



US00D684545S

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

(10) **Patent No.:** **US D684,545 S**  
(45) **Date of Patent:** **\*\* Jun. 18, 2013**

(54) **MINIATURE SURFACE MOUNT DEVICE**

FOREIGN PATENT DOCUMENTS

(75) Inventors: **Chi Keung Chan**, Sheung Shui (HK);  
**Chak Hau Pang**, Fanling (HK); **Fei Hong Li**, Huizhou (CN); **David Todd Emerson**, Chapel Hill, NC (US)

CN 101388161 A 3/2009  
JP 2004-335740 A 11/2004

(73) Assignee: **Cree Huizhou Solid State Lighting Company Limited** (CN)

OTHER PUBLICATIONS

Search Report issued in international application No. PCT/CN2011/000334, mailed Jun. 9, 2011 (8 pages).

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

*Primary Examiner* — Selina Sikder

(21) Appl. No.: **29/386,582**

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

(22) Filed: **Mar. 2, 2011**

(57) **CLAIM**

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

We claim the ornamental design for a miniature surface mount device, as shown and described.

(52) **U.S. Cl.**

USPC ..... **D13/180**

**DESCRIPTION**

(58) **Field of Classification Search**

USPC ..... D13/180; D26/1, 2; 257/79, 80, 81, 257/88, 89, 95, 98, 99, 100, E33.058; 313/483, 313/498, 500; 362/555, 800

See application file for complete search history.

