



US00D674965S

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

(10) **Patent No.:** **US D674,965 S**

(45) **Date of Patent:** **** Jan. 22, 2013**

(54) **LED OPTICAL COMPONENT**

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

(21) Appl. No.: **29/411,958**

(22) Filed: **Jan. 27, 2012**

(51) **LOC (9) Cl.** **26-99**

(52) **U.S. Cl.** **D26/120**

(58) **Field of Classification Search** D26/1, D26/2, 118, 113, 138, 119, 120, 121, 122, D26/76, 77, 75, 78, 85, 86, 89, 90, 62, 64, D26/65, 66, 63, 73, 72, 74, 68, 71, 28, 123, D26/124, 127, 128, 129, 134, 135, 132, 139, D26/154, 155, 152, 149, 148, 145, 143, 142, D26/140, 141, 153, 144, 91, 92, 29, 24, 25, D26/26, 8, 114, 37, 87; 362/202, 347, 349, 362/362, 419, 96, 192, 145, 294, 326, 267, 362/373, 249.01–249.12; D13/102, 179, D13/180; D16/135

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,215,900 A 9/1940 Bitner
(Continued)

FOREIGN PATENT DOCUMENTS

JP 11297106 10/1999

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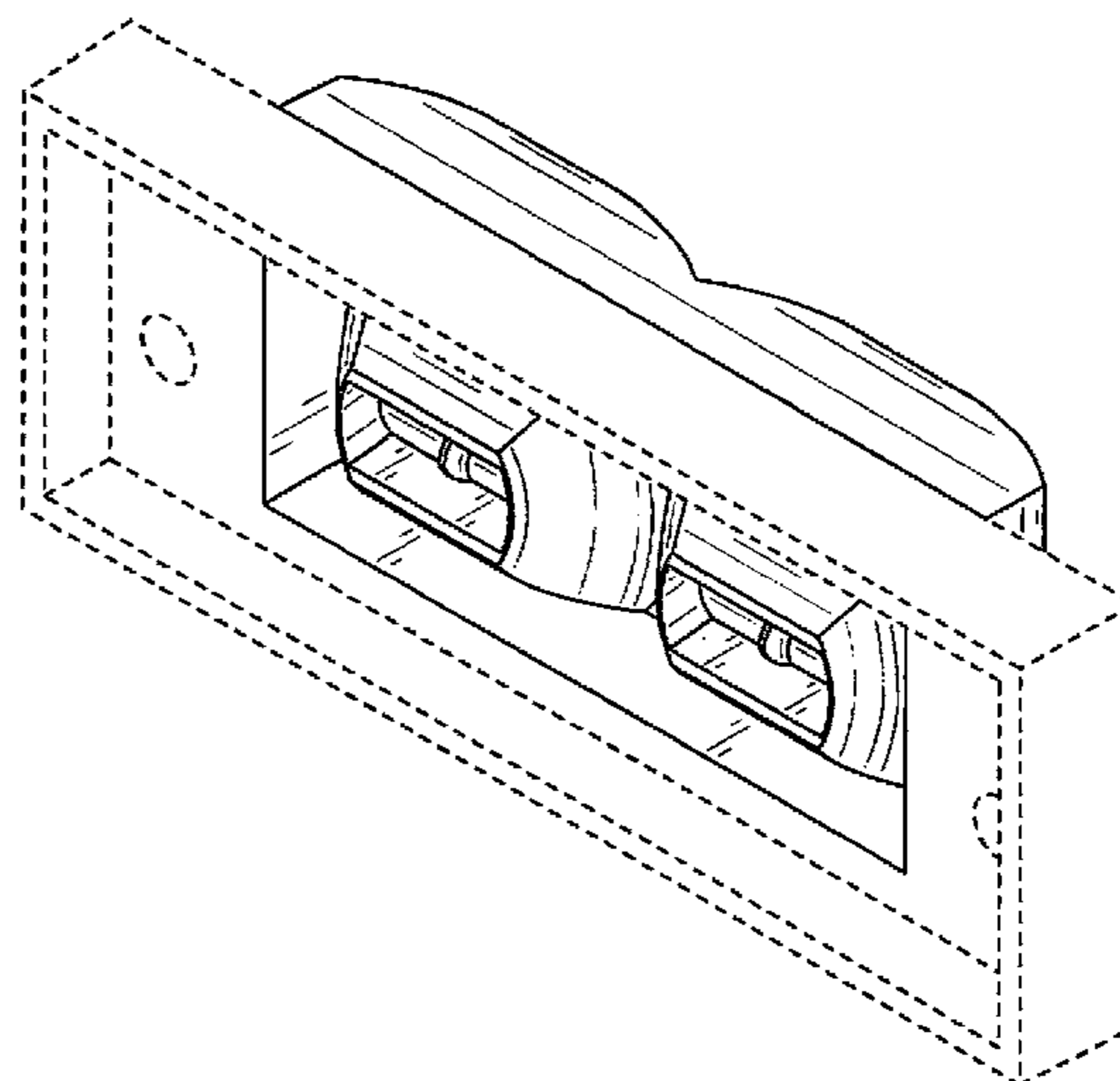
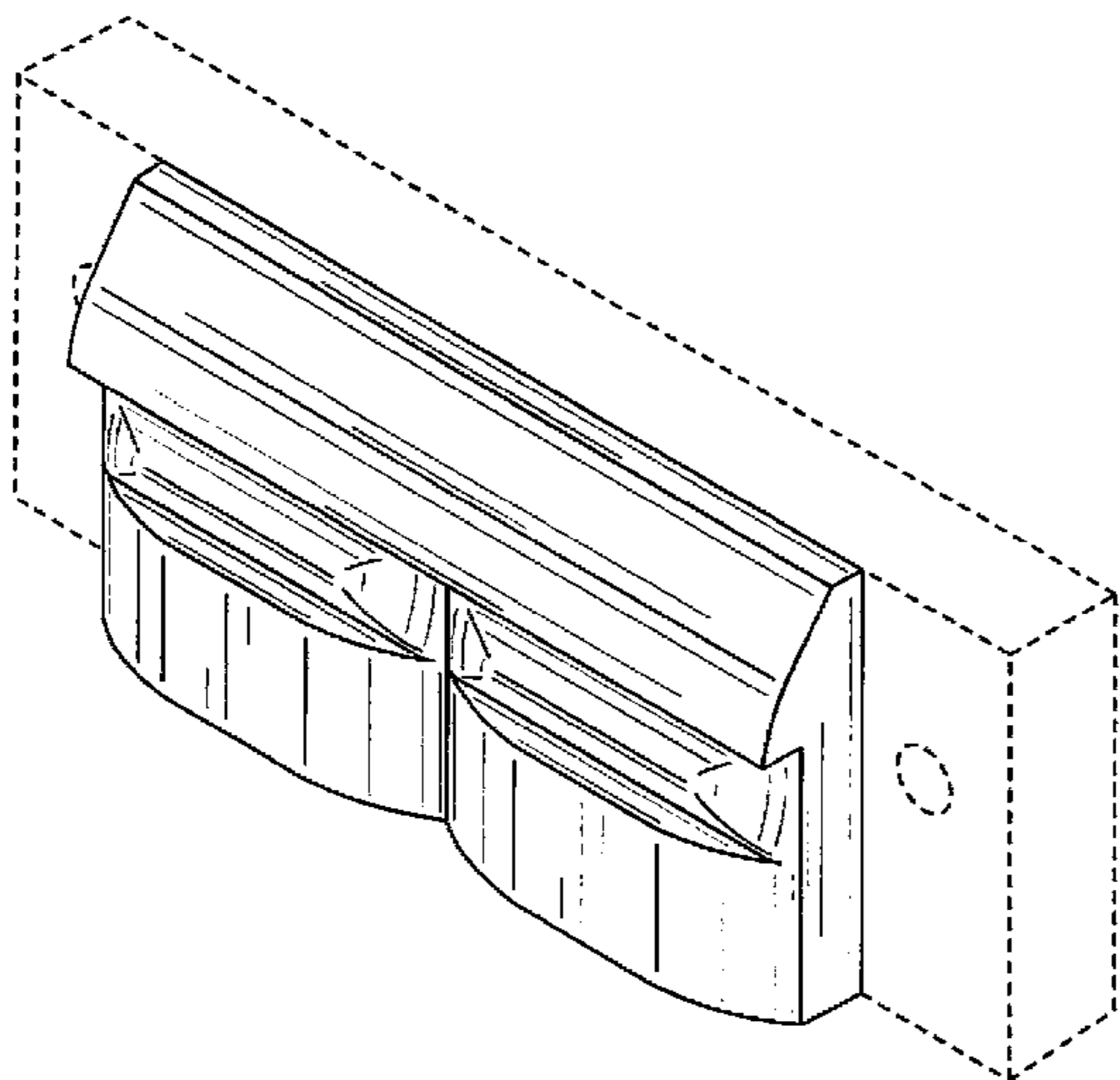
(57) **CLAIM**

