| Form PTO-1595 (Rev. 03-11) DMB No. 0651-0027 (exp. 03/31/2015) | U.S. DEPARTMENT OF COMMERCI United States Patent and Trade <u>mark Offic</u> | |
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| RECORDATION FOR | M COVER SHEET | |
| PATENTS ONLY | | |
| To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below. | | |
| 1. Name of conveying party(les): Frédéric Cassaing (02/02/2010), Isabelle Mocoeur (10/02/2010), and Laurent Mugnier (01/25/2010) Additional name(s) of conveying party(les) attached? Yes X No 3. Nature of conveyance/Execution Date(s): Execution Date(s): in parentheses after inventor name X Assignment Merger Change of Name Security Agreement Joint Research Agreement Government Interest Assignment Executive Order 9424, Confirmatory License | 2. Name and address of receiving party(les) Office National D'Etudes et de Recherches Aerospatiales (Onera) Internal Address: Street Address: 29, Avenue de la Division Leclerc F-92320 Châtillon FRANCE City: State: Country: Additional name(s) & address(es) Yes X No | |
| A. Patent Application No.(s) 12/669,524 | This document is being filed together with a new application. B. Patent No.(s) | |
| Additional numbers attached? 5. Name and address to whom correspondence concerning document should be mailed: | 7 Yes X No 6. Total number of applications and patents involved: | |
| Name: John J. Farrell LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP Internal Address: Alty. Dkt.: Street Address: 600 South Avenue West | 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 X Authorized to be charged to deposit account Enclosed None required (government interest not affecting title | |
| City: Westfield State: NJ Zip: 07090 Phone Number: 908-654-5000 Fax Number: 908-654-7866 Email Address: ataylor@ldlkm.com | B. Payment Information Deposit Account Number 12-1095 Authorized User Name John J. Farrell | |
| 9. Signature: Signature John J. Farrell - 57,291 Name of Person Signing | September 24, 2012 Date Total number of pages including cover sheet, attachments, and documents: | |

2913285_1 DOC

PATENT REEL: 029059 FRAME: 0347

| | Docket Number (Optional) | |
|---|-------------------------------------|--|
| ASSIGNMENT OF UTILITY APPLICATION | REGIM 3.3-150 | |
| Whereas, I. Frédéric CASSAING | of | |
| 9 place de la montagne du goulet: F- 75015 PARIS: FRANCE | | |
| hereafter referred to as assignor, have with others invented certain new and useful improvements in METHOD OF ESTIMATING AT LEAST ONE DEFORMATION OF THE WAVE FRONT OF AN OPTICAL SYSTEM OR OF AN OBJECT OBSERVED BY THE OPTICAL SYSTEM AND ASSOCIATED DEVICE | | |
| X for which an application for a United States Letters Patent was filed on January 18, 2010 Application Number 12/669, 524 | | |
| for which an application for a United States Letters Patent we | as executed by me on | |
| for which an international Application was filed on | July 21th 2008 as | |
| PCT/EP2008/059548 designating the United States. And | | |
| OFFICE NATIONAL D'ETUDES ET DE RECHERCHES AEROSPATIALES Whereas, (ONERA) | | |
| a corporation of FRANCE herein referred to as "assignee" whose mailing address is | | |
| 29, Avenue de la Division Leclerc; F- 9232 | O CHATILLON; FRANCE | |
| Is desirous of acquiring the entire right, title and interest in the same; | | |
| NOW, THEREFORE, in consideration of the sum of one dollars (\$ 1.00), the receipt whereof is acknowledged, end other good and valuable consideration, I as assignor hereby self, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee of the entire interest therein; and the undersigned for me and my legal representatives, helrs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reliscue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, seeigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said appl | | |
| And I do hereby authorize my attorneys to insert on this deed the filing date and application number of sald application when known. | | |
| O2/02/2010 OMINITED DEPMAND Witness ALLEMAND ANNICK Typed Name of Witness | rebeil Cameing Frédéric CASSAING | |
| x *Total of 3 forms are submitted. | | |

