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

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(54) **CLEANING ROBOT**

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

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(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; D13/108, 109; D14/218, 248, 341, 344; D23/254  
CPC . A47L 5/08; A47L 5/30; A47L 7/0004; A47L 9/04; A47L 9/168; A47L 9/2805; A47L 9/2873; A47L 11/4011; A47L 11/4016; A47L 11/4038; A47L 11/4041; A47L 11/4044; A47L 2201/02; A47L 2201/04; A47L 2201/06; B25J 9/0003; B25J 9/1694; E04H 4/1636; G05D 1/0225; G06N 3/008

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D359,701 S \* 6/1995 Fischette ..... D10/106.5  
D548,902 S \* 8/2007 Chun ..... D32/21

D593,265 S \* 5/2009 Carr ..... D32/21  
D613,627 S \* 4/2010 Wang ..... D10/50  
D621,547 S \* 8/2010 Wirgler ..... D28/82  
D622,003 S \* 8/2010 Naughton ..... D28/82  
D658,341 S \* 4/2012 Nam ..... D32/21  
D661,439 S \* 6/2012 Lee ..... D32/21

(Continued)

**FOREIGN PATENT DOCUMENTS**

CN 304184717 \* 6/2017  
CN 304483102 \* 1/2018

(Continued)

**OTHER PUBLICATIONS**

Mi Robot Vacuum, announced in YouTube on Jan. 31, 2018 [online], [site visited Oct. 19, 2020], Available from the internet URL: <https://www.youtube.com/watch?v=HlqzWMq849c> (Year: 2018).\*

(Continued)

