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

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(54) **LIGHT EMITTING DIODE (LED) PACKAGE**

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

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**Related U.S. Application Data**

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

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

(58) **Field of Classification Search** ..... D13/180;  
D26/1, 2; 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**

4,679,118	A	7/1987	Johnson et al.
6,610,563	B1	8/2003	Waitl
6,828,170	B2	12/2004	Roberts et al.
6,936,855	B1	8/2005	Harrah
6,943,433	B2	9/2005	Kamada
D514,073	S	1/2006	Suenaga
7,081,661	B2	7/2006	Takehara et al.
7,224,047	B2	5/2007	Carberry et al.
7,244,965	B2	7/2007	Andrews et al.
D566,055	S	4/2008	Kim
D573,113	S	7/2008	Bando
D573,114	S	7/2008	Min et al.
7,400,049	B2	7/2008	Shim
7,429,790	B2	9/2008	Condie et al.
7,432,589	B2	10/2008	Yamamoto et al.
D580,375	S	11/2008	Yen
D580,381	S	11/2008	Bando
D580,891	S	11/2008	Sung et al.

7,456,499	B2	11/2008	Loh
7,462,870	B2	12/2008	Nakashima
D584,699	S	1/2009	Bando
D594,827	S	6/2009	Loh et al.
D595,675	S	7/2009	Wang et al.
7,564,180	B2	7/2009	Brandes
D597,968	S	8/2009	Kobayakawa et al.
D597,971	S	8/2009	Kobayakawa et al.

(Continued)

**FOREIGN PATENT DOCUMENTS**

CN 200930286397.5 10/2010

(Continued)

**OTHER PUBLICATIONS**

Description Model No. NS6x083x issued by Nichia Corporation—at least as early as Feb. 17, 2007.

(Continued)

