



US00D780315S

(12) **United States Design Patent** (10) **Patent No.:** **US D780,315 S**
Blain et al. (45) **Date of Patent:** **** Feb. 28, 2017**

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

(71) Applicant: **Spinal Elements, Inc.**, Carlsbad, CA (US)

(72) Inventors: **Jason Blain**, Encinitas, CA (US); **Greg Martin**, Encinitas, CA (US)

(73) Assignee: **Spinal Elements, Inc.**, Carlsbad, CA (US)

(**) Term: **15 Years**

(21) Appl. No.: **29/564,519**

(22) Filed: **May 13, 2016**

Related U.S. Application Data

(60) Continuation of application No. 29/537,074, filed on Aug. 21, 2015, now Pat. No. Des. 765,853, which is a

(Continued)

(51) **LOC (10) Cl.** **24-02**

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

(58) **Field of Classification Search**
USPC D24/155, 156

(Continued)

(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)

Primary Examiner — Charles Hanson

(74) *Attorney, Agent, or Firm* — Knobbe, Martens, Olson & Bear, LLP

(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;

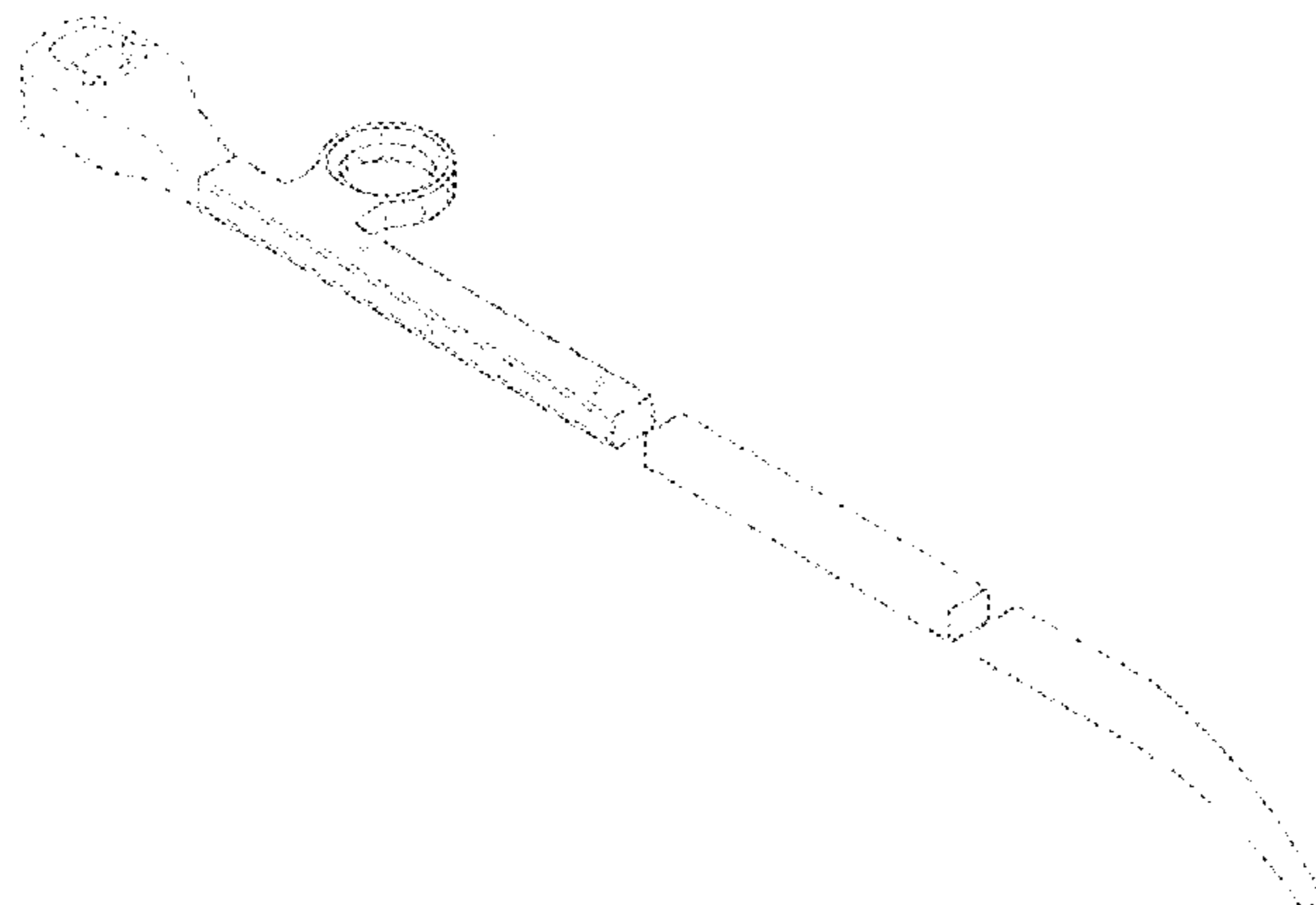
FIG. 6 is a rear view of the flexible elongate member with a portion to receive a bone anchor illustrated in FIG. 1;

