| Doc Code: DIST.E.FILE <br> Document Description: Electronic Terminal Disclaimer - Filed |  |  | U.S. Patent Dep | PTO/ <br> and Trademark rtment of Com |
| :---: | :---: | :---: | :---: | :---: |
| Electronic Petition Request | TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT |  |  |  |
| Application Number | 14846226 |  |  |  |
| Filing Date | 04-Sep-2015 |  |  |  |
| First Named Inventor | Alastair McAuley |  |  |  |
| Attorney Docket Number | FPHCR. 112 C 2 |  |  |  |
| Title of Invention | BREATHING ASSISTANCE | PARATUS |  |  |
| Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action <br> This electronic Terminal Disclaimer is not being used for a Joint Research Agreement. |  |  |  |  |
| Owner |  | Percent |  |  |
| Fisher \& Paykel Healthcare Lim |  | 100\% |  |  |
| The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s) <br> 9974914 <br> as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns. <br> In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later: <br> - expires for failure to pay a maintenance fee; <br> - is held unenforceable; <br> - is found invalid by a court of competent jurisdiction; <br> - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; <br> - has all claims canceled by a reexamination certificate; <br> - is reissued; or <br> - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. <br> Terminal disclaimer fee under 37 CFR $1.20(\mathrm{~d})$ is included with Electronic Terminal Disclaimer request. |  |  |  |  |
|  |  |  |  |  |

I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.

Applicant claims the following fee status:

Small Entity


Micro Entity
Regular Undiscounted

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

## THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

Registration Number 42611
O A sole inventor
A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application

A joint inventor; all of whom are signing this request

| Signature | /Michael Guiliana/ |
| :--- | :--- |
| Name | Michael A. Guiliana |

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

# Electronic Patent Application Fee Transmittal 

| Application Number: | 14846226 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Filing Date: | 04-Sep-2015 |  |  |  |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |  |  |  |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |  |  |  |
| Filer: | Michael A. Guiliana/ThuyQuyen Nguyen |  |  |  |
| Attorney Docket Number: | FPHCR.112C2 |  |  |  |
| Filed as Large Entity |  |  |  |  |
| Filing Fees for Utility under 35 USC 111(a) |  |  |  |  |
| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
| Basic Filing: |  |  |  |  |
| STATUTORY OR TERMINAL DISCLAIMER | 1814 | 1 | 160 | 160 |
| Pages: |  |  |  |  |
| Claims: |  |  |  |  |
| Miscellaneous-Filing: |  |  |  |  |
| Petition: |  |  |  |  |
| Patent-Appeals-and-Interference: |  |  |  |  |
| Post-Allowance-and-Post-Issuance: |  |  |  |  |


| Description | Fee Code | Quantity | Amount | Sub-Total in <br> USD(\$) |
| :--- | :---: | :---: | :---: | :---: |
| Extension-of-Time: |  |  |  |  |
| Miscellaneous: | Total in USD (\$) | 160 |  |  |

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

Application No.: 14846226

Filing Date: 04-Sep-2015

Applicant/Patent under Reexamination: McAuley

Electronic Terminal Disclaimer filed on September 10, 2018

APPROVED

## This patent is subject to a terminal disclaimer

DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web
U.S. Patent and Trademark Office

| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 33668743 |
| Application Number: | 14846226 |
| International Application Number: |  |
| Confirmation Number: | 8898 |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |
| Customer Number: | 20995 |
| Filer: | Michael A. Guiliana/ThuyQuyen Nguyen |
| Filer Authorized By: | Michael A. Guiliana |
| Attorney Docket Number: | FPHCR.112C2 |
| Receipt Date: | 10-SEP-2018 |
| Filing Date: | 04-SEP-2015 |
| Time Stamp: | 13:40:51 |
| Application Type: | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | yes |
| :--- | :--- |
| Payment Type | CARD |
| Payment was successfully received in RAM | $\$ 160$ |
| RAM confirmation Number | 091018 INTEFSW13404800 |
| Deposit Account | 111410 |
| Authorized User | ThuyQuyen Nguyen |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: <br> 37 CFR 1.16 (National application filing, search, and examination fees) <br> 37 CFR 1.17 (Patent application and reexamination processing fees) |  |

File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | $\begin{gathered} \text { Multi } \\ \text { Part /.zip } \end{gathered}$ | Pages (if appl.) |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 33525 |  |  |
| 1 | Terminal Disclaimer-Filed (Electronic) | eTerminal-Disclaimer.pdf |  | no | 2 |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| 2 | Fee Worksheet (SB06) | fee-info.pdf | 30394 | no | 2 |
|  |  |  |  |  |  |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| Total Files Size (in bytes): |  |  | 63919 |  |  |

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.

| APPLICATION NUMBER | PATENT NUMBER | GROUP ART UNIT | REQUEST ID |
| :---: | :---: | :---: | :---: |
| $14 / 846,226$ | 9333315 | 3778 | 67732 |

## PAIR Correspondence Address/Fee Address Change

The following fields have been changed to Customer Number 10802 on $07 / 16 / 2018$ via Private PAIR in view of the certification copied below that authorized the change.

- Maintenance Fee Address

The address for Customer Number 10802 is:
10802
Ipan Intellectual Property Associated Network GMBH
Munchener Strasse 14
Munich, D-85540
GERMANY

## I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

| Signature: | Robert J. Roby/ |
| :--- | :--- |
| Name: | Robert J. Roby |
| Registration Number: | 44304 |


| APPLICATION NO. |  | ISSUE DATE | PATENT NO. | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 14/846,226 |  | 05/10/2016 | 9333315 | FPHCR.112C2 | 8898 |
| 20995 | 7590 | 04/20/2016 |  |  |  |
| KNOBBE MA 2040 MAIN S FOURTEENT IRVINE, CA | TEN <br> REET <br> FLO <br> 614 | SON \& BEA |  |  |  |

## ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)
The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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

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

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):
Alastair Edwin McAuley, Dallas, TX;
Fisher \& Paykel Healthcare Limited, Auckland, NEW ZEALAND;
Craig Robert Prentice, Auckland, NEW ZEALAND;
Oliver Gleeson, Auckland, NEW ZEALAND;

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.

| INFORMATION DISCLOSURE | Application No. | Unknown |
| :---: | :--- | :--- |
|  | Filing Date | Herewith |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
| (Multiple sheets used when necessary) | Examiner | Unknown |
| SHEET 2 OF 5 | Attorney Docket No. | FPHCR.112C2 |



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. (A.D./(1201/2015)
Examiner Signature Annette Dixon/ (1201/2015)
*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.
$\mathbf{T}^{1}$ - Place a check mark in this area when an English language Translation is attached.

| INFORMATION DISCLOSURE | Application No. | Unknown |
| :---: | :--- | :--- |
|  | Filing Date | Herewith |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
| (Multiple sheets used when necessary) | Examiner | Unknown |
| SHEET 3 OF 5 | Attorney Docket No. | FPHCR.112C2 |


| U.S. PATENT DOCUMENTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Examiner Initials | Cite No. | Document Number Number - Kind Code (if known) Example: 1,234,567 B1 | Publication Date MM-DD-YYYY | Name | Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear |
|  | 57 | 6,679,265 | 01-20-2004 | Strickland et al. |  |
|  | 58 | 6,851,425 | 02-08-2005 | Jaffre et al. |  |
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|  | 73 | 2003/0079749 | 05-01-2003 | Strickland et al. |  |
| hance(s) applic | d 74 | 2003/0164170 | 09-02-2003 | Restred Drew etal. |  |
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|  | 81 | 2005/0205096 | 09-22-2005 | Matula et al. |  |
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. (A.D./(1201/2015) Examiner Signature /Annette Dixon/ (12012015)
*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.
$\mathbf{T}^{1}$ - Place a check mark in this area when an English language Translation is attached.

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

209957590 04/05/2016
KNOBBE MARTENS OLSON \& BEAR LLP
2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614

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. |
| :---: | :---: | :---: | :---: | :---: |
| $14 / 846,226$ | $09 / 04 / 2015$ | Alastair Edwin McAuley | FPHCR.112C2 |  |

TITLE OF INVENTION: BREATHING ASSISTANCE APPARATUS

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| nonprovisional UNDISCOUNTED |  | \$960 | \$0 | \$0 | \$960 | 07/05/2016 |
|  |  | ART UNIT | CLASS-SUBCLASS |  |  |  |
| DIXON, ANNETTE FREDRICKA |  | 3778 | 128-207180 |  |  |  |
| 1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <br> Change of correspondence address (or Change of Correspondence Address form $\mathrm{PTO} / \mathrm{SB} / 122$ ) attached. "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required. |  |  | 2. For printing on the patent front page, list <br> (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, <br> (2) The name of a single firm (having as a member 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. |  | ys <br> 1 $\qquad$ <br> 2 Olson is 3 $\qquad$ | rtens, ar, LLP |

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)

Fisher \& Paykel Healthcare Limited

## Auckland, New Zealand

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

| 4a. The following fee(s) are submitted: Issue Fee | 4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) $\square$ A check is enclosed. |
| :---: | :---: |
| $\square$ Publication Fee (No small entity discount permitted) | Payment by credit card. Form PTO-2038 is attached. |
| $\square$ Advance Order - \# of Copies | The director is hereby authorized to charge the, required fee (s), any deficiency, or credits any overpayment, to Deposit Account Number 11-1410 (enclose an extra copy of this form). |

a. The following fee(s) are submitted:

Issue Fee
$\square$ Publication Fee (No small entity discount permitted)
Advance Order - \# of Copies $\qquad$ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 11-1410 (enclose an extra copy of this form).
5. Change in Entity Status (from status indicated above)
$\square$ Applicant certifying micro entity status. See 37 CFR 1.29
$\square$ Applicant asserting small entity status. See 37 CFR 1.27
$\square$ 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 /Michael Guiliana/
Typed or printed name Michael A. Guiliana

Date April 7, 2016
Registration No. $\quad 42,611$

# Electronic Patent Application Fee Transmittal 

| Application Number: | 14846226 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Filing Date: | 04-Sep-2015 |  |  |  |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |  |  |  |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |  |  |  |
| Filer: | Michael A. Guiliana |  |  |  |
| Attorney Docket Number: | FPHCR.112C2 |  |  |  |
| Filed as Large 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:

| Description | Fee Code | Quantity | Amount | Sub-Total in <br> USD(\$) |
| :--- | :---: | :---: | :---: | :---: |
| Extension-of-Time: |  |  |  |  |
| Miscellaneous: | Total in USD (\$) | 960 |  |  |


| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 25431702 |
| Application Number: | 14846226 |
| International Application Number: |  |
| Confirmation Number: | 8898 |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |
| Customer Number: | 20995 |
| Filer: | Michael A. Guiliana/Sandra Autry |
| Filer Authorized By: | Michael A. Guiliana |
| Attorney Docket Number: | FPHCR. 112 C 2 |
| Receipt Date: | 07-APR-2016 |
| Filing Date: | 04-SEP-2015 |
| Time Stamp: | 18:49:37 |
| Application Type: | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | yes |
| :--- | :--- |
| Payment Type | Credit Card |
| Payment was successfully received in RAM | $\$ 960$ |
| RAM confirmation Number | 5077 |
| Deposit Account | 111410 |
| Authorized User | KNOBBE MARTENS OLSON AND BEAR |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: <br> Charge any Additional Fees required under 37 CFR 1.16 (National application filing, search, and examination fees) <br> Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees) |  |

File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | $\begin{array}{c\|} \text { Multi } \\ \text { Part /.zip } \end{array}$ | Pages (if appl.) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Issue Fee Payment (PTO-85B) | FPHCR112C2_Issue_Fee_Trans mittal.pdf | 83140 | no | 1 |
|  |  |  | ef4079c30556f6420514d8030774cb9ada88 |  |  |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| 2 | Fee Worksheet (SB06) | fee-info.pdf | 30258 | no | 2 |
|  |  |  |  |  |  |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| Total Files Size (in bytes) : |  |  | 113398 |  |  |
| 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 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 $\mathbf{3 5}$ 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 

04/05/2016



DATE MAILED: 04/05/2016

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| :---: | :---: | :---: | :---: | :---: |
| $14 / 846,226$ | $09 / 04 / 2015$ | Alastair Edwin McAuley | FPHCR.112C2 |  |

TITLE OF INVENTION: BREATHING ASSISTANCE APPARATUS

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| nonprovisional | UNDISCOUNTED | $\$ 960$ | $\$ 0$ | $\$ 0$ | $\$ 960$ | $07 / 05 / 2016$ |

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 " $4 \mathrm{~b} "$ 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.

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

## 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. |
| :---: | :---: | :---: | :---: | :---: |
| $14 / 846,226$ | $09 / 04 / 2015$ | Alastair Edwin McAuley | FPHCR.112C2 |  |

TITLE OF INVENTION: BREATHING ASSISTANCE APPARATUS

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PADD ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| nonprovisional | UNDISCOUNTED | \$960 | \$0 | \$0 | \$960 | 07/05/2016 |
|  | NER | ART UNIT | CLASS-SUBCLASS |  |  |  |
| DIXON, ANN | E FREDRICKA | 3778 | 128-207180 |  |  |  |
| 1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <br> Change of correspondence address (or Change of Correspondence Address form $\mathrm{PTO} / \mathrm{SB} / 122$ ) attached. <br> "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 <br> (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, |  |  1 <br> a 2 <br> is 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
(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): $\quad \square_{\text {Individual }} \quad \square_{\text {Corporation or other private group entity }} \square_{\text {Government }}$

| 4a. The following fee(s) are submitted: | 4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) |
| :--- | :--- |
| $\square$ Issue Fee | A check is enclosed. |
| $\square$ Publication Fee (No small entity discount permitted) | Payment by credit card. Form PTO-2038 is attached. <br> $\square$ Advance Order - \# of Copies |
| The director is hereby authorized to charge the required fee(s), any deficiency, or credits any <br> overpayment, to Deposit Account Number |  |

5. Change in Entity Status (from status indicated above)
$\square$ Applicant certifying micro entity status. See 37 CFR 1.29
$\square$ Applicant asserting small entity status. See 37 CFR 1.27
$\square$ 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 $\qquad$ Registration No. $\qquad$

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| :---: | :---: | :---: | :---: | :---: |
| 14/846,226 09/04/2015 |  | Alastair Edwin McAuley | FPHCR.112C2 | 8898 |
| 209957590 04/05 | 04/05/2016 |  | EXAMINER |  |
| KNOBBE MARTENS OLSON \& BEAR LLP |  |  |  |  |
| 2040 MAIN STREET |  |  | DIXON, ANNETTE FREDRICKA |  |
| FOURTEENTH FLOOR |  |  | ART UNIT | PAPER NUMBER |
| IRVINE, CA 92614 |  |  | 3778 |  |

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. $552 \mathrm{a}(\mathrm{m})$.
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. <br> 14/846,226 | Applicant(s) <br> MCAULEY ET AL. <br>  |
| :--- | :--- | :--- |
|  | Examiner |  |
|  | Art Unit <br> 3778 | ALA(First Inventor to File) <br> Status <br> 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. $\boxtimes$ This communication is responsive to supplemental amendment $3 / 9 / 16$.
$\square$ A declaration(s)/affidavit(s) under 37 CFR $1.130(b)$ was/were filed on $\qquad$ .
2. $\square$ An election was made by the applicant in response to a restriction requirement set forth during the interview on $\qquad$ ; the restriction requirement and election have been incorporated into this action.
3. $\boxtimes$ The allowed claim(s) is/are 1-19. 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.govipatents/init events/pph/index.isp or send an inquiry to PPHfeedoackousplo.gov.
4. 区 Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:
$\begin{array}{lll}\text { a) } \boxtimes \text { All } & \text { b) } \square \text { Some } \quad{ }^{*} \text { c) } \square \text { None of the: }\end{array}$

1. $\square$ Certified copies of the priority documents have been received.
2. $\boxtimes$ Certified copies of the priority documents have been received in Application No. 10/598,026.
3. $\square$ 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: $\qquad$ -

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. $\square$ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
$\square$ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
Paper No./Mail Date $\qquad$
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.
$\square$ 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. $\square$ Notice of References Cited (PTO-892)
2. $\boxtimes$ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 3/9/16
3. $\square$ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. $\qquad$ Interview Summary (PTO-413),
Paper No./Mail Date $\qquad$ .

## /ANNETTE DIXON/

Primary Examiner, Art Unit 3778
5.Examiner's Amendment/Comment
6. $\square$ Examiner's Statement of Reasons for Allowance
7. $\qquad$
$\qquad$ -.

| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 1 OF 6 | Attorney Docket No. | FPHCR.112C2 |


| U.S. PATENT DOCUMENTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Examiner Initials | $\begin{aligned} & \text { Cite } \\ & \text { No. } \end{aligned}$ | Document Number Number - Kind Code (if known) Example: 1,234,567 B1 | $\begin{gathered} \text { Publication } \\ \text { Date } \\ \text { MM-DD-YYYY } \\ \hline \end{gathered}$ | Name | Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear |
|  | 1 | 2,693,800 | 11-09-1954 | Caldwell |  |
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|  | 28 | 2004/0211427 | 10-01-2004 | Jones et al. |  |
|  | 29 | 2005/0076913 | 04-14-2005 | Ho et al. |  |

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./(03/29/2016)
Examiner Signature /Annette Dixon/ (03/29/2016)
*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.
$\mathrm{T}^{1}$ - Place a check mark in this area when an English language Translation is attached.

| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 2 OF 6 | Attorney Docket No. | FPHCR.112C2 |


| U.S. PATENT DOCUMENTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Examiner Initials | $\begin{aligned} & \text { Cite } \\ & \text { No. } \end{aligned}$ | Document Number Number - Kind Code (if known) Example: 1,234,567 B1 | $\qquad$ | Name | Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear |
|  | 30 | 2005/0150497 A1 | 07-14-2005 | Eifler et al |  |
|  | 31 | 2005/0235999 | 10-27-2005 | Wood et al. |  |
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D/ / (03/29/2016)

| Examiner Signature $\quad$ Annette Dixon $103 / 29 / 2016)$ | 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.
$\mathbf{T}^{1}$ - Place a check mark in this area when an English language Translation is attached.

| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 3 OF 6 | Attorney Docket No. | FPHCR.112C2 |


| U.S. PATENT DOCUMENTS |  |  |  |  |  |  |
| :---: | ---: | :---: | :---: | :--- | :--- | :---: |
| Examiner <br> Initials | Cite <br> No. | Document Number <br> Number-Kind Code (if known) <br> Example: $1,234,567 \mathrm{B1}$ | Publication <br> Date <br> MM-DD-YYYY | Name | Pages, Columns, Lines Where <br> Relevant Passages or <br> Relevant Figures Appear |  |
|  | 59 | $2016 / 0038706$ | $02-11-2016$ | McAuley et al. |  |  |
|  | $\mathbf{6 0}$ | $2016 / 0038707$ | $02-11-2016$ | Allan et al. |  |  |


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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Examiner Initials | Cite No. | Foreign Patent Document Country Code-Number-Kind Code <br> Example: JP 1234567 A1 | Publication Date MM-DD-YYYY | Name | Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear | $\mathrm{T}^{1}$ |
|  | 61 | CN1784250 | 06/07/2006 | Resmed Ltd. |  |  |
|  | 62 | CN 1988930 A | 06/27/2007 | Resmed Ltd. |  | $\checkmark$ - Abs |
|  | 63 | CN 1901961 A | 01/24/2007 | Resmed Ltd. |  | $\checkmark$ - Abs |
|  | 64 | CN 101541380 | 09/23/2009 | RIC Investments LLC |  | $\checkmark$ - Abs |
|  | 65 | CN 101214402 | 07/09/2008 | Resmed Ltd. |  | $\checkmark$ - Abs |
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./(03/29/2016)

| Examiner Signature | Annette Dixon/ $03 / 29 / 2016)$ | 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.
$\mathbf{T}^{1}$ - Place a check mark in this area when an English language Translation is attached

| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 4 OF 6 | Attorney Docket No. | FPHCR.112C2 |


| FOREIGN PATENT DOCUMENTS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Examiner Initials | Cite No. | Foreign Patent Document Country Code-Number-Kind Code <br> Example: JP 1234567 A1 | $\begin{gathered} \text { Publication } \\ \text { Date } \\ \text { MM-DD-YYYY } \end{gathered}$ | Name | Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear | $\mathrm{T}^{1}$ |
|  | 83 | WO 2007/041786 | 04/19/2007 | Resmed Ltd. |  |  |
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|  | 91 | WO 2009/092057 A1 | 07/23/2009 | Menlo Life, Inc. |  |  |
|  | 92 | WO 2009/139647 A1 | 11/19/2009 | Fisher \& Paykel Healthcare Limited |  |  |


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

## ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /AD./ (03/29/2016)

| Examiner Signature $\quad$ Annette Dixon/ $03 / 29 / 2016$ ) | Date Considered |
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*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.
$\mathbf{T}^{1}$ - Place a check mark in this area when an English language Translation is attached

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|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 5 OF 6 | Attorney Docket No. | FPHCR.112C2 |


| NON PATENT LITERATURE DOCUMENTS |  |  |  |
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| Examiner Initials | Cite <br> No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | $\mathbf{T}^{1}$ |
|  | 102 | English Translation of Chinese Examination Report; Chinese Application No. 2007800266164; 5 pages. |  |
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|  | 117 | Japanese Examination Report; dated July 22, 2015; Application No. 2015-098324; 8 pages. |  |
|  | 118 | Japanese Examination Report; dated August 5, 2015; Application No. 2012-538784; 8 pages. |  |
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|  | 120 | English Translation of Chinese Examination Report; dated September 3, 2014; Application No. 201080061122.1; 9 pages. |  |

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./ (03/29/2016)

| Examiner Signature $\quad$ Annette Dixon/ $03 / 29 / 2016)$ | Date Considered |
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PTO/SB/08 Equivalent

| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 6 OF 6 | Attorney Docket No. | FPHCR.112C2 |


| NON PATENT LITERATURE DOCUMENTS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Examiner <br> Initials | Cite <br> No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the <br> item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue <br> number(s), publisher, city and/or country where published. | $\mathrm{T}^{1}$ |  |  |  |
|  | $\mathbf{1 2 1}$ | Second Chinese Office Action; dated January 19, 2015; Application No. 201080028029.0; 16 pages. |  |  |  |  |
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## ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /AD./ (03/29/2016)

| Examiner Signature $\quad$ Annette Dixon/ $03 / 29 / 2016$ ) | Date Considered |
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*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.

| Issue Classification | Application/Control No. $14846226$ | Applicant(s)/Patent Under Reexamination MCAULEY ET AL. |
| :---: | :---: | :---: |
|  | Examiner <br> ANNETTE DIXON | Art Unit <br> 3778 |


| CPC |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Symbol |  |  |  | Type | Version |
| A61M | 16 | \% | 0666 | F | 2013-01-01 |
| A61M | 16 | , | 0683 | I | 2013-01-01 |
| A61M | 16 | \% | 16 | I | 2013-01-01 |
| A61M | 16 | , | 0825 | I | 2014-02-04 |
| A61M | 16 | , | 0069 | I | 2014-02-04 |
| A61M | 16 | \% | 109 | 1 | 2014-02-04 |
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CPC Combination Sets


| NONE |  | Total Claims Allowed: |  |
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| (Assistant Examiner) | (Date) |  |  |
| ANNETTE DIXON/ <br> Primary Examiner.Art Unit 3778 <br> (Primary Examiner) | $03 / 29 / 2016$ | O.G. Print Claim(s) | O.G. Print Figure |


| Issue Classification | Application/Control No. $14846226$ | Applicant(s)/Patent Under Reexamination MCAULEY ET AL. |
| :---: | :---: | :---: |
|  | Examiner <br> ANNETTE DIXON | Art Unit $3778$ |


| US ORIGINAL CLASSIFICATION |  |  |  |  |  | INTERNATIONAL CLASSIFICATION |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CLASS |  |  | SUBCLASS |  |  | CLAIMED |  |  |  |  | NON-CLAIMED |  |  |  |
| 128 |  |  | 207.18 |  |  | A | 6 | 1 | M | 16 / 06 (2006.01.01) |  |  |  |  |
| CROSS REFERENCE(S) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CLASS | SUBCLASS (ONE SUBCLASS PER BLOCK) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 128 | 207.13 | 207.11 | 206.21 | 205.25 | 200.24 |  |  |  |  |  |  |  |  |  |
| 128 | 204.21 | 204.18 |  |  |  |  |  |  |  |  |  |  |  |  |
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| NONE |  | Total Claims Allowed: |  |
| :--- | :---: | :---: | :---: |
| (Assistant Examiner) | (Date) |  |  |
| IANNETTE DIXON/ <br> Primary Examiner.Art Unit 3778 <br> (Primary Examiner) | $03 / 29 / 2016$ | O.G. Print Claim(s) | O.G. Print Figure |


| Issue Classification | Application/Control No. $14846226$ | Applicant(s)/Patent Under Reexamination MCAULEY ET AL. |
| :---: | :---: | :---: |
|  | Examiner <br> ANNETTE DIXON | Art Unit $3778$ |


| 区 | Claims renumbered in the same order as presented by applicant |  |  |  |  |  |  | $\square$ | CPA |  | $\square \quad$ T.D. | $\square \quad \mathrm{R}$ |  | R.1.47 |  |
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| Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original |
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| 13 | 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| NONE |  | Total Claims Allowed: |  |
| :--- | :---: | :---: | :---: |
| (Assistant Examiner) | (Date) | 19 |  |
| IANNETTE DIXON/ <br> Primary Examiner.Art Unit 3778 <br> (Primary Examiner) | $03 / 29 / 2016$ | O.G. Print Claim(s) | O.G. Print Figure |


| Search Notes | Application/Control No. $14846226$ | Applicant(s)/Patent Under Reexamination <br> MCAULEY ET AL. |
| :---: | :---: | :---: |
|  | Examiner ANNETTE DIXON | Art Unit <br> 3778 |


| CPC- SEARCHED |  |  |
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| Symbol | Date | Examiner |
| A61M15/08; A61M16/06; A61M16/0616; A61M16/0633; | $12 / 1 / 15$ | afd |
| A61M16/0666; A61M16/0683; A61M16/0825; A61M16/208; |  |  |
| A61M2210/0618; A61M2240/00; A62B18/00; A62B18/02; |  |  |
| A62B18/08; A62B18/084; A62B35/00 | $3 / 29 / 16$ | afd |
| Updated Above Search |  |  |


| CPC COMBINATION SETS - SEARCHED |  |  |
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| US CLASSIFICATION SEARCHED |  |  |  |  |
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| SEARCH NOTES |  |  |  |
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| Search Notes | Date | Examiner |  |
| Inventor Name Search | $12 / 1 / 15$ | afd |  |


| INTERFERENCE SEARCH |  |  |  |  |
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## EAST Search History