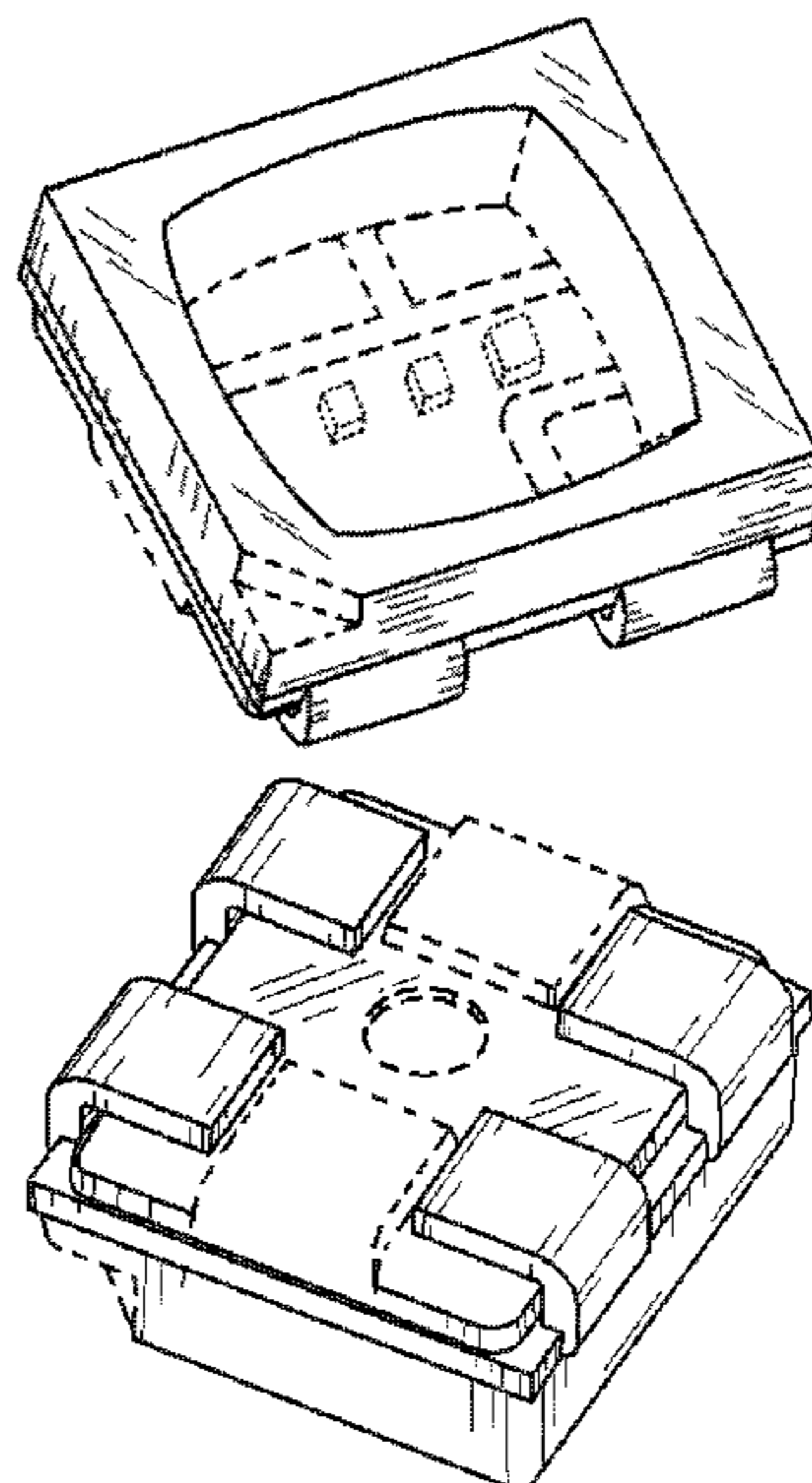
(56) **References Cited**

U.S. PATENT DOCUMENTS

7,435,143	B2 *	10/2008	Anderlini	.....	439/699.2
D585,848	S *	2/2009	Kim et al.	.....	D13/180
D586,302	S *	2/2009	Kim et al.	.....	D13/180
D606,948	S	12/2009	Hussell et al.		
D606,950	S *	12/2009	Ariizumi	.....	D13/180
D611,012	S *	3/2010	Hsieh	.....	D13/180
D615,504	S	5/2010	Keller et al.		
D626,257	S	10/2010	Pickard		
D633,099	S	2/2011	Van de Ven et al.		
2005/0127816	A1 *	6/2005	Sumitani	.....	313/498
2008/0023714	A1	1/2008	Chae et al.		
2008/0111148	A1 *	5/2008	Zimmerman	.....	257/98
2009/0072251	A1	3/2009	Chan et al.		
2009/0283781	A1	11/2009	Chan et al.		

(Continued)

**1 Claim, 3 Drawing Sheets**



U.S. PATENT DOCUMENTS

2010/0155748 A1 6/2010 Chan et al.  
2010/0308352 A1\* 12/2010 Liao et al. .... 257/89  
2011/0001149 A1 1/2011 Chan et al.  
2011/0291152 A1\* 12/2011 Liaw ..... 257/99

OTHER PUBLICATIONS

Written Opinion issued in international application No. PCT/CN2011/000334, mailed Jun. 9, 2011 (9 pages).  
Cree® PLCC4 2-in-1 SMD LED CLM4S-DKB Data Sheet, Copyright 2008-2009 Cree, Inc. (8 pages).  
Cree® PLCC6 3-in-1 SMD LED CLP6R-FKW Data Sheet, Copyright 2009 Cree, Inc. (9 pages).  
Cree® TR2432™ LEDs Data Sheet CxxxTR2432-S-xx00, Copyright 2008 Cree, Inc. (6 pages).  
For Cree H.K Only PN-series AlGaInP LED chip, Copyright 2009 Epistar Corporation (2 pages).  
For Cree Hong Kong Limited. Phoenix N-series AlGaInP LED chip, Copyright 2007 Epistar Corporation (2 pages).

U.S. Appl. No. 12/758,702, filed Apr. 12, 2010, entitled "Surface Mount Device Thin Package" (58 pages).  
Drawings for U.S. Appl. No. 29/360,791, filed Apr. 30, 2010 (4 pages).  
U.S. Appl. No. 61/369,565, filed Jul. 30, 2010, entitled "Water Resistant Surface Mount Device" (59 pages).  
U.S. Appl. No. 12/875,873, filed Sep. 3, 2010, entitled "LED Package With Contrasting Face" (45 pages).  
U.S. Appl. No. 12/939,096, filed Nov. 3, 2010, entitled "White Ceramic LED Package" (43 pages).  
U.S. Appl. No. 12/957,225, filed Nov. 30, 2010, entitled "Waterproof Surface Mount Device Package And Method" (48 pages).  
Notice of Grant of Design Patent Right for counterpart Chinese Application No. 201130305418.0, dated Dec. 7, 2011, 2 pages.  
Notice of Grant of Design Patent Right for counterpart Chinese Application No. 201130305426.5, dated Nov. 24, 2011, 3 pages.

