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- (72) **Inventor; and**
- (71) **Applicant : GOULDING, John** [US/US]; 1401 S. Barbara Drive, Tucson, Arizona 85748 (US).
- (74) **Agent: BARLOW, Timothy**; Law Office of Timothy M. Barlow, P.C., 3595 E. Fountain Blvd., Suite A2, Colorado Springs, CO 80910 (US).

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 - as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
 - as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
 - of inventorship (Rule 4.17(iv))

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[Continued on next page]

(54) **Title:** IN-LINE LEGGED ROBOT VEHICLE AND METHOD FOR OPERATING

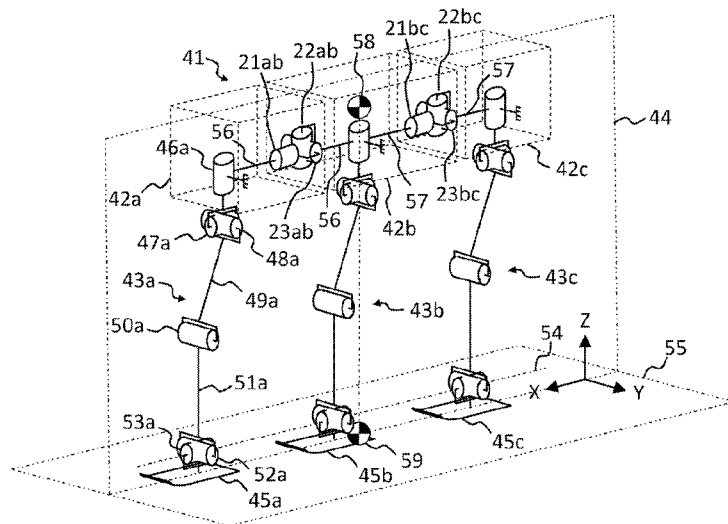


FIG. 2

(57) **Abstract:** A legged vehicle includes a body, wherein the body includes a major axis corresponding to a primary direction of travel; a plurality of leg mechanisms attached to the body, wherein each leg is attached at its proximal end at one or more discrete attachment points, wherein the attachment points are arranged in-line, one behind the other, with respect to the body, each of the legs including actuators attached between the legs and the body and between adjacent leg members, said legs being actuated for movement of a distal end in three dimensions; a control system in communication with the leg mechanisms to coordinate movements of the leg mechanisms according to approximately single track foot placement, and movement of the legged vehicle in three dimensions over the ground; and a power source connected to and driving the control system components and the plurality of actuators and joints which drive the legs.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/029417**A. CLASSIFICATION OF SUBJECT MATTER*****B25J 5/00(2006.01)i, B25J 9/16(2006.01)i, B25J 19/00(2006.01)i***

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)

B25J 5/00; B25J 3/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: robot, single track, in-line and leg

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Heaston, J. et al. `STriDER: Self-Excited Tripedal Dynamic Experimental Robot.` In: 2007 IEEE International Conference on Robotics and Automation, Roma, Italy, 10-14 April 2007, pp. 2776-2777. See abstract; figures 1, 2 and 4; chapters II and IV.	1-17
A	Lyons, D.M.; Pamnany, K. `Rotational legged locomotion.` In: 12th International Conference on Advanced Robotics, Seattle, USA, 17-20 July 2005, pp. 223-228. See abstract; figures 1-2 and 5-11; chapters III and IV.	1-17
A	Madhani, A.; Dubowsky, S. 'Motion planning of mobile multi-limb robotic systems subject to force and friction constraints.' In: 1992 IEEE International Conference on Robotics and Automation, Nice, France, 12-14 May 1992, pp. 233-239. See abstract; figures 5-8; chapter IV.	1-17
A	US 2007-0059124 A1 (ELDERSHAW, C.; DUFF, D.G.) 15 March 2007 See abstract; figures 1-6; paragraphs 54-103; claims.	1-17
A	EP 1864763 A1 (TMSUK CO., LTD.; TAKANISHI, A.) 12 December 2007 See abstract; figures 1-7; paragraphs 23-33; claims.	1-17

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

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"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

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0059124 A1	15.03.2007	None	
EP 1864763 A1	12.12.2007	CN 1956822 A	02.05.2007
		US 2008-252247 A1	16.10.2008
		US 7598695 B2	06.10.2009
		WO 2006-103775 A1	05.10.2006