



APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/136,681	04/04/2017	9610430	4053.001US2	7065

21186 7590 03/15/2017
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

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 62 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 Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Reinhard Bornemann, Bielefeld, GERMANY;
RenovaCare Sciences Corp., New York, NY;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

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.

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.

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

21186 7590 02/10/2017
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

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.
14/136,681	12/20/2013	Reinhard Bornemann	4053.001US2	7065

TITLE OF INVENTION: Cell Spraying Device, Method and Sprayed Cell Suspension

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	05/10/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
TREYGER, ILYA Y	3761	604-289000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input checked="" type="checkbox"/> "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, (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.
	1 <u>Schwegman Lundberg</u> 2 <u>& Woessner, P.A.</u> 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 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: RenovaCare Sciences Corp.

(B) RESIDENCE: (CITY and STATE OR COUNTRY) New York, New York

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: <input checked="" type="checkbox"/> Issue Fee <input type="checkbox"/> Publication Fee (No small entity discount permitted) <input type="checkbox"/> Advance Order - # of Copies _____	4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) <input type="checkbox"/> A check is enclosed. <input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached. <input checked="" type="checkbox"/> The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number <u>190743</u> (enclose an extra copy of this form).
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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 Alison N. Sachs Date February 16, 2017
 Typed or printed name Alison N. Sachs Registration No. 63,776

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann
Title: CELL SPRAYING DEVICE, METHOD AND SPRAYED CELL SUSPENSION

Docket No.:	4053.001US2	Serial No.:	14/136,681
Filed:	December 20, 2013	Due Date:	May 10, 2017
Examiner:	Ilya Treyger	Group Art Unit:	3761
Customer No.:	21186	Confirmation No.:	7065

Notice of Allowance Date: February 10, 2017

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting herewith the following:

- Issue Fee Transmittal (Form PTOL-85).
- Communication Re: Fee Address (1 page).
- Authorization to charge Deposit 19-0743 in the amount of \$480.00 to cover the Small Entity Issue Fee Payment.

Please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN LUNDBERG & WOESSNER, P.A.
Customer No.: 21186
ANS:CMG:elw

By 
Alison N. Sachs
Reg. No. 63,776

Electronic Patent Application Fee Transmittal

Application Number:	14136681			
Filing Date:	20-Dec-2013			
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension			
First Named Inventor/Applicant Name:	Reinhard Bornemann			
Filer:	Mark Victor Muller/Erika Watkins			
Attorney Docket Number:	4053.001US2			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	480	480

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				480

Electronic Acknowledgement Receipt

EFS ID:	28383623
Application Number:	14136681
International Application Number:	
Confirmation Number:	7065
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Customer Number:	21186
Filer:	Mark Victor Muller/Erika Watkins
Filer Authorized By:	Mark Victor Muller
Attorney Docket Number:	4053.001US2
Receipt Date:	16-FEB-2017
Filing Date:	20-DEC-2013
Time Stamp:	18:07:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$480
RAM confirmation Number	021717INTEFSW00005203190743
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		4053001US2_IFEE.pdf	358589	yes	3
			a27377f8defacd7bf28637686e67c59e286c48d7		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Miscellaneous Incoming Letter		3	3	
	Issue Fee Payment (PTO-85B)		2	2	
	Transmittal Letter		1	1	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30559	no	2
			541714edc009b1e4acc953ee5fb72ff6ea95ef5d		
Warnings:					
Information:					
Total Files Size (in bytes):			389148		

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 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.



NOTICE OF ALLOWANCE AND FEE(S) DUE

21186 7590 02/10/2017
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

Table with 2 columns: EXAMINER (TREYGER, ILYA Y), ART UNIT (3761), PAPER NUMBER (7065)

DATE MAILED: 02/10/2017

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

14/136,681 12/20/2013 Reinhard Bornemann 4053.001US2 7065

TITLE OF INVENTION: Cell Spraying Device, Method and Sprayed Cell Suspension

Table with 7 columns: 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 05/10/2017

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.

21186 7590 02/10/2017
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
 P.O. BOX 2938
 MINNEAPOLIS, MN 55402

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.
14/136,681	12/20/2013	Reinhard Bornemann	4053.001US2	7065

TITLE OF INVENTION: Cell Spraying Device, Method and Sprayed Cell Suspension

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	05/10/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
TREYGER, ILYA Y	3761	604-289000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "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.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1</p> <p>(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</p> <p>_____ 3</p>
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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

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> 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).</p>
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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

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
Values: 14/136,681, 12/20/2013, Reinhard Bornemann, 4053.001US2, 7065

21186 7590 02/10/2017
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

TREYGER, ILYA Y

ART UNIT PAPER NUMBER

3761

DATE MAILED: 02/10/2017

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. 14/136,681	Applicant(s) BORNEMANN, REINHARD	
	Examiner ILYA TREYGER	Art Unit 3761	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 01/18/2017.
 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 15-25. 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. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Examiner's Amendment/Comment |
| 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>01/18/2017</u> | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. <input type="checkbox"/> Other _____. |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. | |

/ILYA TREYGER/
Examiner, Art Unit 3761

Art Unit: 3761

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

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on 01/18/2017 has been entered.

ALLOWABLE CLAIMS

3. **Claims 15-25 are allowed over the prior art of record.**

REASONS FOR ALLOWANCE

4. The following is an examiner's statement of reasons for allowance: IDS submitted 01/18/2017 has been fully considered. Presented references alone or in combination do not constitute potential 102 or 103 rejections.

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."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ILYA TREYGER whose telephone number is (571)270-3217.

The examiner can normally be reached on 7:30-5:00.

Art Unit: 3761

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, Tatyana Zalukaeva can be reached on 571-272-1115. 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 <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.

/ILYA TREYGER/

Examiner, Art Unit 3761

/TATYANA ZALUKAEVA/

Supervisory Patent Examiner, Art Unit 3761

Search Notes 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

CPC- SEARCHED		
Symbol	Date	Examiner
a61b17/00, a61f5/44, a61b19/00, a61m31/00	8/5/2015	IT

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
604	328, 406, 500, 20	8/5/2015	IT

SEARCH NOTES		
Search Notes	Date	Examiner
EAST search history attached	8/5/2015	I. T.
Search updated	5/24/2016	IT
Search updated	11/17/2016	IT
Search updated	1/31/2017	IT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/ILYA TREYGER/ Examiner.Art Unit 3761	
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INTERFERENCE SEARCH

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
A61B	17/00, 19/00 (Keywords: method treat wounded area skin human subject providing single cell-suspension cells progenitor serum-free physiological solution sterilizable container obtained subject's normal tissue treated enzymes release dermalepithelial junction subjected (ex adj vivo) (in adj vitro) expansion cantacting gas flow outlet create droplets suspension flow-controlled spray head spraying onto forming closed sheet distributed directly evenly regenerate (in adj situ) multiplication heal abs	1/31/2017	IT
	PGPUB searched	1/31/2017	IT

/ILYA TREYGER/
Examiner.Art Unit 3761

S/N 14/136.681

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Reinhard Bornemann	Examiner:	Ilya Treyger
Serial No.:	14/136,681	Group Art Unit:	3761
Filed:	December 20, 2013	Docket:	4053.001US2
Customer No.:	21186	Confirmation No.:	7065
Title:	CELL SPRAYING DEVICE, METHOD AND SPRAYED CELL SUSPENSION		

COMMUNICATION CONCERNING PRIOR OR COPEING APPLICATION(S)

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

Pursuant to the guidance of MPEP §§ 2001.06(b) and 2004(9), Applicant would like to bring the following additional application(s) to the Examiner's attention. The identification of these applications is not intended to suggest that the subject matter claimed in any listed application is, or has been, substantially similar to any claim or claims in the present application.

<u>Serial No./</u> <u>Patent No.</u>	<u>Filing Date</u>	<u>Attorney Docket</u>	<u>Title</u>
15/360,230	November 23, 2016	4053.002US2	DEVICE FOR CELL SPRAYING

Respectfully submitted,

SCHWEGMAN LUNDBERG & WOESSNER, P.A.
 P.O. Box 2938
 Minneapolis, MN 55402
 (612) 373-6932

Date January 18, 2017

By 

Alison N. Sachs
 Reg. No. 63,776

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

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	3761
	Examiner Name	Ilya Treyger
Sheet 1 of 2	Attorney Docket No: 4053.001US2	

US PATENT DOCUMENTS

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document
	US-20050003524A1	1/6/2005	Gerlach, Joerg C, et al.
	US-20050003535A1	1/6/2005	Gerlach, Joerg C
	US-20050015064A1	1/20/2005	Gerlach, Joerg C, et al.
	US-20050032218A1	2/10/2005	Gerlach, Joerg C
	US-20060141616A1	6/29/2006	Guu, Yeou-Bin, et al.
	US-20090317439A1	12/24/2009	Turzi, Antoine, et al.
	US-20150079153A1	3/19/2015	Quick, Andrew, et al.
	US-8,529,957B2	9/10/2013	Turzi, Antoine, et al.
	US-8,790,680B2	7/29/2014	Chancellor, Michael B, et al.
	US-8,911,997B2	12/16/2014	Upton, Zee, et al.
	US-9,505,000	11/29/2016	Bornemann, Reinhard

FOREIGN PATENT DOCUMENTS

Examiner Initial *	Foreign Document Number	Publication Date	Name of Patentee or Applicant of cited Document	T 1
	DE-19964113A1	7/5/2001	Gerlach, Joerg C	
	EP-1664280B1	1/19/2011	Upton, Zee, et al.	
	EP-2049130A1	4/22/2009	Han, Bin, et al.	
	JP-2005218376A	8/18/2005	Fujiwara, Akeshi	
	WO-2009017321A2	2/5/2009	Kim, Yun-Young, et al.	
	WO-2013051816A2	4/11/2013	Kim, Dong-hwan, et al.	
	WO-2015078137A1	6/4/2015	Lu, Jianguo, et al.	

OTHER DOCUMENTS - NON PATENT LITERATURE DOCUMENTS

Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T 1
	"Application Serial No. 13/573,003, Examiner Interview Summary mailed 08-05-16", 3 pgs	
	"Application Serial No. 13/573,003, Notice of Allowance mailed 08-22-16", 8 pgs	
	"Application Serial No. 13/573,003, Notice of Allowance mailed 09-08-16", 5 pgs	
	"Application Serial No. 13/573,003, Response filed 08-03-16 to Final Office Action mailed 02-18-16", 10 pgs	

EXAMINER /ILYA Y TREYGER/

DATE CONSIDERED 01/31/2017

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

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

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	3761
	Examiner Name	Ilya Treyger
Sheet 2 of 2	Attorney Docket No: 4053.001US2	

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS		
Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T 1
	"Patents: WO2013051816 A2 (Google Translations)", Google, [Online]. Retrieved from the Internet: <URL: https://www.google.com/patents/WO2013051816A3?ci=en&dq=WO2013051816&hl=en&sa=X&ved=0ahUKEwj0hKap7MzRAhXCxiQKHUX6ABQQ6AEIHDAA >, (Reterived: January 18, 2017), 14 pgs	
	"Patents: WO2015078137 A1 (Google Translation)", Google, [Online]. Retrieved from the Internet: <URL: https://www.google.com/patents/WO2015078137A1?ci=en&dq=WO2015078137&hl=en&sa=X&ved=0ahUKEwid_bjl68zRAhVhz1QKHQn_CwsQ6AEIGjAA >, (Reterived: January 18, 2017), 7 pgs	
	WOOD, F. M, et al., "The use of cultured epithelial autograft in the treatment of major burn wounds: Eleven years of clinical experience", Burns, 32(5), (2006), 538 - 544	
	WOOD, FIONA, "Clinical Potential of Autologous Epithelial Suspension", Wounds 15(1), (2003), 16-22	

EXAMINER /ILYA Y TREYGER/

DATE CONSIDERED 01/31/2017

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

Issue Classification 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	15														
2	16														
3	17														
4	18														
5	19														
6	20														
7	21														
8	22														
9	23														
10	24														
11	25														

/ILYA TREYGER/ Examiner.Art Unit 3761 (Assistant Examiner)	01/31/2017 (Date)	Total Claims Allowed: 11	
/TATYANA ZALUKAEVA/ Supervisory Patent Examiner.Art Unit 3761 (Primary Examiner)	02/04/2017 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	26	("20050003524" "20050003535" "20050015064" "20050032218" "20060141616" "20090317439" "20150079153" "8529957" "8790680" "8911997" "20040185091" "20080038298" "_US5810885" "6117150" "20020082692" "20030202965" "20040219133" "20070042488" "20090191631" "20090196855" "20130060335" "5139031" "5571083" "6479052" "7628780" "7641898" "8157817").PN.	US-PGPUB; USPAT	OR	OFF	2017/01/31 10:53
S1	3	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/02 14:45
S2	84146	("604").GLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/08/02 14:46
S3	2	S2 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/02 14:48
S4	5	S2 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/02 14:49
S5	10	S2 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/02 14:49
S6	2358	S2 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 08:47
S7	0	S2 and skin near cells near (spray	US-PGPUB;	OR	ON	2007/08/02

		disperse pulverize atomize sprinkle irrigate augmentation)	USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			14:50
S8	3	S2 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/02 14:51
S9	69	S2 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/02 14:51
S10	62	S2 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/02 14:52
S11	29	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/08/02 15:44
S12	84146	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/08/03 08:47
S13	0	S12 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 08:48
S14	57	S12 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 08:48
S15	49	S14 and (controller controlled electrical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 09:20
S16	3204	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 09:21
S17	736	S16 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2007/08/03 09:21

			DERWENT; IBM_TDB			
S18	170	S17 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 09:22
S19	158	S18 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 09:22
S20	118	S19 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 09:22
S21	9	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S22	160592	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/05 16:20
S23	7	S22 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S24	13	S22 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S25	33	S22 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S26	6337	S22 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S27	0	S22 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2015/08/05 16:20

			DERWENT; IBM_TDB			
S28	25	S22 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S29	330	S22 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S30	204	S22 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S31	45	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2015/08/05 16:20
S32	160592	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/05 16:20
S33	0	S32 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S34	139	S32 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S35	115	S34 and (controller controlled electrical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S36	8051	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S37	2433	S36 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S38	549	S37 and (wound tussie)	US-PGPUB;	OR	ON	2015/08/05

			USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			16:20
S39	499	S38 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S40	386	S39 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
S41	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S42	165384	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/05/24 14:29
S43	7	S42 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S44	13	S42 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S45	34	S42 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S46	6658	S42 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S47	0	S42 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S48	26	S42 and skin and cells near (spray	US-PGPUB;	OR	ON	2016/05/24

		disperse pulverize atomize sprinkle irrigate augmentation)	USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			14:29
S49	346	S42 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S50	212	S42 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S51	49	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/05/24 14:29
S52	165384	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/05/24 14:29
S53	0	S52 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S54	142	S52 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S55	117	S54 and (controller controlled electrical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S56	8788	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S57	2623	S56 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S58	570	S57 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2016/05/24 14:29

			DERWENT; IBM_TDB			
S59	517	S58 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S60	394	S59 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S61	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S62	165384	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/05/24 14:29
S63	7	S62 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S64	13	S62 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S65	34	S62 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S66	6658	S62 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S67	0	S62 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S68	26	S62 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2016/05/24 14:29

			DERWENT; IBM_TDB			
S69	346	S62 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S70	212	S62 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S71	49	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/05/24 14:29
S72	165384	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/05/24 14:29
S73	0	S72 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S74	142	S72 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S75	117	S74 and (controller controlled electrical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S76	8788	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S77	2623	S76 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S78	570	S77 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S79	517	S78 and controlled	US-PGPUB;	OR	ON	2016/05/24

			USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			14:29
S80	394	S79 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
S81	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S82	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
S83	7	S82 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S84	13	S82 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S85	35	S82 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S86	6715	S82 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S87	0	S82 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S88	27	S82 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S89	351	S82 and skin and cells near (spray	US-PGPUB;	OR	ON	2016/11/17

		disperse pulverize atomize sprinkle irrigate augmentation transplantation)	USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			15:37
S90	215	S82 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S91	52	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/11/17 15:37
S92	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
S93	0	S92 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S94	142	S92 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S95	117	S94 and (controller controlled electrical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S96	9286	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S97	2746	S96 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S98	592	S97 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S99	536	S98 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2016/11/17 15:37

			DERWENT; IBM_TDB			
S100	405	S99 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S101	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S102	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
S103	7	S102 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S104	13	S102 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S105	35	S102 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S106	6715	S102 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S107	0	S102 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S108	27	S102 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S109	351	S102 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2016/11/17 15:37

			DERWENT; IBM_TDB			
S110	215	S102 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S111	52	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/11/17 15:37
S112	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
S113	0	S112 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronicaly adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S114	142	S112 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S115	117	S114 and (controller controlled electronical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S116	9286	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S117	2746	S116 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S118	592	S117 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S119	536	S118 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S120	405	S119 and electronic	US-PGPUB;	OR	ON	2016/11/17

			USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			15:37
S121	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S122	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
S123	7	S122 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S124	13	S122 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S125	35	S122 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S126	6715	S122 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S127	0	S122 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S128	27	S122 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S129	351	S122 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S130	215	S122 and wound and cells near (spray	US-PGPUB;	OR	ON	2016/11/17

		disperse pulverize atomize sprinkle irrigate augmentation transplantation)	USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			15:37
S131	52	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/11/17 15:37
S132	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
S133	0	S132 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S134	142	S132 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S135	117	S134 and (controller controlled electrical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S136	9286	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S137	2746	S136 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S138	592	S137 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S139	536	S138 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S140	405	S139 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2016/11/17 15:37

			DERWENT; IBM_TDB			
S141	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S142	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
S143	7	S142 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S144	13	S142 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S145	35	S142 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S146	6715	S142 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S147	0	S142 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S148	27	S142 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S149	351	S142 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S150	215	S142 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2016/11/17 15:37

			DERWENT; IBM_TDB			
S151	52	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/11/17 15:37
S152	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
S153	0	S152 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronicaly adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S154	142	S152 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S155	117	S154 and (controller controlled electronical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S156	9286	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S157	2746	S156 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S158	592	S157 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S159	536	S158 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
S160	405	S159 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S161	0	method treat wounded area skin human subject providing single cell-suspension cells progenitor serum-free physiological solution sterilizable container obtained subject's normal tissue treated enzymes release dermalepithelial junction subjected (ex adj vivo) (in adj vitro) expansion cantacting gas flow outlet create droplets suspension flow- controlled spray head spraying onto forming closed sheet distributed directly evenly regenerate (in adj situ) multiplication heal absence applying preformed graft.cfm.	US- PGPUB	AND	OFF	2016/11/17 15:43

1/ 31/ 2017 11:03:20 AM

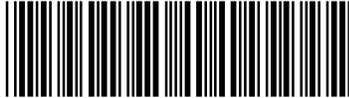
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BIB DATA SHEET
CONFIRMATION NO. 7065

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
14/136,681	12/20/2013	604	3761	4053.001US2		
APPLICANTS RenovaCare Sciences Corp., New York, NY; INVENTORS Reinhard Bornemann, Bielefeld, GERMANY; ** CONTINUING DATA ***** I.T. 08/05/2015 This application is a CON of 11/518,012 09/11/2006 ABN ** FOREIGN APPLICATIONS ***** I.T. 08/05/2015 ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY ** 01/07/2014						
Foreign Priority claimed 35 USC 119(a-d) conditions met Verified and Acknowledged	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No /ILYA Y TREYGER/ Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY GERMANY	SHEETS DRAWINGS 1	TOTAL CLAIMS 14	INDEPENDENT CLAIMS 2
ADDRESS SCHWEGMAN LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402 UNITED STATES						
TITLE Cell Spraying Device, Method and Sprayed Cell Suspension						
FILING FEE RECEIVED 800	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit			

Index of Claims 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant

 CPA

 T.D.

 R.1.47

CLAIM		DATE							
Final	Original	08/05/2015	08/05/2015	11/17/2016	01/31/2017				
1	15	✓	✓	=	=				
2	16	✓	✓	=	=				
3	17	✓	✓	=	=				
4	18	✓	✓	=	=				
5	19	✓	✓	=	=				
6	20	✓	✓	=	=				
7	21	✓	✓	=	=				
8	22	✓	✓	=	=				
9	23	✓	✓	=	=				
10	24	✓	✓	=	=				
11	25	✓	✓	=	=				

REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL	<i>Application Number</i>	14/136,681
	<i>Filing Date</i>	December 20, 2013
	<i>First Named Inventor</i>	Reinhard Bornemann
	<i>Confirmation Number</i>	7065
	<i>Group Art Unit</i>	3761
	<i>Examiner Name</i>	Ilya Treyger
	<i>Attorney Docket Number</i>	4053.001US2
	<i>Customer No.</i>	21186

This is a Request for Continued Examination (RCE) under 37 C.F.R § 1.114 of the above-identified application entitled CELL SPRAYING DEVICE, METHOD AND SPRAYED CELL SUSPENSION

1. Submission required under 37 C.F.R. § 1.114:

Supplemental Information Disclosure Statement (2 pages), Form 1449 (1 page), and copies of cited documents (15).

Communication Concerning Prior or Copending Applications (1 pg).

2. Fees

Authorization to charge deposit account 19-0743 in the amount of \$600.00 to pay the RCE filing fee required under 37 C.F.R. § 1.17(e).

The Commissioner is hereby authorized to charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN LUNDBERG & WOESSNER, P.A.

By: 
 Alison N. Sachs
 Reg. No. 63,776

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann	Examiner: Ilya Treyger
Serial No.: 14/136,681	Group Art Unit: 3761
Filed: December 20, 2013	Docket: 4053.001US2
Customer No.: 21186	Confirmation No.: 7065
Title: CELL SPRAYING DEVICE, METHOD AND SPRAYED CELL SUSPENSION	

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicant respectfully requests that this Information Disclosure Statement be entered and the documents listed on the attached PTO 1449 Form be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicant requests that a copy of the PTO 1449 Form, initialed as being considered by the Examiner, be returned to the Applicant with the next official communication.

Pursuant to 37 C.F.R. § 1.97(b), it is believed that no fee or statement is required with the Information Disclosure Statement. However, if an Office Action on the merits has been mailed after filing of the application or after the filing of the most recent RCE, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 19-0743 in order to have this Information Disclosure Statement considered.

Pursuant to 37 C.F.R. § 1.98(a)(2), copies of cited U.S. Patents and Published Applications, and Non-Published Applications identifiable by USPTO Serial Number, are no longer required to be provided to the Office. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

This Information Disclosure Statement includes the following non-patent literature:

Wood, Fiona, "Clinical Potential of Autologous Epithelial Suspension", Wounds 15(1), (2003), 16-22.

This NPL document was previously listed in a 1449 filed on April 22, 2014. However, it is unclear if a copy of the NPL document was submitted to the PTO. In an abundance of caution, the NPL document is listed on the attached Information Disclosure Statement and a copy is being submitted herewith.

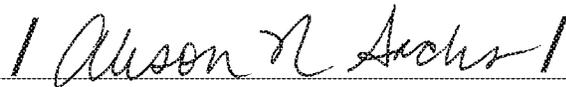
The Examiner is invited to contact the undersigned at the telephone number indicated if there are any questions regarding this communication.

Respectfully submitted,

SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6932

Date January 18, 2017

By



Alison N. Sachs

Reg. No. 63,776

ANS:kdw

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	3761
	Examiner Name	Ilya Treyger
Sheet 1 of 2	Attorney Docket No: 4053.001US2	

US PATENT DOCUMENTS			
Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document
	US-20050003524A1	1/6/2005	Gerlach, Joerg C, et al.
	US-20050003535A1	1/6/2005	Gerlach, Joerg C
	US-20050015064A1	1/20/2005	Gerlach, Joerg C, et al.
	US-20050032218A1	2/10/2005	Gerlach, Joerg C
	US-20060141616A1	6/29/2006	Guu, Yeou-Bin, et al.
	US-20090317439A1	12/24/2009	Turzi, Antoine, et al.
	US-20150079153A1	3/19/2015	Quick, Andrew, et al.
	US-8,529,957B2	9/10/2013	Turzi, Antoine, et al.
	US-8,790,680B2	7/29/2014	Chancellor, Michael B, et al.
	US-8,911,997B2	12/16/2014	Upton, Zee, et al.
	US-9,505,000	11/29/2016	Bornemann, Reinhard

FOREIGN PATENT DOCUMENTS				
Examiner Initial *	Foreign Document Number	Publication Date	Name of Patentee or Applicant of cited Document	T 1
	DE-19964113A1	7/5/2001	Gerlach, Joerg C	
	EP-1664280B1	1/19/2011	Upton, Zee, et al.	
	EP-2049130A1	4/22/2009	Han, Bin, et al.	
	JP-2005218376A	8/18/2005	Fujiwara, Akeshi	
	WO-2009017321A2	2/5/2009	Kim, Yun-Young, et al.	
	WO-2013051816A2	4/11/2013	Kim, Dong-hwan, et al.	
	WO-2015078137A1	6/4/2015	Lu, Jianguo, et al.	

