



US00D697664S

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

(10) **Patent No.:** **US D697,664 S**
(45) **Date of Patent:** **** Jan. 14, 2014**

(54) **LED LENS**

(75) Inventor: **Mario Alberto Castillo**, Racine, WI
(US)

(73) Assignee: **Cree, Inc.**, Durham, NC (US)

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

(21) Appl. No.: **29/420,272**

(22) Filed: **May 7, 2012**

(51) **LOC (10) Cl.** **26-99**

(52) **U.S. Cl.**
USPC **D26/124**

(58) **Field of Classification Search**

USPC D26/154, 155, 152, 142, 151, 153, 113,
D26/119, 122, 123, 124, 138, 139, 145, 148,
D26/146, 147, 121, 125, 126, 74, 75, 144,
D26/150, 141, 118, 120, 128, 129, 132, 135,
D26/71, 72, 85, 62, 65, 64, 24, 1, 2, 66, 67,
D26/68, 73, 89, 86, 87, 88, 25, 26, 61, 63,
D26/69, 76, 77, 78, 79, 90, 91, 84, 92, 49,
D26/37, 38, 39; D13/179, 180, 171, 173;
D11/90, 121, 89; 63/32; 362/253, 257,
362/333, 326, 169, 187, 307, 327, 308, 309,
362/362, 337, 208, 158; 16/442; 359/708,
359/641, 726; D6/581; D9/452, 435, 453,
D9/443

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,404,004 A 1/1922 Benford
1,535,486 A 4/1925 Lundy

(Continued)

FOREIGN PATENT DOCUMENTS

EP 1107210 A2 6/2001
GB 2282700 4/1995

(Continued)

OTHER PUBLICATIONS

Future Lighting Solutions "the 6 Steps to LED Lighting Success"
brochure. Date: undated. 6 pages.

Primary Examiner — Kevin Rudzinski

(74) *Attorney, Agent, or Firm* — Jansson Munger McKinley
& Shape Ltd.

(57) **CLAIM**

The ornamental design for an LED lens, as shown and
described.

DESCRIPTION

FIG. 1 is a transparent top perspective view of the LED lens;
FIG. 2 is a transparent bottom perspective view of the lens of
FIGURE;

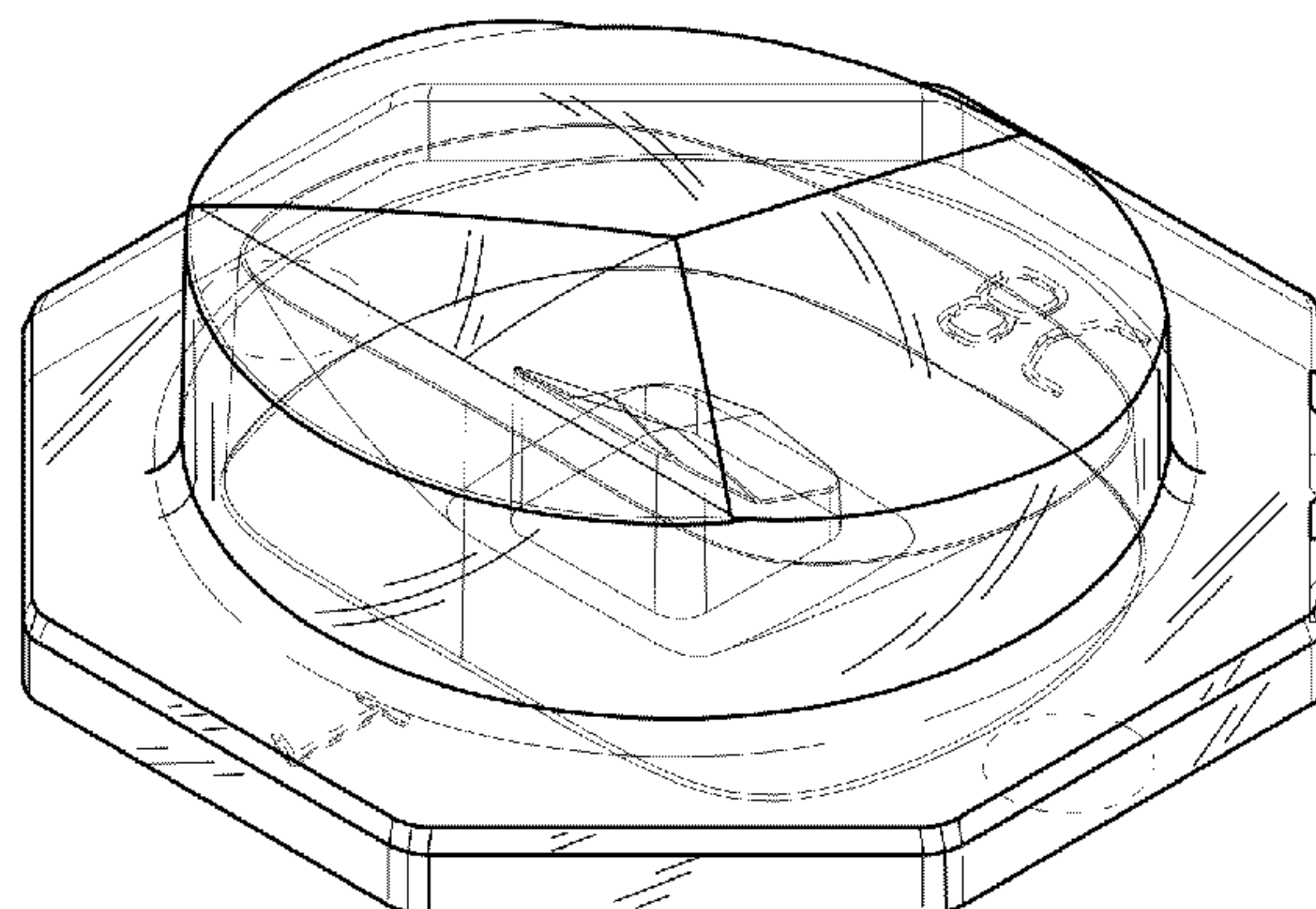
FIG. 3 is a transparent top plan view of the lens of FIG. 1;
FIG. 4 is a transparent bottom plan view of the lens of FIG. 1;
FIG. 5 is a transparent left side elevation of the lens of FIG. 1,
the right side elevation being a mirror image thereof;
FIG. 6 is a transparent front elevation of the lens of FIG. 1;
FIG. 7 is a transparent back elevation of the lens of FIG. 1;
FIG. 8 is an opaque top perspective view of the lens of FIG. 1;
FIG. 9 is an opaque bottom perspective view of the lens of
FIG. 1;

FIG. 10 is an opaque top plan view of the lens of FIG. 1;
FIG. 11 is an opaque bottom plan view of the lens of FIG. 1;
FIG. 12 is an opaque left side elevation of the lens of FIG. 1,
the right side elevation being a mirror image thereof;
FIG. 13 is an opaque front elevation of the lens of FIG. 1;
FIG. 14 is an opaque back elevation of the lens of FIG. 1;
FIG. 15 is a side-to-side sectional view taken along the middle
of the lens of FIG. 1; and,

FIG. 16 is a front-to-back sectional view taken along the
middle of the lens of FIG. 1.

