

US00D665824S

(12) **United States Design Patent**
Andrigo et al.

(10) **Patent No.:** **US D665,824 S**
(45) **Date of Patent:** **** *Aug. 21, 2012**

(54) **CASING CENTRALIZER**

(75) Inventors: **Gregory Andrigo**, Almonte (CA);
Alfredo Sanchez, Tomball, TX (US)

(73) Assignee: **Top-Co Cementing Products Inc.**,
Weatherford, TX (US)

(*) Notice: This patent is subject to a terminal disclaimer.

(**) Term: **14 Years**

(21) Appl. No.: **29/405,117**

(22) Filed: **Oct. 28, 2011**

(51) **LOC (9) Cl.** **15-03**

(52) **U.S. Cl.** **D15/21**

(58) **Field of Classification Search** D15/10,
D15/21; 166/384, 241.1–241.7, 213, 173,
166/208, 382; 175/325.5, 325.1, 325.2, 325.3;
138/108, 112; 228/155; 72/393

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,460,632 A * 7/1923 Wigle et al. 166/241.6
(Continued)

FOREIGN PATENT DOCUMENTS

CA 1032867 6/1978
(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 29/405,113, filed Oct. 28, 2011, Andrigo et al.

(Continued)

Primary Examiner — Mark Goodwin

(74) *Attorney, Agent, or Firm* — Haynes and Boone, LLP

(57) **CLAIM**

The ornamental design for a casing centralizer, as shown and described.

DESCRIPTION

This application is related to (1) U.S. Design application Ser. No. 29/405,113, filed Oct. 28, 2011; (2) U.S. Design application Ser. No. 29/405,121, filed Oct. 28, 2011; (3) U.S. Design application Ser. No. 29/405,122, filed Oct. 28, 2011; (4) U.S. Design application Ser. No. 29/405,124, filed Oct. 28, 2011; (5) U.S. Design application Ser. No. 29/405,130, filed Oct. 28, 2011; and, (6) U.S. Design application Ser. No. 29/405,133, filed Oct. 28, 2011, the entire disclosures of which are incorporated herein by reference.

FIG. 1 is a perspective view of a casing centralizer showing our new design according to a first embodiment;

FIG. 2 is an elevational view of the first embodiment;

FIG. 3 is a top plan view of the first embodiment, the bottom plan view of the first embodiment being identical to the top plan view of the first embodiment;

FIG. 4 is a sectional view of the first embodiment taken along line 4-4 of FIG. 3;

FIG. 5 is an elevational view of the casing centralizer according to a second embodiment, the second embodiment being identical to the first embodiment except that the second embodiment has one indeterminate length as indicated in FIG. 5;

FIG. 6 is a top plan view of the casing centralizer according to a third embodiment, the third embodiment being identical to the first embodiment except that the third embodiment has six indeterminate lengths as indicated in FIG. 6;

FIG. 7 is a perspective view of the casing centralizer showing our new design according to a fourth embodiment;

FIG. 8 is an elevational view of the fourth embodiment;

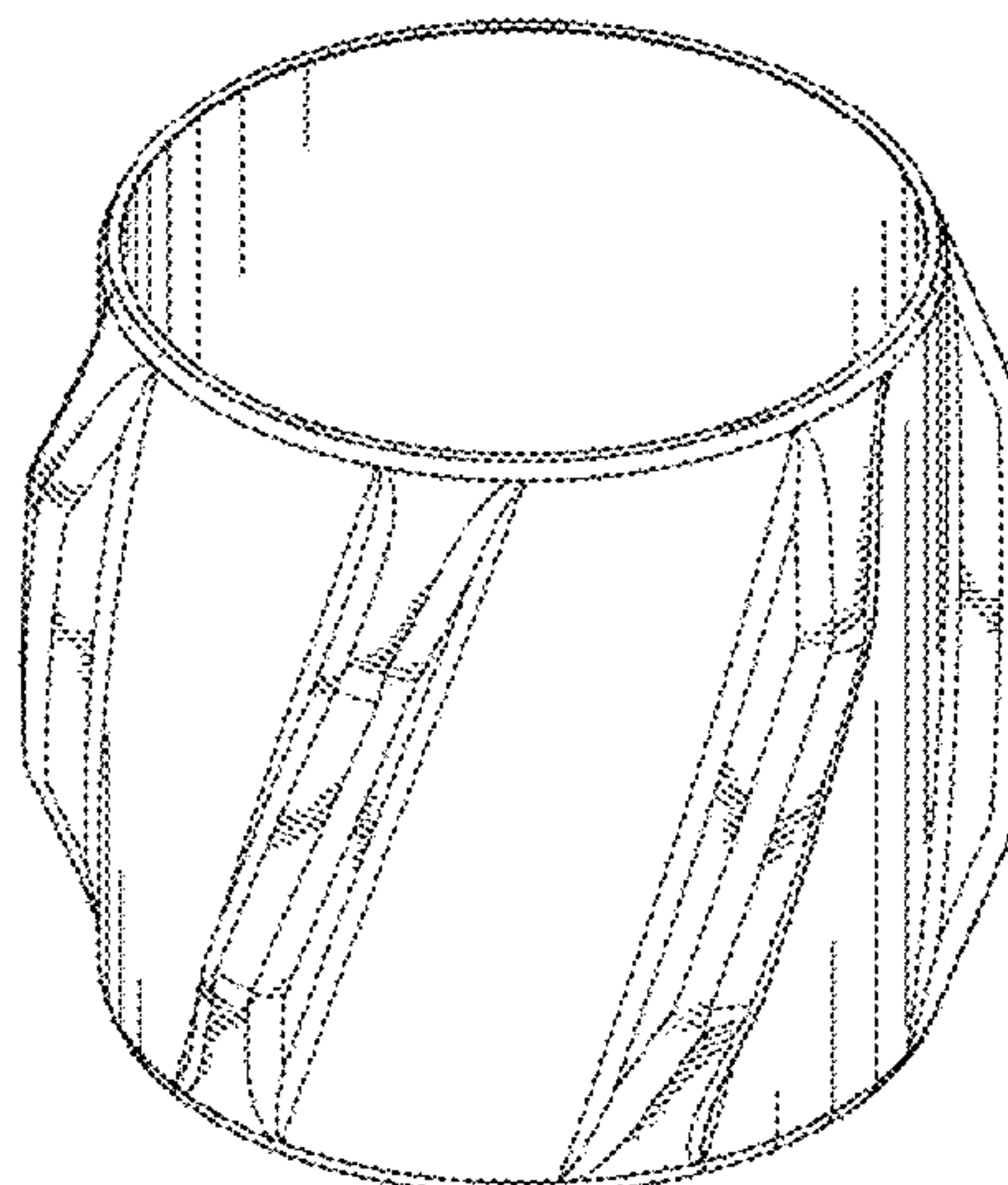
FIG. 9 is a top plan view of the fourth embodiment, the bottom plan view of the fourth embodiment being identical to the top plan view of the fourth embodiment;

FIG. 10 is a sectional view of the fourth embodiment taken along line 10-10 of FIG. 9;

FIG. 11 is an elevational view of the casing centralizer according to a fifth embodiment, the fifth embodiment being identical to the fourth embodiment except that the fifth embodiment has one indeterminate length as indicated in FIG. 11; and,

FIG. 12 is a top plan view of the casing centralizer according to a sixth embodiment, the sixth embodiment being identical to the fourth embodiment except that the sixth embodiment has six indeterminate lengths as indicated in FIG. 12.

