505588826 07/25/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT NATURE OF CONVEYANCE: ASSIGNMENT

EPAS ID: PAT5635626

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------|----------------|
| AMIT AGGARWAL | 01/30/2014 |
| DAVID THACKER | 08/13/2013 |
| SEAN O'BRIEN | 05/30/2013 |

RECEIVING PARTY DATA

| Name: | GROUPON, INC. | |
|-------------------|---------------------|--|
| Street Address: | 600 W. CHICAGO AVE. | |
| Internal Address: | SUITE 620 | |
| City: | CHICAGO | |
| State/Country: | ILLINOIS | |
| Postal Code: | 60654 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16397333 |

CORRESPONDENCE DATA

Fax Number: (704)444-1111

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.

704-444-1000 Phone:

Email: grace.rippy@alston.com BRIAN C. ELLSWORTH **Correspondent Name:** Address Line 1: 101 S. TRYON STREET

Address Line 4: CHARLOTTE, NORTH CAROLINA 28280

| ATTORNEY DOCKET NUMBER: | 058407/528857 | |
|---------------------------------------|----------------------|--|
| NAME OF SUBMITTER: BRIAN C. ELLSWORTH | | |
| SIGNATURE: | /Brian C. Ellsworth/ | |
| DATE SIGNED: | 07/25/2019 | |

Total Attachments: 7

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> **PATENT REEL: 049856 FRAME: 0580** 505588826

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PATENT REEL: 049856 FRAME: 0581

ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto

Groupon, Inc. 600 W. Chicago Ave., Suite 620 Chicago, Illinois 60654

its successors and assigns, the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries in and to the inventions as set forth in the United States Patent Application(s) identified on the attached Schedule A and any and all application(s) for United States Letters Patent(s), including all divisional, renewal, substitute, continuation, nonprovisional, continuation-in-part, and Convention applications based in whole or in part upon said inventions or upon said applications, and any and all Letters Patent and reissues, reexaminations, and extensions of Letters Patent granted for said inventions or upon said applications and every priority right that is or may be predicated upon or arise from said inventions, said applications, and said Letters Patent; said Assignee being hereby authorized to file patent applications in any or all countries on any or all said inventions in the name of the undersigned or in the name of said Assignee or otherwise as said Assignee may deem advisable, under the International Convention or otherwise; the Commissioner of Patents and Trademarks of the United States of America being hereby authorized to issue or transfer all said Letters Patent to said Assignee in accordance herewith; this assignment being under covenant, not only that full power to make the same is had by the undersigned, but also that such assigned right is not encumbered by any grant, license, or other right theretofore given, and that the undersigned will do all acts reasonably serving to ensure that the said inventions, patent applications and Letters Patent shall be held and enjoyed by said Assignee as fully and entirely as the same could have been held and enjoyed by the undersigned if this assignment had not been made, and particularly to execute and deliver to said Assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, declarations, and lawful affidavits in form and substance which may be requested by said Assignee, to furnish said Assignee with all facts relating to said inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may embody said inventions, and to testify in any proceedings relating to said inventions, patent applications, and/or Letters Patent.

The undersigned hereby grant(s) an authorized representative of Assignee the power to insert in this Assignment any further identification that may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

| 8/13/2013 | Sta Oh |
|-----------|---------------|
| Date | David Thacker |

Schedule A

| Serial No. | Filing Date | Title | |
|------------|-------------|----------------------------------------------------------------------------------|--|
| 61/695,857 | 08/31/2012 | Promotion Offering System | |
| 13/829,581 | 03/14/2013 | Promotion Offering System | |
| 61/832,467 | 06/07/2013 | Method, Apparatus, And Computer Program Product For Facilitating Dynamic Pricing | |
| 13/930,527 | 06/28/2013 | Method And Apparatus For Generating An Electronic Communication | |
| 13/930,519 | 06/28/2013 | Method And Apparatus For Generating An Electronic Communication | |
| 13/930,532 | 06/28/2013 | Method And Apparatus For Generating An Electronic Communication | |
| 61/593,262 | 01/31/2012 | Pre-Feature Promotion System | |
| 13/756,145 | 01/31/2013 | Pre-Feature Promotion System | |
| 61/635,162 | 04/18/2012 | Throttling System for Consumer Deals | |
| 13/839,142 | 03/15/2013 | Throttling System for Consumer Deals | |
| 61/644,352 | 05/08/2012 | Dynamic Promotion Analytics | |
| 13/839,360 | 03/15/2013 | Dynamic Promotion Analytics | |
| 61/666,556 | 06/29/2012 | Inbox Management System | |
| 13/839,958 | 03/15/2013 | Inbox Management System | |
| 61/675,769 | 07/25/2012 | Reimpression Promotion System | |
| 13/838,874 | 03/15/2013 | Reimpression Promotion System | |
| 61/707,781 | 09/28/2012 | Deal Program Life Cycle | |
| 13/839,499 | 03/15/2013 | Deal Program Life Cycle | |
| 13/838,711 | 03/15/2013 | Cadence Management System for Consumer Promotions | |
| 13/838,452 | 03/15/2013 | Inbox Management System | |

