



(51) International Patent Classification:

A61B 17/86 (2006.01) A61F 2/08 (2006.01)

(21) International Application Number:

PCT/CH20 12/000 158

(22) International Filing Date:

10 July 2012 (10.07.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/508,791 18 July 2011 (18.07.2011) US

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(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, QA, RO, RS, RU, RW, 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, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, RS, 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:

6 June 2013

(54) Title: METHOD OF FASTENING A SOFT TISSUE GRAFT IN AN OPENING PROVIDED IN A HUMAN OR ANIMAL BONE AND FASTENER SUITABLE FOR THE METHOD

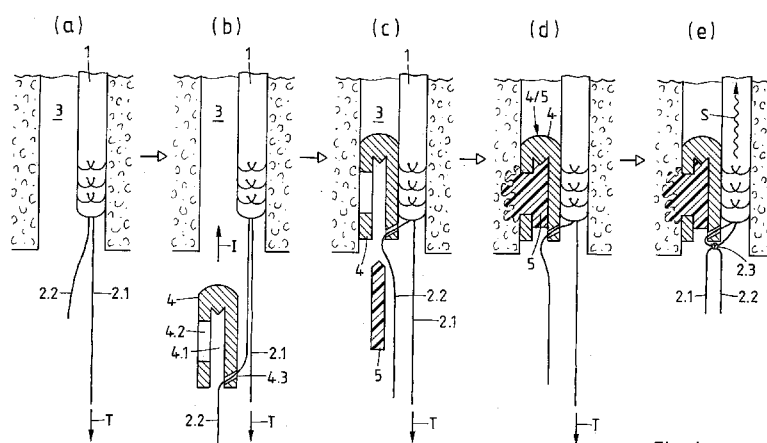


Fig. 1

(57) Abstract: A soft tissue graft (1) suitable e.g. for replacing a tendon or ligament is fastened in a bone opening (3) provided in a human or animal patient by press-fitting an end portion of the graft (1) and a fastener (4/5) into the bone opening (3) such that the graft end portion is pressed against a first portion of the bone wall inside the bone opening (3), by then anchoring the fastener (4/5) in a second portion of the bone wall by liquefying a material having thermoplastic properties comprised by the fastener (4/5) and making it to penetrate into the bone wall, and by tying the end portion of the graft (1) to the fastener (4/5) with the aid of at least one suture (2.2) extending from the graft end portion. The step of tying is carried out after the step of anchoring, during the step of anchoring or between the step of anchoring and the step of press-fitting. The tied connection between the fastener (4/5) and the graft end portion successfully counteracts potential graft slipping.



INTERNATIONAL SEARCH REPORT

International application No

PCT/CH2012/000158

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A61B17/86 A61F2/08
 ADD.

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)
 A61B A61F

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)

EPO-Internal , WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	wo 92/04874 A (ETHICON INC) 2 April 1992 (1992-04-02) the whole document -----	18-29
X	FR 2 924 596 A1 (TETRA TRADING LTD [VG]) 12 June 2009 (2009-06-12) page 10 - page 17; claims; figures -----	18-29
X	wo 97/29706 A1 (SMITH & NEPHEW INC [US]; GRAF BEN K [US]; FERRAGAMO MICHAEL C [US]; BL) 21 August 1997 (1997-08-21) page 4 - page 8 -----	18-29
X	US 6 328 758 B1 (TORNIER ALAIN [FR] ET AL) 11 December 2001 (2001-12-11) claims; figures ----- -/-	18-29



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

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"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

5 October 2012

Date of mailing of the international search report

18/04/2013

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/CH2012/000158

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008/046091 A1 (WEISS JOSHUA B [US] ET AL) 21 February 2008 (2008-02-21) the whole document -----	18-29
X	JP 2011 015973 A (OSTEOBIOLOGICS INC) 27 January 2011 (2011-01-27) figures -----	18
X	JP 2005 013740 A (DEPUY MITEK INC) 20 January 2005 (2005-01-20) figures -----	18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CH2012/000158

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-17 , 30, 31
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos. :
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos. :
18-29

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.I

Claims Nos.: 1-17, 30, 31

The subject-matter of claims 1-17, 30, 31, discloses a method for fastening an end portion of a soft tissue graft. The method comprises the step of anchoring the fastener. The International Searching Authority is not required to search methods for treatment of the human body by surgery or therapy (Rule 39.1(iv) PCT).

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 18-29

A fastener

2. claims: 32-40

A set of tools

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/CH2012/000158

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/CH2012/000158

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