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(57) **CLAIM**

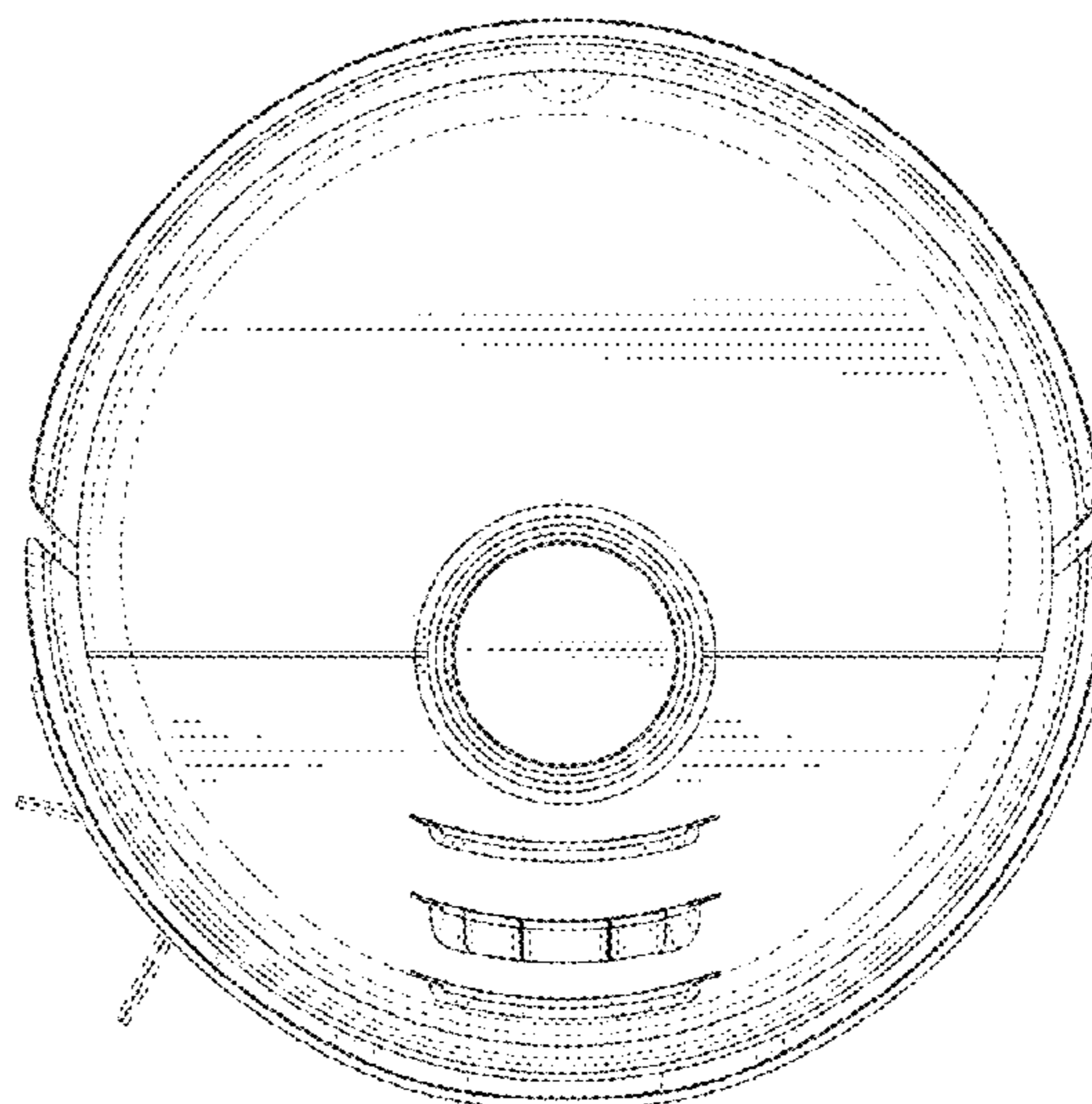
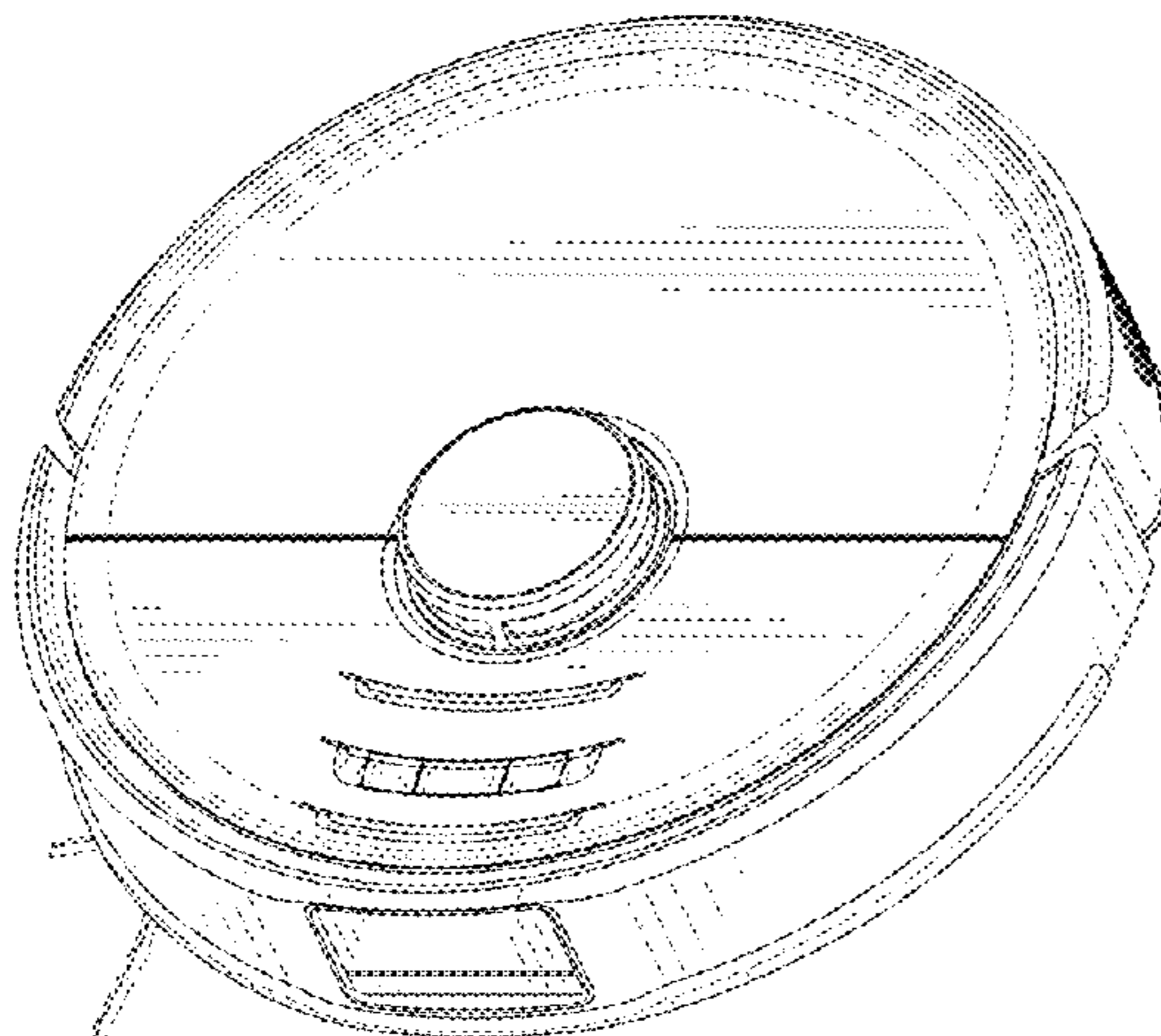
The ornamental design for a cleaning robot, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view of a cleaning robot showing our new design;  
FIG. 2 is another perspective view thereof;  
FIG. 3 is a front elevational view thereof;  
FIG. 4 is a rear elevational view thereof;  
FIG. 5 is a left side elevational view thereof;  
FIG. 6 is a right side elevational view thereof;  
FIG. 7 is a top plan view thereof; and,  
FIG. 8 is a bottom plan view thereof.