## EAST Search History (Prior Art)

| Ref \# | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| L1 | 3694 | $((128 / 207.18)$ or $(128 / 206.21)$ or $(128 / 207.13)$ or $(128 / 206.11)$ or $(128 / 206.18)$ or $(128 / 203.22))$. CCLS. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | OFF | $\left\{\begin{array}{l} 2016 / 03 / 29 \\ 21: 02 \end{array}\right.$ |
| L2 | 12144 | $((128 / 200.24)$ or $(128 / 200.26)$ or $(128 / 203.12)$ or $(128 / 203.15)$ or $(128 / 203.16)$ or $(128 / 203.17)$ or $(128 / 205.25)$ or $(128 / 206.21))$. CCLS. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2016 / 03 / 29 \\ & 21: 02 \end{aligned}$ |
| L3 | 3694 | $((128 / 207.18)$ or $(128 / 206.21)$ or $(128 / 207.13)$ or $(128 / 206.11)$ or $(128 / 206.18)$ or $(128 / 203.22))$. CCLS. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2016 / 03 / 29 \\ & 21: 02 \end{aligned}$ |
| L4 | 12144 | $((128 / 200.24)$ or $(128 / 200.26)$ or $(128 / 203.12)$ or $(128 / 203.15)$ or $(128 / 203.16)$ or $(128 / 203.17)$ or $(128 / 205.25)$ or $(128 / 206.21)) . C C L S$. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM_TDB } \end{aligned}$ | OR | OFF | $\text { 约 } 216 / 03 / 29$ |
| L5 | 3694 | $\begin{aligned} & ((128 / 207.18) \text { or }(128 / 206.21) \text { or } \\ & (128 / 207.13) \text { or }(128 / 206.11) \text { or } \\ & (128 / 206.18) \text { or }(128 / 203.22)) . \text { CCLS. } \end{aligned}$ | $\begin{array}{l\|} \hline \text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR; } \\ \text { EPO; JPO; } \\ \text { DERWENT } \\ \text { IBM TDB } \end{array}$ | OR | OFF | $\begin{aligned} & 2016 / 03 / 29 \\ & 21: 02 \end{aligned}$ |
| L6 | 12144 | $((128 / 200.24)$ or $(128 / 200.26)$ or $(128 / 203.12)$ or $(128 / 203.15)$ or $(128 / 203.16)$ or $(128 / 203.17)$ or $(128 / 205.25)$ or $(128 / 206.21)) . C C L S$. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ |  | OFF | $\begin{aligned} & 2016 / 03 / 29 \\ & 21: 02 \end{aligned}$ |
| L7 | 3694 | $\begin{aligned} & ((128 / 207.18) \text { or }(128 / 206.21) \text { or } \\ & (128 / 207.13) \text { or }(128 / 206.11) \text { or } \\ & (128 / 206.18) \text { or }(128 / 203.22)) . \text { CCLS. } \end{aligned}$ | $\begin{array}{\|l} \text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR; } \\ \text { EPO; JPO; } \\ \text { DERWENT } \\ \text { IBM TDB } \end{array}$ |  | OFF | $\left\{\begin{array}{l} 2016 / 03 / 29 \\ 21: 02 \end{array}\right.$ |
| L8 | 12144 | $((128 / 200.24)$ or $(128 / 200.26)$ or $(128 / 203.12)$ or $(128 / 203.15)$ or $(128 / 203.16)$ or $(128 / 203.17)$ or $(128 / 205.25)$ or $(128 / 206.21))$. CCLS. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ |  | OFF | $\begin{aligned} & 2016 / 03 / 29 \\ & 21: 02 \end{aligned}$ |
| L9 | 78391 | $\begin{aligned} & (128 / 200.14 ; 128 / 200.22 ; 128 / 200.24 ; \\ & 128 / 200.26 ; 128 / 201.12 ; 128 / 201.13 ; \end{aligned}$ | US-PGPUB; |  | ON | $\begin{aligned} & 2016 / 03 / 29 \\ & 21: 02 \end{aligned}$ |


|  |  | 128/201.14; 128/201.19; 128/201.22; 128/202.27; 128/203.12; 128/203.15; 128/203.16; 128/203.17; 128/203.22; 128/203.25; 128/203.26; 128/204.12; 128/204.18; 128/204.23; 128/205.24; 128/205.25; 128/205.27; 128/205.28; 128/206.11; 128/206.12; 128/206.13; 128/206.18; 128/206.21; 128/206.22; 128/206.23; 128/206.24; 128/206.26; 128/206.27; 128/206.28; 128/206.29; 128/207.11; 128/207.12; 128/207.13; 128/207.14; 128/207.15; 128/207.16; 128/207.17; 128/207.18; 128/912; 128/DIG.26; 2/454; 285/101; 285/106; 285/11; 285/111; 285/112; 285/113; 285/114; 285/121.7; 285/124.1; 285/124.4; 285/127.1; 285/13; 285/133.21; 285/14; 285/144.1; 285/145.3; 285/146.1; 285/147.1; 285/148.2; 285/15; 285/181; 285/190; 285/223; 285/226; 285/254; 285/261; 285/263; 285/264; 285/265; 285/266; 285/267; 285/269; 285/270; 285/271; 285/276; 285/281; 285/288.11; 285/288.5; 285/288.6; 285/29; 285/299; 285/302; 285/305; 285/312; 285/316; 285/317; 285/321; 285/322; 285/328; 285/330; 285/331; 285/332.2; 285/333; 285/336; 285/343; 285/347; 285/348; 285/349; 285/351; 285/358; 285/359; 285/363; 285/368; 285/370; 285/374; 285/375; 285/383; 285/419; 285/422; 285/423; 285/45; 285/47; 285/55; 285/8; 285/88; 285/904; 285/91; 285/910; 285/914; 285/917; 285/918; 285/919; 285/94; 285/95; 285/98; 600/532; 600/543; 604/94.01; 606/192; D24/110.4; D24/164).ccls. | USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| L10 | $79851$ |  | US-PGPUB; <br> USPAT; <br> USOCR; <br> DERWENT | OR | ON | 2016/03/29 21:02 |


|  |  | A61M16/142; A61M16/16; A61M16/161; A61M16/162; A61M16/18; A61M16/201; A61M16/203; A61M16/208; A61M2001/1006; A61M2016/0021; A61M2016/0024; A61M2016/0039; A61M2016/0611; A61M2016/0616; A61M2016/0633; A61M2016/0638; A61M2016/0825; A61M2016/1025; A61M2016/103; A61M2039/1027; A61M2202/0208; A61M2205/07; A61M2205/071; A61M2205/18; A61M2205/3331; A61M2205/3368; A61M2205/3379; A61M2205/3606; A61M2205/3653; A61M2205/42; A61M2205/50; A61M2205/502; A61M2205/8206; A61M2205/8225; A61M2205/825; A61M2209/08; A61M2210/0625; A61M2210/0662; A61M2230/005; A61M2230/42; A61M2230/43; A61M2230/432; A61M2230/435; A61M2230/50; A61M2240/00; A61M3/0254; A61M3/0258; A61M39/10; A61M39/1011; A61M39/105; A62B17/00; A62B17/04; A62B18/00; A62B18/02; A62B18/08; A62B18/082; A62B18/084; A62B25/005; A62B35/00; A62B9/003; A62B9/04; B64D10/00; B64D2231/025; F16L1/15; F16L1/26; F16L11/133; F16L11/18; F16L11/22; F16L13/02; F16L13/10; F16L15/001; F16L19/02; F16L19/04; F16L2201/30; F16L23/00; F16L23/167; F16L27/04; F16L27/047; F16L27/053; F16L27/06; F16L27/067; F16L27/073; F16L27/0804; F16L27/0824; F16L27/0828; F16L27/0857; F16L27/0861; F16L27/1004; F16L27/12; F16L33/22; F16L37/127; F16L37/23; F16L37/30; F16L37/32; F16L37/34; F16L37/36; F16L37/38; F16L37/40; F16L37/413; F16L37/44; F16L37/56; F16L37/565; F16L39/00; F16L39/005; F16L39/06; F16L41/021; F16L41/04; F16L47/03; F16L47/32; F16L51/025; F16L55/1683; F16L55/17; F16L59/185; F16L59/21; F16L59/22; Y10S128/26; Y10S128/912).cpc. |  |  |  | 告 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| L11 | $78391$ | $(128 / 200.14 ; 128 / 200.22 ; 128 / 200.24 ;$ <br> $128 / 200.26 ; 128 / 201.12 ; 128 / 201.13 ;$ <br> $128 / 201.14 ; 128 / 201.19 ; 128 / 201.22 ;$ <br> $128 / 202.27 ; 128 / 203.12 ; 128 / 203.15 ;$ <br> $128 / 203.16 ; 128 / 203.17 ; 128 / 203.22 ;$ <br> $128 / 203.25 ; 128 / 203.26 ; 128 / 204.12 ;$ <br> $128 / 204.18 ; 128 / 204.23 ; 128 / 205.24 ;$ <br> $128 / 205.25 ; 128 / 205.27 ; 128 / 205.28 ;$ <br> $128 / 206.11 ; 128 / 206.12 ; 128 / 206.13 ;$ <br> $128 / 206.18 ; 128 / 206.21 ; 128 / 206.22 ;$ <br> $128 / 206.23 ; 128 / 206.24 ; 128 / 206.26 ;$ <br> $128 / 206.27 ; 128 / 206.28 ; 128 / 206.29 ;$ <br> $128 / 207.11 ; 128 / 207.12 ; 128 / 207.13 ;$ <br> $128 / 207.14 ; 128 / 207.15 ; 128 / 207.16 ;$ <br> $128 / 207.17 ; 128 / 207.18 ; 128 / 912 ;$ | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | $2016 / 03 / 29$ <br> 21:02 |


|  |  | 128/DIG.26; 2/454; 285/101; 285/106; 285/11; 285/111; 285/112; 285/113; 285/114; 285/121.7; 285/124.1; 285/124.4; 285/127.1; 285/13; 285/133.21; 285/14; 285/144.1; 285/145.3; 285/146.1; 285/147.1; 285/148.2; 285/15; 285/181; 285/190; 285/223; 285/226; 285/254; 285/261; 285/263; 285/264; 285/265; 285/266; 285/267; 285/269; 285/270; 285/271; 285/276; 285/281; 285/288.11; 285/288.5; 285/288.6; 285/29; 285/299; 285/302; 285/305; 285/312; 285/316; 285/317; 285/321; 285/322; 285/328; 285/330; 285/331; 285/332.2; 285/333; 285/336; 285/343; 285/347; 285/348; 285/349; 285/351; 285/358; 285/359; 285/363; 285/368; 285/370; 285/374; 285/375; 285/383; 285/419; 285/422; 285/423; 285/45; 285/47; 285/55; 285/8; 285/88; 285/904; 285/91; 285/910; 285/914; 285/917; 285/918; 285/919; 285/94; 285/95; 285/98; 600/532; 600/543; 604/94.01; 606/192; D24/110.4; D24/164).ccls. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| L12 | $79851$ | $\begin{aligned} & \text { A61B5/0205; A61B5/08; A61B5/083; } \\ & \text { A61B5/0836; A61B5/087; A61B5/097; } \\ & \text { A61B5/14551; A61B5/4806; } \\ & \text { A61B5/4818; A61B5/6819; } \\ & \text { A611/1418; A61J11/0005; } \\ & \text { A61117/006; A61M1/1698; } \\ & \text { A61M11/00; A61M11/005; A61M11/06; } \\ & \text { A61M15/00; A61M15/0033; } \\ & \text { A61M15/0065; A61M15/0085; } \\ & \text { A61M15/08; A61M16/00; } \\ & \text { A61M16/0003; A61M16/0057; } \\ & \text { A61M16/0066; A61M16/04; } \\ & \text { A61M16/0465; A61M16/0488; } \\ & \text { A61M16/049; A61M16/0493; } \\ & \text { A61M16/0497; A61M16/06; } \\ & \text { A61M16/0633; A61M16/0666; } \\ & \text { A61M16/0672; A61M16/0677; } \\ & \text { A61M16/0683; A61M16/08; } \\ & \text { A61M16/0816; A61M16/0825; } \\ & \text { A61M16/085; A61M16/0858; } \\ & \text { A61M16/0875; A61M16/10;; } \\ & \text { A61M16/1045; A61M16/107; } \\ & \text { A61M16/1075; A61M16/109; } \\ & \text { A61M1612; A61M16/122;; } \\ & \text { A61M16/125; A61M16/14; } \\ & \text { A61M16/142; A61M16/16; } \\ & \text { A61M16/161; A61M16/162; } \\ & \text { A61M16/18;A61M16/201; } \\ & \text { A61M16/203; A61M16/208; } \\ & \text { A61M2001/1006; A61M2016/0021; } \\ & \text { A61M2016/0024; A61M2016/0039; } \\ & \text { A61M2016/0611; A61M2016/0616; } \\ & \text { A61M2016/0633; A61M2016/0638; } \\ & \text { A61M2016/0825; A61M2016/1025; } \\ & \text { A61M2016/103; A61M2039/1027; } \\ & \text { A61M2202/0208; A61M2205/07; } \\ & \text { A61M2205/071; A61M2205/18; } \\ & \text { A61M2205/3331; A61M2205/3368; } \end{aligned}$ | US-PGPUB; USPAT; USOCR; DERWENT | OR | ON | 2016/03/29 21:02 |


|  |  | A61M2205/3379; A61M2205/3606; A61M2205/3653; A61M2205/42; A61M2205/50; A61M2205/502; A61M2205/8206; A61M2205/8225; A61M2205/825; A61M2209/08; A61M2210/0625; A61M2210/0662; A61M2230/005; A61M2230/42; A61M2230/43; A61M2230/432; A61M2230/435; A61M2230/50; A61M2240/00; A61M3/0254; A61M3/0258; A61M39/10; A61M39/1011; A61M39/105; A62B17/00; A62B17/04; A62B18/00; A62B18/02; A62B18/08; A62B18/082; A62B18/084; A62B25/005; A62B35/00; A62B9/003; A62B9/04; B64D10/00; B64D2231/025; F16L1/15; F16L1/26; F16L11/133; F16L11/18; F16L11/22; F16L13/02; F16L13/10; F16L15/001; F16L19/02; F16L19/04; F16L2201/30; F16L23/00; F16L23/167; F16L27/04; F16L27/047; F16L27/053; F16L27/06; F16L27/067; F16L27/073; F16L27/0804; F16L27/0824; F16L27/0828; F16L27/0857; F16L27/0861; F16L27/1004; F16L27/12; F16L33/22; F16L37/127; F16L37/23; F16L37/30; F16L37/32; F16L37/34; F16L37/36; F16L37/38; F16L37/40; F16L37/413; F16L37/44; F16L37/56; F16L37/565; F16L39/00; F16L39/005; F16L39/06; F16L41/021; F16L41/04; F16L47/03; F16L47/32; F16L51/025; F16L55/1683; F16L55/17; F16L59/185; F16L59/21; F16L59/22; Y10S128/26; Y10S128/912).cpc. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| L13 | 32895 | (A61M15/08; A61M16/06; A61M16/0616; A61M16/0633; A61M16/0666; A61M16/0683; A61M16/0825; A61M16/208; A61M2210/0618; A61M2240/00; A62B18/00; A62B18/02; A62B18/08; A62B18/084; A62B35/00).cpc. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2016 / 03 / 29 \\ & 21: 02 \end{aligned}$ |
| L14 | 131485 | $\begin{aligned} & (\mathrm{L} 1 \mathrm{~L} \text { L L3 L4 L5 L6 L7 L8 L9 L10 L11 } \\ & \text { L12 L13) } \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2016 / 03 / 29 \\ & 21: 02 \end{aligned}$ |
| L15 | 244 | 14 and ((headgear harness strap belt) and (lateral laterally) and (nose nostril nasal nare cannulae cannula)).clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2016 / 03 / 29 \\ & 21: 06 \end{aligned}$ |
| S1 | $58$ | ("6637434" \| "20020096178" | "6651658" | "7201169" | "5148802" | "5477852" | "6679265" | "5595174" | "6431172" | "4753233" | "20020053347" | "20050011524" | "5533506" | "5595174" | "20050028822" | "4367735" | | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { IBMWENT } \end{aligned}$ |  | ON | $\begin{aligned} & 2011 / 08 / 09 \\ & 14: 20 \end{aligned}$ |




|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S3 | 61680 | (((nasal nose nare) with (cannula prong)) cannula) | US-PGPUB; USPAT USOCR | OR | N | $\begin{aligned} & 2011 / 08 / 09 \\ & 15: 16 \end{aligned}$ |
| S4 | 4158 | (( nasal nose nare) with (cannula prong)) cannula) and "128".clas. | US-PGPUB; USPAT; USOCR | OR | ON | $\sqrt{2011 / 08 / 09}$ |
| 55 | 2375 | ((nasal nose nare) with (cannula prong)) cannula) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | N | $\begin{aligned} & \begin{array}{l} 2011 / 08 / 09 \\ 15: 16 \end{array} \\ & \hline \end{aligned}$ |
| S6 | 12 |  | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPTT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2011 / 08 / 09 \\ & 15: 41 \end{aligned}$ |
| S7 | 2453 | angled with (prong cannula) | USPGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 30 \end{aligned}$ |
| [ 8 | 135 | 7 and "128".clas. | USPGPUB; |  |  | ${ }^{2011 / 08 / 10}$ |


|  |  |  | USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB |  |  | 09:30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 59 | 71 | S7 and "128".clas. and @ad<="20040223" | USPGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 30 \end{aligned}$ |
| 510 | 38 | angled with (prong pillow cannula) with (nose nasal nare) | USPGPUB; USPAT; USOCR; EPO; JPO; IERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 31 \end{aligned}$ |
| 511 | 3 | S10 and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; IERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 31 \end{aligned}$ |
| S12 | 45 | offset with (prong pillow cannula) with (nose nasal nare) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | $\sqrt{\mathrm{OR}}$ | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 51 \end{aligned}$ |
| 513 | 2 | S12 and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT: IBM_TDB | OR | ON | ${ }_{3}^{2011 / 08 / 10}$ |
| S14 | 4863 | (prong pillow cannula) with (nose nasal nare) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 54 \end{aligned}$ |
| S15 | 809 | S14 and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; IERWENT IBM TDB | $\mathrm{OR}$ | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 54 \end{aligned}$ |
| 516 | 3188 | (cannula ((prong pillow cannula) with (nose nasal nare))) same (replacable removable) | US-PGPUB; USPAT; USOCR; EPO; JPO; IERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 12: 12 \end{aligned}$ |
| 517 | 150 | S16 and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; IERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 12: 12 \end{aligned}$ |
| 518 | 984 | (((prong pillow cannula) with (nose | US-PGPUB; | OR | ON | 2011/08/10 |


|  |  | nasal nare))) and (replacable removable interchangable) | USPAT; USOCR; EPO; JPO; DERWENT IBM TDB |  |  | - $12: 15$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S19 | 125 | S18 and "128".clas. and @ad<="20040223" | $\begin{array}{l\|} \text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR; } \\ \text { EPO; JPO; } \\ \text { DERWENT } \\ \text { IBM TDB } \end{array}$ | OR | ON | $12: 15$ |
| S20 | 4276 | (((prong cannula) with (nose nasal nare))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 12: 17 \end{aligned}$ |
| S21 | 720 | S20 and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 12: 17 \end{aligned}$ |
| S22 | 108 |  | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $=2011 / 08 / 10$ |
| S23 | 2252 | (mcualey prentice gleeson).in. | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2011 / 08 / 10 \\ 16: 03 \end{array}\right.$ |
| S24 | 18 | (mcualey prentice gleeson).in. near (alastair craig oliver) | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | :2011/08/10 |
| S25 | 2 | ((()prong cannula) and (nose nasal nare) )) ).clm. and S24 | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM_TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 16: 04 \end{aligned}$ |
| S26 | 2312 | $\sqrt{((128 / 207.18) \text { or }(128 / 206.21) \text { or }}\left(\begin{array}{l}(128 / 207.13) \text { or }(128 / 206.11) \text { or } \\ (128 / 206.18) \text { or }(128 / 203.22)) . C C L S .\end{array}\right.$ | $\begin{array}{l\|} \hline \text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR; } \\ \text { EPO; JPO; } \\ \text { DERWENT } \\ \text { IBM_TDB } \end{array}$ | OR | OFF | $1 \begin{aligned} & 2011 / 08 / 10 \\ & 16: 06 \end{aligned}$ |
| S27 | 625 | ((()prong cannula) and (nose nasal nare)))) and S26 | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 16: 06 \end{aligned}$ |
| S28 | 6966 | ((128/200.24) or (128/200.26) or | US-PGPUB; | OR | OFF | / |


|  |  | (128/203.12) or (128/203.15) or (128/203.16) or (128/203.17) or (128/205.25) or (128/206.21)).CCLS. |  |  |  | 16:08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 529 | 1022 | ((()prong cannula) and (nose nasal nare)) )) and (S26 S28) | US-PGPUB; USAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 16: 09 \end{aligned}$ |
| 530 | 5446 | (cannula ((nose nasal nare nostril) with (plug prong pillow))) and "128".clas. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & =14: 01 \end{aligned}$ |
| 531 | 2094 | (cannula ((nose nasal nare nostril) with (plug prong pillow))) and "128".clas. and (\$PAP (positive with pressure)) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 02 \end{aligned}$ |
| 532 | 8 | tiep.in. and "128".clas. | US-PGPUB; USAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 03 \end{aligned}$ |
| 533 | 36 | $\|$("2535938" \|"2677371"|"3794021"| <br> "3973564"\| "4054133"| "4106505" | <br> "4120300" \| "4256101").PN. OR <br> $($ "4535767").URPN. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $8$ |
| 534 | 10 | (US-20110009763-\$ or US-20080142019-\$ or US-20070175473-\$ or US-20070107737-\$ or US 20050284484-\$ or US-20040134494\$).did. or (US-8333194-\$ or US-7225807-\$ or US-5477852-\$ or US-5269296-\$).did. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 46 \end{aligned}$ |
| 535 | 4 | S34 and @ad<= "20040223" | US-PGPUB; UPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 46 \end{aligned}$ |
| S36 | 150 |  | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 47 \end{aligned}$ |
| 537 | 218 | (wood landis).in. and "128".clas. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $=14: 53$ |


| S38 | \% 70 | S37 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | 2013/04/11 <br> 14:54 <br>  <br>  <br>  <br>  <br>  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S39 | 2 | ("6439234").PN. | $\left\{\begin{array}{l}\text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR; } \\ \text { FPRS; } \\ \text { EPO; JPO; } \\ \text { DERWENT } \\ \text { IBM TDB }\end{array}\right.$ | OR | OFF | $\left\{\begin{array}{l} 2013 / 04 / 11 \\ 14: 56 \end{array}\right.$ |
| S40 | ${ }^{2}$ | ("6478026").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | OR | OFF | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 59 \end{aligned}$ |
| S41 | 2 | ("6679265").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | OFF | $\begin{aligned} & 2013 / 04 / 11 \\ & 15: 00 \end{aligned}$ |
| S42 | 2 | ("20030079749").PN. | $\left\{\begin{array}{l}\text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR; } \\ \text { FPRS; } \\ \text { EPO; JPO; } \\ \text { DERWENT } \\ \text { IBM TDB }\end{array}\right.$ | OR | OFF | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 10 \end{aligned}$ |
| S43 | 0 | (humidifer with (\$PAP)) and "128".clas. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 31 \end{aligned}$ |
| S44 | 0 | (humidifer same (\$PAP)) and "128".clas. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 31 \end{aligned}$ |
| S45 | [1 | (humidifer and (\$PAP)) and "128".clas. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 31 \end{aligned}$ |
| S46 | $10$ | (humidifer and (\$PAP)) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | OR | ON |  |


|  |  |  | IBM TDB |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S47 | 14 | (humidifer and (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\left\{\begin{array}{l} 2013 / 04 / 12 \\ 09: 32 \end{array}\right.$ |
| S48 |  | (option\$ with humidifer with (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 32 \end{aligned}$ |
| S49 |  | (option\$ same humidifer same (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $:^{2013 / 04 / 12}$ |
| S50 | 733 | ((humidify humidifier humidifying) and (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<= "20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 34 \end{aligned}$ |
| S51 | 11 | (option\$ with (humidify humidifier humidifying) with (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 34 \end{aligned}$ |
| S52 | 45 | matula.in. and "128".clas. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 38 \end{aligned}$ |
| S53 | ${ }^{2}$ | S52 and @ad<= "20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 38 \end{aligned}$ |
| S54 | $309$ | (ball with socket) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 39 \end{aligned}$ |
| S55 | $109$ | (ball with socket) and "128".clas. and @ad<="20040223" and (cannula cannulae (nose nasal nare nostril)) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { FPRS; } \end{aligned}$ | OR | ON |  |


|  |  |  | $\begin{aligned} & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM_TDB } \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S56 | 1267 | (oval ellip\$) and "128".clas. and @ad<="20040223" and (cannula cannulae (nose nasal nare nostril)) | US-PGPUB; <br> USPAT; <br> USOCR; <br> FPRS; <br> EPO; JPO; <br> DERWENT <br> IBM TDB | OR | ON | 约 |
| S57 | 350 | 128".clas. and @ad<="20040223" and ((cannula cannulae (nose nasal nare nostril)) same (oval ellip\$)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\text { / }\left\{\begin{array}{l} 2013 / 04 / 12 \\ 09: 58 \end{array}\right.$ |
| S58 | 745 | "128".clas. and @ad<="20040223" and ((strap headgear harness) with (tube hose)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\left\{\begin{array}{l} 2013 / 04 / 12 \\ 10: 28 \end{array}\right.$ |
| S59 | 21 | (mcualey prentice gleeson).in. near (alastair craig oliver) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 04 / 12 \\ 10: 59 \end{array}\right.$ |
| S60 | 4 | S59 and (aperture hole opening vent).clm. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\left\{\begin{array}{l} 2013 / 04 / 12 \\ 10: 59 \end{array}\right.$ |
| S61 | 4 | ```S59 and (aperture hole opening vent).clm. and (cannula cannulae nasal nostril nose nare).clm.``` | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\left\{\begin{array}{l} 2013 / 04 / 12 \\ 11: 00 \end{array}\right.$ |
| S62 | 1 | S59 and (aperture hole opening vent).clm. and (cannula cannulae nasal nostril nose nare).clm. and flange.clm. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\left\{\begin{array}{l} 2013 / 04 / 12 \\ 11: 00 \end{array}\right.$ |
| S63 | 2817 | $\begin{aligned} & ((128 / 207.18) \text { or }(128 / 206.21) \text { or } \\ & (128 / 207.13) \text { or }(128 / 206.11) \text { or } \\ & (128 / 206.18) \text { or }(128 / 203.22)) . \text { CCLS. } \end{aligned}$ | US-PGPUB; <br> USPAT; <br> USOCR; <br> EPO; JPO; <br> DERWENT <br> IBM TDB | OR | OFF | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 12: 49 \end{array}\right.$ |
| S64 | 9019 | $((128 / 200.24)$ or $(128 / 200.26)$ or $(128 / 203.12)$ or $(128 / 203.15)$ or $(128 / 203.16)$ or $(128 / 203.17)$ or $(128 / 205.25)$ or $(128 / 206.21))$. CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | OFF | $\begin{aligned} & 2013 / 09 / 10 \\ & 12: 49 \\ & \\ & \\ & \end{aligned}$ |
|  |  |  |  |  |  | S |


| S65 | 10479 | $563 \text { S64 }$ | $\begin{aligned} & \text { \|US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { FPRS; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S66 | 2253 | (nose nostril nasal nare cannula) and S65 and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 12: 49 \end{aligned}$ |
| S67 | 7697 | (nose nostril nasal nare cannula) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 13: 08 \end{array}\right.$ |
| S68 | 1783 | (nose nostril nasal nare cannula) and (ball joint socket) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 13: 08 \end{aligned}$ |
| S69 | 1378 | $\text { S68 not } 566$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & {[2013 / 09 / 10} \\ & 13: 08 \end{aligned}$ |
| S70 | 4234 | (nose nostril nasal nare cannula) and (ball joint socket) and "128".clas. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 13: 18 \end{aligned}$ |
| S71 | 2451 | 570 not (S66 S68) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 13: 18 \end{aligned}$ |
| S72 | 48 | matula.in. and "128".clas. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 08 \end{aligned}$ |
| S73 | 62 | $\sqrt{\text { hoffman.in. and "128".clas. }}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 08 \end{aligned}$ |
| S74 | 247 | RIC.as. and "128".clas. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 10 \end{aligned}$ |
| S75 | 2 | ("2003180088").PN. | $\begin{array}{l:} \text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR; } \\ \text { FPRS; } \\ \text { EPO; JPO; } \\ \text { DERWENT; } \\ \text { IBM TDB } \end{array}$ | OR | OFF | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 13 \end{aligned}$ |
| S76 | 2 | ("20030180088").PN. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { FPRS; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM_TDB } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 13 \end{aligned}$ |
| S77 | 9 | $\begin{aligned} & \text { ("20030180088") or ("1695263") or } \\ & \text { ("7178525")).PN. } \\ & \\ & \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { FPRS; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM_TDB } \end{aligned}$ | OR | OFF | 2013/09/10 |
| 578 | $12$ | $\sqrt{(\text { ("20030180088") or ("1695263") or }}$ ("7178525") or ("20030200970")).PN. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { FPRS; } \end{aligned}$ | \% ${ }^{\text {OR }}$ | OFF |  |


|  |  |  | $\begin{aligned} & \mathrm{EPO} ; \mathrm{JPO} \\ & \mathrm{DERWENT} \\ & \text { IBM TDB } \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S79 | 112 | ```((nose nostril nasal nare cannula) with (vent venting)) and S65 and @ad< = "20040223"``` | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 14: 31 \end{array}\right.$ |
| S80 | 2 | ((nose nostril nasal nare cannula) with (ball with socket)) and S65 and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 14: 34 \end{array}\right.$ |
| S81 | 1 | ((vent venting) with (ball with socket)) and S65 and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 14: 35 \end{array}\right.$ |
| S82 | 2 | $\begin{aligned} & (\text { (vent venting) same (ball with socket)) } \\ & \text { and S65 and @ad<="20040223" } \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $14$ |
| S83 | 5 | $\begin{aligned} & \text { ziaee.in. and S65 and } \\ & \text { @ad<="20040223" } \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 46 \end{aligned}$ |
| S84 | 1660 | ((tube conduit hose) with (strap headgear)) and "128".clas. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 05 \end{aligned}$ |
| S85 | 748 | ((tube conduit hose) with (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | 2013/09/10 |
| S86 | 19794 | ((tube tubular conduit hose) adj\$3 (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 06 \end{aligned}$ |
| S87 | 21443 | $\begin{aligned} & \text { (tube tubular conduit hose) near\$3 } \\ & \text { (strap headgear)) and "128".clas. and } \\ & \text { @ad }=\text { "20040223" } \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | 2013/09/10 |
| 588 | 20782 | ((tube conduit hose) near\$3 (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 06 \end{aligned}$ |
| S89 | 20782 | ((tube conduit hose) near\$3 (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | 2013/09/10 |
| S90 | 18892 | (tube conduit hose) adj\$3 (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 16: 06 \end{array}\right.$ |
| S91 | $\sqrt{748}$ | ((tube conduit hose) with (strap headgear)) and "128".clas. and @ad<="20040223" | US-PGPUB; | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 16: 06 \end{array}\right.$ |
| S92 | /1 | $\begin{aligned} & \text { (tube conduit hose) with (strap } \\ & \text { headgear) with textile) and "128". clas. } \\ & \text { and @ad }<==20040223 \text { " } \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 16: 08 \end{array}\right.$ |
| S93 | 574 | ```((tube conduit hose tubular) with (strap headgear)).detd. and "128".clas. and @ad<="20040223"``` | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 09 \end{aligned}$ |
| S94 | -16 | ((tube conduit hose tubular) with (strap headgear) with (textile fabric)) .detd. and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 16: 11 \end{array}\right.$ |
| S95 | -17 | (tube conduit hose tubular) with (strap headgear harness) with (textile fabric)). detd. and "128".clas. and @ad $<=$ "20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 11 \end{aligned}$ |
| S96 | \% 622 | ( (tube conduit hose tubular) with (strap | US-PGPUB; | OR | ON | \%2013/09/10 |


|  |  | headgear harness)).detd. and "128".clas. and @ad<="20040223" | USPAT; USOCR |  |  | 16:13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S97 | 605 | 596 not S95 | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 16: 13 \end{array}\right.$ |
| S98 | 76 | (thickness with (nasal nostril nare nose) with (prong pillow)) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 16: 30 \end{array}\right.$ |
| S99 | 6 | $\begin{aligned} & \text { (thickness with (nasal nostril nare nose) } \\ & \text { with (prong pillow)) and "128".clas. } \\ & \text { and @ad } \quad=20040223 " \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 30 \end{aligned}$ |
| S100 | 23 | (mcualey prentice gleeson).in. near (alastair craig oliver) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 45 \end{aligned}$ |
| S101 | 1 | S100 and (aperture hole opening vent venting). clm. and (cannula cannulae nasal nostril nose nare).clm. and flange.clm. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 45 \end{aligned}$ |
| S102 | 1 | S100 and (aperture hole opening vent venting leak leaking leakage).clm. and (cannula cannulae nasal nostril nose nare). clm. and flange.clm. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 45 \end{aligned}$ |
| S103 | 6 | S100 and (aperture hole opening vent venting leak leaking leakage).clm. and (cannula cannulae nasal nostril nose nare). clm. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 46 \end{aligned}$ |
| S104 | 6 | S100 and (aperture hole opening vent venting leak leaking leakage).clm. and (cannula cannulae nasal nostril nose nare).clm. and (ball and socket) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 46 \end{aligned}$ |
| S105 | 2 | S100 and (aperture hole opening vent venting leak leaking leakage).clm. and (cannula cannulae nasal nostril nose nare).clm. and (ball and socket).clm. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 46 \end{aligned}$ |
| S106 | 2202 | ((ball socket) with (joint connector connection) with (leak leakage leaking)) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 48 \end{aligned}$ |
| S107 | 3083 | $\begin{aligned} & ((128 / 207.18) \text { or }(128 / 206.21) \text { or } \\ & (128 / 207.13) \text { or }(128 / 206.11) \text { or } \\ & (128 / 206.18) \text { or }(128 / 203.22)) . \text { CCLS. } \end{aligned}$ | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB | OR | OFF | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 52 \end{aligned}$ |
| S108 | 9990 | ( (128/200.24) or (128/200.26) or | US-PGPUB; | OR | OFF | \%2014/02/28 |


|  |  | (128/203.12) or (128/203.15) or $(128 / 203.16)$ or $(128 / 203.17)$ or (128/205.25) or (128/206-21)).CCLS. | USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB |  |  | 08:52 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S109 | 3083 | $\begin{aligned} & ((128 / 207.18) \text { or }(128 / 206.21) \text { or } \\ & (128 / 207.13) \text { or }(128 / 206.11) \text { or } \\ & (128 / 206.18) \text { or }(128 / 203.22)) . \text { CCLS. } \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \\ & \hline \end{aligned}$ | OR | OFF | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 52 \end{aligned}$ |
| S110 | 9990 | $:$$((128 / 200.24)$ or $(128 / 200.26)$ or <br> $(128 / 203.12)$ or $(128 / 203.15)$ or <br> $(128 / 203.16)$ or $(128 / 203.17)$ or <br> $(128 / 205.25)$ or $(128 / 206.21))$. CCLS. | $\begin{aligned} & \hline \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 52 \end{aligned}$ |
| S111 | $11515$ | S109 S110 | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { FPRS; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | 2014/02/28 |
| S112 | 19 | ((ball socket) with (joint connector connection) with (leak leakage leaking)) and (S107 S108 S111) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 52 \end{aligned}$ |
| 51 | 11 | ((ball socket) with (joint connector connection) with (leak leakage leaking) with (channel passage passageway)) and (S107 S108 S111) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { IBM TDEN } \end{aligned}$ | OR | ON | $\begin{aligned} & \sqrt{2014 / 02 / 28} \\ & 08: 54 \end{aligned}$ |
| 5114 | 11 | ((ball socket) with (joint connector connection) with (leak leakage leaky leaking) with (channel passage passageway)) and (S107 S108 S111) | $\begin{gathered} \text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR; } \\ \text { EPO; JPO; } \\ \text { DERWENT } \\ \text { IBM TDB } \\ \hline \end{gathered}$ | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 58 \end{aligned}$ |
| 5115 | 210 | ((ball socket) with (joint connector connection) with (leak leakage leaky leaking) with (channel passage passageway)) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | 2014/02/28 |
| S116 | 19 | S115 AND ( (A61M16/06 OR A61M16/0683 OR A61M16/08 OR A61M2016/0825 OR A61M2016/0611 OR A61M2016/0616 OR A61M2016/0638 OR A61M2016/0633 OR A61M1/1698 OR A61M2001/1006 OR A61M2205/42 OR A61M3/0258 OR A61M2039/1027 OR A61M2205/8225 OR A61M39/10 OR A61M39/1011 OR A61M39/105 OR A61M3/0254).CPC. OR (128/205.25 OR 128/206.24 OR 128/206.27 OR 128/207.11 OR 128/207.13 OR 128/201.19 OR | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB | ? ${ }^{\text {OR }}$ | !ON | ! ${ }^{2014 / 02 / 28}$ |


|  |  | 128/206.18 OR 128/206.23 OR 128/206.21 OR 128/204.18 OR 128/207.18 OR 128/200.22 OR 128/201.12 OR 128/201.13 OR 128/201.14 OR 128/205.27 OR 128/205.28 OR 128/206.11 OR 128/206.12 OR 128/206.22 OR 128/207.12 OR 128/207.16 OR 128/912). CCLS. ) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S117 | 2 | S116 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | O | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 00 \end{aligned}$ |
| S118 | 3777 | ((ball socket) adj (joint connector connection)) with ((leak leakage leaky leaking) (channel passage passageway))) | US-PGPUB; <br> USPAT; <br> USOCR; <br> EPO; JPO; <br> DERWENT <br> IBM TDB | OR |  | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 10 \end{aligned}$ |
| S119 | 29 | ((ball socket) adj (joint connector connection)) with ((leak leakage leaky leaking) with (channel passage passageway))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR |  | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 13 \end{aligned}$ |
| S120 | 44 | ((ball socket) adj (joint connector connection)) with ((leak leakage leaky leaking) same (channel passage passageway))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM TDB | OR | O | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 13 \end{aligned}$ |
| S121 | 24 | (S119 S120) and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | \% | $\left\{\begin{array}{l} 2014 / 02 / 28 \\ 09: 13 \end{array}\right.$ |
| S122 | 93 | (( ball socket) with (joint connector connection)) with ((leak leakage leaky leaking) same (channel passage passageway))) and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM TDB | OR | O | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 23 \end{aligned}$ |
| S123 | 69 | S122 not (S119 S120 S121) | US-PGFUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | O | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 23 \end{aligned}$ |
| S124 | 257 | (( ball socket) with (joint connector connection)) with ((leak leakage leaky leaking) same (channel passage passageway))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | O | $\text { \| } 2014 / 02 / 28$ |
| S125 | 83 | S124 AND ( (A61M16/06 OR <br> A61M16/0683 OR A61M16/08 OR <br> A61M2016/0825 OR A61M2016/0611 <br> OR A61M2016/0616 OR | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { EPO; JPO; } \end{aligned}$ | OR |  | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 25 \end{aligned}$ |