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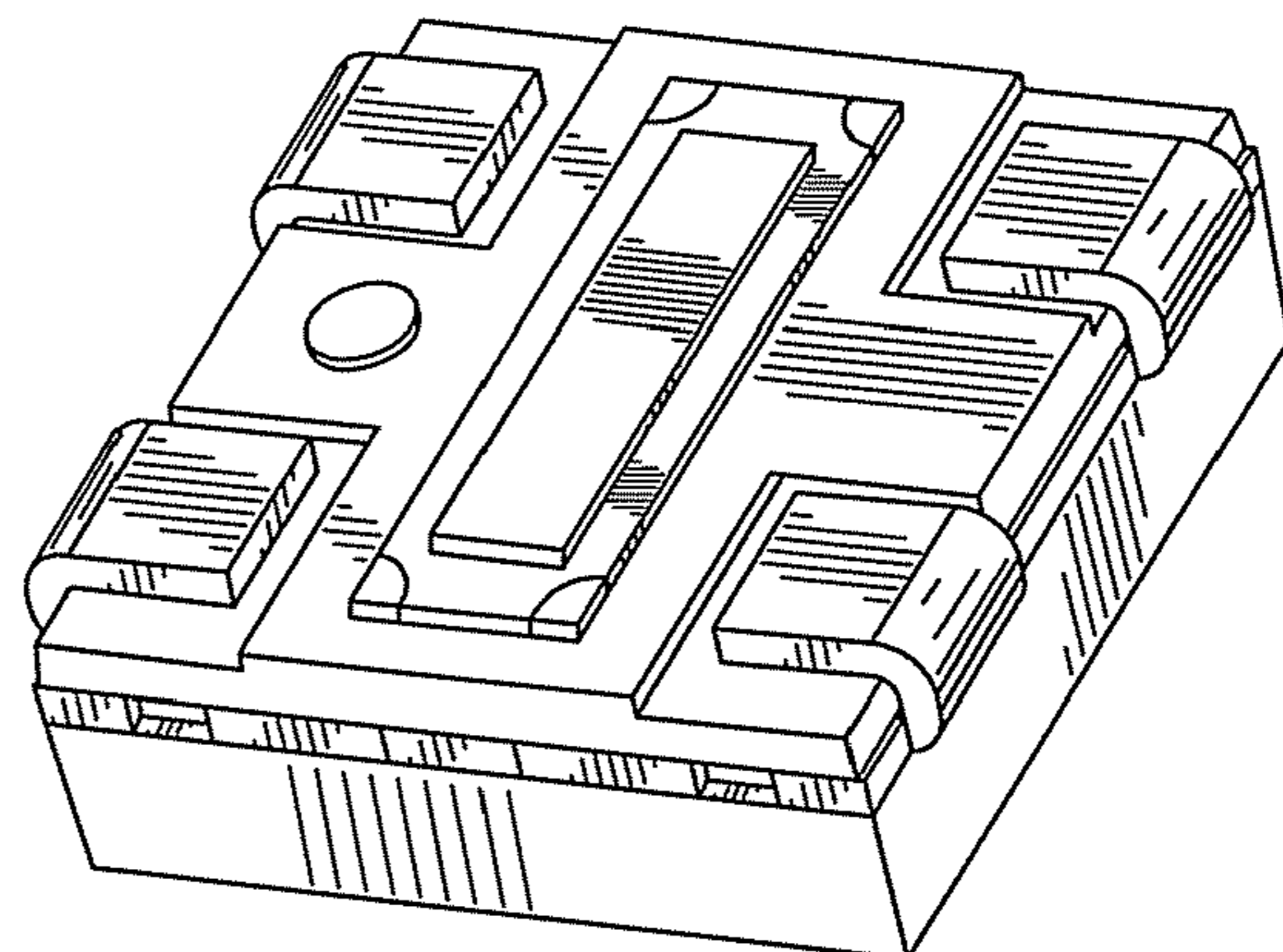
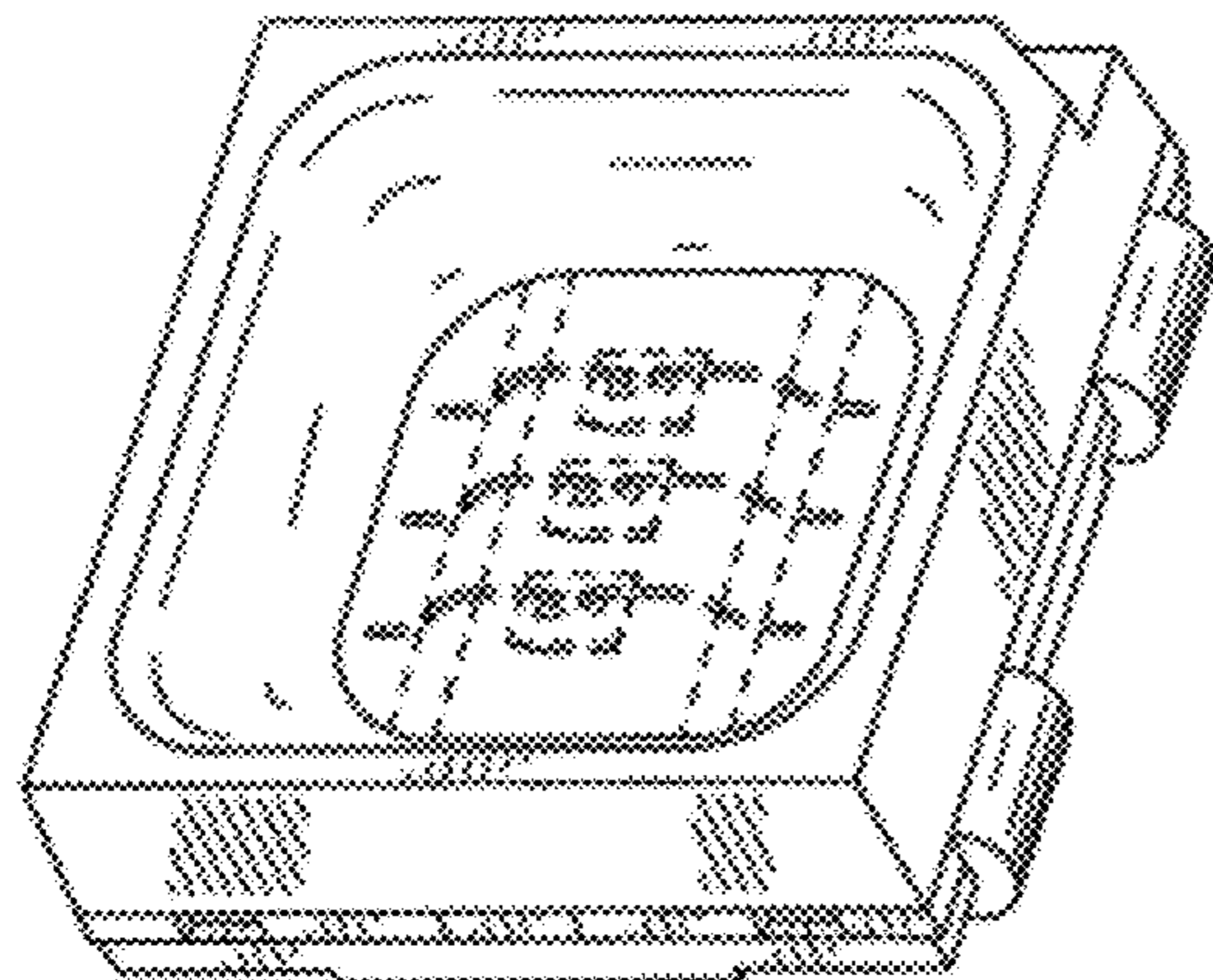
(57) **CLAIM**

The ornamental design for a light emitting diode (LED) package, as shown and described.

**DESCRIPTION**

FIG. 1 is a top perspective view of an LED package showing our design;  
FIG. 2 is a top view thereof;  
FIG. 3 is a top end view thereof;  
FIG. 4 is an opposing bottom end view thereof;  
FIG. 5 is a bottom view thereof opposite the view of FIG. 2;  
FIG. 6 is a side view thereof;  
FIG. 7 is an opposing side view thereof; and,  
FIG. 8 is a back perspective view thereof.  
The broken lines are for illustrative purposes only and form no part of the claimed design.

