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[Continued on next page]

(54) Title: OPTICAL DELIVERY SYSTEMS AND METHODS OF PROVIDING ADJUSTABLE BEAM DIAMETER, SPOT SIZE AND/OR SPOT SHAPE

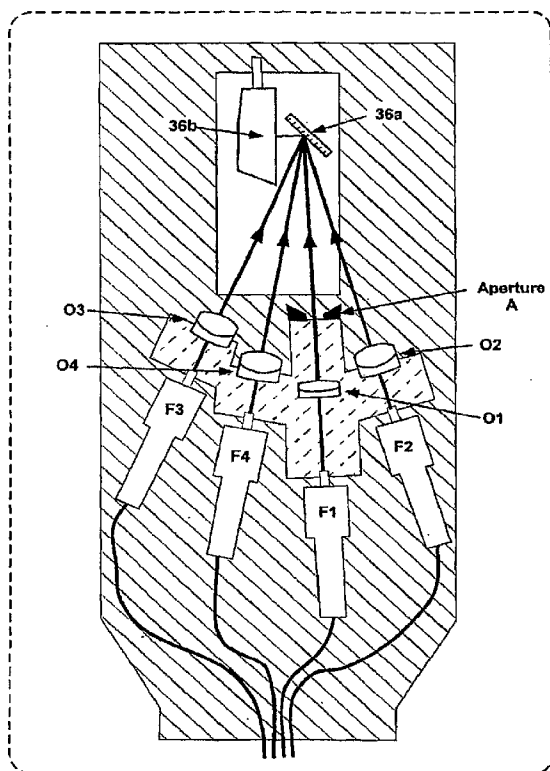


Figure 3B

(57) Abstract: An optical device and method for varying an optical characteristic of an optical beam can include a plurality of optical fibers each having an input end, an output end, and a core, wherein each of the optical fibers has an effective area and a numerical aperture, and a beam deviating component for moving at least one of the optical fiber input ends and the optical beam relative to each other such that the optical beam selectively enters the input ends one at a time and is transmitted out the output ends one at a time, wherein at least one of the effective areas and the numerical apertures varies among the plurality of optical fibers such that the optical beam transmitted out of the output ends has a varying optical characteristic.

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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,
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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G02B 26/02 (2007.01)

USPC - 359/227

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(8)- G02B 26/02 (2007.01)

USPC- 359/22

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: USPC- 385/25 (text search)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST(USPT, PGPB, EPAB, JPAB); DialogPRO(Engineering and Patent); Google Scholar

Search Terms: beam size aperture effective numerical aperture area core shape fiber diameter magnification waveguide beam size divergence variable deflective mirror translation stage bundle

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 4,576,160 A (TANAKA) 18 March 1986 (18.03.1986) entire document especially Fig. 2, col 1, ln 40-65, col 2, ln 45-49, col 3, ln, 18-54,	1, 3, 11-12, 14, 16, 18-19, 21-24, 41-46, 48-53, 67-71, 73-74 and 76-77 2, 4-10, 13, 15, 17, 20, 25-40, 47, 54-66, 72 and 75
Y	US 2004/0073120 A1 (Motz et al.) 15 April 2004 (15.04.2004) entire document especially para [0110]- [0111], [0126]-[0128], [0130], [0133], [0228], [0236], [0239], and [0242]	13, 15, 17, 32-40, 47, 57-59, 61-62, 72 and 75
Y	Helmchen, F. "Dynamic Confocal Imaging of Living Brain Miniaturization of fluorescence microscopes using fibre optics" Presented at a workshop held at the University of Bristol supported by The Physiological Society, [online] 30 June 2001(30.06.2001)[retrieved on 19.09.2007] Retrieved from the Internet: <URL http://www.blackwell-synergy.com/doi/pdf/10.1113/eph8702478>, entire document especially Figure 3, part B- C, Figure 4, part A, (pg 737, para 1, pg 738, para 1, pg 740, para 2, 7, pg 742, para 1, 3.	2, 4-10, 20, 25-31, 54-56, 60 and 63-66

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* Special categories of cited documents:

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"&" document member of the same patent family

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