

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

3D Systems Corporation et al.,

Petitioner

v.

Intrepid Automation, Inc.,
Patent Owner.

Inter Partes Review (IPR) Proceeding Number: 2025-01242
U.S. Patent No. 11,338,511

Exhibit Number: **Exhibit 1002 for Petitioner**

Exhibit Title: Excerpts from the Prosecution History of the '511 Patent
(the "Prosecution History") including:

- PPH Request (dated May 24, 2021)
- PPH Request Decision (dated July 9, 2021)
- Subsequent PPH Request and IDS (dated July 14, 2021)
- Subsequent PPH Request Decision (dated July 16, 2021)
- Non-Final Office Action (dated September 2, 2021)
- Applicant-Initiated Interview Summary (from interview held on December 16, 2021)
- Terminal Disclaimer and Approval of Terminal Disclaimer (dated December 20, 2021)
- Response (dated December 20, 2021)
- Notice of Allowance (dated January 28, 2022)
- Rule 312 Amendment (dated February 28, 2022)

- Additional IDS (dated March 8, 2022)
- Issue Fee Payment (dated April 19, 2022)
- Issue Notification (dated May 4, 2022)

Date of Filing: July 18, 2025

Filed By: Petitioner 3D Systems Corporation et al.,

REQUEST FOR PARTICIPATION IN THE GLOBAL/IP5 PATENT PROSECUTION HIGHWAY (PPH) PILOT PROGRAM IN THE USPTO

Application No.:	17/301,204	First Named Inventor:	Ben Wynne
Filing Date:	March 29, 2021	Attorney Docket No.:	INTRP003C2
Title of the Invention:	MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING		

THIS REQUEST FOR PARTICIPATION IN THE PPH PILOT PROGRAM ALONG WITH THE REQUIRED DOCUMENTS MUST BE SUBMITTED VIA EFS-WEB. INFORMATION REGARDING EFS-WEB IS AVAILABLE AT
<https://www.uspto.gov/patents-application-process/applying-online/about-efs-web>

APPLICANT HEREBY REQUESTS PARTICIPATION IN THE PATENT PROSECUTION HIGHWAY (PPH) PILOT PROGRAM AND PETITIONS TO MAKE THE ABOVE-IDENTIFIED APPLICATION SPECIAL UNDER THE PPH PILOT PROGRAM.

Office of earlier examination (OEE): Korea (Korean Intellectual Property Office)

OEE application number: PCT/US2019/043305

Both the OEE application and the above-identified U.S. application
have the following earliest date (filing or priority date): July 30, 2018

Type of OEE work product relied upon: Written Opinion of the International Searching Authority (WO/ISA)

Mailing date of OEE work product: November 8, 2019

Supporting Documents

1. OEE Work Product and Translation

A copy of the OEE work product and translation if not already in English:

☒ Attached ☐ Previously Submitted ☐ Not required because the decision to grant a patent was the first office action

☐ Applicant requests the USPTO to attempt to obtain the OEE work product from the Dossier Access System or PATENTSCOPE

NOTE: If the applicant requests the USPTO to obtain the OEE work product electronically and such attempt is unsuccessful, the applicant will be required to supply the document. Accordingly, to avoid dismissal of the initial PPH request and potential denial of participation in the PPH program, the applicant should verify that the OEE work product is actually available via the Dossier Access System or PATENTSCOPE before requesting retrieval. If the applicant is unable to verify availability, then the applicant should submit the document with the PPH request.

2. References Cited in OEE Work Product

An information disclosure statement (IDS) listing the references cited in the OEE work product and document copies (except U.S. patents and U.S. published patent applications):

☒ Attached ☐ Previously Submitted ☐ Not required because no references were cited in the OEE work product

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 119, 37 CFR 1.55, and 37 CFR 1.102(d). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS

(continued)

First Named Inventor: Ben Wynne

All the claim limitations from patentable claims 15-27 in the PCT patent application are included in the currently pending claims 1-13 of the corresponding US patent application.

3D Systems-Exhibit 1002- Page 2 of 97

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:

SLOTNICK, Heather

MLO 12707 High Bluff Drive, Suite 200 San Diego, California
92130 USA

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing
(day/month/year) 08 November 2019 (08.11.2019)Applicant's or agent's file reference
INTRP003WO**FOR FURTHER ACTION** See paragraphs 1 and 4 belowInternational application No.
PCT/US2019/043305International filing date
(day/month/year) **24 July 2019 (24.07.2019)**

Applicant

INTREPID AUTOMATION

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.**How?** Directly to the International Bureau of WIPO preferably through ePCT or on paper to, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70**For more detailed instructions,** see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 - 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.**4. Reminders**

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. These comments will be made available to the public after international publication. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established.

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90bis.1 and 90bis.3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices. In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months. For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Within **22 months** from the priority date, the applicant may request that a supplementary international search be carried out by a different International Searching Authority, that offers this service (Rule 45bis.1). The procedure for requesting supplementary international search is described in the *PCT Applicant's Guide*, International Phase, paragraphs 8.006-8.032.

Name and mailing address of the ISA/KR
International Application DivisionKorean Intellectual Property Office
189 Cheongsa-ro, Seo-gu, Daejeon, 35208, Republic of Korea

Facsimile No. 82-42-481-8578

Authorized officer

COMMISSIONER

Telephone No. 82-42-481-5571



* Attention

Copies of the documents cited in the international search report can be searched in the following Korean Intellectual Property Office English website for six months(expire date : **2020.05.08**) from the date of mailing of the international search report.

<http://www.kipo.go.kr/en/> => PCT ISA Portal => PCT Status

ID : PCT international application number

PW : **C98C4688&**

Inquiries related to PCT International Search Report or Written Opinion prepared by KIPO as an International Searching Authority can be answered not only by KIPO but also through IPKC (Intellectual Property Korea Center), located in Vienna, VA, which functions as a PCT Help Desk for PCT applicants.

Homepage: <http://www.ipkcenter.com>

Email: ipkc@ipkcenter.com

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference INTRP003WO	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2019/043305	International filing date (<i>day/month/year</i>) 24 July 2019 (24.07.2019)	(Earliest) Priority Date (<i>day/month/year</i>) 30 July 2018 (30.07.2018)
Applicant INTREPID AUTOMATION		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of :

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1E

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2019/043305**A. CLASSIFICATION OF SUBJECT MATTER****B29C 64/129(2017.01)i, C08L 101/00(2006.01)i, B33Y 10/00(2015.01)i, B33Y 50/02(2015.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B29C 64/129; B29C 35/08; B29C 67/00; B33Y 30/00; C12N 5/00; C12N 5/09; C08L 101/00; B33Y 10/00; B33Y 50/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: additive manufacture, projector, sub-image, adjust, property, stack, filter

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 9914266 B2 (ROLAND DG CORPORATION) 13 March 2018 See abstract; column 4, line 49-column 6, line 33; and figures 1, 3.	1-27
A	WO 2016-179661 A1 (GIZMO 3D PRINTERS) 17 November 2016 See abstract; claims 1-20; and figure 1.	1-27
A	US 2017-0283766 A1 (THE REGENTS OF THE UNIVERSITY OF CALIFORNIA) 05 October 2017 See the entire document.	1-27
A	CN 104015363 B (HANS LASER TECHNOLOGY CO., LTD.) 24 August 2016 See the entire document.	1-27
A	US 2015-0137426 A1 (STRUCTO PTE LTD.) 21 May 2015 See the entire document.	1-27

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"D" document cited by the applicant in the international application

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

08 November 2019 (08.11.2019)

Date of mailing of the international search report

08 November 2019 (08.11.2019)

Name and mailing address of the ISA/KR

International Application Division

Korean Intellectual Property Office

189 Cheongsu-ro, Seo-gu, Daejeon, 35208, Republic of Korea



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Authorized officer

KWON, YONGKYONG

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2019/043305

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 9914266 B2	13/03/2018	JP 2017-007148 A JP 6505517 B2 US 2016-0368221 A1	12/01/2017 24/04/2019 22/12/2016
WO 2016-179661 A1	17/11/2016	US 2018-0056585 A1	01/03/2018
US 2017-0283766 A1	05/10/2017	US 10351819 B2 WO 2016-044483 A1	16/07/2019 24/03/2016
CN 104015363 B	24/08/2016	CN 104015363 A	03/09/2014
US 2015-0137426 A1	21/05/2015	AU 2014-349268 A1 AU 2014-349268 B2 EP 3068610 A1 JP 2016-540665 A KR 10-2016-0110938 A SG 10201804040 A TW 201525572 A TW I662324 B WO 2015-072921 A1	07/07/2016 31/01/2019 21/09/2016 28/12/2016 23/09/2016 30/07/2018 01/07/2015 11/06/2019 21/05/2015

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
SLOTNICK, Heather

MLO 12707 High Bluff Drive, Suite 200 San Diego,
California 92130 USA

PCT

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **08 November 2019 (08.11.2019)**

