### 506995400 11/24/2021

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

SUBMISSION TYPE:NEW ASSIGNMENTNATURE OF CONVEYANCE:ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
KENT AUGUSTSSON	11/12/2021
RAMACHANDRAN SANDRASEKARAN	11/18/2021
LUIZ PAULO ABREU	11/12/2021
BOOPATHY MANI	11/22/2021

### **RECEIVING PARTY DATA**

Name:	VOLVO TRUCK CORPORATION
Street Address:	SE405-08
City:	GÖTEBORG
State/Country:	SWEDEN
Postal Code:	405 08

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

Property Type	Number
Application Number:	17614019

### **CORRESPONDENCE DATA**

**Fax Number:** (877)812-1249

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: 919-238-2300
Email: kkenny@wt-ip.com

Correspondent Name: WITHROW & TERRANOVA, P.L.L.C.
Address Line 1: 106 PINEDALE SPRINGS WAY
Address Line 4: CARY, NORTH CAROLINA 27511

ATTORNEY DOCKET NUMBER: 3100-259-US

NAME OF SUBMITTER: KAT KENNY

SIGNATURE: /Kat Kenny/

DATE SIGNED: 11/24/2021

This document serves as an Oath/Declaration (37 CFR 1.63).

**Total Attachments: 8** 

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PATENT REEL: 058207 FRAME: 0309

EPAS ID: PAT7042240

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PATENT REEL: 058207 FRAME: 0310

Title of

A RUXU GA	BRAKE DRUM SYSTEM FOR A WHEEL OF A VEHICLE
Invention	BRARE PROM SISING FOR A WINDER OF A VEHICLE
As the below name	d inventor, I hereby declare that:
This declaration is	directed to: The attached application; or United States application or PCT international application number <a href="https://pct.pc/pct.nc/">PCT/EP2020/064867</a> , filed on <a href="https://pct.pc/pct.nc/">2020-05-28</a> .
The above-identified application is made or authorized to be made by me.	
I believe that I am tapplication.	he original inventor or an original joint inventor of a claimed invention in the

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.

I hereby authorize representatives of Volvo Truck Corporation and its appointed agents to enter application number and filing date for the above-identified application when known.

WHEREAS, <u>Volvo Truck Corporation</u>, a corporation duly organized and existing under the laws of Sweden and having a principal place of business at SE405-08, Göteborg, Sweden 405 08 (hereinafter referred to as "ASSIGNEE"), is desirous of acquiring the entire right, title, and interest in and to said invention as described in the specification executed by me concurrently herewith, and any and all Letters Patent which shall be granted therefor.

NOW, THEREFORE, To All Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the said assignor, have sold, assigned, transferred and set over unto the said ASSIGNEE, its successors and assigns, the entire right, title and interest in and to the above-mentioned application and invention and in and to any and all Letters Patent of the United States which may hereafter be granted therefor, and in any and to any and all continuations, continuations-in-part, substitutions, divisions or reissues of said Letters Patent, the same to be held and enjoyed by the said ASSIGNEE, for its interest, and for its own use and behalf, and the use and behalf of its successors and assigns, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that at the time of the execution and delivery of these presents I am a joint and lawful owner of the entire right, title and interest in and to the invention, application and Letters Patent above-mentioned and that the same are unencumbered, and that I have good right and lawful authority to sell and convey the same in the manner herein set forth.

And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that I will, whenever its counsel or the counsel of its successors and assigns, learned in the law, shall advise that an amendment, division, continuation, continuation-in-

PATENT REEL: 058207 FRAME: 0311

I hereby request the Commissioner for Patents to issue the Letters Patent in accordance with this instrument.

For the consideration aforesaid, I have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, assigns or nominee, the entire right, title and interest in and to any and all Letters Patent for said invention which may be granted in countries foreign to the United States and in and to any applications for Letters Patent which may be filed for said invention in countries foreign to the United States and in and to the invention described in said application; and I hereby authorize and empower the said ASSIGNEE, its successors, assigns or nominees to apply for Letters Patent or other form of protection on said invention in its own name or in the name of its successor, assignee, or nominee, in any and all countries where it may desire to file such application and where said application may be filed by another than the inventor; and I hereby covenant and agree to sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for procurement of Letters Patent, or other form of protection, for said invention or inventions in countries foreign to the United States, and for further investing or confirming the right and title therein to the ASSIGNEE, its successors, assignee, or nominee, without charge to the said ASSIGNEE, its successor, assignee or nominee, but at its or their expense.

IN WITNESS WHEREOF, I hereunto set my hand and seal.

