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- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH,

[Continued on next page]

- (54) **Title:** METERED DOSE NEBULIZER

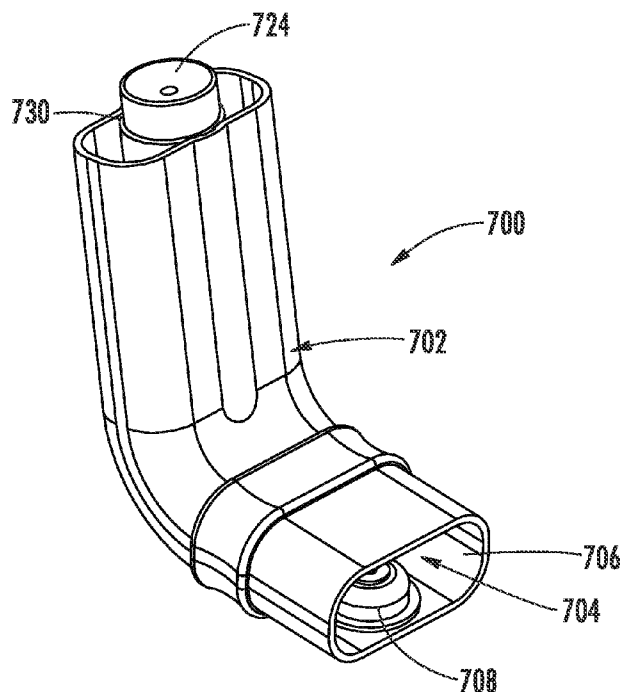


FIG. 47

(57) **Abstract:** A nebulizer (700) includes a venturi nozzle positioned at the outlet (706) end of an air line and oriented horizontally and located within a patient's oral cavity when in use. A canister port is located at the inlet end of the air line and receives a gas canister (724). A valve is actuatable to allow a metered flow of gas at a predetermined pressure and time to flow from the gas canister through the air line and venturi nozzle. A medication receiver (708) is carried by the nebulizer body proximal to the venturi nozzle. A suction line extends from the venturi nozzle to the medication receiver and draws medication upward from a medication container and mixes it with air passing through the venturi nozzle and nebulizes the medication.



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

18 December 2014

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— *with international search report (Art. 21(3))*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/021036

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-9, 19-29

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/021036

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61M15/00 A61M11/04 A61M11/02
ADD.

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61M

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

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/107725 A1 (ADDINGTON W R [US] ET AL ADDINGTON W ROBERT [US] ET AL) 17 May 2007 (2007-05-17)	1-7
Y	paragraphs [0036] - [0058]; figures 1-19 paragraph [0042]	8,9, 19-29
X	US 2008/283049 A1 (MAHONEY DEREK D [US] ET AL) 20 November 2008 (2008-11-20)	1,2,4,5
Y	paragraphs [0004] - [0010], [0057] - [0090]; figures 1-57	19-29
X	US 2007/163572 A1 (ADDINGTON W R [US] ET AL ADDINGTON W ROBERT [US] ET AL) 19 July 2007 (2007-07-19)	1-7
Y	paragraphs [0014] - [0016], [0033] - [0050]; figures 1-16 paragraph [0039]	8,9, 19-29
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Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

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

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

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

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

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

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

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

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

"&" document member of the same patent family

Date of the actual completion of the international search

11 June 2014

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06/11/2014

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/021036

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2012/190999 A1 (ADDINGTON W ROBERT [US] ET AL) 26 July 2012 (2012-07-26) paragraphs [0010] - [0012], [0038] - [0119]; figures 1,18-27 -----	8,28
X	US 2012/186582 A1 (ADDINGTON W ROBERT [US] ET AL) 26 July 2012 (2012-07-26)	1-7
Y	paragraphs [0003], [0010] - [0012], [0039] - [0121]; figures 1,18-25 paragraphs [0045] - [0053], [0085], [0086] -----	8,9, 19-29
Y	US 2012/145153 A1 (BASSIN DAVID JOHN [AU] ET AL) 14 June 2012 (2012-06-14) claim 12 -----	9,29

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2014/021036

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9, 19-29

Nebuliser with canister port and valve

2. claims: 10-18

L-shaped nebuliser