Markings on in the flange of the lens being shown in phantom
lines. The phantom lines are provided for illustrative purposes
only and form no part of the claimed design.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2,007,033	A	7/1935	Williams	6,846,101	B2	1/2005	Coushaine
2,212,876	A	8/1940	Chauvet	6,851,835	B2	2/2005	Smith et al.
2,254,961	A	9/1941	Harris	6,896,381	B2	5/2005	Benitez et al.
2,802,097	A	9/1952	Franck	6,903,376	B2	6/2005	Shen et al.
2,908,197	A	10/1959	Wells et al.	6,918,677	B2	7/2005	Shipman
3,497,687	A	2/1970	Hermann	6,924,943	B2	8/2005	Minano et al.
3,625,615	A	12/1971	Wilson	6,929,384	B2	8/2005	Watanabe et al.
4,186,995	A	2/1980	Schumacher	6,948,840	B2	9/2005	Grenda et al.
4,254,453	A	3/1981	Mouyard et al.	6,955,451	B2	10/2005	Coushaine et al.
4,336,580	A	6/1982	Mouyard et al.	6,987,613	B2	1/2006	Pocius et al.
4,345,308	A	8/1982	Mouyard et al.	6,991,355	B1	1/2006	Coushaine et al.
4,650,998	A	3/1987	Martin	6,995,402	B2	2/2006	Ludowise et al.
4,767,172	A	8/1988	Nichols et al.	7,009,213	B2	3/2006	Camras et al.
4,845,600	A	7/1989	Matsumura et al.	7,021,797	B2	4/2006	Minano et al.
4,862,330	A	8/1989	Machida et al.	7,042,021	B2	5/2006	Isoda
4,935,665	A	6/1990	Murata	7,053,419	B1	5/2006	Camras et al.
4,941,072	A	7/1990	Yasumoto et al.	7,063,441	B2	6/2006	Kramer et al.
5,001,609	A	3/1991	Gardner et al.	7,063,450	B2	6/2006	Ehara et al.
5,013,144	A	5/1991	Silverglate et al.	7,064,355	B2	6/2006	Camras et al.
5,014,165	A	5/1991	Naganawa	7,080,932	B2	7/2006	Keuper
5,062,027	A	10/1991	Machida et al.	7,083,313	B2	8/2006	Smith
5,127,728	A	7/1992	Warren et al.	7,104,672	B2	9/2006	Zhang
5,140,220	A	8/1992	Hasegawa	7,106,523	B2	9/2006	McLean et al.
5,174,649	A	12/1992	Alston	7,111,972	B2	9/2006	Coushaine et al.
RE34,254	E	5/1993	Dragoon	7,114,838	B2	10/2006	Wu
5,289,082	A	2/1994	Komoto	7,118,236	B2	10/2006	Hahm et al.
5,302,778	A	4/1994	Maurinus	7,118,262	B2	10/2006	Negley
5,349,504	A	9/1994	Simms et al.	7,121,691	B2	10/2006	Coushaine et al.
5,592,578	A	1/1997	Ruh	7,125,143	B2	10/2006	Hacker
5,784,209	A	7/1998	Manabe	7,125,160	B2	10/2006	Wong et al.
5,813,743	A	9/1998	Naka	7,150,553	B2	12/2006	English et al.
5,813,752	A	9/1998	Singer et al.	7,153,000	B2	12/2006	Park et al.
5,865,529	A	2/1999	Yan	7,153,002	B2	12/2006	Kim et al.
5,894,195	A	4/1999	McDermott	7,172,324	B2	2/2007	Wu et al.
5,894,196	A	4/1999	McDermott	7,181,378	B2	2/2007	Benitez et al.
5,898,267	A	4/1999	McDermott	7,182,497	B2	2/2007	Lee et al.
5,924,788	A	7/1999	Parkyn, Jr.	D542,239	S *	5/2007	Egawa D13/180
5,939,996	A	8/1999	Kniveton et al.	7,213,945	B2	5/2007	Yoneda et al.
5,995,291	A	11/1999	Togino	7,246,923	B2	7/2007	Conner
6,055,111	A *	4/2000	Nomura et al. 359/642	7,246,931	B2	7/2007	Hsieh et al.
6,097,549	A	8/2000	Jenkins et al.	7,254,309	B1	8/2007	Chou et al.
6,229,160	B1	5/2001	Krames et al.	7,329,029	B2	2/2008	Chaves et al.
6,244,727	B1	6/2001	Ryan, Jr. et al.	7,348,723	B2	3/2008	Yamaguchi et al.
6,250,787	B1	6/2001	Matubara	7,352,011	B2	4/2008	Smits et al.
6,273,596	B1	8/2001	Parkyn, Jr.	D573,554	S *	7/2008	Kobayakawa D13/180
6,274,924	B1	8/2001	Carey et al.	7,410,275	B2	8/2008	Sommers et al.
6,283,613	B1	9/2001	Schaffer	7,411,742	B1	8/2008	Kim et al.
6,296,376	B1	10/2001	Kondo et al.	D576,575	S *	9/2008	Kanayama et al. D13/180
6,323,063	B2	11/2001	Krames et al.	7,549,769	B2	6/2009	Kim et al.
6,361,190	B1	3/2002	McDermott	7,618,163	B2 *	11/2009	Wilcox 362/336
6,361,192	B1	3/2002	Fussell et al.	D611,078	S *	3/2010	Chen et al. D16/101
6,443,594	B1	9/2002	Marshall et al.	7,674,018	B2	3/2010	Holder et al.
6,473,238	B1	10/2002	Daniell	D618,636	S *	6/2010	Hsieh D13/180
6,481,130	B1	11/2002	Wu	7,766,509	B1	8/2010	Laporte
6,498,355	B1	12/2002	Harrah et al.	7,841,750	B2	11/2010	Wilcox et al.
6,502,956	B1	1/2003	Wu	7,854,536	B2 *	12/2010	Holder et al. 362/311.02
6,504,301	B1	1/2003	Lowery	7,866,837	B2 *	1/2011	Ho 362/19
6,541,800	B2	4/2003	Barnett et al.	7,901,098	B2	3/2011	Saitoh et al.
6,547,423	B2	4/2003	Marshall et al.	7,922,369	B2	4/2011	Condon et al.
6,550,940	B2	4/2003	Kamiya et al.	7,942,558	B2	5/2011	Zweig et al.
6,554,451	B1	4/2003	Keuper	D649,944	S *	12/2011	Kuwaharada et al. D13/180
6,560,038	B1	5/2003	Parkyn, Jr. et al.	8,132,944	B2	3/2012	Ruud et al.
6,570,190	B2	5/2003	Krames et al.	8,215,814	B2 *	7/2012	Marcoux 362/555
6,598,998	B2	7/2003	West et al.	D666,353	S *	8/2012	Lin et al. D26/124
6,601,962	B1	8/2003	Ehara et al.	8,293,548	B2 *	10/2012	Cheng et al. 438/27
6,607,286	B2	8/2003	West et al.	8,348,475	B2 *	1/2013	Wilcox et al. 362/332
6,616,299	B2	9/2003	Martineau	2004/0037076	A1	2/2004	Katoh et al.
6,637,921	B2	10/2003	Coushaine	2004/0114355	A1	6/2004	Rizkin
6,679,621	B2	1/2004	West et al.	2004/0156209	A1	8/2004	Ishida
6,682,211	B2	1/2004	English et al.	2004/0207999	A1	10/2004	Suehiro et al.
D488,137	S *	4/2004	Kamada D13/182	2004/0212291	A1	10/2004	Keuper
6,721,101	B2	4/2004	Daniell	2005/0023538	A1 *	2/2005	Ishii et al. 257/79
6,730,940	B1	5/2004	Steranka et al.	2005/0073849	A1	4/2005	Rhoads et al.
6,808,293	B2	10/2004	Watanabe et al.	2005/0083699	A1	4/2005	Rhoads et al.
6,837,605	B2	1/2005	Reill	2005/0179041	A1	8/2005	Harbers et al.
				2005/0205878	A1	9/2005	Kan
				2005/0224826	A1	10/2005	Keuper et al.
				2005/0281047	A1	12/2005	Coushaine et al.
				2006/0013000	A1	1/2006	Coushaine et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

2006/0013002 A1

1/2006

Coushaine et al.

2006/0039143 A1

2/2006

Katoh et al.

2006/0067640 A1

3/2006

Hsieh et al.

2006/0082999 A1

4/2006

Klein

2006/0083000 A1

4/2006

Yoon et al.

2006/0105482 A1

5/2006

Alferink et al.

2006/0181902 A1

8/2006

Tamura et al.

2006/0186431 A1

8/2006

Miki et al.

2006/0198144 A1

9/2006

Miyairi et al.

2007/0019416 A1

1/2007

Han et al.

2007/0058369 A1

3/2007

Parkyn et al.

2007/0126020 A1 *

6/2007

Lin et al. 257/100

2007/0201225 A1

8/2007

Holder et al.

2008/0101063 A1

5/2008

Koike et al.

2008/0203412 A1 *

8/2008

Shyu et al. 257/98

2008/0205061 A1

8/2008

Holder et al.

2008/0239722 A1

10/2008

Wilcox

2009/0086498 A1

4/2009

Condon et al.

2009/0290360 A1

11/2009

Wilcox et al.

2010/0014286 A1

1/2010

Yoneda et al.

2010/0039810 A1

2/2010

Holder et al.

2010/0073927 A1

3/2010

Lewin et al.

