



# Express Search, Inc.

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Re: Clearance Patent Search  
Implant With Resorbable Stem  
Express Search Sample Search

October 15, 2009

Dear Mr. Search,

In accordance with your e-mail received on October 02, 2009, a Clearance Patent Search was conducted at the U.S. Patent and Trademark Office for an implant with a resorable stem.

This invention relates to a biodegradable anchor for a permanent implant of a bone joint, e.g. hip, shoulder, knee or finger. The biodegradable anchor is an elongated member which has an exterior surface which tightly engages a cavity in the bone and is substantially immovable within the cavity upon implant. A means of securing the anchor to the permanent implant is also included, in accordance with the disclosure provided.

The following Examiner was consulted regarding the field of search:

Examiner Eduardo in Art Unit 3733

The following classes and subclasses were searched:

Class 606 (Surgery)

Subs. 53, 60, 65, 76, 77, 300, 301

Class 623 (Prosthesis (i.e., Artificial Body Members)

Subs. 11.11, 13.18, 16.11, 18.11, 020, 22.11, 22.43, 23.34, 23.75, 23.76

The following IPC-8 class and subclasses were searched:

Class A61F (FILTERS IMPLANTABLE INTO BLOOD VESSELS; PROSTHESES; DEVICES PROVIDING PATENCY TO, OR PREVENTING COLLAPSING OF, TUBULAR STRUCTURES OF THE BODY, E.G. STENTS; ORTHOPAEDIC, NURSING OR CONTRACEPTIVE DEVICES; FOMENTATION; TREATMENT OR PROTECTION OF EYES OR EARS; BANDAGES, DRESSINGS OR ABSORBENT PADS; FIRST-AID KITS)

- 2/02 Filters implantable into blood vessels; Prostheses, i.e. artificial substitutes or replacements for parts of the body; Appliances for connecting them with the body; Devices providing patency to, or preventing collapsing of, tubular structures of the body, e.g. stents; Prostheses implantable into the body
- 2/30 Filters implantable into blood vessels; Prostheses, i.e. artificial substitutes or replacements for parts of the body; Appliances for connecting them with the body; Devices providing patency to, or preventing collapsing of, tubular structures of the body, e.g. stents; Prostheses implantable into the body; Joints

The following U.S. patents were uncovered in the search:

7,524,891	7,458,975	7,455,674	7,192,447	7,176,284	7,175,662
7,128,763	7,041,106	6,926,741	6,923,830	6,770,078	6,716,217
6,565,606	6,551,995	6,530,956	6,488,716	6,352,558	6,187,008
6,113,604	6,071,312	6,065,476	6,017,366	5,984,966	5,895,425
5,735,901	5,624,463	5,425,776	5,417,691	5,201,771	5,201,738
4,990,161	4,904,264	4,356,572	4,344,190		
2009/0177282	2009/0157194	2009/0062926	2009/0005869		
2008/0255618	2008/0177378	2008/0033577	2007/0142916		
2007/0093895	2007/0038303	2005/0070906	2005/0060043		
2004/0220574	2004/0148026	2004/0117033	2004/0093081		
2004/0073306	2003/0105526	2001/0043940			

The following foreign patents were also noted of interest:

DE 102004034331	JP 2005066354	WO 9641596
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The following patents appear to be most relevant:

4,990,161 discloses implant with resorbable stem which is an anchor for a permanent implant shaped to engage a bone joint cavity. Implant is constructed substantially entirely of a biodegradable material so as to resorb after a period of time (Abstract, Figures 1-7; Claims 1, 7, 14, 15, 31-34).

2007/0038303 discloses a foot/ankle implant comprising a ceramic with a polymer component filling a macroporosity component, forming an anatomically-

shaped and load-bearing graft for the foot; the ceramic component is gradually resorbable after implantation; the polymeric component is gradually degradable after implantation; and the composite structure is gradually replaceable by tissue/bone ingrowth (Abstract, Figures 1-4; Claims 1, 16, 18, 20).