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS			
Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T 1	
	"Application Serial No. 13/573,003, Examiner Interview Summary mailed 08-05-16", 3 pgs		
	"Application Serial No. 13/573,003, Notice of Allowance mailed 08-22-16", 8 pgs		
	"Application Serial No. 13/573,003, Notice of Allowance mailed 09-08-16", 5 pgs		
	"Application Serial No. 13/573,003, Response filed 08-03-16 to Final Office Action mailed 02-18-16", 10 pgs		

EXAMINER

DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	3761
	Examiner Name	Ilya Treyger
Sheet 2 of 2	Attorney Docket No: 4053.001US2	

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS		
Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T 1
	"Patents: WO2013051816 A2 (Google Translations)", Google, [Online]. Retrieved from the Internet: <URL: https://www.google.com/patents/WO2013051816A3?ci=en&dq=WO2013051816&hl=en&sa=X&ved=0ahUKEwj0hKap7MzRAhXCxiQKHUX6ABQQ6AEIHDAA >, (Reterived: January 18, 2017), 14 pgs	
	"Patents: WO2015078137 A1 (Google Translation)", Google, [Online]. Retrieved from the Internet: <URL: https://www.google.com/patents/WO2015078137A1?ci=en&dq=WO2015078137&hl=en&sa=X&ved=0ahUKEwid_bjl68zRAhVhz1QKHQn_CwsQ6AEIGjAA >, (Reterived: January 18, 2017), 7 pgs	
	WOOD, F. M, et al., "The use of cultured epithelial autograft in the treatment of major burn wounds: Eleven years of clinical experience", Burns, 32(5), (2006), 538 - 544	
	WOOD, FIONA, "Clinical Potential of Autologous Epithelial Suspension", Wounds 15(1), (2003), 16-22	

EXAMINER

DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

Electronic Patent Application Fee Transmittal

Application Number:	14136681
Filing Date:	20-Dec-2013
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Filer:	Joseph Juilin Wang/Kayla Welzant
Attorney Docket Number:	4053.001US2

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
RCE- 1st Request	2801	1	600	600
Total in USD (\$)				600

Electronic Acknowledgement Receipt

EFS ID:	28101242
Application Number:	14136681
International Application Number:	
Confirmation Number:	7065
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Customer Number:	21186
Filer:	Joseph Juilin Wang/Kayla Welzant
Filer Authorized By:	Joseph Juilin Wang
Attorney Docket Number:	4053.001US2
Receipt Date:	18-JAN-2017
Filing Date:	20-DEC-2013
Time Stamp:	20:24:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$600
RAM confirmation Number	011917INTEFSW00006006190743
Deposit Account	190743
Authorized User	Kayla Welzant

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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

37 CFR 1.17 (Patent application and reexamination processing fees)

Avita Medical Limited

EX. 1009

37 CFR 1.19 (Document supply fees)
 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		14136681_RCE_01-18-17.pdf	106176	yes	6
			7885d71845160b804946ca062ea998a87575b8a4		
Multipart Description/PDF files in .zip description					
	Document Description		Start	End	
	Request for Continued Examination (RCE)		1	1	
	Miscellaneous Incoming Letter		2	2	
	Transmittal Letter		3	4	
	Information Disclosure Statement (IDS) Form (SB08)		5	6	
Warnings:					
Information:					
2	Foreign Reference	0001_de19964113a1.pdf	1783459	no	13
			d18836fd2a633bba2562339ae1b746ca6b0b7028		
Warnings:					
Information:					
3	Foreign Reference	0002_ep1664280b1.pdf	4394735	no	26
			76ea10a8ad6e401b2471da7175715f8b1c6f85c0		
Warnings:					
Information:					
4	Foreign Reference	0003_ep2049130a1.pdf	5088808	no	31
			b7526ea3a7365b00520738df686a60f60e03577b		
Warnings:					
Information:					

5	Foreign Reference	0004_jp2005218376a.pdf	3172431	no	32
			03c04f3e5954f9b3590c1eb7b2d1d1c264c4b298		
Warnings:					
Information:					
6	Foreign Reference	0005_wo2009017321a2.pdf	4684276	no	27
			d840374171608fec54657ab4134bc56d25b0c40a		
Warnings:					
Information:					
7	Foreign Reference	0006_wo2013051816a2.pdf	5300469	no	48
			ec2c5c7d5b2e4bd7fc9a0a98b7f159bff574a308		
Warnings:					
Information:					
8	Foreign Reference	0007_wo2015078137a1.pdf	3398553	no	29
			3018e174d3c949478b1f3da5c361f9688dc2ca38		
Warnings:					
Information:					
9	Non Patent Literature	0008_4053002us1_exir_080516.pdf	393488	no	3
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Warnings:					
Information:					
10	Non Patent Literature	0009_4053002us1_noar_082216.pdf	1061322	no	8
			5c075a82283b802aad2b0a49d53a448753dfbcf06		
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Information:					
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Warnings:					
Information:					

12	Non Patent Literature	0011_4053002us1_aarf_080316.pdf	964636	no	10
			382af197a39d26b5f527a91f72cc5993a7b633071		
Warnings:					
Information:					
13	Non Patent Literature	0012_google_translation_wo2013051816.pdf	531760	no	14
			b3ca5e485e5e8c276f53a52867c2b99f598165c6		
Warnings:					
Information:					
14	Non Patent Literature	0013_google_transation_wo2015078137.pdf	262338	no	7
			22c8253f3e0922056cb1c64e18159b11ae324d75		
Warnings:					
Information:					
15	Non Patent Literature	0014_cea_11years_of_experience.pdf	398924	no	7
			152fcd618ec5416ed337f95f0e95491dd9929b27		
Warnings:					
Information:					
16	Non Patent Literature	0015_wood_clinicalpotential.pdf	23837616	no	8
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Warnings:					
Information:					
17	Fee Worksheet (SB06)	fee-info.pdf	30324	no	2
			dcc88c4be33958e91ac79d267bac2ecd6e126400		
Warnings:					
Information:					
Total Files Size (in bytes):			56223740		

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 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.



NOTICE OF ALLOWANCE AND FEE(S) DUE

21186 7590 11/25/2016
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

Table with 2 columns: EXAMINER (TREYGER, ILYA Y), ART UNIT (3761), PAPER NUMBER (7065)

DATE MAILED: 11/25/2016

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

TITLE OF INVENTION: Cell Spraying Device, Method and Sprayed Cell Suspension

Table with 7 columns: APPLN. TYPE, ENTITY STATUS, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE

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)

21186 7590 11/25/2016
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
 P.O. BOX 2938
 MINNEAPOLIS, MN 55402

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 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.
14/136,681	12/20/2013	Reinhard Bornemann	4053.001US2	7065

TITLE OF INVENTION: Cell Spraying Device, Method and Sprayed Cell Suspension

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	02/27/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
TREYGER, ILYA Y	3761	604-289000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "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.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1</p> <p>(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</p> <p>_____ 3</p>
---	---

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

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> 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).</p>
---	--

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

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
14/136,681 12/20/2013 Reinhard Bornemann 4053.001US2 7065

21186 7590 11/25/2016
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

TREYGER, ILYA Y

ART UNIT PAPER NUMBER

3761

DATE MAILED: 11/25/2016

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. 14/136,681	Applicant(s) BORNEMANN, REINHARD	
	Examiner ILYA TREYGER	Art Unit 3761	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 11/01/2016.
 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 15-25. 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. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Examiner's Amendment/Comment |
| 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. <input checked="" type="checkbox"/> Other <u>PTO-2323 form is attached.</u> |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. | |

/ILYA TREYGER/
Examiner, Art Unit 3761

/MICHELE KIDWELL/
Primary Examiner, Art Unit 3761

Art Unit: 3761

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

ALLOWABLE CLAIMS

2. **Claims 15-25 are allowed over the prior art of record.**

REASONS FOR ALLOWANCE

3. The following is an examiner's statement of reasons for allowance: Applicant's arguments (as per Remarks, pages 7-8) are found persuasive. The closest prior art of record Lyles (US 20040219133), Wood et al. (US 2002/0106353), Guirguis (US 5,139,031) and Andree et al. (US 2004/0043007) fail to teach, suggest or render obvious the method, wherein the skin cells have not been subjected to ex vivo or in vitro expansion. The additional search provided under the After Final Consideration Program did not bring any reference teaching mentioned limitations as well.

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."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ILYA TREYGER whose telephone number is (571)270-3217. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on 571-272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3761

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.

/ILYA TREYGER/
Examiner, Art Unit 3761

/Michele M Kidwell/
Primary Examiner, Art Unit 3761

IN THE CLAIMS

Please amend the claims as follows:

1.-14. (Canceled)

15. (Currently Amended) A method to treat a wounded area of skin on a human subject, comprising:

providing a single cell-suspension of cells comprising progenitor skin cells in a serum-free physiological solution in a sterilizable container, wherein the cells are obtained from the subject's normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction, wherein the skin cells have not been subjected to *ex vivo* or *in vitro* expansion;

contacting the single-cell suspension of cells with a gas flow at an outlet of the container to create droplets of the suspension at a flow-controlled spray head; and

spraying the droplets onto the wounded area of skin without forming a closed cell sheet so that the single cells are distributed directly and evenly and the cells regenerate normal skin by *in situ* multiplication to heal the wounded area in the absence of applying a preformed skin graft.

16. (Previously Presented) The method of claim 15 wherein the suspension comprises uncultured cell types in a ratio comparable to that found in normal skin.

17. (Previously Presented) The method of claim 15 or 16 wherein the cells comprise basal keratinocytes, Langerhans cells, fibroblasts and melanocytes.

18. (Previously Presented) The method of claim 15 wherein the cells in the suspension have a morphology that is similar to the cells in the droplets.

19. (Previously Presented) The method of claim 16 wherein the suspension comprises skin progenitor cells.

20. (Previously Presented) The method of claim 15, wherein the suspension is filtered to remove large cellular congregates.

21. (Previously Presented) The method of claim 20, wherein the filter has a cut-off of 5-100 cell congregates.

22. (Previously Presented) The method of claim 15 wherein the enzymes comprise dispase and trypsin.

23. (Previously Presented) The method of claim 15 wherein the enzymes comprise collagenase.

24. (Previously Presented) The method of claim 15 wherein the container is a syringe and the suspension is delivered to the outlet of the spray head by continuous force application to the container.

25. (Previously Presented) The method of claim 15 wherein the wounded area is burned.

Search Notes 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

CPC- SEARCHED		
Symbol	Date	Examiner
a61b17/00, a61f5/44, a61b19/00, a61m31/00	8/5/2015	IT

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
604	328, 406, 500, 20	8/5/2015	IT

SEARCH NOTES		
Search Notes	Date	Examiner
EAST search history attached	8/5/2015	I. T.
Search updated	5/24/2016	IT
Search updated	11/17/2016	IT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
A61B	17/00, 19/00 (Keywords: method treat wounded area skin human subject providing single cell-suspension cells progenitor serum-free physiological solution sterilizable container obtained subject's normal tissue treated enzymes release dermalepithelial junction subjected (ex adj vivo) (in adj vitro) expansion cantacting gas flow outlet create droplets suspension flow-controlled spray head spraying onto forming closed sheet distributed directly evenly regenerate (in adj situ) multiplication heal abs	11/17/2016	IT
	PGPUB searched	11/17/2016	IT

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AFCP 2.0 Decision

Application No.

14/136,681

Applicant(s)

BORNEMANN, REINHARD

Examiner

ILYA TREYGER

Art Unit

3761

This is in response to the After Final Consideration Pilot request filed 01 November 2016.

1. **Improper Request** – The AFCP 2.0 request is improper for the following reason(s) and the after final amendment submitted with the request will be treated under pre-pilot procedure.

- An AFCP 2.0 request form PTO/SB/434 (or equivalent document) was not submitted.
- A non-broadening amendment to at least one independent claim was not submitted.
- A proper AFCP 2.0 request was submitted in response to the most recent final rejection.
- Other:

2. **Proper Request**

- A. After final amendment submitted with the request will not be treated under AFCP 2.0.

The after final amendment cannot be reviewed and a search conducted within the guidelines of the pilot program.

- The after final amendment will be treated under pre-pilot procedure.

- B. Updated search and/or completed additional consideration.

The examiner performed an updated search and/or completed additional consideration of the after final amendment within the time authorized for the pilot program. The result(s) of the updated search and/or completed additional consideration are:

- 1. All of the rejections in the most recent final Office action are overcome and a Notice of Allowance is issued herewith.
- 2. The after final amendment would not overcome all of the rejections in the most recent final Office action. See attached interview summary for further details.
- 3. The after final amendment was reviewed, and it raises a new issue(s). See attached interview summary for further details.
- 4. The after final amendment raises new issues, but would overcome all of the rejections in the most recent final Office action. A decision on determining allowability could not be made within the guidelines of the pilot. See attached interview summary for further details, including any newly discovered prior art.
- 5. Other:

Examiner Note: Please attach an interview summary when necessary as described above.

Index of Claims 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	08/05/2015	08/05/2015	11/17/2016					
1	15	✓	✓	=					
2	16	✓	✓	=					
3	17	✓	✓	=					
4	18	✓	✓	=					
5	19	✓	✓	=					
6	20	✓	✓	=					
7	21	✓	✓	=					
8	22	✓	✓	=					
9	23	✓	✓	=					
10	24	✓	✓	=					
11	25	✓	✓	=					

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L2	167746	("604").GLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
L3	7	L2 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L4	13	L2 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L5	35	L2 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L6	6715	L2 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L7	0	L2 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L8	27	L2 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L9	351	L2 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L10	215	L2 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37

L11	52	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/11/17 15:37
L12	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
L13	0	L12 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronicaly adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L14	142	L12 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L15	117	L14 and (controller controlled electronical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L16	9286	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L17	2746	L16 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L18	592	L17 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L19	536	L18 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L20	405	L19 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L21	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L22	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
L23	7	L22 and cells adj (spray disperse	US-PGPUB;	OR	ON	2016/11/17

		pulverize atomize sprinkle irrigate)	USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			15:37
L24	13	L22 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L25	35	L22 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L26	6715	L22 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L27	0	L22 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L28	27	L22 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L29	351	L22 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L30	215	L22 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L31	52	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/11/17 15:37
L32	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
L33	0	L32 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronicaly adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L34	142	L32 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L35	117	L34 and (controller controlled electronical)	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2016/11/17 15:37

			DERWENT; IBM_TDB			
L36	9286	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L37	2746	L36 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L38	592	L37 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L39	536	L38 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L40	405	L39 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L41	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L42	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
L43	7	L42 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L44	13	L42 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L45	35	L42 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L46	6715	L42 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L47	0	L42 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2016/11/17 15:37

			DERWENT; IBM_TDB			
L48	27	L42 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L49	351	L42 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L50	215	L42 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L51	52	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/11/17 15:37
L52	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
L53	0	L52 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronicaly adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L54	142	L52 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L55	117	L54 and (controller controlled electronical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L56	9286	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L57	2746	L56 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L58	592	L57 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L59	536	L58 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37

L60	405	L59 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L61	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L62	167746	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/17 15:37
L63	7	L62 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L64	13	L62 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L65	35	L62 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L66	6715	L62 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L67	0	L62 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L68	27	L62 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L69	351	L62 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L70	215	L62 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L71	52	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/11/17 15:37
L72	167746	("604").CLAS.	US-PGPUB;	OR	OFF	2016/11/17

			USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			15:37
L73	0	L72 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L74	142	L72 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L75	117	L74 and (controller controlled electrical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L76	9286	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L77	2746	L76 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L78	592	L77 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L79	536	L78 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37
L80	405	L79 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/11/17 15:37

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L81	0	method treat wounded area skin human subject providing single cell-suspension cells progenitor serum-free physiological solution sterilizable container obtained subject's normal tissue treated enzymes release dermalepithelial junction subjected (ex adj vivo) (in adj vitro) expansion cantacting gas flow outlet create droplets suspension flow-controlled spray head spraying onto forming closed sheet distributed directly evenly regenerate (in adj situ) multiplication heal absence applying preformed	US-PGPUB	AND	OFF	2016/11/17 15:43

| | |graft.clm. | | | | |

11/ 17/ 2016 3:43:45 PM

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BIB DATA SHEET

CONFIRMATION NO. 7065

SERIAL NUMBER 14/136,681	FILING or 371(c) DATE 12/20/2013 RULE	CLASS 604	GROUP ART UNIT 3761	ATTORNEY DOCKET NO. 4053.001US2	
APPLICANTS RenovaCare Sciences Corp., New York, NY; INVENTORS Reinhard Bornemann, Bielefeld, GERMANY; ** CONTINUING DATA ***** I.T. 08/05/2015 This application is a CON of 11/518,012 09/11/2006 ABN ** FOREIGN APPLICATIONS ***** I.T. 08/05/2015 ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 01/07/2014					
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and Acknowledged <u>/ILYA Y TREYGER/</u> Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials _____	STATE OR COUNTRY GERMANY	SHEETS DRAWINGS 1	TOTAL CLAIMS 14	INDEPENDENT CLAIMS 2
ADDRESS SCHWEGMAN LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402 UNITED STATES					
TITLE Cell Spraying Device, Method and Sprayed Cell Suspension					
FILING FEE RECEIVED 800	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

Issue Classification 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant																<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original						
1	15																				
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/ILYA TREYGER/ Examiner, Art Unit 3761 (Assistant Examiner)	11/17/2016 (Date)	Total Claims Allowed: 11	
/MICHELE KIDWELL/ Primary Examiner, Art Unit 3761 (Primary Examiner)	11/21/16 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

CERTIFICATION AND REQUEST FOR CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0		
Practitioner Docket No.: 4053.001US2	Application No.: 14/136,681	Filing Date: December 20, 2013
First Named Inventor: Reinhard Bornemann	Title: CELL SPRAYING DEVICE, METHOD AND SPRAYED CELL SUSPENSION	
<p>APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0 (AFCP 2.0) OF THE ACCOMPANYING RESPONSE UNDER 37 CFR 1.116.</p> <ol style="list-style-type: none"> 1. The above identified application is (i) an original utility, plant, or design nonprovisional application filed under 35 U.S.C. 111(a) [a continuing application (<i>e.g.</i>, a continuation or divisional application) is filed under 35 U.S.C. 111(a) and is eligible under (i)], or (ii) an international application that has entered the national stage in compliance with 35 U.S.C. 371(c). 2. The above identified application contains an outstanding final rejection. 3. Submitted herewith is a response under 37 CFR 1.116 to the outstanding final rejection. The response includes an amendment to at least one independent claim, and the amendment does not broaden the scope of the independent claim in any aspect. 4. This certification and request for consideration under AFCP 2.0 is the only AFCP 2.0 certification and request filed in response to the outstanding final rejection. 5. Applicant is willing and available to participate in any interview requested by the examiner concerning the present response. 6. This certification and request is being filed electronically using the Office's electronic filing system (EFS <input type="checkbox"/> Web). 7. Any fees that would be necessary consistent with current practice concerning responses after final rejection under 37 CFR 1.116, <i>e.g.</i>, extension of time fees, are being concurrently filed herewith. [There is no additional fee required to request consideration under AFCP 2.0.] 8. By filing this certification and request, applicant acknowledges the following: <ul style="list-style-type: none"> • Reissue applications and reexamination proceedings are not eligible to participate in AFCP 2.0. • The examiner will verify that the AFCP 2.0 submission is compliant, <i>i.e.</i>, that the requirements of the program have been met (see items 1 to 7 above). For compliant submissions: <ul style="list-style-type: none"> ○ The examiner will review the response under 37 CFR 1.116 to determine if additional search and/or consideration (i) is necessitated by the amendment and (ii) could be completed within the time allotted under AFCP 2.0. If additional search and/or consideration is required but cannot be completed within the allotted time, the examiner will process the submission consistent with current practice concerning responses after final rejection under 37 CFR 1.116, <i>e.g.</i>, by mailing an advisory action. ○ If the examiner determines that the amendment does not necessitate additional search and/or consideration, or if the examiner determines that additional search and/or consideration is required and could be completed within the allotted time, then the examiner will consider whether the amendment places the application in condition for allowance (after completing the additional search and/or consideration, if required). If the examiner determines that the amendment does not place the application in condition for allowance, then the examiner will contact the applicant and request an interview. <ul style="list-style-type: none"> ▪ The interview will be conducted by the examiner, and if the examiner does not have negotiation authority, a primary examiner and/or supervisory patent examiner will also participate. ▪ If the applicant declines the interview, or if the interview cannot be scheduled within ten (10) calendar days from the date that the examiner first contacts the applicant, then the examiner will proceed consistent with current practice concerning responses after final rejection under 37 CFR 1.116. 		
Signature: 	Date: November 1, 2016	
Name: Allison N. Sachs	Practitioner: Registration No. 63,776	
<p>Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.</p>		
<p><input checked="" type="checkbox"/> * Total of <u>1</u> forms are submitted.</p>		

IN THE CLAIMS

Please amend the claims as follows:

1.-14. (Canceled)

15. (Currently Amended) A method to treat a wounded area of skin on a human subject, comprising:

providing a single cell-suspension of cells comprising progenitor skin cells in a serum-free physiological solution in a sterilizable container, wherein the cells are obtained from the subject's normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction, wherein the skin cells have not been subjected to *ex vivo* or *in vitro* expansion;

contacting the single-cell suspension of cells with a gas flow at an outlet of the container to create droplets of the suspension at a flow-controlled spray head; and

spraying the droplets onto the wounded area of skin without forming a closed cell sheet so that the single cells are distributed directly and evenly and the cells regenerate normal skin by *in situ* multiplication to heal the wounded area in the absence of applying a preformed skin graft.

16. (Previously Presented) The method of claim 15 wherein the suspension comprises uncultured cell types in a ratio comparable to that found in normal skin.

17. (Previously Presented) The method of claim 15 or 16 wherein the cells comprise basal keratinocytes, Langerhans cells, fibroblasts and melanocytes.

18. (Previously Presented) The method of claim 15 wherein the cells in the suspension have a morphology that is similar to the cells in the droplets.

19. (Previously Presented) The method of claim 16 wherein the suspension comprises skin progenitor cells.

20. (Previously Presented) The method of claim 15, wherein the suspension is filtered to remove large cellular congregates.

21. (Previously Presented) The method of claim 20, wherein the filter has a cut-off of 5-100 cell congregates.

22. (Previously Presented) The method of claim 15 wherein the enzymes comprise dispase and trypsin.

23. (Previously Presented) The method of claim 15 wherein the enzymes comprise collagenase.

24. (Previously Presented) The method of claim 15 wherein the container is a syringe and the suspension is delivered to the outlet of the spray head by continuous force application to the container.

25. (Previously Presented) The method of claim 15 wherein the wounded area is burned.

REMARKS

This responds to the Final Office Action dated June 1, 2016 (“Office Action”).

Claim 15 is amended. Claims 15-25 remain pending in the present application.

Reconsideration of the present application in view of the above amendments and following remarks is respectfully requested.

Support for Amended Claims¹

1. Support for amended claim 15 can be found at least in paragraphs [0031] and [0047].

Formal Request for Telephonic Interview

2. If the present claim amendments do not result in allowance of all claims, then Applicant formally requests a telephonic interview with the Examiner and Applicant’s representative, Alison N. Sachs, to help expedite examination.

The Rejection of Claims Under §102

3. Claims 15-16, 18-19, 23, and 25 were rejected under pre-AIA 35 U.S.C. 102b as being anticipated by Lyles, U.S. Pub. No. 2004/0219133 (“Lyles”).

The Office Action maintains the previous assertions presented in the first Office Action mailed on August 25, 2015. As provided below, Applicant respectfully disagrees, as detailed below.

A. Healing the wounded area in the absence of applying a preformed skin graft

On page 5, the Office Action asserts:

With respect to limitation “to heal the wounded area in the absence of applying a preformed skin graft”, since Lyles discloses that cells may be deposited in connection with an allograft that means the use of skin graft is optional, the method of Lyles is interpreted as disposing cells in the absence of applying a skin graft.

¹ Paragraph numbers recited herein refer to paragraph numbers of the published application, U.S. 2014/0107621 (“present application”).

Applicant explained in the previous response that it is improper to conclude that Lyles discloses disposing cells “in the absence of applying a preformed skin graft.” In response, the Office Action asserts on page 2:

“the phrase ‘may be’ means that the use of skin graft is optional, i.e. the cells can be deposited in the absence of the skin graft. As such, this limitation is considered as being disclosed.”

Applicant respectfully submits that this is not a reasonable interpretation of Lyles, particularly if the phrase “may be” is the Examiner’s sole source of evidence to support a conclusion that this notable advantage of the present application is disclosed in Lyles.

