney Docket Number |

| Title of Invention  | on   | DAMPED<br>MANUFACT   | BRAKE<br>URING THE   |   | AND  | METHODS   | OF   |
|---|--|--|--|---|--|---|--|
| This declaration is   | direct   | <del>^</del>   |  |   |  |   |  |
|   |  |  | or PCT internat  | tional application number<br>on   |  | ė.  |  |
| The above-identif   | ied app  | dication was made  | or authorized to   | be made by me.  |  |   |  |
| I hereby state that<br>including the claim  |  | ve reviewed and u  | nderstand the c  | ontents of the specification  | n in the abo   | ove-identified applic   | ation,   |
| I believe that I an   | the or   | iginal inventor or a   | n original joint   | inventor of a claimed inver   | ntion in the a   | application.  |  |
| continuation-in-pa  | art app  | olications, material   | information v  | aterial to patentability as devoted became available to of the continuation-in-part   | etween the   | filing date of the  | ng for<br>prior  |
| FORD GLOBAL of the State of D hereinafter referrinterest, domestic of the ASSIGNE for the inventions name or names, consert the serial/15/227, 33 ASSIGNEE, its applications, in a including all appreexaminations as | TECH delawan ed to a and for E, its s and do r in m dapplica 3.7 success nd to t plication d reiss | NOLOGIES, LLC re, having its princ is the ASSIGNEE, breign, in and to the uccessors, assigns iscoveries in any a y name, at its or th ation number and, Filing Dat resors, assigns or the inventions and cons claiming bene- sue applications. | , a Ford Motor ( ipal place of bu its successors, e inventions and or other legal re nd all countries, eir election (and filing date of e August other legal rep liscoveries in ar fit of the filing | or by contractual obligation company subsidiary, organiusiness at Dearborn, Coun assigns or other legal reput discoveries in the above-representatives to make application to receit a. 2016. and I the application to receit a. 2016. The application to receit a date hereof, continuation and all countries, entities and all countries, entities and all countries, entities and all countries. | ized and exity of Wayn resentatives, identified in slications and ental organi SSIGNEE or Letters lacreby sell, f priority, is and intergons, continu- | isting by virtue of the and State of Mic, the entire right, tit vention including the deprise Letters zations, in its or the ASSIGNEE's attorpatent herein: Seria assign and set over neluding any provovernmental organizations-in-part, divis | e laws thigan, le and e right Patent ir own mey to at No. to the isional gations ionals, |
| including applica organizations, an   | itions f<br>d to pe  | or Letters Patent or<br>erform any and all   | f any and all ki<br>acts which the   | gns or other legal represer<br>inds and in any and all co<br>ASSIGNEE, its successors<br>i, assigned and set over.  | untries, entit   | iles and intergovern  | mental   |
| And I hereby rep  | resent   | and warrant that I h   | ave not granted  | any rights inconsistent wit   | h the rights   | granted herein.   |  |
|   |  | hat any willful fals<br>more than five (5)   |  | de in this declaration is pu  | nishable unc   | ler 18 U.S.C. 1001 1  | y fine   |
| LEGAL NAME  |  | ·····  |  |   | - Ja   | 79 JANIT  |  |
|   |  | faurice Boileau  | - Commission   | Date  | 4 <u>- IJ</u> 4  | 4140162   |  |
| Signature:  |  | rus Mar  | en /<  | zalew   | <u> </u>   |   |  |
| Note: An Applica  | aion Da<br>leclarat  | ita Sheet (PTC/SB/14   | or equivalent), i  | ncluding naming the entire is   | iventive cutit   | y, must accompany th  | is form.   |

