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(12) **United States Design Patent** (10) **Patent No.:** **US D869,108 S**
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(54) **ROBOT COMPRISING A SERVICE MODULE**

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(52) **U.S. Cl.**
USPC **D32/21**; D15/199; D32/25

(58) **Field of Classification Search**
USPC D7/300, 305-311, 397-400; D10/16, 22, D10/23, 25, 28; D14/159, 176, 209.1, D14/216, 221, 239, 265, 496, 497, 508, D14/509, 125; D15/10-13, 22, 122, 199; D20/1, 4, 5, 8; D21/578-583, 621-623, D21/592, 593; D23/314, 317, 325, D23/328-330, 332, 333, 349, 351, 367; D32/17, 18, 21, 22, 31-34
CPC . A47L 2201/00; A47L 2201/04; Y01S 901/01
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D296,908 S	7/1988	Trimble	
D369,008 S *	4/1996	Campbell	D34/19
6,157,873 A	12/2000	DeCamp et al.	
6,338,013 B1	1/2002	Ruffner	
D482,171 S *	11/2003	Vui	D34/19

6,857,173 B1	2/2005	Crane et al.	
D508,508 S *	8/2005	Burick	D15/199
D550,908 S	9/2007	Shin	
D550,909 S	9/2007	Shin	
D550,910 S	9/2007	Shin	
D611,960 S *	3/2010	Hansen	D14/203.1
D631,901 S	2/2011	Brooks et al.	

(Continued)

FOREIGN PATENT DOCUMENTS

EP	2752726 A1 *	7/2014 G05D 1/0219
JP	2005046926 A	2/2005	

(Continued)

OTHER PUBLICATIONS

FX250 Floor Cleaning Robot, posted on discovoery-robotics.com, no posted date given, no production date given, [online], [site visited Apr. 12, 2018], available from internet, URL: <https://www.discovery-robotics.com/robotic-commercial-cleaning-the-fx250.html> (Year: 2018).*

(Continued)

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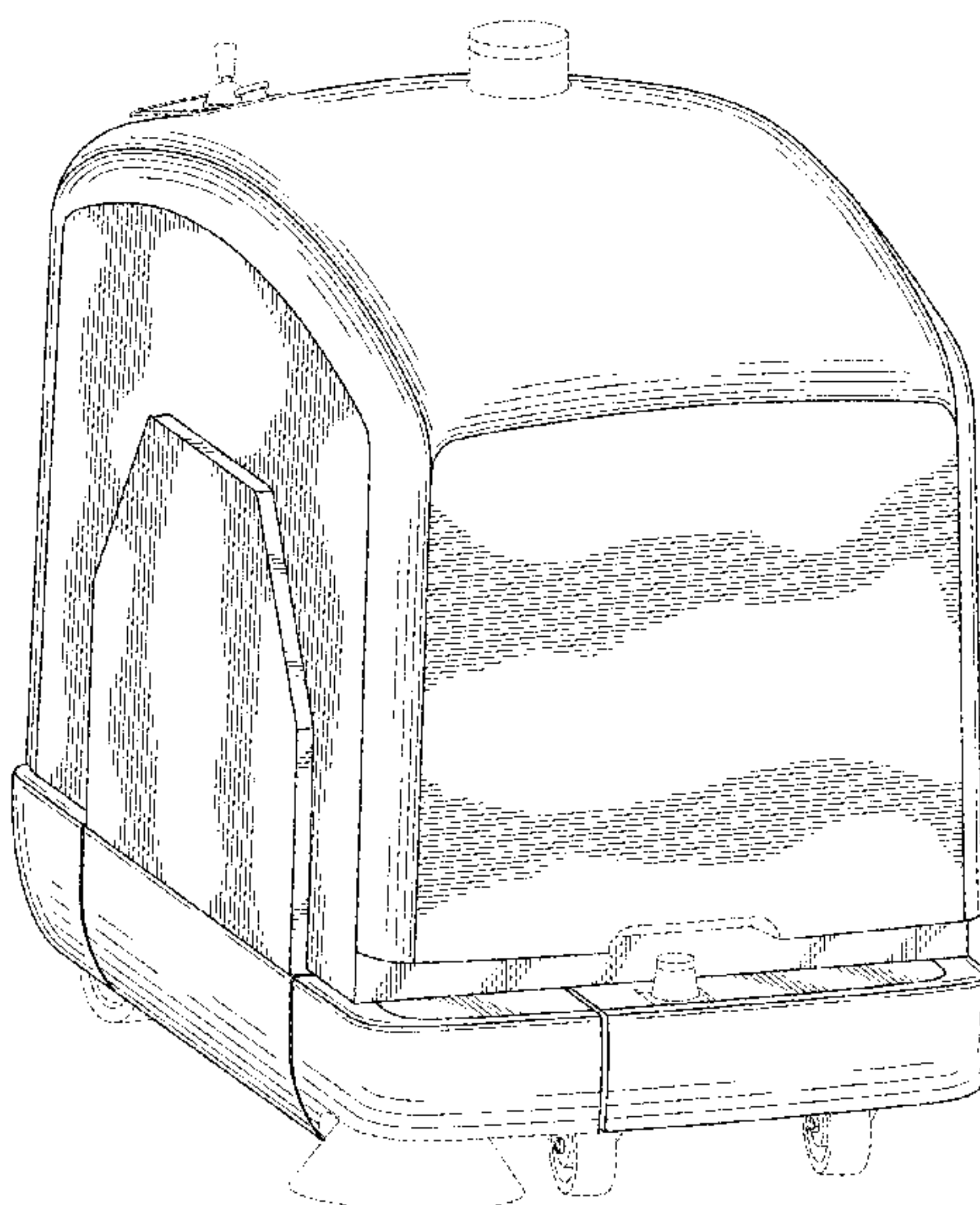
(57) **CLAIM**

The ornamental design for a robot comprising a service module, as shown and described.

DESCRIPTION

FIG. 1 is a side elevation view of a robot comprising a service module, showing our new design; FIG. 2 is a front side elevation view thereof; and, FIG. 3 is a front perspective view thereof. The broken lines show portions of a robot and service module which form no part of the claimed design.

1 Claim, 3 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D633,443 S * 3/2011 Wang D13/116
 8,063,825 B1 11/2011 Yang et al.
 D654,158 S 2/2012 Chen et al.
 D654,159 S * 2/2012 Chen D23/317
 D659,919 S * 5/2012 Lin D32/17
 D661,224 S 6/2012 Allaire et al.
 D662,881 S 7/2012 He et al.
 D668,750 S * 10/2012 Renfrew D23/364
 8,359,122 B2 * 1/2013 Koselka B25J 5/007
 700/245
 D675,680 S * 2/2013 Long D21/425
 D690,478 S 9/2013 Li et al.
 D700,923 S * 3/2014 Lin D15/143
 D701,546 S * 3/2014 Lin D15/143
 D710,558 S 8/2014 Mitchell et al.
 D710,559 S 8/2014 Mitchell et al.
 D712,604 S * 9/2014 Jaeho D32/21
 D721,460 S * 1/2015 Hanan D32/21
 D722,736 S * 2/2015 Mongiori D34/17
 9,008,840 B1 4/2015 Ponulak et al.
 D733,203 S 6/2015 Menor et al.
 D734,211 S * 7/2015 Ahn D12/86
 D760,883 S * 7/2016 Mann D23/364
 D764,726 S 8/2016 Vanderstegen-Drake et al.
 D765,750 S 9/2016 Miller
 D768,343 S 10/2016 Vanderstegen-Drake et al.
 9,506,263 B1 * 11/2016 Lopez E04H 4/16
 9,534,899 B2 1/2017 Gutmann et al.
 9,554,508 B2 1/2017 Balutis et al.
 D782,759 S * 3/2017 Mathiassen D32/21
 D785,878 S 5/2017 Kjaergaard et al.
 D793,337 S 8/2017 Christensen et al.
 D793,635 S * 8/2017 Dammkoehler D32/16
 D794,692 S 8/2017 Haranaka et al.
 9,717,387 B1 8/2017 Szatmary et al.
 9,722,640 B2 8/2017 Williams
 D799,992 S 10/2017 Ehara
 D808,205 S 1/2018 Cunningham
 9,888,820 B2 * 2/2018 Martins, Jr. A47L 9/2826
 D828,966 S 9/2018 Chung et al.
 D839,513 S 1/2019 Ayers et al.
 2002/0049522 A1 4/2002 Ruffner
 2002/0156556 A1 10/2002 Ruffner
 2003/0012168 A1 1/2003 Elson et al.
 2003/0030399 A1 2/2003 Jacobs
 2004/0249497 A1 12/2004 Saigh et al.
 2006/0060216 A1 3/2006 Woo
 2007/0013510 A1 1/2007 Yamada et al.

2007/0025456 A1 2/2007 McCrady et al.
 2007/0050937 A1 3/2007 Song et al.
 2007/0187183 A1 8/2007 Saigh et al.
 2007/0213952 A1 9/2007 Cirielli et al.
 2008/0047092 A1 2/2008 Schnittman et al.
 2009/0228166 A1 9/2009 Durkos et al.
 2011/0202175 A1 8/2011 Romanov et al.
 2011/0288684 A1 11/2011 Farlow et al.
 2012/0173018 A1 7/2012 Allen et al.
 2012/0185095 A1 7/2012 Rosenstein et al.
 2013/0138247 A1 5/2013 Gutmann et al.
 2014/0058406 A1 2/2014 Tsekos
 2015/0032252 A1 1/2015 Galluzzo et al.
 2015/0127149 A1 5/2015 Sinyavskiy et al.
 2015/0271991 A1 10/2015 Balutis
 2016/0091899 A1 3/2016 Aldred et al.
 2017/0312916 A1 11/2017 Williams
 2017/0364073 A1 12/2017 Guy
 2018/0009112 A1 1/2018 Williams
 2018/0024223 A1 1/2018 Williams
 2018/0065253 A1 3/2018 Williams et al.
 2018/0120833 A1 5/2018 Lindhe et al.
 2018/0284786 A1 10/2018 Moshkina-Martinson et al.
 2018/0317728 A1 11/2018 Tomlinson
 2018/0333845 A1 11/2018 Williams et al.
 2018/0339409 A1 11/2018 Williams et al.
 2018/0339410 A1 11/2018 Williams et al.

FOREIGN PATENT DOCUMENTS

KR 101059829 B1 8/2011
 WO 2018013538 A1 1/2018

OTHER PUBLICATIONS

Intellibot floor cleaning robot, posted on cleaning-matters.co.uk, posted May 7, 2015, no production date given, [online], [site visited Apr. 12, 2018], available from internet, URL: http://www.cleaning-matters.co.uk/page_585713.asp (Year: 2015).*

Avidbots Neo. posted on avidbots.com.au, no posted date given, no production date given, [online], [site visited Apr. 12, 2018], available from internet, URL: <https://www.avidbots.com.au/> (Year: 2018).*

PCT/US2017/041495, "International Application Serial No. PCT/US2017/041495, International Preliminary Report on Patentability and Written Opinion dated Oct. 23, 2017", Discovery Robotics, 29 Pages.

PCT/US18/47670, "International Application Serial No. PCT/US18/47670, Invitation to Pay Additional Fees and, Where Applicable, Protest Fee dated Oct. 17, 2018", Discovery Robotics, 2 Pages.

* cited by examiner

FIG. 1

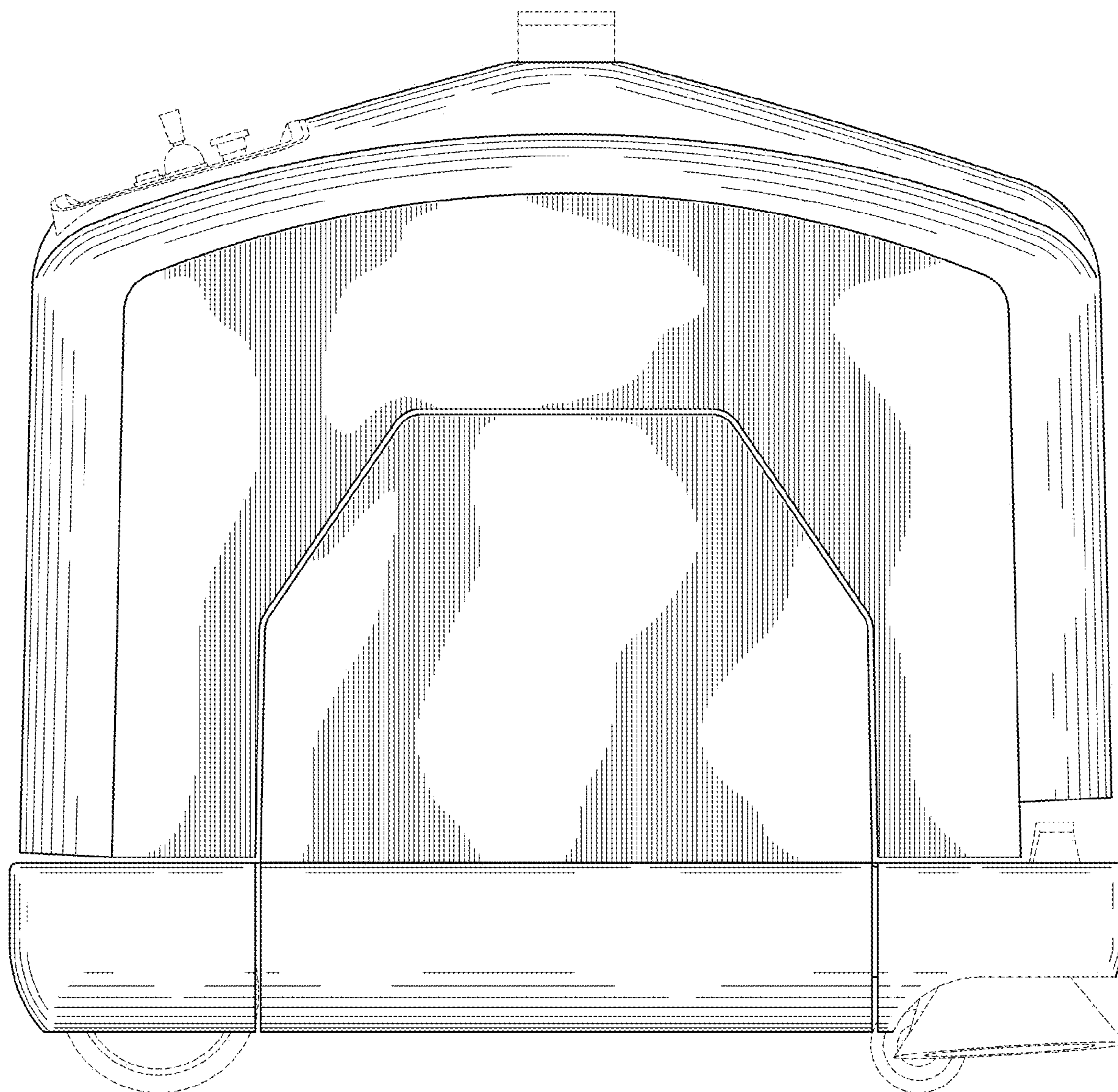


FIG. 2

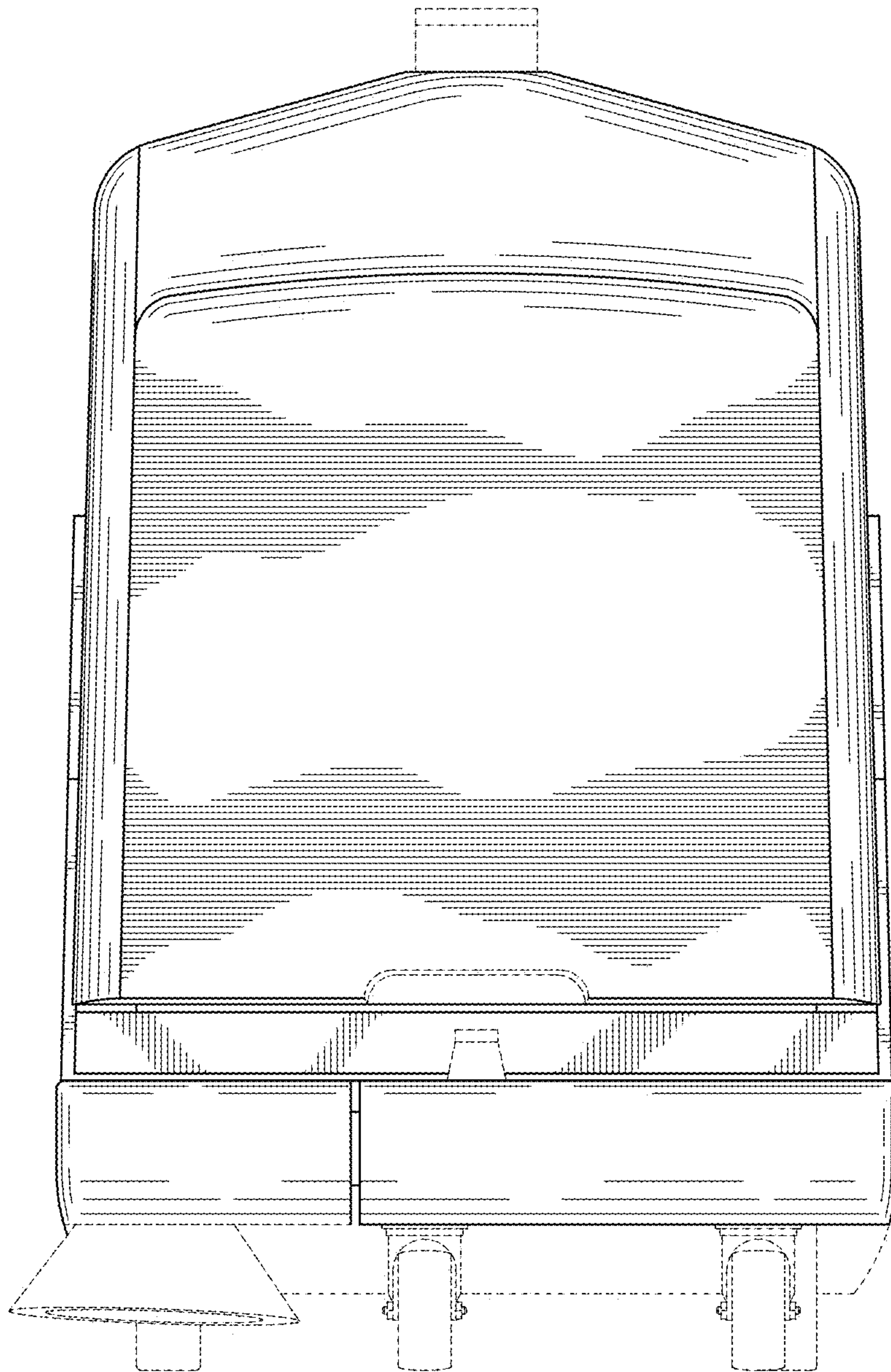


FIG. 3