\* cited by examiner

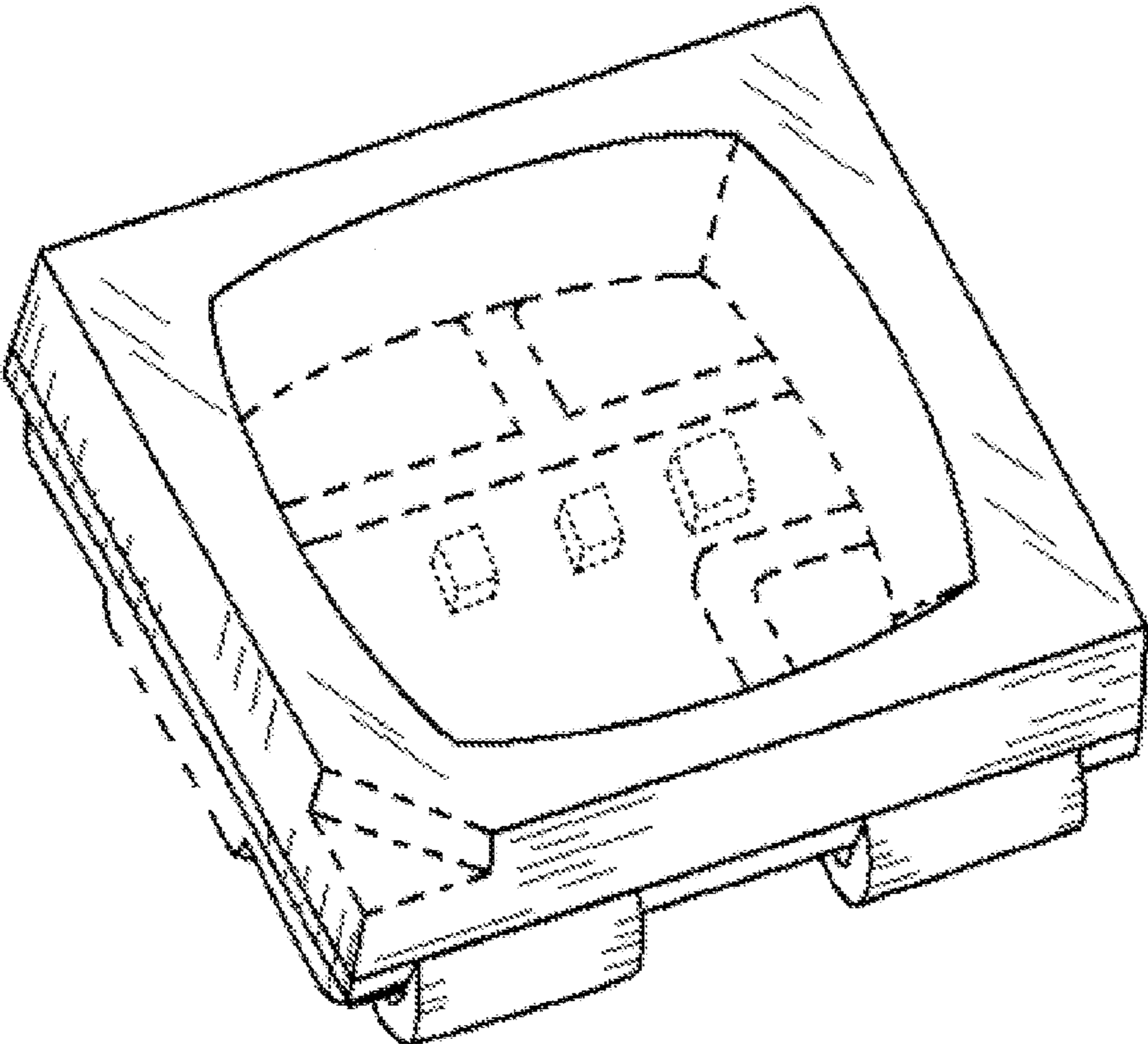


FIG. 1