2010/0073937 A1 *

3/2010

Ho 362/335

2010/0085763 A1

4/2010

Aguglia

2010/0085764 A1

4/2010

Chuang

2010/0110695 A1

5/2010

Nakamura

2010/0128488 A1

5/2010

Marcoux

2010/0135028 A1

6/2010

Kokubo

2010/0226130 A1 *

9/2010

Cheng et al. 362/294

2010/0271708 A1

10/2010

Wilcox

FOREIGN PATENT DOCUMENTS

JP

60199746

10/1985

JP

61160328

7/1986

JP

61185980

8/1986

JP

61214485

9/1986

JP

8264839

10/1996

WO

WO9950596

10/1999

WO

WO0024062

4/2000

WO

WO2006111805 A1

10/2006

WO

WO2007018927 A2

2/2007

WO

WO2008144672 A1

11/2008

* cited by examiner

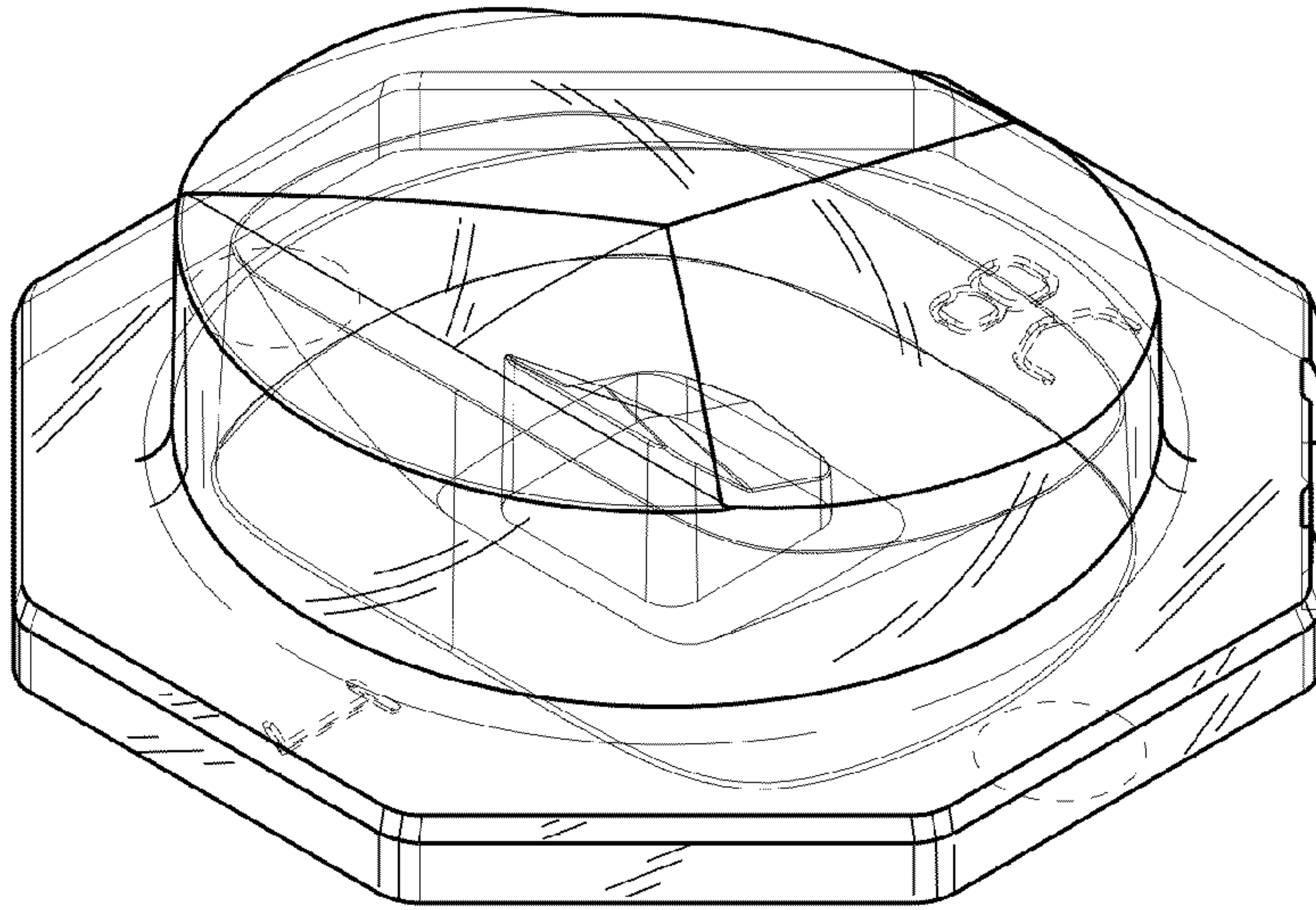