A61M2016/0638 OR A61M2016/0633 OR A61M1/1698 OR A61M2001/1006 OR A61M2205/42 OR A61M3/0258 OR A61M2039/1027 OR A61M2205/8225 OR A61M39/10 OR A61M39/1011 OR A61M39/105 OR A61M3/0254 OR F16L37/23 OR F16L1/15 OR F16L27/04 OR F16L37/413 OR F16L27/047 OR F16L27/053 OR F16L27/06 OR
F16L37/40 OR F16L11/18 OR
F16L13/02 OR F16L13/10 OR F16L23/00 OR F16L27/0861 OR F16L37/30 OR F16L37/32 OR F16L37/34 OR F16L37/36 OR F16L41/021 OR F16L59/185 OR F16L59/21 OR F16L11/133 OR F16L11/22 OR F16L15/001 OR F16L19/02 OR F16L19/04 OR F16L1/26 OR F16L2201/30 OR F16L23/167 OR F16L27/067 OR F16L27/073 OR F16L27/0804 OR F16L27/0824 OR F16L27/0828 OR F16L27/0857 OR F16L27/1004 OR F16L27/12 OR F16L33/22 OR F16L37/127 OR F16L37/38 OR F16L37/44 OR F16L37/56 OR F16L37/565 OR F16L39/00 OR F16L39/005 OR F16L39/06 OR F16L41/04 OR F16L47/03 OR F16L47/32 OR F16L51/025 OR F16L55/1683 OR F16L55/17 OR F16L59/22).CPC. OR (128/205.25 OR 128/206.24 OR 128/206.27 OR 128/207.11 OR 128/207.13 OR 128/201.19 OR 128/206.18 OR 128/206.23 OR 128/206.21 OR 128/204.18 OR 128/207.18 OR 128/200.22 OR 128/201.12 OR 128/201.13 OR 128/201.14 OR 128/205.27 OR 128/205.28 OR 128/206.11 OR 128/206.12 OR 128/206.22 OR 128/207.12 OR 128/207.16 OR 128/912 OR 285/261 OR 285/146.1 OR 285/106 OR 285/190 OR 285/271 OR 285/330 OR 285/332.2 OR 285/333 OR 285/349 OR 285/94 OR 285/101 OR 285/111 OR 285/133.21 OR 285/226 OR 285/265 OR 285/269 OR 285/270 OR 285/276 OR 285/281 OR 285/347 OR 285/351 OR 285/370 OR 285/374 OR 285/45 OR 285/8 OR 285/91 OR 285/918 OR 285/98 OR 285/11 OR 285/112 OR 285/113 OR 285/114 OR 285/121.7 OR 285/124.1 OR 285/124.4 OR 285/127.1 OR 285/13 OR 285/14 OR 285/144.1 OR 285/145.3 OR 285/147.1 OR 285/148.2 OR 285/15 OR 285/181 OR 285/223 OR 285/254 OR 285/263 OR 285/264 OR 285/266 OR 285/267 OR 285/288.11 OR 285/288.5 OR 285/288.6 OR 285/29 OR 285/299 OR 285/302 OR 285/305 OR 285/312 OR 285/316 OR 285/317 OR 285/321 OR 285/322 OR 285/328

|  |  | OR 285/331 OR 285/336 OR 285/343 OR 285/348 OR 285/358 OR 285/359 OR 285/363 OR 285/368 OR 285/375 OR 285/383 OR 285/419 OR 285/422 OR 285/423 OR 285/47 OR 285/55 OR 285/88 OR 285/904 OR 285/910 OR 285/914 OR 285/917 OR 285/919 OR 285/95).CCLS. ) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S126 | 93 | S124 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & \hline 09: 25 \end{aligned}$ |
| S127 | 484 | (((ball socket) with (joint connector connection)) with ((vent venting vented leak leakage leaky leaking) same (channel passage passageway))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 26 \end{aligned}$ |
| S128 | 179 | S127 and @ad<= "20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 26 \end{aligned}$ |
| S129 | 86 | S128 not (S119 S120 S121 S125 S126) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 27 \end{aligned}$ |
| S130 | $194$ | S127 AND ( (A61M16/06 OR <br> A61M16/0683 OR A61M16/08 OR <br> A61M2016/0825 OR A61M2016/0611 <br> OR A61M2016/0616 OR <br> A61M2016/0638 OR A61M2016/0633 <br> OR A61M1/1698 OR A61M2001/1006 <br> OR A61M2205/42 OR A61M3/0258 OR <br> A61M2039/1027 OR A61M2205/8225 <br> OR A61M39/10 OR A61M39/1011 OR <br> A61M39/105 OR A61M3/0254 OR <br> F16L37/23 OR F16L1/15 OR F16L27/04 <br> OR F16L37/413 OR F16L27/047 OR <br> F16L27/053 OR F16L27/06 OR <br> F16L37/40 OR F16L11/18 OR <br> F16L13/02 OR F16L13/10 OR <br> F16L23/00 OR F16L27/0861 OR <br> F16L37/30 OR F16L37/32 OR <br> F16L37/34 OR F16L37/36 OR <br> F16L41/021 OR F16L59/185 OR <br> F16L59/21 OR F16L11/133 OR <br> F16L11/22 OR F16L15/001 OR <br> F16L19/02 OR F16L19/04 OR F16L1/26 <br> OR F16L2201/30 OR F16L23/167 OR <br> F16L27/067 OR F16L27/073 OR <br> F16L27/0804 OR F16L27/0824 OR <br> F16L27/0828 OR F1627/0857 OR <br> F16L27/1004 OR F16L27/12 OR <br> F16L33/22 OR F16L37/127 OR <br> F16L37/38 OR F16L37/44 OR <br> F16L37/56 OR F16L37/565 OR | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB | OR | : | an:38 |


|  |  | F16L39/00 OR F16L39/005 OR <br> F16L39/06 OR F16L41/04 OR <br> F16L47/03 OR F16L47/32 OR <br> F16L51/025 OR F16L55/1683 OR <br> F16L55/17 OR F16L59/22).CPC. OR (128/205.25 OR 128/206.24 OR 128/206.27 OR 128/207.11 OR 128/207.13 OR 128/201.19 OR 128/206.18 OR 128/206.23 OR 128/206.21 OR 128/204.18 OR 128/207.18 OR 128/200.22 OR 128/201.12 OR 128/201.13 OR 128/201.14 OR 128/205.27 OR 128/205.28 OR 128/206.11 OR 128/206.12 OR 128/206.22 OR 128/207.12 OR 128/207.16 OR 128/912 OR 285/261 OR 285/146.1 OR 285/106 OR 285/190 OR 285/271 OR 285/330 OR 285/332.2 OR 285/333 OR 285/349 OR 285/94 OR 285/101 OR 285/111 OR 285/133.21 OR 285/226 OR 285/265 OR 285/269 OR 285/270 OR 285/276 OR 285/281 OR 285/347 OR 285/351 OR 285/370 OR 285/374 OR 285/45 OR 285/8 OR 285/91 OR 285/918 OR 285/98 OR 285/11 OR 285/112 OR 285/113 OR 285/114 OR 285/121.7 OR 285/124.1 OR 285/124.4 OR 285/127.1 OR 285/13 OR 285/14 OR 285/144.1 OR 285/145.3 OR 285/147.1 OR 285/148.2 OR 285/15 OR 285/181 OR 285/223 OR 285/254 OR 285/263 OR 285/264 OR 285/266 OR 285/267 OR 285/288.11 OR 285/288.5 OR 285/288.6 OR 285/29 OR 285/299 OR 285/302 OR 285/305 OR 285/312 OR 285/316 OR 285/317 OR 285/321 OR 285/322 OR 285/328 OR 285/331 OR 285/336 OR 285/343 OR 285/348 OR 285/358 OR 285/359 OR 285/363 OR 285/368 OR 285/375 OR 285/383 OR 285/419 OR 285/422 OR 285/423 OR 285/47 OR 285/55 OR 285/88 OR 285/904 OR 285/910 OR 285/914 OR 285/917 OR 285/919 OR 285/95).CCLS.) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S131 | 32 | S130 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM TDB |  |  | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 38 \end{aligned}$ |
| S132 | 12 | (((ball socket) with (joint connector connection)) with ((vent venting vented leak leakage leaky leaking) same (channel passage passageway))) and ( (A61M2016/0825).CPC. ) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB |  |  | ON | $\begin{aligned} & 12014 / 02 / 28 \\ & 10: 43 \\ & 1 \end{aligned}$ |
| S133 | 45 | ((ball socket) and (joint connector connection)) and ((vent venting vented leak leakage leaky leaking) and (channel passage passageway))) and ( (A61M2016/0825).CPC. ) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT |  |  | ON | $\begin{aligned} & 12014 / 02 / 28 \\ & 10: 43 \\ & \end{aligned}$ |


|  |  |  | IBM TDB |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S134 | 3 | S133 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 10: 44 \end{aligned}$ |
| S135 | 32 | "2366067" \| "3431370" | "3548827" "4004586" | "4056116" | "4084843" | "4146254" | "4676241" | "4686977" | "4773680" | "4778447").PN. OR ("4875718").URPN. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 10: 44 \end{aligned}$ |
| S136 | 77424 |  | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\begin{aligned} & 2015 / 09 / 14 \\ & 16: 14 \end{aligned}$ |
| S137 | 35 | (US-20040134494-\$ or US-20050284484-\$ or US-20070107737-\$ or US-20110009763-\$ or US-20080142019-\$ or US-20070175473-\$ or US-20020092527-\$ or US-20020059935-\$ or US-20030200970\$).did. or (US-7225807-\$ or US-5269296-\$ or US-5477852-\$ or US-8333194-\$ or US-7059328-\$ or US-7047974-\$ or US-7000613-\$ or US- | US-PGPUB; USPAT; USOCR DERWENT | OR | ON | $\begin{aligned} & 2015 / 09 / 14 \\ & 16: 14 \end{aligned}$ |


|  |  | 6997177-\$ or US-6994089-\$ or US-6863069-\$ or US-6807967-\$ or US 6595215-\$ or US-4915105-\$ or US-7096864-\$ or US-5921239-\$ or US-5259376-\$ or US-5054482-\$ or US-6986353-\$ or US-6588424-\$ or US-5957132-\$ or US-5941245-\$ or US 5771886-\$ or US-4915106-\$ or US 4437462-\$).did. or (US-2259817-\$).did. or (DE-2209244-\$).did. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S138 | $78421$ | (A61B5/0205; A61B5/08; A61B5/083; A61B5/0836; A61B5/087; A61B5/097; A61B5/ 14551; A61B5/4806; A61B5/4818; A61B5/6819; A61J1/1418; A61J11/0005; A61J17/006; A61M1/1698; A61M11/00; A61M11/005; A61M11/06; A61M15/00; A61M15/0033; A61M15/0065; A61M15/0085; A61M15/08; A61M16/00; A61M16/0003; A61M16/0057; A61M16/0066; A61M16/04; A61M16/0465; A61M16/0488; A61M16/049; A61M16/0493; A61M16/0497; A61M16/06; A61M16/0633; A61M16/0666; A61M16/0672; A61M16/0677; A61M16/0683; A61M16/08; A61M16/0816; A61M16/0825; A61M16/085; A61M16/0858; A61M16/0875; A61M16/10; A61M16/1045; A61M16/107; A61M16/1075; A61M16/109; A61M16/12; A61M16/122; A61M16/125; A61M16/14; A61M16/142; A61M16/16; A61M16/161; A61M16/162; A61M16/18; A61M16/201; A61M16/203; A61M16/208; A61M2001/1006; A61M2016/0021; A61M2016/0024; A61M2016/0039; A61M2016/0611; A61M2016/0616; A61M2016/0633; A61M2016/0638; A61M2016/0825; A61M2016/1025; A61M2016/103; A61M2039/1027; A61M2202/0208; A61M2205/07; A61M2205/071; A61M2205/18; A61M2205/3331; A61M2205/3368; A61M2205/3379; A61M2205/3606; A61M2205/3653; A61M2205/42; A61M2205/50; A61M2205/502; A61M2205/8206; A61M2205/8225; A61M2205/825; A61M2209/08; A61M2210/0625; A61M2210/0662; A61M2230/005; A61M2230/42; A61M2230/43; A61M2230/432; A61M2230/435; A61M2230/50; A61M2240/00; A61M3/0254; A61M3/0258; A61M39/10; A61M39/1011; A61M39/105; A62B17/00; A62B17/04; A62B18/00; A62B18/02; A62B18/08; A62B18/082; A62B18/084; A62B25/005; A62B35/00; A62B9/003; A62B9/04; B64D10/00; | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { DERWENT } \end{aligned}$ | OR | ? ${ }^{\text {aN }}$ | 2015/09/14 16:15 |


|  |  | B64D2231/025; F16L1/15; F16L1/26; F16L11/133; F16L11/18; F16L11/22; F16L13/02; F16L13/10; F16L15/001; F16L19/02; F16L19/04; F16L2201/30; F16L23/00; F16L23/167; F16L27/04; F16L27/047; F16L27/053; F16L27/06; F16L27/067; F16L27/073; F16L27/0804; F16L27/0824; F16L27/0828; F16L27/0857; F16L27/0861; F16L27/1004; F16L27/12; F16L33/22; F16L37/127; F16L37/23; F16L37/30; F16L37/32; F16L37/34; F16L37/36; F16L37/38; F16L37/40; F16L37/413; F16L37/44; F16L37/56; F16L37/565; F16L39/00; F16L39/005; F16L39/06; F16L41/021; F16L41/04; F16L47/03; F16L47/32; F16L51/025; F16L55/1683; F16L55/17; F16L59/185; F16L59/21; F16L59/22; Y10S128/26; Y10S128/912).cpc. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S139 | 1923 | (S136 S138) and (swivel\$ (ball with socket) (ball adj joint) (socket adj joint)) and (nose nostril nasal nare cannulae cannula) | US-PGPUB; <br> USPAT; <br> USOCR; <br> FPRS; <br> EPO; JPO; <br> DERWENT <br> IBM TDB | $\sqrt{O R}$ | ON | $\begin{aligned} & 2015 / 09 / 14 \\ & 16: 17 \end{aligned}$ |
| S140 | 512 | S139 and @ad<= "20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | , ${ }^{\text {OR }}$ | ON |  |
| S141 | 1354 |  | US-PGPUB; <br> USPAT; <br> USOCR | OR | ON | $2015 / 09 / 14$ $17: 04$ |



| "3291127" | "3293659" | "3315674" \| |
| :---: | :---: | :---: |
| "3330273" | "3347566" | "3362420" |
| "3363833" | "3481339" | "3516407" |
| "3556122" | "3566862" | "3568678" |
| "3580051" | "3599636" | "3608574" |
| "3640282" | "3659612" | "3670726" |
| "3672384" | "3680556" | "3682171" |
| "3683907" | "3690317" | "3693624" |
| "3700000" | "3707151" | "3720235" |
| "3731678" | "3739774" | "3762407" |
| "3766924" | "3792702" | "3794036" |
| "3796216" | "3799164" | "3802431" |
| "3850168" \| | "3850171") | N. OR |
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| "3905361" | "3958275" | "3978854" |
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| S142 | 630 | S141 and @ad<= "20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | O |  | ON | $\begin{aligned} & \sqrt{2015 / 09 / 14} \\ & 17: 04 \end{aligned}$ |
| S143 | 522 | S142 not S140 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | O |  | ON | $\begin{aligned} & 2015 / 09 / 14 \\ & 17: 04 \\ & \end{aligned}$ |
| S144 | [ | (US-6192886-\$).did. | USPAT | OR |  | ON |  |
| S145 | 10 | S144 and (elbow with plastic) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | O |  | ON | \|l| |
| S146 | 0 | S144 and (elbow same plastic) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR |  | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 10: 19 \end{aligned}$ |
| S147 | 0 | S144 and (elbow same material) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR |  | ON | \| |
| S148 | 77426 | $(128 / 200.14 ; 128 / 200.22 ; 128 / 200.24 ;$ <br> $128 / 200.26 ; 128 / 201.12 ; 128 / 201.13 ;$ <br> $128 / 201.14 ; 128 / 201.19 ; 128 / 201.22 ;$ <br> $128 / 202.27 ; 128 / 203.12 ; 128 / 203.15 ;$ <br> $128 / 203.16 ; 128 / 203.17 ; 128 / 203.22 ;$ <br> $128 / 203.25 ; 128 / 203.26 ; 128 / 204.12 ;$ <br> $128 / 204.18 ; 128 / 204.23 ; 128 / 205.24 ;$ <br> $128 / 205.25 ; 128 / 205.27 ; 128 / 205.28 ;$ <br> $128 / 206.11 ; 128 / 206.12 ; 128 / 206.13 ;$ <br> $128 / 206.18 ; 128 / 206.21 ; 128 / 206.22 ;$ <br> $128 / 206.23 ; 128 / 206.24 ; 128 / 206.26 ;$ | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | O |  | ON |  |



|  |  | A61M2016/103; A61M2039/1027; A61M2202/0208; A61M2205/07; A61M2205/071; A61M2205/18; A61M2205/3331; A61M2205/3368; A61M2205/3379; A61M2205/3606; A61M2205/3653; A61M2205/42; A61M2205/50; A61M2205/502; A61M2205/8206; A61M2205/8225; A61M2205/825; A61M2209/08; A61M2210/0625; A61M2210/0662; A61M2230/005; A61M2230/42; A61M2230/43; A61M2230/432; A61M2230/435; A61M2230/50; A61M2240/00; A61M3/0254; A61M3/0258; A61M39/10; A61M39/1011; A61M39/105; A62B17/00; A62B17/04; A62B18/00; A62B18/02; A62B18/08; A62B18/082; A62B18/084; A62B25/005; A62B35/00; A62B9/003; A62B9/04; B64D10/00; B64D2231/025; F16L1/15; F16L1/26; F16L11/133; F16L11/18; F16L11/22; F16L13/02; F16L13/10; F16L15/001; F16L19/02; F16L19/04; F16L2201/30; F16L23/00; F16L23/167; F16L27/04; F16L27/047; F16L27/053; F16L27/06; F16L27/067; F16L27/073; <br> F16L27/0804; F16L27/0824; F16L27/0828; F16L27/0857; F16L27/0861; F16L27/1004; F16L27/12; F16L33/22; F16L37/127; F16L37/23; F16L37/30; F16L37/32; F16L37/34; F16L37/36; F16L37/38; F16L37/40; F16L37/413; F16L37/44; F16L37/56; F16L37/565; F16L39/00; F16L39/005; F16L39/06; F16L41/021; F16L41/04; F16L47/03; F16L47/32; F16L51/025; F16L55/1683; F16L55/17; F16L59/185; F16L59/21; F16L59/22; Y10S128/26; Y10S128/912).cpc. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S150 | 1925 | (S148 S149) and (swivel\$ (ball with socket) (ball adj joint) (socket adj joint)) and (nose nostril nasal nare cannulae cannula) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR |  | O | $\begin{aligned} & 2015 / 09 / 15 \\ & 11: 15 \end{aligned}$ |
| S151 | 1821 | S150 and @ad<= "20150702" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR |  | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 11: 15 \end{aligned}$ |
| S152 | 512 | S150 and @ad<= "20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | , ${ }^{\text {OR }}$ |  | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 11: 16 \end{aligned}$ |
| S153 | 1309 | S151 not S152 | US-PGPUB; USPAT; USOCR; EPO; JPO; | , ${ }^{\text {OR }}$ |  | ON | / ${ }_{\text {/2015/09/15 }}$ |


|  |  |  | $\begin{aligned} & \text { DERWENT } \\ & \text { IBM_TDB } \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S154 | 154 | (mcauley.in. near alastair) (prentice.in. near craig) (gleeson.in. near oliver) | $\begin{aligned} & \text { US-PGPB; } \\ & \text { USAT; } \\ & \text { USOCR; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 11: 38 \end{aligned}$ |
| S155 | 13 | S154 and ((swivel\$ (ball with socket) (ball adj joint) (socket adj joint)) and ( nose nostril nasal nare cannulae cannula)).clm. | US-PGPUB; USAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | ${ }^{2015 / 09 / 15}$ |
| S156 | 265 |  | $\begin{aligned} & \text { US-PGPB; } \\ & \text { USAT; } \\ & \text { EPOC; JPO; } \\ & \text { DERWENT } \\ & \text { IBM_TDB } \end{aligned}$ | OR | ON | $\int_{10: 25}^{2015 / 12 / 01}$ |
| S157 | 433 | ((headgear strap harness belt) with cheek) and "128".clas. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPT; ; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2015 / 12 / 01 \\ & 10: 52 \end{aligned}$ |


| S158 | 709 | ((headgear strap harness belt) with tube) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM TDB | OR | ON | $\begin{aligned} & 2015 / 12 / 01 \\ & 11: 07 \\ & \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S159 | 31 | ((headgear strap harness belt) adj tube) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & \text { I2015/12/01 } \\ & 11: 08 \\ & \\ & \\ & \\ & \hline \end{aligned}$ |
| S160 | 164 | ((headgear strap harness belt) with tubular) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\$_{11: 09}^{2015 / 12 / 01}$ |
| S161 | 13 | (("4437462") or ("7201169") or ("20030200970")).PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | OR | OFF | $\begin{aligned} & 2015 / 12 / 01 \\ & 12: 05 \end{aligned}$ |
| S162 | 31369 | (A61M15/08; A61M16/06; A61M16/0616; A61M16/0633; A61M16/0666; A61M16/0683; A61M16/0825; A61M16/208; A61M2210/0618; A61M2240/00; A62B18/00; A62B18/02; A62B18/08; A62B18/084; A62B35/00).cpc. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | ON | $\begin{aligned} & 2015 / 12 / 01 \\ & 12: 06 \end{aligned}$ |
| S163 | 161 | (mcauley.in. near alastair) (prentice.in. near craig) (gleeson.in. near oliver) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & \text { U2015/12/01 } \\ & 12: 14 \\ & \\ & \\ & \\ & \\ & \\ & \hline \end{aligned}$ |
| S164 | 4 | S163 and ((headgear harness strap belt) and (lateral laterally) and (nose nostril nasal nare cannulae cannula)).clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $2015 / 12 / 01$ <br> 12:14 |

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## C: \Users\adixon2\ Documents EAST\Workspaces\14846226.wsp

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## EFS WEB CONTINUING IDS COVER LETTER

Inventor : Alastair Edwin McAuley
App. No. : $14 / 846,226$
Filed : September 4, 2015
For : BREATHING ASSISTANCE
APPARATUS
Examiner : Dixon, Annette Fredricka
Art Unit : 3778
Conf No. : 8898

Commissioner for Patents
P.O. Box 1450

Alexandria, VA 22313-1450
Dear Sir:
Submitted herewith are references numbered 93 to 122 listed on the $\mathrm{PTO} / \mathrm{SB} / 08$ or equivalent filed under EFS ID 25150041.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,
Knobbe, Martens, Olson \& Bear, LLP

Dated: March 9, 2016
By:/Michael Guiliana/
Michael A. Guiliana
Registration No. 42,611
Attorney of Record
Customer No. 20995
(949) 760-0404

| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 25150223 |
| Application Number: | 14846226 |
| International Application Number: |  |
| Confirmation Number: | 8898 |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |
| Customer Number: | 20995 |
| Filer: | Michael A. Guiliana/Heather OBrien |
| Filer Authorized By: | Michael A. Guiliana |
| Attorney Docket Number: | FPHCR.112C2 |
| Receipt Date: | 09-MAR-2016 |
| Filing Date: | 04-SEP-2015 |
| Time Stamp: | 18:50:06 |
| Application Type: | Utility under 35 USC 111(a) |

## Payment information:

| Submitted w | nent | 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 | Non Patent Literature | NPL93_PCTNZ2009-000219_IP RP-20110412-9pgs.pdf |  | no | 9 |
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| Information: |  |  |  |  |  |
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| Information: |  |  |  |  | AG |



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| Information: |  |  |  |  |  |
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| Total Files Size (in bytes): |  |  | 26164319 |  |  |
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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. |  |  |  |  |  |
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| If a new international application is being filed and the international application includes the necessary components fo 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. |  |  |  |  |  |


| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 1 OF 6 | Attorney Docket No. | FPHCR.112C2 |


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Examiner Signature
*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.
$\mathbf{T}^{1}$ - Place a check mark in this area when an English language Translation is attached.

| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 2 OF 6 | Attorney Docket No. | FPHCR.112C2 |


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Examiner Signature
*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.
$\mathbf{T}^{1}$ - Place a check mark in this area when an English language Translation is attached.

| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 3 OF 6 | Attorney Docket No. | FPHCR.112C2 |


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Date Considered
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| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 4 OF 6 | Attorney Docket No. | FPHCR.112C2 |


| Examiner <br> Initials |  |  |  |  |  |  |  | Cite <br> No. | Foreign Patent Document <br> Country Code-Number-Kind <br> Code <br> Example: JP 1234567 A1 | Publication <br> Date <br> MM-DD-YYYY | Name | Pages, Columns, Lines <br> Where Relevant Passages <br> or Relevant Figures <br> Appear | T |
| :---: | :---: | :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| NON PATENT LITERATURE DOCUMENTS |  |  |  |
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| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
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|  | Filing Date | September 4, 2015 |
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|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 5 OF 6 | Attorney Docket No. | FPHCR.112C2 |


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| Examiner Initials | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | $\mathrm{T}^{1}$ |
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| Examiner Signature | Date Considered |
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PTO/SB/08 Equivalent

| INFORMATION DISCLOSURE | Application No. | $14 / 846,226$ |
| :---: | :--- | :--- |
|  | Filing Date | September 4, 2015 |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | 3778 |
| (Multiple sheets used when necessary) | Examiner | Annette Fredricka Dixon |
| SHEET 6 OF 6 | Attorney Docket No. | FPHCR.112C2 |


| NON PATENT LITERATURE DOCUMENTS |  |  |  |  |  |  |
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| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 25150041 |
| Application Number: | 14846226 |
| International Application Number: |  |
| Confirmation Number: | 8898 |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |
| Customer Number: | 20995 |
| Filer: | Michael A. Guiliana/Heather OBrien |
| Filer Authorized By: | Michael A. Guiliana |
| Attorney Docket Number: | FPHCR.112C2 |
| Receipt Date: | 09-MAR-2016 |
| Filing Date: | 04-SEP-2015 |
| Time Stamp: | 18:48:05 |
| 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 | Foreign Reference | FP61_CN1784250.pdf | 10009200 | no | 106 |
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| Information: |  |  |  |  | RMD |


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| Warnings: |  |  |  |  |  |
| Information: |  |  |  | HIBIT | $\begin{array}{r} \mathrm{RI} \\ \mathrm{ZAGE} \end{array}$ |


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| Information: |  |  |  |  |  |
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| Information: |  |  |  |  |  |
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|  | Multipart Description/PDF files in .zip description |  |  |  |  |
|  | Document Description |  | Start | End |  |
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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 $\mathbf{3 5}$ 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.

## INFORMATION DISCLOSURE STATEMENT

| Inventor | $:$ | Alastair Edwin McAuley |
| :--- | :--- | :--- |
| App. No. | $:$ | $14 / 846,226$ |
| Filed | $:$ | September 4, 2015 |
| For | $:$ | BREATHING ASSISTANCE |
|  | APPARATUS |  |
| Examiner | $:$ | Annette Fredricka Dixon |
| Art Unit | $:$ | 3778 |
| Conf. No. | $: 8898$ |  |

## Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

## References and Listing

Pursuant to 37 CFR 1.56, an Information Disclosure Statement listing references is provided herewith. Copies of any listed foreign and non-patent literature references are being submitted. Any foreign references may also include English abstract(s) and/or machine translation(s), but no representation is made as to their accuracy.

If the Examiner would like additional information regarding these references or if anything is unclear, the Examiner is invited to contact the undersigned for assistance.

