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(71) Applicant: **BRIDGESTONE/FIRESTONE NORTH AMERICAN TIRE, LLC** [US/US]; 1 Bridgestone Park, Nashville, TN 37214 (US).

(72) Inventor: **STUCKEY, Jon, I.**; 1705 Hiram Avenue, Louisville, OH 44641 (US).

(74) Agents: **SAND, Michael**; Sand & Sebolt, Aegis Tower, Suite 1100, 4940 Munson St. NW, Canton, OH 44718 et al. (US).

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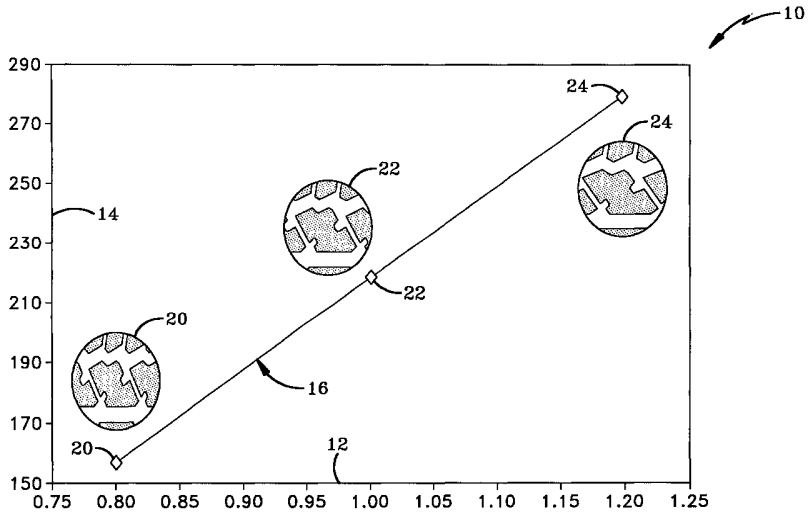
(54) Title: METHOD OF ANALYZING TIRE PITCH SEQUENCE BASED ON LUG STIFFNESS VARIATIONS



(57) Abstract: A method of comparing tire noise pitch sequences based on the tire noise generated by tire tread lug stiffness variations provides a secondary examination technique used to evaluate tire noise pitch sequences that have been selected by traditional evaluation techniques. The method includes the steps of defining the tire noise pitch sequence and the pitch lengths, calculating the differential between the arc length from an arbitrary fixed reference point to the end of each pitch length in the pitch sequence and the arc length of the mean pitch length of the number of pitches from that arbitrary reference point, and analyzing the differential to identify desirable and undesirable tire noise characteristics.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 02/26679

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B60C11/00

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 B60C

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 454 658 A (SEMPERIT AG) 30 October 1991 (1991-10-30)	1
A	abstract; figure 1 page 2, line 1 -page 3, line 2	2-19
X	EP 0 743 200 A (GOODYEAR TIRE & RUBBER) 20 November 1996 (1996-11-20)	1
A	abstract; figures 4,5A,5B column 1, line 5 -column 3, line 43 column 8, line 21 - line 34	2-19
A	US 5 753 057 A (WESOLOWSKI PIOTR JANUSZ) 19 May 1998 (1998-05-19) column 1, line 5 -column 2, line 33	1-19

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
4 April 2003	15/04/2003

Name and mailing address of the ISA	Authorized officer
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	Uttenthaler, E

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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	THOMAS A. WILLIAMS: "Tire Tread Pattern Noise Reduction Through the Application of Pitch Sequencing" PROCEEDINGS OF THE 1995 NOISE AND VIBRATION CONFERENCE, , vol. 2, 1995, pages 955-959, XP009008771 Society of Automotive Engineers, Warrendale, USA the whole document	1-19
A	US 6 112 167 A (ZAKELJ PAUL) 29 August 2000 (2000-08-29) cited in the application abstract; figure 1 column 1, line 3 -column 3, line 4	1-19
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Information on patent family members

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