

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 August 2008 (14.08.2008)

PCT

(10) International Publication Number
WO 2008/097635 A3

(51) International Patent Classification:
B60G 17/015 (2006.01)

Ridgemont Road, Oxford, MI 48370 (US). **BROOKES, Graham, R.** [GB/US]; 13128 Hazelwood Court, Carmel, IN 46033 (US).

(21) International Application Number:

PCT/US2008/001685

(74) Agents: **ROHM, Benita, J.** et al.; Rohm & Monsanto, PLC, 12 Rathbone Place, Grosse Pointe, MI 48230 (US).

(22) International Filing Date: 7 February 2008 (07.02.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/900,796	7 February 2007 (07.02.2007)	US
60/921,881	3 April 2007 (03.04.2007)	US
60/994,779	21 September 2007 (21.09.2007)	US

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

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier applications:

US	US/07/014290 (CIP)
Filed on	18 June 2007 (18.06.2007)
US	60/814,518 (CIP)
Filed on	16 June 2006 (16.06.2006)

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **SAN-LUIS RASSINI INTERNATIONAL INC.** [US/US]; A Corporation Of The State Of Michigan, 14500 Beck Road, Plymouth, MI 48170 (US).

Published:

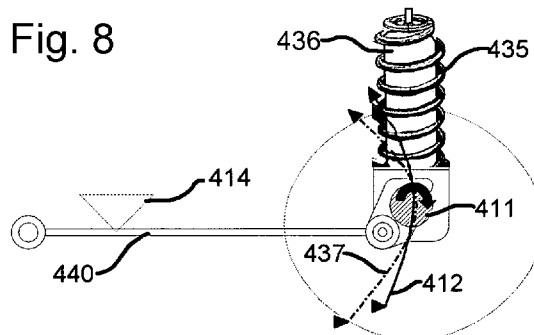
— with international search report

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **JURIGA, James, Andrew** [US/US]; 20205 Fox Run, Beverly Hills, MI 48025 (US). **ZIELENIEC, Slawomir, M.** [US/US]; 299

(88) Date of publication of the international search report:
9 October 2008

(54) Title: PRIMARY AIR SPRING AND SECONDARY LEAF SUSPENSION FOR VEHICLE



(57) Abstract: A suspension for a vehicle having a chassis rail and a longitudinal axle arranged substantially orthogonal thereto. The vehicle suspension has a primary air-responsive spring that couples between the chassis and the axle of the vehicle. The primary spring can be a coil spring that surrounds an air helper spring. A secondary leaf spring has a first end for pivotally coupling to the chassis of the vehicle at a secondary pivot coupling, and a second end for coupling to the axle. The longitudinal configuration of the secondary leaf spring can be arranged to be angularly displaced with respect to a chassis rail of the vehicle.



WO 2008/097635 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/001685

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - B60G 17/015 (2008.04)

USPC - 280/124.174

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(8) - B60G 17/015 (2008.04)

USPC - 280/124.174

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 practicable, search terms used)

USPTO EAST System (US, USPG-PUB, EPO, DERWENT)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,137,300 A (WALTON) 11 August 1992 (11.08.1992) entire document	1-20
Y	US 2006/0290089 A1 (DUDDING et al) 28 December 2006 (28.12.2006) entire document	1-20
Y	US 5,573,088 A (DANIELS) 12 November 1996 (12.11.1996) entire document	6, 7
Y	US 3,484,091 A (DRAVES) 16 December 1969 (16.12.1969) entire document	8, 13, 15, 17, 20

☐ Further documents are listed in the continuation of Box C.

* 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 application or patent 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

03 June 2008

Date of mailing of the international search report

01 JUL 2008

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:

Blaine R. Copenheaver

PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774