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| Sant Cla | me, |
| County of Jerras Cia | |
| On 813 203 before | me, T. Tucker |
| Date " | Here insert Name and Inte of the Officer |
| personally appeared | Name(s) of Signer(s) |
| | |
| | La constant and the basis of actiofactor |
| | who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are |
| | subscribed to the within instrument and acknowledged |
| | to me that he/she/they executed the same in |
| | his/ her/their authorized capacity(ies), and that by |
| | his/ her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the |
| I. TUCKER | nerson(stracted executed the instrument. |
| Commission # 193813 Notary Public - Californ | 30 . 🐍 . |
| Santa Clara County | I certify under PENALTY OF PERJORY under the |
| My Comm. Expires May 24, | |
| | paragraph is true and correct. |
| | WITNESS my hand and official seal. |
| | • |
| | Signature: Signature of Notary Public |
| Place Notary Seal Above | Signature of Notary Public |
| Though the information below is no | ot required by law, it may prove valuable to persons relying on the document |
| • | ulent removal and reattachment of this form to another document. |
| Description of Attached Docum Title or Type of Document: | |
| Document Date: | |
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| Signer(s) Other Than Named Above: Capacity(ies) Claimed by Signe | |
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| Signer's Name: ☐ Corporate Officer — Title(s): | |
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| | OF SIGNER Tep of thumb here |
| ☐ Attorney in Fact | ☐ Attorney in Fact |
| ☐ Trustee | ☐ Trustee |
| ☐ Guardian or Conservator | ☐ Guardian or Conservator |
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| | `□ Other: |
| Other: | ☐ Other: |

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ASSIGNMENT

WHEREAS, Amit Aggarwal, David Thacker and Sean O'Brien (hereinafter called the "Assignors"), have made the invention described in the United States patent application entitled CADENCE MANAGEMENT SYSTEM FOR CONSUMER PROMOTIONS, for a full description of which reference is here made to U.S. Utility Application Serial No. 13/838,711, filed on March 15, 2013, which claims priority to U.S. Provisional Application No. 61/666,556, filed on June 29, 2012.

WHEREAS, **Groupon**, **Inc.**, a corporation organized and existing under the laws of the State of Delaware, having a place of business at **600 West Chicago Avenue**, **Suite 620**, **Chicago**, **Illinois 60654**, hereinafter called the "Assignee", desires to acquire the entire right, title and interest in and to the invention and the patent applications identified above, and all patents which may be obtained for said invention, as set forth below;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other valuable and legally sufficient consideration, the receipt of which by the Assignors from the Assignee is hereby acknowledged, the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer to the Assignee, the entire right, title and interest for the United States in and to the invention and the patent applications identified above, and any patents that may issue for said invention in the United States; together with the entire right, title and interest in and to said invention and all patent applications and patents issuing therefrom in all countries foreign to the United States, including the full right to claim for any such application all benefits and priority rights under any applicable convention; together with the entire right, title and interest in and to all continuations, divisions, renewals and extensions of any of the patent applications and patents defined above; together with the right to recover all damages, including, but not limited to, a reasonable royalty, by reason of past, present, or future infringement or any other violation of patent or patent application rights; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for all such patents.

Page 1 of 2

The Assignors hereby covenant and agree, for both the Assignors and the Assignors' legal representatives, that the Assignors will assist the Assignee in the prosecution of the patent applications identified above; in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; in vesting in the Assignee like exclusive title in and to all such other patent applications and patents; and in the prosecution of any interference which may arise involving said invention, or any such patent application or patent; and that the Assignors will execute and deliver to the Assignee any and all additional papers which may be requested by the Assignee to carry out the terms of this Assignment.

The Commissioner of Patents and Trademarks is hereby authorized and requested to issue patents to the Assignee in accordance with the terms of this Assignment.