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

DESCRIPTION

FIG. 1 is a front/top perspective view of an LED optical component according to the invention; FIG. 2 is a front/bottom perspective view of the LED optical component of FIG. 1; FIG. 3 is a rear/top perspective view of the LED optical component of FIG. 1; FIG. 4 is a rear/bottom perspective view of the LED optical component of FIG. 1; FIG. 5 is a top plan view of the LED optical component of FIG. 1; FIG. 6 is a front elevational view of the LED optical component of FIG. 1; FIG. 7 is a bottom plan view of the LED optical component of FIG. 1; FIG. 8 is a left side elevational view of the of the LED optical component of FIG. 1; FIG. 9 is a right side elevational view of the LED optical component of FIG. 1; FIG. 10 is a rear elevational view of the LED optical component of FIG. 1; FIG. 11 is a cross-sectional view of the LED optical component of FIG. 1 taken along line 11-11 in FIG. 10; FIG. 12 is a cross-sectional view of the LED optical component of FIG. 1 taken along line 12-12 in FIG. 10; and, FIG. 13 is a cross-sectional view of the LED optical component of FIG. 1 taken along line 13-13 in FIG. 10. The broken lines illustrating portions of the LED optical component form no part of the claimed design.

1 Claim, 4 Drawing Sheets



US D674,965 S

U.S. PATENT DOCUMENTS

2,356,654	A	8/1944	Cullman		7,618,160	B2	11/2009	Chinniah et al.
3,646,338	A	2/1972	Goytisolo		7,686,486	B2	3/2010	Tessnow et al.
D291,253	S *	8/1987	Ortega	..... D26/29	D617,937	S	6/2010	Farmer et al.
4,760,500	A *	7/1988	Peng	..... 362/490	7,744,246	B2	6/2010	Rizkin et al.
D300,866	S *	4/1989	Macaluso	..... D26/28	D619,633	S *	7/2010	Chen et al. D16/135
4,849,866	A	7/1989	Mori		D619,752	S	7/2010	Zhang
D320,863	S *	10/1991	Macaluso	..... D26/29	D622,898	S	8/2010	Chen et al.
5,083,245	A	1/1992	Fray et al.		D622,899	S	8/2010	Chen et al.
D331,979	S *	12/1992	Liu	..... D26/29	D625,881	S	10/2010	Chen et al.
5,526,190	A *	6/1996	Hubble et al.	..... 359/719	D627,916	S *	11/2010	Butteris et al. D26/85
5,813,743	A	9/1998	Naka		7,837,359	B2	11/2010	Danek et al.
6,250,774	B1	6/2001	Begemann et al.		D629,560	S	12/2010	Shimokawa
6,416,237	B2	7/2002	Lissotschenko et al.		D632,421	S *	2/2011	Vukosic et al. D26/124
6,543,911	B1	4/2003	Rizkin et al.		7,918,590	B1	4/2011	Li et al.
6,547,423	B2	4/2003	Marshall et al.		7,959,326	B2	6/2011	Laporte
6,550,941	B1	4/2003	Keuper et al.		7,985,009	B2	7/2011	Ho
6,575,582	B2	6/2003	Tenmyo et al.		7,993,036	B2	8/2011	Holder et al.
6,582,103	B1 *	6/2003	Popovich et al.	..... 362/307	8,007,140	B2	8/2011	Zhang
6,598,998	B2	7/2003	West et al.		D647,068	S *	10/2011	Okuwaki D13/180
D478,879	S *	8/2003	Imai	..... D13/182	D647,491	S *	10/2011	Chen et al. D13/180
6,641,284	B2	11/2003	Stopa et al.		8,068,707	B1 *	11/2011	Simon 385/31
6,814,470	B2	11/2004	Rizkin et al.		D650,114	S *	12/2011	Rudek et al. D26/118
6,899,443	B2	5/2005	Rizkin et al.		D650,407	S *	12/2011	Chang et al. D16/135
6,902,291	B2	6/2005	Rizkin et al.		D652,559	S *	1/2012	Beghelli D26/74
6,951,418	B2	10/2005	Rizkin et al.		8,134,780	B2 *	3/2012	Ominato et al. 359/599
D542,239	S *	5/2007	Egawa	..... D13/180	D658,799	S *	5/2012	Levine D26/63
D548,704	S *	8/2007	Wu et al.	..... D13/180	D660,491	S *	5/2012	Holscher D26/63
7,341,358	B2 *	3/2008	Hsieh et al.	..... 362/97.1	D663,703	S *	7/2012	Kobayakawa et al. D13/180
D565,514	S *	4/2008	Cho	..... D13/180	D664,106	S *	7/2012	Kobayakawa et al. D13/180
D566,055	S *	4/2008	Kim	..... D13/180	2002/0172046	A1 *	11/2002	Perlo et al. 362/304
7,365,370	B2	4/2008	Hung		2008/0144322	A1 *	6/2008	Norfidathul et al. 362/310
7,401,948	B2	7/2008	Chinniah et al.		2010/0103668	A1	4/2010	Lueken et al.
D576,760	S *	9/2008	Ottobre	..... D26/118	2010/0128233	A1	5/2010	Liu et al.
D577,852	S	9/2008	Miyairi et al.		2010/0149801	A1 *	6/2010	Lo et al. 362/235
7,422,347	B2	9/2008	Miyairi et al.		2010/0177262	A1	7/2010	Kimura et al.
7,461,960	B2	12/2008	Opolka et al.		2010/0195333	A1	8/2010	Schaefer et al.
7,490,955	B1 *	2/2009	Lai	..... 362/235	2010/0238666	A1	9/2010	Ominato et al.
7,503,669	B2	3/2009	Rizkin et al.		2010/0271829	A1	10/2010	Laporte
7,513,656	B2 *	4/2009	Park et al.	..... 362/333	2010/0302783	A1	12/2010	Shastry et al.
7,530,699	B2 *	5/2009	Shulepova et al.	..... 359/614	2011/0204242	A1	8/2011	Hoch et al.
7,540,635	B2	6/2009	Kim et al.		2011/0280044	A1	11/2011	Nioka et al.

