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

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- (54) **COUPLING ASSEMBLY** 3,233,922 A * 2/1966 Evans F16L 21/005
24/19
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3,370,870 A * 2/1968 Mahoff F16L 13/146
29/523
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3,386,745 A 6/1968 Hein
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3,445,120 A 5/1969 Barr
3,469,854 A 9/1969 Linwood
3,501,179 A 3/1970 Felton
- (**) Term: **15 Years** 3,695,639 A 10/1972 Shire et al.
3,796,447 A 3/1974 DePutter
- (21) Appl. No.: **29/708,024** 3,813,107 A 5/1974 Ditcher
3,856,315 A 12/1974 Stansbury
3,861,721 A 1/1975 Berghofer
3,865,386 A 2/1975 Wilke
3,887,674 A 6/1975 Oostenbrink
3,955,834 A 5/1976 Ahlrot
4,018,461 A 4/1977 Bram
4,036,513 A 7/1977 Loftus et al.
4,059,293 A 11/1977 Sipier
4,097,074 A 6/1978 Nagao et al.
4,140,742 A 2/1979 Fischer
4,141,576 A 2/1979 Lupke et al.
4,173,362 A 11/1979 Glover et al.
4,174,985 A 11/1979 Buidry
4,186,949 A 2/1980 Bartha
4,188,040 A 2/1980 Wolf et al.
4,223,395 A 9/1980 Roberts, Jr. et al.
4,298,206 A 11/1981 Kojima
4,333,662 A 6/1982 Jones
4,365,818 A 12/1982 Tolliver
4,371,179 A 2/1983 Bohman
4,380,348 A 4/1983 Swartz
4,387,900 A 6/1983 Ditcher et al.
4,394,024 A 7/1983 Delhaes
4,395,159 A 7/1983 Karuka et al.
4,487,421 A 12/1984 Hausas et al.
4,518,177 A 5/1985 Deakins
4,538,837 A 9/1985 Cronk
4,552,914 A 11/1985 Sterling
4,564,220 A 1/1986 Sills et al.
4,566,704 A 1/1986 Van Dongeren
4,575,128 A 3/1986 Sundquist
4,585,026 A 4/1986 Norton
4,602,792 A 7/1986 Andrick
4,602,793 A 7/1986 Andrick
4,630,848 A 12/1986 Twist et al.
4,641,858 A 2/1987 Roux
4,642,269 A 2/1987 Kohyama et al.
4,702,502 A 10/1987 Shade et al.
4,711,474 A 12/1987 Patrick
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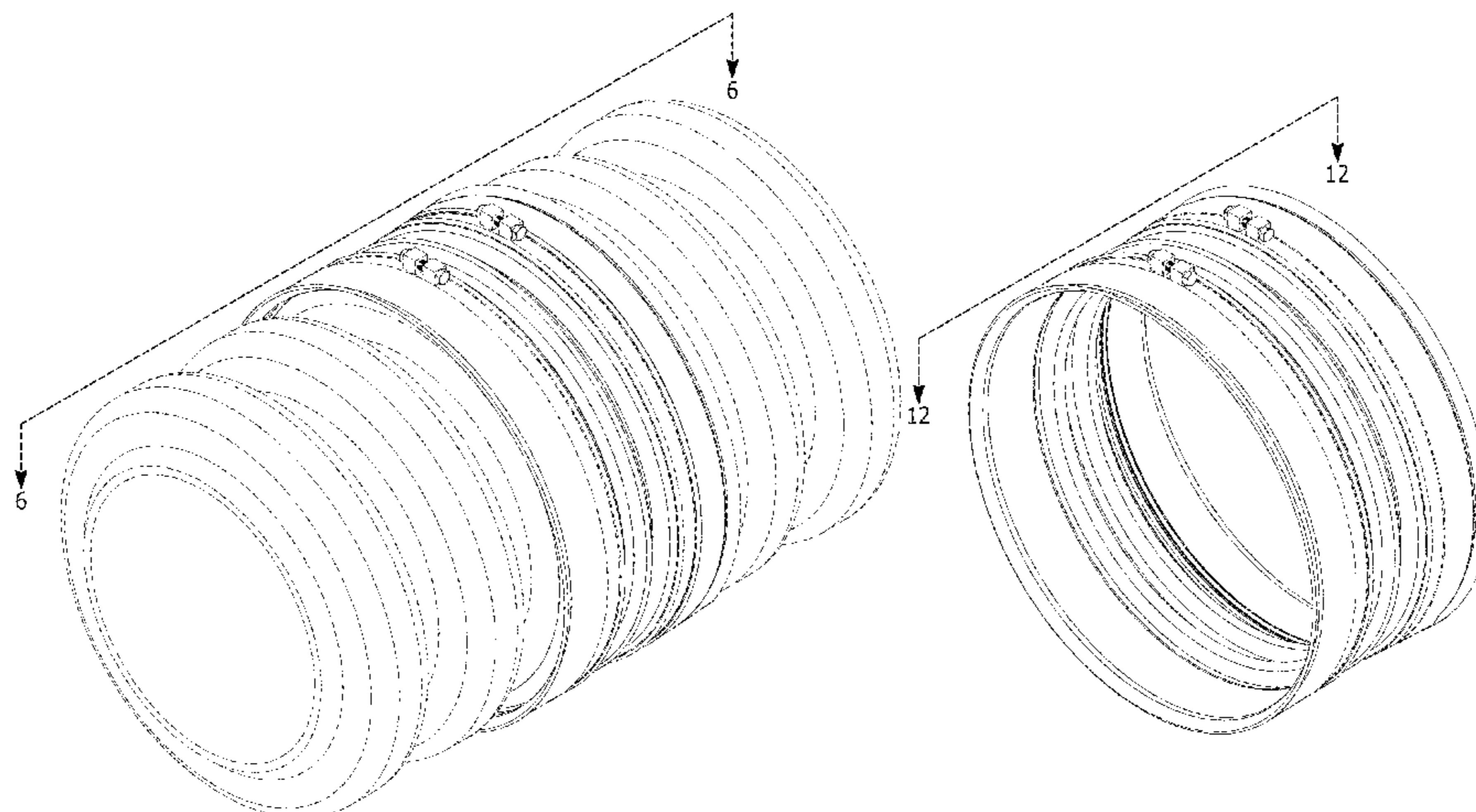
Related U.S. Application Data

- (60) Continuation of application No. 29/613,496, filed on Aug. 10, 2017, now Pat. No. Des. 865,918, which is a continuation of application No. 14/249,608, filed on Apr. 10, 2014, now Pat. No. 9,752,711, which is a division of application No. 12/471,576, filed on May 26, 2009, now Pat. No. 8,727,387.
- (51) **LOC (14) Cl.** **23-01**
- (52) **U.S. Cl.**
USPC **D23/262**
- (58) **Field of Classification Search**
USPC D23/259, 262, 264-266, 269; 285/369
CPC F16L 2201/10; F16L 21/03; F16L 17/025
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 2,201,372 A 5/1940 Miller
- 2,230,725 A 2/1941 Nathan
- 2,259,940 A 10/1941 Nathan
- D136,056 S * 7/1943 Rocic D23/265
- D137,576 S * 3/1944 Rocic D23/265
- D139,572 S * 11/1944 Rocic D23/265
- 2,578,933 A 12/1951 Hunter et al.
- 2,702,716 A 2/1955 Basolo
- 2,731,280 A 1/1956 Goodliffe
- 2,953,398 A 9/1960 Haugen et al.
- 3,031,200 A 4/1962 Hamer
- 3,081,102 A 3/1963 Murray et al.
- 3,118,682 A 1/1964 Fredd



