



US00D977101S

(12) **United States Design Patent** (10) **Patent No.:** **US D977,101 S**
Armer et al. (45) **Date of Patent:** **** Jan. 31, 2023**

- (54) **STENT**
- (71) Applicant: **Edwards Lifesciences Corporation**, Irvine, CA (US)
- (72) Inventors: **Dustin P. Armer**, Costa Mesa, CA (US); **Sergio Delgado**, Irvine, CA (US); **Michael D. Franklin**, Irvine, CA (US); **Eason Michael Abbott**, Santa Monica, CA (US); **Tram Ngoc Nguyen**, Santa Ana, CA (US)
- (73) Assignee: **Edwards Lifesciences Corporation**, Irvine, CA (US)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/713,519**
- (22) Filed: **Nov. 15, 2019**

- D380,266 S 6/1997 Boatman et al.
- 5,840,081 A 11/1998 Andersen et al.
- 6,040,416 A 3/2000 Sekharipuram et al.
- 6,168,614 B1 1/2001 Andersen et al.
- 6,419,696 B1 7/2002 Ortiz et al.
- 6,425,916 B1 7/2002 Garrison et al.
- 6,432,134 B1 8/2002 Anson et al.
- 6,458,153 B1 10/2002 Bailey et al.

(Continued)

FOREIGN PATENT DOCUMENTS

- CA 2767527 A1 1/2011
- CN 101961273 B 11/2012

(Continued)

OTHER PUBLICATIONS

Benson et al. "Three-Year Outcomes From the Harmony Native Outflow Tract Early Feasibility Study", *Circ Cardiovasc Interv.*, 10 pgs., Jan. 2020.

Primary Examiner — Charles D Hanson
(74) *Attorney, Agent, or Firm* — Edwards Lifesciences; Linda Allyson Nassif

Related U.S. Application Data

- (60) Division of application No. 29/602,274, filed on Apr. 28, 2017, now Pat. No. Des. 867,595, which is a continuation-in-part of application No. 15/422,354, filed on Feb. 1, 2017, now Pat. No. 10,363,130.
- (51) **LOC (14) Cl.** **24-03**
- (52) **U.S. Cl.**
USPC **D24/155**
- (58) **Field of Classification Search**
USPC D24/155
CPC A61F 2/24
See application file for complete search history.

(57) **CLAIM**

We claim the ornamental design for a stent, as shown and described.

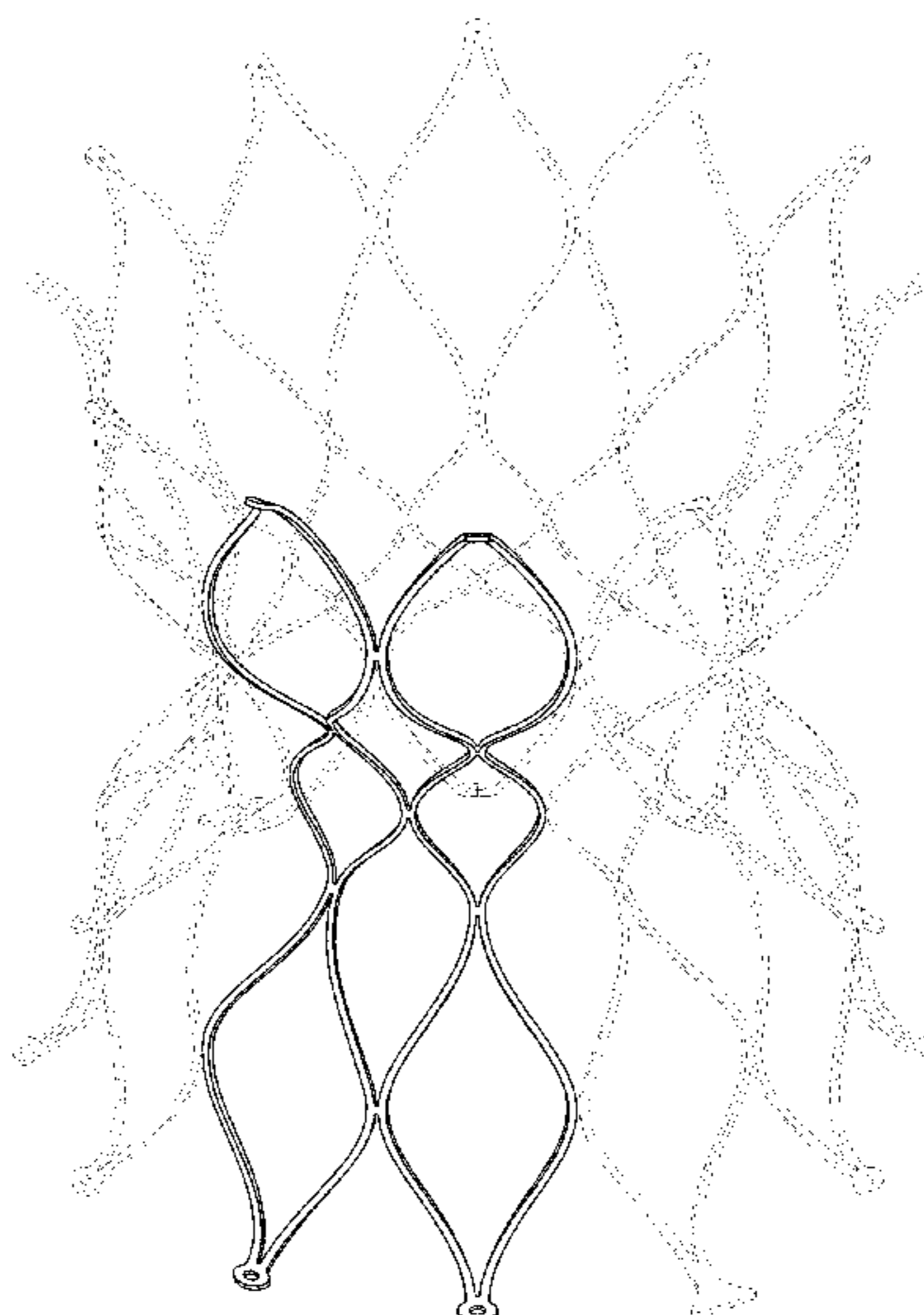
DESCRIPTION

FIG. 1 is a perspective view of a stent; FIG. 2 is a bottom perspective view thereof; FIG. 3 is a front view thereof; FIG. 4 is a left side view thereof; FIG. 5 is a right side view thereof; FIG. 6 is a top view thereof; and, FIG. 7 is a bottom view thereof. The portions of the Figures shown in broken lines are for illustrative purpose only and form no part of the claimed design.