Applicant refers to and reiterates the arguments detailed on pages 6-7 of the previous response filed on February 23, 2016. First, Lyles uses the phrase “may be” throughout the specification. A text search indicates that the phrase “may be” is used 92 times in Lyles. It is unreasonable to conclude that the drafter in Lyles considered every alternative associated with each instance of the phrase. The fact that Lyles refers to a deliberate step (depositing in connection with an allograft) using the phrase “may be” does not conclusively mean that the absence of that step is within the scope of Lyles’ disclosure. Applicant respectfully notes that the systems and methods of Lyles might not even work in the absence of a graft. Applicant respectfully notes that the Examiner’s logic would lead to an unreasonable interpretation in which critical steps or elements of a disclosure can be interpreted as not necessary if Applicant uses the phrase “may be” in describing such steps or elements. Applicant respectfully asserts that such an interpretation is even more unreasonable in the situation in which the disclosure uses the phrase “may be” throughout the disclosure.

Second, Lyles repeatedly references use of an allograft onto which the cells are sprayed. See, for example, paragraphs [0028], [0037], [0039], [0041], [0043], [0047], [0048], and [0053] of Lyles. All of the Examples in Lyles, starting at paragraph [0037], involved use of a graft. When the disclosure of Lyles is considered *in its entirety*, Applicant respectfully asserts that it is unreasonable to conclude that Lyles discloses disposing cells “in the absence of applying a preformed skin graft.” In conclusion, this element of claim 15 is not disclosed in Lyles.

B. Spraying the droplets...without forming a closed cell sheet

Lyles does not disclose “spraying the droplets onto the wounded area of skin without forming a closed cell sheet.” In the previous response filed on February 23, 2016, Applicant noted that the previous Office Action did not provide a citation in Lyles disclosing this element of claim 15. In response, the Office Action “provides a citation in Lyles where this limitation is expressly disclosed (Abstract, lines 4-5).” (Office Action at page 3, section 9,) Applicant respectfully asserts that the Abstract of Lyles is insufficient to establish that Lyles discloses spraying the droplets without forming a closed sheet.

The Abstract of Lyles is reproduced below:

(57) **ABSTRACT**

A system and method for dispersing living cells onto an area of a subject lacking normal, healthy skin, such as an open wound surface, to form three dimensional epithelial tissue is provided. The cells are dispersed using an air-jet sprayer after being suspended in a soluble media such as dextran. The cells may be dispersed directly onto the area or onto a tissue scaffold or synthetic substance that promotes wound healing.

Lyles does not disclose that the cells can be sprayed without forming a closed sheet. The Abstract of Lyles states that the cells are dispersed using an air-jet sprayer and the cells can be dispersed directly onto the area or onto a tissue scaffold. The Abstract does not clearly state that the cells do not form a closed sheet. The Abstract is vague and summarizes the disclosure of Lyles in general terms, whereas the specification of Lyles describes that the spraying of the cells involves depositing *multiple layers* of the cells. Moreover, as described above, Lyles focuses on depositing the cells onto an allograft.

The Abstract of Lyles is not sufficient to establish that Lyles discloses spraying the cells without forming a closed sheet. The specification of Lyles appears to provide no support for the purported conclusion that the cells can be sprayed without forming a closed sheet. The evidence of record does not establish that Lyles operates without forming a closed sheet. If the Examiner is relying on

inherency, then Applicant requests an evidentiary showing and cogent reasoning to establish, with certainty – and not mere probability – that which is asserted. In the absence of evidence and cogent reasoning, Applicant maintains that this element of claim 15 is not disclosed in Lyles.

As provided above, Applicant respectfully asserts that one or more elements of claim 15, as previously presented, are not disclosed in Lyles. Without conceding to the merits of the rejection and solely in an effort to advance prosecution, claim 15 is amended and recites:

“providing a single cell-suspension of cells comprising progenitor skin cells in a serum-free physiological solution in a sterilizable container, wherein the cells are obtained from the subject’s normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction, wherein the skin cells have not been subjected to *ex vivo* or *in vitro* expansion.”

C. Skin Cells not subject to *ex vivo* or *in vitro* expansion

The Office Action maintains the assertion that the skin cells in Lyles have not been subjected to *ex vivo* expansion since they are disclosed as being subjected to *in vitro* expansion. (See Office Action at page 4, section 13.) In the previous response, Applicant stated that *in vitro* expansion is a type of *ex vivo* expansion. In response, the Office Action states:

“since terms ‘*ex vivo*’ and ‘*ex vitro*’ are not synonyms, the cells are interpreted as being not subjected to *ex vivo* expansion because they are being subjected to *ex vitro* expansion.” (Office Action at page 3, section 8.)

This explanation seems unclear and inconsistent with the well-understood terms “*ex vivo*” and “*in vitro*”. *Ex vivo* is recognized to be “out of the body” and *in vitro* is recognized to be “in an artificial environment.” *In vitro* is a subset of *ex vivo*. Moreover, the definition of the term “*ex vitro*” in the context of human physiology is unknown to Applicant.

Applicant maintains that if the cells in Lyles have been subject to *in vitro* expansion, then the cells have thereby been subject to *ex vivo* expansion. As such, Lyles does not teach a method in which the skin cells have not been subject to *ex vivo* expansion. However, solely in an effort to advance prosecution, and without conceding to the Office Action assertions, claim 15 is amended to recite that the skin cells have not been subjected to *ex vivo* or *in vitro* expansion. The Office Action states that the skin cells in Lyles are subject to *in vitro* expansion. Thus Applicant respectfully asserts that the

element of claim 15 reciting that the skin cells have not been subjected to *ex vivo* or *in vitro* expansion is not disclosed in Lyles.

For at least the reasons provided above, Applicant respectfully submits that one or more elements of claim 15 are not disclosed in Lyles and claim 15 is not anticipated by Lyles. Withdrawal of the rejection is respectfully requested.

Claims 16, 18, 19, 23 and 25 depend from claim 15 and are believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the elements recited in such dependent claims. Withdrawal of the rejection of claims 16, 18, 19, 23 and 25 is respectfully requested.

The Rejection of Claims Under §103

4. Claim 24 was rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Lyles.

Claim 24 depends from claim 15 and is believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the elements recited in this dependent claim. Withdrawal of the rejection of claim 24 is respectfully requested.

5. Claim 17 was rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Lyles in view of Wood et al. (U.S. Publication No. 2002/0106353; hereinafter “Wood”).

Claim 17 depends from claim 15.

Applicant submits that the addition of Wood to Lyles does not cure the shortcomings of Lyles alone as articulated above with regard to claim 15. Claim 17 is thus believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the elements recited in this dependent claim.

Withdrawal of the rejection of claim 17 is respectfully requested.

6. Claims 20-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lyles in view of Guirguis (U.S. Patent No. 5,139,031; hereinafter “Guirguis”).

Claims 20 and 21 depend from claim 15.

Applicant submits that the addition of Guirguis to Lyles does not cure the shortcomings of Lyles articulated above with regard to claim 15. Claims 20 and 21 are thus believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the elements recited in such dependent claims.

Withdrawal of the rejection of claims 20 and 21 is respectfully requested.

7. Claim 22 was rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Lyles in view of Andree et al. (U.S. Publication No. 2004/0043007; hereinafter “Andree”).

Claim 22 depends from claim 15.

Applicant submits that the addition of Andree to Lyles does not cure the shortcomings of Lyles articulated above with regard to claim 15. Claim 22 is thus believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the elements recited in this dependent claim.

Withdrawal of the rejection of claim 22 is respectfully requested.

Reservation of Rights

8. In the interest of clarity and brevity, every assertion made in the Office Action may not have been equally addressed. Silence regarding any such assertion does not constitute any admission or acquiescence. All rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference, are reserved. It is not admitted that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner’s personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, timely objection to such reliance on Official Notice is made, and all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03, are

reserved. All rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04, are likewise reserved.

CONCLUSION

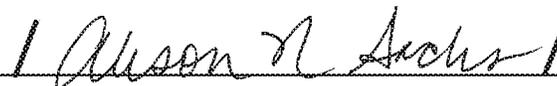
Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone the undersigned at (612) 373-6900 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402--0938
(612) 373-6900

Date November 1, 2016

By 

Alison N. Sachs
Reg. No. 63,776

Electronic Patent Application Fee Transmittal

Application Number:	14136681
Filing Date:	20-Dec-2013
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Filer:	Gregory Grace/Jamie Agnes
Attorney Docket Number:	4053.001US2

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 2 months with \$0 paid	2252	1	300	300
Miscellaneous:				
Total in USD (\$)				300

Electronic Acknowledgement Receipt

EFS ID:	27389334
Application Number:	14136681
International Application Number:	
Confirmation Number:	7065
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Customer Number:	21186
Filer:	Gregory Grace/Jamie Agnes
Filer Authorized By:	Gregory Grace
Attorney Docket Number:	4053.001US2
Receipt Date:	01-NOV-2016
Filing Date:	20-DEC-2013
Time Stamp:	17:43:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$300
RAM confirmation Number	110216INTEFSW00004401190743
Deposit Account	190743
Authorized User	Jamie Agnes

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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

37 CFR 1.17 (Patent application and reexamination processing fees)

Avita Medical Limited

EX. 1009

37 CFR 1.19 (Document supply fees)
 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		4053_001US2_RespAFCP_EOT.pdf	201921 ca5975d2335f1b4e1a5fb7bcbab6844356295c0b	yes	13
Multipart Description/PDF files in .zip description					
	Document Description		Start		End
	Transmittal Letter		1		1
	Extension of Time		2		2
	After Final Consideration Program Request		3		3
	Response After Final Action		4		4
	Claims		5		6
	Applicant Arguments/Remarks Made in an Amendment		7		13
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30435 67a5c60b2e0ee98bf928de1f9af553f4e2d96fe6	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			232356		

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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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann

Title: CELL SPRAYING DEVICE, METHOD AND SPRAYED CELL SUSPENSION

Docket No.: 4053.001US2
Filed: December 20, 2013
Examiner: Ilya Treyger
Customer No.: 21186

Serial No.: 14/136,681
Due Date: November 1, 16
Group Art Unit: 3761
Confirmation No.: 7065

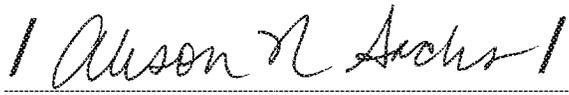
Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

- After Final Consideration Program Request (1 pg.)
- Amendment and Response under 37 C.F.R. § 1.116 (10 pgs.)
- Petition for Extension of Time (1 pg.)
- Authorization to charge Deposit Account 19-0743 in the amount of \$300.00 to cover the Extension of Time Fee.

If not provided for in a separate paper filed herewith, please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743. If applicable, any papers or fees supplied herewith are considered to be timely filed pursuant to 37 C.F.R. § 1.7(a), the response period falling on a Federal Holiday, Saturday or Sunday being extended to the next succeeding business day.

SCHWEGMAN LUNDBERG & WOESSNER, P.A.
Customer No.: 21186

By: 
Alison N. Sachs
Reg. No. 63,776

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/136,681	Filing Date 12/20/2013	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	
AMENDMENT	11/01/2016	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR				
	Total <small>(37 CFR 1.16(i))</small>	* 12	Minus	** 20	= 0	X \$40 = 0	
	Independent <small>(37 CFR 1.16(h))</small>	* 1	Minus	***3	= 0	X \$210 = 0	
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE	0	

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR				
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =	
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE		

LIE
DEBORAH POLLARD

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. 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, 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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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
14/136,681 12/20/2013 Reinhard Bornemann 4053.001US2 7065

21186 7590 06/01/2016
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

TREYGER, ILYA Y

ART UNIT PAPER NUMBER

3761

NOTIFICATION DATE DELIVERY MODE

06/01/2016

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):

uspto@slwip.com
SLW@blackhillsip.com

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

DETAILED ACTION

1. No claims are amended.
2. Claims 15-25 are examined on the merits.

Response to Arguments

3. Applicant's arguments filed 02/23/2016 have been fully considered but they are not persuasive:
4. With respect to claim 15, Applicant argues that the rejection is improper because the reference of Lyles because the claimed method avoids the need to perform in vitro cell expansion.

However, performing in vitro cell expansion does not prevents cells from being applied to the treatment surface. In addition, it is noted that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In this case, since claim 15 does not require inadmissibility of performing in vitro cell expansion prior to application to the treatment area, the rejection is deemed to be proper.

5. Applicant further argues that the reference of Lyles does not disclose depositing the cells in the absence of applying a preformed skin graft because the use of the phrase "may be" is insufficient to make this conclusion.

However, the phrase "may be" means that the use of skin graft is optional, i.e. the cells can be deposited in the absence of the skin graft. As such, this limitation is considered as being disclosed.

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6. Applicant further argue that the reference of Lyles does not disclose a serum-free physiological solution.

However, Lyles discloses a variety of soluble media most of which are serum-free ((page 3, [0033]).

7. Applicant further argues that Lyles does not disclose physiological solutions such as saline or salt solutions.

However, the physiological solutions such as saline or salt solutions are not required by claim 15. It is noted that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

8. Applicant further argues that Lyles does not disclose that the cells have not been subjected to ex vivo expansion because in vitro expansion is a type of ex vivo expansion.

However, since terms "ex vivo" and "ex vitro" are not synonyms, the cells are interpreted as being not subjected to ex vivo expansion because they are being subjected to ex vitro expansion.

9. Applicant further argues that the Office Action does not provide a citation in Lyles as to disclosing spraying the droplets without forming a closed sheet so that the single cells are distributed directly and evenly.

However, Office Action provides a citation in Lyles where this limitation is expressly disclosed (Abstract, lines 4-5).

10. With respect to claims 17, 20-22 and 24, Applicant's arguments are substantially identical to arguments discussed above.

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Claim Rejections - 35 USC § 102

11. 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.

12. Claims 15, 16, 18, 19, 23 and 25 are rejected under pre-AIA 35 U.S.C. 102b as being anticipated by Lyles (US 20040219133).

13. In Re claims 15, 16, 18 and 19, since the apparatus of Lyles is disclosed as being provided, Lyles discloses a method to treat a wounded area of skin (Abstract, lines 1-8) comprising:

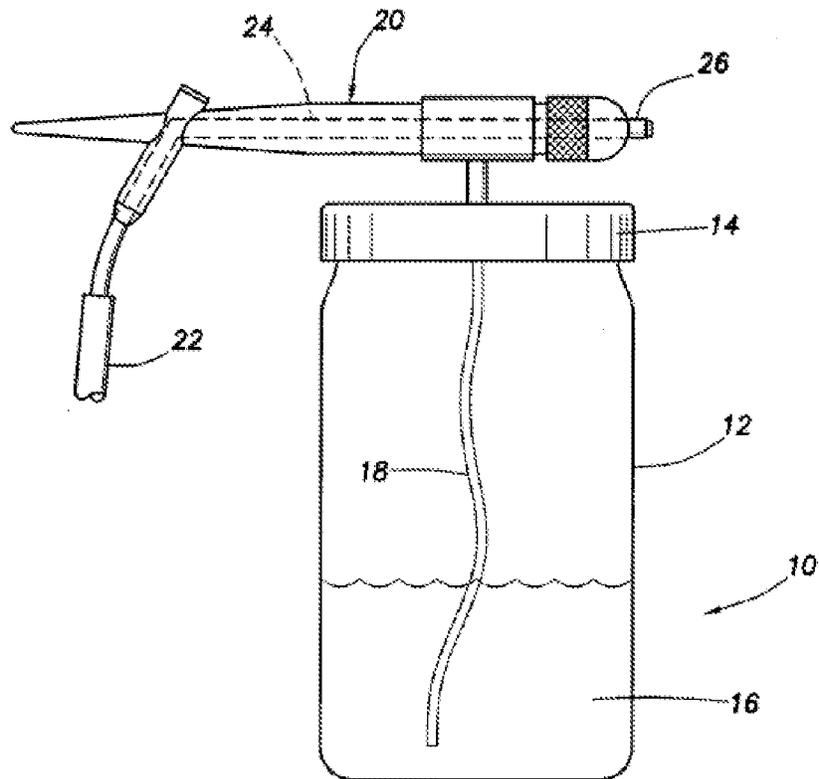
providing a single cell-suspension of cells (Abstract, lines 4-5) comprising stem cells that are uncultured progenitor skin cells (page 2, [0018]) in a serum-free physiological solution (page 3, [0033]) in a sterilizable container 12 (page 3, [0030], line 4; fig), wherein the cells are obtained from the subject's normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction (page 3, [0039]), wherein the skin cells have not been subjected to ex vivo expansion, since they are disclosed as being subjected to in vitro expansion (page 3, [0039]), and wherein the cell types are in a ration comparable to that found in a normal skin (as per claim 16) since any cell types ration can be compared to that found in a normal skin;

contacting the cell suspension of cells with a gas flow (page 3, [0029], lines 1-3) that necessarily creates droplets of the suspension at a flow-controlled spray head 26 (page 3, [0030],

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line 8); spraying the droplets onto the wounded area of skin (Abstract, lines 6-8), wherein the cells in the suspension necessarily have a morphology that is similar to the cells in the droplets.

With respect to limitation “to heal the wounded area in the absence of applying a preformed skin graft”, since Lyles discloses that cells may be deposited in connection with an allograft that means the use of skin graft is optional, the method of Lyles is interpreted as disposing cells in the absence of applying a skin graft.



14. With respect to claim 23, Lyles discloses the method, wherein the enzymes comprise collagenase (page 4, [0045]).

15. With respect to claim 25, Lyles discloses the method, wherein the wounded area is burned (page 4, [0044]).

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Claim Rejections - 35 USC § 103

16. 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.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claim 24 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Lyles (US 20040219133).

Lyles discloses the invention discussed above but does not expressly disclose the method, wherein the container is a syringe.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the syringe as a container in the method of Lyles in order to convenience operation the method, since the syringe is a variation of the container.

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19. Claim 17 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Lyles (US 20040219133) in view of Wood et al. (US 2002/0106353).

Lyles discloses the invention discussed above, wherein the cells comprise fibroblasts (page 2, {0014}), but does not expressly disclose the method, wherein the cells comprise basal keratinocytes, Langerhans cells and melanocytes.

Wood teaches a method to treat a skin (Abstract, lines 1-3), wherein the cells comprise basal keratinocytes, Langerhans cells and malanocytes (page 3, [0045]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the suspension of Lyles with the basal keratinocytes, Langerhans cells and malanocytes, as taught by Wood in order to achieve expectable treatment result by employing the cell-suspension known in the art.

6. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyles (US 20040219133) in view of Guirguis (US 5,139,031).

7. With respect to claim 20, Lyles disclose the invention discussed above but do not expressly disclose a method, wherein the suspension is filtered to remove large cellular congregates.

Guirguis teaches that it is known to provide filtering the cellular suspension in distribution of cells (See Col. 2, ln. 21-23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify device of Lyles with filtering the cellular suspension, as taught by Guirguis because such modification would provide the capability of removing cellular conglomerates of predetermined size.

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8. With respect to claim 21, Lyles in view Guirguis do not expressly disclose the particular parameter of the number of cells range to be filtered.

Since the particular parameter of the number of cells range to be filtered affects the particular surgical procedure that depends on the particular disease to be treated, it is the matter of optimization as being result effective variable. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the particular parameter of the number of cells range to be filtered in order to provide the specific treatment for the specific clinical conditions, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233(MPEP 2144.05 (II-A)).

20. Claim 22 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Lyles (US 20040219133) in view of Andree et al. (US 2004/0043007).

Lyles discloses the invention discussed above, wherein the enzymes comprise trypsin (page 4, [0045]), but do not expressly disclose the method, wherein the enzymes comprise dispase.

Andree teaches a method of preparing a composition for wound healing (Abstract, lines 1-2), wherein the enzymes comprise dispase (page 6, [0093]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the enzymes of Lyles with the dispase, as taught by Andree in order to achieve the predictable result of the treatment by employing the cell preparations technic conventionally known in the art.

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Conclusion

21. **THIS ACTION IS MADE FINAL.** 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 mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ILYA TREYGER whose telephone number is (571)270-3217. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on 571-272-1115. 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.

/ILYA TREYGER/

Examiner, Art Unit 3761

/TATYANA ZALUKAEVA/

Supervisory Patent Examiner, Art Unit 3761

Search Notes 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

CPC- SEARCHED		
Symbol	Date	Examiner
a61b17/00, a61f5/44, a61b19/00, a61m31/00	8/5/2015	IT

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
604	328, 406, 500, 20	8/5/2015	IT

SEARCH NOTES		
Search Notes	Date	Examiner
EAST search history attached	8/5/2015	I. T.
Search updated	5/24/2016	IT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	3761
	Examiner Name	Ilya Treyger
Sheet 1 of 1	Attorney Docket No: 4053.001US2	

US PATENT DOCUMENTS

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document
	US-20040185091A1	9/23/2004	Truong-le, Vu, et al.
	US-20080038298A1	2/14/2008	Barnikol-keuten, Doris, et al.
	US-5,810,885	9/22/1998	Zinger, Freddy
	US-6,117,150	9/12/2000	Pingleton, Edward D, et al.

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS

Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T 1
	"Application Serial No. 13/573,003, Final Office Action mailed 02-18-16", 17 pgs	
	"Application Serial No. 13/573,003, Non Final Office Action mailed 07-22-15", 16 pgs	
	"Application Serial No. 13/573,003, Response filed 01-22-16 to Non Final Office Action mailed 07-22-15", 26 pgs.	
	"Respiratory Failure and Stimulation of Glycolysis in Chinese Hamster Ovary Cells Exposed to Normobaric Hyperoxia*", The Journal of Biological Chemistry 265(19), (1990), 11118-11124	
	BALIN, ARTHUR K, et al., "Oxygen modulates growth of human cells at physiologic partial pressures", The Journal of Experimental Medicine 160(1), (07/07/1984), 152-166	
	GOETZ, INGEBURG E, "Oxygen Toxicity in Normal and Neoplastic Hamster Cells in Culture", Society for inn Vitro Biology 11(6), (1975), 382-394	
	KAZZAZ, JEFFERY A, et al., "Cellular Oxygen Toxicity. OXIDANT INJURY WITHOUT APOPTOSIS*", The Journal of Biological Chemistry 271(25), (1996), 15182-15186	
	MICHIELS, CARINE, et al., "Comparative Study of Oxygen Toxicity in Human Fibroblasts and Endothelial Cells", Journal of Cellular Physiology 144(2), (08/ 1990), 295-302	

EXAMINER

/Ilya Treyger/

DATE CONSIDERED

05/24/2016

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. Avita Medical Limited Ex. 1009


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BIB DATA SHEET
CONFIRMATION NO. 7065

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
14/136,681	12/20/2013	604	3761	4053.001US2		
APPLICANTS RenovaCare Sciences Corp., New York, NY; INVENTORS Reinhard Bornemann, Bielefeld, GERMANY; ** CONTINUING DATA ***** I.T. 08/05/2015 This application is a CON of 11/518,012 09/11/2006 ABN ** FOREIGN APPLICATIONS ***** I.T. 08/05/2015 ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY ** 01/07/2014						
Foreign Priority claimed 35 USC 119(a-d) conditions met Verified and Acknowledged	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No /ILYA Y TREYGER/ Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY GERMANY	SHEETS DRAWINGS 1	TOTAL CLAIMS 14	INDEPENDENT CLAIMS 2
ADDRESS SCHWEGMAN LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402 UNITED STATES						
TITLE Cell Spraying Device, Method and Sprayed Cell Suspension						
FILING FEE RECEIVED 800	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

<i>Index of Claims</i> 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	08/05/2015	08/05/2015						
	15	✓	✓						
	16	✓	✓						
	17	✓	✓						
	18	✓	✓						
	19	✓	✓						
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	23	✓	✓						
	24	✓	✓						
	25	✓	✓						

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L2	165384	("604").GLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/05/24 14:29
L3	7	L2 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L4	13	L2 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L5	34	L2 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L6	6658	L2 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L7	0	L2 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L8	26	L2 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L9	346	L2 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L10	212	L2 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29

L11	49	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/05/24 14:29
L12	165384	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/05/24 14:29
L13	0	L12 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L14	142	L12 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L15	117	L14 and (controller controlled electronical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L16	8788	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L17	2623	L16 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L18	570	L17 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L19	517	L18 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L20	394	L19 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L21	10	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L22	165384	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/05/24 14:29
L23	7	L22 and cells adj (spray disperse	US-PGPUB;	OR	ON	2016/05/24

		pulverize atomize sprinkle irrigate)	USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB			14:29
L24	13	L22 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L25	34	L22 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L26	6658	L22 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L27	0	L22 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L28	26	L22 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L29	346	L22 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L30	212	L22 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L31	49	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/05/24 14:29
L32	165384	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/05/24 14:29
L33	0	L32 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L34	142	L32 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L35	117	L34 and (controller controlled electrical)	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2016/05/24 14:29

			DERWENT; IBM_TDB			
L36	8788	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L37	2623	L36 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L38	570	L37 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L39	517	L38 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29
L40	394	L39 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/24 14:29

EAST Search History (Interference)

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S/N 14/136,681

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann

Examiner: Ilya Treyger

Serial No.: 14/136,681

Group Art Unit: 3761

Filed: December 20, 2013

Docket No.: 4053.001US2

Customer No.: 21186

Confirmation No.: 7065

Title: Cell spraying device, method and sprayed cell suspension

RESPONSE UNDER 37 C.F.R. § 1.111

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

In response to the Office Action dated August 25, 2015, please reconsider the application in view of the following:

This response is accompanied by a Petition, as well as the appropriate fee, to obtain a three-month extension of the period for responding to the Office Action, thereby moving the deadline for response from November 25, 2015 to February 25, 2016.