## No Disclaimers

To the extent that anything in the Information Disclosure Statement or the listed references could be construed as a disclaimer of any subject matter supported by the present application, Applicant hereby rescinds and retracts such disclaimer.

## Timing of Disclosure

This Information Disclosure Statement is being filed before the receipt of a First Office Action on the merits, and presumably no fee is required. If a First Office Action on the merits was mailed before the mailing date of this Statement, the Commissioner is authorized to charge the fee set forth in 37 CFR 1.17(p) to Deposit Account No. 11-1410.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to Account No. 11-1410.

Respectfully submitted,
KNOBBE, MARTENS, OLSON \& BEAR, LLP

Dated: March 9, 2016
By:/Michael Guiliana/
Michael A. Guiliana
Registration No. 42,611
Attorney of Record
Customer No. 20995
(949) 760-0404

22854533
-2-

## SUMMARY OF INTERVIEW

| Inventor | Alastair Edwin McAuley | CERTIFICATE OF EFS WEB TRANSMISSION |
| :---: | :---: | :---: |
| App. No | 14/846,226 | I hereby certify that this correspondence, and any other attachment noted on the automated |
| Filed | September 4, 2015 | Acknowledgement Receipt, is being transmitted from within the Pacific Time zone to the |
| For | BREATHING ASSISTANCE APPARATUS | Commissioner for Patents via the EFS Web server on: <br> March 9, 2016 |
|  |  | (Date) |
| Examiner | Dixon, Annette Fredricka |  |
| Art Unit | 3778 | Michael A. Guiliana, Reg. No. 42,611 |
| Conf No. | 8898 |  |

Commissioner for Patents
P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:
Pursuant to the Interview Summary of February 4, 2016, Applicant submits this Summary of Interview for recording in the official file.

## Attendees, Date and Type of Interview

The interview was conducted via phone and attended by the Examiner Annette Dixon and Applicants' representatives Michael A. Guiliana (Reg. No. 42,611) and Xiaoyan Wang.

## Exhibits and/or Demonstrations

A figure (see attached) solely for illustration in the interview and not intended as proposed amendment to the drawings was provided.

Identification of Claims Discussed
Claims 1, 6, and 17

## Identification of Cited/Disclosed Art Discussed

U.S. Published Application No. 20030200970 (Stenzler); U.S. Pat. No. 7201169 (Wilkie); U.S. Pat. No. 4437462 (Piljay)

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Application No.: 14/846,226
Filing Date: September 4,2015
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## Proposed Amendments

Applicants proposed amendments consistent with the attached proposed amendments.

## Principal Arguments and Other Matters

The Examiner and Applicants' representatives discussed the proposed amendments and further proposal of amendments. Applicants clarified the instant invention from the cited prior art using arguments in the attached interview agenda. Applicants also clarified the instant invention using the attached illustrating figure, which shows that the head gear extensions in the instant invention are spaced away from a user in use such that the mask assembly is able to roll in the directions indicated by the arrows in the illustrating figure.

## Results of Interview

The Examiner indicated that the further proposal of amendments would overcome the cited prior art; however, further search and consideration would be required. Applicants' representatives elected to waive the first action interview office action in view of the proposed claim amendments of January 4, 2016 and in view of submitting the attached supplemental amendments incorporating the further proposals as discussed in the interview.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,
KNOBBE, MARTENS, OLSON \& BEAR, LLP

Dated: March 9, 2016
By: /Michael Guiliana/
Michael A. Guiliana
Registration No. 42,611
Attorney of Record
Customer No. 20995
(949) 760-0404

# *** PLEASE DO NOT ENTER INTO FILE (FOR DISCUSSION PURPOSES ONLY)*** 

## DRAFT INTERVIEW AGENDA

## U.S. Application No.: $14 / 846,226$ (FPHCR.112C2)

Date/Time: Thursday, February 04, 2016; 1:30 PM Eastern
Attendees: Examiner Annette Dixon, Michael A. Guiliana (Reg. No. 42,611), Xiaoyan Wang

## I. Summary of Issues for Discussion

The claims of the present application cover the non-limiting embodiment of Figures 9-11. As recited in claims 1,6 , and 17 , the mask assembly includes a rigid mask body and head gear extensions (one labeled below). The head gear extensions include a distal end connected to the rigid mask body and proximal ends disposed proximally toward the user (in use).

The head gear extensions also extend from the rigid mask body first along a lateral direction, then along a second direction extending more proximally toward the user.


Application No.: 14/846,226
Filing Date: $\quad$ September 4, 2015

None of the cited references show this structure.
II. Discussion of cited prior art references:

Stenzler et al Does not Teach Head Gear Extensions Extending from Rigid Mask Body Along Two Different Directions

Stenzler Shows triangular flanges extending from a nose piece member 24 along ONE DIRECTION. The flanges do not extend along a first lateral direction then along a second direction more proximal toward a user.


## Wilkie et al Does not Teach Head Gear Extensions Extending from Rigid Mask Body on the Distal side of the Prong Part and Along the Two Different Recited Directions

Wilkie shows a mask having a prong part with a strap attached to the proximal side of the prong part and configured to press against the user's upper lip.

mask. The strap is made from a flexible elastomeric material such as silastic and is shaped so that the central area $12 a$ of the strap is curved to generally conform to the shape of the area of a human face between a human's mouth and the base of their nose (see FIG. 2). Note that hereinafter the human is referred to as a patient. On the opposite side of the central area of the strap $12 a$ which contacts a patient's face, there is a manifold or chamber 18 . The manifold is also made from the same flexible elastomeric material as the strap. The

Piliay Does not Teach Head Gear Extensions Extending from Rigid Mask Body Laterally, Beyond Outer Periphery of Seal Body

Piljay shows a mask having a cup-shaped face member 11 , a housing 126 , and a headstrap 17, but no headgear extensions extending from a rigid mask body and along two directions, including laterally away from the rigid mask body beyond an outer periphery of the cup-shaped face member.


# *** PLEASE DO NOT ENTER INTO FILE (FOR DISCUSSION PURPOSES ONLY)*** 

## DRAFT INTERVIEW AGENDA (Suppl.)

## U.S. Application No.: $\quad$ 14/846,226 (FPHCR.112C2)

Date/Time: Thursday, February 04, 2016; 1:30 PM Eastern
Attendees: Examiner Annette Dixon, Michael A. Guiliana (Reg. No. 42,611), Xiaoyan Wang

The following figure is submitted only for illustration in the interview and not intended as proposed amendment to the drawings:


## Application No.: 14/846,226 <br> Filing Date: $\quad$ September 4, 2015

## Proposed Amendments

1. (Proposed) A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion and a mask body periphery, the mask body periphery comprising a left peripheral side and a right peripheral side;
a prong part comprising a hollow body removably sealed to the rigid mask body defining an enclosed space, a prong part periphery extending along a periphery of the hollow body, and first and second nasal prongs extending from the hollow body, the periphery of the prong part removably sealed to the mask body periphery in use, the prong part being formed as a single piece and being more flexible than the rigid mask body;
an inspiratory conduit connected to the rigid mask body configured to deliver pressurized gases into the enclosed space defined by the rigid mask body and the prong part for inhalation by a user in use;
a headgear arrangement configured to maintain the prong part in a position with the first and second prongs against a user's nares in use, the headgear arrangement comprising first and second headgear extensions and a headgear strap;
the first headgear extension having a distal end connected to the left peripheral side of the rigid mask body on a distal side of the prong part, and a proximal end disposed proximally toward a left side of a user's face in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the left peripheral side of the rigid mask body and beyond an outer periphery of the prong part, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
the second headgear extension having a distal end connected to the right peripheral side of the rigid mask body on the distal side of the prong part, and a proximal end disposed proximally toward a right side of a user's face in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second
headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension extending from the first portion, along a fourth direction extending more proximally toward the user than the third direction in use;
the headgear strap comprising a flexible tube having first and second ends, the first end connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and a second end connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension; and
at least a first bias flow vent disposed on the curved portion of the outer surface of the rigid mask body, the first bias flow vent being configured to vent a gas from the enclosed space between the rigid mask body and the prong part, to an outside of the rigid mask body during use.
2. The mask assembly of Claim 1, wherein the first bias flow vent comprises a flow vent outer surface, the flow vent outer surface being recessed inwardly from the curved portion of the outer surface of the rigid mask body.
3. The mask assembly of Claim 1, additionally comprising a conduit connection disposed on the rigid mask body and connecting the inspiratory conduit to the rigid mask body, the first bias flow vent comprising a plurality of apertures arranged symmetrically on left and right sides of the conduit connection.
4. The mask assembly of Claim 1, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent.
5. The mask assembly of Claim 4, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
6. (Proposed) A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion;
an inspiratory conduit connected to the rigid mask body;

## Application No.: 14/846,226 <br> Filing Date: $\quad$ September 4, 2015

a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part, and a proximal end disposed proximally toward a user in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the rigid mask body and beyond an outer periphery of the prong part, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part, and a proximal end disposed proximally toward a user in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension along a fourth direction more proximally toward the user than the third direction in use; and
a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
7. The mask assembly of Claim 6, wherein the first portion of the first headgear extension is shorter than the second portion of the first headgear extension and the first portion of the second headgear extension is shorter than the second portion of the second headgear extension.
8. The mask assembly of Claim 6, wherein the headgear strap comprises a flexible tube and is connected to the second portion of the first headgear extension and the second portion of the second headgear extension.

## Application No.: 14/846,226 <br> Filing Date: $\quad$ September 4, 2015

9. The mask assembly of Claim 6, wherein the first portion of the first headgear extension and the first portion of the second headgear extension extend laterally outward distally of a sealing location between the prong part and the mask body and the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of the sealing location between the prong part and the mask body.
10. The mask assembly of Claim 6, wherein the headstrap comprises first and second ends, the first end extending along first and second opposite sides of the second portion of the first headgear extension at the connection to the first headgear extension, the second end extending along first and second opposite sides of the second portion of the second headgear extension at the connection to the second headgear extension.
11. The mask assembly of Claim 6, wherein the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of a mating region between the hollow body of the prong portion and the rigid mask body.
12. The mask assembly of Claim 6, wherein the hollow body of the prong portion and the rigid mask body overlap each other in a mating region.
13. The mask assembly of Claim 12, wherein the hollow body, the first prong and the second prong are integrally formed in a monolithic component.
14. The mask assembly of Claim12, wherein the first prong and the second prong are angled toward each other in the proximal direction.
15. The mask assembly of Claim 6, wherein the rigid mask body comprises a recessed curved portion of the curved outer which is recessed inwardly into the rigid mask body relative to a surrounding portion of the curved outer surface, the recessed curved portion comprising a plurality of apertures defining a bias flow outlet vent.
16. The mask assembly of Claim 6, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent, and to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
17. (Proposed) A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part and a proximal end disposed proximally toward a user in use, the first headgear extension extending from the rigid mask body, at least along a first lateral direction extending laterally away from the rigid mask body and beyond an outer periphery of the prong part and along a second direction extending more proximally toward the user than the first direction in use; and
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part and a proximal end disposed proximally toward a user in use, the second headgear extension extending from the rigid mask body at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part and $[[$, the second portion of the second headgear extension]] along a fourth direction more proximally toward the user than the third direction in use.
18. The mask assembly of Claim 17 additionally comprising a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
19. The mask assembly of Claim 18, wherein the headgear strap comprises a flexible tube engaged with the first and second headgear extensions.

## Application No.: 14/846,226 <br> Filing Date: $\quad$ September 4, 2015

## Supplemental Amendments

1. (Currently Amended) A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion and a mask body periphery, the mask body periphery comprising a left peripheral side and a right peripheral side;
a prong part comprising a hollow body removably sealed to the rigid mask body defining an enclosed space, a prong part periphery extending along a periphery of the hollow body, and first and second nasal prongs extending from the hollow body, the periphery of the prong part removably sealed to the mask body periphery in use, the prong part being formed as a single piece and being more flexible than the rigid mask body;
an inspiratory conduit connected to the rigid mask body configured to deliver pressurized gases into the enclosed space defined by the rigid mask body and the prong part for inhalation by a user in use;
a headgear arrangement configured to maintain the prong part in a position with the first and second prongs against a user's nares in use, the headgear arrangement comprising first and second headgear extensions and a headgear strap;
the first headgear extension having a distal end connected to the left peripheral side of the rigid mask body on a distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a left side of a user's face in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the left peripheral side of the rigid mask body and beyond an outer periphery of the prong part, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
the second headgear extension having a distal end connected to the right peripheral side of the rigid mask body on the distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a right side of

## Application No.: 14/846,226 <br> Filing Date: $\quad$ September 4, 2015

a user's face in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension extending from the first portion, along a fourth direction extending more proximally toward the user than the third direction in use;
the headgear strap comprising a flexible tube having first and second ends, the first end connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and a second end connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension; and
at least a first bias flow vent disposed on the curved portion of the outer surface of the rigid mask body, the first bias flow vent being configured to vent a gas from the enclosed space between the rigid mask body and the prong part, to an outside of the rigid mask body during use.
2. The mask assembly of Claim 1, wherein the first bias flow vent comprises a flow vent outer surface, the flow vent outer surface being recessed inwardly from the curved portion of the outer surface of the rigid mask body.
3. The mask assembly of Claim 1, additionally comprising a conduit connection disposed on the rigid mask body and connecting the inspiratory conduit to the rigid mask body, the first bias flow vent comprising a plurality of apertures arranged symmetrically on left and right sides of the conduit connection.
4. The mask assembly of Claim 1, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent.
5. The mask assembly of Claim 4, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
6. A mask assembly for delivering positive airway pressure to a user, the mask comprising:

## Application No.: 14/846,226 <br> Filing Date: $\quad$ September 4, 2015

a rigid mask body comprising a central portion, an outer surface having at least a curved portion;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a user in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the rigid mask body and beyond an outer periphery of the prong part, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a user in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension along a fourth direction more proximally toward the user than the third direction in use; and
a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
7. The mask assembly of Claim 6, wherein the first portion of the first headgear extension is shorter than the second portion of the first headgear extension and the first portion

## Application No.: 14/846,226 <br> Filing Date: $\quad$ September 4, 2015

of the second headgear extension is shorter than the second portion of the second headgear extension.
8. The mask assembly of Claim 6, wherein the headgear strap comprises a flexible tube and is connected to the second portion of the first headgear extension and the second portion of the second headgear extension.
9. The mask assembly of Claim 6, wherein the first portion of the first headgear extension and the first portion of the second headgear extension extend laterally outward distally of a sealing location between the prong part and the mask body and the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of the sealing location between the prong part and the mask body.
10. The mask assembly of Claim 6, wherein the headstrap comprises first and second ends, the first end extending along first and second opposite sides of the second portion of the first headgear extension at the connection to the first headgear extension, the second end extending along first and second opposite sides of the second portion of the second headgear extension at the connection to the second headgear extension.
11. The mask assembly of Claim 6, wherein the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of a mating region between the hollow body of the prong portion and the rigid mask body.
12. The mask assembly of Claim 6, wherein the hollow body of the prong portion and the rigid mask body overlap each other in a mating region.
13. The mask assembly of Claim 12, wherein the hollow body, the first prong and the second prong are integrally formed in a monolithic component.
14. The mask assembly of Claim12, wherein the first prong and the second prong are angled toward each other in the proximal direction.
15. The mask assembly of Claim 6, wherein the rigid mask body comprises a recessed curved portion of the curved outer which is recessed inwardly into the rigid mask body relative to a surrounding portion of the curved outer surface, the recessed curved portion comprising a plurality of apertures defining a bias flow outlet vent.

## Application No.: 14/846,226 <br> Filing Date: $\quad$ September 4, 2015

16. The mask assembly of Claim 6, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent, and to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
17. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a user in use, the first headgear extension extending from the rigid mask body, at least along a first lateral direction extending laterally away from the rigid mask body and beyond an outer periphery of the prong part and along a second direction extending more proximally toward the user than the first direction in use; and
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a user in use, the second headgear extension extending from the rigid mask body at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part and [[, the second portion of the second headgear extension]] along a fourth direction more proximally toward the user than the third direction in use.
18. The mask assembly of Claim 17 additionally comprising a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
19. The mask assembly of Claim 18, wherein the headgear strap comprises a flexible tube engaged with the first and second headgear extensions.

| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 25153302 |
| Application Number: | 14846226 |
| International Application Number: |  |
| Confirmation Number: | 8898 |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |
| Customer Number: | 20995 |
| Filer: | Michael A. Guiliana/Anthony Bonilla |
| Filer Authorized By: | Michael A. Guiliana |
| Attorney Docket Number: | FPHCR.112C2 |
| Receipt Date: | 09-MAR-2016 |
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| Time Stamp: | 19:32:28 |
| 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 | Applicant summary of interview with examiner | FPHCR112C2_Interview_Summ ary.pdf | $\frac{568086}{\substack{\text { difee26cad51 39ada067d93c6a3esb42e299 } \\ 6717}}$ | no | 17 |
| 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 $\mathbf{3 5}$ 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.


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):
jayna.cartee@knobbe.com efiling@knobbe.com

| Applicant-Initiated Interview Summary | Application No. 14/846,226 | Applicant(s) <br> MCAULEY ET AL. |  |
| :---: | :---: | :---: | :---: |
|  | Examiner <br> ANNETTE DIXON | Art Unit $3778$ |  |

All participants (applicant, applicant's representative, PTO personnel):
(1) ANNETTE DIXON, PTO personnel.
(2) Michael Guilana, Applicant's representative.
(3) Sabrina Wang, Applicant's representative.
(4) $\qquad$ .

Date of Interview: 04 February 2016.
Type: $\quad$ Telephonic $\square$ Video Conference $\square$ Personal [copy given to: $\square$ applicant
$\square$ applicant's representative]

Exhibit shown or demonstration conducted: $\square$ Yes $\boxtimes$ No.
If Yes, brief description: $\qquad$ -.

Issues Discussed $\square 101 \quad \square 112 \quad \square 102$ 区103 $\square$ Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)
Claim(s) discussed: 1,6 and 17.
Identification of prior art discussed: Stenzler, Wilkie, Piljay.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant submitted proposed claim amendments on January 4, 2016. During the course of the interview conducted on February 4, 2016, further proposed claim amendments were discussed to further distinguish the instant invention from the prior art made of record. In particular the recitation of the first head gear extension extending laterally away from the edge of the rigid mask body spaced from the user in use and extending laterally beyond the seal/nasal prongs. Primary Examiner indicated this further clarification would overcome the prior art made of record; however, further search and consideration would be required prior to an indication of allowable subject matter. Attorney Guilana elected to waive the first action interview office action in view of the proposed claim amendments of January 4, 2016 to be entered and in view of submitting supplemental amendments incorporating the further proposals as discussed in the interview.

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

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

## ヌ Attachment

/ANNETTE DIXON/
Primary Examiner, Art Unit 3778

# Summary of Record of Interview Requirements 

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
 application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews<br>Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as


## 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and
 any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

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

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

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

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

The Form provides for recordation of the following information:

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

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

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

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

## Examiner to Check for Accuracy

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

# Knobbe Martens <br> intellectual property baw <br> KNOBEE, MARTENS, OLSON \& BEAR, LLP <br> Facsimile Transmittal Sheet <br> <br> Original Will NOT Follow <br> <br> Original Will NOT Follow <br> <br> Confidentiality Notice: 

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| TO: | Examiner Annette Dixon |
| :---: | :---: |
| USPTO FACSIMLE No: | (571) 273-3392 |
| USPTO Reference: | Inventor: Alastair Edwin McAuley, et al. |
|  | Serial No.: 14/846,226 |
|  | Filed: September 4, 2015 |
|  | Title: BREATHING ASSISTANCE APPARATUS |
| Attorney: | Michael A. Guiliana |
| Phone No.: | (949) 721-6384 |
| Attorney Docket No.: | FPHCR.112C2 |
| Total Pages: | 5 (INCLUDING COVER SHEET) |
| Date: If Youd | February 3, 2016 |
|  | Receive all Of The Pages, Please Call Back Immediately |
|  | Operator Phone Number: (949) 760-0404 |
|  | Direct Line to Machine: (949) 760-9502 |
| MESSAGE: Please | ttached Draft Interview Agenda in 4 pages. |

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# *** PLEASE DO NOT ENTER INTO FILE (FOR DISCUSSION PURPOSES ONLY)*** <br> <br> DRAFT INTERVIEW AGENDA 

 <br> <br> DRAFT INTERVIEW AGENDA}

## U.S. Application No.: $14,846,226$ (FPHCR.112C2)

## Date/Time: Thursday, February 04, 2016; 1 PM Eastern

Attendees: Examiner Annette Dixon, Michael A. Guiliana (Reg. No. 42,611), Xiaoyan Wang

## I. Summary of Issues for Discussion

The claims of the present application cover the non-limiting embodiment of Figures 9-11. As recited in claims 1,6 , and 17 , the mask assembly includes a rigid mask body and head gear extensions (one labeled below). The head geat extensions include a distal end connected to the rigid mask body and proximal ends disposed proximally toward the user (in use).

The head gear extensions also extend from the rigid mask body first along a lateral direction, then along a second direction extending more proximally toward the user.


## II. Discussion of cited prior aat references:

## Stenzler et al Does not Teach Head Gear Extensions Extending from Rigid Mask Body Along Two Different Directions

Stenzler Shows triangular flanges extending from a nose piece member 24 along ONE DIRECTION. The flanges do not extend along a first lateral direction then along a second direction more proximal toward a user.


## Wilkie et al Does not Teach Head Gcar Extensions Extending from Rigid Mask Body on the Distal side of the Prong Part and Along the Two Different Recited Directions

Wilkie shows a mask having a prong part with a strap attached to the proximal side of the prong part and configured to press against the user's upper lip.

mask. The strap is made from a flexible elastomeric material such as silastic and is shaped so that the central area $12 a$ of the strap is curved to generally conform to the shape of the area of a human face between a human's mouth and the base of their nose (see FIG. 2). Note that hereinafter the human is referred to as a patient. On the opposite side of the central area of the strap $12 a$ which contacts a patient's face, there is a manifold or chamber 18. The manifold is also made from the same flexible elastomeric material as the strap. The

## Piliay Does not Teach Head Gear Extensions Extending from Rigid Mask Body Laterally, Beyond Outer Periphery of Seal Body

Piljay shows a mask having a cup-shaped face member 11, a housing 126, and a headstrap 17, but no headgear extensions extending from a rigid mask body and along two directions, including laterally away from the rigid mask body beyond an outer periphery of the cup-shaped face member.


## Summary of Issues for Discussion

The claims of the present application cover the non-limiting embodiment of Figures 9-11. As recited in claims 1, 6, and 17, the mask assembly includes a rigid mask body and head gear extensions (one labeled below). The head gear extensions include a distal end connected to the rigid mask body and proximal ends disposed proximally toward the user (in use).

The head gear extensions also extend from the rigid mask body first along a lateral direction, then along a second direction extending more proximally toward the user.


None of the cited references show this structure.

The cited prior art references are summarized below:

## Stenzler et al Does not Teach Head Gear Extensions Extending from Rigid Mask Body Along Two Different Directions

Stenzler Shows triangular flanges extending from a nose piece member 24 along ONE DIRECTION. The flanges do not extend along a first lateral direction then along a second direction more proximal toward a user.


Wilkie et al Does not Teach Head Gear Extensions Extending from Rigid Mask Body on the Distal side of the Prong Part and Along the Two Different Recited Directions

Wilkie shows a mask having a prong part with a strap attached to the proximal side of the prong part and configured to press against the user's upper lip.

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## Piliay Does not Teach Head Gear Extensions Extending from Rigid Mask Body Laterally, Beyond Outer Periphery of Seal Body

Piljay shows a mask having a cup-shaped face member 11 , a housing 126, and a headstrap 17, but no headgear extensions extending from a rigid mask body and along two directions, including laterally away from the rigid mask body beyond an outer periphery of the cup-shaped face member.


FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

1. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion and a mask body periphery, the mask body periphery comprising a left peripheral side and a right peripheral side;
a prong part comprising a hollow body removably sealed to the rigid mask body defining an enclosed space, a prong part periphery extending along a periphery of the hollow body, and first and second nasal prongs extending from the hollow body, the periphery of the prong part removably sealed to the mask body periphery in use, the prong part being formed as a single piece and being more flexible than the rigid mask body;
an inspiratory conduit connected to the rigid mask body configured to deliver pressurized gases into the enclosed space defined by the rigid mask body and the prong part for inhalation by a user in use;
a headgear arrangement configured to maintain the prong part in a position with the first and second prongs against a user's nares in use, the headgear arrangement comprising first and second headgear extensions and a headgear strap;
the first headgear extension having a distal end connected to the left peripheral side of the rigid mask body on a distal side of the prong part, and a proximal end disposed proximally toward a left side of a user's face in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the left peripheral side of the rigid mask body and beyond an outer periphery of the prong part, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
the second headgear extension having a distal end connected to the right peripheral side of the rigid mask body on the distal side of the prong part, and a proximal

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

end disposed proximally toward a right side of a user's face in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension extending from the first portion, along a fourth direction extending more proximally toward the user than the third direction in use;
the headgear strap comprising a flexible tube having first and second ends, the first end connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and a second end connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension; and
at least a first bias flow vent disposed on the curved portion of the outer surface of the rigid mask body, the first bias flow vent being configured to vent a gas from the enclosed space between the rigid mask body and the prong part, to an outside of the rigid mask body during use.
2. The mask assembly of Claim 1, wherein the first bias flow vent comprises a flow vent outer surface, the flow vent outer surface being recessed inwardly from the curved portion of the outer surface of the rigid mask body.
3. The mask assembly of Claim 1 , additionally comprising a conduit connection disposed on the rigid mask body and connecting the inspiratory conduit to the rigid mask body, the first bias flow vent comprising a plurality of apertures arranged symmetrically on left and right sides of the conduit connection.
4. The mask assembly of Claim 1, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent.
5. The mask assembly of Claim 4, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the prong part toward the bias flow vent.

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

6. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part, and a proximal end disposed proximally toward a user in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the rigid mask body and beyond an outer periphery of the prong part, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part, and a proximal end disposed proximally toward a user in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension along a fourth direction more proximally toward the user than the third direction in use; and
a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

7. The mask assembly of Claim 6, wherein the first portion of the first headgear extension is shorter than the second portion of the first headgear extension and the first portion of the second headgear extension is shorter than the second portion of the second headgear extension.
8. The mask assembly of Claim 6, wherein the headgear strap comprises a flexible tube and is connected to the second portion of the first headgear extension and the second portion of the second headgear extension.
9. The mask assembly of Claim 6, wherein the first portion of the first headgear extension and the first portion of the second headgear extension extend laterally outward distally of a sealing location between the prong part and the mask body and the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of the sealing location between the prong part and the mask body.
10. The mask assembly of Claim 6, wherein the headstrap comprises first and second ends, the first end extending along first and second opposite sides of the second portion of the first headgear extension at the connection to the first headgear extension, the second end extending along first and second opposite sides of the second portion of the second headgear extension at the connection to the second headgear extension.
11. The mask assembly of Claim 6, wherein the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of a mating region between the hollow body of the prong portion and the rigid mask body.
12. The mask assembly of Claim 6, wherein the hollow body of the prong portion and the rigid mask body overlap each other in a mating region.
13. The mask assembly of Claim 12, wherein the hollow body, the first prong and the second prong are integrally formed in a monolithic component.
14. The mask assembly of Claim12, wherein the first prong and the second prong are angled toward each other in the proximal direction.
15. The mask assembly of Claim 6, wherein the rigid mask body comprises a recessed curved portion of the curved outer which is recessed inwardly into the rigid mask body relative

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

to a surrounding portion of the curved outer surface, the recessed curved portion comprising a plurality of apertures defining a bias flow outlet vent.
16. The mask assembly of Claim 6, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent, and to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
17. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part and a proximal end disposed proximally toward a user in use, the first headgear extension extending from the rigid mask body, at least along a first lateral direction extending laterally away from the rigid mask body and beyond an outer periphery of the prong part and along a second direction extending more proximally toward the user than the first direction in use; and
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part and a proximal end disposed proximally toward a user in use, the second headgear extension extending from the rigid mask body at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part and [[, the second portion of the second headgear extension]] along a fourth direction more proximally toward the user than the third direction in use.
18. The mask assembly of Claim 17 additionally comprising a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
19. The mask assembly of Claim 18, wherein the headgear strap comprises a flexible tube engaged with the first and second headgear extensions.

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## Knobbe Martens

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## DRAFT INTERVIEW AGENDA (Suppl.)

## U.S. Application No.: $\quad 14 / 846,226$ (FPHCR.112C2)

Date/Time: Thursday, February 04, 2016; 1:30 PM Eastern
Attendees: Examiner Annette Dixon, Michael A. Guiliana (Reg. No. 42,611), Xiaoyan Wang

The following figure is submitted only for illustration in the interview and not intended as proposed amendment to the drawings:


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## FPHCR.112C2

App. No.: $\quad 14 / 846,226$
Filing Date: September 4, 2015
Claims for Interview Request

BREATHING ASSISTANCE APPARATUS

1. (Currently Amended) A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion and a mask body periphery, the mask body periphery comprising a left peripheral side and a right peripheral side;
a prong part comprising a hollow body removably sealed to the rigid mask body defining an enclosed space, a prong part periphery extending along a periphery of the hollow body, and first and second nasal prongs extending from the hollow body, the periphery of the prong part removably sealed to the mask body periphery in use, the prong patt being formed as a single piece and being more flexible than the rigid mask body;
an inspiratory conduit connected to the rigid mask body configured to deliver pressurized gases into the enclosed space defined by the rigid mask body and the prong part for inhalation by a user in use;
a headgear arrangement configured to maintain the prong part in a position with the first and second prongs against a user's nares in use, the headgear arrangement comprising first and sccond headgear exlensions and a headgear strap;
the first headgear extension having a distal end connected to the left peripheral side of the rigid mask body on a distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a left side of a user's face in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the left peripheral side of the rigid mask body and beyond an outer periphery of the prong part, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;

## FPHCR.112C2

App. No.: $\quad 14 / 846,226$
Filing Date: September 4, 2015

## Claims for Interview Request

## BREATHING ASSISTANCE APPARATUS

the second headgear extension having a distal end connected to the right peripheral side of the rigid mask body on the distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a right side of a user's face in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension extending from the first portion, along a foutth direction extending more proximally toward the user than the third direction in use;
the headgear strap comprising a flexible tube having first and second ends, the first end connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and a second end connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension; and
at least a first bias flow vent disposed on the curved portion of the outer surface of the rigid mask body, the first bias flow vent being configured to vent a gas from the enclosed space between the rigid mask body and the prong part, to an outside of the rigid mask body during use.
2. The mask assembly of Claim 1 , wherein the first bias flow vent comprises a flow vent outcr surface, the flow vent outer surface being recessed inwardly from the curved portion of the outer surface of the rigid mask body,
3. The mask assembly of Claim 1, additionally comprising a conduit connection disposed on the rigid mask body and connecting the inspiratory conduit to the rigid mask body, the first bias flow vent comprising a plurality of apertures arranged symmetrically on left and right sides of the conduit connection.
4. The mask assembly of Claim 1, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent.