US D980,954 S

4,743,422 A	5/1988	Kalris-Nielsen et al.	7,434,850 B2 *	10/2008	Duininck	.....	F16L 25/0054
4,772,154 A	9/1988	Carouile					285/903
4,795,166 A	1/1989	Imler	7,469,905 B2	12/2008	Knapp		
4,818,209 A	4/1989	Peterson et al.	D609,789 S	2/2010	Milnes		
4,826,028 A	5/1989	Vassallo et al.	D612,462 S *	3/2010	Shah	.....	D23/262
4,834,398 A	5/1989	Guzowski et al.	D616,532 S *	5/2010	Madara	.....	D23/262
4,946,206 A	8/1990	Roe et al.	D628,680 S *	12/2010	Dole	.....	D23/262
4,969,653 A	11/1990	Breen	D629,496 S *	12/2010	Madara	.....	D23/262
5,013,052 A	5/1991	Butler et al.	D643,912 S	8/2011	Bowman		
5,039,137 A	8/1991	Cankovic et al.	8,651,532 B2	2/2014	Felber		
5,045,635 A	9/1991	Kaplo et al.	8,727,387 B2 *	5/2014	Knapp	.....	F16L 21/03
5,058,907 A	10/1991	Percebois et al.					285/236
5,064,207 A	11/1991	Bengtsson	D706,908 S *	6/2014	Knapp	.....	D23/269
5,067,751 A	11/1991	Walworth et al.	8,801,049 B2 *	8/2014	Knapp	.....	F16L 25/0036
5,106,129 A	4/1992	Camacho et al.					285/903
5,114,162 A	5/1992	Ditcher	9,109,351 B2 *	8/2015	Diez	.....	F16L 25/0036
5,143,381 A	9/1992	Temple	D787,026 S	5/2017	Filer		
5,163,717 A	11/1992	Wise	9,752,711 B2	9/2017	Knapp		
5,163,718 A	11/1992	Cannon	10,046,516 B2 *	8/2018	Knapp	.....	B29C 48/12
5,169,161 A	12/1992	Jones	D865,918 S *	11/2019	Knapp	.....	F16L 21/03
5,180,196 A	1/1993	Skinner					D23/262
5,288,087 A	2/1994	Bertoido	11,193,612 B2 *	12/2021	O'Neil	.....	F16L 21/005
5,324,083 A	6/1994	Vogelsang	2001/0052702 A1	12/2001	Starita		
5,326,138 A	7/1994	Claes et al.	2001/0054820 A1	12/2001	Starita		
5,346,662 A	9/1994	Black et al.	2002/0074741 A1	6/2002	Knapp		
5,360,851 A	11/1994	Feder et al.	2003/0020276 A1	1/2003	Steele		
5,383,693 A	1/1995	Shade	2004/0007875 A1	1/2004	Bishop		
5,407,236 A	4/1995	Schwartz et al.	2004/0041347 A1	3/2004	Beach et al.		
5,415,436 A	5/1995	Claes et al.	2004/0072949 A1	4/2004	Ding et al.		
5,431,458 A	7/1995	Schaub	2004/0108722 A1	6/2004	Starita		
D371,189 S *	6/1996	Dharamsi	2004/0113327 A1	6/2004	Starita		D23/269
5,542,717 A	8/1996	Rea et al.	2004/0207201 A1	10/2004	Starita		
5,566,955 A	10/1996	Preisendoerfer	2005/0099003 A1	5/2005	Tarara		
5,573,279 A	11/1996	Rea et al.	2005/0104376 A1	5/2005	Presby		
5,577,741 A	11/1996	Sink	2005/0167982 A1	8/2005	Starita		
5,603,532 A	2/1997	Guest	2006/0267343 A1	11/2006	Wright		
5,626,349 A	5/1997	Sutherland et al.	2006/0279084 A1	12/2006	Collins		
5,679,303 A	10/1997	Hayashi et al.	2007/0001456 A1	1/2007	Diez et al.		
5,687,976 A	11/1997	Andrick et al.	2007/0075544 A1	4/2007	Duininck et al.		
5,722,702 A	3/1998	Washburn	2007/0290455 A1	12/2007	Knapp et al.		
5,733,491 A	3/1998	Grosset et al.	2009/0065968 A1	3/2009	Knapp		
5,735,528 A	4/1998	Olsson	2009/0295153 A1	12/2009	Knapp		
5,806,593 A	9/1998	Surles	2010/0117360 A1	5/2010	Chan		
5,813,705 A	9/1998	Dole	2012/0274065 A1	11/2012	Knapp		
5,887,909 A *	3/1999	Tokuda					F16L 25/14
							285/903

5,961,161 A	10/1999	Sponer					
5,973,061 A	10/1999	Feder et al.					
5,988,695 A	11/1999	Corbett, Jr.					
5,992,469 A	11/1999	Hegler					
5,996,635 A	12/1999	Hegler					
6,082,741 A	7/2000	Gregoire et al.					
6,126,173 A	10/2000	Westhoff et al.					
6,126,209 A	10/2000	Goddard					
6,170,683 B1	1/2001	Mattsson et al.					
6,193,285 B1	2/2001	Proctor					
6,237,966 B1	5/2001	Kearns					
6,326,309 B2	12/2001	Hatanaka et al.					
6,336,640 B1 *	1/2002	Knapp	.....	F16L 25/0036			277/606
6,343,623 B2	2/2002	Hegler					
6,359,073 B1	3/2002	Babb et al.					
6,367,802 B1	4/2002	Knapp					
6,458,301 B1	10/2002	Hendrix					
6,476,141 B1	11/2002	Chang et al.					
6,550,775 B2	4/2003	Knapp					
6,620,369 B1	9/2003	Mead					
6,726,219 B2	4/2004	Bivens					
6,739,632 B1	5/2004	Thomas et al.					
6,877,780 B2	4/2005	Potts					
6,938,933 B2	9/2005	Starita					
6,994,381 B1 *	2/2006	Shade	.....	F16L 21/022			285/903
6,997,381 B2	2/2006	Shade					
7,207,606 B2	4/2007	Owen et al.					
D571,440 S *	6/2008	Kanao	.....	D23/262			
D574,472 S *	8/2008	Kanao	.....	D23/262			
D576,260 S	9/2008	Chan					

FOREIGN PATENT DOCUMENTS

CA	1091719	12/1980
CH	643644 A5	6/1984
DE	3113320	2/1982
DE	3728034 A1	3/1989
DE	3826622	2/1990
DE	3909381	12/1990
DE	4003283 A1	8/1991
DE	4207849	9/1993
DE	4241622	6/1994
DE	19628639	1/1998
EP	192597 A2	8/1986
EP	03111296	4/1989
GB	2218768	11/1989
GB	2331137	5/1999
JP	02113193	4/1990
JP	04277394	10/1992
JP	06109174	4/1994
JP	06109193	4/1994
JP	06221482	8/1994
JP	2620177	6/1997
WO	WO 00/53695	9/2000

OTHER PUBLICATIONS

Fernco XL Couplings Sales Sheet; Dec. 10, 2018; Visited Online Feb. 23, 2022; <https://www.fernco.com/xl-couplings> (Year: 2018).*

Fernco No-Hub Couplings Price Sheet; Internet Archive WayBack date May 6, 2021; Visited Online Feb. 23, 2022; https://www.fernco.com/sites/default/files/literature/no-hub_NO_price_T0615_0.pdf (Year: 2021).*

International Preliminary Report on Patentability and Written Opinion on PCT/US2009/045114, dated Jul. 1, 2009. (9 pages).

International Search Report for PCT/US2009/045114, dated Jul. 1, 2009. (2 pages).

Two-page advertisement entitled “Cost-Effective Watertight Seals for Corrugated Pipe”, print out from NPC, Inc. website on Mar. 11, 2008. <http://npc.com/products/pipe-connectors/pip-adaptor.htm>.

Two-page advertisement showing “Watertyte Joint Design”, print out from CPP Engineering, LLC website on Mar. 11, 2008. <http://www.cpp-engineering.com/WatertyteJointDesign.htm>.

One-page advertisement entitled “No-Hub Couplings”, print out from Fernco, Inc. website on Dec. 1, 2009. <http://www.fernco.com/plumbing/shielded--couplings/no-hub-couplings>.

* cited by examiner

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(57) **CLAIM**

The ornamental design for a coupling assembly, as shown and described.