IN THE CLAIMS

The pending claims are as follows:

1-14. (Canceled).

15. (Previously Presented) A method to treat a wounded area of skin on a human subject, comprising:

providing a single cell-suspension of cells comprising progenitor skin cells in a serum-free physiological solution in a sterilizable container, wherein the cells are obtained from the subject's normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction, wherein the skin cells have not been subjected to *ex vivo* expansion;

contacting the single-cell suspension of cells with a gas flow at an outlet of the container to create droplets of the suspension at a flow-controlled spray head; and

spraying the droplets onto the wounded area of skin without forming a closed cell sheet so that the single cells are distributed directly and evenly and the cells regenerate normal skin by *in situ* multiplication to heal the wounded area in the absence of applying a preformed skin graft.

16. (Previously Presented) The method of claim 15 wherein the suspension comprises uncultured cell types in a ratio comparable to that found in normal skin.

17. (Previously Presented) The method of claim 15 or 16 wherein the cells comprise basal keratinocytes, Langerhans cells, fibroblasts and melanocytes.

18. (Previously Presented) The method of claim 15 wherein the cells in the suspension have a morphology that is similar to the cells in the droplets.

19. (Previously Presented) The method of claim 16 wherein the suspension comprises skin progenitor cells.

20. (Previously Presented) The method of claim 15, wherein the suspension is filtered to remove large cellular congregates.
21. (Previously Presented) The method of claim 20, wherein the filter has a cut-off of 5-100 cell congregates.
22. (Previously Presented) The method of claim 15 wherein the enzymes comprise dispase and trypsin.
23. (Previously Presented) The method of claim 15 wherein the enzymes comprise collagenase.
24. (Previously Presented) The method of claim 15 wherein the container is a syringe and the suspension is delivered to the outlet of the spray head by continuous force application to the container.
25. (Previously Presented) The method of claim 15 wherein the wounded area is burned.

REMARKS

This responds to the Office Action dated August 25, 2015 (“Office Action”).

Claims 15-25 remain pending in the present application.

Reconsideration of the present application in view of the following remarks is respectfully requested.

Formal Request for Telephonic Interview

If the remarks herein do not result in allowance of all claims, then Applicant formally requests a telephonic interview with the Examiner and Applicant’s representative, Alison N. Sachs, to help expedite examination.

The Rejection of Claims Under § 102

Claims 15, 16, 18, 19, 23 and 25 were rejected under pre-AIA 35 U.S.C. § 102(b) as being anticipated by Lyles (U.S. Publication No. 2004/0219133; hereinafter “Lyles”).

According to the Federal Circuit, “[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 200 USPQ 303, 313 (Fed. Cir. 1983) (emphasis added). In addition, the Federal Circuit has held that a claimed combination cannot be anticipated by a reference if the allegedly anticipatory disclosure cited is not enabled. *Elan Pharms. Inc. v. Mayo Found. for Med. Educ. & Research*, 346 F.3d 1051, 68 USPQ 1373, 1375-76 (Fed. Cir. 2003). As demonstrated below, Lyles does not meet this standard.

Claim 15 recites:

“A method to treat a wounded area of skin on a human subject, comprising:
 providing a single cell-suspension of cells comprising progenitor skin cells in a serum-free physiological solution in a sterilizable container, wherein the cells are obtained from the subject’s normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction, wherein the skin cells have not been subjected to *ex vivo* expansion;
 contacting the single-cell suspension of cells with a gas flow at an outlet of the container to create droplets of the suspension at a flow-controlled spray head; and
 spraying the droplets onto the wounded area of skin without forming a closed cell sheet so that the single cells are distributed directly and evenly and the cells regenerate

normal skin by *in situ* multiplication to heal the wounded area in the absence of applying a preformed skin graft.”

Method claim 15 of the present application recites spraying [cell] droplets “without forming a closed cell sheet.” The present application¹ discloses:

[0030] Certain embodiments of this invention provide a time efficient method for supplying a cellular cover to a tissue in a clinical setting. That is, cells can be finely and evenly distributed over a wound, avoiding the use of cell sheets. This is achievable because there is a controlled procuring of the cell suspension with a method provided by an apparatus, thus allowing cell spraying to be performed more evenly than conventional methods and devices for skin grafting.

[0031] Using individually-sprayed cells through an embodiment of the device disclosed here, rather than confluent grown keratinocyte sheets as in the prior art, results in the need for fewer cells and application to a larger treatment surface. Blister formation is avoided by the use of single cells without forming a closed sheet. Reducing the cell number speeds up application time by avoiding an *in vitro* cell expansion. Avoiding *in vitro* cell expansion, in turn, reduces *in vitro* differentiation and therefore better preserves basal keratinocyte progenitor cells in the cell suspension.

The method of the present application allows for fewer cells to be applied to the treatment surface, and thus avoids the need to perform *in vitro* cell expansion prior to spraying the cells, as similarly recited in the claim.

The present application further describes treatment of a wound using fewer cells relative to other techniques, including cultured epithelial autographs (CEA):

[0047] An important aspect of utilizing such a suspension in grafting technology is that it can be used to expand the area or volume of a wound that can be treated quickly by *in situ* multiplication of a limited number of cells. Cellular multiplication is encouraged on the patient rather than in an *in vitro* system, as provided by the conventional CEA method.

¹ Citations refer to paragraph numbers of the published application, US Pub No. 2014/0107621 (“present application”).

Because fewer cells can be used and those cells can multiply once sprayed on the skin, the method of the present application can be done without an *ex vivo* expansion system.

With regard to Lyles, the Office Action asserts on pages 2 and 3 that Lyles discloses the method of claim 15. The Office Action specifically states:

With respect to limitation “to heal the wounded area in the absence of applying a preformed skin graft”, since Lyles discloses that cells may be deposited in connection with an allograft that means the use of skin graft is optional, the method of Lyles is interpreted as disposing cells in the absence of applying a skin graft.

Applicant respectfully disagrees with the Examiner’s interpretation of Lyles as including a method of disposing cells in the absence of applying a skin graft. Lyles uses the phrase “may be” throughout the specification, including in the Examples. Applicant respectfully asserts that use in Lyles of the phrase “may be”, in reference to depositing the cells with an allograft, is wholly insufficient to establish that Lyles discloses depositing the cells in the absence of applying a preformed skin graft. In Lyles, treatment using a graft, which the cells can be sprayed onto, seems to be a central concept.

Applicant respectfully asserts that the Examiner has failed to establish that Lyles discloses spraying ... droplets onto the wounded area of skin ... to heal the wounded area in the absence of applying a preformed skin graft, as recited in claim 15. Lyles repeatedly references use of an allograft onto which the cells are sprayed. See, for example, paragraphs [0022], [0028], [0037], [0039], [0043], [0048], and [0053] of Lyles. Paragraph [0037] of Lyles describes the process as follows:

Example 1

Air-Jet Cell External Seeding (ACES)

[0037] The invention may include a technique, termed Air-Jet Cell External Seeding (ACES), in which cells and/or adhesion proteins or growth factors may be seeded onto a

dermal substrate by a hand held air-jet sprayer. In brief: (a) a commercially available hand held air-jet sprayer may be used to deposit cells which are suspended in autologous serum or other specified media; (b) the cells are seeded onto a commercially available dermal substrate (allograft) obtained from human cadaver skin; and (c) the construction of the resulting full thickness graft material can occur in vitro or in vivo.

Paragraph [0047] of Lyles is titled "Use of a universal dermal allograft." Paragraph [0048] of Lyles is titled "Use of a new technique to deposit cells onto a commercially available dermal allograft." Paragraph [0028] of Lyles similarly discloses:

[0028] To dispense multiple cell lines independently and efficiently, in certain embodiments a hand held air-jet sprayer may be used to deposit one or more different cell types (e.g., keratinocytes, fibrocytes, stem cells, etc.) directly onto a wound bed to facilitate cellular integration within the wound and to accelerate new epithelial growth as part of the wound healing process. In a more specific embodiment, live autologous cells, suspended in autologous serum, are sprayed using a "continuous" air-jet sprayer, directly onto a commercially available allograft placed within the wound bed.

In Lyles, the sprayer is used to spray the cells onto the allograft. For at least the reasons above, Applicant respectfully asserts that it is improper to conclude that Lyles discloses disposing cells "in the absence of applying a preformed skin graft." Applicant respectfully asserts that the Office Action fails to establish that Lyles discloses disposing cells in the absence of a preformed skin graft.

Applicant respectfully asserts that Lyles fails to disclose additional elements recited in claim 15. Three of such elements of claim 15, which Applicants assert are not present in Lyles, are described below.

First, claim 15 recites "providing a single cell-suspension of cells comprising progenitor skin cells in a serum-free physiological solution in a sterilizable container." With regard to the solution, the present application discloses:

[0042] Another embodiment of the invention also provides a method for using a non-autologous cell suspension to produce cells capable of reproduction for purposes of skin grafting. To procure cells of any source, the cells are suspended in an aqueous saline/nutrition solution. The solution may be anything physiological from a basic salt solution to a more complex nutrient solution. Preferably, the nutrient solution is free of all serum but contains various salts, such as electrolytes, that resemble the substances found in body fluids; this type of solution is often called physiological saline. Phosphate or other non-toxic substances may also buffer the solution in order to maintain the pH at approximate physiological levels. Suitable nutrient solutions that are preferred base on Ringer-lactate solutions, including Hartmann's solution, dialysis solutions, and on peripheral intravenous nutrition solutions.

In contrast, Lyles mentions:

[0033] The cells may be suspended in a variety of soluble media including polyvinyl alcohol, albumin, dextrans, plasma, serum, other blood components, polymers of nucleic acids or combinations thereof. The soluble media may be at a temperature between 0° C. and 55° C. In another embodiment the soluble media may be between 34 and 40° C., for example 38° C.

Lyles makes many additional references to a serum for suspending the cells - see, for example, paragraphs [0028], [0037], [0039], [0044] and [0053]. Lyles does not disclose physiological solutions such as saline or salt solutions. Applicant respectfully asserts that Lyles does not disclose a serum-free physiological solution, in the manner recited in the claim.

Second, claim 15 recites “wherein the cells are obtained from the subject’s normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction, wherein the skin cells have not been subjected to *ex vivo* expansion.” Claim 15 further recites that “the cells regenerate normal skin by *in situ* multiplication.”

Lyles refers to cell harvesting and culturing *in vitro*, prior to dispersing the cells onto an allograft matrix by air-jet spraying. See, for example, Examples 2 and 5 of Lyles. Under Summary of the Invention, Lyles mentions:

[0021] Other methods of the invention relate to harvesting and growing autologous cells for later deposition using a hand held air-jet sprayer.

Lyles explicitly states ‘harvesting and growing’ and ‘later deposition’ onto the wound.

Moreover, the Examiner acknowledges that Lyles discloses that the skin cells are subject to *in vitro* expansion. The Office Action states:

4. In Re claims 15, 16, 18 and 19, since the apparatus of Lyles is disclosed as being provided, Lyles discloses a method to treat a wounded area of skin (Abstract, lines 1-8) comprising:

providing a single cell-suspension of cells (Abstract, lines 4-5) comprising stem cells that are uncultured progenitor skin cells (page 2, [0018]) in a serum-free physiological solution (page 3, [0033]) in a sterilizable container 12 (page 3, [0030], line 4; fig), wherein the cells are obtained from the subject’s normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction (page 3, [0039]), wherein the skin cells have not been subjected to *ex vivo* expansion, since they are disclosed as being subjected to *in vitro* expansion (page 3, [0039]), and wherein the cell types are in a ration comparable to that found in

Applicant agrees with the statement above that the cells in Lyles are disclosed as being subjected to *in vitro* expansion. However, Applicant respectfully disagrees with the conclusion in the Office Action that this means the cells have not been subjected to *ex vivo* expansion. Applicant respectfully asserts that *in vitro* expansion is a type of *ex vivo* expansion. Applicant respectfully asserts that Lyles refers to *ex vivo* expansion, which is opposite to the recitation in claim 15 that “the skin cells have not been subjected to *ex vivo* expansion.”

Although Lyles makes reference to *in vivo* construction, Applicant asserts that such *in vivo* construction seems to refer to the graft **and** the cells, **after** the cells have been sprayed onto the graft, at the site of the wound. See paragraphs [0054] and [0055] of Lyles.

Applicant respectfully asserts that the process in Lyles includes *ex vivo* expansion of the cells, and that Lyles does not disclose providing a single-cell suspension of cells, wherein the cells are obtained from the subject’s normal skin tissue, and wherein the skin cells have not been subjected to *ex vivo* expansion.

Third, claim 15 recites:

“spraying the droplets onto the wounded area of skin without forming a closed cell sheet so that the single cells are distributed directly and evenly and the cells

regenerate normal skin by *in situ* multiplication to heal the wounded area in the absence of applying a preformed skin graft.”

Applicant notes that the Office Action does not provide a citation in Lyles as to disclosing spraying the droplets without forming a closed sheet so that the single cells are distributed directly and evenly. Applicant respectfully asserts that this is not disclosed in Lyles, and Lyles instead mentions that the cells are deposited in layers. From Lyles:

[0018] In one embodiment, the cells deposited include autologous cells, such as keratinocytes, fibrocytes, stem cells. Cells may be deposited in layers of a single cell type or specific mixture of cell types.

Paragraph [0055] of Lyles included below also describes spraying **multiple layers** of the cells onto the allograft.

[0055] Such procedures may be carried out using a hand held air-jet sprayer technique, coupled with accelerated harvesting techniques. By using the ACES technique, it may be possible to construct epithelial tissues *in vivo* to immediately repair of large external full-thickness wounds. Multiple layers of the various cell types may be sprayed onto a collagen allograft by multiple passes using the ACES method to vary tissue thickness. The parameters of ACES methods to deposit live cells may be varied. Clinical methodologies may be used for the transplanting of autologous cultured cells and the construction and culturing of tissue engineered epithelial grafts.

Applicant respectfully asserts that Lyles does not disclose spraying droplets without forming a closed cell sheet so that single cells are distributed directly and evenly, as recited in the claim.

Applicant respectfully asserts that Lyles fails to disclose all elements of claim 15, including at least those specifically detailed above. For at least these reasons, Applicant respectfully asserts that claim 15 is not anticipated by Lyles. Withdrawal of the rejection of claim 15 is respectfully requested.

Claims 16, 18, 19, 23 and 25 depend from claim 15 and are believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the elements recited in such dependent claims. Withdrawal of the rejection of claims 16, 18, 19, 23 and 25 is respectfully requested.

The Rejection of Claims Under § 103

Claim 24 was rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Lyles.

Claim 24 depends from claim 15 and is believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the element(s) recited in such dependent claim. Withdrawal of the rejection of claim 24 is respectfully requested.

Claim 17 was rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Lyles in view of Wood et al. (U.S. Publication No. 2002/0106353; hereinafter “Wood”).

Claim 17 depends from claim 15.

The Office Action relies on Wood as disclosing cells comprising basal keratinocytes, Langerhans cells and melanocytes. Regardless of whether this is a reasonable interpretation or whether it would be reasonable to provide the suspension of Lyles as taught by Wood (neither of which Applicant concedes), to the undersigned’s knowledge, the addition of Wood to Lyles does not cure the shortcomings of Lyles articulated above with regard to claim 15. Claim 17 is thus believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the element(s) recited in such dependent claim.

Withdrawal of the rejection of claim 17 is respectfully requested.

Claims 20 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lyles in view of Guirguis (U.S. Patent No. 5,139,031; hereinafter “Guirguis”).

Claims 20 and 21 depend from claim 15.

The Office Action relies on Guirguis in asserting that it is known to provide filtering the cellular suspension, and disclosing a range of cells to be filtered, and that it would be obvious to modify the device of Lyles with filtering the cellular suspension. Regardless of whether this is a reasonable interpretation of Guirguis or whether the purported modification of Lyles is reasonable (neither of which Applicant concedes), to the undersigned’s knowledge, the addition of Guirguis to Lyles does not cure the shortcomings of Lyles articulated above with regard to

claim 15. Claims 20 and 21 are thus believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the elements recited in such dependent claims.

Withdrawal of the rejection of claims 20 and 21 is respectfully requested.

Claim 22 was rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Lyles in view of Andree et al. (U.S. Publication No. 2004/0043007; hereinafter “Andree”).

Claim 22 depends from claim 15.

The Office Action relies on Andree as teaching a method of preparing a composition for wound healing, wherein the enzymes comprises dispase, and that it would be obvious to provide the enzymes of Lyles with the dispase of Andree. Regardless of whether this is a reasonable interpretation of Andree or whether it would be reasonable to provide the dispase to the enzymes of Lyles, to the undersigned’s knowledge, the addition of Andree to Lyles does not cure the shortcomings of Lyles articulated above with regard to claim 15. Claim 22 is thus believed to be patentable for at least the reasons provided above in regard to claim 15, in addition to the element(s) recited in such dependent claim.

Withdrawal of the rejection of claim 22 is respectfully requested.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann	Examiner: Ilya Treyger
Serial No.: 14/136,681	Group Art Unit: 3761
Filed: December 20, 2013	Docket: 4053.001US2
Customer No.: 21186	Confirmation No.: 7065
Title: CELL SPRAYING DEVICE, METHOD AND SPRAYED CELL SUSPENSION	

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicant respectfully requests that this Information Disclosure Statement be entered and the documents listed on the attached PTO 1449 Form be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicant requests that a copy of the PTO 1449 Form, initialed as being considered by the Examiner, be returned to the Applicant with the next official communication.

Pursuant to 37 C.F.R. § 1.97(c)(2), Applicant hereby authorizes the Commissioner to charge the fee of \$90.00 as set forth in 37 C.F.R. § 1.17(p), to Deposit Account No. 19-0743. Please charge any additional fees or deficiencies, or credit any overpayment to Deposit Account No. 19-0743.

Pursuant to 37 C.F.R. § 1.98(a)(2), copies of cited U.S. Patents and Published Applications, and Non-Published Applications identifiable by USPTO Serial Number, are no longer required to be provided to the Office. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

The Examiner is invited to contact the undersigned at the telephone number indicated if there are any questions regarding this communication.

Respectfully submitted,

SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6911

Date February 23, 2016

By /Alison N. Sachs/
Alison N. Sachs
Reg. No. 63,776

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	3761
	Examiner Name	Ilya Treyger
Sheet 1 of 1	Attorney Docket No: 4053.001US2	

US PATENT DOCUMENTS

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document
	US-20040185091A1	9/23/2004	Truong-le, Vu, et al.
	US-20080038298A1	2/14/2008	Barnikol-keuten, Doris, et al.
	US-5,810,885	9/22/1998	Zinger, Freddy
	US-6,117,150	9/12/2000	Pingleton, Edward D, et al.

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS

Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T 1
	"Application Serial No. 13/573,003, Final Office Action mailed 02-18-16", 17 pgs	
	"Application Serial No. 13/573,003, Non Final Office Action mailed 07-22-15", 16 pgs	
	"Application Serial No. 13/573,003, Response filed 01-22-16 to Non Final Office Action mailed 07-22-15", 26 pgs.	
	"Respiratory Failure and Stimulation of Glycolysis in Chinese Hamster Ovary Cells Exposed to Normobaric Hyperoxia*", The Journal of Biological Chemistry 265(19), (1990), 11118-11124	
	BALIN, ARTHUR K, et al., "Oxygen modulates growth of human cells at physiologic partial pressures", The Journal of Experimental Medicine 160(1), (07/07/1984), 152-166	
	GOETZ, INGEBURG E, "Oxygen Toxicity in Normal and Neoplastic Hamster Cells in Culture", Society for inn Vitro Biology 11(6), (1975), 382-394	
	KAZZAZ, JEFFERY A, et al., "Cellular Oxygen Toxicity. OXIDANT INJURY WITHOUT APOPTOSIS*", The Journal of Biological Chemistry 271(25), (1996), 15182-15186	
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EXAMINER

DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

Electronic Patent Application Fee Transmittal

Application Number:	14136681
Filing Date:	20-Dec-2013
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Filer:	Joshua Ethan Garfield/Amanda Brace
Attorney Docket Number:	4053.001US2

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	2253	1	700	700
Miscellaneous:				
Submission- Information Disclosure Stmt	2806	1	90	90
Total in USD (\$)				790

Electronic Acknowledgement Receipt

EFS ID:	24998604
Application Number:	14136681
International Application Number:	
Confirmation Number:	7065
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Customer Number:	21186
Filer:	Joshua Ethan Garfield/Amanda Brace
Filer Authorized By:	Joshua Ethan Garfield
Attorney Docket Number:	4053.001US2
Receipt Date:	23-FEB-2016
Filing Date:	20-DEC-2013
Time Stamp:	16:56:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$790
RAM confirmation Number	3989
Deposit Account	190743
Authorized User	SACHS, ALISON

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 CFR 1.19 (Document supply fees)

Charge any Additional Fees required under 37 CFR 1.20 (Post Issuance fees)

Charge any Additional Fees required under 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		4053001US2_RespforFiling.pdf	394756 ce5568c329cc877ad248e328f88547547689d016	yes	18
Multipart Description/PDF files in .zip description					
	Document Description		Start	End	
	Transmittal Letter		1	1	
	Extension of Time		2	2	
	Amendment/Req. Reconsideration-After Non-Final Reject		3	3	
	Claims		4	5	
	Applicant Arguments/Remarks Made in an Amendment		6	15	
	Transmittal Letter		16	17	
	Information Disclosure Statement (IDS) Form (SB08)		18	18	
Warnings:					
Information:					
2	Non Patent Literature	01167342.pdf	1809473 2d02ff3697f6d78c1e64dfc276e9b62abfa51507	no	8
Warnings:					
Information:					
3	Other Reference-Patent/App/Search documents	4053002US1_AARN_012216.pdf	283132 8a20ed2bd2b2c81114cb53c57a1b26c27fad01e	no	26
Warnings:					
Information:					
4	Other Reference-Patent/App/Search documents	4053002US1_FOAR_021816.pdf	1778325 6edf243e8e91da254f50e6bb5b5d40a44cfe5683	no	17
Warnings:					
Information:					

5	Other Reference-Patent/App/Search documents	4053002US1_OARN_072215.pdf	1696804 cf8bd09ea88940ee60ce53544a78f3a25dfa53fa	no	16
Warnings:					
Information:					
6	Non Patent Literature	BalinetalJExperimentalMedicineOxygenModulatesGrowth.pdf	1977784 af7d028a687777c0c084df027f568a4a557c2e69	no	15
Warnings:					
Information:					
7	Non Patent Literature	Goetz1975InVitro.pdf	4699523 6d2d5deecf0e7d8501aca5f7de9dec1950dc7c5	no	14
Warnings:					
Information:					
8	Non Patent Literature	KazzazetalJBiolChem1996.pdf	992566 f325d7d669fb6ba0a2adfe303caa19e6ef7545f8	no	6
Warnings:					
Information:					
9	Non Patent Literature	SchoonenetalJBiolChem1990.pdf	2015776 b0d3955b61ec0c3a6aaf163ba680a0738aa9897d	no	8
Warnings:					
Information:					
10	Fee Worksheet (SB06)	fee-info.pdf	32498 faf158526ba6edec7268dc4ee9551aacd0c44623	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			15680637		

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 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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann

Title: CELL SPRAYING DEVICE, METHOD AND SPRAYED CELL SUSPENSION

Docket No.: 4053.001US2

Filed: December 20, 2013

Examiner: Ilya Treyger

Customer No.: 21186

Serial No.: 14/136,681

Due Date: February 25, 2016

Group Art Unit: 3761

Confirmation No.: 7065

Mail Stop Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

Amendment and Response under 37 C.F.R. § 1.111 (13 pgs.)

Petition for Extension of Time (1 pg.)

Supplemental Information Disclosure Statement (2 pgs.), Form 1449 (1 pg.) Copies of Cited References (8).

Authorization to charge Deposit Account 19-0743 in the amount of \$90.00 to cover the fee for consideration of Information Disclosure Statement under 37 C.F.R. § 1.97(c).

Authorization to charge Deposit Account 19-0743 in the amount of \$700.00 to cover the Extension of Time Fee.

If not provided for in a separate paper filed herewith, please consider this a **PETITION FOR EXTENSION OF TIME** for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to **Deposit Account No. 19-0743**. If applicable, any papers or fees supplied herewith are considered to be timely filed pursuant to 37 C.F.R. § 1.7(a), the response period falling on a Federal Holiday, Saturday or Sunday being extended to the next succeeding business day.

