



US0D1089626S

(12) **United States Design Patent** (10) **Patent No.:** **US D1,089,626 S**
Sing et al. (45) **Date of Patent:** **** Aug. 19, 2025**

(54) **AIR PULSE GENERATOR HOUSING**

FOREIGN PATENT DOCUMENTS

(71) Applicant: **Hill-Rom Services PTE. LTD.,**
Singapore (SG)

GB	6237888	*	11/2022
GB	6237889	*	11/2022
JP	D1604993	*	5/2018

(72) Inventors: **Jack Barney Sing**, Batesville, IN (US);
Mathieu Bernard, Pluvigner (FR);
Barry Eng Keong Tay, Singapore
(SG); **Wei Bian**, Singapore (SG);
Stacey Reuland, St. Paul, MN (US)

OTHER PUBLICATIONS

Baxter The Vest APX Airway Clearance System brochure. Pub.
date: May 2024. Retrieval date: Dec. 10, 2024. Retrieved from
internet: <https://www.hillrom.com/content/dam/hillrom-aem/us/en/marketing/products/vest-apx-system/documents/US-FLC201-240006-v1-0-The-Vest-APX-System-Adult-Patient-Brochure.pdf> (Year: 2024).*

(Continued)

(73) Assignee: **Hill-Rom Services PTE. LTD.,**
Singapore (SG)

Primary Examiner — Daniel J Domino

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

Assistant Examiner — Lee D. Starr

(21) Appl. No.: **29/835,390**

(74) *Attorney, Agent, or Firm* — Barnes & Thornburg
LLP

(22) Filed: **Apr. 19, 2022**

(51) **LOC (15) Cl.** **24-01**

(52) **U.S. Cl.**
USPC **D24/164; D24/110**

(58) **Field of Classification Search**

USPC D24/110, 107, 108, 164, 185, 186;
D23/356, 364, 366
CPC A61M 16/0063; A61M 16/021; A61M
16/10; A61M 16/1005; A61M 16/101;
A61M 16/102; A61M 16/1025; A61M
16/1075; A61M 2205/3331; A61M
2205/3334; A61M 2205/3344; A61M
16/08; A61M 16/0875; A61M 16/0883

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,806,102	A	*	4/1974	Valenta	A61M 16/16
						261/DIG. 65
D284,026	S	*	5/1986	McCombs	D24/164
4,856,968	A		8/1989	Armbruster		

(Continued)

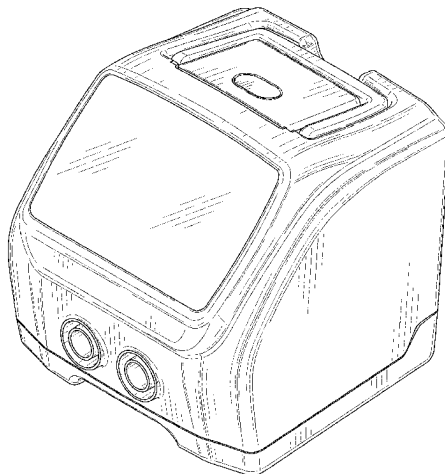
(57) **CLAIM**

The ornamental design for an air pulse generator housing, as
shown and described.

DESCRIPTION

FIG. 1 is an isometric view of an air pulse generator housing
in accordance with our design;
FIG. 2 is a front elevation view of the air pulse generator
housing of FIG. 1;
FIG. 3 is a rear elevation view of the air pulse generator
housing of FIG. 1;
FIG. 4 is a first side elevation view of the air pulse generator
housing of FIG. 1;
FIG. 5 is a second side elevation view of the air pulse
generator housing of FIG. 1;
FIG. 6 is a top plan view of the air pulse generator housing
of FIG. 1;
FIG. 7 is a bottom plan view of the air pulse generator
housing of FIG. 1; and,
FIG. 8 is another isometric view of the air pulse generator
housing of FIG. 1.

(Continued)



The broken lines shown in the figures depict portions that form no part of the claimed design.

1 Claim, 8 Drawing Sheets

(56)

