



US00D771233S

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

(10) **Patent No.:** **US D771,233 S**  
(45) **Date of Patent:** **\*\* Nov. 8, 2016**

- (54) **AIR INLET DAMPER**
- (71) Applicant: **A. O. SMITH CORPORATION**,  
Milwaukee, WI (US)
- (72) Inventors: **Timothy Mitchel Smith**, Blountville,  
TN (US); **Chad Taylor Thompson**,  
Dandridge, TN (US); **George W.**  
**Kraus, II**, Johnson City, TN (US)
- (73) Assignee: **A. O. SMITH CORPORATION**,  
Milwaukee, WI (US)
- (\*\*) Term: **15 Years**
- (21) Appl. No.: **29/535,575**
- (22) Filed: **Aug. 7, 2015**
- (51) **LOC (10) Cl.** ..... **23-04**
- (52) **U.S. Cl.**  
USPC ..... **D23/393**
- (58) **Field of Classification Search**  
USPC ..... D13/139.2; D23/323, 328, 333, 335,  
D23/336, 337, 341, 352, 357, 370, 385, 386,  
D23/388, 392, 397, 399, 400, 406, 411, 412,  
D23/413, 499  
CPC ..... B65D 7/00; B65D 67/02; F16M 1/00;  
F24F 1/027; F24F 13/32; F25D 23/10;  
E04F 17/08; F16L 3/26; F16L 9/22; F16K  
1/221; F16K 1/443; F16K 31/122; F23L  
11/005; F24H 1/205; F24H 9/0026; F24H  
9/0031; F24H 9/2035; F23N 2025/22;  
F23N 2035/18; F23N 2035/20  
See application file for complete search history.

- (56) **References Cited**  
U.S. PATENT DOCUMENTS
- |               |        |            |                              |
|---------------|--------|------------|------------------------------|
| 1,173,484 A   | 2/1916 | Clay       |                              |
| 1,198,675 A   | 9/1916 | Smythe     |                              |
| 1,488,694 A * | 4/1924 | Marks      | ..... F24D 19/06<br>454/289  |
| 1,720,789 A * | 7/1929 | Heusser    | ..... F01P 11/0214<br>16/291 |
| 1,790,454 A   | 1/1931 | Arrowsmith |                              |

- |               |         |            |                              |
|---------------|---------|------------|------------------------------|
| 1,991,557 A   | 2/1935  | Johnson    |                              |
| 2,080,726 A * | 5/1937  | Lowinger   | ..... B01D 46/10<br>160/19   |
| 2,229,388 A * | 1/1941  | Postlewait | ..... F24F 13/08<br>138/89   |
| D132,821 S    | 6/1942  | Leslie     |                              |
| 2,364,791 A * | 12/1944 | Horne      | ..... F24H 1/205<br>122/17.2 |

(Continued)

**FOREIGN PATENT DOCUMENTS**

GB	2012042	7/1979
GB	2039358	8/1980
WO	8100609	3/1981

**OTHER PUBLICATIONS**

Balancing Damper Damper—Model BDD, image post date 1955, site visited Jun. 11, 2016, (online), <<http://www.safeair-dowco.com/product/BDD.pdf>>.\*

(Continued)