SCHWEGMAN LUNDBERG & WOESSNER, P.A.

Customer No.: 21186

By: /Alison N. Sachs/

Alison N. Sachs

Reg. No. 63,776

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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/136,681	Filing Date 12/20/2013	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	02/23/2016	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	* 11	Minus	** 20	= 0	X \$40 = 0
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X \$210 = 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/STELLA LITTLE/

This collection of information is required by 37 CFR 1.16. 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
14/136,681 12/20/2013 Reinhard Bornemann 4053.001US2 7065

21186 7590 08/25/2015
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

TREYGER, ILYA Y

ART UNIT PAPER NUMBER

3761

NOTIFICATION DATE DELIVERY MODE

08/25/2015

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):

uspto@slwip.com
SLW@blackhillsip.com

Office Action Summary	Application No. 14/136,681	Applicant(s) BORNEMANN, REINHARD	
	Examiner ILYA TREYGER	Art Unit 3761	

-- 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 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 20 December 2013.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) 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

- 4) Claim(s) 15-25 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 15-25 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 20 December 2013 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).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

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).
 - a) All b) Some * c) None of:
 - 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)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 04/22/2014.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

Art Unit: 3761

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

DETAILED ACTION

1. Claims 15-25 of the US Patent Application No. 14/136681 filed 12/20/2013 are presented for examination.

Claim Rejections - 35 USC § 102

2. 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.

3. Claims 15, 16, 18, 19, 23 and 25 are rejected under pre-AIA 35 U.S.C. 102b as being anticipated by Lyles (US 20040219133).

4. In Re claims 15, 16, 18 and 19, since the apparatus of Lyles is disclosed as being provided, Lyles discloses a method to treat a wounded area of skin (Abstract, lines 1-8) comprising:

providing a single cell-suspension of cells (Abstract, lines 4-5) comprising stem cells that are uncultured progenitor skin cells (page 2, [0018]) in a serum-free physiological solution (page 3, [0033]) in a sterilizable container 12 (page 3, [0030], line 4; fig), wherein the cells are obtained from the subject's normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction (page 3, [0039]), wherein the skin cells have not been subjected to ex vivo expansion, since they are disclosed as being subjected to in vitro expansion (page 3, [0039]), and wherein the cell types are in a ration comparable to that found in

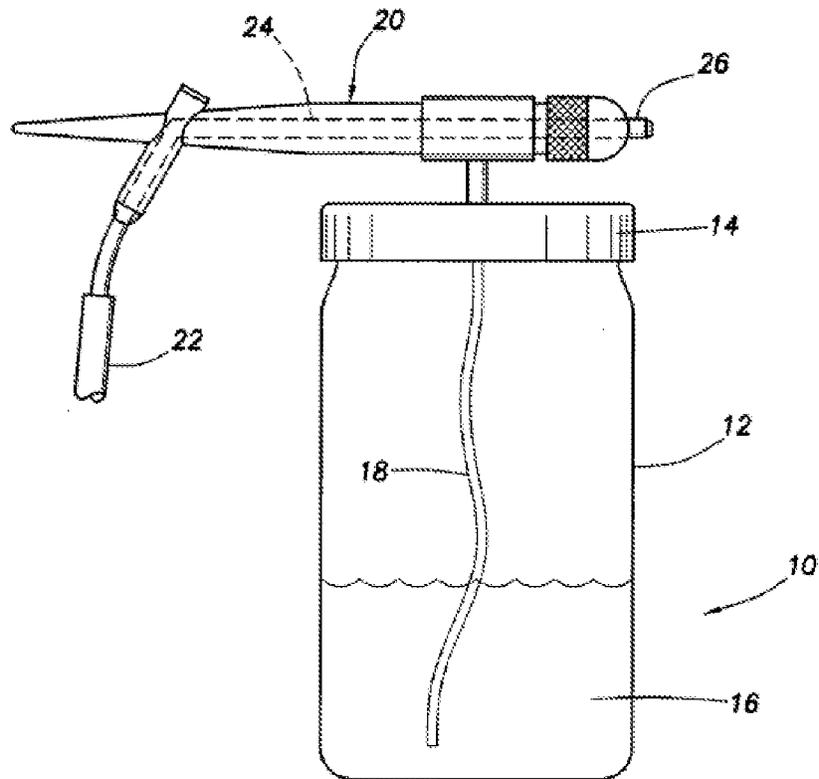
Art Unit: 3761

a normal skin (as per claim 16) since any cell types ration can be compared to that found in a normal skin;

contacting the cell suspension of cells with a gas flow (page 3, [0029], lines 1-3) that necessarily creates droplets of the suspension at a flow-controlled spray head 26 (page 3, [0030], line 8); spraying the droplets onto the wounded area of skin (Abstract, lines 6-8), wherein the cells in the suspension necessarily have a morphology that is similar to the cells in the droplets.

With respect to limitation “to heal the wounded area in the absence of applying a preformed skin graft”, since Lyles discloses that cells may be deposited in connection with an allograft that means the use of skin graft is optional, the method of Lyles is interpreted as disposing cells in the absence of applying a skin graft.

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5. With respect to claim 23, Lyles discloses the method, wherein the enzymes comprise collagenase (page 4, [0045]).
6. With respect to claim 25, Lyles discloses the method, wherein the wounded area is burned (page 4, [0044]).

Claim Rejections - 35 USC § 103

7. 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.

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8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 24 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Lyles (US 20040219133).

Lyles discloses the invention discussed above but does not expressly disclose the method, wherein the container is a syringe.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the syringe as a container in the method of Lyles in order to convenience operation the method, since the syringe is a variation of the container.

10. Claim 17 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Lyles (US 20040219133) in view of Wood et al. (US 2002/0106353).

Lyles discloses the invention discussed above, wherein the cells comprise fibroblasts (page 2, {0014}], but does not expressly disclose the method, wherein the cells comprise basal keratinocytes, Langerhans cells and melanocytes.

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Wood teaches a method to treat a skin (Abstract, lines 1-3), wherein the cells comprise basal keratinocytes, Langerhans cells and melanocytes (page 3, [0045]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the suspension of Lyles with the basal keratinocytes, Langerhans cells and melanocytes, as taught by Wood in order to achieve expectable treatment result by employing the cell-suspension known in the art.

6. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyles (US 20040219133) in view of Guirguis (US 5,139,031).

7. With respect to claim 20, Lyles disclose the invention discussed above but do not expressly disclose a method, wherein the suspension is filtered to remove large cellular conglomerates.

Guirguis teaches that it is known to provide filtering the cellular suspension in distribution of cells (See Col. 2, ln. 21-23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify device of Lyles with filtering the cellular suspension, as taught by Guirguis because such modification would provide the capability of removing cellular conglomerates of predetermined size.

8. With respect to claim 21, Lyles in view Guirguis do not expressly disclose the particular parameter of the number of cells range to be filtered.

Since the particular parameter of the number of cells range to be filtered affects the particular surgical procedure that depends on the particular disease to be treated, it is the matter of optimization as being result effective variable. Therefore, it would have

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been obvious to one having ordinary skill in the art at the time the invention was made to use the particular parameter of the number of cells range to be filtered in order to provide the specific treatment for the specific clinical conditions, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233(MPEP 2144.05 (II-A)).

11. Claim 22 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Lyles (US 20040219133) in view of Andree et al. (US 2004/0043007).

Lyles discloses the invention discussed above, wherein the enzymes comprise trypsin (page 4, [0045]), but do not expressly disclose the method, wherein the enzymes comprise dispase.

Andree teaches a method of preparing a composition for wound healing (Abstract, lines 1-2), wherein the enzymes comprise dispase (page 6, [0093]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the enzymes of Lyles with the dispase, as taught by Andree in order to achieve the predictable result of the treatment by employing the cell preparations technic conventionally known in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ILYA TREYGER whose telephone number is (571)270-3217. The examiner can normally be reached on 7:30-5:00.

Art Unit: 3761

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on 571-272-1115. 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 <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.

/ILYA TREYGER/
Examiner, Art Unit 3761

/Michele M Kidwell/
Primary Examiner, Art Unit 3761

Notice of References Cited	Application/Control No. 14/136,681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD	
	Examiner ILYA TREYGER	Art Unit 3761	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2002/0106353	08-2002	Wood et al.	424/93.7
*	B US-2004/0043007	03-2004	Andree et al.	424/093.7
	C US-			
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
	U				
	V				
	W				
	X				

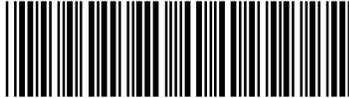
*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.


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BIB DATA SHEET
CONFIRMATION NO. 7065

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
14/136,681	12/20/2013	604	3761	4053.001US2		
APPLICANTS RenovaCare Sciences Corp., New York, NY; INVENTORS Reinhard Bornemann, Bielefeld, GERMANY; ** CONTINUING DATA ***** I.T. 08/05/2015 This application is a CON of 11/518,012 09/11/2006 ABN ** FOREIGN APPLICATIONS ***** I.T. 08/05/2015 ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY ** 01/07/2014						
Foreign Priority claimed 35 USC 119(a-d) conditions met Verified and Acknowledged	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No /ILYA Y TREYGER/ Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY GERMANY	SHEETS DRAWINGS 1	TOTAL CLAIMS 14	INDEPENDENT CLAIMS 2
ADDRESS SCHWEGMAN LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402 UNITED STATES						
TITLE Cell Spraying Device, Method and Sprayed Cell Suspension						
FILING FEE RECEIVED 800	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit			

<i>Index of Claims</i> 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	08/05/2015	08/05/2015						
	15	✓							
	16	✓							
	17	✓							
	18	✓							
	19	✓							
	20	✓							
	21	✓							
	22	✓							
	23	✓							
	24	✓							
	25	✓							

Search Notes 	Application/Control No. 14136681	Applicant(s)/Patent Under Reexamination BORNEMANN, REINHARD
	Examiner ILYA TREYGER	Art Unit 3761

CPC- SEARCHED		
Symbol	Date	Examiner
a61b17/00, a61f5/44, a61b19/00, a61m31/00	8/5/2015	IT

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
604	328, 406, 500, 20	8/5/2015	IT

SEARCH NOTES		
Search Notes	Date	Examiner
EAST search history attached	8/5/2015	I. T.

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	9	Bornemann-Reinhard.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L2	160592	("604").GLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/05 16:20
L3	7	L2 and cells adj (spray disperse pulverize atomize sprinkle irrigate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L4	13	L2 and cells adj (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L5	33	L2 and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L6	6337	L2 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L7	0	L2 and skin near cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L8	25	L2 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L9	330	L2 and skin and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L10	204	L2 and wound and cells near (spray disperse pulverize atomize sprinkle irrigate augmentation transplantation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20

L11	45	("3722502" "4170056" "4473530" "4685472").PN. OR ("5139031").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2015/08/05 16:20
L12	160592	("604").CLAS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/05 16:20
L13	0	L12 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (electronically adj controlled adj spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L14	139	L12 and cells and (spray disperse pulverize atomize sprinkle irrigate augmentation)and (spray adj head)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L15	115	L14 and (controller controlled electrical)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L16	8051	sprayer and controller	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L17	2433	L16 and cells	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L18	549	L17 and (wound tussie)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L19	499	L18 and controlled	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20
L20	386	L19 and electronic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/05 16:20

EAST Search History (Interference)

<This search history is empty>

8/ 5/ 2015 4:21:20 PM**C:\Users\itreyger\Documents\EAST\Workspaces\14136681.wsp**

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	1615 3761
	Examiner Name	Unknown /Ilya Treyger/
Sheet 1 of 3	Attorney Docket No: 4053.001US2	

US PATENT DOCUMENTS			
Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document
	US-20020082692A1	6/27/2002	Van Blitterswijk, C A, et al.
	US-20030202965A1	10/30/2003	Seubert, Rainer, et al.
	US-20070042488A1	2/22/2007	Bornemann, Reinhard
	US-5,139,031	8/18/1992	Guirguis, R. A
	US-5,571,083	11/5/1996	Lemelson, Jerome H
	US-7,628,780	12/8/2009	Bonner, Matthew D, et al.
	US-8,157,817	4/17/2012	Bonadio, Frank, et al.

FOREIGN PATENT DOCUMENTS				
Examiner Initial *	Foreign Document Number	Publication Date	Name of Patentee or Applicant of cited Document	T 1
	EP-0809976A2	12/3/1997	Heisig, Udo	

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS			
Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.		T 1
	""", Computer Desktop Encyclopedia, (1981)		
	""", Farlex Partner Medical Dictionary, (2000)		
	""", Saunders Comprehensive Veterinary Dictionary, (2000)		
	"Application Serial No. 11/518,012, Final Office Action mailed 06-21-13", 15 pgs.		
	"Application Serial No. 11/518,012, Non Final Office Action mailed 08-07-07", 9 pgs.		
	"Application Serial No. 11/518,012, Notice of Non-Compliant Amendment mailed 01-29-13", 3 pgs		
	"Application Serial No. 11/518,012, Response filed 02-28-13 to Notice of Non-Compliant Amendment mailed 01-29-13", 10 pgs		
	"Application Serial No. 11/518,012, Response filed 12-22-11 to Non Final Office Action mailed 08-07-07", 13 pgs.		

EXAMINER

/Ilya Treyger/

DATE CONSIDERED

08/05/2015

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. Vita Medical Limited Ex. 1009

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	1615 3761
	Examiner Name	Unknown //Ilya Treyger/
Sheet 2 of 3	Attorney Docket No: 4053.001US2	

US PATENT DOCUMENTS			
Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document
	US-20040219133A1	11/4/2004	Lyles, Mark B
	US-20090191631A1	7/30/2009	Bornemann, Reimhard
	US-20090196855A1	8/6/2009	Bornemann, Reinhard
	US-20130060335A1	3/7/2013	Bornemann, Reinhard
	US-6,479,052	11/12/2002	Marshall, Julian M., et al.
	US-7,641,898	1/5/2010	Lyles, Mark B

FOREIGN PATENT DOCUMENTS				
Examiner Initial *	Foreign Document Number	Publication Date	Name of Patentee or Applicant of cited Document	T 1
	DE-102007040252A1	6/12/2008	Bornemann, Reinhard, et al.	
	DE-102011100450A1	10/31/2012	Gerlach, Joerg	
	DE-102011100450B4	7/25/2013	Gerlach, Joerg	
	DE-102011100450B8	10/17/2013	Gerlach, Joerg	
	EP-1357922B1	5/25/2011	Stoner, Marie	
	WO-02062358A1	8/15/2002	Stoner, Marie, et al.	

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS			
Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.		T 1
	"Application Serial No. 13/573,003, Preliminary Amendment mailed 04-21-14", 7 pgs		
	"Skin Cell Gun", Wikipedia, [Online]. Retrieved from the Internet: <URL: http://en.wikipedia.org/wiki/Skin_cell_gun >, (Accessed 04-22-14), 5 pgs		
	GERLACH, "Skin Cell Gun", Poster, [Online]. Retrieved from the Internet: <URL: http://bethsumner.com/wp-content/uploads/2012/05/1338405697mmvrposter.jpg >, (2012), 1 pg		
	GERLACH, JORG C, et al., "Method for autologous single skin cell isolation for regenerative cell spray transplantation with non-cultured cells", Int J Artif Organs 34(3), 271-279		
	HARTMANN, BERND, et al., "Sprayed cultured epithelial autografts for deep dermal burns of the face and neck", Ann Plast Surg. 58(1), (2007), 70-73		
	HERNDON, DAVID N, et al., "Comparison of cultured epidermal autograft and massive excision with serial autografting plus homograft overlay", J Burn Care Rehabil 13(1), (1992), 154-157		

EXAMINER //Ilya Treyger/ DATE CONSIDERED 08/05/2015

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

Receipt date: 04/22/2014

14136681 - GAU: 3761

Modified form PTO/SB/08A(04-07) OMB 651-0031
US Patent & Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	1015 3761
	Examiner Name	Unknown /Ilya Treyger/
Sheet 3 of 3	Attorney Docket No: 4053.001US2	

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS

Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T 1
	JOHNEN, C., et al., "Skin cell isolation and expansion for cell transplantation is limited in patients using tobacco, alcohol, or are exhibiting diabetes mellitus", Burns, 32(2), (Mar., 2006), 194-200	
	NAVARRO, F. A, et al., "Sprayed Keratinocyte Suspensions Accelerate Epidermal Coverage in a Porcine Microwound Model", Journal of Burn Care & Rehabilitation, 21(6), (Nov/Dec, 2000), 513-518	
	WOOD, FIONA, "Clinical Potential of Autologous Epithelial Suspension", Wounds 15(1), (2003), 16-22	

EXAMINER

/Ilya Treyger/

DATE CONSIDERED

08/05/2015

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. Vita Medical Limited Ex. 1009

S/N 14/136,681

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Reinhard Bornemann	Examiner:	Unknown
Serial No.:	14/136,681	Group Art Unit:	7615 3761
Filed:	December 20, 2013	Docket:	4053.001US2
Customer No.:	21186	Confirmation No.:	7065
Title:	Cell spraying device, method and sprayed cell suspension		

COMMUNICATION CONCERNING PRIOR OR COPENDING APPLICATION(S)

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

Pursuant to the guidance of MPEP §§ 2001.06(b) and 2004(9), Applicant would like to bring the following additional application(s) to the Examiner's attention. The identification of these applications is not intended to suggest that the subject matter claimed in any listed application is, or has been, substantially similar to any claim or claims in the present application.

<u>Serial No./ Patent No.</u>	<u>Filing Date</u>	<u>Attorney Docket</u>	<u>Title</u>
11/518,012	September 11, 2006	4053.001US1	Cell spraying device, method and sprayed cell suspension
13/573,003	August 13, 2012	4053.002US1	Device for cell spraying, manufacturing of the device, method for spraying with the device and a cell suspension sprayed with the device

/Ilya Treyger/

08/05/2015

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6911

Date April 22, 2014

By 
David W. Black
Reg. No. 42,331



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/136,681	12/20/2013	Reinhard Bornemann	4053.001US2

CONFIRMATION NO. 7065

POA ACCEPTANCE LETTER

21186
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402



Date Mailed: 02/24/2015

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/13/2015.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/zabraha/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY,DOCKET,NO, TOT CLAIMS, IND CLAIMS. Row 1: 14/136,681, 12/20/2013, 3761, 800, 4053.001US2, 14, 2

CONFIRMATION NO. 7065

REPLACEMENT FILING RECEIPT

21186
SCHWEGMAN LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402



Date Mailed: 02/24/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s) Reinhard Bornemann, Bielefeld, GERMANY;

Applicant(s) RenovaCare Sciences Corp., New York, NY

Power of Attorney: The patent practitioners associated with Customer Number 21186

Domestic Priority data as claimed by applicant This application is a CON of 11/518,012 09/11/2006 ABN

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None. Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper Authorization to Permit Access to Application by Participating Offices (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 01/07/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 14/136,681

Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Cell Spraying Device, Method and Sprayed Cell Suspension

Preliminary Class

604

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

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Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 21186

OR

I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter to:

The address associated with the above mentioned Customer Number.

OR

The address associated with Customer Number:

OR

Firm or Individual Name

Address			
City	State	Zip	
Country			
Telephone		Email	

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

RenovaCare Sciences Corp.

Inventor or Joint Inventor (title not required below)

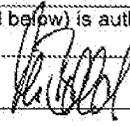
Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	3/3/14
Name	Thomas Bold		
Title and Company	President & CEO, RenovaCare Sciences Corp.	Reg. No. (if applicable)	

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

S/N 14/136,681

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Reinhard Bornemann	Examiner:	Unknown
Serial No.:	14/136,681	Group Art Unit:	1615
Filed:	December 20, 2013	Docket:	4053.001US2
Customer No.:	21186	Confirmation No.:	7065
Title:	Cell spraying device, method and sprayed cell suspension		

COMMUNICATION RE: UPDATE TO APPLICATION DATA SHEET

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

Applicants hereby request that the information provided on the Application Data Sheet filed in the above-referenced application on December 20, 2013, be updated with the information as provided on the enclosed marked up Application Data Sheet.

We therefore submit a marked up copy of the Application Data Sheet which shows an update to the Applicant.

It is respectfully requested that the USPTO update their records and provide confirmation of the above request.

It is believed that no fee is required to fulfill this request, however, if necessary, please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

Schwegman Lundberg & Woessner, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6911

Date February 12, 2015

By 
David W. Black
Reg. No. 42,331

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor:				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
Residence Information (Select One)				
<input type="checkbox"/> US Residency <input type="checkbox"/> Non US Residency <input type="checkbox"/> Active US Military Service				
City		State/Province		Country of Residence
Mailing Address of Inventor:				
Address 1				
Address 2				
City		State/Province		
Postal Code		Country		

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

An Address is being provided for the correspondence information of this application.

Customer Number	
Email Address	

Application Information:

Title of the Invention			
Attorney Docket Number		Small Entity Status Claimed	<input type="checkbox"/>
Application Type			
Subject Matter			
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country Publication

Publication Information:

Request Early Publication (Fee required at time of Request 37 CFR 1.219)

Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One: Customer Number US Patent Practitioner Limited Recognition (37 CFR 11.9)

Customer Number

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

Foreign Priority Information:

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the POX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country	Parent Filing Date (YYYY-MM-DD)	Access Code (if applicable)

Authorization to Permit Access:

Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

~~Janus Acquisition Corp.~~ RenovaCare Sciences Corp.

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
 This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

<input checked="" type="checkbox"/> Assignee	<input type="checkbox"/> Legal Representative under 35 U.S.C. 117	<input type="checkbox"/> Joint Inventor
---	--	--

<input type="checkbox"/> Person to whom the inventor is obligated to assign	<input type="checkbox"/> Person who shows sufficient proprietary interest
--	--

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

<input type="checkbox"/> Deceased	<input type="checkbox"/> Legally incapacitated
--	---

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here:

Organization Name: ~~Janus Acquisition Corp.~~ RenovaCare Sciences Corp.

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information:

Address 1	430 Park Avenue <u>c/o Eli Rudolph, Esq.</u>			
Address 2	Suite 702 <u>430 Park Avenue (702)</u>			
City	New York	State/Province	New York	
Country	United States of America	Postal Code	10022	
Phone Number				
Email Address				

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee is an Organization check here.

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Assignee:

Address 1	
Address 2	

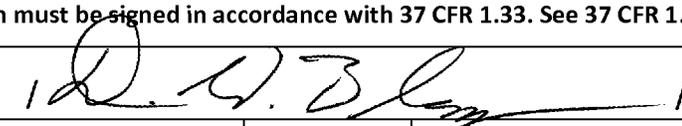
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

City		State/Province	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications			
Signature			Date (YYYY-MM-DD) 2015-02-12
First Name	David	Last Name	Black
		Registration Number	42,331

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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 22313-14**

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.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: RenovaCare Sciences Corp.

Application No./Patent No.: 14/136,681 Filed/Issue Date: December 20, 2013

Titled: Cell spraying device, method and sprayed cell suspension

RenovaCare Sciences Corp. 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 _____, Frame _____, 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: Reinhard Bornemann To: Jörg C. Gerlach

The document was recorded in the United States Patent and Trademark Office at
Reel 034867, Frame 0691-0695, or for which a copy thereof is attached.

2. From: Jörg C. Gerlach To: Janus Acquisition Corp.

The document was recorded in the United States Patent and Trademark Office at
Reel 034867, Frame 0768-0837, or for which a copy thereof is attached.

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.**

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.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: Janus Acquisition Corp. To: RenovaCare Sciences Corp.

The document was recorded in the United States Patent and Trademark Office at
Reel 034867, Frame 0932-0936, or for which a copy thereof is attached.

4. 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.

5. 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.

6. From: _____ To: _____

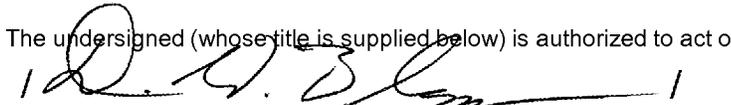
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

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.


