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(12) **United States Design Patent**
Blain

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(45) **Date of Patent:** **** Mar. 17, 2015**

(54) **INTERBODY BONE IMPLANT**
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(**) Term: **14 Years**

4,349,921 A 9/1982 Kuntz
4,502,161 A 3/1985 Wall
4,535,764 A 8/1985 Ebert
4,634,445 A 1/1987 Helal
4,662,371 A 5/1987 Whipple 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.

(Continued)

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Related U.S. Application Data

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

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

(58) **Field of Classification Search**
USPC D24/155, 133, 135; 623/17.15, 17.16, 623/17.12; 604/500; 606/61, 280, 281, 60, 606/298, 147, 916; D12/204, 207; D1/100, D1/127, 130; D21/386
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

86,016 A 1/1869 Howell
1,822,280 A 9/1931 Ervay
1,822,330 A 9/1931 Anslie
3,111,945 A 11/1963 Von Solbrig
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
4,085,466 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
4,312,337 A 1/1982 Donohue

FOREIGN PATENT DOCUMENTS

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

(Continued)

OTHER PUBLICATIONS

International Preliminary Report and Written Opinion in International App No. PCT/US2005/003753, dated Jan. 9, 2007.

(Continued)

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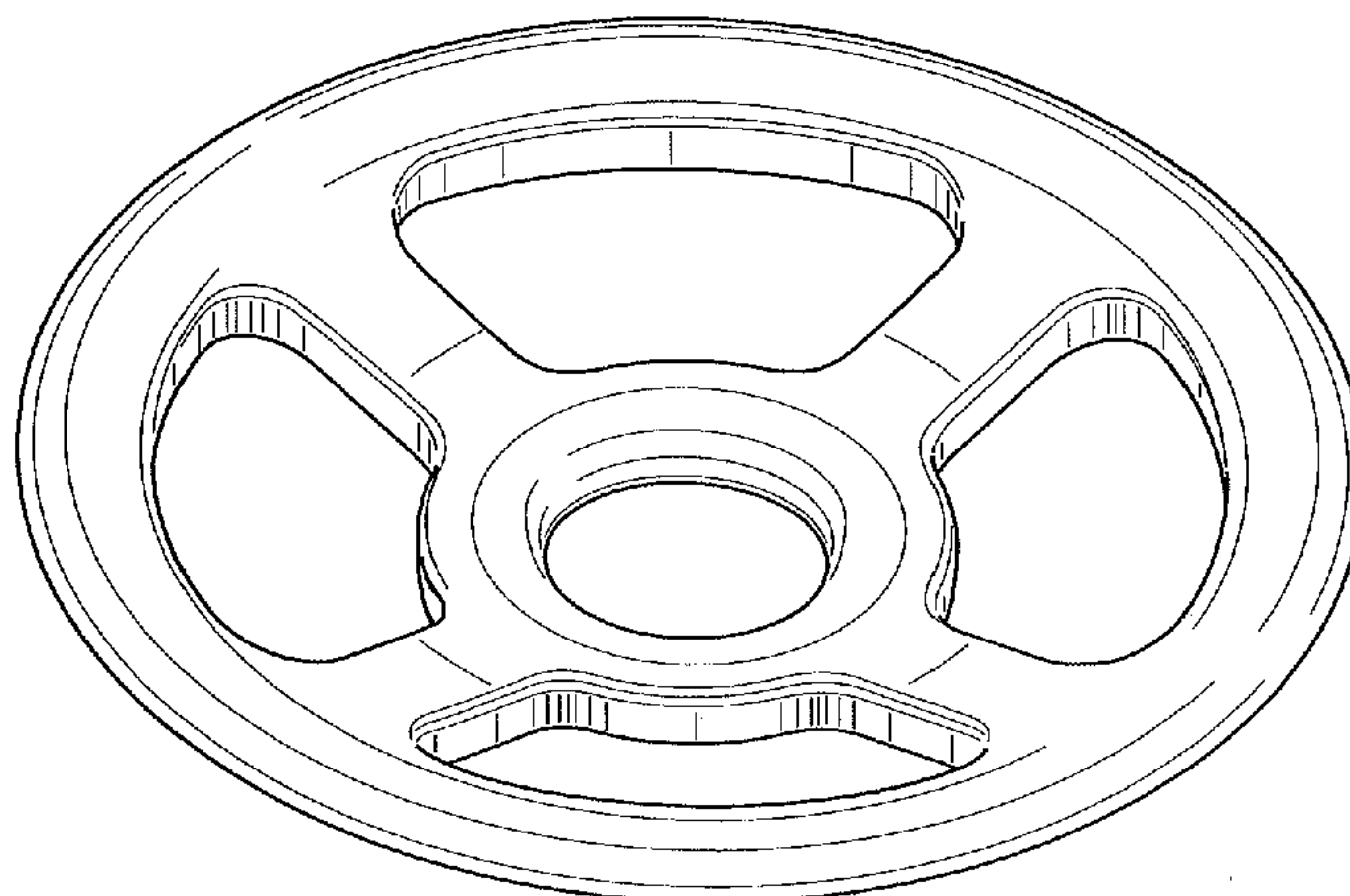
(57) **CLAIM**