**1 Claim, 2 Drawing Sheets**



U.S. PATENT DOCUMENTS

D598,400	S	8/2009	Bando	
7,592,638	B2	9/2009	Kim	
D614,592	S	4/2010	Hussell et al.	
7,692,206	B2	4/2010	Loh	
D615,504	S	5/2010	Keller et al.	
7,719,024	B2	5/2010	Bando	
D621,798	S	8/2010	Lu et al.	
D621,799	S	8/2010	Hussell et al.	
D622,680	S	8/2010	Lin et al.	
D626,095	S	10/2010	Hseih	
D627,310	S	11/2010	Lin et al.	
D628,541	S	12/2010	Lin	
D632,267	S	2/2011	Chen et al.	
D632,659	S	2/2011	Hseih	
D634,284	S	3/2011	Ko et al.	
D634,285	S	3/2011	Ko et al.	
D634,286	S	3/2011	Ko et al.	
D635,527	S	4/2011	Hussell et al.	
7,923,739	B2	4/2011	Hussell	
D641,719	S *	7/2011	Hussell et al.	..... D13/180
D643,819	S	8/2011	Joo	
D648,686	S	11/2011	Hussell et al.	
D648,687	S	11/2011	Joo et al.	
2001/0045640	A1	11/2001	Oida et al.	
2004/0079957	A1	4/2004	Andrews et al.	
2006/0157726	A1	7/2006	Loh et al.	
2006/0175716	A1	8/2006	Nakashima	
2006/0220050	A1	10/2006	Higaki et al.	
2007/0052074	A1	3/2007	Hasegawa	
2007/0075325	A1	4/2007	Baek et al.	
2008/0006837	A1	1/2008	Park et al.	
2008/0185605	A1	8/2008	Wada et al.	
2008/0258162	A1	10/2008	Koung et al.	
2008/0278941	A1	11/2008	Logan et al.	
2008/0290353	A1	11/2008	Medendorp	
2009/0159905	A1	6/2009	Chen	
2009/0189178	A1	7/2009	Kim et al.	
2010/0059783	A1	3/2010	Chandra	
2010/0133554	A1	6/2010	Hussell	
2010/0133578	A1	6/2010	Pickard et al.	
2010/0155748	A1	6/2010	Chan et al.	
2011/0006658	A1	1/2011	Chan et al.	
2011/0031865	A1	2/2011	Hussell et al.	
2011/0180827	A1	7/2011	Hussell	
2011/0186873	A1	8/2011	Emerson	

FOREIGN PATENT DOCUMENTS

EP	001242234	1/2011
JP	D1102760	3/2001
JP	2008-091792	4/2008
JP	2008-103480	5/2008
JP	D1346959	12/2008
JP	1416396	5/2011
KR	1020070000130	A 1/2007
KR	1020090003378	A 1/2009
WO	WO 2007/126720	11/2007

OTHER PUBLICATIONS

Description Model No. NS6G083 issued by Nichia Corporation—at least as early as Aug. 31, 2007.  
 Notice of Allowance dated Apr. 16, 2010 from U.S. Appl. No. 29/338,186.  
 U.S. Appl. No. 29/360,791, filed Apr. 30, 2010.  
 Non-Final Office Action for U.S. Appl. No. 12/479,318, dated Jun. 2, 2010.  
 Related U.S. Appl. No. 29/365,939, filed Jul. 16, 2010.  
 U.S. Appl. No. 12/853,812, filed Aug. 10, 2010.  
 Notice of Allowance for U.S. Appl. No. 29/353,652, dated Aug. 24, 2010.  
 U.S. Appl. No. 61/404,985, filed Oct. 13, 2010.  
 Non-final Office Action for U.S. Appl. No. 12/479,318, dated Nov. 10, 2010.

Notice of Allowance for U.S. Appl. No. 29/353,652, dated Nov. 26, 2010.  
 Supplemental Notice of Allowance for U.S. Appl. No. 29/353,652, dated Dec. 8, 2010.  
 Related CIP U.S. Appl. No. 12/969,267, filed Dec. 15, 2010 entitled “Solid State Lighting Devices and Methods” (Filed With Non-Publication Request).  
 Notice of Allowance for U.S. Appl. No. 29/360,791, dated Dec. 22, 2010.  
 Notice of Allowance for U.S. Appl. No. 29/365,939, dated Dec. 27, 2010.  
 Related U.S. Appl. No. 29/382,394, filed Jan. 3, 2011.  
 International Search Report/Written Opinion dated Jan. 5, 2011 for PCT/US2010/035379.  
 U.S. Appl. No. 13/011,609, filed Jan. 21, 2011.  
 Supplemental Notice of Allowance for U.S. Appl. No. 29/360,791, dated Jan. 24, 2011.  
 Notice of Allowance for U.S. Appl. No. 12/479,318, dated Feb. 17, 2011.  
 Notice of Allowance for U.S. Appl. No. 29/338,186, dated Mar. 10, 2011.  
 Notice of Allowance for Japanese Design Appl. No. 2010-026186 dated Mar. 29, 2011.  
 Supplemental Notice of Allowability for U.S. Appl. No. 12/479,318, dated Apr. 5, 2011.  
 Japanese Office Action for JP2010-026185 dated Apr. 5, 2011.  
 Notice of Allowance for U.S. Appl. No. 29/360,791, dated Apr. 12, 2011.  
 Notice of Allowance for U.S. Appl. No. 29/365,939, dated Apr. 12, 2011.  
 Supplemental Notice of Allowance for U.S. Appl. No. 29/338,186, dated May 20, 2011.  
 Taiwanese Office Action for Appl. No. 099305566 dated Jul. 12, 2011.  
 Notice of Allowance for U.S. Appl. No. 29/360,791 dated Jul. 21, 2011.  
 Notice of Allowance for U.S. Appl. No. 29/380,549 dated Jul. 28, 2011.  
 Office Action with Restriction/Election Requirement for U.S. Appl. No. 12/853,812 dated Sep. 22, 2011.  
 Certificate of Registration for Community Design Application Serial No. 001283600-0001-0003 dated Jan. 7, 2011.  
 International Search Report and Written Opinion for PCT Serial No. PCT/US2011/41833 dated Oct. 24, 2011.  
 International Search Report and Written Opinion for PCT Serial No. PCT/US2011/043539 dated Oct. 28, 2011.  
 Notice of Allowance for Japanese Application Serial No. JP-DES 2011/015199 dated Nov. 10, 2011.  
 Notice of Allowance for Japanese Application Serial No. JP-DES 2011/015200 dated Nov. 30, 2011.  
 Notice of Allowance for Japanese Application Serial No. JP-DES 2011/015201 dated Nov. 30, 2011.  
 Notice of Allowance for Taiwanese Application Serial No. TW 099305566 dated Dec. 5, 2011.  
 Notice of Allowance for Chinese Application Serial No. CN 2011/30171313.0 dated Dec. 6, 2011.  
 Non-Final Office Action for U.S. Appl. No. 12/853,812 dated Dec. 7, 2011.  
 International Preliminary Report on Patentability for PCT Application Serial No. PCT/US2010/035379 dated Dec. 8, 2011.  
 Notice of Allowance for U.S. Appl. No. 29/397,017 dated Dec. 9, 2011.  
 Non-Final Office Action for Korean Application Serial No. KR 30-2010-0047048 dated Jan. 2, 2012.  
 Non-Final Office Action for Korean Application Serial No. KR 30-2010-0047049 dated Jan. 2, 2012.

