PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

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

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------------------|----------------|
| Janet Mary Fisher | 02/22/2007 |
| David Thompsett | 02/23/2007 |
| Richard Ian Walton | 03/01/2007 |
| Christopher Stuart Wright | 03/09/2007 |

RECEIVING PARTY DATA

| Name: | Johnson Matthey PLC |
|-----------------|---------------------|
| Street Address: | 40-42 Hatton Garden |
| City: | London |
| State/Country: | UNITED KINGDOM |
| Postal Code: | EC1N 8EE |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 11663258 |

CORRESPONDENCE DATA

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Address Line 4: Valley Forge, PENNSYLVANIA 19482-0980

| ATTORNEY DOCKET NUMBER: | JMYS-155US |
|-------------------------|----------------------|
| NAME OF SUBMITTER: | Christopher R. Lewis |

Total Attachments: 6

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PATENT REEL: 019584 FRAME: 0267

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> PATENT REEL: 019584 FRAME: 0268

| ASSIGNMENT - Patent Application Docket Number: JMYS-155US | | Docket Number: JMYS-155US | | | |
|---|---|------------------------------|--|--|--|
| Whereas, the Assi | Whereas, the Assignor, comprising the following named inventors: | | | | |
| | 1. Janet Mary Fisher | 2. David Thompsett | | | |
| ASSIGNOR(s)/ INVENTOR(s) | 3. Richard Ian Walton | 4. Christopher Stuart Wright | | | |
| | 5. | 6. | | | |
| made an invention entitled: COMPOUND HAVING A PYROCHLORE-STRUCTURE AND ITS USE AS A CATALYST CARRIER IN WATER GAS SHIFT RECTION | | | | | |
| for which an application for Letters Patent of the United States: (Select one of the following): is executed concurrently herewith was filed in the U.S. Patent and Trademark Office on, as U.S. Patent Application Serial No.: | | | | | |
| ASSIGNEE (Full Name and Ad | Johnson Matthey Public Limite (a British body corporate) 40-42 Hatton Garden London EC1N 8EE United Kingdom | d Company | | | |

is desirous of acquiring the entire interest in and to said invention and the Letters Patent to be obtained therefor,

Now, therefore, in consideration of the payment by Assignee to Assignor of a sum corresponding to One Dollar (\$1.00), and for other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor, intending to be legally bound, hereby sells, assigns and transfers to Assignee, its successors and assigns, the full and exclusive right, title and interest in and to said invention, all applications for Letters Patent for said invention, including all divisions, continuations, and continuations-in-part thereof, all rights to claim priority based thereon, and all Letters Patent, including reissues, to be obtained therefor, including any and all foreign patent rights in this invention corresponding thereto.

Assignor hereby warrants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Assignment.

Assignor agrees it shall be legally bound, upon request of the Assignee or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the Assignor has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the Assignee, and to execute all instruments proper to carry out the intent of this instrument.

If the invention requires a biological deposit, Assignor also grants to Assignee such control over any deposit made by Assignor as may be necessary to the validity of the patent rights assigned herein.

REEL: 019584 FRAME: 20269

| ASSIGNMENT | - Patent A | Application |
|------------|------------|--------------------|
|------------|------------|--------------------|

Docket Number:

JMYS-155US

Assignor authorizes Assignor's attorney to insert at the end hereof, the serial number and filing date of the aforesaid application for United States Letters Patent and/or the Attorney Docket or file designation for this application if not identified above.

If the Assignor includes more than one individual, these obligations shall apply to these individuals both individually and collectively.

In witness whereof, this Assignment is executed on the day indicated below.

| | Typed or Printed Name | Signature | | Date |
|-----------|------------------------------|------------------------------------|---|---------|
| | 1. Janet Mary Fisher | Janet Fisher | _ | 22/2/07 |
| · | | * Witness to Assignor #1 | | 22.2.07 |
| | 2. David Thompsett | 1) Thompselt | _ | 23.2.07 |
| | | Sand Bull * Witness to Assignor #2 | | 23.2.07 |
| | 3. Richard lan Walton | | | |
| SIGNATURE | | * Witness to Assignor #3 | | |
| | 4. Christopher Stuart Wright | | | |
| * | | * Witness to Assignor #4 | | |
| | 5. | | | |
| | | | | |
| | 6. | * Witness to Assignor #5 | | |
| · | 0. | | _ | |
| | | * Witness to Assignor #6 | | |
| | | | | |

| Application for United States Letters Patent: | | | | |
|---|------------|---|--|--|
| Serial No.: | 11/663,258 | | | |
| Filed: | 03/19/2007 | | | |
| Attorney Docket Number: | JMYS- | 155US | | |
| Total Number of Assignment Pages | 2 | * Witness signature recommended, mandatory for some countries | | |

