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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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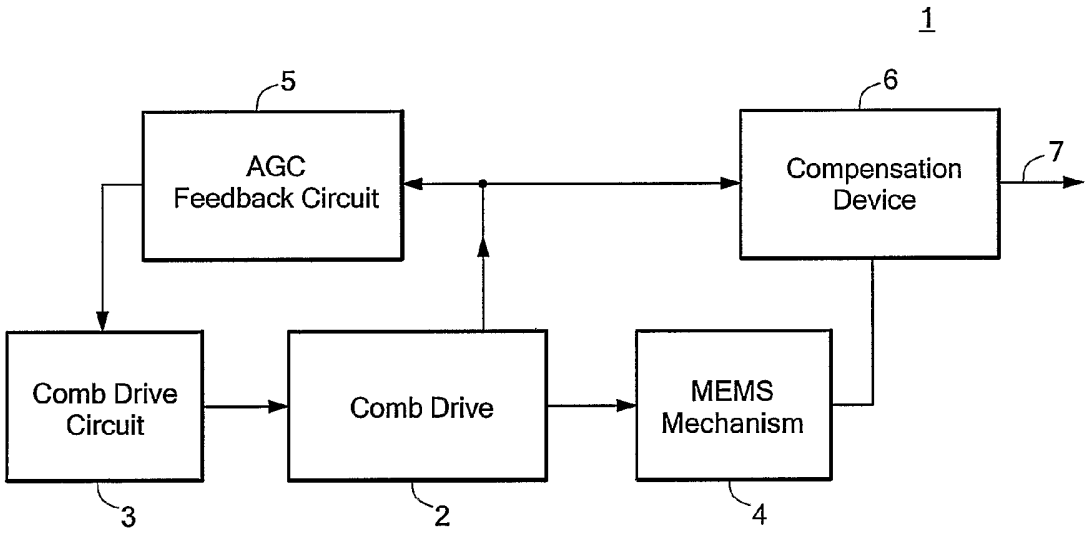
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FORCE COMPENSATED COMB DRIVE



(57) Abstract: A force compensated comb drive for a microelectromechanical system includes a MEMS mechanism for providing an output signal representative of a physical quantity; a comb drive for actuating the MEMS mechanism; a comb drive circuit for providing a drive signal to the comb drive for developing a predetermined displacement applied by the comb drive to the MEMS mechanism; an automatic gain control responsive to a change in the force to provide a correction signal to the comb drive circuit to maintain the predetermined motion; and a compensation device responsive to the correction signal for adjusting the output signal of the MEMS mechanism to compensate for errors in the output signal due to a change in the predetermined force.

WO 2006/099018 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/08373

A. CLASSIFICATION OF SUBJECT MATTER
IPC: **G01P 15/08**(2006.01)

USPC: 73/504.16
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)
U.S. : 73/504.14, 504.16, 504.18, 514.32

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003/0200785 A1 (PLATT) 30 October 2003 (30.10.2003), see entire document.	1-8
Y	US 2003/0196491 A1 (PLATT) 23 October 2003 (23.10.2003), see entire document.	1-8
Y	US 6,837,108 B2 (PLATT) 04 January 2005 (04.01.2005), see entire document.	1-8

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
20 September 2006 (20.09.2006)	29 SEP 2006
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer JOSE G. DEES Telephone No. (571) 272-1607

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Continuation of B. FIELDS SEARCHED Item 3:
EAST: EPO; JPO; DERWENT; IBM_TDB; US-PGPUB; USPAT; USOCR
search terms: (compensat$4 or counterbalanc$3) near3 (driv$3 or actuat$3 or excit$3); (force or pressure or compress$3 or stress or stain or load) near3 (compensat$4 or counterbalanc$3) near3 (driv$3 or actuat$3 or excit$3) near3 (comb or finger); (microstructure or microsensor or micro$1sensor or micro$1electro$1mechanical or mocroelectromechanical or micromechanical or micro$1mechanical or electro$1mechanical or electromechanical or MEMS or (micro near3 electro near3 mechanical)); (driv$3 or actuat$3 or excit$3) near3 (comb or finger); (automatic$4 near3 gain near3 control or AGC); (adjust$3 or modify or chang$3) near3 output; (adjust$3 or modify or chang$3) near3 output with ((compensat$3 or counterbalanc$3) near3 (temperature or thermal or pressure)); (MEMS or (micro near3 electro near3 mechanical) or microelectromechanical or micromechanical or (micro near3 mechanical))