(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
22 March 2007 (22.03.2007)

PCT

(10) International Publication Number
WO 2007/033326 A3

(51) International Patent Classification:
A61B 3/10 (2006.01) *A61B 3/00* (2006.01)

(21) International Application Number:
PCT/US2006/035853

(22) International Filing Date:
14 September 2006 (14.09.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/717,583 14 September 2005 (14.09.2005) US

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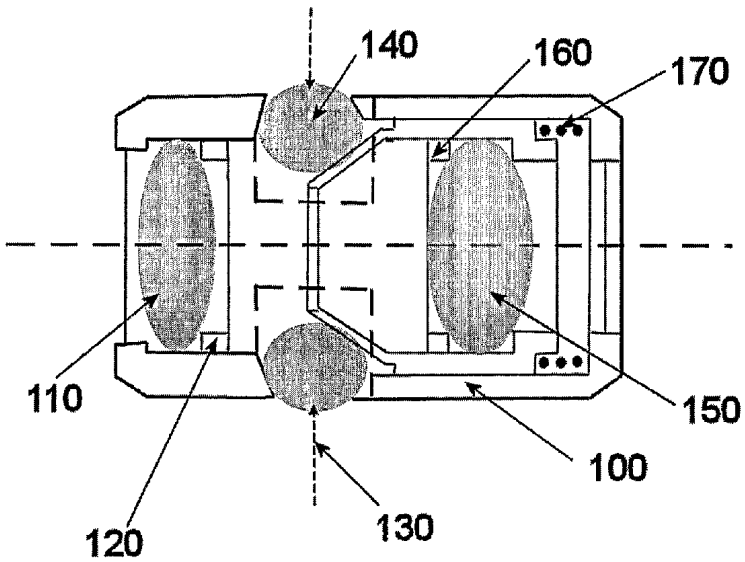
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ,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

[Continued on next page]

(54) Title: MEDICAL APPARATUS COMPRISING AND ADAPTIVE LENS

FIG. 10



(57) Abstract: The present invention relates to apparatus and methods for using one or more adaptive lenses in medical devices. The apparatus and methods involve the use of one or more adaptive lens components to accomplish such tasks as improving, easing, and simplifying examination of patients, and providing instruments that can be conveniently and rapidly adjusted to accommodate to the clinical and personal physical requirements of medical practitioners.

WO 2007/033326 A3

Published:
— *with international search report*

(88) Date of publication of the international search report:
7 May 2009

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/35853

A. CLASSIFICATION OF SUBJECT MATTER
IPC: **A61B 3/10**(2006.01),**3/00**(2006.01)

USPC: 351/200,205,206,214,216,219;359/665,666,738,739,740
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)
U.S. : 351/200, 205, 206, 214, 216, 219; 359/665, 666, 738, 739, 740

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)
EAST: focus, zoom, variabe, fluid lens, ophthalmoscope

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,286,839 A (ILZIG et al) 01 September 1981 (01.09.81), Figs 2b,2c, see entire document.	61
X	US 2003/0098952 A ()GOLDFAIN et al) 29 May 2003 (29.05.03), see entire document.	34-37, 55-60, 72
X	US 6,369,954 A (BERGE et al) 9 April 2002 (09.04.02). see entire document.	34-37, 55-60, 72

☐ 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 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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
06 January 2008 (06.01.2008)	15 FEB 2008
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Huy K. Mai Telephone No. (571) 272-1562

Form PCT/ISA/210 (second sheet) (April 2005)

BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

1. This International Preliminary Examining Authority has found 22 inventions claimed in the International Application covered by the claims indicated below:

I. Claims 1-10, drawn to an apparatus and method for recording frame of data, classified in class 345, subclass 356.

II. Claim 11, drawn to a method for measuring the size of an object using a correlated table, classified in class 356, subclass 335.

III. Claims 12-14 and 63, drawn to a lens system for a binocular indirect ophthalmoscope, classified in class 351, subclass 200.

IV. Claims 15-19,50 and 51, drawn to an apparatus including wavefront sensing means, classified in class 351, subclass 205.

V. Claims 20-22, drawn to a computational image system for the construction of an iris-processing module, classified in class 382, subclass 118.

VI. Claims 23-24, drawn to a lens system in a joint-transform correlator, classified in class 382, subclass 278.

VII. Claims 25-31 and 64, drawn to a variable focal length fluid lens system, classified in class 359, subclass 666.

VIII. Claims 32-33, drawn to a combination of light path system and a beamsplitter, classified in class 359, subclass 618.

IX. Claims 34-37, drawn to an eye viewing device, classified in class 351, subclass 216.

X. Claims 38-42, drawn to an array of lens elements in an imaging device, classified in class 359, subclass 619.

XI. Claims 43-44, drawn to a miniaturized colposcope, classified in class 600, subclass 188.

XII. Claims 45-49, drawn to a lens system including a correcting temperature means, classified in class 359, subclass 820.

XIII. Claims 52-54, 75-78 and 82-88, drawn to a voltage controllable segmented lens with at least one interface between the fluid materials, classified in class 359, subclass 665.

XIV. Claims 55-60, drawn to a handheld medical device, classified in class 351, subclass 200.

XV. Claims 61 and 72, drawn to a headlight, classified in class 362, subclass 512.

XVI. Claim 62, drawn to an apparatus including a projection means for project an object on the selected portion of a retina, classified in class 351, subclass 206.

XVII. Claims 65-68, drawn to a method for stabilizing the motion of an image, classified in class 369, subclass 55.

XVIII. Claim 69, drawn to a method for calibrating, classified in class 702, subclass 85.

XIX. Claim 71, drawn to an apparatus including an inertial sensor, classified in class 356, subclass 27.

XX. Claims 73,74, drawn to a method for accommodating the myopia/hyperopia, classified in class 351, subclass 246.

XXI. Claims 79 and 80, drawn to a display including a contrast bar pattern, classified in class 351, subclass 205.

XXII. Claim 81, drawn to an eyewear including correcting means, classified in class 351, subclass 41.

and it considers that the International Application does not comply with the requirements of unity of invention (Rules 13.1, 13.2 and 13.3) for the reasons indicated below:
The claims of these twenty-two groups are directed to different inventions which are not so linked to form a single general inventive concept. The inventions are not linked in oparation and perfoem completely different operations.