The broken lines in the drawings depict portions of the cleaning robot that form no part of the claimed design.

**1 Claim, 8 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

D661,440	S	*	6/2012	Lee	.....	D32/21
D690,478	S	*	9/2013	Li	.....	D32/21
D722,259	S	*	2/2015	Conner	.....	D8/300
D726,377	S	*	4/2015	Koo	.....	D28/82
D726,672	S	*	4/2015	Olodort	.....	D14/138 G
D790,372	S	*	6/2017	Daoura	.....	D10/70
D790,373	S	*	6/2017	Daoura	.....	D10/70
10,061,021	B2	*	8/2018	Faetani	.....	G01S 7/487
D835,070	S	*	12/2018	DePasquale	.....	D14/216
D835,869	S	*	12/2018	Li	.....	D32/21
D840,617	S	*	2/2019	Dou	.....	D32/21
D849,678	S	*	5/2019	Kojima	.....	D13/102
D857,996	S	*	8/2019	Chen	.....	D28/82
D860,816	S	*	9/2019	Rathbun	.....	D9/780
D861,989	S	*	10/2019	Jeong	.....	D28/78
D867,701	S	*	11/2019	Mi	.....	D32/31
D869,109	S	*	12/2019	Yu	.....	D32/21
D871,693	S	*	12/2019	Ebrahimi Afrouzi	.....	D32/21
D871,694	S	*	12/2019	Casini	.....	D32/21
D872,953	S	*	1/2020	Ebrahimi Afrouzi	.....	D32/21
D876,035	S	*	2/2020	Song	.....	D32/21
D884,298	S	*	5/2020	Li	.....	D32/21
D885,461	S	*	5/2020	Pera	.....	D16/218
D885,698	S	*	5/2020	Li	.....	D32/21
D885,699	S	*	5/2020	Li	.....	D32/21
D893,819	S	*	8/2020	Li	.....	D32/21
D898,294	S	*	10/2020	Kikuchi	.....	D28/82
2019/0290091	A1	*	9/2019	Liang	.....	A47L 11/24
2019/0298137	A1	*	10/2019	Zhu	.....	A47L 11/4002
2020/0046192	A1	*	2/2020	Zhang	.....	A47L 11/28
2020/0205627	A1	*	7/2020	Choi	.....	A47L 9/106

FOREIGN PATENT DOCUMENTS

CN	304546154	*	3/2018
CN	304566598	*	4/2018
CN	303979123	*	6/2018
CN	304705643	*	6/2018
CN	304732111	*	7/2018
CN	304926998	*	12/2018
CN	305211139	*	6/2019
EM	6763751-001	*	9/2019
IN	317525-001-0001	*	6/2020
JP	D1668715	*	9/2020
RU	110054	*	7/2018
WO	D209160-001	*	7/2020

OTHER PUBLICATIONS

Roborock S5, announced in YouTube on Feb. 10, 2018 [online], [site visited Nov. 30, 2020], Available from the internet URL: <https://www.youtube.com/watch?v=diEdUnj61NQ> (Year: 2018).\*

