

US00D642143S

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

(10) **Patent No.:** **US D642,143 S**

(45) **Date of Patent:** **** Jul. 26, 2011**

(54) **LIGHT EMITTING DIODE**

(75) Inventors: **Takashi Kuwaharada**, Kagoshima (JP);
Tooru Aoyagi, Kyoto (JP); **Tomoyuki Kusano**, Kagoshima (JP)

(73) Assignee: **Panasonic Corporation**, Osaka (JP)

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

(21) Appl. No.: **29/382,031**

(22) Filed: **Dec. 28, 2010**

(30) **Foreign Application Priority Data**

Jul. 7, 2010 (JP) 2010-016553

(51) **LOC (9) Cl.** **13-03**

(52) **U.S. Cl.** **D13/180**

(58) **Field of Classification Search** D13/180;
D26/2, 120; 257/79, 80, 81, 88, 89, 95, 98,
257/99, 100, E33.058; 313/483, 498, 500;
362/555, 800

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,722,760	A *	3/1998	Chien	.....	362/84
7,211,835	B2 *	5/2007	Ono	.....	257/99
7,352,011	B2 *	4/2008	Smits et al.	.....	257/99
D571,316	S	6/2008	Lee et al.		
D572,210	S	7/2008	Lee		
D573,550	S	7/2008	Lee		
D573,551	S	7/2008	Lee		
D575,244	S	8/2008	Lee		
D578,671	S	10/2008	Kanayama et al.		
D581,884	S	12/2008	Yen		
D591,696	S	5/2009	Okada et al.		
D594,827	S	6/2009	Loh et al.		
D598,871	S	8/2009	Eberle et al.		
7,602,559	B2 *	10/2009	Jang et al.	.....	359/726
7,703,942	B2 *	4/2010	Narendran et al.	.....	362/231
D615,504	S *	5/2010	Keller et al.	.....	D13/180
7,709,853	B2 *	5/2010	Medendorp, Jr.	.....	257/99
D618,636	S	6/2010	Hsieh		
7,748,873	B2 *	7/2010	Kim et al.	.....	362/328

7,762,692	B2 *	7/2010	Lai et al.	.....	362/311.02
D623,610	S	9/2010	Mallory et al.		
7,798,678	B2 *	9/2010	Destain	.....	362/311.02
7,821,023	B2 *	10/2010	Yuan et al.	.....	257/98
D626,523	S	11/2010	Mallory et al.		
D628,965	S *	12/2010	Kuwaharada et al.	.....	D13/180
D628,966	S *	12/2010	Kuwaharada et al.	.....	D13/180

(Continued)

FOREIGN PATENT DOCUMENTS

JP D1298732 4/2007

(Continued)

Primary Examiner — Selina Sikder

(74) *Attorney, Agent, or Firm* — Brinks Hofer Gilson & Lione

(57) **CLAIM**

We claim the ornamental design for a light emitting diode, as shown and described.

DESCRIPTION

FIG. 1 is a top perspective view of a light emitting diode of the present invention;

FIG. 2 is a front view thereof;

FIG. 3 is a rear view thereof;

FIG. 4 is a first side view thereof;

FIG. 5 is a second side view thereof;

FIG. 6 is a top view thereof;

FIG. 7 is a bottom view thereof;

