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(54) **FLEXIBLE ELONGATE MEMBER WITH A PORTION CONFIGURED TO RECEIVE A BONE ANCHOR**

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(52) **U.S. Cl.**
USPC **D24/155**

(58) **Field of Classification Search**
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(56) **References Cited**

U.S. PATENT DOCUMENTS

86,016 A 1/1869 Howell
1,822,280 A 9/1931 Ervay

(Continued)

FOREIGN PATENT DOCUMENTS

CA 2 437 575 4/2009
DE 93 04 368 5/1993

(Continued)

OTHER PUBLICATIONS

Ash, H.E., "Proximal Interphalangeal Joint Dimensions for the Design of a Surface Replacement Prosthesis", School of Engineering, University of Durham, Proceedings of the Institution of Mechanical Engineers Part H Journal of Engineering in Medicine Feb. 1996, vol. 210, No. 2, pp. 95-108.

(Continued)

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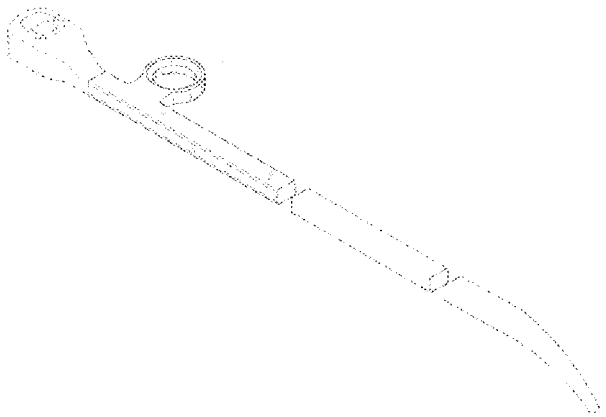
(57) **CLAIM**

The ornamental design for a flexible elongate member with a portion to receive a bone anchor, as shown and described.

DESCRIPTION

FIG. **1** is a front perspective view of a flexible elongate member with a portion to receive a bone anchor according to an embodiment;
FIG. **2** is a top view of the flexible elongate member with a portion to receive a bone anchor illustrated in FIG. **1**;
FIG. **3** is a bottom view of the flexible elongate member with a portion to receive a bone anchor illustrated in FIG. **1**;
FIG. **4** is a first side view of the flexible elongate member with a portion to receive a bone anchor illustrated in FIG. **1**;
FIG. **5** is a second side view of the flexible elongate member with a portion to receive a bone anchor illustrated in FIG. **1**;
FIG. **6** is a rear view of the flexible elongate member with a portion to receive a bone anchor illustrated in FIG. **1**;
FIG. **7** is a front view of the flexible elongate member with a portion to receive a bone anchor illustrated in FIG. **1**; and,
FIG. **8** is a cross-sectional side view of the flexible elongate member with a portion to receive a bone anchor taken along line **8-8** in FIG. **2**.
The broken lines are included for the purpose of illustrating environment and form no part of the claimed design. The dot-dash-dot lines form the bounds of the claimed design and are not part of the claimed design. The diagonal lines in the cross-section do not form part of the claimed design.