Ecovacs Deebot Ozmo 900, available in Amazon.com, date first available Feb. 20, 2019 [online], [site visited Nov. 30, 2020], Available from the internet URL: [https://www.amazon.co.uk/dp/B07N1K6SGQ/ref=cm\\_sw\\_em\\_r\\_mt\\_imm\\_awdb\\_WBgXFbMZ52RBC?th=1](https://www.amazon.co.uk/dp/B07N1K6SGQ/ref=cm_sw_em_r_mt_imm_awdb_WBgXFbMZ52RBC?th=1) (Year: 2019).\*

Roborock S6 Robot Vacuum, available in Amazon.com, customer review oldest date Aug. 20, 2019 [online], [site visited Nov. 30, 2020], Available from the internet URL: [https://www.amazon.com/dp/B07VCQRY4W/ref=cm\\_sw\\_r\\_em\\_apa\\_fabt1\\_cQCVFbQKVDBSH?\\_encoding=UTF8&psc=1](https://www.amazon.com/dp/B07VCQRY4W/ref=cm_sw_r_em_apa_fabt1_cQCVFbQKVDBSH?_encoding=UTF8&psc=1) (Year: 2019).\*

Roborock S6 MaxV, available in Amazon.com, date first available Feb. 19, 2020 [online], [site visited Nov. 30, 2020], Available from the internet URL: <https://www.amazon.com/Roborock-Cleaner-ReactiveAI-Navigation-Intelligent/dp/B084Z5JD5Q> (Year: 2020).\*

LiDAR Robot Vacuum, available in Amazon.com, date first available May 20, 2020 [online], [site visited Nov. 30, 2020], Available from the internet URL: <https://www.amazon.com/360-Technology-Multi-Floor-Selective-Low-Medium/dp/B088WXQHTP> (Year: 2020).\*

Neabot Robot Vacuum, available in Amazon.com, date first available Jul. 3, 2020 [online], [site visited Nov. 30, 2020], Available from the internet URL: [https://www.amazon.com/dp/B08C9T88TN/ref=cm\\_sw\\_r\\_em\\_apa\\_fabt1\\_lcEVFbHEGKXK3?\\_encoding=UTF8&psc=1](https://www.amazon.com/dp/B08C9T88TN/ref=cm_sw_r_em_apa_fabt1_lcEVFbHEGKXK3?_encoding=UTF8&psc=1) (Year: 2020).\*

VEAVON Robot Vacuum, available in Amazon.com, date first available Aug. 7, 2020 [online], [site visited Nov. 30, 2020], Available from the internet URL: [https://www.amazon.com/dp/B08FDKJK1X/ref=cm\\_sw\\_r\\_em\\_apa\\_fabt1\\_0JCVFbNZGEEQW?\\_encoding=UTF8&psc=1](https://www.amazon.com/dp/B08FDKJK1X/ref=cm_sw_r_em_apa_fabt1_0JCVFbNZGEEQW?_encoding=UTF8&psc=1) (Year: 2020).\*

OXO Good Grip POP Snack and Cookie Jars, available in [bedbathandbeyond.com](http://bedbathandbeyond.com), customer review oldest date Dec. 1, 2012 [online], [site visited Nov. 30, 2020], Available from the internet URL: <https://www.bedbathandbeyond.com/store/product/oxo-good-grips-reg-pop-snack-and-cookie-jars/3262798> (Year: 2012).\*

Steam Rice Cooker, available in [yankodesign.com](http://yankodesign.com), announced Jul. 5, 2019 [online], [site visited Nov. 30, 2020], Internet URL: <https://www.yankodesign.com/2019/07/05/this-steam-rice-cooker-ensures-that-the-rice-is-cooked-in-minutes/> (Year: 2019).\*