(56) **References Cited**
U.S. PATENT DOCUMENTS

- 4,035,849 A 7/1977 Angell et al.
- 4,790,843 A 12/1988 Carpentier et al.
- 5,059,177 A 10/1991 Towne et al.
- 5,411,552 A 5/1995 Andersen et al.
- 5,554,185 A 9/1996 Block et al.

1 Claim, 7 Drawing Sheets



US D977,101 S

(56)	<p style="text-align: center;">References Cited</p> <p style="text-align: center;">U.S. PATENT DOCUMENTS</p>	<p style="text-align: center;">D910,852 S *</p>	<p style="text-align: center;">2/2021 Zeng A61F 2/2418 D24/155</p>
	<p>6,527,979 B2 3/2003 Constantz et al.</p> <p>6,582,462 B1 6/2003 Andersen et al.</p> <p>6,652,578 B2 11/2003 Bailey et al.</p> <p>6,730,121 B2 5/2004 Ortiz et al.</p> <p>6,797,002 B2 9/2004 Spence et al.</p> <p>6,908,481 B2 6/2005 Cribier</p> <p>7,018,408 B2 3/2006 Bailey et al.</p> <p>7,037,334 B1 5/2006 Hlavka et al.</p> <p>7,077,861 B2 7/2006 Spence</p> <p>7,101,395 B2 9/2006 Tremulis et al.</p> <p>7,125,421 B2 10/2006 Tremulis et al.</p> <p>7,252,682 B2 8/2007 Seguin</p> <p>7,445,632 B2 11/2008 McGuckin, Jr. et al.</p> <p>7,585,321 B2 9/2009 Cribier</p> <p>7,618,446 B2 11/2009 Andersen et al.</p> <p>7,637,946 B2 12/2009 Solem et al.</p> <p>7,708,775 B2 5/2010 Rowe et al.</p> <p>7,737,060 B2 6/2010 Strickler et al.</p> <p>7,749,266 B2 7/2010 Forster et al.</p> <p>7,780,726 B2 8/2010 Seguin</p> <p>7,785,366 B2 8/2010 Maurer et al.</p> <p>7,951,195 B2 5/2011 Antonsson et al.</p> <p>7,993,394 B2 8/2011 Hariton et al.</p> <p>D652,927 S 1/2012 Braido et al.</p> <p>D653,341 S 1/2012 Braido et al.</p> <p>8,142,492 B2 3/2012 Forster et al.</p> <p>D660,433 S 5/2012 Braido et al.</p> <p>D660,967 S 5/2012 Braido et al.</p> <p>8,182,530 B2 5/2012 Huber</p> <p>8,236,049 B2 8/2012 Rowe et al.</p> <p>8,323,335 B2 12/2012 Rowe et al.</p> <p>8,377,115 B2 2/2013 Thompson</p> <p>8,398,708 B2 3/2013 Meiri et al.</p> <p>8,449,599 B2 5/2013 Chau et al.</p> <p>8,449,605 B2 5/2013 Lichtenstein et al.</p> <p>8,449,606 B2 5/2013 Eliassen et al.</p> <p>8,591,573 B2 11/2013 Barone</p> <p>8,652,145 B2 2/2014 Maimon et al.</p> <p>8,652,202 B2 2/2014 Alon et al.</p> <p>8,657,872 B2 2/2014 Seguin</p> <p>8,663,322 B2 3/2014 Keranen</p> <p>8,672,998 B2 3/2014 Lichtenstein et al.</p> <p>8,685,086 B2 4/2014 Navia et al.</p> <p>8,734,507 B2 5/2014 Keranen</p> <p>8,784,481 B2 7/2014 Alkhatib et al.</p> <p>8,801,776 B2 8/2014 House et al.</p> <p>8,876,896 B2 11/2014 Seguin et al.</p> <p>8,940,040 B2 1/2015 Shahriari</p> <p>8,986,375 B2 3/2015 Garde et al.</p> <p>D730,520 S 5/2015 Braido et al.</p> <p>D730,521 S 5/2015 Braido et al.</p> <p>D732,666 S * 6/2015 Nguyen A61F 2/2412 D24/155</p> <p>9,078,747 B2 7/2015 Conklin</p> <p>9,095,434 B2 8/2015 Rowe</p> <p>9,119,718 B2 9/2015 Keranen</p> <p>9,155,619 B2 10/2015 Liu et al.</p> <p>9,168,131 B2 10/2015 Yohanan et al.</p> <p>9,192,471 B2 11/2015 Bolling</p> <p>9,237,886 B2 1/2016 Seguin et al.</p> <p>9,314,335 B2 4/2016 Konno</p> <p>D755,384 S 5/2016 Pesce et al.</p> <p>9,364,326 B2 6/2016 Yaron</p> <p>9,463,268 B2 10/2016 Spence</p> <p>9,474,599 B2 10/2016 Keranen</p> <p>9,597,205 B2 3/2017 Tuval</p> <p>9,622,863 B2 4/2017 Karapetian et al.</p> <p>D802,764 S * 11/2017 Erzberger D24/155</p> <p>D802,765 S 11/2017 Erzberger et al.</p> <p>D802,766 S 11/2017 Erzberger et al.</p> <p>9,867,700 B2 1/2018 Bakis et al.