

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT | | | | | | | | |
|---|------------------------------------|---------------|----------------|---------------------|------------|---------------|------------|--------------|------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT | | | | | | | | |
| CONVEYING PARTY DATA | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Joseph Faivre</td> <td>10/17/2012</td> </tr> <tr> <td>Yongliang Zhu</td> <td>10/18/2012</td> </tr> <tr> <td>Drew A. Fehr</td> <td>10/17/2012</td> </tr> </tbody> </table> | | Name | Execution Date | Joseph Faivre | 10/17/2012 | Yongliang Zhu | 10/18/2012 | Drew A. Fehr | 10/17/2012 |
| Name | Execution Date | | | | | | | | |
| Joseph Faivre | 10/17/2012 | | | | | | | | |
| Yongliang Zhu | 10/18/2012 | | | | | | | | |
| Drew A. Fehr | 10/17/2012 | | | | | | | | |
| RECEIVING PARTY DATA | | | | | | | | | |
| Name: | Caterpillar Inc. | | | | | | | | |
| Street Address: | 100 N.E. Adams | | | | | | | | |
| City: | Peoria | | | | | | | | |
| State/Country: | ILLINOIS | | | | | | | | |
| Postal Code: | 61629-6490 | | | | | | | | |
| PROPERTY NUMBERS Total: 1 | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13654817</td> </tr> </tbody> </table> | | Property Type | Number | Application Number: | 13654817 | | | | |
| Property Type | Number | | | | | | | | |
| Application Number: | 13654817 | | | | | | | | |
| CORRESPONDENCE DATA | | | | | | | | | |
| Fax Number: | 3126165700 | | | | | | | | |
| <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> | | | | | | | | | |
| Phone: | (312) 616-5743 | | | | | | | | |
| Email: | assignments@leydig.com | | | | | | | | |
| Correspondent Name: | Charles S. Cohen | | | | | | | | |
| Address Line 1: | Leydig, Voit & Mayer, Ltd. | | | | | | | | |
| Address Line 2: | 180 North Stetson Ave., Suite 4900 | | | | | | | | |
| Address Line 4: | Chicago, ILLINOIS 60601-6731 | | | | | | | | |
| ATTORNEY DOCKET NUMBER: | 710908 | | | | | | | | |
| NAME OF SUBMITTER: | Charles S. Cohen | | | | | | | | |
| Total Attachments: 3 source=Executed Assignment#page1.tif source=Executed Assignment#page2.tif source=Executed Assignment#page3.tif | | | | | | | | | |

CH \$40.00 13654817

ASSIGNMENT

WHEREAS, Joseph Faivre, hereinafter referred to as ASSIGNOR, has invented together with Yongliang Zhu and Drew A. Fehr a new and useful

System for Determining Coefficients of Seal Friction

for which ASSIGNOR has made application for Letters Patent in the United States of America, such invention being described and identified by said application identified as Application No. 13/654,817, filed October 18, 2012; 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.

Joseph Faivre
JOSEPH FAIVRE

10/17/2012
Date

IN WITNESS OF the execution hereof by JOSEPH FAIVRE we have hereunto set our hands.

Tosh Noser 10-17-12
Witness (1) Date

Rafael Vinkovits 10-17-12
Witness (2) Date

Address: 5004 N Hamilton Rd
Peoria IL 61614

Address: 2326 WENFIELD
PEORIA IL 61615

Zhuyang Liang
YONGLIANG ZHU

10/18/2012
Date

IN WITNESS OF the execution hereof by YONGLIANG ZHU we have hereunto set our hands.

[Signature] 10-16-12
Witness (1) Date

[Signature] 10-18-2012
Witness (2) Date

Address: 1500 W. Blue Sage Dr.
Apt. 1309
Pekin, IL 61615

Address: 2901 Sheridan Rd
Pekin, IL 61554

-3 of 3-

Drew A. Fehr
DREW A. FEHR

10/17/2012
Date

IN WITNESS OF the execution hereof by DREW A. FEHR we have hereunto set our hands.

David E. Quitt 10/17/12
Witness (1) Date

[Signature] 10/17/2012
Witness (2) Date

Address: _____
3507 W TEDFORD DR
PEORIA IL 61614

Address: _____
1105 E. BROOKVIEW LN.
PEORIA, IL 61615