## FPHCR.112C2

App. No.: $\quad$ 14/846,226 Filing Date: September 4,2015

## BREATHING ASSISTANCE APPARATUS

Claims for Interview Request
5. The mask assembly of Claim 4, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
6. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curvod portion;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a user in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction exteuding laterally away from the rigid mask body and beyond an outer pcriphery of the puus path, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a user in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension along a fourth direction more proximally toward the user than the third direction in use; and

## FPHCR.112C2

App. No.: $14 / 846,226$
Filing Date: September 4, 2015
Claims for Interview Request

## BREATHING ASSISTANCE APPARATUS

a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
7. The mask assembly of Claim 6, wherein the first portion of the first headgear extension is shorter than the second portion of the first headgear extension and the first portion of the second headgear extension is shorter than the second portion of the second headgear extension.
8. The mask assembly of Claim 6, wherein the headgear strap comprises a flexible tube and is connected to the second portion of the first headgear extension and the second portion of the second headgear extension.
9. The mask assembly of Claim 6, wherein the first portion of the first headgear extension and the first portion of the second headgear extension extend laterally outward distally of a sealing location between the prong part and the mask body and the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of the sealing location between the prong part and the mask body.
10. The mask assembly of Claim 6, wherein the headstrap comprises first and second ends, the first end extending ulong first and second opposite sides of the second portion of the first headgear extension at the connection to the first headgear extension, the sccond end extending along first and second opposite sides of the second portion of the second headgear extension at the connection to the second headgear extension.
11. The mask assembly of Claim 6, wherein the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of a mating region between the hollow body of the prong portion and the rigid mask body.
12. The mask assembly of Claim 6, wherein the hollow body of the prong portion and the rigid mask body overlap each other in a mating region.
13. The mask assembly of Clain 12, wherein the hollow body, the first prong and the second prong are integrally formed in a monolithic component.

## FPICR.112C2

App. No.: $\quad 14 / 846,226$
Filing Date: September 4, 2015

## Claims for Interview Request

## BREATHING ASSISTANCE APPARATUS

14. The mask assembly of Claim12, wherein the first prong and the second prong are angled toward each other in the proximal direction.
15. The mask assembly of Claim 6 , wherein the rigid mask body comprises a recessed curved portion of the curved outer which is recessed inwardly into the rigid mask body relative to a surrounding portion of the curved outer surface, the recessed curved portion comprising a plurality of apcrtures defining a bias flow outlet vent.
16. The mask assembly of Claim 6 , wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent, and to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
17. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a user in use, the first headgear extension extending from the rigid mask body, at least along a first lateral direction extending laterally away from the rigid mask body and beyond an outer periphery of the prong part and along a second direction extending more proximally toward the user than the first direction in use; and
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part at a location spaced from a user in use, and a proximal end disposed proximally toward a user it use, the second headgear extension extending from the rigid mask body at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part and [f, the

## FPHCR.112C2

Арр. No.: 14/846,226
Filing Date: September 4, 2015
Claims for Interview Request

## BREATHING ASSISTANCE APPARATUS

second portion of the second headgear extension]] along a fourth direction more proximally toward the user than the third direction in use.
18. The mask assembly of Claim 17 additionally comprising a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
19. The mask assembly of Claim 18, wherein the headgear strap comprises a flexible tube engaged with the first and seoud leadyear extensions.

## Applicant Initiated Interview Request Form



An interview was conducted on the above-identified application on
NOTE: This form should be completed and filed by applicant in advance of the interview (see MPEP § 713.01). If this form is signed by a registered practitioner not of record, the Office will accept this as an indication that he or she is authorized to conduct an interview on behalf of the principal ( $\mathbf{3 7}$ CFR 1.32(a)(3)) pursuant to 37 CFR 1.34. This is not a power of attorney to any above named practitioner. See the Instruction Sheet for this form, which is incorporated by reference. By signing this form, applicant or practitioner is certifying that he or she has read the Instruction Sheet. After the interview is conducted, applicant is advised to file a statement of the substance of this interview ( $\mathbf{3 7}$ CFR $1.133(b)$ ) as soon as possible. This application will not be delayed from issue because of applicant's failure to submit a written record of this interview.

## /Michael Guiliana/

Applicant/Applicant's Representative Signature
Examiner/SPE Signature
Michael A. Guiliana

## Typed/Printed Name of Applicant or Representative 42611

Registration Number, if applicable

## Summary of Issues for Discussion

The claims of the present application cover the non-limiting embodiment of Figures 9-11. As recited in claims 1, 6, and 17, the mask assembly includes a rigid mask body and head gear extensions (one labeled below). The head gear extensions include a distal end connected to the rigid mask body and proximal ends disposed proximally toward the user (in use).

The head gear extensions also extend from the rigid mask body first along a lateral direction, then along a second direction extending more proximally toward the user.


None of the cited references show this structure.

The cited prior art references are summarized below:

## Stenzler et al Does not Teach Head Gear Extensions Extending from Rigid Mask Body Along Two Different Directions

Stenzler Shows triangular flanges extending from a nose piece member 24 along ONE DIRECTION. The flanges do not extend along a first lateral direction then along a second direction more proximal toward a user.


Wilkie et al Does not Teach Head Gear Extensions Extending from Rigid Mask Body on the Distal side of the Prong Part and Along the Two Different Recited Directions

Wilkie shows a mask having a prong part with a strap attached to the proximal side of the prong part and configured to press against the user's upper lip.

mask. The strap is made from a flexible elastomeric material such as silastic and is shaped so that the central area $12 a$ of the strap is curved to generally conform to the shape of the area of a human face between a human's mouth and the base of their nose (see FIG. 2). Note that hereinafter the human is referred to as a patient. On the opposite side of the central area of the strap $12 a$ which contacts a patient's face, there is a manifold or chamber 18. The manifold is also made from the same flexible elastomeric material as the strap. The

## Piliay Does not Teach Head Gear Extensions Extending from Rigid Mask Body Laterally, Beyond Outer Periphery of Seal Body

Piljay shows a mask having a cup-shaped face member 11 , a housing 126, and a headstrap 17, but no headgear extensions extending from a rigid mask body and along two directions, including laterally away from the rigid mask body beyond an outer periphery of the cup-shaped face member.


FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

1. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion and a mask body periphery, the mask body periphery comprising a left peripheral side and a right peripheral side;
a prong part comprising a hollow body removably sealed to the rigid mask body defining an enclosed space, a prong part periphery extending along a periphery of the hollow body, and first and second nasal prongs extending from the hollow body, the periphery of the prong part removably sealed to the mask body periphery in use, the prong part being formed as a single piece and being more flexible than the rigid mask body;
an inspiratory conduit connected to the rigid mask body configured to deliver pressurized gases into the enclosed space defined by the rigid mask body and the prong part for inhalation by a user in use;
a headgear arrangement configured to maintain the prong part in a position with the first and second prongs against a user's nares in use, the headgear arrangement comprising first and second headgear extensions and a headgear strap;
the first headgear extension having a distal end connected to the left peripheral side of the rigid mask body on a distal side of the prong part, and a proximal end disposed proximally toward a left side of a user's face in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the left peripheral side of the rigid mask body and beyond an outer periphery of the prong part, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
the second headgear extension having a distal end connected to the right peripheral side of the rigid mask body on the distal side of the prong part, and a proximal

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

end disposed proximally toward a right side of a user's face in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension extending from the first portion, along a fourth direction extending more proximally toward the user than the third direction in use;
the headgear strap comprising a flexible tube having first and second ends, the first end connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and a second end connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension; and
at least a first bias flow vent disposed on the curved portion of the outer surface of the rigid mask body, the first bias flow vent being configured to vent a gas from the enclosed space between the rigid mask body and the prong part, to an outside of the rigid mask body during use.
2. The mask assembly of Claim 1, wherein the first bias flow vent comprises a flow vent outer surface, the flow vent outer surface being recessed inwardly from the curved portion of the outer surface of the rigid mask body.
3. The mask assembly of Claim 1 , additionally comprising a conduit connection disposed on the rigid mask body and connecting the inspiratory conduit to the rigid mask body, the first bias flow vent comprising a plurality of apertures arranged symmetrically on left and right sides of the conduit connection.
4. The mask assembly of Claim 1, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent.
5. The mask assembly of Claim 4, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the prong part toward the bias flow vent.

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

6. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part, and a proximal end disposed proximally toward a user in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the rigid mask body and beyond an outer periphery of the prong part, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part, and a proximal end disposed proximally toward a user in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part, the second portion of the second headgear extension along a fourth direction more proximally toward the user than the third direction in use; and
a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

7. The mask assembly of Claim 6, wherein the first portion of the first headgear extension is shorter than the second portion of the first headgear extension and the first portion of the second headgear extension is shorter than the second portion of the second headgear extension.
8. The mask assembly of Claim 6, wherein the headgear strap comprises a flexible tube and is connected to the second portion of the first headgear extension and the second portion of the second headgear extension.
9. The mask assembly of Claim 6, wherein the first portion of the first headgear extension and the first portion of the second headgear extension extend laterally outward distally of a sealing location between the prong part and the mask body and the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of the sealing location between the prong part and the mask body.
10. The mask assembly of Claim 6, wherein the headstrap comprises first and second ends, the first end extending along first and second opposite sides of the second portion of the first headgear extension at the connection to the first headgear extension, the second end extending along first and second opposite sides of the second portion of the second headgear extension at the connection to the second headgear extension.
11. The mask assembly of Claim 6, wherein the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of a mating region between the hollow body of the prong portion and the rigid mask body.
12. The mask assembly of Claim 6, wherein the hollow body of the prong portion and the rigid mask body overlap each other in a mating region.
13. The mask assembly of Claim 12, wherein the hollow body, the first prong and the second prong are integrally formed in a monolithic component.
14. The mask assembly of Claim12, wherein the first prong and the second prong are angled toward each other in the proximal direction.
15. The mask assembly of Claim 6, wherein the rigid mask body comprises a recessed curved portion of the curved outer which is recessed inwardly into the rigid mask body relative

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

to a surrounding portion of the curved outer surface, the recessed curved portion comprising a plurality of apertures defining a bias flow outlet vent.
16. The mask assembly of Claim 6, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent, and to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
17. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body on a distal side of the prong part and a proximal end disposed proximally toward a user in use, the first headgear extension extending from the rigid mask body, at least along a first lateral direction extending laterally away from the rigid mask body and beyond an outer periphery of the prong part and along a second direction extending more proximally toward the user than the first direction in use; and
a second headgear extension having a distal end connected to the rigid mask body on the distal side of the prong part and a proximal end disposed proximally toward a user in use, the second headgear extension extending from the rigid mask body at least along a third lateral direction extending laterally away from the rigid mask body and beyond the outer periphery of the prong part and [[, the second portion of the second headgear extension]] along a fourth direction more proximally toward the user than the third direction in use.
18. The mask assembly of Claim 17 additionally comprising a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of

FPHCR.112C2
App. No.: 14/846,226
Filing Date: September 4, 2015

## BREATHING ASSISTANCE APPARATUS

the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
19. The mask assembly of Claim 18, wherein the headgear strap comprises a flexible tube engaged with the first and second headgear extensions.

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| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 24521356 |
| Application Number: | 14846226 |
| International Application Number: |  |
| Confirmation Number: | 8898 |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |
| Customer Number: | 20995 |
| Filer: | Michael A. Guiliana/ThuyQuyen Nguyen |
| Filer Authorized By: | Michael A. Guiliana |
| Attorney Docket Number: | FPHCR. 112 C 2 |
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| Application Type: | Utility under 35 USC 111(a) |

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| File Listing: |  |  |  |  |  |
| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
| 1 | First Action Interview - Schedule Interview request | FPHCR112C2_Interview_Reque st.pdf |  | no | 11 |
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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 $\mathbf{3 5}$ U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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

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| APPLICATİN NUMBER | FILING OR $371(\mathrm{C})$ DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TTTLE |
| 14/846,226 | 09/04/2015 | Alastair Edwin McAuley | FPHCR.112C2 |
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## Title:BREATHING ASSISTANCE APPARATUS

Publication No.US-2015-0374946-A1
Publication Date:12/31/2015

## 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.

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


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):
jayna.cartee@knobbe.com efiling@knobbe.com

| Notice of References Cited | Application/Control No. <br> $14 / 846,226$ |  | Applicant(s)/Patent Under <br> Rexamination <br> MCAULEY ET AL. |  |
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|  | Examiner <br> ANNETTE DIXON | Art Unit <br> 3778 | Page 1 of 1 |  |


| $*$ |  | Document Number <br> Country Code-Number-Kind Code | Date <br> MM-YYYY | Name | CPC Classification | US Classification |
| :---: | :---: | :--- | :--- | :--- | :---: | :---: |
| $*$ | A | US-2003/0200970 A1 | $10-2003$ | Stenzler, Alex | A61M16/0666 | $128 / 207.18$ |
| $*$ | B | US-7,201,169 B2 | $04-2007$ | Wilkie; Paul | A61M16/06 | $128 / 207.13$ |
| $*$ | C | US-4,437,462 A | $03-1984$ | Piljay; Robert E. | A62B18/084 | $128 / 207.11$ |
| $*$ | D | US-2006/0124131 A1 | $06-2006$ | Chandran; Sanjay | A61M16/06 | $128 / 206.28$ |
| $*$ | E | US-2005/0011524 A1 | $01-2005$ | Thomlinson, Marguerite | A61M16/0666 | $128 / 207.18$ |
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FOREIGN PATENT DOCUMENTS

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## NON-PATENT DOCUMENTS

| $*$ |  | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
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[^0]|  Application No. Applicant(s) <br> Pre-Interview Communication <br>  $14 / 846,226$ MCAULEY ET AL. |  |  |  |
| :---: | :--- | :--- | :--- |
|  | Examiner | Art Unit | AIA (First Inventor to File) <br> Status <br> No |

-The MAILING OR NOTIFICATION DATE of this communication appears on the cover sheet with the correspondence address THE SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ONE MONTH OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING OR NOTIFICATION DATE OF THIS COMMUNICATION.
This time period for reply is extendable under 37 CFR 1.136(a) for only ONE additional MONTH.
This communication constitutes notice under 37 CFR 1.136(a)(1)(i).
Applicant must, within the time period for reply, file: (1) A letter requesting not to have a first action interview; (2) A reply under 37 CFR 1.111 waiving the first action interview and First Action Interview Office Action; or (3) An Applicant Initiated Interview Request Form (PTOL413A) electronically via EFS-Web, accompanied by a proposed amendment or arguments, and schedule the interview within 2 months from the filing of the request. A failure to respond to this communication will be treated as a request not to have an interview. If applicant waives the First Action Interview Office Action, the instant Pre-Interview Communication is deemed the first Office Action on the Merits. The next subsequent Office action may be made final if appropriate. See MPEP 706.07(a).

## Status

1) $\boxtimes$ Responsive to communication(s) filed on $9 / 4 / 15$.
$\square$ A declaration(s)/affidavit(s) under 37 CFR 1.130(b) was/were filed on $\qquad$
Disposition of Claims
2) $\boxtimes$ Claim(s) $\underline{1-19}$ is/are pending in the application. 2a) Of the above claim(s) $\qquad$ is/are withdrawn from consideration.
3) $\square$ Claim(s) $\qquad$ is/are allowed.
4) $\boxtimes$ Claim(s) 1-19 is/are rejected.
5) $\square$ Claim(s) $\qquad$ is/are objected to.
6) $\square$ Claim(s) $\qquad$ are subject to restriction and/or election requirement.

## Application Papers

7) $\square$ The specification is objected to by the Examiner.
8)The drawing(s) filed on $\qquad$ is/are: a) $\square$ accepted or b) $\square$ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
Priority under 35 U.S.C. § 119
8) $\boxtimes$ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § $119(\mathrm{a})$-(d) or (f).
a) $\boxtimes A l l$
b) $\square$ Some * c) $\qquad$ None of:
$1 . \square$ Certified copies of the priority documents have been received.
2. $\boxtimes$ Certified copies of the priority documents have been received in Application No. 10/598,026.
3. $\square$ 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.

## Contact Information

Examiner's Telephone Number: (571)272-3392
Examiner's Typical Work Schedule: Monday thru Friday 0630 to 1500
Supervisor's Name: Jackie Ho
Supervisor's Telephone Number: 571-272-4696

## Attachment(s)

1) \Notice of References Cited (PTO-892)
2) $\triangle$ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 9/4/15.

| First Action Interview Pilot Program Pre-Interview Communication |  |  |  | Application No. $14 / 846,226$ | Applican <br> MCAULE | AL. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Examiner <br> ANNETTE DIXON | Art Unit $3778$ | AIA (First Inventor to File) Status |
| Notification of Rejection(s) and/or Objection(s) |  |  |  |  |  |  |
| \# | Claim(s) | Reference(s) (if applicable) | Rejection Statutory Basis | Brief Explanation of Rejection |  |  |
| 1 | 1-19 |  | 101 | Multiple references "towards a user" "toward a....side of the user's face" raises the issue that Applicant is positively reciting a human being. Applicant can overcome this rejection by reciting "adapted/configured to" language |  |  |
| 2 | 1-19 |  | 112(2) | Multiple references to "first lateral direction" and a "third lateral direction"; however, there is no recitation of a "second lateral direction". It is unclear how there can be a "third lateral direction" without a "second lateral direction". |  |  |
| 3 | $\begin{aligned} & 1-2,4,5,8, \\ & 19 \end{aligned}$ | A, B, C | 103 | Ref A discloses a multibody mask assembly having prong part (24), rigid mask body (12) and inspiratory conduit (70), where headgear extends from the rigid mask body (12) via headgear arrangement (38) and includes a headgear attachment opening (39). Figs 1, 2. |  |  |
| 4 | 6-7, 9-18 | A, B | 103 | See above modification of ref $A$ in view of $B$. |  |  |
| 5 | 3 | A,B,C, D or E | 103 | Both refs D and E teach multibody mask assemblies having vents with a series of holes symmetrically oriented on the main body. This would be an obvious modification to take the single vent and modify for multiple symmetrical vents on right and left sides. |  |  |



[^1]| Notice of References Cited | Application/Control No. <br> $14 / 846,226$ |  | Applicant(s)/Patent Under <br> Rexamination <br> MCAULEY ET AL. |  |
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|  | Examiner <br> ANNETTE DIXON | Art Unit <br> 3778 | Page 1 of 1 |  |


| $*$ |  | Document Number <br> Country Code-Number-Kind Code | Date <br> MM-YYYY | Name | CPC Classification | US Classification |
| :---: | :---: | :--- | :--- | :--- | :---: | :---: |
| $*$ | A | US-2003/0200970 A1 | $10-2003$ | Stenzler, Alex | A61M16/0666 | $128 / 207.18$ |
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FOREIGN PATENT DOCUMENTS

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## NON-PATENT DOCUMENTS

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[^2]| INFORMATION DISCLOSURE | Application No. | Unknown |
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|  | Filing Date | Herewith |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
| (Multiple sheets used when necessary) | Examiner | Unknown |
| SHEET 1 OF 5 | Attorney Docket No. | FPHCR.112C2 |


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*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.
$\mathbf{T}^{1}$ - Place a check mark in this area when an English language Translation is attached.

| INFORMATION DISCLOSURE | Application No. | Unknown |
| :---: | :--- | :--- |
|  | Filing Date | Herewith |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
| (Multiple sheets used when necessary) | Examiner | Unknown |
| SHEET 2 OF 5 | Attorney Docket No. | FPHCR.112C2 |


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Examiner Signature Annette Dixon/ (1201/2015)
*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.
$\mathbf{T}^{1}$ - Place a check mark in this area when an English language Translation is attached.

| INFORMATION DISCLOSURE | Application No. | Unknown |
| :---: | :--- | :--- |
|  | Filing Date | Herewith |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
| (Multiple sheets used when necessary) | Examiner | Unknown |
| SHEET 3 OF 5 | Attorney Docket No. | FPHCR.112C2 |


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Examiner Signature Annette Dixon/ (1201/2015)
*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.
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| INFORMATION DISCLOSURE | Application No. | Unknown |
| :---: | :--- | :--- |
|  | Filing Date | Herewith |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
| (Multiple sheets used when necessary) | Examiner | Unknown |
| SHEET 4 OF 5 | Attorney Docket No. | FPHCR.112C2 |


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Examiner Signature
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PTO/SB/08 Equivalent

| INFORMATION DISCLOSURE | Application No. | Unknown |
| :---: | :--- | :--- |
|  | Filing Date | Herewith |
|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
| (Multiple sheets used when necessary) | Examiner | Unknown |
| SHEET 5 OF 5 | Attorney Docket No. | FPHCR.112C2 |


| FOREIGN PATENT DOCUMENTS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Examiner Initials | Cite <br> No. | Foreign Patent Document Country Code-Number-Kind Code <br> Example: JP 1234567 A1 | $\begin{gathered} \text { Publication } \\ \text { Date } \\ \text { MM-DD-YYYY } \end{gathered}$ | Name | Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear | $\mathrm{T}^{1}$ |
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| Examiner Signature $\quad$ Annette Dixon/ $(12012015)$ | Date Considered |
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| not in conformance and not considered. Include copy of this form with next communication to applicant. |  |

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CONFIRMATION NO. 8898

| SERIAL NUMBER <br> 14/846,226 |  | $\begin{array}{r} \hline \text { FILING O } \\ \text { DOT/04/ } \\ \text { RUL } \end{array}$ | $\begin{aligned} & 371(c) \\ & 15 \end{aligned}$ | CLASS <br> 128 |  |  |  | $\begin{aligned} & \text { JRNEY DOCKET } \\ & \text { NO. } 112 \mathrm{C} 2 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APPLICANTS <br> Fisher \& Paykel Healthcare Limited, Auckland, NEW ZEAL <br> INVENTORS <br> Alastair Edwin McAuley, Dallas, TX; <br> Craig Robert Prentice, Auckland, NEW ZEALAND; <br> Oliver Gleeson, Auckland, NEW ZEALAND; |  |  |  |  |  |  |  |  |
| ** CONTINUING DATA ************************* /ad/ <br> This application is a CON of $14 / 333,13407 / 16 / 2014$ which is a CON of 10/598,026 10/18/2007 PAT 8783257 which is a 371 of PCT/NZ05/00023 02/18/2005 |  |  |  |  |  |  |  |  |
| ** FOREIGN APPLICATIONS $\qquad$ /ad/ <br> NEW ZEALAND 531332 02/23/2004 <br> NEW ZEALAND 534606 08/06/2004 <br> ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 09/18/2015 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Foreign Priority claimed  <br> 35 UsC $119($ a-d $)$ conditions met $\square_{\text {Yes }} \square$ No  <br> Verified and ANNETTE <br> Acknowledged FREDRICKA DIXON/ |  |  | $\qquad$ | STATE OR COUNTRY TX |  |  |  | INDEPENDENT CLAIMS 3 |
| ADDRESS |  |  |  |  |  |  |  |  |
| KNOBBE MARTENS OLSON \& BEAR LLP 2040 MAIN STREET <br> FOURTEENTH FLOOR <br> IRVINE, CA 92614 <br> UNITED STATES |  |  |  |  |  |  |  |  |
| TITLE |  |  |  |  |  |  |  |  |
| BREATHING ASSISTANCE APPARATUS |  |  |  |  |  |  |  |  |
| FILING FEE RECEIVED 1600 | FEES: Authority has been given in Paper No. $\qquad$ to charge/credit DEPOSIT ACCOUNT No. $\qquad$ for following: |  |  |  |  | $\square$ All Fees |  |  |
|  |  |  |  |  |  | 1.16 Fees (Filing) |  |  |
|  |  |  |  |  |  | - 1.17 Fees (Processing Ext. of time) |  |  |
|  |  |  |  |  |  | 1.18 Fees (Issue) |  |  |
|  |  |  |  |  |  | $\square$ Other |  |  |
|  |  |  |  |  |  | $\square$ Credit |  |  |


| Index of Claims | Application/Control No. $14846226$ | Applicant(s)/Patent Under Reexamination <br> MCAULEY ET AL. |
| :---: | :---: | :---: |
|  | Examiner <br> ANNETTE DIXON | Art Unit $3778$ |


| $\checkmark$ | Rejected |
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| $=$ | Allowed |


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| $\div$ | Restricted |


| $\mathbf{N}$ | Non-Elected |
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| $\mathbf{I}$ | Interference |


| A | Appeal |
| :---: | :---: |
| $\mathbf{O}$ | Objected |


| $\square$ Claims renumbered in the same order as presented by applicant |  |  |  |  |  |  | CPA | $\square$ | T.D. | $\square$ | R.1.47 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CLAIM |  | DATE |  |  |  |  |  |  |  |  |  |
| Final | Original | 12/01/2015 |  |  |  |  |  |  |  |  |  |
|  | 1 | $\checkmark$ |  |  |  |  |  |  |  |  |  |
|  | 2 | $\checkmark$ |  |  |  |  |  |  |  |  |  |
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|  | 18 | $\checkmark$ |  |  |  |  |  |  |  |  |  |
|  | 19 | $\checkmark$ |  |  |  |  |  |  |  |  |  |

## EAST Search History

## EAST Search History (Prior Art)

| Ref \# | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| L1 | 265 |  | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\begin{aligned} & 2015 / 12 / 01 \\ & 10: 25 \end{aligned}$ |
| L2 | 433 | ((headgear strap harness belt) with cheek) and "128".clas. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | ? |
| L3 | $7^{709}$ | ((headgear strap harness belt) with tube) and "128".clas. and @ad<="20040223" | US-PGPUB; <br> USPAT; <br> USOCR; <br> EPO; JPO; | OR | ON |  |


|  |  |  | DERWENT <br> IBM TDB |  |  |  |
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| L4 | 31 | ((headgear strap harness belt) adj tube) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON |  |
| L5 | \% 164 | ((headgear strap harness belt) with tubular) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | $\left\{\begin{array}{l} 2015 / 12 / 01 \\ 11: 09 \end{array}\right.$ |
| L6 | \$13 | $\begin{aligned} & (\text { ("4437462") or ("7201169") or } \\ & \text { ("20030200970")).PN. } \end{aligned}$ | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | OFF | $\left\{\begin{array}{l} 2015 / 12 / 01 \\ 12: 05 \end{array}\right.$ |
| L7 | \% ${ }^{31369}$ | ```(A61M15/08; A61M16/06; A61M16/0616; A61M16/0633; A61M16/0666; A61M16/0683; A61M16/0825; A61M16/208; A61M2210/0618; A61M2240/00; A62B18/00; A62B18/02; A62B18/08; A62B18/084; A62B35/00).cpc.``` | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $=2015 / 12 / 01$ |
| L8 | :161 | (mcauley.in. near alastair) (prentice.in. near craig) (gleeson.in. near oliver) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2015 / 12 / 01 \\ & 12: 14 \end{aligned}$ |
| L9 | 4 | L8 and ((headgear harness strap belt) and (lateral laterally) and (nose nostril nasal nare cannulae cannula)).clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\left\{\begin{array}{l} 2015 / 12 / 01 \\ 12: 14 \end{array}\right.$ |
| S1 | $58$ |  | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT' IBM_TDB | OR | ON | $2011 / 08 / 09$ <br> 14:20 |
| S2 | $1171$ | \|"0007476"| |"0077540"| |"0396936"| | US-PGPUB; USPAT; USOCR | OR | ON | :2011/08/09 |




|  |  | (nose nasal nare) | $\begin{aligned} & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ |  |  | 09:31 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S11 | 3 | S10 and "128".clas. and @ad<="20040223" | US-PGPUB; USAT; USOCR; EPO; JPO; DERWENT; IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 31 \end{aligned}$ |
| S12 | 45 | offset with (prong pillow cannula) with (nose nasal nare) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 51 \end{aligned}$ |
| S13 | 2 | $\begin{aligned} & \text { S12 and "128".clas. and } \\ & \text { @ad }<=\text { "20040223" } \end{aligned}$ | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 201 / 08 / 10 \\ & 09: 51 \end{aligned}$ |
| S14 | 4863 | (prong pillow cannula) with (nose nasal nare) | US-GGPU; UPAT; USOCR; EPO; JPO; DERWENT; IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 54 \end{aligned}$ |
| S15 | 809 | S14 and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 09: 54 \end{aligned}$ |
| S16 | 3188 | (cannula ((prong pillow cannula) with (nose nasal nare))) same (replacable removable) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 12: 12 \end{aligned}$ |
| S17 | 150 | S16 and "128".clas. and @ad<="20040223" | US-PGPUB; <br> USPAT; <br> USOCR; <br> EPO; JPO; <br> DERWENT <br> IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 12: 12 \end{aligned}$ |
| S18 | 984 | ( ( prong pillow cannula) with (nose nasal nare))) and (replacable removable interchangable) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 12: 15 \end{aligned}$ |
| S19 | 125 | S18 and "128".clas. and @ad<="20040223" | US-PGPUB; <br> USPAT; <br> USOCR; <br> EPO; JPO; <br> DERWENT <br> IBM TDB | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 12: 15 \end{aligned}$ |
| S20 | 4276 | (()prong cannula) with (nose nasal | USPGPUB; | OR | ON | 2011/08/10 |


|  |  | ( nare) ) | $\begin{aligned} & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ |  |  | \% $12: 17$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S21 | 720 | S20 and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUBD } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO JPO } \end{aligned}$ | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 12: 17 \end{aligned}$ |
| S22 | 108 |  | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $=$ |
| S23 | 2252 | (mcualey prentice gleeson).in. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 16: 03 \end{aligned}$ |
| S24 | 18 | (mcualey prentice gleeson).in. near (alastair craig oliver) | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $=1201 / 08 / 10$ |
| S25 | 2 | (((prong cannula) and (nose nasal nare) )) ).clm. and S24 | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 16: 04 \end{aligned}$ |
| S26 | . 2312 | $\begin{aligned} & ((128 / 207.18) \text { or }(128 / 206.21) \text { or } \\ & (128 / 207.13) \text { or }(128 / 206.11) \text { or } \\ & (128 / 206.18) \text { or }(128 / 203.22)) . \text { CCLS. } \end{aligned}$ | $\begin{aligned} & \text { USPGPUB; } \\ & \hline \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2011 / 08 / 10 \\ & 16: 06 \end{aligned}$ |
| S27 | 625 | ((()prong cannula) and (nose nasal nare) )) ) and S26 | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & \text { 2011/08/10 } \\ & 16: 06 \end{aligned}$ |
| S28 | 6966 | $\begin{aligned} & ((128 / 200.24) \text { or }(128 / 200.26) \text { or } \\ & (128 / 203.12) \text { or }(128 / 203.15) \text { or } \\ & (128 / 203.16) \text { or }(128 / 203.17) \text { or } \\ & (128 / 205.25) \text { or }(128 / 206.21)) \text {. CCLS. } \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2011 / 08 / 10 \\ & 16: 08 \end{aligned}$ |
| S29 | 1022 | ((()prong cannula) and (nose nasal nare)))) and (S26 S28) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2011 / 08 / 10 \\ & 16: 09 \end{aligned}$ |
| S30 | 5446 | (cannula ((nose nasal nare nostril) with (plug prong pillow))) and "128".clas. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \end{aligned}$ | OR | ON | [2013/04/11 |


