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EXAMINER

DANG, HUNG Q

ART UNIT	PAPER NUMBER
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2484

NOTIFICATION DATE	DELIVERY MODE
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08/19/2016

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):

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Office Action Summary	Application No. 14/232,363	Applicant(s) FISKER ET AL.	
	Examiner HUNG DANG	Art Unit 2484	AIA (First Inventor to File) Status No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/13/2016.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ 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.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-5, 7, 8, 12-14, 16, 17, 19-23, 49 and 51-57 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-5, 7-8, 12-14, 16-17, 19-23, 49, and 51-57 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, 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.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ 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)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) ☐ Notice of References Cited (PTO-892) | 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date ____. | 4) ☐ Other: ____. |

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 07/13/2016 have been fully considered but they are not persuasive.

On pages 10-11, Applicant argues that,

"The Office Action alleges that the two determining steps of claim 1, which determine the excluded volumes, are disclosed by the "combining steps" of *Marshall* at paragraphs [0053], and [0114] through [0119]. However, as described in paragraph [0054], *Marshall* determines which of the first and second data sets is the master data set, and eliminates a section of the other, i.e., nonselected, data set that relates to the common area. *Marshall* teaches selecting one of the two data sets as the master set for the common area, i.e., the area of interest, in order to provide more accurate positional information for the common area. See paragraph [0116].

Paragraph [0113] of *Marshall* then states that the combining steps include "removing duplicative data points so that the combined data set will cleanly and accurately reflect the scanned region". As explained in greater detail in the following paragraphs, *Marshall* teaches that the "elimination" volume is actually the common area, i.e., the area of interest, paragraph [0117], and that the elimination operation deletes the identified data points from the secondary data set in the common area, i.e., the set of data that was not selected as the master set. This operation is actually the opposite of disregarding a surface in the claimed excluded volume. *Marshall* is removing pixels from the area of interest to avoid duplication or confusion. It is not removing pixels in an area that is of no interest, such as the claimed excluded volume.

Furthermore, it is important to note that the elimination is only taught for one of the data sets. Accordingly, *Marshall* does not teach or suggest the determining steps that determine an excluded volume for each of the two data sets. Therefore, *Marshall* does not teach or suggest the subject matter of claim 1."

In response, Examiner respectfully disagrees and submits that, in the cited portions, *Marshall* teaches identifying in one data set which region as a volume to be excluded in the other data set and in this volume, no surface in the other data set can be present (because any surface in this volume of the other data set will be eliminated). Further, at least in [0116], *Marshall* teaches that the master data set can be selected for each common area, that is, the elimination operations are not limited to the second data set only. There are regions that the second data set is selected as the master data set and the elimination is performed on the first data set.

Further, the claims recite, "if a portion of the surface in the first, **and/or** if a portion of the surface in the second ..." The elimination process is performed on only one data set is sufficient.

As such, Applicant's arguments are not persuasive.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7-8, 12-14, 16-17, 21-23, 49, 51-52, and 54-57 are rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Marshall et al. (US 2009/0316966 A1 – hereinafter Marshall).

Regarding claim 1, Marshall discloses a method for detecting a movable object in a location, when scanning a rigid object in the location by means of a 3D scanner for generating a virtual 3D model of the rigid object, wherein the method comprises: providing a first 3D representation of at least part of a surface by scanning at least part of the location ([0051]; [0114] – *first dental model polygonal mesh scanned by a 3D scanning process*); providing a second 3D representation of at least part of the surface by scanning at least part of the location ([0052]; [0114] – *second dental model polygonal mesh scanned by a 3D scanning process*); determining for the first 3D representation a first excluded volume in space where no surface can be present ([0053]; [0114]-[0115] – *via determining common regions between the first and second dental model polygonal meshes, or alternatively [0116]-[0119] – excluded volume of the first dental model polygonal mesh is determined via the corresponding data set*); determining for the second 3D representation a second excluded volume in space where no surface can be present ([0114]-[0115] – *via determining common regions between the first and second dental model polygonal meshes, or alternatively [0116]-[0119] – excluded volume of the second dental model polygonal mesh is determined via the corresponding data set*); if a portion of the surface in the first 3D representation is located in space in the second excluded volume, the portion of the surface in the first 3D representation is disregarded in the generation of the virtual 3D model, and/or if a portion of the surface in the second

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3D representation is located in space in the first excluded volume, the portion of the surface in the second 3D representation is disregarded in the generation of the virtual 3D model ([0054]; [0113]-[0115] – *via determining common regions between the first and second dental model polygonal meshes, identified excluded volumes in first and second data sets are eliminated or removed from the combined 3D model*).