References Cited

U.S. PATENT DOCUMENTS

4,986,269 A 1/1991 Hakkinen
 5,117,819 A 6/1992 Servidio et al.
 D348,927 S * 7/1994 Attolini D24/110
 5,673,687 A 10/1997 Dobson et al.
 D386,564 S 11/1997 Mycroft
 5,715,812 A 2/1998 Deighan et al.
 D400,239 S 10/1998 Miller et al.
 D421,298 S 2/2000 Kenyon et al.
 D427,675 S 7/2000 Hansel
 D453,560 S 2/2002 Van Brunt
 D454,393 S 3/2002 Lynch et al.
 D468,011 S 12/2002 Lithgow et al.
 D487,311 S 3/2004 Lithgow et al.
 D498,528 S 11/2004 Van Brunt et al.
 6,817,363 B2 11/2004 Biondo et al.
 D504,945 S * 5/2005 Van Brunt D24/110
 7,115,104 B2 10/2006 Van Brunt et al.
 7,121,808 B2 10/2006 Van Brunt et al.
 D547,718 S 7/2007 Helgeson et al.
 7,425,203 B2 9/2008 Van Brunt et al.
 D585,540 S * 1/2009 Lithgow D24/110
 D585,991 S 2/2009 Helgeson et al.
 7,491,182 B2 2/2009 Van Brunt
 7,582,065 B2 9/2009 Van Brunt et al.
 7,615,017 B2 11/2009 Van Brunt et al.
 7,713,219 B2 5/2010 Helgeson et al.
 8,038,633 B2 10/2011 Van Brunt et al.
 8,108,957 B2 2/2012 O'Neal et al.
 D658,283 S * 4/2012 Burz D24/110
 8,192,381 B2 6/2012 Nozzarella
 8,257,288 B2 9/2012 Hansen et al.
 8,460,223 B2 6/2013 Huster et al.
 D696,393 S * 12/2013 Lu D24/110

8,708,937 B2 4/2014 Van Brunt et al.
 D708,733 S * 7/2014 Ng D24/110
 D734,446 S 7/2015 Salmon et al.
 D735,865 S * 8/2015 Nishimura D24/164
 D742,013 S 10/2015 Helgeson et al.
 D753,812 S * 4/2016 Salmon D24/110
 D798,437 S * 9/2017 Buckley D24/110
 D809,124 S * 1/2018 Bertinetti D24/164
 9,968,511 B2 5/2018 Huster et al.
 D857,189 S 8/2019 Formica et al.
 D877,321 S 3/2020 Dimatteo et al.
 D892,303 S 8/2020 Formica et al.
 D894,369 S 8/2020 Salmon et al.
 10,905,836 B2 2/2021 Lacy et al.
 11,110,028 B2 9/2021 Huster et al.
 12,186,487 B2 * 1/2025 Wang A61M 16/0003
 12,280,207 B2 * 4/2025 Sing A61M 16/201
 2004/0031756 A1 * 2/2004 Suzuki A61M 1/282
 2013/0263854 A1 * 10/2013 Taylor A61M 16/0066
 2013/0333701 A1 * 12/2013 Herron A61M 16/1095
 2018/0243518 A1 * 8/2018 Sing A61M 16/0683
 2019/0117097 A1 * 4/2019 Aung A61B 5/02405
 2020/0009346 A1 * 1/2020 Wang A61M 16/105
 2021/0137779 A1 5/2021 Chhua et al.
 2021/0187223 A1 6/2021 Noaeill et al.
 2022/0168522 A1 * 6/2022 Xu A61M 16/125
 2023/0099402 A1 * 3/2023 Koh A61H 31/00
 2023/0116467 A1 * 4/2023 Ayu A61H 9/0078
 2024/0024188 A1 * 1/2024 Barilea F04B 39/121
 2024/0252395 A1 * 8/2024 Liew A61H 31/00

OTHER PUBLICATIONS

"How to use InCourage vest therapy" posted by user RespirTech. Youtube. Posting date: May 3, 2017. Retrieval date: Dec. 10, 2024. Retrieved from internet: <https://www.youtube.com/watch?v=mKtdfHBbvQ> (Year: 2017).*