|  |  |  | $\begin{aligned} & \text { USOCR; } \\ & \text { EPO; ;PO, } \\ & \text { DERWENT, } \\ & \text { IBM TDB } \end{aligned}$ IBM TDB |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 531 | 2094 | cannula ((nose nasal nare nostri) with (plug prong pillow))) and "128".clas. and (\$PAP (positive with pressure)) | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO UPO, } \\ & \text { DERWENT, } \\ & \text { BM TDB } T \text { PB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 02 \end{aligned}$ |
| S32 | 8 | tiep.in. and "128".clas. | $\begin{aligned} & \text { USPGPGB; } \\ & \text { USPTT; } \\ & \text { USROR; } \\ & \text { FPRS; } \\ & \text { EPOR ; PO, } \\ & \text { DERWENT, } \\ & \text { IBM_TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 03 \end{aligned}$ |
| S33 | 36 |  | $\begin{aligned} & \text { USPGPB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 04 \end{aligned}$ |
| S34 | 10 | (US-20110009763-\$ or US-20080142019-\$ or US-20070175473-\$ or US-20070107737-\$ or US-20050284484\$ or US-20040134494-\$).did. or (US-8333194-\$ or US-7225807-\$ or US-5477852-\$ or US-5269296-\$).did. | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 46 \end{aligned}$ |
| 535 | 4 | S34 and @ad<="20040223" | USPGPPB; USPAT; USOCR; EPO; UPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 46 \end{aligned}$ |
| S36 | 150 |  | $\begin{aligned} & \text { USPGPU; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 11 \\ & 14: 47 \end{aligned}$ |
| S37 | 218 | (wood landis). in. and "128".clas. | $\begin{aligned} & \text { USPGPB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\xrightarrow[14: 53]{2013 / 4 / 11}$ |
| S38 | 70 | S37 and @ad<="20040223" | USPGPUB; USPAT; USOCR; EPO; UPO; DERWENT IBM TDB | OR | ON | $\left\lvert\, \begin{aligned} & 2013 / 04 / 11 \\ & 14: 54 \end{aligned}\right.$ |
| S39 | 2 | ("6439234").PN. | $\begin{array}{l\|} \hline \begin{array}{l} \text { USPGPB; } \\ \text { USPTT; } \\ \text { USOCR; } \\ \text { FPRS; } \\ \text { EPO; ;PO, } \\ \text { DERWENT, } \\ \text { IBM_TDB } \end{array} \end{array}$ | OR | OFF | $\left\lvert\, \begin{aligned} & 2013 / 04 / 11 \mid \\ & 14: 56 \end{aligned}\right.$ |
| S40 |  | ("6478026").PN. | USPGPUB; | OR | OFF | 2013/04/11 |


|  |  |  | USPAT; <br> USOCR; <br> FPRS; <br> EPO; JPO; <br> DERWENT <br> IBM TDB |  |  | - 14.59 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S41 | 2 | ("6679265").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | $1 / \mathrm{OR}$ | OFF | $\begin{aligned} & 2013 / 04 / 11 \\ & 15: 00 \end{aligned}$ |
| S42 | 2 | $\sqrt{(" 20030079749 ") . P N .}$ | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | OR | OFF | $\begin{aligned} & : / 2013 / 04 / 12 \\ & 09: 10 \end{aligned}$ |
| S43 | 0 | (humidifer with (\$PAP)) and "128".clas. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 31 \end{aligned}$ |
| S44 | 0 | (humidifer same (\$PAP)) and "128".clas. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | ON |  |
| S45 | $\sqrt{1}$ | (humidifer and (\$PAP)) and "128".clas. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 31 \end{aligned}$ |
| S46 | ${ }^{8}$ | (humidifer and (\$PAP)) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT: IBM_TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 31 \end{aligned}$ |
| S47 | 14 | (humidifer and (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { FPRS; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | $1 \mathrm{OR}$ | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 32 \end{aligned}$ |
| S48 | $\sqrt{0}$ | (option\$ with humidifer with (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { FPRS; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \end{aligned}$ | $1 \mathrm{OR}$ | ON |  |


|  |  |  | IBM TDB |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S49 | 0 | (option\$ same humidifer same (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<="20040223" | $\begin{array}{l:} \text { US-PGPUB;: } \\ \text { USPT; } \\ \text { USOCR; } \\ \text { FPRS; } \\ \text { EPO; JPO; } ; \\ \text { DERWENT } \\ \text { IBM TDB } \end{array}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 33 \end{aligned}$ |
| 550 | 733 | ((humidify humidifier humidifying) and (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | ON | ${ }_{09: 34}^{2013 / 04 / 12}$ |
| S51 | 11 | (option\$ with (humidify humidifier humidifying) with (\$PAP (positive with pressure) blower fan turbine impeller generator generating compressor pump)) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 34 \end{aligned}$ |
| S52 | 45 | matula.in. and "128".clas. | US-PGPUB; USPAT; USOC; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 38 \end{aligned}$ |
| 553 | 2 | S52 and @ad<= "20040223" | $\begin{array}{l:} \hline \text { US-PGPUB; } \\ \text { USPT; } \\ \text { USOCR; } \\ \text { FPRS; } \\ \text { EPO; JPO; } \\ \text { DERWENT; } \\ \text { IBM TDB } \end{array}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 38 \end{aligned}$ |
| S54 | 309 | (ball with socket) and "128".clas. and @ad<="20040223" | US-PGPUB; USPT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 39 \end{aligned}$ |
| S55 | 109 | (ball with socket) and "128".clas. and @ad<="20040223" and (cannula cannulae (nose nasal nare nostril)) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { FPRS; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { BM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 40 \end{aligned}$ |
| 556 | 1267 | (oval ellip\$) and "128".clas. and @ad<="20040223" and (cannula cannulae (nose nasal nare nostril)) | US-PGPUB; USAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 57 \end{aligned}$ |
| S57 | $350$ | "128".clas. and @ad<="20040223" and ( (cannula cannulae (nose nasal nare nostril)) same (oval ellip\$)) | US-PGPUB; USPAT; USOCR; FPRS; |  | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 09: 58 \end{aligned}$ |


|  |  |  | $\begin{aligned} & \text { EPO; JPO } \\ & \text { DERWENT } \\ & \text { IBM_TDB } \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S58 | 745 | "128".clas. and @ad<="20040223" and ((strap headgear harness) with (tube hose)) | $\begin{aligned} & \text { lsPGPUB; } \\ & \text { USPAT; } \\ & \text { USORR; } \\ & \text { FPRS; } \\ & \text { EPO UPO, } \\ & \text { DERWENT, } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 10: 28 \end{aligned}$ |
| 559 | 21 | (mcualey prentice gleeson).in. near (alastair craig oliver) | USPGPUB; USPAT; USOCR; EPO; JPO; IBM TDB | OR | ON | $\begin{aligned} & 2013 / 04 / 12 \\ & 10: 59 \end{aligned}$ |
| S60 | 4 | s59 and (aperture hole opening vent). .1 m. | USPGPUB; USPAT; USOCR: EPO; JPO; DERWENT IBM TDB | OR | Ion | $2$ |
| 561 | 4 | s59 and (aperture hole opening vent). Cl . and (cannula cannulae nasal nostril nose nare).clm. | USPGPUB: USPAT; USOCR; EPO; JPO; DERWEN | OR | ON | $\left\lvert\, \begin{aligned} & 2013 / 04 / 12 \\ & 11: 00 \end{aligned}\right.$ |
| 562 | 1 | S59 and (aperture hole opening vent). Clm . and (cannula cannulae nasal nostril nose nare).clm. and flange.cIm. | USPGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON | $\left\lvert\, \begin{aligned} & 2013 / 04 / 12 \\ & 11: 00 \end{aligned}\right.$ |
| S63 | 2817 | ((1288/207.18) or $(128 / 206.21)$ or (128/207.13) or $(128 / 206.11)$ or $(128 / 206.18)$ or $(128 / 203.22))$.CCLS. | USPGPUB USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | $\begin{aligned} & 2013 / 09 / 10 \\ & 12: 49 \end{aligned}$ |
| S64 | 9019 | $(1288 / 200.24)$ or $(128 / 200.26)$ or $(1288203122$ or $(1288203.15)$ or $(128820316)$ or $(1288 / 203.17)$ or $(128 / 205.25)$ or $(128 / 206.21))$.CLLS. | USPGPUB USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | OFF | $\begin{aligned} & 2013 / 09 / 10 \\ & 12: 49 \end{aligned}$ |
| S65 | 10479 | S63 664 | USPGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 12: 49 \end{aligned}$ |
| S66 | 2253 | (nose nostril nasal nare cannula) and S65 and @ad<="20040223" | US-PGPUB; USPAT; USOCR | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 12: 49 \end{aligned}$ |
| S67 | 7697 | (nose nostril nasal nare cannula) and <br> "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { LSPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 13: 08 \end{aligned}$ |
| 568 | 1783 | (nose nostril nasal nare cannula) and | USPGPUB; | OR | ON | 13/09/10 |


|  |  | (ball joint socket) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ |  |  | 13:08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S69 | 1378 | S68 not S66 | US-PGPUB; USPAT; USOCR | OR | ON | $\frac{2013 / 09 / 10}{13: 08}$ |
| S70 | 4234 | (nose nostril nasal nare cannula) and (ball joint socket) and "128".clas. | US-PGPUB; USPAT; USOCR | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \mid \\ & 13: 18 \end{aligned}$ |
| S71 | 2451 | S70 not (S66 S68) | US-PGPUB; USPAT; USOCR | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 13: 18 \end{aligned}$ |
| S72 | 48 | matula.in. and "128".clas. | US-PGPUB; USPAT; USOCR | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 08 \end{aligned}$ |
| 573 | 62 | hoffman.in. and "128".clas. | US-PGPUB; USPAT; USOCR | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 08 \end{aligned}$ |
| S74 | 247 | RIC.as. and "128".clas. | $\begin{array}{l\|} \hline \text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR } \end{array}$ | OR | ON |  |
| S75 | 2 | ("2003180088").PN. | US-PGPUB; USPT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | OFF | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 13 \end{aligned}$ |
| S76 | 2 | (20030180088").PN | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT, IBM TDB | OR | OFF | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 13 \end{aligned}$ |
| 577 | 9 | $\begin{aligned} & (" 20030180088 \text { ") or ("1695263") or } \\ & (" 7178525 ")) . P N \text {. } \end{aligned}$ | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | OFF | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 14 \end{aligned}$ |
| S78 | [12 | (("20030180088") or ("1695263") or | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | OFF | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 16 \end{aligned}$ |
| S79 | 112 | ((nose nostril nasal nare cannula) with (vent venting)) and S65 and @ad<="20040223 | US-PGPUB; USPAT; USOCR | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & \hline 14: 31 \end{aligned}$ |
| S80 | 2 | ((nose nostril nasal nare cannula) with (ball with socket)) and S65 and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON |  |
| 881 | 1 | ((vent venting) with (ball with socket)) and S65 and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | ON |  |
| S82 | 2 | ((vent venting) same (ball with socket)) and S65 and @ad<="20040223" | US-PGPUB; USPAT; | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 14: 36 \end{aligned}$ |


|  |  |  | USOCR |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S83 | 5 | ziaee.in. and S65 and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 14: 46 \end{array}\right.$ |
| S84 | 1660 | ((tube conduit hose) with (strap headgear)) and "128".clas. | USPGPUB; | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 05 \end{aligned}$ |
| S85 | /748 | ((tube conduit hose) with (strap headgear)) and "128".clas. and @ad<="20040223" | US-PGPUB; USPAT; USOCR | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 05 \end{aligned}$ |
| S86 | 19794 | ((tube tubular conduit hose) adj\$3 (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 06 \end{aligned}$ |
| S87 | 21443 | ((tube tubular conduit hose) near\$3 (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 06 \end{aligned}$ |
| S88 | 20782 | ((tube conduit hose) near\$3 (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 06 \end{aligned}$ |
| S89 | 20782 | ((tube conduit hose) near\$3 (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 06 \end{aligned}$ |
| S90 | 18892 | ((tube conduit hose) adj\$3 (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 06 \end{aligned}$ |
| S91 | 748 | ((tube conduit hose) with (strap headgear)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 06 \end{aligned}$ |
| S92 | 1 | ((tube conduit hose) with (strap headgear) with textile) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 08 \end{aligned}$ |
| S93 | 574 | ((tube conduit hose tubular) with (strap headgear)).detd. and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | (2013/09/10 |
| S94 | 16 | ((tube conduit hose tubular) with (strap headgear) with (textile fabric)). detd. and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 11 \end{aligned}$ |
| S95 | 17 | ((tube conduit hose tubular) with (strap headgear harness) with (textile fabric)).detd. and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\left\{\begin{array}{l} 2013 / 09 / 10 \\ 16: 11 \end{array}\right.$ |
| S96 | 622 | ((tube conduit hose tubular) with (strap headgear harness)).detd. and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | 2013/09/10 |
| S97 | 605 | S96 not S95 | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 13 \end{aligned}$ |
| S98 | 76 | (thickness with (nasal nostril nare nose) with (prong pillow)) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 30 \end{aligned}$ |
| S99 | 6 | (thickness with (nasal nostril nare nose) with (prong pillow)) and "128".clas. and @ad<="20040223" | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR |  | N | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 30 \end{aligned}$ |
| S100 | 23 | (mcualey prentice gleeson).in. near (alastair craig oliver) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \end{aligned}$ | OR |  | ON | $\begin{aligned} & 8=2013 / 09 / 10 \\ & 16: 45 \\ & \end{aligned}$ |


|  |  |  | $\begin{aligned} & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S101 | [1 | S100 and (aperture hole opening vent venting).clm. and (cannula cannulae nasal nostril nose nare).clm. and flange.clm. | $\begin{aligned} & \text { USPGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | 42013/09/10 |
| S102 |  | S100 and (aperture hole opening vent venting leak leaking leakage).clm. and (cannula cannulae nasal nostril nose nare).clm. and flange.clm. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | : |
| S103 | 6 | S100 and (aperture hole opening vent venting leak leaking leakage).clm. and (cannula cannulae nasal nostril nose nare). .clm. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 46 \end{aligned}$ |
| S104 | 6 | S100 and (aperture hole opening vent venting leak leaking leakage).clm. and (cannula cannulae nasal nostril nose nare).clm. and (ball and socket) | USPGPUB; <br> USPAT; <br> USOCR; <br> EPO; JPO; <br> DERWENT <br> IBM TDB | OR | ON | $\begin{aligned} & 2013 / 09 / 10 \\ & 16: 46 \\ & \\ & \end{aligned}$ |
| S105 | 2 | S100 and (aperture hole opening vent venting leak leaking leakage).clm. and (cannula cannulae nasal nostril nose nare). clm. and (ball and socket).clm. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { DPO; JPO; } \\ & \text { IBM TDB } \\ & \hline \end{aligned}$ | OR | ON | $\begin{aligned} & 12013 / 09 / 10 \\ & 16 \\ & 16: 46 \\ & \\ & \hline 1 \end{aligned}$ |
| S106 | 2202 | ((ball socket) with (joint connector connection) with (leak leakage leaking)) | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 48 \end{aligned}$ |
| S107 | 3083 | $\begin{aligned} & ((128 / 207.18) \text { or }(128 / 206.21) \text { or } \\ & (128 / 207.13) \text { or }(128 / 206.11) \text { or } \\ & (128 / 206.18) \text { or }(128 / 203.22)) . \text { CCLS. } \end{aligned}$ | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | OFF | $\begin{aligned} & 12014 / 02 / 28 \\ & 08: 52 \\ & \\ & \\ & \end{aligned}$ |
| S108 | 9990 | ((128/200.24) or (128/200.26) or $(128 / 203.12)$ or $(128 / 203.15)$ or $(128 / 203.16)$ or $(128 / 203.17)$ or (128/205.25) or $(128 / 206.21)) . C C L S$. | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 52 \end{aligned}$ |
| S109 | $3083$ | $\begin{aligned} & ((128 / 207.18) \text { or }(128 / 206.21) \text { or } \\ & (128 / 207.13) \text { or }(128 / 206.11) \text { or } \\ & (128 / 206.18) \text { or }(128 / 203.22)) . \text { CCLS. } \end{aligned}$ | $\left.\begin{array}{l}\text { US-PGPUB; } \\ \text { USPAT; } \\ \text { USOCR; } \\ \text { EPO; JPO; } \\ \text { DERWENT } \\ \text { IBM TDB } \\ \hline\end{array}\right\}$ | OR | OFF |  |
| S110 | $9990$ | $((128 / 200.24)$ or $(128 / 200.26)$ or $(128 / 203.12)$ or $(128 / 203.15)$ or $(128 / 203.16)$ or $(128 / 203.17)$ or $(128 / 205.25)$ or $(128 / 206.21))$. CCLS. | $\begin{aligned} & \text { US-PGPDB; } \\ & \text { USPAT; } \\ & \text { EPO; JPO; } \end{aligned}$ | OR | OFF |  |


|  |  |  | $\begin{aligned} & \text { DERWENT: } \\ & \text { IBM_TDB } \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S111 | 11515 | S109 S110 | ISPGGUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | ON | (2014/02/28 |
| 5112 | 19 | (ball socket) with (joint connector connection) with (leak leakage leaking)) and (S107 S108 S111) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 52 \end{aligned}$ |
| 5113 | 11 | ((ball socket) with (joint connector connection) with (leak leakage leaking) with (channel passage passageway)) and (S107 S108 S111) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 54 \end{aligned}$ |
| S114 | 11 | (ball socket) with (joint connector connection) with (leak leakage leaky leaking) with (channel passage passageway)) and (S107 S108 S111) | $\begin{array}{\|l\|} \hline \text { USPGPUB; } \\ \text { USAT; } \\ \text { UPOCR; JPO; } \\ \text { DERWENT } \\ \text { IBM TDB } \\ \hline \end{array}$ | OR | ON | (2014/02/28 |
| 5115 | 210 | ```((ball socket) with (joint connector connection) with (leak leakage leaky leaking) with (channel passage passageway))``` | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 08: 59 \end{aligned}$ |
| S116 | 19 | S115 AND ( (A61M16/06 OR A61M16/0683 OR A61M16/08 OR A61M2016/0825 OR A61M2016/0611 OR A61M2016/0616 OR A61M2016/0638 OR A61M2016/0633 OR A61M1/1698 OR A61M2001/1006 OR A61M2205/42 OR A61M3/0258 OR A61M2039/1027 OR A61M2205/8225 OR A61M39/10 OR A61M39/1011 OR A61M39/105 OR A61M3/0254).CPC. OR (128/205.25 OR 128/206.24 OR 128/206.27 OR 128/207.11 OR 128/207.13 OR 128/201.19 OR 128/206.18 OR 128/206.23 OR 128/206.21 OR 128/204.18 OR 128/207.18 OR 128/200.22 OR 128/201.12 OR 128/201.13 OR 128/201.14 OR 128/205.27 OR 128/205.28 OR 128/206.11 OR 128/206.12 OR 128/206.22 OR 128/207.12 OR 128/207.16 OR 128/912).CCLS. ) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 00 \end{aligned}$ |
| 5117 | 2 | S116 and @ad<= "20040223" | US-PGPUB; USAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\left\{\begin{array}{l} 2014 / 02 / 28 \\ 09: 00 \end{array}\right.$ |


| S118 | 3777 | (((ball socket) adj (joint connector connection)) with ((leak leakage leaky leaking) (channel passage passageway))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 10 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S119 | 29 | (((ball socket) adj (joint connector connection)) with ((leak leakage leaky leaking) with (channel passage passageway))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 13 \end{aligned}$ |
| S120 | 44 | ((ball socket) adj (joint connector connection)) with ((leak leakage leaky leaking) same (channel passage passageway))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 13 \end{aligned}$ |
| S121 | 24 | (S119 S120) and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 13 \end{aligned}$ |
| S122 | 93 | (( ball socket) with (joint connector connection)) with ((leak leakage leaky leaking) same (channel passage passageway))) and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\}^{2014 / 02 / 28}$ |
| S123 | 69 | S122 not (S119 S120 S121) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 23 \end{aligned}$ |
| S124 | 257 | (( ball socket) with (joint connector connection)) with ((leak leakage leaky leaking) same (channel passage passageway))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 24 \end{aligned}$ |
| S125 | $83$ | S124 AND ( (A61M16/06 OR A61M16/0683 OR A61M16/08 OR A61M2016/0825 OR A61M2016/0611 OR A61M2016/0616 OR A61M2016/0638 OR A61M2016/0633 OR A61M1/1698 OR A61M2001/1006 OR A61M2205/42 OR A61M3/0258 OR A61M2039/1027 OR A61M2205/8225 OR A61M39/10 OR A61M39/1011 OR A61M39/105 OR A61M3/0254 OR F16L37/23 OR F16L1/15 OR F16L27/04 OR F16L37/413 OR F16L27/047 OR F16L27/053 OR F16L27/06 OR F16L37/40 OR F16L11/18 OR F16L13/02 OR F16L13/10 OR F16L23/00 OR F16L27/0861 OR F16L37/30 OR F16L37/32 OR F16L37/34 OR F16L37/36 OR F16L41/021 OR F16L59/185 OR F16L59/21 OR F16L11/133 OR F16L11/22 OR F16L15/001 OR | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | ${ }^{2014 / 02 / 28} 0$ |


|  |  | F16L19/02 OR F16L19/04 OR F16L1/26 OR F16L2201/30 OR F16L23/167 OR F16L27/067 OR F16L27/073 OR F16L27/0804 OR F16L27/0824 OR F16L27/0828 OR F16L27/0857 OR F16L27/1004 OR F16L27/12 OR F16L33/22 OR F16L37/127 OR F16L37/38 OR F16L37/44 OR F16L37/56 OR F16L37/565 OR F16L39/00 OR F16L39/005 OR F16L39/06 OR F16L41/04 OR F16L47/03 OR F16L47/32 OR F16L51/025 OR F16L55/1683 OR F16L55/17 OR F16L59/22).CPC. OR (128/205.25 OR 128/206.24 OR 128/206.27 OR 128/207.11 OR 128/207.13 OR 128/201.19 OR 128/206.18 OR 128/206.23 OR 128/206.21 OR 128/204.18 OR 128/207.18 OR 128/200.22 OR 128/201.12 OR 128/201.13 OR 128/201.14 OR 128/205.27 OR 128/205.28 OR 128/206.11 OR 128/206.12 OR 128/206.22 OR 128/207.12 OR 128/207.16 OR 128/912 OR 285/261 OR 285/146.1 OR 285/106 OR 285/190 OR 285/271 OR 285/330 OR 285/332.2 OR 285/333 OR 285/349 OR 285/94 OR 285/101 OR 285/111 OR 285/133.21 OR 285/226 OR 285/265 OR 285/269 OR 285/270 OR 285/276 OR 285/281 OR 285/347 OR 285/351 OR 285/370 OR 285/374 OR 285/45 OR 285/8 OR 285/91 OR 285/918 OR 285/98 OR 285/11 OR 285/112 OR 285/113 OR 285/114 OR 285/121.7 OR 285/124.1 OR 285/124.4 OR 285/127.1 OR 285/13 OR 285/14 OR 285/144.1 OR 285/145.3 OR 285/147.1 OR 285/148.2 OR 285/15 OR 285/181 OR 285/223 OR 285/254 OR 285/263 OR 285/264 OR 285/266 OR 285/267 OR 285/288.11 OR 285/288.5 OR 285/288.6 OR 285/29 OR 285/299 OR 285/302 OR 285/305 OR 285/312 OR 285/316 OR 285/317 OR 285/321 OR 285/322 OR 285/328 OR 285/331 OR 285/336 OR 285/343 OR 285/348 OR 285/358 OR 285/359 OR 285/363 OR 285/368 OR 285/375 OR 285/383 OR 285/419 OR 285/422 OR 285/423 OR 285/47 OR 285/55 OR 285/88 OR 285/904 OR 285/910 OR 285/914 OR 285/917 OR 285/919 OR 285/95).CCLS. ) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S126 | 93 | S124 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | $\mathrm{O}^{\mathrm{ON}}$ |  |
| S127 | $484$ | (((ball socket) with (joint connector connection)) with ((vent venting vented leak leakage leaky leaking) same (channel passage passageway))) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | \% ${ }^{\text {ON }}$ |  |


|  |  | :1 | IBM TDB |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S128 | 179 | S127 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB | OR | ON | $=2014 / 02 / 28$ |
| S129 | 86 | S128 not (S119 S120 S121 S125 S126) | US-PGPUB; <br> USPAT; <br> USOCR; <br> EPO; JPO; <br> DERWENT <br> IBM TDB | OR | ON | $\begin{aligned} & 2014 / 02 / 28 \\ & 09: 27 \end{aligned}$ |
| S130 | 94 | S127 AND ( (A61M16/06 OR A61M16/0683 OR A61M16/08 OR A61M2016/0825 OR A61M2016/0611 OR A61M2016/0616 OR A61M2016/0638 OR A61M2016/0633 OR A61M1/1698 OR A61M2001/1006 OR A61M2205/42 OR A61M3/0258 OR A61M2039/1027 OR A61M2205/8225 OR A61M39/10 OR A61M39/1011 OR A61M39/105 OR A61M3/0254 OR F16L37/23 OR F16L1/15 OR F16L27/04 OR F16L37/413 OR F16L27/047 OR F16L27/053 OR F16L27/06 OR F16L37/40 OR F16L11/18 OR F16L13/02 OR F16L13/10 OR F16L23/00 OR F16L27/0861 OR F16L37/30 OR F16L37/32 OR F16L37/34 OR F16L37/36 OR F16L41/021 OR F16L59/185 OR F16L59/21 OR F16L11/133 OR F16L11/22 OR F16L15/001 OR F16L19/02 OR F16L19/04 OR F16L1/26 OR F16L2201/30 OR F16L23/167 OR F16L27/067 OR F16L27/073 OR F16L27/0804 OR F16L27/0824 OR F16L27/0828 OR F16L27/0857 OR F16L27/1004 OR F16L27/12 OR F16L33/22 OR F16L37/127 OR F16L37/38 OR F16L37/44 OR F16L37/56 OR F16L37/565 OR F16L39/00 OR F16L39/005 OR F16L39/06 OR F16L41/04 OR F16L47/03 OR F16L47/32 OR F16L51/025 OR F16L55/1683 OR F16L55/17 OR F16L59/22).CPC. OR (128/205.25 OR 128/206.24 OR 128/206.27 OR 128/207.11 OR 128/207.13 OR 128/201.19 OR 128/206.18 OR 128/206.23 OR 128/206.21 OR 128/204.18 OR 128/207.18 OR 128/200.22 OR 128/201.12 OR 128/201.13 OR 128/201.14 OR 128/205.27 OR 128/205.28 OR 128/206.11 OR 128/206.12 OR 128/206.22 OR 128/207.12 OR 128/207.16 OR 128/912 OR 285/261 OR 285/146.1 OR 285/106 OR 285/190 OR 285/271 OR 285/330 OR 285/332.2 OR 285/333 OR 285/349 OR 285/94 OR 285/101 OR 285/111 OR 285/133.21 OR 285/226 OR 285/265 OR 285/269 OR 285/270 OR 285/276 OR | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB | OR | ON | 2014/02/28 09:38 |


|  |  | 285/281 OR 285/347 OR 285/351 OR 285/370 OR 285/374 OR 285/45 OR 285/8 OR 285/91 OR 285/918 OR 285/98 OR 285/11 OR 285/112 OR 285/113 OR 285/114 OR 285/121.7 OR 285/124.1 OR 285/124.4 OR 285/127.1 OR 285/13 OR 285/14 OR 285/144.1 OR 285/145.3 OR 285/147.1 OR 285/148.2 OR 285/15 OR 285/181 OR 285/223 OR 285/254 OR 285/263 OR 285/264 OR 285/266 OR 285/267 OR 285/288.11 OR 285/288.5 OR 285/288.6 OR 285/29 OR 285/299 OR 285/302 OR 285/305 OR 285/312 OR 285/316 OR 285/317 OR 285/321 OR 285/322 OR 285/328 OR 285/331 OR 285/336 OR 285/343 OR 285/348 OR 285/358 OR 285/359 OR 285/363 OR 285/368 OR 285/375 OR 285/383 OR 285/419 OR 285/422 OR 285/423 OR 285/47 OR 285/55 OR 285/88 OR 285/904 OR 285/910 OR 285/914 OR 285/917 OR 285/919 OR 285/95).CCLS. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S131 | 32 | S130 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB |  |  |  | $\begin{aligned} & \left\lvert\, \begin{array}{ll} 2014 / 02 / 28 \\ 09: 38 \\ 4 \end{array}\right. \\ & \\ & \end{aligned}$ |
| S132 | 12 | ((ball socket) with (joint connector connection)) with ((vent venting vented leak leakage leaky leaking) same (channel passage passageway))) and ( (A61M2016/0825).CPC. ) | USPGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB |  |  |  | $\begin{aligned} & \sqrt{2014 / 02 / 28} \\ & 10: 43 \\ & \\ & \\ & \end{aligned}$ |
| S133 | 45 | ((ball socket) and (joint connector connection)) and ((vent venting vented leak leakage leaky leaking) and (channel passage passageway))) and ( (A61M2016/0825).CPC. ) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB |  |  |  |  |
| S134 | 3 | S133 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM TDB |  |  |  |  |
| S135 | 32 |  | $\begin{aligned} & \text { US-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | O |  | ON | $\text { : } 2014 / 02 / 28$ |
| S136 | $77424$ | $(128 / 200.14 ; 128 / 200.22 ; 128 / 200.24 ;$ $128 / 200.26 ; 128 / 201.12 ; 128 / 201.13 ;$ $128 / 201.14 ; 128 / 201.19 ; 128 / 201.22 ;$ $128 / 202.27 ; 128 / 203.12 ; 128 / 203.15 ;$ $128 / 203.16 ; 128 / 203.17 ; 128 / 203.22 ;$ $128 / 203.25 ; 128 / 203.26 ; 128 / 204.12 ;$ $128 / 204.18 ; 128 / 204.23 ; 128 / 205.24 ;$ $128 / 205.25 ; 128 / 205.27 ; 128 / 205.28 ;$ $128 / 206.11 ; 128 / 206.12 ; 128 / 206.13 ;$ $128 / 206.18 ; 128 / 206.21 ; 128 / 206.22 ;$ | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | O |  | ON | $2015 / 09 / 14$ <br> 16:14 |


