To the Director of the U.S. Patent . 103550  I. Name of conveying party(ies) Thomas A. Brosowske Naron J. Weber Scott A. Snoble Thomas L. Atwell	
I. Name of conveying party(ies) Thomas A. Brosowske Naron J. Weber Scott A. Snoble Thomas L. Atwell	
Thomas A. Brosowske Aaron J. Weber Icott A. Snoble Thomas L. Atwell	2. Name and address of receiving party(ies)
Aaron J. Weber Scott A. Snoble Thomas L. Atwell	1
homas L. Atwell	Name:Caterpillar, Inc.
	Internal Address:
oseph R. Derk	06
additional name(s) of conveying party(ies) attached? 🔲 Yes 🔀 N	φ: <b>2</b> 8
B. Nature of conveyance/Execution Date(s):	Street Address: 100 NE Adams
Execution Date(s) 2-17-09;2-16-09;2-18-09;2-18-09;2-16-09	= -
X Assignment Merger	
Security Agreement Change of Name	City: Peoria
Joint Research Agreement	State:ı∟
Government Interest Assignment	
Executive Order 9424, Confirmatory License	Country: US Zip 1629
Other	Additional name(s) & address(es) attached? Yes
I. Application or patent number(s):	document is being filed together with a new appli
	ttached? Yes No
Additional numbers a  5. Name and address to whom correspondence concerning document should be mailed:	ttached? Yes No  6. Total number of applications and patents involved: 1
5. Name and address to whom correspondence	6. Total number of applications and patents involved:
5. Name and address to whom correspondence concerning document should be mailed: Name Michael B. McNeil	6. Total number of applications and patents
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1  7. Total fee (37 CFR 1.21(h) & 3.41) \$40
5. Name and address to whom correspondence concerning document should be mailed:  NameMichael B. McNeil  Internal Address:	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit account
5. Name and address to whom correspondence concerning document should be mailed:  Name Michael B. McNeil  Internal Address:  Street Address: 511 S. Madison St.	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourting Enclosed
5. Name and address to whom correspondence concerning document should be mailed:  NameMichael B. McNeil  Internal Address:	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourting Enclosed  None required (government interest not affective)
5. Name and address to whom correspondence concerning document should be mailed:  Name Michael B. McNeil  Internal Address:  Street Address: 511 S. Madison St.	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourting Enclosed
Street Address: 511 S. Madison St.	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourting Enclosed  None required (government interest not affective)
5. Name and address to whom correspondence concerning document should be mailed:  Name Michael B. McNeil  Internal Address:  Street Address: 511 S. Madison St.  PO Box 2417  City: Bloomington	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourt Enclosed  None required (government interest not affections).  8. Payment Information
Street Address: 511 S. Madison St. PO Box 2417 City: Bloomington State: Name and address to whom correspondence concerning document should be mailed: Name Michael B. McNeil Internal Address: Street Address: 511 S. Madison St. PO Box 2417 City: Bloomington Zipa7402	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourting Enclosed  None required (government interest not affective)
Street Address: 511 S. Madison St. PO Box 2417  City: Bloomington  State: Name Number: 812 333-5355	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourt Enclosed  None required (government interest not affections).  8. Payment Information
Street Address: 511 S. Madison St. PO Box 2417 City: Bloomington State: Name Number: 812 333-5355 Fax Number: 812 333-3173	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourting Enclosed None required (government interest not affections. Payment Information
S. Name and address to whom correspondence concerning document should be mailed:  NameMichael B. McNeil  Internal Address:  Street Address:  PO Box 2417  City: Bloomington  State:  Phone Number:  812 333-5355  Fax Number:  812 333-3173  Email Address:	6. Total number of applications and patents involved:   7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourting Enclosed None required (government interest not affections. Payment Information
Street Address:  Street Address:  City: Bloomington  State::  Phone Number:  812 333-5355  Fax Number:  812 333-3173  Email Address:  City: Signature:	6. Total number of applications and patents involved: 1  7. Total fee (37 CFR 1.21(h) & 3.41) \$40  Authorized to be charged to deposit accourting Enclosed None required (government interest not affections. Payment Information  Deposit Account Number 500226  Authorized User Name Jonathan F. Yates