* cited by examiner

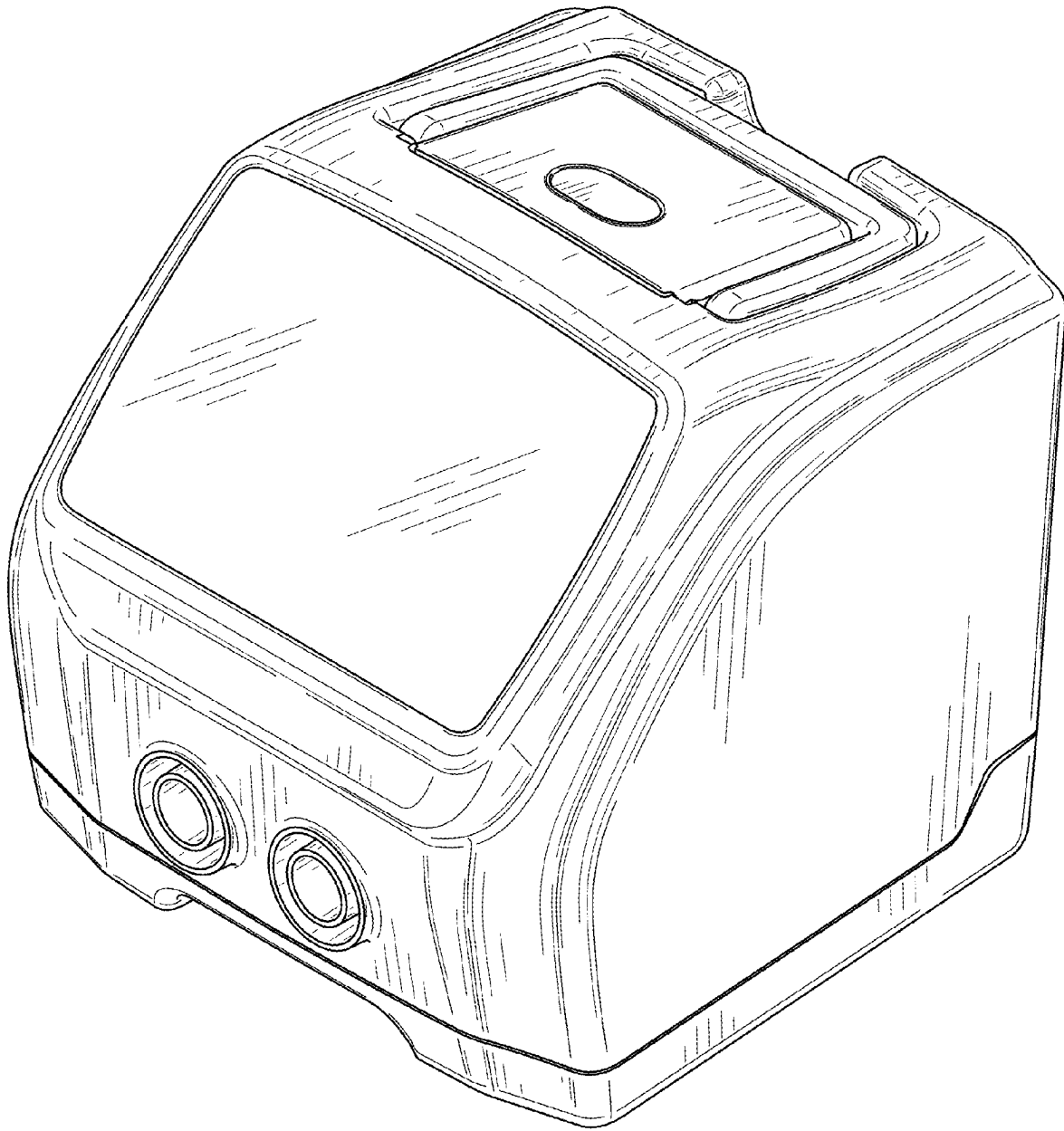


FIG. 1