LD-515\

PATENT

REEL: 029059 FRAME: 0348

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| | Docket Number (Optional) | |
|---|--|--|
| ASSIGNMENT OF UTILITY APPLICATION | REGIM 3.3-150 | |
| Whereas, I, Isabelle MOCOEUR | ') of | |
| 89. Avenue de la Liberté: F- 94260 FRESNES: FRANCE | | |
| hereafter referred to as assignor, have with others invented cartain new and useful improvements in | | |
| METHOD OF ESTIMATING AT LEAST ONE DEFORMATION OF THE WAVE FRONT OF AN OPTICAL SYSTEM OR OF AN OBJECT OBSERVED BY THE OPTICAL SYSTEM AND ASSOCIATED DEVICE | | |
| X for which an application for a United States Letters Patent was | filed on January 18, 2010 | |
| Application Number 12/669,524 | | |
| for which an application for a United States Letters Patent was executed by me on | | |
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| X | Table Odah DAGO | |
| for which an International Application was fied on | July 21th 2008 , as | |
| DCT/ED2ARD/AEG549 | of Circles | |
| PCT/EP2008/059548 , dealgnating the Unite | u caus. | |
| OFFICE NATIONAL D'ETUDES ET DE | RECHERCHES APROSPATIALES | |
| Whereas. (ONERA) | | |
| a corporation of FRANCE herein referred to as "assignee" whose mailing address is"; | | |
| 29, Avenue de la Division Leclerc; F- 92320 | CHATILLON; FRANCE | |
| le decirous of acquiring the entire right, title and interest in the same: | | |
| NOW, THEREFORE, in consideration of the sum | | |
| And I do hereby authorize my attorneys to insert on this deed the filling de | ite and application number of said application when known. | |
| 10/02/2010 | Beck the House | |
| 3) anoth AUENAND | Isabelle MOCOEUR | |
| 3) (IM MITTER ALLEDAND Witness ALLETIAN) Typed Name of Witness | | |
| x *Total of 3 forms are submitted. | | |

PATENT

REEL: 029059 FRAME: 0349

| ASSIGNMENT OF UTILITY APPLICATION | Dockel Number (Optional) REGIM 3.3-150 | |
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| | | |
| Whereas, i, Laurent MUGNIER of | | |
| 1 quater rue basse de la terrasse; F- 92190 MEUDON; FRANCE | | |
| hereafter referred to as assignor, have with others invented certain new end useful improvements in METHOD OF ESTIMATING AT LEAST ONE DEFORMATION OF THE WAVE FRONT OF AN OPTICAL SYSTEM OR OF AN OBJECT OBSERVED BY THE OPTICAL SYSTEM AND ASSOCIATED DEVICE | | |
| X for which an application for a United States Letters Patent was filled on January 18, 2010 | | |
| Application Number 12/669,524 for which an application for a United States Letters Patent was executed by me on | | |
| to which an application for a british disease better Patient was executed by the on | | |
| for which an international Application was filed on | July 21th 2008 ss | |
| PCT/EP2008/059548 , designating the United States. | | |
| OFFICE NATIONAL D'ETUDES ET DE RECHERCHES AEROSPATIALES | | |
| Whereas, (ONERA) | | |
| a corporation of FRANCE herein referred to as "assignee" whose mailing address is | | |
| 29, Avenue de la Division Leclerc; F- 9232 | CHATILLON; FRANCE | |
| is desirous of acquiring the entire right, title end interest in the same; | | |
| NOW, THEREFORE, in consideration of the sum of one dollars (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, substitute or neissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including all claims for damages by reason of past infringement with the right to sue for and collect the same for its own use and the use of its successors, assigns and legal representatives, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks to hereby authorized and requested to its right to claim such priority or benefit and the Commissioner of Patents and Trademarks to hereby authorized and requested to take all patents on said improvements or resulting thereform to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and coverant without further remuneration, to execute and deliver all original, divisional, continuation, relissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to ald assignee, its successore, assigns and nominees to | | |
| And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known. | | |
| Tanyary 25 2010. OMNUMBATE ACTIONAMO Witness ALLEMAND ANNUK Typod Name of Witness | Laurent MUGNIER | |
| x Total of 3 forms are submitted. | | |

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REEL: 029059 FRAME: 0350