Regarding claim 2, Marshall also discloses the rigid object is a patient's set of teeth, and the location is the mouth of the patient ([0115]; *Figs. 9-18; Figs. 20-35*).

Regarding claim 3, Marshall also discloses the movable object is a soft tissue part of a patient's mouth ([0053] – *soft tissue, etc.*).

Regarding claim 4, Marshall also discloses the movable object is a dentist's instrument or remedy which is temporarily present in a patient's mouth ([0051]; [0068] – *Examiner interprets other objects to include a dentist's instrument or remedy which is temporarily present in the patient's mouth*).

Regarding claim 5, Marshall also discloses the movable object is a finger ([0051]; [0068] – *Examiner interprets other body parts to include a finger, e.g. the dentist's finger or dental assistant's finger*).

Regarding claim 7, Marshall also discloses at least part of the surface captured in the first representation and at least part of the surface captured in the second representation are overlapping the same surface part on the rigid object ([0114]-[0115]).

Regarding claim 8, Marshall also discloses the first representation of at least part of the surface is defined as the first representation of at least a first part of the surface,

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and the second representation of at least part of the surface is defined as the second representation of at least a second part of the surface ([0114]-[0115]).

Regarding claim 12, Marshall also discloses determining a first scan volume in space related to the first representation of at least part of the surface, and determining a second scan volume in space related to the second representation of at least part of the surface ([0114]-[0115] – *the first and second scan volumes are determined via the corresponding first and second scan data set*).

Regarding claim 13, Marshall also discloses the scan volume is defined by the focusing optics in the 3D scanner and the distance to the surface which is captured ([0051]).

Regarding claim 14, Marshall also discloses the first scan volume related to the first representation of at least part of the surface is the volume in space between the focusing optics of the 3D scanner and the surface captured in the first representation; and the second scan volume related to the second representation of at least part of the surface is the volume in space between the focusing optics of the 3D scanner and the surface captured in the second representation ([0051]-[0052]; [0114]-[0115]).

Regarding claim 16, Marshall also discloses the first excluded volume and second excluded volume in space where no surface can be present corresponds to the first scan volume and the second scan volume, respectively ([0051]-[0052]; [0114]-[0115]).

Regarding claim 17, Marshall also discloses the volume of the 3D scanner itself is defined as an excluded volume ([0051]-[0052] – *the volume of the scanner itself is an excluded volume because the scanner is not an object to be scanned*).

Regarding claim 21, Marshall also discloses the first representation of at least part of a surface is a first subscan of at least part of the location ([0051]), and the second representation of at least part of the surface is a second subscan of at least part of the location ([0052]).

Regarding claim 22, Marshall also discloses the first representation of at least part of a surface is a provisional virtual 3D model comprising the subscans of the location acquired already ([0051]), and the second representation of at least part of the surface is a second subscan of at least part of the location ([0052]).

Regarding claim 23, Marshall also discloses acquired subscans of the location are adapted to be added to the provisional virtual 3D model concurrently with the acquisition of the subscans ([0094]; Fig. 6).

Claim 49 is rejected for the same reason as discussed in claim 1 above.

Claim 51 is rejected for the same reason as discussed in claim 1 above.

Regarding claim 52, Marshall also discloses the movable object is an inside of a cheek, a tongue, lips, gums and/or loose gingival ([0115]; Figs. 9-18; Figs. 20-35).

Regarding claim 54, Marshall also discloses disregarding the portion of the surface in the first 3D representation that is located in space in the second excluded volume in the generation of the virtual 3D model, and disregarding the portion of the surface in the second 3D representation that is located in space in the first excluded

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volume in the generation of the virtual 3D model ([0054]; [0113]-[0115] – *via determining common regions between the first and second dental model polygonal meshes, identified excluded volumes in first and second data sets are eliminated or removed from the combined 3D model*).

