504754025 01/30/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4800753

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|---|
| NATURE OF CONVEYANCE: | PATENT SECURITY AGREEMENT SUPPLEMENT (TERM) |

CONVEYING PARTY DATA

| Name | Execution Date |
|--|----------------|
| HOUGHTON MIFFLIN HARCOURT PUBLISHING COMPANY | 01/20/2017 |

RECEIVING PARTY DATA

| Name: | CITIBANK, N.A. | |
|-----------------|-----------------------------|--|
| Street Address: | 390 GREENWICH ST, 1ST FLOOR | |
| City: | NEW YORK | |
| State/Country: | NEW YORK | |
| Postal Code: | 10014 | |

PROPERTY NUMBERS Total: 2

| Property Type | Number |
|----------------|---------|
| Patent Number: | 9536441 |
| Patent Number: | 9536442 |

CORRESPONDENCE DATA

Fax Number: (650)838-5109

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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Address Line 2: SHEARMAN & STERLING LLP
Address Line 4: MENLO PARK, CALIFORNIA 94025

| ATTORNEY DOCKET NUMBER: | 35609-00033 |
|-------------------------|---------------------|
| NAME OF SUBMITTER: | BENJAMIN PETERSEN |
| SIGNATURE: | /BENJAMIN PETERSEN/ |
| DATE SIGNED: | 01/30/2018 |

Total Attachments: 4

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PATENT

REEL: 045195 FRAME: 0563

PATENT SECURITY AGREEMENT SUPPLEMENT

This PATENT SECURITY AGREEMENT SUPPLEMENT (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Patent Security Agreement Supplement") dated January 20, 2017, is made by the Person listed on the signature page hereof (the "Grantor"), in favor of Citibank, N.A. (together with its affiliates, "Citibank"), as collateral agent (the "Collateral Agent") for the Secured Parties (as defined in the Credit Agreement referred to below).

WHEREAS, Houghton Mifflin Harcourt Company, a corporation organized under the laws of the State of Delaware and parent company of the Grantor ("Holdings"), Houghton Mifflin Harcourt Publishers Inc., a corporation organized under the laws of the State of Delaware, HMH Publishers LLC, a limited liability company organized under the laws of the State of Delaware, the Grantor, and the subsidiaries of Holdings from time to time party thereto have entered into that certain Amended and Restated Term Loan Credit Agreement dated as of May 22, 2012 (as amended, amended and restated, supplemented or otherwise modified from time to time, including on May 29, 2015, the "Credit Agreement"), with Citibank, as Administrative Agent and as Collateral Agent, and the Lenders party thereto. Terms defined in the Credit Agreement and not otherwise defined herein are used herein as defined in the Credit Agreement.

WHEREAS, pursuant to the Credit Agreement, the Grantor has executed and delivered to the Collateral Agent that certain Amended and Restated Term Facility Guarantee and Collateral Agreement dated as of May 22, 2012 (as amended and restated on May 29, 2015), made by the Grantor to the Collateral Agent (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement") and that certain Patent Security Agreement dated as of June 21, 2012 (as amended, amended and restated, supplemented or otherwise modified from time to time, collectively with the Security Agreement, the "Security Agreements").

WHEREAS, under the terms of the Security Agreements, the Grantor has granted to the Collateral Agent, for the ratable benefit of the Secured Parties, a security interest in, among other property, the Additional Patent Collateral (as defined in Section 1 below) of the Grantor, and has agreed as a condition thereof to execute this Patent Security Agreement Supplement for recording with the United States Patent and Trademark Office and other governmental authorities.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Grantor agrees as follows:

Section 1 Grant of Security. The Grantor hereby grants to the Collateral Agent for the ratable benefit of the Secured Parties a security interest in all of such Grantor's right, title and interest in and to the patents and patent applications set forth in Schedule A hereto (the "Additional Patent Collateral").

PATENT REEL: 045195 FRAME: 0564 Section 2 <u>Recordation</u>. The Grantor authorizes and requests that the Commissioner for Patents and any other applicable government officer record this Patent Security Agreement Supplement.

Section 3 <u>Execution in Counterparts</u>. This Patent Security Agreement Supplement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement.

Section 4 Grants, Rights and Remedies. This Patent Security Agreement Supplement has been entered into in conjunction with the provisions of the Security Agreements. The Grantor does hereby acknowledge and confirm that the grant of the security interest hereunder to, and the rights and remedies of, the Collateral Agent with respect to the Additional Patent Collateral are more fully set forth in the Security Agreements, the terms and provisions of which are incorporated herein by reference as if fully set forth herein. The Security Agreements shall remain in full force and effect in accordance with their terms. In the event of any conflict between the Security Agreements and this Patent Security Agreement Supplement, the terms of the Security Agreements shall control.

Section 5 Governing Law. This Patent Security Agreement Supplement shall be governed by, and construed in accordance with, the laws of the State of New York.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the Grantor has caused this Patent Security Agreement Supplement to be duly executed and delivered by its officer thereunto duly authorized as of the date first above written.

HOUGHTON MIFFLIN HARCOURT PUBLISHING COMPANY

By

Name: William F. Bayers

Title: Executive Vice President,

Secretary and General Counsel

Address for Notices: 125 High Street Boston, MA 02110

REEL: 045195 FRAME: 0566

Schedule A

Additional Patent Collateral

RECORDED: 01/30/2018

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