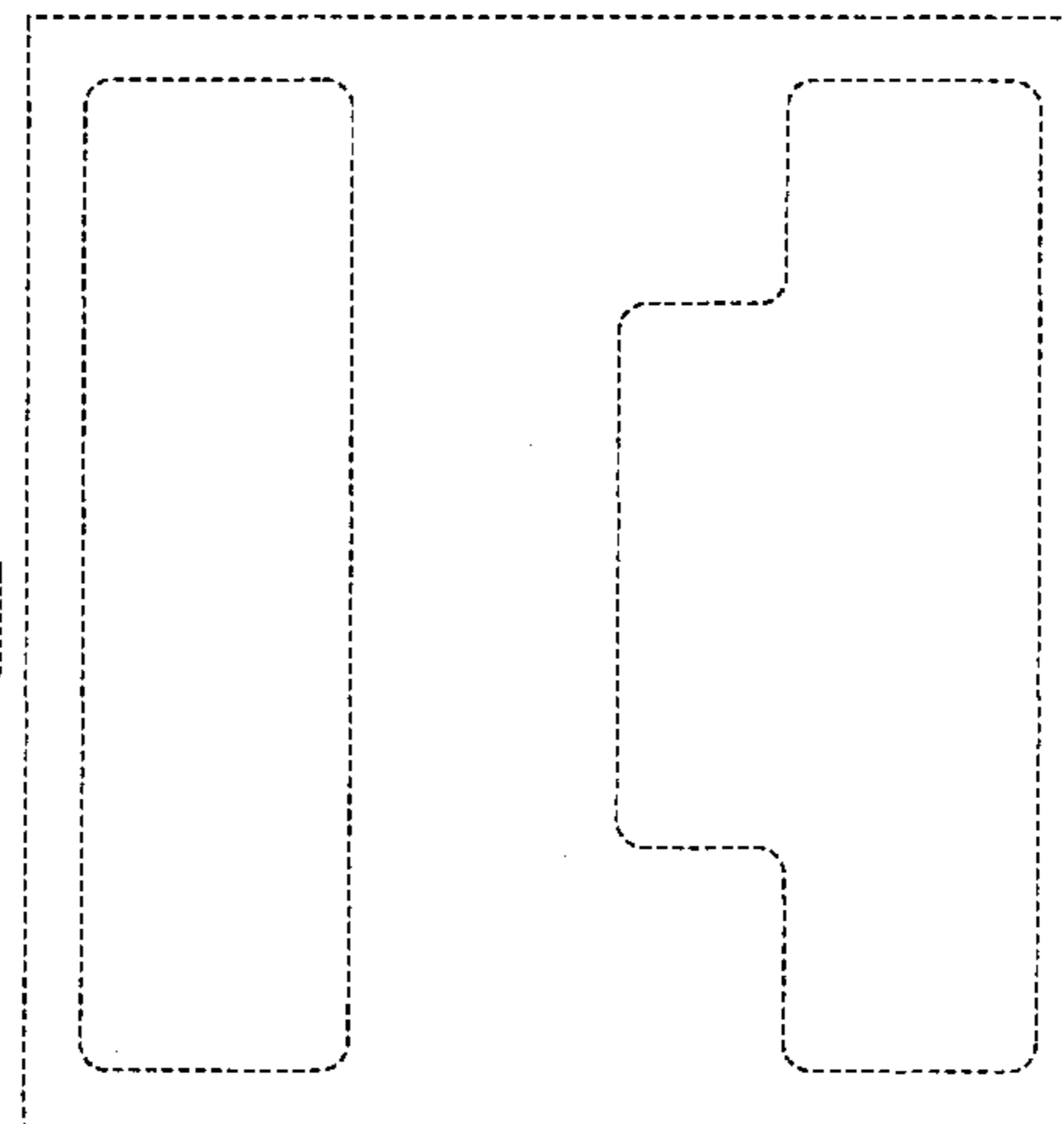
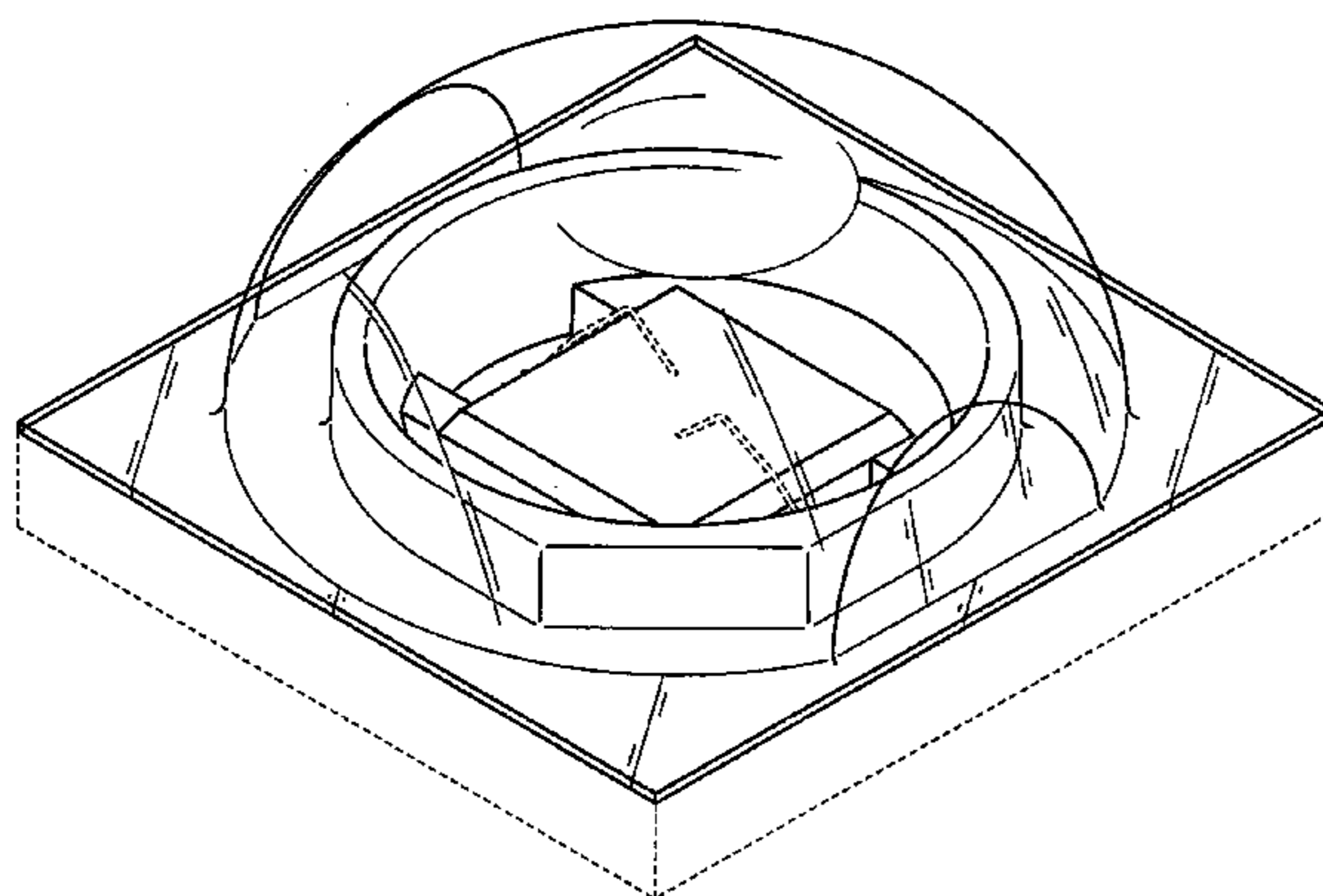
FIG. 8 is a cross-section view taken along the line 8—8 of FIG. 6; and,

FIG. 9 is a cross-section view taken along the line 9—9 of FIG. 6.