Applicant's or agent's file reference
INTRP003WO

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/US2019/043305

International filing date (day/month/year)
24 July 2019 (24.07.2019)

Priority date(day/month/year)
30 July 2018 (30.07.2018)

International Patent Classification (IPC) or both national classification and IPC

B29C 64/129(2017.01)i, C08L 101/00(2006.01)i, B33Y 10/00(2015.01)i, B33Y 50/02(2015.01)i

Applicant
INTREPID AUTOMATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/KR
International Application Division
Korean Intellectual Property Office
189 Cheongsu-ro, Seo-gu, Daejeon,
35208, Republic of Korea
Facsimile No. +82-42-481-8578

Date of completion of this opinion

08 November 2019 (08.11.2019)

Authorized officer

KWON, YONGKYONG

Telephone No. +82-42-481-3371



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2019/043305

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of :
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. ☐ forming part of the international application as filed:
 - ☐ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - ☐ on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2019/043305

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-27</u>	YES
	Claims	<u>NONE</u>	NO
Inventive step (IS)	Claims	<u>1-27</u>	YES
	Claims	<u>NONE</u>	NO
Industrial applicability (IA)	Claims	<u>1-27</u>	YES
	Claims	<u>NONE</u>	NO

2. Citations and explanations :

Reference is made to the following documents:

D1: US 9914266 B2 (ROLAND DG CORPORATION) 13 March 2018

D2: WO 2016-179661 A1 (GIZMO 3D PRINTERS) 17 November 2016

D3: US 2017-0283766 A1 (THE REGENTS OF THE UNIVERSITY OF CALIFORNIA) 05 October 2017

D4: CN 104015363 B (HANS LASER TECHNOLOGY CO., LTD.) 24 August 2016

D5: US 2015-0137426 A1 (STRUCTO PTE LTD.) 21 May 2015

I . Novelty and Inventive Step (PCT Article 33(2) and (3))

1. Claims 1-14

The subject matter of claim 1 differs from these prior art documents in that properties of each sub-image are adjusted using a stack of filters comprising an irradiance mask that normalizes irradiance; a gamma adjustment mask that adjusts sub-image energy based on a reactivity of the resin; a warp correction filter that provides geometric correction; and an edge blending bar at one or more sub-image edges. In addition, the subject matter of claim 1 is not obvious to a person skilled in the art over the documents individually or in combination.

Claims 2-14 are directly or indirectly dependent on claim 1.

Therefore, claims 1-14 are novel and involve an inventive step.

2. Claims 15-27

The technical features of method claim 15 are substantially the same as those of claim 1

Continued on Supplemental Box

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2019/043305

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of : Box No. V

except for the category of invention. Thus, the same reasoning as in claim 1 applies to claim 15.

Claims 16-27 are directly or indirectly dependent on claim 15.

Therefore, claims 15-27 are novel and involve an inventive step.

II. Industrial Applicability (PCT Article 33(4))

Claims 1-27 are industrially applicable.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Intrepid Automation

Application No./Patent No.: 17/301,204

Filed/Issue Date: 3/29/2021

Titled: MULTIPLE IMAGE PROJECTION SYSTEM FOR ADDITIVE MANUFACTURING

Intrepid Automation, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 053307, Frame 0812, or for which a copy thereof is attached.
- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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STATEMENT UNDER 37 CFR 3.73(c)

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☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/David Jackrel/

2021-05-21

Signature

Date

David Jackrel

76731

Printed or Typed Name

Title or Registration Number



ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/301,204

RECEIPT DATE / TIME
05/24/2021 01:46:51 PM ET

ATTORNEY DOCKET #
INTRP003C2

Title of Invention

MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 6763

FILED BY Julianne Francis

PATENT CENTER # 60199355

FILING DATE 03/29/2021

CUSTOMER # 67362

FIRST NAMED
INVENTOR Ben Wynne

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY David Jackrel

Documents

TOTAL DOCUMENTS: 11

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
20210524_INTRP003C2_prel im_amendment-spec.pdf	3	-	25 KB
20210524_INTRP003C2_pr elim_amendment-spec- A.PE.pdf	(1-1) 1	Preliminary Amendment	17 KB
20210524_INTRP003C2_pr elim_amendment-spec- SPEC.pdf	(2-2) 1	Specification	16 KB
20210524_INTRP003C2_pr elim_amendment-spec- REM.pdf	(3-3) 1	Applicant Arguments/Remarks Made in an Amendment	16 KB

20210524_INTRP003C2_AD S-marked_up.pdf	10	Application Data Sheet	173 KB
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Warning: This is not a USPTO supplied ADS fillable form. Data in the form cannot be automatically loaded to other USPTO systems.

20210524_INTRP003C2_PP H_Request.pdf	3	Petition to make special under Patent Prosecution Hwy	739 KB
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20191108_INTRP003WO_IS R_WO.pdf	9	Petition to make special under Patent Prosecution Hwy	1423 KB
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20210524_INTRP003C2_IDS .pdf	6	Information Disclosure Statement (IDS) Form (SB08)	1029 KB
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20210524_INTRP003C2_IDS _letter_priority_claim.pdf	1	Transmittal Letter	19 KB
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20210524_INTRP003C2_dec s.pdf	5	Oath or Declaration filed	2207 KB
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20210524_INTRP003C2_assi gnee_statement.pdf	2	Assignee showing of ownership per 37 CFR 3.73	79 KB
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20210524_INTRP003C2_PO A.pdf	1	Power of Attorney	478 KB
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Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
20210524_INTRP003C2_prelim _amendment-spec.pdf	CE2100C5214C4BBB298789E706134B7417DA3878B280920FA9 42636119F2E1F61FEBF3766562205BC98C397D0DF0C785CB25 85A7382C76F5E16BE6DDAD07CD3E
20210524_INTRP003C2_prelim _amendment-spec-A.PE.pdf	E79D9C764D973151DB7AEBDC78ADF62F8D83E396632843D3F 3254180205AE2DB5738435782DB6ADAD5439FCF5AC868C161 3122908A261E2617C9108BC5E3BB7D

20210524_INTRP003C2_prelim _amendment-spec-SPEC.pdf	AEF281EEECBFFFF03421113C378E1A9D538AD2AC0C8D786D 421C03C9AD191941D36753658C0FA709D86CA30C2ECCD16E A8DD19CF55D8C40D220E6D0247976ADF
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20210524_INTRP003C2_ADS- marked_up.pdf	CEA167DA374181B7EC8A79BA2C4A4B5498126BF473C3EA957 2E9352ADFB63955D9EDFB2F7A5AAC06085C159C22FB2D57E E3B99A5DD7C1B14572767F030B4ACD3
20210524_INTRP003C2_PPH_ Request.pdf	B1623962F749676D20B44337D8F4557993CA7C6BF668323E97 B2AB50E2DF020E7235D7DE27532E2382C3CA48456B845AFA3 1ED0067118EF481744511A5F65060
20191108_INTRP003WO_ISR_ WO.pdf	F582A3E2D64EB487BE8767F5321D16AC1D62A22AC400C9D91 5D9BF5BCFA41172E17DEF217B872640FFAC6344472239547C6 FBA17090BE3618D1FEC608AC776B2
20210524_INTRP003C2_IDS.p df	6813B20D21342DA0F44D5319CA92EB46130C65FD79C370B02 5AF782022DA2423019FDE285ABF804C83FAFBF93F8C586379 B5AAE1718D6F1A3009DA8BA56B6EAB
20210524_INTRP003C2_IDS_I etter_priority_claim.pdf	997A6D7CEA18DBD3DF9D346014FA7339ACF878F801DA5DDE 3C07D5AB89E5CE7709C84F8D820D5F8B7BA5E5040306C3210 672DE12B0404C6924DD0C812945B0FA
20210524_INTRP003C2_decs. pdf	805DFBE23316ECA3E15EC0CA668F9EE45197D98D21AD3FE8 C2FEA38C56E9F3F56589FF08C42903D3DB01A76AD0E9A34BE 081C89478DE19167A8BB15D89285E70
20210524_INTRP003C2_assig nee_statement.pdf	6EDC57160FD186F7813612B0D234B5DAB14997817EA8D1ABF B8C92F193443723A2AD235824A23FE4F3F4361DD0FCBF048A EF0DBC67FBC23BD29DE6A425636BFE
20210524_INTRP003C2_POA. pdf	B49D9AD385C046277C099C65165E81F526DAB36F280189C272 4EFB3FAC2BBAE16ABBCF92EE1676E77970F249CEFD8E83FC B11DC6A168CB8E91EA6D8BD9A912BA

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/301,204	03/29/2021	Ben Wynne	INTRP003C2	6763
67362	7590	07/09/2021	EXAMINER	
MLO 12707 High Bluff Drive, Suite 200 San Diego, CA 92130			ART UNIT	
			PAPER NUMBER	
			1742	
			NOTIFICATION DATE	
			DELIVERY MODE	
			07/09/2021	
			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

MLOPAIR@mlo-ip.com
eofficeaction@appcoll.com
heather@mlo-ip.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

In re Application of
Ben Wynne, et al.
Application No.: 17/301,204
Filed: March 29, 2020
Attorney Docket No.: INTRP003C2
For: MULTIPLE IMAGE PROJECTION
METHOD FOR ADDITIVE
MANUFACTURING

: DECISION ON REQUEST TO
: PARTICIPATE IN THE PATENT
: PROSECUTION HIGHWAY
: PROGRAM AND PETITION
: TO MAKE SPECIAL UNDER
: 37 CFR 1.102(a)

This is a decision on the request to participate in the Patent Prosecution Highway (PPH) program and the petition under 37 CFR 1.102(a), filed May 24, 2021, to make the above-identified application special.