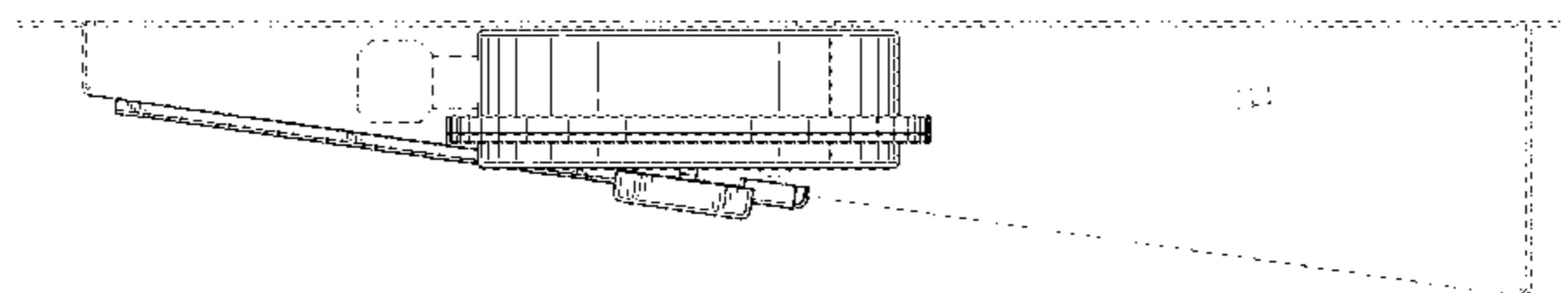
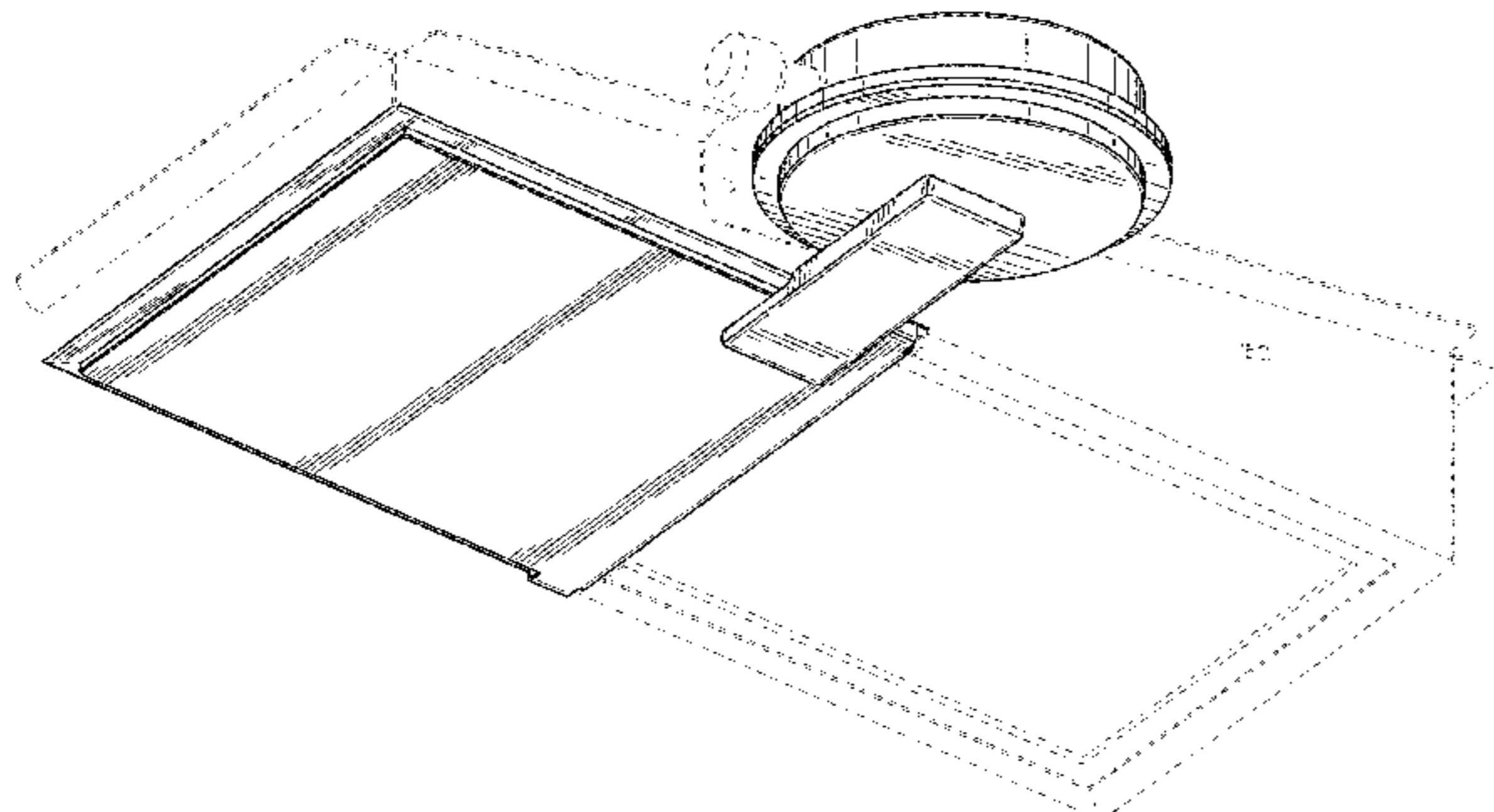
*Primary Examiner* — Kevin Rudzinski  
*Assistant Examiner* — Sean D Lough  
(74) *Attorney, Agent, or Firm* — Michael Best & Friedrich LLP

(57) **CLAIM**  
We claim the ornamental design for an air inlet damper, as shown and described.

**DESCRIPTION**

FIG. 1 is a bottom perspective view of an air inlet damper showing the new design;  
FIG. 2 is a right side view thereof;  
FIG. 3 is a left side view thereof,  
FIG. 4 is a rear view thereof;  
FIG. 5 is a front view thereof;  
FIG. 6 is a top view thereof; and,  
FIG. 7 is a bottom view thereof.  
The broken lines present in all FIG. views illustrate portions of the air inlet damper that is environment and forms no part of the claimed design.

**1 Claim, 5 Drawing Sheets**



(56)