\* cited by examiner

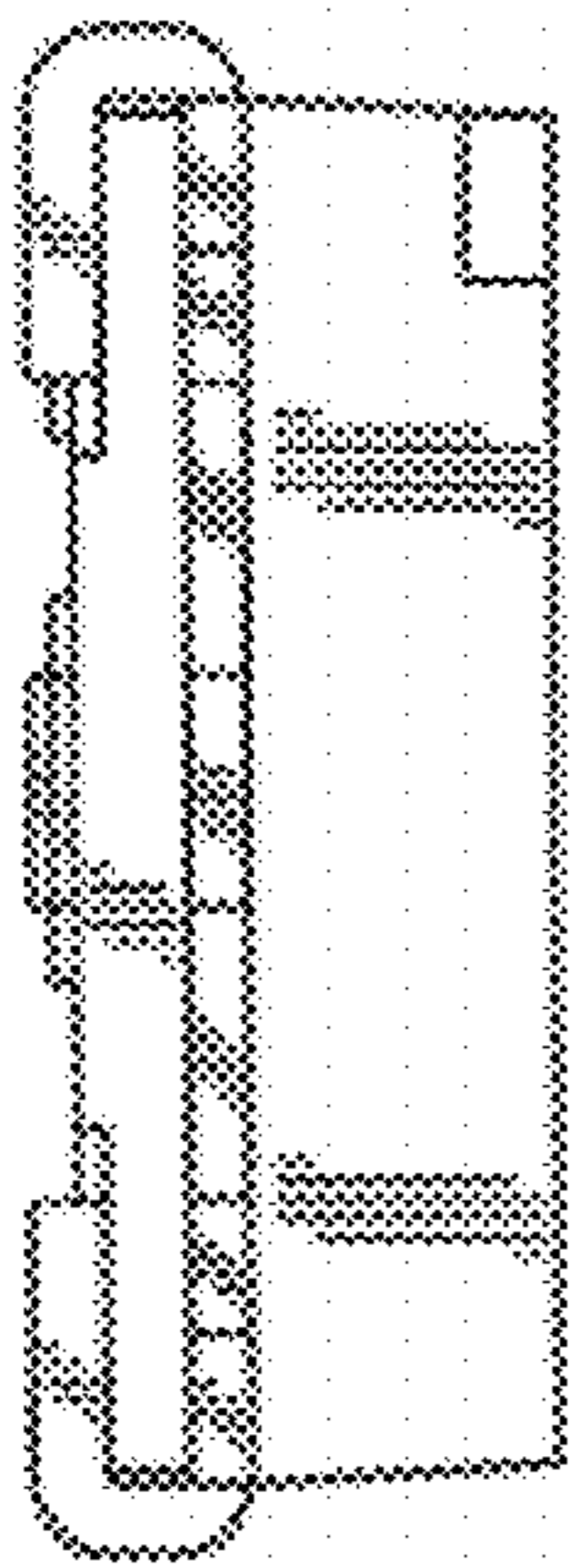


FIG. 3

