



US00D752728S

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

(10) **Patent No.:** **US D752,728 S**  
(45) **Date of Patent:** **\*\* Mar. 29, 2016**

- (54) **AIR FILTRATION DEVICE**
- (71) Applicant: **Illinois Tool Works Inc.**, Glenview, IL (US)
- (72) Inventors: **Stephen J. McPhilliamy**, Chicago, IL (US); **Antonio J. Belton**, Richton Park, IL (US); **John S. White, Jr.**, Chicago, IL (US)
- (73) Assignee: **Illinois Tool Works Inc.**, Glenview, IL (US)

- 4,859,220 A 8/1989 Leber et al.
- 4,960,143 A 10/1990 Dore et al.
- D320,071 S 9/1991 Cook
- 5,069,691 A 12/1991 Travis et al.
- 5,120,331 A 6/1992 Landy
- 5,163,818 A 11/1992 Betsill et al.

(Continued)

**FOREIGN PATENT DOCUMENTS**

- CN 101010142 A 8/2007
- WO WO 2006012520 A2 2/2006

**OTHER PUBLICATIONS**

International Search Report and Written Opinion for International Application No. PCT/US2014/024800, mailed Oct. 13, 2014 (16 pages).

(Continued)

- (\*\*) Term: **14 Years**
- (21) Appl. No.: **29/496,382**
- (22) Filed: **Jul. 11, 2014**

**Related U.S. Application Data**

- (63) Continuation of application No. 29/449,570, filed on Mar. 15, 2013, now Pat. No. Des. 732,647.
- (51) **LOC (10) Cl.** ..... **23-04**
- (52) **U.S. Cl.**  
USPC ..... **D23/364**
- (58) **Field of Classification Search**  
USPC ..... D23/364, 365, 209, 363, 358, 386, 354, D23/341; 55/385.3, 502, 497, 506, 505, 55/521, 495, 422, 493, DIG. 30; 210/435, 210/130, 136, 248, 339, 448, 452, 497.1; D15/5

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

- 3,780,260 A 12/1973 Elsner
- 4,560,477 A 12/1985 Moldow
- 4,629,482 A 12/1986 Davis
- 4,658,707 A 4/1987 Hawkins et al.
- 4,772,297 A 9/1988 Anzai
- 4,786,295 A 11/1988 Newman et al.

*Primary Examiner* — David Muller

*Assistant Examiner* — Nathan Johnston

(74) *Attorney, Agent, or Firm* — Neal, Gerber & Eisenberg LLP

(57) **CLAIM**

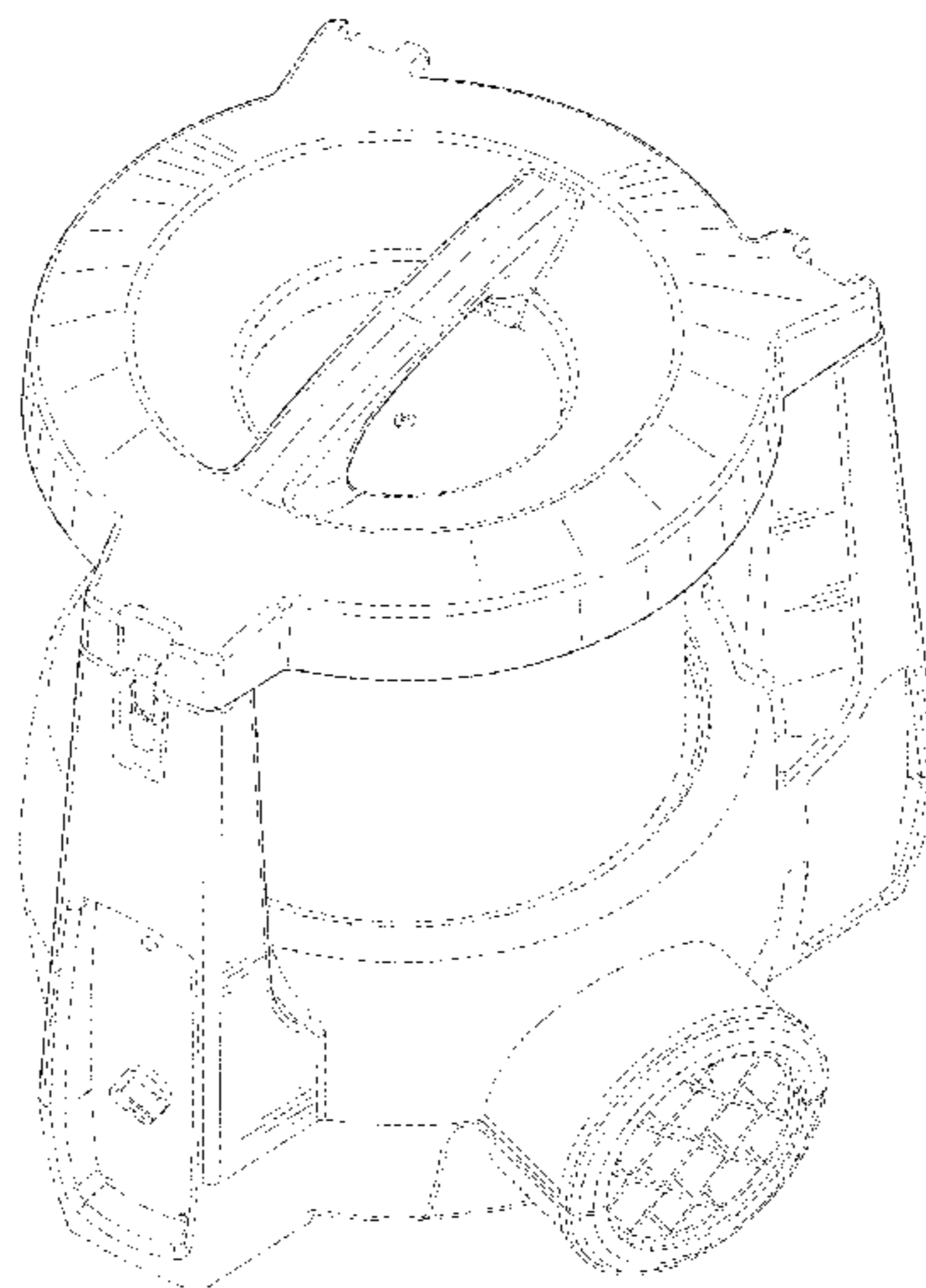
The ornamental design for an air filtration device, as shown and described herein.