1 Claim, 8 Drawing Sheets



US D665,824 S

Page 2

U.S. PATENT DOCUMENTS

1,767,198	A	6/1930	Baker	
1,807,050	A *	5/1931	Stolz	166/285
2,166,116	A	7/1939	Bettis	
2,602,512	A	7/1952	Baker	
2,659,439	A *	11/1953	Baker	166/241.6
2,715,552	A *	8/1955	Lane	175/325.5
2,943,009	A	6/1960	Mirsky et al.	
3,080,926	A *	3/1963	Remp, Jr.	166/241.6
3,125,382	A	3/1964	Herndon et al.	
3,128,827	A	4/1964	Kluck	
3,289,767	A	12/1966	Seward et al.	
3,292,708	A	12/1966	Mundt	
3,320,004	A	5/1967	Garrett	
3,410,613	A	11/1968	Kuus	
3,528,499	A	9/1970	Collett	
3,613,783	A	10/1971	Seabourn	
3,762,472	A	10/1973	Alexander, Jr.	
3,933,203	A	1/1976	Evans	
3,955,625	A	5/1976	Hughes et al.	
3,963,075	A	6/1976	Evans	
4,050,514	A	9/1977	Prenn	
4,088,185	A	5/1978	Carson	
4,146,060	A	3/1979	Garrett	
4,275,935	A *	6/1981	Thompson et al.	175/325.7
4,372,562	A	2/1983	Carter, Jr.	
4,396,234	A *	8/1983	Garrett	175/325.2
4,436,118	A	3/1984	Garrett	
4,595,058	A	6/1986	Nations	
4,658,896	A	4/1987	Milam	
4,757,861	A	7/1988	Klyne	
4,796,670	A	1/1989	Russell et al.	
4,825,947	A	5/1989	Mikolajczyk	
4,858,688	A	8/1989	Edwards et al.	
4,919,202	A	4/1990	Clintberg	
4,938,299	A	7/1990	Jelsma	
4,984,633	A *	1/1991	Langer et al.	166/241.1
5,095,981	A *	3/1992	Mikolajczyk	166/241.6
5,115,863	A	5/1992	Olinger	
5,179,140	A	1/1993	Ariannejad	
5,191,938	A	3/1993	Sable et al.	
5,247,990	A *	9/1993	Sudol et al.	166/241.3
5,277,254	A	1/1994	Rullman et al.	
5,332,049	A	7/1994	Tew	
5,339,896	A	8/1994	Hart et al.	
5,492,174	A	2/1996	O'Hair	
5,692,562	A	12/1997	Squires	
5,697,442	A	12/1997	Baldridge	
5,797,455	A *	8/1998	Barron et al.	166/241.6
5,860,760	A *	1/1999	Kirk	403/371
5,908,072	A *	6/1999	Hawkins	166/241.6
5,937,948	A *	8/1999	Robbins, III	166/380
6,006,830	A *	12/1999	Barron et al.	166/241.6
6,435,275	B1 *	8/2002	Kirk et al.	166/241.1
6,439,304	B2	8/2002	Eaton	
6,585,052	B2 *	7/2003	Angman et al.	166/380
6,659,173	B2 *	12/2003	Kirk et al.	166/242.8
6,666,267	B1 *	12/2003	Charlton	166/241.6
6,830,102	B2 *	12/2004	Kirk et al.	166/241.6
6,845,816	B2 *	1/2005	Kirk et al.	166/241.6
7,082,997	B2	8/2006	Slack	
7,096,939	B2 *	8/2006	Kirk et al.	166/241.6

7,159,668	B2 *	1/2007	Herrera	166/381
7,357,178	B2 *	4/2008	Thornton	166/241.6
7,409,758	B2 *	8/2008	Le et al.	29/421.1
7,604,059	B2 *	10/2009	Thornton	166/381
7,694,733	B2 *	4/2010	Clark et al.	166/244.1
7,814,633	B2 *	10/2010	Slack	29/421.1
2001/0032722	A1 *	10/2001	Eaton	166/241.4
2002/0023749	A1 *	2/2002	Kirk et al.	166/241.1
2003/0164236	A1 *	9/2003	Thornton	166/278
2006/0070731	A1 *	4/2006	Fouillou et al.	166/241.4
2008/0164019	A1 *	7/2008	Angman	166/241.6
2010/0059218	A1 *	3/2010	Whitelaw	166/241.1

FOREIGN PATENT DOCUMENTS

CA	1154380	9/1983
EP	0138603	4/1985
EP	0297716	1/1989
EP	333450	9/1989
EP	0671546	9/1995
GB	682362	11/1952
GB	2016063	9/1979
GB	2171436	8/1986
GB	2226520	7/1990
GB	2233690	1/1991
GB	2249333	5/1992
GB	2275284	8/1994
GB	2282615	4/1995
GB	2285649	7/1995
GB	2288198	10/1995
GB	2304753	3/1997
GB	2329209	2/1998
WO	WO 91/05936	5/1991
WO	WO 95/10685	4/1995
WO	WO 95/21986	8/1995
WO	WO 96/34173	10/1996
WO	WO 98/37302	8/1998
WO	WO 99/25949	5/1999

OTHER PUBLICATIONS

U.S. Appl. No. 29/405,121, filed Oct. 28, 2011, Andrigo et al.
U.S. Appl. No. 29/405,122, filed Oct. 28, 2011, Andrigo et al.
U.S. Appl. No. 29/405,124, filed Oct. 28, 2011, Andrigo et al.
U.S. Appl. No. 29/405,130, filed Oct. 28, 2011, Andrigo et al.
U.S. Appl. No. 29/405,133, filed Oct. 28, 2011, Andrigo et al.
Top-Co Tech News, "Primary Cementing Process and Application of Casing Accessories," vol. 1, Issue 2, Dec. 2009, 2 pages.
Top-Co Type 346 Stand Off Band—Phenolizer, May 1, 2009.
Nicholson et al., Geothermal-Well Completions: A Survey and Technical Evaluation of Existing Equipment and Needs, Jul. 1982, pp. 3-1 through 3-41.
Notice of Allowance mailed Feb. 27, 2012 by the USPTO regarding U.S. Appl. No. 29/405,113.
Notice of Allowance mailed Feb. 27, 2012 by the USPTO regarding U.S. Appl. No. 29/405,121.
Office Action mailed Feb. 29, 2012 by the USPTO regarding U.S. Appl. No. 29/405,124.
Notice of Allowance mailed Feb. 27, 2012 by the USPTO regarding U.S. Appl. No. 29/405,133.