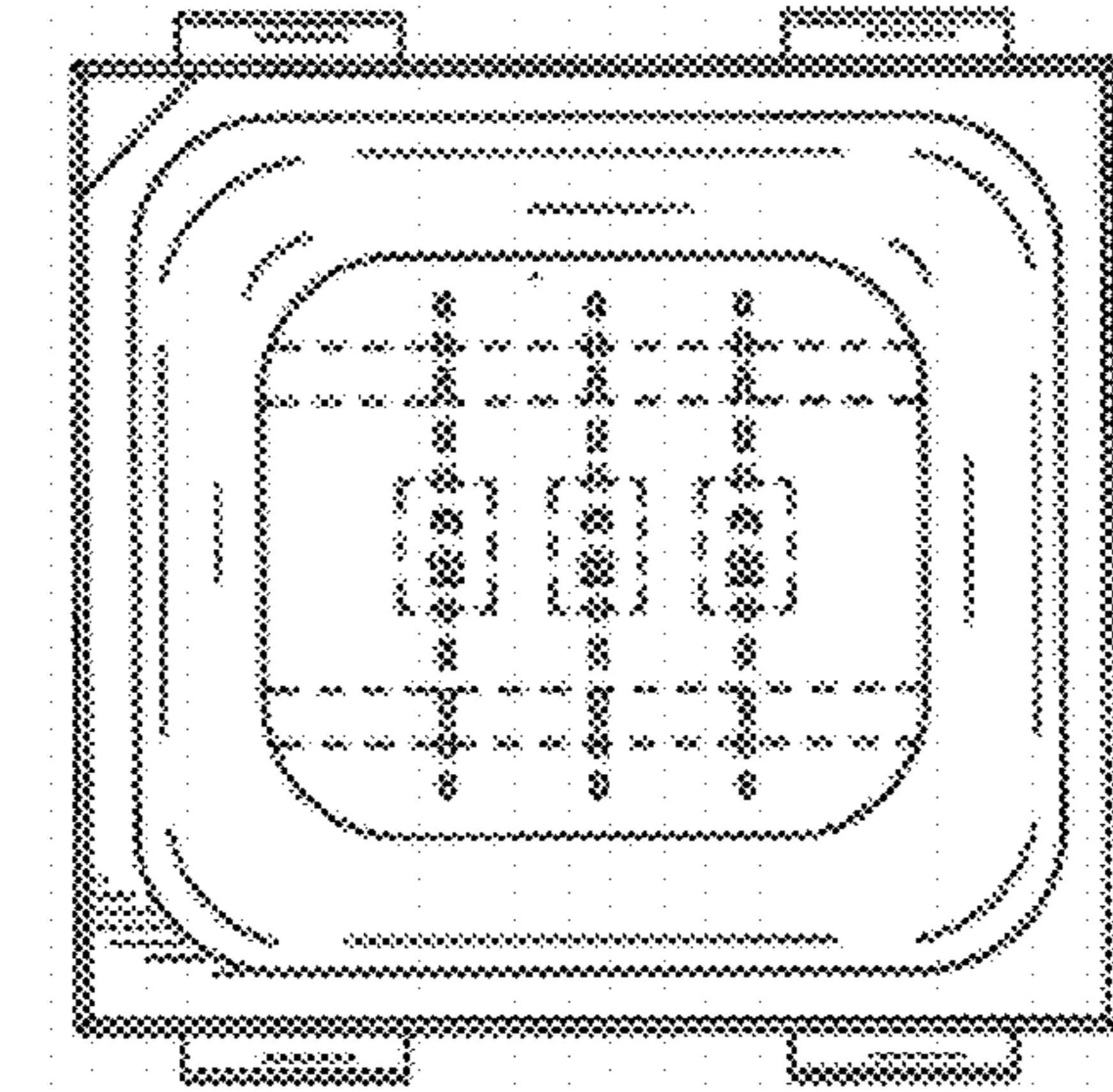


FIG. 2

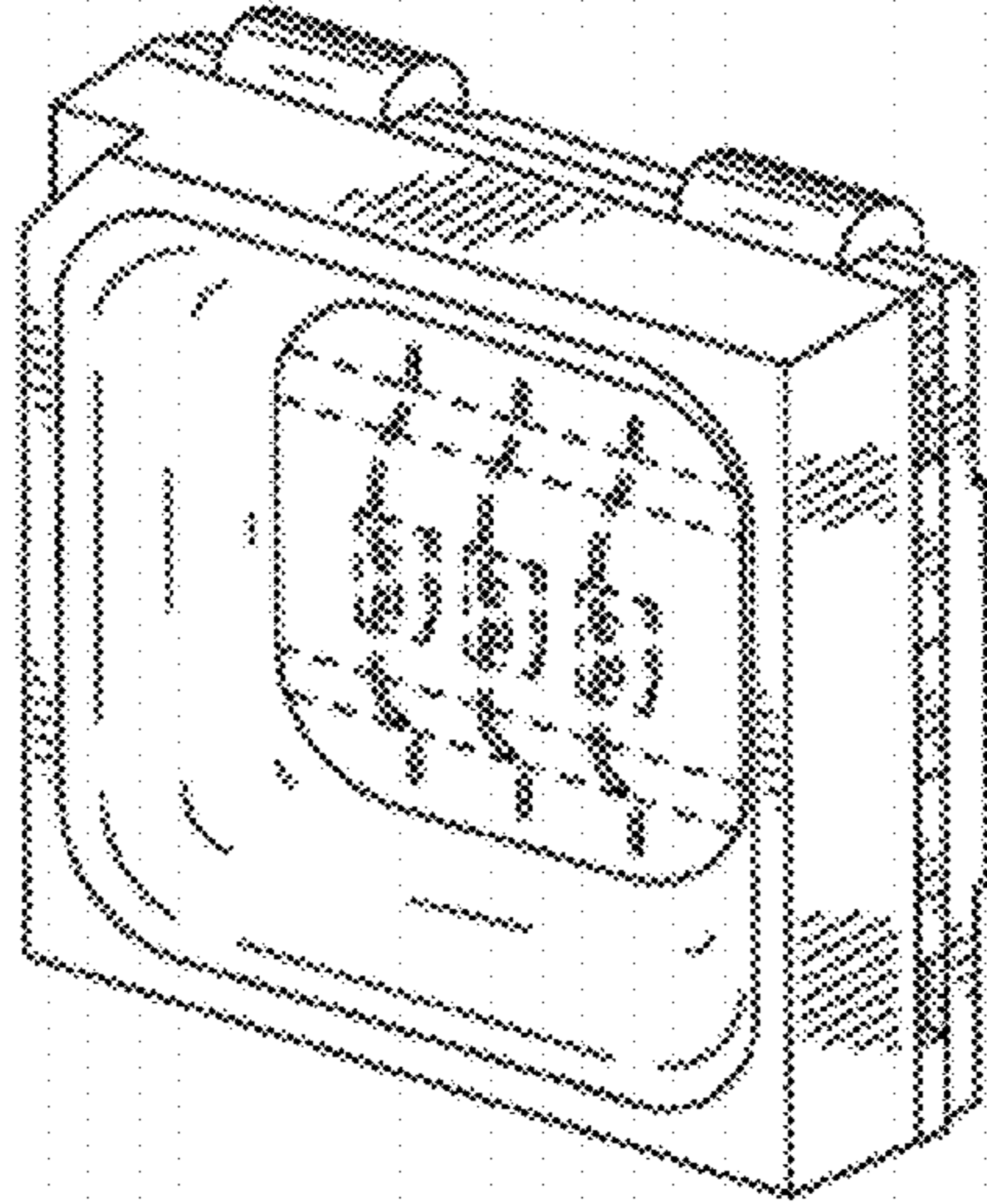


