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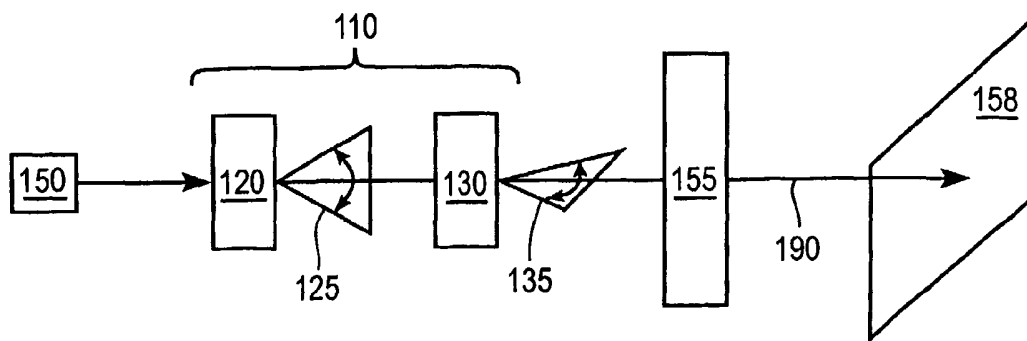
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For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: TWO-DIMENSIONAL OPTICAL SCAN SYSTEM USING A COUNTER-ROTATING DISK SCANNER



(57) Abstract: A counter-rotating disk scanner (120) together with another scan mechanism (130) provides two-dimensional optical scanning. The counter-rotating disk scanner (120) includes counter-rotating scan disks that implement the scanning action as they rotate through an optical axis (190) of the system (110).

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/28095

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **G02B 26/08**(2006.01)

USPC: 359/196,201,202,204,205,206,209,210,213,214,216

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. : 359/196,201,202,204,205,206,209,210,213,214,216,662.17,18

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)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- A	US 4,387,952 A (SLUSHER) 14 June 1983 (14.06.1983), Fig. 5 and the accompanying text.	1 and 20 ----- 2-13 and 21-24
X --- A	US 3,721,486 A (BRAMLEY)20 March 1973 (20.03.1973), Fig. 3 and Fig. 5 and column 5, lines 7-9.	1 and 20 ----- 2-13 and 21-24

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

03 May 2006 (03.05.2006)

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07 JUL 2006

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/28095

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:
Please See Continuation 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 additional fees, this Authority did not invite payment of any 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.: 1-13 and 20-24

- 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.

INTERNATIONAL SEARCH REPORT

International application No.
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BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In order for more than one species to be examined, the appropriate additional examination fees must be paid. The species are as follows:

- (A) an optical display system having detailed counter-rotating disk scanner, including claims 2-13 and 21-24.
- (B) an optical display system wherein the scan mechanism comprises either a piezo-electric scanner or a galvanometer-based scanner, including claims 14 and 25-30.
- (C) an optical display system wherein the scan mechanism comprises a polygon scanner, including claims 15 and 31-48.
- (D) an optical display system wherein the scan mechanism comprises a counter-rotating disk scanner, including claim 16.
- (E) an optical imaging system having a detector and detailed counter-rotating disk scanner, including claims 50-53 and 55-57.
- (F) an optical imaging system having a detector wherein the counter-rotating disk scanner comprises a reflective counter-rotating disk scanner, including claim 54.

The following claim(s) are generic: claims 1 and 20 are generic to the species (A)-(C); claim 1 is generic to the species (D); and claim 49 is generic to the species (E) and (F).

Claims 17 and 18 will be searched and examined along with the species (D).

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Independent claims 1, 20 and 49 are not novel (see U.S. Pat. 3,721,486 and U.S. Pat. 4,387,952) and the dependent claims contain different special technical features as indicated in the species (A) through (F). These species are not the same and have no technical correspondence and therefore fails to meet the requirements of Rule 13.1 and 13.2 PCT.

INTERNATIONAL SEARCH REPORT

International application No.

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Continuation of B. FIELDS SEARCHED Item 3:

EAST

disks, disc, disk, scan, scanning, rotate, rotating, oscillate, oscillating