DESCRIPTION

FIG. 1 is an upper left perspective view of a first embodiment of a coupling assembly, shown in an environmental position in use, an upper right perspective view being the same;

FIG. 2 is a lower left perspective view of FIG. 1, a lower right perspective view being the same;

FIG. 3 is a front elevation view of FIG. 1, a rear elevation view being the same;

FIG. 4 is a left side elevation view of FIG. 1, a right side elevation view being the same;

FIG. 5 is an exploded perspective view of FIG. 1;

FIG. 6 is cross-section view of a first half of FIG. 1 taken along lines 6-6 of FIG. 1, other half cross-sections being mirror images thereof;

FIG. 7 is an upper left perspective view of a second embodiment of a coupling assembly, an upper right perspective view being the same;

FIG. 8 is a lower left perspective view of FIG. 7, a lower right perspective view being the same;

FIG. 9 is a front elevation view of FIG. 7, a rear elevation view being the same;

FIG. 10 is a left side elevation view of FIG. 7, a right side elevation view being the same;

FIG. 11 is an exploded perspective view of FIG. 7;

FIG. 12 is cross-section view of a first half of FIG. 7 taken along lines 12-12 of FIG. 7, other half cross-sections being mirror images thereof; and,

FIG. 13 is an enlarged detail portion view taken from area 13 of FIG. 12.

The evenly dashed broken lines shown in the drawings illustrate portions of the coupling assembly and environment that form no part of the claim. The dash-dot-dash broken line showing depicts the boundaries of the claim and form no part thereof. The dash-dot-dash broken lines shown in FIGS. 12 and 13 indicates cutoff boundaries for enlarged detailed portion views and form no part of the claim.

