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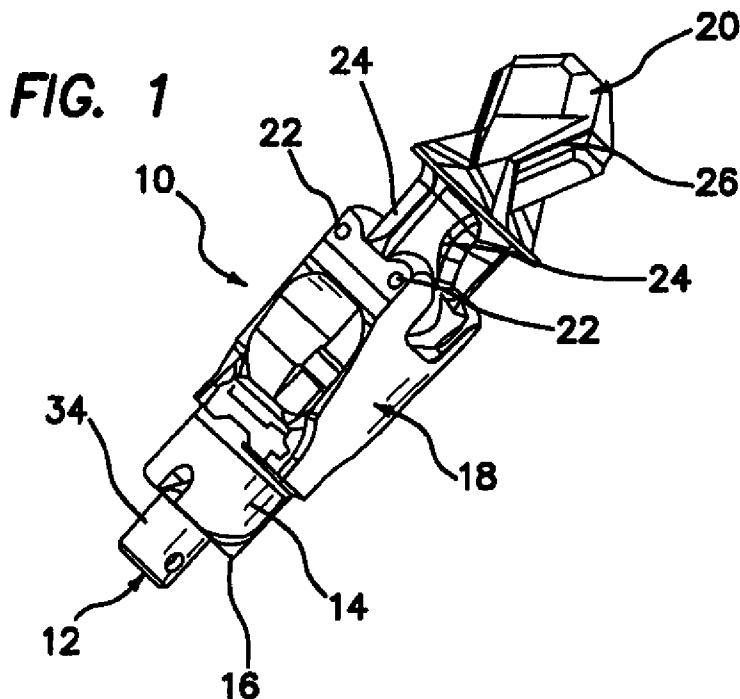
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(54) Title: METHODS AND SYSTEMS FOR MATERIAL FIXATION



(57) Abstract: A soft tissue fixation system, most typically applicable to orthopedic joint repairs, such as anterior cruciate ligament (ACL) knee repair procedures, comprises an implant which is placeable in a tunnel disposed in a portion of bone, wherein the tunnel is defined by walls comprised of bone. A first member is deployable outwardly to engage the tunnel walls for anchoring the implant in place in the tunnel, and a second member is deployable outwardly to engage tissue material to be fixed within the tunnel. The second member also functions to move the tissue material outwardly into contact with the tunnel walls to promote tendon-bone fixation. Extra graft length is eliminated by compression of the tendon against the bone at the aperture of the femoral tunnel, which more closely replicates the native ACL and increases graft stiffness.

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<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61B 17/56; A61F 2/08 (2008.04) USPC - 606/60; 623/13.14 According to International Patent Classification (IPC) or to both national classification and IPC</p>											
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) USPC - 606/60; 623/13.14 IPC(8) - A61B 17/56; A61F 2/08 (2008.04)</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PubWEST (DB=PGPB,USPT,USOC,EPAB,JPAB; PLUR=NO; OP=ADJ); freepatentsonline.com; WIPO; Google Patents; Google: tunnel, wedge, material fixation, bone, soft tissue, graft, wedge, anchor, compression pad, pivot, threaded, screw, deployment</p>											
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">Category*</th> <th style="width:70%;">Citation of document, with indication, where appropriate, of the relevant passages</th> <th style="width:20%;">Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td align="center">X</td> <td>US 2006/0155287 A1 (MONTGOMERY et al) 13 July 2006 (13.07.2006); para [0009], [0010], [00117], [0084]-[0086], [0113], [0122], [0125]-[0127], [0129]-[0131], [0133], [0139], [0147]-[0149], [0152], [0153], [0171], [0178], [0179]</td> <td align="center">1-23</td> </tr> <tr> <td align="center">A</td> <td>US 6,482,210 B1 (SKIBA et al) 19 November 2002 (19.11.2002)</td> <td align="center">1-23</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 2006/0155287 A1 (MONTGOMERY et al) 13 July 2006 (13.07.2006); para [0009], [0010], [00117], [0084]-[0086], [0113], [0122], [0125]-[0127], [0129]-[0131], [0133], [0139], [0147]-[0149], [0152], [0153], [0171], [0178], [0179]	1-23	A	US 6,482,210 B1 (SKIBA et al) 19 November 2002 (19.11.2002)	1-23
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<p><input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/></p>											
<p>* Special categories of cited documents:</p> <table style="width:100%;"> <tr> <td style="width:50%;"> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </td> <td style="width:50%;"> <p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p> </td> </tr> </table>			<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p>							
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<p>Name and mailing address of the ISA/US</p> <p>Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201</p>		<p>Authorized officer:</p> <p align="center">Lee W. Young</p> <p>PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</p>									