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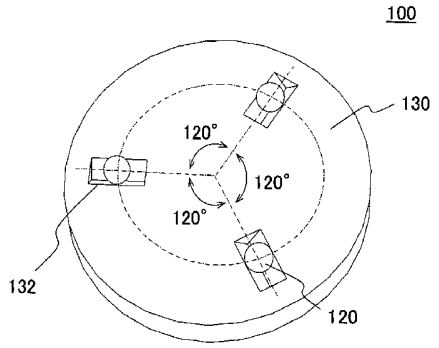
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Published:
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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

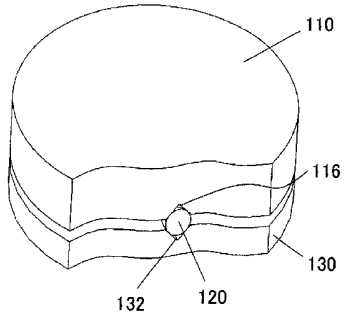
(88) Date of publication of the international search report:
13 May 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RETAINER, EXPOSURE APPARATUS, AND SEMICONDUCTOR DEVICE FABRICATION METHOD



A



B

(57) Abstract: A retainer for holding an optical element (110) having three first grooves (116) includes a first support member (120) that supports the optical element through the first grooves, and a second support member (130) that has three second grooves corresponding to the first grooves (132), and supports the first support member through the second grooves.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP 03/09533

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G02B7/02 G03F7/20

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)
IPC 7 G02B G03F

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, PAJ, 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 4 621 899 A (DEMEY CHARLES F ET AL) 11 November 1986 (1986-11-11) column 3, line 11 - line 48; figure 1	1
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 12, 31 October 1998 (1998-10-31) -& JP 10 186196 A (CANON INC), 14 July 1998 (1998-07-14)	1-4, 8-14,26, 29
X	abstract; figures 6,7	17,19, 27,30
A	EP 1 164 398 A (ZEISS CARL ;ZEISS STIFTUNG (DE)) 19 December 2001 (2001-12-19) column 5, line 37 -column 8, line 18; figures 6-9	1-4, 8-12,26, 29

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

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

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"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.

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Date of the actual completion of the international search	Date of mailing of the international search report
24 February 2004	-8. 03. 2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	von Moers, F

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP 03/09533

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 015, no. 088 (P-1174), 4 March 1991 (1991-03-04) & JP 02 304511 A (OLYMPUS OPTICAL CO LTD), 18 December 1990 (1990-12-18) abstract; figure	1,5
X	NL 9 402 125 A (PETRUS CAROLUS JOHANNES NICOLA ;ROELL MARIA VAN DRUTEN (NL)) 1 July 1996 (1996-07-01)	17,19
Y	page 2; figure 1	27,30
Y	US 6 400 516 B1 (SPINALI MARC) 4 June 2002 (2002-06-04)	27,30
A	column 4, line 66 -column 5, line 22; figures 2A,7,8	17,19
A	US 4 763 991 A (KLOTZ JR PAUL R) 16 August 1988 (1988-08-16) column 5, line 15 - line 28	18
A	WO 00 37981 A (POWELL ROY EDWARD ;SECR DEFENCE (GB)) 29 June 2000 (2000-06-29) page 11, line 21 -page 12, line 9; figure 3B	22,28,31

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/JP 03/09533

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		WO 0037981 A1	29-06-2000

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP 03/09533

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

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

see additional sheet

1. [X] 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 fee, this Authority did not invite payment of any additional fee.

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.

[X] 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: 1-16,26,29

   Retainer for an optical element having three first grooves, said retainer comprising a first support that supports said first grooves and a second support (plate) with three second grooves

2. Claims: 17-21,27,30

   Retainer for an optical element having ball-shaped convex parts said retainer comprising V-shaped grooves for holding the corresponding ball-shaped convex parts

3. Claims: 22-25,28,31

   Retainer for an optical element having V-shaped convex parts said retainer comprising pair(s) of spherical parts for holding corresponding V-shaped convex parts