LEGAL NAME OF INVENTOR

Inventor: Kent AUGUSTSSON

Signature: Kent

Date: 12-11-2021

2

Title of Invention	BRAKE DRUM SYSTEM FOR A WHEEL OF A VEHICLE
	d inventor, I hereby declare that:
This declaration is	directed to: The attached application; or United States application or PCT international application number <a href="https://PCT/EP2020/064867">PCT/EP2020/064867</a> , filed on <a href="https://example.com/2020-05-28">2020-05-28</a> .
The above-identific	d application is made or authorized to be made by me.
I believe that I am tapplication.	he original inventor or an original joint inventor of a claimed invention in the
	ge that any willful false statement made in this declaration is punishable under fine or imprisonment of not more than five (5) years, or both.
	representatives of Volvo Truck Corporation and its appointed agents to enter and filing date for the above-identified application when known.
Sweden and having (hereinafter referred in and to said invention	Truck Corporation, a corporation duly organized and existing under the laws of a principal place of business at SE405-08, Göteborg, Sweden 405 08 it to as "ASSIGNEE"), is desirous of acquiring the entire right, title, and interest tion as described in the specification executed by me concurrently herewith, and Patent which shall be granted therefor.
consideration, the r have sold, assigned the entire right, title to any and all Lette and to any and all c Letters Patent, the	RE, To All Whom It May Concern, be it known that for good and valuable eceipt and sufficiency of which is hereby acknowledged, I, the said assignor, transferred and set over unto the said ASSIGNEE, its successors and assigns, and interest in and to the above-mentioned application and invention and in and its Patent of the United States which may hereafter be granted therefor, and in any ontinuations, continuations-in-part, substitutions, divisions or reissues of said same to be held and enjoyed by the said ASSIGNEE, for its interest, and for its and the use and behalf of its successors and assigns, to the full end of the term

And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that at the time of the execution and delivery of these presents I am a joint and lawful owner of the entire right, title and interest in and to the invention, application and Letters Patent above-mentioned and that the same are unencumbered, and that I have good right and lawful authority to sell and convey the same in the manner herein set forth.

for which said Letters Patent may be granted as fully and entirely as the same would have been held

and enjoyed by me had this assignment and sale not been made.

And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that I will, whenever its counsel or the counsel of its successors and assigns, learned in the law, shall advise that an amendment, division, continuation, continuation-in-

PATENT

**REEL: 058207 FRAME: 0313** 

i hereby request the Commissioner for Patents to issue the Letters Patent in accordance with this instrument.

For the consideration aforesaid, I have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, assigns or nominee, the entire right, title and interest in and to any and all Letters Patent for said invention which may be granted in countries foreign to the United States and in and to any applications for Letters Patent which may be filed for said invention in countries foreign to the United States and in and to the invention described in said application; and I hereby authorize and empower the said ASSIGNEE, its successors, assigns or nominees to apply for Letters Patent or other form of protection on said invention in its own name or in the name of its successor, assignee, or nominee, in any and all countries where it may desire to file such application and where said application may be filed by another than the inventor; and I hereby covenant and agree to sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for procurement of Letters Patent, or other form of protection, for said invention or inventions in countries foreign to the United States, and for further investing or confirming the right and title therein to the ASSIGNEE, its successors, assignee, or nominee, without charge to the said ASSIGNEE, its successor, assignee or nominee, but at its or their expense.

IN WITNESS WHEREOF, I hereunto set my hand	l and seal.
LEGAL NAME OF INVENTOR	18-11-7021
inventor: Ramachandran SANDRASEKARAN	Date:
Signature: SRL	······································

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Title of

Invention	DIMME DIVING SIGHE FOR A WHEELF OF A VEHICLE
As the below name	d inventor, I hereby declare that:
This declaration is	directed to:  The attached application; or United States application or PCT international application number <a href="https://pct/PCT/EP2020/064867">PCT/EP2020/064867</a> , filed on <a href="https://pct/PCT/EP2020/064867">2020-05-28</a> .
The above-identifie	d application is made or authorized to be made by me.
I believe that I am t application.	he original inventor or an original joint inventor of a claimed invention in the

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.

I hereby authorize representatives of Volvo Truck Corporation and its appointed agents to enter application number and filing date for the above-identified application when known.

WHEREAS, <u>Volvo Truck Corporation</u>, a corporation duly organized and existing under the laws of Sweden and having a principal place of business at SE405-08, Göteborg, Sweden 405 08 (hereinafter referred to as "ASSIGNEE"), is desirous of acquiring the entire right, title, and interest in and to said invention as described in the specification executed by me concurrently herewith, and any and all Letters Patent which shall be granted therefor.

