

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 August 2002 (08.08.2002)

PCT

(10) International Publication Number
WO 02/060746 A1

(51) International Patent Classification⁷: **B62D 57/024**,
B63B 59/10

(21) International Application Number: PCT/US01/30013

(22) International Filing Date:
25 September 2001 (25.09.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/235,065 25 September 2000 (25.09.2000) US
09/946,780 4 September 2001 (04.09.2001) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier applications:
US 09/946,780 (CON)
Filed on 4 September 2001 (04.09.2001)
US 60/235,065 (CIP)
Filed on 25 September 2000 (25.09.2000)

(71) Applicant (for all designated States except US): **SKY-WALKER ROBOTICS, INC.** [US/US]; 121 South River Street, Seattle, WA 98108 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **JESWINE, William, W.** [US/US]; 121 South River Street, Seattle, WA 98108 (US). **DAILEY, Frank** [US/US]; 3245 - 14th Avenue West, Apt. 4, Seattle, WA 98119 (US). **OLSEN, Eric** [US/US]; 2733 - 144th Street Southwest, Lynnwood, WA 98037 (US).

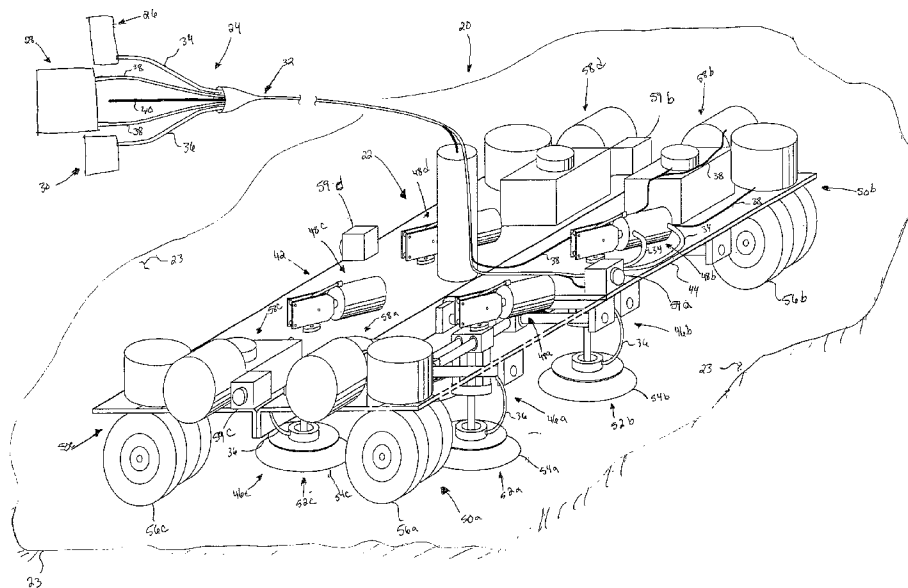
(74) Agents: **SANTARELLI, Bryan, A.** et al.; Graybeal Jackson Haley LLP, 155-108th Avenue Northeast, Suite 350, Bellevue, WA 98004-5901 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,

[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR TRAVERSING CURVED SURFACES BY ADHESION



(57) Abstract: A traction unit (22) capable of traversing and turning on surfaces that include compound curves like the surface of a sphere or are inverted like a ceiling. The traction unit includes a plurality of trucks (50a-50d) operable to propel the unit across a surface and a plurality of adherence members operable to releasably secure the unit (22) to the surface (23). In operation, the adherence members (46a-46d) cyclically attach to and release from the surface as the trucks propel the unit across the surface. Within each cycle, after the unit has traveled a predetermined distance relative to an attached member, the member releases the surface and reattaches to the surface at a different point.



WO 02/060746 A1



IT, LU, MC, NL, PT, SE, TR), OAPI patent (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*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.