The dome is composed of transparent resin and covers the substrate. In the cross-sectional views shown in FIGS. 8 and 9, a portion of the cross-sectional hatching is omitted to show the shape of the substrate.

The broken line showing of light emitting diode is included for the purpose of illustrating environment and forms no part of the claimed design.

1 Claim, 6 Drawing Sheets



US D642,143 S

Page 2

U.S. PATENT DOCUMENTS

D636,741	S *	4/2011	Kuwaharada et al.	D13/180
D636,742	S *	4/2011	Kuwaharada et al.	D13/180
D636,743	S *	4/2011	Kuwaharada et al.	D13/180
2004/0136197	A1 *	7/2004	Ishida	362/487
2004/0180459	A1 *	9/2004	Hsu	438/26
2004/0196663	A1 *	10/2004	Ishida et al.	362/539
2004/0227149	A1 *	11/2004	Ibbetson et al.	257/100
2005/0263785	A1 *	12/2005	Kim et al.	257/100
2006/0034097	A1 *	2/2006	Hahm et al.	362/555
2006/0081863	A1 *	4/2006	Kim et al.	257/98
2006/0273338	A1 *	12/2006	Lee et al.	257/99
2007/0029563	A1 *	2/2007	Amano et al.	257/98
2008/0002412	A1 *	1/2008	Tanaka et al.	362/307
2008/0007966	A1 *	1/2008	Ohkawa	362/608
2008/0013322	A1 *	1/2008	Ohkawa	362/311
2008/0054280	A1 *	3/2008	Reginelli et al.	257/98
2008/0087907	A1 *	4/2008	Park et al.	257/98
2008/0297020	A1 *	12/2008	Wanninger et al.	313/110
2009/0242914	A1 *	10/2009	Ku	257/98

FOREIGN PATENT DOCUMENTS

D1298733	4/2007
D1298938	4/2007
D1308765	8/2007
D1349724	1/2009
D1349725	1/2009
D1355076	4/2009
D1363307	6/2009
D1363679	6/2009
D1363680	6/2009
D1394065	8/2010
D1394066	8/2010
D1394067	8/2010
D1394494	8/2010
D1394495	8/2010
D1394496	8/2010
D1398521	10/2010