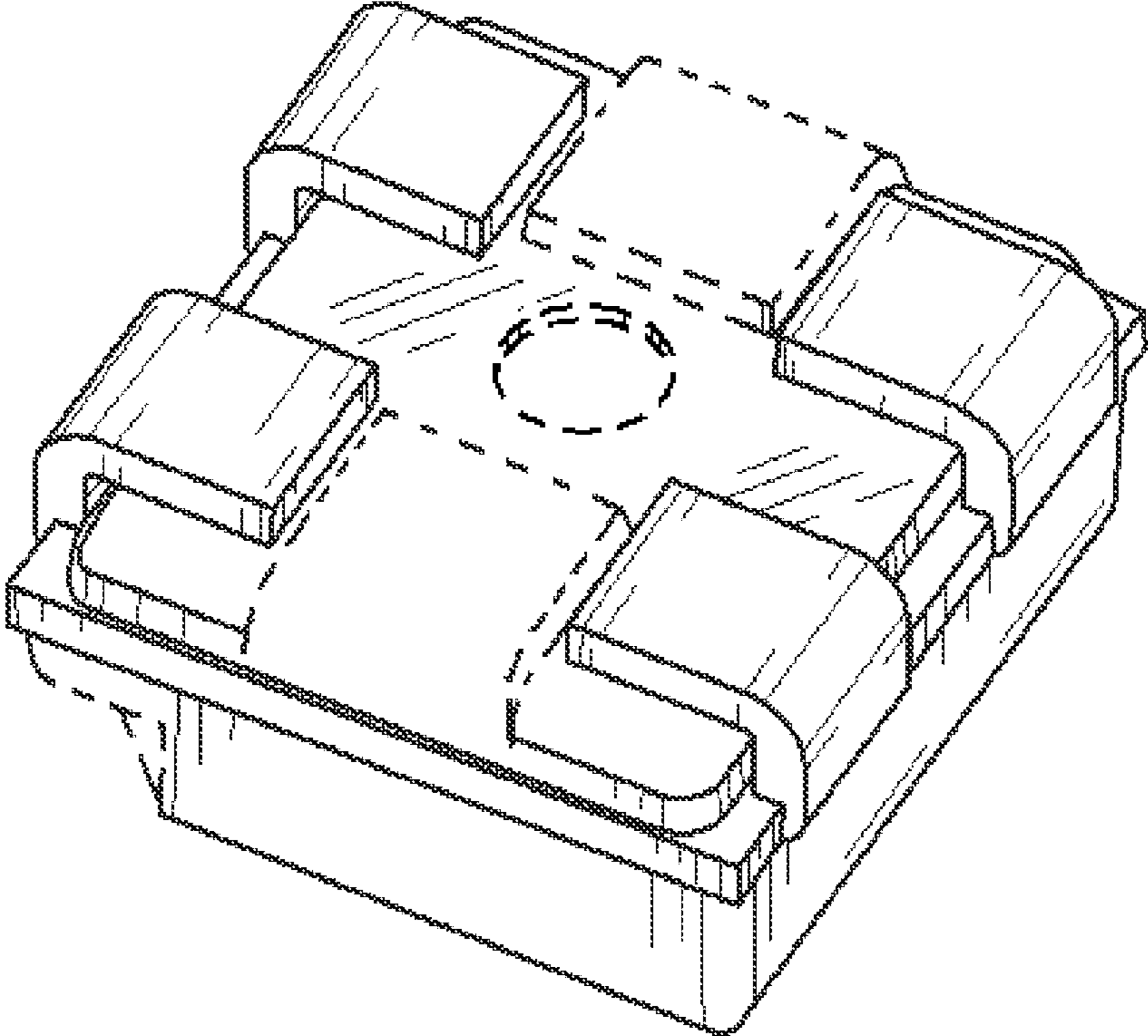


FIG. 2