|  |  | 128/206.23; 128/206.24; 128/206.26; 128/206.27; 128/206.28; 128/206.29; 128/207.11; 128/207.12; 128/207.13; 128/207.14; 128/207.15; 128/207.16; 128/207.17; 128/207.18; 128/912; 128/DIG.26; 2/454; 285/101; 285/106; 285/11; 285/111; 285/112; 285/113; 285/114; 285/121.7; 285/124.1; 285/124.4; 285/127.1; 285/13; 285/133.21; 285/14; 285/144.1; 285/145.3; 285/146.1; 285/147.1; 285/148.2; 285/15; 285/181; 285/190; 285/223; 285/226; 285/254; 285/261; 285/263; 285/264; 285/265; 285/266; 285/267; 285/269; 285/270; 285/271; 285/276; 285/281; 285/288.11; 285/288.5; 285/288.6; 285/29; 285/299; 285/302; 285/305; 285/312; 285/316; 285/317; 285/321; 285/322; 285/328; 285/330; 285/331; 285/332.2; 285/333; 285/336; 285/343; 285/347; 285/348; 285/349; 285/351; 285/358; 285/359; 285/363; 285/368; 285/370; 285/374; 285/375; 285/383; 285/419; 285/422; 285/423; 285/45; 285/47; 285/55; 285/8; 285/88; 285/904; 285/91; 285/910; 285/914; 285/917; 285/918; 285/919; 285/94; 285/95; 285/98; 600/532; 600/543; 604/94.01; 606/192; D24/110.4; D24/164).ccls. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S137 | 35 | (US-20040134494-\$ or US-20050284484-\$ or US-20070107737-\$ or US-20110009763-\$ or US-20080142019$\$$ or US-20070175473-\$ or US-20020092527-\$ or US-20020059935-\$ or US-20030200970-\$).did. or (US-7225807-\$ or US-5269296-\$ or US-5477852-\$ or US-8333194-\$ or US-7059328-\$ or US-7047974-\$ or US-7000613-\$ or US-6997177-\$ or US-6994089-\$ or US-6863069-\$ or US-6807967-\$ or US-6595215-\$ or US-4915105-\$ or US-7096864-\$ or US-5921239-\$ or US-5259376-\$ or US-5054482-\$ or US-6986353-\$ or US-6588424-\$ or US-5957132-\$ or US-5941245-\$ or US-5771886-\$ or US-4915106-\$ or US-4437462-\$).did. or (US-2259817-\$).did. or (DE-2209244\$). did. | US-PGPUB; USPAT; USOCR; DERWENT | OR |  | $\begin{aligned} & 2015 / 09 / 14 \\ & 16: 14 \end{aligned}$ |
| S138 | $78421$ | (A61B5/0205; A61B5/08; A61B5/083; A61B5/0836; A61B5/087; A61B5/097; A61B5/14551; A61B5/4806; A61B5/4818; A61B5/6819; A61J1/1418; A61J11/0005; A61J17/006; A61M1/1698; A61M11/00; A61M1 1/005; A61M11/06; A61M15/00; A61M15/0033; A61M15/0065; A61M15/0085; A61M15/08; A61M16/00; A61M16/0003; A61M16/0057; A61M16/0066; A61M16/04; A61M16/0465; A61M16/0488; A61M16/049; A61M16/0493; A61M16/0497; A61M16/06; A61M16/0633; | US-PGPUB; USPAT; USOCR; DERWENT |  | O | $\begin{aligned} & 2015 / 09 / 14 \\ & 16: 15 \end{aligned}$ |


|  |  | A61M16/0666; A61M16/0672; A61M16/0677; A61M16/0683; A61M16/08; A61M16/0816; A61M16/0825; A61M16/085; A61M16/0858; A61M16/0875; A61M16/10; A61M16/1045; A61M16/107; A61M16/1075; A61M16/109; A61M16/12; A61M16/122; A61M16/125; A61M16/14; A61M16/142; A61M16/16; A61M16/161; A61M16/162; A61M16/18; A61M16/201; A61M16/203; A61M16/208; A61M2001/1006; A61M2016/0021; A61M2016/0024; A61M2016/0039; A61M2016/0611; A61M2016/0616; A61M2016/0633; A61M2016/0638; A61M2016/0825; A61M2016/1025; A61M2016/103; A61M2039/1027; A61M2202/0208; A61M2205/07; A61M2205/071; A61M2205/18; A61M2205/3331; A61M2205/3368; A61M2205/3379; A61M2205/3606; A61M2205/3653; A61M2205/42; A61M2205/50; A61M2205/502; A61M2205/8206; A61M2205/8225; A61M2205/825; A61M2209/08; A61M2210/0625; A61M2210/0662; A61M2230/005; A61M2230/42; A61M2230/43; A61M2230/432; A61M2230/435; A61M2230/50; A61M2240/00; A61M3/0254; A61M3/0258; A61M39/10; A61M39/1011; A61M39/105; A62B17/00; A62B17/04; A62B18/00; A62B18/02; A62B18/08; A62B18/082; A62B18/084; A62B25/005; A62B35/00; A62B9/003; A62B9/04; B64D10/00; B64D2231/025; F16L1/15; F16L1/26; F16L11/133; F16L11/18; F16L11/22; F16L13/02; F16L13/10; F16L15/001; F16L19/02; F16L19/04; F16L2201/30; F16L23/00; F16L23/167; F16L27/04; F16L27/047; F16L27/053; F16L27/06; F16L27/067; F16L27/073; F16L27/0804; F16L27/0824; F16L27/0828; F16L27/0857; F16L27/0861; F16L27/1004; F16L27/12; F16L33/22; F16L37/127; F16L37/23; F16L37/30; F16L37/32; F16L37/34; F16L37/36; F16L37/38; F16L37/40; F16L37/413; F16L37/44; F16L37/56; F16L37/565; F16L39/00; F16L39/005; F16L39/06; F16L41/021; F16L41/04; F16L47/03; F16L47/32; F16L51/025; F16L55/1683; F16L55/17; F16L59/185; F16L59/21; F16L59/22; Y10S128/26; Y10S128/912).cpc. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S139 | 1923 | (S136 S138) and (swivel\$ (ball with socket) (ball adj joint) (socket adj joint)) and (nose nostril nasal nare cannulae cannula) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | ON |  |
| S140 | 512 | S139 and @ad<= "20040223" | US-PGPUB; | OR | ON | \3015/09/14 |




| S144 | 1 | (US-6192886-\$).did. | USPAT | OR | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 10: 19 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S145 | 0 | S144 and (elbow with plastic) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 10: 19 \end{aligned}$ |
| S146 | 0 | S144 and (elbow same plastic) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 10: 19 \end{aligned}$ |
| S147 | 0 | S144 and (elbow same material) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 10: 19 \end{aligned}$ |
| S148 | $77426$ |  | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM_TDB | OR | ON | 2015/09/15 <br> 11:15 |



|  |  | F16L39/00; F16L39/005; F16L39/06; F16L41/021; F16L41/04; F16L47/03; F16L47/32; F16L51/025; F16L55/1683; F16L55/17; F16L59/185; F16L59/21; F16L59/22; Y10S128/26; Y10S128/912).cpc. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S150 | 1925 | (S148 S149) and (swivel\$ (ball with socket) (ball adj joint) (socket adj joint)) and (nose nostril nasal nare cannulae cannula) | US-PGPUB; USPT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON |  |
| S151 | 1821 | S150 and @ad<="20150702" | $\begin{aligned} & \text { lS-PGPUB; } \\ & \text { USPAT; } \\ & \text { USOCR; } \\ & \text { EPO; JPO; } \\ & \text { DERWENT } \\ & \text { IBM TDB } \end{aligned}$ | OR | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 11: 15 \end{aligned}$ |
| S152 | 512 | S150 and @ad<="20040223" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT IBM_TDB | OR | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 11: 16 \end{aligned}$ |
| S153 | 1309 | S151 not S152 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM TDB | OR | ON | $\text { ? } 11: 16$ |
| S154 | 154 | (mcauley.in. near alastair) (prentice.in. near craig) (gleeson.in. near oliver) | US-PGPPB; USPAT; USOCR; EPO; JPO; DERWENT; IBM TDB | OR | ON | $\begin{aligned} & 2015 / 09 / 15 \\ & 11: 38 \end{aligned}$ |
| S155 | 13 | S154 and ((swivel\$ (ball with socket) (ball adj joint) (socket adj joint)) and ( nose nostril nasal nare cannulae cannula)).clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT IBM TDB | OR | ON | $\frac{2015 / 09 / 15}{11: 38}$ |

12/1/2015 12:27:06 PM
C:\Users\adixon2\Documents\EAST\Workspaces\14846226.wsp

| Search Notes | Application/Control No. $14846226$ | Applicant(s)/Patent Under Reexamination <br> MCAULEY ET AL. |
| :---: | :---: | :---: |
|  | Examiner <br> ANNETTE DIXON | Art Unit 3778 |


| CPC- SEARCHED |  |  |
| :--- | :---: | :---: |
| Symbol | Date | Examiner |
| A61M15/08; A61M16/06; A61M16/0616; A61M16/0633; | $12 / 1 / 15$ | afd |
| A61M16/0666; A61M16/0683; A61M16/0825; A61M16/208; |  |  |
| A61M2210/0618; A61M2240/0; A62B18/00; A62B18/02; |  |  |
| A62B18/08; A62B18/084; A62B35/00 |  |  |


| CPC COMBINATION SETS - SEARCHED |  |  |
| :---: | :---: | :---: |
| Symbol | Date | Examiner |


| US CLASSIFICATION SEARCHED |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Class | Subclass | Date | Examiner |  |
|  |  |  |  |  |


| SEARCH NOTES |  |  |  |
| :--- | :---: | :---: | :---: |
| Search Notes | Date | Examiner |  |
| Inventor Name Search | $12 / 1 / 15$ | afd |  |


| INTERFERENCE SEARCH |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| US Class/ | US Subclass / CPC Group | Date | Examiner |  |
| CPC Symbol |  |  |  |  |
|  |  |  |  |  |


|  |  |
| :--- | :--- |



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):
jayna.cartee@knobbe.com efiling@knobbe.com

## Decision Granting Request for Prioritized Examination (Track I or After RCE)

1. THE REQUEST FILED September 4, 2015

The above-identified application has met the requirements for prioritized examination
A. $\boxtimes$ for an original nonprovisional application (Track I).
B. $\square$ for an application undergoing continued examination (RCE).
2. The above-identified application will undergo prioritized examination. The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:
A. filing a petition for extension of time to extend the time period for filing a reply;
B. filing an amendment to amend the application to contain more than four independent claims, more than thirty total claims, or a multiple dependent claim;
C. filing a request for continued examination;
D. filing a notice of appeal;
E. filing a request for suspension of action;
F. mailing of a notice of allowance;
G. mailing of a final Office action;
H. completion of examination as defined in 37 CFR 41.102; or
I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to Kimberly Inabinet at 571-272-4618.
/ Kimberly Inabinet/
Paralegal Specialist, Office of Petitions

[^3]
## Office of Petitions: Routing Sheet <br> 

Application No. 14/846,226
This application is being forwarded to your office for further processing. A decision has been rendered on a petition filed in this application, as indicated below. For details of this decision, please see the document PET.OP.DEC filed on the same date as this document.

## X GRANTED

$\square$ DISMISSED
$\square$ DENIED

| Office of Petitions: Decision Count Sheet |
| :--- |
| Application No. |

For US serial numbers: enter number only, no slashes or commas. Ex: 10123456
For PCT: enter " $51+$ single digit of year of filing+last 5 numbers", Ex. for PCT/US05/12345, enter 51512345


Notes:
Count (2)


Decision Type: NONE

Notes:



Date Mailed: 09/23/2015

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)

Alastair Edwin McAuley, Dallas, TX; Craig Robert Prentice, Auckland, NEW ZEALAND; Oliver Gleeson, Auckland, NEW ZEALAND;

## Applicant(s)

Fisher \& Paykel Healthcare Limited, Auckland, NEW ZEALAND;
Power of Attorney: The patent practitioners associated with Customer Number $\underline{20995}$

## Domestic Priority data as claimed by applicant

This application is a CON of 14/333,134 07/16/2014
which is a CON of 10/598,026 10/18/2007 PAT 8783257
which is a 371 of PCT/NZ05/00023 02/18/2005
Foreign Applications (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.)
NEW ZEALAND 531332 02/23/2004
NEW ZEALAND 534606 08/06/2004

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: 09/18/2015
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US $14 / 846,226$
Projected Publication Date: 12/31/2015

# Non-Publication Request: No 

Early Publication Request: No
Title
BREATHING ASSISTANCE APPARATUS
Preliminary Class
128

## 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 AssetsControl, Department of Treasury ( 31 CFR Parts 500+) and the Department of Energy.

## NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

## SelectUSA

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 U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www. SelectUSA.gov or call $+1-202-482-6800$.

## TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

| Application Number | Unknown |
| :--- | :--- |
| Filing Date | Herewith |
| First Named Inventor | Alastair Edwin McAuley |
| Title | BREATHING ASSISTANCE APPARATUS |
|  |  |
| Art Unit | Unknown |
| Examiner Name | Unknown |
| Attorney Docket Number | FPHCR.112C2 |

SIGNATURE of Applicant or Patent Practitioner

| signature | /Michael Guiliana/ | Date (Optional) | $2015-09-04$ |
| :--- | :--- | :--- | :--- |
| Name | Michael A. Guiliana | Registration <br> Number | 42611 |
| Title (if Applicant is a <br> juristic entity) |  |  |  |
| Applicant Name (if Applicant is a juristic entity) |  |  |  |
| NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If <br> more than one applicant, use multiple forms. |  |  |  |
| $\square$ *Total of _rorms are submitted. |  |  |  |

[^4]
## POWER OF ATTORNEY BY APPLICANT

Commissioner for Patents
P.O. Box 1450

Alexandria, VA 22313-1450
Dear Sir:
I hereby revoke all previous powers of attomey given in the application identified in the attached transmittal letter.

I hereby appoint 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 equivalent): Customer No. 20,995

Please recognize or change the correspondence address for the application identified in the attached transmittal letter to the address associated with Customer No. 20,995.

I am the Applicant: FISHER \& PAYKEL HEALTHCARE LIMITED, the Assignee or Person to Whom the Inventor is Under an Obligation to Assign.

Signature of Applicant for Patent
The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant.


[^5]| CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION     <br> UNDER 37 CFR 1.102(e) (Page 1 of 1)     |  |  |  |  |
| :--- | :--- | :--- | :--- | :---: |
| First Named <br> Inventor: | Alastair Edwin McAuley | Nonprovisional Application Number (if <br> known): | Unknown |  |
| Title of <br> Invention: | BREATHING ASSISTANCE APPARATUS |  |  |  |
| APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR <br> THE ABOVE-IDENTIFIED APPLICATION. |  |  |  |  |

1. The processing fee set forth in 37 CFR $1.17(\mathrm{i})(1)$ and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR $1.18(\mathrm{~d})$, is currently $\$ 0$. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.
2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.
3. The applicable box is checked below:
I. Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)
i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.
---OR---
(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.
ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, or the application data sheet meeting the conditions specified in 37 CFR $1.53(\mathrm{f})(3)(\mathrm{i})$ is filed with the application.

## II. $\square$ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

i. A request for continued examination has been filed with, or prior to, this form.
ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).


## 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.
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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.

| Application Data Sheet 37 CFR 1.76 |  | Attorney Docket Number |
| :--- | :--- | :--- |
|  | FPHCR.112C2 |  |
| Application Number |  |  |
| Title of Invention | BREATHING ASSISTANCE APPARATUS |  |
| The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the <br> bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. <br> This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the <br> 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:



Mailing Address of Inventor:



## Correspondence Information:

| Enter either Customer Number or complete the Correspondence Information section below. |  |  |  |
| :--- | :--- | :--- | :--- |
| For further information see 37 CFR 1.33(a). |  |  |  |
| $\square$ An Address is being provided for the correspondence Information of this application. |  |  |  |
| $\square$ | 20995 |  |  |
| Customer Number | Add Email | Remove Email |  |

## Application Information:



| Application Data Sheet 37 CFR 1.76 | Attorney Docket Number | FPHCR.112C2 |
| :--- | :--- | :--- | :--- |
|  | Application Number |  |
| Title of Invention | BREATHING ASSISTANCE APPARATUS |  |

## 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: | Customer Number | $\bigcirc$ US Patent Practitioner | $\bigcirc$ Limited Recognition (37 CFR 11.9) |
| Customer Number | 20995 |  |  |

## Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(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. $119(\mathrm{e})$ or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

| Prior Application Status |  | Pending |  | Remove |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Application Number |  | Continuity Type |  | Prior Application Number |  | Filing Date (YYYY-MM-DD) |  |
|  |  | Continuation of |  | 14/333134 |  | 2014-07-16 |  |
| Prior Application Status |  | Patented |  | Remove |  |  |  |
| Application Number | Continuity Type |  | Prior Application Number | Filing Date (YYYY-MM-DD) | Patent Number |  | $\begin{aligned} & \text { Issue Date } \\ & \text { (YYYY-MM-DD) } \end{aligned}$ |
| 14333134 | Continuation of |  | 10/598026 | 2007-10-18 |  | 3257 | 2014-07-22 |
| Prior Applic | S Status | Expired |  | Remove |  |  |  |
| Application | umber | Continuity Type |  | Prior Application Number |  | Filing Date (YYYY-MM-DD) |  |
| 10/598026 |  | a 371 of international |  | PCT/NZ05/000023 |  | 2005-02-18 |  |
| Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button. |  |  |  |  |  |  |  |

## Foreign Priority Information:

| Application Data Sheet 37 CFR 1.76 | Attorney Docket Number | FPHCR.112C2 |
| :--- | :--- | :--- | :--- |
|  | Application Number |  |
| Title of Invention | BREATHING ASSISTANCE APPARATUS |  |

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 . 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 (i)(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 $1.55(\mathrm{~g})(1)$.

| Application Number | Country i | Filing Date (YYYY-MM-DD) | Remove |
| :--- | :--- | :--- | :--- |
| Access Code ${ }^{\text {i }}$ (if applicable) |  |  |  |

## 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 $\square$ 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:

$\boxtimes$ Authorization to Permit Access to the Instant Application by the Participating Offices

| Application Data Sheet 37 CFR 1.76 |  | Attorney Docket Number | FPHCR.112C2 |
| :--- | :--- | :--- | :--- |
|  | Application Number |  |  |
| Title of Invention | BREATHING ASSISTANCE APPARATUS |  |  |

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 $1.14(\mathrm{~h})(3)$, 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 | Remove |
| :--- | :--- |

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.


| Application Data Sheet 37 CFR 1.76 | Attorney Docket Number | FPHCR.112C2 |
| :--- | :--- | :--- | :--- |
|  | Application Number |  |
| Title of Invention | BREATHING ASSISTANCE APPARATUS |  |


| Email Address |  |  |
| :--- | :--- | :--- |
| Additional Applicant Data may be generated within this form by selecting the Add button. | Add |  |

## Assignee Information including Non-Applicant Assignee Information:

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

## 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.

|  |  |  |  |  |  |  |  |  | Remove |  |
| :--- | :--- | :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| If the Assignee or Non-Applicant Assignee is an Organization check here. | $\square$ |  |  |  |  |  |  |  |  |  |
| 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 i |  | Postal Code |  |  |
| Phone Number | Fax Number |  |  |  |
| Email Address |  |  |  |  |
| Additional Assignee or Non-Applicant Assignee Data may be generated within this form by <br> selecting the Add button. | Add |  |  |  |

## Signature:

## Remove

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

| Signature | LMichael Guiliana/ | Date (YYYY-MM-DD) | 2015-09-04 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| First Name | Michael | Last Name | Guiliana | Registration Number | 42611 |
| Additional Signature may be generated within this form by selecting the Add button. |  |  |  | Add |  |


| Application Data Sheet 37 CFR 1.76 | Attorney Docket Number | FPHCR.112C2 |
| :--- | :--- | :--- | :--- |
|  | Application Number |  |
| Title of Invention | BREATHING ASSISTANCE APPARATUS |  |

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 22313-1450.

## Privacy Act Statement

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The information provided by you in this form will be subject to the following routine uses:
The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

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.

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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.

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

| Title of | BREATHING ASSISTANCE APPARATUS |
| :---: | :---: |
| As the below named inventor, I hereby deciare that: <br> This declaration is directed to: The attached application, or United States application or PCT international application nurnber $\qquad$ <br> 14/333134 fifed on July 16, 2014 |  |
|  |  |

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

I believe that 1 am the original inventor or an original joint inventor of a claimed invention in the application.

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

## 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 submilted 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 USFTO. Petitionerlapplicant 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



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

This callection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtein or retain a benert by the public which is to file (and by the USPTO to process) an application. Confldentality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14 . This collection is estimated to take 1 minule to complete, including gathering, preparing, and submiting the complated applicaton form to the USPTC. Time will vary depending upon the Individual case. Any comments on the amount of time you require to complete this form andior suggestions for reducing this burden, should be sent to the Chier information Officer, U.S. Fatent and Trademark Office, U.S. Depantment 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 iom, call 4 -800-Pro-9199 and seleci oplion 2.

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



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 five (5) years, or both.

## WARNING:

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> LEGAL NAME OF INVENTOR


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

[^6]
## Privacy Act Statement

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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.

## SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

## Title of

BREATHING ASSISTANCE APPARATUS
Invention

This statement is directed to:
The attached application,
OR

United States application or PCT international application number
14/333134
July 16, 2014

LEGAL NAME of inventor to whom this substitute statement applies:
(E.g., Given Name (first and middle (if any)) and Family Name or Surname)

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I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

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

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

Relationship to the inventor to whom this substitute statement applies:
Legal Representative (for deceased or legally incapacitated inventor only),
Assignee,
Person to whom the inventor is under an obligation to assign,
Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or
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[Page 1 of 2]
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 andior 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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Circumstances permitting execution of this substitute statement:Inventor is deceased,Inventor is under legal incapacity,Inventor cannot be found or reached after diligent effort, orInventor has refused to execute the oath or declaration under 37 CFR 1.63.
If there are joint inventors, please check the appropriate box below:
$\square$ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.
OR


An application data sheet under 37 CR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

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

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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.
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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.

I, THE UNDERSIGNED, hereby certify that:

1. by a Power of Attorney dated 5 November 2013 Fisher \& Paykel Healthcare Limited appointed me as its Attorney on the terms and subject to the conditions set out in such Power of Attorney;
2. I have executed the attached document pursuant to the powers conferred upon me by such Power of Attorney; and
3. at the time of signing this Certificate I have not received any notice or intimation of the revocation of my appointment or of the Power of Attomey.


## BREATHING ASSISTANCE APPARATUS

## INCORPORATION BY REFERENCE TO ANY PRIORITY APPLICATIONS

[0001] Any and all applications for which a foreign or domestic priority claim is identified in the Application Data Sheet as filed with the present application are hereby incorporated by reference under 37 CFR 1.57.

## BACKGROUND OF THE INVENTIONS

## Field of the Inventions

[0002] The present inventions relate to apparatuses for treating sleep apnoea. For example, the present inventions can provide a nasal positive airway pressure device.

## Description of the Related Art

[0003] Obstructive Sleep Apnoea (OSA) is a sleep disorder that affects up to at least $5 \%$ of the population in which muscles that normally hold the airway open relax and ultimately collapse, sealing the airway. The sleep pattern of an OSA sufferer is characterised by repeated sequences of snoring, breathing difficulty, lack of breathing, waking with a start and then returning to sleep. Often the sufferer is unaware of this pattern occurring. Sufferers of OSA usually experience daytime drowsiness and irritability due to a lack of good continuous sleep.
[0004] In an effort to treat OSA sufferers, a technique known as Continuous Positive Airway Pressure (CPAP) was devised. A CPAP device consists of a gases supply (or blower) with a conduit connected to supply pressurised gases to a patient, usually through a nasal mask. The pressurised air supplied to the patient effectively assists the muscles to keep the patient's airway open, eliminating the typical OSA sleep pattern.
[0005] The procedure for administering CPAP treatment has been well documented in both the technical and patent literature. Briefly stated, CPAP treatment acts as a pneumatic splint of the airway by the provision of a positive pressure, usually in the range 4 to 20 cm H.sub.2O. The air is supplied to the airway by a motor driven blower whose outlet passes via an air delivery hose to a nose (or nose and/or mouth) mask sealingly engaged to a patient's face by means of a harness or other headgear. An exhaust port is provided in the
delivery tube proximate to the mask. More sophisticated forms of positive airway pressure devices, such as bi-level devices and auto-titrating devices, are described in U.S. Pat. No. 5,148,802 of Respironics, Inc. and U.S. Pat. No. 5,245,995 of Rescare Limited, respectively.
[0006] U.S. Pat. No. 5,477,852 of Airways Ltd, Inc. discloses a nasal positive airway pressure device that has a pair of nasal members each having a cannula tip to be inserted into the nares of the patient. Each cannula is tapered from a substantially circular cross-section outside the patient's nostril to a substantially oval cross-section at the tip inserted into the nostril. An inflatable cuff surrounds each cannula with the interior space of the cuff communicating with the lumen of the cannula through at least one aperture in the sidewall of the cannula. The nasal members are connected to one or more flexible hoses that, in turn, are connected to a source of positive air pressure. In use, positive air pressure is supplied to each cannula tip through the air hoses and nasal members. The positive air pressure inflates the cuffs to hold the nasal members in place and to effect treatment. The nasal device of U.S. Pat. No. $5,477,852$ is attached to headgear that is located about a patient's head; this headgear could be considered by many patients as cumbersome and uncomfortable.
[0007] Conventional nasal masks used for administrating CPAP treatment are also considered uncomfortable and cumbersome, and prior art nasal masks and the like are noisy (due to air leaks). These disadvantages in many cases are a formidable obstacle to patient acceptance of such treatment. Therefore, a substantial number of patients either cannot tolerate treatment or choose to forego treatment. It is believed a substantial number of such patients could benefit from a nasal positive airway pressure apparatus that is more convenient to use and comfortable to wear, thereby resulting in increased treatment compliance.
[0008] As oxygen is supplied as a dry gas it is well known in the art to either heat and/or humidify gases before delivering them for breathing by a patient. In particular when delivering oxygen, or oxygen or air mixture, it has proven beneficial to humidify the gases first. In WO01/41854 of Vapotherm, Inc. a system is disclosed that allows the delivery of humidified oxygen through a nasal cannula. This system uses a narrow bore conduit and nasal cannula with a high resistance to gas flows, thereby requiring the oxygen be of a high
pressure. Air, as well as oxygen can also be passed down the conduit and nasal cannula and it too must be of a high pressure. This system allows the delivery of high flows of oxygen enriched air to the patient, but is limited in the flows achievable due to the narrow bore of the cannula resulting in high resistance gas flow and excessive velocity and noise upon exiting the cannula. Furthermore, the narrowness of the nasal cannula in this system allows easy expiration of gases between the prongs and nares and therefore does not create any positive airway pressure.
[0009] Innomed Technologies, Inc. manufactures a nasal cannula device called the NASALAIRE.TM.. In this device air or oxygen travels down a wide bore conduit to nasal cannula. The NASALAIRE.TM. creates a physical seal between the nares and itself, and relies on the absence of leaks around itself and the nares to deliver pressure supplied by a continuous positive airway pressure (CPAP) blower to the airway of the wearer.

## SUMMARY OF THE INVENTIONS

[0010] It is an object of at least some of the present inventions to provide a breathing assistance apparatus which goes someway to overcoming the above mentioned disadvantages or which will at least provide the public a useful choice.
[0011] Accordingly in a first aspect the present inventions consists in a breathing assistance apparatus comprising:
[0012] nasal cannula, shaped to fit within a user's nares, and adapted to deliver said humidified gases to said user,
[0013] a pressurised source of gases,
[0014] transportation means adapted to, in use, be in fluid communication with said source of gases and said nasal cannula and adapted to in use convey said gases to said user,
[0015] wherein said nasal cannula including at least one prong allowing high flow delivery of said humidified gases and creating a positive airway pressure in said patient's airway, said at least one prong having an angled end, such that in use, gases flowing through said prong are directed to said user's nasal passages.
[0016] In a second aspect the present inventions consists in a breathing assistance apparatus comprising:
[0017] nasal cannula, shaped to fit within a user's nares,
[0018] a pressurised source of gases,
[0019] transportation means adapted to, in use, be in fluid communication with said source of gases and said nasal cannula and adapted to in use convey said gases to said user,
[0020] wherein said nasal cannula are adapted to deliver said humidified gases to said user, said nasal cannula including at least one prong allowing high flow delivery of said humidified gases and creating positive airway pressure in said patient's airway, said at least one prong having an end that is flared outwardly.
[0021] To those skilled in the art to which the inventions relate, many changes in construction and widely differing embodiments and applications of the invention will suggest themselves without departing from the scope of the inventions as defined in the appended claims. The disclosures and the descriptions herein are purely illustrative and are not intended to be in any sense limiting.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0022] Preferred forms of the present inventions will now be described with reference to the accompanying drawings.
[0023] FIG. 1 is a block diagram of a system providing humidified continuous positive airway pressure to a user as might be used in conjunction with a nasal cannula of the present invention.
[0024] FIG. 2 is a perspective view of a first embodiment of the nasal cannula of the present invention.
[0025] FIG. 3 is a side view of the nasal cannula of FIG. 2.
[0026] FIG. 4 is a plan view of the nasal cannula of FIG. 2.
[0027] FIG. 5 is a prong end view of the nasal cannula of FIG. 2
[0028] FIG. 6 is an exploded view of the nasal cannula of FIG. 2.
[0029] FIG. 7 is a side view of a second embodiment of a nasal cannula of the present invention.
[0030] FIG. 8 is a side view of a third embodiment of a nasal cannula of the present invention.
[0031] FIG. 9 is a perspective view of a fourth embodiment of a nasal cannula of the present invention.
[0032] FIG. 10 is a side view of the nasal cannula of FIG. 9.
[0033] FIG. 11 is an exploded perspective view of the nasal cannula of FIG. 9.
[0034] FIG. 12 is a front view of the prongs of the nasal cannula of FIG. 9.
[0035] FIG. 13 is an exploded side view of the nasal cannula of FIG. 9.
[0036] FIG. 14 is a side cross-sectional view of a fifth embodiment of the nasal cannula of the present invention where the connection between a body part and connector of the cannula includes a plurality of channels.
[0037] FIG. 15 is a cross-section through AA of the nasal cannula of FIG. 14.
[0038] FIG. 16 is a side cross-sectional view of a sixth embodiment of the nasal cannula of the present invention including a shield that protects an outlet vent from inlet gases.
[0039] FIG. 17 is a cross-section through BB of the nasal cannula of FIG. 16.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0040] Whether used in a hospital environment or in a home environment, the nasal cannula of the present inventions will generally have associated three main pieces of apparatus. Firstly, an active humidifier, which that controls the temperature of a heater plate heating a body of water to achieve a desired temperature and humidity of the gases being humidified. Secondly, a transport conduit from the humidifier to the patient is also required, which is preferably heated to reduce condensation, or "rain out". Thirdly, a cannula designed to fit into the nasal cavity and deliver humidified, pressurized gases. In particular, in one embodiment the nasal cannula of the present invention has two flared end prongs that seal within a patient's nares, although in some embodiments the cannula may have a single prong. The cannula prongs are shaped such that a step is created between them so that the prongs
abut the user's nasal septum in use. Furthermore, the gripping action of the sides of the prongs to the user's septum in use prevents the prongs from dislodging from the user's nares. In another embodiment the prongs of the nasal cannula are angled toward one another as well as having an angled profile at the outlet of gases, such that gases flow from the prongs flows back into the nasal passage and is not forced up into the rest of the nasal cavity.
[0041] With reference to FIG. 1 a humidified Continuous Positive Airway Pressure (CPAP) system is shown in which a patient 1 is receiving humidified and pressurised gases through the nasal cannula 2 of the present invention. The cannula 2 is connected to a humidified gases transportation pathway or inspiratory conduit 3 . It should be understood that delivery systems could also be VPAP (Variable Positive Airway Pressure) and BiPAP (Bi-level Positive Airway Pressure) or numerous other forms of respiratory therapy. Inspiratory conduit 3 is connected to the outlet 4 of a humidification chamber 5 that contains a volume of water 6 . The inspiratory conduit 3 may contain heating means or heater wires (not shown) which heat the walls of the conduit to reduce condensation of humidified gases within the conduit. The humidification chamber 6 is preferably formed from a plastics material and may have a highly heat conductive base (for example an aluminium base) which is in direct contact with a heater plate 7 of humidifier 8 . The humidifier 8 is provided with control means or electronic controller 9 that may comprise a microprocessor based controller executing computer software commands stored in associated memory.
[0042] The controller 9 receives input from sources such as user input means or dial 10 through which a user of the device may, for example, set a predetermined required value (preset value) of humidity or temperature of the gases supplied to patient 1 . The controller may also receive input from other sources; for example, temperature and/or flow velocity sensors 11 and 12 through connector 13 and heater plate temperature sensor 14 . In response to the user set humidity or temperature value input via dial 10 and the other inputs, controller 9 determines when (or to what level) to energise heater plate 7 to heat the water 6 within humidification chamber 5. A flow of gases (for example air) is provided to the chamber through inlet 16 from a gases supply means or blower 15 . As the volume of water 6 within humidification chamber 5 is heated, water vapour begins to fill the volume of the chamber above the water's surface and is passed out of the humidification chamber 5 through
outlet 4. Exhaled gases from the patient's mouth are passed directly to ambient surroundings in FIG. 1.
[0043] The blower 15 is provided with variable pressure regulating means or a variable speed fan 20 which draws air or other gases through the blower inlet 17. The speed of the variable speed fan 20 is controlled by the electronic controller 18 (or alternatively the function of the controller 18 could carried out by the controller 9 ) in response to inputs from the controller 9 and a user set predetermined required value (preset value) of pressure or fan speed via the dial 19.