</p> <p>D834,193 S * 11/2018 Erzberger D24/155</p> <p>D867,595 S * 11/2019 Armer D24/155</p> <p>D889,653 S * 7/2020 Erzberger D24/155</p> <p>D909,581 S * 2/2021 Zeng D24/155</p>	<p>2002/0032481 A1 3/2002 Gabbay</p> <p>2002/0107535 A1 8/2002 Wei et al.</p> <p>2002/0151970 A1 10/2002 Garrison et al.</p> <p>2002/0161377 A1 10/2002 Rabkin</p> <p>2003/0023303 A1 1/2003 Palmaz et al.</p> <p>2003/0040792 A1 2/2003 Gabbay</p> <p>2003/0225420 A1 12/2003 Wardle</p> <p>2004/0111006 A1 6/2004 Alferness et al.</p> <p>2004/0210304 A1 10/2004 Seguin et al.</p> <p>2004/0236411 A1 11/2004 Sarac et al.</p> <p>2004/0260389 A1 12/2004 Case et al.</p> <p>2005/0075731 A1 4/2005 Artof et al.</p> <p>2005/0096736 A1 5/2005 Osse et al.</p> <p>2005/0113910 A1 5/2005 Paniagua et al.</p> <p>2005/0119682 A1 6/2005 Nguyen et al.</p> <p>2005/0119735 A1 6/2005 Spence et al.</p> <p>2005/0137688 A1 6/2005 Salahieh et al.</p> <p>2005/0137691 A1 6/2005 Salahieh et al.</p> <p>2005/0137693 A1 6/2005 Haug et al.</p> <p>2005/0137697 A1 6/2005 Salahieh et al.</p> <p>2005/0149159 A1 7/2005 Andreas et al.</p> <p>2005/0182486 A1 8/2005 Gabbay</p> <p>2005/0203614 A1 9/2005 Forster et al.</p> <p>2005/0203617 A1 9/2005 Forster et al.</p> <p>2006/0025857 A1 2/2006 Bergheim et al.</p> <p>2006/0149360 A1 7/2006 Schwammenthal et al.</p> <p>2006/0195134 A1 8/2006 Crittenden</p> <p>2006/0259136 A1 11/2006 Nguyen et al.</p> <p>2006/0276813 A1 12/2006 Greenberg</p> <p>2006/0287719 A1 12/2006 Rowe et al.</p> <p>2007/0073389 A1 3/2007 Bolduc et al.</p> <p>2007/0088431 A1 4/2007 Bourang et al.</p> <p>2007/0203575 A1 8/2007 Forster et al.</p> <p>2007/0213813 A1 9/2007 Von Segesser et al.</p> <p>2007/0265700 A1 11/2007 Eliassen et al.</p> <p>2007/0293808 A1 12/2007 Williams et al.</p> <p>2008/0004696 A1 1/2008 Vesely</p> <p>2008/0015671 A1 1/2008 Bonhoeffer</p> <p>2008/0033542 A1 2/2008 Antonsson et al.</p> <p>2008/0077235 A1 3/2008 Kirson</p> <p>2008/0125853 A1 5/2008 Bailey et al.</p> <p>2008/0208327 A1 8/2008 Rowe</p> <p>2008/0208330 A1 8/2008 Keranen</p> <p>2008/0319526 A1 12/2008 Hill et al.</p> <p>2009/0099638 A1 4/2009 Grewe</p> <p>2009/0192601 A1 7/2009 Rafiee et al.</p> <p>2009/0319037 A1 12/2009 Rowe et al.</p> <p>2010/0036484 A1 2/2010 Hariton et al.</p> <p>2010/0049313 A1 2/2010 Alon et al.</p> <p>2010/0145438 A1 6/2010 Barone</p> <p>2010/0145440 A1 6/2010 Keranen</p> <p>2010/0191326 A1 7/2010 Alkhatib</p> <p>2010/0256737 A1 10/2010 Pollock et al.</p> <p>2010/0312333 A1 12/2010 Navia et al.</p> <p>2010/0318184 A1 12/2010 Spence</p> <p>2011/0029072 A1 2/2011 Gabbay</p> <p>2011/0040374 A1 2/2011 Goetz et al.</p> <p>2011/0137397 A1 6/2011 Chau et al.</p> <p>2011/0264196 A1 10/2011 Savage et al.</p> <p>2012/0059458 A1 3/2012 Buchbinder et al.</p> <p>2012/0071969 A1 3/2012 Li et al.</p> <p>2012/0101571 A1 4/2012 Thambar et al.</p> <p>2012/0123529 A1 5/2012 Levi et al.</p> <p>2012/0150287 A1 6/2012 Forster et al.</p> <p>2012/0283820 A1 11/2012 Tseng et al.</p> <p>2013/0190865 A1 7/2013 Anderson</p> <p>2014/0074299 A1 3/2014 Endou et al.</p> <p>2014/0081394 A1 3/2014 Keranen et al.</p> <p>2014/0088697 A1 3/2014 Fogarty et al.</p> <p>2014/0114408 A1 4/2014 Dwork</p> <p>2014/0172070 A1 6/2014 Seguin</p> <p>2014/0194981 A1 7/2014 Menk et al.</p> <p>2014/0277388 A1 9/2014 Skemp</p> <p>2014/0303719 A1 10/2014 Cox et al.</p> <p>2014/0343670 A1 11/2014 Bakis et al.</p> <p>2014/0358222 A1 12/2014 Gorman, III et al.</p> <p>2014/0379074 A1 12/2014 Spence et al.</p>	