1 Claim, 6 Drawing Sheets



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(58) **Field of Classification Search**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,822,330	A		9/1931	Anslie	
2,486,303	A		10/1949	Longfellow	
3,111,945	A		11/1963	Von Solbrig	
3,570,497	A		3/1971	Lemole	
3,867,728	A		2/1975	Stubstad et al.	
3,875,595	A		4/1975	Froning	
3,879,767	A		4/1975	Stubstad	
4,001,896	A		1/1977	Arkangel	
4,037,603	A		7/1977	Wendorff	
4,085,466	A		4/1978	Goodfellow et al.	
4,119,091	A		10/1978	Partridge	
4,156,296	A		5/1979	Johnson et al.	
4,231,121	A		11/1980	Lewis	
D261,935	S		11/1981	Halloran	
4,312,337	A		1/1982	Donohue	
4,349,921	A		9/1982	Kuntz	
4,502,161	A		3/1985	Wall	
D279,502	S	*	7/1985	Halloran	D24/155
D279,503	S	*	7/1985	Halloran	D24/155
4,535,764	A		8/1985	Ebert	
4,573,458	A	*	3/1986	Lower	A61B 17/8085 606/280
4,634,445	A		1/1987	Helal	
4,662,371	A		5/1987	Whipple et al.	
4,706,659	A		11/1987	Matthews et al.	
4,714,469	A		12/1987	Kenna	
4,722,331	A		2/1988	Fox	
4,730,615	A		3/1988	Sutherland et al.	
4,759,766	A		7/1988	Buettner-Janz et al.	
4,759,769	A		7/1988	Hedman et al.	
4,772,287	A		9/1988	Ray et al.	
4,773,402	A		9/1988	Asher et al.	
4,834,757	A		5/1989	Brantigan	
4,863,477	A		9/1989	Monson	
4,904,260	A		2/1990	Ray et al.	
4,907,577	A		3/1990	Wu	
4,911,718	A		3/1990	Lee et al.	
4,919,667	A		4/1990	Richmond	
4,923,471	A	*	5/1990	Morgan	A61B 17/8085 606/285
4,936,848	A		6/1990	Bagby	
4,941,466	A		7/1990	Romano	
4,959,065	A	*	9/1990	Arnett	A61B 17/8085 606/285
4,969,909	A		11/1990	Barouk	
5,000,165	A		3/1991	Watanabe	
5,002,546	A		3/1991	Romano	
5,011,484	A		4/1991	Bréard	
5,015,255	A		5/1991	Kuslich	
5,047,055	A		9/1991	Bao et al.	
5,062,845	A		11/1991	Kuslich	
5,071,437	A		12/1991	Steffee	
5,092,866	A		3/1992	Breard et al.	
5,112,346	A		5/1992	Hiltebrandt et al.	
5,127,912	A		7/1992	Ray et al.	
5,147,404	A		9/1992	Downey	
5,171,280	A		12/1992	Baumgartner	
5,192,326	A		3/1993	Bao et al.	
5,209,755	A		5/1993	Abrahan et al.	
5,258,031	A		11/1993	Salib et al.	
5,300,073	A		4/1994	Ray et al.	
5,306,275	A		4/1994	Bryan	
5,306,308	A		4/1994	Gross et al.	
5,306,309	A		4/1994	Wagner et al.	
5,330,479	A		7/1994	Whitmore	
5,360,431	A		11/1994	Puno et al.	
5,368,596	A		11/1994	Burkhart	
5,370,697	A		12/1994	Baumgartner	
5,372,598	A	*	12/1994	Luhr	A61B 17/8085 606/285
5,400,784	A		3/1995	Durand et al.	
5,401,269	A		3/1995	Buttner-Janz et al.	
5,413,576	A		5/1995	Rivard	
5,415,661	A		5/1995	Holmes	
5,425,773	A		6/1995	Boyd et al.	
5,437,672	A		8/1995	Alleyne	
5,445,639	A		8/1995	Kuslich et al.	
5,458,642	A		10/1995	Beer et al.	
5,458,643	A		10/1995	Oka et al.	
5,462,542	A		10/1995	Alesi, Jr.	
5,487,756	A		1/1996	Kallesoe et al.	
5,491,882	A		2/1996	Walston et al.	
5,496,318	A		3/1996	Howland et al.	
5,507,823	A		4/1996	Walston et al.	
5,514,180	A		5/1996	Heggeness et al.	
5,527,312	A		6/1996	Ray	
5,527,314	A		6/1996	Brumfield et al.	
5,534,028	A		7/1996	Bao et al.	
5,534,030	A		7/1996	Navarro et al.	
5,540,706	A		7/1996	Aust et al.	
5,545,229	A		8/1996	Parsons et al.	
5,549,619	A		8/1996	Peters et al.	
5,556,431	A		9/1996	Buttner-Janz	
5,562,738	A		10/1996	Boyd et al.	
5,571,131	A		11/1996	Ek et al.	
5,571,189	A		11/1996	Kuslich	
5,571,191	A		11/1996	Fitz	
5,577,995	A		11/1996	Walker et al.	
5,586,989	A		12/1996	Bray, Jr.	
5,591,165	A		1/1997	Jackson	
5,603,713	A		2/1997	Aust et al.	
5,638,700	A		6/1997	Shechter	
5,645,597	A		7/1997	Krapiva	
5,645,599	A		7/1997	Samani	
5,649,947	A		7/1997	Auerbach et al.	
5,653,762	A		8/1997	Pisharodi	
5,674,295	A		10/1997	Ray et al.	
5,674,296	A		10/1997	Bryan et al.	
5,676,701	A		10/1997	Yuan et al.	
5,683,464	A		11/1997	Wagner et al.	
5,683,466	A		11/1997	Vitale	
5,700,265	A		12/1997	Romano	
5,702,450	A		12/1997	Bisserie	
5,707,373	A		1/1998	Sevrain et al.	
5,716,415	A		2/1998	Steffee	
5,725,582	A		3/1998	Bevan et al.	
5,741,260	A		4/1998	Songer et al.	
5,741,261	A		4/1998	Moskovitz et al.	
D395,138	S	*	6/1998	Ohata	D24/155
5,766,251	A		6/1998	Koshino	
5,766,253	A		6/1998	Brosnahan	
5,772,663	A		6/1998	Whiteside et al.	
5,797,916	A		8/1998	McDowell	
5,824,093	A		10/1998	Ray et al.	
5,824,094	A		10/1998	Serhan et al.	
5,836,948	A		11/1998	Zucherman et al.	
5,851,208	A		12/1998	Trott	
5,860,977	A		1/1999	Zucherman et al.	
5,865,846	A		2/1999	Bryan et al.	
5,868,745	A		2/1999	Alleyne	
5,876,404	A		3/1999	Zucherman et al.	
5,879,396	A		3/1999	Walston et al.	
5,888,203	A		3/1999	Goldberg	
5,893,889	A		4/1999	Harrington	
5,895,428	A		4/1999	Berry	
RE36,221	E		6/1999	Breard et al.	
5,918,604	A		7/1999	Whelan	