1 Claim, 12 Drawing Sheets

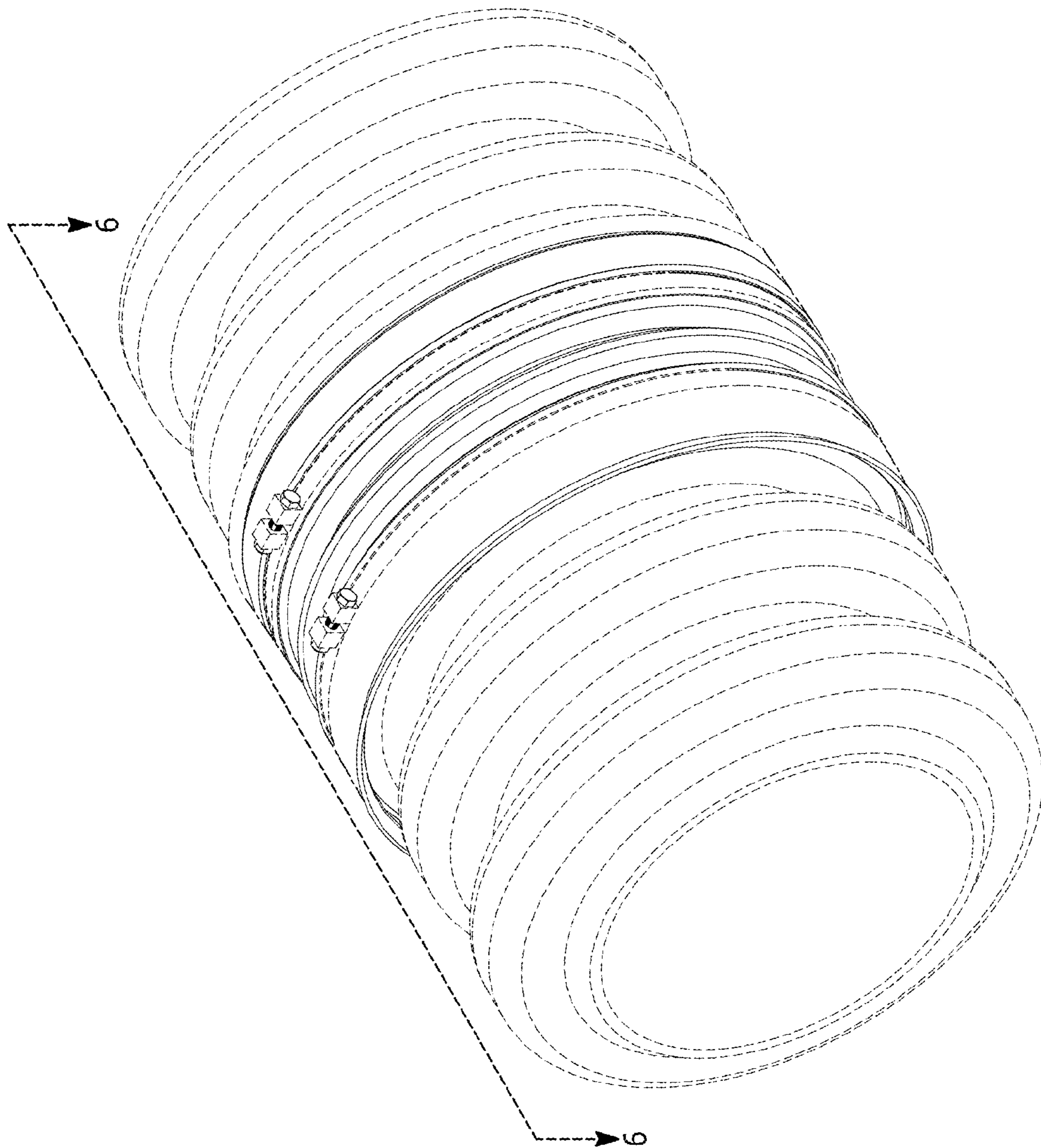


FIG. 1

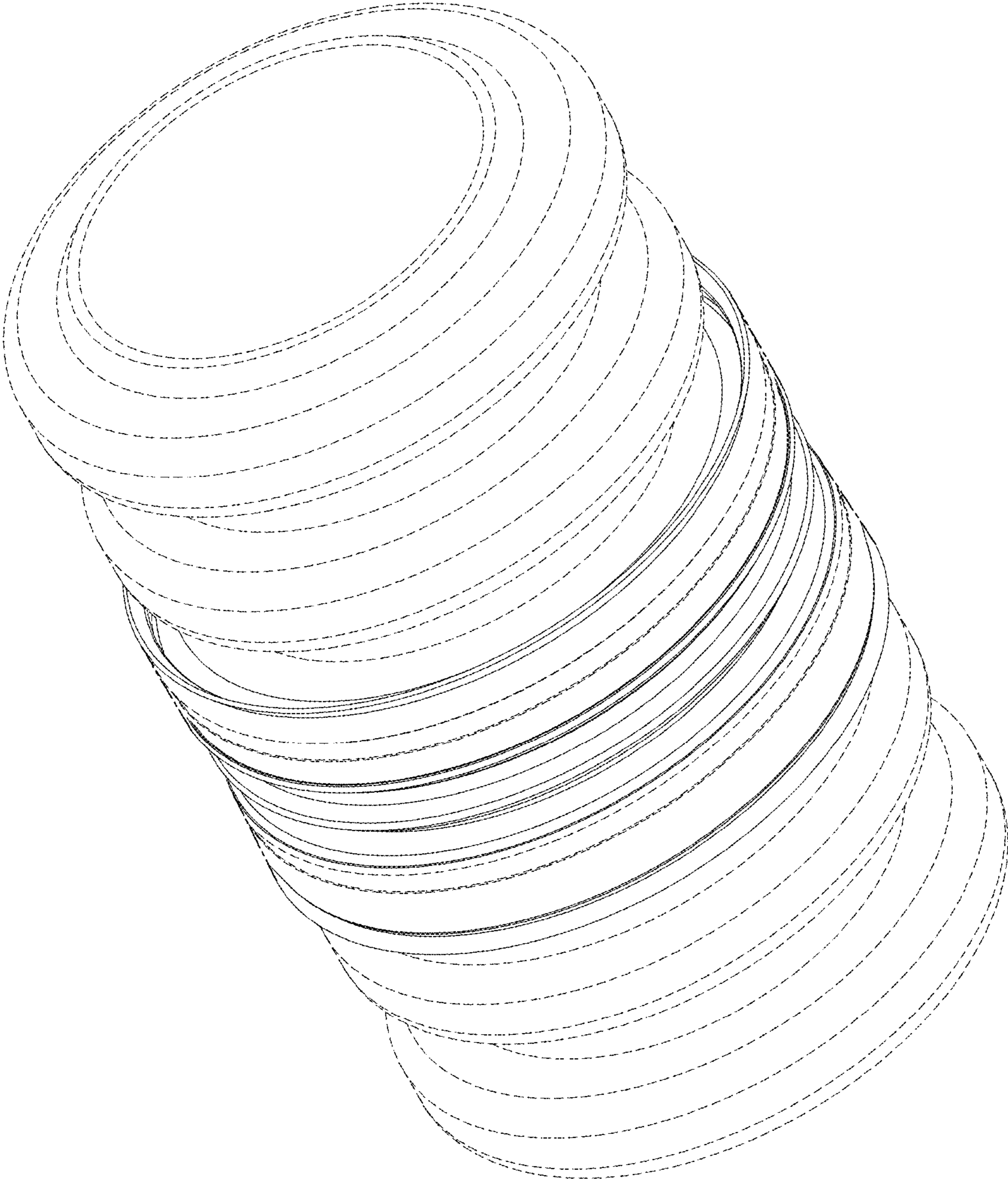


FIG. 2