The request and petition are **DISMISSED**.

DISCUSSION

A grantable request to participate in the PPH pilot program and petition to make special require:

1. The U.S. application for which participation in the Global/IP5 PPH pilot program is requested must have the same earliest date, whether this is the priority date or filing date, as that of a corresponding national or regional application filed with another Global/IP5 PPH participating office or a corresponding PCT international application for which one of the Global/IP5 PPH participating offices was the International Searching Authority (ISA) or the International Preliminary Examining Authority (IPEA);
2. Applicant must:
 - a. Ensure all the claims in the U.S. application must sufficiently correspond or be amended to sufficiently correspond to the allowable/patentable claim(s) in the corresponding Office of Earlier Examination (OEE) application and
 - b. Submit a claims correspondence table in English;
3. Examination on the merits of the U.S. application has not begun;

4. Applicant must submit:
 - a. Documentation of prior office action:
 - i. a copy of the office action(s) just prior to the “Decision to Grant a Patent” from each of the Global/IP5 PPH participating office application(s) containing the allowable/patentable claim(s) or
 - ii. if the allowable/patentable claims(s) are from a “Notification of Reasons for Refusal” then the Notification of Reasons for Refusal or
 - iii. if the Global/IP5 PPH participating office application is a first action allowance then no office action from the Global/IP5 PPH participating office is necessary should be indicated on the request/petition form or
 - iv. the latest work product in the international phase of the OEE PCT application;
 - b. An English language translation of the Global/IP5 PPH participating office action or work product from (4)(a)(i)-(ii) or (iv) above; and
5. Applicant must submit:
 - a. An IDS listing the documents cited by the Global/IP5 PPH participating office examiner in the Global/IP5 PPH participating office action or work product (unless already submitted in this application) and
 - b. Copies of the documents except U.S. patents or U.S. patent application publications (unless already submitted in this application).

Conditions (1)-(4) above are considered to have been met. However, the request to participate in the PPH pilot program and petition fails to comply with the condition (5).

Regarding the requirement of condition (5), An IDS listing was provided; however, the references cited by the Global/IP5 PPH participating office examiner and copies thereof, were omitted, i.e., WO2016/179661 and CN104015363.

Applicant is given **ONE** opportunity within a time period of **ONE MONTH or THIRTY DAYS**, whichever is longer, from the mailing date of this decision to correct the deficiencies. **NO EXTENSION OF TIME UNDER 37 CFR 1.136 IS PERMITTED.** If the deficiencies are not corrected with the time period given, the application will await action in its regular turn.

Response must be filed via the Electronic Filing System (EFS) using the document description: Petition to make special under Patent Pros Hwy. Any preliminary amendments and IDS submitted with the PPH documents must be separately indexed as a preliminary amendment and IDS, respectively.

Telephone inquiries concerning this decision should be directed to the undersigned at (571) 272-1058.

Additional information concerning the examination or status of the application is accessible in the PAIR system at <http://portal.uspto.gov/>.

/Angela Walker/
Angela Walker
Paralegal Specialist
Office of Petitions

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REQUEST FOR PARTICIPATION IN THE GLOBAL/IP5 PATENT PROSECUTION HIGHWAY (PPH) PILOT PROGRAM IN THE USPTO

Application No.:	17/301,204	First Named Inventor:	Ben Wynne
Filing Date:	March 29, 2021	Attorney Docket No.:	INTRP003C2
Title of the Invention:	MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING		

THIS REQUEST FOR PARTICIPATION IN THE PPH PILOT PROGRAM ALONG WITH THE REQUIRED DOCUMENTS MUST BE SUBMITTED VIA EFS-WEB. INFORMATION REGARDING EFS-WEB IS AVAILABLE AT
<https://www.uspto.gov/patents-application-process/applying-online/about-efs-web>

APPLICANT HEREBY REQUESTS PARTICIPATION IN THE PATENT PROSECUTION HIGHWAY (PPH) PILOT PROGRAM AND PETITIONS TO MAKE THE ABOVE-IDENTIFIED APPLICATION SPECIAL UNDER THE PPH PILOT PROGRAM.

Office of earlier examination (OEE): Korea (Korean Intellectual Property Office)

OEE application number: PCT/US2019/043305

Both the OEE application and the above-identified U.S. application
have the following earliest date (filing or priority date): July 30, 2018

Type of OEE work product relied upon: Written Opinion of the International Searching Authority (WO/ISA)

Mailing date of OEE work product: November 8, 2019

Supporting Documents

1. OEE Work Product and Translation

A copy of the OEE work product and translation if not already in English:

☒ Attached ☐ Previously Submitted ☐ Not required because the decision to grant a patent was the first office action

☐ Applicant requests the USPTO to attempt to obtain the OEE work product from the Dossier Access System or PATENTSCOPE

NOTE: If the applicant requests the USPTO to obtain the OEE work product electronically and such attempt is unsuccessful, the applicant will be required to supply the document. Accordingly, to avoid dismissal of the initial PPH request and potential denial of participation in the PPH program, the applicant should verify that the OEE work product is actually available via the Dossier Access System or PATENTSCOPE before requesting retrieval. If the applicant is unable to verify availability, then the applicant should submit the document with the PPH request.

2. References Cited in OEE Work Product

An information disclosure statement (IDS) listing the references cited in the OEE work product and document copies (except U.S. patents and U.S. published patent applications):

☒ Attached ☐ Previously Submitted ☐ Not required because no references were cited in the OEE work product

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 119, 37 CFR 1.55, and 37 CFR 1.102(d). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS

REQUEST FOR PARTICIPATION IN THE GLOBAL/IP5 PPH PILOT PROGRAM IN THE USPTO
(continued)

First Named Inventor: Ben Wynne

All of the claims in this application sufficiently correspond to the patentable/allowable claims in the OEE application.

[illegible]

Date 2021-07-14

Registration Number	76,731
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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (e.g., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)

Approved for use through 11/30/2020. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

Application Number	17301204
Filing Date	2021-03-29
First Named Inventor	Ben Wynne
Art Unit	2676
Examiner Name	
Attorney Docket Number	INTRP003C2

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	7318718	B2	2008-01-15	Ueno	
	2	8142026	B2	2012-03-27	Aufranc et al.	
	3	9453142	B2	2016-09-27	Rolland et al.	
	4	9914266	B2	2018-03-13	Ueda et al.	
	5	9930307	B1	2018-03-27	Kursula et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

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U.S.PATENT APPLICATION PUBLICATIONS

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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20080169586	A1	2008-07-17	Hull et al.	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	17301204
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First Named Inventor	Ben Wynne
Art Unit	2676
Examiner Name	
Attorney Docket Number	INTRP003C2

2	20150137426	A1	2015-05-21	ESBROECK et al.
3	20150202805	A1	2015-07-23	SARUHASHI et al.
4	20160121547	A1	2016-05-05	Kobayashi
5	20160368221	A1	2016-12-22	Ueda et al.
6	20170283766	A1	2017-10-05	HRIBAR et al.
7	20170318186	A1	2017-11-02	Morovic et al.
8	20180139426	A1	2018-05-17	Ueda

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	1	104015363	CN	B	2016-08-24	Yuan et al.		
	2	2016179661	WO	A1	2016-11-17	TOIT		

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		17301204
Filing Date		2021-03-29
First Named Inventor	Ben Wynne	
Art Unit	2676	
Examiner Name		
Attorney Docket Number	INTRP003C2	

3	2017165832	WO	A1	2017-09-28	SPRINTRAY, Inc.		
4	2017210298	WO	A1	2017-12-07	Mirkin et al.		

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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	International Search Report dated November 8, 2019 for PCT Patent Application No. PCT/US19/43305.	
	2	Notice of Allowance dated January 15, 2021 for U.S. Patent Application No. 16/938,298.	
	3	Notice of Allowance dated June 29, 2020 for U.S. Patent application No. 16/370,337.	
	4	Office Action dated June 1, 2020 for U.S. Patent application No. 16/370,337.	
	5	Office Action dated October 6, 2020 for U.S. Patent application No. 16/938,298.	