\* cited by examiner

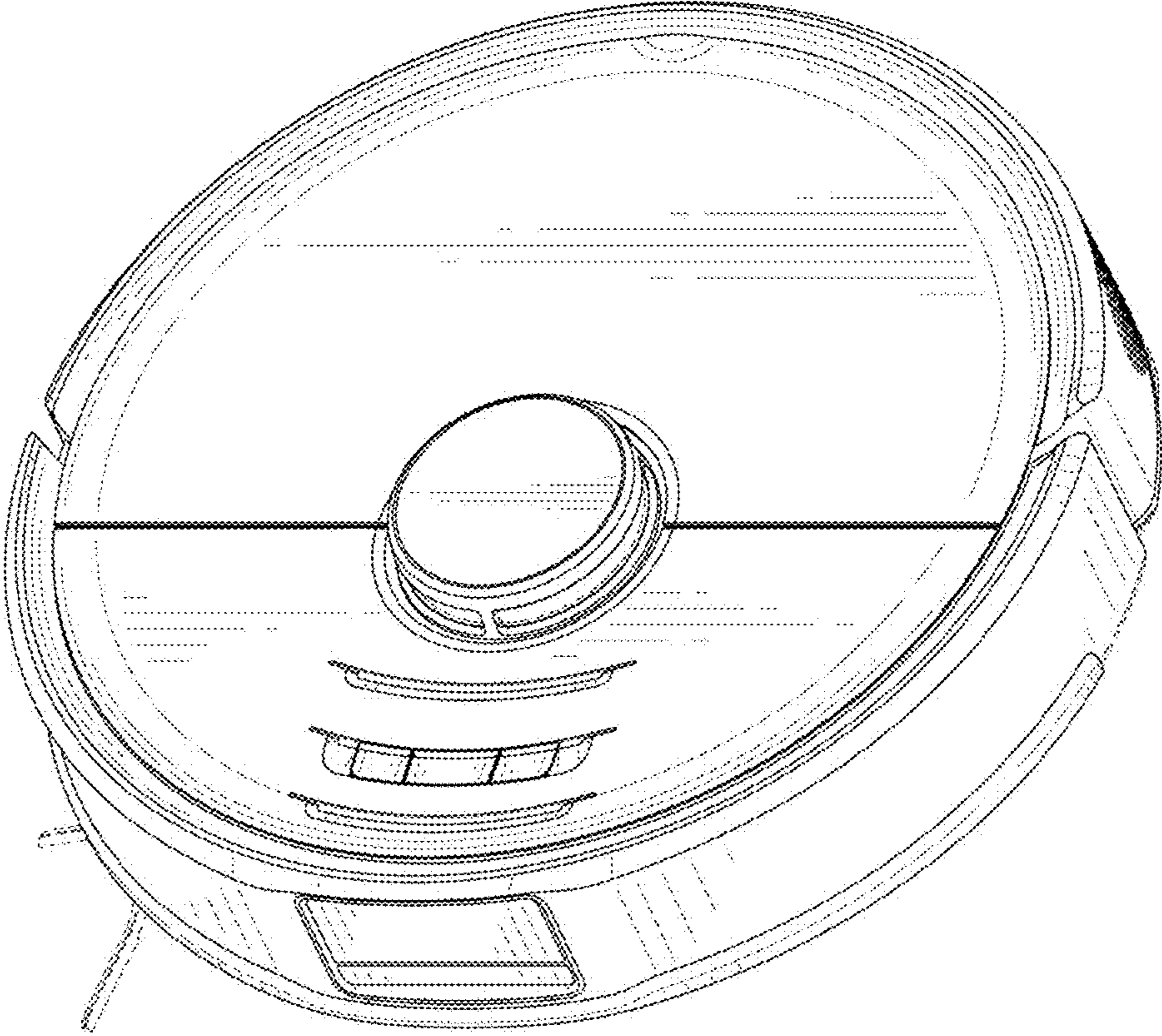


FIG. 1