Form PTO-1595 (Rev. 01-09)

> PATENT REEL: 022344 FRAME: 0306

U.S. DEPARTMENT OF COMMERCE

WHEREAS, Thomas A. Brosowske, residing at Peoria, Illinois, hereinafter referred to as ASSIGNOR has invented together with Joseph R. Derk, Thomas & Atwell, Aaron J. Weber and Scott A. Snoble a new and useful

# COMPLIANT GEAR ASSEMBLY, ENGINE AND GEAR TRAIN OPERATING METHOD

for which ASSIGNOR is about to file an international application and/or make application for Letters Patent in the United States of America, such invention being described and identified by said application having an attached International Application Request and/or an attached Declaration and Power of Attorney executed by ASSIGNOR on
legal representatives, and shall be binding upon ASSIGNOR, ASSIGNOR'S heirs and legal
representatives.
IN TESTIMONY WHEREOF, ASSIGNOR has executed this instrument.  Shomas ( Dustowske FEB 17, 2009  THOMAS A. BROSOWSKE Date
IN WITNESS OF the execution hereof by THOMAS A. BROSOWSKE we have hereunto set our hands.  But har 2/17/2009   k k kumay   0:/17/09  Witness (1)   Date   Witness (2)   Date   Address: 400 S Naket St   Address: 5813 N Askendard Discounting to Address: 5813 N Askendard Discounting to Address: 1L - 11615

05-818.1

# <u>ASSIGNMENT</u>

WHEREAS, Aaron J. Weber, residing at Morton, Illinois, hereinafter referred to as ASSIGNOR has invented together with Scott A. Snoble, Thomas A. Brosowske, Joseph R. Derk and Thomas XL'Atwell a new and useful

## D

COMPLIANT GEAR ASSEMBLY, ENGINE AND GEAR TRAIN OPERATING METHOD
for which ASSIGNOR is about to file an international application and/or make application for Letters Patent in the United States of America, such invention being described and identified by said application having an attached International Application Request and/or an attached Declaration and Power of Attorney executed by ASSIGNOR on $\frac{2-16-09}{2}$ : and
WHEREAS, Caterpillar Inc., a Delaware corporation having a place of business at Peoria, State of Illinois, United States of America, hereinafter referred to as ASSIGNEE, is desirous of acquiring the entire right, title and interest in and to said invention and any Letters Patent granted thereon by the United States of America and any foreign country;
NOW. THEREFORE, in consideration of the sum of One Dollar (\$1.00) and for other good and valuable consideration received by ASSIGNOR from ASSIGNEE, the receipt of which is hereby acknowledged by ASSIGNOR;
1. ASSIGNOR hereby sells, assigns, transfers and conveys unto ASSIGNEE the entire right, title and interest in and to said invention, any application therefor, and any Letters Patent granted thereon by the United States of America and any foreign country, including any continuing application, reissue or extension thereof, together with the right to file applications and obtain patents for said invention in any foreign country, and covenant that ASSIGNOR has the full right to do so.
2. At the request and expense of ASSIGNEE, ASSIGNOR agrees to communicate to ASSIGNEE any facts known respecting said invention, to execute all papers necessary to file any application on said invention necessary or desirable to aid ASSIGNEE in obtaining and enforcing proper protection for said invention in the United States of America and any foreign country.
3. ASSIGNOR hereby authorizes and requests the COMMISSIONER OF PATENTS AND TRADEMARKS to issue the United States Letters Patent on said invention, when granted, to Caterpillar Inc.
4. This assignment shall inure to the benefit of ASSIGNEE, its successors, assigns and other legal representatives, and shall be binding upon ASSIGNOR, ASSIGNOR'S heirs and legal representatives.

IN TESTIMONY WHEREOF, ASSIGNOR has executed this instrument.

2/16/09 Date

IN WITNESS OF the execution hereof by AARON J. WEBER we have hereunto set our hands.

