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(12) **United States Design Patent** (10) **Patent No.:** **US D844,766 S**
Miao et al. (45) **Date of Patent:** **** Apr. 2, 2019**

(54) **AIR PURIFIER**

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(52) **U.S. Cl.**
USPC **D23/364**

(58) **Field of Classification Search**
USPC D23/355-366, 352, 369, 332, 333, 335, D23/336, 342, 351; 422/120, 122; 55/356, 473, 504; 96/97; D14/188, 170, D14/172; 261/DIG. 17, DIG. 65, 261/DIG. 88, DIG. 31; D18/34.6
CPC .. A61L 9/16; A61L 9/22; B01D 47/00; B01D 47/027; B01D 2221/02; B01D 2259/4508; B03C 3/155; B03C 3/368; F24F 3/16; F24F 13/20; F24F 13/28; F24F 3/1405; F24F 3/1603; F24F 13/222
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D121,565 S * 7/1940 Evans D23/342
D144,654 S * 5/1946 Wilson D23/342
5,447,663 A * 9/1995 Dix F24F 6/00
261/104
D440,292 S * 4/2001 Kip D23/364
D549,811 S * 8/2007 Chen D23/359

D556,309 S * 11/2007 Chiu D23/333
D572,810 S * 7/2008 Chiu D23/333
D606,184 S * 12/2009 Chiu D23/359
D621,019 S * 8/2010 Kim D23/356
D638,923 S * 5/2011 Choi D23/364
D664,247 S * 7/2012 Paterson D23/364
D664,248 S * 7/2012 Huang D23/364
D673,665 S * 1/2013 Langford D23/359
D683,439 S * 5/2013 Choi D23/364
D705,410 S * 5/2014 Terao D23/364
D715,913 S * 10/2014 Schouten A61L 9/12
D23/366
D728,089 S * 4/2015 Crisa' D23/366

(Continued)

FOREIGN PATENT DOCUMENTS

CN 302490324 7/2013
CN 302782510 4/2014

(Continued)

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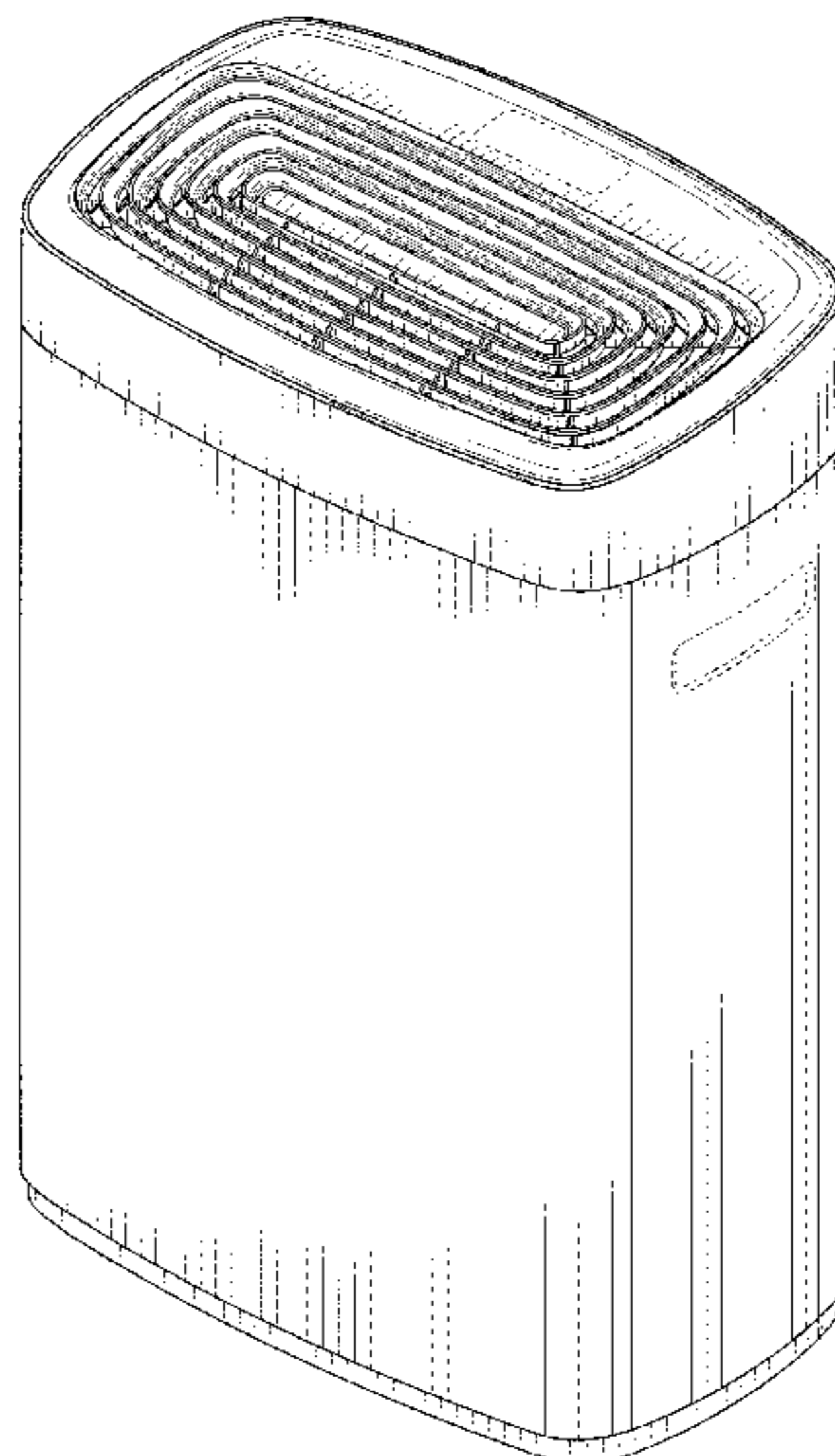
(57) **CLAIM**

