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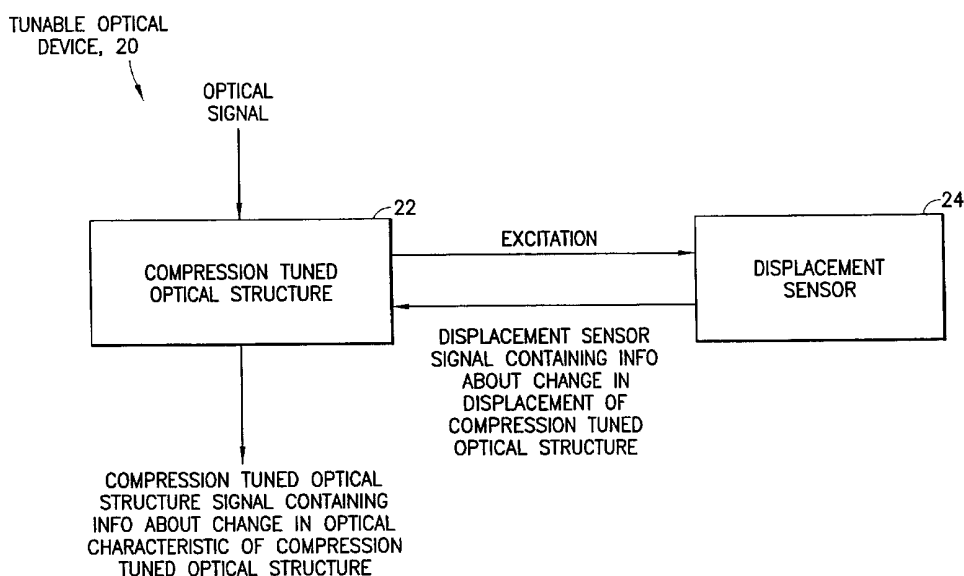
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(54) Title: TUNABLE OPTICAL STRUCTURE FEATURING FEEDBACK CONTROL



(57) Abstract: A tunable optical device has a compression-tuned optical structure and a displacement sensor. The compression-tuned optical structure responds to an optical signal, and a displacement sensor signal, for providing a compression-tuned optical structure signal containing information about a change in an optical characteristic of the compression-tuned optical structure, and for providing an excitation caused by a change in a displacement of the compression-tuned optical structure. The displacement sensor responds to the excitation, for providing a displacement sensor signal containing information about the change in the displacement of the compression tuned optical structure. The compression-tuned optical structure is an all-glass compression unit shaped like a dogbone. The displacement sensor is a capacitance sensor affixed to the all-glass compression unit for measuring capacitance between two parallel and opposing plates.



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

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/07369

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01D5/353 G02F1/01

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 7 G02F G01D

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, PAJ, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>IOCCO A ET AL: "BRAGG GRATING FAST TUNABLE FILTER FOR WAVELENGTH DIVISION MULTIPLEXING" JOURNAL OF LIGHTWAVE TECHNOLOGY, IEEE. NEW YORK, US, vol. 17, no. 7, July 1999 (1999-07), pages 1217-1221, XP000898384 ISSN: 0733-8724 * chapter II, 1st paragraph * figures 1,2</p> <p style="text-align: center;">--- -/--</p>	1-22

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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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	<p>BALL G A ET AL: "COMPRESSION-TUNED SINGLE-FREQUENCY BRAGG GRATING FIBER LASER"</p> <p>OPTICS LETTERS, OPTICAL SOCIETY OF AMERICA, WASHINGTON, US, vol. 19, no. 23, 1 December 1994 (1994-12-01), pages 1979-1981, XP000484576</p> <p>ISSN: 0146-9592</p> <p>figure 1</p> <p>page 1980, column 1, paragraph 3</p> <p>---</p>	1-22
A	<p>US 4 387 601 A (AZEGAMI TADASHI)</p> <p>14 June 1983 (1983-06-14)</p> <p>abstract</p> <p>-----</p>	1-22

INTERNATIONAL SEARCH REPORT

Information on patent family members

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