IN TESTIMONY WHEREOF, the Assignors have executed this agreement.

| DATE: | 4 | |
|------------|---------|---------------|
| WITNESSED: | | AMIT AGGARWAL |
| DATE: | | |
| DATE: | | |
| | | |
| DATE: | | DAVID THACKED |
| WITNESSED: | | DAVID THACKER |
| DATE: | | |
| DATE: | | |
| | | 011 |
| DATE: | 5/30/13 | SEAN OURDIEN |
| WITNESSED: | | SEAN O'BRIEN |
| DATE: | 5/30/13 | Sour 5 |
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ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto

Groupon, Inc. 600 W. Chicago Ave., Suite 620 Chicago, Illinois 60654

its successors and assigns, the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries in and to the inventions as set forth in the United States Patent Application(s) identified on the attached Schedule A and any and all application(s) for United States Letters Patent(s), including all divisional, renewal, substitute, continuation, nonprovisional, continuation-in-part, and Convention applications based in whole or in part upon said inventions or upon said applications, and any and all Letters Patent and reissues, reexaminations, and extensions of Letters Patent granted for said inventions or upon said applications and every priority right that is or may be predicated upon or arise from said inventions, said applications, and said Letters Patent; said Assignee being hereby authorized to file patent applications in any or all countries on any or all said inventions in the name of the undersigned or in the name of said Assignee or otherwise as said Assignee may deem advisable, under the International Convention or otherwise; the Commissioner of Patents and Trademarks of the United States of America being hereby authorized to issue or transfer all said Letters Patent to said Assignee in accordance herewith; this assignment being under covenant, not only that full power to make the same is had by the undersigned, but also that such assigned right is not encumbered by any grant, license, or other right theretofore given, and that the undersigned will do all acts reasonably serving to ensure that the said inventions, patent applications and Letters Patent shall be held and enjoyed by said Assignee as fully and entirely as the same could have been held and enjoyed by the undersigned if this assignment had not been made, and particularly to execute and deliver to said Assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, declarations, and lawful affidavits in form and substance which may be requested by said Assignee, to furnish said Assignee with all facts relating to said inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may embody said inventions, and to testify in any proceedings relating to said inventions, patent applications, and/or Letters Patent.

The undersigned hereby grant(s) an authorized representative of Assignee the power to insert in this Assignment any further identification that may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

| JAN 30, 2014 | Amix Aggarwal Amit Aggarwal |
|--------------|-----------------------------|
| Date | Amit Aggarwal |
| Witness | Date: 1/30/2014 |
| Witness | Date: $1/30/2014$ |

Schedule A

| A&B Matter Nos. | Serial No. | Filing Date | Title |
|--------------------|-------------------|-------------|-------------------------------------------------------------------------------------|
| 426664 | 61/593,262 | 01/31/2012 | PRE-FEATURE PROMOTION SYSTEM |
| 426664 | 61/635,162 | 04/18/2012 | THROTTLING SYSTEM FOR CONSUMER DEALS |
| 426664 | 61/644,352 | 5/8/2012 | DYNAMIC PROMOTION ANALYTICS |
| 426664 | 61/675,769 | 7/25/2012 | REIMPRESSION PROMOTION SYSTEM |
| 426664 | 61/666,556 | 6/29/2012 | INBOX MANAGEMENT |
| 426796 | 61/702,431 | 9/18/2012 | CONSUMER CROSS- CATEGORY DEAL DIVERSITY |
| 428898 | 13/829,581 | 3/14/2013 | Promotion Offering System |
| 436861 | 13/460,745 | 4/30/2012 | SALES ENHANCEMENT SYSTEM |
| 436866 | 61/707,781 | 9/28/2012 | DEAL PROGRAM LIFE CYCLE |
| 436867 | 13/756,145 | 1/31/2013 | PRE-FEATURE PROMOTION SYSTEM |
| 436870 | 13/839,142 | 3/15/2013 | THROTTLING SYSTEM FOR CONSUMER DEALS |
| 436876 | 13/839,360 | 3/15/2013 | DYNAMIC PROMOTION ANALYTICS |
| 436887 | 13/839,499 | 3/15/2013 | DEAL PROGRAM LIFE CYCLE |
| 436889 | 13/839,036 | 3/15/2013 | PROMOTION SYSTEM FOR DETERMINING AND CORRECTING FOR INSUFFICIENCY OF PROMOTION DATA |
| 436890 | 13/839,958 | 3/15/2013 | INBOX MANAGEMENT SYSTEM |
| 436891 | 13/841,433 | 3/15/2013 | CONSUMER CROSS- CATEGORY DEAL DIVERSITY |
| 436895 | 13/838,874 | 3/15/2013 | REIMPRESSION PROMOTION SYSTEM |
| 436897 | 13/838,711 | 3/15/2013 | CADENCE MANAGEMENT SYSTEM FOR CONSUMER PROMOTIONS |
| 436898 | 13/838,452 | 3/15/2013 | INBOX MANAGEMENT SYSTEM |
| 436921 | PCT/US2013/048154 | 6/27/2013 | INBOX MANAGEMENT |

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PATENT REEL: 049856 FRAME: 0588