The ornamental design for an air purifier, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view showing the new design for an air purifier;
FIG. 2 is a front elevation view thereof;
FIG. 3 is a rear elevation view thereof;
FIG. 4 is a left side elevation view thereof;
FIG. 5 is a right side elevation view thereof;
FIG. 6 is a top plan view thereof; and,
FIG. 7 is a bottom plan view thereof.
The portions of the air purifier in FIGS. 1-7 shown in broken lines are included to show features that form no part of the claimed design.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D729,919 S * 5/2015 Yeom D23/359
 D741,465 S * 10/2015 Satou D23/364
 D741,466 S * 10/2015 Satou D23/364
 D749,202 S * 2/2016 Satou D23/364
 D750,209 S * 2/2016 Satou D23/364
 D754,831 S * 4/2016 Yin D23/359
 D755,942 S * 5/2016 Kim D23/364
 D766,415 S * 9/2016 Kim D23/364
 D773,027 S * 11/2016 Hu D23/365
 D780,900 S * 3/2017 Dichraff D23/364
 D790,050 S * 6/2017 Shin D23/364
 D793,543 S * 8/2017 Alnaæs D23/364
 D797,913 S * 9/2017 Asvaintra D23/351
 D802,112 S * 11/2017 Jeon D23/364
 D803,368 S * 11/2017 Priester D23/364
 D807,997 S * 1/2018 Seo D23/364
 D827,799 S * 9/2018 Shin D23/364

2005/0200031 A1* 9/2005 Campbell F24F 6/02
 261/72.1
 2015/0159890 A1* 6/2015 Chang F24F 3/1405
 62/515
 2016/0169542 A1* 6/2016 Yoon F24F 13/20
 261/72.1
 2018/0172290 A1* 6/2018 Zhou F24F 3/153
 2018/0290103 A1* 10/2018 Choi B01D 46/00

FOREIGN PATENT DOCUMENTS

CN 302889980 7/2014
 CN 302896488 7/2014
 CN 303096616 2/2015
 CN 303591843 2/2016
 JP D1561709 10/2016
 KR 300667867 11/2012
 KR 300798528 6/2015
 KR DM086788 9/2016
 KR 300924066 9/2017