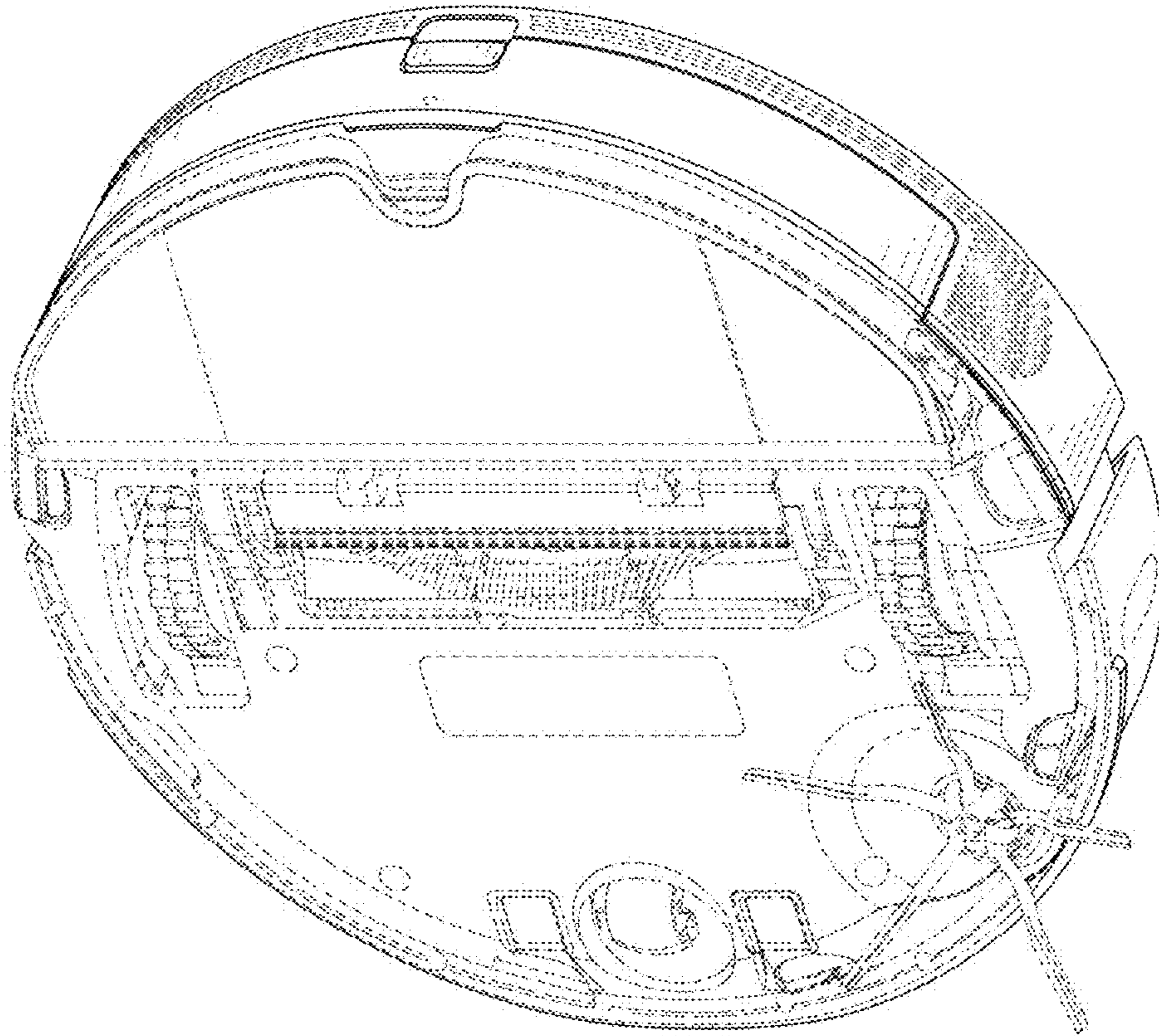


FIG. 2