(56)

References Cited

FOREIGN PATENT DOCUMENTS

U.S. PATENT DOCUMENTS						
				CN	104188737 A	12/2014
				CN	205322549 U	6/2016
2015/0018944	A1	1/2015	O'Connell et al.	CN	205322550 U	6/2016
2015/0025623	A1	1/2015	Granada et al.	CN	205339217 U	6/2016
2015/0073544	A1	3/2015	Gorman, III et al.	DE	19532846 A1	3/1997
2015/0148893	A1*	5/2015	Braido	DE	19907646 A1	8/2000
				EP	0592410 A1	4/1994
				EP	0592410 B1	10/1995
				EP	0850607 A1	7/1998
2015/0148895	A1	5/2015	Stacchino et al.	EP	1432369 A1	6/2004
2015/0157455	A1	6/2015	Hoang et al.	EP	1521550 A2	4/2005
2015/0190227	A1	7/2015	Johnson et al.	EP	1296618 B1	1/2008
2015/0230921	A1	8/2015	Chau et al.	EP	2218403 A1	8/2010
2015/0245910	A1	9/2015	Righini et al.	EP	1827314 B1	12/2010
2015/0272737	A1	10/2015	Dale et al.	EP	2620125 A1	7/2013
2015/0282931	A1	10/2015	Brunnett et al.	EP	2726018 A2	5/2014
2015/0335428	A1	11/2015	Keranen	EP	2806829 A2	12/2014
2015/0335430	A1	11/2015	Loulmet et al.	EP	2893905 A1	7/2015
2015/0374493	A1	12/2015	Yaron et al.	EP	2015128592 A	7/2015
2016/0000591	A1	1/2016	Lei et al.	JP	9117720 A1	11/1991
2016/0015514	A1	1/2016	Lashinski et al.	WO	0041652 A1	7/2000
2016/0074165	A1	3/2016	Spence et al.	WO	0149213 A2	7/2001
2016/0095705	A1	4/2016	Keranen et al.	WO	0154625 A1	8/2001
2016/0143732	A1*	5/2016	Glimsdale	WO	0247575 A2	6/2002
				WO	03028558 A2	4/2003
				WO	2005084595 A1	9/2005
				WO	2006011127 A2	2/2006
2016/0184095	A1	6/2016	Spence et al.	WO	2005102015 A3	4/2007
2016/0199177	A1	7/2016	Spence et al.	WO	2007067942 A1	6/2007
2016/0256276	A1	9/2016	Yaron	WO	2008124844 A1	10/2008
2016/0346080	A1	12/2016	Righini et al.	WO	2009155561 A2	12/2009
2017/0007399	A1	1/2017	Keranen	WO	2010121076 A2	10/2010
2017/0007402	A1	1/2017	Zerkowski et al.	WO	2012063228 A1	5/2012
2017/0056149	A1	3/2017	Rajpara et al.	WO	2013110722 A2	8/2013
2017/0128197	A1	5/2017	Bialas et al.	WO	2013114214 A2	8/2013
2017/0156839	A1	6/2017	Cooper et al.	WO	2013134214 A1	9/2013
2017/0156859	A1	6/2017	Chang et al.	WO	2015023579 A1	2/2015
2017/0217385	A1	8/2017	Rinkleff et al.	WO	2015023862 A2	2/2015
2017/0231765	A1	8/2017	Desrosiers et al.	WO	2015055052 A1	4/2015
2017/0258584	A1	9/2017	Chang et al.	WO	2015127264 A1	8/2015
2017/0266005	A1	9/2017	McGuckin, Jr.	WO	2015198125 A1	12/2015
2017/0273788	A1	9/2017	O'Carroll et al.	WO	2016038017 A1	3/2016
2017/0273789	A1	9/2017	Yaron et al.	WO	2016040881 A1	3/2016
2017/0281337	A1	10/2017	Campbell	WO	2016130820 A1	8/2016
2018/0000580	A1	1/2018	Wallace et al.	WO	2016149997 A1	9/2016
2018/0085217	A1	3/2018	Lashinski et al.	WO	2016149998 A1	9/2016
2018/0206074	A1	7/2018	Tanasa et al.	WO	2017103833 A1	6/2017
2018/0289481	A1	10/2018	Dolan	WO	2017136778 A1	8/2017
2018/0303606	A1	10/2018	Rothstein et al.			
2018/0318073	A1	11/2018	Tseng et al.			
2018/0318080	A1	11/2018	Quill et al.			