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	17301204
Filing Date	2021-03-29
First Named Inventor	Ben Wynne
Art Unit	2676
Examiner Name	
Attorney Docket Number	INTRP003C2

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	17301204
Filing Date	2021-03-29
First Named Inventor	Ben Wynne
Art Unit	2676
Examiner Name	
Attorney Docket Number	INTRP003C2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David Jackrel/	Date (YYYY-MM-DD)	2021-07-14
Name/Print	David Jackrel	Registration Number	76731

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/301,204

RECEIPT DATE / TIME
07/14/2021 07:23:00 PM ET

ATTORNEY DOCKET #
INTRP003C2

Title of Invention

MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	6763	FILED BY	Julianne Francis
PATENT CENTER #	60240396	FILING DATE	03/29/2021
CUSTOMER #	67362	FIRST NAMED INVENTOR	Ben Wynne
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	David Jackrel

Documents

TOTAL DOCUMENTS: 11

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
20210714_INTRP003C2_PP H_Requestv2.pdf	3	Petition to make special under Patent Prosecution Hwy	739 KB
20191108_INTRP003WO_IS R_WO.pdf	9	Petition to make special under Patent Prosecution Hwy	1423 KB
20210714_INTRP003C2_IDS v2.pdf	6	Information Disclosure Statement (IDS) Form (SB08)	1029 KB
CN104015363B- with_engl_abstract.pdf	8	Foreign Reference	1011 KB
WO2016-179661.pdf	48	Foreign Reference	1983 KB

WO2017165832.pdf	49	Foreign Reference	1998 KB
WO2017210298.pdf	84	Foreign Reference	3891 KB
20210115_INTRP003C1_noti ce_allowance.pdf	14	Other Reference- Patent/App/Search documents	622 KB
20200629_INTRP003_notice _allowance.pdf	16	Other Reference- Patent/App/Search documents	678 KB
20200601_INTRP003_non- final_office_action.pdf	26	Other Reference- Patent/App/Search documents	1142 KB
20201006_INTRP003C1_non -final_office_action.pdf	21	Other Reference- Patent/App/Search documents	750 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
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WO2017210298.pdf 259B182578C1AF25C7F47368D447651E61880724B9F07F23D68
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_allowance.pdf B8A9C4A710E344BFB281E089F2B590E74D01D47B28E61D946
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20200601_INTRP003_non- A393A2EF7032A55A5BB5192CF270B49C58F709BBAA650BA42
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20201006_INTRP003C1_non- 6DAD533DEE68D941D4B5EE668CAE33C6F17225770BEE8E83
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D4AB17305BAE47156FCFAF6613178D7

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/301,204	03/29/2021	Ben Wynne	INTRP003C2	6763
67362	7590	07/16/2021	EXAMINER	
MLO 12707 High Bluff Drive, Suite 200 San Diego, CA 92130				
ART UNIT			PAPER NUMBER	
1742				
NOTIFICATION DATE			DELIVERY MODE	
07/16/2021			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

MLOPAIR@mlo-ip.com
eofficeaction@appcoll.com
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In re Application of

Ben Wynne, et al.

Application No.: 17/301,204

Filed: March 29, 2021

Attorney Docket No.: INTRP003C2

For: MULTIPLE IMAGE PROJECTION

METHOD FOR ADDITIVE

MANUFACTURING

: DECISION ON REQUEST TO
: PARTICIPATE IN THE PATENT
: PROSECUTION HIGHWAY
: PROGRAM AND PETITION
: TO MAKE SPECIAL UNDER
: 37 CFR 1.102(a)

This is a decision on the renewed request to participate in the Patent Prosecution Highway (PPH) program and the petition under 37 CFR § 1.102 (a), filed July 14, 2021, in response to the decision mailed July 9, 2021 dismissing the original request to make the above-identified application special.

The request and petition under 37 CFR § 1.102 (a) are **GRANTED**.

DISCUSSION

A grantable request to participate in the PPH pilot program and petition to make special require:

1. The U.S. application for which participation in the Global/IP5 PPH pilot program is requested must have the same earliest date, whether this is the priority date or filing date, as that of a corresponding national or regional application filed with another Global/IP5 PPH participating office or a corresponding PCT international application for which one of the Global/IP5 PPH participating offices was the International Searching Authority (ISA) or the International Preliminary Examining Authority (IPEA);
2. Applicant must:
 - a. Ensure all the claims in the U.S. application must sufficiently correspond or be amended to sufficiently correspond to the allowable/patentable claim(s) in the corresponding Office of Earlier Examination (OEE) application and
 - b. Submit a claims correspondence table in English;
3. Examination on the merits of the U.S. application has not begun;

4. Applicant must submit:
 - a. Documentation of prior office action:
 - i. a copy of the office action(s) just prior to the “Decision to Grant a Patent” from each of the Global/IP5 PPH participating office application(s) containing the allowable/patentable claim(s) or
 - ii. if the allowable/patentable claims(s) are from a “Notification of Reasons for Refusal” then the Notification of Reasons for Refusal or
 - iii. if the Global/IP5 PPH participating office application is a first action allowance then no office action from the Global/IP5 PPH participating office is necessary should be indicated on the request/petition form or
 - iv. the latest work product in the international phase of the OEE PCT application;
 - b. An English language translation of the Global/IP5 PPH participating office action or work product from (4)(a)(i)-(ii) or (iv) above; and
5. Applicant must submit:
 - a. An IDS listing the documents cited by the Global/IP5 PPH participating office examiner in the Global/IP5 PPH participating office action or work product (unless already submitted in this application) and
 - b. Copies of the documents except U.S. patents or U.S. patent application publications (unless already submitted in this application).

The request to participate in the PPH pilot program and petition comply with the above requirements. Accordingly, the above-identified application has been accorded “special” status.

Telephone inquiries concerning this decision should be directed to the undersigned at (571) 272-1058.

All other inquiries concerning the examination or status of the application is accessible in the PAIR system at <http://portal.uspto.gov/>.

/Angela Walker/
Angela Walker
Paralegal Specialist
Office of Petitions



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/301,204	03/29/2021	Ben Wynne	INTRP003C2	6763
67362	7590	09/02/2021	EXAMINER	
MLO			LIU, XUE H	
12707 High Bluff Drive, Suite 200			ART UNIT	
San Diego, CA 92130			PAPER NUMBER	
			1742	
			NOTIFICATION DATE	
			DELIVERY MODE	
			09/02/2021	
			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

MLOPAIR@mlo-ip.com
eofficeaction@appcoll.com
heather@mlo-ip.com

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 *et seq.* for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-8 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 14-21 of U.S. Patent No. 10,780,640. Although the claims at issue are not identical, they are not patentably distinct from each other because claim 1 of the instant application is broader than claim 14 of US 10,780,640, therefore 10,780,640 teaches every limitation of the claimed invention.

A rejection based on double patenting of the “same invention” type finds its support in the language of 35 U.S.C. 101 which states that “whoever invents or discovers any new and useful process... may obtain a patent therefor...” (Emphasis added). Thus, the term “same invention,” in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the claims that are directed to the same invention so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 9-13 is/are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 14 and 22-25 of prior U.S. Patent No. 10,780,640. This is a statutory double patenting rejection.

Claim Rejections - 35 USC § 103

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 6-8 is/are rejected under 35 U.S.C. 103 as being unpatentable over Ueda et al. (2016/0368221) in view of Hull et al. (2008/0169586), Kobayashi (2016/0121547), Saruhashi et al. (2015/0202805) and Ueno (US 7,318,718).

Regarding claim 1, Ueda et al. discloses a method comprising:

a. providing an additive manufacturing system 10, comprising:

An image projection system 14 comprising a plurality of image projectors 14A, 14B; and

A display subsystem 16;

b. projecting a composite image 32 onto a build area 30 within a resin pool 23 (fig. 1-3,

para 32-39) using the image projection system, wherein:

the image projection system is controlled by the image display subsystem (fig. 1-4, para 33 and 40-49);

the composite image comprises a plurality of sub-images 32A, 32B, 32C arranged in an array (fig. 3-4 and para 38-40);

Two or more adjacent sub-images 32A, 32C in the array overlap at two or more sub-image edges 32B (para 38-40 and fig. 3-4, 7-8, 12-13); and

Each sub-image is projected onto a portion 30A, 30B, 30C of the build area using one of the plurality of image projectors (fig. 3-4, para 38-40).

Ueda et al. does not teach adjusting properties and aligning a position of each sub-image in the array using a stack of filters comprising: an irradiance mask that normalizes irradiance; a gamma adjustment mask that adjusts sub-image energy based on a reactivity of the resin; a warp correction filter that provides geometric correction; and an edge blending bar at one or more sub-image edges. However, Hull et al. teaches an imager assembly that incorporates two or more individual imagers in an array and accounts for variation in the intensity and alignment of adjacent imagers A, B (abstract, 15B). Hull et al. teaches blending the pixels at the border 752 (fig. 15, 16A, para 20 and claim 1) allows one to create large objects by additive manufacturing process (para 20). Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify Ueda et al. with the teaching of Hull et al. in order to produce three-dimensional objects having large cross-sections.