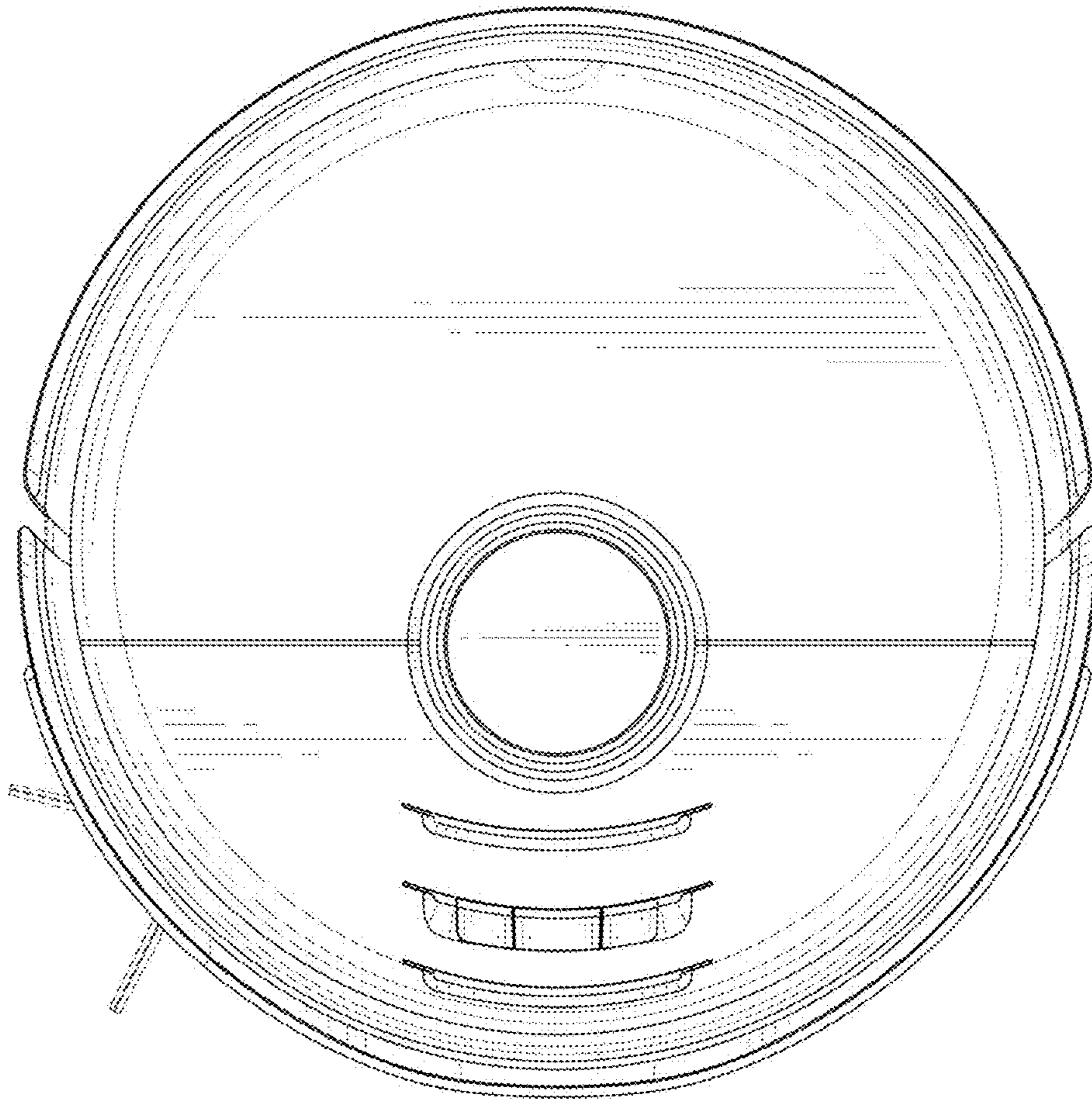


FIG. 3

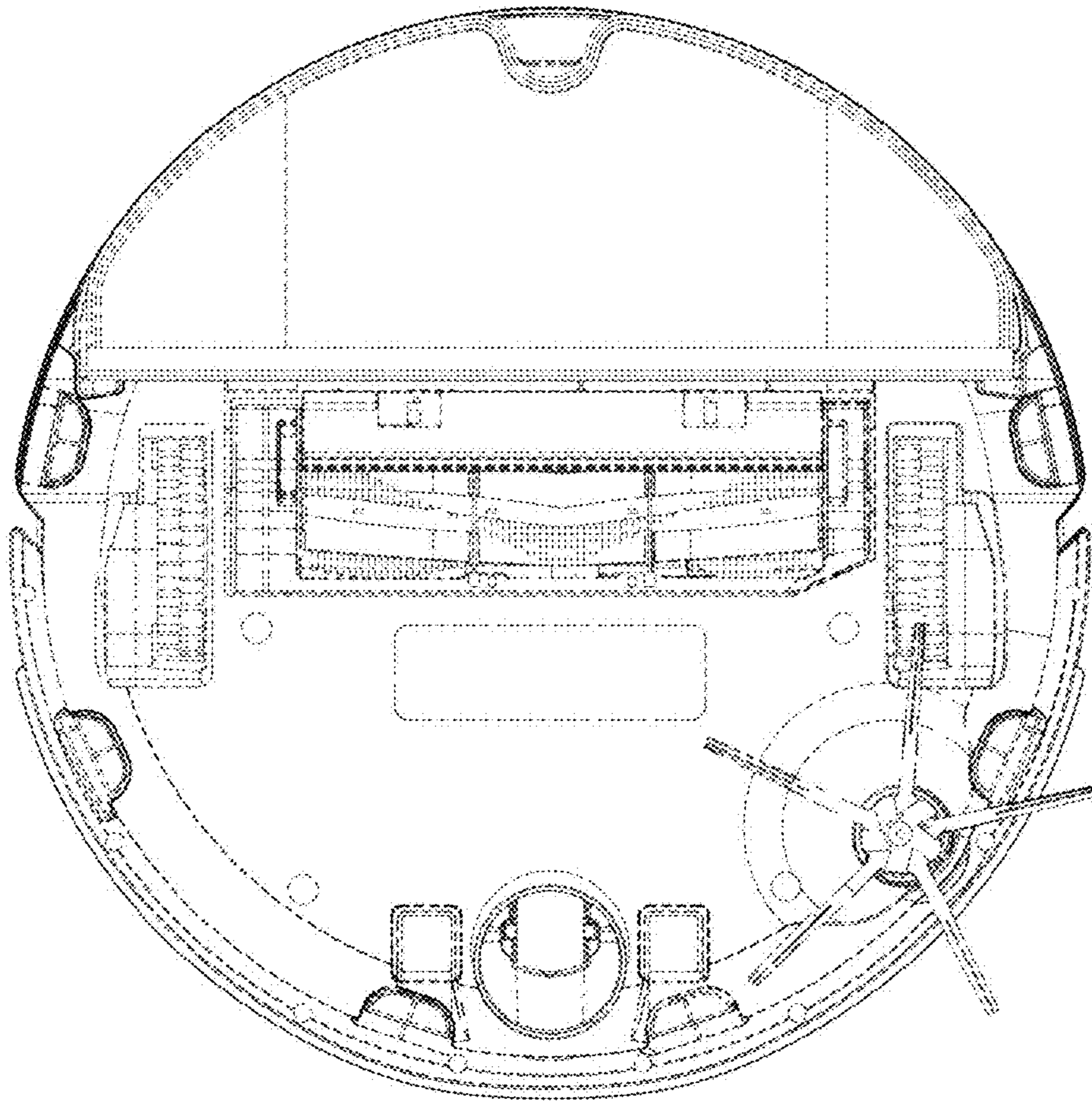