FIG. 1

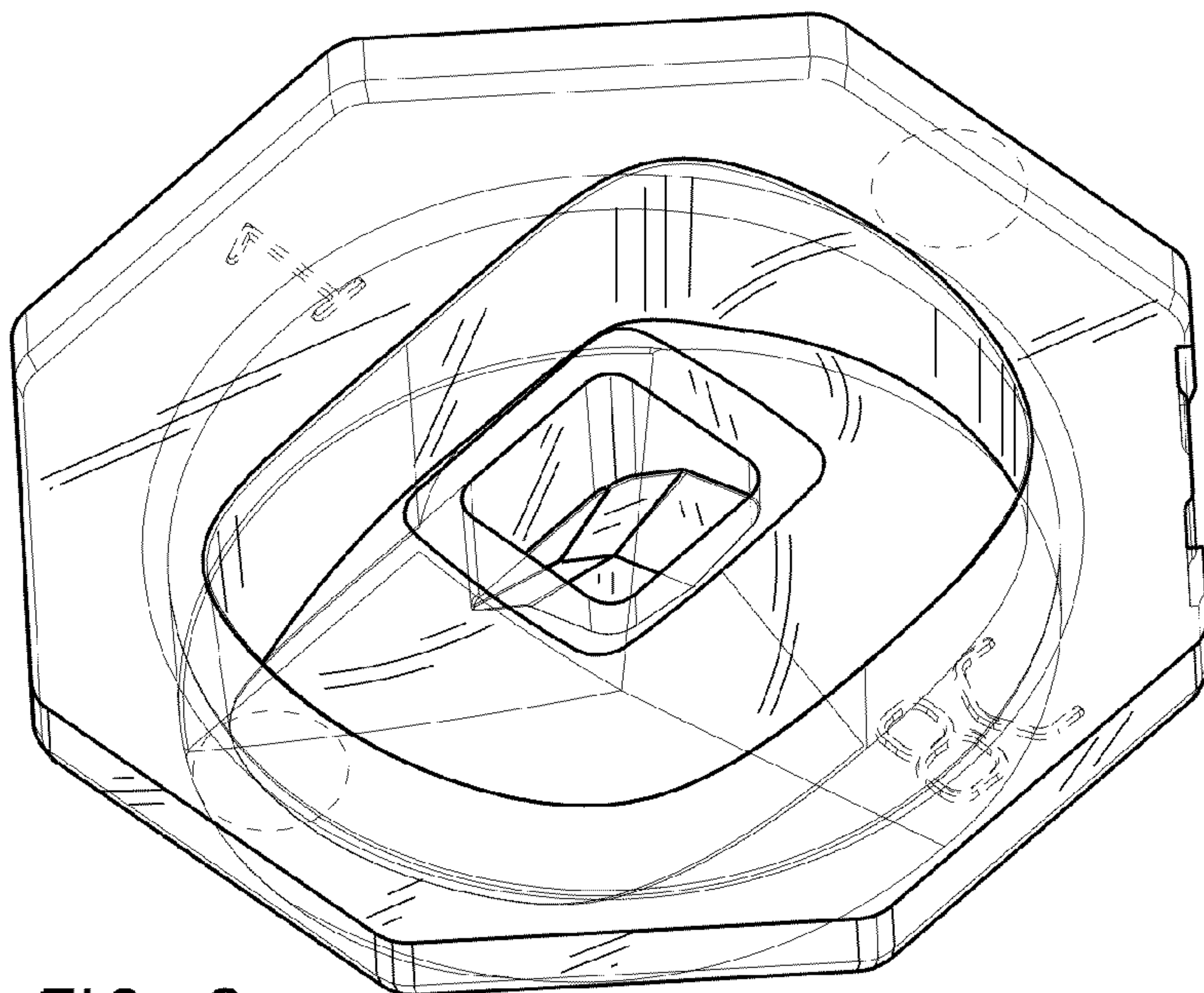


FIG. 2

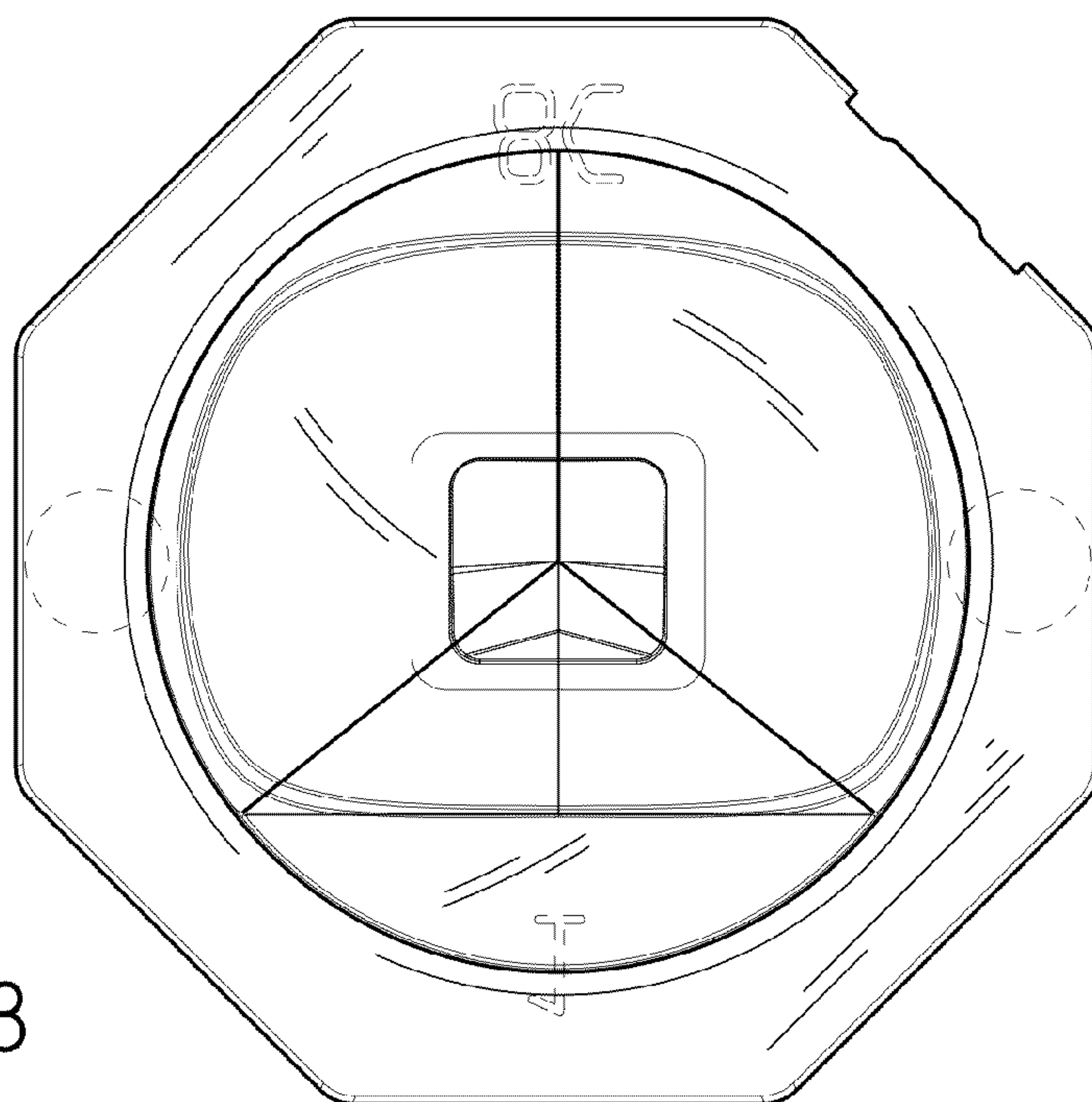


FIG. 3

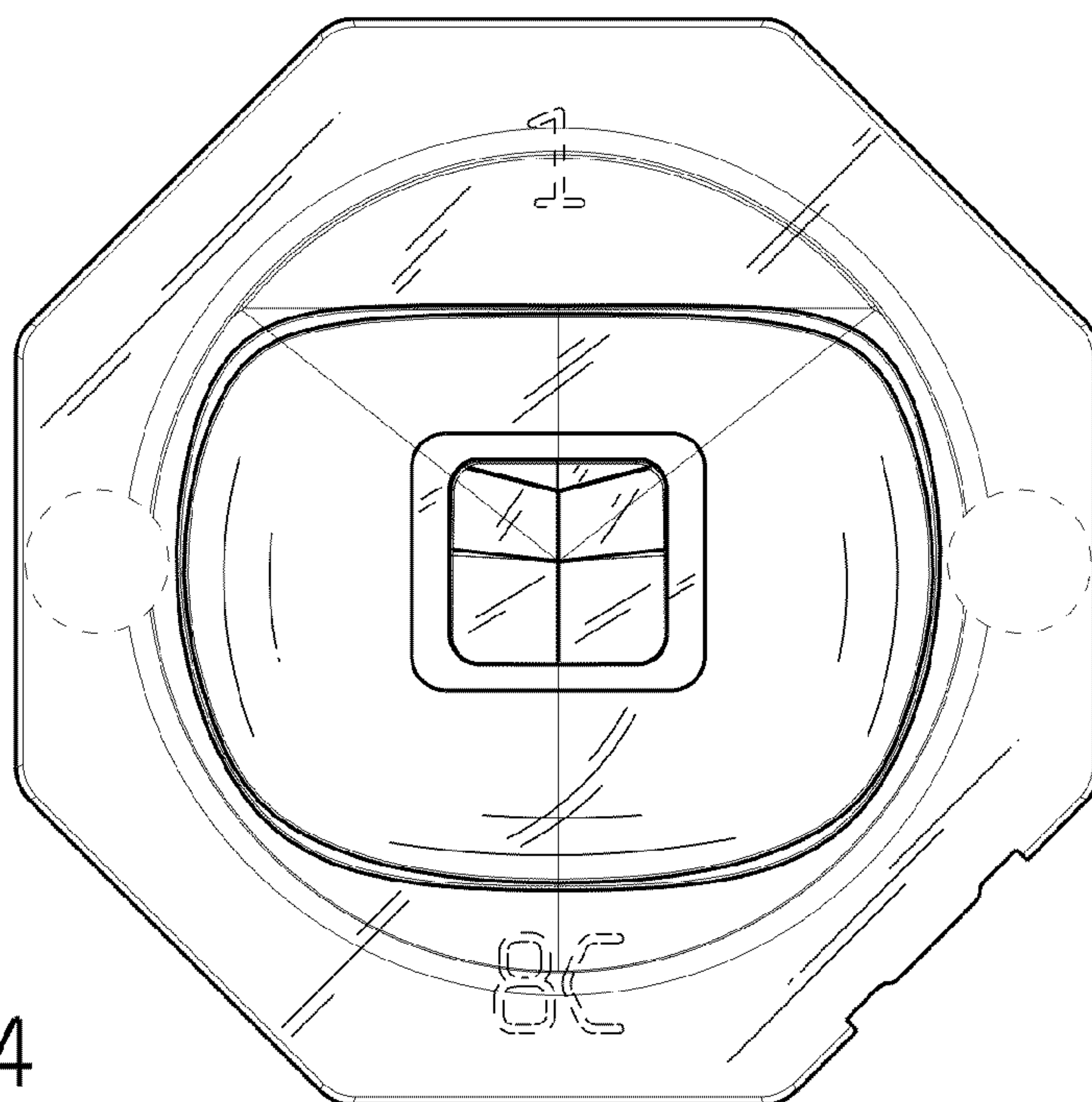


FIG. 4

FIG. 5

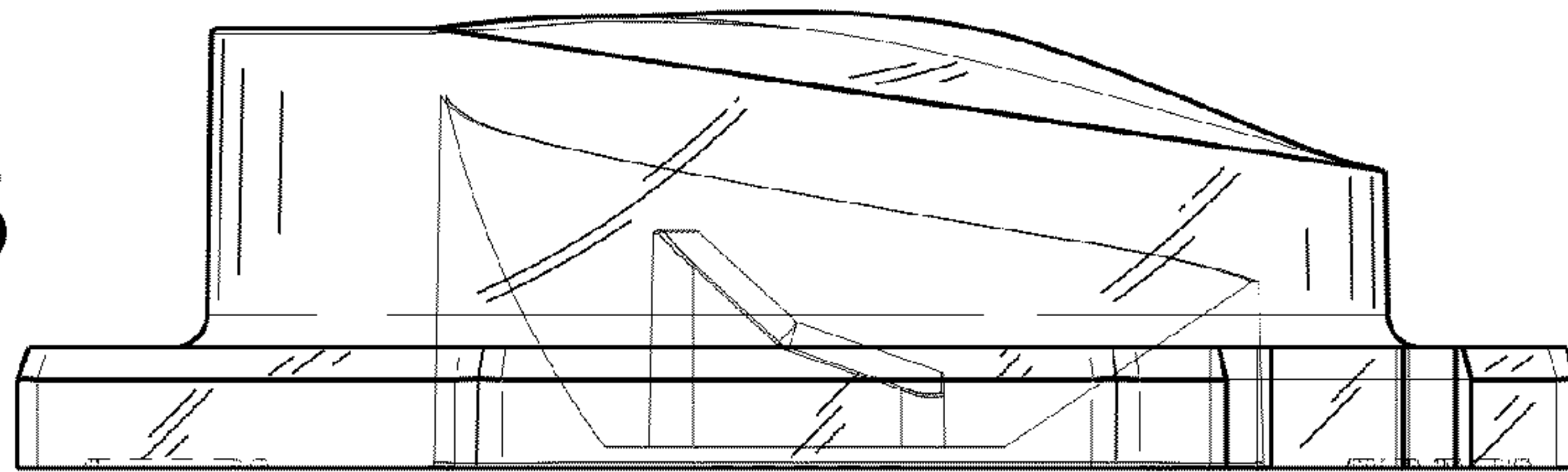


FIG. 6

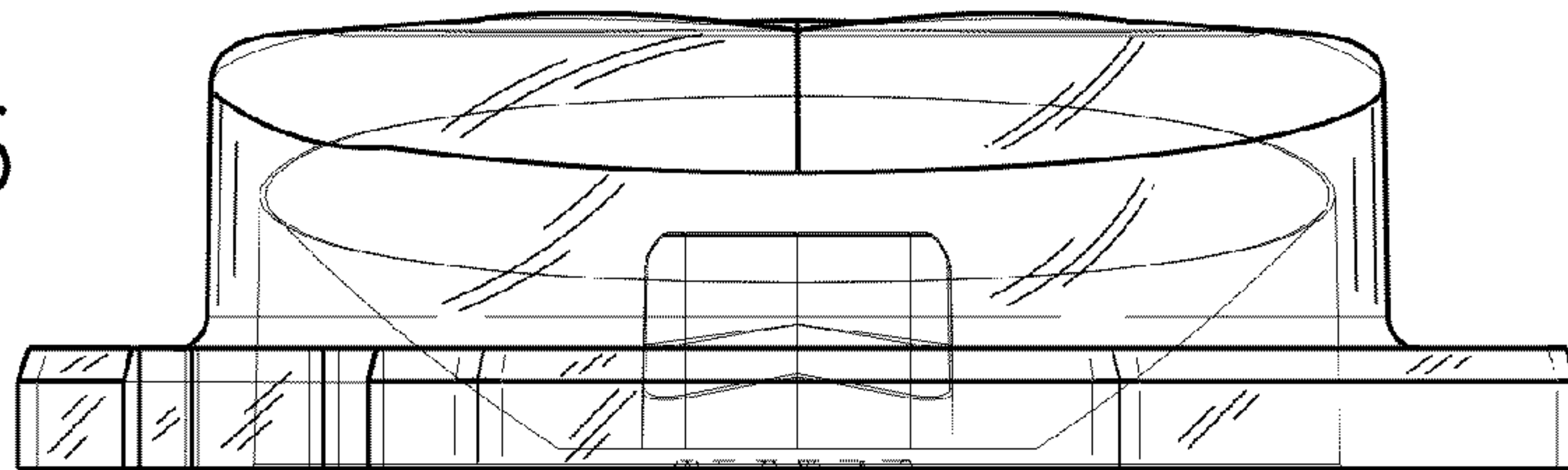
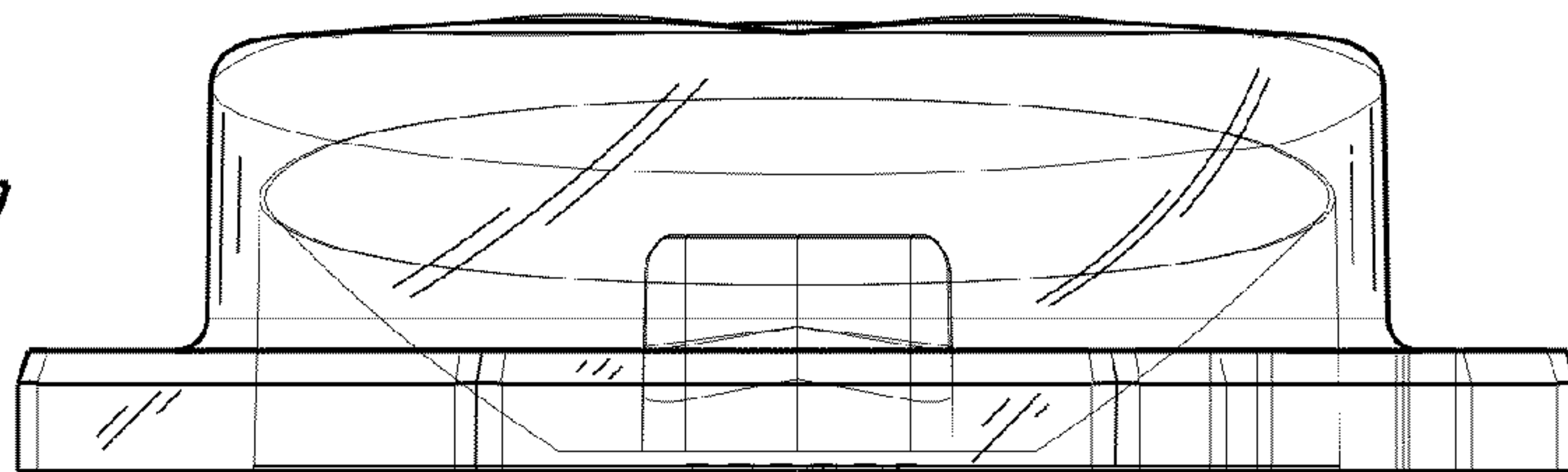