## References Cited

## U.S. PATENT DOCUMENTS

- 2,628,551 A 2/1953 Leigh  
2,834,622 A 5/1958 Reeves  
3,093,059 A 6/1963 Metz  
3,733,812 A \* 5/1973 Lawrence ..... B66D 1/26  
254/315  
3,835,986 A 9/1974 Le Beau  
D245,620 S \* 8/1977 Berry ..... D23/371  
4,046,318 A \* 9/1977 Ripley ..... F23L 11/005  
110/163  
4,076,171 A 2/1978 Swenson  
4,182,483 A 1/1980 Swenson  
4,234,012 A 11/1980 Schupback  
4,261,824 A \* 4/1981 Cuschera ..... E03F 5/06  
210/164  
4,266,929 A 5/1981 Swenson  
4,297,818 A 11/1981 Anderson  
4,368,663 A \* 1/1983 Tabacco ..... F23J 13/08  
126/286  
4,396,371 A 8/1983 Lorenz et al.  
4,479,733 A \* 10/1984 Segal ..... B42F 3/00  
281/2  
D277,027 S 1/1985 Waltz et al.  
D277,028 S 1/1985 Waltz et al.  
4,509,913 A 4/1985 Lorenz et al.  
4,592,269 A 6/1986 Lamparter  
D285,546 S 9/1986 Hayslette  
4,615,263 A 10/1986 Titterud  
D296,584 S 7/1988 Hilton  
4,790,289 A 12/1988 Barrett  
D300,655 S 4/1989 Buehler  
4,817,564 A 4/1989 Akkala et al.  
4,819,689 A \* 4/1989 Owsley ..... F04B 39/102  
137/512.1  
4,875,465 A 10/1989 Kramer  
4,878,482 A 11/1989 Pfeffer  
4,879,801 A 11/1989 Stubbe et al.  
4,907,569 A 3/1990 Lemense  
4,909,385 A 3/1990 Blymiller  
D321,743 S 11/1991 Logue et al.  
D327,317 S 6/1992 Courchesne  
D332,139 S 12/1992 Courchesne  
D333,830 S 3/1993 Lampe  
D335,123 S 4/1993 Smiley  
5,487,219 A \* 1/1996 Ruehl ..... B21D 39/031  
29/465  
5,501,634 A 3/1996 Wilder  
5,503,181 A \* 4/1996 Kennedy ..... E03F 5/0407  
137/362  
5,531,214 A \* 7/1996 Cheek ..... F23N 5/24  
122/14.1  
5,591,080 A 1/1997 Ward  
D378,578 S \* 3/1997 Eberhardt ..... D10/104.1  
D381,412 S 7/1997 Rimback  
5,662,522 A 9/1997 Waltz  
5,672,101 A 9/1997 Thomas  
D393,707 S \* 4/1998 Kelly ..... D23/373  
5,735,086 A 4/1998 Fordahl  
5,756,933 A 5/1998 Pitchford et al.  
D394,901 S \* 6/1998 Governale ..... D23/351  
5,792,230 A \* 8/1998 Moore ..... B01D 46/0004  
454/290  
5,947,815 A \* 9/1999 Danforth ..... F24F 13/28  
454/289  
6,041,771 A 3/2000 Hayes  
D425,612 S \* 5/2000 Andersen ..... D23/263  
6,118,108 A \* 9/2000 Ufford ..... B29C 65/18  
156/294  
6,155,008 A 12/2000 McKee  
D436,163 S 1/2001 Peterson et al.  
D442,273 S 5/2001 Pestell  
6,293,862 B1 9/2001 Jafine et al.  
D451,214 S \* 11/2001 Gollob ..... D25/156  
6,481,361 B1 \* 11/2002 Schindler ..... F23K 3/02  
110/101 C  
6,514,135 B1 2/2003 Kelly  
6,523,575 B1 2/2003 Mrsny  
D478,977 S \* 8/2003 Snyder ..... D23/388  
D482,813 S \* 11/2003 Waldmann ..... D26/61  
D490,506 S \* 5/2004 Snyder ..... D23/386  
D490,553 S \* 5/2004 Waldmann ..... D26/61  
6,854,428 B1 2/2005 Hotton et al.  
D505,195 S 5/2005 Snyder  
7,004,832 B2 2/2006 Thomas  
D517,006 S 3/2006 Bessmertny  
7,013,841 B1 3/2006 Boros et al.  
7,032,543 B1 4/2006 Akkala et al.  
7,055,465 B1 6/2006 Huang et al.  
D528,644 S \* 9/2006 Schwamkrug ..... D23/372  
D534,450 S \* 1/2007 Muller ..... D10/132  
D535,009 S \* 1/2007 Sinur ..... D23/372  
D536,778 S 2/2007 O'Hagin  
D537,570 S 2/2007 Sanders  
D549,316 S 8/2007 O'Hagin  
D556,314 S 11/2007 Daniels, II et al.  
D569,491 S \* 5/2008 DeForte ..... D23/386  
D571,450 S 6/2008 Brown  
D576,264 S \* 9/2008 Grobleben ..... D23/372  
D587,797 S 3/2009 Blanchard  
7,508,103 B2 3/2009 Watkins et al.  
7,513,221 B2 4/2009 Akkala et al.  
D597,239 S \* 7/2009 Hodgson ..... D26/65  
D598,959 S \* 8/2009 Kiddoo ..... D21/385  
7,651,390 B1 \* 1/2010 Profeta ..... F24F 13/06  
454/284  
D612,040 S 3/2010 Daniels  
D618,332 S 6/2010 Kimura et al.  
D618,780 S 6/2010 Williams, Sr.  
D624,639 S 9/2010 Dilorenzo  
D625,800 S 10/2010 Daniels  
D628,718 S \* 12/2010 Grubka ..... D25/141  
D629,093 S 12/2010 Polston  
D629,882 S \* 12/2010 Nguyen ..... D14/448  
D631,431 S 1/2011 DeFelice  
D634,419 S \* 3/2011 Lambertson ..... D23/393  
D641,462 S 7/2011 Rafi  
8,001,643 B1 \* 8/2011 James ..... F16L 3/23  
14/69.5  
D652,498 S 1/2012 Rafi  
D653,745 S 2/2012 Gregg et al.  
8,113,823 B2 2/2012 Guzorek  
D656,601 S 3/2012 Roderique et al.  
D659,460 S 5/2012 Boone  
8,196,552 B2 6/2012 Whitford et al.  
8,205,401 B2 6/2012 Ward  
D662,870 S 7/2012 Russ  
D665,210 S \* 8/2012 Hughes ..... D6/582  
D666,285 S 8/2012 Schrad et al.  
D666,707 S 9/2012 Eikhoff et al.  
RE43,717 E \* 10/2012 DeForte ..... D23/386  
D672,450 S 12/2012 Milks et al.  
D680,253 S 4/2013 Herberholt  
D688,289 S \* 8/2013 Hodgson ..... D16/135  
D690,065 S 9/2013 Schoenster  
D690,457 S \* 9/2013 Lu ..... D26/118  
D693,493 S \* 11/2013 Kim ..... D25/152  
8,607,719 B1 \* 12/2013 Kuzni ..... F23K 3/20  
110/185  
D698,962 S \* 2/2014 Waldmann ..... D16/135  
D701,095 S \* 3/2014 Arvan ..... D7/698  
D702,817 S \* 4/2014 Ryu ..... D23/228  
D703,305 S \* 4/2014 Stollenwerk O'Hagin . D23/373  
D703,307 S \* 4/2014 Little ..... D23/393  
D704,815 S 5/2014 Butler et al.  
D704,816 S 5/2014 Butler et al.  
D704,817 S 5/2014 Butler et al.  
D705,420 S 5/2014 Eichelberg  
D708,779 S \* 7/2014 Cha ..... D26/125  
8,794,228 B2 8/2014 Richter et al.  
D714,928 S 10/2014 Urano  
D720,437 S \* 12/2014 Togawa ..... D23/261  
D724,715 S 3/2015 Isshiki  
D727,486 S \* 4/2015 Sebert ..... D23/365  
D727,489 S 4/2015 Rohskopf et al.  
D731,047 S 6/2015 Leonard