Claim 55 is rejected for the same reason as discussed in claim 54 above.

Regarding claim 56, Marshall also discloses the first excluded volume is determined to be a space where no surface of the rigid object is present, and the second excluded volume is determined to be a space where no surface of the rigid object is present.

Regarding claim 57, Marshall discloses a method for detecting a movable object in a location, when scanning a rigid object in the location by means of a 3D scanner for generating a virtual 3D model of the rigid object, wherein the method comprises: providing a first 3D representation of at least part of a surface by scanning at least part of the location ([0051]; [0114] – *first dental model polygonal mesh scanned by a 3D scanning process*); providing a second 3D representation of at least part of the surface by scanning at least part of the location ([0052]; [0114] – *second dental model polygonal mesh scanned by a 3D scanning process*); determining for the first 3D representation a first excluded volume in space where no surface can be present ([0053]; [0114]-[0115] – *via determining common regions between the first and second dental model polygonal meshes, or alternatively [0116]-[0119] – excluded volume of the first dental model polygonal mesh is determined via the corresponding data set*), and/or determining for the second 3D representation a second excluded volume in space where no surface

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can be present ([0114]-[0115] – via determining common regions between the first and second dental model polygonal meshes, or alternatively [0116]-[0119] – excluded volume of the second dental model polygonal mesh is determined via the corresponding data set); if a portion of the surface in the first 3D representation is located in space in the second excluded volume, the portion of the surface in the first 3D representation is disregarded in the generation of the virtual 3D model, and/or if a portion of the surface in the second 3D representation is located in space in the first excluded volume, the portion of the surface in the second 3D representation is disregarded in the generation of the virtual 3D model ([0054]; [0113]-[0115] – via determining common regions between the first and second dental model polygonal meshes, identified excluded volumes in first and second data sets are eliminated or removed from the combined 3D model).

Claim Rejections - 35 USC § 103

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

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Marshall as applied to claims 1-5, 7-8, 12-14, 16-17, 21-23, 49, 51-52, and 54-57 above, and further in view of Weersink et al. (US 2013/0113802 A1 – hereinafter Weersink).

Regarding claim 19, see the teachings of Marshall as discussed in claim 1 above. However, Marshall does not disclose a near threshold distance is defined, which determines a distance from the captured surface in the first representation and the second representation, where a surface portion in the second representation or the first representation, respectively, which is located within the near threshold distance from the captured surface and which is located in space in the first excluded volume or in the second excluded volume, respectively, is not disregarded in the generation of the virtual 3D model.

Weersink discloses a near threshold distance is defined, which determines a distance from a captured surface which is located within the near threshold distance from the captured surface and which is located in space in an excluded volume is not disregarded in the generation of a virtual 3D model ([0059]-[0060]; [0076]; [0081] – *minimum threshold*).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Weersink into the method taught by Marshall to clearly define separation of tissues.

Regarding claim 20, see the teachings of Marshall as discussed in claim 1 above. However, Marshall does not disclose a far threshold distance is defined, which determines a distance from the captured surface, where the volume outside the far threshold distance is not included in the excluded volume of a representation.

Weersink discloses a far threshold distance is defined, which determines a distance from the captured surface, where the volume outside the far threshold distance

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is not included in the excluded volume of a representation ([0059]-[0060]; [0076]; [0081] – *maximum threshold*).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Weersink into the method taught by Marshall to clearly define separation of tissues.

Claim 53 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Marshall as applied to claims 1-5, 7-8, 12-14, 16-17, 21-23, 49, 51-52, and 54-57 above.

Regarding claim 53, see the teachings of Marshall as discussed in claim 1 above. Marshall does not disclose the movable object is a dental suction device, cotton rolls, and/or cotton pads.

Official Notice is taken that using a dental suction device, cotton rolls, and/or cotton pads in a patient's mouth is well known in the art. Thus, one skilled in the art would have been motivated to include the movable object as one of dental suction device, cotton rolls, and/or cotton pads used during the treatment.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG DANG whose telephone number is (571)270-1116. The examiner can normally be reached on IFT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI Q. TRAN can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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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 <http://pair-direct.uspto.gov>. 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.