* cited by examiner

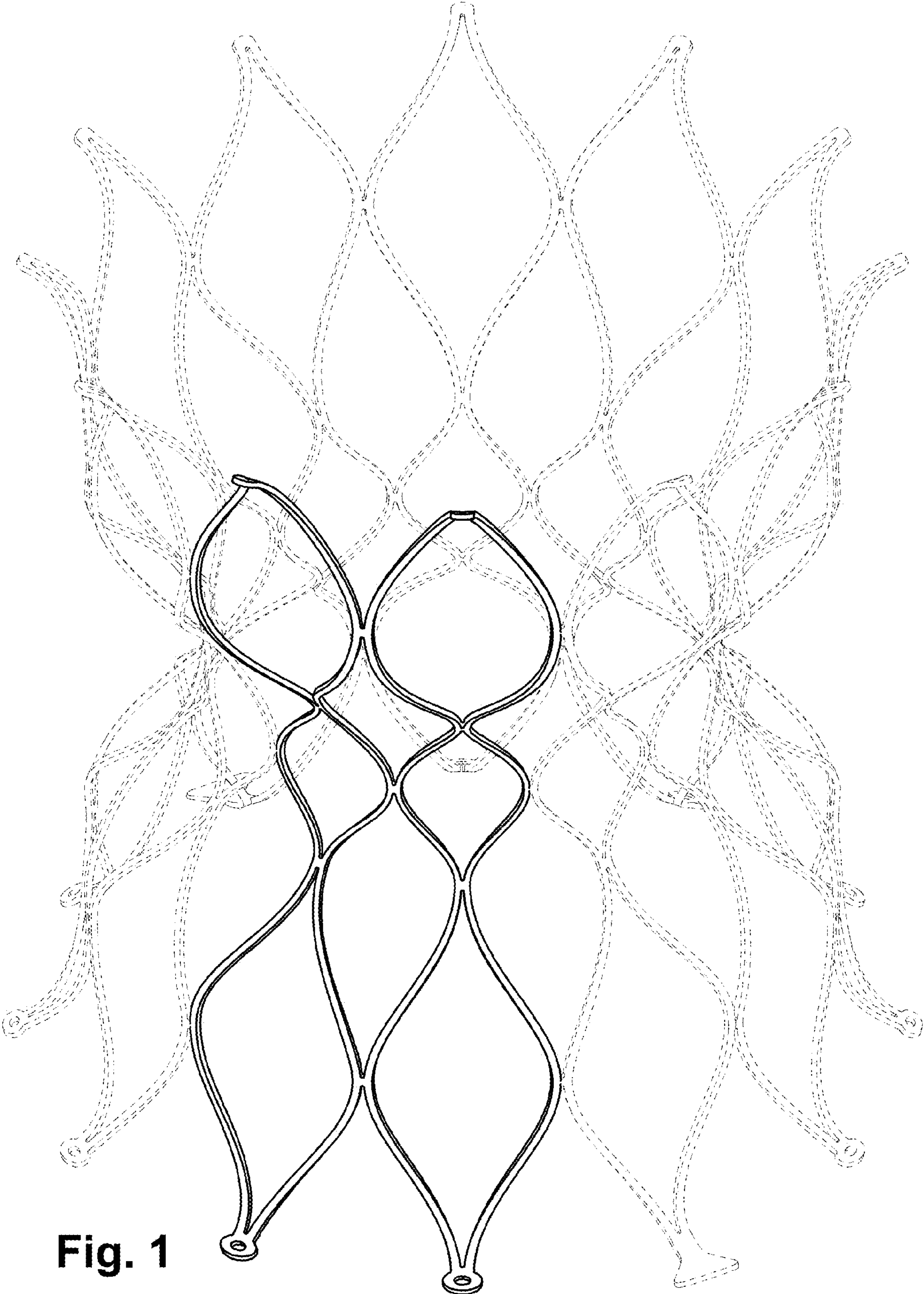


Fig. 1

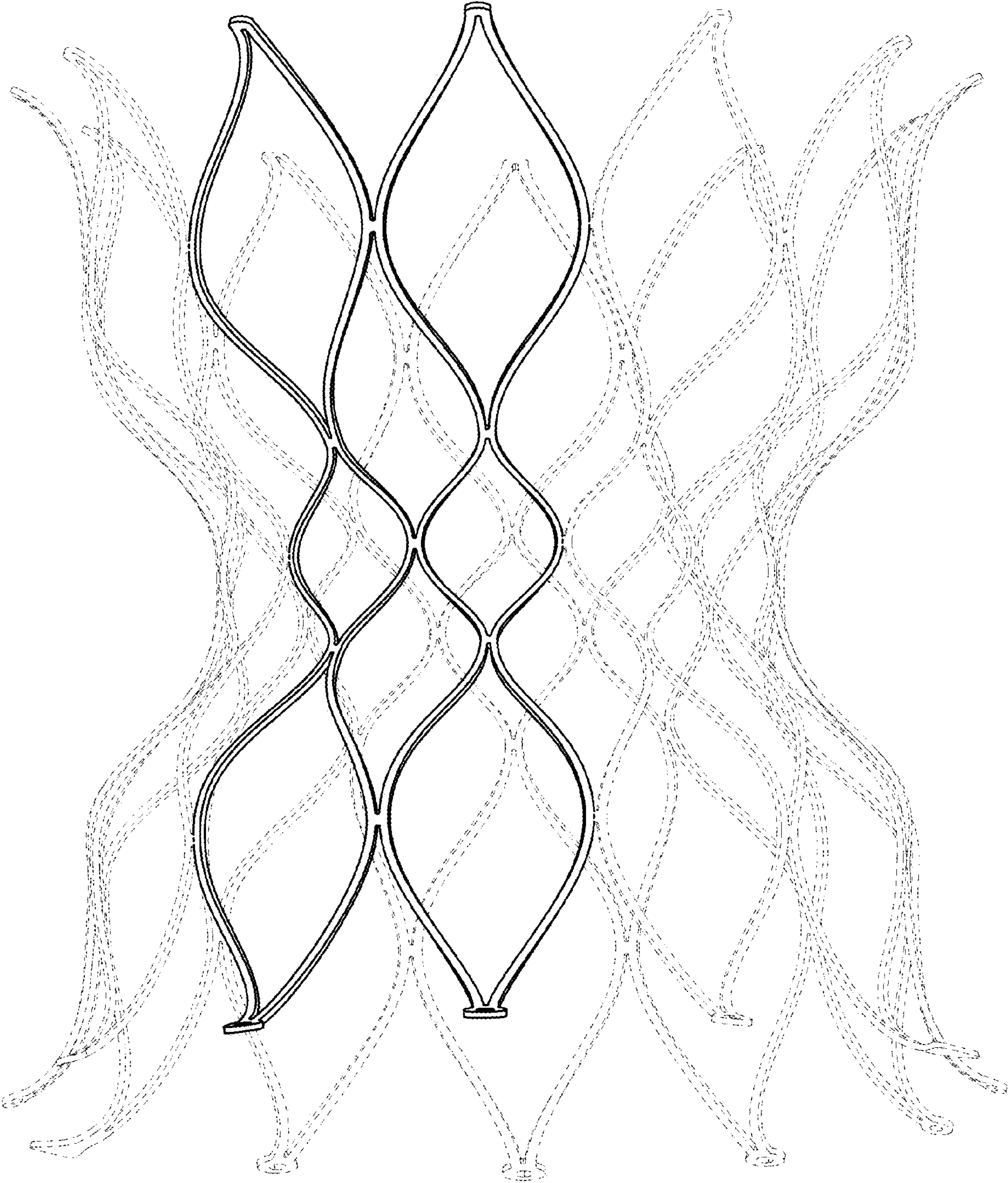