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



Related U.S. Application Data

division of application No. 29/448,946, filed on Mar. 14, 2013, now abandoned.

(58) **Field of Classification Search**

CPC A61B 17/7022; A61B 17/7029; A61B 17/7031; A61B 17/70; A61B 17/7007; A61B 17/7011; A61B 17/7062; A61B 17/7053; A61B 17/82; H02G 3/30; H02G 3/32; Y10T 16/00; Y10T 24/14; Y10T 24/1404; Y10T 24/1406; B65D 63/00; B65D 36/10

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.		7,008,429 B2	3/2006	Golobek
5,964,765 A *	10/1999	Fenton, Jr.	A61B 17/0487	7,013,675 B2	3/2006	Marquez-Pickering
			606/103	7,051,451 B2	5/2006	Augostino et al.
5,997,542 A	12/1999	Burke		7,074,238 B2	7/2006	Stinson et al.
6,001,130 A	12/1999	Bryan et al.		7,101,375 B2	9/2006	Zucherman et al.
6,014,588 A	1/2000	Fitz		7,223,269 B2	5/2007	Chappuis
6,019,763 A	2/2000	Nakamura et al.		D565,180 S	3/2008	Liao
6,019,792 A	2/2000	Cauthen		7,371,238 B2	5/2008	Sololeski et al.
6,039,763 A	3/2000	Shelokov		7,458,981 B2	12/2008	Fielding et al.
6,048,342 A	4/2000	Zucherman et al.		7,517,358 B2	4/2009	Petersen
6,050,998 A	4/2000	Fletcher		7,537,611 B2	5/2009	Lee
6,063,121 A	5/2000	Xavier et al.		7,559,940 B2	7/2009	McGuire et al.
6,066,325 A	5/2000	Wallace et al.		7,563,286 B2	7/2009	Gerber et al.
6,068,630 A	5/2000	Zucherman et al.		7,585,300 B2	9/2009	Cha
RE36,758 E	6/2000	Fitz		7,608,104 B2	10/2009	Yuan et al.
6,080,157 A	6/2000	Cathro et al.		7,695,472 B2 *	4/2010	Young A61B 17/1728
6,099,531 A	8/2000	Bonutti				606/280
6,106,558 A	8/2000	Picha		7,799,077 B2	9/2010	Lang et al.
6,113,637 A	9/2000	Gill et al.		7,806,895 B2	10/2010	Weier et al.
6,132,464 A	10/2000	Martin		7,846,183 B2	12/2010	Blain
6,132,465 A	10/2000	Ray et al.		7,862,590 B2	1/2011	Lim et al.
6,146,422 A	11/2000	Lawson		7,935,136 B2	5/2011	Alamin et al.
6,156,067 A	12/2000	Bryan et al.		D643,121 S *	8/2011	Milford D24/155
6,179,839 B1	1/2001	Weiss et al.		7,993,370 B2	8/2011	Jahng
D439,340 S	3/2001	Michelson		7,998,172 B2	8/2011	Blain
6,200,322 B1	3/2001	Branch et al.		8,052,728 B2	11/2011	Hestad
6,293,949 B1	9/2001	Justis et al.		8,109,971 B2	2/2012	Hale
D450,122 S	11/2001	Michelson		8,133,225 B2	3/2012	Pieske
6,325,803 B1 *	12/2001	Schumacher	A61B 17/8047	8,163,016 B2	4/2012	Linares
			606/104	8,192,468 B2	6/2012	Biedermann et al.
D454,953 S	3/2002	Michelson		8,216,275 B2	7/2012	Fielding et al.
6,368,325 B1	4/2002	McKinley et al.		8,246,655 B2	8/2012	Jackson et al.
6,368,350 B1	4/2002	Erickson et al.		8,292,954 B2	10/2012	Robinson et al.
6,371,958 B1	4/2002	Overaker		8,306,307 B2	11/2012	Koike et al.
6,375,573 B2	4/2002	Romano		8,394,125 B2	3/2013	Assell