Signature

February 12, 2015
Date

David W. Black
Printed or Typed Name

USPTO Reg. No. 42,331
Title or Registration Number

Electronic Acknowledgement Receipt

EFS ID:	21492896
Application Number:	14136681
International Application Number:	
Confirmation Number:	7065
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Customer Number:	21901
Filer:	Mark Victor Muller/Erika Watkins
Filer Authorized By:	Mark Victor Muller
Attorney Docket Number:	4053.001US2
Receipt Date:	13-FEB-2015
Filing Date:	20-DEC-2013
Time Stamp:	10:45:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		4053001US2_POA.pdf	899934 <small>9de8cef69aa42278baf0c9b7deac2a893d27f46f</small>	yes	10

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Transmittal Letter		1	1
Power of Attorney		2	2
Miscellaneous Incoming Letter		3	3
Application Data Sheet		4	8
Assignee showing of ownership per 37 CFR 3.73.		9	10

Warnings:

Information:

Total Files Size (in bytes):	899934
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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 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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Reinhard Bornemann

Title: Cell spraying device, method and sprayed cell suspension

Docket No.: 4053.001US2
Filed: December 20, 2013
Examiner: Unknown
Customer No.: 21186

Serial No.: 14/136,681
Due Date:
Group Art Unit: 1615
Confirmation No.: 7065

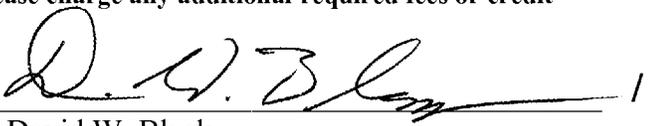
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting herewith the attached:

- Signed Power of Attorney (1 pg.).
- Communication Re: Update to Application Data Sheet (1 Pg.).
- Marked Up Application Data Sheet (5 Pgs.).
- Statement Under 37 C.F.R. 3.73(c) (2 pgs.).

It is believed that no additional fee is required. However, if necessary, please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

Schwegman Lundberg & Woessner, P.A.
Customer No: 21186
DWB:CMG:elw

By: 
David W. Black
Reg. No. 42,331



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/136,681	12/20/2013	Reinhard Bornemann	4053.001US2

CONFIRMATION NO. 7065

MISCELLANEOUS NOTICE



21901
Smith & Hopen (private clients)
Attn: General Patent Matters
180 Pine Avenue North
Oldsmar, FL 34677

Date Mailed: 01/26/2015

A communication which cannot be delivered in electronic form has been mailed to the applicant.


UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/136,681	12/20/2013	Reinhard Bornemann	4053.001US2

CONFIRMATION NO. 7065

21901
 Smith & Hopen (private clients)
 Attn: General Patent Matters
 180 Pine Avenue North
 Oldsmar, FL 34677



Cc: SCHWEGMAN LUNDBERG & WOESSNER, P.A.
 P.O. BOX 2938
 MINNEAPOLIS, MN 55402

Date Mailed: 01/23/2015

DENIAL OF REQUEST FOR POWER OF ATTORNEY

The request for Power of Attorney filed 01/12/2015 is acknowledged. However, the request cannot be granted at this time for the reason stated below.

- The Power of Attorney you provided did not comply with the new Power of Attorney rules that became effective on June 25, 2004. See 37 CFR 1.32.
- The revocation is not signed by the applicant, the assignee of the entire interest, or one particular principal attorney having the authority to revoke.
- The Power of Attorney is from an assignee and the Certificate required by 37 CFR 3.73 has not been received.
- The person signing for the assignee has omitted their empowerment to sign on behalf of the assignee.
- The inventor(s) is without authority to appoint attorneys since the assignee has intervened as provided by 37 CFR 3.71.
- The signature(s) of _____, a co-inventor in this application, has been omitted. The Power of Attorney will be entered upon receipt of confirmation signed by said co-inventor(s).
- The person(s) appointed in the Power of Attorney is not registered to practice before the U.S. Patent and Trademark Office.
- Only one Customer Number can be designated for the Power of Attorney in an application. The Customer Number that was captured is the first Customer Number provided on the Power of Attorney document.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

- A request under 37 CFR 1.48 to add an inventor was granted in this application, however, no power of attorney consistent with the power of attorney granted by the originally named inventive entity has been received. Thus, the addition of the inventor has resulted in the loss of power of attorney in the application. See 37 CFR 1.32(e).
- The power of attorney has not been accepted because the party who is giving power of attorney has not been identified. Power of attorney may only be signed by the applicant for patent (37 CFR 1.42) or the patent owner. A patent owner who was not the applicant must appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. See 37 CFR 1.32(b)(4).
- The power of attorney from the inventors has not been accepted because it is a copy from a prior national application for which benefit is claimed and the continuing application names an inventor who was not named as an inventor in the prior application.
- The power of attorney from the inventors has not been accepted because the power of attorney must be signed by the applicant for patent. See 37 CFR 1.32(b)(4).
- Any request to correct or update the name of the applicant must include an application data sheet (ADS) in compliance with 37 CFR 1.76 specifying the correct or updated name of the applicant in the applicant information section. Any request to change the applicant after an original applicant has been specified under 37 CFR 1.46(b) must include a new ADS in compliance with 37 CFR 1.76 specifying the applicant in the applicant information section and comply with 37 CFR 3.71 and 3.73. See 37 CFR 1.46(c).

Any inquiries regarding this notice should be directed to the Application Assistance Unit at 571-272-4200.

Stephens

Application Assistance Unit
 571-272-4200

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.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 21186

OR

I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter to:

The address associated with the above mentioned Customer Number.
 OR
 The address associated with Customer Number:

Firm or Individual Name

Address

City	State	Zip
Country		
Telephone	Email	

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

RenovaCare Sciences Corp.

- Inventor or Joint Inventor (title not required below)
- Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	3/3/14
Name	Thomas Bold		
Title and Company	President & CEO, RenovaCare Sciences Corp.		Reg. No. (if applicable)

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

S/N 14/136,681

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Reinhard Bornemann	Examiner:	Unknown
Serial No.:	14/136,681	Group Art Unit:	1615
Filed:	December 20, 2013	Docket:	4053.001US2
Customer No.:	21186	Confirmation No.:	7065
Title:	Cell spraying device, method and sprayed cell suspension		

COMMUNICATION RE: UPDATE TO APPLICATION DATA SHEET

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

Applicants hereby request that the information provided on the Application Data Sheet filed in the above-referenced application on December 20, 2013, be updated with the information as provided on the enclosed marked up Application Data Sheet.

We therefore submit a marked up Application Data Sheet which shows an update to the Applicant.

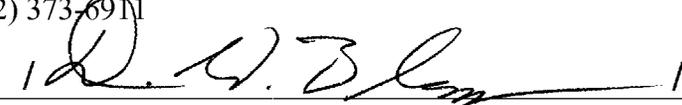
It is respectfully requested that the USPTO update their records and provide confirmation of the above request.

It is believed that no fee is required to fulfill this request, however, if necessary, please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

Schwegman Lundberg & Woessner, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6911

Date January 12, 2015

By 
David W. Black
Reg. No. 42,331

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor:				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
Residence Information (Select One)				
<input type="checkbox"/> US Residency <input type="checkbox"/> Non US Residency <input type="checkbox"/> Active US Military Service				
City		State/Province		Country of Residence
Mailing Address of Inventor:				
Address 1				
Address 2				
City		State/Province		
Postal Code		Country		

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

An Address is being provided for the correspondence information of this application.

Customer Number	
Email Address	

Application Information:

Title of the Invention			
Attorney Docket Number		Small Entity Status Claimed	<input type="checkbox"/>
Application Type			
Subject Matter			
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country Publication

Publication Information:

Request Early Publication (Fee required at time of Request 37 CFR 1.219)

Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One: Customer Number US Patent Practitioner Limited Recognition (37 CFR 11.9)

Customer Number

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

Foreign Priority Information:

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the POX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country	Parent Filing Date (YYYY-MM-DD)	Access Code (if applicable)

Authorization to Permit Access:

Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

RenovaCare Sciences Corp.

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

<input checked="" type="checkbox"/> Assignee	<input type="checkbox"/> Legal Representative under 35 U.S.C. 117	<input type="checkbox"/> Joint Inventor
---	--	--

<input type="checkbox"/> Person to whom the inventor is obligated to assign	<input type="checkbox"/> Person who shows sufficient proprietary interest
--	--

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

<input type="checkbox"/> Deceased	<input type="checkbox"/> Legally incapacitated
--	---

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here:

Organization Name: RenovaCare Sciences Corp.

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information:

Address 1	<u>c/o Eli Rudolph, Esq.</u>			
Address 2	<u>430 Park Avenue (702)</u>			
City	<u>New York</u>	State/Province	<u>New York</u>	
Country	<u>United States of America</u>	Postal Code	<u>10022</u>	
Phone Number				
Email Address				

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee is an Organization check here.

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Assignee:

Address 1	
Address 2	

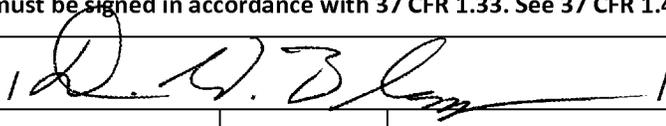
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	4053.001US2
	Application Number	14/136,681
Title of Invention	Cell spraying device, method and sprayed cell suspension	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

City		State/Province	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications			
Signature			Date (YYYY-MM-DD)
First Name	David	Last Name	Black
		Registration Number	42,331

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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 22313-14**

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.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: RenovaCare Sciences Corp.

Application No./Patent No.: 14/136,681 Filed/Issue Date: December 20, 2013

Titled: Cell spraying device, method and sprayed cell suspension

RenovaCare Sciences Corp. 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 034611, Frame 0834 - 0839, 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.

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.**

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.

STATEMENT UNDER 37 CFR 3.73(c)

3. 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.

4. 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.

5. 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.

6. From: _____ To: _____

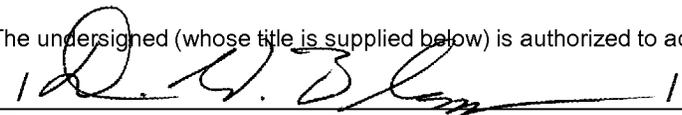
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

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.



Signature

January 12, 2015

Date

David W. Black

Printed or Typed Name

USPTO Reg. No. 42,331

Title or Registration Number

Electronic Acknowledgement Receipt

EFS ID:	21178694
Application Number:	14136681
International Application Number:	
Confirmation Number:	7065
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Customer Number:	21901
Filer:	Mark Victor Muller/Erika Watkins
Filer Authorized By:	Mark Victor Muller
Attorney Docket Number:	4053.001US2
Receipt Date:	12-JAN-2015
Filing Date:	20-DEC-2013
Time Stamp:	10:54:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		4053001US2_DECL.pdf	2382998 <small>2c9a0e9ddb49c4ea3ce67e8ff0642a25a3d48234</small>	yes	12

Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Transmittal Letter	1	1	
Miscellaneous Incoming Letter	2	2	
Oath or Declaration filed	3	3	
Power of Attorney	4	4	
Miscellaneous Incoming Letter	5	5	
Application Data Sheet	6	10	
Assignee showing of ownership per 37 CFR 3.73.	11	12	

Warnings:

Information:

Total Files Size (in bytes):

2382998

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 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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Reinhard Bornemann

Title: Cell spraying device, method and sprayed cell suspension

Docket No.: 4053.001US2
Filed: December 20, 2013
Examiner: Unknown
Customer No.: 21186

Serial No.: 14/136,681
Due Date:
Group Art Unit: 1615
Confirmation No.: 7065

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

We are transmitting herewith the attached:

- Communication Re: Late Submission of Declaration (1 pg.).
- Signed Declaration (1 pg.).
- Signed Power of Attorney (1 pg.).
- Communication Re: Update to Application Data Sheet (1 Pg.).
- Marked Up Application Data Sheet (5 Pgs.).
- Statement Under 37 C.F.R. 3.73(c) (2 pgs.).

It is believed that no additional fee is required. However, if necessary, please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

Schwegman Lundberg & Woessner, P.A.
Customer No: 21186
DWB:CMG:elw

By: 
David W. Black
Reg. No. 42,331

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.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of invention	Cell Spraying Device, Method and Sprayed Cell Suspension
--------------------	--

As the below named inventor, I hereby declare that:

This declaration

is directed to: The attached application, or

United States application or PCT international application number 14/136,681,
 filed on December 20, 2013.

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

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

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

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Reinhard Bornemann Date (Optional) : 04/11/2014

Signature:  Dr. med. Reinhard Bornemann
Furwängler Str. 6
87404 Bielefeld

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

If you need assistance in completing the form, call 1-800-PTO-0199 and select option 2

4053.001US2

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	1615
	Examiner Name	Unknown
Sheet 1 of 3	Attorney Docket No: 4053.001US2	

US PATENT DOCUMENTS			
Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document
	US-20020082692A1	6/27/2002	Van Blitterswijk, C A, et al.
	US-20030202965A1	10/30/2003	Seubert, Rainer, et al.
	US-20070042488A1	2/22/2007	Bornemann, Reinhard
	US-5,139,031	8/18/1992	Guirguis, R. A
	US-5,571,083	11/5/1996	Lemelson, Jerome H
	US-7,628,780	12/8/2009	Bonner, Matthew D, et al.
	US-8,157,817	4/17/2012	Bonadio, Frank, et al.

FOREIGN PATENT DOCUMENTS				
Examiner Initial *	Foreign Document Number	Publication Date	Name of Patentee or Applicant of cited Document	T 1
	EP-0809976A2	12/3/1997	Heisig, Udo	

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS			
Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.		T 1
	""", Computer Desktop Encyclopedia, (1981)		
	""", Farlex Partner Medical Dictionary, (2000)		
	""", Saunders Comprehensive Veterinary Dictionary, (2000)		
	"Application Serial No. 11/518,012, Final Office Action mailed 06-21-13", 15 pgs.		
	"Application Serial No. 11/518,012, Non Final Office Action mailed 08-07-07", 9 pgs.		
	"Application Serial No. 11/518,012, Notice of Non-Compliant Amendment mailed 01-29-13", 3 pgs		
	"Application Serial No. 11/518,012, Response filed 02-28-13 to Notice of Non-Compliant Amendment mailed 01-29-13", 10 pgs		
	"Application Serial No. 11/518,012, Response filed 12-22-11 to Non Final Office Action mailed 08-07-07", 13 pgs.		

EXAMINER

DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	1615
	Examiner Name	Unknown
Sheet 2 of 3	Attorney Docket No: 4053.001US2	

US PATENT DOCUMENTS			
Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document
	US-20040219133A1	11/4/2004	Lyles, Mark B
	US-20090191631A1	7/30/2009	Bornemann, Reimhard
	US-20090196855A1	8/6/2009	Bornemann, Reinhard
	US-20130060335A1	3/7/2013	Bornemann, Reinhard
	US-6,479,052	11/12/2002	Marshall, Julian M., et al.
	US-7,641,898	1/5/2010	Lyles, Mark B

FOREIGN PATENT DOCUMENTS				
Examiner Initial *	Foreign Document Number	Publication Date	Name of Patentee or Applicant of cited Document	T 1
	DE-102007040252A1	6/12/2008	Bornemann, Reinhard, et al.	
	DE-102011100450A1	10/31/2012	Gerlach, Joerg	
	DE-102011100450B4	7/25/2013	Gerlach, Joerg	
	DE-102011100450B8	10/17/2013	Gerlach, Joerg	
	EP-1357922B1	5/25/2011	Stoner, Marie	
	WO-02062358A1	8/15/2002	Stoner, Marie, et al.	

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS			
Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.		T 1
	"Application Serial No. 13/573,003, Preliminary Amendment mailed 04-21-14", 7 pgs		
	"Skin Cell Gun", Wikipedia, [Online]. Retrieved from the Internet: <URL: http://en.wikipedia.org/wiki/Skin_cell_gun >, (Accessed 04-22-14), 5 pgs		
	GERLACH, "Skin Cell Gun", Poster, [Online]. Retrieved from the Internet: <URL: http://bethsumner.com/wp-content/uploads/2012/05/1338405697mmvrposter.jpg >, (2012), 1 pg		
	GERLACH, JORG C, et al., "Method for autologous single skin cell isolation for regenerative cell spray transplantation with non-cultured cells", Int J Artif Organs 34(3), 271-279		
	HARTMANN, BERND, et al., "Sprayed cultured epithelial autografts for deep dermal burns of the face and neck", Ann Plast Surg. 58(1), (2007), 70-73		
	HERNDON, DAVID N, et al., "Comparison of cultured epidermal autograft and massive excision with serial autografting plus homograft overlay", J Burn Care Rehabil 13(1), (1992), 154-157		

EXAMINER

DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	<i>Complete if Known</i>	
	Application Number	14/136,681
	Filing Date	December 20, 2013
	First Named Inventor	Reinhard Bornemann
	Group Art Unit	1615
	Examiner Name	Unknown
Sheet 3 of 3	Attorney Docket No: 4053.001US2	

OTHER DOCUMENTS – NON PATENT LITERATURE DOCUMENTS		
Examiner Initial *	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T 1
	JOHNEN, C., et al., "Skin cell isolation and expansion for cell transplantation is limited in patients using tobacco, alcohol, or are exhibiting diabetes mellitus", Burns, 32(2), (Mar., 2006), 194-200	
	NAVARRO, F. A, et al., "Sprayed Keratinocyte Suspensions Accelerate Epidermal Coverage in a Porcine Microwound Model", Journal of Burn Care & Rehabilitation, 21(6), (Nov/Dec, 2000), 513-518	
	WOOD, FIONA, "Clinical Potential of Autologous Epithelial Suspension", Wounds 15(1), (2003), 16-22	

EXAMINER

DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant is to place a check mark here if English language Translation is attached

Electronic Acknowledgement Receipt

EFS ID:	18831577
Application Number:	14136681
International Application Number:	
Confirmation Number:	7065
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Customer Number:	21901
Filer:	Marc S. Hanish/Patrick McNally
Filer Authorized By:	Marc S. Hanish
Attorney Docket Number:	4053.001US2
Receipt Date:	22-APR-2014
Filing Date:	20-DEC-2013
Time Stamp:	18:38:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		14136681_IDS_04-22-14.pdf	214189 5bde59677c7cedb38b359d76be984b41937ba315	yes	7

Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Miscellaneous Incoming Letter	1	1	
Miscellaneous Incoming Letter	2	2	
Transmittal Letter	3	4	
Information Disclosure Statement (IDS) Form (SB08)	5	7	

Warnings:

Information:

2	Foreign Reference	0001_de102007040252a1.pdf	1963658 469e9b08d1f2f5eaa6fd4b16c00c9fa5225af285	no	14
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Warnings:

Information:

3	Foreign Reference	0002_de_102011100450a1.pdf	5289592 c653fb85e8a6651a9669069dbcca924310f5a45a	no	14
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Warnings:

Information:

4	Foreign Reference	0003_de_102011100450b4.pdf	5390085 c7103070c2f902de7249d3366932a9894e82b59f	no	15
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Warnings:

Information:

5	Foreign Reference	0004_de_102011100450b8.pdf	291760 970d19093c35ef44260edfb01c939080fa41c537e	no	4
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Warnings:

Information:

6	Foreign Reference	0005_ep1357922b1.pdf	2698192 ae025de21c8e7302119f224ca2eb5492ecfa4109	no	17
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Warnings:

Information:

7	Foreign Reference	0006_wo02062358a1.pdf	1646642 5b861e940bbd526b0c7f10738339c711aec3a319	no	34
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Warnings:

Information:

8	Non Patent Literature	0007_4053002us1_pamd_042114.pdf	90277 394a7810512d3084ae5e880fcd9bf2efe5a5770d	no	7
Warnings:					
Information:					
9	Non Patent Literature	0008_skin_cell_gun_wikipedia_the_free_encyclopedia.pdf	140416 ad03a68e5b6ea1cf11bed6c937bd909254339b34	no	5
Warnings:					
Information:					
10	Non Patent Literature	0009_1338405697mmvrposter.pdf	264111 8fb2436296932a1fc2a5d451d07bd769c5c33231	no	1
Warnings:					
Information:					
11	Non Patent Literature	0010_method_for_autologous_single_skin_cell_isolation_for_regenerative.pdf	10070906 684cb42ce50947a624d12db7c0041efe6ba52a7a	no	9
Warnings:					
Information:					
12	Non Patent Literature	0011_sprayed_cultured_epithelial_autografts_for_deep_dermatal_burns.pdf	4680346 a20ef31ed490b934e9090565116a6c1b675c9117	no	4
Warnings:					
Information:					
13	Non Patent Literature	0012_comparison_of_cultured_epidermal_autograft_and_massive_excision.pdf	7925830 ecc7997fa1c9d8a5fb40659a5150fdcd959d3fc	no	5
Warnings:					
Information:					
14	Non Patent Literature	0013_johnen_p194_2006.pdf	600802 3965e4704cbf4c1171de99518f571d13b0b7219a	no	7
Warnings:					
Information:					
15	Non Patent Literature	0014_navarro_p513_2000.pdf	2906624 94a8cb1b145f5dc53763c2b149927b8739e8f24	no	6
Warnings:					
Information:					
16	Non Patent Literature	0015_clinical_potential_of_autologous_epithelial_suspension.pdf	7925659 edf9860e58387c057c68d80a790f51fc5a51c26	no	5
Warnings:					
Information:					

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 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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann
Title: Cell spraying device, method and sprayed cell suspension

Docket No.:	4053.001US2	Serial No.:	14/136,681
Filed:	December 20, 2013	Due Date:	N/A
Examiner:	Unknown	Group Art Unit:	1615
Customer No.:	21186	Confirmation No.:	7065

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

We are transmitting herewith the following attached items (as indicated with an "X"):

- Communication Concerning Prior and Copending Applications (1 pg.)
- Information Disclosure Statement (2 pgs.), Form 1449 (3 pgs.) Copies of Cited References (15).

If not provided for in a separate paper filed herewith, please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
Customer No.: 21186

By: 
David W. Black
Reg. No. 42,331

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann	Examiner: Unknown
Serial No.: 14/136,681	Group Art Unit: 1615
Filed: December 20, 2013	Docket: 4053.001US2
Customer No.: 21186	Confirmation No.: 7065
Title: Cell spraying device, method and sprayed cell suspension	

INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicant respectfully requests that this Information Disclosure Statement be entered and the documents listed on the attached PTO 1449 Form be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicant requests that a copy of the PTO 1449 Form, initialed as being considered by the Examiner, be returned to the Applicant with the next official communication.

Pursuant to 37 C.F.R. § 1.97(b), it is believed that no fee or statement is required with the Information Disclosure Statement. However, if an Office Action on the merits has been mailed after filing of the application or after the filing of the most recent RCE, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 19-0743 in order to have this Information Disclosure Statement considered.

Pursuant to 37 C.F.R. § 1.98(d), copies of the documents listed on page 1 of the attached 1449 are not provided as these references were previously cited by or submitted to the U.S. Patent Office in connection with Applicant's prior U.S. application, Serial No. 11/518,012, filed on September 11, 2006, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Copies of the documents listed on pages 2-3 of the attached 1449 are provided as required.

Pursuant to 37 C.F.R. § 1.98(a)(2), copies of cited U.S. Patents and Published Applications, and Non-Published Applications identifiable by USPTO Serial Number, are no longer required to be provided to the Office. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R § 1.98(a)(2).

The Examiner is invited to contact the undersigned at the telephone number indicated if there are any questions regarding this communication.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6911

Date April 22, 2014

By



David W. Black
Reg. No. 42,331

DWB:pjm

S/N 14/136,681

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	R. Bornemann	Examiner:	Unknown
Serial No.:	14/136,681	Group Art Unit:	37611
Filed:	December 30, 2013	Docket No.	4053.001US2 (was 2474.01.CON)
Customer No.:	21186	Confirmation No.:	7065
Title:	Cell Spraying Device, Method and Sprayed Cell Suspension		

PRELIMINARY AMENDMENT

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

Prior to taking up this application for examination, please enter the following amendments:

IN THE SPECIFICATION

After page 12 of the specification, please insert the following:

--CITED SOURCES

Literature

NAVARRO F A, STONER M L., PARK C S, et al.: Sprayed keratinozyte suspensions accelerate epidermal coverage in a porcine microwound model, 2000, J. Burn Care & Rehabilitation, 21(6): 513-518.

WOOD F M: Clinical potential of autologous epithelial suspension, 2003, J. Wounds 15 (1): 16-22.

Wood F M, Allen P. The use of cultured epidermal autograft in the treatment of major burn injuries. J Burn Care Rehab 13(1) 2003:154-7.

Johnen C, Hartmann B, Steffen I, Brautigam K, Witascheck T, Toman N, Kuntscher MV, Gerlach JC. Skin cell isolation and expansion for cell transplantation is limited in patients using tobacco, alcohol, or are exhibiting diabetes mellitus. Burns. 2006;32(2):194-200.

US Patents/ Applications

U.S. Provisional Patent Application Serial No. 60/281,527, filed Apr. 4, 2001

Foreign Application Data

Australian Provisional Patent Application PR 2989, Filled Feb. 7, 2001--

IN THE CLAIMS

Please cancel claims 1-14 and add the following claims:

- 1-14. (Canceled).
15. (New) A method to treat a wounded area of skin on a human subject, comprising:
providing a single cell-suspension of cells comprising progenitor skin cells in a serum-free physiological solution in a sterilizable container, wherein the cells are obtained from the subject's normal skin tissue that has been treated with enzymes so as to release the cells from the dermal-epithelial cell junction, wherein the skin cells have not been subjected to *ex vivo* expansion;
contacting the single-cell suspension of cells with a gas flow at an outlet of the container to create droplets of the suspension at a flow-controlled spray head; and
spraying the droplets onto the wounded area of skin without forming a closed cell sheet so that the single cells are distributed directly and evenly and the cells regenerate normal skin by *in situ* multiplication to heal the wounded area in the absence of applying a preformed skin graft.
16. (New) The method of claim 15 wherein the suspension comprises uncultured cell types in a ratio comparable to that found in normal skin.
17. (New) The method of claim 15 or 16 wherein the cells comprise basal keratinocytes, Langerhans cells, fibroblasts and melanocytes.
18. (New) The method of claim 15 wherein the cells in the suspension have a morphology that is similar to the cells in the droplets.
19. (New) The method of claim 16 wherein the suspension comprises skin progenitor cells.

