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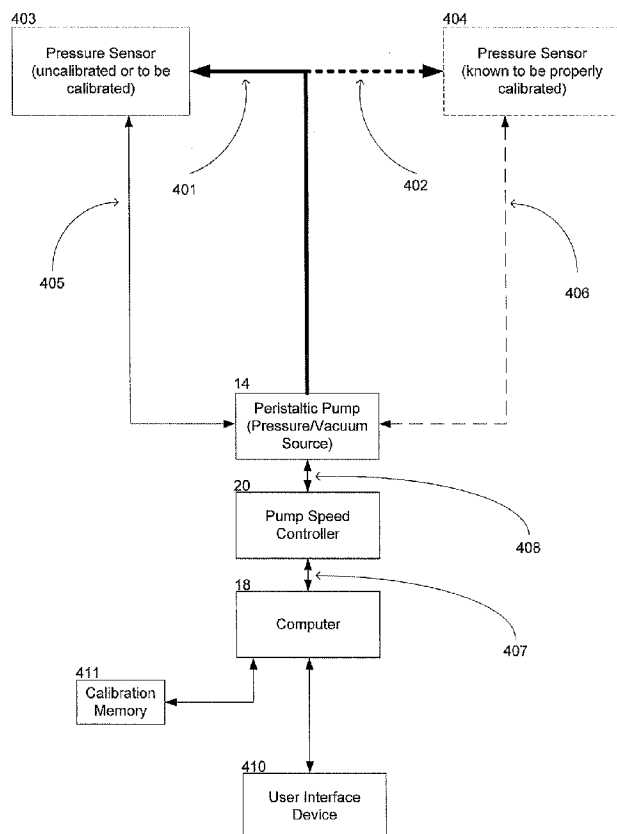
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[Continued on next page]

(54) Title: CALIBRATION UTILITY FOR NON-LINEAR MEASUREMENT SYSTEM



(57) Abstract: A method and system for calibrating an analog sensor used in a digital measurement system is provided. The design comprises generating a precise pressure value set at multiple calibration points and supplying said precise pressure value set to an uncalibrated pressure sensor (403), detecting sensor changes for the uncalibrated pressure sensor (403) based on each precise pressure value generated, polling an actual pressure reading associated with a sensor change for the uncalibrated pressure sensor (403) for each calibration point, and establishing a mathematical relationship between measured value readings and actual pressure for the uncalibrated sensor. Establishing the mathematical relationship converts the uncalibrated sensor to a newly calibrated sensor. A known good sensor (404) may be employed to enhance calibration reliability. The method and system for calibrating an analog sensor are applied to pressure transducers in phacoemulsification machines that are used in eye surgery of cataracts.

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PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM,
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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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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)
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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 873 655 A (KONDRASKE GEORGE V [US]) 10 October 1989 (1989-10-10) column 2, line 59 - column 5, line 34 figures 1,3,4	1-20
A	EP 0 316 763 A (ABBOTT LAB [US]) 24 May 1989 (1989-05-24) column 1, line 5 - column 3, line 12 figures 1,2,5,6	1,4,6,8, 20
A	US 2004/074282 A1 (MORGAN MICHAEL D [US] ET AL) 22 April 2004 (2004-04-22) the whole document	1,6,8,20

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

* Special categories of cited documents :

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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