PATENT Page 1 of 2 | REEL: 019584 FRAME: 20270

| ASSIGNN | MENT - Patent Application | Docket Number: JMYS-155US | | | | |
|---|--|------------------------------|--|--|--|--|
| Whereas, the Assi | gnor, comprising the following named inver | itors: | | | | |
| | 1. Janet Mary Fisher | 2. David Thompsett | | | | |
| ASSIGNOR(s)/ INVENTOR(s) | 3. Richard lan Walton | 4. Christopher Stuart Wright | | | | |
| | 5. | 6. | | | | |
| made an invention entitled: COMPOUND HAVING A PYROCHLORE-STRUCTURE AND ITS USE AS A CATALYST CARRIER IN WATER GAS SHIFT RECTION | | | | | | |
| (Select one of the fo is executed of | concurrently herewith | | | | | |
| was filed in the U.S. Patent and Trademark Office on, as U.S. Patent Application Serial No.: | | | | | | |
| ASSIGNEE (Full Name and Ad | Johnson Matthey Public Limit (a British body corporate) 40-42 Hatton Garden London EC1N 8EE United Kingdom | ed Company | | | | |

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PATENT
REEL: 019584 FRAME 0271

| ASSIGN | IMENT - Patent Appl | lication Docket Number: | 2-13302 |
|-------------------|-------------------------------|---|--|
| aforesaid applic | | to insert at the end hereof, the serial nur atent and/or the Attorney Docket or file o | |
| individually and | collectively. | ndividual, these obligations shall apply to xecuted on the day indicated below. | o these individuals both |
| | Typed or Printed Name | Signature | Date |
| | 1. Janet Mary Fisher | | |
| | | * Witness to Assignor #1 | |
| | 2. David Thompsett | | |
| | | * Witness to Assignor #2 | |
| SIGNATURE | 3. Richard lan Walton | | 15t March 10 01/03/07. |
| | FOE LETHBRIDGE | * Witness to Assignor #3 | 01/03/07. |
| | 4. Christopher Stuart Wright | | |
| | | * Witness to Assignor #4 | |
| | 5. | | · <u></u> |
| | | * Witness to Assignor #5 | |
| | 6. | | · . |
| | | * Witness to Assignor #6 | No. of the second secon |
| Application for I | United States Letters Patent: | | |
| Serial No.: | 11/663,258 | | |
| Filed: | 03/19/2007 | | |

JMYS-155US

Attorney Docket Number:

Total Number of Assignment Pages

PATENT
REEL: 019584 FRAME 0272

* Witness signature recommended, mandatory for some countries

| ASSIGNI | MENT | - Patent Application | Docke | t Number: | | |
|--|-------------|--|-----------|--|--|--|
| Whereas, the Ass | signor, co | mprising the following named inve | ntors: | | | |
| 400,0100,01 | 1. Jar | 1. Janet Mary Fisher | | 2. David Thompsett | | |
| ASSIGNOR(s)/ INVENTOR(s) | 3. Ric | Richard Ian Walton | | Christopher Stuart Wright | | |
| | 5. | | 6. | | | |
| made an inventio | n entitled: | COMPOUND HAVING A PYRO CATALYST CARRIER IN WAT | | E-STRUCTURE AND ITS USE AS A SHIFT RECTION | | |
| for which an appli (Select one of the fo | | Letters Patent of the United State | s: | | | |
| was filed in | the U.S. I | ntly herewith Patent and Trademark Office on _ ation Serial No.: | | | | |
| · | | | | | | |
| ASSIGNEE (Full Name and Address) Johnson Matthey Public Limited Company (a British body corporate) 40-42 Hatton Garden London EC1N 8EE United Kingdom | | | pany | | | |
| is desirous of acq | uiring the | entire interest in and to said inver | ition and | the Letters Patent to be obtained therefor, | | |
| Now, therefore, in consideration of the payment by Assignee to Assignor of a sum corresponding to One Dollar (\$1.00), and for other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor, intending to be legally bound, hereby sells, assigns and transfers to Assignee, its successors and assigns, the full and exclusive right, title and interest in and to said invention, all applications for Letters Patent for said invention, including all divisions, continuations, and continuations-in-part thereof, all rights to claim priority based thereon, and all Letters Patent, including reissues, to be obtained therefor, including any and all foreign patent rights in this invention corresponding thereto. | | | | | | |
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| | | | | Assignee or its successors or assigns or a which the Assignor has knowledge or | | |

possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the Assignee, and to execute all instruments proper to carry out the intent of this instrument.

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PATENT Page 1 of 2 REEL: 019584 FR知前已26273

ASSIGNMENT - Patent Application

Docket Number:

JMYS-155US

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| | Typed or Printed Name | Signature | Date |
|----------|------------------------------|--------------------------|-------------|
| IGNATURE | 1. Janet Mary Fisher | | |
| | | * Witness to Assignor #1 | |
| | 2. David Thompsett | | |
| | | * Witness to Assignor #2 | |
| | 3. Richard Ian Walton | | · |
| | | * Witness to Assignor #3 | |
| | 4. Christopher Stuart Wright | aption | 9/3/2007 |
| | Scott MARCHE WOODLEY | * Witness to Assignor #4 | 9/3/2007 |
| | 5. | | |
| | | * Witness to Assignor #5 | |
| | 6. | | |
| | | * Witness to Assignor #6 | |

| Application for United States Letters | Patent: | |
|---------------------------------------|------------|---|
| Serial No.: | 11/663,258 | |
| Filed: | 03/19/2007 | |
| Attorney Docket Number: | JMYS-155US | |
| Total Number of Assignment Pages | 2 | * Witness signature recommended, mandatory for some countries |

PATENT Page 1 of 2
REEL: 019584 FRXWE: 0274

RECORDED: 07/20/2007