/HUNG DANG/

Primary Examiner, Art Unit 2484

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	MAIL STOP AF
Rune FISKER et al.	)	Group Art Unit: 2484
Application No.: 14/232,363	)	Examiner: Hung Q. Dang
Filed: January 21, 2014	)	Confirmation No.: 2264
For: DETECTION OF A MOVABLE OBJECT	)	
WHEN 3D SCANNING A RIGID	)	
OBJECT	)	
	)	
	)	

AMENDMENT AFTER FINAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated August 19, 2016, please amend the above-identified patent application as follows:

REMARKS

The Examiner is thanked for the examination of the application. In view of the remarks that follow, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections.

Art Rejections:

Claims 1 – 5, 7, 8, 12 – 14, 16, 17, 21 – 23, 49, 51, 52, and 54 - 57 have been rejected under 35 USC 102(b) as being allegedly anticipated by US 2009/0316966 A1, hereinafter *Marshall*. Claims 19 and 20 have been rejected under 35 USC 103(a) as being allegedly unpatentable over *Marshall* in view of US 2013/0113802, hereinafter *Weersink*. Claim 53 has been rejected under 35 USC 103(a) as being allegedly unpatentable over *Marshall*.

The present application relates to detecting an unwanted feature in a location when doing an intraoral scan of a rigid object, such as a tooth/teeth. For example, an operator may accidentally get an image of the patient's tongue or a finger of the operator. It is desirable to be able to exclude these unwanted features from the final virtual 3D model.

As described in claim 1, the method includes providing a first 3D representation of at least part of a surface by scanning at least part of the location; providing a second 3D representation of at least part of the surface by scanning at least part of the location; and determining for the first 3D representation **a first excluded volume** in space **where no surface can be present** and determining for the second 3D representation **a second excluded volume** in space **where no surface can be present**. Objects in the excluded volumes are presumed to be moving and/or unwanted, and are disregarded. However, the claims are not limited to the preferred disclosed embodiments.

All of the independent claims have been amended to clarify that the excluded volumes are regions where no surface can be present *in both the first 3D representation and the second 3D representation*. The significance of this is set forth in the following remarks.

The Office Action alleges that the two determining steps of claim 1, which determine the excluded volumes, are disclosed by the “combining steps” of *Marshall* at paragraphs [0053], and [0114] through [0119]. However, as described in paragraph [0054], *Marshall* determines which of the first and second data sets is the master data set, and eliminates a section of the other data set that relates to the areas that are common to both data sets *in order to avoid duplication*. The Examiner’s attention is also directed to paragraph [0113] of *Marshall* which states that the combining steps include “removing duplicative data points so that the combined data set will cleanly and accurately reflect the scanned region”. As explained in greater detail in the following paragraphs, *Marshall* teaches that the “elimination” volume is actually the common area, i.e., the area of interest, paragraph [0117], and that the elimination operation deletes the identified data points from the secondary data set in the common area, i.e., the set of data that was not selected as the master set.

In the *Response to Arguments* section of the Office Action, the Examiner alleges that “Marshall teaches identifying in one data set which region as a volume to be excluded in the other data set and in this volume, no surface in the other data set can be present (because any surface in this volume of the other data set will be eliminated).”

However, this analysis ignores the result of claim 1. In claim 1:

if a portion of the surface in the first 3D representation is located in space in the second excluded volume, the portion of the surface in the first 3D representation is disregarded in the generation of the virtual 3D model, and/or

- if a portion of the surface in the second 3D representation is located in space in the first excluded volume, the portion of the surface in the second 3D representation is disregarded in the generation of the virtual 3D model.

In other words, images in the excluded volumes are either excluded or disregarded *in both representations*. In contrast, *Marshall* is removing pixels *from the area of interest to avoid duplication* or confusion. It is important to note that *Marshall* leaves the data in the other data set. *It is not excluding or disregarding pixels in an area that is of no interest in both data sets, such as the claimed excluded volume*. *Marshall* does not teach or suggest the determining steps that determine an excluded volume *for each of the two data sets*. See, e.g., claim 1, wherein it recites “determining for the first 3D representation a first excluded volume in space where no surface can be present” **and** “determining for the second 3D representation a second excluded volume in space where no surface can be present”.