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,951,555 A 9/1999 Rehak et al.
5,964,765 A * 10/1999 Fenton, Jr. A61B 17/0487 606/103
5,997,542 A 12/1999 Burke
6,001,130 A 12/1999 Bryan et al.
6,014,588 A 1/2000 Fitz
6,019,763 A 2/2000 Nakamura et al.
6,019,792 A 2/2000 Cauthen
6,039,763 A 3/2000 Shelokov
6,048,342 A 4/2000 Zucherman et al.
6,050,998 A 4/2000 Fletcher
6,063,121 A 5/2000 Xavier et al.
6,066,325 A 5/2000 Wallace et al.
6,068,630 A 5/2000 Zucherman et al.
RE36,758 E 6/2000 Fitz
6,080,157 A 6/2000 Cathro et al.
6,099,531 A 8/2000 Bonutti
6,106,558 A 8/2000 Picha
6,113,637 A 9/2000 Gill et al.
6,132,464 A 10/2000 Martin
6,132,465 A 10/2000 Ray et al.
6,146,422 A 11/2000 Lawson
6,156,067 A 12/2000 Bryan et al.
6,179,839 B1 1/2001 Weiss et al.
D439,340 S 3/2001 Michelson
6,200,322 B1 3/2001 Branch et al.
6,293,949 B1 9/2001 Justis et al.
D450,122 S 11/2001 Michelson
6,325,803 B1 * 12/2001 Schumacher A61B 17/8047 606/104
D454,953 S 3/2002 Michelson
6,368,325 B1 4/2002 McKinley et al.
6,368,350 B1 4/2002 Erickson et al.
6,371,958 B1 4/2002 Overaker
6,375,573 B2 4/2002 Romano
6,379,386 B1 4/2002 Resch et al.
D460,188 S 7/2002 Michelson
D460,189 S 7/2002 Michelson
6,419,678 B1 7/2002 Asfora
6,419,703 B1 7/2002 Fallin et al.
6,436,099 B1 * 8/2002 Drewry A61B 17/7022 606/300
6,436,101 B1 8/2002 Hamada et al.
6,436,146 B1 8/2002 Hassler et al.
D463,560 S 9/2002 Michelson
6,470,207 B1 10/2002 Simon et al.
6,565,605 B2 5/2003 Goble et al.
6,572,617 B1 6/2003 Senegas
6,579,318 B2 6/2003 Varga et al.
6,579,319 B2 6/2003 Goble et al.
6,589,244 B1 7/2003 Sevrain et al.
6,600,956 B2 7/2003 Maschino et al.
6,607,530 B1 8/2003 Carl et al.
6,610,091 B1 8/2003 Reiley
D479,331 S * 9/2003 Pike D24/155
6,626,944 B1 9/2003 Taylor
6,641,614 B1 11/2003 Wagner et al.
6,656,195 B2 12/2003 Peters et al.
6,669,697 B1 12/2003 Pisharodi
6,669,729 B2 12/2003 Chin
6,706,068 B2 3/2004 Ferree
6,743,232 B2 6/2004 Overaker et al.
6,761,720 B1 7/2004 Senegas
6,764,491 B2 7/2004 Frey et al.
6,770,095 B2 8/2004 Grinberg et al.
6,783,527 B2 8/2004 Drewry et al.
6,790,210 B1 9/2004 Cragg et al.
6,802,863 B2 10/2004 Lawson et al.
6,811,567 B2 11/2004 Reiley
6,902,566 B2 6/2005 Zucherman et al.
6,908,484 B2 6/2005 Zubok et al.
6,966,930 B2 11/2005 Arnin et al.
6,974,478 B2 12/2005 Reiley et al.
6,974,479 B2 12/2005 Trieu
D517,404 S 3/2006 Schluter
7,008,429 B2 3/2006 Golobek
7,013,675 B2 3/2006 Marquez-Pickering
7,051,451 B2 5/2006 Augostino et al.
7,074,238 B2 7/2006 Stinson et al.
7,101,375 B2 9/2006 Zucherman et al.
7,223,269 B2 5/2007 Chappuis
D565,180 S 3/2008 Liao
7,371,238 B2 5/2008 Sololeski et al.
7,458,981 B2 12/2008 Fielding et al.
7,517,358 B2 4/2009 Petersen
7,537,611 B2 5/2009 Lee
7,559,940 B2 7/2009 McGuire et al.
7,563,286 B2 7/2009 Gerber et al.
7,585,300 B2 9/2009 Cha
7,608,104 B2 10/2009 Yuan et al.
7,695,472 B2 * 4/2010 Young A61B 17/1728 606/280
7,799,077 B2 9/2010 Lang et al.
7,806,895 B2 10/2010 Weier et al.
7,846,183 B2 12/2010 Blain
7,862,590 B2 1/2011 Lim et al.
7,935,136 B2 5/2011 Alamin et al.
D643,121 S * 8/2011 Milford D24/155
7,993,370 B2 8/2011 Jahng
7,998,172 B2 8/2011 Blain
8,052,728 B2 11/2011 Hestad
8,109,971 B2 2/2012 Hale
8,133,225 B2 3/2012 Pieske
8,163,016 B2 4/2012 Linares
8,192,468 B2 6/2012 Biedermann et al.
8,216,275 B2 7/2012 Fielding et al.
8,246,655 B2 8/2012 Jackson et al.
8,292,954 B2 10/2012 Robinson et al.
8,306,307 B2 11/2012 Koike et al.
8,394,125 B2 3/2013 Assell
8,496,691 B2 7/2013 Blain
8,579,903 B2 11/2013 Carl
8,652,137 B2 2/2014 Blain et al.
8,740,942 B2 6/2014 Blain
8,740,949 B2 6/2014 Blain
8,784,423 B2 7/2014 Kowarsch et al.
8,858,597 B2 10/2014 Blain
8,882,804 B2 11/2014 Blain
8,961,613 B2 2/2015 Assell et al.
D724,733 S 3/2015 Blain et al.
8,992,533 B2 3/2015 Blain et al.
8,998,953 B2 4/2015 Blain
9,017,389 B2 4/2015 Assell et al.
9,060,787 B2 6/2015 Blain et al.
D739,935 S 9/2015 Blain et al.
9,149,283 B2 10/2015 Assell et al.
9,161,763 B2 10/2015 Assell et al.
9,179,943 B2 11/2015 Blain
D748,262 S 1/2016 Blain
9,233,006 B2 1/2016 Assell et al.
D748,793 S 2/2016 Blain
9,265,546 B2 2/2016 Blain
9,271,765 B2 3/2016 Blain
9,301,786 B2 4/2016 Blain
9,314,277 B2 4/2016 Assell et al.
9,345,488 B2 5/2016 Assell et al.
2001/0018614 A1 8/2001 Bianchi
2002/0018799 A1 2/2002 Spector et al.
2002/0019637 A1 2/2002 Frey et al.
2002/0029039 A1 3/2002 Zucherman et al.
2002/0040227 A1 4/2002 Harari
2002/0065557 A1 5/2002 Goble et al.
2002/0072800 A1 6/2002 Goble et al.
2002/0077700 A1 6/2002 Varga et al.
2002/0086047 A1 7/2002 Mueller et al.
2002/0120335 A1 8/2002 Angelucci et al.
2002/0123806 A1 9/2002 Reiley
2002/0151895 A1 10/2002 Soboleski et al.
2002/0173800 A1 11/2002 Dreyfuss et al.
2002/0173813 A1 11/2002 Peterson et al.
2002/0198527 A1 12/2002 Muckter