**DESCRIPTION**

FIG. 1 is a top perspective view of an air filtration device of our new design,  
FIG. 2 is a front elevation view thereof;  
FIG. 3 is a right side elevation view thereof;  
FIG. 4 is a rear elevation view thereof;  
FIG. 5 is a left side elevation view thereof;  
FIG. 6 is a top plan view thereof; and,  
FIG. 7 is a bottom plan view thereof.

The broken line showing of parts of the drawings is included for the purpose of illustrating use and environment and forms no part of the claimed design.

**1 Claim, 7 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

5,230,723 A 7/1993 Travis et al.  
 5,433,763 A 7/1995 Shagott et al.  
 5,436,216 A 7/1995 Toyao et al.  
 D362,906 S \* 10/1995 Chiu ..... D23/356  
 D365,388 S 12/1995 Williams  
 D365,389 S 12/1995 Williams  
 5,588,985 A 12/1996 Shagott et al.  
 5,593,470 A 1/1997 Shagott et al.  
 D382,635 S \* 8/1997 Jane ..... D23/356  
 D383,202 S 9/1997 Meister et al.  
 D386,576 S 11/1997 Wang et al.  
 D388,162 S \* 12/1997 Chiu ..... D23/356  
 D390,910 S 2/1998 Sundquist  
 5,753,000 A 5/1998 Chiu et al.  
 5,813,089 A 9/1998 Nolan et al.  
 D401,306 S 11/1998 Ward et al.  
 5,840,094 A 11/1998 Osendorf et al.  
 D403,414 S 12/1998 Shelton et al.  
 D404,807 S 1/1999 Nepsund et al.  
 5,858,044 A 1/1999 Nepsund et al.  
 5,862,737 A 1/1999 Chiu et al.  
 D407,808 S 4/1999 Nepsund et al.  
 D410,074 S 5/1999 Lee  
 D416,317 S 11/1999 Bellil et al.  
 D416,613 S 11/1999 Bellil et al.  
 D416,614 S 11/1999 Bellil et al.  
 D417,911 S 12/1999 Jane et al.  
 6,013,121 A 1/2000 Chiu et al.  
 D421,648 S \* 3/2000 Jane ..... D23/356  
 D422,070 S 3/2000 Bellil et al.  
 6,036,757 A 3/2000 Gatchell et al.  
 D423,659 S 4/2000 Schippanoski  
 6,053,482 A \* 4/2000 Glenn ..... F24F 6/043  
 261/104  
 6,065,424 A 5/2000 Shacham et al.  
 6,066,194 A 5/2000 Huggins et al.  
 6,091,888 A 7/2000 Jane et al.  
 6,099,608 A 8/2000 Harms et al.  
 D434,841 S 12/2000 Lozzio et al.  
 6,156,085 A 12/2000 Chiu et al.  
 D437,635 S 2/2001 Lozzio et al.  
 D438,214 S 2/2001 Gieseke et al.  
 D438,944 S 3/2001 Terpko et al.  
 6,209,347 B1 4/2001 Corrigan et al.  
 6,283,458 B1 9/2001 Cox et al.  
 D450,377 S 11/2001 Terpko et al.  
 6,345,516 B1 2/2002 Kesler et al.  
 6,348,086 B1 2/2002 Harms et al.  
 6,361,590 B1 3/2002 Gilbert, Jr. et al.  
 6,494,940 B1 12/2002 Hak  
 D470,216 S 2/2003 Gustafson et al.  
 6,517,475 B1 2/2003 Brown et al.  
 D480,127 S 9/2003 Cox et al.  
 D481,112 S \* 10/2003 Best ..... D23/356  
 6,640,792 B2 11/2003 Harvey et al.  
 6,663,838 B1 \* 12/2003 Soller ..... A01M 1/2088  
 422/120  
 6,676,271 B2 \* 1/2004 Kohn ..... F21V 33/0088  
 261/79.2  
 D491,654 S 6/2004 Gatchell et al.  
 D499,177 S 11/2004 Kosmider et al.  
 6,899,745 B2 5/2005 Gatchell et al.  
 D509,292 S 9/2005 Gatchell et al.  
 6,938,886 B2 9/2005 Glucksman  
 D513,797 S 1/2006 Wang  
 D515,190 S 2/2006 Bartholmey et al.  
 7,014,686 B2 3/2006 Gatchell et al.  
 7,168,427 B2 1/2007 Bachinski et al.  
 7,258,715 B2 8/2007 Cox et al.  
 D572,356 S 7/2008 Harber  
 7,594,944 B2 9/2009 Oh  
 7,808,246 B2 10/2010 Sobue et al.  
 7,815,705 B2 10/2010 Ehrenberg  
 7,874,431 B2 1/2011 Eisengraeber-Pabst et al.  
 8,016,922 B2 9/2011 Ehrenberg