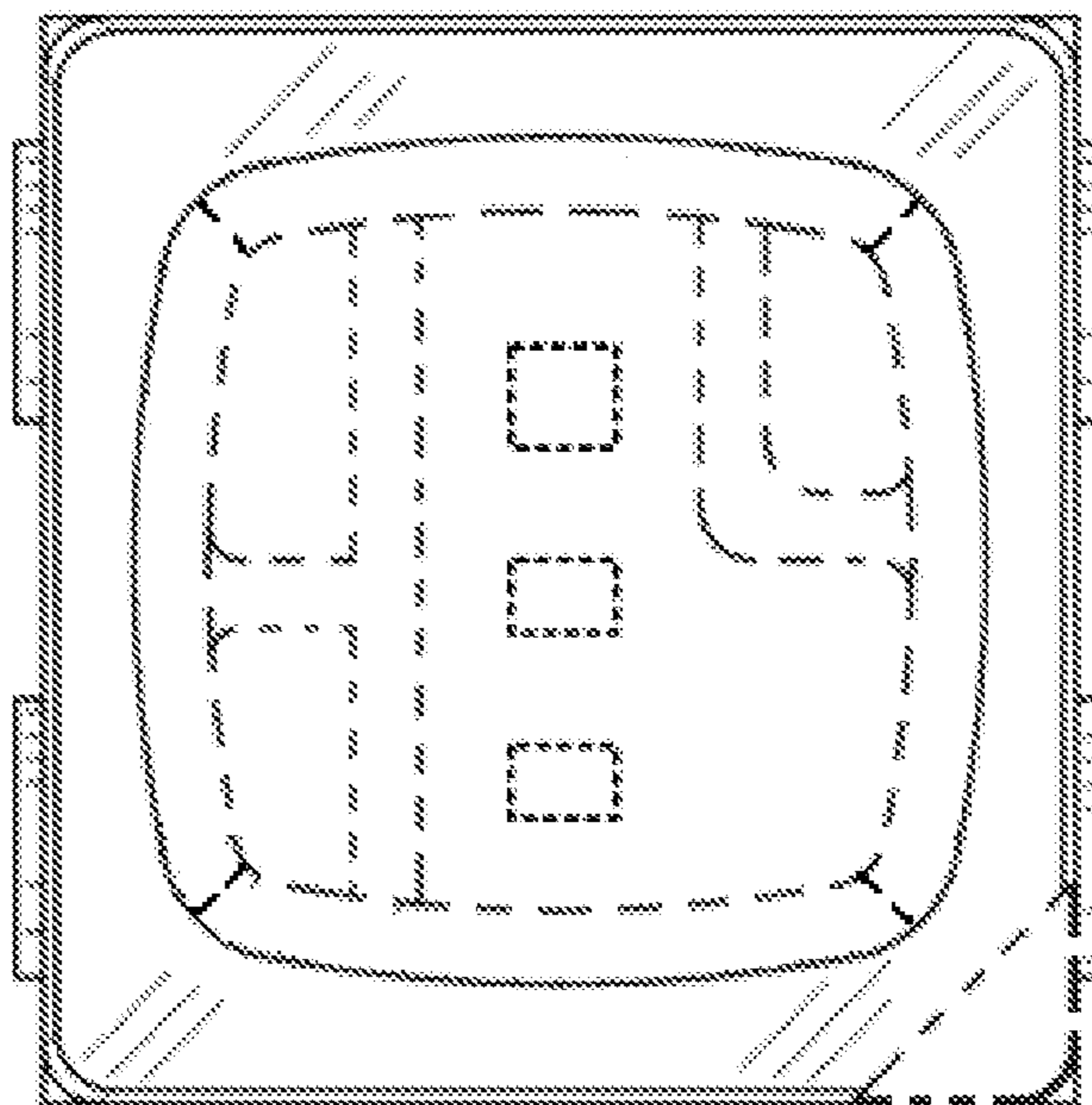


FIG. 3

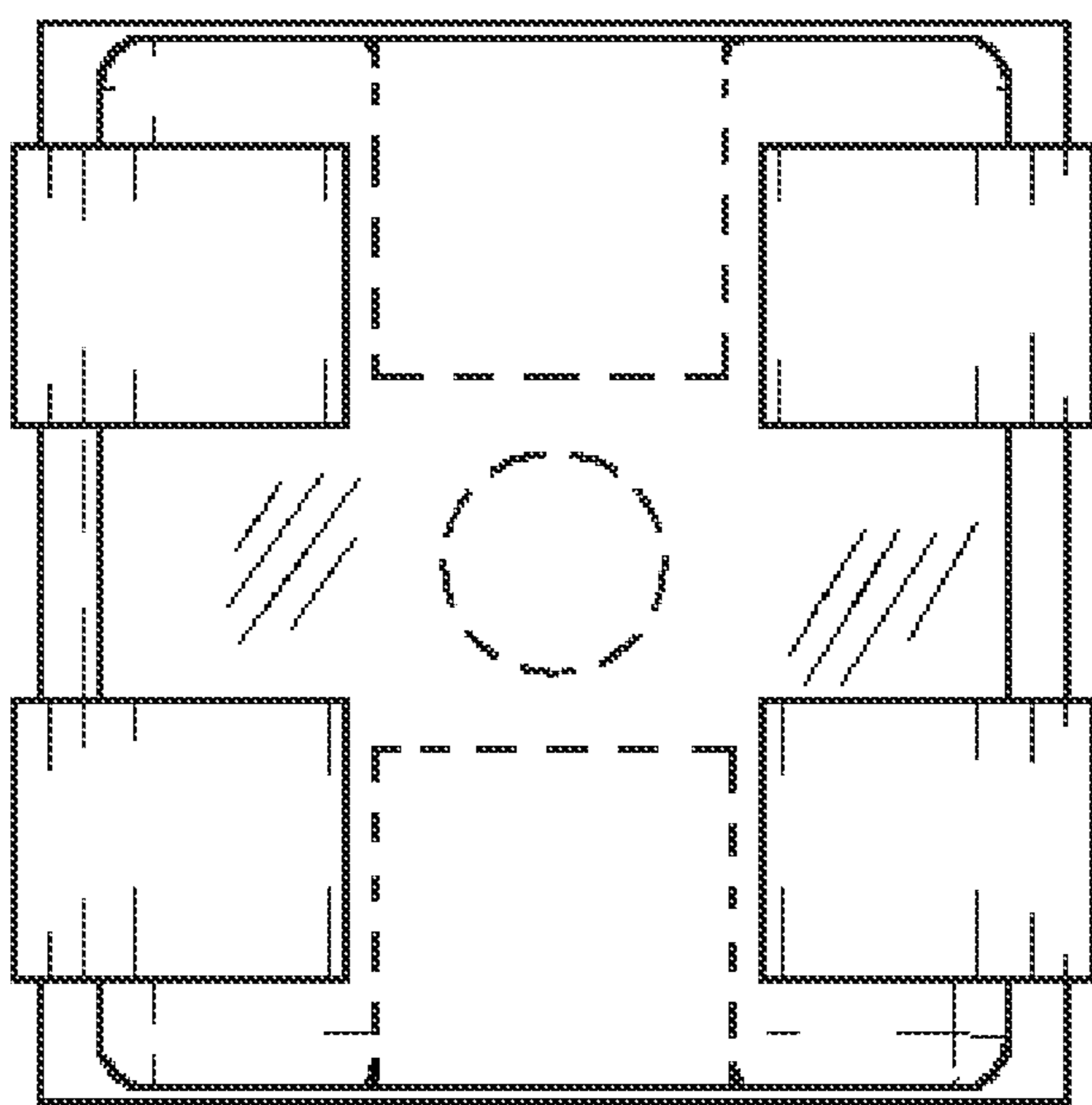