(56)

References Cited

U.S. PATENT DOCUMENTS

D732,708 S 6/2015 Stauffer et al.  
 D734,861 S \* 7/2015 Johnson ..... D24/201  
 D736,365 S \* 8/2015 Breneman ..... D23/372  
 D737,421 S \* 8/2015 Jannello ..... D23/386  
 D738,027 S \* 9/2015 Wang ..... D26/85  
 D743,520 S 11/2015 Sinur et al.  
 D744,632 S 12/2015 Ehlert et al.  
 D748,239 S \* 1/2016 Daniels ..... D23/373  
 D749,204 S 2/2016 Breneman et al.  
 D749,342 S 2/2016 Escandon  
 D750,314 S \* 2/2016 Hobson ..... D26/118  
 D750,564 S \* 3/2016 Weagle ..... D13/137.4  
 D752,770 S 3/2016 Kuhn et al.  
 D754,304 S \* 4/2016 Morris ..... D23/260  
 D754,835 S 4/2016 Uehara et al.  
 D755,349 S \* 5/2016 Murphey ..... D23/237  
 D755,944 S \* 5/2016 Daniels ..... D23/373  
 D757,237 S \* 5/2016 Gonzalez ..... D23/328  
 D758,107 S \* 6/2016 Hamilton ..... D6/677  
 D758,680 S \* 6/2016 Hoffman ..... D32/8  
 2001/0049261 A1 12/2001 McKee et al.  
 2002/0171059 A1 \* 11/2002 Sakurai ..... F02D 11/10  
 251/305  
 2003/0054754 A1 3/2003 McKee  
 2003/0079905 A1 \* 5/2003 Higgs ..... F16L 3/26  
 174/135  
 2003/0116213 A1 6/2003 DiMarco  
 2003/0153262 A1 8/2003 Mantyla et al.  
 2003/0161742 A1 \* 8/2003 Lin ..... F04D 29/5893  
 417/410.1  
 2004/0177871 A1 \* 9/2004 Harbaugh ..... A45B 19/10  
 135/20.1  
 2004/0195923 A1 10/2004 Staigl, III et al.  
 2004/0238651 A1 \* 12/2004 Juntunen ..... F23N 1/082  
 236/20 R  
 2005/0184268 A1 \* 8/2005 Narayanaswamy ... B23K 31/02  
 251/308  
 2005/0233691 A1 10/2005 Horton  
 2005/0284988 A1 \* 12/2005 Lawver ..... F16L 3/24  
 248/65  
 2006/0005809 A1 \* 1/2006 Kado ..... F02D 9/1035  
 123/399  
 2006/0042239 A1 3/2006 Gerards et al.  
 2006/0065211 A1 \* 3/2006 Hasbargen ..... F23L 17/005  
 122/17.1  
 2006/0157092 A1 7/2006 Kramer  
 2006/0249141 A1 \* 11/2006 Sinur ..... F24C 15/2064  
 126/299 R  
 2007/0045473 A1 3/2007 Clegg et al.  
 2007/0101689 A1 5/2007 Gaskins  
 2007/0241629 A1 \* 10/2007 Ionel ..... H02K 1/141  
 310/214  
 2008/0029243 A1 2/2008 O'Donnell et al.  
 2008/0134843 A1 \* 6/2008 Smith ..... B25B 13/48  
 81/121.1  
 2008/0210783 A1 \* 9/2008 Bissonnette ..... F23D 14/32  
 239/429