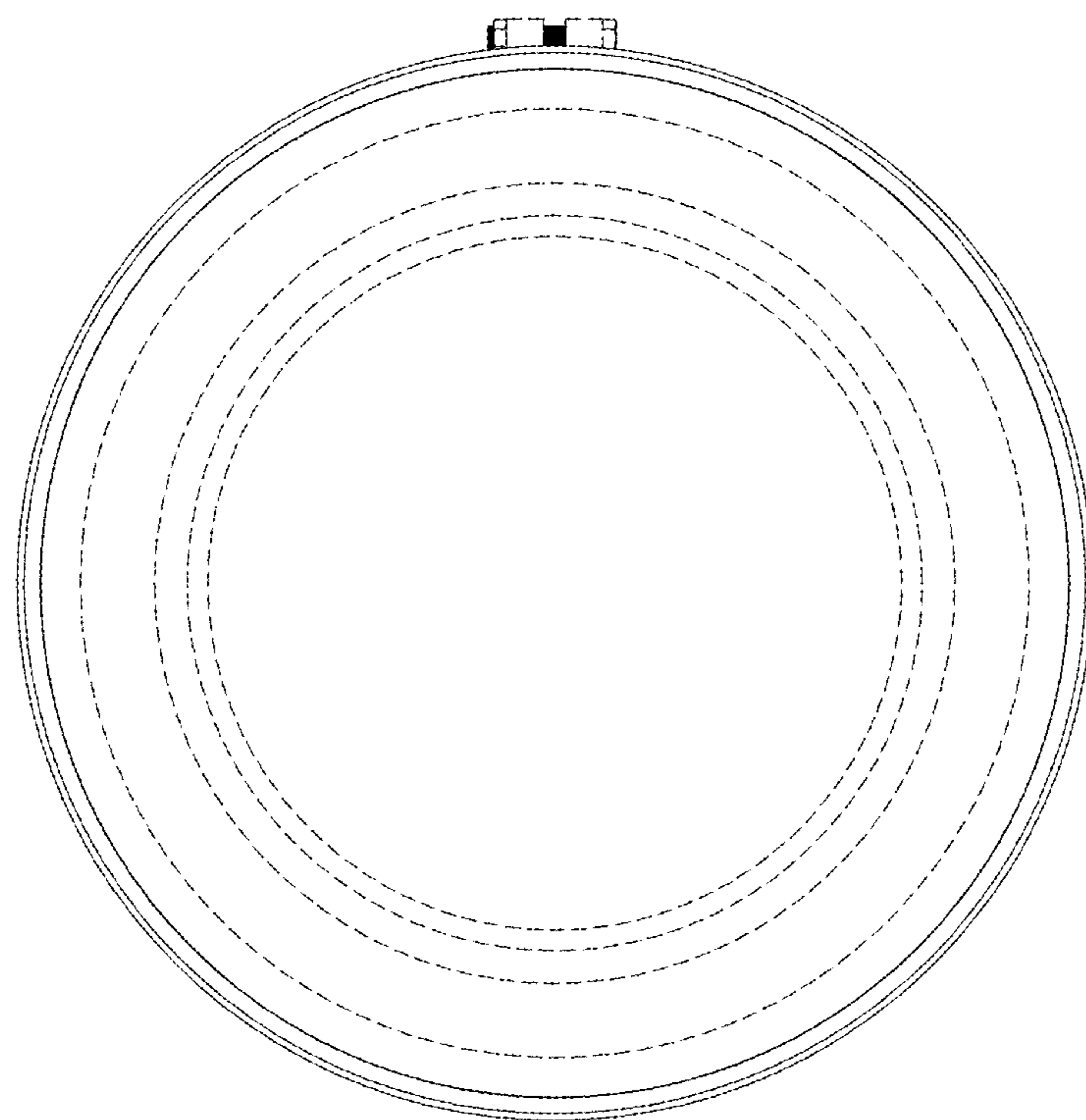


FIG. 3

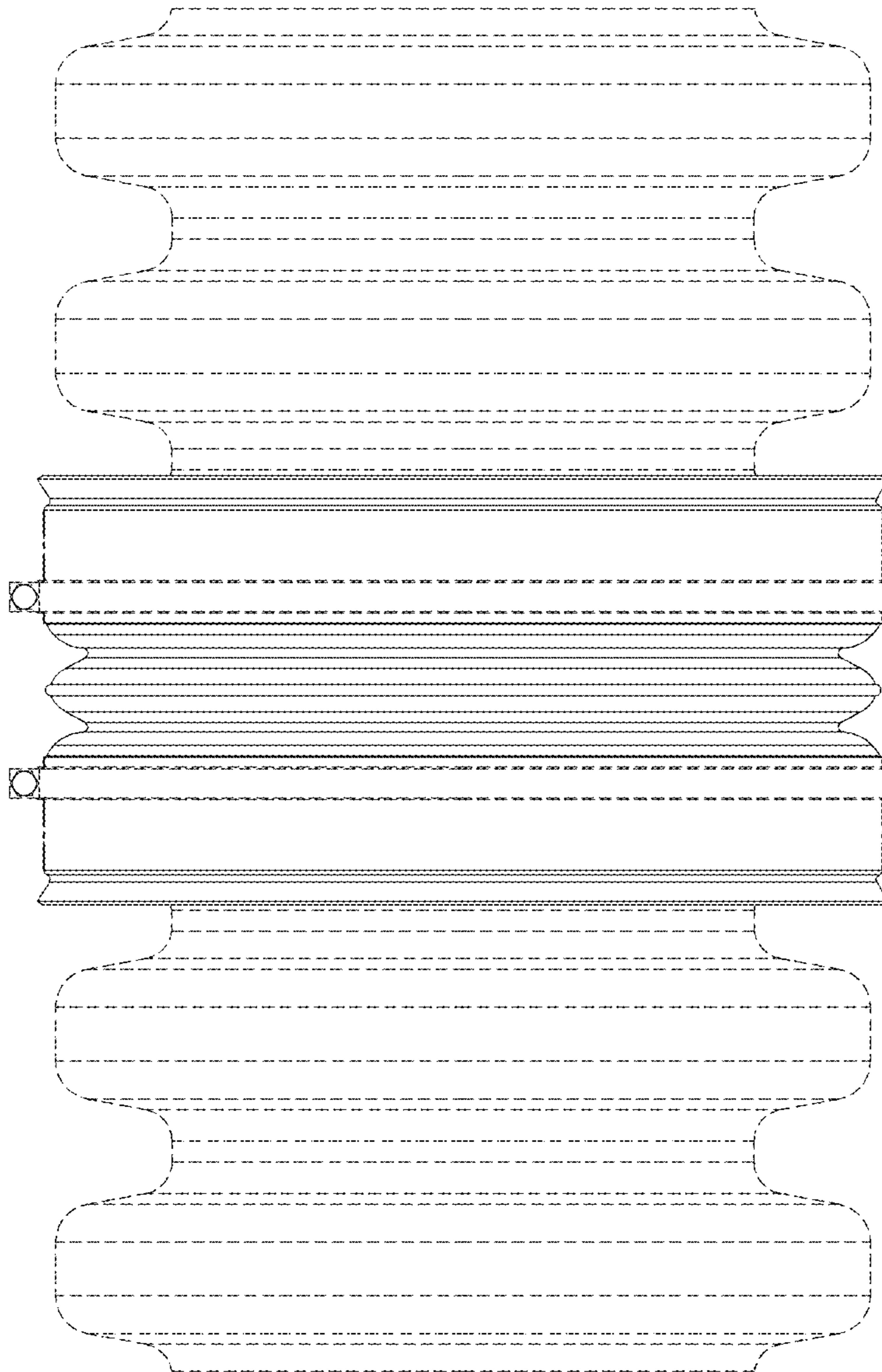


FIG. 4

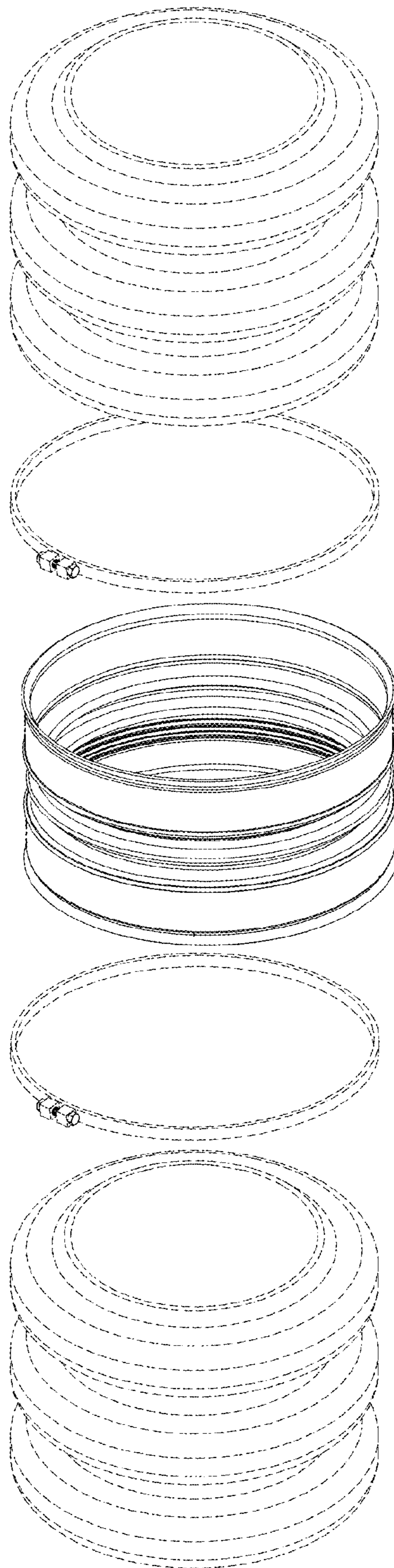


