

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 November 2006 (16.11.2006)

PCT

(10) International Publication Number
WO 2006/121509 A3

(51) International Patent Classification:

A61N 1/30 (2006.01) A61N 1/44 (2006.01)
A61N 1/32 (2006.01)

(21) International Application Number:

PCT/US2006/010897

(22) International Filing Date: 23 March 2006 (23.03.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

11/126,018 9 May 2005 (09.05.2005) US

(71) Applicant and

(72) Inventor: O'KELLY, Gregory [US/US]; 392 Pismo Street, San Luis Obispo, CA 93401 (US).

(74) Agents: DANNELLS, Richard, A., Jr. et al.; Nixon Peabody LLP,, Docket Department, 401 9th Street. N.W., Washington, DC 20004-2128 (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).

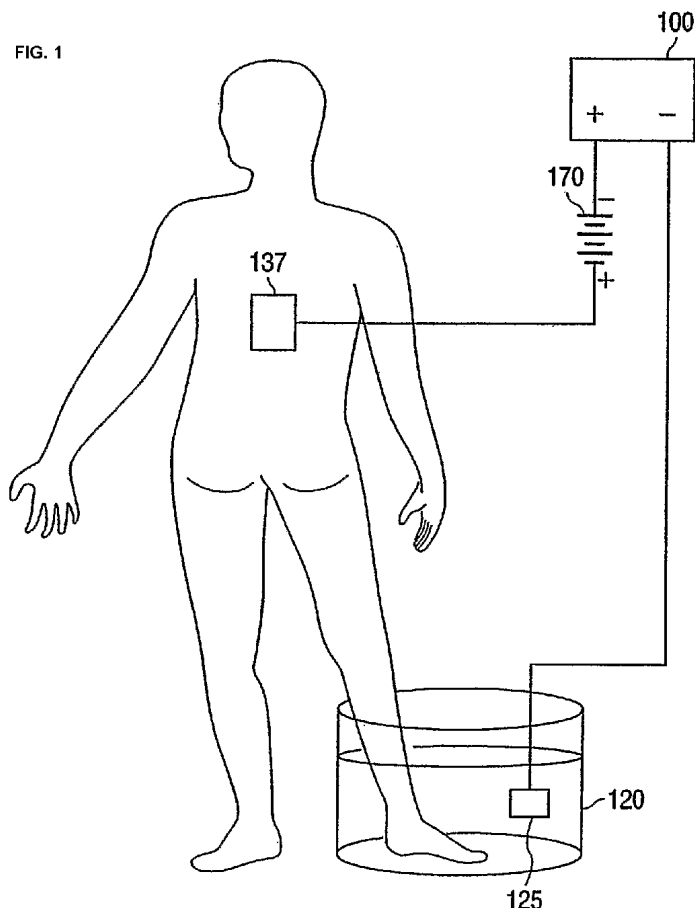
Published:

— with international search report

(88) Date of publication of the international search report: 9 April 2009

(54) Title: METHOD AND DEVICE FOR ELECTROCHEMICAL REJUVENATION OF SKIN AND UNDERLYING TISSUE, AND MUSCLE BUILDING

FIG. 1



(57) Abstract: A method and device (100) are disclosed for using electrochemistry to rejuvenate skin and underlying tissue and to build and strengthen the muscles by applying pulses of DC electrical charge, at a duration in the range of about 0.2 to about 1 millisecond and a variable frequency in the range of about 400 to about 1200 Hertz, to the skin immersed into a container (120) of an electrolyte by means of an anode (125) immersed in or connected to the container (120) to cause the muscle to twitch or only slightly contract with each pulse. The DC is applied at variable current amplitude of from about 1 to about 50 milliamperes, and a voltage in the range of about 50 to about 120 volts.

WO 2006/121509 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/10897

A. CLASSIFICATION OF SUBJECT MATTER
 IPC: A61N 1/30(2006.01),1/32(2006.01),1/44(2006.01)

 USPC: 607/48,50,72
 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. : 607/48,50,72

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.
A	US 4,580,570 A (SARRELL et al) 8 April 1986 (08.04.1986).	
A	US 2005/0234525 A1 (PHILLIPS) 20 October 2005 (20.10.2005).	
A	US 2004/0138708 A1 (TUCEK) 15 July 2004 (15.07.2004).	
A	US 2003/0163163 A1 (ORTON) 28 August 2003 (28.08.2003).	

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
27 November 2007 (27.11.2007)

Date of mailing of the international search report
11 JAN 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
 Carl H Layno *Carl H Layno*
 Telephone No. 571-272-3700