Ueno teaches an optical stereolithographic apparatus wherein the controller contains a distortion aberration correcting unit for correcting the stereolithographic data so as to prevent distortions in shape of the three-dimensional object (claims 4, 9, 23, 28, fig. 8). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify Ueda et al. with the distortion aberration correcting unit as taught by Ueno in order to prevent distortions in shape of the three-dimensional object.

Kobayashi teaches adjusting the energy of light from the projector 31 to prevent the photo-curable resin 23 from curing excessively for the blocks 84A, 84B and 84C that are irradiated with light for a larger number of times (para 10, 12, 60, 65, 77, fig. 6-12). It would have been obvious to one of

ordinary skill in the art before the effective filing date of the claimed invention to modify Ueda et al. with the teaching of Kobayashi in order to prevent the phot-curable resin from curing excessively.

Saruhashi et al. teaches in fig. 3, a graph showing a relationship between irradiation energy per unit area (irradiation energy density) and cured thickness of a predetermined resin. Saruhashi further teaches adjusting the irradiation energy density of the light based on this relationship (fig. 3, para 43-51) in order to cure the resin liquid 51. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify Ueda et al. with a gamma adjustment mask that adjusts sub-image energy based on a reactivity of the resin in order to ensure the energy is sufficient to cure the resin.

Regarding claim 2, Hull et al., teaches wherein the display subsystem controls the image projection system and each of the image projectors using digital light processing (para 5, 85, 122-123, 126-128, 134-135, fig. 8-10 and claim 11, 13, 21).

Regarding claim 3, Kobayashi teaches wherein the irradiance mask additionally adjusts the energy across the build area to compensate for non-uniformities in optics of the plurality of image projectors (para 10, 12, 60, 65, 77, fig. 6-12).

Regarding claim 4, Saruhashi et al. teaches the gamma adjustment mask comprises a logarithmic relationship between a cure depth of the resin and energy per unit area in the build area (fig. 3 and para 29, 42, 57).

Regarding claim 6, Hull et al. teaches the edge blending bar comprises a blending distance and a function selected from the group consisting of: linear, sigmoid and geometric (fig. 15B, 16A and para 152-154).

Regarding claim 7, Hull et al. teaches the edge blending bar adjusts the one or more sub-image edges based on at least one layer boundary location within an object being manufactured (fig. 15B, 16A and para 20, 152-154).

Regarding claim 8, Ueda et al. discloses a system controller 16 that synchronizes exposure control of the plurality of image projectors with each other (abstract, para 12-13, 33, 40-42, 45-49, fig. 1).

Claim 5 is/are rejected under 35 U.S.C. 103 as being unpatentable over Ueda et al. in view of Saruhashi et al., Kobayashi, Ueno, and Hull et al. as applied to claim 1 above, and further in view of Du Toit (WO2016/179661).

Regarding claim 5, Ueda et al. does not teach the resin is selected from the group consisting of acrylates, epoxies, methacrylates, urethanes, silicone, vinyls, and combinations thereof. However, Du Toit teaches that resins that can be used in the 3D printing process can be those based on monomers of olefins, vinyls, acrylate, methacrylate, styrenes (page 7, line 19-29). It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to use a resin such as acrylates, epoxies, methacrylates, urethane, silicone, or vinyls in the method of Ueda et al. since Du Toit teaches that these are resins that can be used in the 3D printing process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XUE H LIU whose telephone number is (571)270-5522. The examiner can normally be reached on 1PM - 10PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, an applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 5702721176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/X.H.L/
Examiner, Art Unit 1742

/JEFFREY M WOLLSCHLAGER/
Primary Examiner, Art Unit 1742

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed		PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce
Electronic Petition Request	TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	
Application Number	17301204	
Filing Date	29-Mar-2021	
First Named Inventor	Ben Wynne	
Attorney Docket Number	INTRP003C2	
Title of Invention	MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING	
☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action ☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.		
Owner	Percent Interest	
Intrepid Automation	100%	
The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s) 10780640 as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns. In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later: - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. ☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.		

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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- ☒ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application
- Registration Number 76731
- ☐ A sole inventor
- ☐ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application
- ☐ A joint inventor; all of whom are signing this request

Signature	/David Jackrel/
Name	David Jackrel

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 17301204

Filing Date: 29-Mar-2021

Applicant/Patent under Reexamination: Wynne

Electronic Terminal Disclaimer filed on December 20, 2021

☒ APPROVED

This patent is subject to a terminal disclaimer

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U.S. Patent and Trademark Office

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EFS ID:	44565509
Application Number:	17301204
International Application Number:	
Confirmation Number:	6763
Title of Invention:	MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING
First Named Inventor/Applicant Name:	Ben Wynne
Customer Number:	67362
Filer:	David Bryan Jackrel
Filer Authorized By:	
Attorney Docket Number:	INTRP003C2
Receipt Date:	20-DEC-2021
Filing Date:	29-MAR-2021
Time Stamp:	18:01:27
Application Type:	Utility under 35 USC 111(a)

Payment information:

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Payment was successfully received in RAM	\$170
RAM confirmation Number	E2021BJI01220081
Deposit Account	504034
Authorized User	David Jackrel

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37 CFR 1.21 (Miscellaneous fees and charges)

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37 CFR 1.19 (Document supply fees)
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 37 CFR 1.16 (National application filing, search, and examination fees)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	41216	no	2
			b105280dd0ada3133f65652c2dd0871b52f6ce01		

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	37700	no	2
			39a34c4827daefbb77aa125652675a0408d08d69		

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New Applications Under 35 U.S.C. 111

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National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Wynne et al.	Confirmation No.: 6763
Application No.: 17/301,204	Art Unit: 1742
Filing Date: March 29, 2021	Examiner: Xue H LIU
Title: MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING	

Mail Stop Amendment
Commissioner for Patents
via EFS

AMENDMENT AFTER NON-FINAL OFFICE ACTION

This paper is a response to the Non-Final Office Action mailed September 2, 2021 (“the Office Action”) for the present patent application. The first page of the various sections of this response can be found on the following pages.

Amendments to the Claims	2
Remarks	5

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A method comprising:
 - a. providing an additive manufacturing system, comprising:
an image projection system comprising a plurality of image projectors; and
an image display subsystem;
 - b. projecting a composite image onto a build area within a resin pool using the image projection system, wherein:
the image projection system is controlled by the image display subsystem;
the composite image comprises a plurality of sub-images arranged in an array;
two or more adjacent sub-images in the array overlap at two or more sub-image edges;
and
each sub-image is projected onto a portion of the build area using one of the plurality of image projectors; and
 - c. adjusting properties and aligning a position of each sub-image in the array using a set of filters comprising:
an irradiance mask that normalizes irradiance;
a gamma adjustment mask that adjusts sub-image energy based on a reactivity of the resin;
a warp correction filter that provides geometric correction; and
an edge blending bar at one or more sub-image edges.
2. (Original) The method of claim 1, wherein the display subsystem controls the image projection system and each of the image projectors using digital light processing.

3. (Original) The method of claim 1, wherein the irradiance mask additionally adjusts the energy across the build area to compensate for non-uniformities in optics of the plurality of image projectors.
4. (Original) The method of claim 1, wherein the gamma adjustment mask comprises a logarithmic relationship between a cure depth of the resin and energy per unit area in the build area.
5. (Original) The method of claim 1, wherein the resin is selected from the group consisting of acrylates, epoxies, methacrylates, urethanes, silicone, vinyls, and combinations thereof.
6. (Original) The method of claim 1, wherein the edge blending bar comprises a blending distance and a function selected from the group consisting of: linear, sigmoid and geometric.
7. (Original) The method of claim 1, wherein the edge blending bar adjusts the one or more sub-images based on at least one layer boundary location within an object being manufactured.
8. (Original) The method of claim 1, further comprising a system controller that synchronizes exposure control of the plurality of image projectors with each other.
9. (Original) The method of claim 1, wherein the projecting the composite image further comprises moving the plurality of sub-images during an exposure of a layer of an object being manufactured.
10. (Original) The method of claim 9, wherein the movement of the sub-images is either a step-expose-step type movement or a continuous movement.

11. (Original) The method of claim 9, wherein:
 - the plurality of sub-images comprises a 1D array of sub-images oriented in a first direction; and
 - the movement of the sub-images is in a second direction perpendicular to the first direction.
12. (Original) The method of claim 9, wherein:
 - the plurality of sub-images comprises a 2D array of sub-images with rows oriented along a first direction and columns oriented along a second direction; and
 - the movement of the sub-images is in either one of the first or second directions, or both the first and second directions.
13. (Original) The method of claim 9, wherein:
 - the plurality of sub-images comprises an array of sub-images with one or more rows oriented along a first direction and one or more columns oriented along a second direction; and
 - the movement of the sub-images is in a third direction that is different from both the first and second directions.
14. (New) The method of claim 1, wherein the adjusting properties and aligning the position of each sub-image in the array further comprises applying the irradiance mask to each sub-image such that the composite image has a uniform irradiance range across the area of the composite image.
15. (New) The method of claim 1, wherein the adjusting properties and aligning the position of each sub-image in the array further comprises applying the irradiance mask to a sub-image to normalize irradiance non-uniformities within the image projection system arising from a projector-based spatial energy non-uniformity.

