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(54) Title: AUTOMATED SAMPLE PREPARATION SYSTEM FOR DIAGNOSTIC TESTING OF SAME

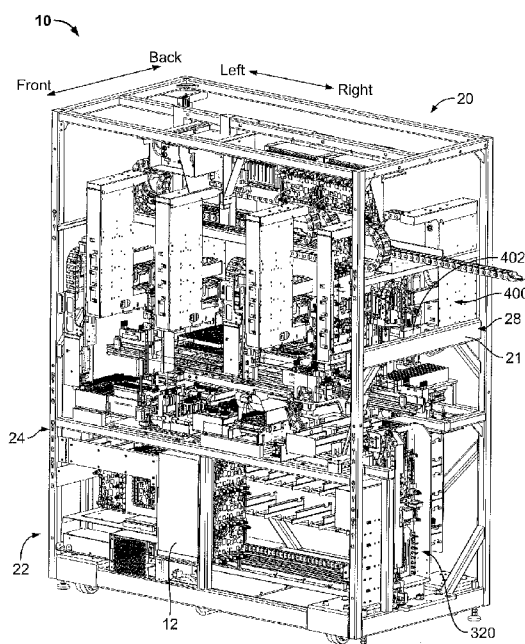


FIG. 2

(57) Abstract: An automated pre-analytical processing method and an apparatus for pre-analytical processing of samples to be forwarded to an adjacent analyzer for analysis. Rack label information is read and the rack label information is communicated to a processor in the pre-analytical system. From the rack label information the pre-analytical system processor determines where to route the rack in the pre-analytical system. The pre-analytical system has a rack robot that conveys racks to discrete locations in the pre-analytical system depending upon the routing information assigned to the rack by the processor. Depending on the type of sample container and the type of sample disposed therein, the samples are either prepared for analysis by the automated station or, if the sample is already disposed in a container that can be directly sent to and processed by an analyzer, the sample containers are directly passed through the automated station.



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).

Declarations under Rule 4.17:

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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

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- *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))*

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A. CLASSIFICATION OF SUBJECT MATTER

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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 G06F

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 2014/241946 A1 (SELF BRIAN AUSTIN [US] ET AL) 28 August 2014 (2014-08-28)	1
Y	paragraphs [0040], [0047], [0050], [0051], [0065], [0067], [0088], [0117], [0120], [0121], [0128], [0130]; figures 1,2,8,9A paragraphs [0137], [0139], [0140]	3-17,19
X	US 2012/318076 A1 (KAPPELHOFF DIETMAR [CH] ET AL) 20 December 2012 (2012-12-20)	1
A	paragraphs [0032], [0034], [0036], [0061], [0062], [0082], [0083]; figure 1	3,4, 6-14,16, 17
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Further documents are listed in the continuation of Box C.



See patent family annex.

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

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 985 215 A (SAKAZUME TAKU [JP] ET AL) 16 November 1999 (1999-11-16)	1
A	column 2, line 46 - column 3, line 33; figure 1 column 10, line 48 - line 65 -----	3,4, 6-14,16, 17
Y	US 2007/134131 A1 (WATSON LESLIE R [AU] ET AL) 14 June 2007 (2007-06-14) paragraphs [0028], [0066] -----	3-17,19
A	HELD P G ET AL: "AUTOMATED PROCEDURES FOR THE QUANTITATION OF PROTEIN", BIOTECHNIQUES RAPID DISPATCHES, INFORMA HEALTHCARE, US, vol. 17, no. 5, 1 November 1994 (1994-11-01), pages 988-991, XP000474857, ISSN: 0736-6205 chapter "MATERIALS AND METHODS", section "Instrument", first paragraph -----	3,4,16
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Y	paragraphs [0014], [0063], [0110], [0123], [0132], [0133], [0138], [0140], [0158]; figures 1,2 -----	15-17,19
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Y	paragraphs [0006], [0007], [0009];	28
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A	US 6 138 521 A (BASCH LAUREN R [US] ET AL) 31 October 2000 (2000-10-31) column 3, line 51 - column 5, line 21; figure 1 -----	34-40
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2017/018358

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 95/03548 A1 (AUTOMED INC [US]; NELMS GEORGE E [US]; EUMURIAN CHARLES [US]) 2 February 1995 (1995-02-02) page 8, line 6 - line 36; figures 1-9 page 11, line 11 - page 12, line 19; figure 10 -----	34-40
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Y	paragraphs [0019], [0067], [0072], [0075], [0080], [0082], [0105], [0106], [0123] - [0131], [0139], [0168]; figures 1,2,4,8-10 -----	28
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A	paragraphs [0018], [0056], [0061], [0065], [0072], [0073], [0077], [0081], [0085]; figures 1,9 -----	28

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2017/018358

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.:

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.

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, 3, 4, 6-12, 14(completely); 13, 16, 17(partially)
presenting to an analyser only sample containers which it
can process

1.1. claims: 3, 4(completely); 16(partially)
adjusting a sample concentration

2. claims: 2, 5, 15, 18, 19, 41(completely); 13, 16, 17(partially)
organising a batch mode operation

3. claims: 20-33, 46-49
rack elevator

4. claims: 34-40
container shuttle transport assembly

5. claims: 42-45
second rack receiving location

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2017/018358

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