* cited by examiner

FIG.1

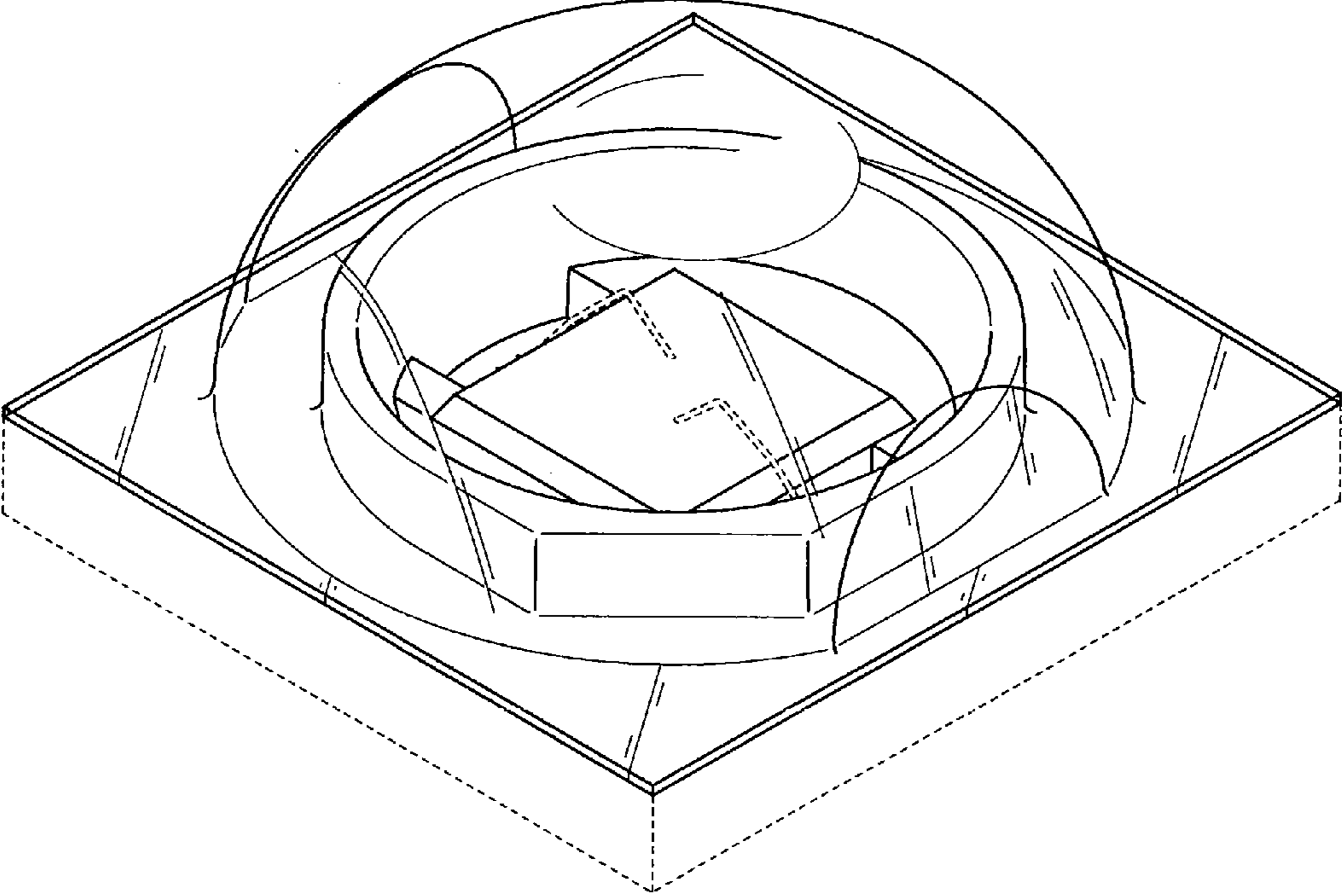


FIG.2