* cited by examiner

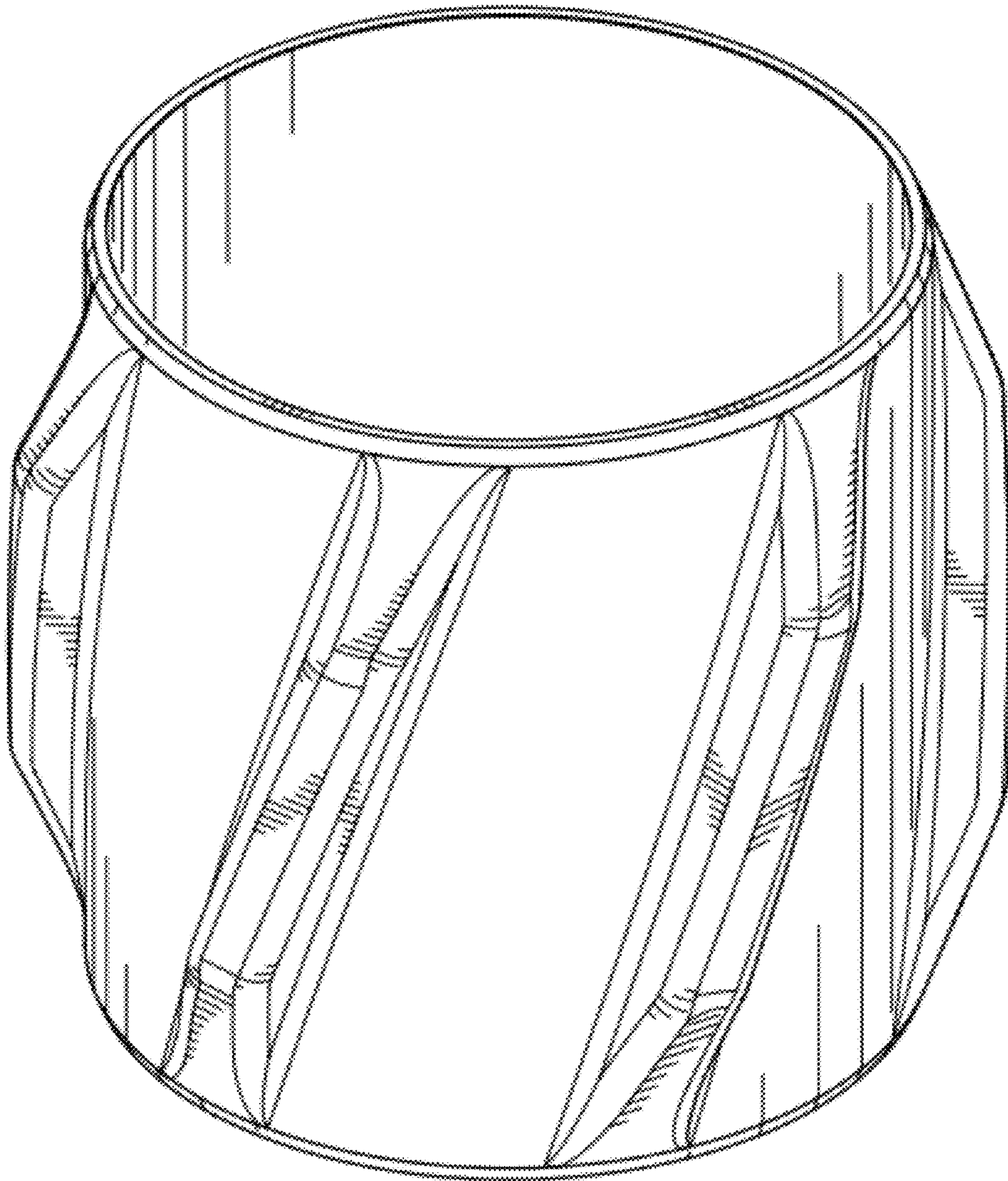


Fig. 1

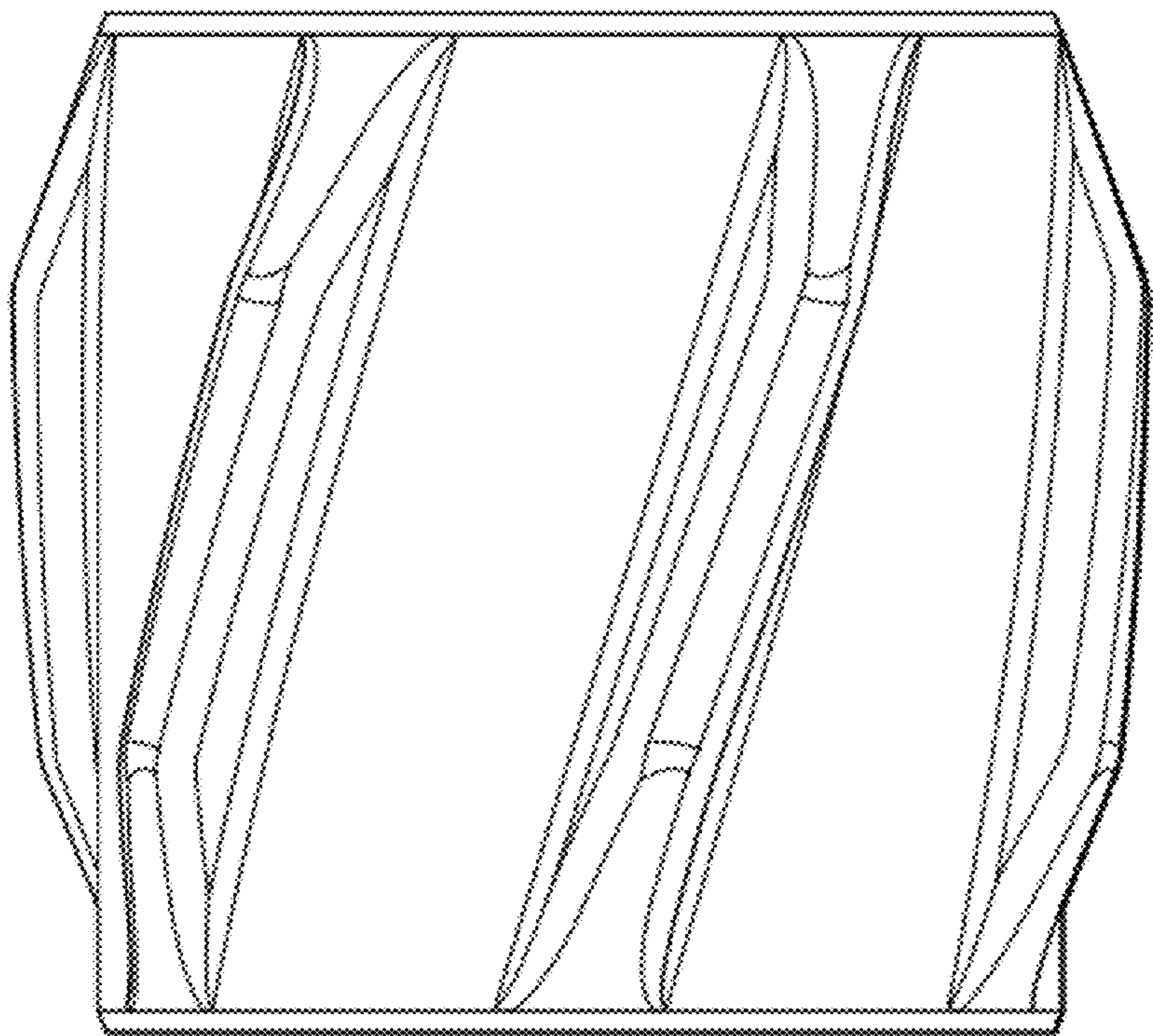