2003/0004572 A1 1/2003 Goble et al.
2003/0028250 A1 2/2003 Reiley et al.
2003/0040797 A1 2/2003 Fallin et al.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2003/0120343 A1 6/2003 Whelan
2003/0176919 A1 9/2003 Schmieding
2003/0176922 A1 9/2003 Lawson et al.
2003/0187454 A1 10/2003 Gill et al.
2003/0191532 A1 10/2003 Goble et al.
2003/0204259 A1 10/2003 Goble et al.
2003/0216669 A1 11/2003 Lang et al.
2003/0233146 A1 12/2003 Grinberg et al.
2004/0006391 A1 1/2004 Reiley
2004/0010318 A1 1/2004 Ferree
2004/0024462 A1 2/2004 Ferree et al.
2004/0049271 A1 3/2004 Biedermann et al.
2004/0049272 A1 3/2004 Reiley
2004/0049273 A1 3/2004 Reiley
2004/0049274 A1 3/2004 Reiley
2004/0049275 A1 3/2004 Reiley
2004/0049276 A1 3/2004 Reiley
2004/0049277 A1 3/2004 Reiley
2004/0049278 A1 3/2004 Reiley
2004/0049281 A1 3/2004 Reiley
2004/0059429 A1 3/2004 Amin et al.
2004/0087954 A1 5/2004 Allen et al.
2004/0116927 A1 6/2004 Graf
2004/0127989 A1 7/2004 Dooris et al.
2004/0143264 A1 7/2004 McAfee
2004/0176844 A1 9/2004 Zubok et al.
2004/0199166 A1 10/2004 Schmieding et al.
2004/0215341 A1 10/2004 Sybert et al.
2004/0230201 A1 11/2004 Yuan et al.
2004/0230304 A1 11/2004 Yuan et al.
2005/0010291 A1 1/2005 Stinson et al.
2005/0015146 A1 1/2005 Louis et al.
2005/0043797 A1 2/2005 Lee
2005/0043799 A1 2/2005 Reiley
2005/0049705 A1 3/2005 Hale et al.
2005/0055096 A1 3/2005 Serhan et al.
2005/0059972 A1 3/2005 Biscup
2005/0131409 A1 6/2005 Chervitz et al.
2005/0131538 A1 6/2005 Chervitz et al.
2005/0143818 A1 6/2005 Yuan et al.
2005/0159746 A1 7/2005 Grab et al.
2005/0197700 A1 9/2005 Boehem et al.
2005/0216017 A1 9/2005 Fielding et al.
2005/0251256 A1 11/2005 Reiley
2005/0256494 A1 11/2005 Datta
2006/0004367 A1 1/2006 Alamin et al.
2006/0036323 A1 2/2006 Carl et al.
2006/0041311 A1 2/2006 McLeer
2006/0084985 A1 4/2006 Kim
2006/0085072 A1 4/2006 Funk et al.
2006/0111782 A1 5/2006 Petersen
2006/0116684 A1 6/2006 Whelan
2006/0149375 A1 7/2006 Yuan et al.
2006/0200137 A1 9/2006 Soboleski et al.
2006/0241601 A1 10/2006 Trautwein et al.
2006/0241758 A1 10/2006 Peterman et al.
2006/0293691 A1 12/2006 Mitra et al.
2007/0055236 A1 3/2007 Hudgins et al.
2007/0078464 A1 4/2007 Jones et al.
2007/0118218 A1 5/2007 Hooper
2007/0149976 A1 6/2007 Hale et al.
2007/0179619 A1 8/2007 Grab
2007/0250166 A1 10/2007 McKay
2007/0270812 A1 11/2007 Peckham
2008/0009866 A1 1/2008 Alamin et al.
2008/0058929 A1 3/2008 Whelan
2008/0177264 A1 7/2008 Alamin et al.
2008/0183211 A1 7/2008 Lamborne et al.
2008/0208249 A1 8/2008 Blain et al.
2008/0228225 A1 9/2008 Trautwein et al.
2008/0287996 A1 11/2008 Soholeski et al.
2009/0005818 A1 1/2009 Chin et al.
2009/0018662 A1 1/2009 Pasquet et al.
2009/0024166 A1 1/2009 Carl et al.
2009/0076617 A1 3/2009 Ralph et al.
2009/0125066 A1 5/2009 Kraus et al.
2009/0138048 A1 5/2009 Baccelli et al.
2009/0171360 A1 7/2009 Whelan
2009/0198282 A1 8/2009 Fielding et al.
2009/0204152 A1 8/2009 Blain
2009/0264928 A1 10/2009 Blain
2009/0264929 A1 10/2009 Alamin et al.
2009/0270918 A1 10/2009 Attia et al.
2010/0010548 A1 1/2010 Hermida Ochoa
2010/0185241 A1 7/2010 Malandain et al.
2010/0204732 A1 8/2010 Aschmann et al.
2010/0234894 A1 9/2010 Alamin et al.
2010/0274289 A1 10/2010 Carls et al.
2010/0298829 A1 11/2010 Schaller et al.
2010/0318133 A1 12/2010 Tornier
2011/0022089 A1 1/2011 Assell et al.
2011/0040301 A1 2/2011 Blain et al.
2011/0082503 A1 4/2011 Blain
2011/0098816 A1 4/2011 Jacob et al.
2011/0172712 A1 7/2011 Chee et al.
2011/0295318 A1 12/2011 Alamin et al.
2011/0313456 A1 12/2011 Blain
2012/0035658 A1 2/2012 Goble et al.
2012/0046749 A1 2/2012 Tatsumi
2012/0101502 A1 4/2012 Kartalian et al.
2012/0150231 A1 6/2012 Alamin et al.
2012/0221048 A1 8/2012 Blain
2012/0221049 A1 8/2012 Blain
2012/0221060 A1 8/2012 Blain
2012/0245586 A1 9/2012 Lehenkari et al.
2012/0271354 A1 10/2012 Baccelli et al.
2012/0310244 A1 12/2012 Blain et al.
2013/0023878 A1 1/2013 Belliard et al.
2013/0041410 A1 2/2013 Hestad et al.
2013/0197646 A1 8/2013 Blain
2013/0245693 A1 9/2013 Blain
2013/0325065 A1 12/2013 Malandain et al.
2014/0228883 A1 8/2014 Blain
2014/0257397 A1 9/2014 Akbarnia et al.
2014/0277142 A1 9/2014 Blain
2014/0277148 A1 9/2014 Blain
2014/0277149 A1 9/2014 Rooney et al.
2014/0336653 A1 11/2014 Bromer
2015/0081023 A1 3/2015 Blain
2015/0094766 A1 4/2015 Blain et al.
2015/0094767 A1 4/2015 Blain et al.
2015/0119988 A1 4/2015 Assell et al.
2015/0164516 A1 6/2015 Blain et al.
2015/0164652 A1 6/2015 Assell et al.
2015/0190149 A1 7/2015 Assell et al.
2015/0196330 A1 7/2015 Blain
2015/0257770 A1 9/2015 Assell et al.
2015/0257773 A1 9/2015 Blain et al.
2015/0327872 A1 11/2015 Assell et al.
2016/0051294 A1 2/2016 Blain
2016/0128739 A1 5/2016 Blain et al.
2016/0128838 A1 5/2016 Assell et al.