20. (New) The method of claim 15, wherein the suspension is filtered to remove large cellular congregates.
21. (New) The method of claim 20, wherein the filter has a cut-off of 5-100 cell congregates.
22. (New) The method of claim 15 wherein the enzymes comprise dispase and trypsin.
23. (New) The method of claim 15 wherein the enzymes comprise collagenase.
24. (New) The method of claim 15 wherein the container is a syringe and the suspension is delivered to the outlet of the spray head by continuous force application to the container.
25. (New) The method of claim 15 wherein the wounded area is burned.

REMARKS

Please update the file to remove the former Attorney Docket Number 2474.01.CON and replace with the new Attorney Docket No. 4053.001US2.

The specification has been amended to include page 3 from the parent application 11/518,012, filed September 11, 2006, which was inadvertently omitted when a substitute specification was provided on December 22, 2011.

Claims 1-14 are canceled without prejudice or disclaimer and claims 15-25 are added to the present application. No new matter is added by claims 15-25.

Claim 15 is supported by claim 14, at para. [00038] (burns); at para. [00023] (autologous cells); at para. [00033] (cells dispersed in a solution suitable for immediate dispersion over the recipient site); at paras. [00035] and [00036] (single cells delivered evenly; cell sheets are not provided to the wound by the droplets, no *in vitro* cell expansion); [00037] (preformed graft is not applied); at paras. [00036] and [00054] (no culturing); at para. [00045] (serum free solution (cells released from dermal-epithelial junction); at para. [00047] (physiological solution); at paras. [00057] and [00061] (spray head forms droplets via air flow); and at para. [00052] (*in situ* multiplication of cells).

Claims 16-17 are supported by para. [00039].

Claim 18 is supported by [00065].

Claim 19 is supported at page 4, at paras. [00048] and [00054] (skin progenitor cells).

Claims 20-21 are supported at page 4, at paras. [00021]; [00049]; and [00060] (filtering the cellular suspension).

Claims 22 and 23 are supported by para. [00043].

Claim 24 is supported by paras. [00022], [00057] and [00058].

The present method for facilitating the healing of the burned skin of a human subject comprises spraying droplets of a physiological solution that contains single autologous skin cells of the subject. The droplets are evenly distributed across the wound area, without application of a continuous sheet of cells and without applying a preformed skin graft to the burn area, before or after spraying.

Claim 25 is supported by para. [00038].

The cells that are sprayed are obtained by using enzymes to disassociate a normal sample of the subject's skin, in order to free a mixed population of cells. This population is not cultured, but is transferred to a serum-free physiological solution, such as physiological saline, optionally filtered to remove conglomerates of cells, and transferred to a container such as a syringe. The suspension is then delivered to a spray head where a gas flow creates a spray of single cell-containing droplets that are delivered evenly onto the burn site, where the cell proliferate *in situ* to regenerate new skin.

In the Office Action dated June 21, 2013, in parent application Serial No. 11/518,012, filed September 11, 2006, the Examiner rejected claims 35-36, 45 and 46 as obvious in view of Lyles (U.S. patent application 2004/0219133; now U.S. Pat. No. 7641898) in view of Lemelson (U.S. 5,571,031). Insofar as the Examiner may consider, applying the rejection to reject any of claims 15-22, he is respectfully requested to consider the following comments.

Method-of-treatment claims were withdrawn by the Examiner. Device claim 35, that seems to embody "kit claim" aspects, broadly claims a spray device having a container containing a xenogeneic serum-free "treatment solution" that contains "electrolytes in a physiologic composition." The treatment solution can "maintain said tissue regulating cells until application," but it does not contain any such cells. The device also includes a "means" capable of dissociating cells in "the tissue sample."

The method(s) disclosed by Lyles involving "Air Jet Cell External Seeding (ACES) differ from the claimed method in numerous aspects. For example, in Example 1, the cells "are suspended in autologous serum or other specified media," prior to spraying onto a substrate. The "other specified media" is disclosed at [0033] and does not include physiological solutions such as physiologic saline or a balanced salt solution. Rather, it includes polyvinyl alcohol, serum, other blood components, polymers of nucleic acids or combinations thereof. See, also claim 10. In Example 2, the isolated "fibrocytes or keratinocytes" are subjected to "resuspension in autologous serum (or other media) and "subsequent dispersion on the allograft matrix by air-jet spraying" [0039]. Thus, while the Abstract and claim 1 broadly disclose or include dispersing the cells "directly onto the [damaged] area", Lyles does not disclose delivery of a spray of single cell-

containing droplets to a burn site in an "even" fashion that does not create a "closed sheet" of cells and does not involve pre-introduction of a "dermal allograft material" into the damaged area. See Abstract, claims 2, 13.

Lyles at para. [0043] discloses that graft studies may be conducted in three stages: (a) grafting an autologous constructed epithelium derived from cells cultured on the allograft *in vitro* directly to the subdermal layer of a wound, (b) grafts produced *ex vivo* may be transferred into a wound, or (c) an allograft material may be grafted onto the wound site and then sprayed with fibrocytes, followed by keratinocytes.

Lengthy, prophetic Example 6 is entitled "New Methods to Harvest and Construct Three-Dimensional Tissues In Vitro" and is not relevant to the present method.

Thus, it is respectfully submitted that Lyles does not disclose, suggest or enable the practice of ACES to deliver a mixed population of uncultured normal skin cells to a burn site so as to effectively and efficiently generate normal skin, via single cell-containing droplets without forming continuous sheet of sprayed cells or introducing preformed grafts at the burn site.

CONCLUSION

Applicant respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 373-6911 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully Submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402--0938
(612) 373-6911

Date April 21, 2014

By 

David W. Black
Reg. No. 42,331

Electronic Acknowledgement Receipt

EFS ID:	18818712
Application Number:	14136681
International Application Number:	
Confirmation Number:	7065
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Customer Number:	21901
Filer:	Kirt L. Iverson/Dawn Poole
Filer Authorized By:	Kirt L. Iverson
Attorney Docket Number:	4053.001US2
Receipt Date:	21-APR-2014
Filing Date:	20-DEC-2013
Time Stamp:	17:37:23
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		4053001.pdf	102792 <small>9aafe73404238e5f53d4171aea1ebdd7ecdd3a0c</small>	yes	9

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Transmittal Letter		1	1
Preliminary Amendment		2	9

Warnings:

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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

Inventor(s): Reinhard Bornemann
Title: Cell spraying device, method and sprayed cell suspension

Docket No.:	4053.001US2	Serial No.:	14/136,681
Filed:	December 20, 2013	Due Date:	N/A
Examiner:	Unknown	Group Art Unit:	1615
Customer No.:	21186	Confirmation No.:	7065

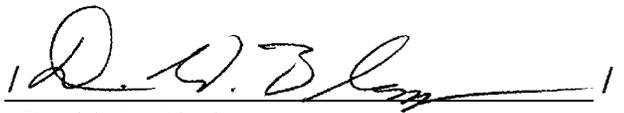
Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

Preliminary Amendment (8 pgs.).

If not provided for in a separate paper filed herewith, please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
Customer No.: 21186

By: 
David W. Black
Reg. No. 42,331

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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/136,681	Filing Date 12/20/2013	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	
AMENDMENT	04/21/2014	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR				
	Total <small>(37 CFR 1.16(i))</small>	* 12	Minus	** 20	= 0	X \$40 = 0	
	Independent <small>(37 CFR 1.16(h))</small>	* 1	Minus	***3	= 0	X \$210 = 0	
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE	0	

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR				
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =	
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE		

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/ROZENIA HARMON/

This collection of information is required by 37 CFR 1.16. 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 4 columns: APPLICATION NUMBER (14/136,681), FILING OR 371(C) DATE (12/20/2013), FIRST NAMED APPLICANT (Reinhard Bornemann), ATTY. DOCKET NO./TITLE (4053.001US2)

CONFIRMATION NO. 7065

PUBLICATION NOTICE



21901
Smith & Hopen (private clients)
Attn: General Patent Matters
180 Pine Avenue North
Oldsmar, FL 34677

Title: Cell Spraying Device, Method and Sprayed Cell Suspension

Publication No. US-2014-0107621-A1
Publication Date: 04/17/2014

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number
14/136,681

APPLICATION AS FILED - PART I

(Column 1) (Column 2)

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(j))	14 minus 20 = *	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 = *	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

* If the difference in column 1 is less than zero, enter "0" in column 2.

SMALL ENTITY

RATE(\$)	FEE(\$)
N/A	70
N/A	300
N/A	360
x 40 =	0.00
x 210 =	0.00
	0.00
	0.00
TOTAL	730

OR OTHER THAN SMALL ENTITY

RATE(\$)	FEE(\$)
N/A	
N/A	
N/A	
TOTAL	

APPLICATION AS AMENDED - PART II

(Column 1) (Column 2) (Column 3)

AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

SMALL ENTITY

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

OR OTHER THAN SMALL ENTITY

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

SMALL ENTITY

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

OR OTHER THAN SMALL ENTITY

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.



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www.uspto.gov

Table with 4 columns: APPLICATION NUMBER (14/136,681), FILING OR 371(C) DATE (12/20/2013), FIRST NAMED APPLICANT (Reinhard Bornemann), ATTY. DOCKET NO./TITLE (4053.001US2)

CONFIRMATION NO. 7065

21901
Smith & Hopen (private clients)
Attn: General Patent Matters
180 Pine Avenue North
Oldsmar, FL 34677

NOTICE



Date Mailed: 03/28/2014

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s): Reinhard Bornemann



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY,DOCKET,NO, TOT CLAIMS, IND CLAIMS. Row 1: 14/136,681, 12/20/2013, 3767, 800, 4053.001US2, 14, 2

CONFIRMATION NO. 7065

UPDATED FILING RECEIPT



21901
Smith & Hopen (private clients)
Attn: General Patent Matters
180 Pine Avenue North
Oldsmar, FL 34677

Date Mailed: 03/28/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s) Reinhard Bornemann, Bielefeld, GERMANY;

Applicant(s) Janus Acquisition Corp., New York, NY

Assignment For Published Patent Application Janus Acquisition Corp., New York, NY

Power of Attorney: None

Domestic Priority data as claimed by applicant This application is a CON of 11/518,012 09/11/2006 ABN

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None. Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper Authorization to Permit Access to Application by Participating Offices (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 01/07/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 14/136,681
Projected Publication Date: 04/17/2014
Non-Publication Request: No
Early Publication Request: No

**** SMALL ENTITY ****

Title

Cell Spraying Device, Method and Sprayed Cell Suspension

Preliminary Class

604

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
PC Box 1450
Alexandria, Virginia 22311-1450
www.uspto.gov

1 fm

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/136,681	12/20/2013	Reinhard Bornemann	2474.01.CON

CONFIRMATION NO. 7065

FORMALITIES LETTER



21901
Smith & Hopen (private clients)
Attn: General Patent Matters
180 Pine Avenue North
Oldsmar, FL 34677

Date Mailed: 01/10/2014

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing.

Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- A surcharge as set forth in 37 CFR 1.16(f) was not received.
The surcharge is due for any one of:
 - late submission of the basic filing fee, search fee, or examination fee,
 - late submission of inventor's oath or declaration,
 - filing an application that does not contain at least one claim on filing, or
 - submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

The fee(s) required for a small entity within **TWO MONTHS** from the date of this Notice to avoid abandonment is/are:

- \$ 70 surcharge.
- \$(.00) Previous Payment Amount.
- \$ 70 TOTAL FEE BALANCE DUE.

Items Required To Avoid Processing Delays:

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
Reinhard Bornemann

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice".
<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/afessehayel

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann
Title: Cell spraying device, method and sprayed cell suspension

Docket No.: 4053.001US2
Filed: December 20, 2013
Examiner: Unknown
Customer No.: 21186

Serial No.: 14/136,681
Due Date: March 10, 2014
Group Art Unit: 1615
Confirmation No.: 7065



Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting herewith the attached:

- Communication Re: Missing Parts (1 pg.).
- Copy of a Notice to File Missing Parts (2 pgs.).

- Authorization to charge Deposit Account 19-0743 in the amount of \$70.00 to cover the Small Entity Surcharge.

If not provided for in a separate paper filed herewith, please consider this a **PETITION FOR EXTENSION OF TIME** for sufficient number of months to enter these papers, and please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
Customer No.: 21186

By Monique M. Perdok
Monique M. Perdok
Reg. No. 42,989

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Missing Parts, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 10 day of March, 2014.

Marissa Kraut
Name

Monique M. Perdok
Signature

S/N 14/136,681

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Reinhard Bornemann

Examiner: Unknown

Serial No.: 14/136,681

Group Art Unit: 1615

Filed: December 20, 2013

Docket: 4053.001US2

Customer No.: 21186

Confirmation No.: 7065

Title: Cell spraying device, method and sprayed cell suspension



COMMUNICATION RE: MISSING PARTS

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In response to the Notice to File Missing Parts, we submit authorization to charge Deposit Account 19-0743 in the amount of \$70.00 to cover the Small Entity surcharge.

Applicants assume the application is now in proper order and in condition for examination. Please direct any inquiries to the undersigned at (612) 373-6903. If necessary, please charge any additional fees or credit overpayment to Deposit Account 19-0743.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6903

Date March 10, 2014

By Monique M. Perdok
Monique M. Perdok
Reg. No. 42,989

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Missing Parts, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 10 day of March, 2014.

Marina Kraut
Name

M Kraut
Signature



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY. DOCKET NO, TOT CLAIMS, IND CLAIMS. Row 1: 14/136,681, 12/20/2013, 1615, 730, 2474.01.CON, 14, 2

CONFIRMATION NO. 7065

FILING RECEIPT



21901
Smith & Hopen (private clients)
Attn: General Patent Matters
180 Pine Avenue North
Oldsmar, FL 34677

Date Mailed: 01/10/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s) Reinhard Bornemann, Bielefeld, GERMANY;

Applicant(s) Janus Acquisition Corp., New York, NY

Assignment For Published Patent Application Janus Acquisition Corp., New York, NY

Power of Attorney: None

Domestic Priority data as claimed by applicant This application is a CON of 11/518,012 09/11/2006

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The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 14/136,681
Projected Publication Date: 04/17/2014
Non-Publication Request: No
Early Publication Request: No

**** SMALL ENTITY ****

Title

Cell Spraying Device, Method and Sprayed Cell Suspension

Preliminary Class

424

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Table with 4 columns: APPLICATION NUMBER (14/136,681), FILING OR 371(C) DATE (12/20/2013), FIRST NAMED APPLICANT (Reinhard Bornemann), ATTY. DOCKET NO./TITLE (2474.01.CON)

CONFIRMATION NO. 7065

FORMALITIES LETTER



21901
Smith & Hopen (private clients)
Attn: General Patent Matters
180 Pine Avenue North
Oldsmar, FL 34677

Date Mailed: 01/10/2014

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing.

Applicant is given TWO MONTHS from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- A surcharge as set forth in 37 CFR 1.16(f) was not received. The surcharge is due for any one of:
- late submission of the basic filing fee, search fee, or examination fee,
- late submission of inventor's oath or declaration,
- filing an application that does not contain at least one claim on filing, or
- submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

The fee(s) required for a small entity within TWO MONTHS from the date of this Notice to avoid abandonment is/are:

- \$ 70 surcharge.
\$(.00) Previous Payment Amount.
\$ 70 TOTAL FEE BALANCE DUE.

Items Required To Avoid Processing Delays:

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

- A properly executed inventor's oath or declaration has not been received for the following inventor(s): Reinhard Bornemann

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

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/afessehaye/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number
14/136,681

APPLICATION AS FILED - PART I

(Column 1) (Column 2)

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(j))	14 minus 20 = *	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 = *	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

* If the difference in column 1 is less than zero, enter "0" in column 2.

SMALL ENTITY

RATE(\$)	FEE(\$)
N/A	70
N/A	300
N/A	360
x 40 =	0.00
x 210 =	0.00
	0.00
	0.00
TOTAL	730

OR OTHER THAN SMALL ENTITY

RATE(\$)	FEE(\$)
N/A	
N/A	
N/A	
TOTAL	

APPLICATION AS AMENDED - PART II

(Column 1) (Column 2) (Column 3)

AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

SMALL ENTITY

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

OR OTHER THAN SMALL ENTITY

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

SMALL ENTITY

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

OR OTHER THAN SMALL ENTITY

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

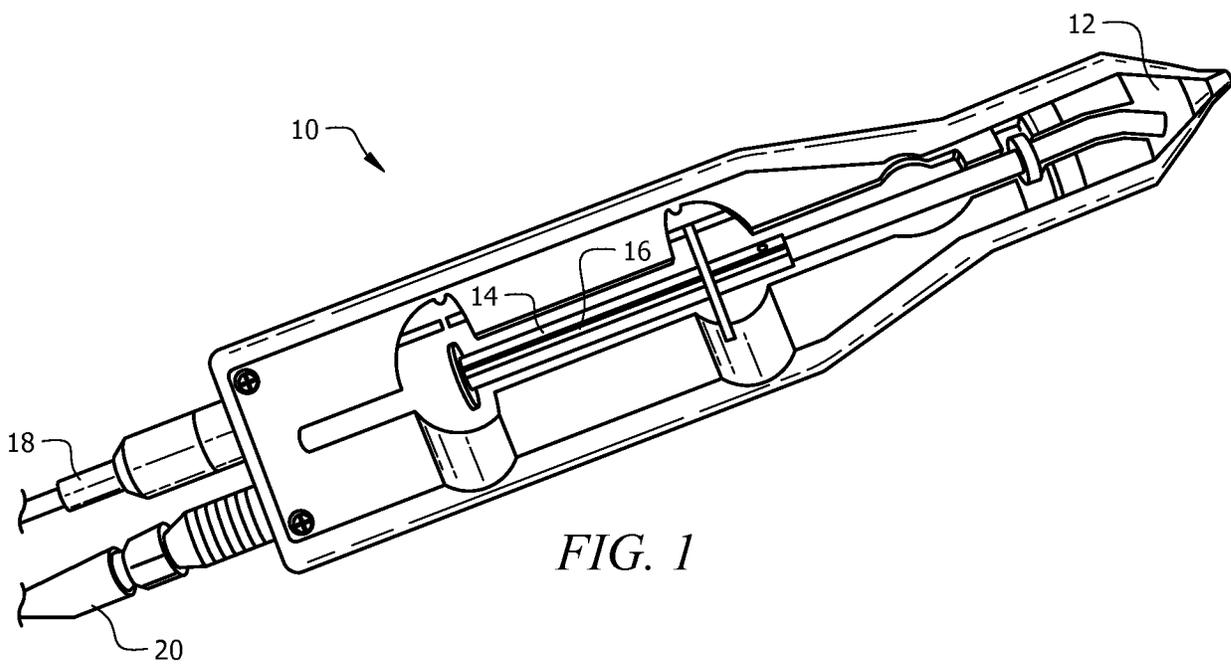


FIG. 1

CELL SPRAYING DEVICE, METHOD AND SPRAYED CELL SUSPENSION

[0001] CROSS-REFERENCE TO RELATED APPLICATIONS

[0002] This nonprovisional application is a continuation of and claims priority to pending U.S. nonprovisional Application No. 11/518,012, entitled "Cell Spraying Device, Method and Sprayed Cell Suspension" filed September 11th, 2006 by the same inventor.

[0003] BACKGROUND OF THE INVENTION

[0004] 1. Field of the Invention

[0005] This invention relates, generally, to the grafting of cells. In particular, it relates to a method of inducing epidermal growth and a device for spraying a cell suspension from a tissue sample obtained from a donor site and distributing that cell suspension to a recipient site, and its method of use thereof.

[0006] 2. Brief Description of the Prior Art

[0007] Spraying of cells may be of interest for the distribution of cell suspensions onto a tissue wound. This can be applied, for example in general surgery to help regenerate tissue trauma. Methods for treating skin wounds are known. For example, skin grafting techniques exist, which aim to reconstruct skin areas of the body that have suffered either damage or defects to the skin. In general, these types of grafts are classified according to their host-donor relationship and by their thickness. The most clinically applied graft is the autologous graft, whereby tissue is taken from one area of the body and applied to another area. The grafted tissue then develops a new blood supply and attaches to the underlying tissues. There are several types of skin grafts presently used, including split-thickness, full-thickness grafts, and micro-grafting. Each of these graft types must be prepared using certain techniques, and each one has its inherent advantages and disadvantages. Split-thickness grafts often require considerable skill, time and expensive equipment. Further, donor sites are painful, result in scarring and limit the coverable area. Although split-thickness grafts may be more successful than full-thickness grafts, they are usually cosmetically less attractive. Full-thickness grafts require less skill and expensive

equipment, and their cosmetic appearance is better than that of split-thickness grafts. However, full-thickness grafts do not "take" as well as split-thickness grafts. Micro-grafts are more easily accomplished and require no special instruments. However, their cosmetic appearance is not as good as other techniques, as the resulting scarring is unacceptable.

[0008] A variation to the above grafting techniques is the mesh graft, which is a type of split-thickness or full-thickness skin graft in which parallel rows of slits are cut into the treated tissue. Some of the advantages of mesh grafts include: greater coverage of the affected area, drainage of blood or serum from beneath the graft, and increased conformity of the graft to uneven recipient areas. This technique has been very successful, with 90 to 100 percent "take" after the grafts have been applied on healthy granulation beds.

[0009] An alternative to split-thickness grafting is to form a blister under suction at a donor site, then remove the skin above the blister and transplant it onto the recipient site. The production of blisters to treat wounds has been used since the 1960s. The blisters are produced by a suction device, such as DERMAVAC, at a suction pressure of approximately 250-300 mmHg for 1-2 hours. The blisters are then cut off and placed on the wound. The healing time is around 10-14 days. There are several disadvantages to this method, for example lengthy preparation of the graft and/or the graft itself potentially not resulting in re-pigmentation of the area; or the graft possibly resulting in uneven pigmentation around the edges of the area of treatment.

[00010] Micro-grafting has become a more common approach for large area cover and involves the "snipping off" of a number of very small sections of tissue from a donor site and applying them to a dressing that is in turn applied to the wound area.

[00011] Another technology for the generation of tissue in vitro is to culture epidermis. Cultured epithelial autografts (CEA), provided in confluent grown cell sheets, are an important adjunct in the coverage of burns and other situations in which large areas of the body's surface experience skin loss. There are many centers throughout the world with tissue culture facilities whose aim is to produce autologous epithelial grafts for use in a wide variety of applications. The usefulness and application of CEA is related to its ability to achieve confluent cells sheets suitable for grafting. This technique overcomes many of the disadvantages of the previous treatments described above. For example, cultured

epithelial autografts reduce the demand for donor sites. However, these autografts are slow growing and require time to culture, which often exceeds the preparation time of the recipient's sites. Moreover, blister formation by wound secretion below the sheet grafts hinder grafting.

[00012] Navarro et al. (2000) and Wood et al. (2003) describe the use of single cells suspended in Hartmans's solution and distributed over the wound, thus avoiding the sheets. The cell suspension may be delivered via a pipette, common "eye-droppers," syringe and needle, and/or other similar devices to place small quantities of cellular suspension on a graft site. As method of choice a mechanical hand driven spray technique is described (see references).

[00013] The spray technique addressed some aforementioned problems in the field. A hand driven spray method and subsequent distribution of the cells, however, is not performed in a controlled manner and thus results in uneven cell distribution

[00014] Accordingly, what is needed is an improved device and technique for skin grafting. However, in view of the prior art considered as a whole at the time the present invention was made, it was not obvious to those of ordinary skill in the art how the limitations of the art could be overcome.

[00015] While certain aspects of conventional technologies have been discussed to facilitate disclosure of the invention, Applicants in no way disclaim these technical aspects, and it is contemplated that the claimed invention may encompass one or more of the conventional technical aspects discussed herein.

[00016] The present invention may address one or more of the problems and deficiencies of the prior art discussed above. However, it is contemplated that the invention may prove useful in addressing other problems and deficiencies in a number of technical areas. Therefore, the claimed invention should not necessarily be construed as limited to addressing any of the particular problems or deficiencies discussed herein.

[00017] In this specification, where a document, act or item of knowledge is referred to or discussed, this reference or discussion is not an admission that the document, act or item of knowledge or any combination thereof was at the priority date, publicly available,

known to the public, part of common general knowledge, or otherwise constitutes prior art under the applicable statutory provisions; or is known to be relevant to an attempt to solve any problem with which this specification is concerned.