FIG. 7



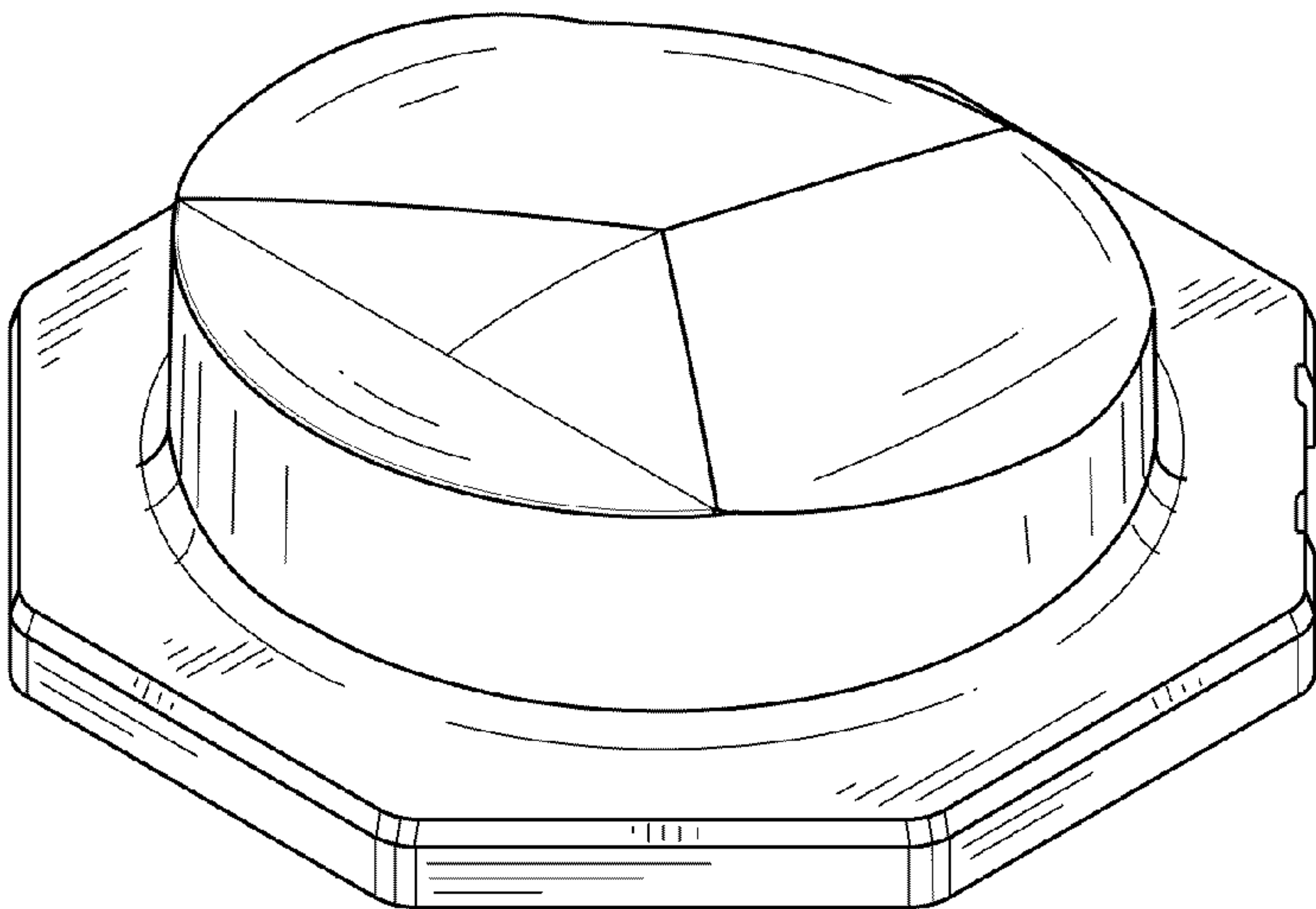


FIG. 8

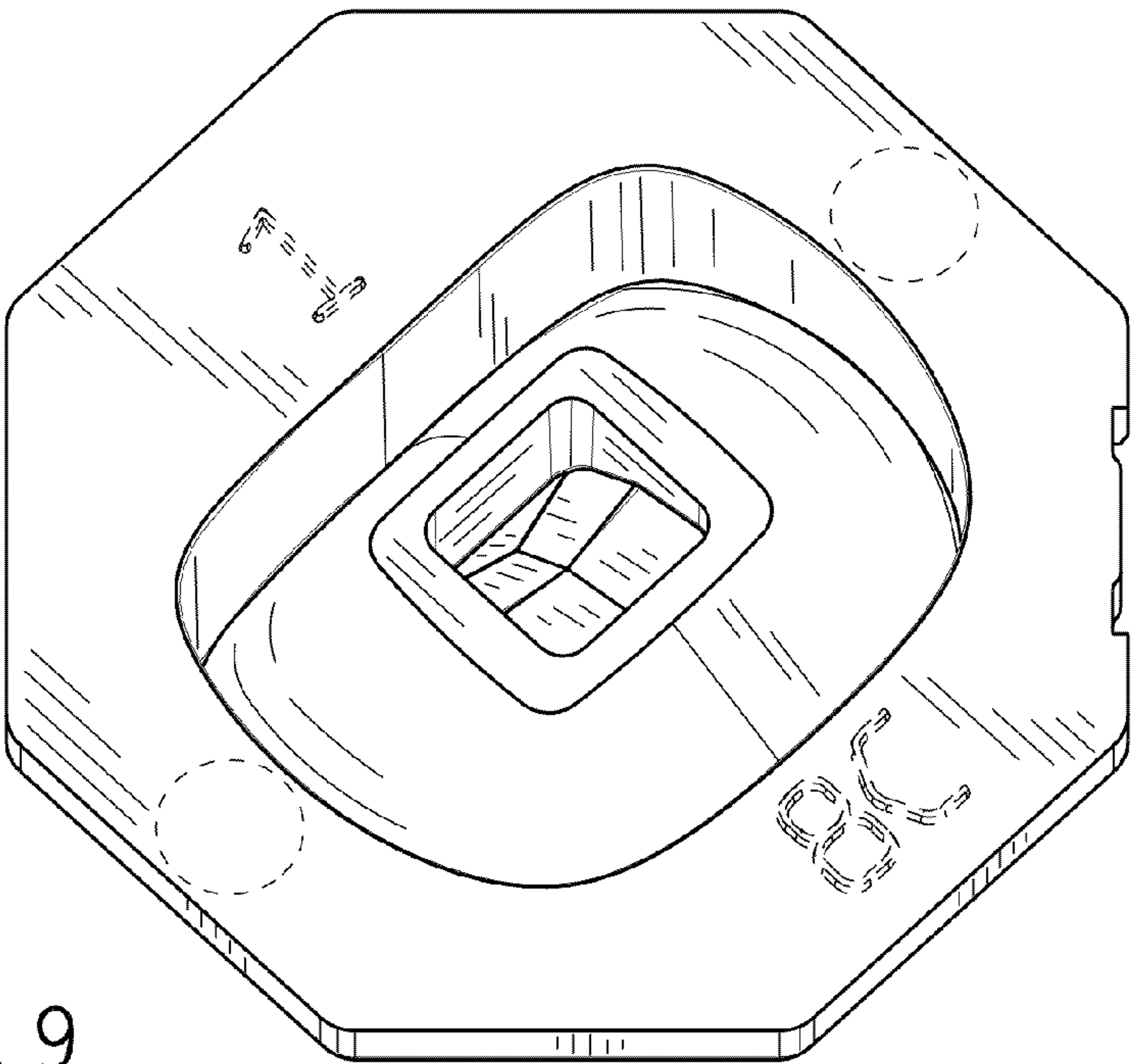


FIG. 9

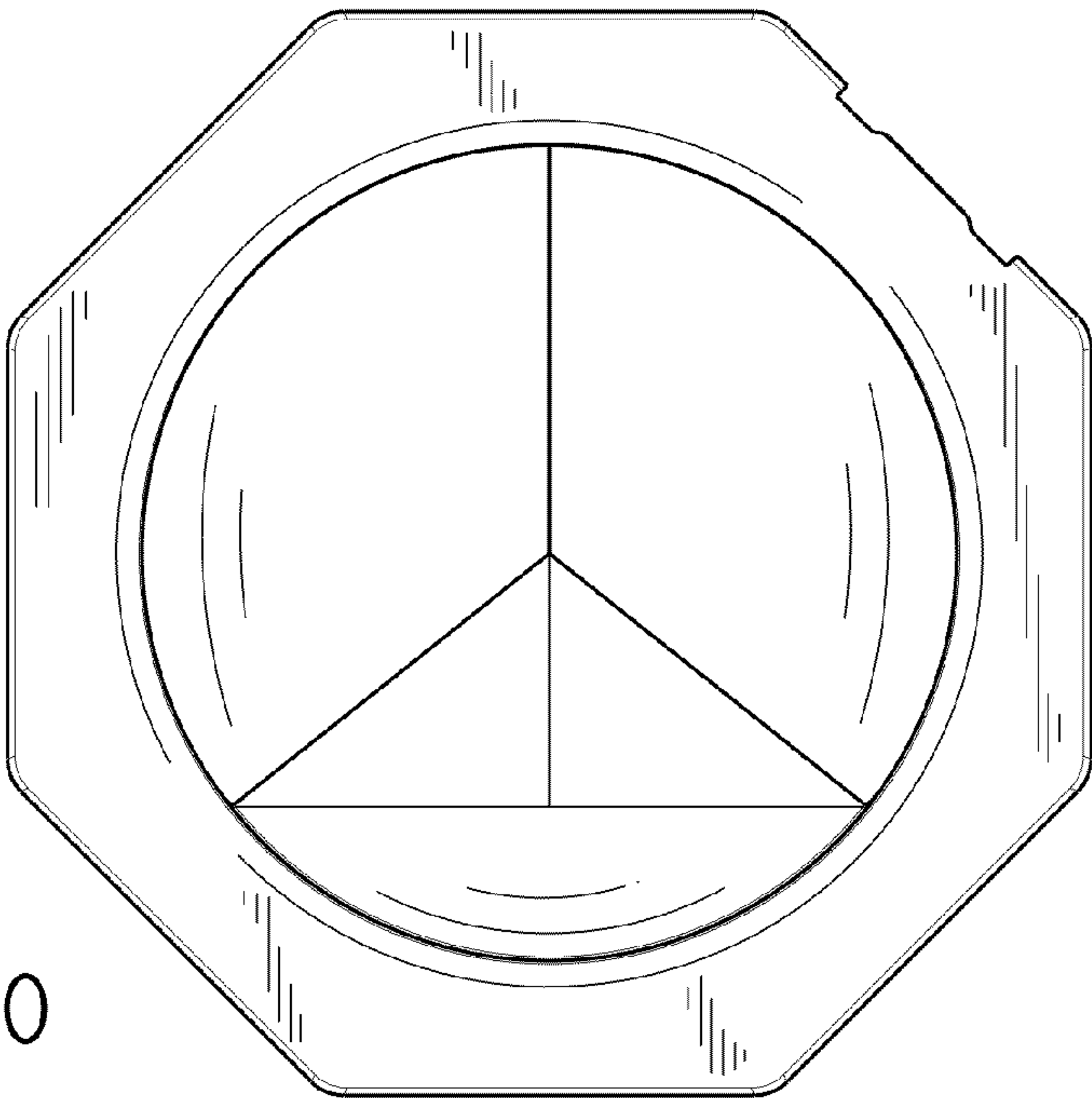


FIG. 10

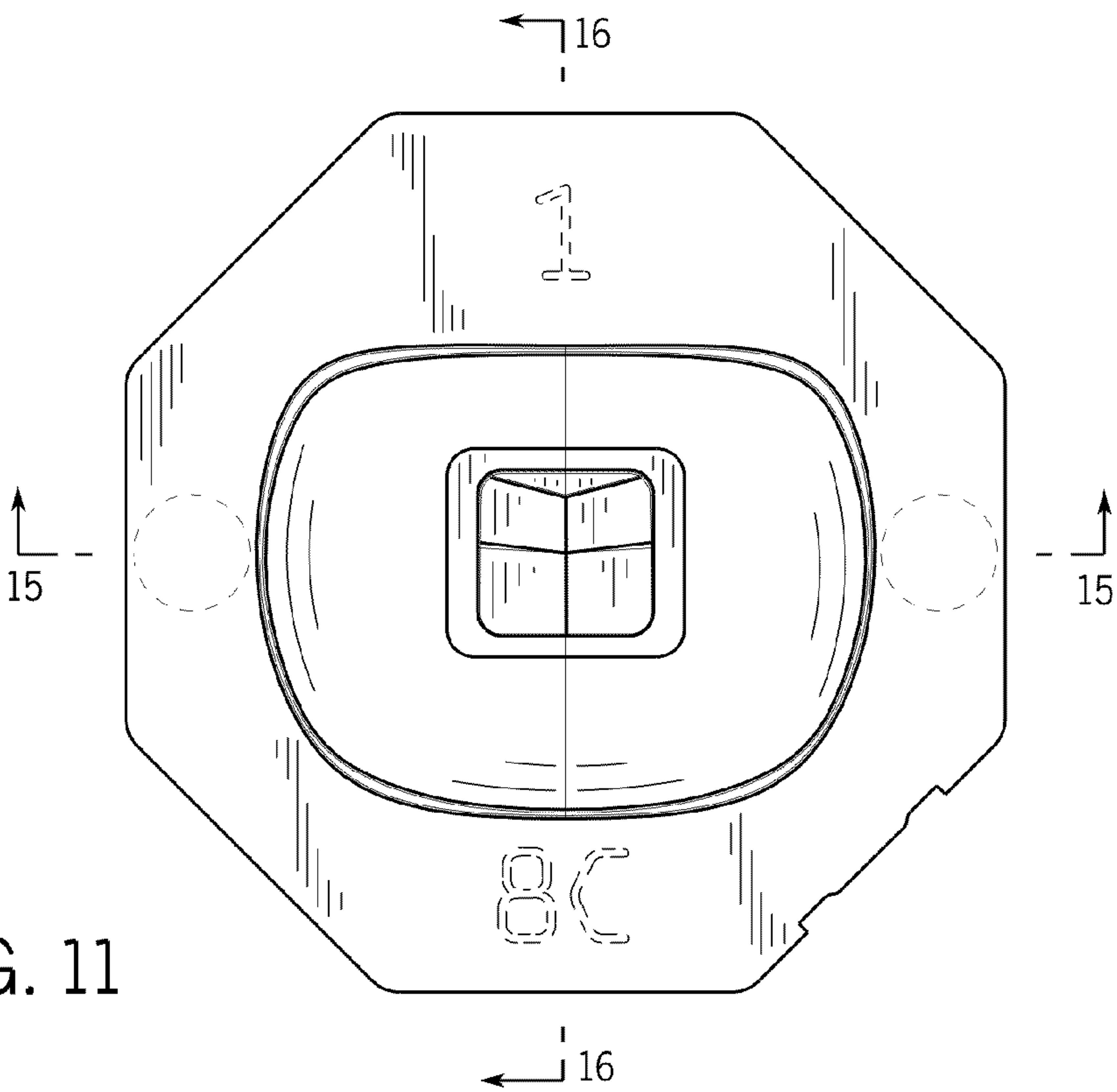


FIG. 11

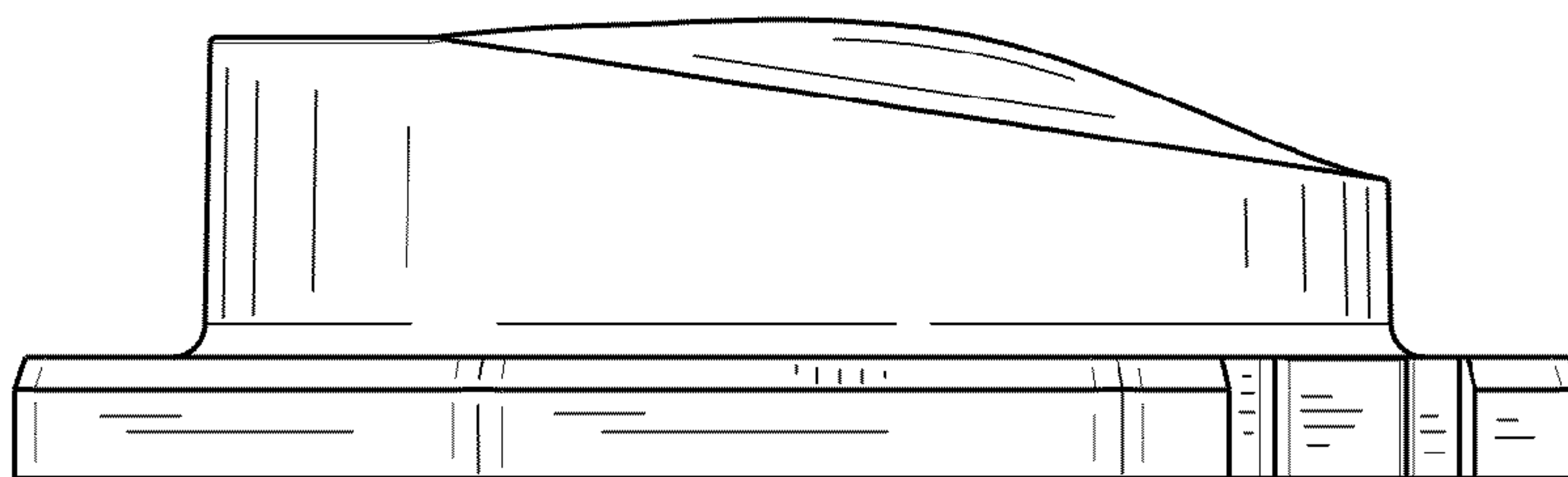


FIG. 12

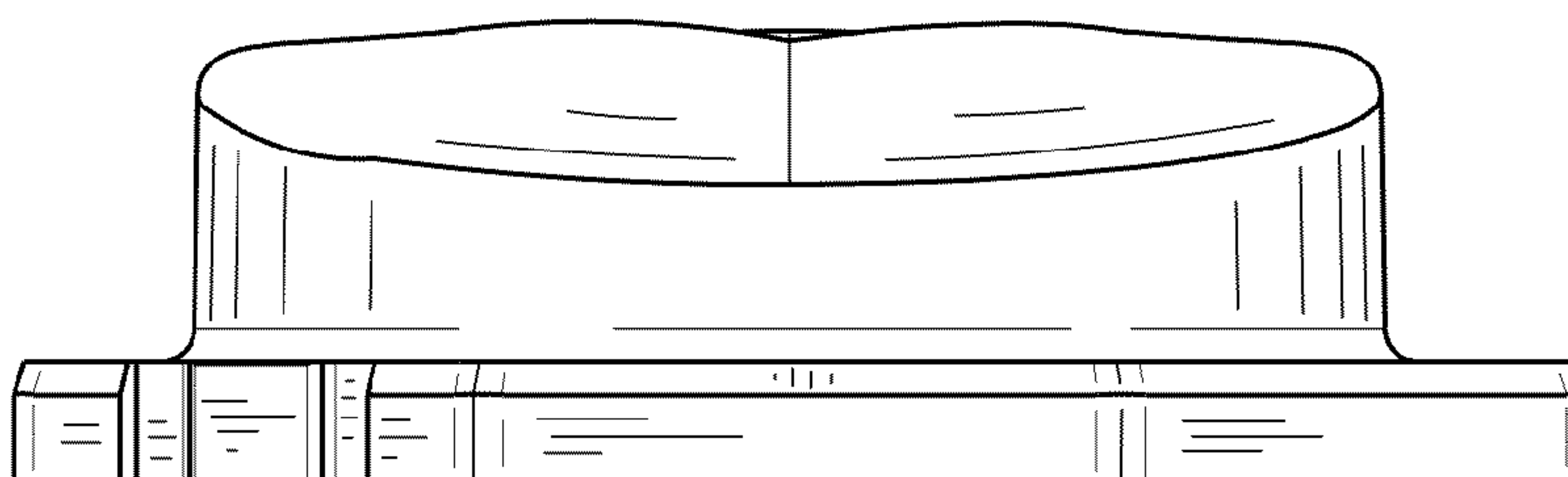


FIG. 13

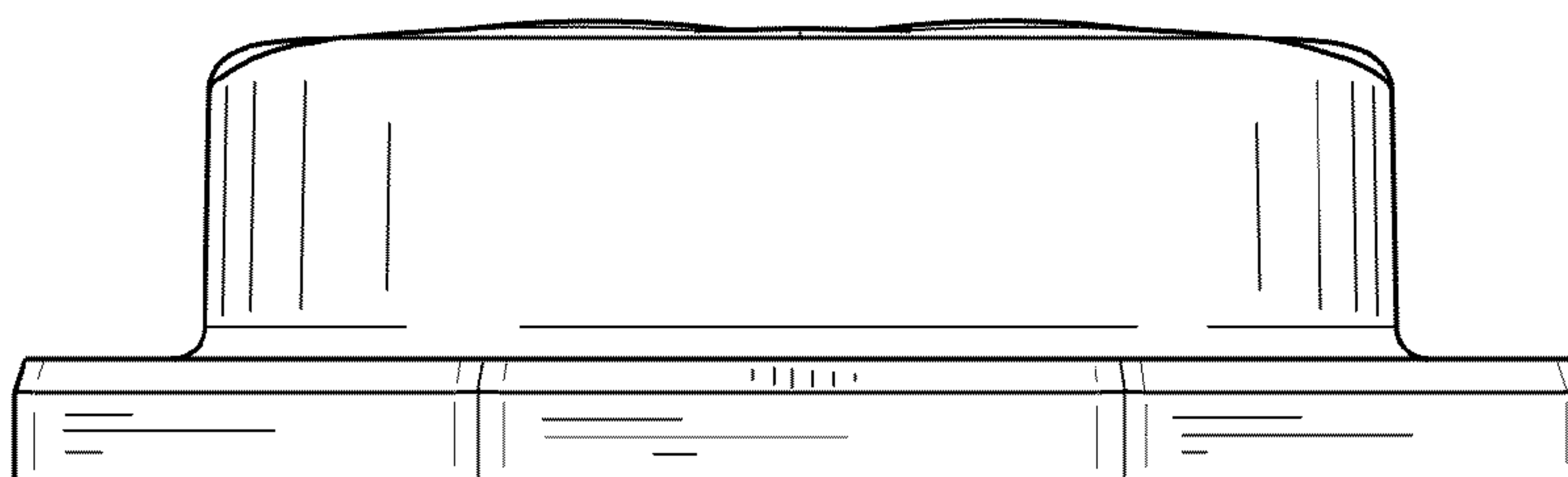


FIG. 14