NOW, THEREFORE, To All Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the said assignor, have sold, assigned, transferred and set over unto the said ASSIGNEE, its successors and assigns, the entire right, title and interest in and to the above-mentioned application and invention and in and to any and all Letters Patent of the United States which may hereafter be granted therefor, and in any and to any and all continuations, continuations-in-part, substitutions, divisions or reissues of said Letters Patent, the same to be held and enjoyed by the said ASSIGNEE, for its interest, and for its own use and behalf, and the use and behalf of its successors and assigns, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that at the time of the execution and delivery of these presents I am a joint and lawful owner of the entire right, title and interest in and to the invention, application and Letters Patent above-mentioned and that the same are unencumbered, and that I have good right and lawful authority to sell and convey the same in the manner herein set forth.

And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that I will, whenever its counsel or the counsel of its successors and assigns, learned in the law, shall advise that an amendment, division, continuation, continuation-in-

PATENT REEL: 058207 FRAME: 0315

I hereby request the Commissioner for Patents to issue the Letters Patent in accordance with this instrument.

For the consideration aforesaid, I have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, assigns or nominee, the entire right, title and interest in and to any and all Letters Patent for said invention which may be granted in countries foreign to the United States and in and to any applications for Letters Patent which may be filed for said invention in countries foreign to the United States and in and to the invention described in said application; and I hereby authorize and empower the said ASSIGNEE, its successors, assigns or nominees to apply for Letters Patent or other form of protection on said invention in its own name or in the name of its successor, assignee, or nominee, in any and all countries where it may desire to file such application and where said application may be filed by another than the inventor; and I hereby covenant and agree to sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for procurement of Letters Patent, or other form of protection, for said invention or inventions in countries foreign to the United States, and for further investing or confirming the right and title therein to the ASSIGNEE, its successors, assignee, or nominee, without charge to the said ASSIGNEE, its successor, assignee or nominee, but at its or their expense.

IN WITNESS WHEREOF, I hereunto set my hand and seal.

#### LEGAL NAME OF INVENTOR

Inventor: <u>Luiz Paulo ABREU</u>

Date: 2021-11-12

Signature: L, P. J. C.

I ille of Invention	BRAKE DRUM SYSTEM FOR A WHEEL OF A VEHICLE
As the below named inventor, I hereby declare that:	
This declaration is	directed to:   The attached application; or  United States application or PCT international application number PCT/EP2020/064867, filed on 2020-05-28.
The above-identified application is made or authorized to be made by me.	
I believe that I am t application.	he original inventor or an original joint inventor of a claimed invention in the
	lge that any willful false statement made in this declaration is punishable under fine or imprisonment of not more than five (5) years, or both.
	representatives of Volvo Truck Corporation and its appointed agents to enter and filing date for the above-identified application when known.
WHEREAS, Volvo Truck Corporation, a corporation duly organized and existing under the laws of	

WHEREAS, <u>Volvo Truck Corporation</u>, a corporation duly organized and existing under the laws of Sweden and having a principal place of business at SE405-08, Göteborg, Sweden 405 08 (hereinafter referred to as "ASSIGNEE"), is desirous of acquiring the entire right, title, and interest in and to said invention as described in the specification executed by me concurrently herewith, and any and all Letters Patent which shall be granted therefor.

NOW, THEREFORE, To All Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the said assignor, have sold, assigned, transferred and set over unto the said ASSIGNEE, its successors and assigns, the entire right, title and interest in and to the above-mentioned application and invention and in and to any and all Letters Patent of the United States which may hereafter be granted therefor, and in any and to any and all continuations, continuations-in-part, substitutions, divisions or reissues of said Letters Patent, the same to be held and enjoyed by the said ASSIGNEE, for its interest, and for its own use and behalf, and the use and behalf of its successors and assigns, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

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And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that I will, whenever its counsel or the counsel of its successors and assigns, learned in the law, shall advise that an amendment, division, continuation, continuation-in-

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I hereby request the Commissioner for Patents to issue the Letters Patent in accordance with this instrument.

For the consideration aforesaid, I have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, assigns or nominee, the entire right, title and interest in and to any and all Letters Patent for said invention which may be granted in countries foreign to the United States and in and to any applications for Letters Patent which may be filed for said invention in countries foreign to the United States and in and to the invention described in said application; and I hereby authorize and empower the said ASSIGNEE, its successors, assigns or nominees to apply for Letters Patent or other form of protection on said invention in its own name or in the name of its successor, assignee, or nominee, in any and all countries where it may desire to file such application and where said application may be filed by another than the inventor; and I hereby covenant and agree to sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for procurement of Letters Patent, or other form of protection, for said invention or inventions in countries foreign to the United States, and for further investing or confirming the right and title therein to the ASSIGNEE, its successors, assignee, or nominee, without charge to the said ASSIGNEE, its successor, assignee or nominee, but at its or their expense.

IN WITNESS WHEREOF, I hereunto set my hand and seal.

LEGAL NAME OF INVENTOR

Inventor: Boopathy MANI

Date: 22-11-2021

Signature: 640 3

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