PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5587414

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MARK UNRATH	09/18/2017
CHUAN YANG	10/03/2017
JAN KLEINERT	09/14/2017
MARK PEEPLES	09/26/2017
HUGH OWENS	09/26/2017
GWENDOLYN BYRNE	09/19/2017
HAIBIN ZHANG	09/18/2017
JUSTIN REDD	09/18/2017
CORIE NEUFELD	09/25/2017
JAMES BROOKHYSER	09/19/2017
YASU OSAKO	09/19/2017
MEHMET ALPAY	09/20/2017
ZHIBIN LIN	09/15/2017
PATRICK RIECHEL	09/14/2017
TIM NUCKOLLS	09/15/2017
HISASHI MATSUMOTO	09/27/2017
CHRIS RYDER	09/18/2017

RECEIVING PARTY DATA

Name:	ELECTRO SCIENTIFIC INDUSTRIES, INC	
Street Address:	13900 NW SCIENCE PARK DRIVE	
City:	PORTLAND	
State/Country:	OREGON	
Postal Code:	97229	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15750140

CORRESPONDENCE DATA

Fax Number: (503)671-5337

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent PATENT

REEL: 049569 FRAME: 0532 505540617

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 503-671-5228
Email: ESILegal@esi.com

Total Attachments: 34

Correspondent Name: ELECTRO SCIENTIFIC INDUSTRIES, INC

Address Line 1: 13900 NW SCIENCE PARK DRIVE Address Line 4: PORTLAND, OREGON 97229

source=E248PCT1 Combined DECL-ASSIGN MarkUnrath#page1.tif

ATTORNEY DOCKET NUMBER:	E248-US1
NAME OF SUBMITTER:	KURT M. EATON
SIGNATURE:	/Kurt M. Eaton/
DATE SIGNED:	06/24/2019
	This document serves as an Oath/Declaration (37 CFR 1.63).

source=E248PCT1 Combined DECL-ASSIGN MarkUnrath#page2.tif source=E248PCT1 Combined DECL-ASSIGN YangChuan#page1.tif source=E248PCT1 Combined DECL-ASSIGN YangChuan#page2.tif source=E248PCT1_Combined_DECL-ASSIGN_JanKleinert#page1.tif source=E248PCT1 Combined DECL-ASSIGN JanKleinert#page2.tif source=E248PCT1 Combined DECL-ASSIGN PEEPLES Mark-Signed#page1.tif source=E248PCT1 Combined DECL-ASSIGN PEEPLES Mark-Signed#page2.tif source=E248PCT1_Combined_DECL-ASSIGN_OWENS_Hugh#page1.tif source=E248PCT1 Combined DECL-ASSIGN OWENS Hugh#page2.tif source=E248PCT1 Combined DECL-ASSIGN BYRNE Gwendolyn#page1.tif source=E248PCT1 Combined DECL-ASSIGN BYRNE Gwendolyn#page2.tif source=E248PCT1_Combined_DECL-ASSIGN_ZhangHaiBin#page1.tif source=E248PCT1 Combined DECL-ASSIGN ZhangHaiBin#page2.tif source=E248PCT1_Combined_DECL-ASSIGN REDD Justin#page1.tif source=E248PCT1 Combined DECL-ASSIGN REDD Justin#page2.tif source=E248PCT1_Combined_DECL-ASSIGN_NEUFELD_Corie#page1.tif source=E248PCT1 Combined DECL-ASSIGN NEUFELD Corie#page2.tif source=E248PCT1 Combined DECL-ASSIGN BROOKHYSER James#page1.tif source=E248PCT1 Combined DECL-ASSIGN BROOKHYSER James#page2.tif source=E248PCT1 Combined DECL-ASSIGN OSAKO Yasu#page1.tif source=E248PCT1 Combined DECL-ASSIGN OSAKO Yasu#page2.tif source=E248PCT1 Combined DECL-ASSIGN ALPAY Mehmet#page1.tif source=E248PCT1 Combined DECL-ASSIGN ALPAY Mehmet#page2.tif source=E248PCT1 Combined DECL-ASSIGN LIN Zhibin#page1.tif source=E248PCT1 Combined DECL-ASSIGN LIN Zhibin#page2.tif source=E248PCT1 Combined DECL-ASSIGN RIECHEL Patrick-Signed#page1.tif source=E248PCT1 Combined DECL-ASSIGN RIECHEL Patrick-Signed#page2.tif

source=E248PCT1_Combined_DECL-ASSIGN_NUCKOLLS_Tim#page1.tif source=E248PCT1_Combined_DECL-ASSIGN_NUCKOLLS_Tim#page2.tif

source=E248PCT1_Combined_DECL-ASSIGN_RYDER_Chris#page1.tif source=E248PCT1_Combined_DECL-ASSIGN_RYDER_Chris#page2.tif

source=E248PCT1_Combined_DECL-ASSIGN_MATSUMOTO_Hisashi#page1.tif source=E248PCT1 Combined DECL-ASSIGN MATSUMOTO Hisashi#page2.tif