6,379,386 B1	4/2002	Resch et al.		8,496,691 B2	7/2013	Blain
D460,188 S	7/2002	Michelson		8,579,903 B2	11/2013	Carl
D460,189 S	7/2002	Michelson		8,652,137 B2	2/2014	Blain et al.
6,419,678 B1	7/2002	Asfora		8,740,942 B2	6/2014	Blain
6,419,703 B1	7/2002	Fallin et al.		8,740,949 B2	6/2014	Blain
6,436,099 B1 *	8/2002	Drewry	A61B 17/7022	8,784,423 B2	7/2014	Kowarsch et al.
			606/300	8,858,597 B2	10/2014	Blain
6,436,101 B1	8/2002	Hamada et al.		8,882,804 B2	11/2014	Blain
6,436,146 B1	8/2002	Hassler et al.		8,961,613 B2	2/2015	Assell et al.
D463,560 S	9/2002	Michelson		D724,733 S	3/2015	Blain et al.
6,470,207 B1	10/2002	Simon et al.		8,992,533 B2	3/2015	Blain et al.
6,565,605 B2	5/2003	Goble et al.		8,998,953 B2	4/2015	Blain
6,572,617 B1	6/2003	Senegas		9,017,389 B2	4/2015	Assell et al.
6,579,318 B2	6/2003	Varga et al.		9,060,787 B2	6/2015	Blain et al.
6,579,319 B2	6/2003	Goble et al.		D739,935 S	9/2015	Blain et al.
6,589,244 B1	7/2003	Sevrain et al.		9,149,283 B2	10/2015	Assell et al.
6,600,956 B2	7/2003	Maschino et al.		9,161,763 B2	10/2015	Assell et al.
6,607,530 B1	8/2003	Carl et al.		9,179,943 B2	11/2015	Blain
6,610,091 B1	8/2003	Reiley		D748,262 S	1/2016	Blain
D479,331 S *	9/2003	Pike	D24/155	9,233,006 B2	1/2016	Assell et al.
6,626,944 B1	9/2003	Taylor		D748,793 S	2/2016	Blain
6,641,614 B1	11/2003	Wagner et al.		9,265,546 B2	2/2016	Blain
6,656,195 B2	12/2003	Peters et al.		9,271,765 B2	3/2016	Blain
6,669,697 B1	12/2003	Pisharodi		9,301,786 B2	4/2016	Blain
6,669,729 B2	12/2003	Chin		9,314,277 B2	4/2016	Assell et al.
6,706,068 B2	3/2004	Ferree		9,345,488 B2	5/2016	Assell et al.
6,743,232 B2	6/2004	Overaker et al.		2001/0018614 A1	8/2001	Bianchi
6,761,720 B1	7/2004	Senegas		2002/0018799 A1	2/2002	Spector et al.
6,764,491 B2	7/2004	Frey et al.		2002/0019637 A1	2/2002	Frey et al.
6,770,095 B2	8/2004	Grinberg et al.		2002/0029039 A1	3/2002	Zucherman et al.
6,783,527 B2	8/2004	Drewry et al.		2002/0040227 A1	4/2002	Harari
6,790,210 B1	9/2004	Cragg et al.		2002/0065557 A1	5/2002	Goble et al.
6,802,863 B2	10/2004	Lawson et al.		2002/0072800 A1	6/2002	Goble et al.
6,811,567 B2	11/2004	Reiley		2002/0077700 A1	6/2002	Varga et al.
6,902,566 B2	6/2005	Zucherman et al.		2002/0086047 A1	7/2002	Mueller et al.
6,908,484 B2	6/2005	Zubok et al.		2002/0120335 A1	8/2002	Angelucci et al.
6,966,930 B2	11/2005	Arnin et al.		2002/0123806 A1	9/2002	Reiley
6,974,478 B2	12/2005	Reiley et al.		2002/0151895 A1	10/2002	Soboleski et al.
6,974,479 B2	12/2005	Trieu		2002/0173800 A1	11/2002	Dreyfuss et al.
D517,404 S	3/2006	Schluter		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 2013-55592, 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