In addition, Marshall describes a method for combining *two different scans*, for example an intraoral scan and a volumetric x-ray scan, into one. In paragraph [0051], *Marshall* describes acquiring a first data set, using for example an optical scanner. Paragraph [0052] describes obtaining a second data set using a 3D medical scanner, for example a cone beam scanner. Therefore, the two data sets are obtained using two different scanning techniques, and the objective of *Marshall* is *how to match these two separate scans*. See, for example, paragraph [0053], where a match operation determines the relationship between the first and second data sets to prepare for combining the data sets. *Marshall* does not disclose “a method for detecting a movable object in a location, **when scanning a rigid object in the location by means of a 3D scanner for generating a virtual 3D model of the rigid object**”, which is the preamble of claim 1 as filed.

Therefore, *Marshall* does not teach or suggest the subject matter of claim 1. Claim 51 is also patentable at least for reasons similar to claim 1.

The dependent claims depend from claims 1 and 51, and include additional features that further distinguish over *Marshall*. Accordingly, the dependent claims are also patentable over *Marshall*.

With regard to the rejection of claim 56, the Examiner has merely recited the claim and concluded that the subject matter thereof is taught by *Marshall*. However, the Examiner must show where *Marshall* teaches the subject matter. Accordingly, the rejection of claim 56 is improper.

Claim 57 is similar to claim 1, except that the determining steps, which determine the excluded volumes, are now phrased so that only one determining step is needed. As set forth above, *Marshall* does not teach or suggest the determining step. Accordingly, claim 57 is also patentable.

In the event that there are any questions concerning this Amendment, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: November 21, 2016

By: /WCRoland/
William C. Rowland
Registration No. 30,888

Customer No. 21839
703 838 6510

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for detecting a movable object in a location, when scanning a rigid object in the location by means of a 3D scanner for generating a virtual 3D model of the rigid object, wherein the method comprises:

- providing a first 3D representation of at least part of a surface by scanning at least part of the location;

- providing a second 3D representation of at least part of the surface by scanning at least part of the location;

- determining for the first 3D representation a first excluded volume in space where no surface can be present in both the first 3D representation and the second 3D representation;

- determining for the second 3D representation a second excluded volume in space where no surface can be present in both the first 3D representation and the second 3D representation;

- if a portion of the surface in the first 3D representation is located in space in the second excluded volume, the portion of the surface in the first 3D representation is disregarded in the generation of the virtual 3D model, and/or

- if a portion of the surface in the second 3D representation is located in space in the first excluded volume, the portion of the surface in the second 3D representation is disregarded in the generation of the virtual 3D model.

2. (Previously Presented) The method according to claim 1, wherein the rigid object is a patient's set of teeth, and the location is the mouth of the patient.

3. (Previously Presented) The method according to claim 1, wherein the movable object is a soft tissue part of a patient's mouth.

4. (Previously Presented) The method according to claim 1, wherein the movable object is a dentist's instrument or remedy which is temporarily present in a patient's mouth.

5. (Previously Presented) The method according to claim 1, wherein the movable object is a finger.

6. (Cancelled)

7. (Previously Presented) The method according to claim 1, wherein at least part of the surface captured in the first representation and at least part of the surface captured in the second representation are overlapping the same surface part on the rigid object.

8. (Previously Presented) The method according to claim 1, wherein the first representation of at least part of the surface is defined as the first representation of at least a first part of the surface, and the second representation of at least part of the surface is defined as the second representation of at least a second part of the surface.

9 - 11. (Cancelled)

12. (Previously Presented) The method according to claim 1, wherein the method comprises determining a first scan volume in space related to the first representation of at least part of the surface, and determining a second scan volume in space related to the second representation of at least part of the surface.

13. (Previously Presented) The method according to claim 1, wherein the scan volume is defined by the focusing optics in the 3D scanner and the distance to the surface which is captured.

14. (Previously Presented) The method according to claim 1, wherein the first scan volume related to the first representation of at least part of the surface is the volume in space between the focusing optics of the 3D scanner and the surface captured in the first representation; and the second scan volume related to the second representation of at least part of the surface is the volume in space between the focusing optics of the 3D scanner and the surface captured in the second representation.