FIG. 4

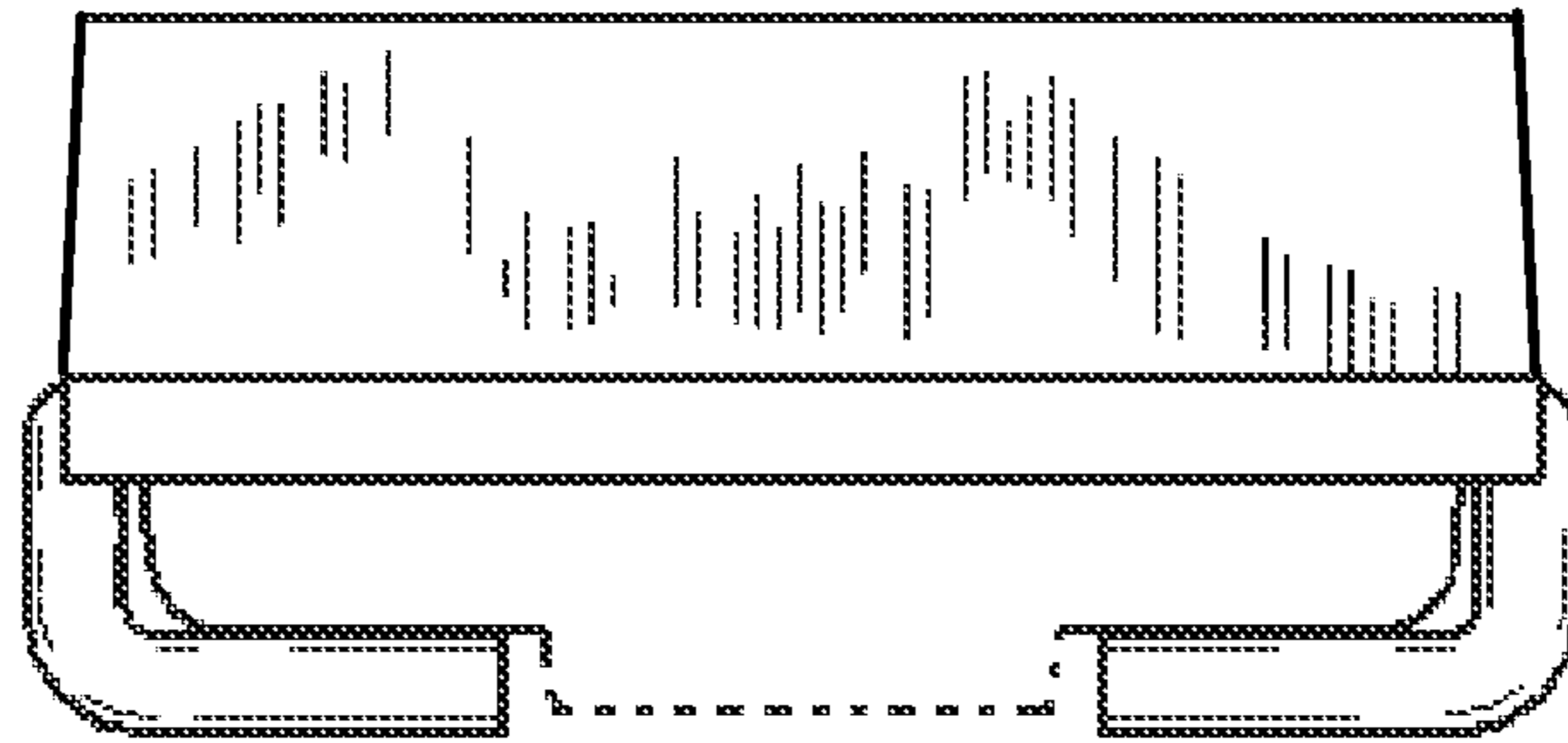


FIG. 5