REMARKS

This paper is in response to the Office Action dated September 2, 2021. Claims 14 and 15 are new. Claims 1-15 are pending in the present application.

Applicant thanks the Examiner for the courtesy of the Examiner Interview conducted by telephone on December 16, 2021 with David Jackrel and Ivan Chousal. Distinctions between the present claims 1 and 3 and the cited reference Kobayashi (US2016/0121547) were discussed. No agreement was reached.

I. Amendments to the Claims

Claims 14 and 15 are new, support for which may be found throughout the specification as filed, for example in paragraph [0069].

No new matter has been added hereby.

II. Double Patenting Rejections

Claims 1-8 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 14-21 of U.S. Patent No. 10,780,640.

Claims 9-13 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 14 and 22-25 of prior U.S. Patent No. 10,780,640.

In response, Applicant submits herewith a terminal disclaimer over U.S. Patent No. 10,780,640. This terminal disclaimer obviates the rejections. Withdrawal of the double patenting rejections is respectfully requested.

III. Rejections Under 35 U.S.C. 103

Claims 1-4 and 6-8 are rejected under 35 U.S.C. 103 as being unpatentable over Ueda et al. (2016/0368221, hereinafter "Ueda") in view of Hull et al. (2008/0169586, hereinafter "Hull"), Kobayashi (2016/0121547, hereinafter "Kobayashi"), Saruhashi et al. (2015/0202805, hereinafter "Saruhashi") and Ueno (US 7,318,718, hereinafter "Ueno").

Claim 5 is rejected under 35 U.S.C. 103 as being unpatentable over Ueda et al. in view of Saruhashi et al., Kobayashi, Ueno, and Hull et al. as applied to claim 1 above, and further in view of Du Toit (WO2016/179661).

Claim 1 recites “adjusting properties and aligning a position of each sub-image in the array using a set of filters comprising: an irradiance mask that normalizes irradiance.” The Office Action on p. 5 states that “Ueda et al. does not teach adjusting properties and aligning a position of each sub-image in the array using a stack of filters comprising: an irradiance mask that normalizes irradiance.” The Office Action on pp. 5-6 states that “Kobayashi teaches adjusting the energy of light from the projector 31 to prevent the photo-curable resin 23 from curing excessively for the blocks 84A, 84B and 84C that are irradiated with light for a larger number of times (para 10, 12, 60, 65, 77, fig. 6-12). It would have been obvious to a person of ordinary skill in the art (POSITA) before the effective filing date of the claimed invention to modify Ueda et al. with the teaching of Kobayashi in order to prevent the phot-curable (sic) resin from curing excessively.”

Applicant asserts that the method of adjusting the energy in Kobayashi is fundamentally different from that recited in the present claim 1. **Specifically, the excessive curing problem and solution described in Kobayashi is fundamentally different from the problem that is addressed by the solution of an irradiance mask recited in the present claim 1, and therefore it would not be obvious to modify Ueda with the teachings of Kobayashi to arrive at the recited claim 1.** Kobayashi is related to reducing illumination energy based on counting the total number of times an area is illuminated throughout an entire print process. For example, Kobayashi describes in paragraph [0010] that “[i]t was also discovered that in cases where **the same area of the vat is irradiated with light for a large number of times in a single printing process**, the photo-curable resin cures sufficiently even if the energy of light to be output is weakened if the number of times of irradiation exceeds a certain number.” In contrast, the present specification in paragraph [0069] describes that “an irradiance masking filter... applies a normalizing irradiance mask to an image (or each sub-image in a composite image) such that the image (or composite image) has **a uniform irradiance range** (i.e., from zero exposure to a maximum exposure limit) across the area.” The energy adjustments in Kobayashi do exactly the opposite, and intentionally adjust the illumination energy to be non-uniform to compensate for

areas that are irradiated with light for a large number of times in a single printing process. In other words, Kobayashi is concerned with the total exposure over time (i.e., energy applied to an area over the total number of illuminations) whereas the irradiance mask in the present specification and claims is concerned with the spatial uniformity during an exposure of a layer.

A comparison between the example shown in Kobayashi FIG. 8 and Example 1 in paragraphs [0114]-[0115] in present specification further explains the differences between the teachings of Kobayashi and those described in the present specification. Kobayashi paragraphs [0060]-[0063] and FIG. 8 describe that pixels 84A, 84B and 84C are irradiated a larger number of times than pixels 84D and 84E. In response, Kobayashi describes that the energy of pixels 84A, 84B and 84C “are irradiated with light having the first energy until the predetermined threshold value is reached, and with light having the second energy after the predetermined threshold value is reached.” (Kobayashi [0063]) Pixels 84D and 84E, on the other hand, are “irradiated only with light having the first energy.” (Kobayashi [0063]) Therefore, after the predetermined threshold is reached, Kobayashi intentionally irradiates pixels 84A-84E non-uniformly. In contrast, paragraph [0115] of the present specification describes a situation where an image projector outputs non-uniform light, and the irradiance mask is used to “create a uniform irradiance across the whole image.” In this example, some pixels are 5% less bright than elsewhere in the image, and the irradiance mask is used to “brings the 100% bright pixels elsewhere in the image down to 95% in order to create a uniform irradiance across the whole image.” (present specification, [0115]) **These examples further illustrate how the teachings of Kobayashi are fundamentally different than those in the present specification, and it would not be obvious to a POSITA to modify Ueda with the teachings of Kobayashi to arrive at the recited claim 1.**

Additionally, Applicant asserts that the term “normalize” is well-known to a POSITA, and that the methods described in Kobayashi would not be interpreted as “normalizing” by a POSITA. Furthermore, the scope of a claim is **not** determined solely on the basis of the claim language, but rather claims are given their broadest reasonable construction **in light of the specification**. In this case, Applicant asserts that the specification provides support such that the meaning of an “irradiance mask that normalizes irradiance,” as recited in claim 1, is clear to a POSITA in light of the specification. For example, MPEP Section 2111 states:

During patent examination, the pending claims must be "given their broadest reasonable interpretation **consistent with the specification**." The Federal Circuit's en banc decision

in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) expressly recognized that the USPTO employs the "broadest reasonable interpretation" standard:

The Patent and Trademark Office ("PTO") determines the scope of claims in patent applications **not solely on the basis of the claim language**, but upon giving claims their broadest reasonable construction "**in light of the specification as it would be interpreted by one of ordinary skill in the art.**" *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827, 1830] (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must "conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that **the meaning of the terms in the claims may be ascertainable by reference to the description.**" 37 CFR 1.75(d)(1).

Claim 3 recites "wherein the irradiance mask additionally adjusts the energy across the build area to compensate for non-uniformities in optics of the plurality of image projectors." The Office Action states on pg. 6, "Kobayashi teaches wherein the irradiance mask additionally adjusts the energy across the build area to compensate for non-uniformities in optics of the plurality of image projectors (para 10, 12, 60, 65, 77, fig. 6-12)." Applicant respectfully disagrees. As described above, Kobayashi intentionally adjusts the illumination energy to be non-uniform to compensate for areas that are irradiated with light a large number of times throughout a printing process. Kobayashi does not teach adjusting energy across the build area to "compensate for non-uniformities in optics of [a] plurality of image projectors." For these reasons (and those described above), it would also not be obvious to modify Ueda with the teachings of Kobayashi to arrive at the recited claim 3.

Claims 14 and 15 are new and include further limitations on the irradiance mask. Claim 14 recites that the irradiance mask is applied "to each sub-image such that the composite image has a uniform irradiance range across the area of the composite image." Claim 15 recites that the irradiance mask is applied "to a sub-image to normalize the irradiance non-uniformities within the image projection system arising from a projector-based spatial energy non-uniformity."

In light of the present remarks, Applicant respectfully requests that the rejections of claim 1 and the claims dependent on claim 1, under 35 U.S.C. 103 be withdrawn.

IV. Conclusion

Applicant believes all claims now pending in this application are in condition for allowance. The expedient issuance of a formal Notice of Allowance is respectfully requested. If any issues remain, the Examiner is asked to telephone the undersigned, thereby simplifying and expediting the examination and prosecution process.