The ornamental design for an interbody bone implant, as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of an interbody bone implant showing my new design;
FIG. 2 is a top view thereof;
FIG. 3 is a bottom view thereof;
FIG. 4 is a side view thereof; and,
FIG. 5 is a cross-sectional view taken along line 5-5 in FIG. 2.

1 Claim, 2 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

4,759,769 A	7/1988	Hedman et al.	5,716,415 A	2/1998	Steffee
4,772,287 A	9/1988	Ray et al.	5,741,260 A	4/1998	Songer et al.
4,773,402 A	9/1988	Asher et al.	5,741,261 A	4/1998	Moskovitz et al.
4,834,757 A	5/1989	Brantigan	5,766,251 A	6/1998	Koshino
4,863,477 A	9/1989	Monson	5,766,253 A	6/1998	Brosnahan
4,904,260 A	2/1990	Ray et al.	5,772,663 A	6/1998	Whiteside et al.
4,907,577 A	3/1990	Wu	5,797,916 A	8/1998	McDowell
4,911,718 A	3/1990	Lee et al.	5,824,093 A	10/1998	Ray et al.
4,919,667 A	4/1990	Richmond	5,824,094 A	10/1998	Serhan et al.
4,936,848 A	6/1990	Bagby	5,836,948 A	11/1998	Zucherman et al.
4,969,909 A	11/1990	Barouk	5,860,977 A	1/1999	Zucherman et al.
5,000,165 A	3/1991	Watanabe	5,865,846 A	2/1999	Bryan et al.
5,015,255 A	5/1991	Kuslich	5,868,745 A	2/1999	Alleyne
5,047,055 A	9/1991	Hao et al.	5,876,404 A	3/1999	Zucherman et al.
5,062,845 A	11/1991	Kuslich	5,879,396 A	3/1999	Walston et al.
5,071,437 A	12/1991	Steffee	5,888,203 A	3/1999	Goldberg
5,092,866 A	3/1992	Breard et al.	5,893,889 A	4/1999	Harrington
5,112,346 A	5/1992	Hiltebrandt et al.	5,895,428 A	4/1999	Berry
5,127,912 A	7/1992	Ray et al.	RE36,221 E	6/1999	Breard et al.
5,147,404 A	9/1992	Downey	5,951,555 A	9/1999	Rehak et al.
5,171,280 A	12/1992	Baumgartner	5,997,542 A	12/1999	Burke
5,192,326 A	3/1993	Bao et al.	6,001,130 A	12/1999	Bryan et al.
5,209,755 A	5/1993	Abraham et al.	6,014,588 A	1/2000	Fitz
5,258,031 A	11/1993	Salib et al.	6,019,763 A *	2/2000	Nakamura et al. 606/77
5,300,073 A	4/1994	Ray et al.	6,019,792 A	2/2000	Cauthen
5,306,275 A	4/1994	Bryan	6,039,763 A	3/2000	Shelokov
5,306,308 A	4/1994	Gross et al.	6,048,342 A	4/2000	Zucherman et al.
5,306,309 A	4/1994	Wagner et al.	6,050,998 A	4/2000	Fletcher
5,330,479 A	7/1994	Whitmore	6,063,121 A	5/2000	Xavier et al.
5,360,431 A	11/1994	Puno et al.	6,066,325 A	5/2000	Wallace et al.
5,368,596 A	11/1994	Brookhart	6,068,630 A	5/2000	Zucherman et al.
5,370,697 A	12/1994	Baumgartner	RE36,758 E	6/2000	Fitz
5,400,784 A	3/1995	Durand et al.	6,080,157 A	6/2000	Cathro et al.
5,401,269 A	3/1995	Buttner-Janz et al.	6,099,531 A	8/2000	Bonutti
5,413,576 A	5/1995	Rivard	6,106,558 A	8/2000	Picha
5,415,661 A	5/1995	Holmes	6,113,637 A	9/2000	Gill et al.
5,425,773 A	6/1995	Boyd et al.	6,132,464 A	10/2000	Martin