[00018] **BRIEF SUMMARY OF THE INVENTION**

[00019] The long-standing but heretofore unfulfilled need for an improved, more effective skin grafting device and solution is now met by a new, useful, and nonobvious invention.

[00020] The present invention provides a method and/or device suitable for producing a transplantable cellular spray of living cells suitable for grafting to a patient. In applying the method and/or in using the device, cells suitable for grafting to a patient are dispersed in a solution and sprayed with the device for distribution over the recipient graft site.

[00021] According to the invention a device and method is provided for spraying a cell suspension through a controlled spray head suitable for application to a patient utilizing a spray device, which method comprises the steps of: (a) subjecting a tissue sample including cells suitable for grafting to a patient, to at least a physical and/or chemical dissociating means capable of dissociating cells in the tissue sample; (b) taking the cells suitable for grafting on to a patient into a saline solution, (c) filtering the cellular suspension produced to remove large cellular conglomerates; and spraying the cell suspension through a spray head.

[00022] According to the invention an electronically controlled apparatus is provided as a medical device for distribution of tissue regenerating cells in a sterile suspension over a tissue surface via electronic controlled compressed gas and/or pump driven spraying through a sterilizeable spray head, providing continuous force application in a single shot and generating suspension drops containing cells.

[00023] According to the invention there is provided a cell suspension produced according to the above-described method. Preferably the cells in the suspension are autologous cells (i.e. they are isolated from the patient requiring an autograft), or stem cells.

[00024] According to another aspect of the invention a method is provided to treat a patient in need of graft surgery.

[00025] These and other aspects and advantages of the invention will become apparent to those skilled in the art from a review of the ensuing description, which proceeds with reference to the following descriptions and drawing.

[00026] The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts that will be exemplified in the disclosure set forth hereinafter and the scope of the invention will be indicated in the claims.

[00027] **BRIEF DESCRIPTION OF THE DRAWING**

[00028] FIG. 1 depicts an embodiment of the current invention, containing uncultured autologous skin progenitor cells, which can be sprayed onto damaged skin tissue.

[00029] **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

[00030] Those skilled in the art will appreciate that the invention described herein is susceptible to variations and modifications other than those specifically described. It is to be understood that the invention includes all such variation and modifications. The invention also includes all of the steps, features, compositions and compounds referred to or indicated in the specification, individually or collectively and any and all combinations or any two or more of the steps or features.

[00031] The present invention is not to be limited in scope by the specific embodiments described herein, which are intended for the purpose of exemplification. Functionally equivalent products, compositions and where appropriate methods are clearly within the scope of the invention as described herein.

[00032] Throughout this specification and the claims that follow, unless the context requires otherwise, the word “comprise”, or variations such as “comprises” or “comprising”, will be understood to imply the inclusion of a stated integer or group of integers but not the exclusion of any other integer or group of integers.

[00033] Having regard to the above, certain embodiments of this invention provide a unique method and/or device suitable for producing a transplantable cellular suspension of living tissue suitable for grafting to a patient. In applying the method and/or in using the device cell preparations of different origin may be used. This includes stem cell preparations and patient autologous cells, whereas donor tissue is harvested and subjected to a tissue

dissociating means. Cells suitable for grafting to a patient, or back to a patient, are dispersed in a solution that is suitable for immediate dispersion over the recipient graft site.

[00034] Certain embodiments of this invention have advantages over the prior art, some of which are described in the following paragraphs. The advantages set forth below and those made apparent from the following description are efficiently attained, and since certain changes may be made in the above construction without departing from the scope of the invention, it is intended that all matters contained in the following description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

[00035] Certain embodiments of this invention provide a time efficient method for supplying a cellular cover to a tissue in a clinical setting. That is, cells can be finely and evenly distributed over a wound, avoiding the use of cell sheets. This is achievable because there is a controlled procuring of the cell suspension with a method provided by an apparatus, thus allowing cell spraying to be performed more evenly than conventional methods and devices for skin grafting.

[00036] Using individually-sprayed cells through an embodiment of the device disclosed here, rather than confluent grown keratinocyte sheets as in the prior art, results in the need for fewer cells and application to a larger treatment surface. Blister formation is avoided by the use of single cells without forming a closed sheet. Reducing the cell number speeds up application time by avoiding an in vitro cell expansion. Avoiding in vitro cell expansion, in turn, reduces in vitro differentiation and therefore better preserves basal keratinocyte progenitor cells in the cell suspension.

[00037] Certain embodiments of this invention aid in the achievement of rapid cell coverage in areas of tissue wounds, tissue trauma/injury and donor sites. It provides a means for reducing the size of skin cell donor sites--the biopsy donor site is markedly smaller than a split skin graft donor site and reduces or eliminates the use of split skin graft donor sites; improves the expansion rate of cell coverage; improves the rate of healing of small burns; is useful for small areas of skin reconstructions, such as scars; and improves scar quality.

[00038] Certain embodiments of this invention provide a means for the treatment of various skin disorders or diseases. For example, the various skin disorders and diseases include, but are not limited to, the following: epidermal resurfacing, replacement after skin loss,

site match-up during re-pigmentation of an area of skin, treatment of burn wounds, leukoderma, vitiligo, piebaldism, in the treatment of scars--for example, caused through incorrect wound healing, improper scar direction or scar distortion from wound contraction, acne scars; resurfacing cosmetic dermabrasion, resurfacing after laser treatment and in association with dermal reconstruction. Additionally the method may be used for cell replacement therapy, including but not limited to, nerve cell replacement treatment, epithelial cell (such as urothelial cell, buccal mucosal cell and respiratory epithelial cell) replacement treatment, endothelial cell replacement treatment and osteogenic precursor cell replacement treatment. The method may also be used to stimulate tissue regeneration in surgically induced wounds.

[00039] Certain embodiments of this invention provide a means to produce a suspension of cells in a ratio to each other comparable with those seen in situ. That is, due to the manner of preparation of the cellular suspension, cells such as keratinocyte basal cells, Langerhans cells, fibroblasts and melanocytes typically have enhanced survival rates in comparison to standard tissue culture techniques, whereby selective cell culture can result in the loss of certain cell types. This has the advantage of allowing for the correct re-pigmentation of skin after a skin graft.

[00040] Certain embodiments of this invention allow faster surgery and healing--thereby reducing trauma for patients during the phase of their medical care.

[00041] One embodiment of the invention relates to at least two distinct cell sources suitable for use in resurfacing and regeneration of damaged tissue: (i) non-autologous cells, including stem cells, and (ii) autologous cells, including the patient's own progenitor cells.

[00042] An embodiment of the invention provides a method for preparing an autologous cell suspension. According to this method, tissue is harvested from a patient by means known in the art of tissue grafting. Harvesting of tissue can be achieved by taking a tissue biopsy. With the harvesting of the biopsy consideration must be given to the depth of the biopsy and size of the surface area. The depth and size of the biopsy influence the ease at which the procedure can be undertaken and the speed with which a patient recovers from the procedure. The chosen donor site may appropriately match the recipient site, for

example post-auricular for head and neck, thigh for lower limbs, inner-upper-arm for upper limbs, or palm for sole or vice-versa.

[00043] In this embodiment, once a biopsy has been harvested from a patient the tissue sample is subjected to physical and/or chemical dissociating means capable of dissociating cellular stratum in the tissue sample. Methods for dissociating cellular layers within the tissues are well known in the field. For example, the dissociating means may be physical and/or a chemical disruption. Physical dissociation means might include, for example, scraping the tissue sample with a scalpel, mincing the tissue, physically cutting the layers apart, or perfusing the tissue. Chemical dissociation means might include, for example, digestion with enzymes such as trypsin, dispase, collagenase, trypsin-edta, thermolysin, pronase, hyaluronidase, elastase, papain and pancreatin. Non-enzymatic solutions for the dissociation of tissue can also be used. Dissociation of the tissue sample may be achieved by placing the sample in a pre-warmed enzyme solution containing an amount of proteolytic enzyme sufficient to dissociate cellular stratum in the tissue sample.

[00044] After the tissue sample has been immersed in the enzyme solution for an appropriate amount of time, the sample can be removed and washed with nutrient solution.

[00045] In this embodiment, the saline/nutrient solution used in the method should be capable of significantly reducing or removing the effect of the enzyme either by dilution or neutralization. The nutrient solution used in the method may also have the characteristics of being (i) free of at least xenogenic serum, (ii) capable of maintaining the viability of the cells until applied to a patient, and (iii) suitable for direct application to a region on a patient undergoing tissue grafting. After application of a suitable saline/nutrition solution to the tissue sample, the cellular stratum of the sample is separated permitting the cells capable of reproduction to be removed from the cellular material and suspended in the nutrient solution. Where the tissue sample is skin, the dermis and epidermis can be separated to allow access to the dermal-epithelial junction of both surfaces.

[00046] In this embodiment, cells capable of reproduction are then removed from the separated stratum by any means known in the art. For example, the reproductive cells can be scraped off the surface of the stratum using an instrument such as a scalpel. Cells capable of reproduction within the dermal-epithelial junction include but are not limited to

keratinocyte basal cells, Langerhans cells, fibroblasts and melanocytes. Following release of the cells from the tissue sample they are suspended in the saline/nutrient solution.

[00047] Another embodiment of the invention also provides a method for using a non-autologous cell suspension to produce cells capable of reproduction for purposes of skin grafting. To procure cells of any source, the cells are suspended in an aqueous saline/nutrition solution. The solution may be anything physiological from a basic salt solution to a more complex nutrient solution. Preferably, the nutrient solution is free of all serum but contains various salts, such as electrolytes, that resemble the substances found in body fluids; this type of solution is often called physiological saline. Phosphate or other non-toxic substances may also buffer the solution in order to maintain the pH at approximate physiological levels. Suitable nutrient solutions that are preferred base on Ringer-lactate solutions, including Hartmann's solution, dialysis solutions, and on peripheral intravenous nutrition solutions.

[00048] Whether using autologous or non-autologous sources, the volume of solution applied to the tissue sample after the harvesting steps, or by suspending non-autologous cells, may be small, otherwise the suspension may become too fluid therein providing difficulties in applying the suspension to the graft. The actual volume of solution applied will depend on the preference of the healthcare practitioner and the need of the patient.

[00049] In this embodiment, the cell suspension is then applied by using the spray device. To avoid excessively large cellular congregates in the cellular suspension the suspension can be filtered, either prior to using the suspension with the device, or by a specific feature of the device.

[00050] Prior to application with the device or immediately after filtering, the cellular suspension may be diluted to produce an appropriate cell density suitable for the purpose with which the suspension is to be used.

[00051] Embodiments of the invention also provide a sprayed aqueous cell suspension, highly suitable for tissue regeneration and grafting techniques, produced by the method described. An important advantage of the invention is an even cell distribution.

[00052] An important aspect of utilizing such a suspension in grafting technology is that it can be used to expand the area or volume of a wound that can be treated quickly by in situ multiplication of a limited number of cells. Cellular multiplication is encouraged on the patient rather than in an in vitro system, as provided by the conventional CEA method.

[00053] The number and concentration of cells seeded onto graft site may be varied by modifying the concentration of cells in suspension, or by modifying the quantity of suspension that is distributed onto a given area or volume of the graft site. The number and concentration of cells seeded onto the graft site depends on the preference of individual surgeons and the needs of the patient.

[00054] Another unique feature of the cell suspension that is contemplated is that the composition of cells in the cellular preparation is comparable to that seen in situ compared to prior art CEA cellular preparation. It contains the basal keratinocytes and skin progenitor cells for skin regeneration, which are typically lost in the CEA method. Whereas conventional methods lose cellular constituents, such as skin progenitor cells, because of selective culture for keratinocytes, the cellular suspension contemplated in the current invention has a cell composition comparable to the in situ cell population.

[00055] This invention also contemplates a method of treatment of the patient requiring a tissue graft. By this method the cellular suspension produced according to the invention is applied to a graft site.

[00056] This invention also contemplates an apparatus containing a spray head to distribute the cells. The suspension may be sprayed through any type of nozzle that transforms liquid into small airborne droplets.

[00057] An embodiment of the spray gun includes an electronically controlled apparatus used as a medical device to operate the spraying through a sterilizeable spray head. The apparatus enables a distribution of cells using about 0.5 to about 60 ± 20 milliliter sterile cell suspension through a spray head. The apparatus can transfer the cell suspension from a medical grade disposable sterilizeable syringe, including about 0.5 to about 60 milliliter sterile Luer-lock syringes, or other secure syringes.

[00058] In this embodiment, the apparatus can be operated by producing a gas flow, for example air from a compressor, to engage the spray head, or forcing the cell suspension pump driven through the nozzle, for example by motor operated pushing of a sterile Luer-lock syringe containing the cell suspension, the gas may flow through a sterile syringe. An alternative is to produce the spray without mixing with gas. The apparatus also may provide continuous force application over a range of about 0.5 to about 10 ± 1.0 minutes for a single shot, or several shots, and generate suspension drops containing cells in the range of about 30 to about 500 ± 200 millimeters.

[00059] The apparatus may provide means to measure and control parameters such as flow, pressure, and/or temperature.

[00060] The apparatus may also transfer the cell suspension from a medical grade sterilizeable container to the sterilizeable spray head via a disposable filter capable of separating large cellular congregates from a cellular suspension. Any filter capable of separating excessively large cellular congregates from the suspension may be used. The filter may exhibit a cut off of about 5 cells to about 100 cells, preferably about 20 to about 60 cells and most preferably about 40 cells. The filter may cut off outside of these ranges, however noting that if the filter cuts off smaller cell aggregates, cells are lost for the patient, and if the filter cuts off larger cell aggregates, the system may clot.

[00061] An example of the spray gun is depicted in FIG. 1. The apparatus may comprise a first member, not shown, and second member 10 wherein: (i) the first member includes power supply, gas/air supply and electronic controls, and (ii) the second member 10 includes a sterilizeable spray head 12 and a container 14 with the cell suspension 16. In that case both members may be connected through connectors 18, 20 which may be sterilizeable or can be covered with a sterile operation foil hose, not shown, and has suitable connectors to the first and second members. One connector may supply power and the other connector may supply gas/air from the power supply and gas/air supply within the first member, not shown, respectively. Examples of tangible connectors include, but are not limited to, cables, wires, tube sensors and effector connectors. The suspension is transformed into small airborne droplets by mixing the suspension with air/gas within the second member 10 when the container 14 is actuated to release the solution 16.

[00062] The apparatus may comprise a first and second member wherein both members are wirelessly connected for data exchange, including blue tooth technology, to connect sensor/effector controls in the first and second member.

[00063] The apparatus may also feature battery operation, facilitating an easy use in operation theaters. In that case, the apparatus comprises an all-in one device for hand-held operation.

[00064] After the cell suspension has been applied to the recipient graft site by the spray gun, the wound may be covered with a wound dressing. The healing of the wound is followed up by standard protocols for graft treatment.

[00065] In one embodiment, all materials were purchased from BIOCHROM AG, Berlin, Germany. Media were supplemented with antibiotics (Penicillin/Streptomycin, 120 μ g/ml) and antimycotics (Amphotericin B, 2.5 μ g/ml). A 1 cm² skin biopsy was obtained after obtaining informed consent of the donor and cut into 2mm² pieces. Prior to separation of epidermis and dermis the pieces were exposed to 0.4% collagenase (Serva Electrophoresis GmbH, Heidelberg, Germany) in DMEM at 37°C. Separated epidermis was incubated with 0.05% trypsin / 0.02% EDTA-solution for 15 minutes. The single cell suspension was cultivated in a standard culture flask with serum free culture medium (EPILIFE, TEBU, Offenbach, Germany). Cells were incubated at a cell density of 10⁴ per cm², using a CO₂-incubator (HERAEUS BB 6060, Kendro, Langenselbold, Germany) at 37°C in a humidified atmosphere with 5% CO₂. Medium was changed every two days. As 80% confluence was reached, cells were detached by trypsinization and used with the above described compressor operated spray gun. Operation parameters were set to an air flow of 3.7 l/min and a fluid flow of 4.2 cc/min. This adjustment resulted in a spray pressure of 8.2 mmHg. The cells were sprayed into a non medium filled standard cell culture dish at a density of 10⁴ cells per cm². As control cells from the same suspension were cultivated, under the above described culture conditions after pipetting into a medium filled culture flask with the same density. Cell morphology was monitored by light microscopy (ZEISS, AXIOVERT 25). Sprayed and non-sprayed cells showed similar morphologic appearance in light- and phase-contrast microscopy; they also showed comparable follow up culture behavior.

[00066] Modifications and variations of the described methods and device of the invention will be apparent to those skilled in the art without departing from the scope and spirit of the invention. Although the invention has been described in connection with specific preferred embodiments, it should be understood that the invention as claimed should not be unduly limited to such specific embodiments. Indeed, various modifications of the described modes for carrying out the invention which are obvious to those skilled in the relevant field in which this invention resides are intended to be within the scope of the described claims.

[00067] What is claimed is:

1. A device for an electronically flow controlled distribution of a treatment solution containing tissue regenerating cells to a damaged tissue sample, said tissue regenerating cells including skin cells, comprising:
 - a medical-grade sterilizeable container containing said treatment solution;
 - a controlled compressed gas pump in fluid communication with said sterilizeable container;
 - an electronically-pressured or flow-controlled spray head in fluid communication with said controlled compressed gas pump, said spray head capable of spraying said tissue regenerating cells; and
 - a physical or chemical dissociating means capable of dissociating cells in the tissue sample,said solution free of xenogenic serum, capable of maintaining said tissue regenerating cells until application, and containing electrolytes in a physiologic composition.
2. A device according to claim 1, further comprising said controlled compressed gas pump being a gas compressor.
3. A device according to claim 1, further comprising said device being driven by a motor.
4. A device according to claim 1, further comprising sensors that measure flow, pressure, or temperature of said treatment solution.
5. A device according to claim 1, further comprising sensors that measure and control feedback of flow, pressure, and temperature of said treatment solution.
6. A device according to claim 1, further comprising a disposable filter that separates large cellular congregates at a threshold of greater than about forty (40) cells from said treatment solution, said disposable filter transferring said treatment solution from said sterilizeable container to said sterilizeable spray head.

7. A device according to claim 1, further comprising said device being battery powered.
8. A device according to claim 1, further comprising a first and second component, wherein:
 - said first component including a power supply, a gas or air supply, and electronic controls, and
 - said second component including said spray head and said sterilizeable container containing said treatment solution, wherein said first and second components are connected through an effector connector, said effective connecting being sterilizeable and covered with a sterile operation foil hose and has suitable connectors to said first and second components.
9. A device according to claim 8, further comprising said first and second components wirelessly connected for data exchange, said wireless connection including Bluetooth technology to connect said effector to said first and second component.
10. A device according to claim 1, further comprising said electrolytes in said physiologic composition including Ringer-Lactate like electrolyte solutions, said electrolyte solutions further including Hartman's solution.
11. A device according to claim 1, further comprising said tissue regenerating cells including in vitro expanded autologous cells.
12. A device according to claim 1, further comprising said tissue regenerating cells including stem cells.
13. A method of applying tissue regenerating cells to a damaged tissue sample, comprising the steps of:
 - providing a device for an electronically flow controlled distribution of said tissue regenerating cells, said including a medical-grade sterilizeable container, a controlled compressed gas pump, and an electronically-pressured or flow-controlled spray head in fluid communication with each other, said spray head capable of spraying said tissue regenerating cells, said tissue regenerating cells

selected from the group consisting of in vitro expanded autologous cells and stem cells;

generating a treatment solution of about 0.5 mL to about 80 mL containing said tissue regenerating cells and free of xenogenic serum, capable of maintaining said tissue regenerating cells until application, and containing electrolytes in a physiologic composition;

filtering said treatment solution to remove cellular conglomerates of more than about 50 to about 100 cells;

placing said filtered treatment solution in said sterilizeable container of said device; and

activating said device and spraying said treatment solution through said spray head in a continuous application over about 0.5 minutes to about 10 minutes, said spray of treatment solution containing said tissue regenerating cells of about 30 to about 500 μ m in size, whereby said treatment solution is grafted onto said damaged tissue sample.

14. A method according of claim 13, further comprising the step of preparing said damaged tissue sample with a cell-coated surface that facilitates spraying of said treatment solution in an even distribution on said damaged tissue sample.

ABSTRACT OF THE DISCLOSURE

The invention provides a device and methods suitable for producing a cellular spray of cells. The sprayed cells are of interest for covering and growing on a surface, including a skin wound. In applying the method and/or using the device, cells for grafting onto a patient are dispersed in a solution and sprayed with the device for distribution over the recipient's graft site.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	2474.01.CON
		Application Number	
Title of Invention	Cell Spraying Device, Method and Sprayed Cell Suspension		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

Secrecy Order 37 CFR 5.2

<input type="checkbox"/>	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2(Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
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Inventor Information:

Inventor 1					<input type="button" value="Remove"/>
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Reinhard		Bornemann		
Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Bielefeld	Country of Residence	i	DE	
Mailing Address of Inventor:					
Address 1	Furtwangler Strasse 8				
Address 2					
City	Bielefeld	State/Province	OT		
Postal Code	33604	Country	i	DE	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					<input type="button" value="Add"/>

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
<input type="checkbox"/> An Address is being provided for the correspondence information of this application.			
Customer Number	21901		
Email Address	patents@smithhopen.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	Cell Spraying Device, Method and Sprayed Cell Suspension		
Attorney Docket Number	2474.01.CON	Small Entity Status Claimed	<input checked="" type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	1	Suggested Figure for Publication (if any)	
	254	Avita Medical Limited	

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2474.01.CON
	Application Number	
Title of Invention	Cell Spraying Device, Method and Sprayed Cell Suspension	

Filing By Reference

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country i

Publication Information:

Request Early Publication (Fee required at time of Request 37 CFR 1.219)

Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).

Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
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Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	11518012	2006-09-11

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2474.01.CON
	Application Number	
Title of Invention	Cell Spraying Device, Method and Sprayed Cell Suspension	

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

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Application Number	Country	Filing Date (YYYY-MM-DD)	Access Code (if applicable)

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

Authorization to Permit Access to the Instant Application by the Participating Offices

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2474.01.CON
	Application Number	
Title of Invention	Cell Spraying Device, Method and Sprayed Cell Suspension	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.			
Applicant 1			
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.			
<input type="button" value="Clear"/>			
<input checked="" type="radio"/> Assignee	<input type="radio"/> Legal Representative under 35 U.S.C. 117	<input type="radio"/> Joint Inventor	
<input type="radio"/> Person to whom the inventor is obligated to assign.		<input type="radio"/> Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor :			
If the Applicant is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	Janus Acquisition Corp.		
Mailing Address Information:			
Address 1	430 Park Avenue		
Address 2	Suite 702		
City	New York	State/Province	NY
Country i	US	Postal Code	10022
Phone Number		Fax Number	

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2474.01.CON
	Application Number	
Title of Invention	Cell Spraying Device, Method and Sprayed Cell Suspension	

Email Address	
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Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

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Assignee 1				
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
If the Assignee or Non-Applicant Assignee is an Organization check here <input type="checkbox"/>				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.				

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications					
Signature	/nilay j choksi/				
First Name	Nilay J.	Last Name	Choksi	Registration Number	65795
Additional Signature may be generated within this form by selecting the Add button.					

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Filer:	Anton John Hopen
Attorney Docket Number:	2474.01.CON

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	70	70
Utility Search Fee	2111	1	300	300
Utility Examination Fee	2311	1	360	360

Pages:

Claims:

Miscellaneous-Filing:

Petition:

Patent-Appeals-and-Interference:

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				730

Electronic Acknowledgement Receipt

EFS ID:	17719619
Application Number:	14136681
International Application Number:	
Confirmation Number:	7065
Title of Invention:	Cell Spraying Device, Method and Sprayed Cell Suspension
First Named Inventor/Applicant Name:	Reinhard Bornemann
Customer Number:	21901
Filer:	Anton John Hopen
Filer Authorized By:	
Attorney Docket Number:	2474.01.CON
Receipt Date:	20-DEC-2013
Filing Date:	
Time Stamp:	15:49:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$730
RAM confirmation Number	5657
Deposit Account	
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part (if appl.)	Pages (if appl.)
				Avita Medical Limited EX-1009	

1	Drawings-only black and white line drawings	2474-01-CON-Figs-EFS.pdf	39186 e5ebeaddda7dcccde6d8dba05a376e3439da78fc5	no	1
Warnings:					
Information:					
2		2474-01-CON-App-EFS.pdf	198333 472832c1d1699af6d26832cd8d5d33840a060589a	yes	17
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	13	
	Claims		14	16	
	Abstract		17	17	
Warnings:					
Information:					
3	Application Data Sheet	WebADS.pdf	97409 3daf271b3d24ef48d14781ecbe47c8a23d1baefc	no	5
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	32694 0ed49ac6c46419170269b33512a2d54ed2535f22	no	2
Warnings:					
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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

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