FIG. 5

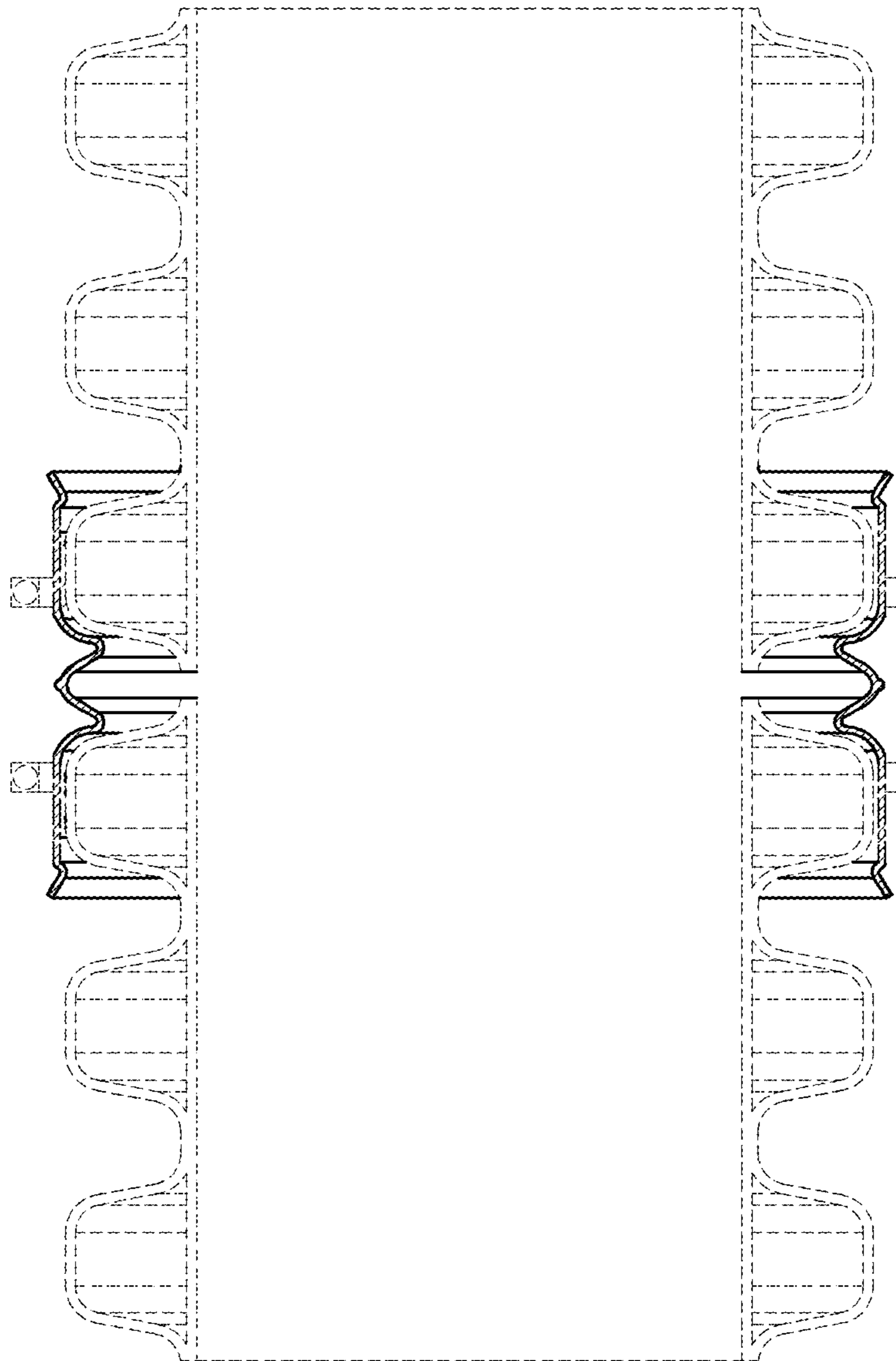


FIG. 6

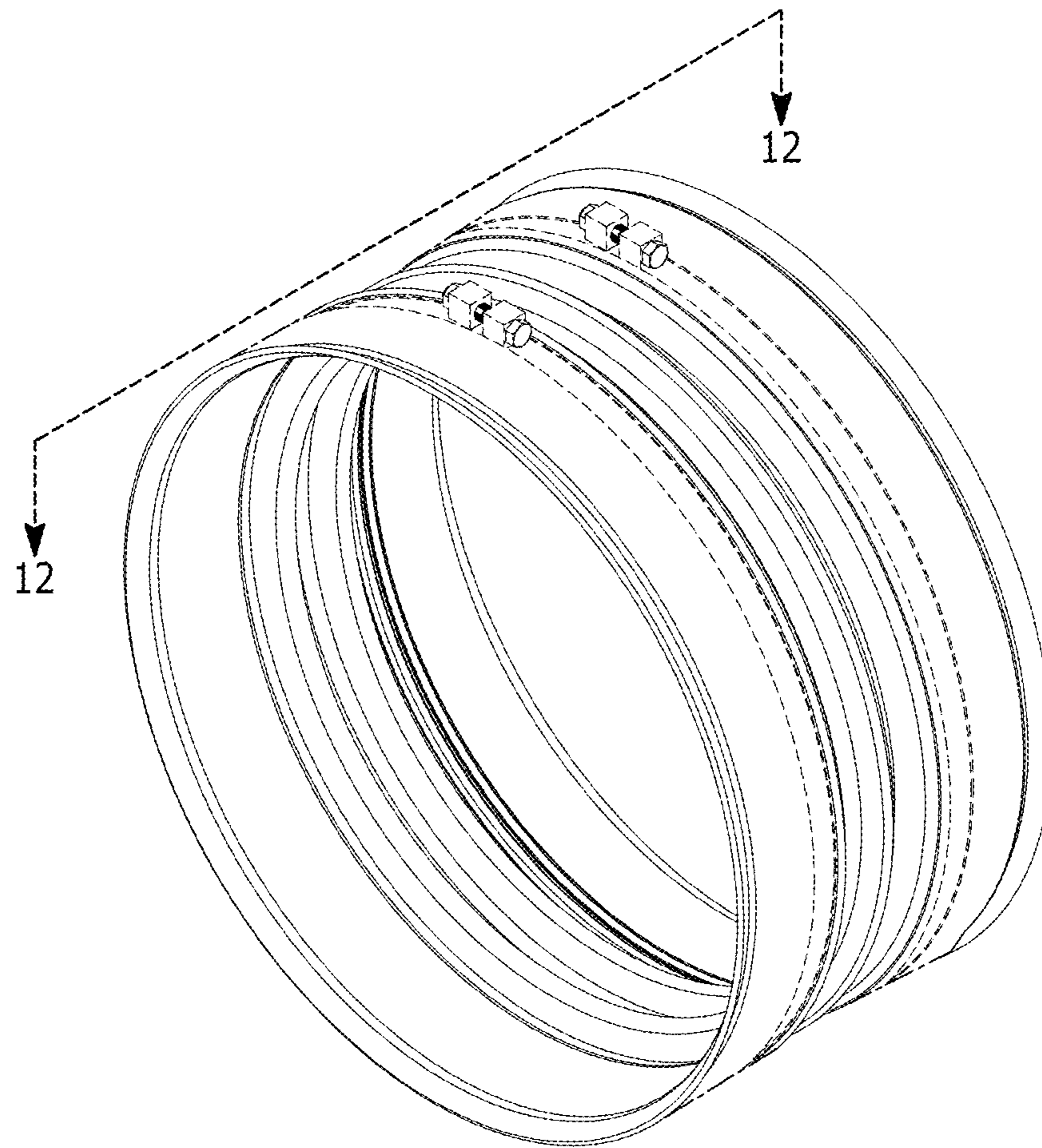


FIG. 7

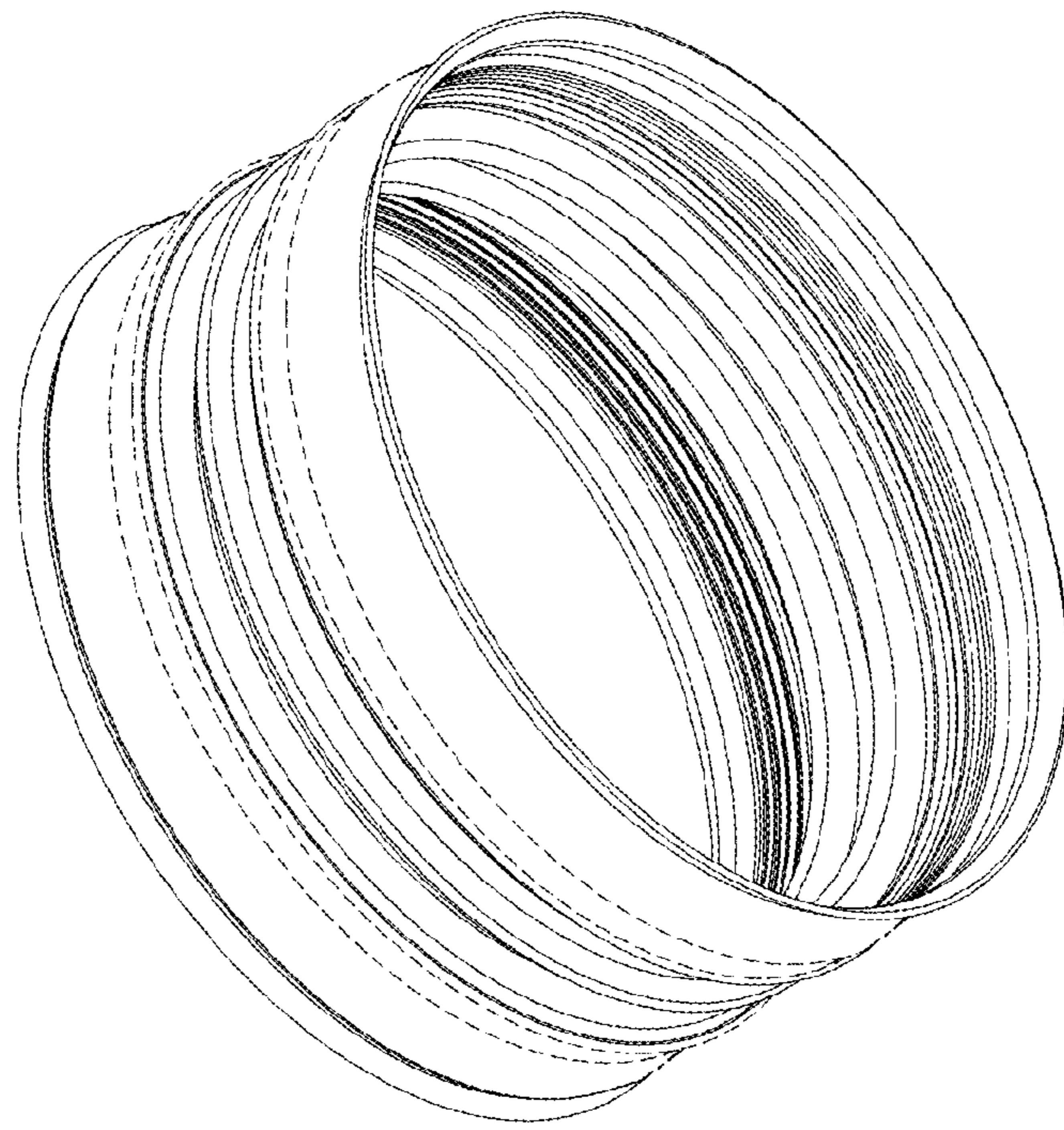