Fig. 2

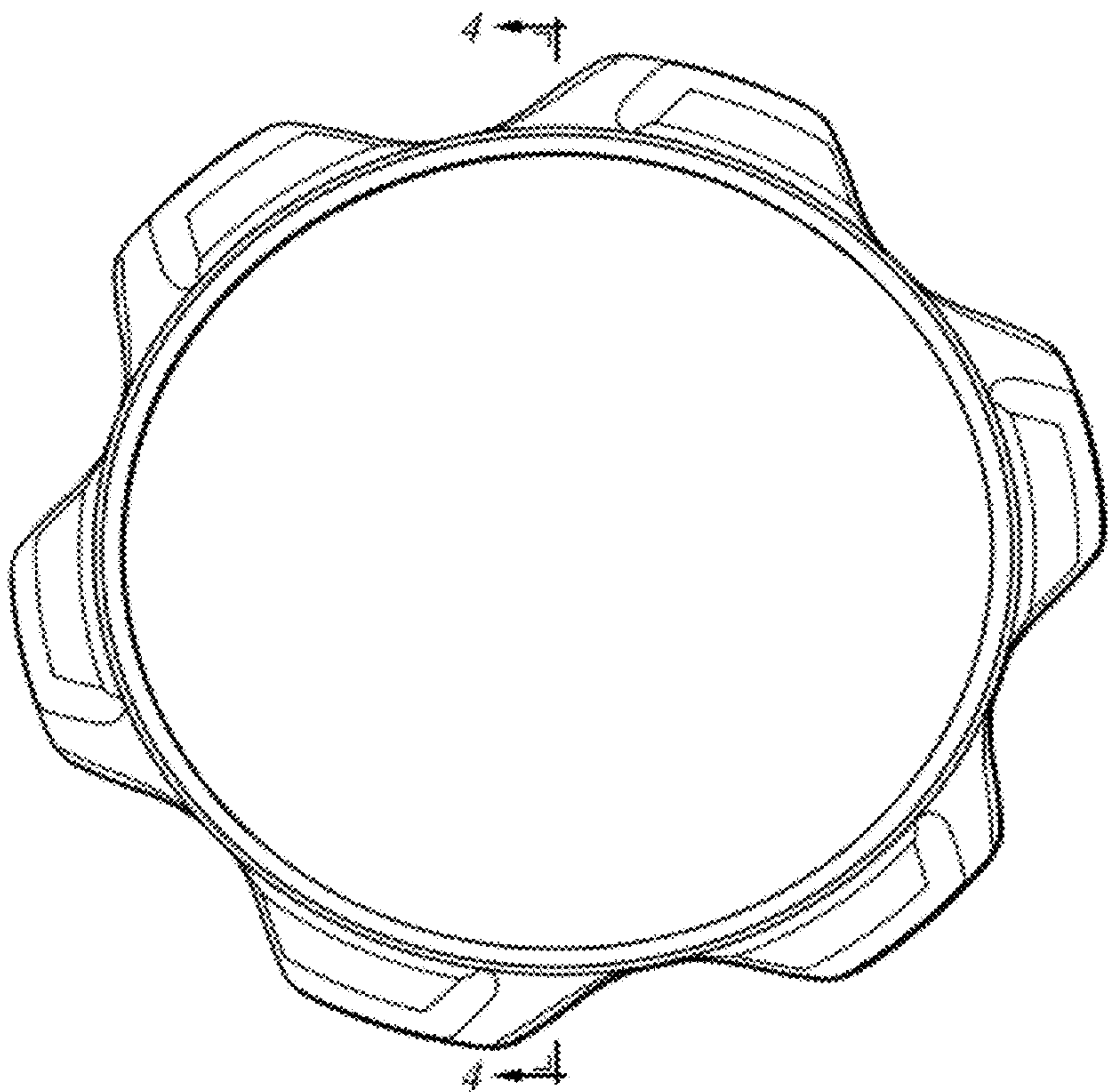


Fig. 3

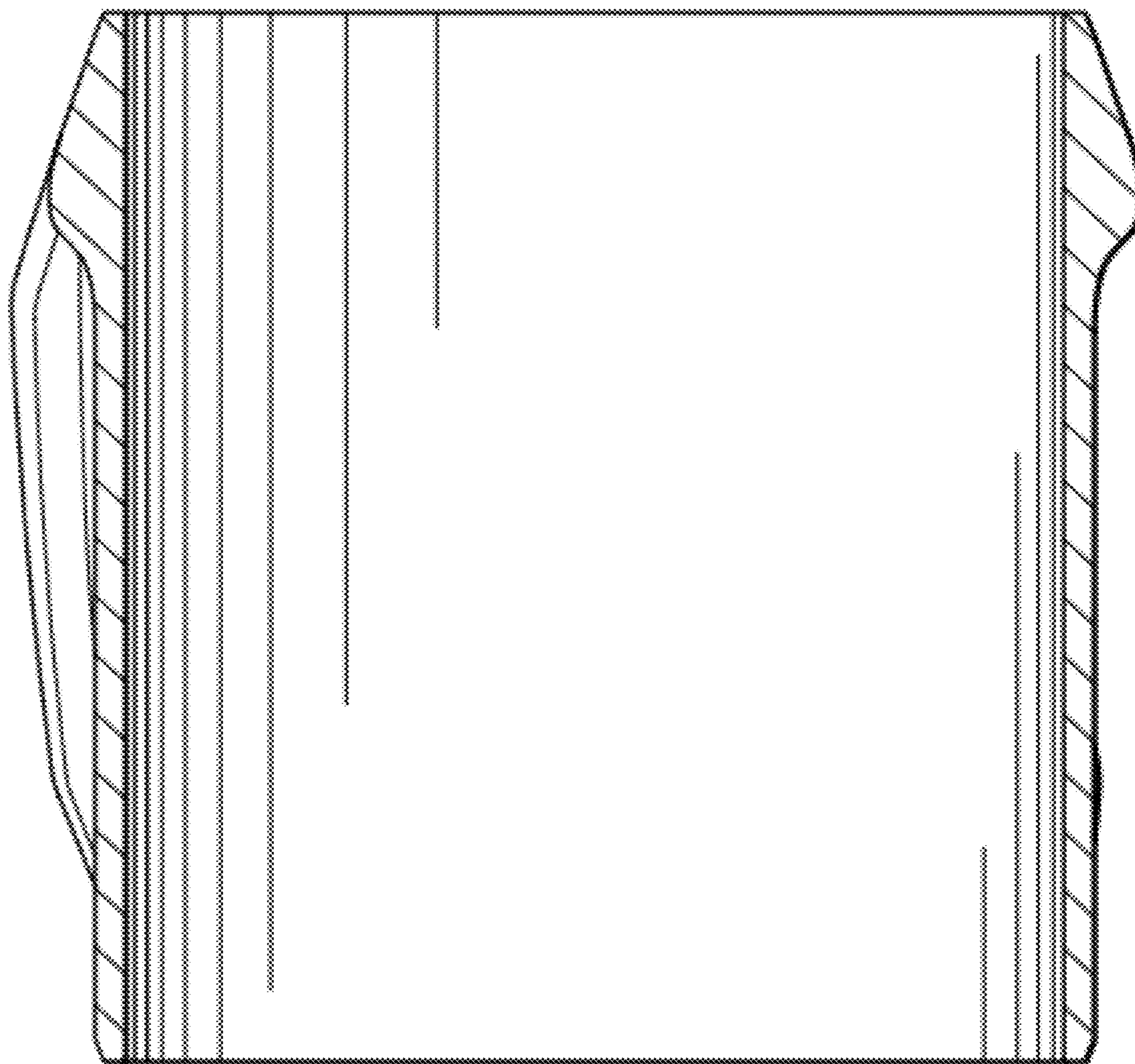


