505705893 10/03/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Ralf Moser	07/22/2019
Florian Herold	07/09/2019
Arno Schmittner	07/09/2019
Holger Kierey	07/22/2019
Wolfgang Merkel	08/15/2019
Georgo Metalidis	07/17/2019

RECEIVING PARTY DATA

Name:	CARL ZEISS SMT GMBH
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City:	OBERKOCHEN
State/Country:	GERMANY
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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16447001

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	20228-0111001
NAME OF SUBMITTER:	ALISSA TIZZANO
SIGNATURE:	/Alissa/
DATE SIGNED:	10/03/2019

PATENT 505705893 REEL: 050617 FRAME: 0139

Total Attachments: 7 source=P22838WOUS_Assignment#page1.tif source=P22838WOUS_Assignment#page2.tif source=P22838WOUS_Assignment#page3.tif source=P22838WOUS_Assignment#page4.tif source=P22838WOUS_Assignment#page5.tif source=P22838WOUS_Assignment#page6.tif source=P22838WOUS_Assignment#page7.tif

PATENT REEL: 050617 FRAME: 0140

ASSIGNMENT

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, RALF MOSER, FLORIAN HEROLD, ARNO SCHMITTNER, HOLGER KIEREY, WOLFGANG MERKEL, and GEORGO METALIDIS, each individually assign to CARL ZEISS SMT GMBH, a corporation formed under the laws of Germany and having a principal place of business at Rudolf-Eber-Strasse 2, 73447 Oberkochen, GERMANY,, and its successors, transferees, and assignees (collectively the "Assignee"), all of our individual and joint right, title, and interest throughout the world in the invention(s) (the "Subject Matter") described in a patent application that names us as inventors, is titled "OPTICAL ELEMENT, IN PARTICULAR FOR A MICROLITHOGRAPHIC PROJECTION EXPOSURE APPARATUS," and was filed in the United States Patent and Trademark Office on June 20, 2019, as application 16/447,001 (the "Application").

This Assignment assigns, in addition to the Subject Matter of the Application, (a) the Application and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors' certificates for, any of the Subject Matter (collectively the "Applications and Granted Rights") in every country or region and under every treaty or convention, (b) the right to claim priority based on and the benefit of the filing date of any of the Applications and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect, and retain in the Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment.

We authorize the Assignee to apply for and pursue protection for any or all of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment in all countries, regions, and territories of the world, in our names or in the Assignee's name.

We represent and warrant that we have the right and power to make this Assignment and that we have not made and will not make any other assignment that conflicts with this Assignment.

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We will communicate to the Assignee (or, at the request of the Assignee to other parties) all known facts in any form relating to the Subject Matter; will execute and provide all oaths and declarations, statements, testimony, assignments, powers of attorney, applications, and documents; and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment.

Witnessed by:

Signature:

Print Name: Holyar Werey

Print Name: Euses Ausela

Date: <u>July 22, 2019</u>

Date: <u>August 19, 2015</u>

and the second second	Attorney Docket No.: 20228-0111001 / 19 540 US
Fiorian Heroid	Date: July 91/2 2019
Witnessed by:	
Signature: <u>Arnilica Gorha</u> Print Name: <u>Chhishina Gers</u> tun	Date: <u>July 3, 20113</u>
Print Name: <u>Christina Cost</u> on)]
Signature:	Date:

Print Name:

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Arno Schmittner	Date: <u>(3)/05/46</u>
Witnessed by:	
Signature:	Date: <u> </u>
Print Name: <u> </u>	
Signature:	Date:
Print Name:	

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Date: August 15, 2013

Holger Kierey	Date: July 22, 2019
Witnessed by:	
Signature: UBUSCH	Date: <u>Angust 19, 201</u>
Print Name	~~d*

Signature: Eugen Anselm

Date: 15.08. 2019

Wolfgang Merkel

Witnessed by:

Signature: A Lelian Date: 15. P. 70/9

Print Name: 1996

Signature:

Print Name: Lvj Haus

G. Ketalisis	Date: 5/4/7-2019
Georgo Metalidis	
Witnessed by:	
Signature:	Date:
Print Name:	
Signature:	Date:
Print Name:	

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RECORDED: 10/03/2019

Assignment Page 7 of 7

PATENT REEL: 050617 FRAME: 0147