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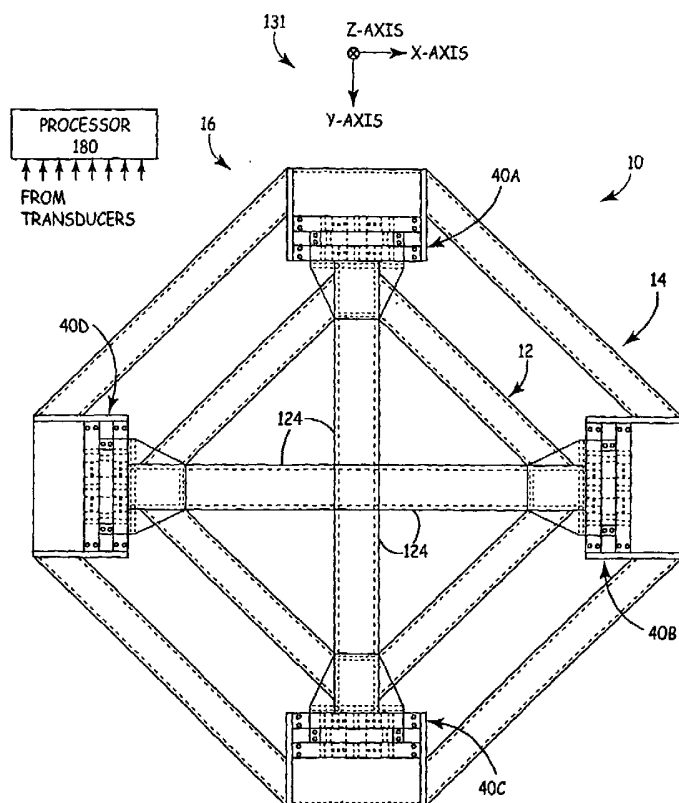
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[Continued on next page]

- (54) Title:** PLATFORM BALANCE FOR WIND TUNNEL



(57) Abstract: The present disclosure is directed to a platform balance 10 that is suitable for transmitting forces and moments in a plurality of directions. The platform balance 10 is adapted to support a test specimen, such as a large vehicle, in a test environment such as a wind tunnel. The platform balance 10 includes a frame support 12, 14 and at least three spaced-apart transducers 40, 40A coupled to the frame support 12, 14. Each of the transducers 40, 40A is sensitive about two orthogonal sensed axes. The transducers 40, 40A cooperate to provide signals indicative of forces and moments with respect to at least two orthogonal axes. Each transducer 40, 40A includes a transducer body having a support 46, 48 coupled to a sensor body 42 along an axis of compliance. The sensor body 42 is adapted to deflect about the two orthogonal sensed axes where the sensed axes are mutually orthogonal to the axis of compliance.



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G01M9/06 G01L5/16		
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) IPC 7 G01M G01L		
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, PAJ		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 613 443 A (TRUMAN M. CURRY) 19 October 1971 (1971-10-19)	1-3, 9-12,20
Y	figures 1-4,12-33	5
A	column 3, line 11 - column 6, line 22 column 7, line 64 - column 8, line 40 column 11, line 46 - column 13, line 60 -----	4,6-8
X	US 4 107 986 A (JONES ET AL) 22 August 1978 (1978-08-22) abstract; figures 4-8 column 3, line 1 - column 5, line 38 -----	1-3,20
X	US 4 448 083 A (HAYASHI ET AL) 15 May 1984 (1984-05-15)	1,20
Y	abstract; figures 1-10 column 1, line 5 - line 10 column 2, line 32 - column 4, line 21 -----	5
<input type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
Date of the actual completion of the international search 1 April 2005		Date of mailing of the international search report 13. 07. 2005
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Helm, B

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/040450

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

see annex

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-12,20

A platform balance comprising at least three spaced-apart transducers.

2. claims: 13-19

A transducer comprising a compliant sensor body, wherein the sensor body is adapted to deflect about two orthogonal sensed axes, and wherein the axes along which a measurement is established are mutually orthogonal to the axis of compliance.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/040450

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