504576815 10/03/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE: NEW ASSIGNMENT NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TAKASHI MATSUI	07/27/2017
KYOZO TSUJIKAWA	08/15/2017
FUMIHIKO YAMAMOTO	08/22/2017
NOBUTOMO HANZAWA	08/10/2017

RECEIVING PARTY DATA

Name:	NIPPON TELEGRAPH AND TELEPHONE CORPORATION
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Internal Address:	CHIYODA-KU
City:	TOKYO
State/Country:	JAPAN
Postal Code:	100-8116

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15563988

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER: 0012430USU/3294 NAME OF SUBMITTER: PAUL D. GREELEY **SIGNATURE:** /PAUL D. GREELEY/ **DATE SIGNED:** 10/03/2017

Total Attachments: 2

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PATENT REEL: 044102 FRAME: 0513

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PATENT REEL: 044102 FRAME: 0514

JOINT ASSIGNMENT

The ASSIGNORS,

MATSUI, Takashi c/o NTT Intellectual Property Center, 9-11, Midori-cho 3-chome, Musashino-shi, Tokyo 180-8585 Japan

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have invented certain new and useful improvements in

PHOTONIC CRYSTAL FIBER

an invention which is fully described in an application for Letters Patent of the United States executed by them this day; and

The ASSIGNEE, NIPPON TELEGRAPH AND TELEPHONE CORPORATION, a Japanese corporation having its principal office at 5-1, Otemachi 1-chome, Chiyoda-ku, Tokyo 100-8116 Japan, wishes to acquire the entire right, title and interest in and to the invention and under Letters Patent which may be obtained for this invention.

For valuable and legally sufficient considerations, receipt of which are hereby acknowledged, the Assignors sell, assign and transfer to Assignee, its successors and assigns, the entire right, title and interest for the United States in and to the above-identified invention and application, divisionals, continuations, and continuation-in-part and for the full term of any Letters Patent of the United States that may issue for the invention.

The Assignors also sell, assign and transfer to Assignee the entire right, title and interest in and to the invention and application for Letters Patent and Letters Patent therefor in all countries foreign to the United States,

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PATENT REEL: 044102 FRAME: 0515 including all rights under the International Convention. The Assignors further authorize Assignee to apply for Letters Patent in foreign countries in the name of Assignee, and to claim the priority of the filing date of the United States Application under the provisions of the International Convention.

The Assignors further agree, for themselves and their legal representatives, they will assist Assignee in the prosecution before the United States Patent Office and the Federal Courts of this application, and other applications for Letters Patent including renewals, continuations, divisions, reissues and substitutions, that the Assignee elects to make covering the invention. The Assignors vest in Assignee like exclusive title in and to all such other applications and Letters Patent. The Assignors will execute and deliver to Assignee any documents which may be requested by Assignee to carry out the terms of this Assignment.

The Commissioner of Patents of the United States is authorized and requested to issue Letters Patent of the United States to Assignee. The Assignors also authorize and request the equivalent authorities in foreign countries to issue the patents of foreign countries to Assignee.

MATSUI, Takashi Inventor's Name	TSUJIKAWA, Kyozo Inventor's Name
Jakashi Matsui	Kyozo Isijikawa
Signature	Signature
27h July 2017 Date	15th . Aug. 2017. Date
Yoshinozi Zyoda Witness	<u>Yordineri Dyrda</u> Winness
YAMAMOTO, Fumihiko Inventor's Name	HANZAWA, Nobutomo Inventor's Name
Lunilate Jamanito Signature	Nobutomo Hangawa Signature
august 22. 2017	August 10, 2017 Date
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	Page 2 of 2

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