| Attorney Docket Number | 83654073 |
|------------------------|----------|

| Title of invent  | ion  | DAMPED<br>MANUFACT  | BHAKE<br>FURING THE   | COMPONEN<br>SAME   | ITS A   | ND   | METHODS   | OF  |
|--|--|---|---|--|---|--|---|---|
| This declaration   | is direct  |   |   |  |   |  |   | ************  |
|  | United   |   | n or PCT interna  | tional application r   |   |  | :   |   |
| The above-identi   | fied app   | lication was made   | e or authorized to  | be made by me.   |   |  |   |   |
| I hereby state the   |  | e reviewed and  | understand the c  | contents of the spe  | eification in   | the abo  | ve-identified appl  | ication,  |
| I believe that I ar  | n the ori  | ginal inventor or   | an original joint   | inventor of a claim  | ed invention  | in the ap  | oplication.   |   |
| continuation-in-p  | art app  | lications, materia  | al information v  | aterial to patentabi<br>which became avi<br>e of the continuation  | illable betw  | een the  | filing date of the  |   |
| FORD GLOBAL of the State of I hereinafter referinterest, domestic of the ASSIGNE for the invention name or names, insert the serial 15/227, 3 ASSIGNEE, its applications, in a | TECH. Delawared to as and fo as and dio as and dio or in my/applica 37 successind to the plication | NOLOGIES, LLC c, having its prints the ASSIGNEE reign, in and to the accessors, assigns scoveries in any a mame, at its or the tion number and filing Da sors, assigns or e inventions and as claiming bene | 2, a Ford Motor of cipal place of bit, its successors, he inventions and or other legal nand all countries, heir election (and if fling date of the August other legal repulsion of the discoveries in ar | or by contractual company subsidian usiness at Dearbor assigns or other I discoveries in the epresentatives to not entities and interped I hereby authorize the application (3, 2016) resentatives, all any and all countries date hereof, con | ry, organized in, County of egal represed above-ident make applicate governmentate the ASSIC to receive I, and I herely ights of prese, entities an | I and exist wayne intatives, tiffed invotions and if organiz JNEE or Letters P by sell, a iority, indintergo | sting by virtue of the cast of Ming the entire right, the entire right, the entire including the to receive Letters ations, in its or the ASSIGNEE's attomatent herein: Series and set over the cluding any provernmental organic | he laws chigan, itle and he right is Patent eir own imey to ial No. It to the visional izations |
| including applica<br>organizations, an   | itions fe<br>id to per   | r Letters Patent of<br>form any and all   | of any and all ki<br>acts which the   | gns or other legal<br>inds and in any an<br>ASSIGNEE, its su-<br>I, assigned and set   | d all countri   | ies, entiti  | es and intergovern  | nmental   |
| And I hereby rep   | resent a   | nd warrant that I l   | have not granted  | any rights inconsis  | stent with the  | e rights g   | ranted herein.  |   |
| or imprisonment  | of not n   | nore than five (5)  |   | te in this declaration   | on is punish  | able unde  | er 18 U.S.C. 1001   | by fine   |
| LEGAL NAME   |  |   |   |  | Place.  | 8/2  | 116   |   |
| Inventor: <u>L</u> Signature: <u>Z</u>   | aura Da<br>aur   | mmeyer<br>Lanna   | neger   |  | Date:   |  | **************************************  |   |
| - Beeneday -   |  |   |   |  | ·····   |  | ******************  |   |
|  |  | Sheet (PTO/SB/I-<br>n form for each add   |   | ncluding naming the  | entire invent   | ive entity,  | must accompany th   | is form.  |

| Attorney Docket Number | 83654073 |
|------------------------|----------|

| Title of Invention  | MANUFACTURING THE SAME  |
|---|---|
| This declaration is direct  | ed to:  |
|   | stached application, or  I States application or PCT international application number  filed on   |
| The above-identified app  | plication was made or authorized to be made by me.  |
| I hereby state that I havincluding 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 blications, material information which became available between the filing date of the prior and 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 diname or names, or in my insert the serial/applica 15/227, 337  ASSIGNEE, its success applications, in and to the | ment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto INOLOGIES, 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 ASSIGNEB, 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 by 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.  ——————————————————————————————————— |
| including applications for organizations, 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  | and warrant that I have not granted any rights inconsistent with the rights granted herein.   |
| or imprisonment of not r  | 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 OF INV   |   |
| Inventor: Steven S  | wisher Date:// 2.8/16   |
| Signature:  |   |
|   |   |
|   | a Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.  |

PATENT REEL: 039350 FRAME: 0251

**RECORDED: 08/05/2016**