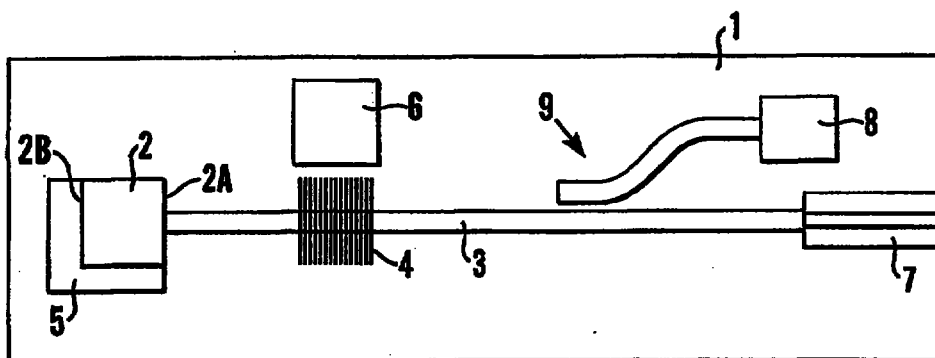




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification⁶ : H01S 3/085, 3/025, G02B 6/12	A1	(11) International Publication Number: WO 00/03461 (43) International Publication Date: 20 January 2000 (20.01.00)
(21) International Application Number: PCT/GB98/03595 (22) International Filing Date: 2 December 1998 (02.12.98) (30) Priority Data: 9815070.9 10 July 1998 (10.07.98) GB (71) Applicant: BOOKHAM TECHNOLOGY LIMITED [GB/GB]; 90 Milton Park, Abingdon, Oxon. OX14 4RY (GB). (72) Inventors: TIDMARSH, Jolyon, Richard; 46 Boulter Street, Oxford. OX4 1AX (GB). FASHAM, Stephen, James; 39 Regent Street, Leighton Buzzard, Beds. LU7 8JY (GB). (74) Agent: UNWIN, Stephen, Geoffrey; Fry, Heath & Spence, The Old College, 53 High Street, Horley, Surrey RH6 7BN (GB).		(81) Designated States: AU, CA, CN, IL, JP, KR, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>

(54) Title: EXTERNAL CAVITY LASER**(57) Abstract**

An external cavity laser comprising first and second feedback means with an optical gain medium (2) therebetween, one of the feedback means is provided by a grating (4) formed in a silicon waveguide and the other feedback means is provided by a reflective back facet (2B) of the optical gain medium (2). The output wavelength of the laser, at a given temperature, can thus be determined during its manufacture and the laser can be made by mass production techniques. The grating (4) may be thermally isolated to obviate the need for temperature control means (6) to control the temperature of the grating (4). An array of lasers may be provided on a single chip.