Miness (1) Date Witness (1) Date Address: 1331 Cak beat by People, IL 61614

05-818.1

WHEREAS, Scott A. Snoble, residing at Pekin, Illinois, hereinafter referred to as ASSIGNOR has invented together with Thomas A. Brosowske, Joseph R. Derk, Thomas K.L. Atwell and Aaron J. Weber a new and useful

## COMPLIANT GEAR ASSEMBLY, ENGINE AND GEAR TRAIN OPERATING METHOD

for which ASSIGNOR is about to file an international application and/or make application for Letters Patent in the United States of America, such invention being described and identified by said application having an attached International Application Request and/or an attached Declaration and Power of Attorney executed by ASSIGNOR on \_\_\_\_\_\_\_\_; and

WHEREAS, Caterpillar Inc., a Delaware corporation having a place of business at Peoria, State of Illinois, United States of America, hereinafter referred to as ASSIGNEE, is desirous of acquiring the entire right, title and interest in and to said invention and any Letters Patent granted thereon by the United States of America and any foreign country;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) and for other good and valuable consideration received by ASSIGNOR from ASSIGNEE, the receipt of which is hereby acknowledged by ASSIGNOR;

- 1. ASSIGNOR hereby sells, assigns, transfers and conveys unto ASSIGNEE the entire right, title and interest in and to said invention, any application therefor, and any Letters Patent granted thereon by the United States of America and any foreign country, including any continuing application, reissue or extension thereof, together with the right to file applications and obtain patents for said invention in any foreign country, and covenant that ASSIGNOR has the full right to do so.
- 2. At the request and expense of ASSIGNEE, ASSIGNOR agrees to communicate to ASSIGNEE any facts known respecting said invention, to execute all papers necessary to file any application on said invention necessary or desirable to aid ASSIGNEE in obtaining and enforcing proper protection for said invention in the United States of America and any foreign country.
- 3. ASSIGNOR hereby authorizes and requests the COMMISSIONER OF PATENTS AND TRADEMARKS to issue the United States Letters Patent on said invention, when granted, to Caterpillar Inc.
- 4. This assignment shall inure to the benefit of ASSIGNEE, its successors, assigns and other legal representatives, and shall be binding upon ASSIGNOR, ASSIGNOR'S heirs and legal representatives.

IN TESTIMONY WHEREOF, ASSIG	GNOR has executed this instrument.  18 Feb 2009
SCOTT A. SNOBLE	Date
IN WITNESS OF the execution hereof by SCO  Harman Court 18Feb 2  Witness (i)  Address: 711 Devon Dr.	Witness (2) Date
Metamora IL 61548	Address: 75/4 W. Thornsidge Dr. Mapleton II. (01547

05-818.1

WHEREAS, Thomas L. Atwell, residing at Peoria, Illinois, hereinafter referred to as ASSIGNOR has invented together with Aaron J. Weber, Scott A. Snoble, Thomas A. Brosowske and Joseph R. Derk a new and useful

#### COMPLIANT GEAR ASSEMBLY, ENGINE AND GEAR TRAIN OPERATING METHOD

for which ASSIGNOR is about to file an international application and/or make application for Letters Patent in the United States of America, such invention being described and identified by said application having an attached International Application Request and/or an attached Declaration and Power of Attorney executed by ASSIGNOR on 2-18-09; and WHEREAS, Caterpillar Inc., a Delaware corporation having a place of business at Peoria, State

WHEREAS, Caterpillar Inc., a Delaware corporation having a place of business at Peoria, State of Illinois, United States of America, hereinafter referred to as ASSIGNEE, is desirous of acquiring the entire right, title and interest in and to said invention and any Letters Patent granted thereon by the United States of America and any foreign country;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) and for other good and valuable consideration received by ASSIGNOR from ASSIGNEE, the receipt of which is hereby acknowledged by ASSIGNOR;