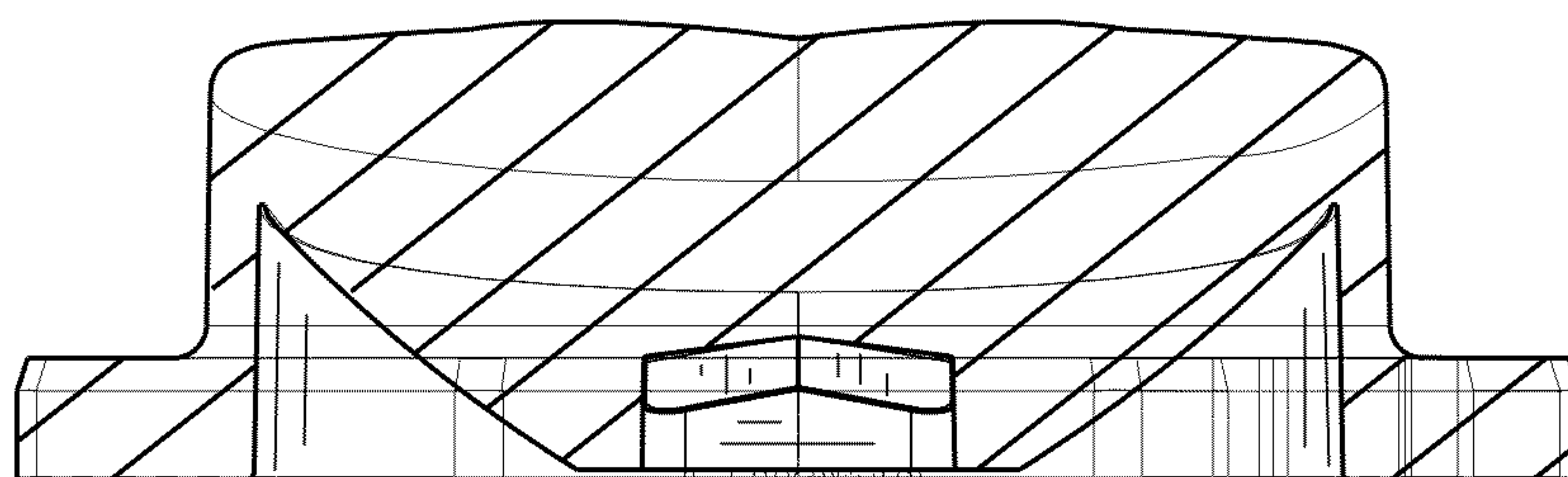


FIG. 15

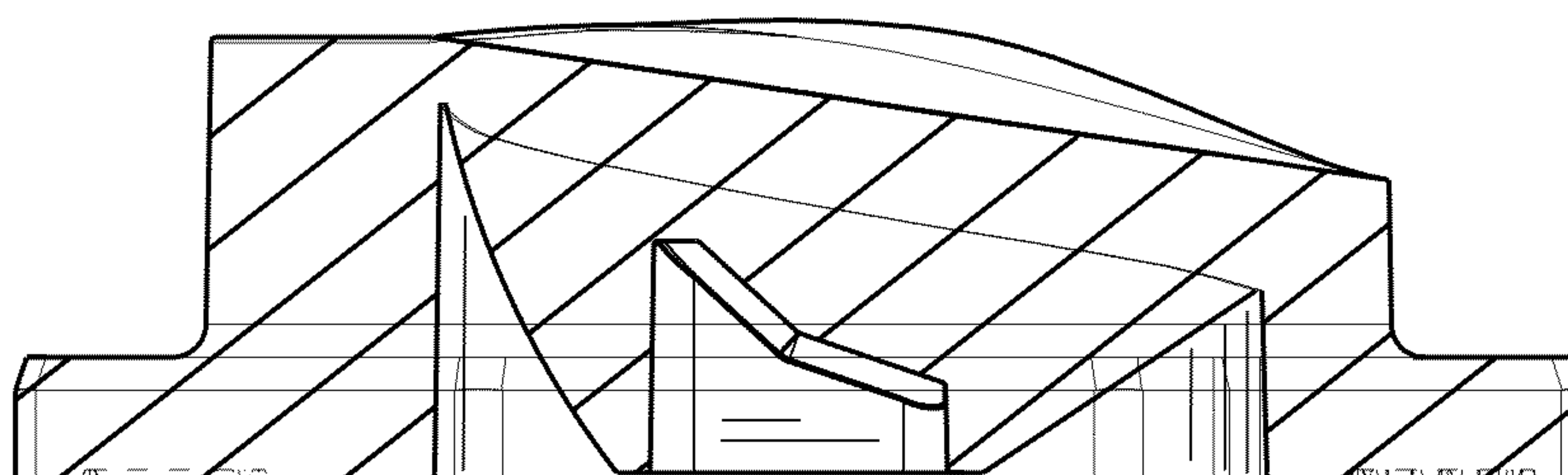


FIG. 16

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : D697,664 S
APPLICATION NO. : 29/420272
DATED : January 14, 2014
INVENTOR(S) : Mario Alberto Castillo

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page, in the description of FIG. 2, after “of FIGURE” insert -- 1 --.

Title page, last paragraph of the Description section, in the sentence beginning with “Markings” delete “in”.

Signed and Sealed this
Fourteenth Day of April, 2015

A handwritten signature in black ink, reading "Michelle K. Lee". The signature is written in a cursive, flowing style.

Michelle K. Lee
Director of the United States Patent and Trademark Office