15. (Cancelled)

16. (Previously Presented) The method according to claim 1, wherein the first excluded volume and second excluded volume in space where no surface can be present corresponds to the first scan volume and the second scan volume, respectively.

17. (Previously Presented) The method according to claim 1, wherein the volume of the 3D scanner itself is defined as an excluded volume.

18. (Cancelled)

19. (Previously Presented) The method according to claim 1, wherein a near threshold distance is defined, which determines a distance from the captured surface in the first representation and the second representation, where a surface portion in the second representation or the first representation, respectively, which is located within the near threshold distance from the captured surface and which is located in space in the first excluded volume or in the second excluded volume, respectively, is not disregarded in the generation of the virtual 3D model.

20. (Previously Presented) The method according to claim 1, wherein a far threshold distance is defined, which determines a distance from the captured surface, where the volume outside the far threshold distance is not included in the excluded volume of a representation.

21. (Previously Presented) The method according to claim 1, wherein the first representation of at least part of a surface is a first subscan of at least part of the location, and the second representation of at least part of the surface is a second subscan of at least part of the location.

22. (Previously Presented) The method according to claim 1, wherein the first representation of at least part of a surface is a provisional virtual 3D model comprising the subscans of the location acquired already, and the second representation of at least part of the surface is a second subscan of at least part of the location.

23. (Previously Presented) The method according to claim 1, wherein acquired subscans of the location are adapted to be added to the provisional virtual 3D model concurrently with the acquisition of the subscans.

24 - 48. (Cancelled)

49. (Previously Presented) A nontransitory computer readable medium encoded with a computer program product comprising program code for causing a data processing system to perform the method of claim 1, when said program code is executed on the data processing system.

50. (Cancelled)

51. (Currently Amended) A system for detecting a movable object in a location, when scanning a rigid object in the location by means of a 3D scanner for generating a virtual 3D model of the rigid object, wherein the system comprises a hardware processor configured to:

- provide a first 3D representation of at least part of a surface by scanning at least part of the location;

- provide a second 3D representation of at least part of the surface by scanning at least part of the location;

- determine for the first 3D representation a first excluded volume in space where no surface can be present in both the first 3D representation and the second 3D representation;

- determine for the second 3D representation a second excluded volume in space where no surface can be present in both the first 3D representation and the second 3D representation;

- disregard the portion of the surface in the first 3D representation in the generation of the virtual 3D model, if a portion of the surface in the first 3D representation is located in space in the second excluded volume, and/or

- disregard the portion of the surface in the second 3D representation in the generation of the virtual 3D model, if a portion of the surface in the second 3D representation is located in space in the first excluded volume.

52. (Previously Presented) The method according to claim 1, wherein the movable object is an inside of a cheek, a tongue, lips, gums and/or loose gingival.

53. (Previously Presented) The method according to claim 1, wherein the movable object is a dental suction device, cotton rolls, and/or cotton pads.

54. (Previously Presented) The method according to claim 1, where in the method includes:

- disregarding the portion of the surface in the first 3D representation that is located in space in the second excluded volume in the generation of the virtual 3D model, and

- disregarding the portion of the surface in the second 3D representation that is located in space in the first excluded volume in the generation of the virtual 3D model.

55. (Previously Presented) The system according to claim 51, where in the hardware processor is configured to:

- disregard the portion of the surface in the first 3D representation that is located in space in the second excluded volume in the generation of the virtual 3D model, and

disregard the portion of the surface in the second 3D representation that is located in space in the first excluded volume in the generation of the virtual 3D model.

56. (Previously Presented) The method according to claim 1, wherein:

the first excluded volume is determined to be a space where no surface of the rigid object is present, and

the second excluded volume is determined to be a space where no surface of the rigid object is present.

