

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 January 2005 (06.01.2005)

PCT

(10) International Publication Number
WO 2005/001401 A3

(51) International Patent Classification⁷: **G01J 3/18**,
H01S 3/10

(21) International Application Number:
PCT/US2004/018045

(22) International Filing Date: 4 June 2004 (04.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/476,600 6 June 2003 (06.06.2003) US
60/514,769 27 October 2003 (27.10.2003) US

(71) Applicant (for all designated States except US): **THE GENERAL HOSPITAL CORPORATION** [US/US]; 55 Fruit Street, Boston, MA 02114 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BOUMA, Brett, E.** [US/US]; 12 Monmouth Street, Quincy, MA 02171 (US). **YUN, Seok-Hyun** [KR/US]; 30 Cambridge Park Drive, Apt. #4128, Cambridge, MA 02140 (US). **OH, William**

[KR/US]; 30 Cambridge Park Drive, Apt. #5110, Cambridge, MA 02140 (US). **DEBOER, Johannes** [NL/US]; 60 C Marshall Street, Somerville, MA 02145 (US). **TEARNEY, Guillermo** [US/US]; 12 Fairmont Street, Cambridge, MA 02139 (US).

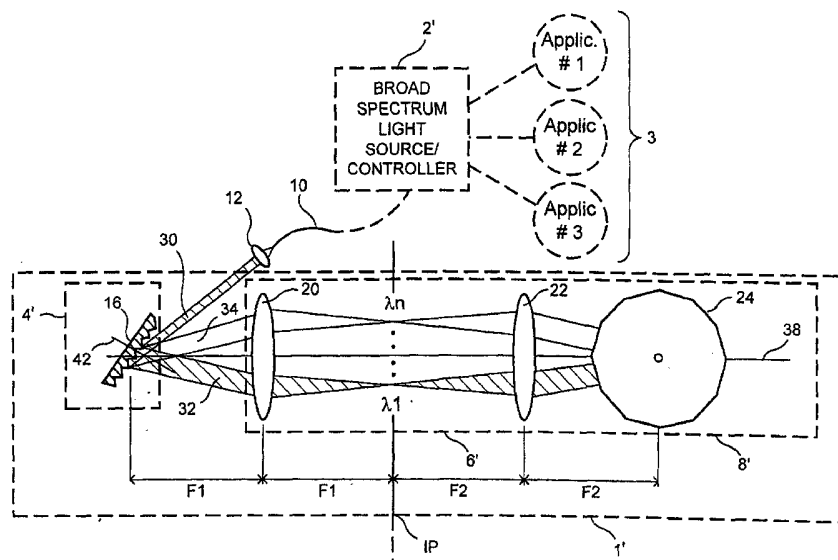
(74) Agent: **ABELEV, Gary**; Baker Botts L.L.P., 30 Rockefeller Plaza, New York, NY 10112-4498 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

[Continued on next page]

(54) Title: PROCESS AND APPARATUS FOR A WAVELENGTH TUNING SOURCE



(57) Abstract: An apparatus and source arrangement for filtering an electromagnetic radiation can be provided which may include at least one spectral separating arrangement configured to physically separate one or more components of the electromagnetic radiation based on a frequency of the electromagnetic radiation. The apparatus and source arrangement may also have at least one continuously rotating optical arrangement which is configured to receive at least one signal that is associated with the one or more components. Further, the apparatus and source arrangement can include at least one beam selecting arrangement configured to receive the signal.



FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
28 April 2005

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/018045

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01J3/18 H01S3/10

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 G01J H01S

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, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/054027 A (CORETEK INC) 11 July 2002 (2002-07-11) abstract; figure 1	1-7, 9-15
Y	-----	16
X	US 2 339 754 A (BRACE PORTER H) 25 January 1944 (1944-01-25) page 2, column 2, line 8 - line 44; figure 2	1-7, 9-15
Y	-----	16
Y	US 4 993 834 A (CARLHOFF CHRISTOPH ET AL) 19 February 1991 (1991-02-19) abstract; figure 1	16
A	-----	16
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☒ Further documents are listed in the continuation of box C.

☒ 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

E earlier document 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.

G document member of the same patent family

Date of the actual completion of the international search

4 March 2005

Date of mailing of the international search report

14. 03. 2005

Name and mailing address of the ISA

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

Authorized officer

Schmidt, C.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/018045

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 040 889 A (KEANE THOMAS J) 20 August 1991 (1991-08-20) abstract; figure 1 -----	16
X	US 4 601 036 A (FAXWOG, MOCKER) 15 July 1986 (1986-07-15) column 5, line 56 - column 6, line 5; figure 5	8,17,18, 21-24, 26-31, 33,34, 36-38, 40,41,43
Y		32,35, 39,42
A		19,20,25
X	US 4 868 834 A (FOX, AHL) 19 September 1989 (1989-09-19) column 1, line 65 - column 2, line 68; figure 1	8,17,18, 21-24, 26-31, 33,34, 36-38, 40,41,43
Y		32,35, 39,42
A		19,20,25
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A		19,20,25
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A	US 5 459 570 A (SWANSON, HUANG ET AL) 17 October 1995 (1995-10-17) abstract; figure 1 -----	44-51
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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INTERNATIONAL SEARCH REPORT



International application No.
PCT/US2004/018045

Box 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 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 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.

☒ 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: 1-7,9-16

an apparatus for filtering electromagnetic radiation having a plurality of beam selecting elements.

2. claim: 17

an apparatus for filtering electromagnetic radiation wherein the signal is reflected from the rotating optical arrangement a plurality of times.

3. claims: 18-25

an apparatus for filtering electromagnetic radiation wherein the pivot point of the rotating arrangement has specific properties.

4. claims: 8,26-43

a source of light, in particular a laser gain medium

5. claims: 44-51

an apparatus comprising first and second arrangements for providing first and second radiation as well as means for detecting interference.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US2004/018045

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6341036	B1	WO 9944089 A1	02-09-1999