

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 December 2010 (16.12.2010)

(10) International Publication Number
WO 2010/144599 A3

(51) International Patent Classification:

A61F 2/28 (2006.01) A61M 11/00 (2006.01)
A61L 27/14 (2006.01) A61M 11/06 (2006.01)

(21) International Application Number:

PCT/US2010/038002

(22) International Filing Date:

9 June 2010 (09.06.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/185,823 10 June 2009 (10.06.2009) US
12/794,852 7 June 2010 (07.06.2010) US

(71) Applicant (for all designated States except US):

LINARES MEDICAL DEVICES, LLC [US/US]; 70
South Squirrel Road, Unit A, Auburn Hills, MI 48326
(US).

(72) Inventor; and

(71) Applicant : **LINARES, Miguel, A.** [US/US]; 2769
MacKintosh Lane, Bloomfield Hills, MI 48302 (US).

(74) Agents: **MCEVOY, Douglas, J.** et al.; Gifford, Krass,
Sprinkle, Anderson & Citkowski, P.C., 2701 Troy Center
Drive, Suite 330, Post Office Box 7021, Troy, MI
48007-7021 (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, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,
ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,
LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments (Rule 48.2(h))

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

21 April 2011

(54) Title: PLASTICIZED MATERIAL, DELIVERY DEVICE AND METHOD FOR FILLING A BONE CAVITY AND INCLUDING BOTH FOAM PLASTIC SPRAY AND INJECTED LIQUID PELLETS AND FOR PROMOTING BONE GROWTH AND ADHESION

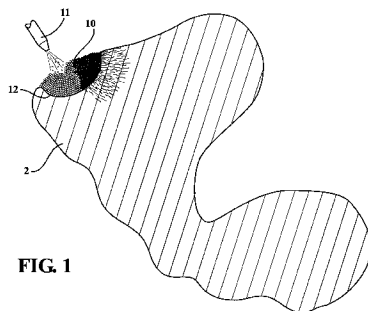


FIG. 1

(57) Abstract: An artificial material, kit and process for filling a three dimensional cavity associated with a damaged or diseased bone and including a body composed of a cellular material including either a foam plastic spray or a syringe holding a plurality of liquid pellets and filling a preconditioned area associated with the bone. The syringe includes a stem which supports, at an extending end, a flexible forming guide for covering an inside location associated with the cavity concurrent with filling the interior. The material sets to facilitate long term and rehabilitative bone growth within and through the cells.



WO 2010/144599 A3

A. CLASSIFICATION OF SUBJECT MATTER*A61F 2/28(2006.01)i, A61L 27/14(2006.01)i, A61M 11/00(2006.01)i, A61M 11/06(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)

A61F 2/28; A61K 9/14; A61K 33/06; A61M 5/31; A61K 35/32

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: , ,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008-0221511 A1 (MCKAY WILLIAM F.) 11 September 2008 See figs. 3, 4, claims 1-20, page 9	1-5, 7-9, 11-14
X	US 2007-0156251 A1 (BEN-ZION KARMON) 05 July 2007 See figs. 2, 5, 6, 21, paragraph 123 - 261	1-5, 7-9, 11-14
A	US 2008-0124397 A1 (WIRONEN JOHN F. et al.) 29 May 2008 See the whole document	1-15
A	US 2007-0026030 A1 (Berkeley Advanced Biomaterials, Inc.) 01 February 2007 See the whole document	1-15

 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

"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

25 FEBRUARY 2011 (25.02.2011)

Date of mailing of the international search report

28 FEBRUARY 2011 (28.02.2011)

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

SHIN, JU CHEOL

Telephone No. 82-42-481-5536



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/038002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008-0221511 A1	11.09.2008	EP 2125055 A2	02.12.2009
		JP 2010-520788 A	17.06.2010
		JP 2010-520788 T	17.06.2010
		US 2008-221511 A1	11.09.2008
		WO 2008-109807 A2	12.09.2008
		WO 2008-109807 A3	18.12.2008
		WO 2008-109807 A3	12.09.2008
		US 2007-0156251 A1	05.07.2007
AU 2003-279506 A1	03.06.2004		
CA 2408763 A1	15.11.2001		
CN 1527687 A	08.09.2004		
CN 1527687 C0	08.09.2004		
EP 1280479 A1	05.02.2003		
EP 1560546 A2	10.08.2005		
JP 04-467059 B2	05.03.2010		
JP 2004-518452 A	24.06.2004		
JP 2006-505339 A	16.02.2006		
JP 2006-505339 T	16.02.2006		
JP 4467059 B2	26.05.2010		
US 2003-0105469 A1	05.06.2003		
US 2005-0209595 A1	22.09.2005		
US 2005-209595 A1	22.09.2005		
US 2007-156251 A1	05.07.2007		
US 2008-0103518 A1	01.05.2008		
US 2008-103518 A1	01.05.2008		
US 2009-0101157 A1	23.04.2009		
US 2009-101157 A1	23.04.2009		
US 7749267 B2	06.07.2010		
US 7771482 B1	10.08.2010		
WO 01-85062 A1	15.11.2001		
WO 01-85062 A2	15.11.2001		
WO 2004-043303 A2	27.05.2004		
WO 2004-043303 A3	01.07.2004		
WO 2004-043303 A3	01.07.2004		
US 2008-0124397 A1	29.05.2008		
		CA 2396016 A1	05.07.2001
		CA 2438192 A1	06.09.2002
		EP 1244477 A2	02.10.2002
		EP 1372543 A2	02.01.2004
		JP 2003-518411 A	10.06.2003
		JP 2004-530461 A	07.10.2004
		JP 2004-530461 T	07.10.2004
		US 2001-0016703 A1	23.08.2001
		US 2001-0037091 A1	01.11.2001
		US 2003-0180262 A1	25.09.2003
		US 7824702 B2	02.11.2010
		WO 01-47571 A2	05.07.2001

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/038002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		WO 01-47571 A3	05.07.2001
		WO 02-067814 A2	06.09.2002
		WO 02-067814 A3	06.09.2002
		WO 0206-7814A3	06.03.2003
US 2007-0026030 A1	01.02.2007	None	