57. (Currently Amended) A method for detecting a movable object in a location, when scanning a rigid object in the location by means of a 3D scanner for generating a virtual 3D model of the rigid object, wherein the method comprises:

- providing a first 3D representation of at least part of a surface by scanning at least part of the location;

- providing a second 3D representation of at least part of the surface by scanning at least part of the location;

- determining for the first 3D representation a first excluded volume in space where no surface can be present in both the first 3D representation and the second 3D representation, and/or determining for the second 3D representation a second excluded volume in space where no surface can be present in both the first 3D representation and the second 3D representation;

- if a portion of the surface in the first 3D representation is located in space in the second excluded volume, the portion of the surface in the first 3D representation is disregarded in the generation of the virtual 3D model, and/or if a portion of the surface in the second 3D representation is located in space in the first excluded volume, the portion of the surface in the second 3D representation is disregarded in the generation of the virtual 3D model.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	MAIL STOP AF
	)	
Rune FISKER et al.	)	Group Art Unit: 2484
	)	
Application No.: 14/232,363	)	Examiner: Hung Q. Dang
	)	
Filed: January 21, 2014	)	Confirmation No.: 2264
	)	
For: DETECTION OF A MOVABLE OBJECT	)	
WHEN 3D SCANNING A RIGID	)	
OBJECT	)	
	)	
	)	

INTERVIEW SUMMARY

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Examiner is thanked for the courtesy of the interview granted Applicants' attorney on November 30, 2016. During the interview, Applicants' attorney explained the amendments that were made to the independent claims on November 21, 2016.

Applicants' attorney then explained that, contrary to the present claims, as described in paragraph [0054], *Marshall* determines which of the first and second data sets is the master data set, and eliminates a section of the other data set that relates to the areas that are common to both data sets ***in order to avoid duplication***. In paragraph [0113], *Marshall* states that the combining steps include "removing duplicative data points so that the combined data set will cleanly and accurately reflect the scanned region". Thus, *Marshall* teaches that the "elimination" volume is actually the common area, i.e., the area of interest, paragraph [0117], and that the elimination operation deletes the identified data points from the secondary data set

in the common area, i.e., the set of data that was not selected as the master set ***and retains the data points in the master data set.***

During the interview, the Examiner agreed that the amendments filed on November 21, 2016 overcome the art of record.

In the event that there are any questions concerning this application, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: December 1, 2016

By: /WCRowland/
William C. Rowland
Registration No. 30,888

Customer No. 21839
703 838 6510



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/232,363	01/21/2014	Rune Fisker	0079124-000078	2264

21839 7590 12/05/2016
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

DANG, HUNG Q

ART UNIT	PAPER NUMBER
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2484

NOTIFICATION DATE	DELIVERY MODE
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12/05/2016

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):

ADIPDOC1@BIPC.com

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.



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NOTICE OF ALLOWANCE AND FEE(S) DUE

21839 7590 12/16/2016
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

DANG, HUNG Q

ART UNIT

PAPER NUMBER

2484

DATE MAILED: 12/16/2016

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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14/232,363

01/21/2014

Rune Fisker

0079124-000078

2264

TITLE OF INVENTION: DETECTION OF A MOVABLE OBJECT WHEN 3D SCANNING A RIGID OBJECT

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	03/16/2017

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 and an extra copy of the form should be submitted. 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: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (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)

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.

21839 7590 12/16/2016
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/232,363	01/21/2014	Rune Fisker	0079124-000078	2264

TITLE OF INVENTION: DETECTION OF A MOVABLE OBJECT WHEN 3D SCANNING A RIGID OBJECT

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	03/16/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
DANG, HUNG Q	2484	348-066000

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/SB/122) attached. ☐ "Fee Address" indication (or "Fee Address" Indication form 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 _____
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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 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.

(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. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

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

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

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. _____



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/232,363	01/21/2014	Rune Fisker	0079124-000078	2264
21839 7590 12/16/2016 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER DANG, HUNG Q	
			ART UNIT	PAPER NUMBER
			2484	
DATE MAILED: 12/16/2016				

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 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, 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. 14/232,363	Applicant(s) FISKER ET AL.	
	Examiner HUNG DANG	Art Unit 2484	AIA (First Inventor to File) Status No

-- 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 amendment filed 12/02/2016.
☐ 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 1-5, 7-14, 16-17, 19-23, 49, 51-57. 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)

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

/HUNG DANG/
Primary Examiner, Art Unit 2484