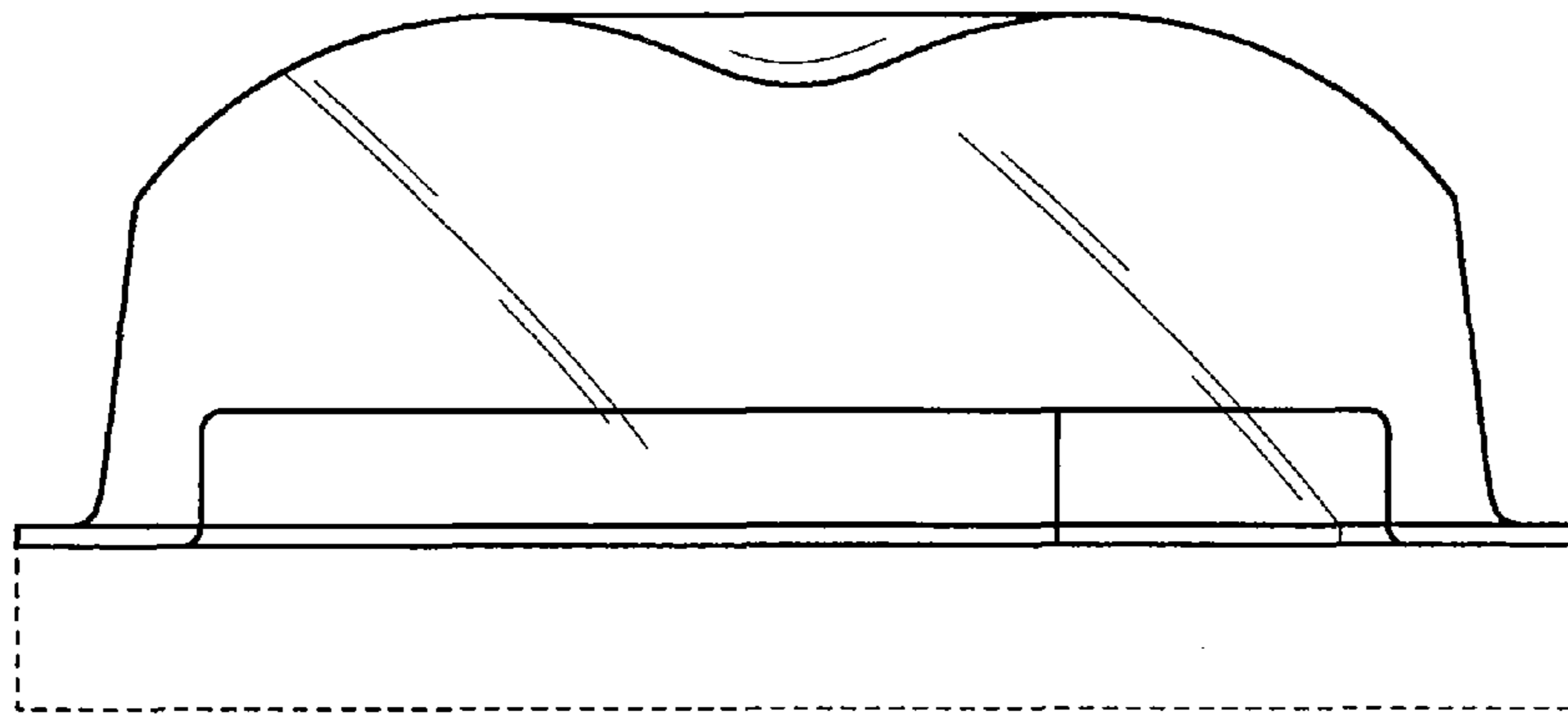


FIG.3

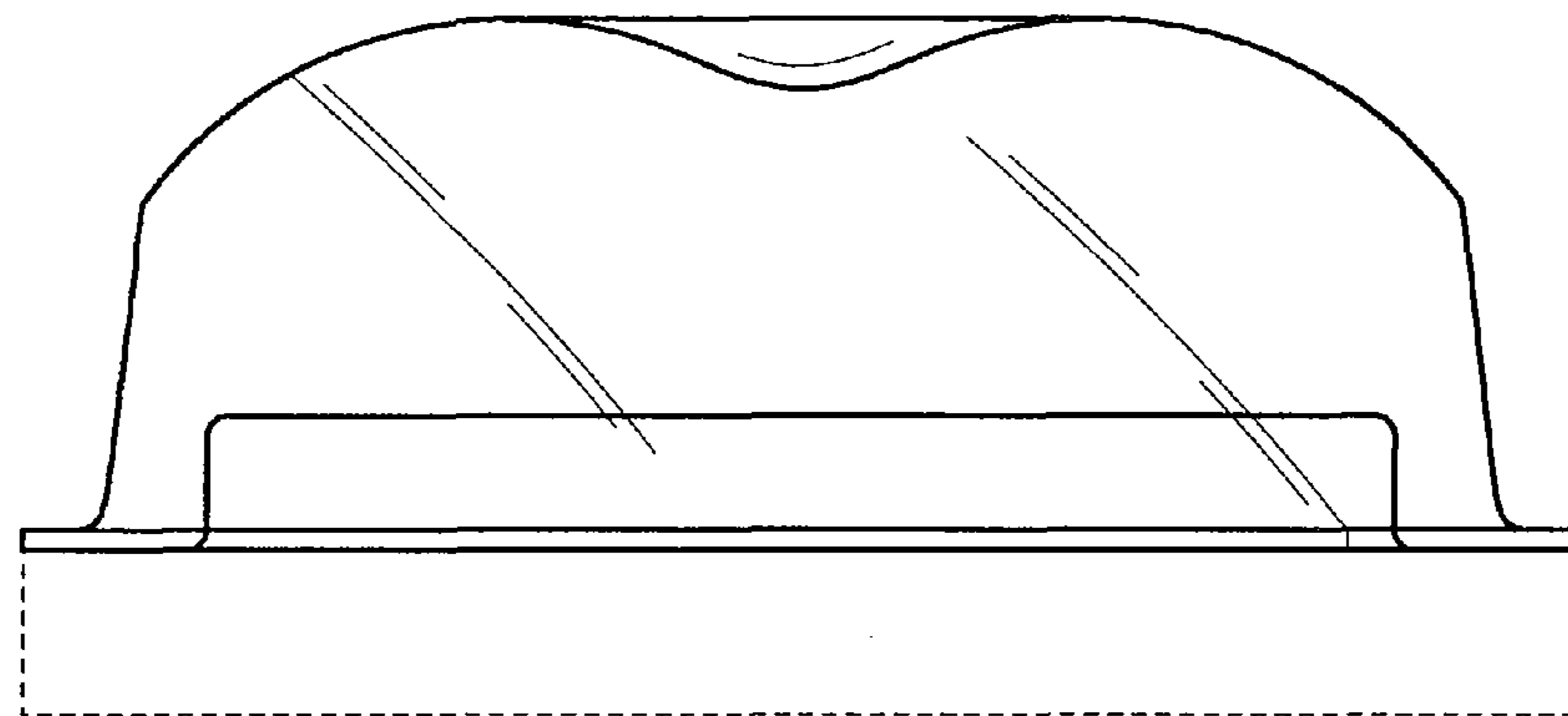