6,113,604 discloses a method for deploying a graft in a bone tunnel, where the prosthetic element comprises a rod selected from a group including rigid rods, prosthetic materials and substitute tissue and where the rods are formed of bio-absorbable material such as polylactic acid, polyglycolic acid and polydioxanone (Abstract, Figures 6-9 ; Claims 1, 4-8).

2009/0062926 discloses an orthopaedic implant with a bioresorbable post configured to mate with the prepared end of the bone; a porous coating on the bone surface promotes bone ingrowth and the bioresorbable post extends into a prepared cavity in the bone (Abstract, Figures 1-9; Claims 1, 4, 10-14).

2004/0093081 discloses an implant for reconstruction of joints which includes a spacer member (1) placed between the bone ends to be connected, and a joint-stabilizing connection (2, 3) between. The spacer member (1) is made of at least one tissue-compatible, degradable material consisting of polyurethane urea or other materials (Abstract, Paragraph [0019]; Figures 1-4, 11-22b; Claims 1-10, 22, 29).

2007/0142916 discloses a bone graft and regenerative composition that includes a resorbable osteoconductive matrix with rigid nanofibers dispersed within and projecting out of the surface of the matrix to provide load bearing surface bristles. Implant is formed in a shape for implanting into a tissue area in need of regeneration (Abstract, Paragraph [0008], Figures 2,3,7-9; Claims 1, 4-6, 11, 14-20).

7,192,447 discloses an intervertebral implant with a central bore, top and bottom surfaces conform in size and shape with the end plates of adjacent vertebra, and gripping structures for engaging the vertebrae; implant is made from a resorbable material (Abstract, Figures 1-8 ; Claim 11).

2009/0157194 discloses a bioabsorbable and bioactive implant composite material, and comprises a compact polymer composite with bioactive bioceramic particles and a porous composite of bio-degradable/absorbable polymer, where the porous composite is united with the compact composite (Abstract, Figures 1-20; Claim 1).

7,128,763 discloses a method for treating a joint to maintain slidable joint motion between the bones by selecting an implant made of bioresorbable material only and surgically contacting a prepared bone surface with it; the joint is used to allow resorption of the implant and stimulating the formation of fibroblast from the bone surface layer, so that the fibroblast can progress into fibrocartilage as the implant is resorbed. The bioresorbable implant may be made of a polymer of lactic acid (Abstract, Figures 2-3F; Claims 1, 2, 7-9).

4,344,190 discloses plugs for the medullary canal of a bone for locating a hip prosthesis. The plugs are constructed to be push fit into the canal wherein said plug is made of a biodegradable material (Abstract, Column 2, Lines 46-48; Figures 1, 2; Claims 3-5, 9-14).

7,524,891 discloses an implantable, biodegradable medical device is formed

from a homogeneous polymer blend; device which may be a suture, anchor, interference screw, tissue engineering scaffold, maxial-facial plate, or a fracture fixation plate or rod (Abstract, Figures 1-10; Claims 1-9, 13, 14).

2007/0093895 discloses a method of performing anterior cruciate ligament reconstruction which uses a biodegradable composite interference screw made from a biodegradable polymer and a bioceramic or a bioglass to secure ends of the graft in the femoral bone tunnel (Abstract; Figure 1A, 1C, 10; Claim 1, 2, 5, 6).

5,895,425 discloses a surgical bone implant for securing ligament grafts into a joint is made of a biologically resorbable material (Abstract; Figure 8; Claim 8).

5,201,738 discloses an anti-displacement device for prosthetic bone joints that comprises a biodegradable biocompatible polymer directed into a bone joint to allow bone tissue growth to fix the prosthetic bone joint to the bone; body fluid contacting the elongate member biodegrades it. The biodegradable polymer has a sufficient shear resistance to allow permanent fixation of prosthetic bone joint. The device can be configured as a peg, pin, spike, screw, etc (Abstract; Figures 1, 5-8; Column 7, Lines 6-13; Claims 1, 12-16).

