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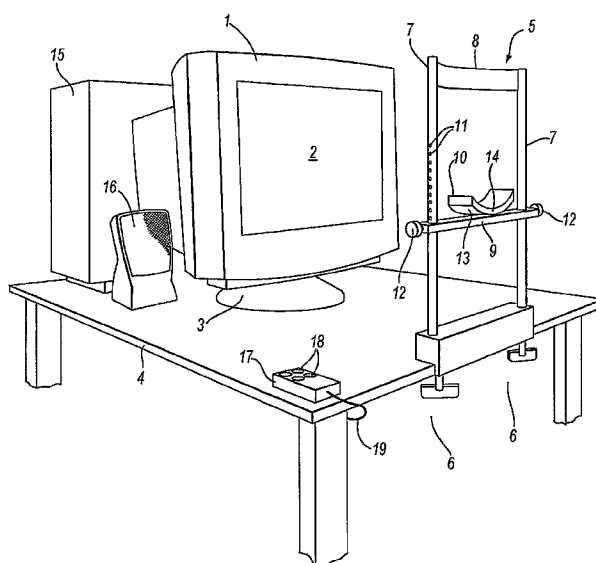
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- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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[Continued on next page]

(54) Title: VISION EXERCISING APPARATUS



(57) Abstract: A vision exercising apparatus including a visual display device (1); a locating means (5) for locating the head of a user at a position to provide a substantially known relationship between the visual display device (1) and the field of view of the user; display position control means for actuating the visual display device (1) to display a predetermined pattern at a known display position which corresponds to a specific viewing area of the field of view of the user; user actuable response means (17) to enable a user response to be provided; further control means to control the display position control means to repeatedly display the predetermined pattern at the known display condition; and means to collate user response and to evaluate the statistical significance of the user response for that display position. A predetermined pattern can thus be displayed in the field of view of a user that requires exercising.

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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

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A. CLASSIFICATION OF SUBJECT MATTER

INV. A61H5/00

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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)

A61H A61B

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 534 953 A (SCHMIELAU FRITZ [DE]) 9 July 1996 (1996-07-09)	1-4, 9, 10, 21, 29, 30, 33-36
Y	column 6, line 16 - line 45 column 7, line 30 - line 38 column 8, line 39 - line 44; figures	11-20, 22, 31, 32
Y	US 6 876 758 B1 (POLAT URI [IL] ET AL) 5 April 2005 (2005-04-05) column 5, line 40 - column 6, line 32 column 4, line 55 - column 5, line 7 column 8, line 64 - column 9, line 36; figures ----- -/--	11-20, 22, 31, 32



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 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)
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- *Z* 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.
A	US 6 364 486 B1 (BALL KARLENE K [US] ET AL) 2 April 2002 (2002-04-02) abstract; figures	1, 21, 29-34
A	US 4 971 434 A (BALL KARLENE K [US]) 20 November 1990 (1990-11-20) abstract; figures	1-4, 29-35

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2006/002422

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:
see FURTHER INFORMATION sheet PCT/ISA/210

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:

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

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2006/002422

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5534953	A	09-07-1996 EP 0689822 A1	03-01-1996
US 6876758	B1	05-04-2005 NONE	
US 6364486	B1	02-04-2002 NONE	
US 4971434	A	20-11-1990 AU 642952 B2	04-11-1993
		AU 6956191 A	26-06-1991
		CA 2073040 A1	29-05-1991
		EP 0502984 A1	16-09-1992
		JP 5502176 T	22-04-1993
		WO 9107908 A1	13-06-1991