D647,188 S 10/2011 Bergami  
 8,042,694 B2 10/2011 Driml et al.  
 D652,497 S 1/2012 Troxell et al.  
 D655,379 S 3/2012 Doyle et al.  
 D659,257 S \* 5/2012 Desberg ..... D24/232  
 D671,633 S 11/2012 Glasbrenner  
 8,323,370 B2 12/2012 Troxell et al.  
 8,486,170 B2 7/2013 Conrad et al.  
 D694,871 S 12/2013 Maholick et al.  
 D707,338 S 6/2014 Ediger et al.  
 D713,023 S 9/2014 Chen et al.  
 D715,911 S 10/2014 Lin  
 D732,647 S \* 6/2015 McPhilliamy ..... D23/355  
 2002/0088209 A1 \* 7/2002 Stephens ..... A47L 9/165  
 55/337  
 2002/0124538 A1 \* 9/2002 Oh ..... A47L 9/1683  
 55/426  
 2004/0035094 A1 2/2004 Jersey  
 2004/0065202 A1 4/2004 Gatchell et al.  
 2004/0187455 A1 9/2004 Niakan et al.  
 2007/0221061 A1 9/2007 Steiner et al.  
 2014/0260144 A1 9/2014 Williams et al.  
 2014/0260996 A1 9/2014 Grider et al.  
 2015/0284260 A1 \* 10/2015 Huda ..... C02F 1/003  
 210/128

OTHER PUBLICATIONS

International Search Report and Written Opinion for International Application No. PCT/US2014/024837, mailed Oct. 13, 2014 (15 pages).  
 Features of DefendAir HEPA 500, DRI-EAZ, available at [http://www.drieaz.com/\\_DEC/DEC\\_Product\\_Base.aspx?decID=1041&AspxAutoDetectCookieSupport=1](http://www.drieaz.com/_DEC/DEC_Product_Base.aspx?decID=1041&AspxAutoDetectCookieSupport=1) (Features tab), printed Jul. 27, 2013 (1 page).  
 DRI-EAZ, Owner's Manual DefendAir HEPA 500 Air Scrubber 115v Model, available at [http://www.drieaz.com/\\_DEC/Uploads/Document/Manuals/DefendAir%20HEPA%20500%20Owner's%20Manual.pdf](http://www.drieaz.com/_DEC/Uploads/Document/Manuals/DefendAir%20HEPA%20500%20Owner's%20Manual.pdf), Copyright 2004 (18 pages).  
 Guide to Air Scrubbing, DRI-EAZ, available at [http://www.drieaz.com/\\_DEC/Uploads/Document/Docs/Guide%20to%20Air%20Scrubbing.pdf](http://www.drieaz.com/_DEC/Uploads/Document/Docs/Guide%20to%20Air%20Scrubbing.pdf), printed Jul. 27, 2013 (16 pages).  
 DRI-EAZ Air Filtration HEPA 500 Flyer, available at [http://www.drieaz.com/\\_DEC/Uploads/Document/Manuals/DE\\_HEPA500\\_Filters\\_Restoration\\_Print.pdf](http://www.drieaz.com/_DEC/Uploads/Document/Manuals/DE_HEPA500_Filters_Restoration_Print.pdf), printed Jul. 27, 2013 (1 page).  
 Photograph of filters of DRI-EAZ DefendAir HEPA 500, available at [http://www.drieaz.com/\\_DEC/Uploads/Document/Manuals/F284\\_HEPA500\\_DOP\\_Carbon\\_Photo.jpg](http://www.drieaz.com/_DEC/Uploads/Document/Manuals/F284_HEPA500_DOP_Carbon_Photo.jpg), printed Jul. 27, 2013 (1 page).  
 First Stage Pre-Filter for DefendAir HEPA 500, DRI-EAZ, available at [http://www.drieaz.com/\\_DEC/DEC\\_Product\\_Base.aspx?decID=1097](http://www.drieaz.com/_DEC/DEC_Product_Base.aspx?decID=1097), printed Jul. 27, 2013 (1 page).  
 Second Stage Pre-Filter for DefendAir HEPA 500, DRI-EAZ, available at [http://www.drieaz.com/\\_DEC/DEC\\_Product\\_Base.aspx?decID=1098](http://www.drieaz.com/_DEC/DEC_Product_Base.aspx?decID=1098), printed Jul. 27, 2013 (1 page).  
 Activated Carbon Filter for DefendAir HEPA 500, DRI-EAZ, available at [http://www.drieaz.com/\\_DEC/DEC\\_Product\\_Base.aspx?decID=1109](http://www.drieaz.com/_DEC/DEC_Product_Base.aspx?decID=1109), printed Jul. 27, 2013 (1 page).  
 HEPA 500 Filters for DefendAir HEPA 500, DRI-EAZ, available at [http://www.drieaz.com/\\_DEC/DEC\\_Product\\_Base.aspx?decID=1096](http://www.drieaz.com/_DEC/DEC_Product_Base.aspx?decID=1096), printed Jul. 27, 2013 (1 page).  
 DOP Stage 2 HEPA 500 Pre-Filter for DefendAir HEPA 500, DRI-EAZ, available at [http://www.drieaz.com/\\_DEC/DEC\\_Product\\_Base.aspx?decID=1129](http://www.drieaz.com/_DEC/DEC_Product_Base.aspx?decID=1129), printed Jul. 27, 2013 (1 page).  
 Specs of DefendAir HEPA 500, DRI-EAZ, available at [http://www.drieaz.com/\\_DEC/DEC\\_Product\\_Base.aspx?decID=1041&AspxAutoDetectCookieSupport=1](http://www.drieaz.com/_DEC/DEC_Product_Base.aspx?decID=1041&AspxAutoDetectCookieSupport=1) (Specs tab), printed Jul. 27, 2013 (1 page).  
 Overview of PRED600HC Portable Air Scrubber, Abatement Technologies, available at <http://www.abatement.com/government-industry-schools/port-air-scrub-pred600hc.htm> (Overview tab), Copyright 2013 (2 pages).

(56)

**References Cited**

OTHER PUBLICATIONS

“The Predator 600 Portable Air Scrubber, Big Time Performance in a Small Package”; Brochure, available at <http://www.abatement.com/pdf/pred600-brochure.pdf>, Copyright 2012 (2 pages).

“Warning! Are The Molded Plastic Scrubbers You Are Using Safe? or, Could They Expose You to Fire and Safety Risks?,” White Paper by Abatement Technologies, available at <http://www.abatement.com/pdf/benefits-rotational-molded-plastic-cabinets.pdf>, printed Jul. 27, 2013 (3 pages).

Specs of PRED600HC Portable Air Scrubber, Abatement Technologies, available at <http://www.abatement.com/government-industry-schools/port-air-scrub-pred600hc.htm> (Specs tab), Copyright 2013 (2 pages).

Comparison of PRED600HC Portable Air Scrubber, Abatement Technologies, available at [\[industry-schools/port-air-scrub-pred600hc.htm\]\(http://www.abatement.com/government-industry-schools/port-air-scrub-pred600hc.htm\) \(Comparison tab\), Copyright 2013 \(3 pages\).](http://www.abatement.com/government-</a></p></div><div data-bbox=)

Photos of PRED600HC Portable Air Scrubber, Abatement Technologies, available at <http://www.abatement.com/government-industry-schools/port-air-scrub-pred600hc.htm> (Photos tab), Copyright 2013 (2 pages).

Filters and Accessories for PRED600HC Portable Air Scrubber, Abatement Technologies, available at <http://www.abatement.com/government-industry-schools/port-air-scrub-pred600hc.htm> (Filters & Accessories tab), Copyright 2013 (2 pages).

Related Products for PRED600HC Portable Air Scrubber, Abatement Technologies, available at <http://www.abatement.com/government-industry-schools/port-air-scrub-pred600hc.htm> (Related Products tab), Copyright 2013 (3 pages).

\* cited by examiner

FIG. 1

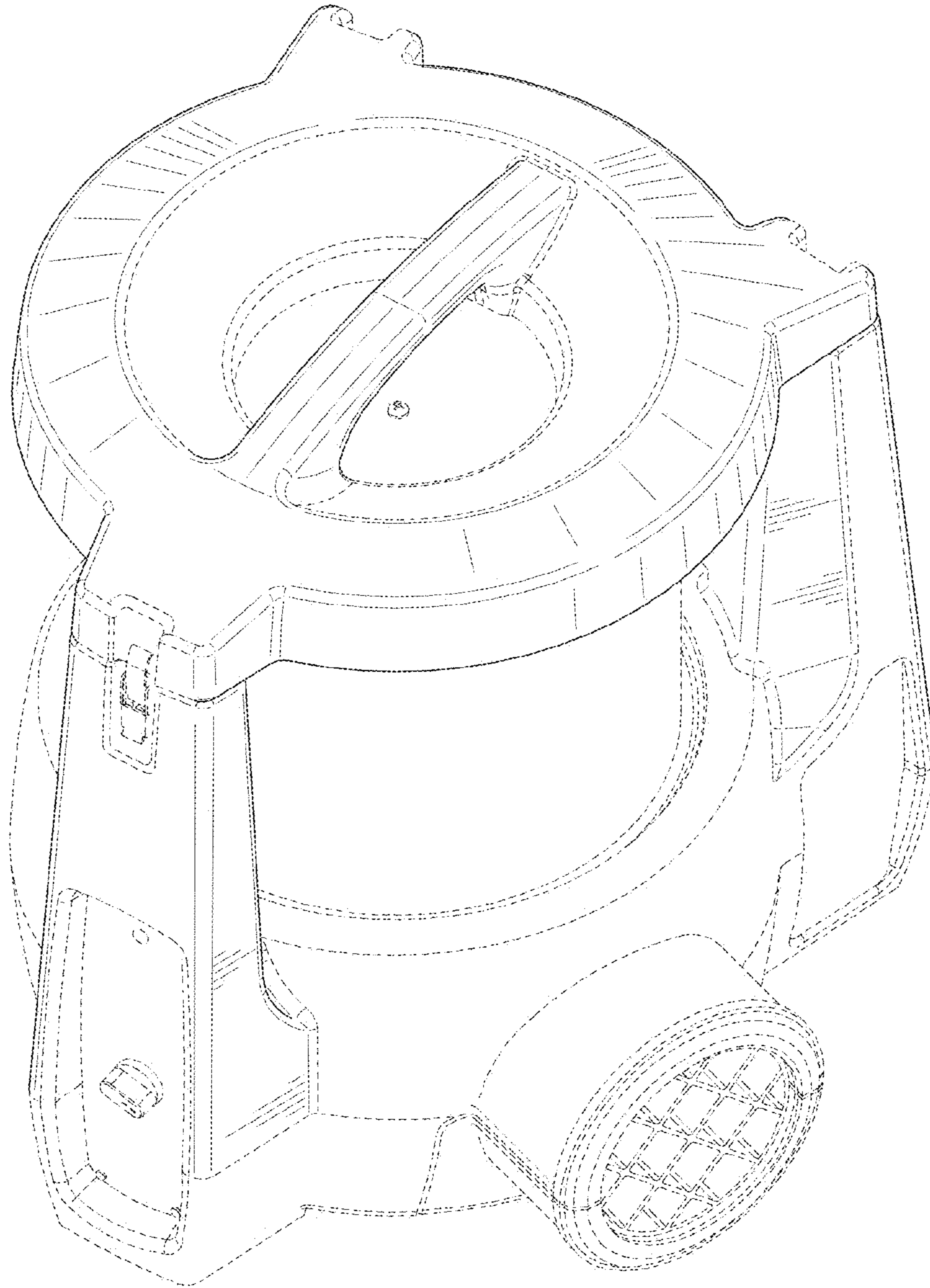


FIG. 2

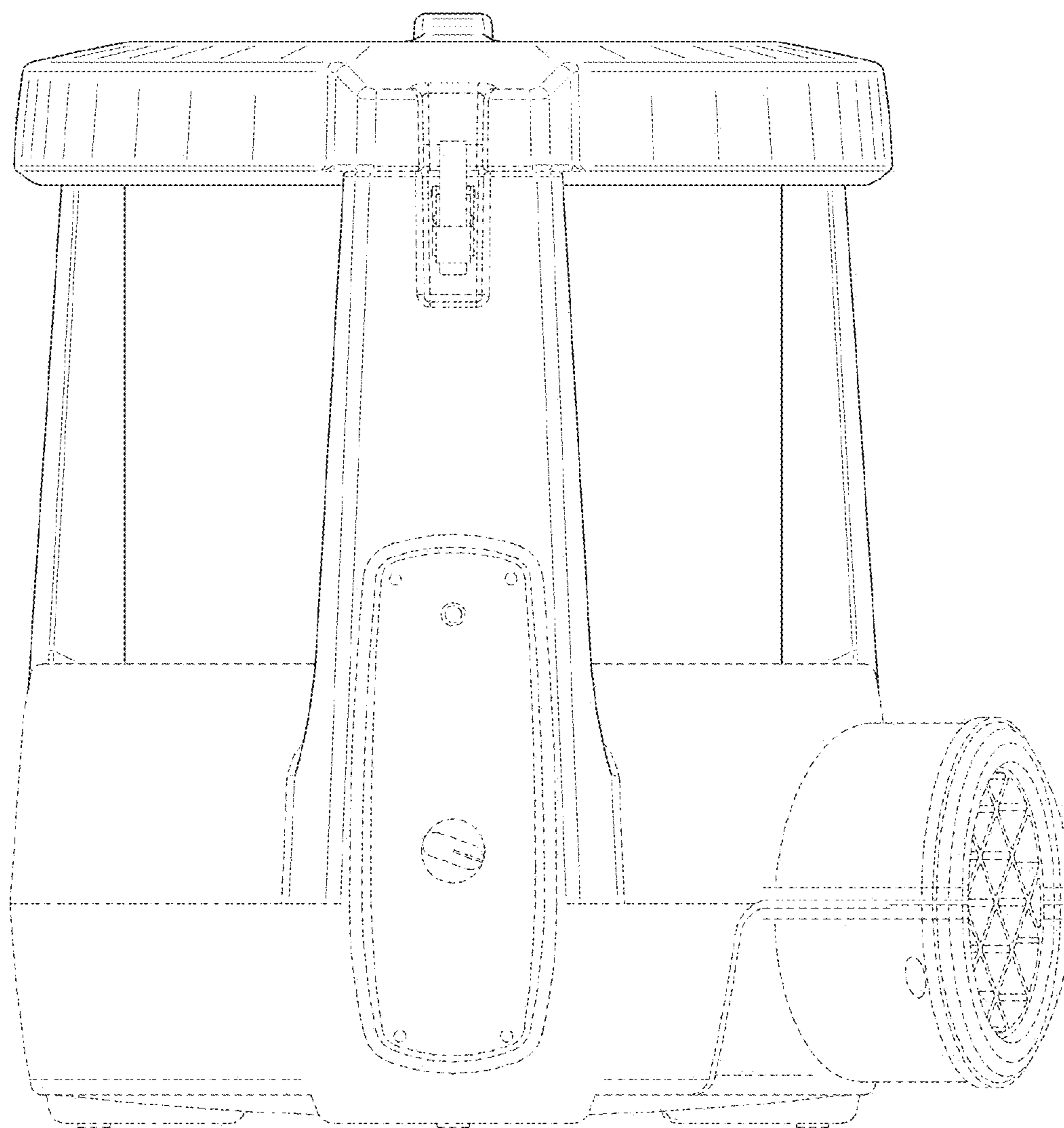


FIG. 3

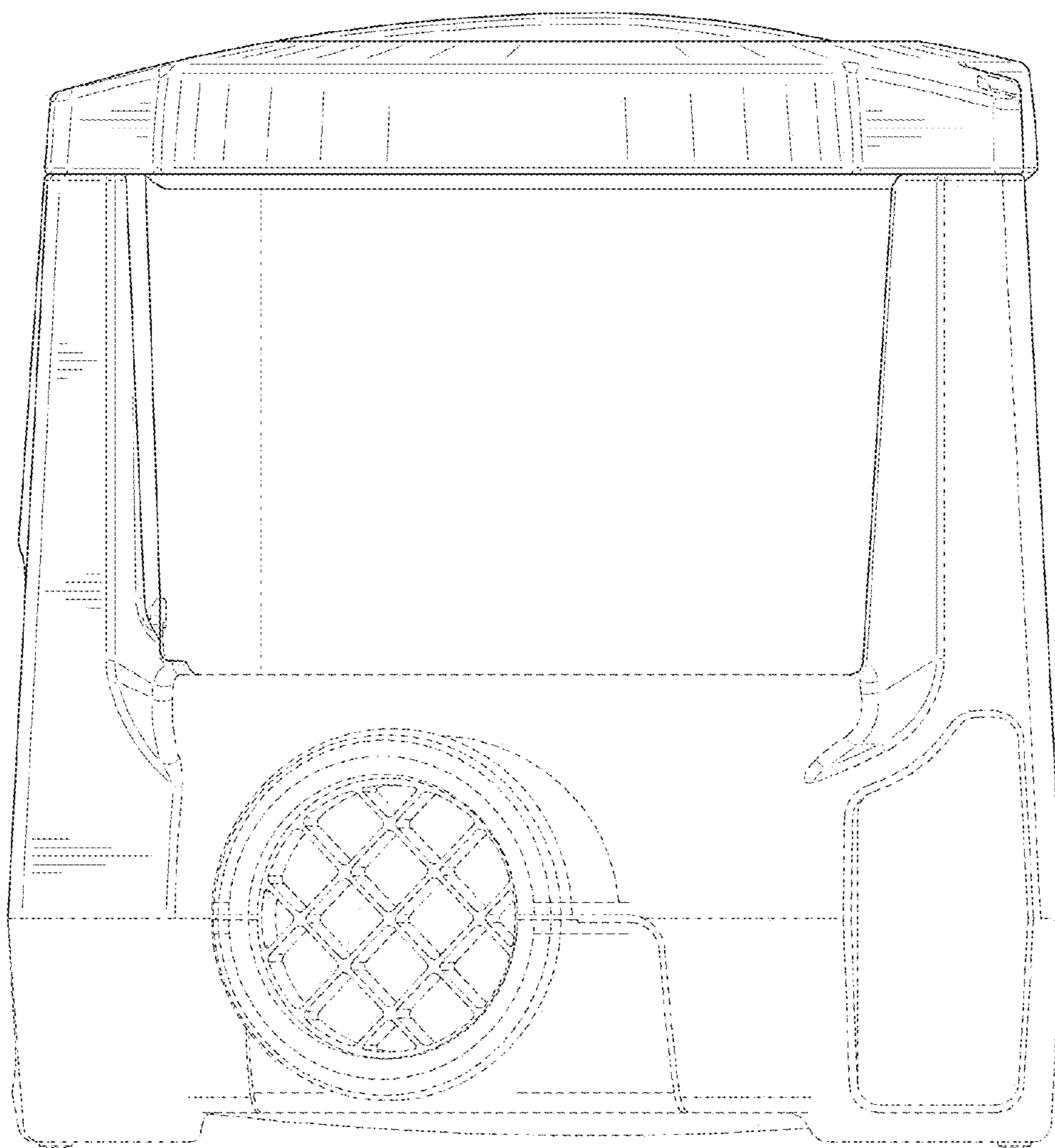


FIG. 4

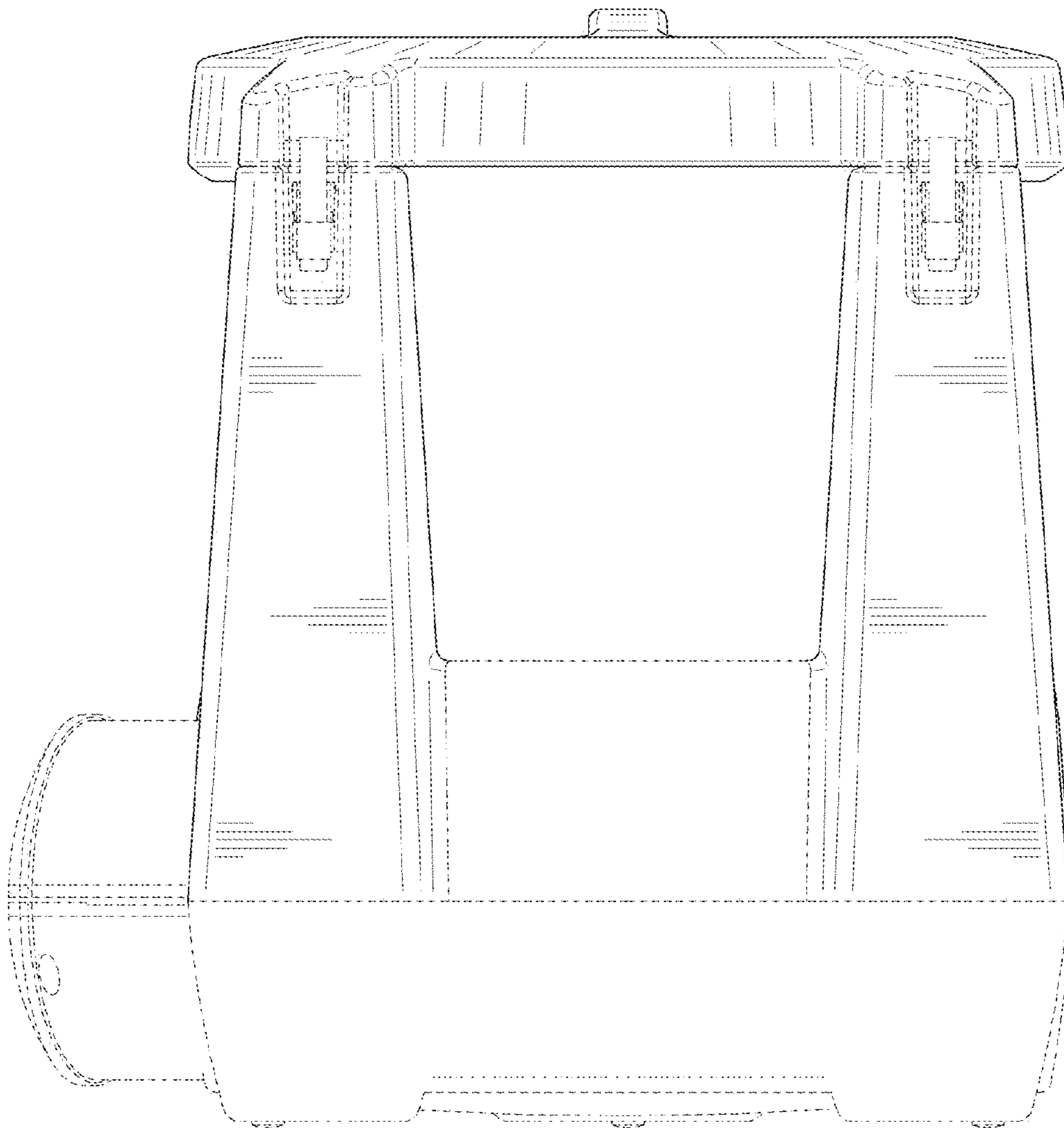


FIG. 5

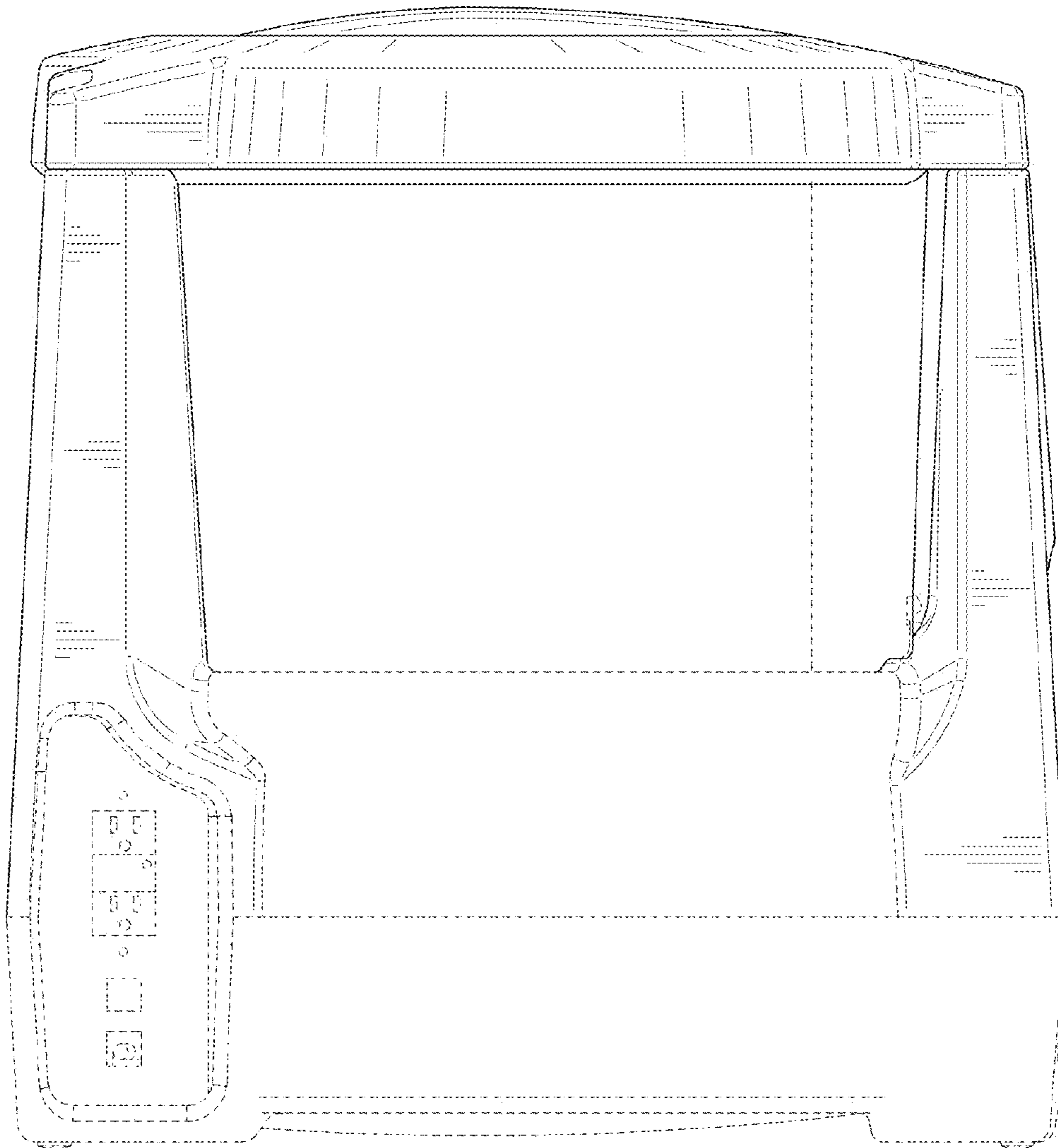




FIG. 6

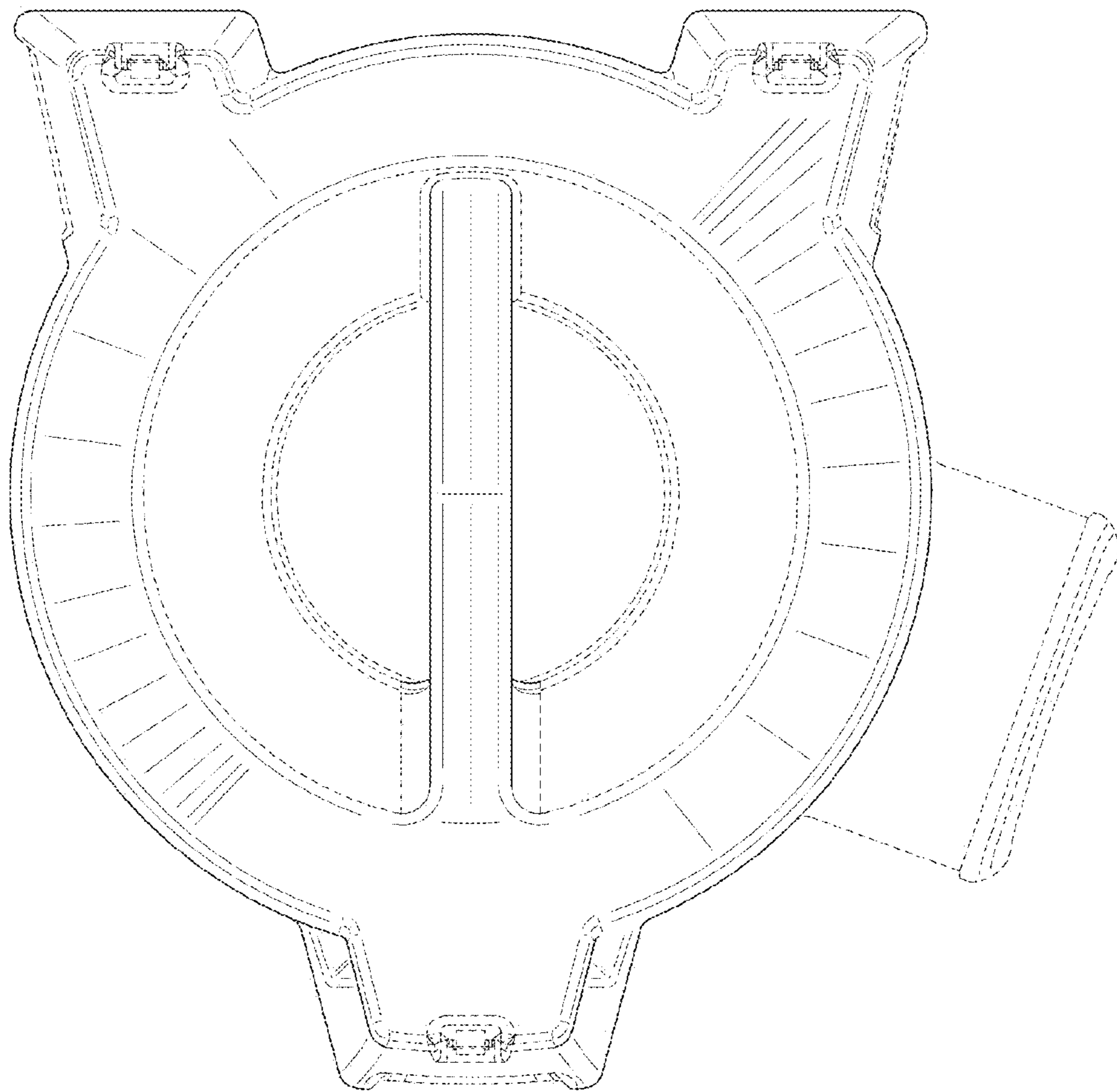


FIG. 7

