US00D903214S

(12) United States Design Patent

Williams et al.

(10) Patent No.: US D903,214 S
(45) Date of Patent: ** Nov. 24, 2020

(54) **ROBOT AND SERVICE MODULE**

(71) Applicant: **Discovery Robotics**, Pittsburgh, PA (US)

(72) Inventors: **Larry J. Williams**, Pittsburgh, PA (US); **Vivek Rajendran**, Pittsburgh, PA (US); **Naman Kumar**, Pittsburgh, PA (US); **Hardik Shah**, Pittsburgh, PA (US)

(73) Assignee: **Discovery Robotics**, Pittsburgh, PA (US)

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

(21) Appl. No.: **29/660,924**

(22) Filed: **Aug. 23, 2018**

Related U.S. Application Data

(62) Division of application No. 29/571,101, filed on Jul. 14, 2016, now Pat. No. Des. 869,108.

(51) **LOC (12) Cl.** **15-05**

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

(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, 25, 31–34
CPC A47L 2201/00; A47L 2201/04; A47L 5/28; A47L 7/0038; A47L 9/16; A47L 9/1608; A47L 9/1666; A47L 9/1683; A47L 9/20; A47L 9/2857; Y01S 901/01
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D99,943	S *	6/1936	Hess	D23/329
D296,908	S *	7/1988	Trimble	
D361,178	S *	8/1995	Piret	D32/1
D369,008	S	4/1996	Campbell	
D422,386	S *	4/2000	Jaros	D32/22
6,157,873	A	12/2000	DeCamp et al.	
6,338,013	B1	1/2002	Ruffner	
D482,171	S	11/2003	Vui et al.	
D508,508	S	8/2005	Burick	

(Continued)

FOREIGN PATENT DOCUMENTS

CN	2019-31616K	*	3/2018
EP	2752726	A1	7/2014

(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 29/571,101, filed Jul. 14, 2016, Pending.

(Continued)

Primary Examiner — Michael C Stout
Assistant Examiner — Fritzgerald L Butac
(74) *Attorney, Agent, or Firm* — GTC Law Group PC & Affiliates

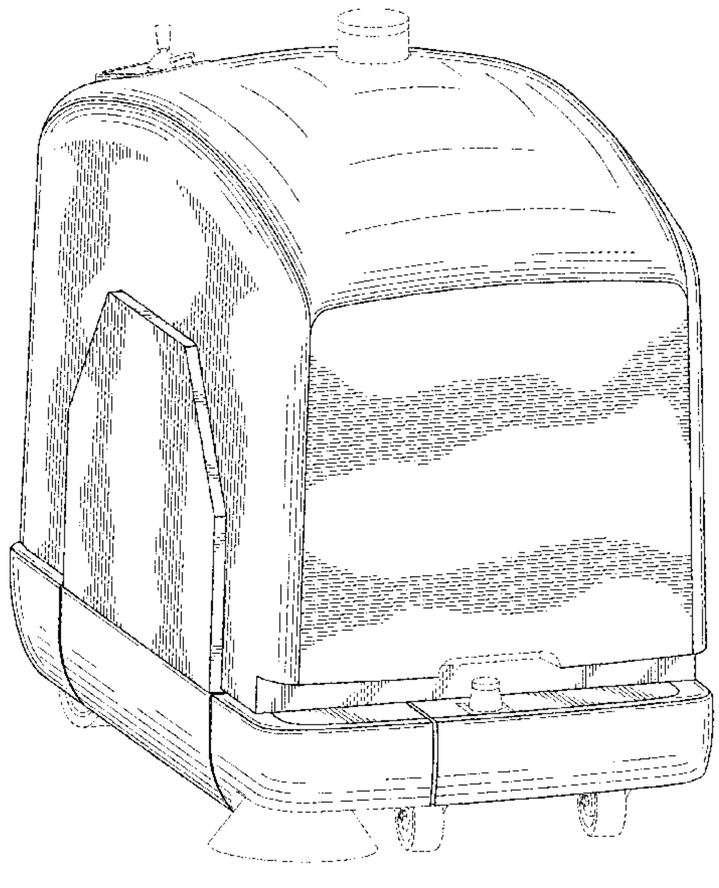
(57) **CLAIM**

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

DESCRIPTION

FIG. **1** is a side elevation view of our new design for a robot and service module;
FIG. **2** is a front side elevation view thereof; and,
FIG. **3** is a front perspective view thereof.
The broken lines in FIGS. **1-3** are for environmental purposes only and form no part of the claimed design.

1 Claim, 3 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

D550,908	S	*	9/2007	Shin
D550,909	S	*	9/2007	Shin
D550,910	S	*	9/2007	Shin
D611,960	S		3/2010	Hansen et al.
D631,901	S	*	2/2011	Brooks
D633,443	S		3/2011	Wang et al.
8,063,825	B1		11/2011	Yang et al.
D654,158	S	*	2/2012	Chen
D654,159	S		2/2012	Chen et al.
D659,919	S	*	5/2012	Lin D32/17
D661,224	S	*	6/2012	Allaire
D662,881	S	*	7/2012	Chngyu
D668,750	S		10/2012	Renfrew et al.
8,359,122	B2		1/2013	Koselka et al.
D675,680	S	*	2/2013	Long
D690,478	S		9/2013	Li et al.
D695,473	S	*	12/2013	Ediger D32/17
D700,923	S	*	3/2014	Lin D15/143
D701,546	S		3/2014	Lin et al.
D710,558	S	*	8/2014	Mitchell
D710,559	S	*	8/2014	Mitchell
D712,604	S		9/2014	Jaeho et al.
D721,460	S		1/2015	Hanan et al.
D722,736	S		2/2015	Mongiori
D725,328	S	*	3/2015	Aglassinger D32/21
D733,203	S	*	6/2015	Menor
D734,211	S		7/2015	Ahn et al.
D743,646	S	*	11/2015	Fjellman D32/21
D760,883	S		7/2016	Mann
D764,726	S	*	8/2016	Vanderstegen-Drake
D765,750	S	*	9/2016	Miller
D768,343	S	*	10/2016	Vanderstegen-Drake
9,506,263	B1	*	11/2016	Lopez
D782,759	S	*	3/2017	Mathiassen D32/21
D785,878	S		5/2017	Kjaergaard et al.
D793,337	S	*	8/2017	Christensen
D793,635	S		8/2017	Dammkoehler et al.
D794,692	S	*	8/2017	Haranaka
D794,881	S	*	8/2017	Bisson D32/22
9,722,640	B2		8/2017	Williams
D799,992	S	*	10/2017	Ehara
D802,861	S	*	11/2017	Jin D32/21
D808,205	S		1/2018	Cunningham
D811,672	S	*	2/2018	Kjaergaard D32/21
9,888,820	B2		2/2018	Martins et al.
D828,966	S		9/2018	Chung et al.
D839,513	S		1/2019	Ayers et al.
D840,619	S	*	2/2019	Kim D32/21
D840,620	S	*	2/2019	Kim D32/21
D855,267	S	*	7/2019	Desagre D32/17
D864,271	S	*	10/2019	Lai D15/199
D865,830	S	*	11/2019	Williams D15/199
D866,393	S	*	11/2019	Asai D12/1
D869,108	S	*	12/2019	Williams D32/21
D870,401	S	*	12/2019	Supron D32/21
D877,994	S	*	3/2020	Kim D32/21
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
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.
2007/0213952	A1		9/2007	Cirielli et al.
2008/0047092	A1		2/2008	Schnittman 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.
2015/0032252	A1		1/2015	Galluzzo et al.
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.
2018/0284786	A1		10/2018	Moshkina-Martinson et al.
2018/0317728	A1		11/2018	Tomlinson

FOREIGN PATENT DOCUMENTS

JP	2005046926	A	2/2005
KR	101059829	B1	8/2011
WO	2018013538	A1	1/2018
WO	PCT/US18/47670		8/2018

OTHER PUBLICATIONS

U.S. Appl. No. 16/051,824, filed Aug. 1, 2018, Pending.
U.S. Appl. No. 16/051,840, filed Aug. 1, 2018, Pending.
U.S. Appl. No. 16/051,871, filed Aug. 1, 2018, Pending.
U.S. Appl. No. 29/660,928, filed Aug. 23, 2018, Pending.
U.S. Appl. No. 16/110,082, filed Aug. 23, 2018, Pending.
U.S. Appl. No. 16/109,993, filed Aug. 23, 2018, Pending.
U.S. Appl. No. 16/110,004, filed Aug. 23, 2018, Pending.
U.S. Appl. No. 16/110,024, filed Aug. 23, 2018, Pending.
U.S. Appl. No. 16/110,036, filed Aug. 23, 2018, Pending.
U.S. Appl. No. 16/110,060, filed Aug. 23, 2018, Pending.
"Avidbots Neo.", Avidbots Australia—Robotic Floor Scrubber, p. 1-4, Dec. 12, 2018.
"Intellibot floor cleaning robot", Cleaning Matters—A hands-free future is here; http://www.cleaning-matters.co.uk/page_585713, p. 1-3, May 7, 2015.
"The FX250 Commercial Floor Cleaning Robot", Apr. 12, 2018, p. 1-2.
PCT/US18/47670, "International Application Serial No. PCT/US18/47670, Invitation to Pay Additional Fees and, Where Applicable, Protest Fee mailed Oct. 17, 2018", Discovery Robotics, 2 Pages.
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.

* cited by examiner

FIG. 1

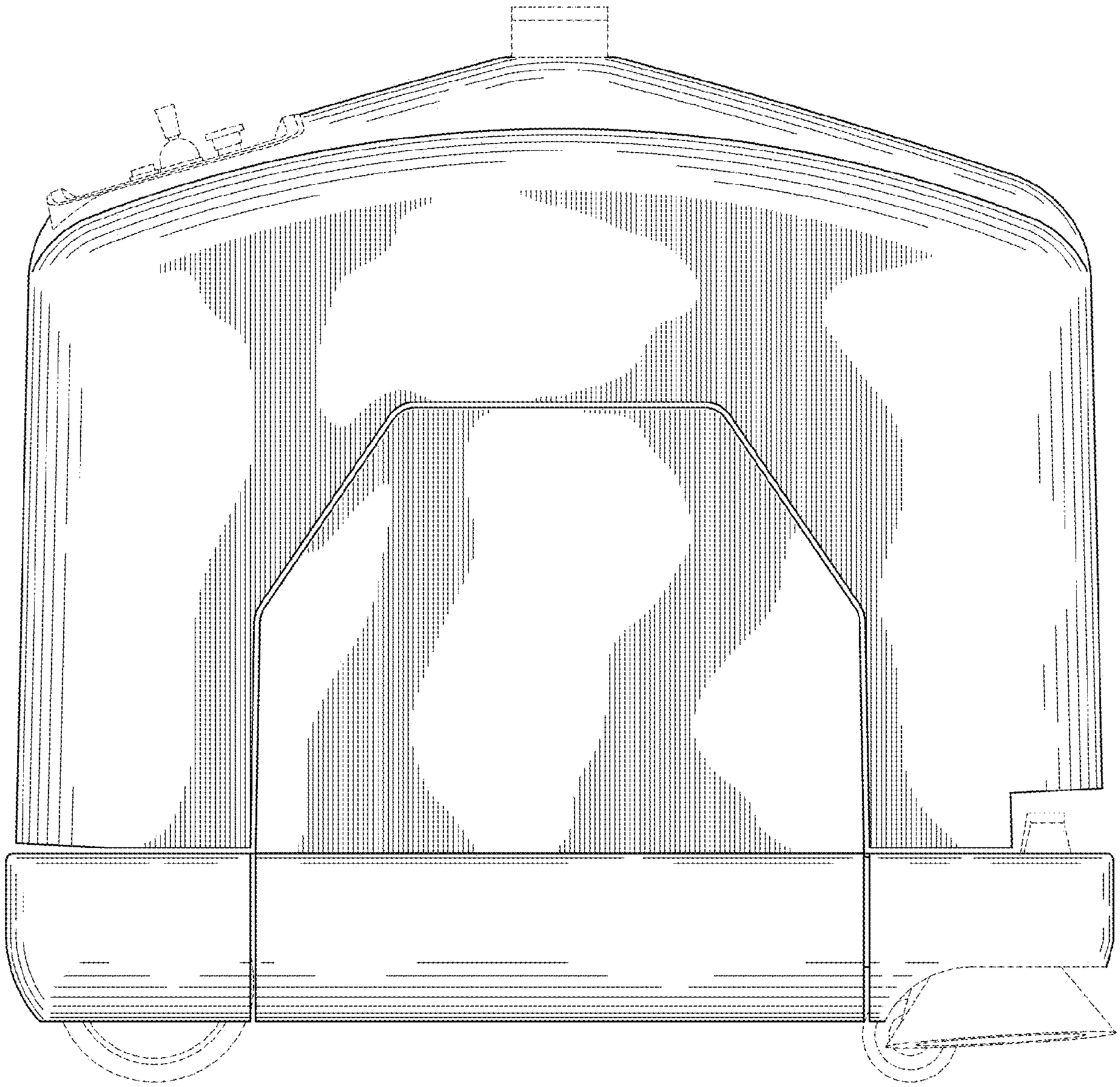


FIG. 2

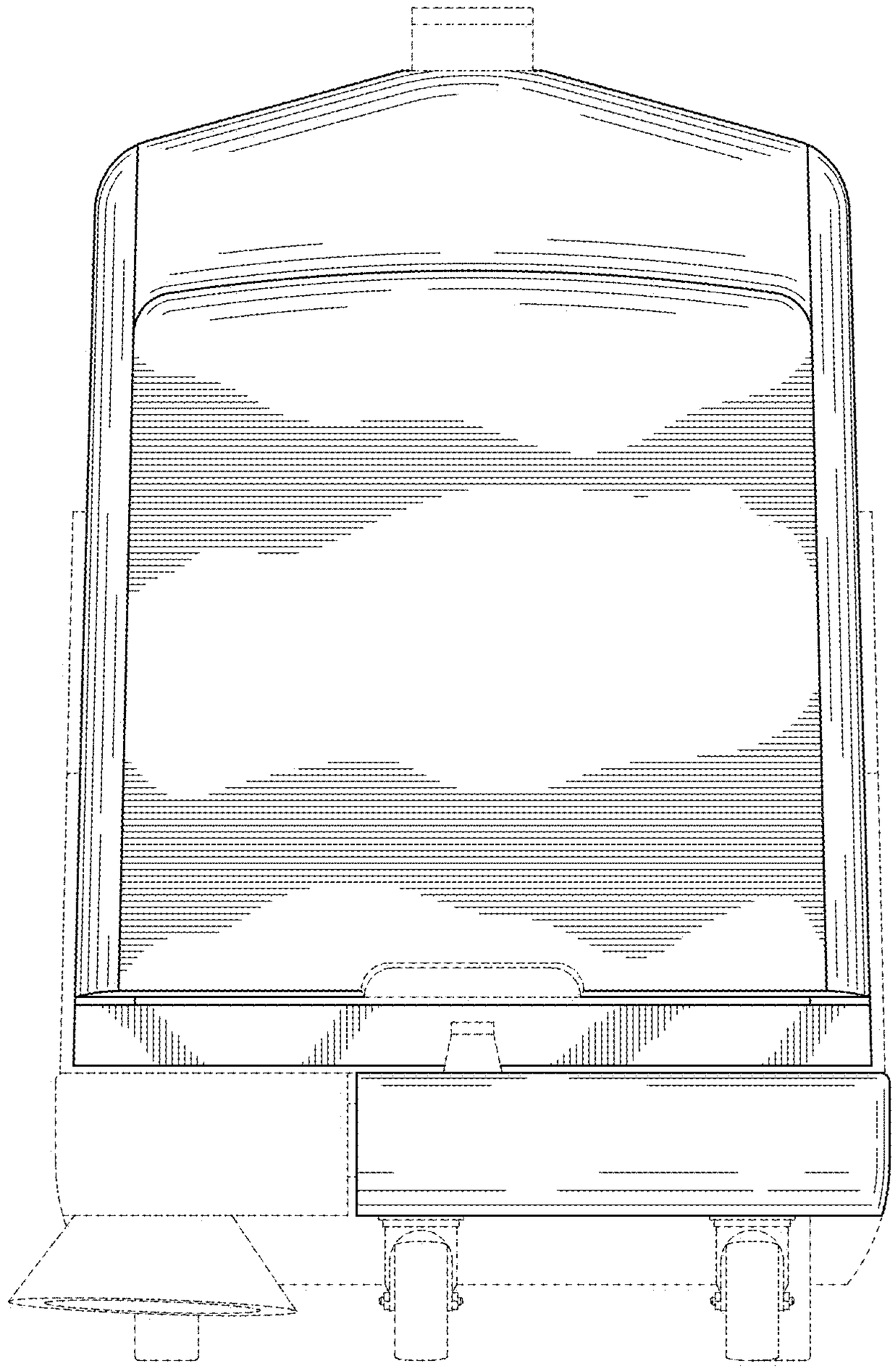


FIG. 3