FIG. 8

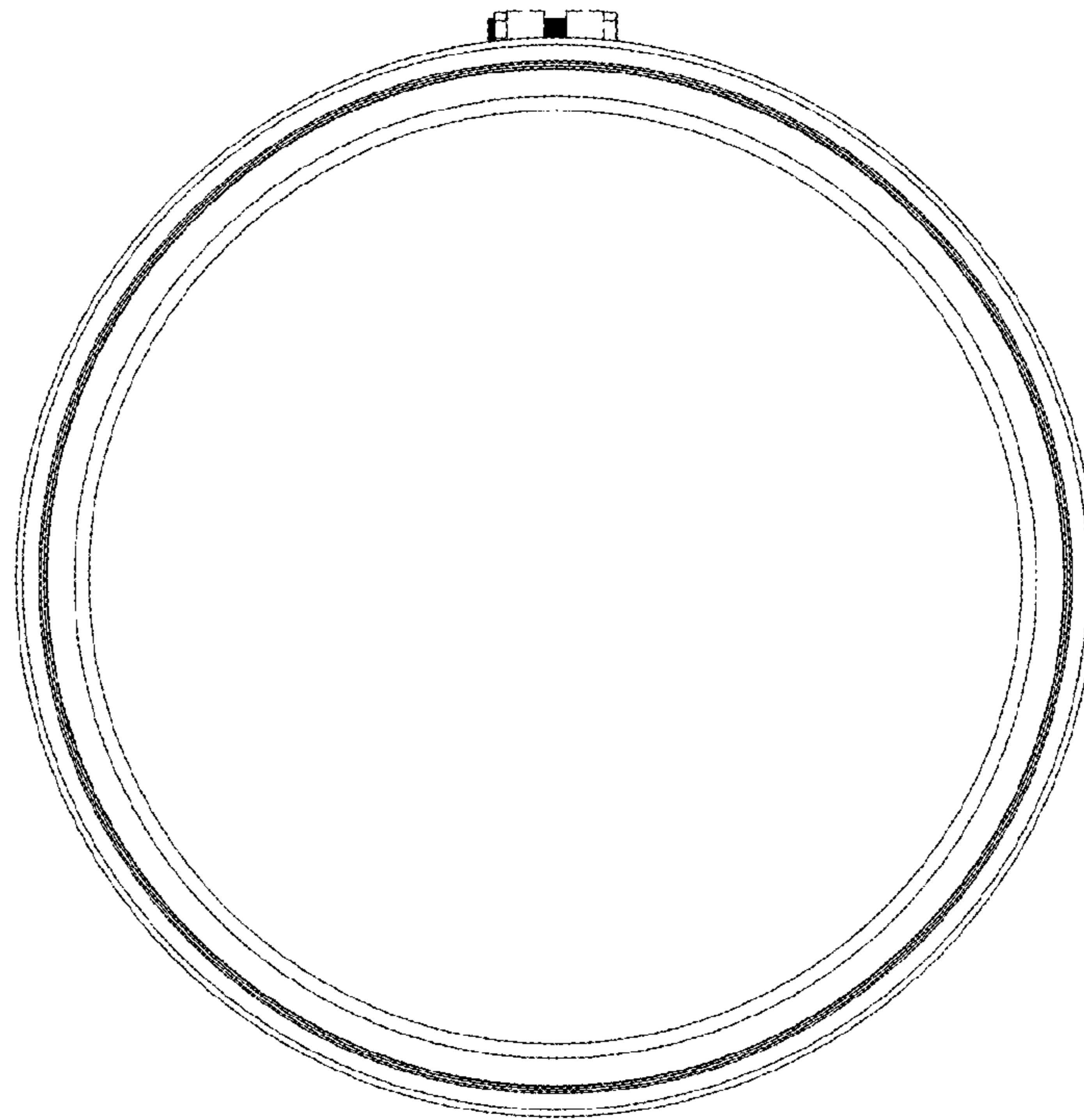


FIG. 9

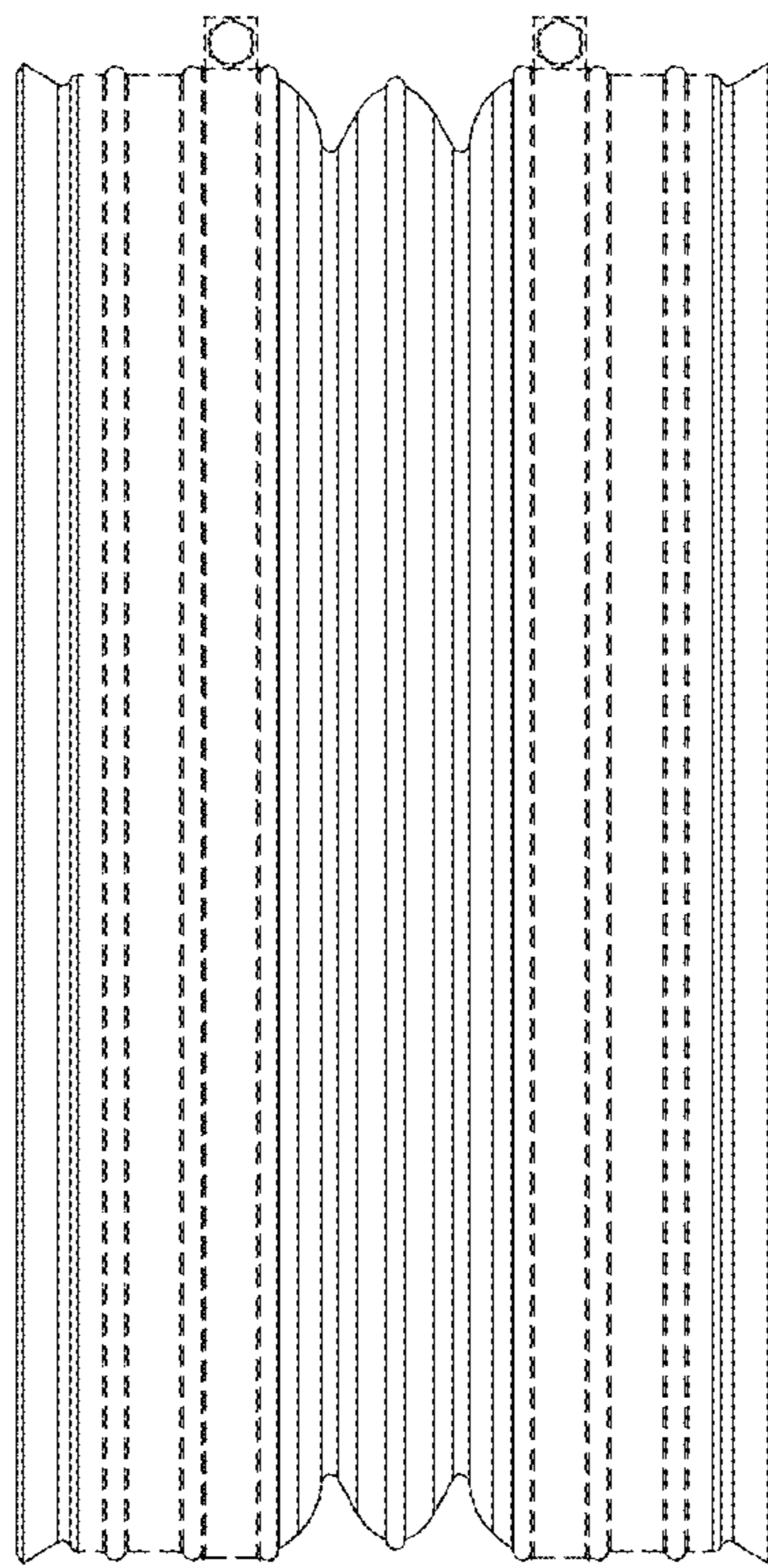


FIG. 10