Fig. 4

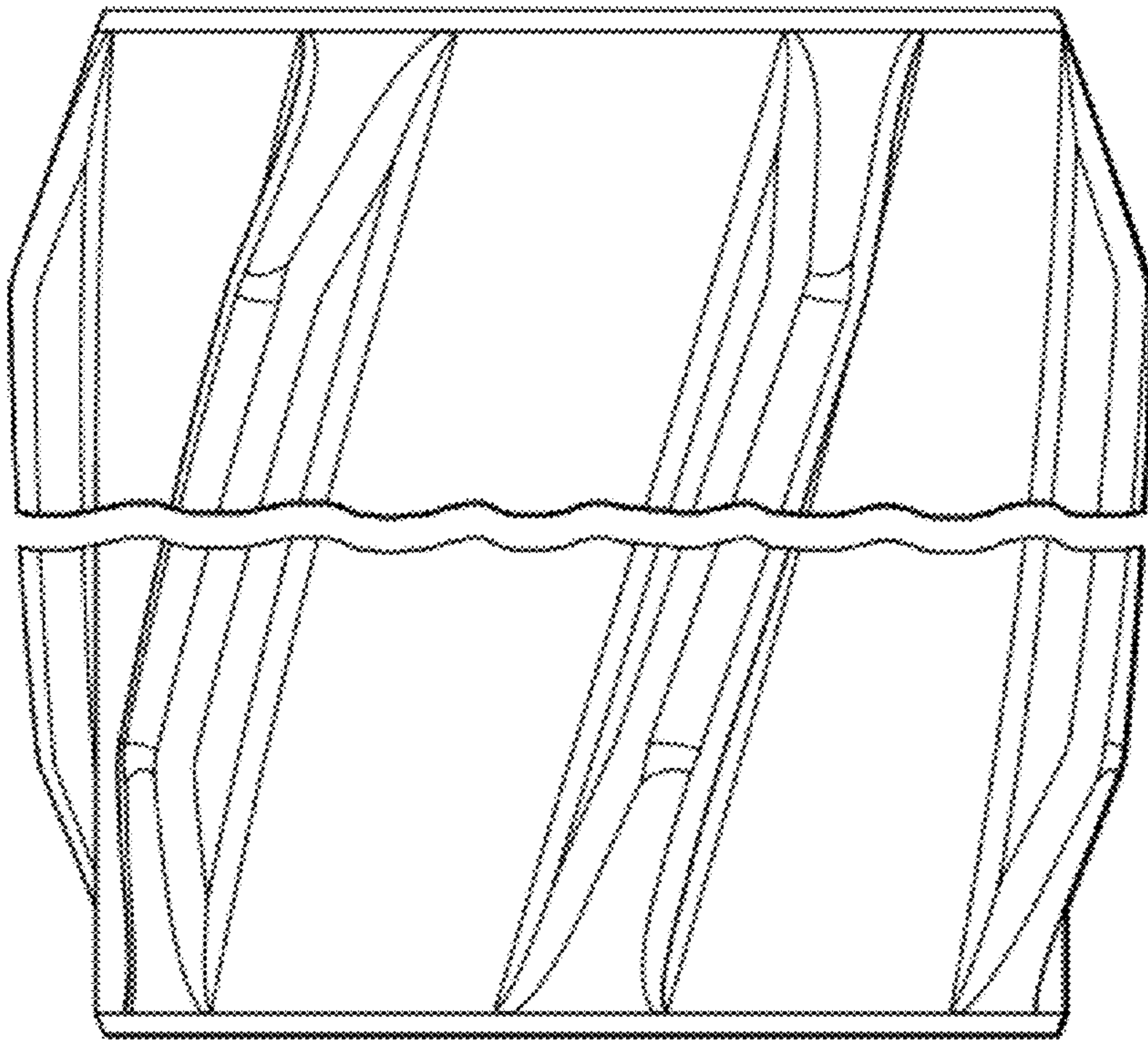


Fig. 5

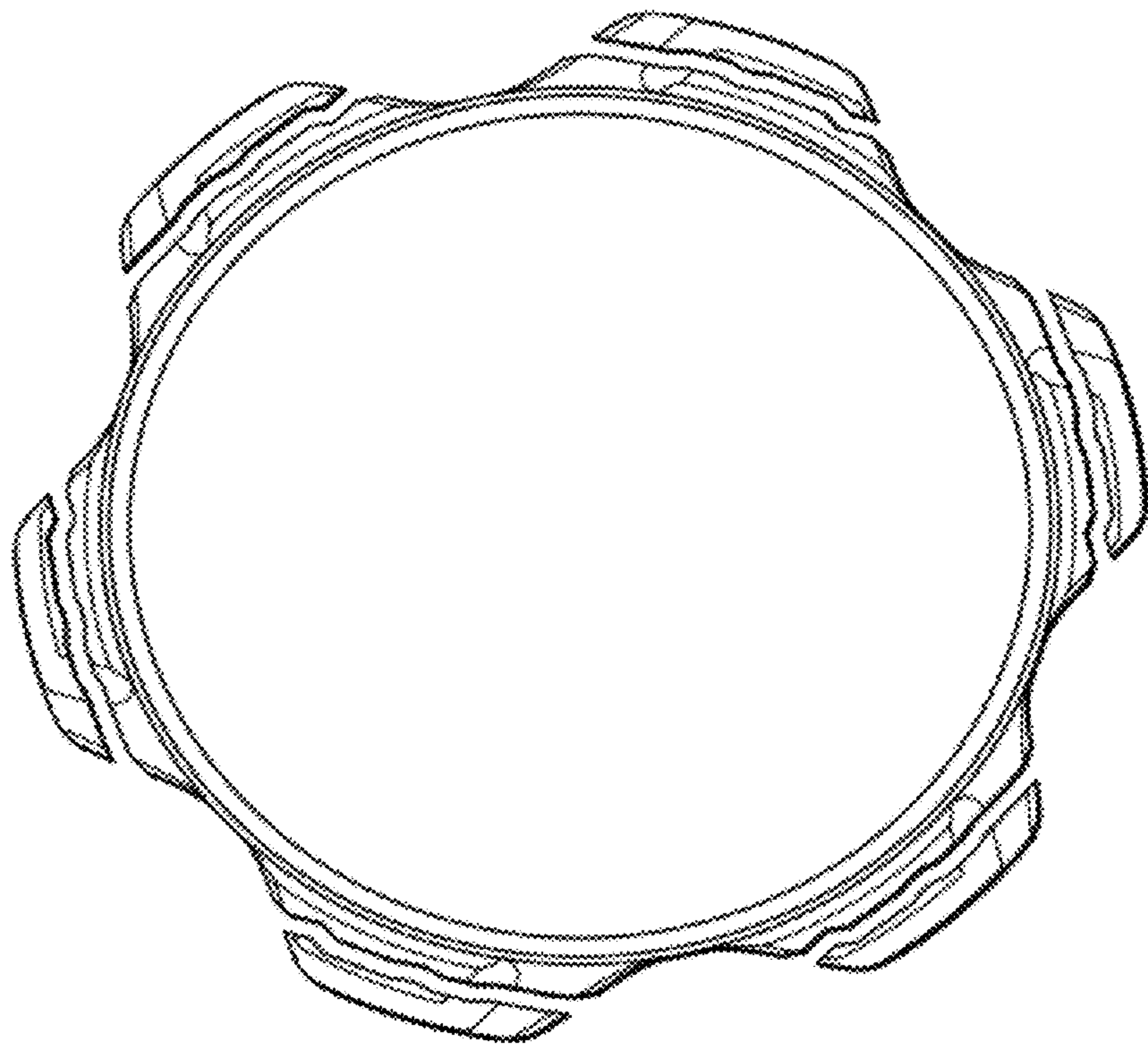