5,437,672 A	8/1995	Alleyne	6,132,465 A	10/2000	Ray et al.
5,445,639 A	8/1995	Kuslich et al.	6,146,422 A	11/2000	Lawson
5,458,642 A	10/1995	Beer et al.	6,156,067 A	12/2000	Bryan et al.
5,458,643 A	10/1995	Oka et al.	6,179,839 B1 *	1/2001	Weiss et al. 606/281
5,462,542 A	10/1995	Alesi, Jr.	D439,340 S *	3/2001	Michelson D24/155
5,487,756 A	1/1996	Kallesoe et al.	6,200,322 B1	3/2001	Branch et al.
5,491,882 A	2/1996	Walston et al.	6,293,949 B1	9/2001	Justis et al.
5,496,318 A	3/1996	Howland et al.	D450,122 S *	11/2001	Michelson D24/155
5,507,823 A	4/1996	Walston et al.	6,368,350 B1	4/2002	Erickson et al.
5,514,180 A	5/1996	Heggeness et al.	6,375,573 B2	4/2002	Romano
5,527,312 A	6/1996	Ray	6,379,386 B1	4/2002	Resch et al.
5,527,314 A	6/1996	Brumfield et al.	6,419,678 B1	7/2002	Asfora
5,534,028 A	7/1996	Bao et al.	6,419,703 B1	7/2002	Fallin et al.
5,534,030 A	7/1996	Navarro et al.	6,436,101 B1	8/2002	Hamada et al.
5,545,229 A	8/1996	Parsons et al.	6,470,207 B1	10/2002	Simon et al.
5,549,619 A	8/1996	Peters et al.	6,565,605 B2	5/2003	Goble et al.
5,556,431 A	9/1996	Buttner-Janz	6,579,318 B2	6/2003	Varga et al.
5,562,738 A	10/1996	Boyd et al.	6,579,319 B2	6/2003	Goble et al.
5,571,131 A	11/1996	Ek et al.	6,589,244 B1	7/2003	Sevrain et al.
5,571,189 A	11/1996	Kuslich	6,600,956 B2	7/2003	Maschino et al.
5,571,191 A	11/1996	Fitz	6,607,530 B1	8/2003	Carl et al.
5,577,995 A	11/1996	Walker et al.	6,610,091 B1	8/2003	Reiley
5,586,989 A	12/1996	Bray, Jr.	6,626,944 B1	9/2003	Taylor
5,591,165 A	1/1997	Jackson	6,669,697 B1	12/2003	Pisharodi
5,603,713 A	2/1997	Aust et al.	6,669,729 B2	12/2003	Chin
5,638,700 A	6/1997	Shechter	6,706,068 B2	3/2004	Ferree
5,645,597 A	7/1997	Krapiva	6,743,232 B2 *	6/2004	Overaker et al. 623/13.14
5,645,599 A	7/1997	Samani	6,761,720 B1	7/2004	Senegas
5,649,947 A	7/1997	Auerbach et al.	6,764,491 B2	7/2004	Frey et al.
5,653,762 A	8/1997	Pisharodi	6,770,095 B2	8/2004	Grinberg et al.
5,674,295 A	10/1997	Ray et al.	6,783,527 B2	8/2004	Drewry et al.
5,674,296 A	10/1997	Bryan et al.	6,790,210 B1	9/2004	Cragg et al.
5,676,701 A	10/1997	Yuan et al.	6,811,567 B2	11/2004	Reiley
5,683,464 A	11/1997	Wagner et al.	6,902,566 B2	6/2005	Zucherman et al.
5,683,466 A	11/1997	Vitale	6,908,484 B2	6/2005	Zubok et al.
5,700,265 A	12/1997	Romano	6,966,930 B2	11/2005	Arnin et al.
5,702,450 A	12/1997	Bisserie	6,974,478 B2	12/2005	Reiley et al.
5,707,373 A	1/1998	Sevrain et al.	6,974,479 B2	12/2005	Trieu
			D517,404 S *	3/2006	Schluter D8/387
			7,008,429 B2	3/2006	Golobek
			7,013,675 B2	3/2006	Marquez-Pickering
			7,051,451 B2	5/2006	Augustino et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

