504494848 08/08/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TENG-HUI ZHU	10/29/2014
CHRISTOPHER CRAIK	10/31/2014

RECEIVING PARTY DATA

Name:	GOOGLE INC.	
Street Address:	1600 AMPHITHEATRE PARKWAY	
City:	MOUNTAIN VIEW	
State/Country:	CALIFORNIA	
Postal Code:	94043	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15465569

CORRESPONDENCE DATA

Fax Number: (312)913-0002

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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Correspondent Name: MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

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Address Line 4: CHICAGO, ILLINOIS 60606

ATTORNEY DOCKET NUMBER:	14-1737-US-CON
NAME OF SUBMITTER:	THOMAS J. LOOS
SIGNATURE:	/Thomas J. Loos/
DATE SIGNED:	08/08/2017

Total Attachments: 2

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PATENT 504494848 REEL: 043235 FRAME: 0890

ASSIGNMENT

Case No. 14-1737

Inventor(s): Teng-Hui Zhu and Christopher Craik

Serial No. Filing Date:

Date of Execution of Application:

In consideration of One Dollar (\$1.00) and other good and valuable considerations in hand paid, the receipt and sufficiency whereof are hereby acknowledged, the undersigned hereby assign to:

Google Inc.

its successors and assigns, the entire right, title and interest in the invention or improvements of the undersigned disclosed in an application for Letters Patent of the United States, entitled:

Efficient Computation of Shadows for Circular Light Sources

and identified as:

Case No. 14-1737

in the offices of MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP and in said application and any and all other applications, both United States and foreign, which the undersigned may file, either solely or jointly with others, on said invention or improvements, and in any and all Letters Patent of the United States and foreign countries, which may be obtained on any of said applications, and in any reissue or extension of such patents, and further assigns to said assignee the priority right provided by the International Convention.

The undersigned hereby authorize and request the Commissioner of Patents and Trademarks to issue said Letters Patent to said assignee.

The undersigned hereby authorize and request the attorneys of record in said application to insert in this assignment the filing date and serial number of said application when officially known, and the date of execution of the application.

The undersigned warrant themselves to be the owners of the entire right, title and interest in said invention or improvements and to have the right to make this assignment, and further warrant that there are no outstanding prior assignments, licenses, or other encumbrances on the interest herein assigned.

For said considerations the undersigned hereby agree, upon the request and at the expense of said assignee, its successors and assigns, to execute any and all divisional, continuation and substitute applications for said invention or improvements, and any necessary oath, affidavit or declaration relating thereto, and any application for the reissue or extension of any Letters Patent that may be granted upon said application and any and all applications and other documents for Letters Patent in foreign countries on said invention or improvements, that said assignee, its successors or assigns may deem necessary or expedient, and for the said considerations the undersigned authorize said assignee to apply for patents for said invention or improvements in its own name in such countries where such procedure is proper and

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP 300 SOUTH WACKER DRIVE CHICAGO, ILLINOIS 60606 TELEPHONE (312) 913-0001 1

ASSIGNMENT FOR "EFFICIENT COMPUTATION OF SHADOWS FOR CIRCULAR LIGHT SOURCES"

REEL: 043235 FRAME: 0891

further agree, upon the request of said assignee, its successors and assigns, to cooperate to the best of the ability of the undersigned with said assignee, its successors and assigns, in any proceedings or transactions involving such applications or patents, including the preparation and execution of preliminary statements, giving and producing evidence, and performing any and all other acts necessary to obtain, maintain and enforce said Letters Patent, both United States and foreign, and vest all rights therein hereby conveyed in the assignee, its successors and assigns, whereby said Letters Patent will be held and enjoyed by the said assignee, its successors and assigns, to the full end of the term for which said Letters Patent will 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.

Charleshi

Signature: Tenghul Zhu (Oct 20, 2014

Name: Teng-Hui Zhu

Signature: Christopher Challe (Oct

Name: Christopher Craik

Date: Oct 31, 2014

Date: Oct 29, 2014

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP 300 SOUTH WACKER DRIVE CHICAGO, ILLINOIS 60505 TELEPHONE (312) 913-0001

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