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[Continued on next page]

(54) Title: TEST TUBE CAPPING AND DE-CAPPING APPARATUS

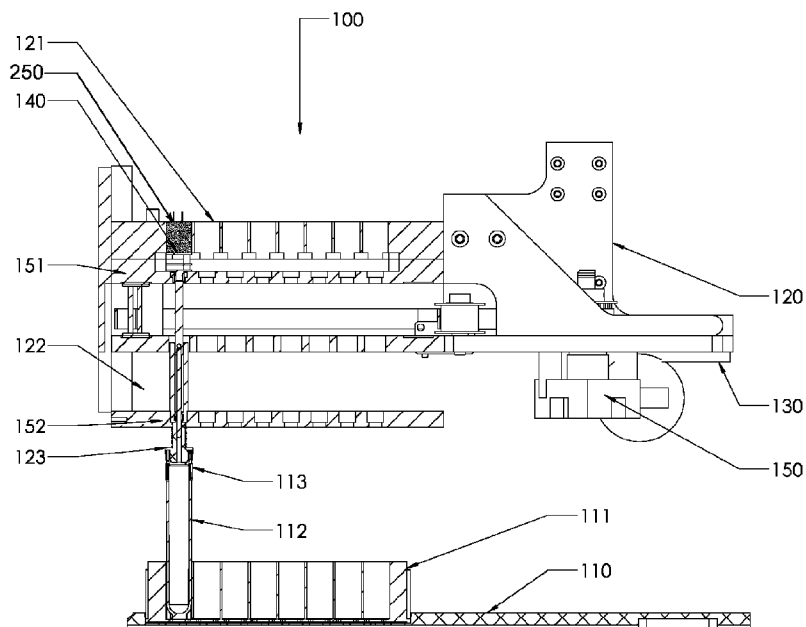


Figure 1b

(57) Abstract: An apparatus (100) for automated capping and de-capping of test tubes (112) having an ejector pin (230) system for individualized cap (113) ejection.



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10 April 2014

- *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))*

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/066365

A. CLASSIFICATION OF SUBJECT MATTER
INV. B67B3/20 B67B7/18
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)
B67B G01N

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 A A	US 4 519 276 A (GRABARSKI DAVID L [US] ET AL) 28 May 1985 (1985-05-28) figures 1-4 column 2, line 21 - column 4, line 12 -----	7,12 1-6, 18-20
A	EP 1 882 949 A1 (AUTOM PARTNERSHIP CAMBRIDGE [GB]) 30 January 2008 (2008-01-30) cited in the application figures 1-18 paragraphs [0016] - [0031] -----	1,5, 18-20
A	JP 2010 100312 A (MICRONICS KK; CAN KK; NIKKYO TECHNOS KK) 6 May 2010 (2010-05-06) figures 1-13 abstract ----- -/--	1,18-20

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
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- "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

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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
- "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 25 November 2013	Date of mailing of the international search report 21/02/2014
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Pardo, Ignacio

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/066365

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 03/034038 A2 (MONOGEN INC [US]; PRESSMAN NORMAN J [US]; MAYER WILLIAM J [US]; WROBLE) 24 April 2003 (2003-04-24) figures 11,28,29 page 32, line 17 - page 34, line 12 -----	1,18-20
A	EP 2 385 015 A1 (CECCHERINI VIERI [IT]) 9 November 2011 (2011-11-09) figures 1-8 paragraphs [0008] - [0011] -----	1,18-20
A	EP 1 424 307 A1 (KHS MASCHINEN UND ANLAGENBAUAG [DE] KHS MASCH & ANLAGENBAU AG [DE]) 2 June 2004 (2004-06-02) figures 1-8 paragraphs [0009] - [0011] -----	1,18-20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2013/066365

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.:

1-7, 12(completely); 18-20(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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-7, 12(completely); 18-20(partially)

Capping and de-capping apparatus and method for tubes disposed in a rack.

2. claims: 8(completely); 18-20(partially)

Capping and de-capping gripper with attachable and detachable socket unit.

3. claims: 9, 10(completely); 18-20(partially)

Capping and de-capping gripper comprising a rotational actuator unit for the ejector pin.

4. claims: 11(completely); 18-20(partially)

Capping and de-capping gripper with individual control.

5. claims: 13(completely); 18-20(partially)

Socket unit comprising biasing means.

6. claims: 14, 15(completely); 18-20(partially)

Socket unit comprising a friction pin.

7. claims: 16, 17(completely); 18-20(partially)

Socket unit made of plastic.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2013/066365

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