FOREIGN PATENT DOCUMENTS

DE	201 12 123	9/2001
DE	101 35 771	2/2003
EP	0 238 219	9/1987
EP	0 322 334	6/1989
EP	0 392 124	10/1990
EP	0 610 837	8/1994
EP	1 201 202	5/2002
EP	1 201 256	5/2002
EP	2 919 717	9/2015
FR	2 722 980	2/1996
GB	2 366 736	3/2002
JP	62-270147	11/1987
JP	10-179622	7/1998
JP	2004-508888	3/2004
JP	2007-503884	3/2007
JP	2007-190389	8/2007
JP	2008-510526	4/2008
MX	6012309	1/2007
WO	WO 93/14721	8/1993

(56) **References Cited**

FOREIGN PATENT DOCUMENTS

WO	WO 94/04088	3/1994
WO	WO 98/48717	11/1998
WO	WO 99/23963	5/1999
WO	WO 00/38582	7/2000
WO	WO 00/53126	9/2000
WO	WO 01/30248	5/2001
WO	WO 02/45765	6/2002
WO	WO 02/065954	8/2002
WO	WO 02/096300	12/2002
WO	WO 03/101350	12/2003
WO	WO 2004/071358	8/2004
WO	WO 2005/020850	3/2005
WO	WO 2005/072661	8/2005
WO	WO 2006/023980	3/2006
WO	WO 2006/096803	9/2006
WO	WO 2011/011621	1/2011
WO	WO 2012/116266	8/2012
WO	WO 2013/138655	9/2013
WO	WO 2014/078541	5/2014
WO	WO 2016/044432	3/2016

