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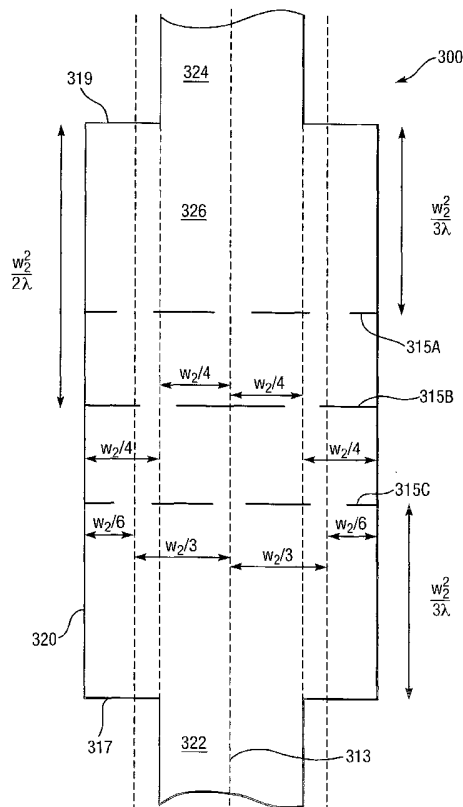
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(54) Title: OPTICAL FILTER CONSISTING OF SELF-IMAGING MULTIMODE WAVEGUIDE WITH APERTURES



(57) Abstract: An optical filter (300) comprises a multimode waveguide (326), and first (322) and second (324) coupling waveguides which communicate with the multimode waveguide at respective ends thereof. Filtering is achieved by the effect of self-imaging in the multimode waveguide. The filter further comprises one or ore series of apertures (315A, 315B, 315C) within the multimode waveguide, the or each series being located at a longitudinal position within the multimode waveguide at which 1-to-N way intensity division of an input optical field occurs, the optical field being the lowest order transverse mode of the coupling waveguides. The (one or more) series of apertures reduces the transmission of the filter at wavelengths other than those corresponding to transmission peaks of the filter's transmission function, thus providing improved filtering performance compared to prior art optical filters based on self-imaging.



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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)

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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, WPI Data, INSPEC, IBM-TDB, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 862 288 A (BATCHMAN THEODORE ET AL) 19 January 1999 (1999-01-19) cited in the application figure 1 figure 2 column 1, line 47 - line 58 column 3, line 21 - line 45 ----	1-5
A	JENKINS R M ET AL: "WAVEGUIDE BEAM SPLITTERS AND RECOMBINERS BASED ON MULTIMODE PROPAGATION PHENOMENA" OPTICS LETTERS, OPTICAL SOCIETY OF AMERICA, WASHINGTON, US, vol. 17, no. 14, 15 July 1992 (1992-07-15), pages 991-993, XP000288958 ISSN: 0146-9592 the whole document ----- -/--	1-3, 5

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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	BANERJI ET AL.: "Laser resonators with self-imaging waveguides" J. OPT. SOC. AM B, vol. 14, no. 9, 1997, XP002247185 the whole document -----	4

Information on parent family members

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