FIG. 1

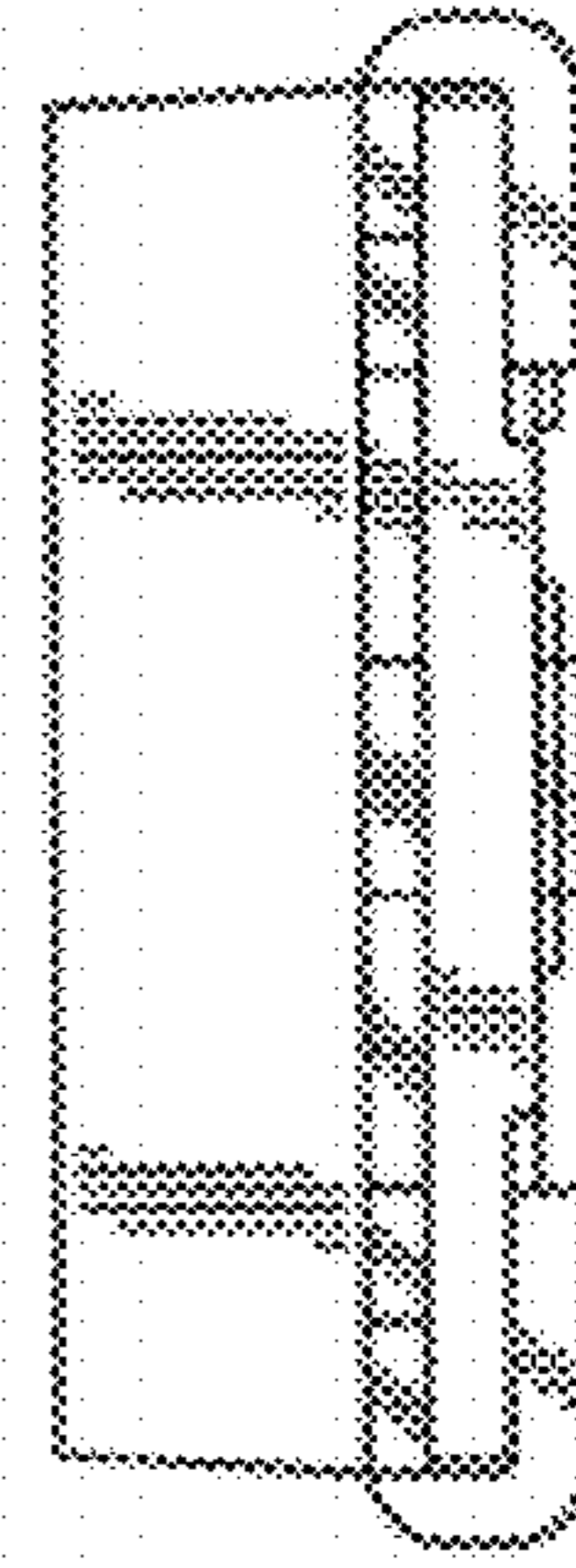