OTHER PUBLICATIONS

Official Communication in Australian Application No. AU2015205875, dated Apr. 2, 2016.
Official Communication in European Application No. 14175088.5, dated Nov. 18, 2015.
Official Communication in Japanese Application No. 2012-272106, dated Nov. 2, 2015.
Official Communication in Japanese Application No. 2013-524882, dated Nov. 16, 2015.
Official Communication in Australian Application No. AU2012222229, dated May 11, 2016.
Official Communication in Japanese Application No. JP 2013-55591, dated Jan. 4, 2016.
Official Communication in Japanese Application No. JP 2013-555592, dated Dec. 7, 2015.
International Preliminary Report on Patentability and Written Opinion in International Application No. PCT/US2014/056598, dated Apr. 7, 2016.
International Search Report and Written Opinion in International Application No. PCT/US2015/050441, dated Dec. 28, 2015.
International Search Report and Written Opinion in International Application No. PCT/US2016/013062, dated Mar. 16, 2016.
3rd Party Lab Notebook, "Facet Cartilage Repair," dated May 20, 2003 in 2 pages.
ArthroTek, "CurvTek® Bone Tunneling System," Surgical Technique, 2000, pp. 6.
E-mail from 3rd Party citing U.S. Appl. Nos. 60/721,909; 60/750,005 and 60/749,000, initial e-mail dated May 11, 2009, reply e-mail dated May 18, 2009.
King et al., "Mechanism of Spinal Injury Due to Caudocephalad Acceleration," Symposium on the Lumbar Spine, Orthopedic Clinic of North America, Jan. 1975, vol. 6, pp. 19-31.
Parteq Innovations, "Facet Joint Implants & Resurfacing Devices," Technology Opportunity Bulletin, Tech ID 1999-012, Queen's University, Ontario Canada.
Official Communication in Australian Application No. 2005213459, dated Dec. 11, 2009.
Official Communication in Australian Application No. 2005213459, dated Dec. 15, 2010.
Official Communication in Australian Application No. 2011226832, dated Sep. 4, 2012.
Official Communication in Australian Application No. 2011226832, dated Oct. 31, 2012.
Official Communication in Australian Application No. AU2013237744, dated Sep. 2, 2014.
Notice of Acceptance in Australian Application No. AU2013237744, dated Apr. 23, 2015.
Official Communication in Canadian Application No. 2,555,355, dated Sep. 2, 2011.
Official Communication in Canadian Application No. 2,803,783, dated Sep. 29, 2014.
Official Communication in Canadian Application No. 2,803,783, dated Aug. 5, 2015.
Official Communication in European Application No. 05712981.9, dated Jul. 24, 2007.
Official Communication in European Application No. 05712981.9, dated Mar. 10, 2008.
Official Communication in European Application No. 05712981.9, dated Apr. 6, 2009.
Official Communication in European Application No. 05712981.9, dated Jun. 15, 2010.
Official Communication in European Application No. 10178979.0, dated Mar. 14, 2011.
Official Communication in European Application No. 10178979.0, dated Nov. 13, 2012.
Official Communication in European Application No. 10178979.0, dated Aug. 5, 2013.
Official Communication in European Application No. 14175088.5, dated Sep. 8, 2014.
Official Communication in Japanese Application No. 2006-552309, dated May 25, 2010.
Official Communication in Japanese Application No. 2006-552309, dated Feb. 15, 2011.
Official Communication in Japanese Application No. 2010-221380, dated Feb. 15, 2011.
Official Communication in Japanese Application No. 2012-272106, dated Dec. 3, 2013.
Official Communication in Japanese Application No. 2012-272106, dated May 26, 2014.
Official Communication in Japanese Application No. 2012-272106, dated Feb. 23, 2015.
International Search Report and Written Opinion in International Application No. PCT/US2005/003753, dated Dec. 5, 2006.
International Preliminary Report and Written Opinion in International App No. PCT/US2005/003753, dated Jan. 9, 2007.
Official Communication in European Application No. 08730413.5, dated Feb. 16, 2012.
Official Communication in European Application No. 14177951.2, dated Nov. 13, 2014.
International Search Report and Written Opinion in International Application No. PCT/US2008/054607, dated Jul. 10, 2008.
International Preliminary Report on Patentability in International Application No. PCT/US2008/054607, dated Sep. 3, 2009.
Official Communication in Australian Application No. 2011292297, dated Jul. 10, 2013.
Official Communication in European Application No. 11818586.7, dated Nov. 6, 2014.
Official Communication in Japanese Application No. 2013-524882, dated Mar. 2, 2015.
International Search Report and Written Opinion in International Application No. PCT/US2011/047432, dated Dec. 12, 2011.
International Preliminary Report on Patentability in International Application No. PCT/US2011/047432, dated Feb. 28, 2013.
Official Communication in Australian Application No. AU2012222229, dated Aug. 21, 2015.
Official Communication in Australian Application No. AU2012222230, dated Aug. 21, 2015.
International Search Report in International Application No. PCT/US2012/026470, dated May 30, 2012.
International Preliminary Report on Patentability and Written Opinion in International Application No. PCT/US2012/026470, dated Sep. 6, 2013.
International Search Report and Written Opinion in International Application No. PCT/US2012/026472, dated Jun. 20, 2012.
International Preliminary Report on Patentability and Written Opinion in International Application No. PCT/US2012/026472, dated Mar. 12, 2014.
International Search Report and Written Opinion in International Application No. PCT/US2014/019302, dated May 18, 2015.