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 D24/155
 7,371,238 B2 5/2008 Soboleski 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.
 7,608,104 B2 10/2009 Yuan et al.
 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
 7,935,136 B2 5/2011 Alamin et al.
 7,993,370 B2 8/2011 Jahng
 7,998,172 B2 8/2011 Blain
 8,163,016 B2 4/2012 Linares
 8,192,468 B2 6/2012 Biedermann et al.
 8,394,125 B2 3/2013 Assell et al.
 8,652,137 B2 2/2014 Blain et al.
 8,740,942 B2 6/2014 Blain
 8,740,949 B2 6/2014 Blain
 2001/0018614 A1 8/2001 Bianchi
 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.
 2002/0120335 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.
 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.
 2004/0215341 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 Serh an et al.
 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.

2005/0177240 A1 8/2005 Blain
 2005/0197700 A1 9/2005 Boehem et al.
 2005/0251256 A1 11/2005 Reiley
 2006/0004367 A1 1/2006 Alamin et al.
 2006/0036323 A1 2/2006 Carl et al.
 2006/0041311 A1 2/2006 McLeer
 2006/0085072 A1 4/2006 Funk et al.
 2006/0111782 A1 5/2006 Petersen
 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
 2008/0228225 A1 9/2008 Trautwein et al.
 2008/0287996 A1 11/2008 Soboleski 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.
 2009/0264928 A1 10/2009 Blain
 2009/0264929 A1 10/2009 Alamin et al.
 2009/0270918 A1 10/2009 Attia et al.
 2010/0274289 A1 10/2010 Carls et al.
 2011/0040301 A1 2/2011 Blain et al.
 2011/0082503 A1 4/2011 Blain
 2011/0098816 A1 4/2011 Jacob et al.
 2011/0313456 A1 12/2011 Blain
 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
 2012/0310244 A1 12/2012 Blain et al.
 2013/0197646 A1 8/2013 Blain et al.
 2013/0245693 A1 9/2013 Blain
 2014/0228883 A1 8/2014 Blain

FOREIGN PATENT DOCUMENTS

DE 201 12 123 9/2001
 DE 101 35 771 2/2003
 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
 FR 2 722 980 2/1996
 GB 2 366 736 3/2002
 JP 10-179622 7/1998
 JP 2007-503884 3/2007
 MX 6012309 1/2007
 WO WO 93/14721 8/1993
 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 02/65954 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 2012/024162 2/2012

OTHER PUBLICATIONS

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.
 International Search Report and Written Opinion in International Application No. PCT/US2011/047432, dated Dec. 12, 2011.