* cited by examiner

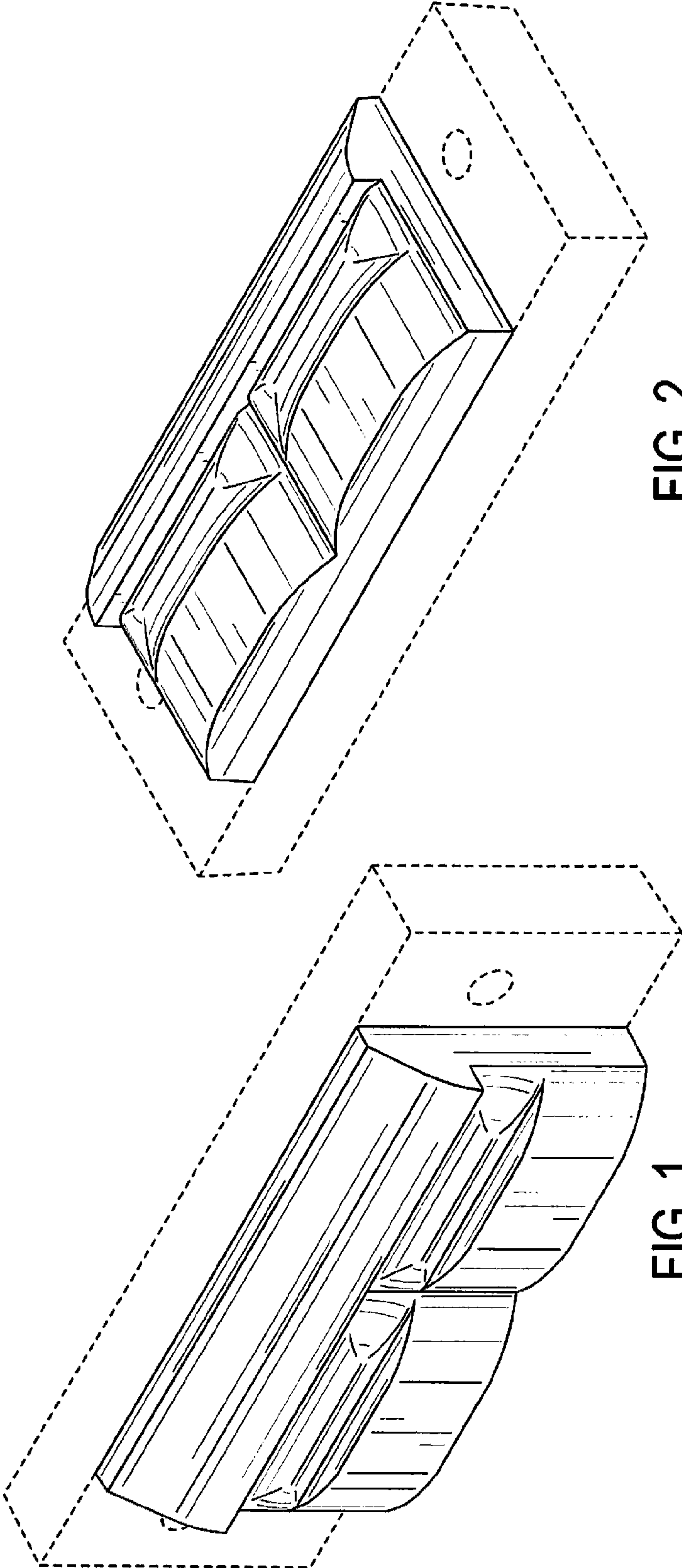


FIG. 2

FIG. 1

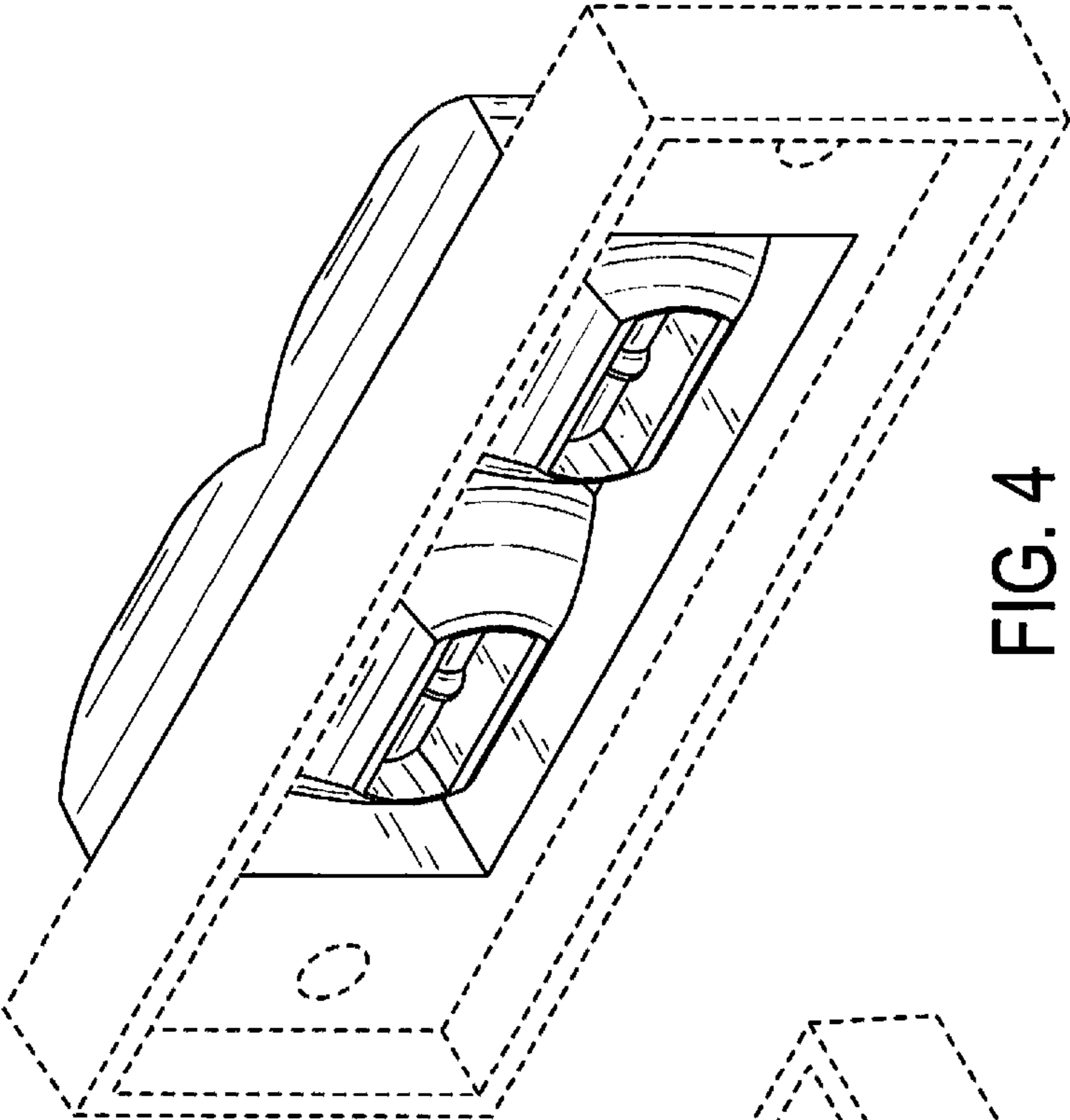


