

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 November 2006 (09.11.2006)

PCT

(10) International Publication Number
WO 2006/118933 A3

(51) International Patent Classification:
A63B 21/075 (2006.01)

(21) International Application Number:
PCT/US2006/015981

(22) International Filing Date: 27 April 2006 (27.04.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/677,150 3 May 2005 (03.05.2005) US
11/410,774 25 April 2006 (25.04.2006) US

(71) Applicant and

(72) Inventor: KRULL, Mark, A. [US/US]; 19558 Mammoth Drive, Bend, Oregon 97702 (US).

(74) Agent: MAU, Michael, L.; IPLM GROUP, P.A., Post Office Box 18455, Minneapolis, Minnesota 55418 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

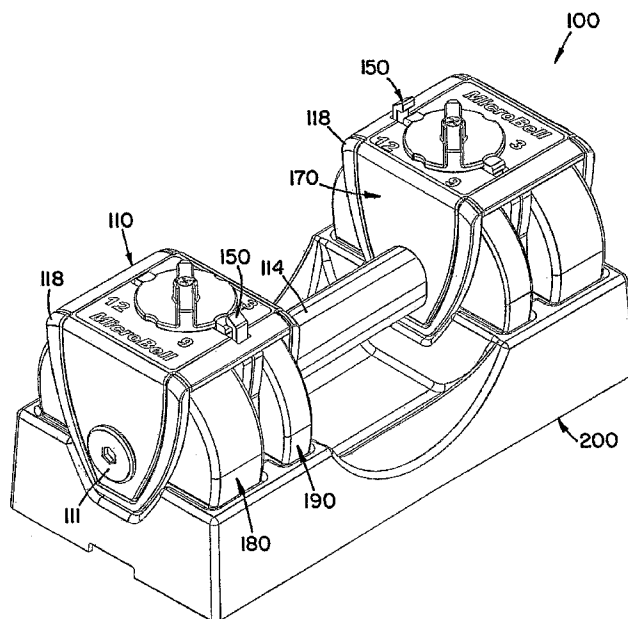
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
15 March 2007

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.

(54) Title: EXERCISE DUMBBELL METHODS AND APPARATUS



(57) Abstract: An exercise dumbbell includes a handle member (110) and weight plates (180, 190) maintained in spaced relationship at opposite ends thereof. Weight selectors (166) are rotatable into and out of engagement with different combinations of the weight plates to secure a desired amount of mass to the handle. The weight selectors occupy respective upwardly closed notches (184, 194) in the weights to secure the weights to the handle member. Different arrangements may be used to bias the weight selectors toward desired orientations relative to the weight plates, and/or to lock the weight selectors in desired orientations relative to the weight plates.

WO 2006/118933 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/15981

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A63B 21/075(2007.01)

USPC: 482/107,108

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)

U.S. : 482/107,108,106,109,92-94,98

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,876,313 A (KRULL) 02 March 1999 (02.03.1999), col. 4, lines 9-20, col. 5, lines 51-63, col. 8, lines 2-5.	1-4
A	US 5,328,428 A (HUANG) 12 July 1994 (12.07.1994), Figs. 1-4.	1-14
A	US 2004/0005968 A1 (CRAWFORD et al.) 08 January 2004 (08.01.2004), entire document.	1-14
A	US 6,899,661 A (KRULL) 31 May 2005 (31.05.2005), entire document.	1-14
A, P	US 2006/0025287 A1 (CHERMACK) 02 February 2006 (02.02.2006), entire document.	1-14

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

☐ 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	"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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"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	"&" document member of the same patent family

Date of the actual completion of the international search

02 November 2006 (02.11.2006)

Date of mailing of the international search report

16 JAN 2007

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

Victor K. Hwang

Telephone No. 571-272-3700