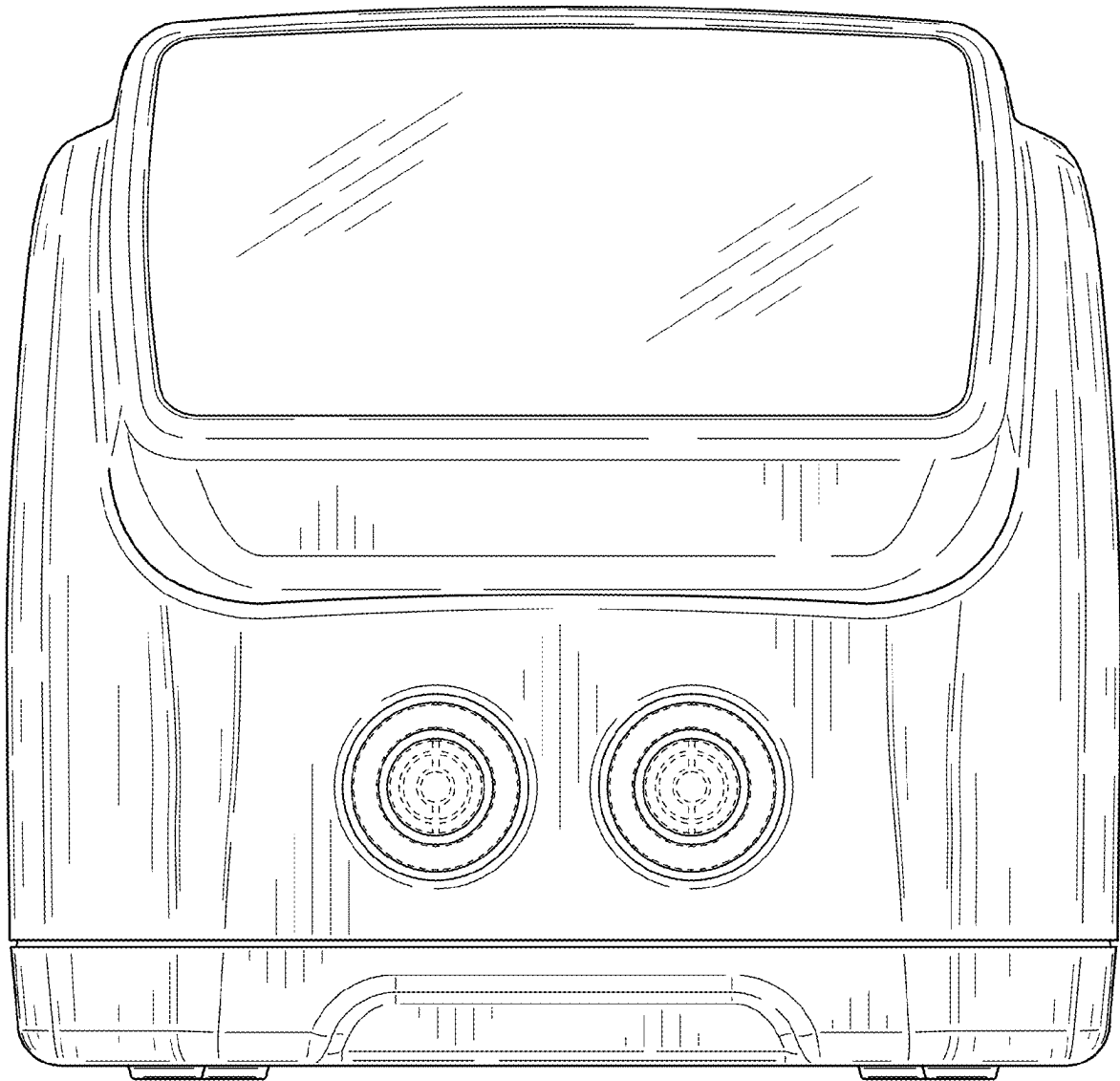


FIG. 2

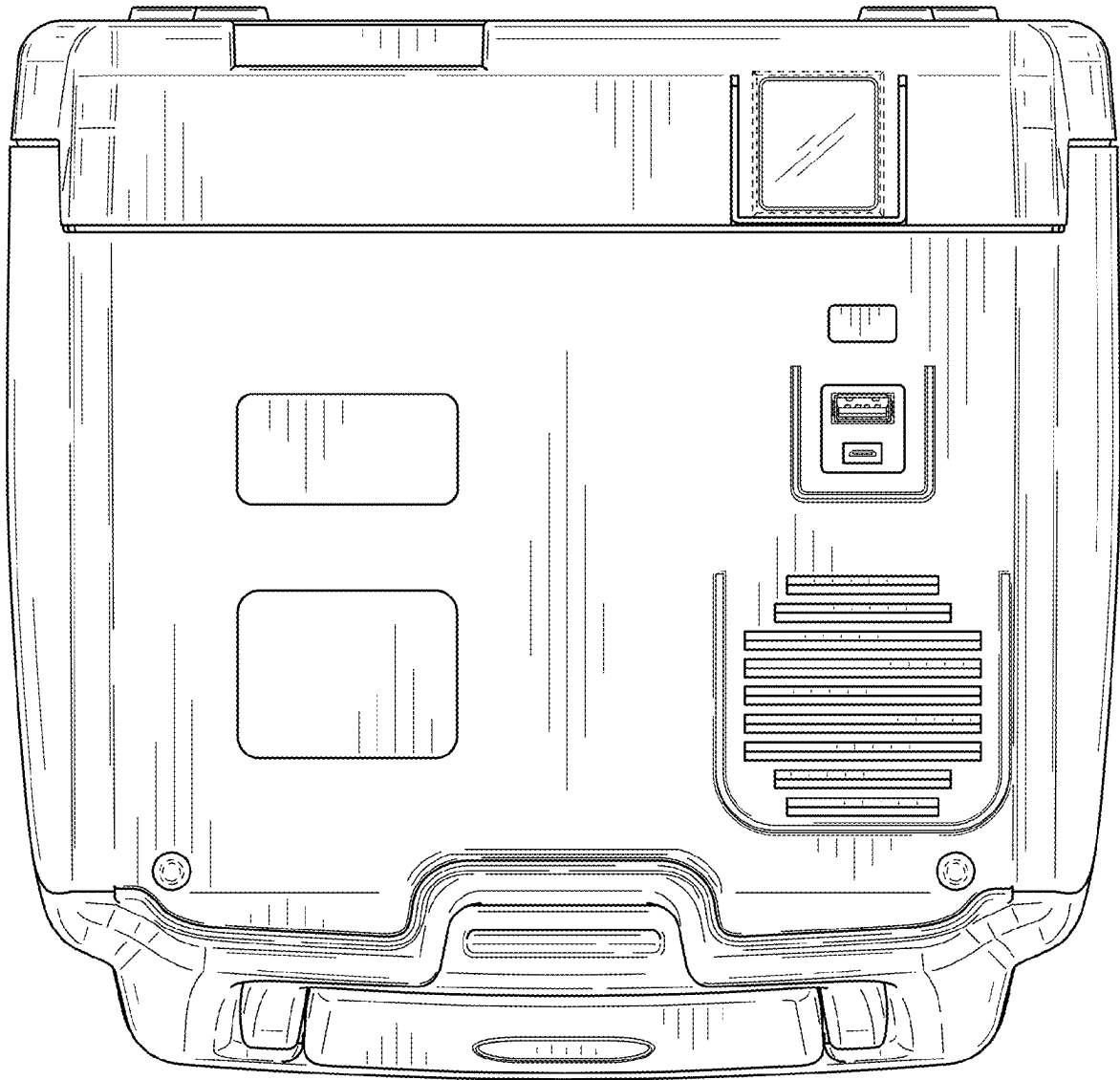


FIG. 3

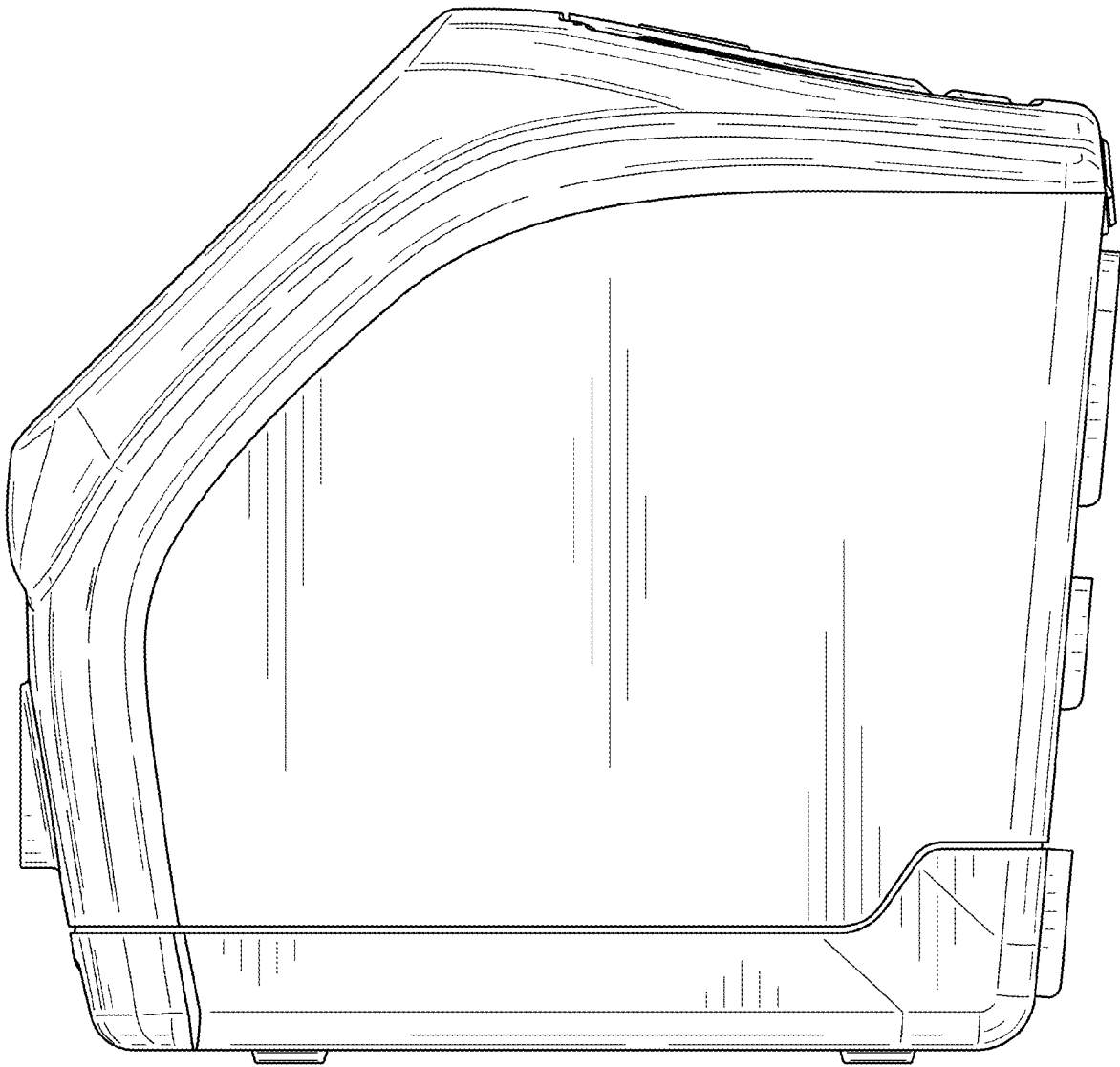


FIG. 4

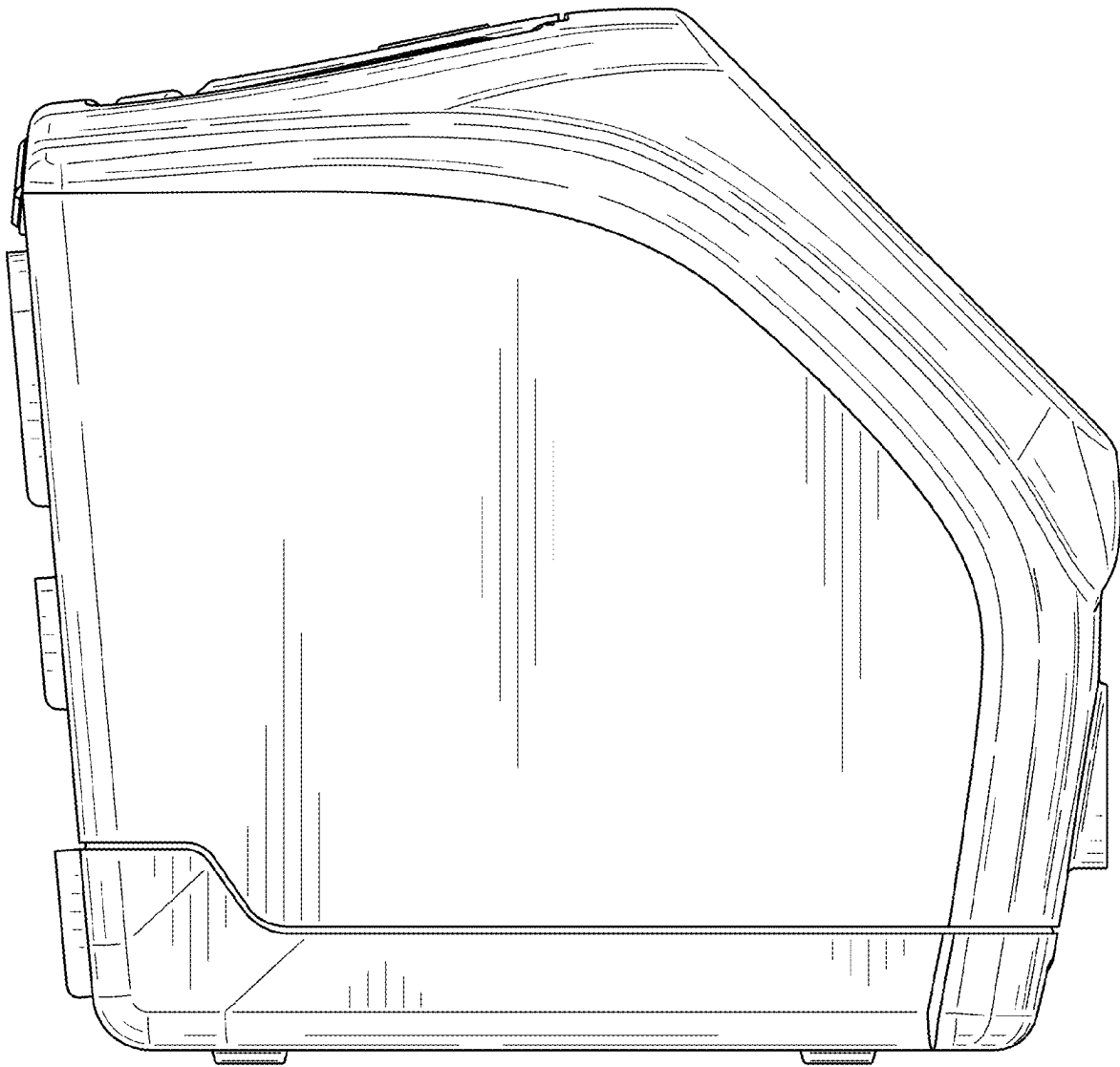


FIG. 5

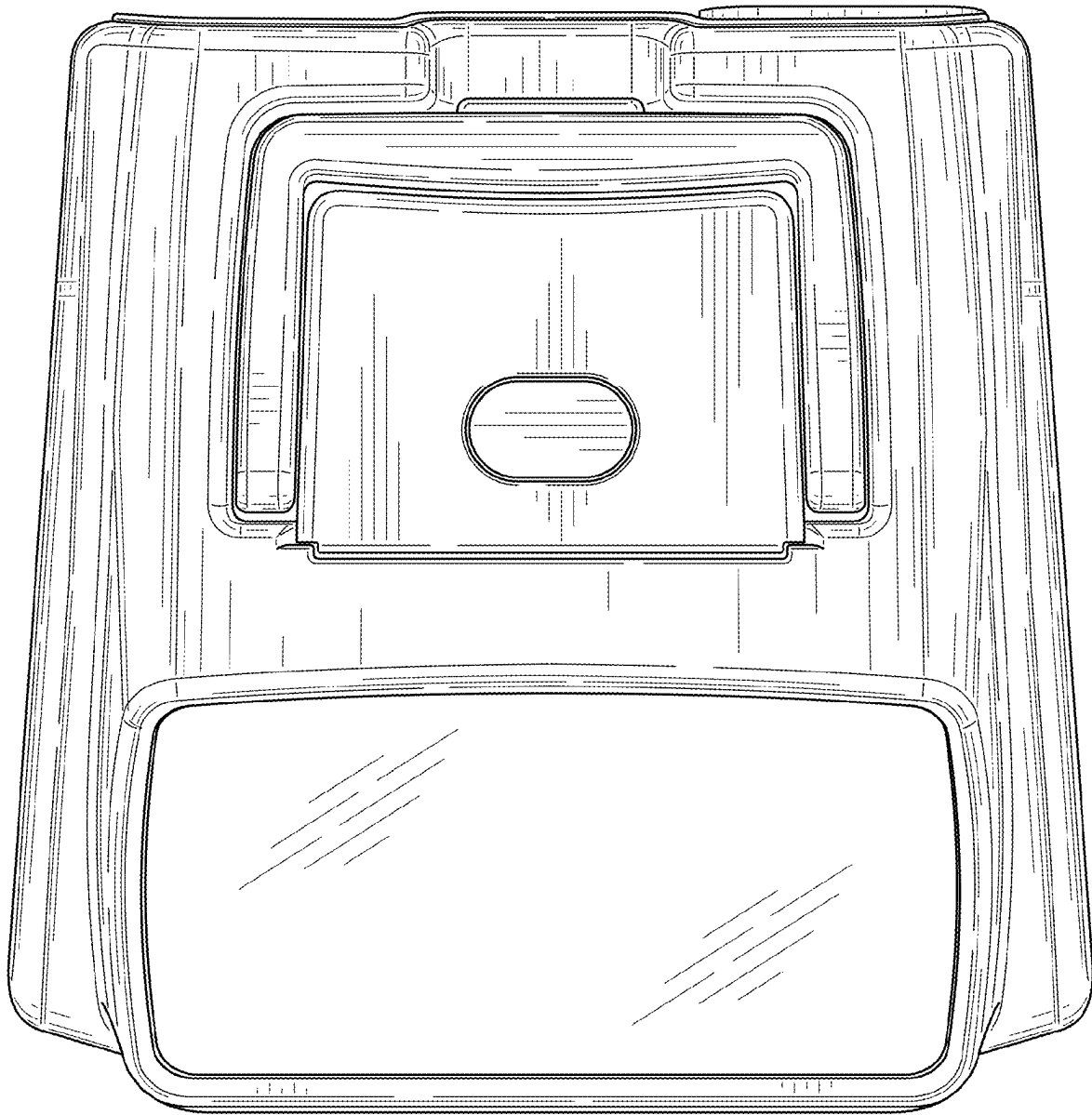


FIG. 6

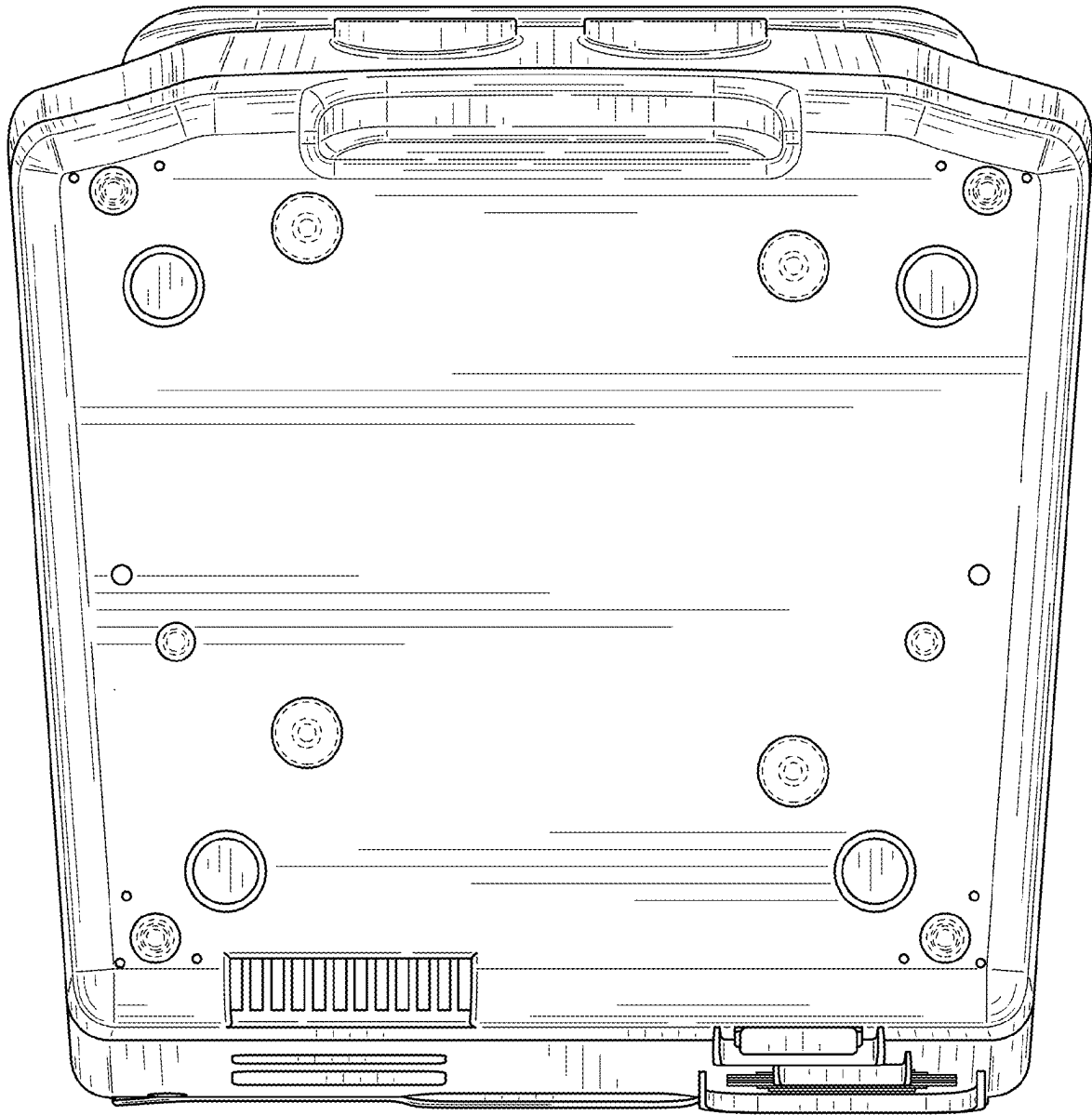


FIG. 7

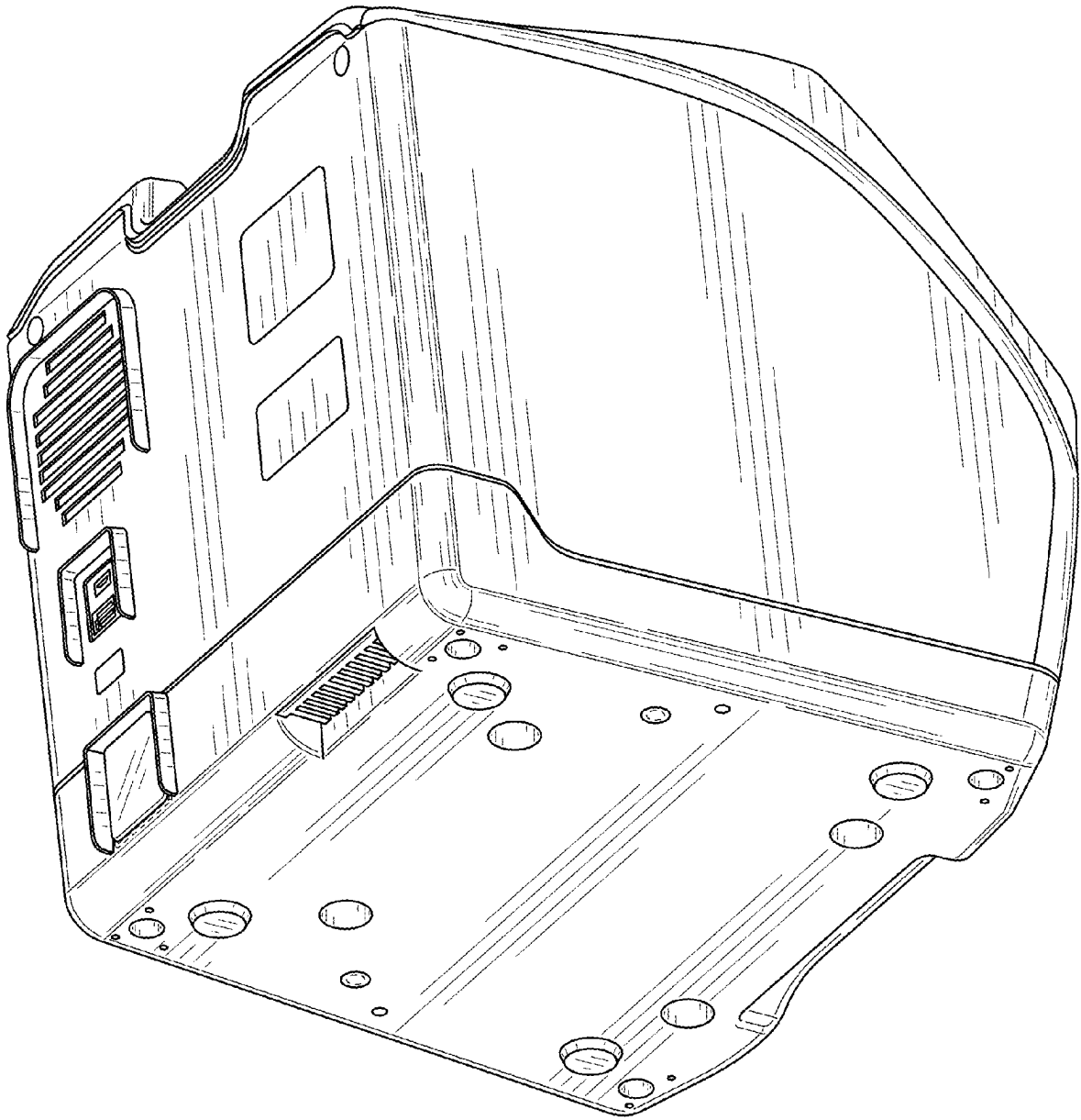


FIG. 8