* cited by examiner

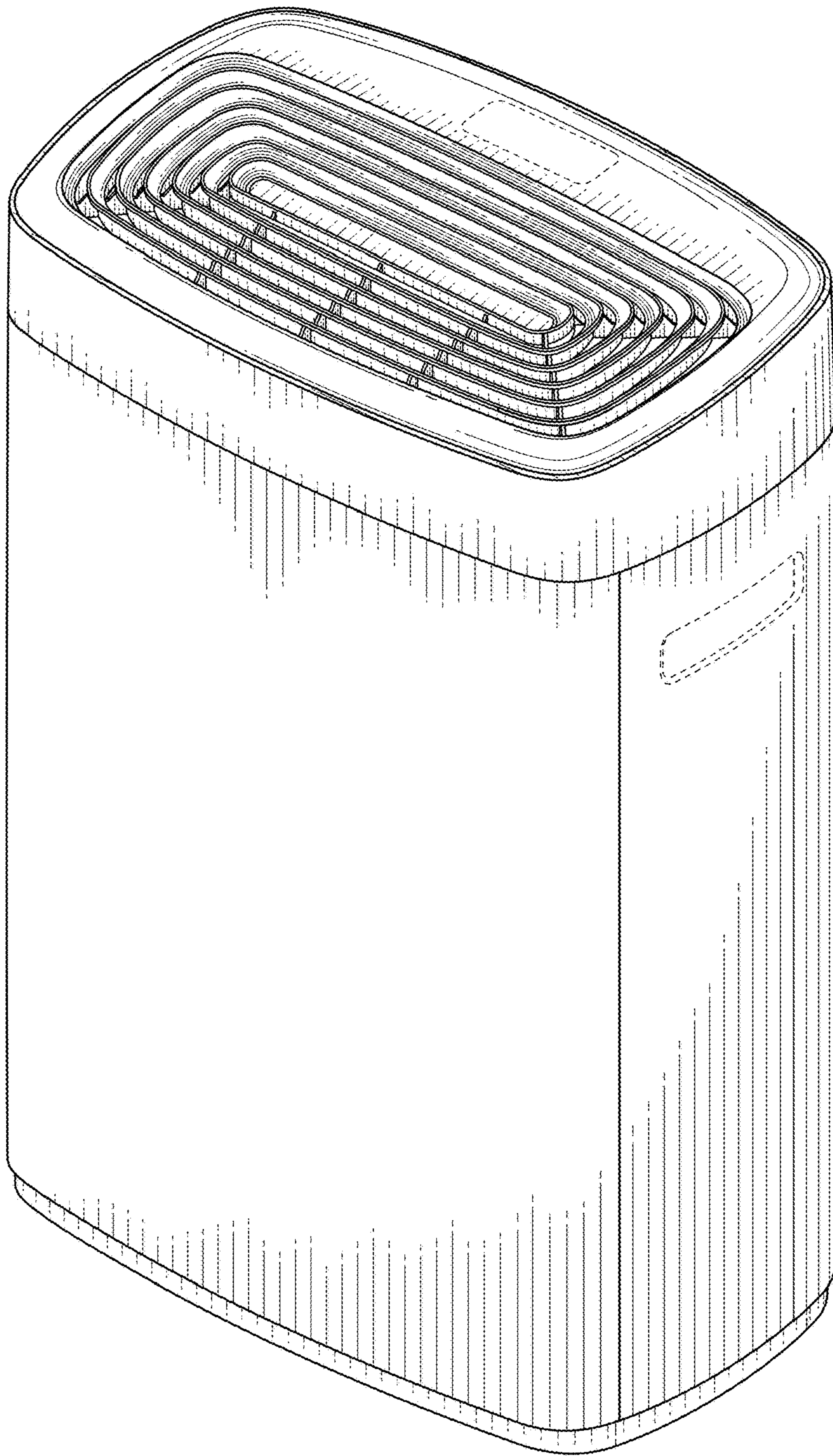