2008/0272667 A1 11/2008 Ionel et al.  
 2008/0302352 A1 \* 12/2008 Pearce ..... F24C 15/2071  
 126/299 R  
 2008/0308689 A1 12/2008 Syler  
 2009/0084328 A1 4/2009 Lyons et al.  
 2009/0191493 A1 \* 7/2009 Guzorek ..... F23L 11/005  
 431/12  
 2010/0012048 A1 1/2010 Whitford et al.  
 2010/0015559 A1 1/2010 Whitford et al.  
 2010/0118463 A1 \* 5/2010 Smith ..... H01C 7/12  
 361/117  
 2010/0126431 A1 \* 5/2010 Kanda ..... F23D 14/04  
 122/14.21  
 2010/0184366 A1 7/2010 Hassenstab  
 2010/0300377 A1 12/2010 Buescher et al.  
 2011/0168284 A1 7/2011 Whitford et al.  
 2011/0294412 A1 \* 12/2011 Vagedes ..... F24F 7/02  
 454/242  
 2012/0212883 A1 8/2012 Hargreaves et al.  
 2012/0255267 A1 \* 10/2012 Ehrensberger ..... F24C 15/2035  
 55/385.7  
 2013/0078903 A1 \* 3/2013 Mantyla ..... F24F 7/02  
 454/367  
 2013/0115871 A1 \* 5/2013 Bourque ..... F24F 7/02  
 454/365  
 2014/0144395 A1 5/2014 Blessing et al.  
 2015/0053151 A1 2/2015 Graff  
 2015/0219363 A1 8/2015 Bridegum  
 2015/0220091 A1 8/2015 Koopman

OTHER PUBLICATIONS

Control Damper—Model 612, image post date 1955, site visited Jun. 11, 2016, (online), <<http://www.safeair-dowco.com/product/612.pdf>>.\*  
 Dampers—Air Measuring Products—Access Doors, image post date Apr. 18, 2005-Nov. 18, 2014, site visited Jun. 11, 2016, (online), <<http://www.deicontrols.com/dampers/>>.\*  
 SPM-F series Air regulation damper, image post date Jan. 14, 2014, site visited Jun. 11, 2016, (online), <<https://www.tineye.com/search/1d120de9ed460d7685f82916e431107f690f1824/>>.\*  
 Louvre Dampers, image post date Mar. 2010, site visited Jun. 11, 2016, (online), <<http://pumps.kerrpump.com/Asset/Damper.pdf>>.\*  
 Nordyne, “Direct Vent (Sealed Combustion) Forced Air Gas Furnaces,” installation instructions (2004) pp. 1-36.  
 Motorized damper, image post date May 22, 2012, site visited Jun. 11, 2016, (online), <<https://www.tineye.com/search/585a79138b8552a0de2f919391f5c3daa879a9eb/>>.\*  
 Residential Product Catalog, image post date May 2011, site visited Jun. 11, 2016, (online), <[http://www.cleanwaterpa.com/sites/default/files/u\\_1/pdf/IA0%20SMITH%20water%20heater%20catalog.pdf](http://www.cleanwaterpa.com/sites/default/files/u_1/pdf/IA0%20SMITH%20water%20heater%20catalog.pdf)>.\*  
 Yamaha R6 OEM ECU CDI Engine Control Unit Module Computer YZF-R6, image post date 2008, site visited Jun. 22, 2016, (online), <[http://www.ebay.co.uk/itm/272262109754?clk\\_rvr\\_id=1050641016140&rmvSB=true](http://www.ebay.co.uk/itm/272262109754?clk_rvr_id=1050641016140&rmvSB=true)>.\*