Fig. 6

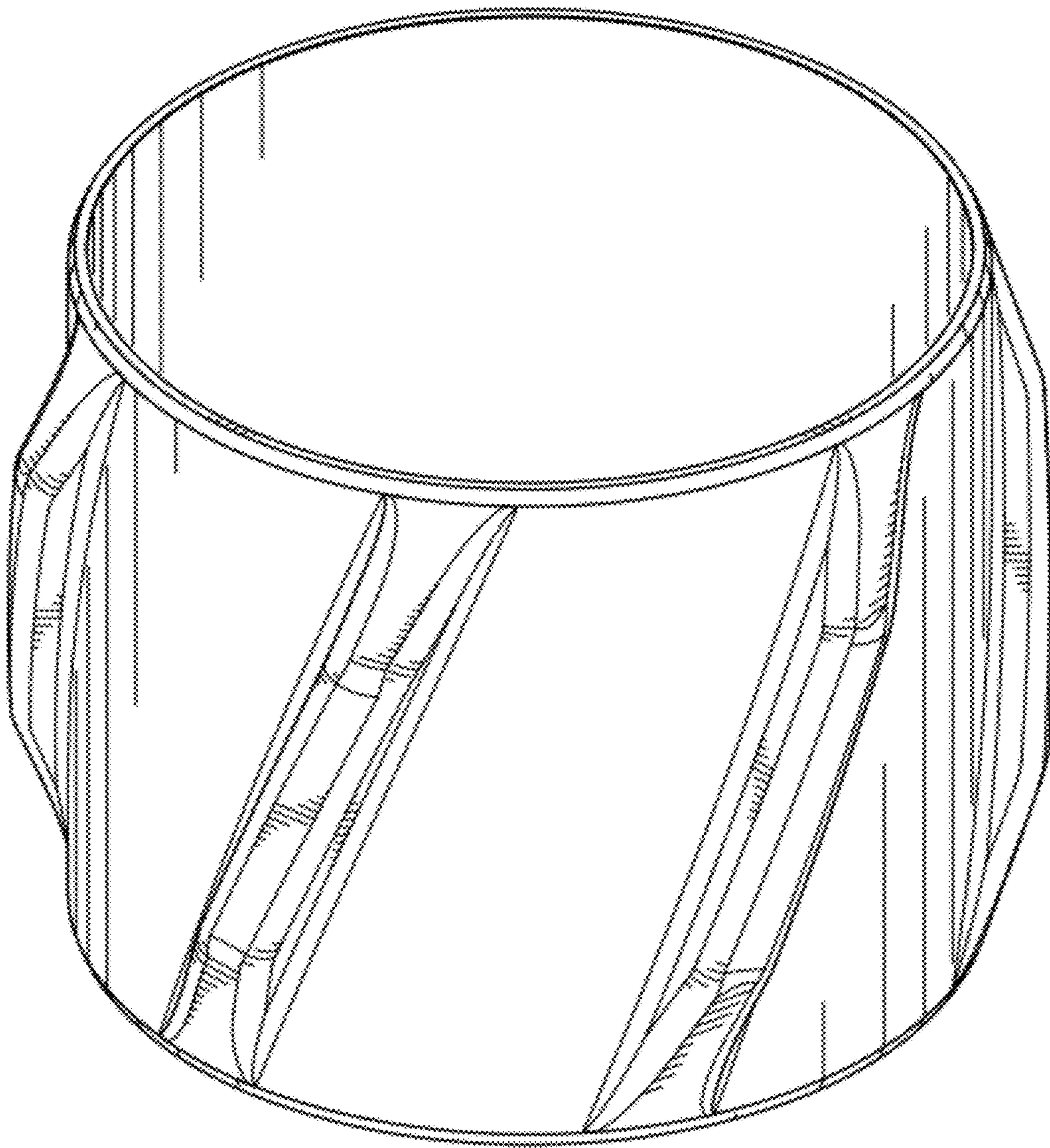


Fig. 7

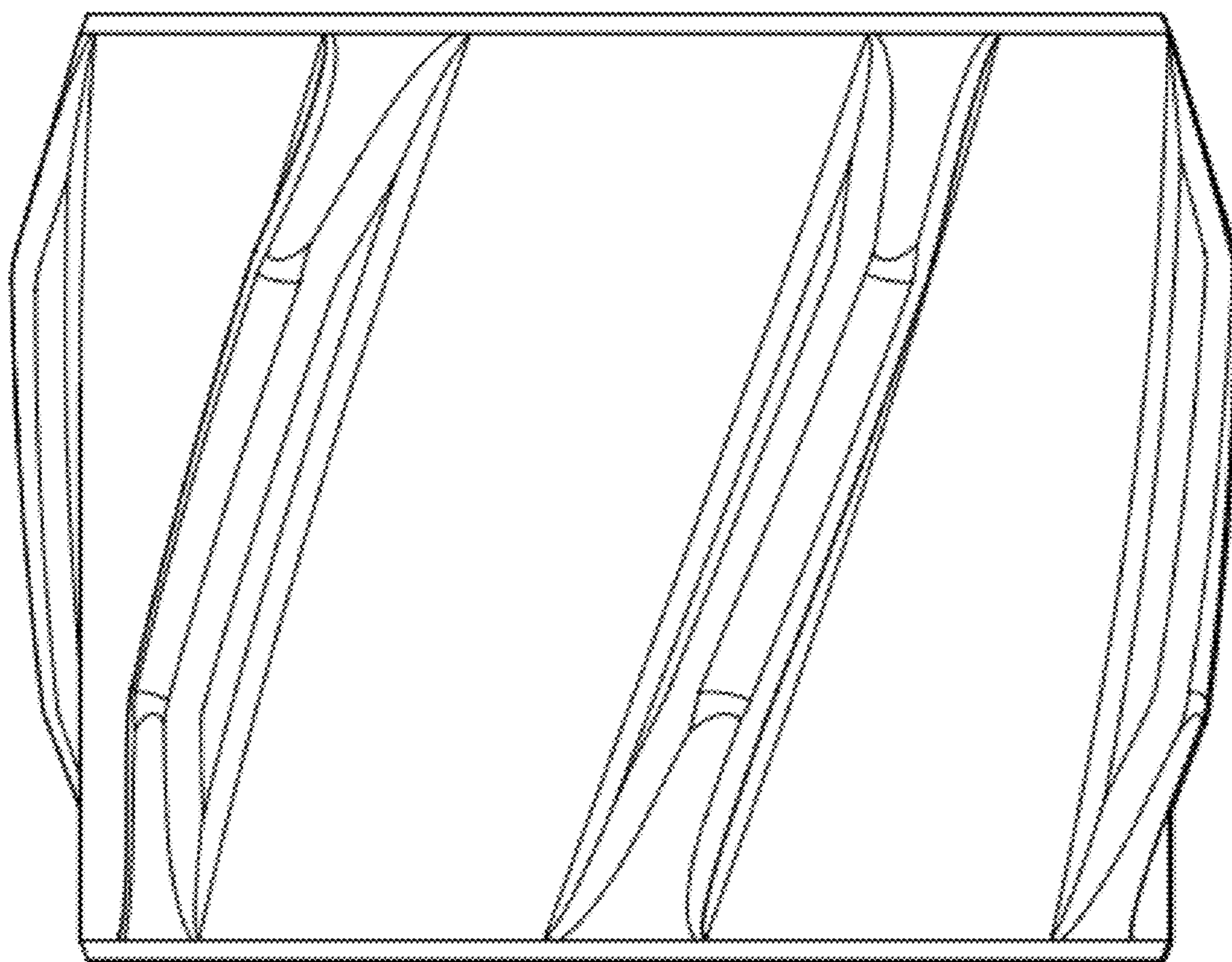