FIG. 4

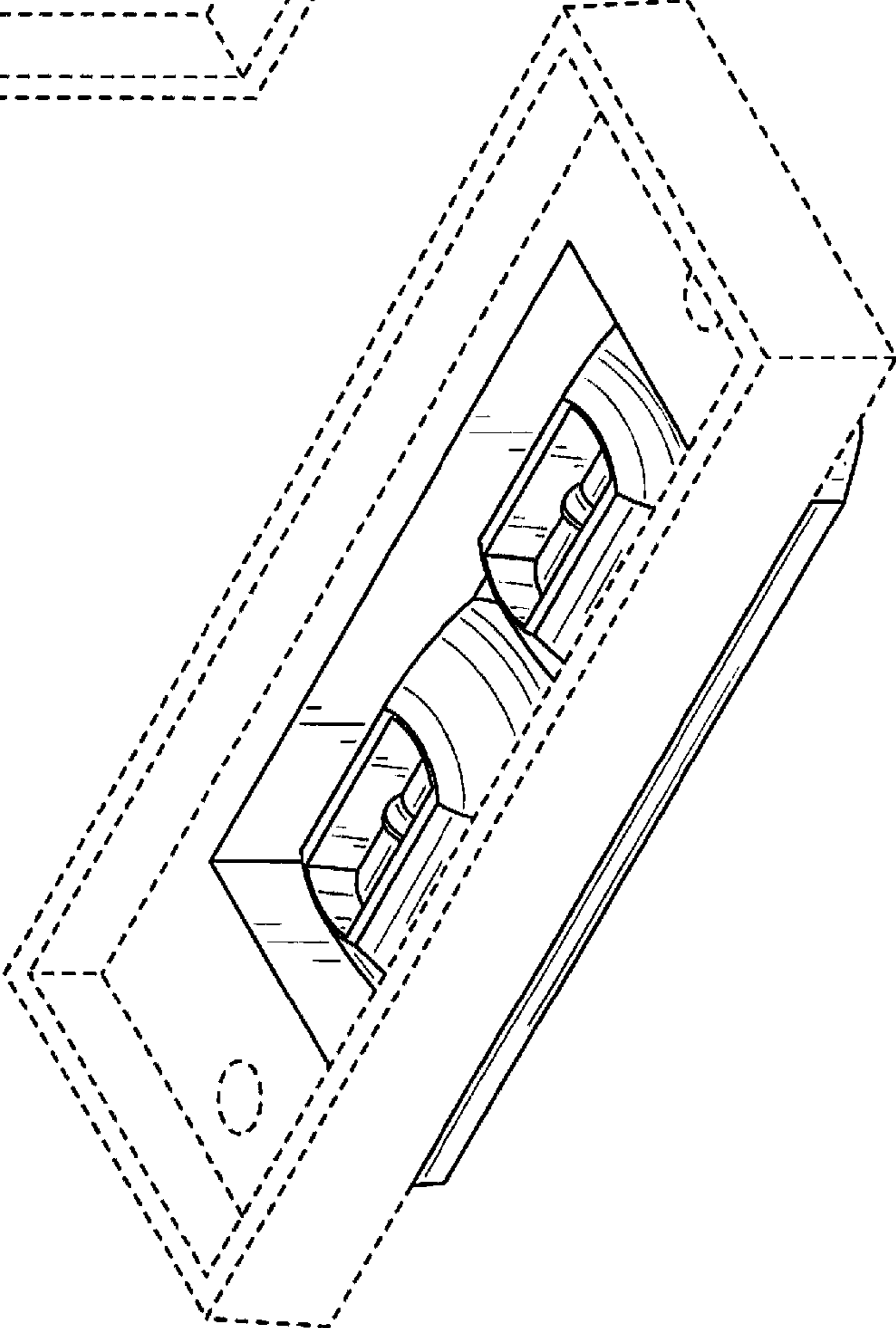


FIG. 3

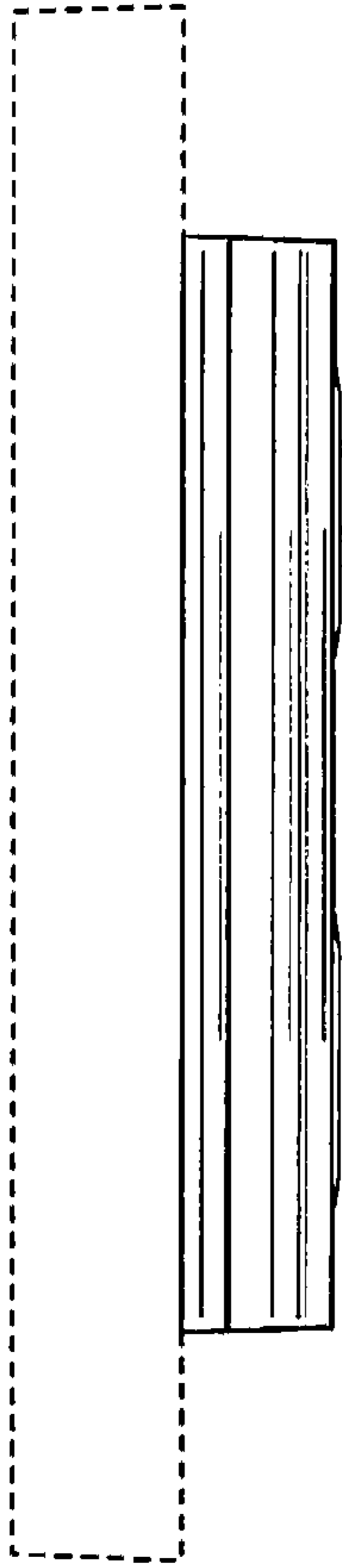