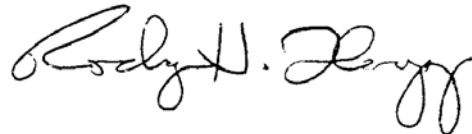
The following patents also appear to be relevant:

- 7,458,975 - Method Of Replacing An Anterior Cruciate Ligament In The Knee
- 7,455,674 - High Strength Bioresorbables Containing Poly-glycolic Acid
- 7,176,284 - Osteogenic Proteins
- 7,175,662 - Cervical Intervertebral Prosthesis
- 7,041,106 - Interphalangeal Fusion Pin
- 6,926,741 - Centralizing Cement Plug With Countersink
- 6,923,830 - Spinal Fusion Implant Having Deployable Bone Engaging Projections
- 6,770,078 - Movable Knee Implant And Methods Therefor
- 6,716,217 - Method And Apparatus For Fixing A Graft In A Bone Tunnel
- 6,565,606 - Implant, Method Of Making The Same And Use The Same
- 6,551,995 - Osteogenic Devices
- 6,530,956 - Resorbable Scaffolds To Promote Cartilage Regeneration
- 6,488,716 - Anatomic Femoral Prosthesis For Total Hip Arthroplasty
- 6,352,558 - Method For Promoting Regeneration Of Surface Cartilage In A Damage Joint
- 6,187,008 - Device For Temporarily Fixing Bones
- 6,071,312 - Endoprosthesis, In Particular An Artificial Hip Joint
- 6,065,476 - Method Of Enhancing Surface Porosity Of Biodegradable Implants
- 6,017,366 - Resorbable Interposition Arthroplasty Implant
- 5,984,966 - Bioabsorbable Bone Block Fixation Implant
- 5,735,901 - Element For Temporarily Increasing The Rigidity Of An Orthopaedic Prosthesis
- 5,624,463 - Prosthetic Articular Cartilage

- 5,425,776 - Method Of Using Absorbable Joint Implants For The Lesser Digits And Metatarsal Phalangeal Joints In The Surgical Correction Of The Foot
- 5,417,691 - Apparatus And Method For Manipulating And Anchoring Tissue
- 5,201,771 - Endoprosthesis Of The Hip Joint
- 4,904,264 - Artificial Joint System
- 4,356,572 - Biodegradable Implant Useable As A Bone Prosthesis
- 2009/0177282 - Implantable Biomimetic Prosthetic Bone
- 2009/0005869 - Device Which Attaches Into A Joint And Carries A Payload Of Controlled Release Drugs And Related Method Thereof
- 2008/0255618 - Articulating Facet Fusion Screw
- 2008/0177378 - Partially Bioabsorbable Implant
- 2008/0033577 - Hip Resurfacing Component
- 2005/0070906 - Endosteal Tibial Ligament Fixation With Adjustable Tensioning
- 2005/0060043 - Medial/distal Tip For Artificial Joint
- 2004/0220574 - Device From Naturally Occuring Biologically Derived Materials
- 2004/0148026 - Joint Spacer With Compartment For Orthobiologic Material
- 2004/0117033 - Method For Composite Cell-based Implants
- 2004/0073306 - Implant
- 2003/0105526 - High Tibial Osteotomy (HTO) Wedge
- 2001/0043940 - Load-bearing Osteoimplant, Method For Its Manufacture And Method Of Repairing Bone Using Same
- DE 102004034331 - Ball And Socket Joint-cap Implant, Useful For Artificial Hip Joint, Comprises A Cap (Similar To Natural Joint Ball) And Loaded Pilot Pin Consisting Of Bioabsorbable Material E.g. Polylactide And Polyglycolide
- JP 2005066354 - Composite Osteosynthesis Material
- WO 9641596 - Joint Prosthesis

These patents are representative of the prior art searched. Copies of the cited prior art are enclosed for your further review. For additional information on the cited prior art, please see the patent family, located on the CD results, for related patents and the legal status of cited patents. Please do not hesitate to contact me with any questions regarding this search.

Best Regards,  
EXPRESS SEARCH



Rodger H. Flagg  
President

RHF  
Enclosure: 56 Patents  
Ref: E00-93016