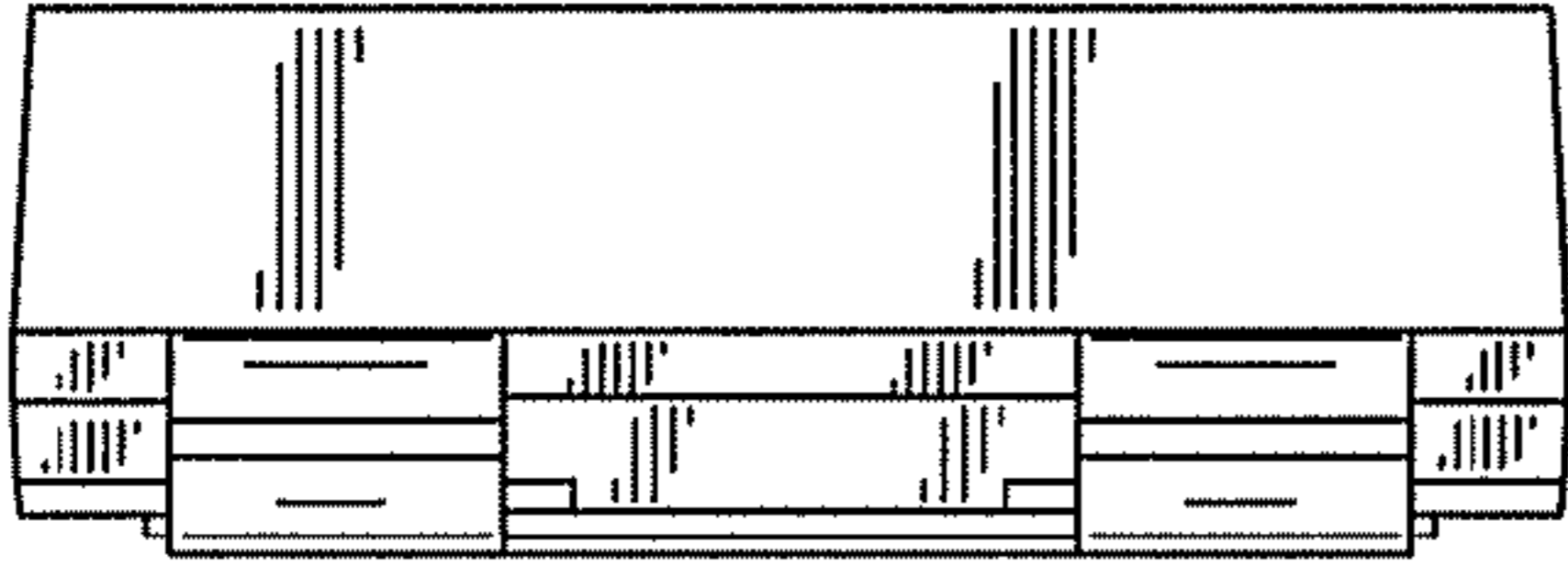
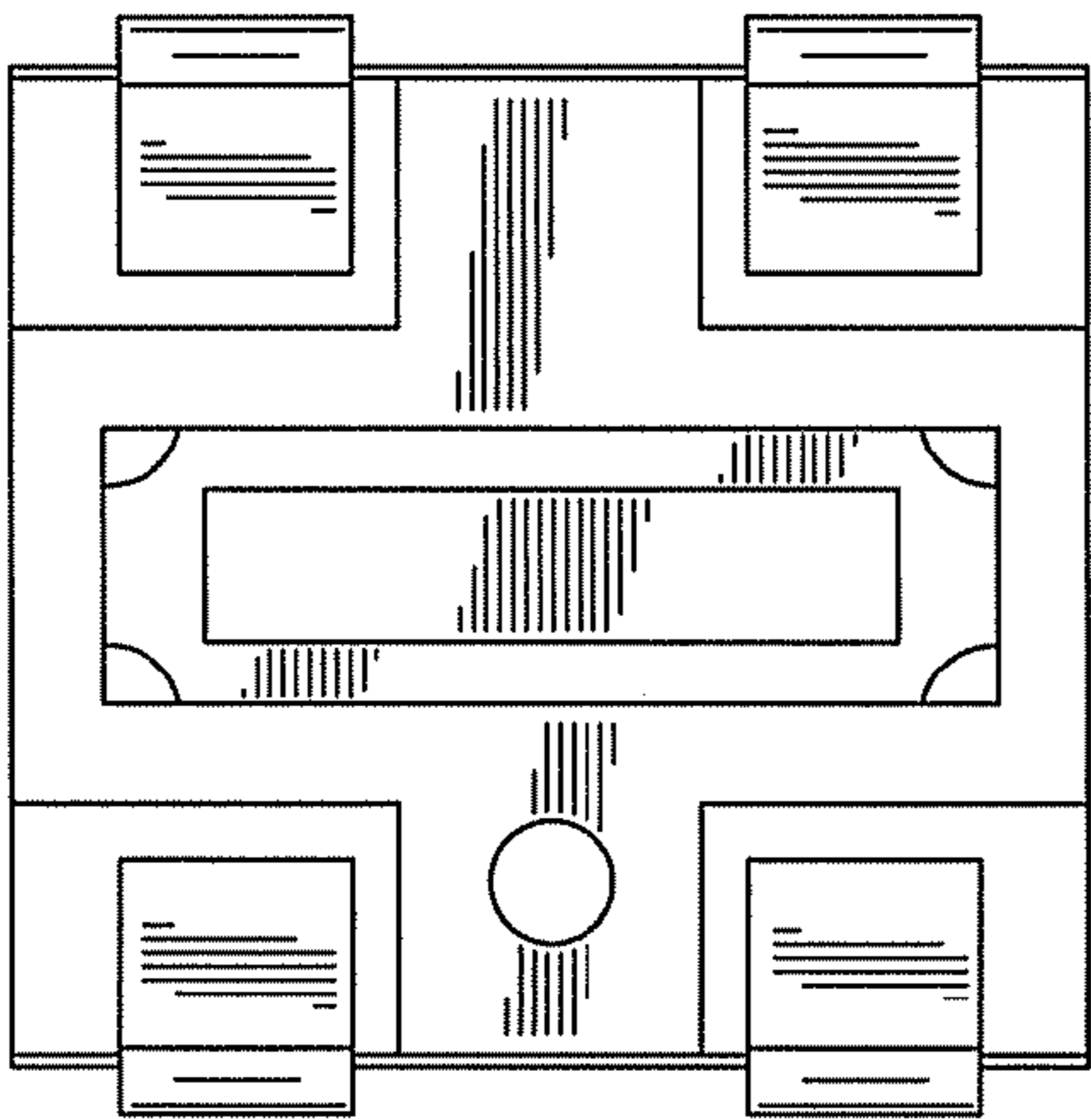