## Flared Prong Nasal Cannula

[0044] A first embodiment of a nasal cannula of the present invention is shown in detail in FIGS. 2 to 6 . Referring to FIGS. 2 and 6, the nasal cannula 2 comprises three main components; the prong part 21, body part 22 and ball connector 23 .
[0045] The prong part 21 has two nasal prongs 24,25 , each of which are substantially shaped to follow the contours of the human nares and in use are placed inside a user's nares. The prongs 24,25 extend out from a hollow tubular body 26 that in use fits to the body part 22 . Each of the prongs 24,25 are integrally moulded with the tubular body 26 in a flexible plastics material or rubber, such as silicone, other thermoset elastomers or thermoplastic elastomers such as Kraton.TM.. The prongs 24,25 are substantially oval tubular members that allow for a passage of gases. In particular, as shown in FIG. 5, the prongs are oval in shape and angled in the same manner as a human's nares. The prongs 24 , 25 are angled toward one another (or toward the vertical axis Y) at the top 27, 28 of the prongs and away from one another at the bottom 29, 30 of the prongs. Furthermore, the ends 31, 32 of the prongs flare outwardly and preferably are formed such that the ends of the prongs are thinner in cross-section than the rest of the prongs. The flared thinner section ends 31,32 of the prongs assist with the sealing of the prongs 24,25 in use within the user's nares. When in use and with gases flowing through the prongs the force of the gas pressure will force the prong ends 31,32 to flare outwardly and seal against the inside of the user's nares.
[0046] The prongs 24,25 each include a step 33, 34 formed along their lengths. Each of the steps 33,34 are formed on the prongs 24,25 in an opposing manner such that in use, when the prongs are within a user's nares the steps 33,34 abut the user's nasal septum
and form a ledge that prevents dislodgement of the prongs. The prongs 24,25 also have protrusions 35,36 formed on their outer edges that abut the sides of the user's nares (opposite to the nasal septum). The protrusions 35,36 assist in preventing the dislodgement of the prongs, especially if the user moves his or her head. The protrusions 35,36 also maintain the prongs within the user's nares in a correct orientation such that in use gases flow through the prongs and directly up the user's nasal passages.
[0047] The body part 22 is a tubular passageway in which the prong part 21 is connected at one end and a ball joint 37 at the other end. The ball joint 37 extends from the connector 23 and slots into a complementary shaped (partial sphere) socket end 39 . The body part 22 also has a number of apertures 38 formed in it, which act as a bias flow outlet vent. Therefore, any gases exhaled by the user through their nose will exit through the apertures 38 .
[0048] The connector 23 is preferably connected to the inspiratory conduit 3 (see FIG. 1) that supplies gases flow to the cannula 2 . The inspiratory conduit 3 may be moulded directly to the connector 23 or other connection mechanisms may be used, such as a friction fit formed between the connector and conduit.
[0049] Although a ball and socket joint, as described above, between the body part 22 and connector 23 is preferred other connections may be utilised, such as a flexible piece of silicone, or other appropriate connection. The connection between the cannula body and connector must be able to be flexed or rotated to allow for the inspiratory conduit 3 to be moved without causing the dislodgement of the nasal cannula 2 from the user's nares.
[0050] In the preferred form of the nasal cannula 2 of the present invention the body part 22 and connector 23 are preferably made from a hard or rigid plastics material, such as polypropylene, polycarbonate or acetyl. In other forms the body part 22 and connector 23 may be of different plastics materials to allow for increased slidability between these parts.
[0051] The prong part 21 may be supplied in various different sizes such that different sized user's may remove an existing prong part and simply attach a different sized flexible plastics prong part over the body part 22.
[0052] To provide additional comfort for the user or ensure the nasal cannula of the present invention do not fall from a user's nares, the nasal cannula may be used in
combination with a headgear strap, which in one embodiment is a small flexible tube. For example, FIG. 1 shows a headgear strap 40 extending from the nasal cannula 2. The ends of the headgear strap that attach to the cannula may attach to extensions (or loops) 41 on the body part 22 of the cannula shown in FIG. 2, or may attach about other appropriate areas of the cannula, for example, about the connector 23.
[0053] The abovementioned embodiment of the nasal cannula 2 of the present invention is preferably a wide bore pronged cannula used for high flow conditions.
[0054] A second embodiment of the present invention is shown in FIG. 7. In this embodiment of the nasal cannula 42 the prongs 43,44 are preferably small bore prongs for use with lower flow conditions. The prongs 43, 44 are similarly shaped to the prongs 24,25 detailed above, but may not seal in the same manner as the abovementioned prongs due to the smaller size of the prongs. In fact these prongs may not seal at all in use within the user's nares.
[0055] Furthermore, in this second embodiment the nasal cannula 42 is smaller and weighs less as it is only comprised of a prong body 45 and prongs 43,44 , where the body 45 is connected to a small tube that is formed with corrugations or bellows 48 that connect to an inspiratory tube or conduit 47 (similar to the inspiratory conduit 3 described above) that receives a supply of gases.
[0056] The corrugations of bellows 48 will bend or move when a weight or force is placed on the cannula, thereby preventing dislodgement of the cannula 42 from a user's face in use. In particular, the corrugations or bellows 48 prevent transferral of the torque onto the cannula 42 when a user moves his or her head.
[0057] The body 45 of the cannula 42 is provided with a number of apertures 46 that allows for gases exhaled by the users to be expelled into the ambient air.
[0058] The prong body and prongs of this embodiment of the cannula of the present invention are preferably formed a flexible plastics material or rubber, such as silicone, other thermoset elastomers or thermoplastic elastomers such as Kraton.TM..
[0059] A third embodiment of the nasal cannula of the present invention is shown in FIG. 8 where the cannula may be provided with corrugated or baffled sections on the prongs. The nasal cannula 49 of this embodiment is similar to that of FIG. 2 but the prongs

50,51 have a series of corrugations 52,53 formed in them. The corrugations 52,53 allow for movement of each of the prongs 50,51 for a better user fit, and allow for movement of the cannula 49 without causing dislodgement of the prongs from the user's nares.

## Angled Prong Nasal Cannula

[0060] A fourth embodiment of the nasal cannula of the present invention is shown in FIGS. 9 to 13. The nasal cannula 60 has a similar construction to the nasal cannula of FIG. 2 and comprises three main components; a prong part 61, body part 62 and ball jointed connector 63.
[0061] The prong part 61 preferably has two nasal prongs 64,65 , each of which are substantially shaped to follow the contours of the human nares and in use are placed inside a user's nares. In some forms a cannula with only one prong may be provided. The prongs 64,65 extend out from a hollow tubular body 66 that in use fits to the body part 62 , preferably about an extension 67 (as shown in the exploded view of the nasal cannula of FIG. 11). Each of the prongs 64,65 are integrally moulded with the tubular body 66 in a flexible plastics material or rubber, such as silicone, other thermoset elastomers or thermoplastic elastomers, such as Kraton.TM.. The prongs 64, 65 are substantially oval tubular members that allow for a passage of gases.
[0062] In particular, as shown in FIG. 12, the prongs are oval in shape (to reflect the shape of human nares) and angled in the same manner as a human's nares. The prongs 64, 65 are angled toward one another (or toward the horizontal axis X) such that angles .alpha. are formed between the midlines $\mathrm{m}, \mathrm{n}$ through each respective prong 64,65 . The angled profile of the prongs 64,65 means that they are more ergonomically correct with a human's nares and may assist in directing the gases flow from the prongs to the user's nasal cavities. The prongs 64,65 are constructed such that their cross-sectional width narrows closer to the tip of each prong.
[0063] In the preferred form the prongs 64, 65 have an angled and profiled end 76 (see FIG. 10). The angled ends 76 assist in directing gases flow to the user's nasal passages.
[0064] Each of the prongs 64, 65 has a flange 73, 74 disposed about its circumference. The flanges 73,74 are at a position on the prongs 64,65 such that the each of the flanges rests against the outside of each of the patient's nares. The flanges 73, 74 do not
extend inside the nares, but rest at the entranceway of the user's nares, and preferably seal the nares. In some users the flanges 73, 74 may extend within the user's nares and provide sealing of the nares. The flanges 73, 74 are preferably thin flexible extensions that extend substantially completely around the circumference of the prongs 64,65 . The flanges 73,74 are preferably substantially elliptical in shape with one side (for example, side 89, which in use will abut the nasal septum of a user) of the flange extending out from each prong further than the other side of each prong. There is a recessed area 88 on each of the prongs between the flange and the shaped ends of the prongs in which preferably in use the ends of a user's nares rest.
[0065] The body part 62 is a tubular passageway in which the prong part 61 is connected at one end and a ball joint 69 at the other end. The ball joint 69 extends from the connector 63 and slots into a complementary shaped (partial sphere) socket end 70 on the body part 62 . The body part 62 may also have a plurality of apertures 71 formed in it, which acts as a bias flow outlet vent. Therefore, any gases exhaled by the user through their nose will exit through the apertures 71.
[0066] A shield 75 (illustrated by the dashed line in FIG. 10) may extend over the bias vent 71 inside the body part 70 to prevent gases from the blower (gases supply 15) from interacting with the bias vent 71 and vent holes, causing noise in use.
[0067] In a sixth embodiment as shown in FIGS. 16 and 17 a nasal cannula without a prong part is shown, but that includes a shield similar to that described above. In this embodiment a body part 90 and a ball jointed connector 91 fit together as described above. The body part 90 includes an expiratory vent shield 92 that extends down from the top wall 94 of the body part 90 and shields the outlet vent 93 .
[0068] Referring back to FIGS. 10 to 13, preferably the ball joint connector 63 is angled and extends into a swivelable connector 68 . The swivel connector 68 is capable in use of being connected to the inspiratory conduit 3 (see FIG. 1) that supplies gases flow to the cannula 60 . The inspiratory conduit 3 may be moulded directly to the connector 68 or other connection mechanisms may be used, such as a friction fit formed between the connector 68 and the conduit 3 .
[0069] In other forms of the present invention the ball joint connector 63 or the ball joint 69 may have formed in it a plurality of channels. One example of this is the embodiment of FIGS. 14 and 15. Such channels allow there to be a leak when gases flow through the connector to the cannula and prongs. The channels are therefore capable of acting as a bias flow and a separate bias flow out outlet (such as that outlet 71 described above) may not be required.
[0070] In FIGS. 14 and 15 only a body part 82 and ball jointed connector 83 are shown. The body part 82 and ball jointed connector 83 join in a manner as described above, where the substantially half sphere shaped end 84 of the body part 82 receives the substantially half sphere shaped end 85 of the connector 83 . The ends 84,85 enable a rotation between the body part 82 and connector 83 . In this embodiment two channels 86,87 are formed in the connector end 85 . Two channels are shown in this embodiment but there may be only one or any number of channels. Similarly, channels may be formed in the body part end 84.
[0071] It is preferred that there is a ball and socket joint, as described above, between the body part 62 and connector 63 , although other connections may be utilised, such as a flexible piece of silicone, or other appropriate connection. The connection between the cannula body and connector must be able to be flexed or rotated to allow for the inspiratory conduit 3 to be moved without causing the dislodgement of the nasal cannula 60 from the user's nares.
[0072] In the preferred form of the nasal cannula 60 of the present invention the body part 62 , connector 63 , ball joint 69 and swivel connector 68 are preferably made from a hard or rigid plastics material, such as polypropylene, polycarbonate or acetyl. In other forms these may be of different plastics materials to allow for increased slidability between these parts.
[0073] The prong part 61 may be supplied in various different sizes such that different sized user's may remove an existing prong part and simply attach a different sized flexible plastics prong part over the body part 62.
[0074] To provide additional comfort for the user or ensure the nasal cannula of the present invention does not fall from a user's nares, the nasal cannula 60 is preferably used
in combination with a headgear strap. The strap may be similar to that shown in FIG. 1 with relation to the first form of the nasal cannula 2. In this fourth form of the nasal cannula 60 the body part 62 has headgear extensions 72, 73 that extend out from the body part 70 . The extensions 72,73 each have a channel 77,78 formed in them that is capable of receiving an end 80,81 of the headgear strap 79 . The strap ends 80,81 in use are threaded through apertures (preferably two) and extend into and are held in the channels 77, 78. In this form the headgear strap 79 is made from a small diameter silicon, rubber or similar type material. Therefore, when the strap ends 80,81 are threaded through the apertures friction is created that maintains the straps within the apertures and prevents the straps from slipping from the cannula.
[0075] In other forms the ends of the headgear strap that attach to the cannula may attach to extensions (or loops) 41 on the body part 22 of the cannula shown in FIG. 6, or may attach about other appropriate areas of the cannula, for example, about the connector 23.

## WHAT IS CLAIMED IS:

1. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion and a mask body periphery, the mask body periphery comprising a left peripheral side and a right peripheral side;
a prong part comprising a hollow body removably sealed to the rigid mask body defining an enclosed space, a prong part periphery extending along a periphery of the hollow body, and first and second nasal prongs extending from the hollow body, the periphery of the prong part removably sealed to the mask body periphery in use, the prong part being formed as a single piece and being more flexible than the rigid mask body;
an inspiratory conduit connected to the rigid mask body configured to deliver pressurized gases into the enclosed space defined by the rigid mask body and the prong part for inhalation by a user in use;
a headgear arrangement configured to maintain the prong part in a position with the first and second prongs against a user's nares in use, the headgear arrangement comprising first and second headgear extensions and a headgear strap;
the first headgear extension having a distal end connected to the left peripheral side of the rigid mask body and a proximal end disposed proximally toward a left side of a user's face in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the left peripheral side of the rigid mask body, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
the second headgear extension having a distal end connected to the right peripheral side of the rigid mask body and a proximal end disposed proximally toward a right side of a user's face in use, the second headgear extension comprising a first
portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body, the second portion of the second headgear extension extending from the first portion, along a fourth direction extending more proximally toward the user than the third direction in use;
the headgear strap comprising a flexible tube having first and second ends, the first end connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and a second end connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension; and
at least a first bias flow vent disposed on the curved portion of the outer surface of the rigid mask body, the first bias flow vent being configured to vent a gas from the enclosed space between the rigid mask body and the prong part, to an outside of the rigid mask body during use.
2. The mask assembly of Claim 1, wherein the first bias flow vent comprises a flow vent outer surface, the flow vent outer surface being recessed inwardly from the curved portion of the outer surface of the rigid mask body.
3. The mask assembly of Claim 1, additionally comprising a conduit connection disposed on the rigid mask body and connecting the inspiratory conduit to the rigid mask body, the first bias flow vent comprising a plurality of apertures arranged symmetrically on left and right sides of the conduit connection.
4. The mask assembly of Claim 1 , wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent.
5. The mask assembly of Claim 4 , wherein the rigid mask body is configured to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
6. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body comprising a central portion, an outer surface having at least a curved portion;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body and a proximal end disposed proximally toward a user in use, the first headgear extension comprising a first portion and a second portion, the first portion of the first headgear extension comprising the distal end of the first headgear extension and extending at least along a first lateral direction extending laterally away from the rigid mask body, the second portion of the first headgear extension extending from the first portion, along a second direction extending more proximally toward the user than the first direction in use;
a second headgear extension having a distal end connected to the rigid mask body and a proximal end disposed proximally toward a user in use, the second headgear extension comprising a first portion and a second portion, the first portion of the second headgear extension comprising the distal end of the second headgear extension and extending at least along a third lateral direction extending laterally away from the rigid mask body, the second portion of the second headgear extension along a fourth direction more proximally toward the user than the third direction in use; and
a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
7. The mask assembly of Claim 6, wherein the first portion of the first headgear extension is shorter than the second portion of the first headgear extension and the first portion of the second headgear extension is shorter than the second portion of the second headgear extension.
8. The mask assembly of Claim 6, wherein the headgear strap comprises a flexible tube and is connected to the second portion of the first headgear extension and the second portion of the second headgear extension.
9. The mask assembly of Claim 6, wherein the first portion of the first headgear extension and the first portion of the second headgear extension extend laterally outward distally of a sealing location between the prong part and the mask body and the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of the sealing location between the prong part and the mask body.
10. The mask assembly of Claim 6, wherein the headstrap comprises first and second ends, the first end extending along first and second opposite sides of the second portion of the first headgear extension at the connection to the first headgear extension, the second end extending along first and second opposite sides of the second portion of the second headgear extension at the connection to the second headgear extension.
11. The mask assembly of Claim 6, wherein the second portion of the first headgear extension and the second portion of the second headgear extension terminate proximally of a mating region between the hollow body of the prong portion and the rigid mask body.
12. The mask assembly of Claim 6 , wherein the hollow body of the prong portion and the rigid mask body overlap each other in a mating region.
13. The mask assembly of Claim 12, wherein the hollow body, the first prong and the second prong are integrally formed in a monolithic component.
14. The mask assembly of Claim12, wherein the first prong and the second prong are angled toward each other in the proximal direction.
15. The mask assembly of Claim 6, wherein the rigid mask body comprises a recessed curved portion of the curved outer which is recessed inwardly into the rigid mask body relative to a surrounding portion of the curved outer surface, the recessed curved portion comprising a plurality of apertures defining a bias flow outlet vent.
16. The mask assembly of Claim 6, wherein the rigid mask body is configured to direct gases entering the rigid mask body from the conduit away from the bias flow vent,
and to direct gases entering the rigid mask body from the prong part toward the bias flow vent.
17. A mask assembly for delivering positive airway pressure to a user, the mask comprising:
a rigid mask body;
an inspiratory conduit connected to the rigid mask body;
a prong part comprising a hollow body and first and second nasal prongs extending from the hollow body, the hollow body removably connected to the mask body;
a first headgear extension having a distal end connected to the rigid mask body and a proximal end disposed proximally toward a user in use, the first headgear extension extending from the rigid mask body, at least along a first lateral direction extending laterally away from the rigid mask body and along a second direction extending more proximally toward the user than the first direction in use; and
a second headgear extension having a distal end connected to the rigid mask body and a proximal end disposed proximally toward a user in use, the second headgear extension extending from the rigid mask body at least along a third lateral direction extending laterally away from the rigid mask body, the second portion of the second headgear extension along a fourth direction more proximally toward the user than the third direction in use.
18. The mask assembly of Claim 17 additionally comprising a headgear strap connected to the first headgear extension at a first location between the distal end and the proximal ends of the first headgear extension and connected to the second headgear extension at a second location disposed between the proximal and distal ends of the second headgear extension.
19. The mask assembly of Claim 18, wherein the headgear strap comprises a flexible tube engaged with the first and second headgear extensions.

## ABSTRACT OF THE DISCLOSURE

A nasal cannula can be shaped to fit within a user's nares, where the nasal cannula includes at least one prong allowing high flow delivery of humidified gases and creates positive airway pressure in the patient's airway. The prongs can have angled ends such that, in use, gases flowing through the prongs are directed to the user's nasal passages. The nasal cannula body can be partially swivelling and preferably has a ball joint connector. The nasal cannula can have at least one flared end prong that preferably seals within a patient's nare.

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Figure 1


Figure 2



Figure 3


Figure 4


Figure 5


Figure 6


Figure 7


Figure 8


Figure 9


Figure 10



Figure 12


Figure 13


Figure 14


Figure 15


Figure 16

Figure 17


## INFORMATION DISCLOSURE STATEMENT

Inventor : Alastair Edwin McAuley
App. No. : Unknown
Filed : Herewith
For : BREATHING ASSISTANCE APPARATUS

Examiner : Unknown
Art Unit : Unknown
Conf. No. : Unknown

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Michael Guiliana
Michael A. Guiliana, Reg. No. 42,611

Commissioner for Patents
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Alexandria, VA 22313-1450

## References and Listing

Pursuant to 37 CFR 1.56, an Information Disclosure Statement listing references is provided herewith. Copies of any listed foreign and non-patent literature references are being submitted.

## No Disclaimers

To the extent that anything in the Information Disclosure Statement or the listed references could be construed as a disclaimer of any subject matter supported by the present application, Applicant hereby rescinds and retracts such disclaimer.

## Timing of Disclosure

This Information Disclosure Statement is being filed within three months of the filing date or date of national phase entry, with an RCE or before receipt of a First Office Action after an RCE, and no fee is believed to be required.

Application No.: Unknown<br>Filing Date: Herewith

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to Account No. 11-1410.

Respectfully submitted,
KNOBBE, MARTENS, OLSON \& BEAR, LLP

Dated: September 04, 2015
By:/Michael Guiliana/
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|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
| (Multiple sheets used when necessary) | Examiner | Unknown |
| SHEET 1 OF 5 | Attorney Docket No. | FPHCR.112C2 |


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|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
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|  | First Named Inventor | Alastair Edwin McAuley |
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|  | First Named Inventor | Alastair Edwin McAuley |
|  | Art Unit | Unknown |
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|  | Art Unit | Unknown |
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| Examiner Initials | Cite <br> No. | Foreign Patent Document Country Code-Number-Kind Code <br> Example: JP 1234567 A1 | $\begin{gathered} \text { Publication } \\ \text { Date } \\ \text { MM-DD-YYYY } \end{gathered}$ | Name | Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear | $\mathrm{T}^{1}$ |
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|  | 108 | WO 2005/086946 | 09-22-2005 | Respironics, Inc. |  |  |
|  | 109 | WO 2005/021075 | 03-10-2005 | Fisher \& Paykel Healthcare Limited |  |  |
|  | 110 | WO 2005/051468 | 06-09-2005 | Resmed Limited |  |  |

*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.

REQUEST FOR FIRST ACTION INTERVIEW (FULL PILOT PROGRAM)

| Attorney Docket <br> Number: | FPHCR.112C2 | Application Number <br> (if known): |
| :--- | :--- | :--- |
| First Named <br> Inventor: | Ulastair Edwin McAuley | Title: BREATHING ASSISTANCE APPARATUS |

## APPLICANT HEREBY REQUESTS A FIRST ACTION INTERVIEW IN THE ABOVE-IDENTIFIED APPLICATION. See Instruction Sheet on page 2.

1. The application must contain three (3) or fewer independent claims and twenty (20) or fewer total claims.
2. The application must not contain any multiple dependent claims.
3. By filing this request:

Applicant is agreeing to make an election without traverse if the Office determines that the claims are not obviously directed to a single invention; and

Applicant is agreeing not to request for a refund of the search fee and any excess claims fee paid in the application after the mailing or notification of the pre-interview communication prepared by the examiner.
4. Other attachments: $\qquad$

| Signature /Michael Guiliana/ | Date 2015-09-04 |
| :--- | :--- |
| Name <br> (PrintTyped) | Michael A. Guiliana |

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*.
*Total of $\qquad$ forms are submitted.

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 hours to complete, including gathering, preparing, and submiting 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.

REQUEST FOR FIRST ACTION INTERVIEW (FULL PILOT PROGRAM)

| Attorney Docket <br> Number: | FPHCR.112C2 | Application Number <br> (if known): |
| :--- | :--- | :--- |
| First Named <br> Inventor: | Ulastair Edwin McAuley | Title: BREATHING ASSISTANCE APPARATUS |

## APPLICANT HEREBY REQUESTS A FIRST ACTION INTERVIEW IN THE ABOVE-IDENTIFIED APPLICATION. See Instruction Sheet on page 2.

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4. Other attachments: $\qquad$

| Signature /Michael Guiliana/ | Date 2015-09-04 |
| :--- | :--- |
| Name <br> (PrintTyped) | Michael A. Guiliana |

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*Total of $\qquad$ forms are submitted.

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 hours to complete, including gathering, preparing, and submiting 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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## Electronic Patent Application Fee Transmittal

| Application Number: |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Filing Date: |  |  |  |  |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |  |  |  |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |  |  |  |
| Filer: | Michael A. Guiliana |  |  |  |
| Attorney Docket Number: | FPHCR.112C2 |  |  |  |
| Filed as Large Entity |  |  |  |  |
| Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111 (a) |  |  |  |  |
| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
| Basic Filing: |  |  |  |  |
| Utility application filing | 1011 | 1 | 280 | 280 |
| Utility Search Fee | 1111 | 1 | 600 | 600 |
| Utility Examination Fee | 1311 | 1 | 720 | 720 |
| Request for Prioritized Examination | 1817 | 1 | 4000 | 4000 |
| Pages: |  |  |  |  |
| Claims: |  |  |  |  |
| Miscellaneous-Filing: |  |  |  |  |


| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
| :---: | :---: | :---: | :---: | :---: |
| Publ. Fee- Early, Voluntary, or Normal | 1504 | 1 | 0 | 0 |
| PROCESSING FEE, EXCEPTPROV. APPLS. | 1830 | 1 | 140 | 140 |
| Petition: |  |  |  |  |
| Patent-Appeals-and-Interference: |  |  |  |  |
| Post-Allowance-and-Post-Issuance: |  |  |  |  |
| Extension-of-Time: |  |  |  |  |
| Miscellaneous: |  |  |  |  |
|  | Total in USD (\$) |  |  | 5740 |


| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 23411404 |
| Application Number: | 14846226 |
| International Application Number: |  |
| Confirmation Number: | 8898 |
| Title of Invention: | BREATHING ASSISTANCE APPARATUS |
| First Named Inventor/Applicant Name: | Alastair Edwin McAuley |
| Customer Number: | 20995 |
| Filer: | Michael A. Guiliana/Melanie Neat |
| Filer Authorized By: | Michael A. Guiliana |
| Attorney Docket Number: | FPHCR.112C2 |
| Receipt Date: | 04-SEP-2015 |
| Filing Date: |  |
| Time Stamp: | 16:44:40 |
| Application Type: | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | yes |
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| Payment Type | Credit Card |
| Payment was successfully received in RAM | $\$ 5740$ |
| RAM confirmation Number | 17134 |
| Deposit Account | 111410 |
| Authorized User | KNOBBE MARTENS OLSON AND BEAR |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: <br> Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) <br> Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)$\quad$ RMD |  |

File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | TrackOne Request | FPHCR112C2_Track_One.pdf | 113888 | no | 2 |
|  |  |  | e551a75e213829cdc15ed20a33c03a0ab9b 89d7e |  |  |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| 2 | Application Data Sheet | FPHCR112C2_ADS.pdf | 1819479 | no | 8 |
|  |  |  | 79f9c15794e62a157a25fade ebc8cibfoccc |  |  |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| 3 | Oath or Declaration filed | FPHCR112C2_Declarations_fro m_Parent.pdf | 413824 | no | 9 |
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| Information: |  |  |  |  |  |
| 4 |  | FPHCR112C2_Application.pdf | 229778 | yes | 19 |
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| Multipart Description/PDF files in .zip description |  |  |  |  |  |
|  | Document Description |  | Start | End |  |
|  | Specification |  | 1 | 13 |  |
|  | Claims |  | 14 | 18 |  |
|  | Abstract |  | 19 | 19 |  |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| 5 | Drawings-only black and white line drawings | FPHCR112C2_Drawings.pdf | 275208 | no | 10 |
|  |  |  |  |  |  |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| 6 |  | FPHCR112C2_IDS.pdf | 219087 | yes | 7 |
|  |  |  | 26b1b3290e76622b1fa683dd6ab4bbaa1b b1bfe4 |  |  |


|  | Multipart Description/PDF files in .zip description |  |  |  |  |  |
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|  | Document Description |  | Start | End |  |  |
|  | Transmittal Letter |  | 1 | 2 |  |  |
|  | Information Disclosure Statement (IDS) Form (SB08) |  | 3 | 7 |  |  |
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| Information: |  |  |  |  |  |  |
| 7 | Power of Attorney | FPHCR112C2_POA.pdf | 91624 | no | 2 |  |
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| Warnings: |  |  |  |  |  |  |
| Information: |  |  |  |  |  |  |
| 8 | First Action Interview - Enrollment Request | FPHCR112C2_FAl.pdf | 245531 | no | 1 |  |
|  |  |  | c223253227938ec 103 a 1 b 3 da 35 frdfoded8 140 coc |  |  |  |
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| Information: |  |  |  |  |  |  |
| 9 | Foreign Reference | CA1311662C.PDF | 1910994 | no | 40 |  |
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| Information: |  |  |  |  |  |  |
| 10 | Foreign Reference | CN2172538_wTranslation.PDF | 543687 | no | 15 |  |
|  |  |  | cti2571 eeb7199dect582eeeatio9e3e97\% |  |  |  |
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| 11 | Foreign Reference | EP1646910.PDF | 1484595 | no | 80 |  |
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| 12 | Foreign Reference | GB190224431A.PDF | 308755 | no | 5 |  |
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| 13 | Foreign Reference | GB880824A.PDF | 416126 | no | 7 |  |
|  |  |  | 390 efd 2 ea 4161 c 61 cc 31 a 1666 e 0 db 1 b 07 e 8 alb 85 |  |  |  |
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| Information: |  |  |  |  |  |  |


| 14 | Foreign Reference | GB1467828A.PDF | 321134 | no | 7 |
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|  |  |  | $\underset{\substack{\text { e938a85cd } 9852 C 22279766432 d 6 b 07176 d 0 \\ \text { dffco }}}{ }$ |  |  |
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| Information: |  |  |  |  |  |
| 15 | Foreign Reference | WO2001041854.PDF | 4595947 | no | 112 |
|  |  |  | 5154625 ef 7208 fddbc 0 d 4 c 9 d 418736 e 4244 |  |  |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| 16 | Foreign Reference | WO2002074372.PDF | 1829860 | no | 37 |
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| Information: |  |  |  |  |  |
| 17 | Foreign Reference | WO2005086946.PDF | 761709 | no | 22 |
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| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| 18 | Foreign Reference | WO2005021075.PDF | 1065805 | no | 28 |
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| Information: |  |  |  |  |  |
| 19 | Foreign Reference | WO2005051468.PDF | 1604836 | no | 58 |
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| 20 | Fee Worksheet (SB06) | fee-info.pdf | 40280 | no | 2 |
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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.


[^0]:    *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.

[^1]:    PTOL-413FP (Rev. 08-13)

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[^3]:    U.S. Patent and Trademark Office

    PTO-2298 (Rev. 02-2012)

[^4]:    This collection of information is required by 37 CFR $1.131,1.32$, 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.

[^5]:    14737883:ah
    012513

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