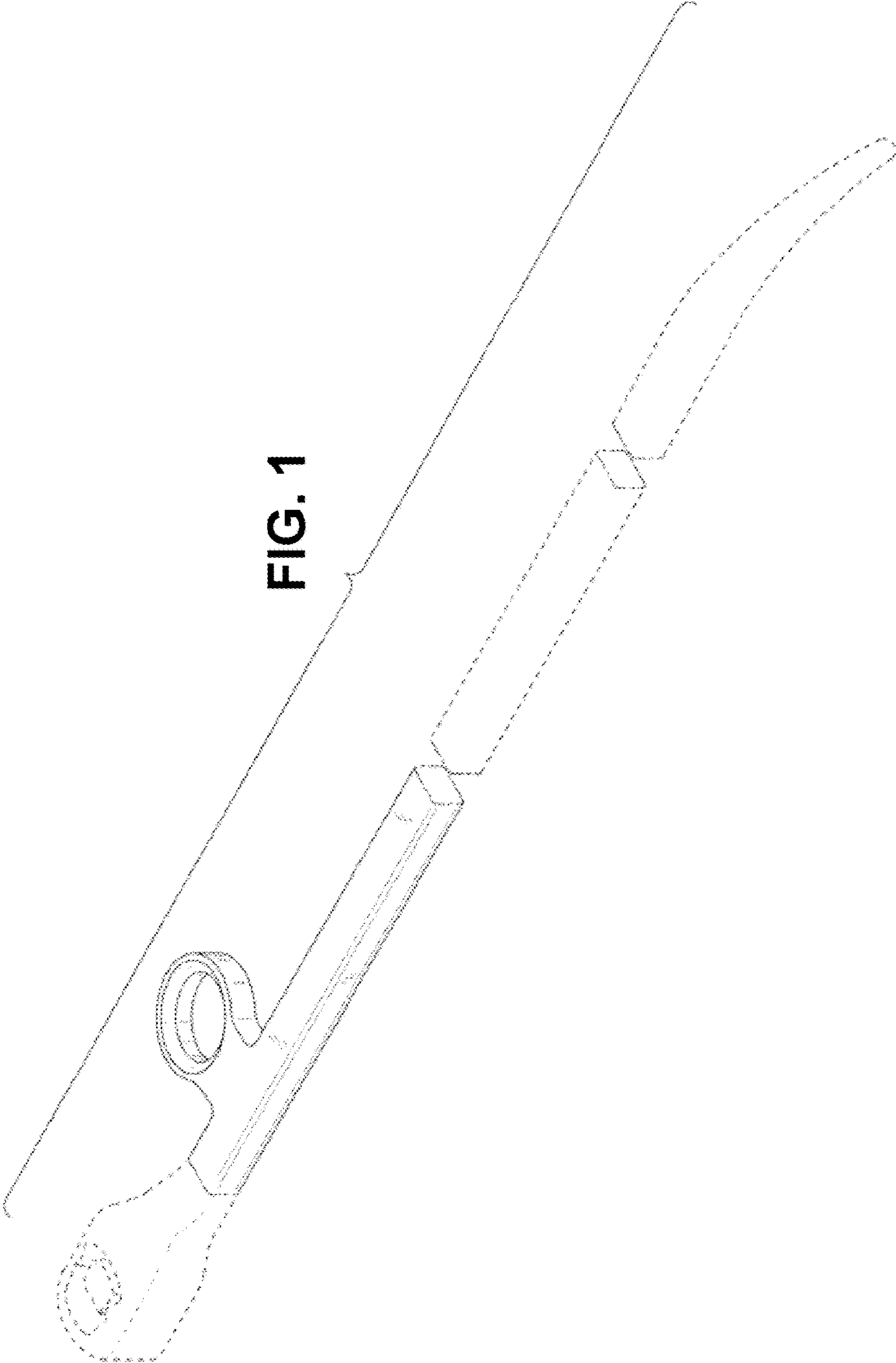


FIG. 1

FIG. 2

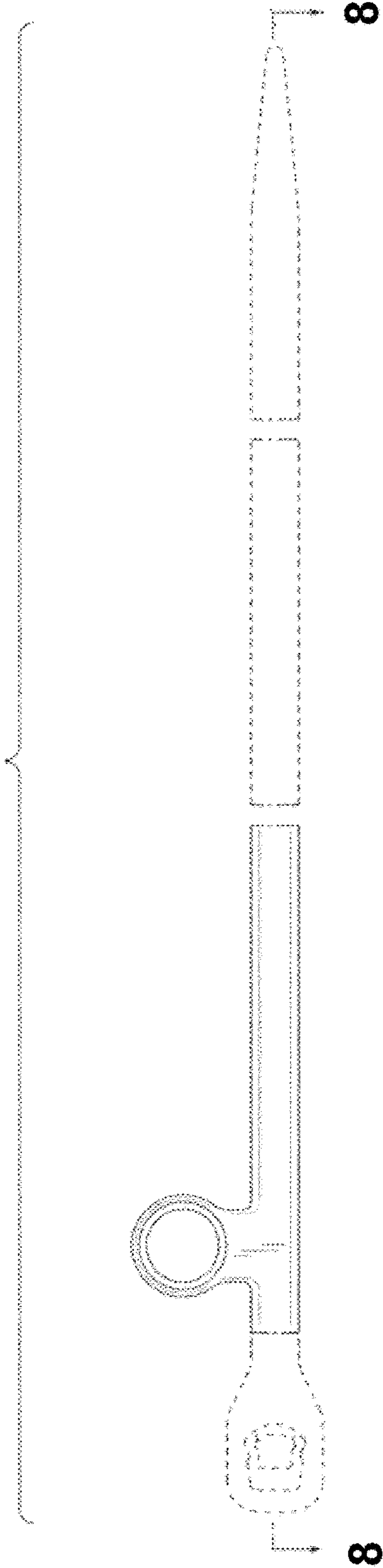