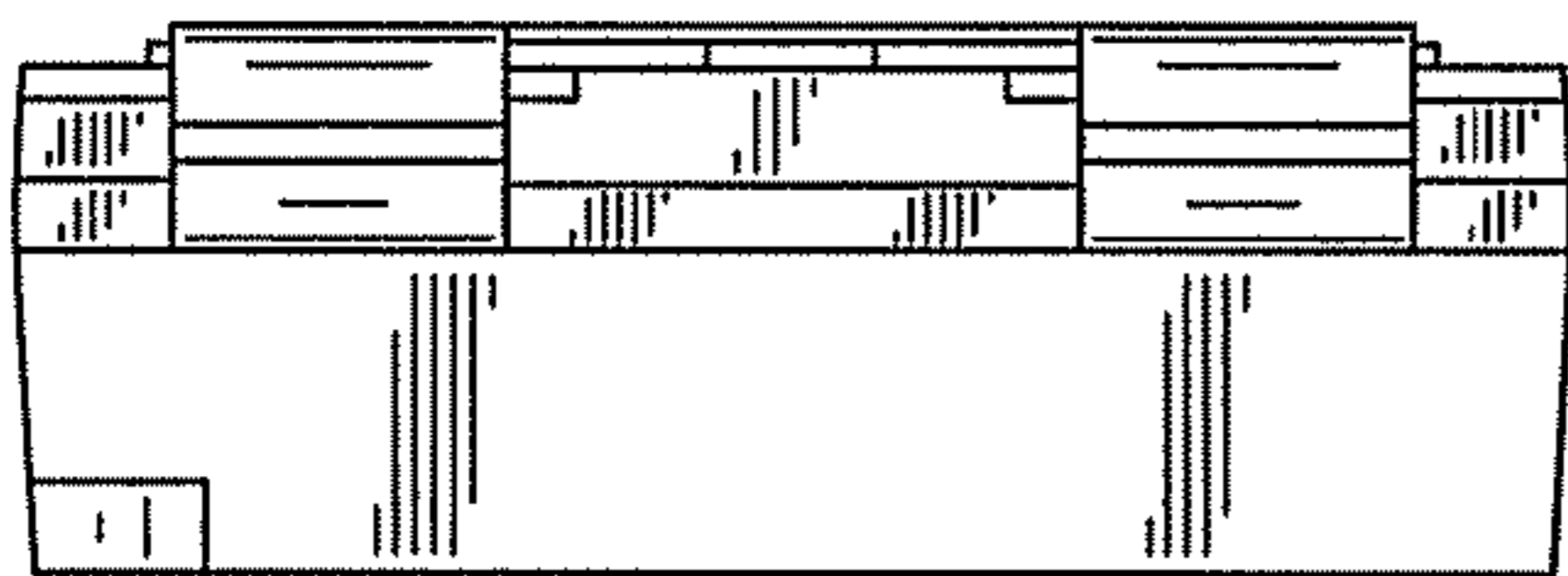
FIG. 4



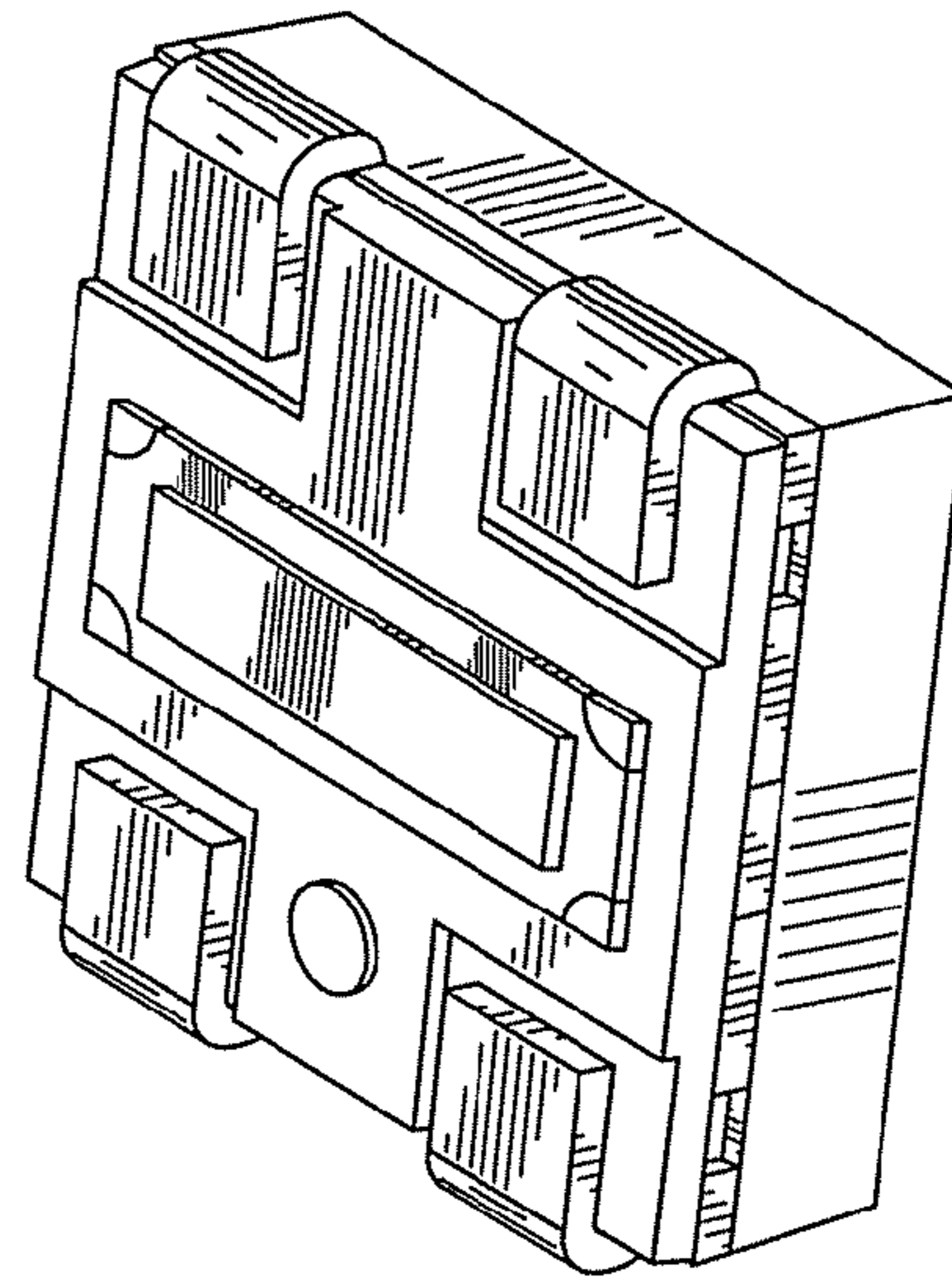
**FIG. 7**



**FIG. 5**



**FIG. 6**



**FIG. 8**