



US00D740453S

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

(10) **Patent No.:** **US D740,453 S**

(45) **Date of Patent:** **\*\* Oct. 6, 2015**

(54) **LIGHT EMITTER UNIT**

(71) Applicants: **Erin R. F. Welch**, Chapel Hill, NC (US);  
**Christopher P. Hussell**, Cary, NC (US)

(72) Inventors: **Erin R. F. Welch**, Chapel Hill, NC (US);  
**Christopher P. Hussell**, Cary, NC (US)

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

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

(21) Appl. No.: **29/459,233**

(22) Filed: **Jun. 27, 2013**

(51) **LOC (10) Cl.** ..... **26-04**

(52) **U.S. Cl.**  
USPC ..... **D26/1**

(58) **Field of Classification Search**  
USPC ..... D26/1-4; D13/180-182; 313/313, 315,  
313/316, 317, 318, 493; 362/555, 800  
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,855,194	A	8/1989	Wright	
4,946,547	A	8/1990	Palmour	
5,200,022	A	4/1993	Kong	
5,210,051	A	5/1993	Carter, Jr. et al.	
RE34,861	E	2/1995	Davis et al.	
5,393,993	A	2/1995	Edmond et al.	
5,523,589	A	6/1996	Edmond et al.	
6,093,053	A	7/2000	Horioka et al.	
6,224,430	B1	5/2001	Kusuda et al.	
6,548,832	B1	4/2003	Noriaki et al.	
6,909,051	B2	6/2005	Noble	
7,034,778	B1	4/2006	Hahl	
7,055,987	B2	6/2006	Staufert	
D528,672	S	9/2006	Nagai	
D528,996	S *	9/2006	Egawa	D13/180
D541,761	S	5/2007	Saito et al.	
7,213,940	B1	5/2007	Van de Ven et al.	
7,224,000	B2	5/2007	Aanegola et al.	
D570,506	S	6/2008	Uemoto	

D570,797	S	6/2008	Song	
D573,553	S *	7/2008	Uemoto et al.	D13/180
D573,731	S	7/2008	Uemoto	
7,393,237	B2	7/2008	Kuo	

(Continued)

FOREIGN PATENT DOCUMENTS

CN	101636887	1/2010	
CN	ZL 2011-30139847.5	8/2012	

(Continued)

OTHER PUBLICATIONS

Taiwanese Office Action for Application No. 100141888 dated Mar. 11, 2014.

(Continued)

*Primary Examiner* — Marcus Jackson

(74) *Attorney, Agent, or Firm* — Jenkins, Wilson, Taylor & Hunt, P.A.

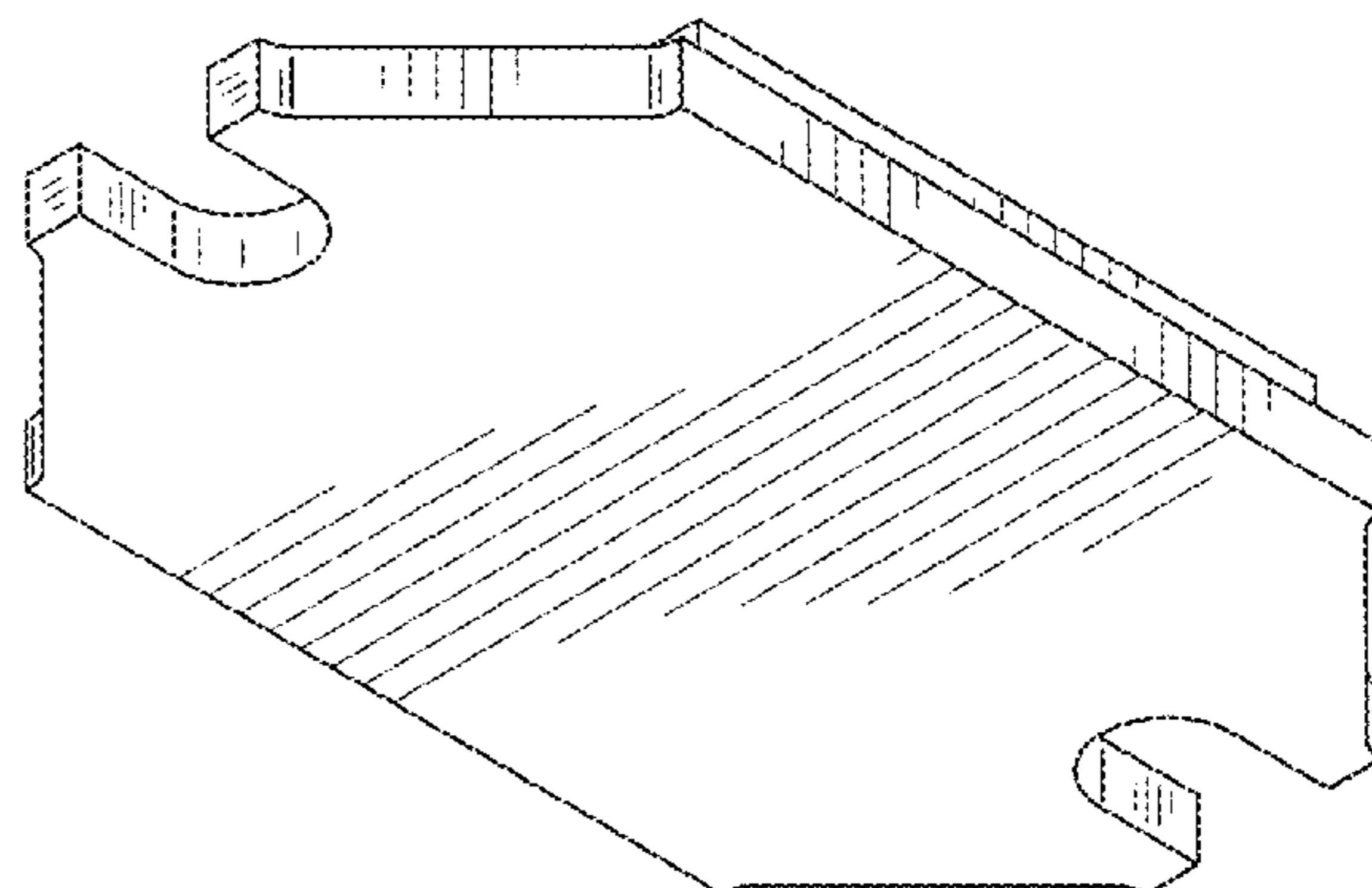
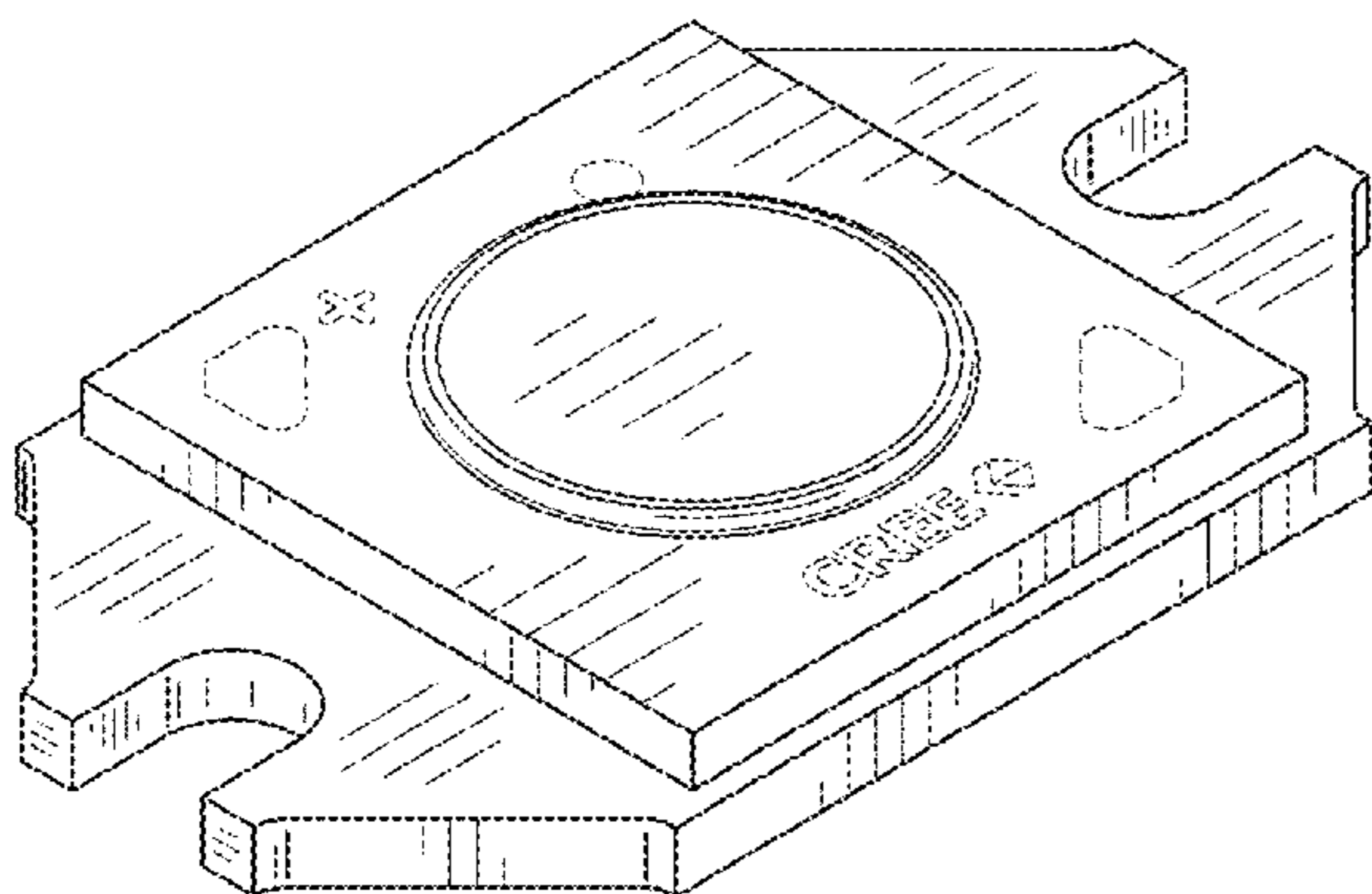
(57) **CLAIM**

The ornamental design for a light emitter unit, as shown and described.

**DESCRIPTION**

FIG. 1 is a first perspective view of a light emitter unit showing the design;  
 FIG. 2 is a second perspective view thereof, opposite the view of FIG. 1;  
 FIG. 3 is a top plan view thereof;  
 FIG. 4 is a bottom plan view thereof, opposite the view of FIG. 3;  
 FIG. 5 is first side view thereof, the opposing side being a mirror image of that shown; and,  
 FIG. 6 is second side view thereof, the opposing side being a mirror image of that shown.  
 The broken lines appearing in various views are for illustrative purposes only and form no part of the claimed design.

**1 Claim, 3 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

D576,576 S 9/2008 Shida et al.  
 7,479,660 B2 1/2009 Kobilke  
 7,482,636 B2 1/2009 Murayama et al.  
 D586,303 S 2/2009 Fuwa et al.  
 D589,470 S 3/2009 Chen  
 D591,248 S 4/2009 Imai et al.  
 D592,615 S 5/2009 Imai et al.  
 D593,043 S 5/2009 Song  
 D602,451 S 10/2009 Gielen  
 D603,813 S 11/2009 Nishimura et al.  
 D607,420 S 1/2010 Imai et al.  
 D615,051 S 5/2010 Chen et al.  
 D615,052 S 5/2010 Imai et al.  
 D618,635 S 6/2010 Imai et al.  
 D622,876 S \* 8/2010 Takahashi et al. .... D26/1  
 7,780,313 B2 8/2010 Lam et al.  
 7,804,147 B2 9/2010 Tarsa et al.  
 7,812,365 B2 10/2010 Murayama  
 7,825,578 B2 11/2010 Takashima et al.  
 D630,171 S 1/2011 Hsieh  
 7,872,418 B2 1/2011 Hata et al.  
 D636,899 S \* 4/2011 Shibahara ..... D26/1  
 D637,564 S 5/2011 Tseng et al.  
 7,943,952 B2 5/2011 Loh et al.  
 7,955,147 B1 6/2011 Legrady et al.  
 D640,997 S 7/2011 Imai et al.  
 7,994,518 B2 8/2011 Wang et al.  
 D645,417 S 9/2011 Imai et al.  
 8,022,626 B2 9/2011 Hamby et al.  
 8,044,418 B2 10/2011 Loh et al.  
 8,058,088 B2 11/2011 Cannon  
 D650,760 S 12/2011 Hussell et al.  
 8,119,534 B2 2/2012 Tanaka et al.  
 D658,601 S 5/2012 Egawa et al.  
 D658,602 S 5/2012 Egawa et al.  
 D658,603 S 5/2012 Egawa et al.  
 8,167,674 B2 5/2012 Hussell et al.  
 D667,803 S 9/2012 Hussell et al.  
 D669,041 S 10/2012 Imai et al.  
 D676,000 S 2/2013 Hussell et al.  
 D676,395 S 2/2013 Hussell et al.  
 8,410,679 B2 4/2013 Ibbetson et al.  
 8,425,271 B2 4/2013 Hussell et al.  
 D683,708 S 6/2013 Sasano et al.  
 8,455,908 B2 6/2013 Welch et al.  
 8,461,613 B2 6/2013 Chou et al.  
 8,517,572 B2 8/2013 Ferenc  
 D689,451 S 9/2013 Shimonishi et al.  
 8,563,339 B2 10/2013 Tarsa  
 8,564,000 B2 10/2013 Hussell  
 8,575,639 B2 11/2013 Hussell  
 8,624,271 B2 1/2014 Reiherzer  
 D702,653 S 4/2014 Wilcox et al.  
 D705,181 S 5/2014 Hussell et al.  
 8,729,589 B2 5/2014 Hussell et al.  
 D706,231 S 6/2014 Hussell et al.  
 D707,192 S 6/2014 Hussell et al.  
 8,809,880 B2 8/2014 Hussell  
 D712,850 S 9/2014 Welch et al.  
 8,921,869 B2 12/2014 Welch et al.  
 D721,339 S 1/2015 Hussell et al.  
 8,994,057 B2 3/2015 Hussell  
 9,000,470 B2 4/2015 Tudorica  
 2004/0079957 A1 4/2004 Andrews et al.  
 2004/0196663 A1 10/2004 Ishida et al.  
 2005/0073244 A1 4/2005 Chou et al.  
 2005/0152145 A1 7/2005 Currie et al.  
 2005/0199899 A1 9/2005 Lin et al.  
 2005/0264172 A1 12/2005 Wojnarowski et al.  
 2006/0139595 A1 6/2006 Koenen et al.  
 2006/0147746 A1 7/2006 Wakako et al.  
 2006/0186418 A1 8/2006 Edmond  
 2007/0018295 A1 1/2007 Kim et al.  
 2007/0029569 A1 2/2007 Andrews  
 2007/0131954 A1 6/2007 Murayama et al.

2007/0158668 A1 7/2007 Tarsa  
 2007/0194336 A1 8/2007 Shin et al.  
 2007/0241345 A1 10/2007 Huang  
 2007/0246730 A1 10/2007 Oishi et al.  
 2008/0019130 A1 1/2008 Wang  
 2008/0026498 A1 1/2008 Tarsa et al.  
 2008/0054279 A1 3/2008 Hussell et al.  
 2008/0054284 A1 3/2008 Hussell et al.  
 2008/0054286 A1 3/2008 Loh et al.  
 2008/0078664 A1 4/2008 Schmidt et al.  
 2008/0079017 A1 4/2008 Loh et al.  
 2008/0089072 A1 4/2008 Kim et al.  
 2008/0106723 A1 5/2008 Hoogendam et al.  
 2008/0173884 A1 7/2008 Chitnis  
 2008/0179611 A1 7/2008 Chitnis  
 2008/0191222 A1 8/2008 Lee  
 2008/0219003 A1 9/2008 Park  
 2008/0224166 A1 9/2008 Glovatsky et al.  
 2008/0239318 A1 10/2008 Den Boef et al.  
 2008/0258130 A1 10/2008 Bergmann  
 2009/0009103 A1 1/2009 McKechnie et al.  
 2009/0023323 A1 1/2009 Lin et al.  
 2009/0122514 A1 5/2009 Yoon et al.  
 2009/0130889 A1 5/2009 Daily et al.  
 2009/0166657 A1 7/2009 Yamada et al.  
 2009/0239409 A1 9/2009 Bishop  
 2009/0261374 A1 10/2009 Hayashi  
 2009/0262527 A1 10/2009 Chou  
 2009/0289169 A1 11/2009 Yang et al.  
 2009/0315061 A1 12/2009 Andrews  
 2010/0078664 A1 4/2010 Helbing  
 2010/0096642 A1 4/2010 Chang et al.  
 2010/0103660 A1 4/2010 Van de Ven et al.  
 2010/0139836 A1 6/2010 Horikoshi  
 2010/0141182 A1 6/2010 Shi  
 2010/0155763 A1 6/2010 Donofrio  
 2010/0193822 A1 8/2010 Inobe et al.  
 2010/0253248 A1 10/2010 Shi  
 2010/0270567 A1 10/2010 Emerson et al.  
 2010/0320483 A1 12/2010 Kadotani et al.  
 2011/0013400 A1 1/2011 Kanno et al.  
 2011/0065241 A1 3/2011 Lin et al.  
 2011/0068674 A1 3/2011 Takenaka et al.  
 2011/0068696 A1 3/2011 Van de Ven et al.  
 2011/0068702 A1 3/2011 Van de Ven et al.  
 2011/0116275 A1 5/2011 Sheek  
 2011/0121323 A1 5/2011 Wu et al.  
 2011/0127912 A1 6/2011 Lee et al.  
 2011/0128730 A1 6/2011 Chiu  
 2011/0136394 A1 6/2011 Mostoller et al.  
 2011/0291151 A1 12/2011 Matsuda et al.  
 2012/0126255 A1 5/2012 Hussell et al.  
 2012/0126257 A1 5/2012 Reiherzer et al.  
 2012/0193651 A1 8/2012 Edmond  
 2012/0205689 A1 8/2012 Welch  
 2012/0241807 A1 9/2012 Hoetzl et al.  
 2012/0250310 A1 10/2012 Hussell et al.  
 2012/0299022 A1 11/2012 Hussell  
 2013/0058099 A1 3/2013 Shum et al.  
 2013/0207130 A1 8/2013 Reiherzer  
 2013/0207142 A1 8/2013 Reiherzer  
 2013/0256711 A1 10/2013 Joo et al.  
 2014/0097453 A1 4/2014 Hussell et al.  
 2014/0097454 A1 4/2014 Hussell  
 2014/0183577 A1 7/2014 Hussell et al.  
 2014/0217433 A1 8/2014 Tudorica et al.  
 2014/0240974 A1 8/2014 Hussell et al.

FOREIGN PATENT DOCUMENTS

CN ZL 2011-30166527.9 8/2012  
 CN ZL201230099913.5 11/2012  
 CN ZL201230099954.4 12/2012  
 CN ZL201230099981.1 12/2012  
 CN ZL 201230472866.4 5/2013  
 CN ZL201230130915.6 10/2013  
 CN ZL201230652790.3 10/2013  
 CN ZL201230652789.0 11/2013  
 CN ZL201230652840.8 11/2013

(56)

## References Cited

## FOREIGN PATENT DOCUMENTS

CN	ZL201330361367.2	1/2014
EP	1640792	3/2006
EP	2327930	6/2011
EP	2 643 861	10/2013
EP	2 643 862	10/2013
EP	2751471	7/2014
FR	2 921 537	9/2007
JP	07-038940	9/1995
JP	10-311937	11/1998
JP	2001-294083	10/2001
JP	2003-303504	10/2003
JP	2005-183148	7/2005
JP	2005-266117	9/2005
JP	2005-276979	10/2005
JP	2006-294898	10/2006
JP	2007-227680	9/2007
JP	2007-266357	10/2007
JP	2007-323857	12/2007
JP	2007-335371	12/2007
JP	2009-503888	1/2009
JP	2009-044055	2/2009
JP	2009-289916	12/2009
JP	2010-009972	1/2010
JP	2010-147189	7/2010
JP	2012-503331	2/2012
JP	2012-079855	4/2012
JP	1476175	5/2013
JP	1476166	7/2013
JP	1493219	2/2014
KR	3004423910000	3/2007
KR	10-0793338	1/2008
KR	10-2008-0033496	4/2008
KR	10-2008-0092239	10/2008
KR	10-2009-0011121	2/2009
KR	10-2011-0004632	1/2011
KR	DES 30-0753131	7/2014
KR	DES 30-0753132	7/2014
TW	540169	7/2003
TW	113260	10/2006
TW	124444	8/2008
TW	D125589	10/2008
TW	128526	5/2009
TW	201029146	8/2010
TW	D141645	7/2011
TW	D144159	12/2011
TW	D145644	3/2012
TW	D156539	10/2013
TW	D159325	3/2014
TW	D159326	3/2014
TW	D159849	4/2014
TW	D159850	4/2014
TW	D159851	4/2014
TW	D160508	5/2014
TW	D160509	5/2014
TW	D160580	5/2014
TW	D160581	5/2014
TW	D160850	6/2014
WO	WO 2009/133615	11/2009
WO	WO 2009/141982	11/2009
WO	WO 2012/071136	5/2012
WO	WO 2012/071138	5/2012
WO	WO 2012/071139	5/2012
WO	WO 2013/032737	3/2013
WO	WO 2013/070696	5/2013
WO	WO 2013/096431	6/2013
WO	WO 2013/122831	8/2013

## OTHER PUBLICATIONS

Notice of Allowance for U.S. Appl. No. 29/451,177 dated Apr. 25, 2014.

Restriction Requirement for U.S. Appl. No. 14/148,102 dated Apr. 24, 2014.

Korean Notice of Allowance for Application No. 30-2012-0020196 dated Apr. 21, 2014.

Korean Notice of Allowance for Application No. 30-2012-0020197 dated Apr. 21, 2014.

Final Office Action for U.S. Appl. No. 13/224,850, dated May 30, 2014.

Online definition of the term “non-linear”, <http://thefreedictionary.com/nonlinear>, accessed on May 17, 2014.

Bridgelux Product Data Sheet—1 page.

Citizen Co. Product Data Sheet—4 pages. [http://ce.citizen.co.jp/lighting\\_led/en/products/index.html](http://ce.citizen.co.jp/lighting_led/en/products/index.html).

U.S. Appl. No. 29/379,636 for “Light Emitting Device Package” filed Nov. 22, 2010.

Design U.S. Appl. No. 29/380,387 for “Light Emitting Device Package” filed Dec. 3, 2010.

U.S. Appl. No. 13/028,972 for “Light Emitting Devices and Methods” filed Feb. 16, 2011.

U.S. Appl. No. 13/104,558 for “Light Emitting Devices and Methods” filed May 10, 2011.

Notice of Allowance for U.S. Appl. No. 29/379,636 dated Aug. 4, 2011.

Design U.S. Appl. No. 29/404,913 for “Light Emitting Device Component” filed Oct. 26, 2011.

U.S. Appl. No. 13/224,850 for “Light Emitting Device Component” filed Sep. 2, 2011.

Design U.S. Appl. No. 29/379,636 for “Light Emitting Device Package” filed Nov. 22, 2011.

Design U.S. Appl. No. 29/408,955 for “Light Emitting Device Package” filed Dec. 19, 2011.

U.S. Appl. No. 13/336,540, filed Dec. 23, 2011.

Notification of Granting Patent Right for Design for Application Serial No. CN 2011/30166527.9 dated Apr. 6, 2012.

Non-Final Office Action for U.S. Appl. No. 29/380,387 dated Apr. 25, 2012.

Notification of Granting Patent Right for Design for Application Serial No. CN 2011/30139847.5 dated Apr. 26, 2012.

Notice of Allowance for U.S. Appl. No. 29/408,955 dated May 7, 2012.

Notice of Allowance for Application U.S. Appl. No. 29/407,084 dated May 18, 2012.

International Search Report and Written Opinion for Application Serial No. PCT/US2011/058603 dated May 23, 2012.

International Search Report and Written Opinion for Application Serial No. PCT/US2011/058601 dated May 24, 2012.

International Search Report and Written Opinion for Application Serial No. PCT/US2011/058596 dated Jun. 18, 2012.

Chinese Office Action for Application Serial No. CN 2012/30130915.6 dated Jul. 12, 2012.

Office Action/Restriction Requirement for U.S. Appl. No. 13/028,972 dated Jul. 25, 2012.

Notification of Grant for Chinese Patent Application No. 2012/30099913.5 dated Aug. 7, 2012.

Notification of Grant for Chinese Patent Application No. 2012/30099981.1 dated Aug. 17, 2012.

Notification of Grant for Chinese Patent Application No. 2012/30099954.4 dated Aug. 17, 2012.

Notice of Allowance for U.S. Appl. No. 29/407,084 dated Aug. 21, 2012.

Notice of Allowance for U.S. Appl. No. 29/380,387 dated Sep. 18, 2012.

Notice of Allowance for U.S. Appl. No. 29/408,955 dated Oct. 4, 2012.

Non-Final Office Action for U.S. Appl. No. 13/028,972 dated Oct. 10, 2012.

Chinese Office Action for Application No. CN 2012/30130915.6 dated Oct. 24, 2012.

Chinese Office Action for Application No. 201230472866.4 dated Nov. 14, 2012.

Non-Final Office Action for U.S. Appl. No. 13/104,558 dated Jan. 3, 2013.

Taiwanese Search Report for Application No. 101302309 dated Jan. 14, 2013.

Taiwanese Office Action for Application No. 101302309 dated Jan. 23, 2013.

(56)

**References Cited**

## OTHER PUBLICATIONS

Chinese Decision to Grant for Application No. 201230472866.4 dated Jan. 24, 2013.

Notice of Allowance for U.S. Appl. No. 13/336,540 dated Jan. 31, 2013.

Restriction Requirement for U.S. Appl. No. 13/671,089 dated Feb. 7, 2013.

Restriction Requirement for U.S. Appl. No. 29/404,913 dated Feb. 15, 2013.

Japanese Office Action for Application No. 2012-023963 dated Feb. 26, 2013.

Japanese Office Action for Application No. 2012-026117 dated Feb. 26, 2013.

Chinese Office Action for Application No. CN 2012/30130915.6 dated Feb. 27, 2013.

Notice of Allowance for U.S. Appl. No. 13/028,972 dated Feb. 28, 2013.

International Search Report and Written Opinion for Application No. PCT/US2012/051344 dated Feb. 28, 2013.

International Search Report and Written Opinion for Application No. PCT/US2012/063861 dated Mar. 18, 2013.

Non-Final Office Action for U.S. Appl. No. 13/671,089 dated Mar. 29, 2013.

International Search Report and Written Opinion for Application No. PCT/US2012/070589 dated Apr. 22, 2013.

International Search Report and Written Opinion for Application No. PCT/US2013/025307 dated May 15, 2013.

Notice of Allowance for U.S. Appl. No. 13/028,972 dated May 23, 2013.

Japanese Office Action for Application No. 2012-031549 dated Jun. 4, 2013.

Japanese Decision of Registration for Application No. 2012-023963 dated Jun. 4, 2013.

Japanese Decision of Registration for Application No. 2012-026117 dated Jun. 4, 2013.

Taiwanese Notice of Allowance for Application No. 101302309 dated Jun. 5, 2013.

Notice of Allowance for U.S. Appl. No. 13/435,912 dated Jun. 19, 2013.

Notice of Allowance for U.S. Appl. No. 29/404,913 dated Jun. 25, 2013.

Chinese Notice of Grant for Application No. 201230652790.3 dated Jun. 26, 2013.

Notice of Allowance for U.S. Appl. No. 13/104,558 dated Jul. 1, 2013.

Chinese Notice of Grant for Application No. 201230130915.6 dated Jul. 3, 2013.

Chinese Decision to Grant for Application No. 201230652789 dated Jul. 17, 2013.

Chinese Notice of Grant for Application No. 201230652840.3 dated Jul. 26, 2013.

Ex Parte Quayle Action for U.S. Appl. No. 13/671,089 dated Aug. 13, 2013.

Final Office Action for U.S. Appl. No. 29/425,831 dated Jun. 10, 2014.

Korean Office Action for Application No. 10-2013-7015669 dated Jun. 3, 2014.

European Notice of Publication for Application No. 12827778.7 dated Jun. 12, 2014.

Restriction Requirement for U.S. Appl. No. 13/836,709 dated Jun. 19, 2014.

Non-Final Office Action for U.S. Appl. No. 14/052,201 dated Jun. 19, 2014.

Non-Final Office Action for U.S. Appl. No. 14/043,494 dated Jun. 20, 2014.

Non-Final Office Action for U.S. Appl. No. 14/148,102 dated Jun. 20, 2014.

Restriction Requirement for U.S. Appl. No. 14/168,561 dated Jul. 1, 2014.

Non-Final Office Action for U.S. Appl. No. 14/189,500 dated Jul. 15, 2014.

Korean Trial Decision for Application No. 30-2012-0020198 dated Jul. 29, 2014.

Notice of Allowance for U.S. Appl. No. 13/908,597 dated Aug. 20, 2014.

European Patent Office Communication pursuant to Rule 114(2) EPC for Application No. 2011-0843773 dated Aug. 20, 2014.

Japanese Office Action for Application No. 2012031548 dated Sep. 1, 2014.

Japanese Office Action for Application No. 2012031549 dated Sep. 1, 2014.

Notice of Allowance for U.S. Appl. No. 29/425,831 dated Sep. 4, 2014.

Final Office Action for U.S. Appl. No. 13/282,172 dated Sep. 17, 2014.

Taiwanese Search Report for Application No. 102300059 dated Apr. 17, 2013.

Taiwanese Search Report for Application No. 102300058 dated Apr. 29, 2013.

Taiwanese Office Action for Application No. 102300058 dated Aug. 27, 2013.

Taiwanese Office Action for Application No. 102301581 dated Sep. 6, 2013.

Taiwanese Office Action for Application No. 102301582 dated Sep. 6, 2013.

Taiwanese Office Action for Application No. 102301583 dated Sep. 6, 2013.

Taiwanese Office Action for Application No. 102301584 dated Sep. 6, 2013.

Taiwanese Office Action for Application No. 102301585 dated Sep. 6, 2013.

Restriction Requirement for U.S. Appl. No. 13/793,882 dated Sep. 20, 2013.

Restriction Requirement for U.S. Appl. No. 29/417,220 dated Sep. 27, 2013.

Restriction Requirement for U.S. Appl. No. 29/451,177 dated Sep. 27, 2013.

Restriction Requirement for U.S. Appl. No. 29/425,831 dated Sep. 30, 2013.

Taiwanese Office Action for Application No. 102300059 dated Oct. 1, 2013.

Chinese Notice to Grant for Application No. 201330361367.2 dated Oct. 8, 2013.

Notice of Allowance for U.S. Appl. No. 13/671,089 dated Oct. 22, 2013.

Restriction Requirement for U.S. Appl. No. 29/412,166 dated Oct. 25, 2013.

Restriction Requirement for U.S. Appl. No. 29/412,168 dated Oct. 25, 2013.

Japanese Office Action for Application No. 2012-031548 dated Nov. 5, 2013.

Japanese Office Action for Application No. 2012-031549 dated Nov. 5, 2013.

Non-Final Office Action for Application No. 13/793,882 dated Nov. 15, 2013.

Taiwanese Office Action for Application No. 100141889 dated Aug. 6, 2014.

European Patent Office Communication pursuant to Rule 114(2) EPC for Application No. 20110843026 dated Sep. 24, 2014.

Taiwanese Office Action for Application No. 100141887 dated Sep. 11, 2014.

Korean Decision of Rejection for Application No. 10-2013-7015669 dated Nov. 6, 2014.

Non-Final Office Action for U.S. Appl. No. 14/148,102 dated Dec. 5, 2014.

Taiwanese Notice of Allowance for Application No. 100141889 dated Dec. 8, 2014.

Notice of Allowance for U.S. Appl. No. 14/043,494 dated Dec. 10, 2014.

Taiwanese Search Report for Application No. 102301394 dated Jul. 9, 2013.

(56)