Fig. 8

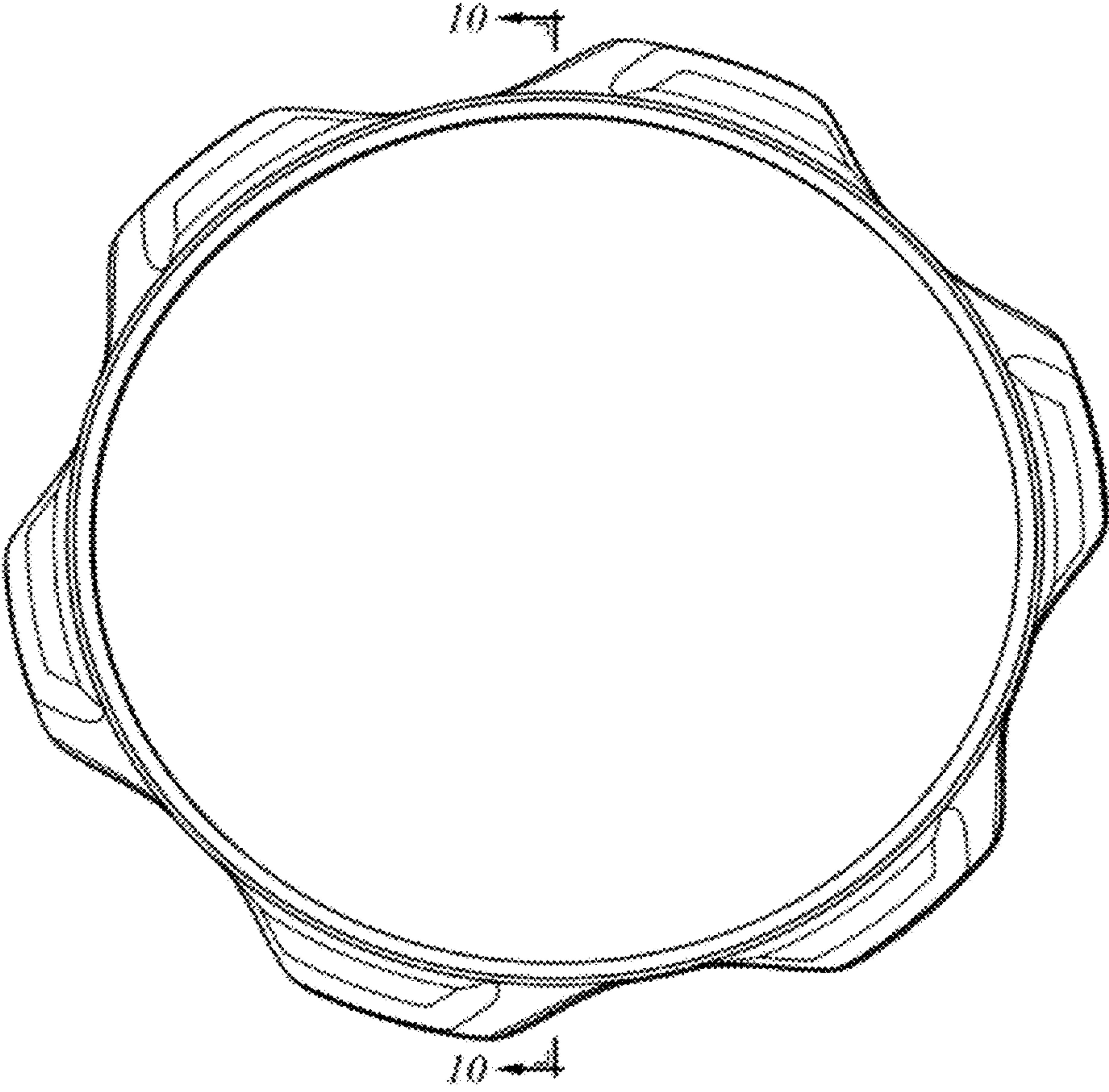


Fig. 9

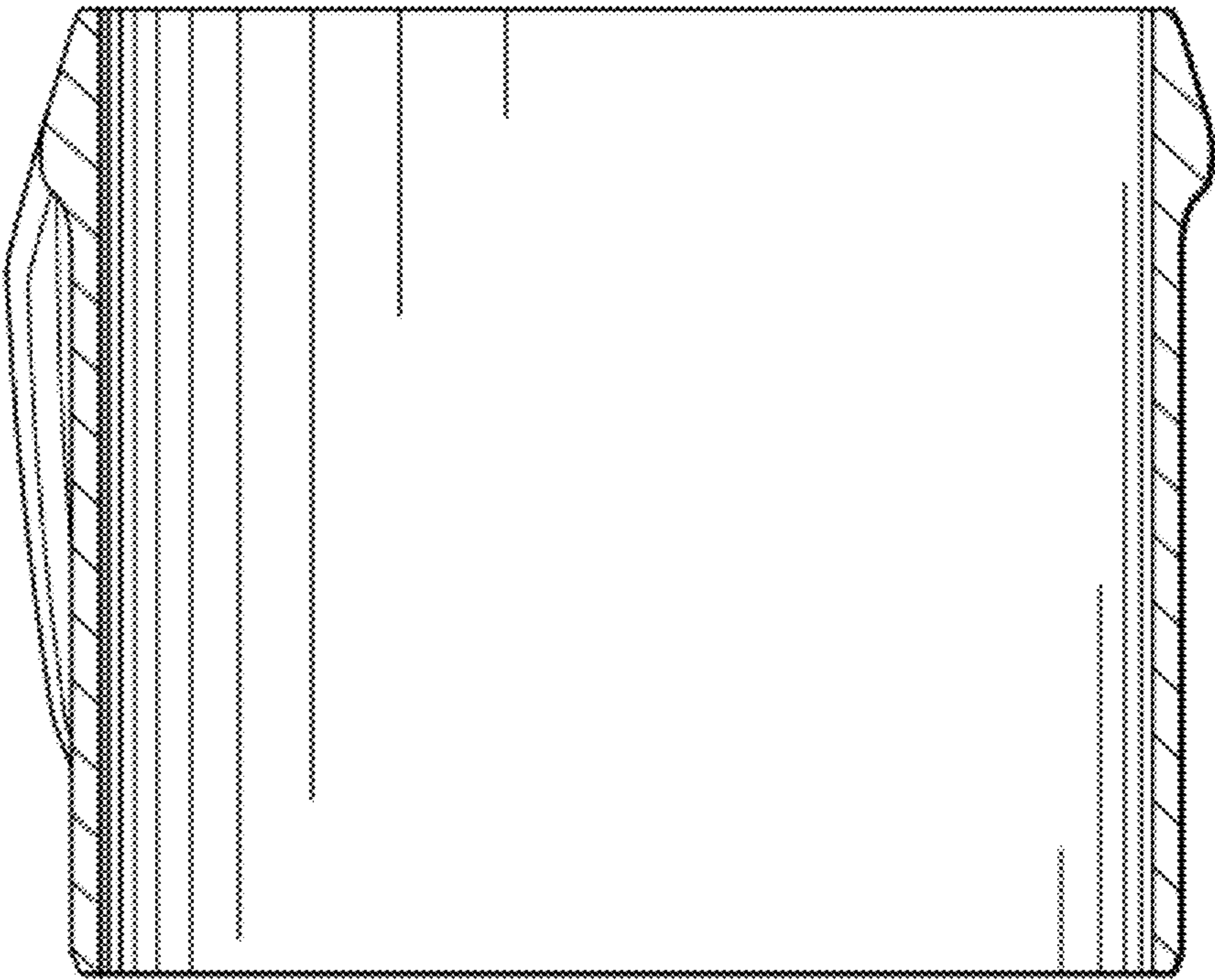


Fig. 10

