503669634 01/28/2016

PATENT ASSIGNMENT COVER SHEET

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------|----------------|
| ANAS F JARJOUR | 02/19/2015 |
| ALAN J HOLLOWAY | 03/16/2015 |

RECEIVING PARTY DATA

| Name: | RENISHAW PLC |
|-----------------|------------------------------------|
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| State/Country: | UNITED KINGDOM |
| Postal Code: | GL12 8JR |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14908402 |

CORRESPONDENCE DATA

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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.

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| ATTORNEY DOCKET NUMBER: | 169559 |
|---|----------------|
| NAME OF SUBMITTER: | KIMBERLY SCOTT |
| SIGNATURE: /Kimberly C. Scott/ for James A. Oliff | |
| DATE SIGNED: | 01/28/2016 |

Total Attachments: 2

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PATENT 503669634 REEL: 037612 FRAME: 0541

ASSIGNMENT (BEING FILED FOR DUAL PURPOSE UNDER 37 CFR 1.63(e)) For Application with Filing Date on or after September 16, 2012

ASSIGNMENT

| | Insert | (1) | Anas F Jarjour | (2) | Alan J Holloway | | |
|-------|--|------------------------------|---|--|---|--|--|
| (1-8) | Legal Name(s) | (3) | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | (4) | | | |
| | of Inventor(s) | (5) | | (6) | | | |
| | | (7) | | (8) | | | |
| | | the un | | iency of which are h | r good and valuable consideration paid to each of lereby acknowledged, each undersigned agrees to | | |
| (9) | Insert Name of Assignee | (9) |) Renishaw plc | | | | |
| (10) | Insert Address of Assignee | (10) | New Mills, Wotton-under-Ed | lge, Gloucestershir | e, GL12 8JR, United Kingdom | | |
| | | the ent inventi contin | ire right, title and interest for the ion, and in all applications for pa uation, international, confirmation | United States of A atent including any a on, substitute and re | irs, successors, assigns and legal representatives, merica as defined in 35 U.S.C. §100, in the and all provisional, non-provisional, divisional, issue application(s), and all Letters Patent, by be granted on the invention known as | | |
| (11) | Insert Identification such as Title, Case Number, or Foreign Application Number | (11) | Rotation Detection Apparatus | \$ | | | |
| | | | (PCT/GB2014/052351) | | | | |
| | | (Attor | ney Docket No. | |) | | |
| (12) | Alternative Identification for | (12) | U.S. Application Number | , 111 | | | |
| | filed applications | filed | | | | | |

- 1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.
- 2) Each undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning any application or patents for the invention and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.
- 3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.
- 4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office and other issuing authorities to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.
- 6) Each undersigned hereby grants the firm of OLIFF & BERRIDGE, PLC the power to insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

(13) Declaration

As an above named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of a claimed invention (or claimed design) in the above-identified application for which this declaration is being submitted.

The application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified application, including the claims, and am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

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,

PATENT REEL: 037612 FRAME: 0542 In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

| Date | 19 th February 2016 | Inventor Signature | -tous Jacour | (SEAL) |
|---------|---|--------------------|---|--|
| Date | 16th March 2015 | Inventor Signature | AT Hollenson | (SEAL) |
| Date | | Inventor Signature | ************************************** | (SEAL) |
| Date | | Inventor Signature | | (SEAL) |
| Date | | Inventor Signature | | (SEAL) |
| Date | | Inventor Signature | | (SEAL) |
| Date | | Inventor Signature | | (SEAL) |
| Date | | Inventor Signature | | (SEAL) |
| neither | This assignment should preferably be signed, then it should be signed before at least two v | | olic if within the U.S.A. (b) a U.S. Consul if outside ere: | the U.S.A. If |
| Date | 11 1 9 Marin, 2015 | Witness | N Water | ······································ |
| Date | 19th February 2015 | Witness | <u> </u> | |
| Date | KU Mach 2015 | Witness | | · |
| Date | 16" March 2015. | Witness | -Ar-44 | |
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| Date | | Witness | | · ———————————————————————————————————— |
| Date | | Witness | | |

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