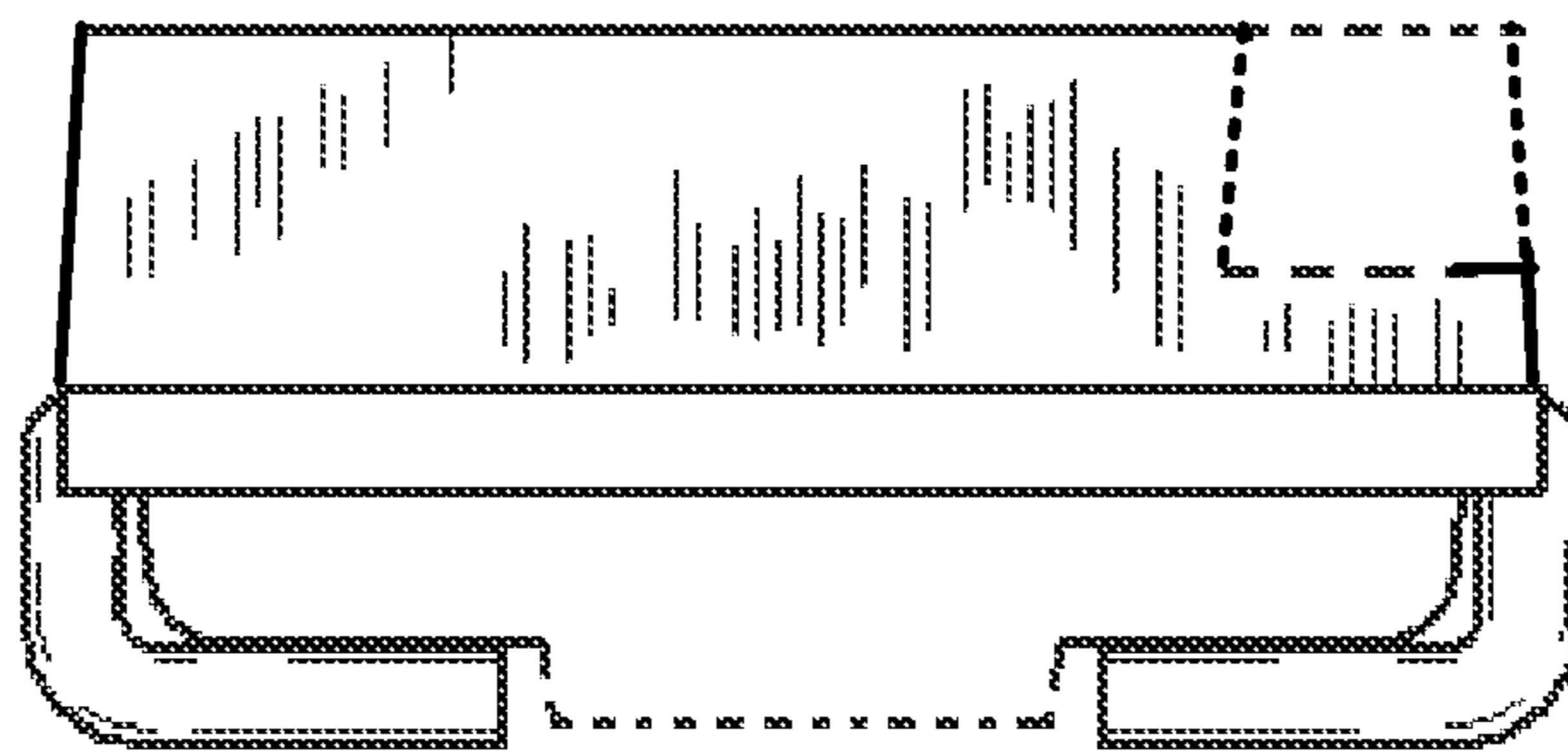


FIG. 6

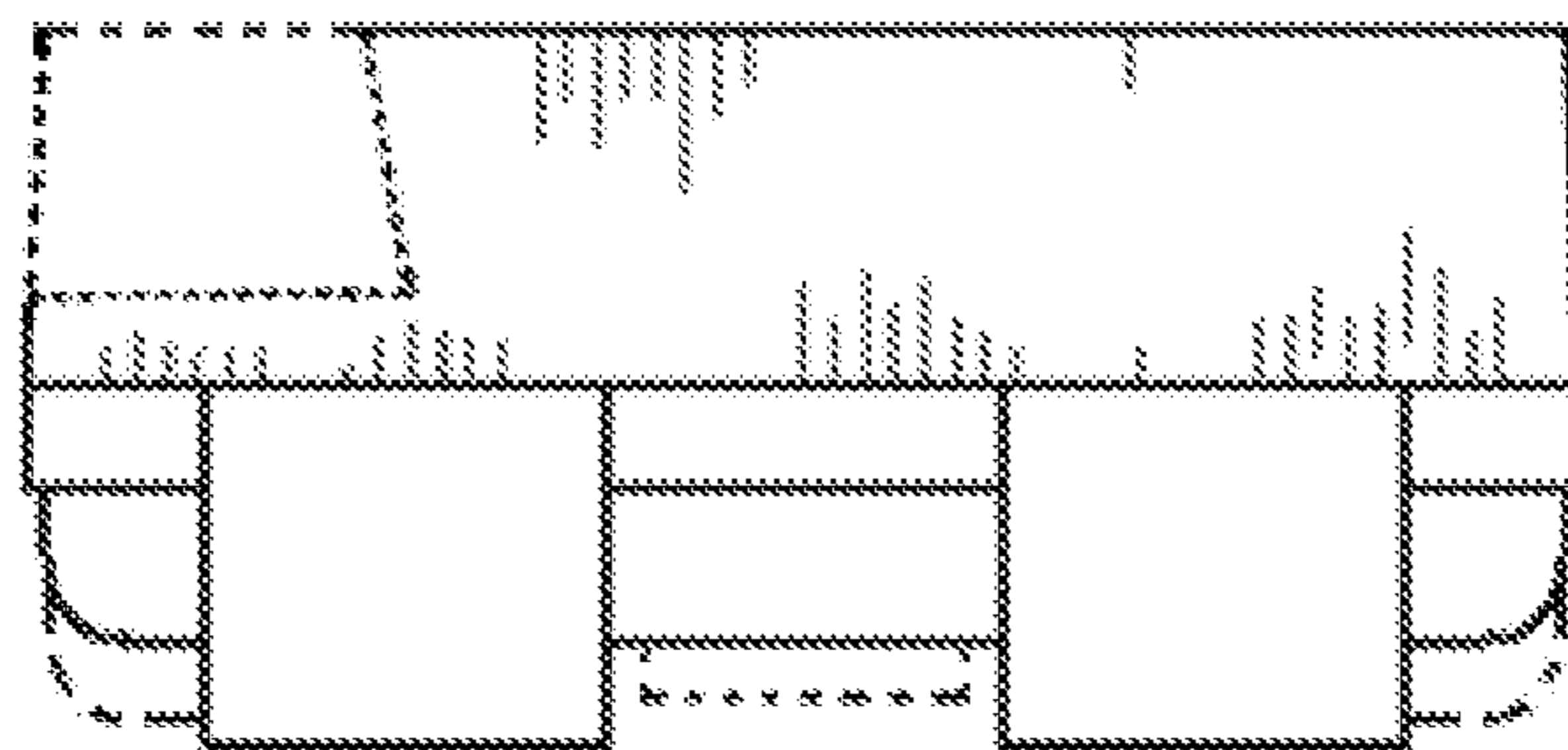