(56)

References Cited

OTHER PUBLICATIONS

International Preliminary Report on Patentability in International Application No. PCT/US2011/047432, dated Feb. 28, 2013.

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.

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 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.

International Search Report and Written Opinion in International Application No. PCT/US2005/003753, dated Dec. 5, 2006.

Notice of Allowance in U.S. Appl. No. 12/035,366, dated Oct. 8, 2013.

International Preliminary Report on Patentability and Written Opinion in International Application No. PCT/US2012/026472, dated Mar. 20, 2014.

U.S. Appl. No. 29/404,921, filed Oct. 26, 2011.

International Search Report in International Application No. PCT/CA2002/000193 filed Feb. 15, 2002, dated Jun. 18, 2002.

International Search Report in International Application No. PCT/US2004/028094, filed Aug. 27, 2004.

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.

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.

* cited by examiner

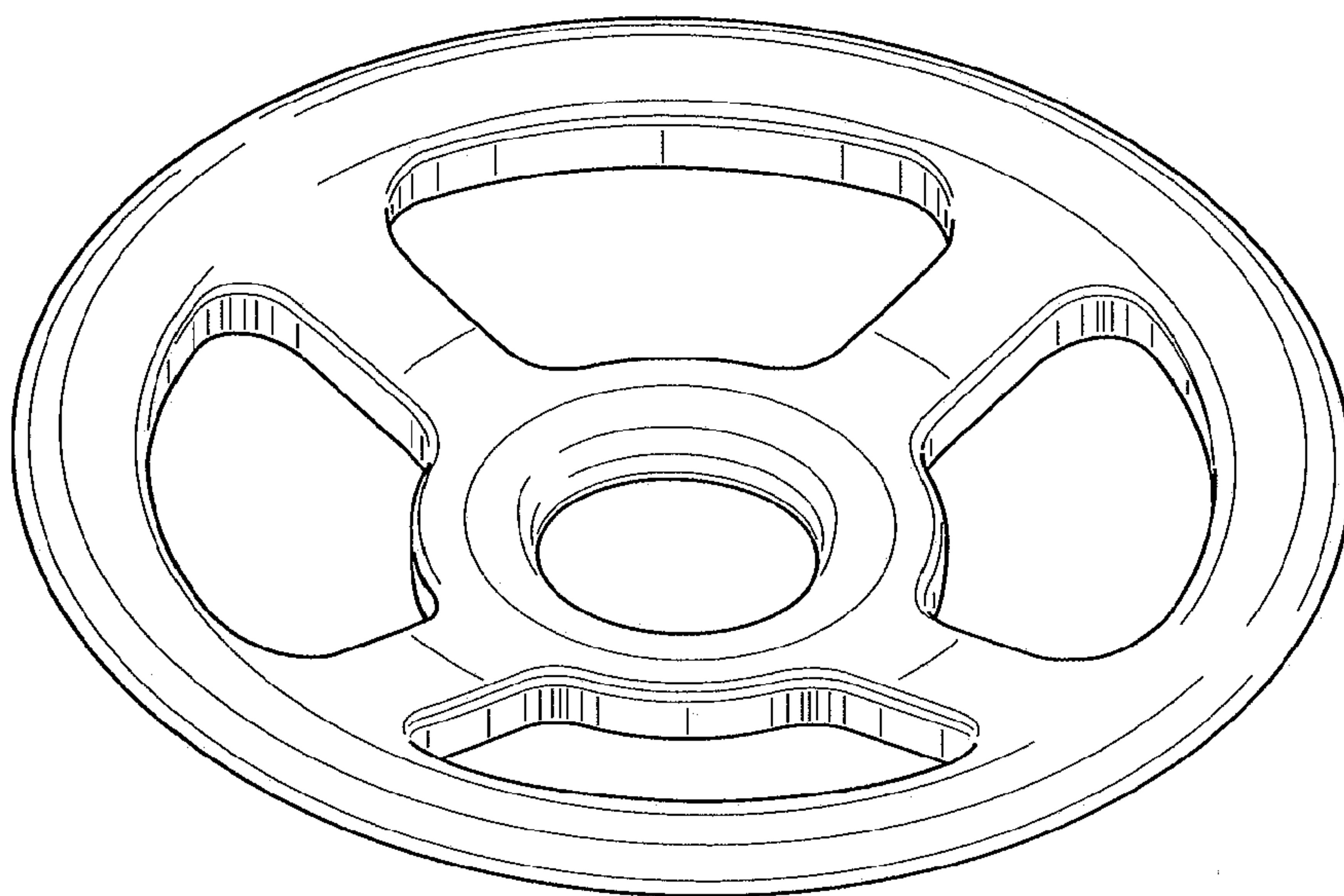


FIG.1

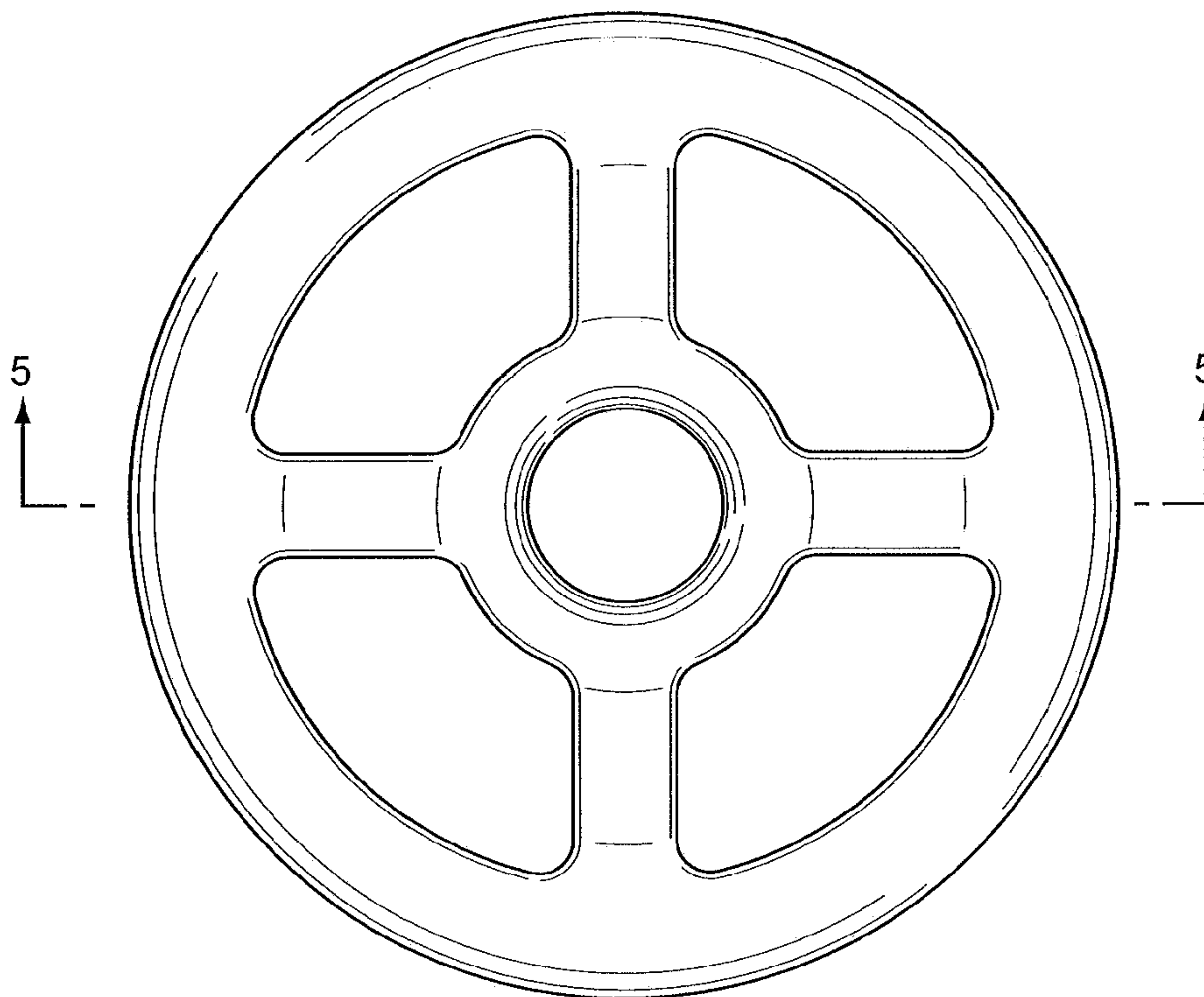


FIG.2

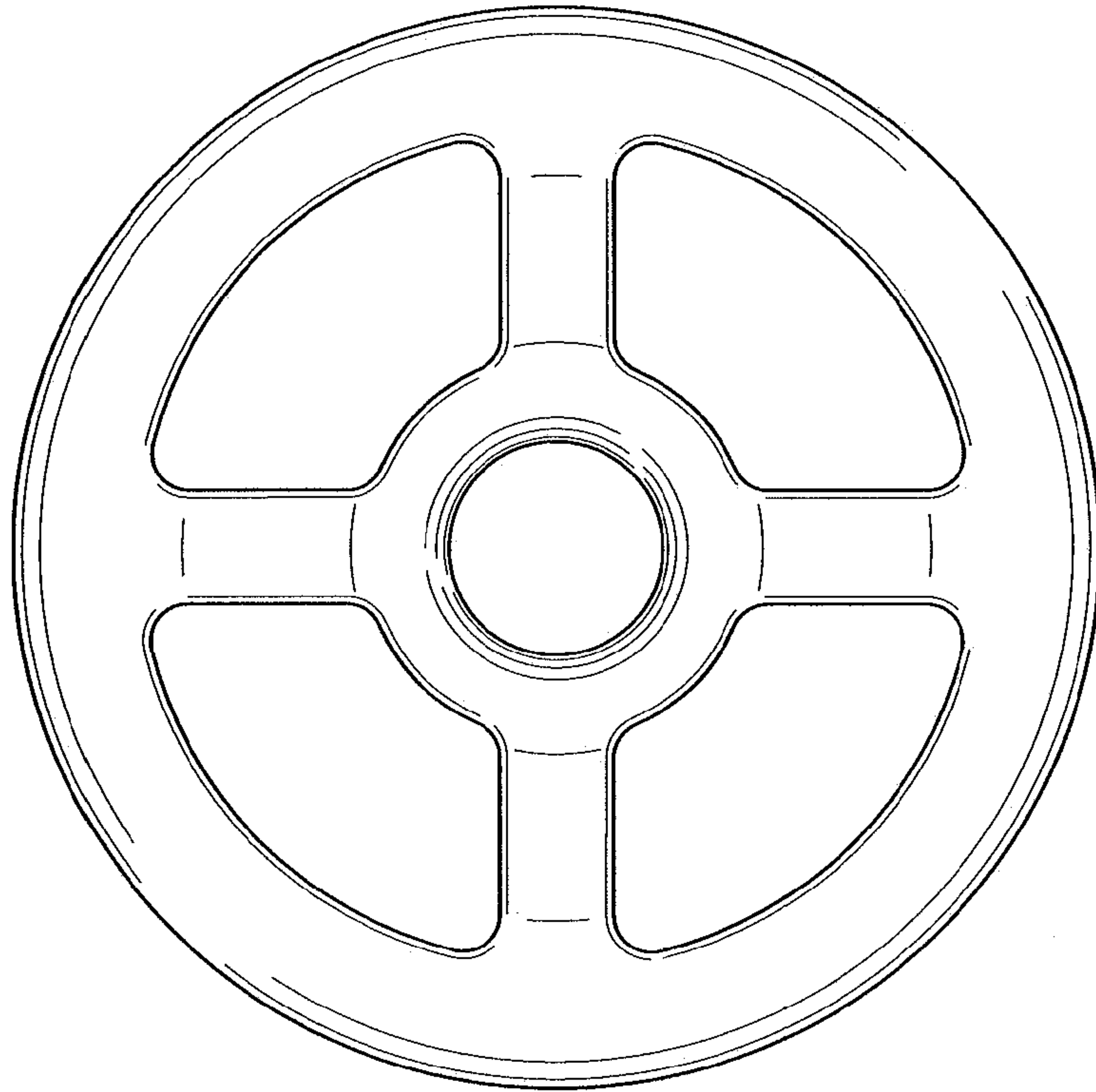


FIG.3

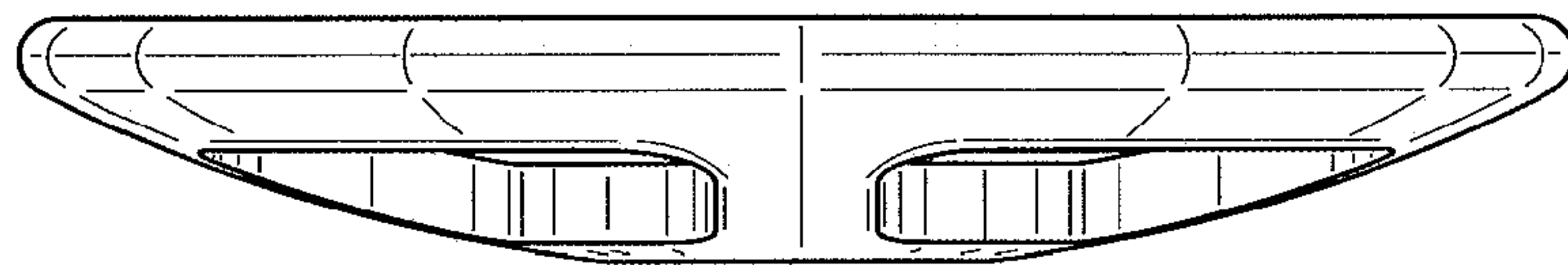


FIG.4

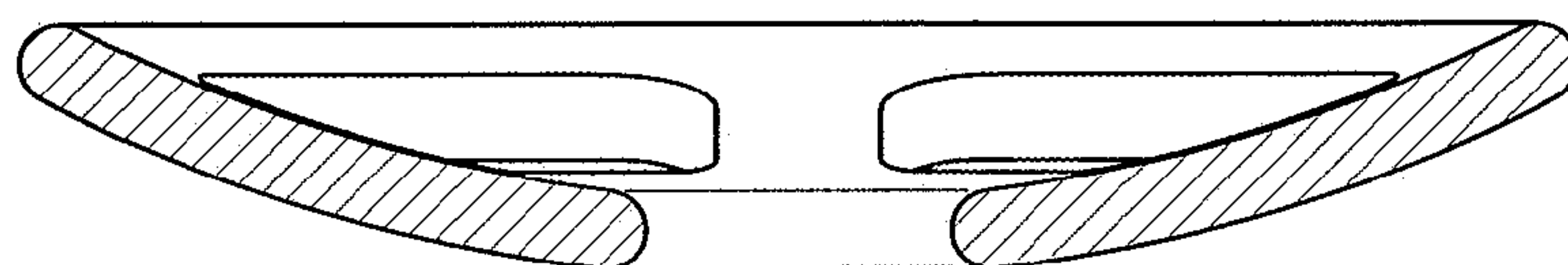


FIG.5