FIG. 3

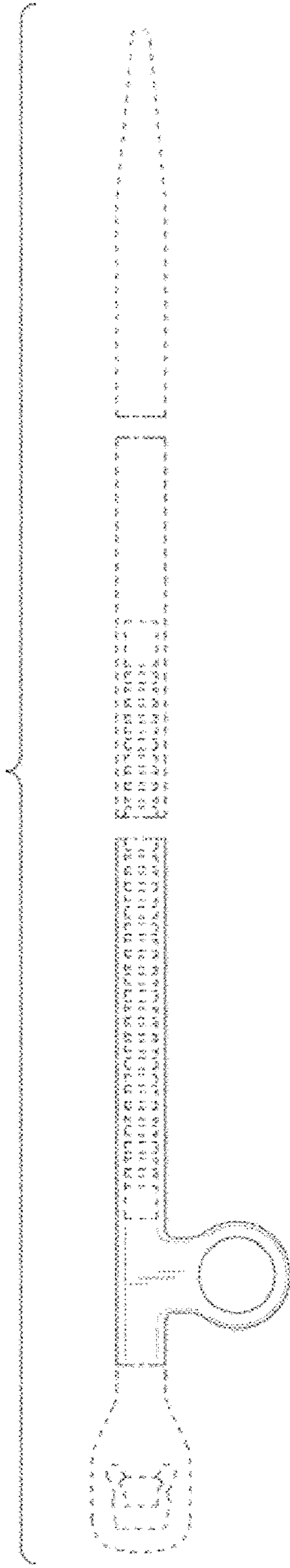


FIG. 4

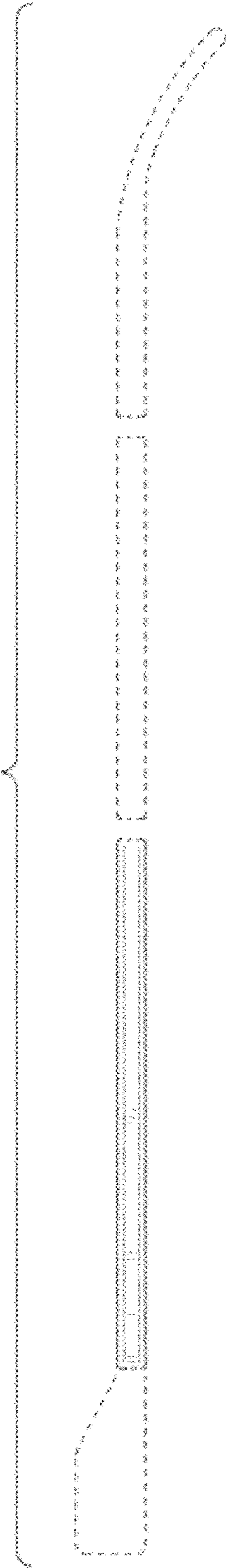


