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(54) **Title:** APPARATUS AND METHOD FOR OPTICAL ISOLATION

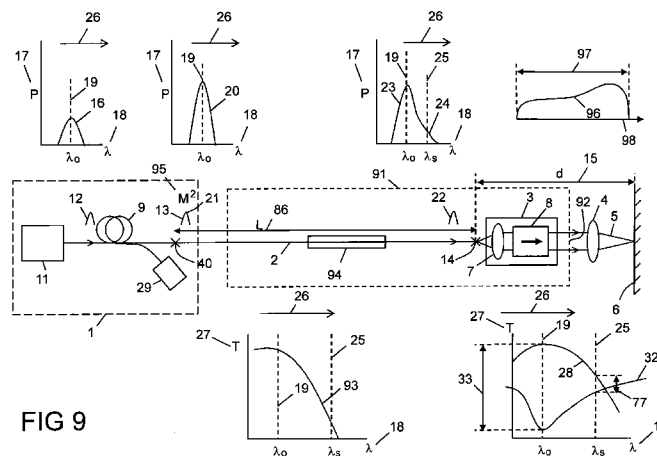
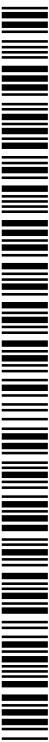


FIG 9

(57) **Abstract:** Apparatus for optical isolation, which apparatus comprises a laser (1), a beam delivery system (91), and an output port (92), wherein: the beam delivery system (91) comprises an optical isolator (8) and an optical fibre (2); the laser (1) exhibits a peak-power (21); the laser (1) emits laser radiation (13) at a signal wavelength (19); the laser radiation (13) is coupled from the laser (1) to the output port (92) via the beam delivery system (91); and the optical fibre (2) comprises an optical waveguide defined by a core (101), a cladding (102), a mode field area (104) at the signal wavelength (19), a length (86), and a Raman wavelength (25); and wherein the Raman wavelength (25) is longer than the signal wavelength (19); the beam delivery system (91) attenuates the laser radiation (13) at the signal wavelength (19) such that the power of the laser radiation (13) emitted by the laser (1) is more than the power of the laser radiation (13) at the output port (92); the apparatus does not include a pump for pumping the laser radiation (13) at the signal wavelength (19) as the laser radiation (13) propagates along the optical fibre (2); the optical isolator (8) has greater backward optical isolation (33) and greater forward transmission (28) at the signal wavelength (19) than at the Raman wavelength (25); and the optical fibre (2) comprises a suppressing means (94) for suppressing stimulated Raman scattering.



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A. CLASSIFICATION OF SUBJECT MATTER
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ADD. B23K26/06

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)
H01S B23K

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)
EPO-Internal, COMPENDEX, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003/021302 A1 (GRUDININ ANATOLY BORISOVICH [GB] ET AL) 30 January 2003 (2003-01-30) paragraph [0088] - paragraph [0089]; figures 12, 18-21 paragraph [0152] paragraph [0110] - paragraph [0130] the whole document	1-31
X	WO 02/093697 A2 (OPTICAL POWER SYSTEMS INC [US]; DEMIDOV ANDREY A [US]) 21 November 2002 (2002-11-21) 3rd par.; page 9; figures 1-3 2nd par.; page 17 the whole document	1-31

Further documents are listed in the continuation of Box C.

See patent family annex.

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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Bésuelle, Emmanuel
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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.
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X	----- US 6 489 985 B1 (BRODSKY MARK A [US] ET AL) 3 December 2002 (2002-12-03) column 9, line 28 - line 36; figure 2	1-31
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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