FIG.4

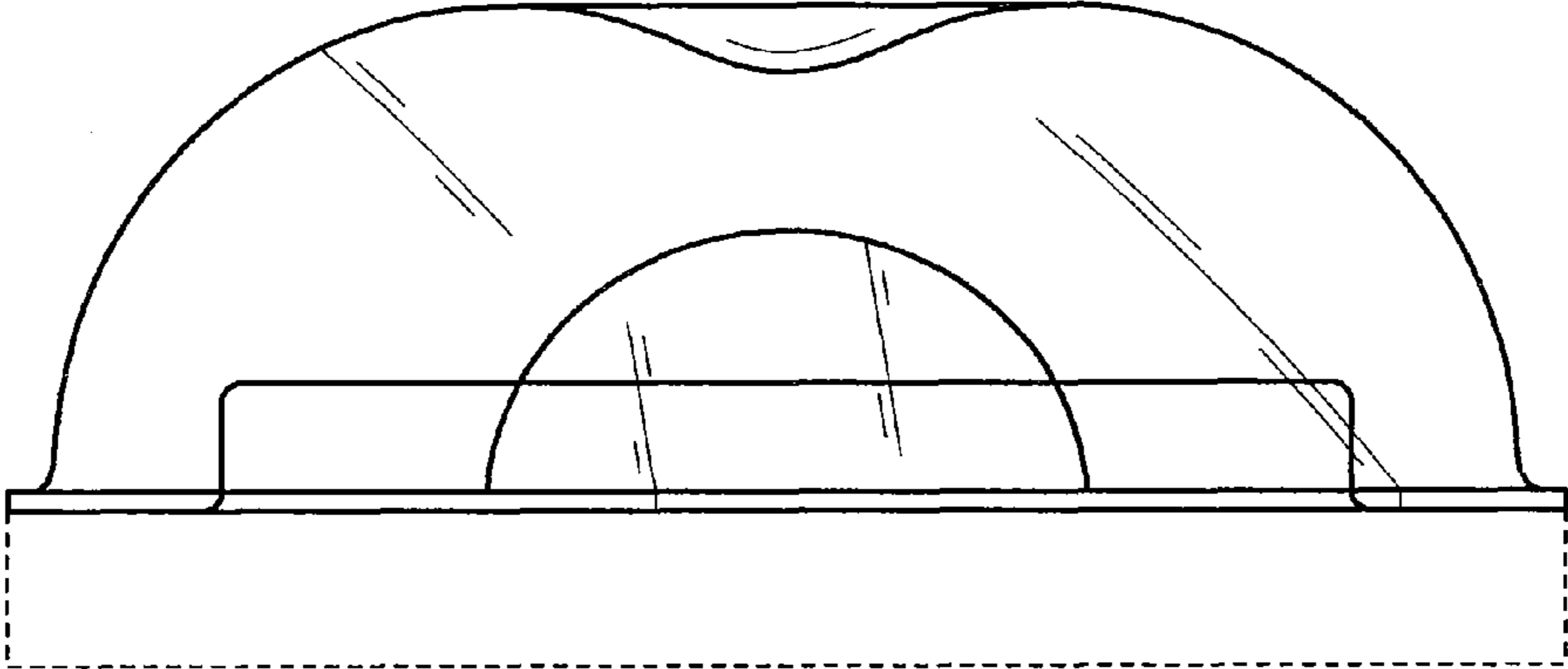


FIG.5

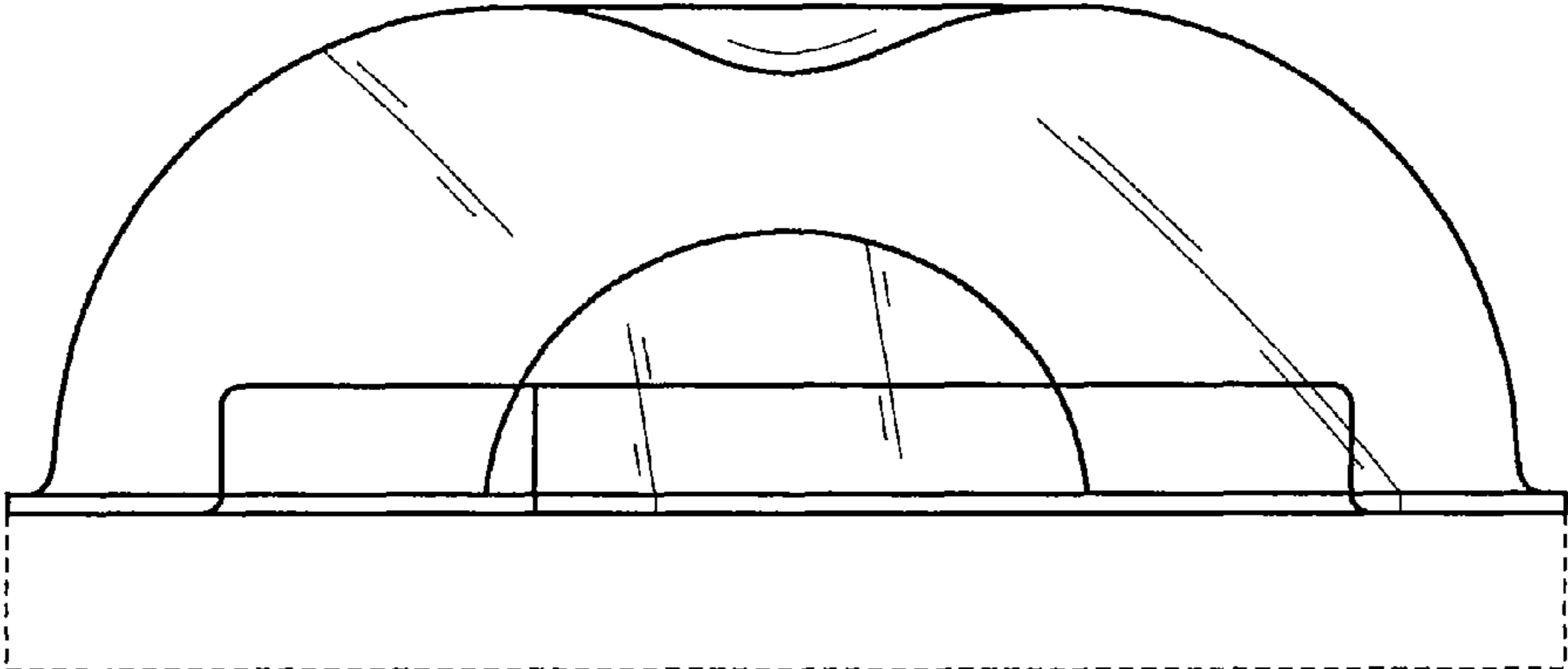


