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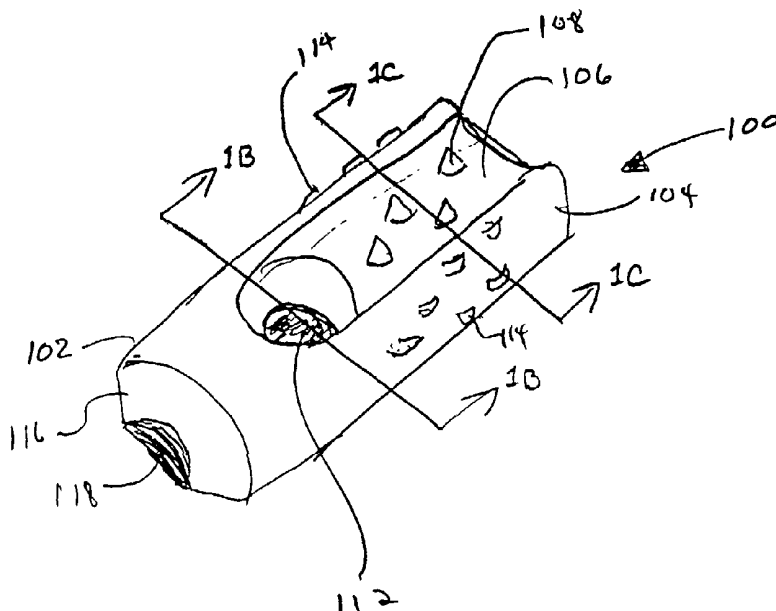
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[Continued on next page]

(54) Title: INTRAOSSEOUS SOFT TISSUE-TO-BONE ANCHOR



(57) Abstract: This is a surgical device. More particularly, it is an intraosseous anchor for securing soft tissue, such as a tendon or ligament, to a cavity formed in a bone. The device itself preferably is formed in such a way that the soft tissue is pressed against the bone by the device to accelerate growth by the soft tissue and attachment to the bone. The device preferably utilizes anchor barbs on its exterior to grasp the soft tissue under conditions of improved distribution of tension and with a minimal disruption of the soft tissue-bone interface and the allied nutrient supplies. the anchor and soft tissue may be treated with osteogenic growth factors. Various processes of using the device are also shown.



CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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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.

INTERNATIONAL SEARCH REPORT

ational Application No

PCT/US 01/31693

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61F2/08

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)
IPC 7 A61F A61B

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 practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 52472 A (SMITH & NEPHEW INC) 21 October 1999 (1999-10-21) claims; figures ---	1-3,8,9, 13,28
X	US 5 505 735 A (LI LEHMANN K) 9 April 1996 (1996-04-09) claims; figures ---	1,2,6,8, 11,13,28
A	---	18,19,24
A	DE 200 07 777 U (AESCULAP AG & CO KG) 6 July 2000 (2000-07-06) page 5, paragraph 3 -page 6, paragraph 4; figures ---	1
P,A	WO 01 28457 A (TENDON TECHNOLOGY LTD ;BERKY CRAIG (US); WARD THOMAS (US); COLEMAN) 26 April 2001 (2001-04-26) figures 25-57 --- -/--	30

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in 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 document 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

20 June 2002

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/31693

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 916 216 A (DESATNICK ALLEN H ET AL) 29 June 1999 (1999-06-29) figures ---	30
A	US 5 702 397 A (GOBLE E MARLOWE ET AL) 30 December 1997 (1997-12-30) figures ---	30
A	US 3 892 238 A (BANFORD JOHN A ET AL) 1 July 1975 (1975-07-01) abstract; figures -----	30

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/31693

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.:
because they relate to subject matter not required to be searched by this Authority, namely:
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 II Observations where unity of invention is lacking (Continuation of item 2 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 fee, this Authority did not invite payment of any additional fee.
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.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

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

1. Claims: 1-29

An intraosseous anchor comprising an exterior surface which comprises a cavity containing barbs to graspingly accept soft tissue and one cavity being oriented and sized to contact said soft tissue with said opening in said bone (Problem: to provide an anchor which is sized for the bone hole and the soft tissue is grasped between anchor and bone hole)

2. Claims: 30-41

A spiral intraosseus anchor comprising a spirally wound sheet having an interior surface for graspingly accepting a soft tissue (Problem: to provide an anchor which is larger than the bone hole and to squeeze the soft tissue)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/31693

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