FIG. 5

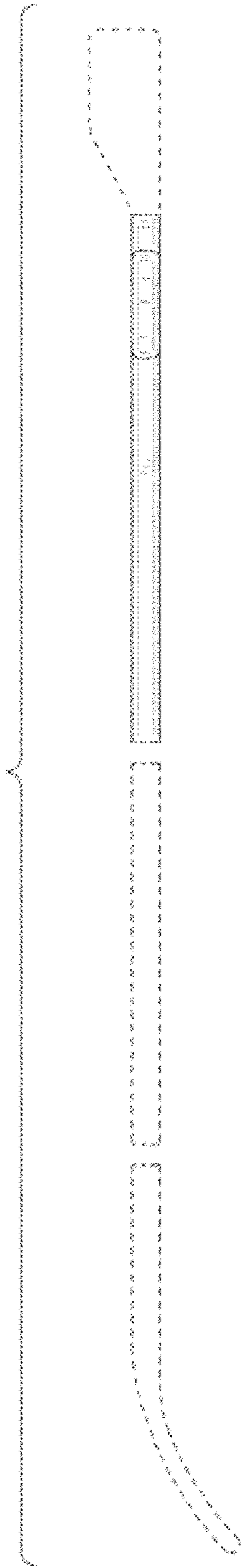


FIG. 6