FIG. 1

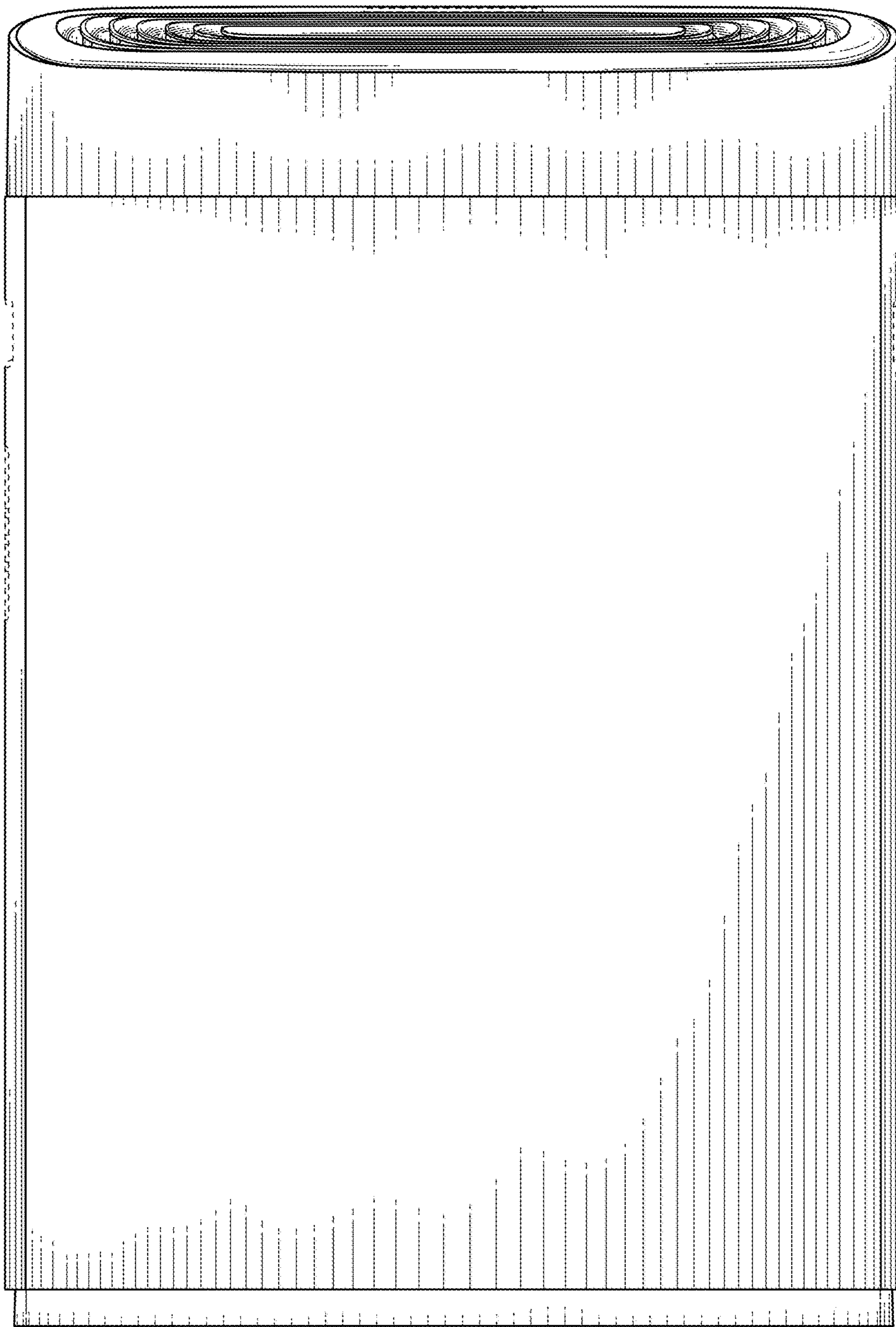


FIG. 2

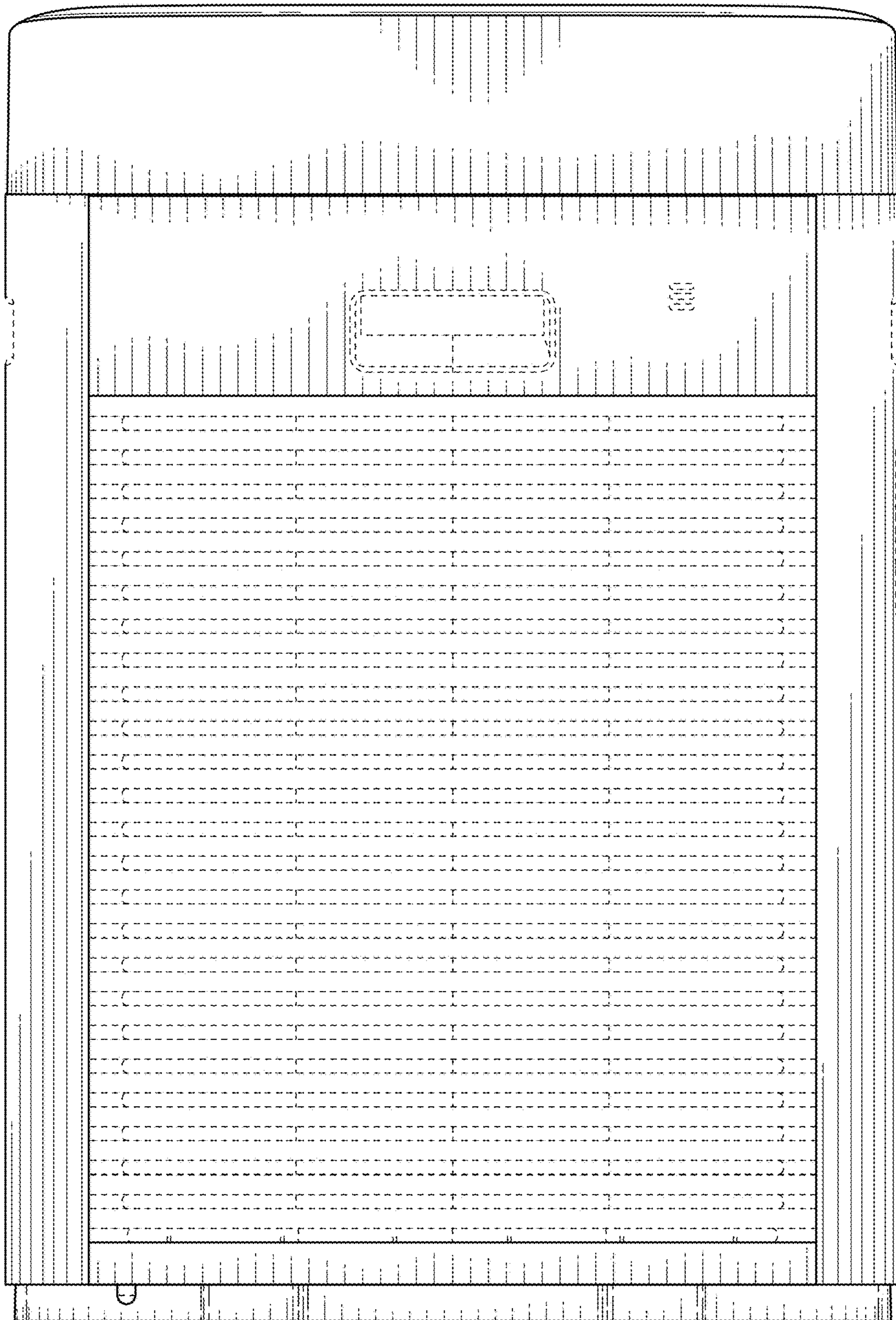


FIG. 3

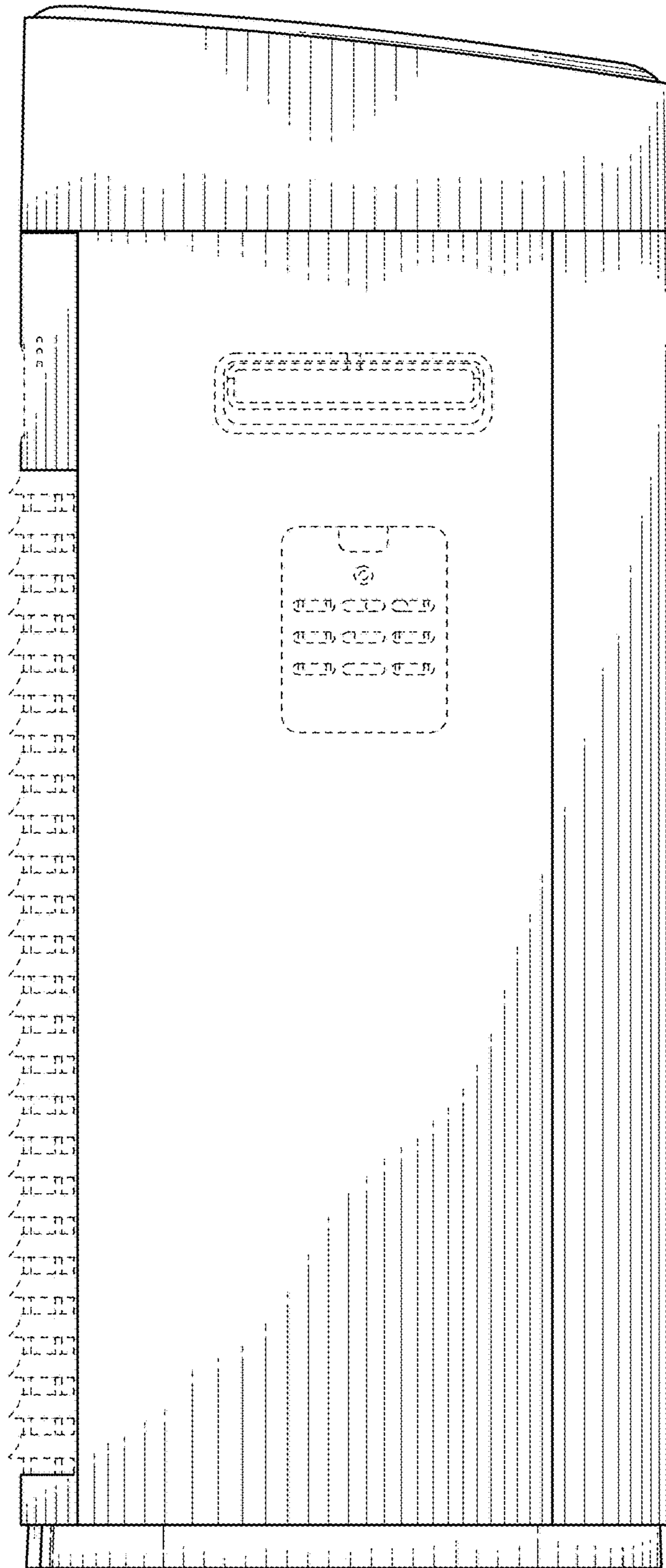


FIG. 4

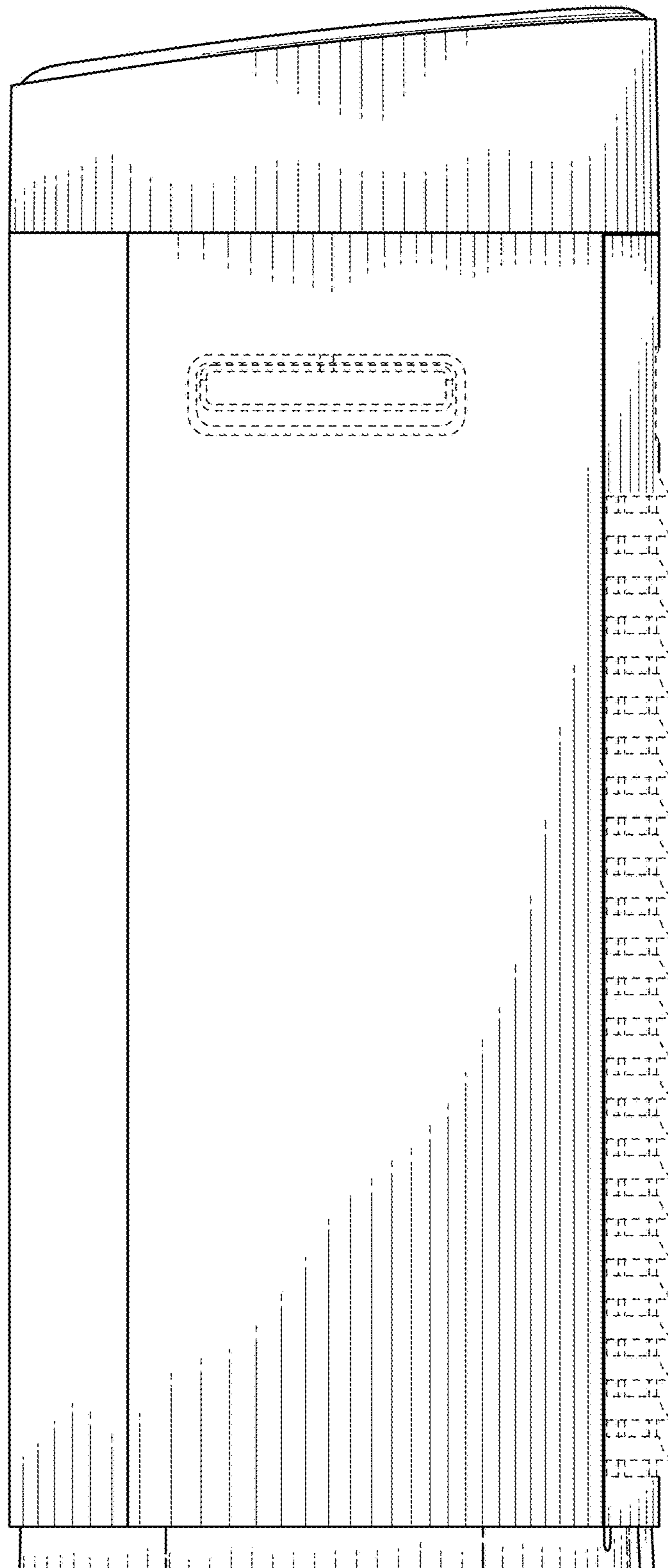


FIG. 5

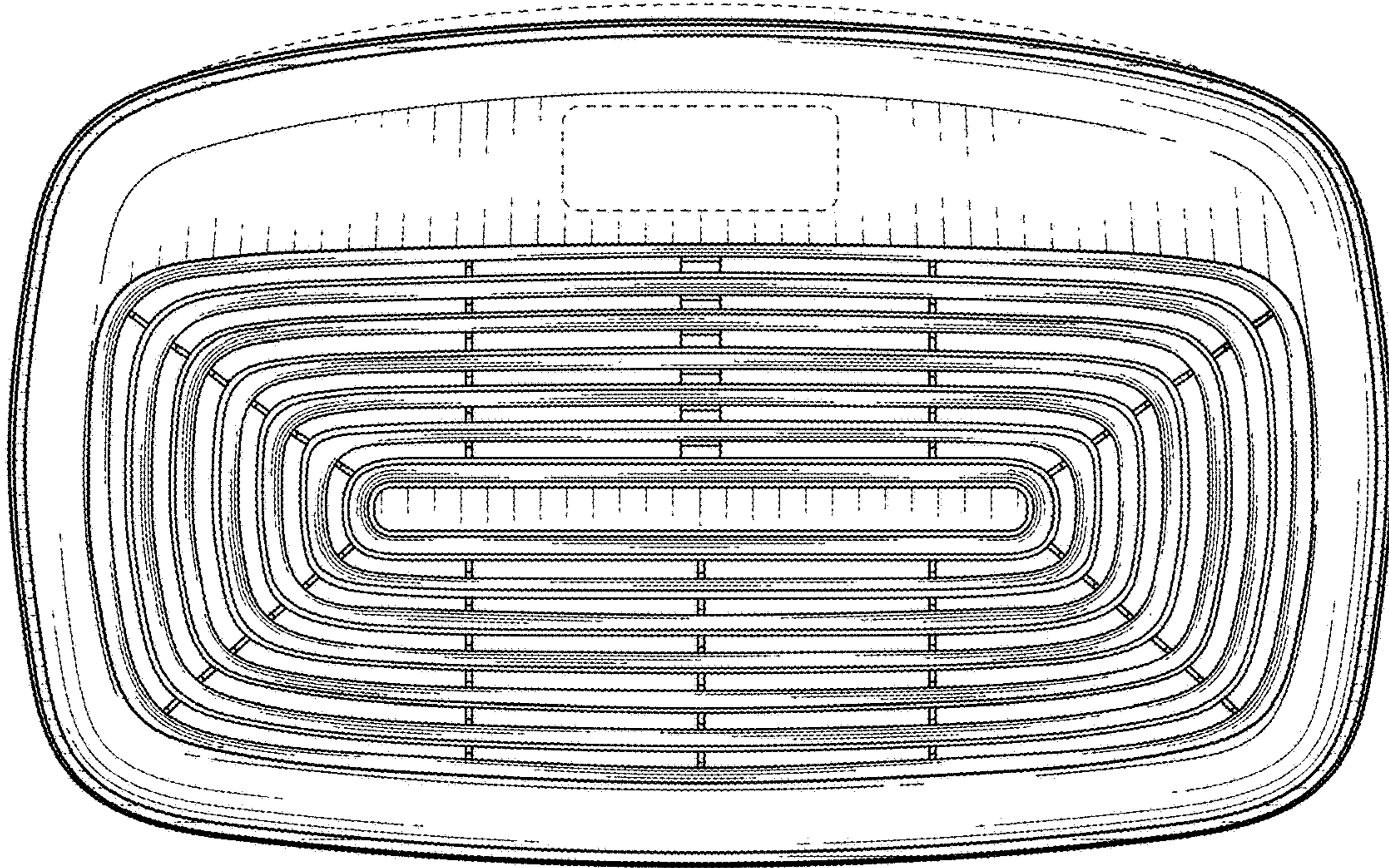


FIG. 6

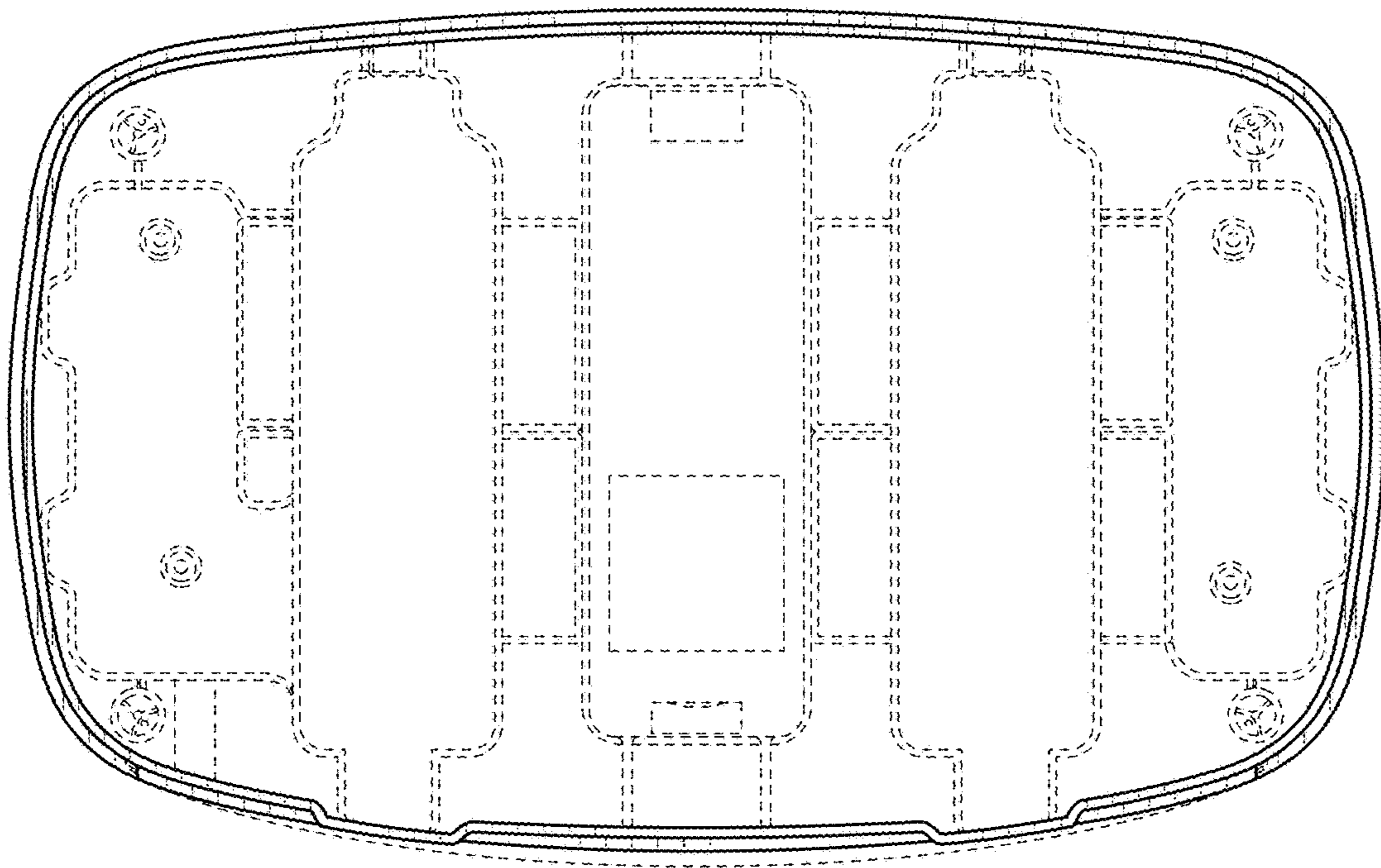


FIG. 7