(56) **References Cited**

OTHER PUBLICATIONS

International Search Report and Written Opinion in International Application No. PCT/US2014/019325, dated Jun. 17, 2014.
International Preliminary Report on Patentability and Written Opinion in International Application No. PCT/US2014/019325, dated Sep. 24, 2015.
International Search Report and Written Opinion in International Application No. PCT/US2014/056598, dated Dec. 29, 2014.
International Search Report in International Application No. PCT/CA2002/000193 filed Feb. 15, 2002, dated Jun. 18, 2002.
International Search Report and Written Opinion in International Application No. PCT/US2004/028094, dated May 16, 2005.
International Preliminary Report on Patentability in International Application No. PCT/US2004/028094, dated Feb. 25, 2013.
International Search Report in International Application No. PCT/US2005/000987 filed Jan. 13, 2005, dated May 24, 2005.
International Preliminary Report on Patentability in International Application No. PCT/US2005/000987 filed Jan. 13, 2005, dated Jan. 17, 2006.

* cited by examiner

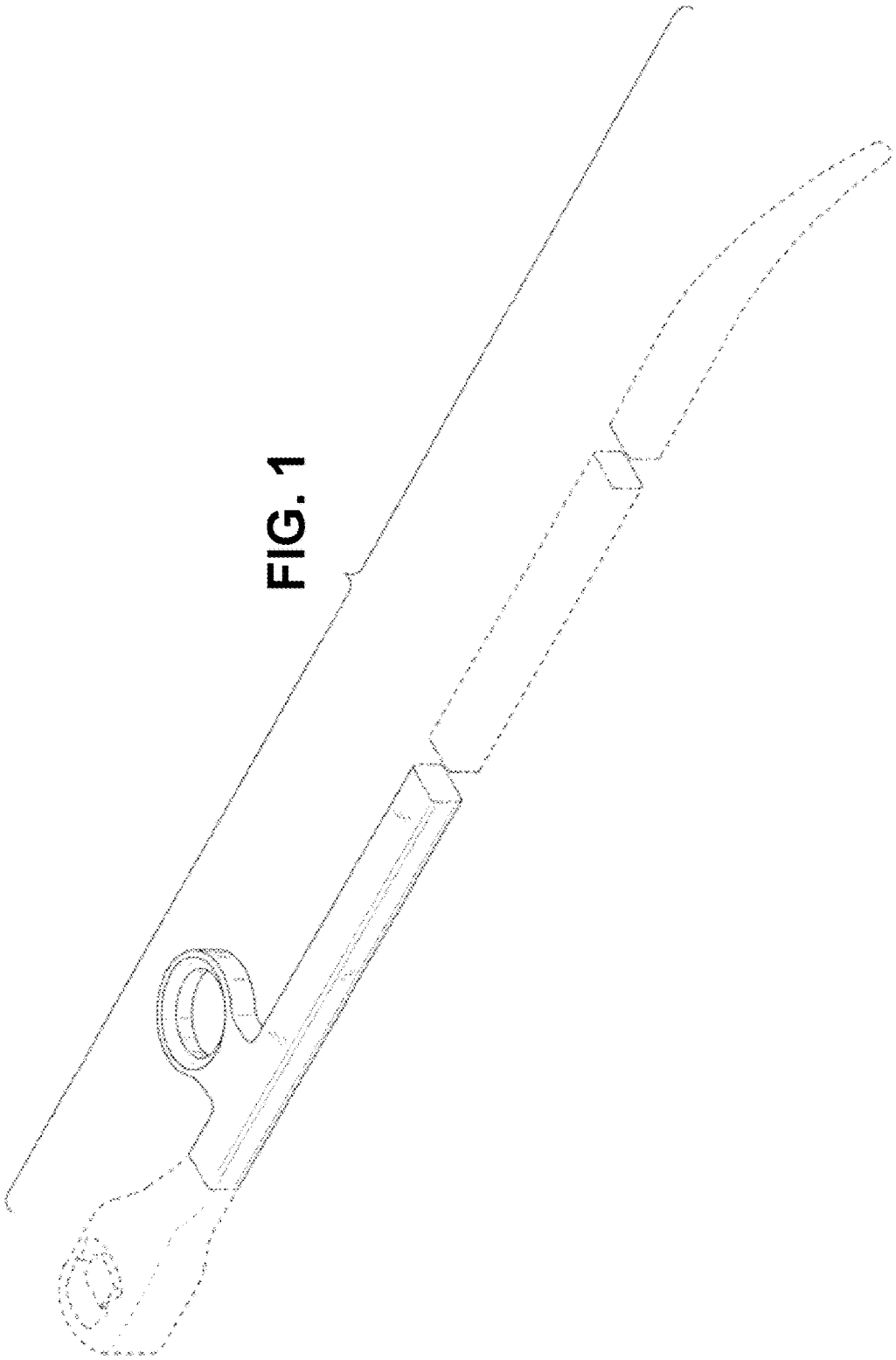

FIG. 1

FIG. 2

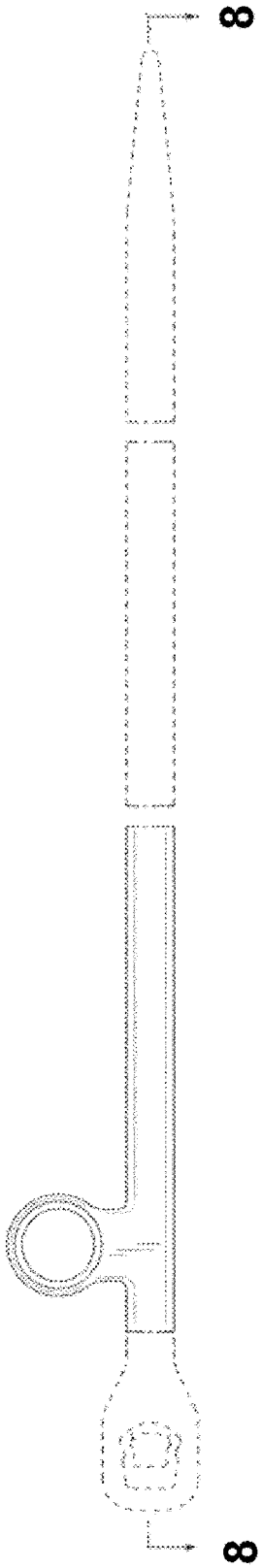

FIG. 3

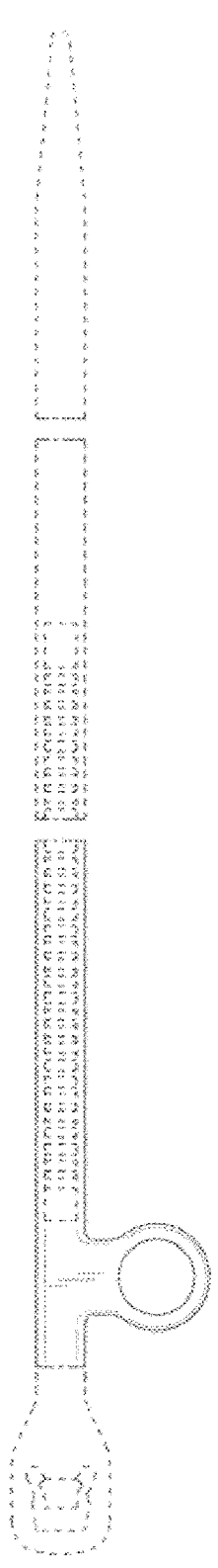

FIG. 4

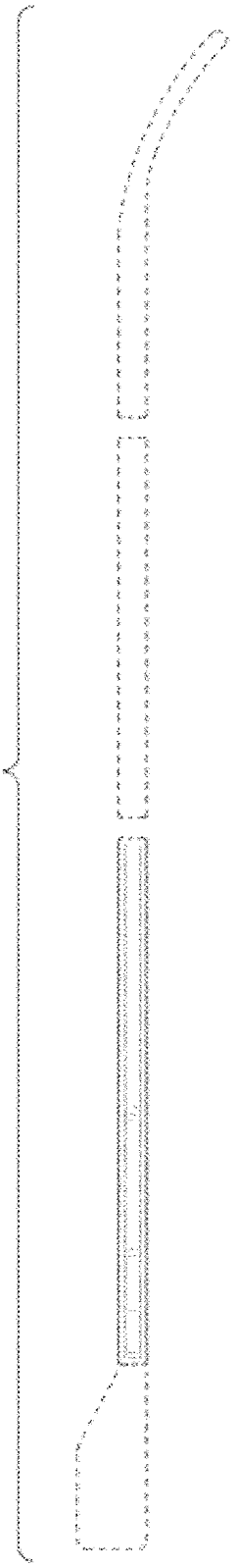

FIG. 5

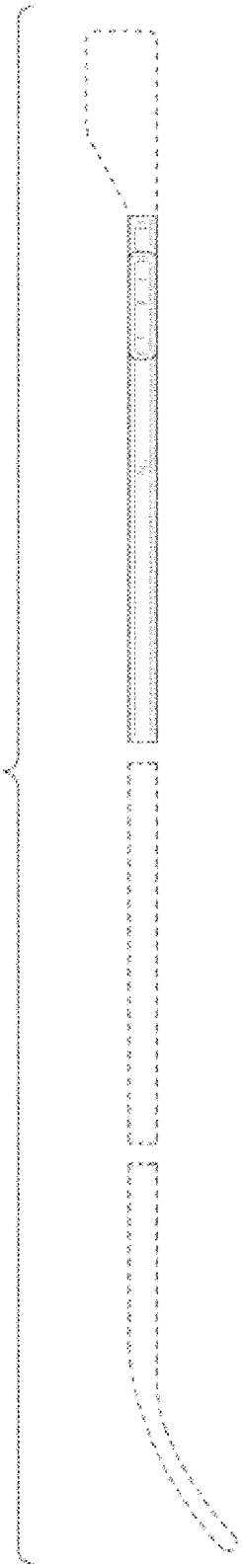

FIG. 7

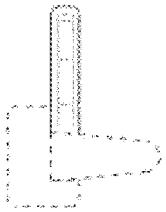

FIG. 6

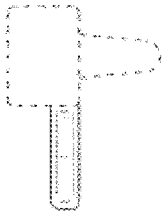

FIG. 8