FIG.6

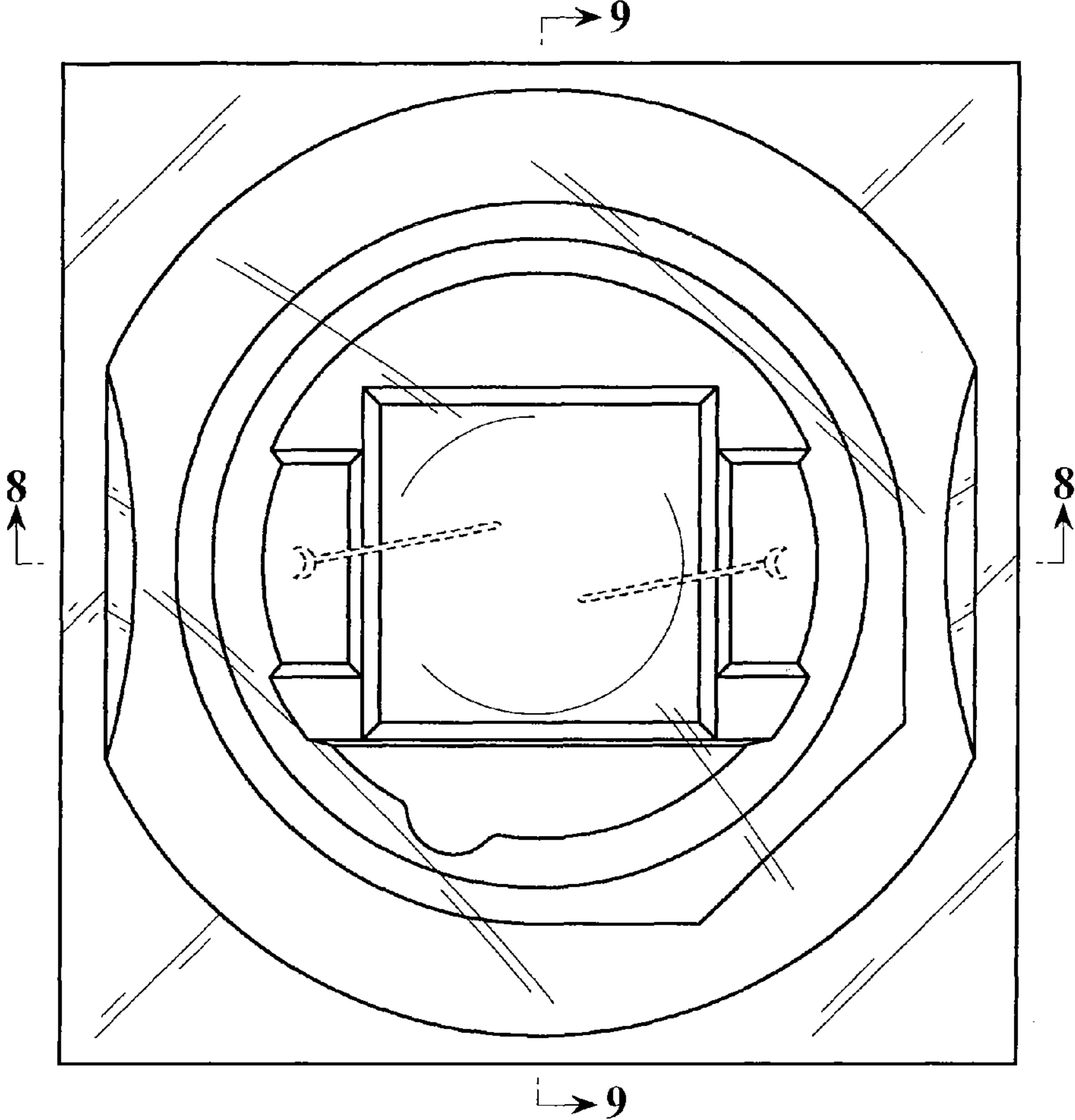


FIG.7