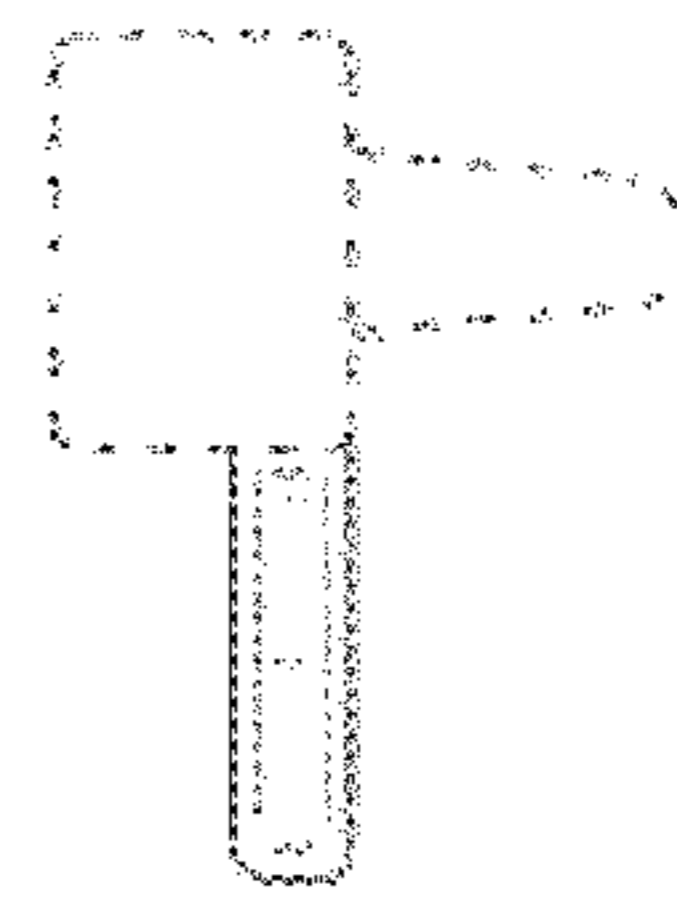


FIG. 7

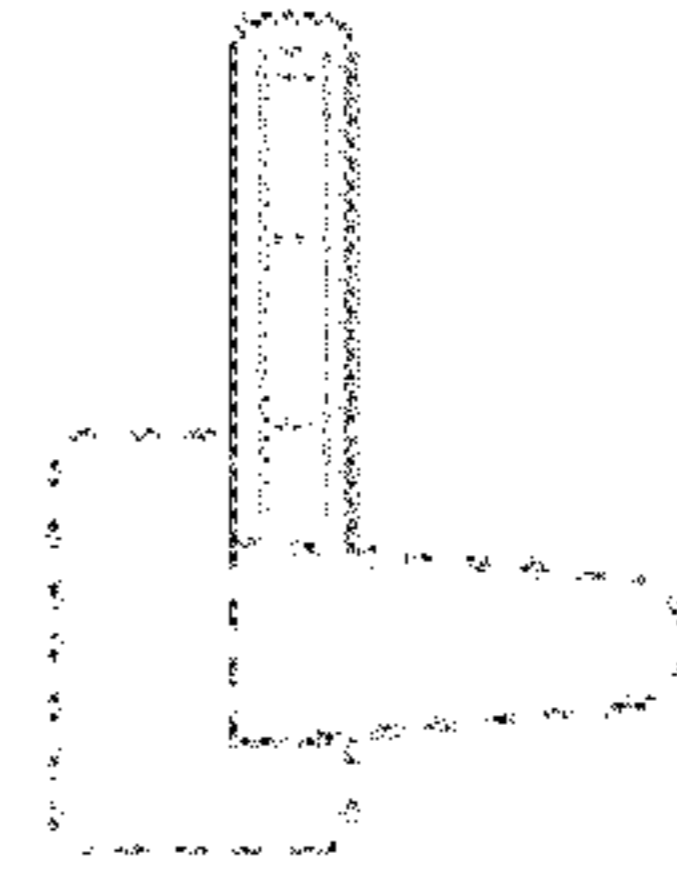


FIG. 8

