PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3092070

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

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------------------|----------------|
| MARK C. HERSAM | 09/04/2014 |
| ETHAN B. SECOR | 09/10/2014 |
| PRADYUMNA L. PRABHUMIRASHI | 10/30/2014 |
| KANAN P. PUNTAMBEKAR | 10/30/2014 |
| MICHAEL L. GEIER | 09/02/2014 |
| YU TENG LIANG | 09/03/2014 |

RECEIVING PARTY DATA

| Name: | NORTHWESTERN UNIVERSITY | |
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| State/Country: | ILLINOIS | |
| Postal Code: | 60208 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14121097 |

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: | 11635-CIP |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | TRAVIS MCDONNELL |
| SIGNATURE: | /Travis McDonnell/ |
| DATE SIGNED: | 11/03/2014 |

Total Attachments: 7

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503045471 REEL: 034091 FRAME: 0657

PATENT -

PATENT REEL: 034091 FRAME: 0658

ASSIGNMENT

Serial No:

14/121,097

Filing Date:

July 30, 2014

Title of U.S. Patent Application: Methods for Preparation of Concentrated Graphene Ink

Compositions and Related Composite Materials

For good and valuable consideration, the receipt and sufficiency of which are hereby agreed, each of the undersigned hereby assigns to Northwestern University, an Illinois not-for-profit corporation, having a place of business at 633 Clark Street, Evanston, Illinois 60208 and its successors and assigns ("Assignee") the entire right, title and interest in and to the inventions of such undersigned disclosed in the application listed above, and in any and all other applications anywhere in the world which the undersigned may file and/or be named as an inventor of, solely or jointly, on said inventions, in any and all patents which may be obtained on any of said applications and in any and all reissues, reexaminations, supplemental examinations, inter partes reviews, oppositions, post-grant reviews, supplementary protection certificates and/or extensions thereof, including without limitation, the right to bring suit and to claim and retain all damages and/or seek other remedies for the past, present and future infringement of any of the foregoing, the right of priority, including without limitation to claim priority benefit of or to said patent applications, and request the Commissioner for Patents in the United States and similar authorities outside the United States to issue said patents to and in the name of the Assignee.

Each of the undersigned states that the application listed above is or was made or authorized to be made by him or her. Each of the undersigned believes himself or herself to be the original inventor or a joint inventor with another undersigned of a claimed invention in the application listed above. Each of the undersigned acknowledges that any willful false statement made by him or her in this paragraph is punishable under 18 U.S.C. §1001 by fine or imprisonment of not more than five years, or both.

Except in favor of Assignee, each of the undersigned warrants that: (i) he or she is the owner of all its rights, titles and interests herein assigned and has the right to make this unconditional and irrevocable assignment to Assignee without obtaining any approval or permission of a third party; and (ii) there are no outstanding encumbrances, liens, prior assignments, licenses, or other obligations or restrictions on the rights, titles and interests herein assigned.

Upon the request of Assignee and at no expense to the undersigned, each of the undersigned hereby agrees to execute any and all applications on said inventions, including without limitation for the reissue, reexamination, supplementary protection certificate or extension thereof and any oath, declaration or affidavit relating thereto that said Assignee may deem necessary or expedient, and to cooperate to the best of the ability of the undersigned with and perform any and all affirmative acts requested by Assignee to prepare, file, prosecute, maintain, defend, enforce and vest in Assignee the rights, titles and interests assigned herein, including without limitation, preparing and executing statements and giving and producing evidence in support thereof, whereby said rights, titles and interests will be held and enjoyed by said Assignee to the full end of the term for which said patents may be granted as fully and entirely as the same would have been held and enjoyed by the undersigned if this assignment had not been made.