FIG. 5

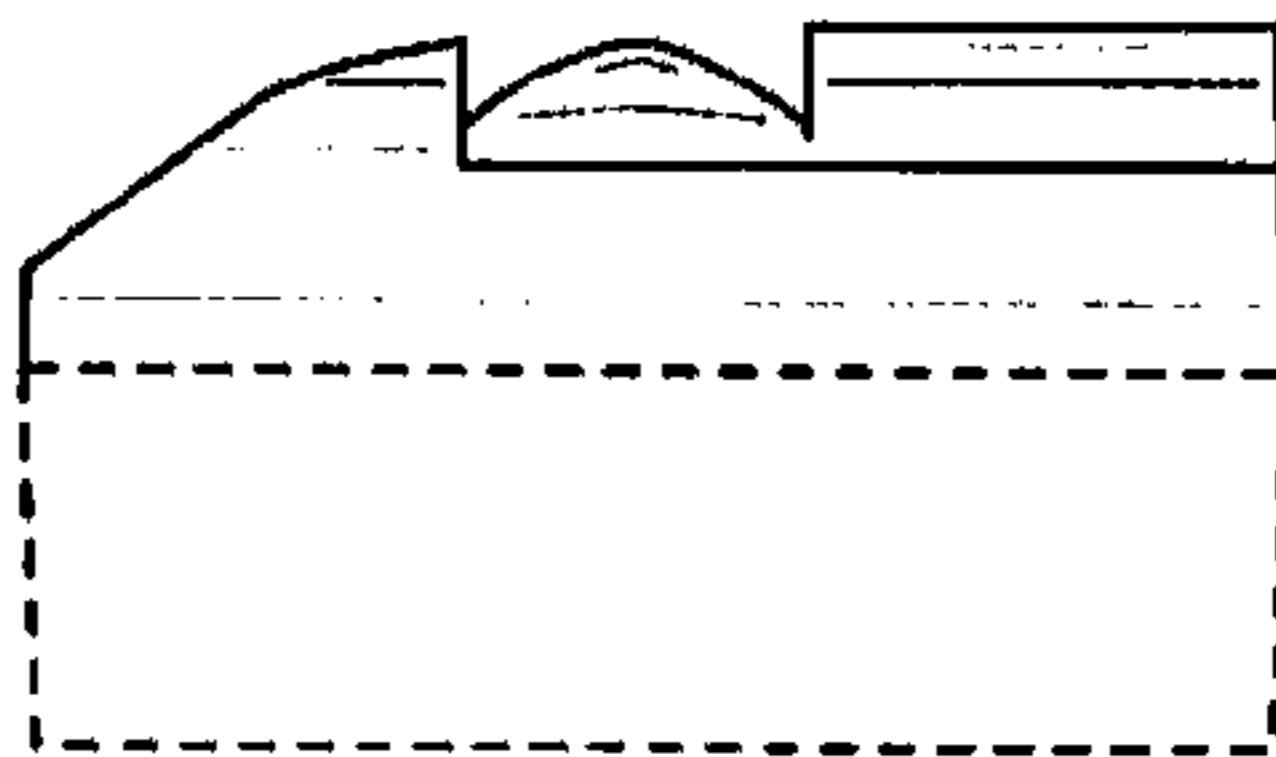


FIG. 8

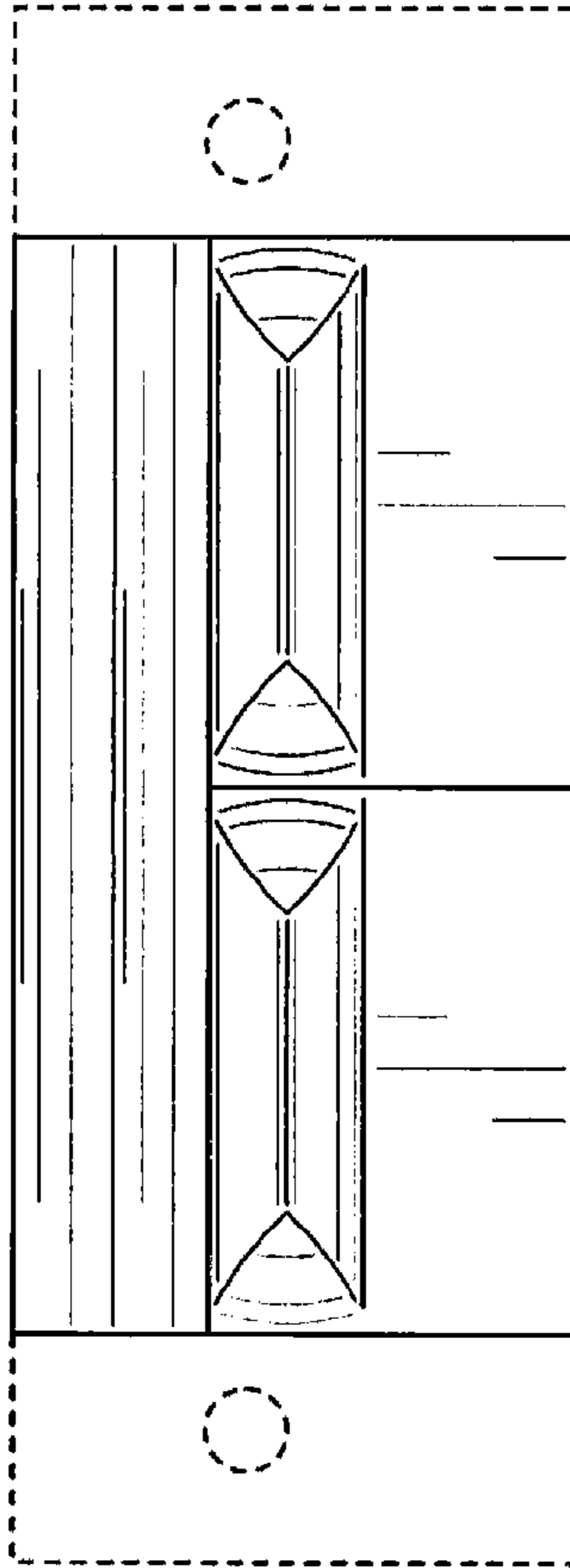


