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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, 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.

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Published:

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

— *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:
1 September 2016

(54) Title: ANALYZER SYSTEM AND METHOD FOR SENSING A CHEMICAL CHARACTERISTIC OF A FLUID SAMPLE

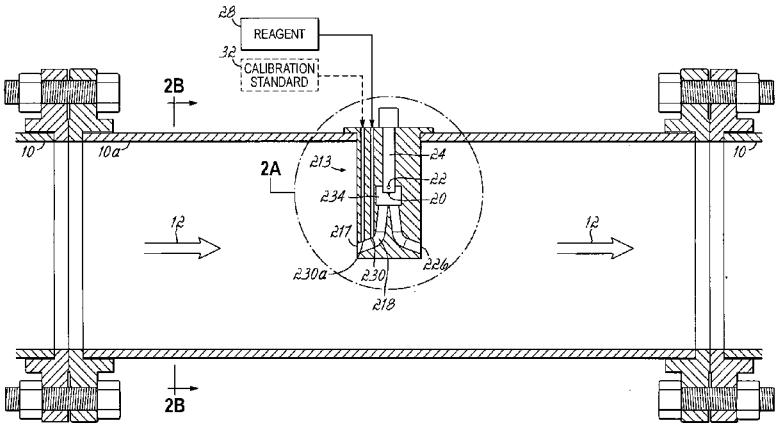


FIG. 2

(57) Abstract: An analyzer system for sensing a chemical characteristic of a fluid sample according to one embodiment includes a sample inlet configured to receive the sample via the sample inlet, a reagent inlet configured to receive a reagent via the reagent inlet, a reaction zone in fluid communication with the sample inlet and the reagent inlet and being configured to receive the sample from the sample inlet and the reagent from the reagent inlet for mixing the sample with "the reagent; and a sensor zone in fluid communication with the reaction zone, wherein the sensor zone comprises a sensor configured to sense the chemical characteristic of the mixed sample and reagent, and further wherein the sensor zone is configured to allow automatic drainage of the mixed sample and reagent away from the sensor after the sensor has sensed the chemical characteristic of the mixed sample and reagent.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2015/000230

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.:

1-5(completely); 21, 22(partially)

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/US2015/000230

A. CLASSIFICATION OF SUBJECT MATTER
INV. G01N1/20 G01N1/38 G01N33/18 G01N35/10
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)
G01N B01L

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 2014/219872 A1 (ANGELESCU DAN EUGEN [FR] ET AL) 7 August 2014 (2014-08-07) abstract; figures 1, 2 paragraphs [0010] - [0013], [0016], [0019] - [0024], [0051] - [0055] - paragraphs [0061] - [0070], [0076] - [0079], [0083]	1-5,21, 22

☐ 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	Date of mailing of the international search report
8 April 2016	21/06/2016

Name and mailing address of the ISA/	Authorized officer
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2014219872 A1	07-08-2014	CA 2851323 A1	18-04-2013
		EP 2710346 A1	26-03-2014
		ES 2537893 T3	15-06-2015
		FR 2981283 A1	19-04-2013
		US 2014219872 A1	07-08-2014
		WO 2013054014 A1	18-04-2013

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-5(completely); 21, 22(partially)

   An analyser system with sample inlet, reagent inlet, reaction zone and sensor zone comprising automatic drainage. Claims 21 and 22 for method of analysing using this system.

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2. claims: 6-12(completely); 21, 22(partially)

   An analyser system with sample inlet, reagent inlet, reaction zone and sensor zone comprising sample reservoir, actuator in 1st and 2nd positions, 2nd position actuated when sample reservoir is full, reagent reservoir, and a reagent regulator to release reagent from reservoir when actuator has moved to the second position. Alternative claims 21 and 22 for method of analysing using this system.

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3. claims: 13-20(completely); 21, 22(partially)

   An analyser system with sample inlet, reagent inlet, reaction zone and sensor zone comprising actuator responding to the sample flow, reagent reservoir, reagent outlet, and a valve to release reagent in response to the movement of the actuator. Alternative claims 21 and 22 for method of analysing using this system.
