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[Continued on next page]

(54) Title: BEAM DEVICE AND SYSTEM COMPRISING A PARTICLE BEAM DEVICE AND AN OPTICAL MICROSCOPE

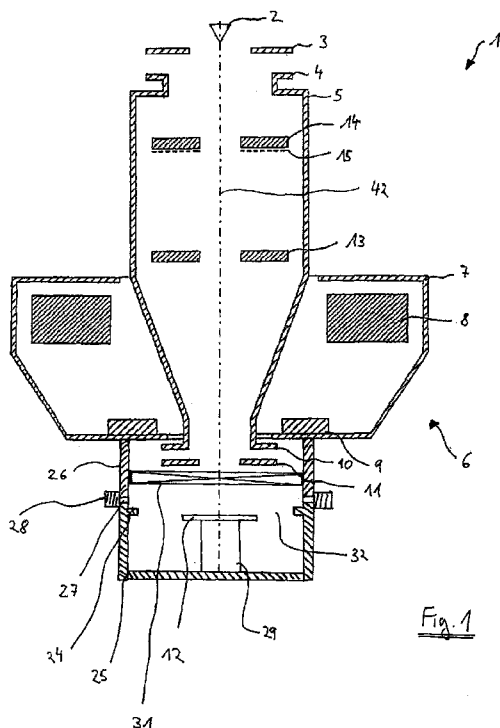


Fig. 1

(57) Abstract: The invention refers to a beam device (1), in particular a particle beam device, for analyzing an object (12), as well as a system comprising a particle beam device and an optical microscope for optically analyzing an object. It is an object of the invention to provide a beam device (1) comprising a means to simplify the exchange and to reduce the time of the exchange of objects to be examined. According to the invention a beam device (1) is provided comprising at least one beam generator (2) that generates a beam, at least one objective lens (6) that focuses the beam on an object (12) arranged in a holding element (25), wherein the objective lens (6) comprises at least one connecting element (26), the holding element (25) is connected to the connecting element (26) so that the holding element (25) is removable from the connecting element (26) for modification of the object (12). Alternatively, the holding element is mounted to a beam column.



(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

— *before the expiration of the time limit for amending the
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— *of inventorship (Rule 4.17(iv))*

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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2008/065299

A. CLASSIFICATION OF SUBJECT MATTER

INV. H01J37/20 H01J37/18 H01J37/22 H01J37/26 G02B21/00

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)

H01J G02B

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 practical, 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	WO 03/104846 A (QUANTOMIX LTD [IL]; SPRINZAK DAVID [IL]; NECHUSHTAN AMOTZ [IL]; ZIK OR) 18 December 2003 (2003-12-18)	1,3-10, 12-16, 18-19, 21-24,31
Y	page 71, line 8 - page 71, line 24 figures 5A-9 figure 85	20
Y	WO 02/45125 A (YEDA RES & DEV [IL]; EL MUL TECHNOLOGIES LTD [IL]; MOSES ELISHA [IL];) 6 June 2002 (2002-06-06) page 23, line 30 - page 24, line 9	20
X	US 2 243 403 A (M. VON ARDENNE) 27 May 1941 (1941-05-27) figures 1-3	1,3,9-10
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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- *E* earlier document but published on or after the international filing date
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- *G* document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No
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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	JP 2007 292702 A (JEOL LTD) 8 November 2007 (2007-11-08) abstract; figures 1,2 -----	1
X	JP 63 174252 A (HITACHI LTD) 18 July 1988 (1988-07-18) abstract; figures 1,2 -----	1
X	US 4 440 475 A (COLLIAUX DANIEL [FR]) 3 April 1984 (1984-04-03) cited in the application the whole document -----	1,25-32
X	JP 09 129169 A (NIPPON KOGAKU KK) 16 May 1997 (1997-05-16) abstract -----	1,25-30
X	JP 08 273578 A (TOPCON CORP) 18 October 1996 (1996-10-18) abstract -----	1,25-30
X	US 5 493 125 A (OKAYAMA SHIGEO [JP] ET AL) 20 February 1996 (1996-02-20) figures 2,3 -----	1,3-4,6, 32
X	US 2005/236587 A1 (KODAMA TOSHIO [JP] ET AL KODAMA TOSHIO [JP] ET AL) 27 October 2005 (2005-10-27) abstract; figures 1,2,4 -----	1,32
X	JP 60 130043 A (JEOL LTD) 11 July 1985 (1985-07-11) figure 1 -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2008/065299

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, 3-32

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, 3-32

Beam device with a sample inside the beam tube,
characterized by the dimensions of the sample holder

2. claims: 2, 5-32

Beam device with a sample holder connected to the objective
lens

3. claims: 33-51

System comprising a particle beam device for the analysis of
a sample separated from the vacuum by a membrane,
characterized by an additional optical microscope for
observing the sample

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2008/065299

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