FIG. 6

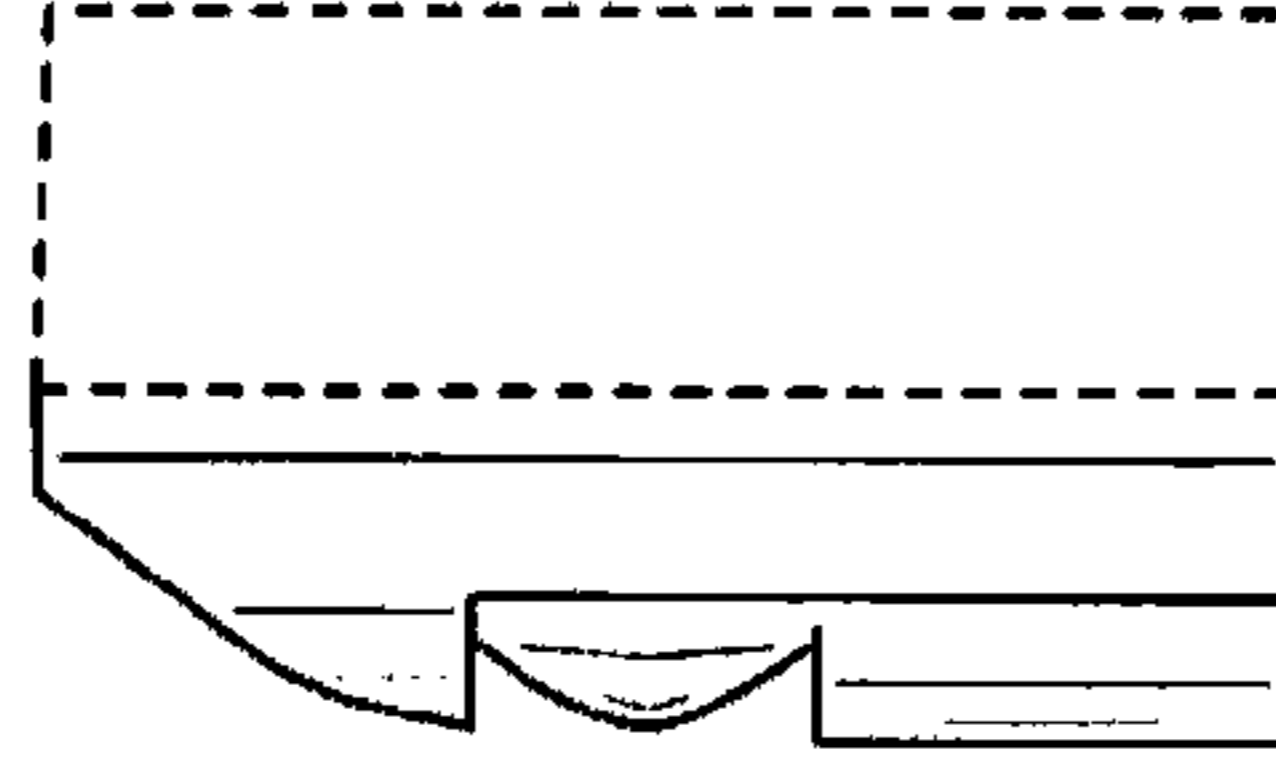


FIG. 9

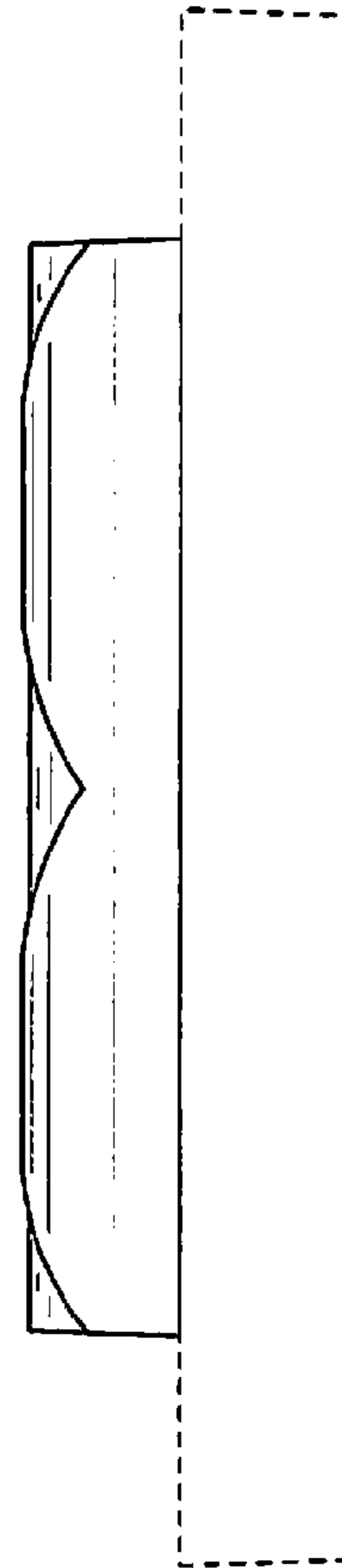