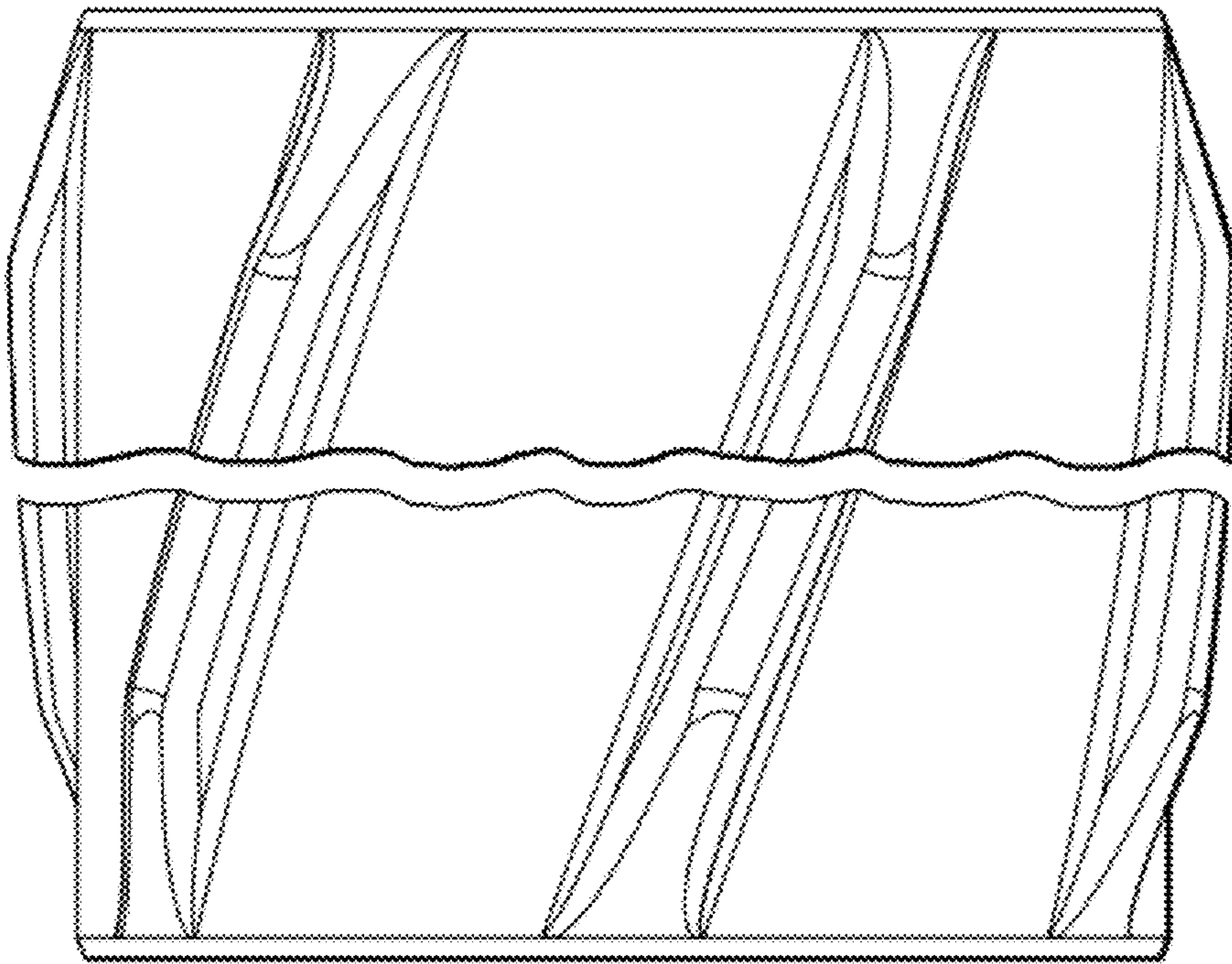


Fig. 11

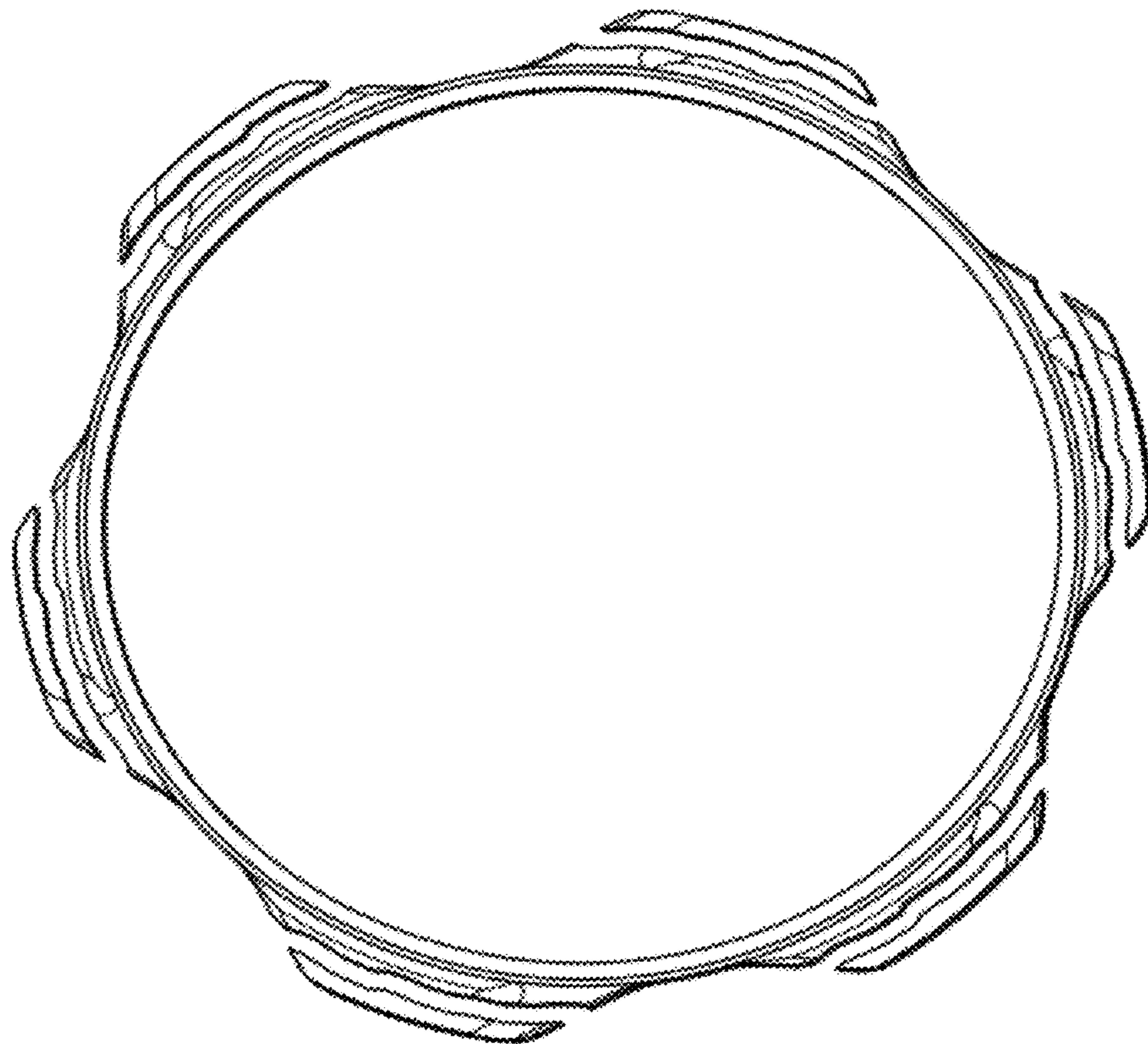


Fig. 12