Fig. 2

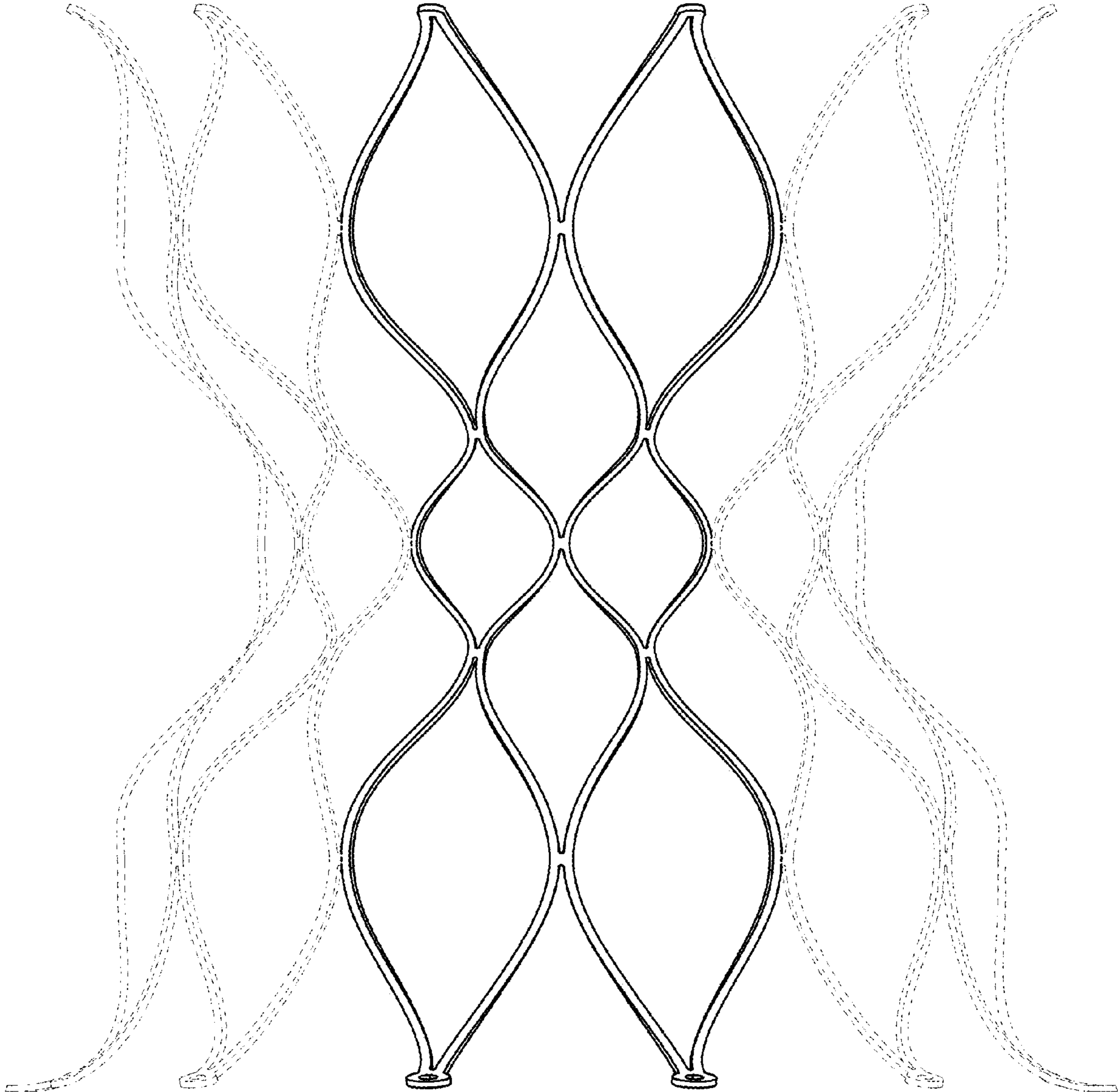


Fig. 3