FIG. 7

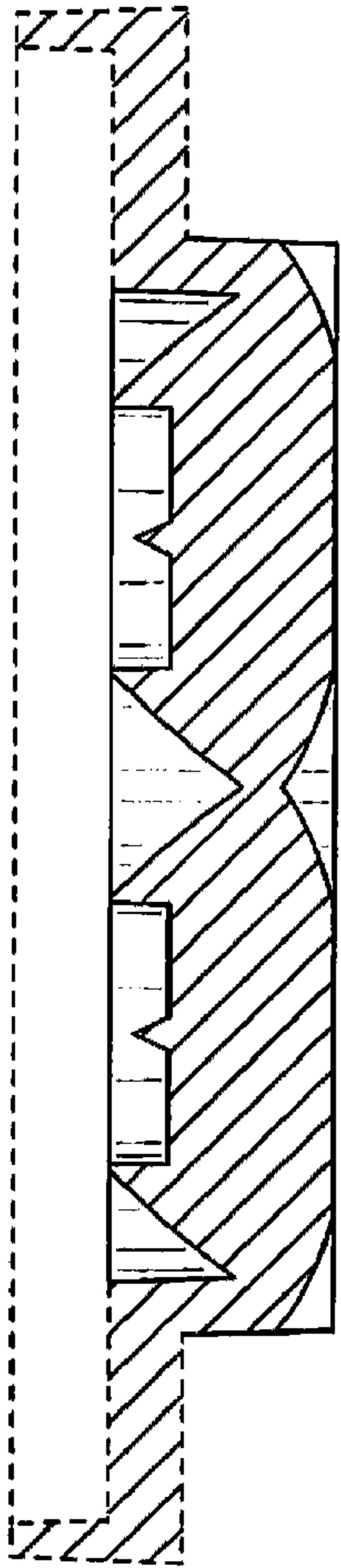


FIG. 11

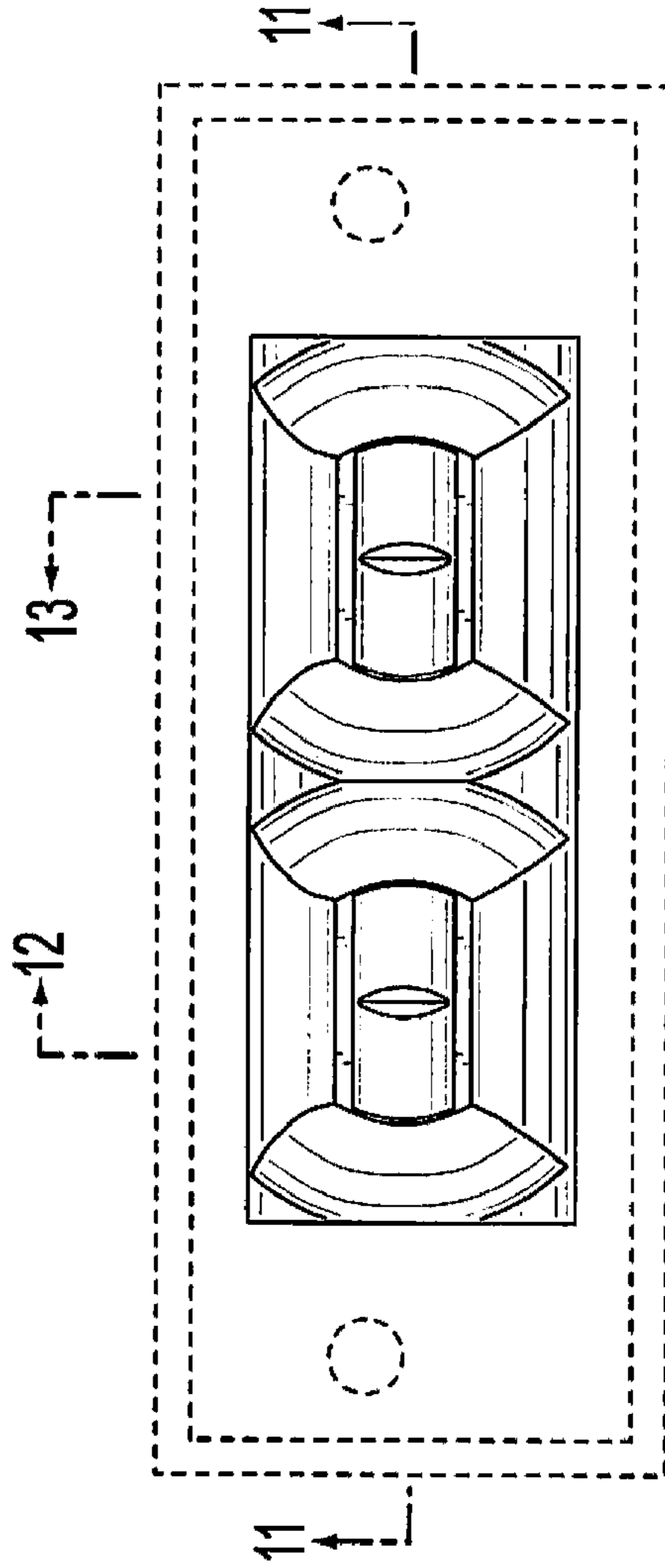


