

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 January 2009 (08.01.2009)

PCT

(10) International Publication Number
WO 2009/005818 A3

- (51) **International Patent Classification:**
B60S 9/10 (2006.01) *B62D 53/06* (2006.01)
- (21) **International Application Number:**
PCT/US2008/008243
- (22) **International Filing Date:** 3 July 2008 (03.07.2008)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
11/824,821 3 July 2007 (03.07.2007) US
- (71) **Applicant (for all designated States except US): BUTLER PRODUCTS, INCORPORATED** [US/US]; 7502 Mesa Road, Houston, TX 77028 (US).
- (72) **Inventor; and**
- (75) **Inventor/Applicant (for US only): DANIEL, Jeffrey, K.** [US/US]; 2724 Arbutle, Houston, TX 77005 (US).
- (74) **Agents: TIDWELL, Mark A.** et al; Jackson Walker L.L.P., 1401 McKinney Street, Suite 1900, Houston, TX 77010 (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, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
- (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,

[Continued on next page]

(54) **Title:** LANDING GEAR JACK AND METHODS OF USE

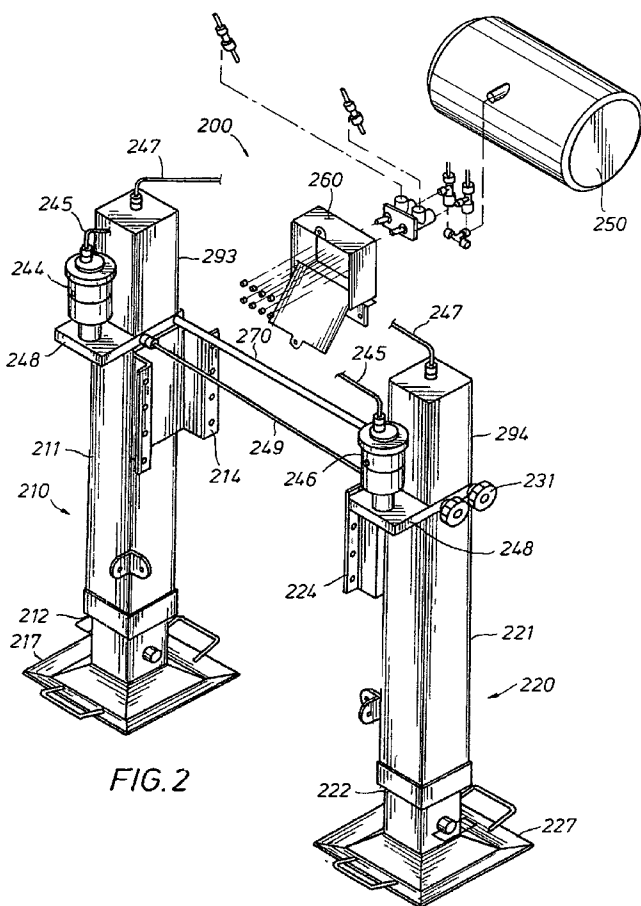


FIG. 2

(57) **Abstract:** A lifting device is provided for raising and lowering of heavy objects, including trailer landing gear and outriggers. The lifting devices may comprise one or more jacks where each jack is comprised of telescoping legs. In each jack, an expandable hydraulic cylinder may be expanded or extended by a pneumatically actuated pump or pumps that pump hydraulic fluid from a hydraulic fluid source mounted on the jack to the expandable hydraulic cylinder so as to motivate extension of each telescoping jack. A control mechanism may be provided to actuate one or more pneumatically actuated pumps to introduce hydraulic fluid into the hydraulic cylinders. Methods of use and operation are also provided.

WO 2009/005818 A3



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).



— *before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments*

Published:

— *with international search report*

(88) Date of publication of the international search report:

26 February 2009

A. CLASSIFICATION OF SUBJECT MATTER		
<i>B60S 9/10(2006.01)i, B62D 53/06(2006.01)i</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) IPC 8 B60S 9/10, B62D 53/06		
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 since 1975 Japanese Utility models and applications for Utility models since 1975		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKIPASS(KIPO internal) & keyword hydraulic, cylinder, jack, lift, trailer		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	JP 61-071580 U(ORIENTAL WHEEL INDUSTRY CO , LTD et al) 15 May 1986 See Claim land Figures 1-4	1-8, 10-24
Y		9
Y	US 6764065 B2(FOX, RANDYA) 20 July 2004 See Figure 6	9
A	US 591 1437 A(LAWRENCE, DAVID L) 15 June 1999 See abstract and Figures 1 and 2	1
A	US 5509687 A(THORNDIKE, ROBERT J) 23 April 1996 See abstract and Figures 1-3	1
<input type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family 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 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 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 24 DECEMBER 2008 (24 12 2008)		Date of mailing of the international search report 24 DECEMBER 2008 (24.12.2008)
Name and mailing address of the ISA/KR  Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No 82-42-472-7140		Authorized officer SOHN, Sung Ho Telephone No 82-42-481-8139 

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No
PCT/US2008/008243

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 61-071580 U	15.05.1986	None	
US 6764065 B2	20.07.2004	US 2003-094801 A 1	22.05.2003
US 5911437 A	15.06.1999	None	
US 5509687 A	23.04.1996	US 5409251 A	25.04. 1995