PATENT REEL: 049569 FRAME: 0533

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

ATTORNEY DOCKET NUMBER: E248:PCT1

Assignce, its successors, legal representatives, and assigns to obtain and enforce proper patent protection for said invention in the United States or any foreign country or jurisdiction.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: Mark Unrath

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

ATTORNEY DOCKET NUMBER: E248:PCT1

Assignee, its successors, legal representatives, and assigns to obtain and enforce proper patent protection for said invention in the United States or any foreign country or jurisdiction.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: Yang Chuan

Signature:

Date: 10/03/20/7

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document:

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

ATTORNEY DOCK ET NUMBER: E248:PCT1

Assignee, its successors, legal representatives, and assigns to obtain and enforce proper patent protection for said invention in the United States or any foreign country or jurisdiction.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: Jan Kleinert

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

Page 1 of 2 PATENT REEL: 049569 FRAME: 0540

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: Mark Peeples

Date: 09-26-2017

REEL: 049569 FRAME: 0541

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the aboveidentified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document:

WHEREAS, Electro Scientific Industries. Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged. I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

ATTORNEY DOCKET NUMBER: 1248 PCTI

Assignce, its successors, legal representatives, and assigns to obtain and enforce proper patent protection for said invention in the United States or any foreign country or paradiction.

Lacknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and an unaware of any reason why Assignee may not have the full and unencombered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by time or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: OWENS, Hugh

Signature High Elm & Our

Date: 9/26/2017

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid Assignee, its successors, legal representatives, and assigns to obtain and enforce proper ATEMPTECTION

REEL: 049569 FRAME: 0544

for said invention in the United States or any foreign country or jurisdiction.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: BYRNE, Gwendolyn

Signature: Gwendolyn Byrne

Date: 9/19/2017

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged. I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing. nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: ZHANG, Haibin

Signature:

Date: 9/18/17

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: REDD, Justin

Signature:

Date:

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1,56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW. THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: NEUFELD, Corie

Company of the second

Date: 9/25/20/

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Thereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues. nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: BROOKHYSER, James

Signature:

Date:

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor:	OSAKO,	Yasu
-------------------------	--------	------

Signature:

Date: __09/19/2017_____

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

ATTORNEY DOCKET NUMBER: E248:PCT1

Assignee, its successors, legal representatives, and assigns to obtain and enforce proper patent protection for said invention in the United States or any foreign country or jurisdiction.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: ALPAY, Mehmet

Signature: Mel Zeni Ofpay

Date: 9/20/2017

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Nar	ne of Inventor: LIN, Zhibin
Signature:	1 Lin 2 hibin
Date:	09/15/2017

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

 \boxtimes United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: RIECHEL, Patrick

Signature:

Date: September 14, 2017

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues. nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: NUCKOLLS, Tim

Signature:

Tate:

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: MATSUMOTO, Hisashi

Signature: $\sqrt{\frac{2017}{2017}}$

Title of Invention: LASER PROCESSING APPARATUS, METHODS OF LASER-PROCESSING WORKPIECES AND RELATED ARRANGEMENTS

As a below named Inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☑ United States application or PCT international application number PCT/US16/50804 filed on September 8, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original Inventor or an original joint Inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

WHEREAS, I have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified application, which is further identified by the Docket Number provided above in the header of this document;

WHEREAS, Electro Scientific Industries, Inc., a corporation of the state of Oregon, having a place of business at 13900 NW Science Park Drive, Portland, OR (herein referred to as "Assignee"), desires to acquire, and I desire to grant to assignee, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I hereby sell, assign and transfer to Assignee, its successors, legal representatives, and assigns, the full and exclusive right, title and interest in and to the Invention, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisionals, continuations, reissues, nonprovisionals and extensions thereof, and all rights of priority resulting from the filing of such patent applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree that I will communicate to Assignee, or its successors, legal representatives, and assigns, any facts known to me respecting said Invention, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, nonprovisional and reissue applications, make all rightful oaths, and do everything possible to aid

I acknowledge my prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to Assignee and am unaware of any reason why Assignee may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and I have not executed, and will not execute, any document or instrument in conflict herewith.

I also hereby grants Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of Oregon, and any disputes will be resolved in an Oregon state court or federal court sited in Oregon.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal Name of Inventor: RXDER, Chris

Signature:

Date: