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Fletcher et al.

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(54) **LED LUMINAIRE HAVING A MOUNTING SYSTEM**

D234,712 S 4/1975 Kennedy
4,090,210 A 5/1978 Wehling et al.
4,138,716 A 2/1979 Muhlethaler et al.
D251,500 S 4/1979 Aigner

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(Continued)

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FOREIGN PATENT DOCUMENTS

CA 2623604 A1 8/2009
CN 1536686 A 10/2004

(Continued)

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OTHER PUBLICATIONS

(**) Term: **15 Years**

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(51) **LOC (10) Cl.** **26-03**

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

(57) **CLAIM**

USPC **D26/65**

(58) **Field of Classification Search**

The ornamental design for a LED luminaire having a mounting system, as shown and described.

USPC D26/1, 24, 61, 63, 65, 85, 92
CPC F21V 21/14; F21V 15/01; F21V 14/02;
F21V 21/30; F21V 21/00; F21V 14/00;
F21S 8/00; F21S 8/003; F21S 8/043;
F21Y 2105/001

DESCRIPTION

See application file for complete search history.

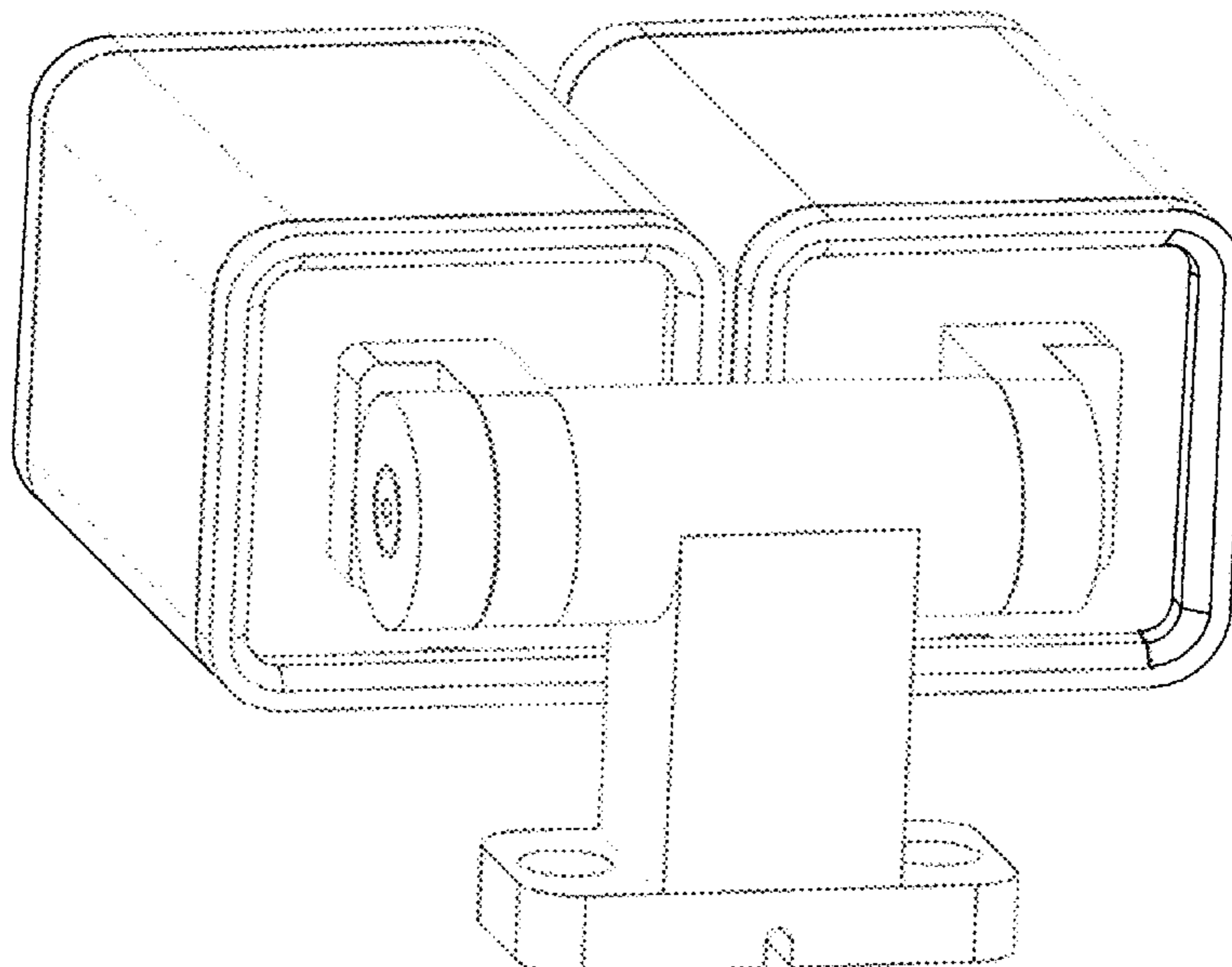
FIG. 1 is a front elevational view of the LED luminaire having a mounting system, of the present invention, wherein the elements that are shown in broken lines are disclaimed; FIG. 2 is a back elevational view thereof; FIG. 3 is a top, back, left perspective view thereof; FIG. 4 is a top, back, right perspective view thereof; FIG. 5 is a left elevational view thereof; FIG. 6 is a right elevational view thereof; FIG. 7 is a top plan view thereof; and, FIG. 8 is a bottom plan view thereof, wherein the elements that are shown in broken lines are disclaimed.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D122,711 S 9/1940 May
2,458,967 A 1/1949 Wiedenhoft
3,220,471 A 11/1965 Coe
D205,082 S 6/1966 Morgan
3,435,891 A 4/1969 Parrish
D214,582 S * 7/1969 Routh D26/63
D231,559 S 4/1974 Darling

1 Claim, 8 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

| | | | | | |
|-------------|---------|-------------------|--------------|---------|---------------------|
| D258,314 S | 2/1981 | Leon | 5,713,662 A | 2/1998 | Kira |
| 4,258,413 A | 3/1981 | Mausser | 5,757,144 A | 5/1998 | Nilssen |
| 4,345,306 A | 8/1982 | Summey | 5,788,533 A | 8/1998 | Alvarado-Rodriguez |
| 4,423,471 A | 12/1983 | Gordin et al. | 5,794,685 A | 8/1998 | Dean |
| 4,445,164 A | 4/1984 | Giles, III | 5,800,050 A | 9/1998 | Leadford |
| 4,453,203 A | 6/1984 | Pate | D408,823 S | 4/1999 | Kirby |
| 4,467,403 A | 8/1984 | May | 5,890,793 A | 4/1999 | Stephens |
| 4,473,873 A | 9/1984 | Quiogue | 5,894,196 A | 4/1999 | McDermott |
| 4,564,888 A | 1/1986 | Lewin | 5,898,267 A | 4/1999 | McDermott |
| 4,578,742 A | 3/1986 | Klein | 5,909,955 A | 6/1999 | Roorda |
| 4,580,859 A | 4/1986 | Frano | 5,912,477 A | 6/1999 | Negley |
| 4,609,979 A | 9/1986 | Kristofek | 5,938,316 A | 8/1999 | Yan |
| 4,727,648 A | 3/1988 | Savage | 6,022,130 A | 2/2000 | Donato |
| 4,733,335 A | 3/1988 | Serizawa | 6,051,940 A | 4/2000 | Arun |
| D296,244 S | 6/1988 | Donato | 6,072,160 A | 6/2000 | Bahl |
| D296,717 S | 7/1988 | Kane | 6,079,851 A | 6/2000 | Altman |
| 4,755,918 A | 7/1988 | Pristash | 6,083,021 A | 7/2000 | Lau |
| 4,757,431 A | 7/1988 | Cross | 6,120,600 A | 9/2000 | Edmond et al. |
| 4,761,721 A | 8/1988 | Willing | 6,124,673 A | 9/2000 | Bishop |
| D300,876 S | 4/1989 | Sakai | 6,149,112 A | 11/2000 | Thieltges |
| 4,833,579 A | 5/1989 | Skegin | 6,149,288 A | 11/2000 | Huang |
| 4,837,927 A | 6/1989 | Savage | 6,176,594 B1 | 1/2001 | Yarconi |
| 4,872,097 A | 10/1989 | Miller | D437,449 S | 2/2001 | Soller |
| 4,882,667 A | 11/1989 | Skegin | D437,652 S | 2/2001 | Uhler |
| 4,918,497 A | 4/1990 | Edmond | 6,187,606 B1 | 2/2001 | Edmond et al. |
| D307,640 S | 5/1990 | Titmarsh | 6,198,233 B1 | 3/2001 | McConaughy |
| D308,114 S | 5/1990 | Shemitz | 6,201,262 B1 | 3/2001 | Edmond et al. |
| D308,260 S | 5/1990 | Shemitz | D443,710 S | 6/2001 | Chiu |
| 4,966,862 A | 10/1990 | Edmond | 6,244,877 B1 | 6/2001 | Asao |
| D315,030 S | 2/1991 | Jacobs | 6,249,375 B1 | 6/2001 | Silhengst |
| D316,303 S | 4/1991 | Layne | D445,936 S | 7/2001 | Mier-Langner et al. |
| D316,306 S | 4/1991 | Shemitz | 6,260,981 B1 | 7/2001 | Fiene |
| 5,027,168 A | 6/1991 | Edmond | D446,592 S | 8/2001 | Leen |
| D319,512 S | 8/1991 | Lettenmayer | 6,273,588 B1 | 8/2001 | Arakelian |
| D322,862 S | 12/1991 | Miller | D448,508 S | 9/2001 | Benghozi |
| 5,087,212 A | 2/1992 | Hanami | 6,312,787 B1 | 11/2001 | Hayashi et al. |
| D325,645 S | 4/1992 | Grange | 6,318,883 B1 | 11/2001 | Sugiyama et al. |
| 5,140,507 A | 8/1992 | Harwood | D452,843 S | 1/2002 | Henrici |
| D330,944 S | 11/1992 | Wereley | 6,341,523 B2 | 1/2002 | Lynam |
| 5,174,649 A | 12/1992 | Alston | D457,673 S | 5/2002 | Martinson |
| 5,210,051 A | 5/1993 | Carter, Jr. | 6,386,723 B1 | 5/2002 | Eberlein et al. |
| D336,536 S | 6/1993 | Shaanan | 6,390,646 B1 | 5/2002 | Yan |
| 5,235,470 A | 8/1993 | Cheng | 6,392,360 B2 | 5/2002 | McConaughy |
| D340,514 S | 10/1993 | Liao | 6,426,704 B1 | 7/2002 | Hutchison |
| 5,282,364 A | 2/1994 | Cech | 6,435,693 B1 | 8/2002 | Fiene |
| 5,303,124 A | 4/1994 | Wrobel | 6,439,736 B1 | 8/2002 | Fiene |
| 5,324,213 A | 6/1994 | Frantz | 6,439,743 B1 | 8/2002 | Hutchison |
| 5,325,281 A | 6/1994 | Harwood | 6,439,749 B1 | 8/2002 | Miller et al. |
| D348,744 S | 7/1994 | Johnson | 6,441,943 B1 | 8/2002 | Roberts |
| 5,335,159 A | 8/1994 | Chen et al. | D462,801 S | 9/2002 | Huang |
| 5,337,225 A | 8/1994 | Brookman | 6,450,662 B1 | 9/2002 | Hutchison |
| 5,338,944 A | 8/1994 | Edmond et al. | 6,450,664 B1 | 9/2002 | Kelly |
| 5,359,345 A | 10/1994 | Hunter | D464,455 S | 10/2002 | Fong |
| 5,367,229 A | 11/1994 | Yang | D464,939 S | 10/2002 | Chuang |
| 5,381,323 A | 1/1995 | Osteen et al. | D465,046 S | 10/2002 | Layne |
| 5,387,901 A | 2/1995 | Hardt | 6,473,002 B1 | 10/2002 | Hutchison |
| 5,393,993 A | 2/1995 | Edmond et al. | 6,474,839 B1 | 11/2002 | Hutchison |
| 5,410,462 A | 4/1995 | Wolfe | 6,478,453 B2 | 11/2002 | Lammers |
| 5,416,342 A | 5/1995 | Edmond et al. | 6,488,386 B1 | 12/2002 | Yan |
| 5,436,809 A | 7/1995 | Brassier | 6,508,567 B1 | 1/2003 | Fiene |
| 5,450,303 A | 9/1995 | Markiewicz et al. | D470,962 S | 2/2003 | Chen |
| 5,490,048 A | 2/1996 | Brassier | 6,525,939 B2 | 2/2003 | Liang |
| 5,504,665 A | 4/1996 | Osteen et al. | D472,339 S | 3/2003 | Russello et al. |
| 5,515,253 A | 5/1996 | Sjobom | 6,527,422 B1 | 3/2003 | Hutchison |
| 5,516,390 A | 5/1996 | Tomita et al. | 6,530,674 B2 | 3/2003 | Grierson et al. |
| 5,523,589 A | 6/1996 | Edmond et al. | D473,529 S | 4/2003 | Feinbloom |
| D373,437 S | 9/1996 | Kira | 6,540,382 B1 | 4/2003 | Simon |
| 5,584,574 A | 12/1996 | Haddad | 6,561,690 B2 | 5/2003 | Balestriero et al. |
| 5,599,091 A | 2/1997 | Kira | D476,439 S | 6/2003 | O'Rourke |
| 5,628,557 A | 5/1997 | Huang | 6,600,175 B1 | 7/2003 | Baretz et al. |
| 5,632,551 A | 5/1997 | Roney | 6,601,970 B2 | 8/2003 | Ueda |
| 5,634,822 A | 6/1997 | Gunell | 6,618,231 B2 | 9/2003 | McConaughy |
| 5,658,066 A | 8/1997 | Hirsch | 6,632,006 B1 | 10/2003 | Rippel |
| D383,236 S | 9/1997 | Krogman | 6,636,003 B2 | 10/2003 | Rahm et al. |
| D384,336 S | 9/1997 | Gerber | D482,476 S | 11/2003 | Kwong |
| | | | 6,641,284 B2 | 11/2003 | Stopa et al. |
| | | | 6,662,211 B1 | 12/2003 | Weller |
| | | | 6,682,211 B2 | 1/2004 | English |
| | | | 6,683,419 B2 | 1/2004 | Kriparos |

(56)

References Cited

U.S. PATENT DOCUMENTS

| | | | | | | |
|--------------|---------|--------------------|--------------|---------|----------------------|--------|
| 6,691,768 B2 | 2/2004 | Hsieh | D552,779 S * | 10/2007 | Starck | D26/63 |
| 6,703,640 B1 | 3/2004 | Hembree | D552,782 S | 10/2007 | Korpi | |
| 6,733,164 B1 | 5/2004 | Smith, Jr. | 7,282,840 B2 | 10/2007 | Chih | |
| D491,306 S | 6/2004 | Zucker | 7,288,902 B1 | 10/2007 | Melanson | |
| 6,744,693 B2 | 6/2004 | Brockmann | 7,293,908 B2 | 11/2007 | Beeson et al. | |
| 6,752,645 B2 | 6/2004 | Nakamura | 7,303,301 B2 | 12/2007 | Koren | |
| 6,773,138 B2 | 8/2004 | Coushaine | D561,924 S | 2/2008 | Yiu | |
| 6,787,999 B2 | 9/2004 | Stimac | D563,013 S | 2/2008 | Levine | |
| 6,788,510 B2 | 9/2004 | McConaughy | 7,329,907 B2 | 2/2008 | Pang et al. | |
| 6,791,119 B2 | 9/2004 | Slater, Jr. et al. | D564,119 S | 3/2008 | Metlen | |
| 6,814,462 B1 | 11/2004 | Fiene | 7,344,279 B2 | 3/2008 | Mueller | |
| 6,824,296 B2 | 11/2004 | Souza | 7,344,296 B2 | 3/2008 | Matsui | |
| 6,824,390 B2 | 11/2004 | Brown | 7,357,534 B2 | 4/2008 | Snyder | |
| 6,827,469 B2 | 12/2004 | Coushaine | 7,358,657 B2 | 4/2008 | Koelger | |
| 6,853,010 B2 | 2/2005 | Slater, Jr. et al. | 7,358,679 B2 | 4/2008 | Lys et al. | |
| 6,860,617 B2 | 3/2005 | Fiene | 7,360,925 B2 | 4/2008 | Coushaine | |
| 6,863,424 B2 | 3/2005 | Smith | D568,829 S | 5/2008 | Yamashita | |
| 6,864,513 B2 | 3/2005 | Lin | 7,369,386 B2 | 5/2008 | Rasmussen | |
| 6,869,206 B2 | 3/2005 | Zimmerman | D570,505 S | 6/2008 | Maxik | |
| 6,871,993 B2 | 3/2005 | Hecht | 7,381,942 B2 | 6/2008 | Chin et al. | |
| D504,967 S | 5/2005 | Kung | D574,095 S | 7/2008 | Hill | |
| 6,893,144 B2 | 5/2005 | Fan | 7,396,139 B2 | 7/2008 | Savage | |
| D506,065 S | 6/2005 | Sugino | 7,396,146 B2 | 7/2008 | Wang | |
| 6,902,200 B1 | 6/2005 | Beadle | D574,987 S | 8/2008 | Waldmann | |
| 6,902,291 B2 | 6/2005 | Rizkin | 7,413,326 B2 | 8/2008 | Tain | |
| 6,903,380 B2 | 6/2005 | Barnett | D576,545 S | 9/2008 | Mandel | |
| 6,905,232 B2 | 6/2005 | Lin | D576,964 S | 9/2008 | Shaner | |
| 6,946,806 B1 | 9/2005 | Choi | D577,453 S | 9/2008 | Metlen | |
| 6,958,497 B2 | 10/2005 | Emerson et al. | D577,836 S | 9/2008 | Engebrigtsen | |
| 6,966,677 B2 | 11/2005 | Galli | 7,422,347 B2 | 9/2008 | Miyairi et al. | |
| 6,979,097 B2 | 12/2005 | Elam | D579,421 S | 10/2008 | Chu | |
| D516,020 S | 2/2006 | Wong | D581,080 S | 11/2008 | Mier-Langner | |
| D516,229 S | 2/2006 | Tang | D581,554 S | 11/2008 | To | |
| 6,998,650 B1 | 2/2006 | Wu | D581,583 S | 11/2008 | Peng | |
| 7,040,774 B2 | 5/2006 | Beeson et al. | 7,452,115 B2 | 11/2008 | Alcelik | |
| 7,063,130 B2 | 6/2006 | Huang | 7,456,499 B2 | 11/2008 | Loh et al. | |
| 7,063,440 B2 | 6/2006 | Mohacsi et al. | D583,975 S | 12/2008 | Kushinskaya | |
| 7,066,617 B2 | 6/2006 | Mandy | 7,458,820 B2 | 12/2008 | Ohta | |
| D524,975 S | 7/2006 | Oas | 7,467,888 B2 | 12/2008 | Fiene | |
| 7,070,301 B2 | 7/2006 | Magarill | D585,588 S | 1/2009 | Alexander | |
| 7,077,546 B2 | 7/2006 | Yamauchi | D585,589 S | 1/2009 | Alexander | |
| D527,119 S | 8/2006 | Maxik | 7,481,552 B2 | 1/2009 | Mayfield, III et al. | |
| D527,131 S | 8/2006 | McCarthy, III | D586,498 S | 2/2009 | Wu | |
| 7,093,958 B2 | 8/2006 | Coushaine | D587,389 S | 2/2009 | Benensohn | |
| 7,095,056 B2 | 8/2006 | Vitta et al. | 7,494,248 B2 | 2/2009 | Li | |
| 7,097,332 B2 | 8/2006 | Vamberi | 7,497,581 B2 | 3/2009 | Beeson et al. | |
| 7,098,397 B2 | 8/2006 | Lange | D590,085 S | 4/2009 | Irvine | |
| 7,111,963 B2 | 9/2006 | Zhang | 7,513,675 B2 | 4/2009 | Mier-Langner | |
| 7,111,971 B2 | 9/2006 | Coushaine | D591,894 S | 5/2009 | Flank | |
| 7,112,916 B2 | 9/2006 | Goh | D592,799 S | 5/2009 | Scott | |
| D530,683 S | 10/2006 | Rivas | 7,532,324 B2 | 5/2009 | Liu et al. | |
| 7,131,749 B2 | 11/2006 | Wimberly | 7,537,464 B2 | 5/2009 | Brandenburg | |
| 7,132,804 B2 | 11/2006 | Lys | 7,539,028 B2 | 5/2009 | Baurle et al. | |
| 7,138,667 B2 | 11/2006 | Barnett | D593,512 S | 6/2009 | Lin | |
| 7,149,089 B2 | 12/2006 | Blasko | 7,540,761 B2 | 6/2009 | Weber | |
| 7,150,553 B2 | 12/2006 | English | 7,549,786 B2 | 6/2009 | Higley | |
| D535,774 S | 1/2007 | Weston et al. | D597,246 S | 7/2009 | Meyer, IV | |
| 7,159,997 B2 | 1/2007 | Reo et al. | D597,247 S | 7/2009 | Meyer, IV | |
| 7,160,004 B2 | 1/2007 | Peck | 7,559,784 B2 | 7/2009 | Hsiao | |
| 7,172,319 B2 | 2/2007 | Holder et al. | 7,564,180 B2 | 7/2009 | Brandes | |
| D538,951 S | 3/2007 | Maxik | D597,704 S | 8/2009 | Peng | |
| D539,459 S | 3/2007 | Benghozi | D599,040 S | 8/2009 | Alexander | |
| 7,198,386 B2 | 4/2007 | Zampini | 7,575,332 B2 | 8/2009 | Cok | |
| 7,207,696 B1 | 4/2007 | Lin | 7,575,338 B1 | 8/2009 | Verfuert | |
| D541,957 S | 5/2007 | Wang | 7,580,192 B1 | 8/2009 | Chu | |
| 7,210,957 B2 | 5/2007 | Mrakovich et al. | D601,276 S | 9/2009 | Grajcar | |
| 7,213,940 B1 | 5/2007 | Van De Ven et al. | 7,591,572 B1 | 9/2009 | Levine | |
| 7,221,374 B2 | 5/2007 | Dixon | 7,594,738 B1 | 9/2009 | Lin | |
| D544,110 S | 6/2007 | Hooker | D602,868 S | 10/2009 | Vogt | |
| D545,457 S | 6/2007 | Chen | 7,604,365 B2 | 10/2009 | Chang | |
| 7,234,950 B1 | 6/2007 | Wickett | 7,607,802 B2 | 10/2009 | Kang | |
| 7,237,930 B2 | 7/2007 | Onishi et al. | 7,626,345 B2 | 12/2009 | Young | |
| D548,691 S | 8/2007 | Krieger | 7,628,506 B2 | 12/2009 | Verfuert | |
| D551,372 S | 9/2007 | Korpi | 7,637,635 B2 | 12/2009 | Xiao | |
| 7,273,299 B2 | 9/2007 | Parkyn et al. | D608,043 S | 1/2010 | Ko | |
| | | | D610,543 S | 2/2010 | Coushaine | |
| | | | D610,723 S | 2/2010 | Grajcar | |
| | | | D610,729 S | 2/2010 | Kushinskaya | |
| | | | 7,665,862 B2 | 2/2010 | Villard | |

(56)

References Cited

U.S. PATENT DOCUMENTS

| | | | | | |
|--------------|---------|-------------------------|--------------|---------|-----------------------|
| 7,674,018 B2 | 3/2010 | Holder et al. | 8,102,167 B2 | 1/2012 | Irissou et al. |
| 7,679,281 B2 | 3/2010 | Kim et al. | 8,102,683 B2 | 1/2012 | Gaknoki et al. |
| 7,686,481 B1 | 3/2010 | Condon et al. | D654,207 S | 2/2012 | Fletcher |
| 7,690,810 B2 | 4/2010 | Saitoh et al. | D654,607 S | 2/2012 | Kim et al. |
| 7,703,951 B2 | 4/2010 | Piepgas | 8,118,450 B2 | 2/2012 | Villard |
| 7,722,227 B2 | 5/2010 | Zhang | 8,118,454 B2 | 2/2012 | Rains, Jr. et al. |
| D618,374 S | 6/2010 | Guercio | 8,123,376 B2 | 2/2012 | Van De Ven et al. |
| 7,727,009 B2 | 6/2010 | Goto | D655,432 S | 3/2012 | Beghelli |
| 7,731,395 B2 | 6/2010 | Parkyn et al. | D655,840 S | 3/2012 | Heaton |
| 7,731,396 B2 | 6/2010 | Fay | D655,842 S * | 3/2012 | Sabernig D26/63 |
| 7,736,029 B2 | 6/2010 | Chen et al. | 8,129,669 B2 | 3/2012 | Chen et al. |
| 7,737,634 B2 | 6/2010 | Leng et al. | 8,136,958 B2 | 3/2012 | Verfuert |
| 7,740,380 B2 | 6/2010 | Thraillkill | 8,138,690 B2 | 3/2012 | Chemel et al. |
| 7,744,259 B2 | 6/2010 | Walczak | 8,142,047 B2 | 3/2012 | Acampora |
| 7,744,266 B2 | 6/2010 | Higley | 8,143,803 B2 | 3/2012 | Beij et al. |
| 7,748,870 B2 | 7/2010 | Chang | 8,154,864 B1 | 4/2012 | Nearman |
| 7,759,881 B1 | 7/2010 | Melanson | 8,162,498 B2 | 4/2012 | Ramer et al. |
| 7,766,508 B2 | 8/2010 | Villard et al. | D659,871 S | 5/2012 | Lee |
| 7,766,518 B2 | 8/2010 | Piepgas | D660,229 S | 5/2012 | Tseng |
| 7,784,966 B2 | 8/2010 | Verfuert | 8,172,425 B2 | 5/2012 | Wen et al. |
| 7,785,124 B2 | 8/2010 | Lin | 8,172,436 B2 | 5/2012 | Coleman |
| D625,870 S * | 10/2010 | Feigenbaum D26/63 | 8,182,122 B2 | 5/2012 | Chiu |
| D626,094 S | 10/2010 | Alexander | 8,191,613 B2 | 6/2012 | Yuan |
| 7,806,562 B2 | 10/2010 | Behr | 8,193,738 B2 | 6/2012 | Chu et al. |
| 7,810,951 B1 | 10/2010 | Lee et al. | 8,201,965 B2 | 6/2012 | Yamada |
| 7,810,955 B2 | 10/2010 | Stimac et al. | 8,205,998 B2 | 6/2012 | Ramer et al. |
| 7,810,995 B2 | 10/2010 | Fadler et al. | 8,210,722 B2 | 7/2012 | Holder et al. |
| 7,813,111 B2 | 10/2010 | Anderson | 8,212,469 B2 | 7/2012 | Rains, Jr. et al. |
| 7,819,549 B2 | 10/2010 | Narendran et al. | 8,215,798 B2 | 7/2012 | Rains, Jr. et al. |
| D627,507 S | 11/2010 | Lai | 8,232,745 B2 | 7/2012 | Chemel et al. |
| D627,727 S | 11/2010 | Alexander | D665,340 S | 8/2012 | Obata |
| D628,156 S | 11/2010 | Alexander | 8,242,766 B2 | 8/2012 | Gaknoki et al. |
| 7,828,576 B2 | 11/2010 | Lin | 8,292,482 B2 | 10/2012 | Harbers |
| 7,837,348 B2 | 11/2010 | Narendran et al. | 8,297,788 B2 | 10/2012 | Bishop |
| 7,841,753 B2 | 11/2010 | Liu | 8,297,792 B1 | 10/2012 | Wang |
| D629,365 S | 12/2010 | Garcia De Vicuna | 8,297,808 B2 | 10/2012 | Yuan |
| 7,845,393 B2 | 12/2010 | Kao | 8,319,437 B2 | 11/2012 | Carlin |
| 7,857,482 B2 | 12/2010 | Reo et al. | 8,324,838 B2 | 12/2012 | Shah et al. |
| 7,857,498 B2 | 12/2010 | Smith | 8,330,378 B2 | 12/2012 | Maehara et al. |
| 7,874,700 B2 | 1/2011 | Patrick | 8,337,043 B2 | 12/2012 | Verfuert |
| D633,244 S | 2/2011 | Kramer et al. | 8,344,602 B2 | 1/2013 | Lai |
| D633,248 S | 2/2011 | Alexander | 8,360,609 B2 | 1/2013 | Lee et al. |
| 7,889,421 B2 | 2/2011 | Narendran | 8,360,621 B2 | 1/2013 | Avila |
| 7,896,517 B2 | 3/2011 | Mandy | 8,385,071 B2 | 2/2013 | Lin |
| 7,901,108 B2 | 3/2011 | Kabuki et al. | 8,403,541 B1 | 3/2013 | Rashidi |
| 7,914,162 B1 | 3/2011 | Huang | 8,410,716 B2 | 4/2013 | Yao et al. |
| 7,914,198 B2 | 3/2011 | Mier-Langner | 8,434,898 B2 | 5/2013 | Sanfilippo et al. |
| 7,918,581 B2 | 4/2011 | Van De Ven | 8,436,556 B2 | 5/2013 | Eisele et al. |
| 7,918,589 B2 | 4/2011 | Mayfield, III et al. | 8,454,193 B2 | 6/2013 | Simon et al. |
| 7,922,364 B2 | 4/2011 | Tessnow | 8,459,841 B2 | 6/2013 | Huang |
| 7,923,907 B2 | 4/2011 | Tessnow | 8,462,523 B2 | 6/2013 | Gaknoki et al. |
| 7,942,559 B2 | 5/2011 | Holder et al. | 8,469,542 B2 | 6/2013 | Zampini, II et al. |
| 7,952,114 B2 | 5/2011 | Gingrich, III | 8,503,083 B2 | 8/2013 | Seo |
| 7,965,494 B1 | 6/2011 | Morris | 8,529,102 B2 | 9/2013 | Pickard et al. |
| 7,972,038 B2 | 7/2011 | Albright | 8,531,134 B2 | 9/2013 | Chemel et al. |
| 7,976,194 B2 | 7/2011 | Wilcox et al. | 8,536,802 B2 | 9/2013 | Chemel et al. |
| 7,988,336 B1 | 8/2011 | Harbers | 8,536,805 B2 | 9/2013 | Shah et al. |
| 7,993,031 B2 | 8/2011 | Grajcar | 8,543,249 B2 | 9/2013 | Chemel et al. |
| 8,002,438 B2 | 8/2011 | Ko | D690,859 S | 10/2013 | Mollaghaffari |
| 8,007,131 B2 | 8/2011 | Liu et al. | 8,545,045 B2 | 10/2013 | Tress |
| D645,007 S | 9/2011 | Alexander | 8,545,049 B2 | 10/2013 | Davis et al. |
| D645,183 S | 9/2011 | Cucinella | 8,547,034 B2 | 10/2013 | Melanson et al. |
| D645,594 S * | 9/2011 | Grawe D26/63 | 8,552,664 B2 | 10/2013 | Chemel et al. |
| 8,021,008 B2 | 9/2011 | Ramer | 8,556,469 B2 | 10/2013 | Pickard |
| 8,029,157 B2 | 10/2011 | Li et al. | 8,558,518 B2 | 10/2013 | Irissou et al. |
| 8,033,680 B2 | 10/2011 | Sharrah | 8,569,972 B2 | 10/2013 | Melanson |
| 8,052,310 B2 | 11/2011 | Gingrich, III | 8,573,807 B2 | 11/2013 | Borkar et al. |
| 8,066,403 B2 | 11/2011 | Sanfilippo et al. | 8,573,816 B2 | 11/2013 | Negley et al. |
| D650,504 S | 12/2011 | Kim et al. | 8,575,858 B2 | 11/2013 | Policy et al. |
| D650,935 S | 12/2011 | Beghelli | 8,579,467 B1 | 11/2013 | Szeto |
| 8,080,819 B2 | 12/2011 | Mueller et al. | 8,581,504 B2 | 11/2013 | Kost et al. |
| 8,083,364 B2 | 12/2011 | Allen | 8,581,521 B2 | 11/2013 | Welten et al. |
| 8,096,668 B2 | 1/2012 | Abu-Ageel | 8,585,245 B2 | 11/2013 | Black et al. |
| 8,100,560 B2 | 1/2012 | Ahland, III et al. | 8,587,211 B2 | 11/2013 | Melanson |
| 8,100,564 B2 | 1/2012 | Ono | 8,593,074 B2 | 11/2013 | Hatley et al. |
| | | | 8,593,129 B2 | 11/2013 | Gaknoki et al. |
| | | | 8,593,814 B2 | 11/2013 | Ji |
| | | | D694,925 S * | 12/2013 | Fukasawa D26/63 |
| | | | 8,598,809 B2 | 12/2013 | Negley et al. |

(56)

References Cited

U.S. PATENT DOCUMENTS

| | | | | | |
|-----------------|---------|-----------------------|-----------------|---------|-----------------------|
| 8,602,591 B2 | 12/2013 | Lee | 2006/0076672 A1 | 4/2006 | Petroski |
| 8,610,364 B2 | 12/2013 | Melanson et al. | 2006/0141851 A1 | 6/2006 | Matsui |
| 8,610,365 B2 | 12/2013 | King et al. | 2006/0146531 A1 | 7/2006 | Reo et al. |
| 8,611,106 B2 | 12/2013 | Fang | 2006/0221272 A1 | 10/2006 | Negley et al. |
| 8,616,724 B2 | 12/2013 | Pickard | 2006/0262544 A1 | 11/2006 | Piepgras |
| 8,624,505 B2 | 1/2014 | Huang | 2006/0262545 A1 | 11/2006 | Piepgras |
| D699,179 S | 2/2014 | Alexander | 2007/0025103 A1 | 2/2007 | Chan |
| 8,646,944 B2 | 2/2014 | Villard | 2007/0064428 A1 | 3/2007 | Beauchamp |
| 8,646,949 B2 | 2/2014 | Brunt, Jr. et al. | 2007/0096057 A1 | 5/2007 | Hampden-Smith |
| 8,652,357 B2 | 2/2014 | Ryu | 2007/0109795 A1 | 5/2007 | Gabrius |
| 8,653,750 B2 | 2/2014 | Deurenberg et al. | 2007/0139923 A1 | 6/2007 | Negley et al. |
| D700,728 S * | 3/2014 | Fukasawa D26/63 | 2007/0153521 A1 | 7/2007 | Konuma |
| 8,684,556 B2 | 4/2014 | Negley et al. | 2007/0158668 A1 | 7/2007 | Tarsa et al. |
| 8,684,569 B2 | 4/2014 | Pickard et al. | 2007/0170447 A1 | 7/2007 | Negley et al. |
| 8,690,383 B2 | 4/2014 | Zampini, II et al. | 2007/0223219 A1 | 9/2007 | Medendorp, Jr. et al. |
| 8,698,421 B2 | 4/2014 | Ludorf | 2007/0238327 A1 | 10/2007 | Hsu |
| D704,369 S | 5/2014 | Lindsley et al. | 2007/0242461 A1 | 10/2007 | Reisenauer |
| 8,723,427 B2 | 5/2014 | Collins et al. | 2007/0253201 A1 | 11/2007 | Blincoe |
| 8,740,444 B2 | 6/2014 | Reynolds et al. | 2007/0253202 A1 | 11/2007 | Wu |
| 8,742,684 B2 | 6/2014 | Melanson | 2007/0253209 A1 | 11/2007 | Loh et al. |
| 8,749,131 B2 | 6/2014 | Rains, Jr. et al. | 2007/0268698 A1 | 11/2007 | Chen et al. |
| 8,749,173 B1 | 6/2014 | Melanson et al. | 2007/0269915 A1 | 11/2007 | Leong et al. |
| 8,757,840 B2 | 6/2014 | Pickard et al. | 2007/0275576 A1 | 11/2007 | Yang |
| 8,760,073 B2 | 6/2014 | Ko | 2007/0285028 A1 | 12/2007 | Tsinker et al. |
| 8,760,080 B2 | 6/2014 | Yu | 2007/0295969 A1 | 12/2007 | Chew et al. |
| 8,764,225 B2 | 7/2014 | Narendran et al. | 2007/0297177 A1 | 12/2007 | Wang |
| 8,777,455 B2 | 7/2014 | Pickard et al. | 2008/0012036 A1 | 1/2008 | Loh et al. |
| 8,783,938 B2 | 7/2014 | Alexander | 2008/0013316 A1 | 1/2008 | Chiang |
| 8,786,201 B2 | 7/2014 | Hamamoto et al. | 2008/0043470 A1 | 2/2008 | Wimberly |
| 8,786,210 B2 | 7/2014 | Delucia | 2008/0076272 A1 | 3/2008 | Hsu |
| 8,786,211 B2 | 7/2014 | Gilliom | 2008/0080190 A1 | 4/2008 | Walczak |
| 8,786,212 B2 | 7/2014 | Terazawa | 2008/0084700 A1 | 4/2008 | Van De Ven |
| 8,786,213 B2 | 7/2014 | Yang et al. | 2008/0106907 A1 | 5/2008 | Trott |
| 8,791,642 B2 | 7/2014 | Van De Ven | 2008/0112121 A1 | 5/2008 | Cheng |
| 8,796,948 B2 | 8/2014 | Weaver | 2008/0117500 A1 | 5/2008 | Narendran et al. |
| 8,810,227 B2 | 8/2014 | Flaibani et al. | 2008/0121921 A1 | 5/2008 | Loh et al. |
| 8,814,385 B2 | 8/2014 | Onaka et al. | 2008/0130275 A1 | 6/2008 | Higley |
| 8,816,593 B2 | 8/2014 | Lys et al. | 2008/0142194 A1 | 6/2008 | Zhou |
| 8,876,322 B2 | 11/2014 | Alexander | 2008/0157112 A1 | 7/2008 | He |
| 8,888,506 B2 | 11/2014 | Nishimura | 2008/0158887 A1 | 7/2008 | Zhu |
| 8,944,647 B2 | 2/2015 | Bueeler | 2008/0165530 A1 | 7/2008 | Hendrikus |
| D724,773 S * | 3/2015 | Ryu D26/63 | 2008/0173884 A1 | 7/2008 | Chitnis et al. |
| 9,010,967 B2 | 4/2015 | Jensen | 2008/0179611 A1 | 7/2008 | Chitnis et al. |
| 9,052,100 B2 | 6/2015 | Blackstone | 2008/0192478 A1 | 8/2008 | Chen |
| 2001/0006463 A1 | 7/2001 | Fischer | 2008/0198112 A1 | 8/2008 | Roberts |
| 2001/0053628 A1 | 12/2001 | Hayakawa | 2008/0219002 A1 | 9/2008 | Sommers et al. |
| 2002/0046826 A1 | 4/2002 | Kao | 2008/0219303 A1 | 9/2008 | Chen et al. |
| 2002/0067613 A1 | 6/2002 | Grove | 2008/0224598 A1 | 9/2008 | Baretz |
| 2002/0106925 A1 | 8/2002 | Yamagishi | 2008/0224631 A1 | 9/2008 | Melanson |
| 2002/0117692 A1 | 8/2002 | Lin | 2008/0274641 A1 | 11/2008 | Weber |
| 2003/0058658 A1 | 3/2003 | Lee | 2008/0308825 A1 | 12/2008 | Chakraborty et al. |
| 2003/0072156 A1 | 4/2003 | Pohlert | 2009/0021936 A1 | 1/2009 | Stimac et al. |
| 2003/0128543 A1 | 7/2003 | Rekow | 2009/0026913 A1 | 1/2009 | Mrakovich |
| 2003/0174517 A1 | 9/2003 | Kiraly et al. | 2009/0034283 A1 | 2/2009 | Albright |
| 2003/0185005 A1 | 10/2003 | Sommers | 2009/0046464 A1 | 2/2009 | Liu |
| 2003/0209963 A1 | 11/2003 | Altgilbers | 2009/0050907 A1 | 2/2009 | Yuan et al. |
| 2004/0005800 A1 | 1/2004 | Hou | 2009/0050908 A1 | 2/2009 | Yuan et al. |
| 2004/0090781 A1 | 5/2004 | Yeoh | 2009/0052158 A1 | 2/2009 | Bierhuizen |
| 2004/0090784 A1 | 5/2004 | Ward | 2009/0080185 A1 | 3/2009 | McMillan |
| 2004/0212991 A1 | 10/2004 | Galli | 2009/0086474 A1 | 4/2009 | Chou |
| 2004/0218372 A1 | 11/2004 | Hamasaki | 2009/0091935 A1 | 4/2009 | Tsai |
| 2005/0032402 A1 | 2/2005 | Takanashi | 2009/0103299 A1 | 4/2009 | Boyer et al. |
| 2005/0047170 A1 | 3/2005 | Hilburger | 2009/0129084 A1 | 5/2009 | Tsao |
| 2005/0083698 A1 | 4/2005 | Zampini | 2009/0141500 A1 | 6/2009 | Peng |
| 2005/0122713 A1 | 6/2005 | Hutchins | 2009/0154166 A1 | 6/2009 | Zhang |
| 2005/0146884 A1 | 7/2005 | Scheithauer | 2009/0167203 A1 | 7/2009 | Dahlman et al. |
| 2005/0174780 A1 | 8/2005 | Park | 2009/0184616 A1 | 7/2009 | Van De Ven et al. |
| 2005/0205878 A1 | 9/2005 | Kan | 2009/0195168 A1 | 8/2009 | Greenfeld |
| 2005/0242362 A1 | 11/2005 | Shimizu | 2009/0225551 A1 | 9/2009 | Chang et al. |
| 2005/0269060 A1 | 12/2005 | Ku | 2009/0236997 A1 | 9/2009 | Liu |
| 2005/0270775 A1 | 12/2005 | Harbers | 2009/0294114 A1 | 12/2009 | Yang |
| 2005/0286265 A1 | 12/2005 | Zampini et al. | 2009/0296388 A1 | 12/2009 | Wu et al. |
| 2006/0001381 A1 | 1/2006 | Robinson | 2009/0310354 A1 | 12/2009 | Zampini, II et al. |
| 2006/0039156 A1 | 2/2006 | Chen | 2009/0317988 A1 | 12/2009 | Lin |
| 2006/0062019 A1 | 3/2006 | Young | 2010/0015821 A1 | 1/2010 | Hsu |
| | | | 2010/0019697 A1 | 1/2010 | Korsunsky |
| | | | 2010/0026158 A1 | 2/2010 | Wu |
| | | | 2010/0027258 A1 | 2/2010 | Maxik |
| | | | 2010/0060202 A1 | 3/2010 | Melanson et al. |

(56)

References Cited

U.S. PATENT DOCUMENTS

| | | | | | | | |
|--------------|----|---------|-------------------|--------------|----|---------|-------------------|
| 2010/0072505 | A1 | 3/2010 | Gingrich, III | 2012/0268894 | A1 | 10/2012 | Alexander |
| 2010/0073783 | A1 | 3/2010 | Sun | 2012/0286304 | A1 | 11/2012 | Letoquin |
| 2010/0073884 | A1 | 3/2010 | Pelozza | 2012/0286319 | A1 | 11/2012 | Lee |
| 2010/0091487 | A1 | 4/2010 | Shin | 2012/0287642 | A1 | 11/2012 | Zeng |
| 2010/0091497 | A1 | 4/2010 | Chen | 2012/0292660 | A1 | 11/2012 | Kanno |
| 2010/0102696 | A1 | 4/2010 | Sun | 2012/0307494 | A1 | 12/2012 | Zlotnikov et al. |
| 2010/0110684 | A1 | 5/2010 | Abdelsamed et al. | 2013/0003370 | A1 | 1/2013 | Watanabe |
| 2010/0110728 | A1 | 5/2010 | Dubrow et al. | 2013/0003388 | A1 | 1/2013 | Jensen |
| 2010/0128484 | A1 | 5/2010 | Peng | 2013/0026942 | A1 | 1/2013 | Ryan |
| 2010/0132918 | A1 | 6/2010 | Lin | 2013/0042510 | A1 | 2/2013 | Nall et al. |
| 2010/0141173 | A1 | 6/2010 | Negrete | 2013/0049603 | A1 | 2/2013 | Bradford |
| 2010/0142189 | A1 | 6/2010 | Hong | 2013/0049627 | A1 | 2/2013 | Roberts |
| 2010/0149818 | A1 | 6/2010 | Ruffin | 2013/0069561 | A1 | 3/2013 | Melanson et al. |
| 2010/0157605 | A1 | 6/2010 | Chang | 2013/0070442 | A1 | 3/2013 | Negley |
| 2010/0195323 | A1 | 8/2010 | Schaefer et al. | 2013/0082612 | A1 | 4/2013 | Kim |
| 2010/0230709 | A1 | 9/2010 | Kanno | 2013/0094225 | A1 | 4/2013 | Leichner |
| 2010/0238630 | A1 | 9/2010 | Xu | 2013/0095673 | A1 | 4/2013 | Brandon |
| 2010/0243219 | A1 | 9/2010 | Yang | 2013/0140490 | A1 | 6/2013 | Fujinaga |
| 2010/0246179 | A1 | 9/2010 | Long | 2013/0162140 | A1 | 6/2013 | Shamoto et al. |
| 2010/0260945 | A1 | 10/2010 | Kites | 2013/0170220 | A1 | 7/2013 | Bueeler |
| 2010/0284181 | A1 | 11/2010 | O'Brien et al. | 2013/0170221 | A1 | 7/2013 | Isogai et al. |
| 2010/0296289 | A1 | 11/2010 | Villard et al. | 2013/0176728 | A1 | 7/2013 | Bizzotto et al. |
| 2010/0301360 | A1 | 12/2010 | Van De Ven | 2013/0193869 | A1 | 8/2013 | Hong et al. |
| 2010/0301774 | A1 | 12/2010 | Chemel et al. | 2013/0221489 | A1 | 8/2013 | Cao et al. |
| 2010/0308742 | A1 | 12/2010 | Melanson | 2013/0229114 | A1 | 9/2013 | Eisele et al. |
| 2010/0319953 | A1 | 12/2010 | Yochum | 2013/0229804 | A1 | 9/2013 | Holder et al. |
| 2011/0013397 | A1 | 1/2011 | Catone et al. | 2013/0235555 | A1 | 9/2013 | Tanaka |
| 2011/0043129 | A1 | 2/2011 | Koolen | 2013/0235579 | A1 | 9/2013 | Smith |
| 2011/0044046 | A1 | 2/2011 | Abu-Ageel | 2013/0235580 | A1 | 9/2013 | Smith |
| 2011/0049749 | A1 | 3/2011 | Bailey | 2013/0241392 | A1 | 9/2013 | Pickard et al. |
| 2011/0050100 | A1 | 3/2011 | Bailey | 2013/0241440 | A1 | 9/2013 | Gaknoki et al. |
| 2011/0050101 | A1 | 3/2011 | Bailey | 2013/0250573 | A1 | 9/2013 | Taskar et al. |
| 2011/0050124 | A1 | 3/2011 | Bailey | 2013/0250581 | A1 | 9/2013 | Tang et al. |
| 2011/0051407 | A1 | 3/2011 | St. Ives et al. | 2013/0265777 | A1 | 10/2013 | Zollers et al. |
| 2011/0051414 | A1 | 3/2011 | Bailey | 2013/0300303 | A1 | 11/2013 | Liu |
| 2011/0090684 | A1 | 4/2011 | Logan et al. | 2013/0301252 | A1 | 11/2013 | Hussell et al. |
| 2011/0097921 | A1 | 4/2011 | Hsu | 2013/0322072 | A1 | 12/2013 | Pu et al. |
| 2011/0103070 | A1 | 5/2011 | Zhang et al. | 2014/0015419 | A1 | 1/2014 | Shah et al. |
| 2011/0115381 | A1 | 5/2011 | Carlin | 2014/0016318 | A1 | 1/2014 | Pokrajac |
| 2011/0122643 | A1 | 5/2011 | Spork | 2014/0036510 | A1 | 2/2014 | Preston et al. |
| 2011/0134634 | A1 | 6/2011 | Gingrich, III | 2014/0043813 | A1 | 2/2014 | Dube' et al. |
| 2011/0136374 | A1 | 6/2011 | Mostoller | 2014/0048743 | A1 | 2/2014 | Le-Mercier |
| 2011/0140620 | A1 | 6/2011 | Lin et al. | 2014/0049241 | A1 | 2/2014 | Gaknoki et al. |
| 2011/0180841 | A1 | 7/2011 | Chang | 2014/0049962 | A1 | 2/2014 | Holder et al. |
| 2011/0193490 | A1 | 8/2011 | Kumar | 2014/0055038 | A1 | 2/2014 | Cappitelli et al. |
| 2011/0222270 | A1 | 9/2011 | Porciatti | 2014/0055054 | A1 | 2/2014 | Borkar et al. |
| 2011/0253358 | A1 | 10/2011 | Huang | 2014/0062330 | A1 | 3/2014 | Neundorfer |
| 2011/0255287 | A1 | 10/2011 | Li | 2014/0063779 | A1 | 3/2014 | Bradford |
| 2011/0285308 | A1 | 11/2011 | Crystal | 2014/0071685 | A1 | 3/2014 | Black et al. |
| 2011/0285314 | A1 | 11/2011 | Carney et al. | 2014/0071696 | A1 | 3/2014 | Park, II et al. |
| 2011/0292483 | A1 | 12/2011 | Pakhchyan et al. | 2014/0078715 | A1 | 3/2014 | Pickard et al. |
| 2011/0306219 | A1 | 12/2011 | Swanger | 2014/0078722 | A1 | 3/2014 | Caldwell et al. |
| 2011/0316441 | A1 | 12/2011 | Huynh | 2014/0078746 | A1 | 3/2014 | Caldwell et al. |
| 2011/0316446 | A1 | 12/2011 | Kang et al. | 2014/0126205 | A1 | 5/2014 | Davis et al. |
| 2012/0002417 | A1 | 1/2012 | Li | 2014/0126224 | A1 | 5/2014 | Brunt, Jr. et al. |
| 2012/0014115 | A1 | 1/2012 | Park et al. | 2014/0134880 | A1 | 5/2014 | Yeh |
| 2012/0018754 | A1 | 1/2012 | Lowes | 2014/0140052 | A1 | 5/2014 | Villard |
| 2012/0021623 | A1 | 1/2012 | Gorman | 2014/0159077 | A1 | 6/2014 | Kuenzler |
| 2012/0025729 | A1 | 2/2012 | Melanson et al. | 2014/0167646 | A1 | 6/2014 | Zukauskas et al. |
| 2012/0038280 | A1 | 2/2012 | Zoorob et al. | 2014/0176016 | A1 | 6/2014 | Li |
| 2012/0038291 | A1 | 2/2012 | Hasnain | 2014/0198531 | A1 | 7/2014 | Iwasaki |
| 2012/0051048 | A1 | 3/2012 | Smit | 2014/0218909 | A1 | 8/2014 | Tetsuo et al. |
| 2012/0051056 | A1 | 3/2012 | Derks | 2014/0225511 | A1 | 8/2014 | Pickard et al. |
| 2012/0051068 | A1 | 3/2012 | Pelton | 2014/0225532 | A1 | 8/2014 | Groeneveld |
| 2012/0092860 | A1 | 4/2012 | Blackstone | 2014/0233193 | A1 | 8/2014 | Alexander |
| 2012/0106152 | A1 | 5/2012 | Zheng | 2014/0268631 | A1 | 9/2014 | Pickard |
| 2012/0119658 | A1 | 5/2012 | McDaniel | 2014/0268724 | A1 | 9/2014 | Yanping |
| 2012/0140468 | A1 | 6/2012 | Chang | 2014/0268737 | A1 | 9/2014 | Athalye et al. |
| 2012/0140474 | A1 | 6/2012 | Jurik et al. | 2014/0286016 | A1 | 9/2014 | Montagne |
| 2012/0169242 | A1 | 7/2012 | Olson | 2014/0286018 | A1 | 9/2014 | Zhang et al. |
| 2012/0175653 | A1 | 7/2012 | Weber | 2014/0361701 | A1 | 12/2014 | Siessegger et al. |
| 2012/0187830 | A1 | 7/2012 | Shum | 2014/0367633 | A1 | 12/2014 | Bibl |
| 2012/0223657 | A1 | 9/2012 | Van De Ven | 2015/0029717 | A1 | 1/2015 | Shen et al. |
| 2012/0224177 | A1 | 9/2012 | Harbers et al. | 2015/0036339 | A1 | 2/2015 | Ashdown et al. |
| 2012/0250309 | A1 | 10/2012 | Handsaker | 2015/0295144 | A1 | 10/2015 | Weiler |
| | | | | 2016/0174319 | A1 | 6/2016 | Li |

(56)

References Cited

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

| | | | |
|----|---------------|----|---------|
| CN | 201739849 | A | 2/2011 |
| CN | 202040752 | A | 11/2011 |
| CN | 102269351 | A | 12/2011 |
| GB | 2457016 | A | 8/2009 |
| JP | 61-070306 | U | 5/1986 |
| JP | 2003-092022 | A | 3/2003 |
| JP | 2004-179048 | A | 6/2004 |
| JP | 2004-265626 | A | 9/2004 |
| JP | 2005-017554 | A | 1/2005 |
| JP | 2005-071818 | A | 3/2005 |
| JP | 2005-235778 | A | 9/2005 |
| JP | 2005-267964 | A | 9/2005 |
| JP | 2006-236796 | A | 9/2006 |
| JP | 2006-253274 | A | 9/2006 |
| JP | 2006-310138 | A | 11/2006 |
| JP | D1307268 | B | 8/2007 |
| JP | D1307434 | B | 8/2007 |
| JP | 2007-273205 | A | 10/2007 |
| JP | 2007-273209 | A | 10/2007 |
| JP | 2011-508406 | A | 3/2011 |
| JP | 2011-204495 | A | 10/2011 |
| JP | 2011-204658 | A | 10/2011 |
| KR | 1020070039683 | A | 4/2007 |
| KR | 1020090013704 | A | 2/2009 |
| KR | 100974942 | B1 | 8/2010 |
| KR | 1020120050280 | A | 5/2012 |
| TW | 2004-25542 | A | 11/2004 |
| TW | 290967 | M | 5/2006 |
| TW | 296481 | M | 8/2006 |
| TW | 1273858 | B | 2/2007 |
| TW | 1318461 | B | 12/2009 |
| WO | DM/057383 | B | 9/2001 |
| WO | 02/12788 | A1 | 2/2002 |
| WO | 02/15281 | A2 | 2/2002 |
| WO | 2004/071143 | A1 | 8/2004 |
| WO | 2005/093862 | A2 | 10/2005 |
| WO | 2006/066531 | A1 | 6/2006 |
| WO | 2006066531 | A1 | 6/2006 |
| WO | 2007/128070 | A1 | 11/2007 |
| WO | 2008/108832 | A1 | 9/2008 |
| WO | 2009/044330 | A1 | 4/2009 |
| WO | 2009108799 | A1 | 9/2009 |
| WO | 2009/120555 | A1 | 10/2009 |
| WO | 2010/016002 | A1 | 2/2010 |
| WO | 2010059647 | A1 | 5/2010 |
| WO | 2011019945 | A1 | 2/2011 |
| WO | 2013059298 | A1 | 4/2013 |
| WO | 2013192014 | A2 | 12/2013 |
| WO | 2013192014 | A3 | 12/2013 |
| WO | 2014099681 | A2 | 6/2014 |
| WO | 2014099681 | A3 | 12/2014 |

OTHER PUBLICATIONS

Petluri et al., U.S. Appl. No. 14/636,204, filed Mar. 3, 2015, entitled "Lighting Systems Including Lens Modules For Selectable Light Distribution" 119pp.

Pickard et al., U.S. Appl. No. 14/617,849, filed Feb. 9, 2015, entitled "Lighting Systems Generating Controlled and Wavelength-Converted Light Emissions," 83pp.

Rodgers et al., U.S. Appl. No. 14/702,800, filed May 4, 2015, entitled "Lighting Systems Including Asymmetric Lens Modules for Selectable Light Distribution," 116pp.

Pickard et al., U.S. Appl. No. 14/636,205, filed Mar. 3, 2015, entitled "Low-Profile Lighting System Having Pivotal Lighting Enclosure," 56pp.

Fletcher et al., U.S. Appl. No. 14/702,765, filed May 4, 2015, entitled "Lighting System Having a Sealing System," 92pp.

Fletcher et al., U.S. Appl. No. 29/519,149, filed Mar. 3, 2015, entitled "LED Luminaire," 8pp.

Fletcher et al., U.S. Appl. No. 29/519,153, filed Mar. 3, 2015, entitled "LED Luminaire," 8pp.

Rodgers et al., U.S. Appl. No. 62/202,936, filed Aug. 10, 2015, entitled "Optical Devices and Systems Having a Converging Lens With Grooves," 133pp.

PCT/US2007/023110, Journee Lighting Inc., International Preliminary Report on Patentability Dated Sep. 8, 2009.

PCT/US2009/035321, Journee Lighting Inc., International Preliminary Report on Patentability Dated Aug. 31, 2010.

PCT/US2009/064858, Journee Lighting Inc., International Preliminary Report on Patentability Dated May 24, 2011.

PCT/US2010/045361, Journee Lighting Inc., International Preliminary Report on Patentability Dated Feb. 14, 2012.

PCT/US2012/060588, Ecosense Lighting Inc., Filed on Oct. 17, 2012.

PCT/US2012/060588, Ecosense Lighting Inc., International Search Report and Opinion Dated Mar. 29, 2013.

PCT/US2012/060588, Ecosense Lighting Inc., International Preliminary Report on Patentability Dated Apr. 22, 2014.

PCT/US2013/045708, Journee Lighting Inc., International Search Report and Opinion Dated Nov. 27, 2013.

PCT/US2013/045708, Journee Lighting Inc., International Preliminary Report on Patentability Dated May 12, 2015.

PCT/US2013/075172, Ecosense Lighting Inc., Filed on Dec. 13, 2013.

PCT/US2013/075172, Ecosense Lighting Inc., International Search Report and Opinion Dated Sep. 26, 2014.

PCT/US2013/075172, Ecosense Lighting Inc., International Preliminary Report on Patentability Dated Jun. 23, 2015.

PCT/US2016/020521, Ecosense Lighting Inc., Filed on Mar. 2, 2016.

PCT/US2016/020521, Ecosense Lighting Inc., International Search Report and Opinion Dated May 3, 2016.

PCT/US2016/016972, Ecosense Lighting Inc., Filed on Feb. 8, 2016.

PCT/US2016/016972, Ecosense Lighting Inc., International Search Report and Opinion Dated Apr. 11, 2016.

PCT/US2016/030613, Ecosense Lighting Inc., Filed on May 3, 2016.

PCT/US2016/020523, Ecosense Lighting Inc., Filed on Mar. 2, 2016.

PCT/US2016/020523, Ecosense Lighting Inc., International Search Report and Opinion Dated May 6, 2016.

PCT/US2016/015470, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Zoned Optical Cup".

Petluri et al., U.S. Appl. No. 62/288,368, filed Jan. 28, 2016, entitled "Multizone Mixing Cup".

PCT/US2016/015473, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Illuminating With a Multizone Mixing Cup".

PCT/US2016/015473, Ecosense Lighting Inc., International Search Report and Opinion Mailed On Apr. 22, 2016.

Petluri et al., U.S. Appl. No. 15/170,806, filed Jun. 1, 2016, entitled "Illuminating With a Multizone Mixing Cup".

PCT/US2016/015318, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Compositions for LED Light Conversions".

PCT/US2016/015318, Ecosense Lighting Inc., International Search Report and Opinion, Mailed on Apr. 11, 2016.

PCT/US2016/015348, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Systems for Providing Tunable White Light With High Color Rendering".

PCT/US2016/015348, Ecosense Lighting Inc., International Search Report and Opinion Mailed on Apr. 11, 2016.

PCT/US2016/015368, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Systems for Providing Tunable White Light With High Color Rendering".

PCT/US2016/015368, Ecosense Lighting Inc., International Search Report and Opinion Mailed On Apr. 19, 2016.

Petluri et al., U.S. Appl. No. 15/173,538, filed Jun. 3, 2016, entitled "System for Providing Tunable White Light With High Color Rendering".

Petluri et al., U.S. Appl. No. 15/173,554, filed Jun. 3, 2016, entitled "System for Providing Tunable White Light With High Color Rendering".

(56)

References Cited

OTHER PUBLICATIONS

PCT/US2016/015385, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Methods for Generating Tunable White Light With High Color Rendering."

PCT/US2016/015402, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Methods for Generating Tunable White Light With High Color Rendering."

PCT/US2016/015435, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Methods for Generating Melatonin-Response-Tuned White Light With High Color Rendering."

PCT/US2016/015437, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Methods for Generating Melatonin-Response-Tuned White Light With High Color Rendering."

PCT/US2016/015441, Ecosense Lighting Inc., Filed on Jan. 28, 2016, Entitled "Methods for Generating Melatonin-Response-Tuned White Light With High Color Rendering."

Petluri et al., U.S. Appl. No. 15/176,083, filed Jun. 7, 2016, entitled "Compositions for LED Light Conversions."

Acuity Brands, "Acuity Brands Introduces Luminaire for Tunable White Technology," downloaded from <http://news.acuitybrands.com/US/acuity-brands-introduces-luminaires-with-tunable-white-technology/s/54ae242f-1222-4b8b-be0d-36637bde8cd2> on May 28, 2014, 2pp.

Acuity Brands Lighting Inc. Product Catalog, downloaded from www.acuitybrands.com, dated Apr. 2013, 90pp.

Acuity Brands, "A Guided Tour of Area Light Sources—Past, Present and Future," downloaded from www.acuitybrands.com, version dated Jun. 20, 2013, 72pp.

Alanod GmbH, "WhiteOptics," downloaded from www.alanod.com, dated Apr. 2014, 12pp.

Altman Lighting, "Spectra Cube," downloaded from <http://altmanstagelighting.com/altman-led-green-lighting/led-spectra-cube/Altman-Spectra-Cube-Data-Sheet-v3.pdf> on May 28, 2014, 1p.

Bega Lighting, "In-ground luminaire RGBW IP 67 Product data sheet," downloaded from <http://www.bega.com/download/datenblaetter/en/7926.pdf> on May 28, 2014, 1p.

CORM 2011 Conference, Gaithersburg, MD, "Calculation of CCT and Duv and Practical Conversion Formulae," dated May 3-5, 2011, National Institute of Standards and Technology, 28pp.

Lumitronix, "Carclo lens for side emitting 360 degrees," downloaded from <http://www.leds.de/en/High-Power-LEDs/Lenses-and-optics/Carclo-lens-for-side-emitting-360.html> on May 28, 2014, 2pp.

"Introduction to Catmull-Rom Splines," downloaded on Aug. 7, 2015 from www.mvps.org/directx/articles/catmull/, 2pp.

Wikipedia, "CIE 1931 color space," version dated Apr. 23, 2014, downloaded from www.wikipedia.org, 12pp.

Osram Sylvania, "ColorCalculator User Guide", downloaded on Jun. 3, 2014 from www.sylvania.com, 44pp.

Osram Sylvania, "ColorCalculator User Guide", downloaded on Oct. 19, 2015 from www.sylvania.com, 50pp.

Kenneth Kelly, "Color Designations for Lights," U.S. Department of Commerce, National Bureau of Standards, Research Paper RP1565, Journal of Research of the National Bureau of Standards, vol. 31, Nov. 1943, pp. 271-278.

Philips Color Kinetics, "LED Cove Lighting," downloaded on May 28, 2014 from <http://www.colorkinetics.com/ls/guides-brochures/pck-led-cove-lighting.pdf>, 32pp.

Philips Color Kinetics, "IntelliWhite LED Lighting Systems," downloaded on May 28, 2014 from <http://www.colorkinetics.com/ls/intelliwhite/>, 2pp.

Philips Color Kinetics, "Color-Changing LED Lighting Systems," downloaded on May 27, 2014 from <http://www.colorkinetics.com/ls/rgb/>, 2pp.

Wikipedia, "Color temperature," version dated May 21, 2014, downloaded on Jun. 3, 2014 from www.wikipedia.org, 17pp.

Cree, "LED Color Mixing: Basics and Background," downloaded on Sep. 24, 2014 from www.cree.com, 24pp.

Cree, "Cree(r) LMH2 LED Modules," Product Family Data Sheet, downloaded on May 27, 2014 from http://www.cree.com/~media/Files/Cree/LED%20Components%20and%20Modules/Modules/Data%20Sheets/LEDModules_LMH2.pdf, 18pp.

"Dialight ES Series RGB LED Luminaire," downloaded on May 28, 2014 from http://www.dialight.com/Assets/Brochures_And_Catalogs/Illumination/MDEXESTEMORGB_A.pdf, 2pp.

Naomi Miller, "Color Spaces and Planckian Loci: Understanding all those Crazy Color Metrics," U.S. Department of Energy, Pacific Northwest National Laboratory, Portland, Oregon, downloaded on May 30, 2014, 49pp.

Kahen, Keith, "High-Efficiency Colloidal Quantum Dot Phosphors," University at Buffalo, SUNY, DOE SSL R&D Workshop, Long Beach, California, Jan. 29-31, 2013, 12pp.

Bush, Steve, "Chip gives dim-to-warm LED lighting without MCU," dated Apr. 1, 2014, downloaded from <http://www.electronicweekly.com/news/components/led-lighting/chip-gives-dim-warm-led-lighting-without-mcu-2014-04/>, 6pp.

"Ecosense to reveal new TROV LED Linear Platform at 2015 Lighffair International in New York City," May 4, 2015, blog downloaded from www.ecosense.com, 3pp.

"Ecosense to reveal new TROV LED Linear Platform at 2015 Lighffair International in New York City," May 4, 2015, press release downloaded from www.ecosense.com, 2pp.

Freyssinier, Jean P. et al., "Class A Color Designation for Light Sources Used in General Illumination," J. Light & Vis. Env., vol. 37, Nos. 2-3, Nov. 7, 2013, pp. 10-14.

Freyssinier, Jean P. et al., "White Lighting: A Provisional Model for Predicting Perceived Tint in 'White' Illumination," Color Res. & App'n, vol. 39, No. 5, Oct. 2014, pp. 466-479.

Freyssinier, Jean P. et al., "The Class A Color Designation for Light Sources," Rensselaer Polytechnic Institute, 2013 DOE Solid-State Lighting R&D Workshop, Hilton Long Beach, California, Jan. 29-31, 2013, 26pp.

Freyssinier, Jean P. et al., "Class A Lighting," Rensselaer Polytechnic Institute, Strategies in Light 2012, 27 pp.

Freyssinier, Jean P. et al., "White Lighting," Color Res. & App'n, (vol. unknown), Sep. 3, 2011, downloaded from http://www.Irc.rpi.edu/programs/solidstate/assist/pdf/SIL-2012_FreyssinierRea_WhiteLighting.pdf, 12pp.

Rea et al., "White lighting for residential applications," Lighting Res. Technol., Mar. 27, 2012, downloaded from www.sagepublications.com at <http://Irt.sagepub.com/content/early/2012/03/27/1477153512442936>, 15pp.

Oh, Jeong et al., "Full down-conversion of amber-emitting phosphor-converted light-emitting diodes with powder phosphors and a long-wave pass filter," Optics Express, vol. 18, No. 11, May 24, 2010, pp. 11063-11072.

"Microcellular Reflective Sheet MCPET," downloaded on Feb. 3, 2015 from www.furukawa.co.jp/foam/, 6pp.

"Aculux—Black Body Dimming and Tunable White Responsive Technologies," downloaded on May 28, 2014 from <http://www.junolightinggroup.com/literature/LIT-AX-LED-BBD-TW.pdf>, 28pp.

"Khatod—Symmetric & Asymmetric STRIP LENS," downloaded on May 5, 2015 from www.khatod.com, 3pp.

"KKDC Catalog 2.0," downloaded on May 28, 2014 from <http://www.kkdc.co.uk/media/kkdc-catalogue.pdf>, 134pp.

"KKDC UK—Linear LED Lighting," downloaded from www.kkdc.co.uk/application/interior.php on Oct. 22, 2015, 5pp.

Overton, Gail, "LEDs: White LED comprises blue LED and inexpensive dye," LaserFocusWorld, Feb. 12, 2013, downloaded from <http://www.laserfocusworld.com/articles/print/volume-49/issue-02/world-news/leds-white-led-comprises-blue-led-and-inexpensive-dye.html>, 5pp.

"LEDIL TIR Lens Guide," downloaded from www.ledil.com on Jan. 22, 2015, 8pp.

"LED Linear—linear lighting solutions, product overview," downloaded on May 28, 2014 from <http://www.led-linear.com/en/product-overview/system-catalogue/>, 3pp.

"LEDnovation—BR30 Warm Dimming," downloaded on May 28, 2014 from www.lednovation.com/products/BR30_LED.asp, 2pp.

(56)

References Cited

OTHER PUBLICATIONS

- Wikipedia, "Lenticular lens," downloaded on Feb. 18, 2015 from www.wikipedia.org, 5pp.
- "Lenticular Sheets," downloaded on Feb. 24, 2015 from www.lenticular-sheets.Ipceurope.eu/, 2pp.
- Unzner, Norbert, "Light Analysis in lighting technology," B&S Electronische Geralte GmbH, 2001, 14pp.
- "Lightolier—Solid-State Lighting," downloaded on May 28, 2014 from http://www.lightolier.com/prospots/leds_solidstate.jsp, 1p.
- Wikipedia, "Line of purples," downloaded on Oct. 20, 2015 from www.wikipedia.org, 2pp.
- "Lumenbeam Catalog," downloaded on May 27, 2014 from [11_l60_en_lumenpulse_lumenbeam_rgb_lbl_rgb_brochure.zip](http://www.lumenpulse.com/en/product/11/lumenbeam-large-color-changing), 63pp.
- "Lumenetix—Araya Technology," downloaded on May 28, 2014 from www.lumenetix.com/araya-technology, 3pp.
- "Lumenpulse—Lumenbeam Large Color Changing," downloaded on May 27, 2014 from www.lumenpulse.com/en/product/11/lumenbeam-large-color-changing, 4pp.
- "Lumenpulse—Lumencove Family," downloaded on May 28, 2014 from <http://www.lumenpulse.com/en/products#13/0/0/0/0>, 2pp.
- Knight, Colette, "XICATO—Investigations on the use of LED modules for optimized color appearance in retail applications," downloaded on May 28, 2014 from http://www.xicato.com/sites/default/files/documents/Summary_Investigations_on_the_use_of_LED_modules_for_optimized_color_appearance_in_retail_applications.pdf, 5pp.
- "Zumtobel—IYON Tunable White," downloaded on Oct. 19, 2015 from http://www.zumtobel.com/tunablewhite/en/index.html#topic_04, 1p.
- "Zumtobel—IYON LED Spotlight Catalog," downloaded on Oct. 19, 2015 from <http://www.zumtobel.com/PDB/Ressource/teaser/en/com/Iyon.pdf>, 40pp.
- "Lumenpulse—Lumenbeam Large Pendant Dynamic White," downloaded on May 28, 2014 from <http://www.lumenpulse.com/en/product/72/lumenbeam-large-pendant-dynamic-white>, 1p.
- "Lumileds Application Brief AB08—Optical Testing for SuperFlux, SnapLED and Luxeon Emitters," downloaded on Sep. 24, 2014 from www.lumileds.com, 15pp.
- "CandlePowerForums—SOLD: Luxeon III side-emitter white LED," downloaded on May 28, 2014 from <http://www.candlepowerforums.com/vb/showthread.php?140276-SOLD-Luxeon-III-side-emitter-white-LED>, 4pp.
- "Lumileds LUXEON Z," downloaded on May 2, 2015 from www.lumileds.com, 2pp.
- "Alanod MIRO Catalog," downloaded on Jan. 30, 2015 from www.alanod.com, 8pp.
- "Nanoco Group—Cadmium Free Quantum Dots," downloaded on May 30, 2014 from www.nanocotechnologies.com/what-we-do/products/cadmium-free-quantum-dots, 3pp.
- "Nanosys—Quantum Dots," downloaded on May 30, 2014 from www.nanosysinc.com/what-we-do/quantum-dots/, 3pp.
- "Ocean NanoTech—Products," downloaded on May 30, 2014 from www.oceannanotech.com/Products.php, 1p.
- "NNCrystal—blog post—May 17, 2010," downloaded from <http://led-lights-led.blogspot.com/2010/05/nncrystal-us-corporation-to-supply.html>, 4pp.
- "A Warmer, Cozier White Light: NXP Transforms LED Color Quality," dated Jan. 9, 2013, downloaded from <http://www.nxp.com/news/press-releases/2013/01/a-warmer-cozier-white-light-nxp-transforms-led-color-quality.html>, 2pp.
- "Lighting Global Technical Notes, Optical Control Techniques for Off-grid Lighting Products," Jul. 2011 and May 2012, 6pp.
- "Pacific Light Technologies—Quantum Dots in Solid State Lighting," downloaded on Oct. 23, 2015 from www.pacificlighttech.com/quantum-dots-in-ssl/, 2pp.
- "Philips Lighting—Dim Tone," downloaded on May 27, 2014 from www.usa.lighting.philips.com/lightcommunity/trends/led/dimtone/, 1p.
- "Philips—Dimmable to warm light for the perfect ambience," downloaded on May 27, 2014 from www.usa.lighting.philips.com, 2pp.
- "Philips—Turn up Ambience and Tone Down Energy Use with Philips BR30 DimTone," downloaded on May 27, 2014 from www.usa.lighting.philips.com, 11pp.
- Wikipedia, "Planckian locus," downloaded on May 30, 2014 from www.wikipedia.org, 5pp.
- Wikipedia, "Quantum dot," downloaded on May 30, 2014 from http://en.wikipedia.org/wiki/Quantum_dot, 15pp.
- "Phosphortech—Flexible Phosphor Sheet—RadiantFlex Datasheet," Aug. 2014, downloaded from www.phosphortech.com, 10pp.
- Wikipedia, "Reflectivity," downloaded on Jan. 22, 2015 from www.wikipedia.org, 3pp.
- "Refraction by lenses," downloaded on Feb. 17, 2015 from www.physicsclassroom.com, 5pp.
- "RTLED—White Paper: Binning and LED," downloaded on Oct. 13, 2014 from www.rtle.com, 3pp.
- Near, Al, "Seeing Beyond CRI," LED Testing & Application, Nov. 2011, downloaded from www.ies.org/lda/hottopics/led/4.pdf, 2pp.
- "Selux—Olivio luminaire," press release dated Mar. 26, 2014, downloaded from <http://www.selux.com/be/en/news/press-detail/article/evolutionary-progress-the-olivio-family-of-system-luminaires-now-with-premium-quality-white-and.html>, 3pp.
- "LEDIL—Strada-F Series," downloaded on May 5, 2015 from www.ledil.com, 7pp.
- "Sylvania—Ultra SE(tm) LED Lamp Family," downloaded on May 27, 2014 from www.sylvania.com, 3pp.
- "Sylvania Ultra SE(tm) LED Light Bulbs with Color Dimming Sunset Effects," downloaded on May 27, 2014 from <https://www.youtube.com/watch?v=oZEc-VfJ8EU>, 2pp.
- Wikipedia, "Transmittance," downloaded on Jan. 22, 2015 from www.wikipedia.org, 4pp.
- "United Lumen—A Volumetric Displaced Phosphor Light Engine which elegantly and efficiently distributes light in a pattern similar to an incandescent bulb," downloaded on Jul. 9, 2014 from www.unitedlumen.com, 1p.
- "United Lumen—Solid State Volumetric Technology," downloaded on Jul. 9, 2014 from www.unitedlumen.com, 1p.
- "United Lumen—High Brightness V-LED Technology," downloaded on May 15, 2014 from www.unitedlumen.com, 1p.
- "USAI Lighting Catalog," downloaded on May 27, 2014 from http://www.usaillumination.com/pdf/Warm_Glow_Dimming.pdf, 50pp.
- "Winona—Parata 700 Series Cove," downloaded on May 28, 2014 from www.acuitybrands.com, 2pp.
- "Winona Parata Catalog," downloaded on May 28, 2014 from www.acuitybrands.com, 24pp.
- Fletcher et al., U.S. Appl. No. 14/816,827, filed Aug. 3, 2015, entitled "Lighting System Having a Mounting Device," 126pp.
- Fletcher et al., U.S. Appl. No. 29/532,383, filed Jul. 6, 2015, entitled "LED Luminaire Having a Mounting System," 10pp.
- Fletcher et al., U.S. Appl. No. 29/533,635, filed Jul. 20, 2015, entitled "LED Luminaire Having a Mounting System," 10pp.
- Fletcher et al., U.S. Appl. No. 29/533,666, filed Jul. 20, 2015, entitled "LED Luminaire Having a Mounting System," 10pp.
- Fletcher et al., U.S. Appl. No. 15/268,781, filed Sep. 19, 2016, entitled "Lighting System Having a Mounting Device," 93pp.
- Fletcher et al., U.S. Appl. No. 29/578,082, filed Sep. 19, 2016, entitled "LED Luminaire Having a Mounting System," 10pp.
- Fletcher et al., U.S. Appl. No. 29/578,086, filed Sep. 19, 2016, entitled "LED Luminaire Having a Mounting System," 10pp.
- Fletcher et al., U.S. Appl. No. 29/578,094, filed Sep. 19, 2016, entitled "LED Luminaire Having a Mounting System," 10pp.
- Fletcher et al., U.S. Appl. No. 29/578,095, filed Sep. 19, 2016, entitled "LED Luminaire Having a Mounting System," 10pp.

* cited by examiner

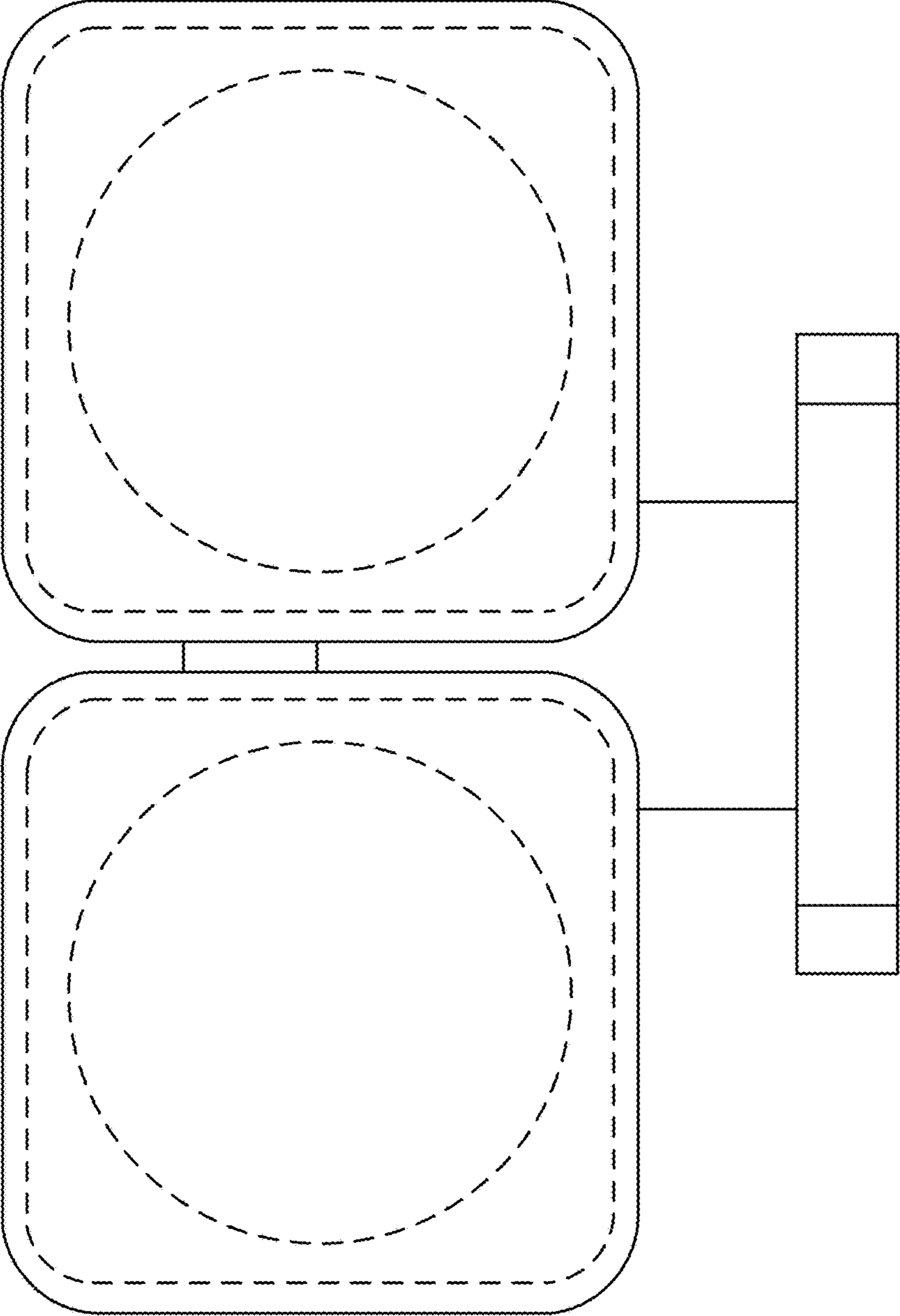


FIG. 1

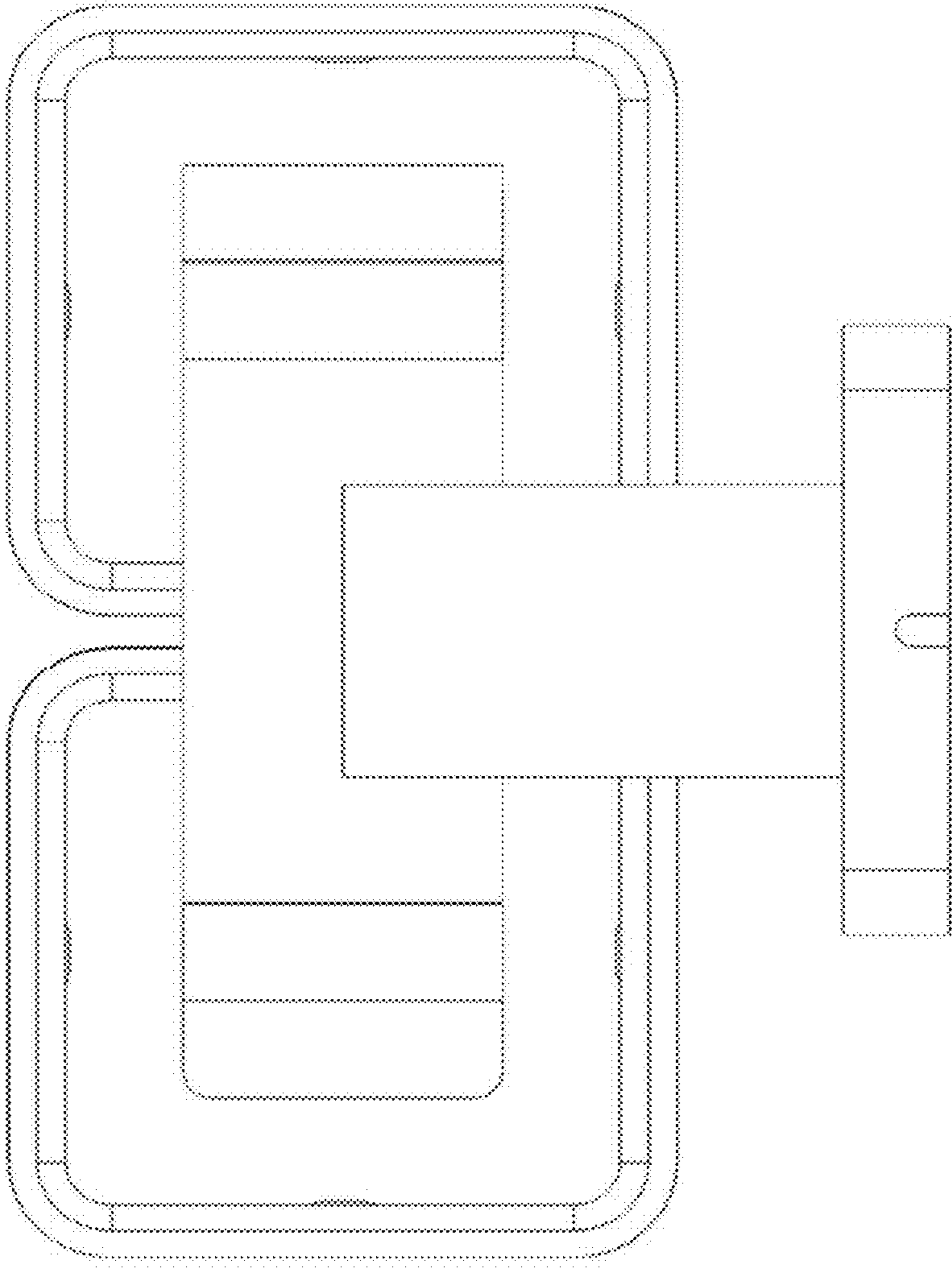


FIG. 2

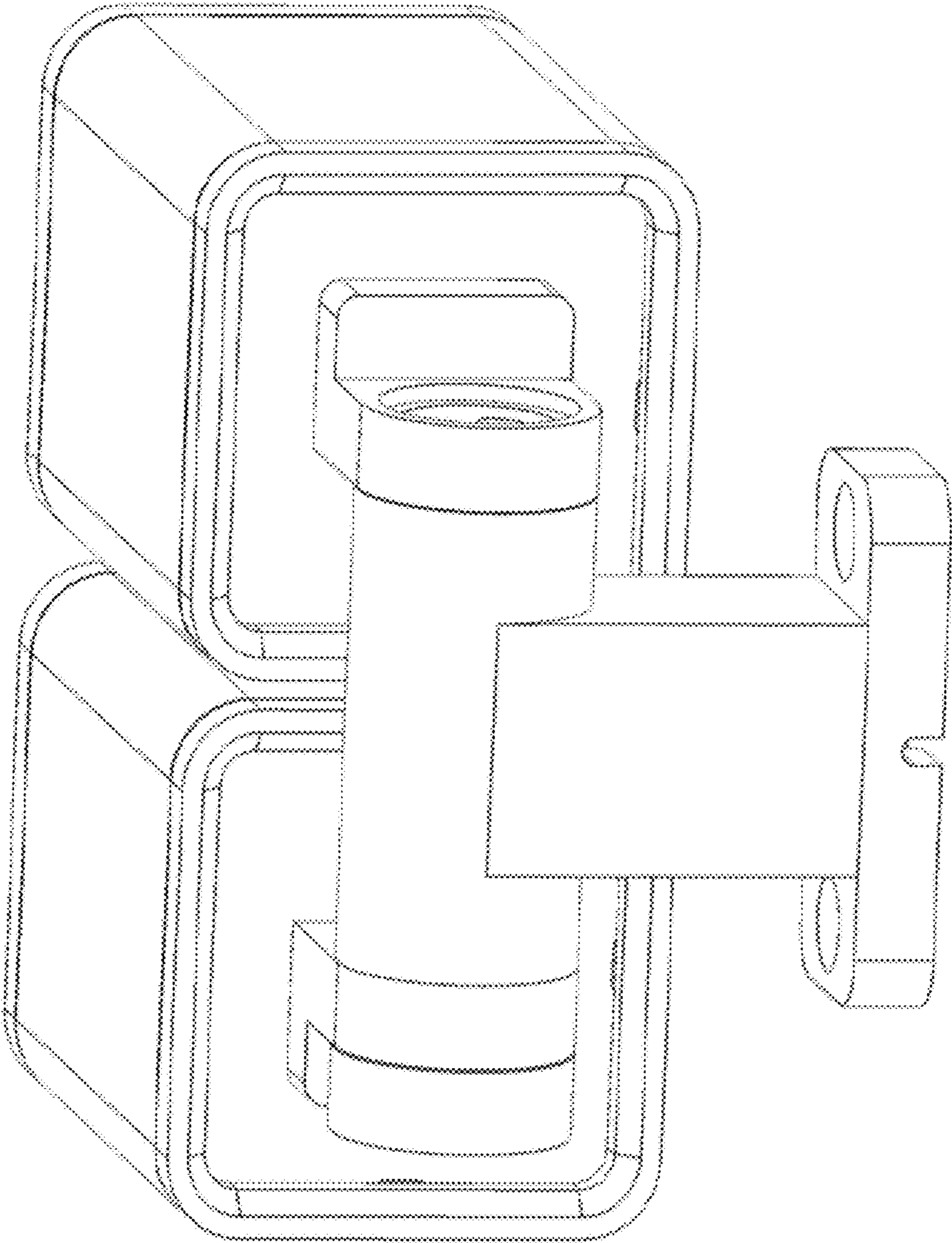


FIG. 3

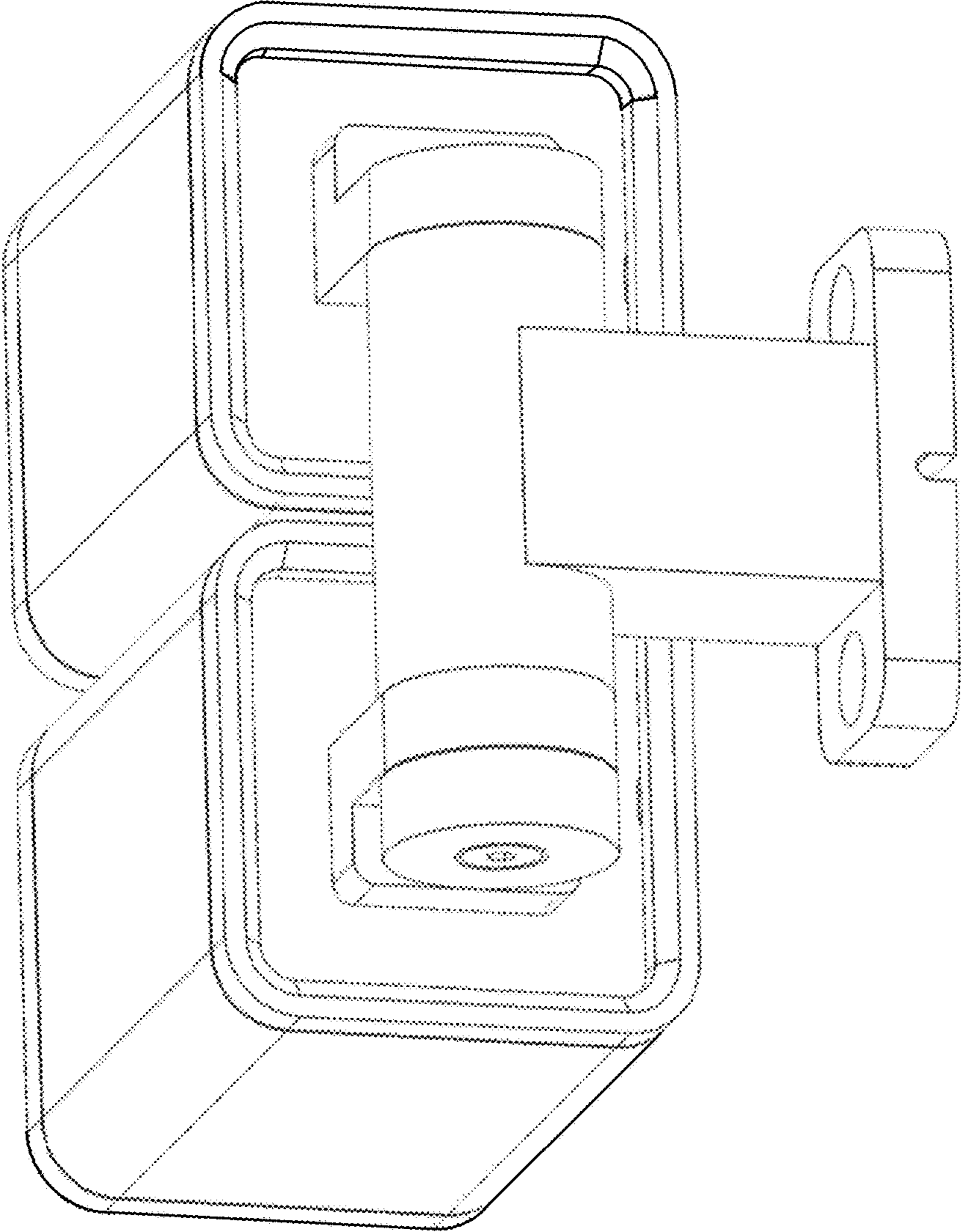


FIG. 4

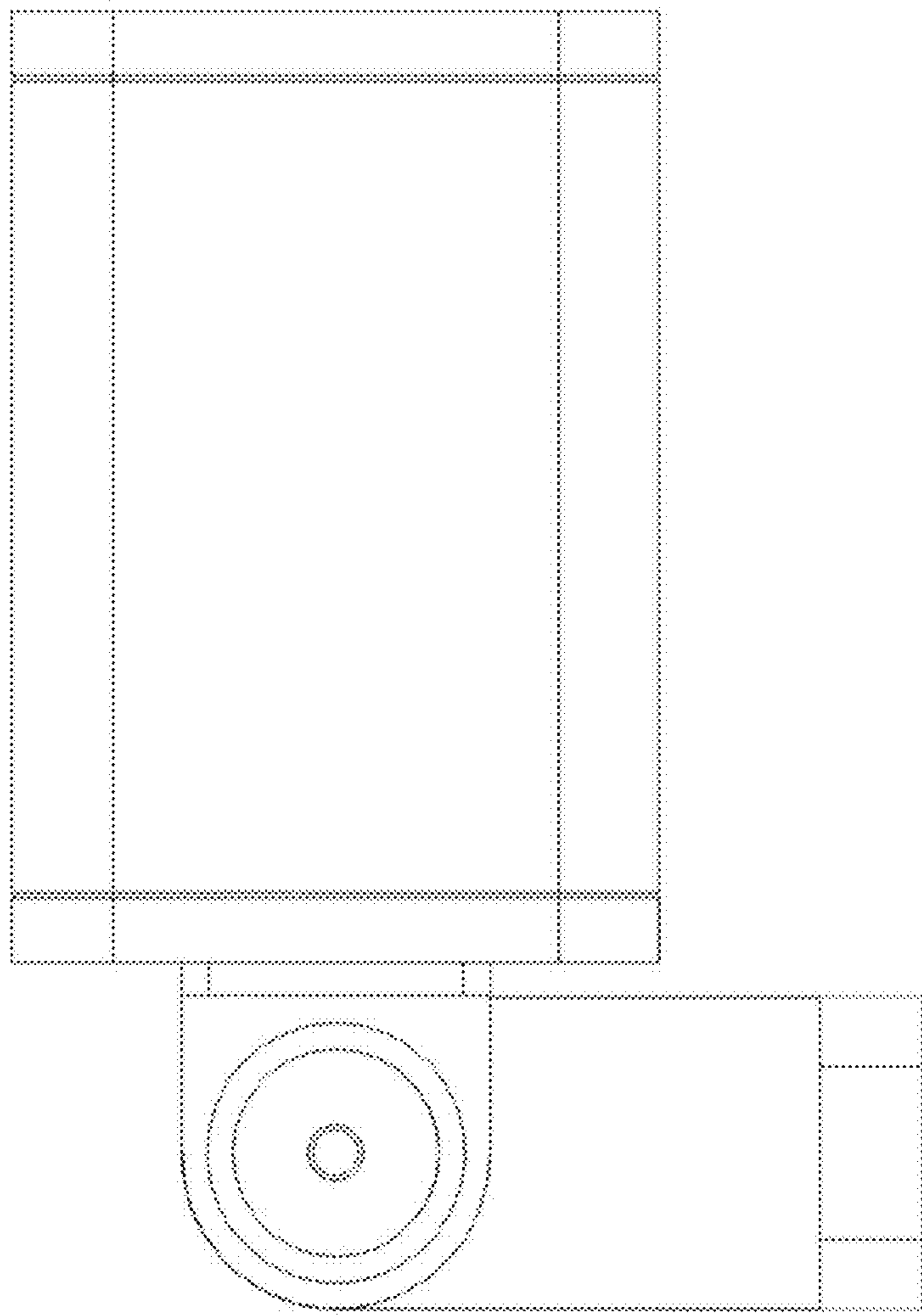


FIG. 5

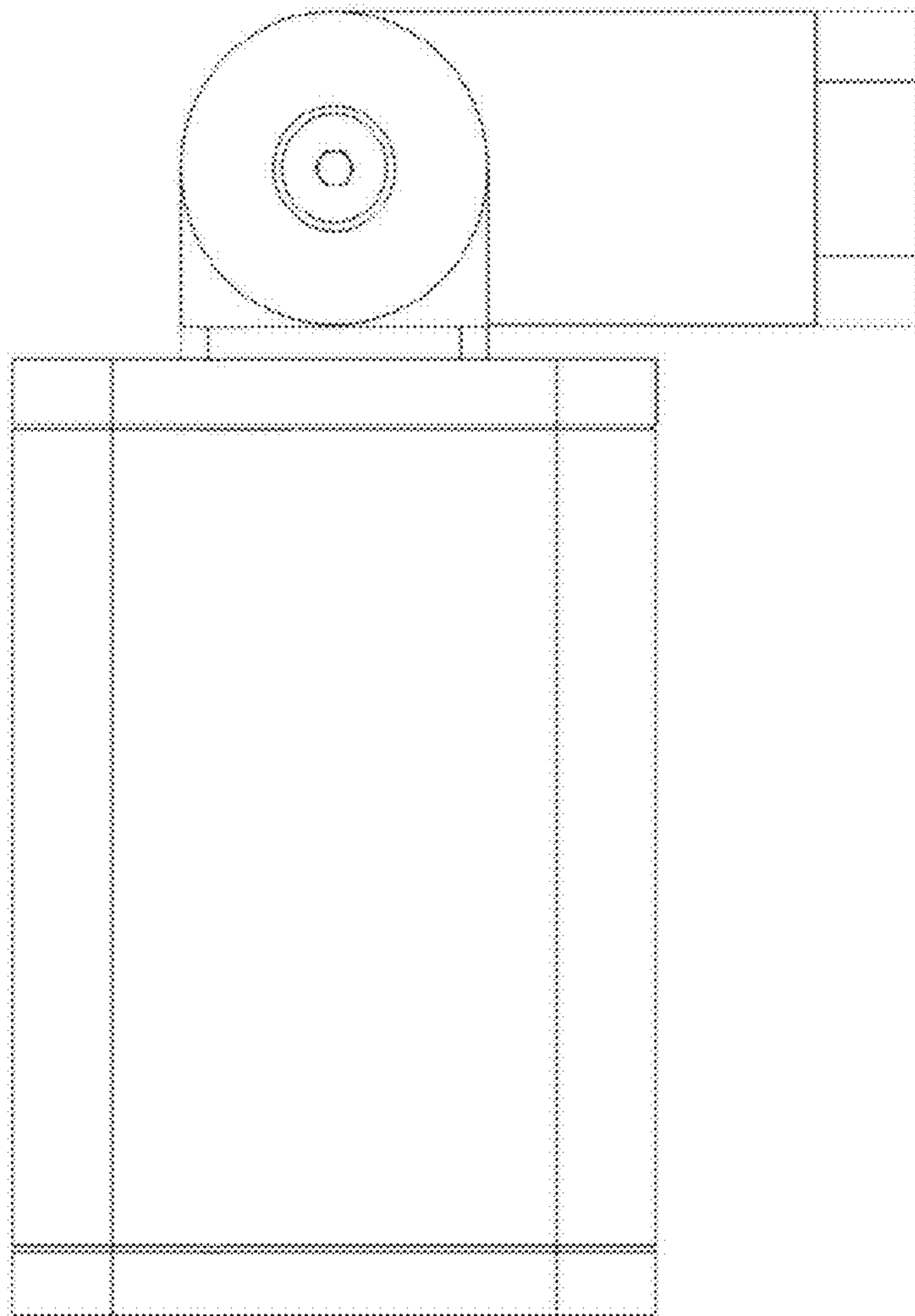


FIG. 6

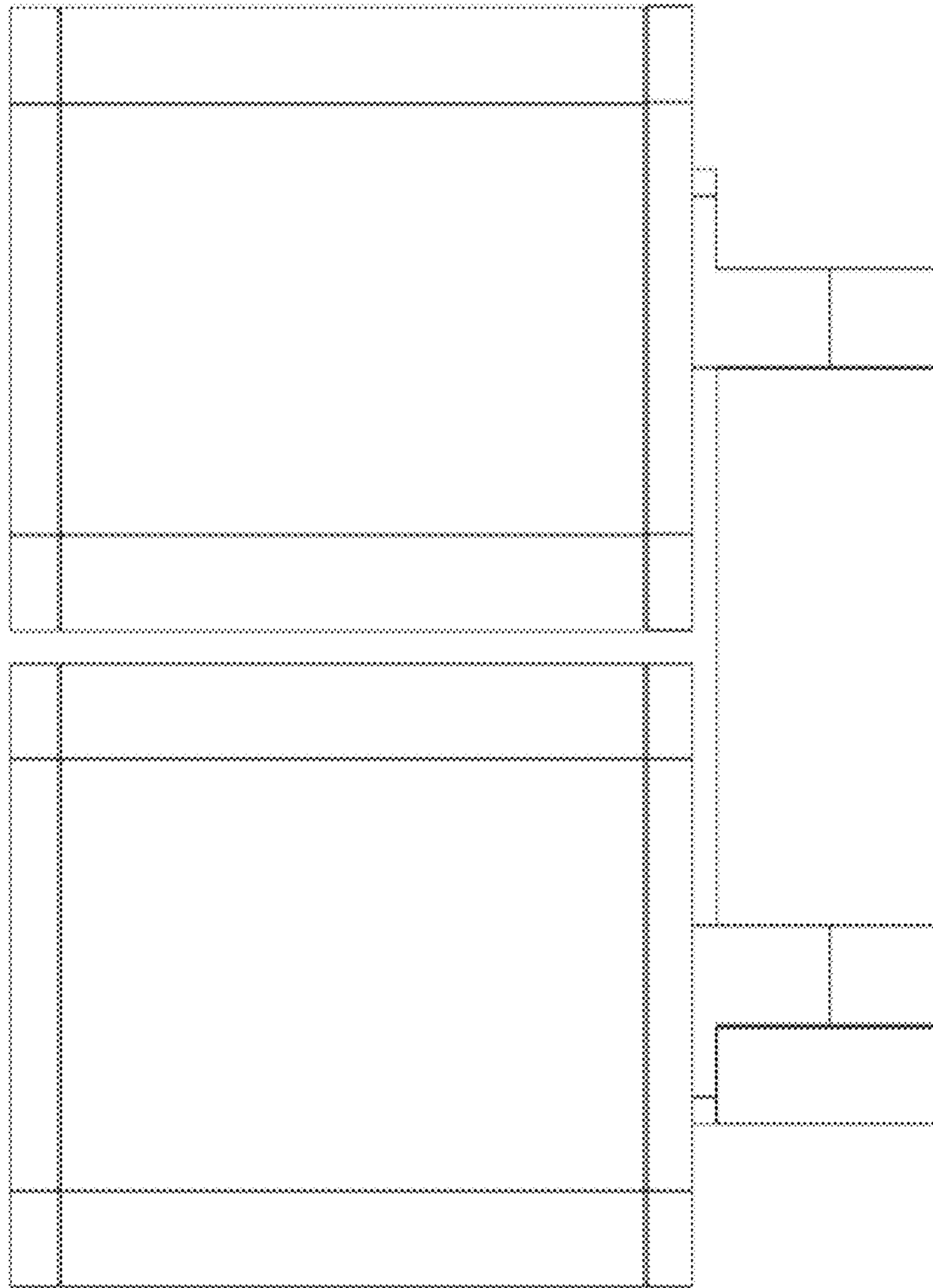


FIG. 7

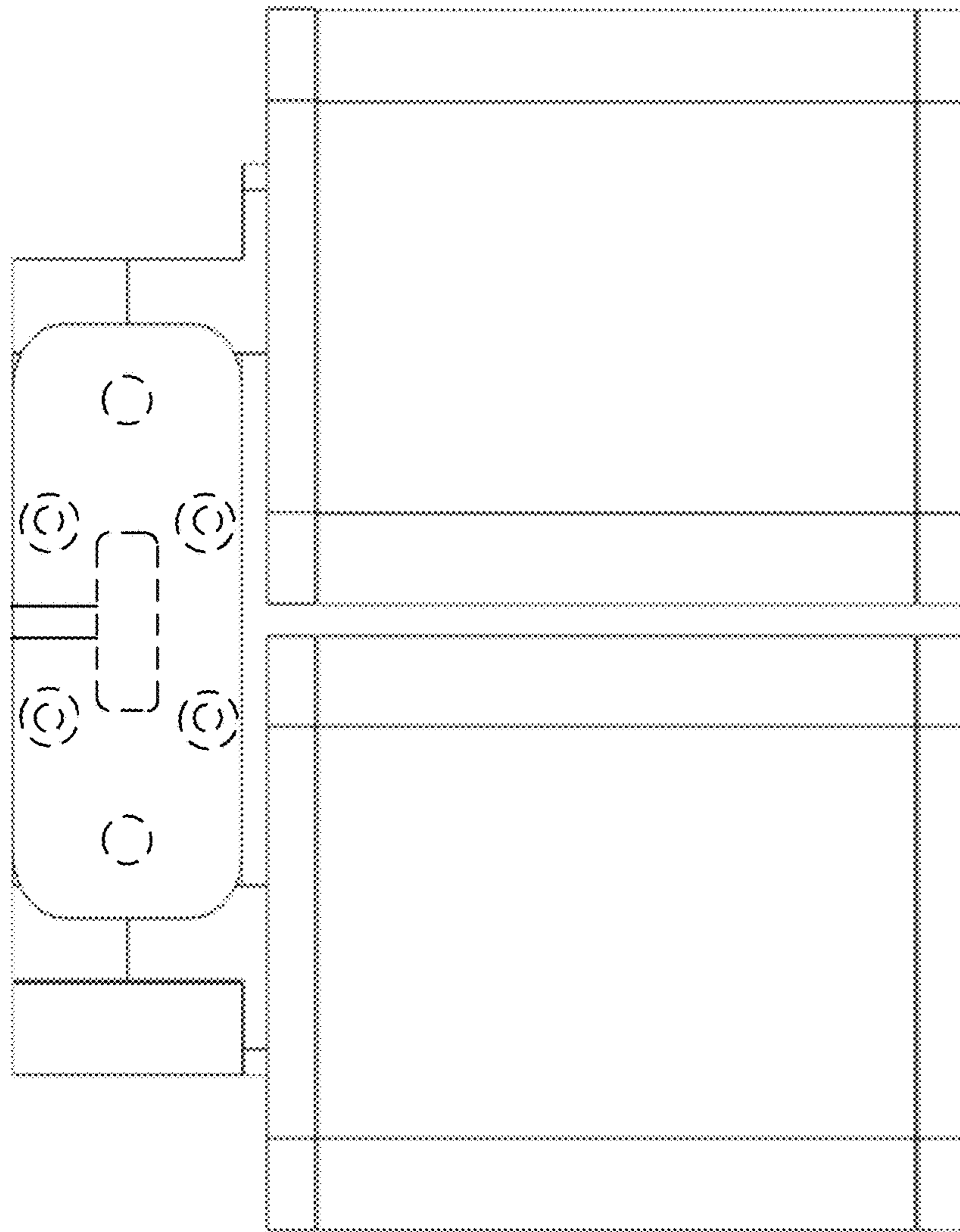


FIG. 8