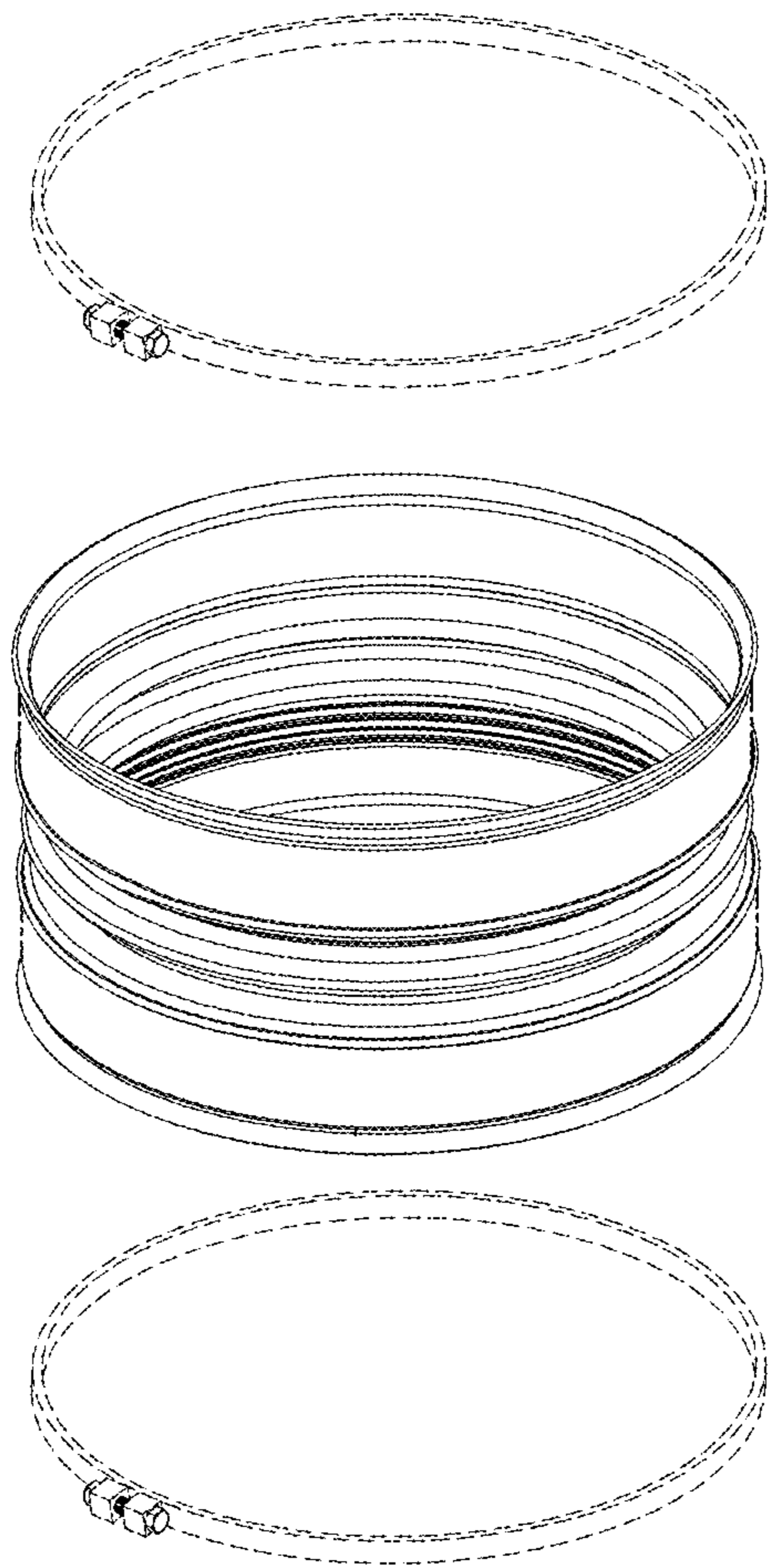


FIG. 11

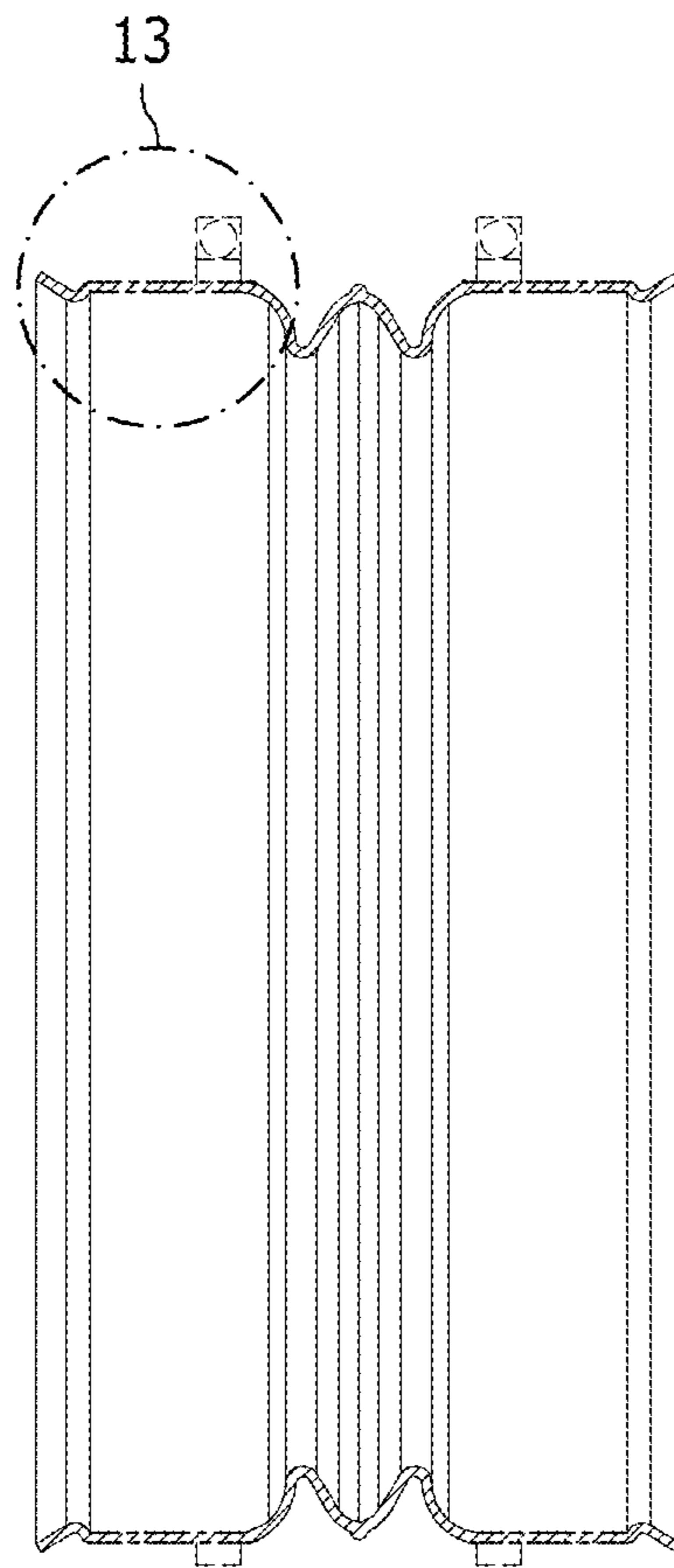


FIG. 12

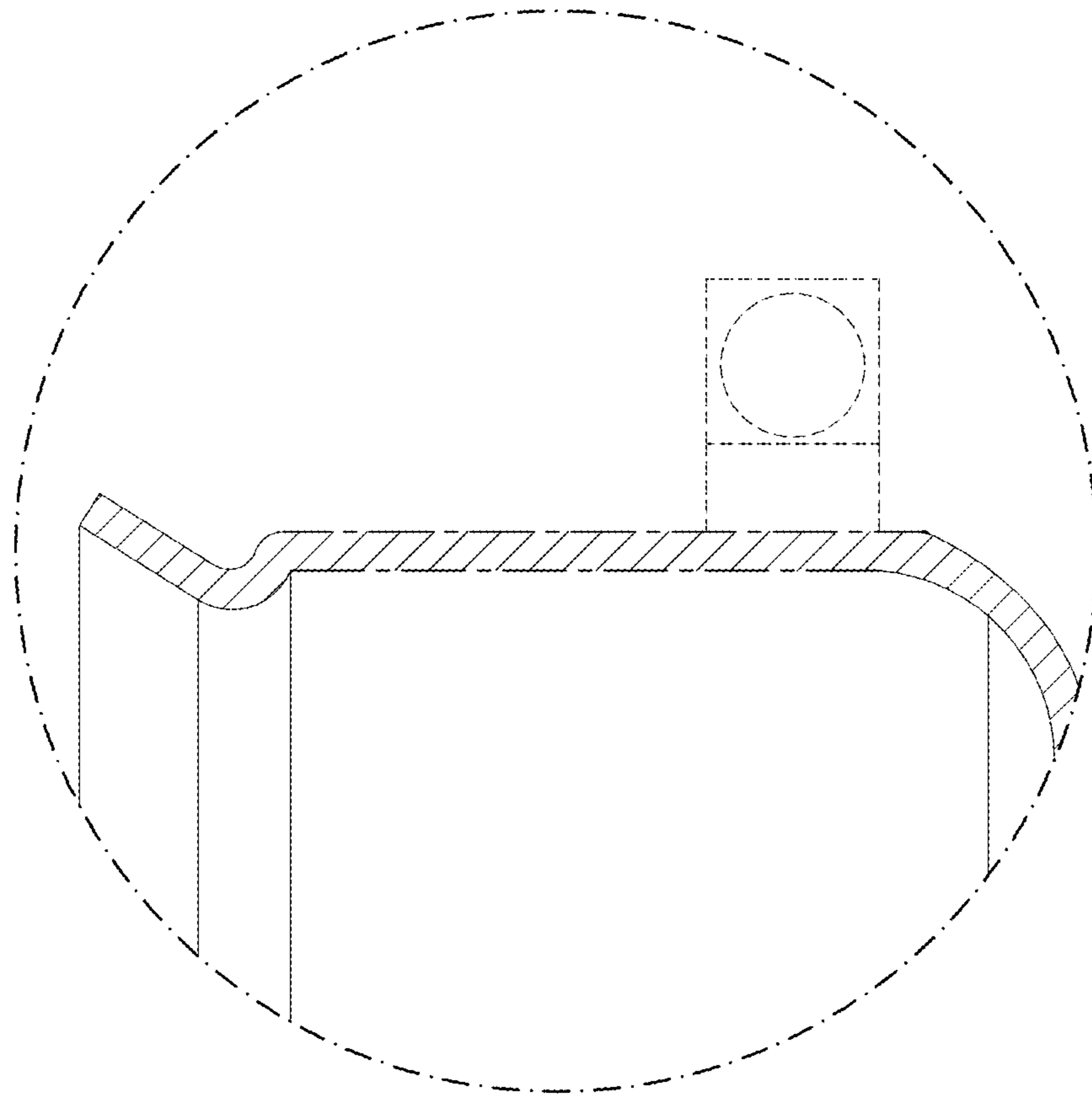


FIG. 13