- 1. ASSIGNOR hereby sells, assigns, transfers and conveys unto ASSIGNEE the entire right, title and interest in and to said invention, any application therefor, and any Letters Patent granted thereon by the United States of America and any foreign country, including any continuing application, reissue or extension thereof, together with the right to file applications and obtain patents for said invention in any foreign country, and covenant that ASSIGNOR has the full right to do so.
- 2. At the request and expense of ASSIGNEE, ASSIGNOR agrees to communicate to ASSIGNEE any facts known respecting said invention, to execute all papers necessary to file any application on said invention necessary or desirable to aid ASSIGNEE in obtaining and enforcing proper protection for said invention in the United States of America and any foreign country.
- 3. ASSIGNOR hereby authorizes and requests the COMMISSIONER OF PATENTS AND TRADEMARKS to issue the United States Letters Patent on said invention, when granted, to Caterpillar Inc.
- 4. This assignment shall imure to the benefit of ASSIGNEE, its successors, assigns and other legal representatives, and shall be binding upon ASSIGNOR, ASSIGNOR'S heirs and legal representatives.

IN TESTIMONY WHEREOF, ASSIGN	NOR has executed this instrument.
Thomas L. atentl	2-18-2009
THOMAS L. ATWELL	Date
IN WITNESS OF the execution hereof by THC	MAS A. ATWELL we have hereunto set our hands.
Muly Stoller 2-18-2009	Bll Kardly
Witness (1) Date	Witness (2) Date
Address: 905 Dean's DT	Address: 1709 McKinley St.
Eureka, IL 61530	New Holstein , Wi 53061
,	
05 919 1	

05-818.1

WHEREAS, Joseph R. Derk, residing at Morton, Illinois, hereinafter referred to as ASSIGNOR has invented together with Thomas & Atwell, Aaron J. Weber, Scott A. Snoble and Thomas A. Brosowske a new and useful

### COMPLIANT GEAR ASSEMBLY, ENGINE AND GEAR TRAIN OPERATING METHOD

for which ASSIGNOR is about to file an international application and/or make application for Letters
Patent in the United States of America, such invention being described and identified by said application
having an attached International Application Request and/or an attached Declaration and Power of
Attorney executed by ASSIGNOR on $2-16-09$ ; and
WILEDEAS Cotamillar Inc. a Delevious composition having a place of hyginess at Boorie State

WHEREAS, Caterpillar Inc., a Delaware corporation having a place of business at Peoria, State of Illinois, United States of America, hereinafter referred to as ASSIGNEE, is desirous of acquiring the entire right, title and interest in and to said invention and any Letters Patent granted thereon by the United States of America and any foreign country;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) and for other good and valuable consideration received by ASSIGNOR from ASSIGNEE, the receipt of which is hereby acknowledged by ASSIGNOR;

- 1. ASSIGNOR hereby sells, assigns, transfers and conveys unto ASSIGNEE the entire right, title and interest in and to said invention, any application therefor, and any Letters Patent granted thereon by the United States of America and any foreign country, including any continuing application, reissue or extension thereof, together with the right to file applications and obtain patents for said invention in any foreign country, and covenant that ASSIGNOR has the full right to do so.
- 2. At the request and expense of ASSIGNEE, ASSIGNOR agrees to communicate to ASSIGNEE any facts known respecting said invention, to execute all papers necessary to file any application on said invention necessary or desirable to aid ASSIGNEE in obtaining and enforcing proper protection for said invention in the United States of America and any foreign country.
- 3. ASSIGNOR hereby authorizes and requests the COMMISSIONER OF PATENTS AND TRADEMARKS to issue the United States Letters Patent on said invention, when granted, to Caterpillar Inc.
- 4. This assignment shall inure to the benefit of ASSIGNEE, its successors, assigns and other legal representatives, and shall be binding upon ASSIGNOR, ASSIGNOR'S heirs and legal representatives.

IN WITNESS OF the execution hereof by JOSEPH R. DERK we have hereunto set our hands. Witness (1) Date Witness (2) Date

Address: Syamala SRINIVASAN Address: Davrel C+

Washington IL 61615

PEORIA, IL 61615

Paul J Mauschbaugh

05-818.1

**RECORDED: 02/20/2009** 

IN TESTIMONY WHEREOF, ASSIGNOR has executed this instrument.