Respectfully submitted,

MLO

/David Jackrel/

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/301,204

RECEIPT DATE / TIME
12/20/2021 05:55:05 PM ET

ATTORNEY DOCKET #
INTRP003C2

Title of Invention

MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 6763

FILED BY Laura Stanton

PATENT CENTER # 60453100

FILING DATE 03/29/2021

CUSTOMER # 67362

FIRST NAMED
INVENTOR Ben Wynne

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY David Jackrel

Documents

TOTAL DOCUMENTS: 3

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
20211220_INTRP003C2_non -final_response_amend.pdf	9	-	191 KB
20211220_INTRP003C2_no n-final_response_amend- A....pdf	(1-1) 1	Amendment/Req. Reconsideration-After Non- Final Reject	95 KB
20211220_INTRP003C2_no n-final_response_amend- CLM.pdf	(2-4) 3	Claims	103 KB
20211220_INTRP003C2_no n-final_response_amend- REM.pdf	(5-9) 5	Applicant Arguments/Remarks Made in an Amendment	159 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
20211220_INTRP003C2_non-final_response_amend.pdf	DD6DD8C29C440035749B0BC3C4000CC05757E2FDB50E66E6A7C6749DF94AF002229A4663882A95E3F876D0D5E4E079B1D8F76A37D0D5EA8C80515220136CA304
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ELECTRONIC PAYMENT RECEIPT

APPLICATION #
17/301,204

RECEIPT DATE / TIME
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INTRP003C2

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MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING

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APPLICATION TYPE Utility - Nonprovisional Application
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PATENT # -

CONFIRMATION # 6763

FILED BY Laura Stanton

PATENT CENTER # 60453100

AUTHORIZED BY David Jackrel

CUSTOMER # 67362

FILING DATE 03/29/2021

CORRESPONDENCE
ADDRESS -

FIRST NAMED
INVENTOR Ben Wynne

Payment Information

PAYMENT METHOD
CARD / 9179

PAYMENT TRANSACTION ID
E2021BJH56134997

PAYMENT AUTHORIZED BY
David Jackrel

PRE-AUTHORIZED ACCOUNT
504034

PRE-AUTHORIZED CATEGORY

37 CFR 1.16 (National application filing, search, and examination fees); 37 CFR 1.17 (Patent application and reexamination processing fees); 37 CFR 1.19 (Document supply fees); 37 CFR 1.20 (Post issuance fees); 37 CFR 1.21 (Miscellaneous fees and charges)

FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
2251	EXTENSION FOR RESPONSE WITHIN FIRST MONTH	110.00	1	110.00
TOTAL AMOUNT:				\$110.00

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/301,204	03/29/2021	Ben Wynne	INTRP003C2	6763
67362	7590	12/21/2021	EXAMINER	
MLO			LIU, XUE H	
12707 High Bluff Drive, Suite 200				
San Diego, CA 92130				
			ART UNIT	PAPER NUMBER
			1742	
			NOTIFICATION DATE	DELIVERY MODE
			12/21/2021	ELECTRONIC

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The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

MLOPAIR@mlo-ip.com
eofficeaction@appcoll.com
heather@mlo-ip.com

<i>Applicant-Initiated Interview Summary</i>	Application No. 17/301,204	Applicant(s) Wynne et al.		
	Examiner XUE H LIU	Art Unit 1742	AIA (First Inventor to File) Status Yes	Page 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
XUE H LIU	Examiner	Telephonic
David Jackrel	Attorney of Record	
Ivan Chousal	Inventor	

Date of Interview: 16 December 2021

Issues Discussed:

35 U.S.C. 103

Regarding claim 1, applicant argues that Kobayashi et al. does not teach an irradiance mask that normalizes irradiance. No agreement was reached. Regarding claim 3, it was agreed that Kobayashi does not teach wherein the irradiance mask additionally adjusts the energy across the build area to compensate for non-uniformities in optics of the plurality of image projectors.

/XUE H LIU/ Examiner, Art Unit 1742	/JEFFREY M WOLLSCHLAGER/ Primary Examiner, Art Unit 1742
Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04 Please further see: MPEP 713.04 Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b) 37 CFR § 1.2 Business to be transacted in writing	

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

67362 7590 01/28/2022
MLO
888 Prospect Street
Suite 200
La Jolla, CA 92037

EXAMINER

LIU, XUE H

ART UNIT PAPER NUMBER

1742

DATE MAILED: 01/28/2022

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/301,204	03/29/2021	Ben Wynne	INTRP003C2	6763

TITLE OF INVENTION: MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	04/28/2022

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

67362 7590 01/28/2022
MLO
888 Prospect Street
Suite 200
La Jolla, CA 92037

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/301,204	03/29/2021	Ben Wynne	INTRP003C2	6763

TITLE OF INVENTION: MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	04/28/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
LIU, XUE H	1742	264-401000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/301,204	03/29/2021	Ben Wynne	INTRP003C2	6763
67362	7590	01/28/2022	EXAMINER	
MLO			LIU, XUE H	
888 Prospect Street			ART UNIT	
Suite 200			PAPER NUMBER	
La Jolla, CA 92037			1742	

DATE MAILED: 01/28/2022

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b) (2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 17/301,204	Applicant(s) Wynne et al.	
	Examiner XUE H LIU	Art Unit 1742	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12-20-21.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-15. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov**.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892) 2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____ 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____	5. ☐ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____
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/JEFFREY M WOLLSCHLAGER/
Primary Examiner, Art Unit 1742

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: Regarding claim 1, the prior art does not teach an irradiance mask that normalizes irradiance in combination with the other features instantly claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Terminal Disclaimer

The terminal disclaimer filed on 12-20-21 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of **US 10,780,640** has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XUE H LIU whose telephone number is (571)270-5522. The examiner can normally be reached 1PM - 10PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 5702721176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/X.H.L/
Examiner, Art Unit 1742

/JEFFREY M WOLLSCHLAGER/
Primary Examiner, Art Unit 1742

Response to Rule 312 Communication	Application No. 17/301,204	Applicant(s) Wynne et al.	
	Examiner XUE H LIU	Art Unit 1742	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. ☒ The amendment filed on 28 February 2022 under 37 CFR 1.312 has been considered, and has been:

a) ☐ entered.

b) ☒ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.

Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.

f) ☐ not entered because the supplemental or corrected Application Data sheet (ADS)

☐ was not accompanied by a petition to accept an unintentionally delayed claim under 37 CFR 1.55 or 27 CFR 1.78;

☐ did not identify the information being changed in accordance with 37 CFR 1.76(c)(2);

☐ was not properly signed in accordance with 37 CFR 1.76(e) (or 37 CFR 1.33(b) for applications filed prior to September 16, 2012).

/JEFFREY M WOLLSCHLAGER/
Primary Examiner, Art Unit 1742

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	17301204
	Filing Date	2021-03-29
	First Named Inventor	Ben Wynne
	Art Unit	1742
	Examiner Name	Xue H LIU
	Attorney Docket Number	INTRP003C2

U.S.PATENTS							Remove
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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button.

[Add](#)

U.S.PATENT APPLICATION PUBLICATIONS							Remove
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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20170102679	A1	2017-04-13	Greene et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

[Add](#)

FOREIGN PATENT DOCUMENTS								Remove
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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²ⁱ	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	104015363	CN	A	2014-09-03	Yuan et al.		

If you wish to add additional Foreign Patent Document citation information please click the Add button.

[Add](#)

NON-PATENT LITERATURE DOCUMENTS			Remove
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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		17301204
	Filing Date		2021-03-29
	First Named Inventor	Ben Wynne	
	Art Unit	1742	
	Examiner Name	Xue H LIU	
	Attorney Docket Number	INTRP003C2	

1	Extended European Search Report dated March 3, 2022 for European Patent Application No. 19843981.2.
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If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/XUE H LIU/	Date Considered	03/14/2022
--------------------	-------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	17301204
Filing Date	2021-03-29
First Named Inventor	Ben Wynne
Art Unit	1742
Examiner Name	Xue H LIU
Attorney Docket Number	INTRP003C2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David Jackrel/	Date (YYYY-MM-DD)	2022-03-08
Name/Print	David Jackrel	Registration Number	76731

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Wynne et al.	Confirmation No.: 6763
Application No.: 17/301,204	Art Unit: 1742
Filing Date: March 29, 2021	Examiner: Xue H LIU
Title: MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING	

Commissioner for Patents
via EFS

AMENDMENT AFTER NOTICE OF ALLOWANCE**UNDER 37 C.F.R. 1.312**

This paper is in response to the Notice of Allowance dated January 28, 2022 for the present patent application. The first page of the various sections of this response can be found on the following pages.

Amendments to the Claims	2
Remarks	5

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	17301204
	Filing Date	2021-03-29
	First Named Inventor	Ben Wynne
	Art Unit	1742
	Examiner Name	Xue H LIU
	Attorney Docket Number	INTRP003C2

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	1	104015363	CN	A	2014-09-03	Yuan et al.		

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	17301204
Filing Date	2021-03-29
First Named Inventor	Ben Wynne
Art Unit	1742
Examiner Name	Xue H LIU
Attorney Docket Number	INTRP003C2

1

Extended European Search Report dated March 3, 2022 for European Patent Application No. 19843981.2.