**References Cited**

## OTHER PUBLICATIONS

Taiwanese Search Report for Application No. 102301395 dated Jul. 9, 2013.  
 Taiwanese Office Action for Application No. 102301394 dated Jul. 15, 2013.  
 Taiwanese Office Action for Application No. 102301395 dated Jul. 15, 2013.  
 Korean Office Action for Application No. 30-2012-0020196 dated Aug. 13, 2013.  
 Korean Office Action for Application No. 30-2012-0020197 dated Aug. 13, 2013.  
 Korean Office Action for Application No. 30-2012-0020198 dated Aug. 13, 2013.  
 Notice of Allowance for U.S. Appl. No. 13/104,558 dated Aug. 28, 2013.  
 Non-Final Office Action for U.S. Appl. No. 13/224,850 dated Sep. 5, 2013.  
 Taiwanese Notice of Allowance for Application No. 102301582 dated Jan. 13, 2014.  
 Taiwanese Notice of Allowance for Application No. 102301584 dated Jan. 13, 2014.  
 Japanese Decision of Registration for Application No. 2013-018279 dated Jan. 15, 2014.  
 Taiwanese Notice of Allowance for Application No. 102300058 dated Jan. 17, 2014.  
 Taiwanese Notice of Allowance for Application No. 102300059 dated Jan. 17, 2014.  
 Korean Notice of Rejection for Application No. KR 30-2012-0020198 dated Jan. 14, 2014.  
 Taiwanese Notice of Allowance for Application No. 101307667 dated Feb. 7, 2014.  
 Supplemental Notice of Allowance for U.S. Appl. No. 29/404,913 dated Feb. 20, 2014.  
 Notice of Allowance for U.S. Appl. No. 13/793,882 dated Mar. 12, 2014.  
 Restriction Requirement for U.S. Appl. No. 14/043,494 dated Mar. 20, 2014.  
 Restriction Requirement for U.S. Appl. No. 13/908,597 dated Mar. 20, 2014.  
 Restriction Requirement for U.S. Appl. No. 14/052,201 dated Mar. 20, 2014.  
 Non-Final Office Action for U.S. Appl. No. 13/282,172 dated Mar. 21, 2014.  
 Taiwanese Notice of Allowance for Application No. 102301394 dated Nov. 8, 2013.  
 Taiwanese Notice of Allowance for Application No. 102301395 dated Nov. 8, 2013.  
 Restriction Requirement for U.S. Appl. No. 13/282,172 dated Nov. 26, 2013.

Notice of Allowance for U.S. Appl. No. 29/404,913 dated Nov. 27, 2013.  
 Taiwanese Notice of Allowance for Application No. 102301583 dated Dec. 17, 2013.  
 Taiwanese Notice of Allowance for Application No. 102301581 dated Dec. 17, 2013.  
 Taiwanese Notice of Allowance for Application No. 102301585 dated Dec. 17, 2013.  
 Notice of Allowance for U.S. Appl. No. 29/412,168 dated Dec. 20, 2013.  
 Non-Final Office Action for U.S. Appl. No. 29/425,831 dated Dec. 24, 2013.  
 Notice of Allowance for U.S. Appl. No. 29/412,166 dated Dec. 24, 2013.  
 Non-Final Office Action for U.S. Appl. No. 29/451,177 dated Dec. 30, 2013.  
 Notice of Allowance for U.S. Appl. No. 29/417,220 dated Jan. 10, 2014.  
 Restriction Requirement for U.S. Appl. No. 29/459,233 dated Feb. 23, 2015.  
 Restriction Requirement for U.S. Appl. No. 29/459,231 dated Feb. 13, 2015.  
 Notice of Allowance for U.S. Appl. No. 29/487,954 dated Mar. 30, 2015.  
 Notice of Allowance for U.S. Appl. No. 14/043,494 dated Apr. 17, 2015.  
 Notice of Allowance for U.S. Appl. No. 14/148,102 dated Apr. 22, 2015.  
 Korean Certificate of Design Patent for Application No. 2012-0020196 dated Jul. 14, 2014.  
 Korean Certificate of Design Patent for Application No. 2012-0020197 dated Jul. 14, 2014.  
 Notice of Allowance for U.S. Appl. No. 14/052,201 dated Nov. 28, 2014.  
 Restriction Requirement for U.S. Appl. No. 29/452,692 dated Dec. 4, 2014.  
 Non-Final Office Action for U.S. Appl. No. 13/224,850 dated Dec. 18, 2014.  
 Japanese Office Action for Application No. 2013-540955 dated Jan. 20, 2015.  
 Notice of Allowance for U.S. Appl. No. 14/189,500 dated Jan. 23, 2015.  
 Korean Decision to Decline Amendment and Decision of Rejection for Application No. 10-2013-7015669 dated Dec. 26, 2014.  
 Notice of Allowance for U.S. Appl. No. 14/168,561 dated Nov. 28, 2014.  
 Chinese Office Action for Application No. 201180065708.X dated Jun. 23, 2015.

\* cited by examiner

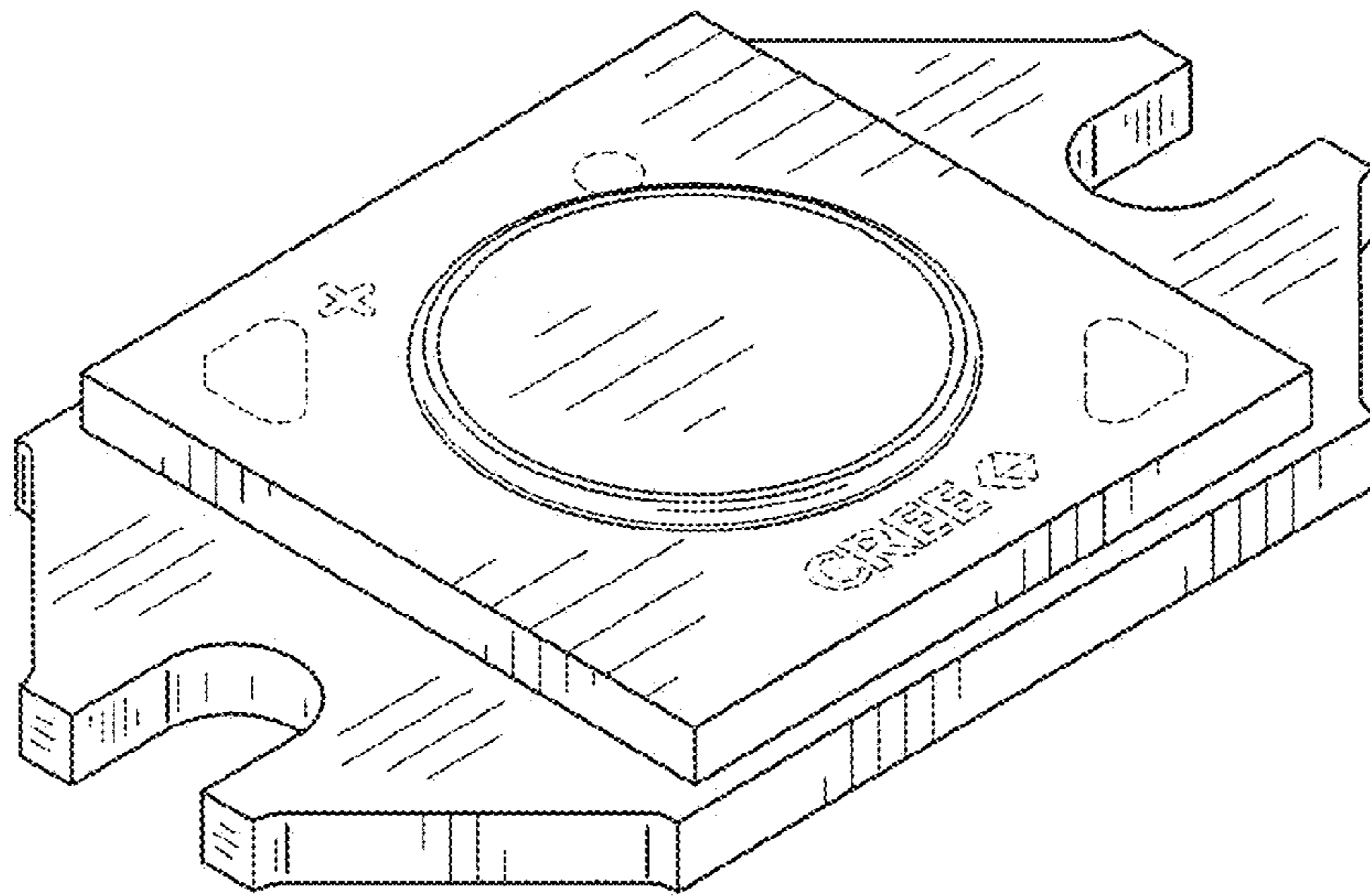


FIG. 1

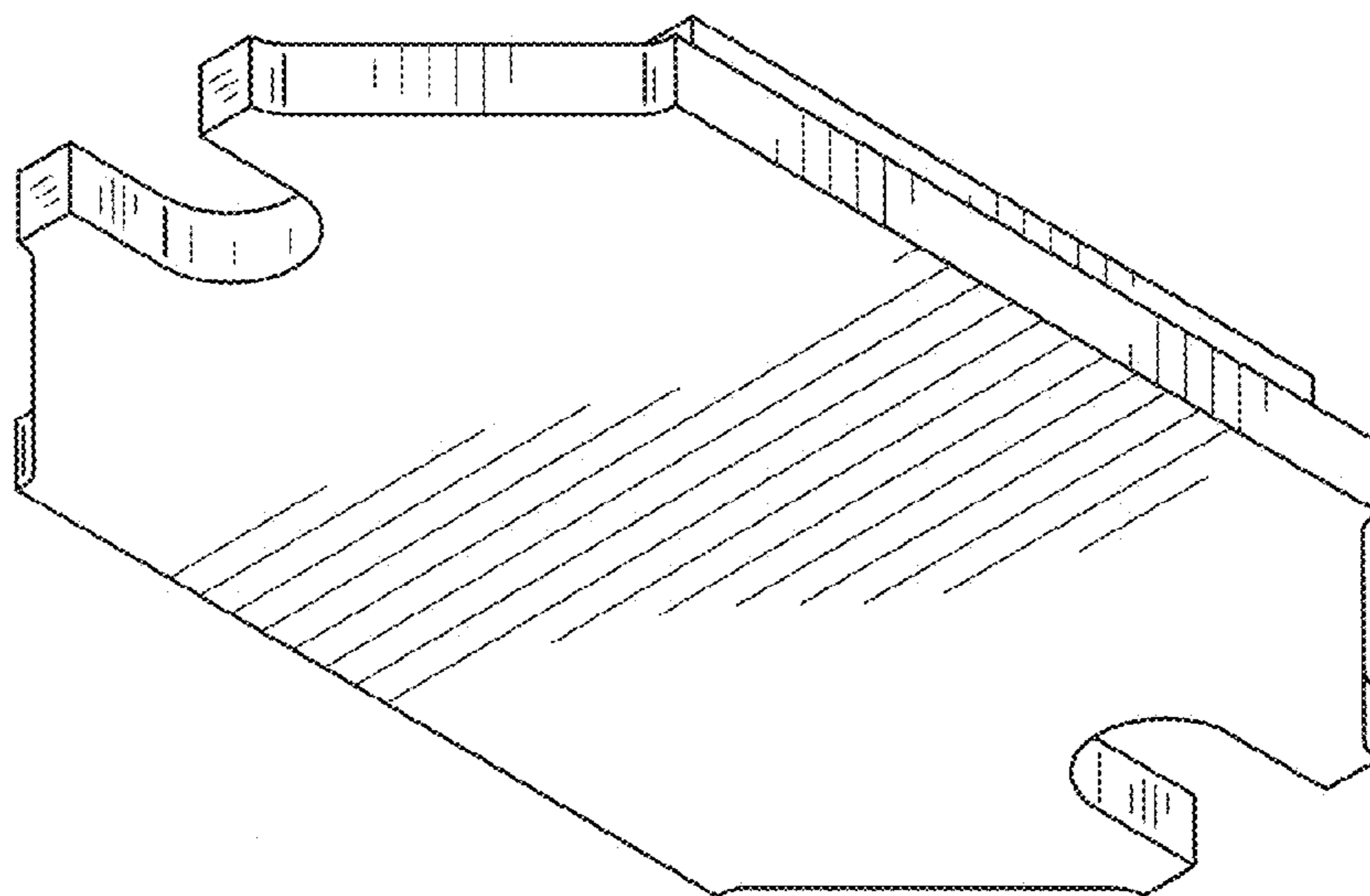


FIG. 2

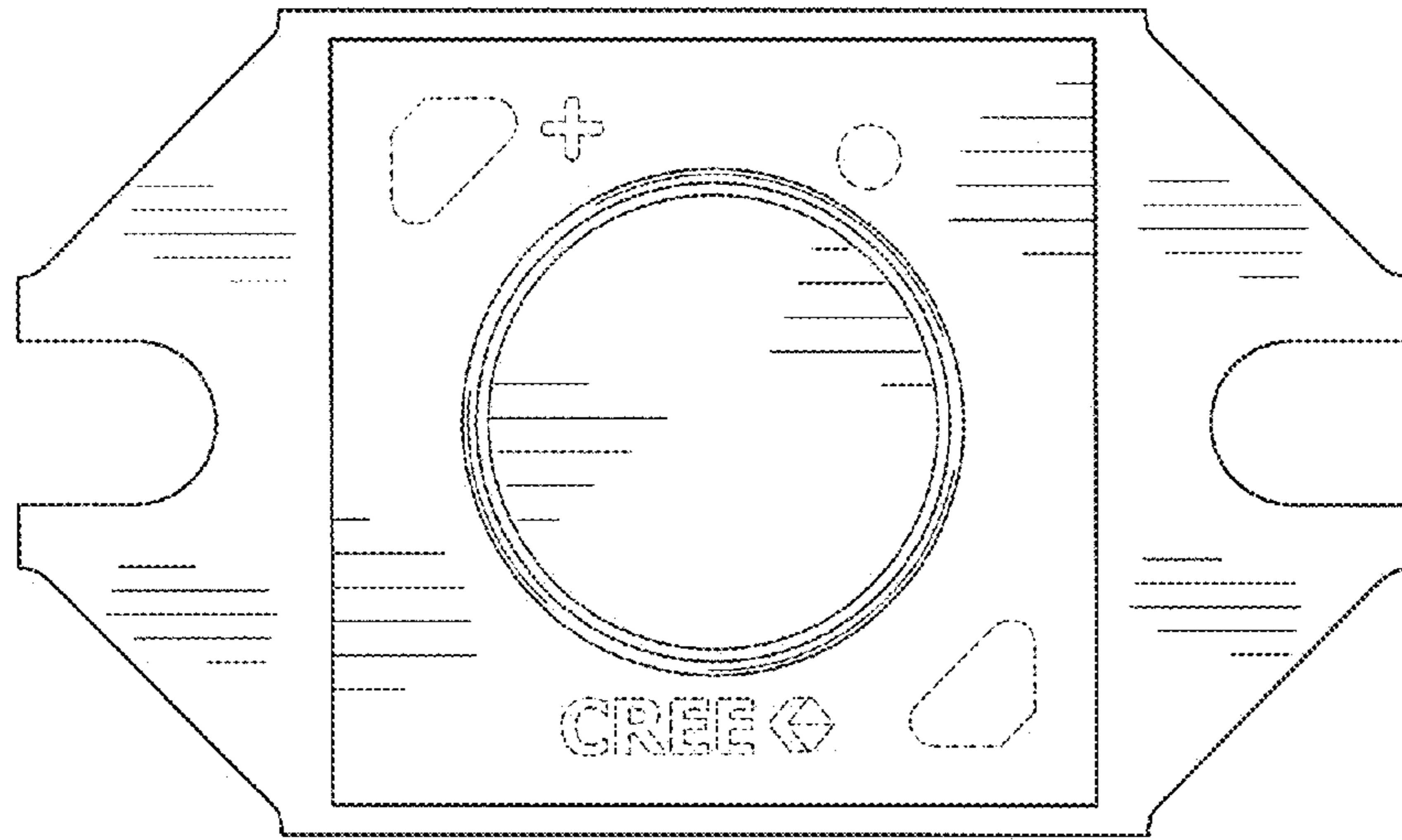


FIG. 3

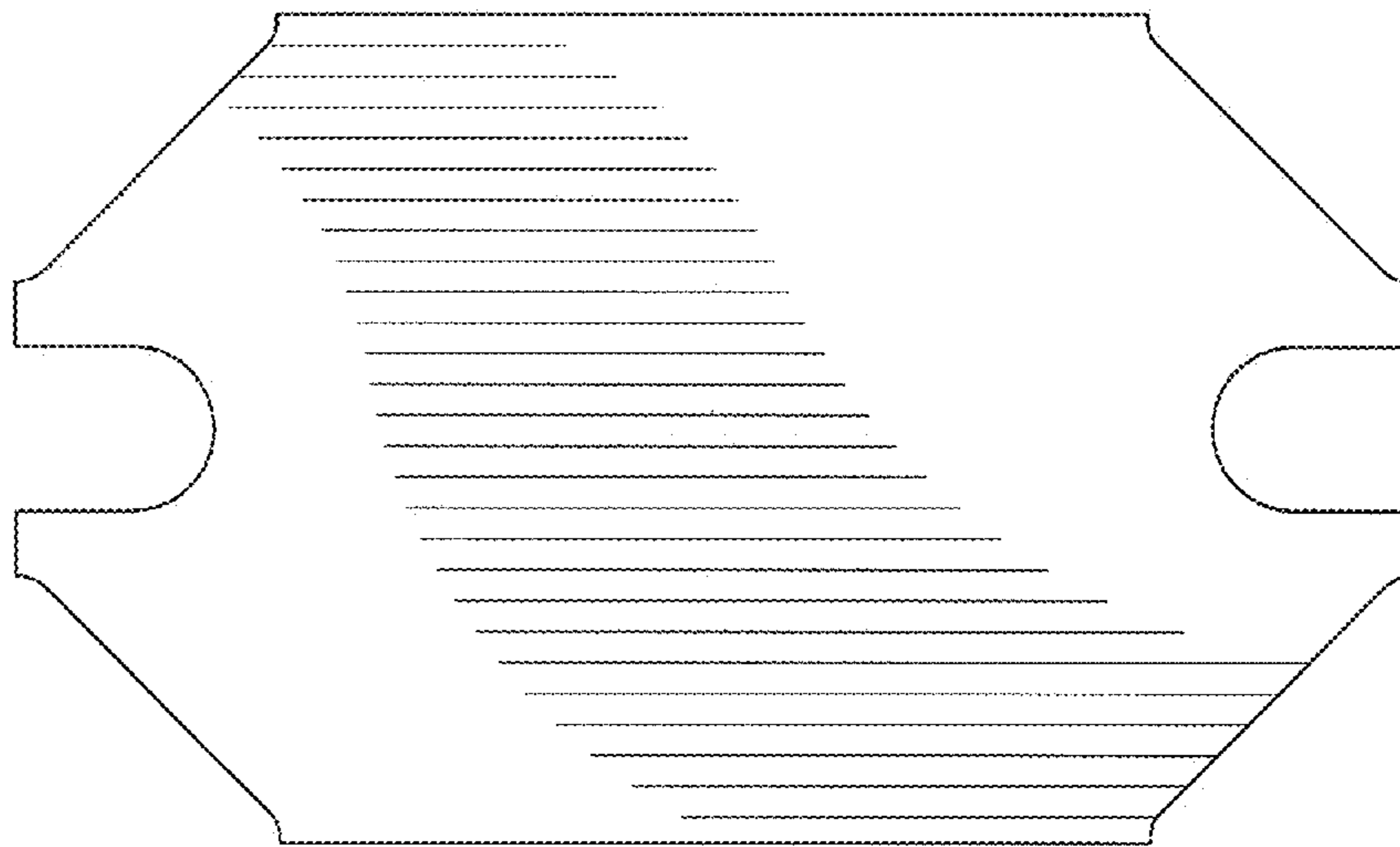


FIG. 4

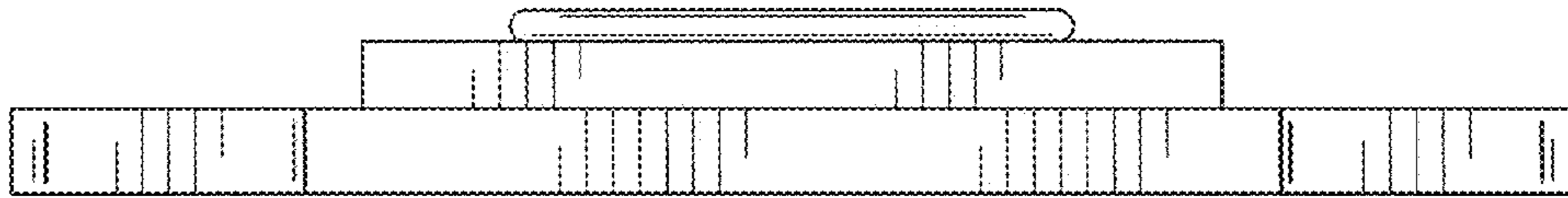


FIG. 5



FIG. 6