\* cited by examiner

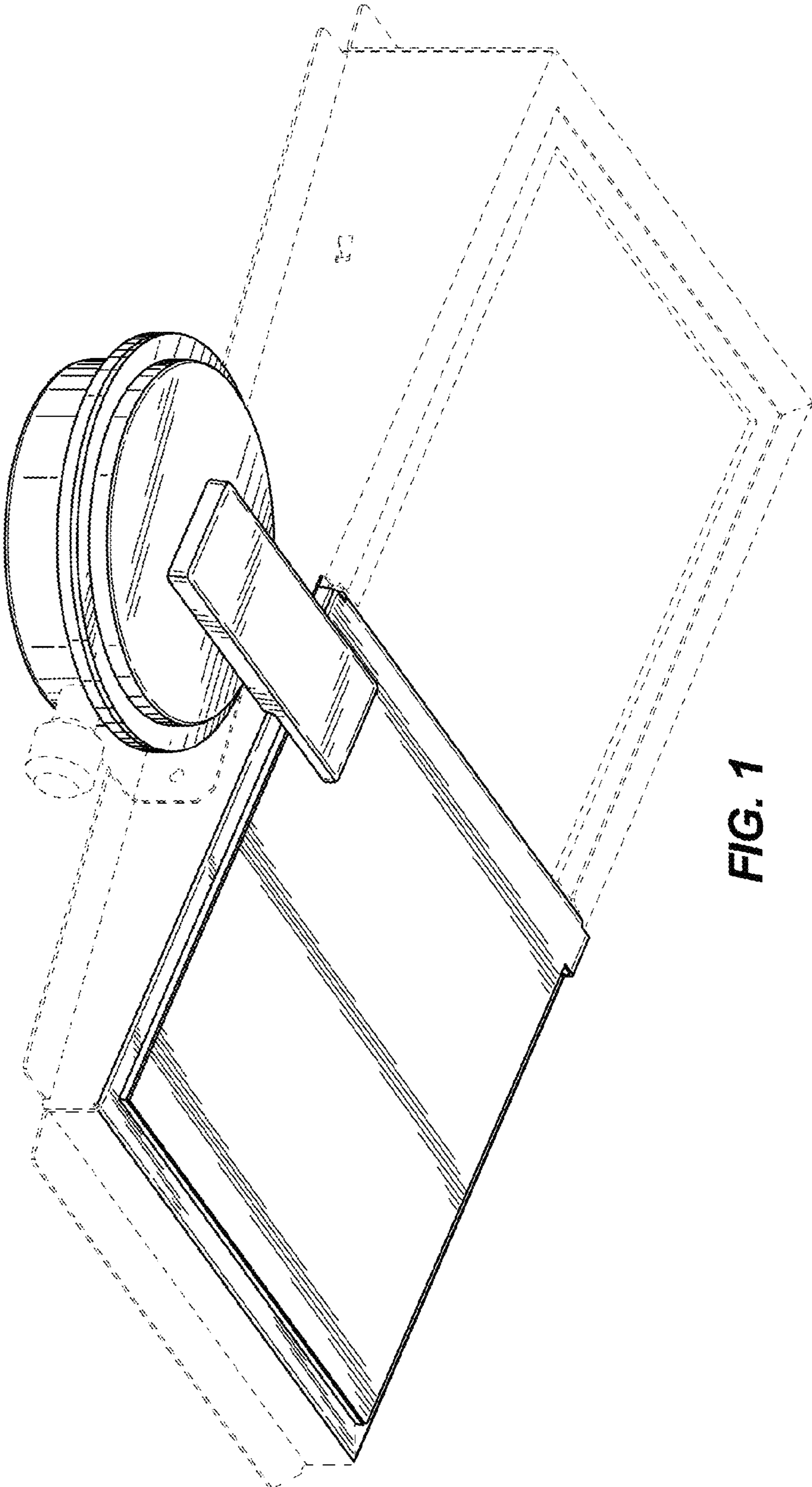
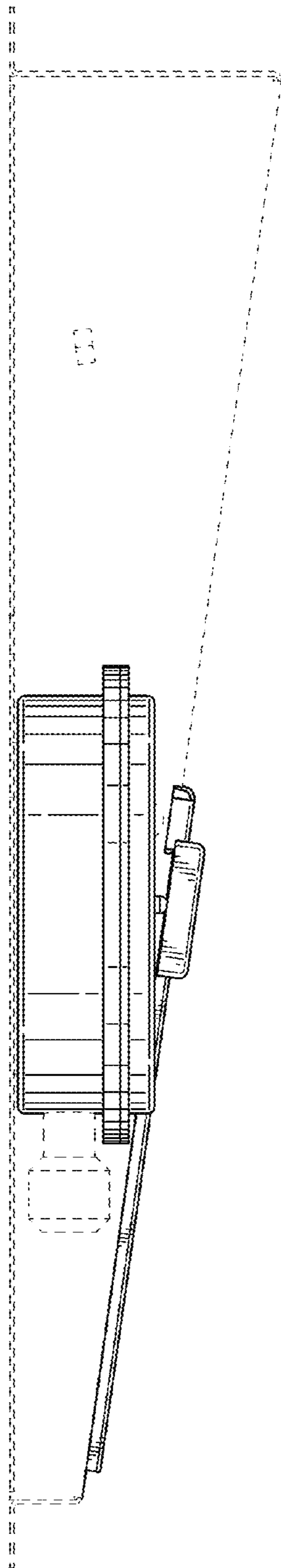
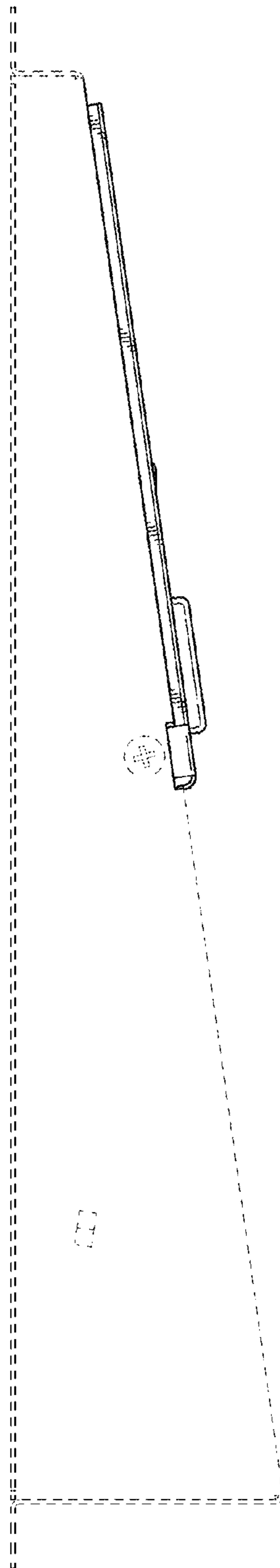


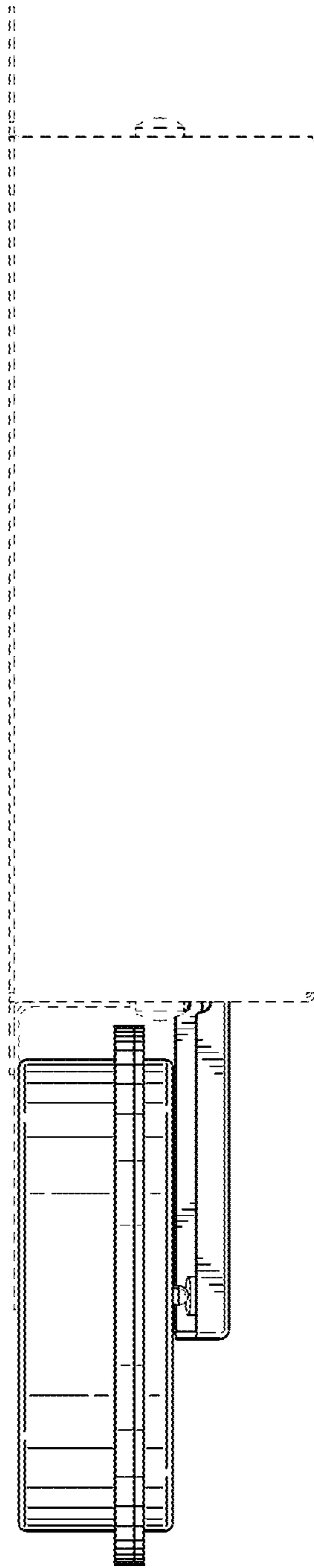
FIG. 1



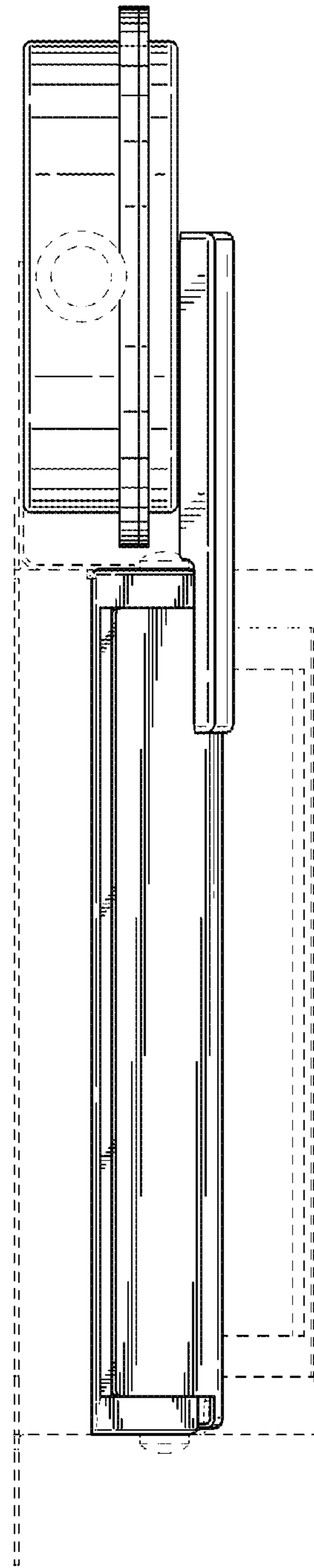
**FIG. 2**



**FIG. 3**



**FIG. 4**



**FIG. 5**



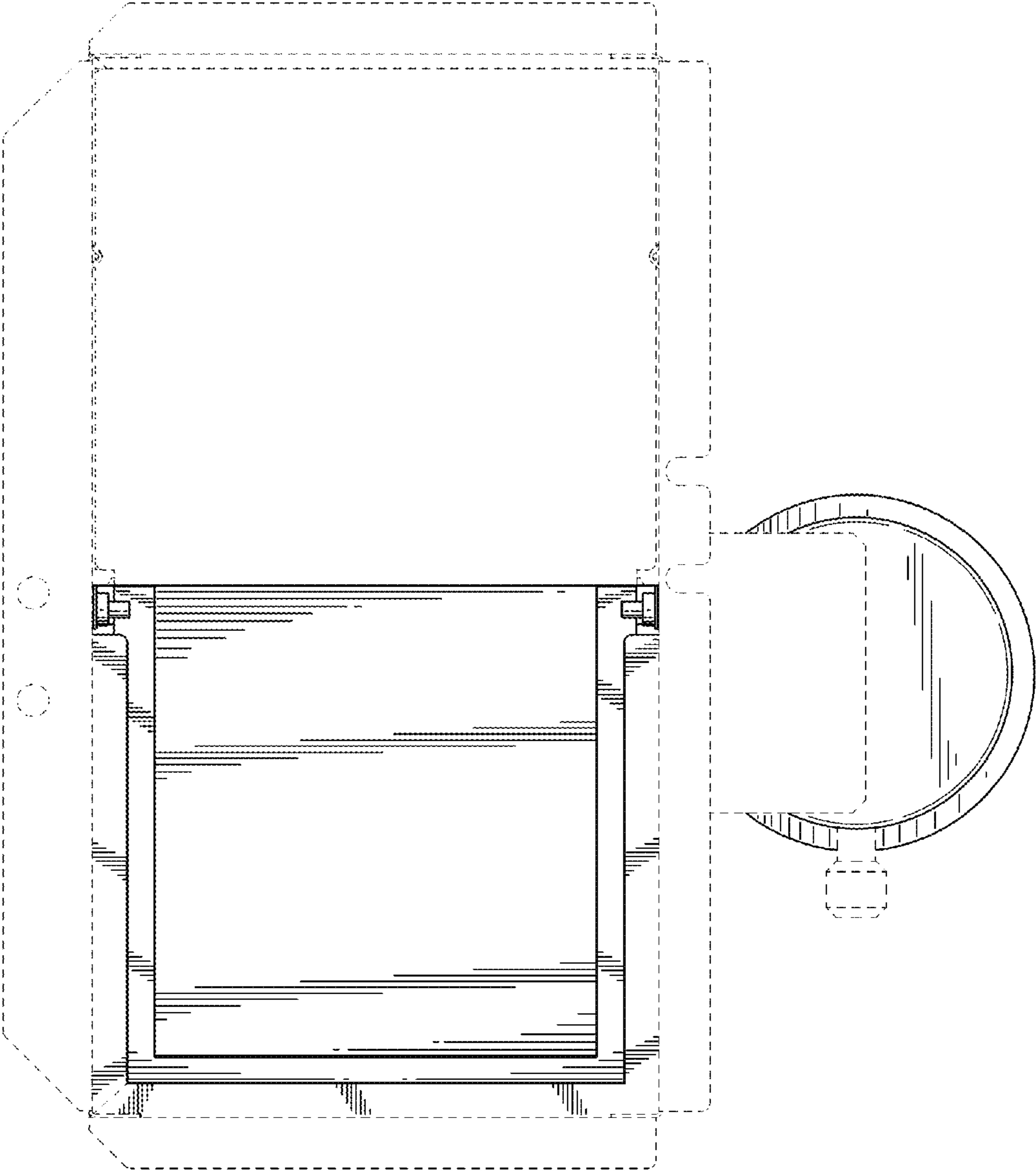
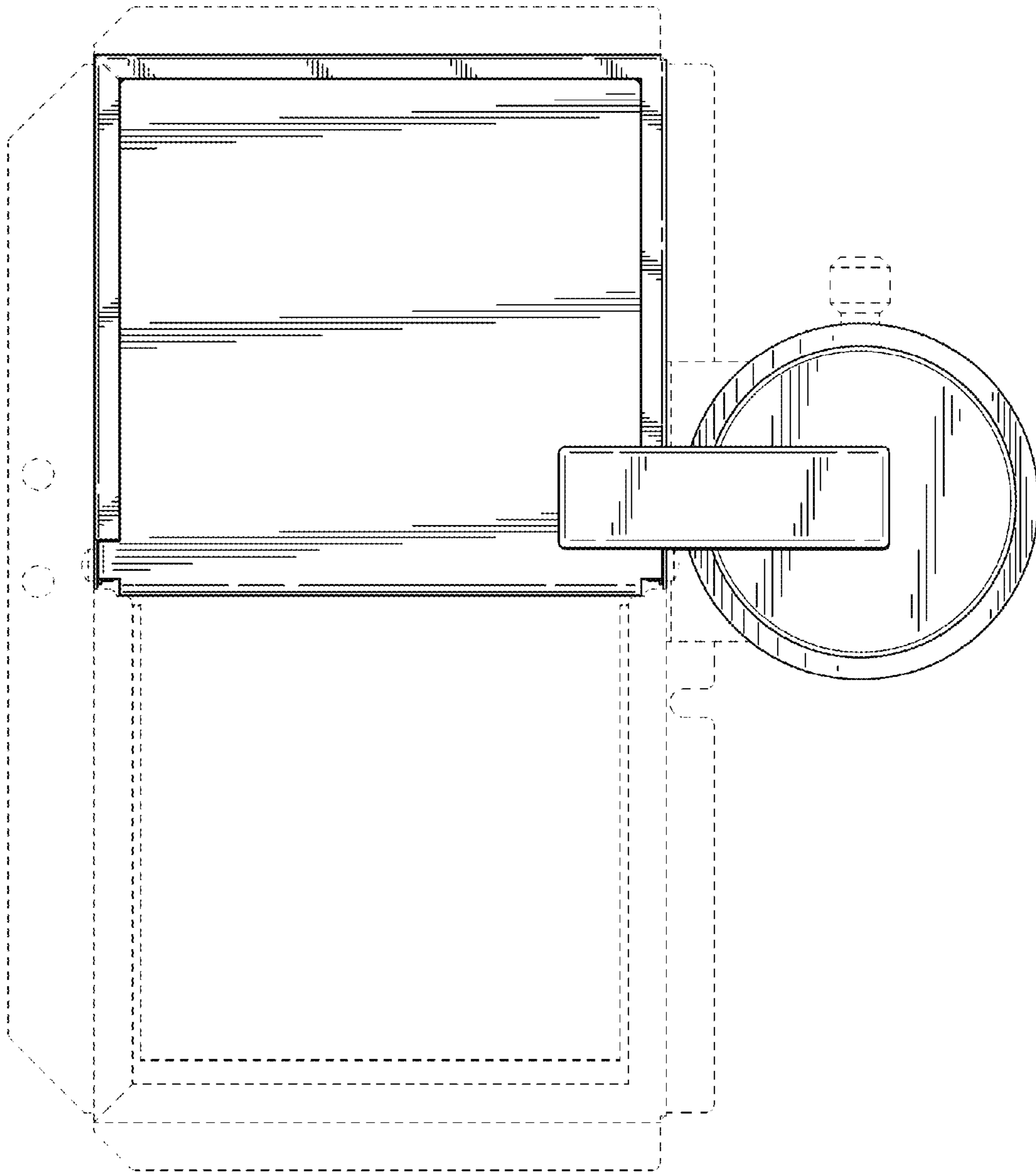


FIG. 6



**FIG. 7**