| On behalf of Northwestern University, Assignee, the authorized signatory below, hereby confirms Assignee's acceptance of all rights, privileges, titles and interests conveyed by this Assignment. Signature: Name: Beverly R. Milligan Title: Invention Specialist, Innovation and New Ventures Office (INVO) |
|--|
| |
| Undersigned (ASSIGNORS): 9/4/14 |
| Inventor Name: Mark C. Hersam DATE |
| State of Illinois County of Cook ss. |
| On this day of September, 2014, before me, a Notary Public in and for the County and State aforesaid, appeared, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he or she executed said instrument as his or her free and voluntary act and for the uses and purposes therein expressed. Mulh El |
| NOTARY PUBLIC |
| [NOTARY SEAL] My Commission Expires: 10/33/14 |

Page 2 of 7

PATENT REEL: 034091 FRAME: 0660 Serial No:

14/121,097

Filing Date:

July 30, 2014

Title of U.S. Patent Application: Methods for Preparation of Concentrated Graphene Ink Compositions and Related Composite Materials

Undersigned (ASSIGNORS) continued:

Ethylen 9/10/2014
Inventor Name: Ethan B. Secor DATE

State of Ill: nois

County of Cook

ss.

NOTARY PUBLIC

[NOTARY SEAL]

My Commission Expires: 10/23/16

CFFCALSEAL

NOLLY E SCARLON

NOTARY PUBLIC - STATE OF ILLINOIS
NY COMMISSION EXPIRES 1973/16

Serial No: 14/121,097

Filing Date: July 30, 2014

Title of U.S. Patent Application: Methods for Preparation of Concentrated Graphene Ink Compositions and Related Composite Materials

Undersigned (ASSIGNORS) continued:

Inventor Name: Pradyumna L. Prabhumirashi DATE

State of Sta

County of WOK

On this day of , 2014, before me, a Notary Public in and for the County and State aforesaid, appeared, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he or she executed said instrument as his or her free and voluntary act and for the uses and purposes therein expressed.

TARY SEAL! My Commission Expires:

BEVERLY RUTH MILLIGAN NOTARY PUBLIC, STATE OF ILLINOIS MY COMMISSION EXPIRES 6/21/2017

Serial No:

14/121,097

Filing Date:

July 30, 2014

Title of U.S. Patent Application: Methods for Preparation of Concentrated Graphene Ink Compositions and Related Composite Materials

Undersigned (ASSIGNORS) continued:

Inventor Name: Kanan P. Puntambekar

County of

2014, before me, a Notary Public in and for the day of County and State aforesaid, appeared, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he or she executed said instrument as his or her free and voluntary act and for the uses and purposes therein expressed.

My Commission Expires:

Serial No:

14/121.097

Filing Date:

July 30, 2014

Title of U.S. Patent Application: Methods for Preparation of Concentrated Graphene Ink Compositions and Related Composite Materials

Undersigned (ASSIGNORS) continued:

9/2/14 Inventor Name: Michael L. Geier

State of Tilinois

County of Code

On this _____ day of ________, 2014, before me, a Notary Public in and for the County and State aforesaid, appeared, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he or she executed said instrument as his or her free and voluntary act and for the uses and purposes therein expressed.

[NOTARY SEAL]

My Commission Expires: _10/23/16

Serial No: 14/121,097

Filing Date: July 30, 2014

Title of U.S. Patent Application: Methods for Preparation of Concentrated Graphene Ink Compositions and Related Composite Materials

<u>Undersigned (ASSIGNORS) continued:</u>

| 1111111 | 9/3/2014 |
|------------------------------|----------|
| Inventor Name: Yu Teng Liang | DATE |

| State of \ |)plow.rc | |
|------------|-----------|-----|
| • | New Carte | SS. |

| On this _ | 3_ | day of _ | September | , 2014, before me, a Notary Public in and for the |
|-------------|-------------|-------------|-------------------|---|
| County ar | id State a | foresaid, a | ppeared, to me p | ersonally known to be the same person whose name is |
| subscribe | d to the fo | oregoing in | istrument, and ac | knowledged that he or she executed said instrument as his |
| or her free | e and volu | intary act | and for the uses | and purposes therein expressed. |

JOHN M. DENNIS NOTARY PUBLIC - DELAWARE My Commission Expires 3-7-16

[NOTARY SEAL]

RECORDED: 11/03/2014

NOTARY PUBLIC

My Commission Expires: