



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

(10) **Patent No.:** **US D917,117 S**
(45) **Date of Patent:** **** Apr. 20, 2021**

(54) **ROBOT CLEANER**

(71) Applicant: **ECOVACS ROBOTICS CO., LTD.**,
Suzhou (CN)
(72) Inventors: **Jingyi Cao**, Suzhou (CN); **Jinye Zhou**,
Suzhou (CN); **Xiaowen Li**, Suzhou
(CN); **Mengdan Chen**, Suzhou (CN);
Pingxing Huang, Suzhou (CN)
(73) Assignee: **ECOVACS ROBOTICS CO., LTD.**,
Suzhou (CN)
(**) Term: **15 Years**

(21) Appl. No.: **29/681,241**

(22) Filed: **Feb. 22, 2019**

(30) **Foreign Application Priority Data**

Sep. 26, 2018 (CN) 201830540114.4
Sep. 26, 2018 (CN) 201830540118.2

(51) **LOC (13) Cl.** **15-05**

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

(58) **Field of Classification Search**
USPC D32/21, 31; D21/526, 578; D8/70, 310,
D8/330; D10/37, 38, 50, 106.2, 106.5;
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D588,066 S * 3/2009 Kettula D13/108
D593,265 S * 5/2009 Carr D32/21
(Continued)

FOREIGN PATENT DOCUMENTS

CN 302560172 * 9/2013
CN 303979123 * 12/2016
(Continued)

OTHER PUBLICATIONS

Product Maintenance DEEBOT OZMO 900, announced in YouTube on Dec. 9, 2018 [online], [site visited Nov. 30, 2020, Available from the internet URL: <https://www.youtube.com/watch?v=iMosO9FtcRg&app=desktop> (Year: 2018).*

(Continued)

Primary Examiner — Dana K Weiland
Assistant Examiner — Jennylou M Binas
(74) *Attorney, Agent, or Firm* — Maschoff Brennan

(57) **CLAIM**

We claim the ornamental design for a robot cleaner, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a robot cleaner, showing our new design;
FIG. 2 is a front elevational view thereof;
FIG. 3 is a left-side, elevational view thereof;
FIG. 4 is a right-side, elevational view thereof;
FIG. 5 is a top plan view thereof;
FIG. 6 is a bottom plan view thereof;
FIG. 7 is a perspective view of the robot cleaner, showing a second embodiment of our new design;
FIG. 8 is a front elevational view thereof;
FIG. 9 is a left-side, elevational view thereof;
FIG. 10 is a right-side, elevational view thereof;
FIG. 11 is a top plan view thereof;
FIG. 12 is a bottom plan view thereof;
FIG. 13 is a perspective view of the robot cleaner, showing a third embodiment of our new design;
FIG. 14 is a front elevational view thereof;
FIG. 15 is a left-side, elevational view thereof;
FIG. 16 is a right-side, elevational view thereof;
FIG. 17 is a top plan view thereof;
FIG. 18 is a bottom plan view thereof;
FIG. 19 is a perspective view of the robot cleaner, showing a fourth embodiment of our new design;
FIG. 20 is a front elevational view thereof;
FIG. 21 is a left-side, elevational view thereof;
FIG. 22 is a right-side, elevational view thereof;

(Continued)

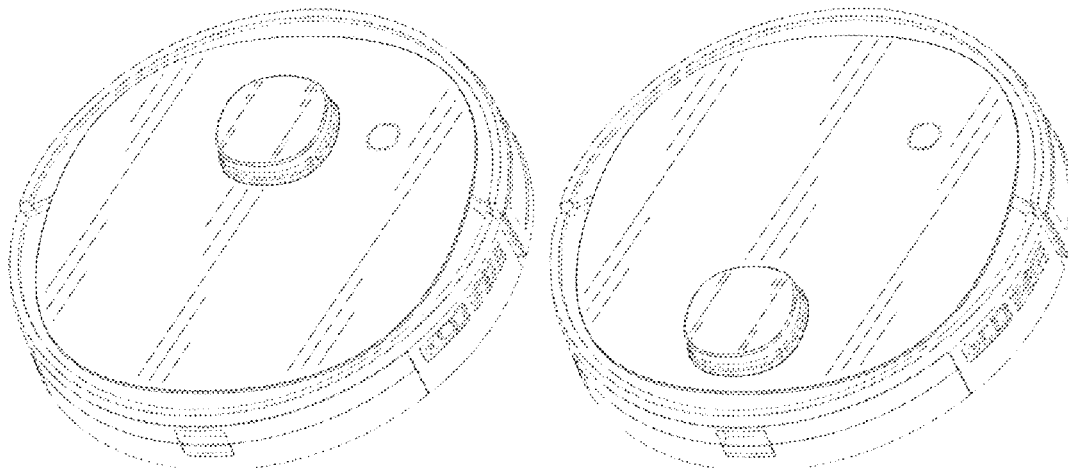


FIG. 23 is a top plan view thereof; and, FIG. 24 is a bottom plan view thereof. The broken lines show portions of the robot cleaner that form no part of the claimed design.

1 Claim, 10 Drawing Sheets

- (58) **Field of Classification Search**
 USPC D13/108, 209; D14/218, 248, 341, 344;
 D23/254
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D598,375	S	*	8/2009	Nomi	.....	D13/108
D625,059	S	*	10/2010	Morenstein	.....	D32/21
D627,728	S	*	11/2010	Smith	.....	D13/138.1
D628,153	S	*	11/2010	Fujii	.....	D13/108
D703,397	S	*	4/2014	Sungkyung	.....	D32/21
D704,400	S	*	5/2014	Shin	.....	D32/21
D709,255	S	*	7/2014	Wang	.....	D32/21
D709,873	S	*	7/2014	Aumiller	.....	D14/344
D714,288	S	*	9/2014	Aumiller	.....	D14/344
D718,234	S	*	11/2014	Rautiainen	.....	D13/108
D720,510	S	*	12/2014	Shin	.....	D32/21
D722,259	S	*	2/2015	Conner	.....	D8/300
D722,962	S	*	2/2015	Kim	.....	D13/108
D736,468	S	*	8/2015	Goswell	.....	D28/83
D743,645	S	*	11/2015	Lee	.....	D32/21
D770,930	S	*	11/2016	Li	.....	D10/106.2
D778,515	S	*	2/2017	Choi	.....	D32/21
D782,455	S	*	3/2017	Kim	.....	D14/248
D789,352	S	*	6/2017	Kong	.....	D14/314
D819,189	S	*	5/2018	Chen	.....	D23/332
D835,070	S	*	12/2018	DePasquale	.....	D14/216
D840,617	S	*	2/2019	Dou	.....	D32/21
D845,551	S	*	4/2019	Weinrich	.....	D28/83
D847,805	S	*	5/2019	Lederer	.....	D14/250
D853,036	S	*	7/2019	Lee	.....	D28/82
D858,758	S	*	9/2019	Mulumudi	.....	D24/134
D867,701	S	*	11/2019	Mi	.....	D32/31
D867,905	S	*	11/2019	McKinnon	.....	D10/50
D869,109	S	*	12/2019	Yu	.....	D32/21
D875,041	S	*	2/2020	Chen	.....	D13/108
D877,068	S	*	3/2020	Wang	.....	D13/108
D883,511	S	*	5/2020	Li	.....	D24/217
D884,298	S	*	5/2020	Li	.....	D32/21
D884,489	S	*	5/2020	Yu	.....	D10/15
D884,615	S	*	5/2020	Ito	.....	D13/108
2018/0344118	A1	*	12/2018	Kim	.....	B62D 55/125
2020/0205627	A1	*	7/2020	Choi	.....	A47L 9/106

FOREIGN PATENT DOCUMENTS

CN	304184718	*	6/2017
CN	304245842	*	8/2017
CN	304437192	*	1/2018
CN	304438189	*	1/2018
CN	304566598	*	4/2018

CN	304651528	*	5/2018
CN	304651529	*	5/2018
CN	304651536	*	5/2018
CN	304705643	*	6/2018
CN	304705644	*	6/2018
CN	304717345	*	7/2018
CN	304732111	*	7/2018
CN	305109773	*	4/2019
CN	302560172	*	6/2019
CN	305427545	*	11/2019
IN	317525-001-0001	*	6/2020
RU	110054	*	1/2018
WO	D207962-006	*	10/2020

OTHER PUBLICATIONS

DEEBOT OZMO 950, announced in YouTube on Aug. 13, 2019 [online], [site visited Nov. 30, 2020], Available from the internet URL: <https://www.youtube.com/watch?v=IZuHgVoJnok> (Year: 2019).*

ECOVACS DEEBOT OZMO 605, announced in YouTube on Sep. 21, 2019 [online], [site visited Nov. 30, 2020], Available from the internet URL: <https://www.youtube.com/watch?v=SV4ictbQqZA> (Year: 2019).*

Cuchen Rice Cooker, available in behance.net, announced Year 2020 [online], [site visited Nov. 30, 2020], Internet URL: https://www.behance.net/gallery/92339069/Cuchen-Rice-Cooker?tracking_source=search_projects_recommended%7CCuchen%20Rice%20Cooker (Year: 2020).*

Midea Induction Cooker, available in behance.net, announced Year 2020 [online], [site visited Nov. 30, 2020], Internet URL: https://www.behance.net/gallery/103879799/Midea-Induction-Cooker?tracking_source=search_projects_recommended%7CCuchen%20Rice%20Cooker (Year: 2020).*

ECOBEE Smart Wi-Fi, available in amazon.com, date first available Aug. 31, 2017 [online], [site visited Nov. 30, 2020], Internet URL: https://www.amazon.com/dp/B0759JDTT6/ref=cm_sw_r_em_apa_fabt1_R-WWFbJGR5ANH?encoding=UTF8&psc=1 (Year: 2017).*

Samsung Wi-Fi Mesh Router, available in amazon.com, date first available Aug. 12, 2018 [online], [site visited Nov. 30, 2020], Internet URL: <https://www.amazon.com/Samsung-SmartThings-Extender-Functionality-Whole-Home/dp/B07FCRCD93> (Year: 2018).*

Fan Design, available in pinterest.com, announced Year 2020 [online], [site visited Nov. 30, 2020], Internet URL: https://www.pinterest.com/pin/586171707742780109/sent/?invite_code=666e93dfc5914b6db1806b35c8cf220f&sender=796504021505466042&sfo=1 (Year: 2020).*

Philips Compact Automotive Clean Air System, available in pinterest.com, announced Year 2020 [online], [site visited Nov. 30, 2020], Internet URL: <https://www.pinterest.com/pin/427912402071818895/?d=t&mt=login> (Year: 2020).*

Smart Garage Door Opener available in amazon.com, date first available Aug. 20, 2020 [online], [site visited Nov. 30, 2020], Internet URL: https://www.amazon.com/dp/B08GD3D9YJ/ref=cm_sw_r_em_apa_fabt1_dic_3bXWFb8DX9N0?encoding=UTF8&th=1 (Year: 2020).*

* cited by examiner

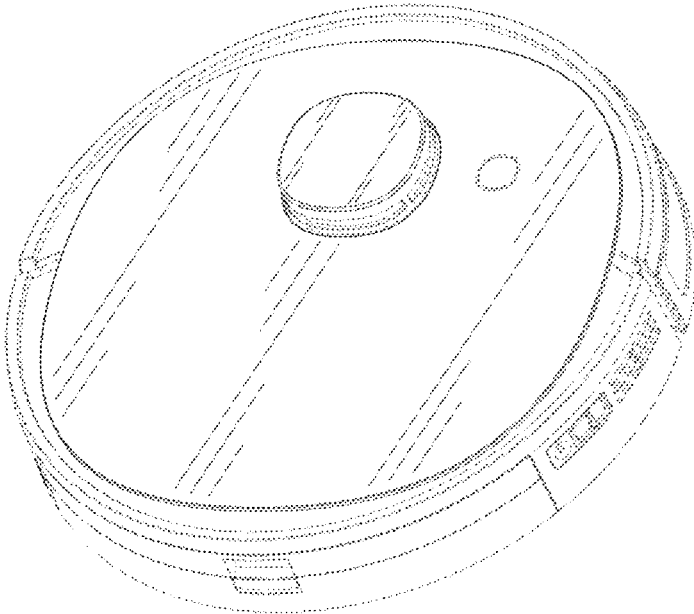


FIG.1

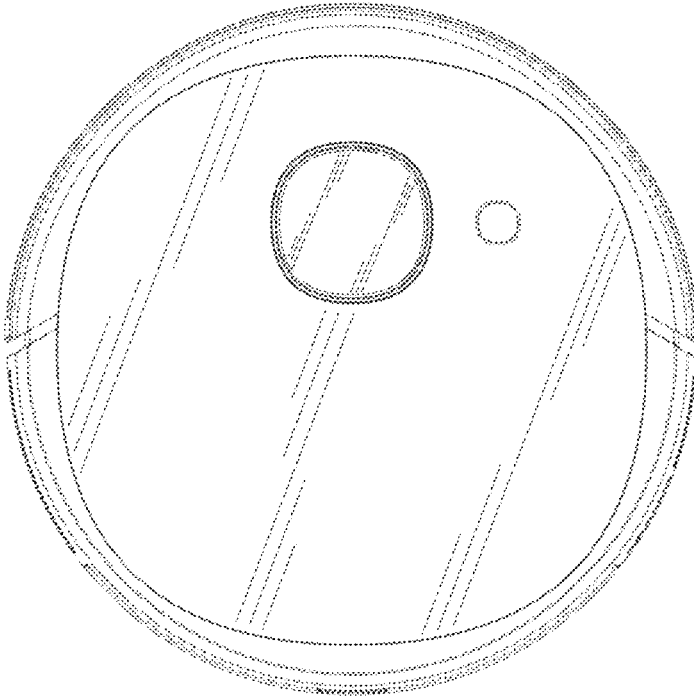


FIG.2

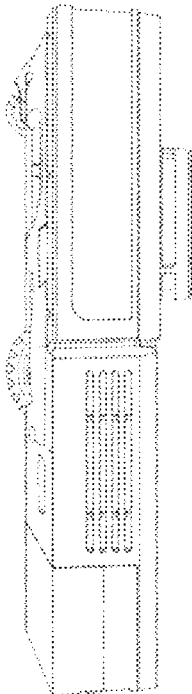


FIG.3

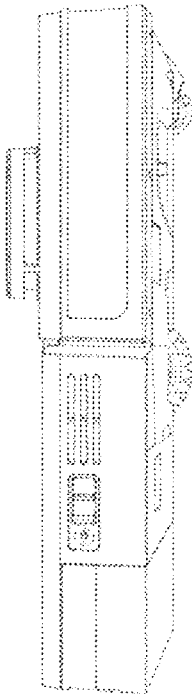


FIG.4

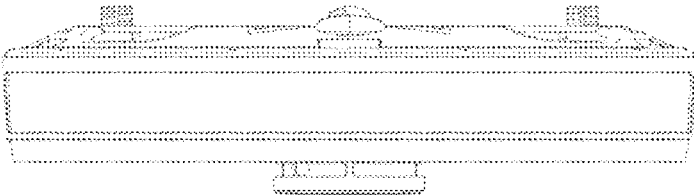


FIG.5

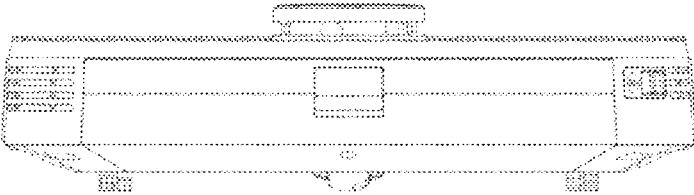


FIG.6

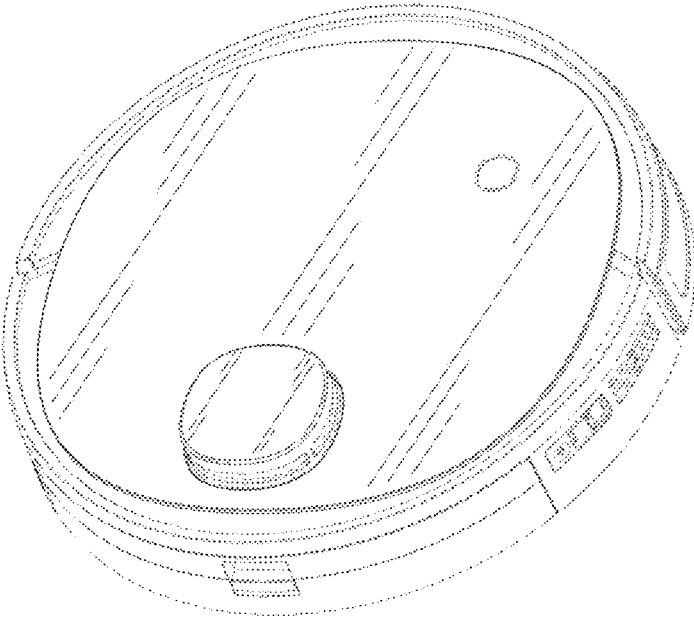


FIG.7

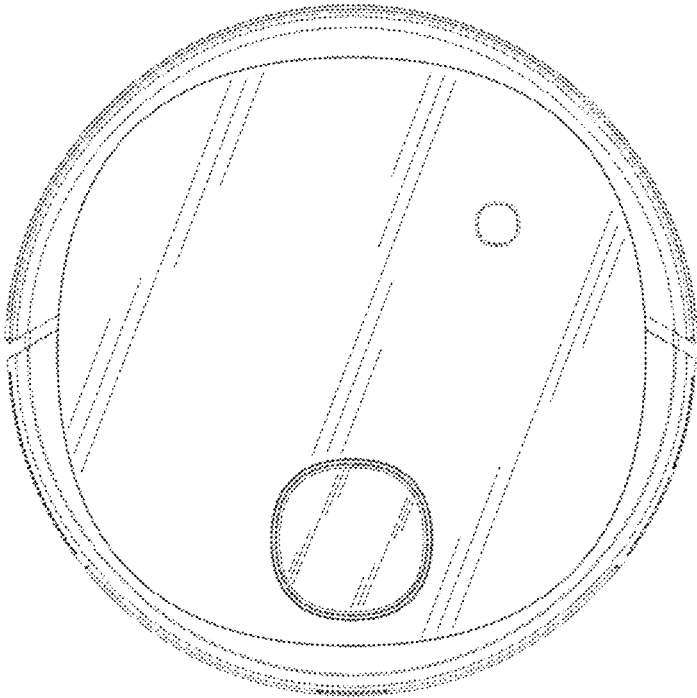


FIG.8

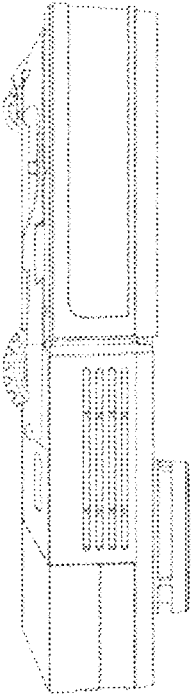


FIG.9

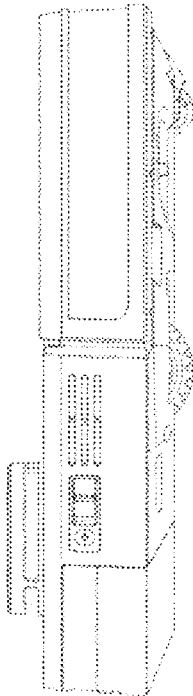


FIG.10

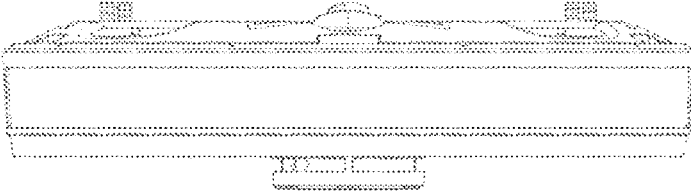


FIG.11

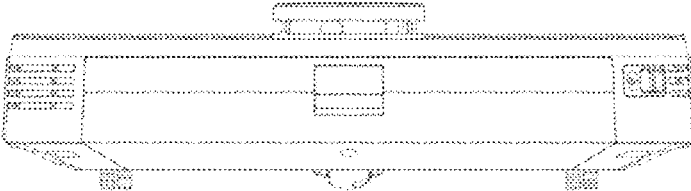


FIG.12

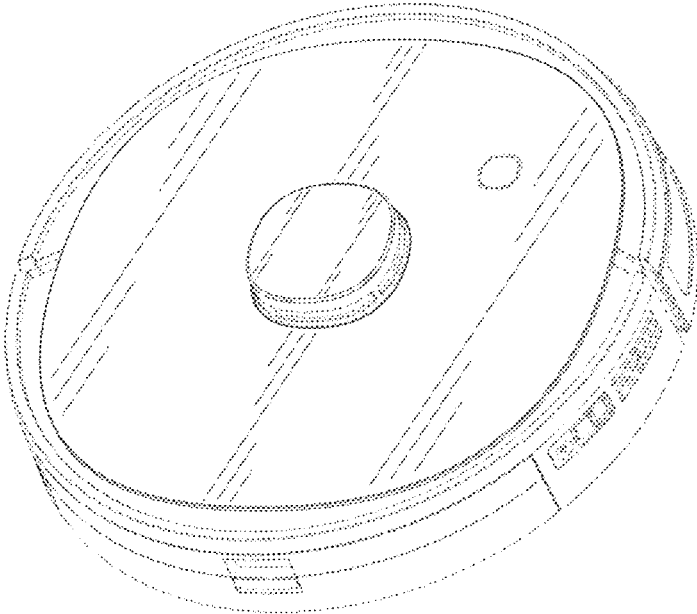


FIG.13

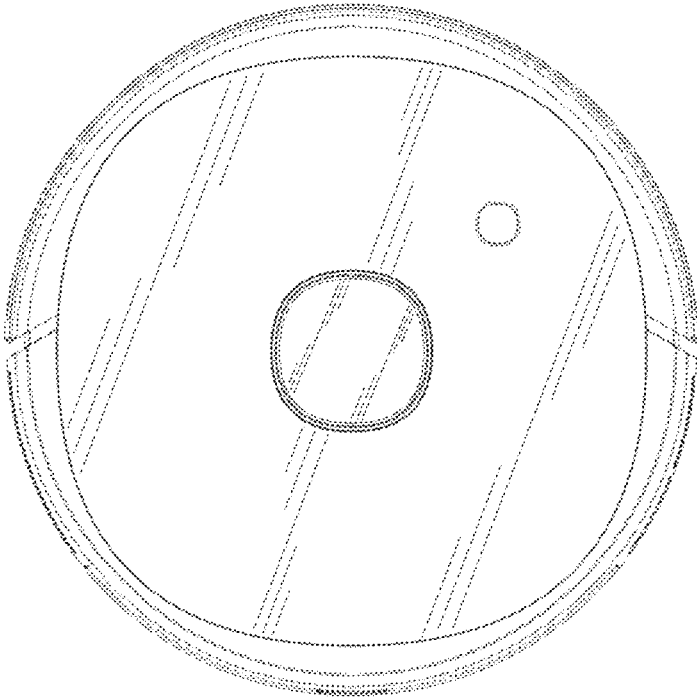


FIG.14

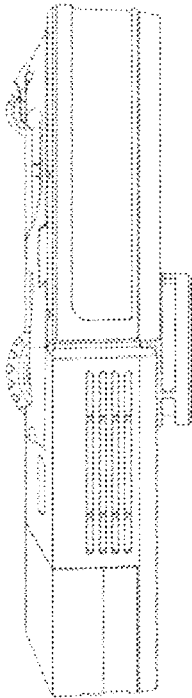


FIG.15

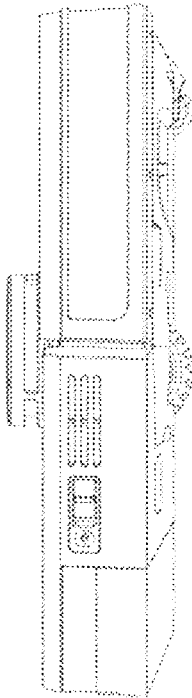


FIG.16

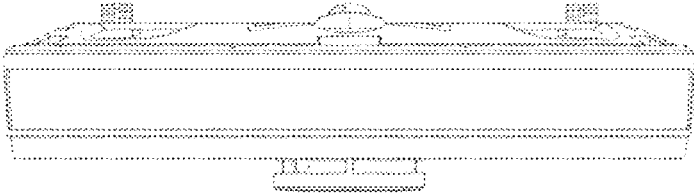


FIG.17

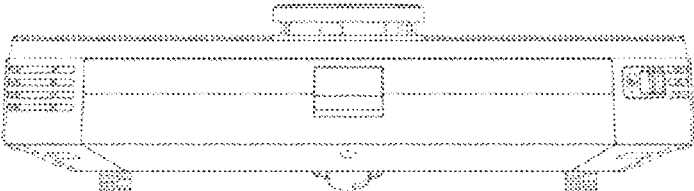


FIG.18

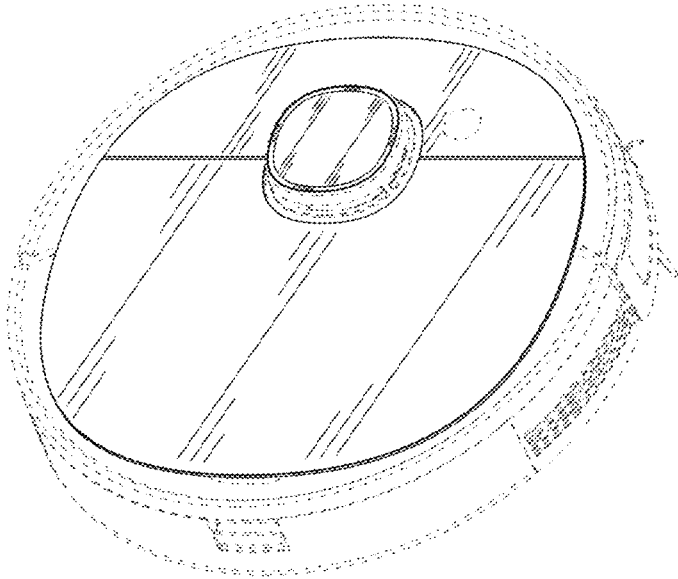


FIG.19

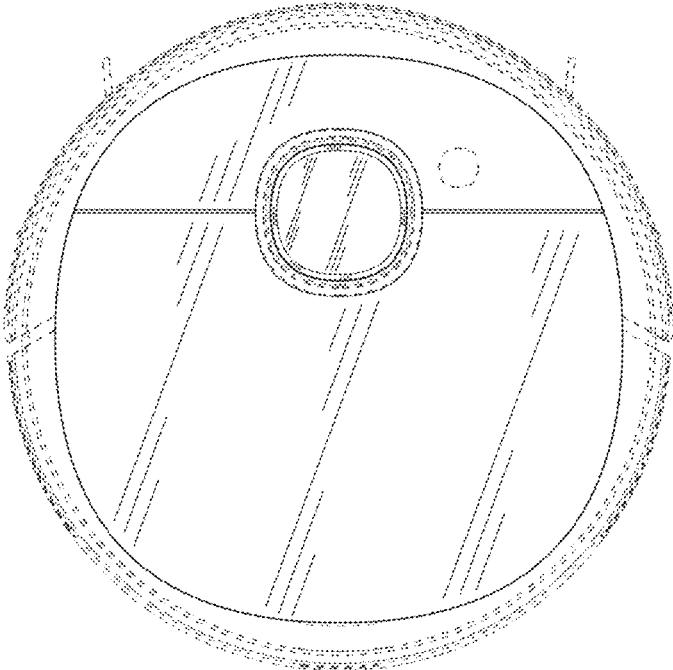


FIG.20

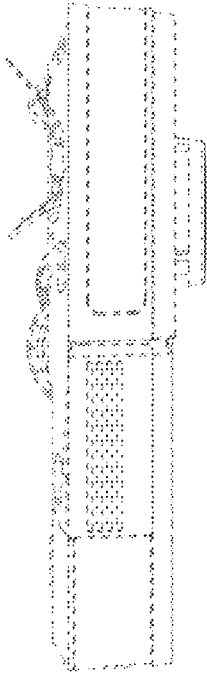


FIG.21

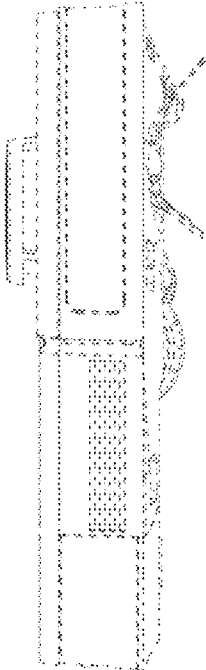


FIG.22

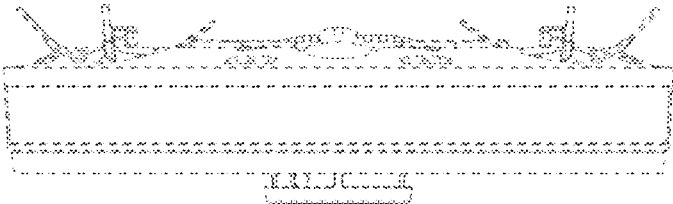


FIG.23



FIG.24