FIG. 10

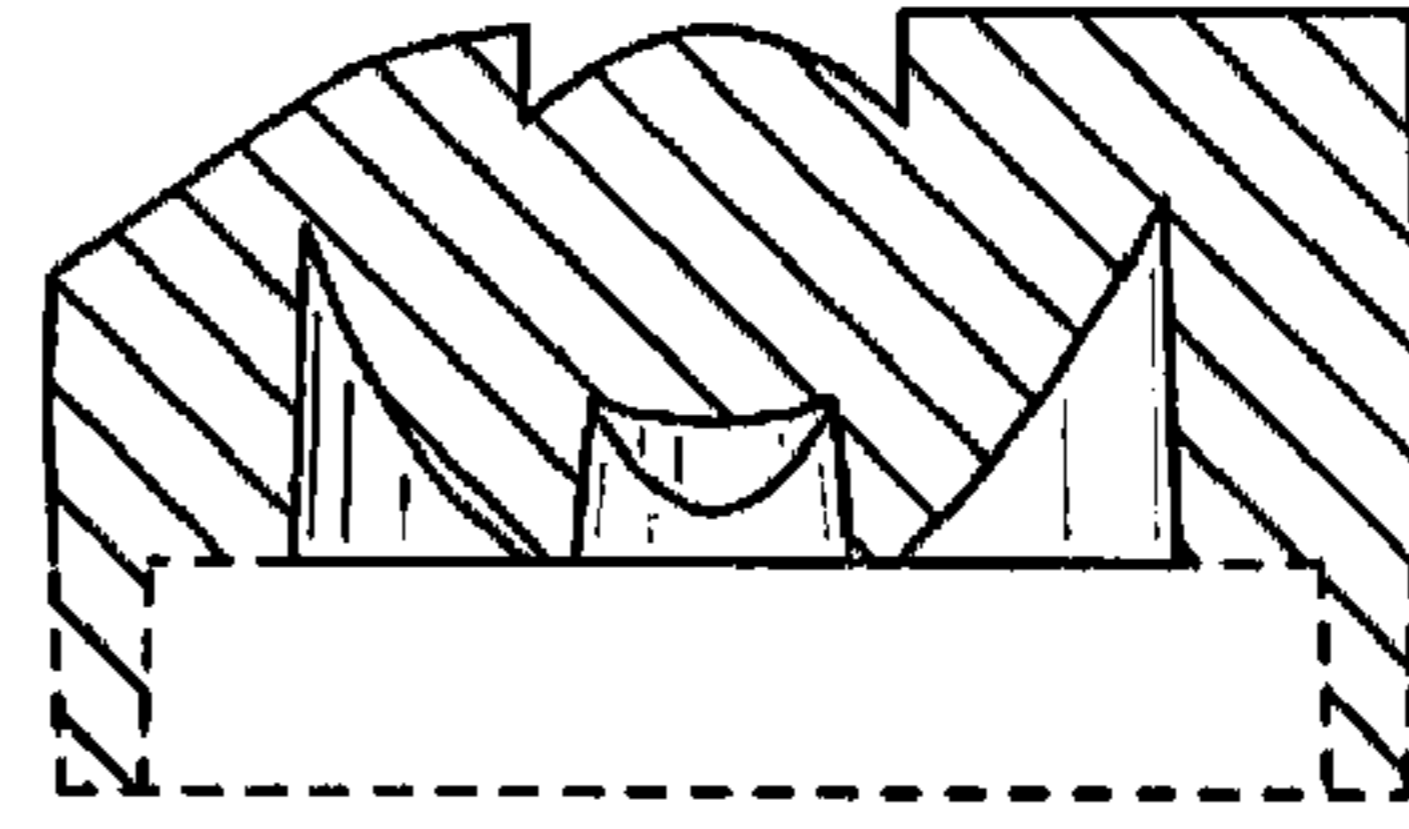


FIG. 13

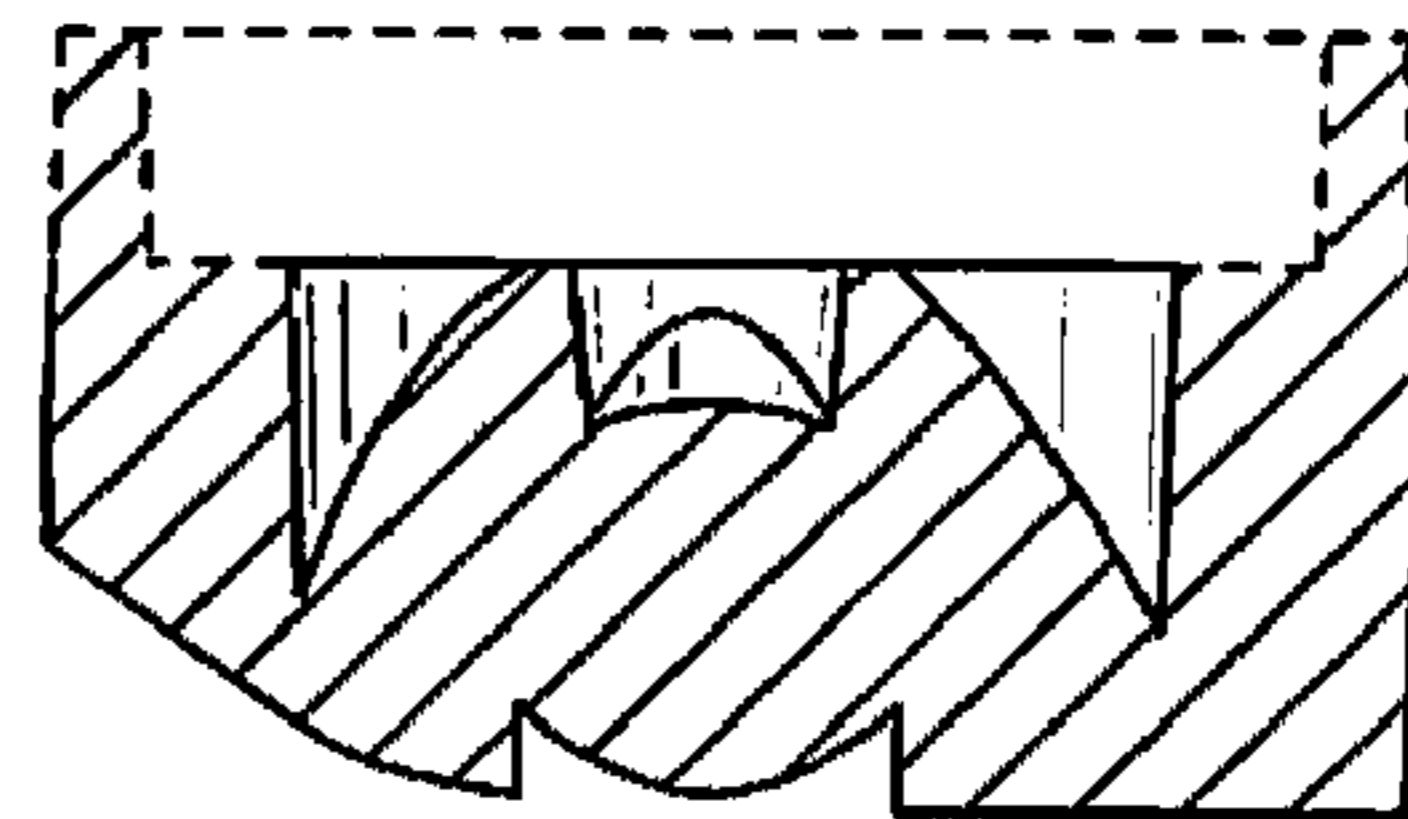


FIG. 12