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

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¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		17301204
	Filing Date		2021-03-29
	First Named Inventor	Ben Wynne	
	Art Unit	1742	
	Examiner Name	Xue H LIU	
	Attorney Docket Number	INTRP003C2	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David Jackrel/	Date (YYYY-MM-DD)	2022-03-08
Name/Print	David Jackrel	Registration Number	76731

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Commissioner for Patents
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AMENDMENT AFTER NOTICE OF ALLOWANCE

UNDER 37 C.F.R. 1.312

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Amendments to the Claims	2
Remarks	5

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method comprising:
 - a. providing an additive manufacturing system, comprising:
an image projection system comprising a plurality of image projectors; and
an image display subsystem;
 - b. projecting a composite image onto a build area within a resin pool using the image projection system, wherein:
the image projection system is controlled by the image display subsystem;
the composite image comprises a plurality of sub-images arranged in an array;
two or more adjacent sub-images in the array overlap at two or more sub-image edges;
and
each sub-image is projected onto a portion of the build area using one of the plurality of image projectors; and
 - c. adjusting properties and aligning a position of each sub-image in the array using a set of filters comprising:
an irradiance mask that normalizes irradiance;
a gamma adjustment mask that adjusts sub-image energy based on a reactivity of resin in the resin pool;
a warp correction filter that provides geometric correction; and
an edge blending bar at one or more sub-image edges.
2. (Currently Amended) The method of claim 1, wherein the image display subsystem controls the image projection system and each of the image projectors using digital light processing.

3. (Original) The method of claim 1, wherein the irradiance mask additionally adjusts the energy across the build area to compensate for non-uniformities in optics of the plurality of image projectors.
4. (Original) The method of claim 1, wherein the gamma adjustment mask comprises a logarithmic relationship between a cure depth of the resin and energy per unit area in the build area.
5. (Original) The method of claim 1, wherein the resin is selected from the group consisting of acrylates, epoxies, methacrylates, urethanes, silicone, vinyls, and combinations thereof.
6. (Original) The method of claim 1, wherein the edge blending bar comprises a blending distance and a function selected from the group consisting of: linear, sigmoid and geometric.
7. (Currently Amended) The method of claim 1, wherein the edge blending bar adjusts the one or more ~~sub-images~~ sub-image edges based on at least one layer boundary location within an object being manufactured.
8. (Original) The method of claim 1, further comprising a system controller that synchronizes exposure control of the plurality of image projectors with each other.
9. (Original) The method of claim 1, wherein the projecting the composite image further comprises moving the plurality of sub-images during an exposure of a layer of an object being manufactured.
10. (Original) The method of claim 9, wherein the movement of the sub-images is either a step-expose-step type movement or a continuous movement.

11. (Original) The method of claim 9, wherein:
the plurality of sub-images comprises a 1D array of sub-images oriented in a first direction; and
the movement of the sub-images is in a second direction perpendicular to the first direction.
12. (Original) The method of claim 9, wherein:
the plurality of sub-images comprises a 2D array of sub-images with rows oriented along a first direction and columns oriented along a second direction; and
the movement of the sub-images is in either one of the first or second directions, or both the first and second directions.
13. (Currently Amended) The method of claim 9, wherein:
the plurality of sub-images ~~comprises an~~ arranged in the array of sub-images with ~~comprises~~ one or more rows oriented along a first direction and one or more columns oriented along a second direction; and
the movement of the sub-images is in a third direction that is different from both the first and second directions.
14. (Currently Amended) The method of claim 1, wherein the adjusting properties and aligning the position of each sub-image in the array further comprises applying the irradiance mask to each sub-image such that the composite image has a uniform irradiance range across ~~the area of~~ the composite image.
15. (Currently Amended) The method of claim 1, wherein the adjusting properties and aligning the position of each sub-image in the array further comprises applying the irradiance mask to ~~each~~ each sub-image to normalize irradiance non-uniformities within the image projection system arising from a projector-based spatial energy non-uniformity.

REMARKS

I. Amendments to the Claims

Claims 1, 2, 7, and 13-15 have been amended to make a minor correction in antecedent basis. No new matter has been added by this amendment.

II. Conclusion

Applicant respectfully requests entry of this amendment. In case of any issues, the Examiner is asked to telephone the undersigned.

Respectfully submitted,

MLO

/David Jackrel/

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/301,204

RECEIPT DATE / TIME
02/28/2022 05:29:30 PM ET

ATTORNEY DOCKET #
INTRP003C2

Title of Invention

MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 6763

FILED BY Laura Stanton

PATENT CENTER # 60551094

FILING DATE 03/29/2021

CUSTOMER # 67362

FIRST NAMED
INVENTOR Ben Wynne

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY David Jackrel

Documents

TOTAL DOCUMENTS: 3

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
20220228_INTRP003C2_am end_after_NOA.pdf	5	-	140 KB
20220228_INTRP003C2_a mend_after_NOA-A.NA.pdf	(1-1) 1	Amendment after Notice of Allowance (Rule 312)	88 KB
20220228_INTRP003C2_a mend_after_NOA-CLM.pdf	(2-4) 3	Claims	97 KB
20220228_INTRP003C2_a mend_after_NOA-REM.pdf	(5-5) 1	Applicant Arguments/Remarks Made in an Amendment	108 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
20220228_INTRP003C2_amen d_after_NOA.pdf	85BD00AE6DA7F7063157E0AC46954DED7CAB2A4CD9CAEE34 65B130EE02BE67F5F54BF36601EFF4C21C4FC0DC8CF26A0AF 69DFB91F91937F79423669F7AD64476
20220228_INTRP003C2_amen d_after_NOA-A.NA.pdf	CB92667CA5E348A8FAD0C80DA65D352C1BCFF7F7FE61647A 2DEB0A3E9A9D6254E8BB34CD5D2190BE441D769B1F9138858 4A525AB15BB1D130681EC1FEC471B6A
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20220228_INTRP003C2_amen d_after_NOA-REM.pdf	3B25AB2988C62C41302E0894938FA0B39AC5C73A24C94DA90 DCCB4D8C797AB15BA346B2D176EB0AD1FA527D2DC1675654 AD0EB0EF97F19DA12FF371DC011DAA6

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If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/301,204	03/29/2021	Ben Wynne	INTRP003C2	6763
67362	7590	03/25/2022	EXAMINER	
MLO			LIU, XUE H	
888 Prospect Street			ART UNIT	
Suite 200			PAPER NUMBER	
La Jolla, CA 92037			1742	
			NOTIFICATION DATE	DELIVERY MODE
			03/25/2022	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

MLOPAIR@mlo-ip.com
eofficeaction@appcoll.com
heather@mlo-ip.com

Corrected Notice of Allowability	Application No. 17/301,204	Applicant(s) Wynne et al.	
	Examiner XUE H LIU	Art Unit 1742	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3-8-22.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-15. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892) 2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>3-8-22</u> . 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____. 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.	5. ☐ Examiner's Amendment/Comment 6. ☐ Examiner's Statement of Reasons for Allowance 7. ☒ Other <u>PTO-271</u> .
--	--

/JEFFREY M WOLLSCHLAGER/
 Primary Examiner, Art Unit 1742

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
17301204	29-Mar-2021	Ben Wynne	INTRP003C2	6763

TITLE OF INVENTION :

MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	Utility under 35 USC 111(a)	1742	401000	
Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
\$600	\$0	\$600	28-Apr-2022	\$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
67362 MLO 888 Prospect Street Suite 200 La Jolla CA 92037 UNITED STATES 8584811883 MLOPAIR@mlo-ip.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status**Change in Entity Status**

Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.

- ☐ Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

- ☒ Applicant asserting small entity status. See 37 CFR 1.27.

Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

- ☐ Applicant changing to regular undiscounted fee status.

Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Document Description: Issue Fee Payment (PTO-85B)

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4.Firm and/or Attorney Names To Be Printed**NOTE: If no name is listed, no name will be printed**

For printing on the patent front page, list to be displayed as entered

1. MLO, a professional corp.

2.

3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
Intrepid Automation	San Diego	CALIFORNIA	UNITED STATES	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/David Bryan Jackrel/	Date	04-19-2022
Name	David Bryan Jackrel	Registration Number	76731

Electronic Acknowledgement Receipt

EFS ID:	45502984
Application Number:	17301204
International Application Number:	
Confirmation Number:	6763
Title of Invention:	MULTIPLE IMAGE PROJECTION METHOD FOR ADDITIVE MANUFACTURING
First Named Inventor/Applicant Name:	Ben Wynne
Customer Number:	67362
Filer:	David Bryan Jackrel
Filer Authorized By:	
Attorney Docket Number:	INTRP003C2
Receipt Date:	19-APR-2022
Filing Date:	29-MAR-2021
Time Stamp:	13:59:08
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$600
RAM confirmation Number	E20224ID59040832
Deposit Account	504034
Authorized User	David Jackrel
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.20 (Post Issuance fees) 37 CFR 1.21 (Miscellaneous fees and charges)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	62531	no	2
			c2c3de0ebe5cfa1462ca199cf8543b27488c ae16		

Warnings:**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	40071	no	2
			2c415aebcb888504b6cd5dfd83c67c3f24 20cdd		

Warnings:**Information:**

Total Files Size (in bytes):			102602
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/301,204	05/24/2022	11338511	INTRP003C2	6763

67362 7590 05/04/2022
MLO
888 Prospect Street
Suite 200
La Jolla, CA 92037

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

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