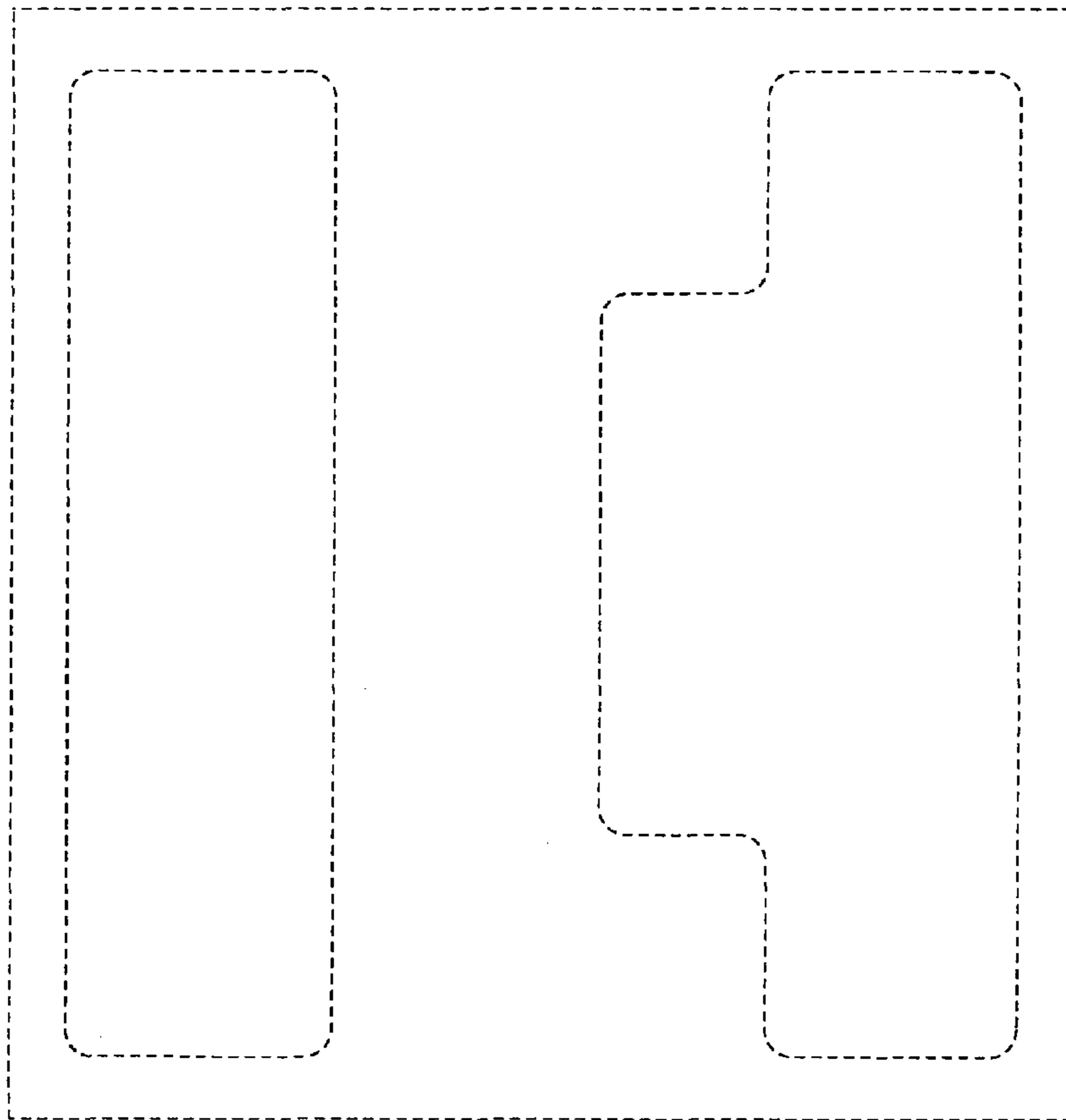


FIG.8

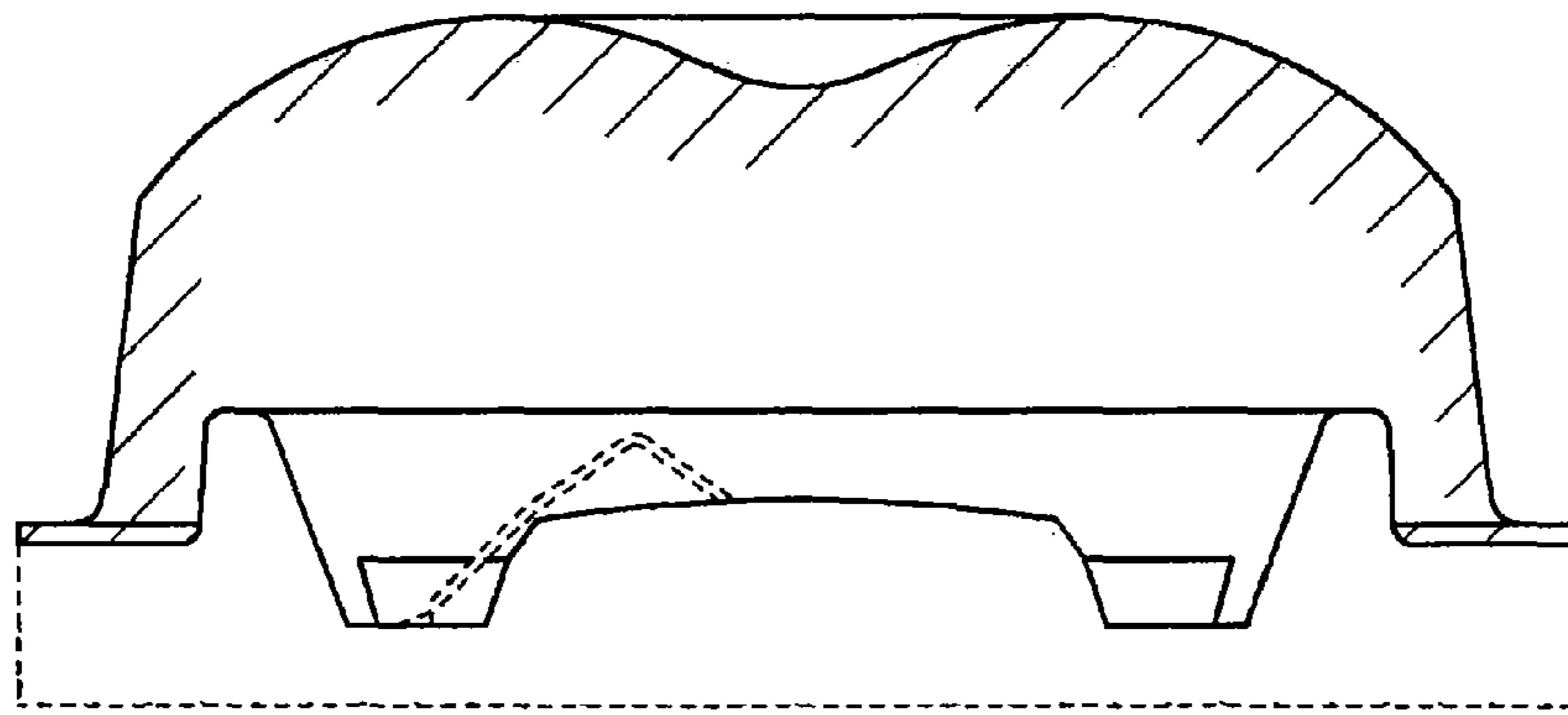


FIG.9