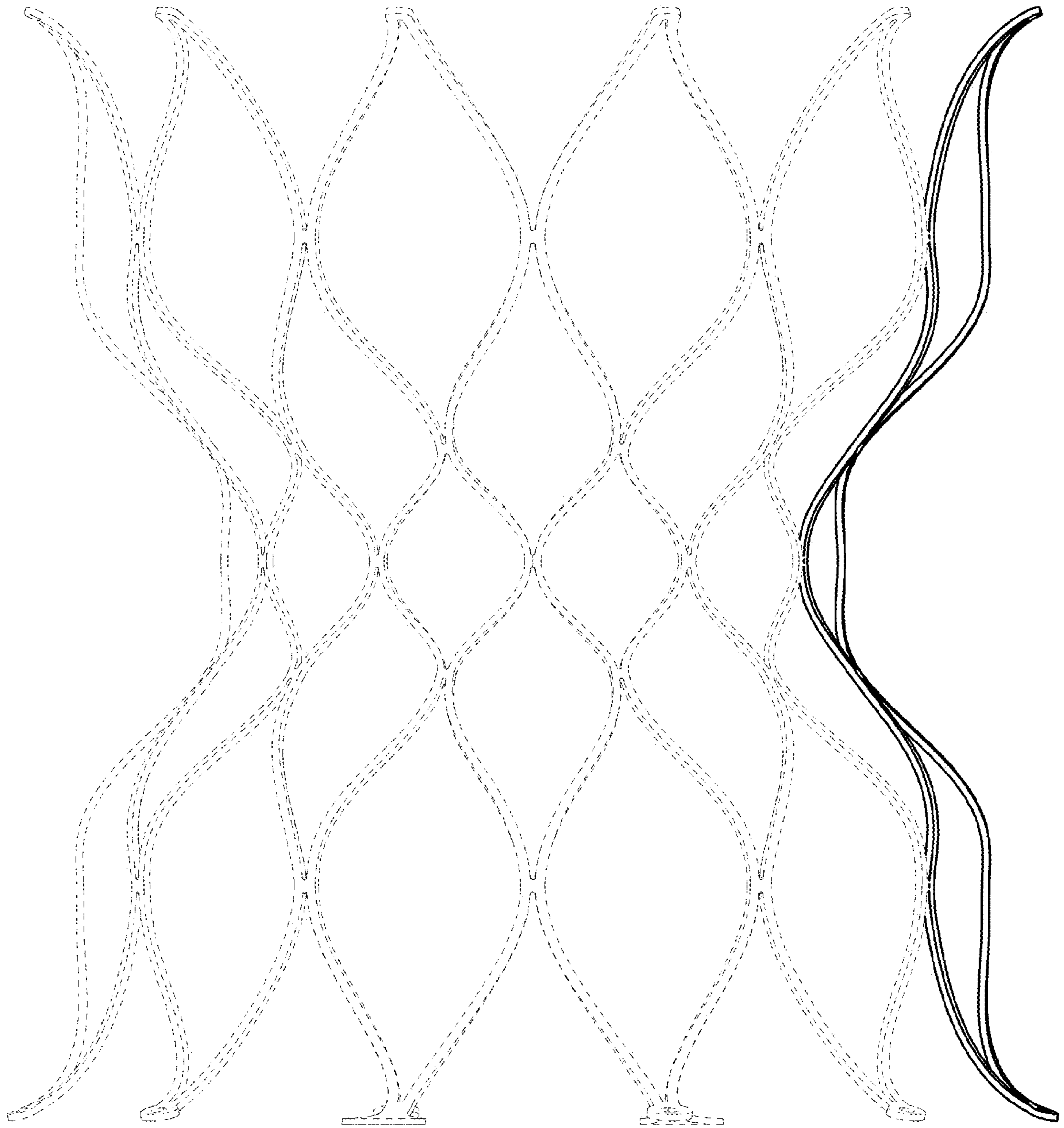


Fig. 4

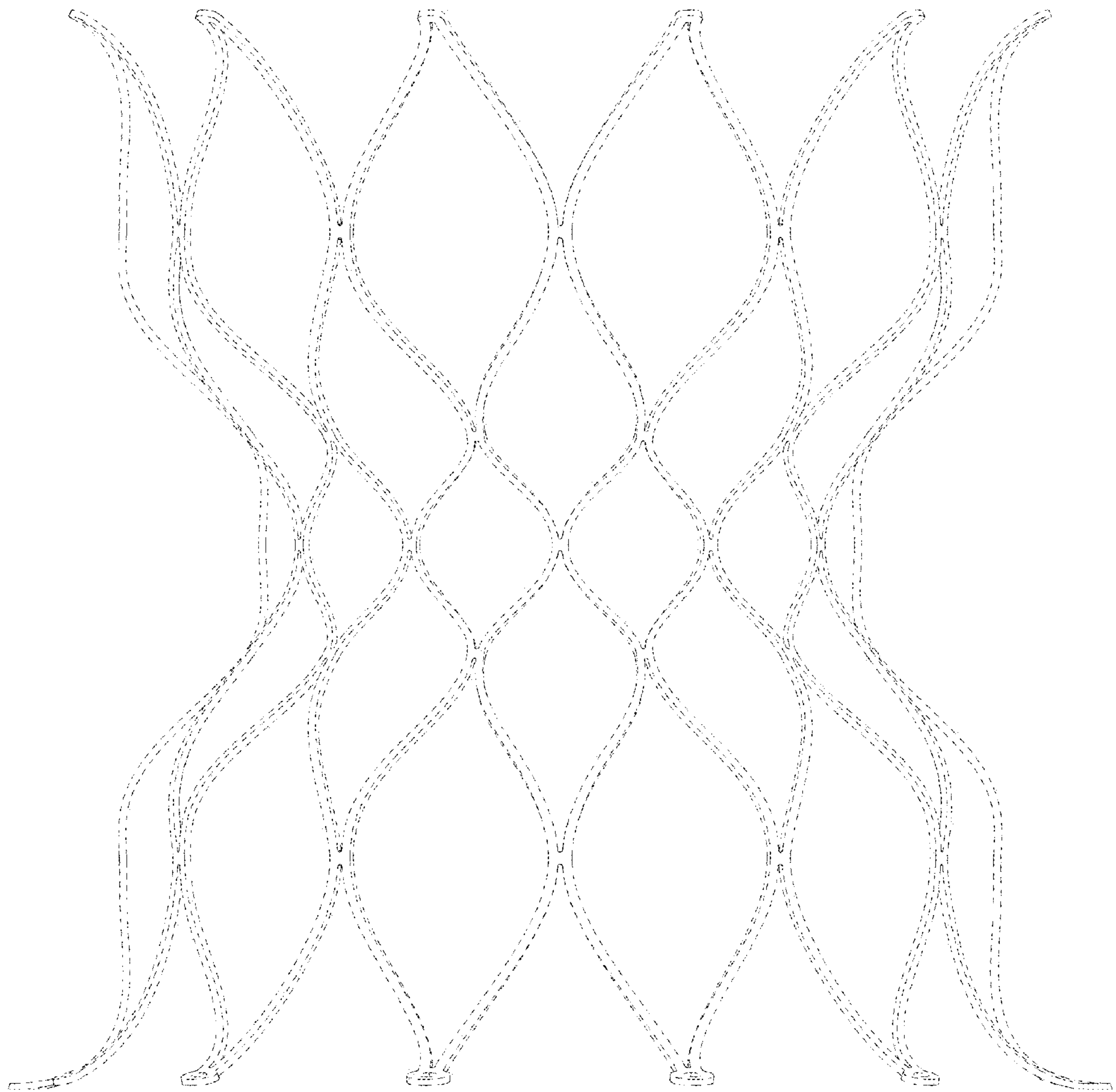


Fig. 5