FIG. 7

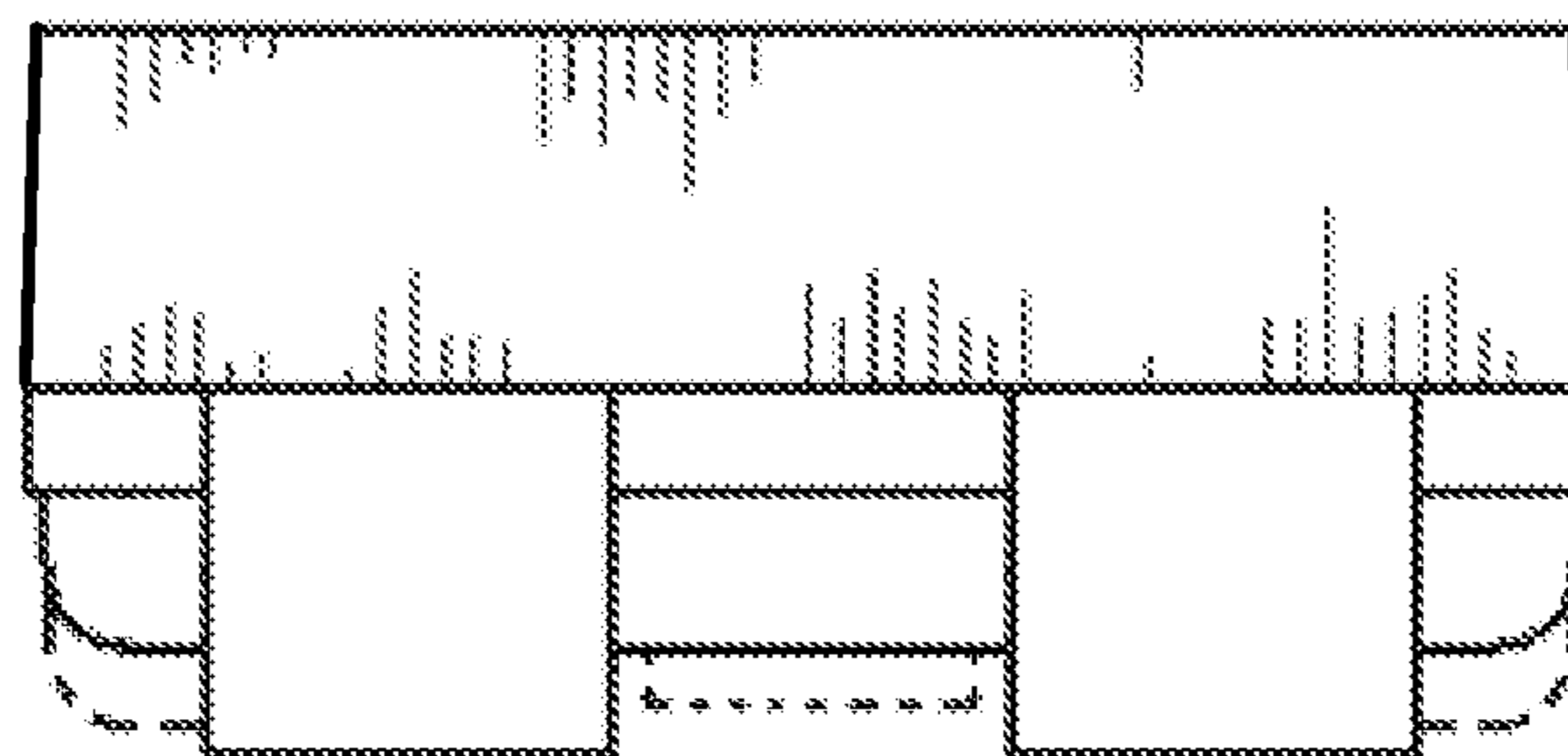


FIG. 8