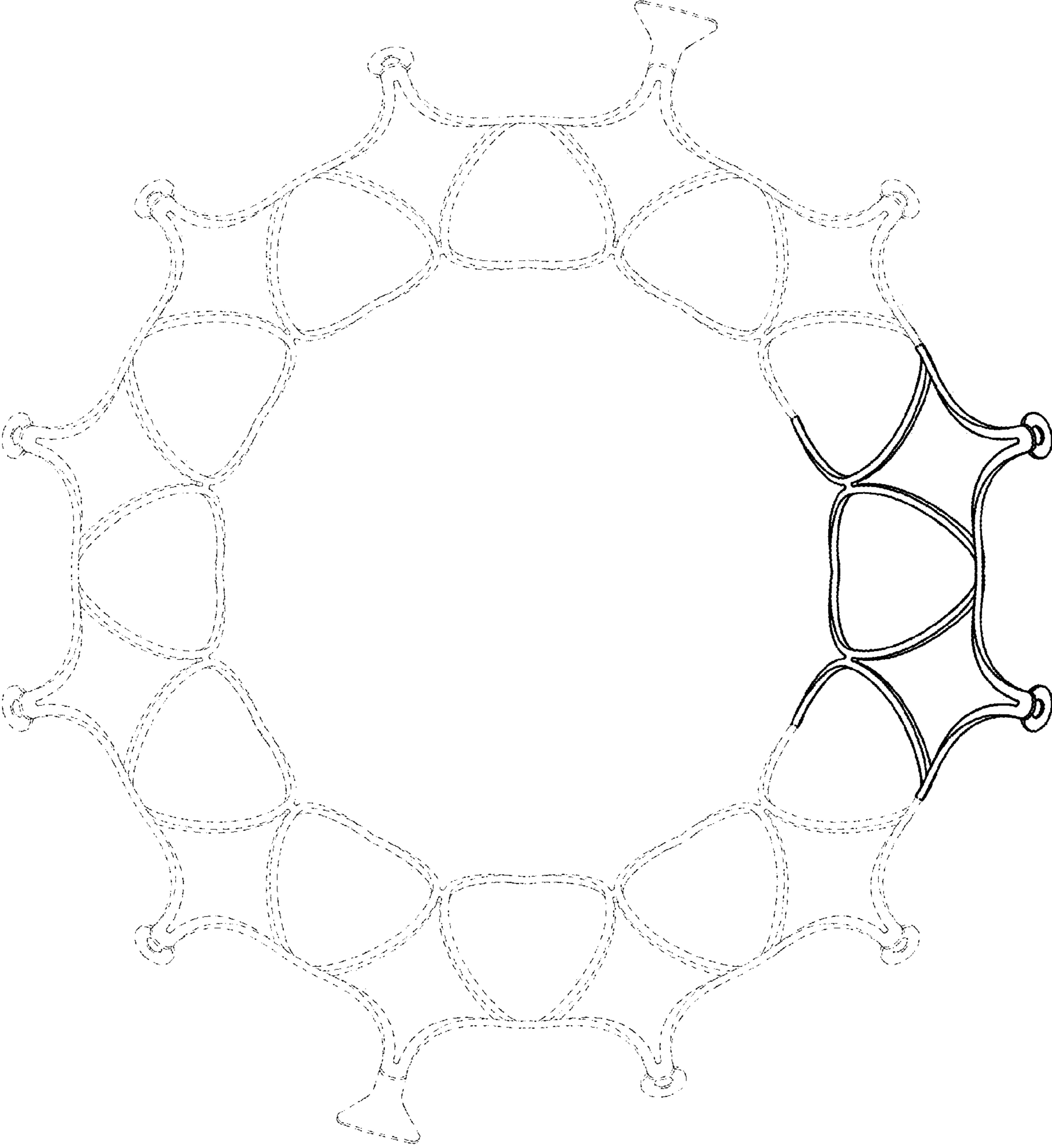


Fig. 6

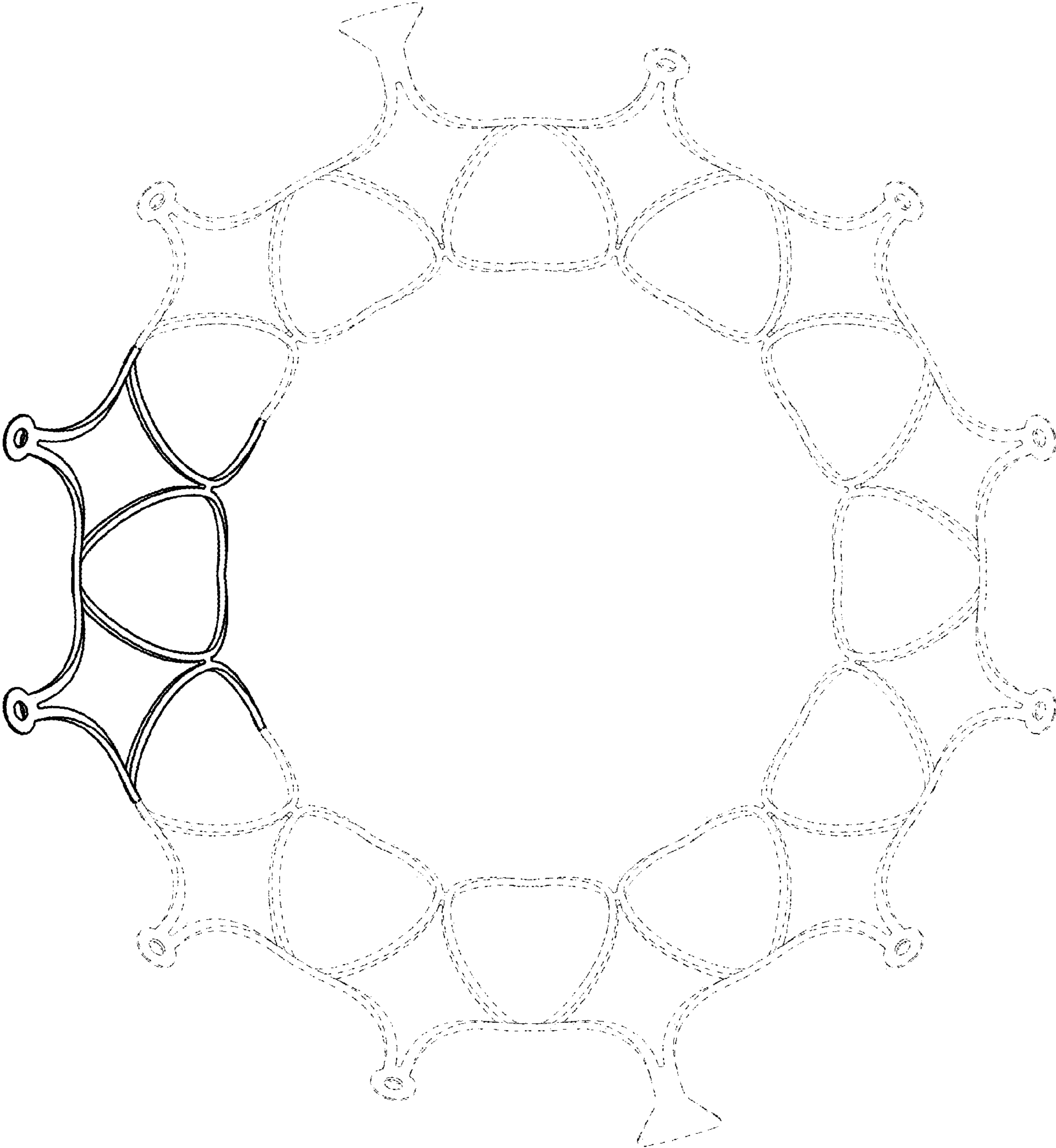


Fig. 7