FIG. 4

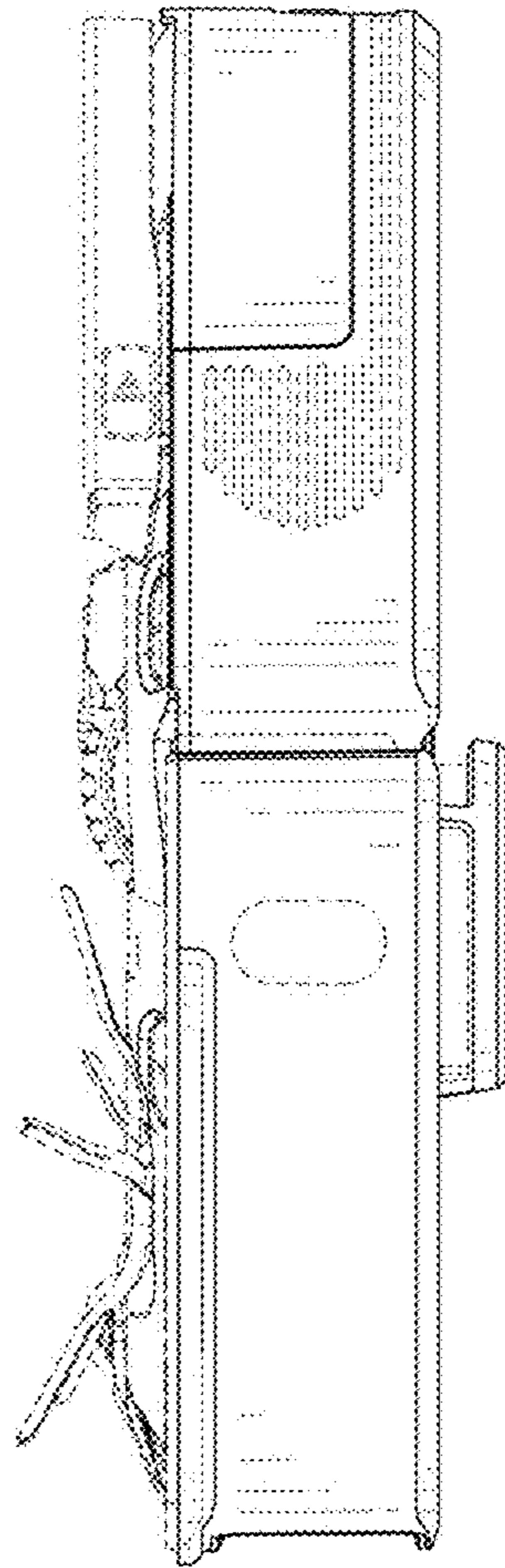


FIG. 5

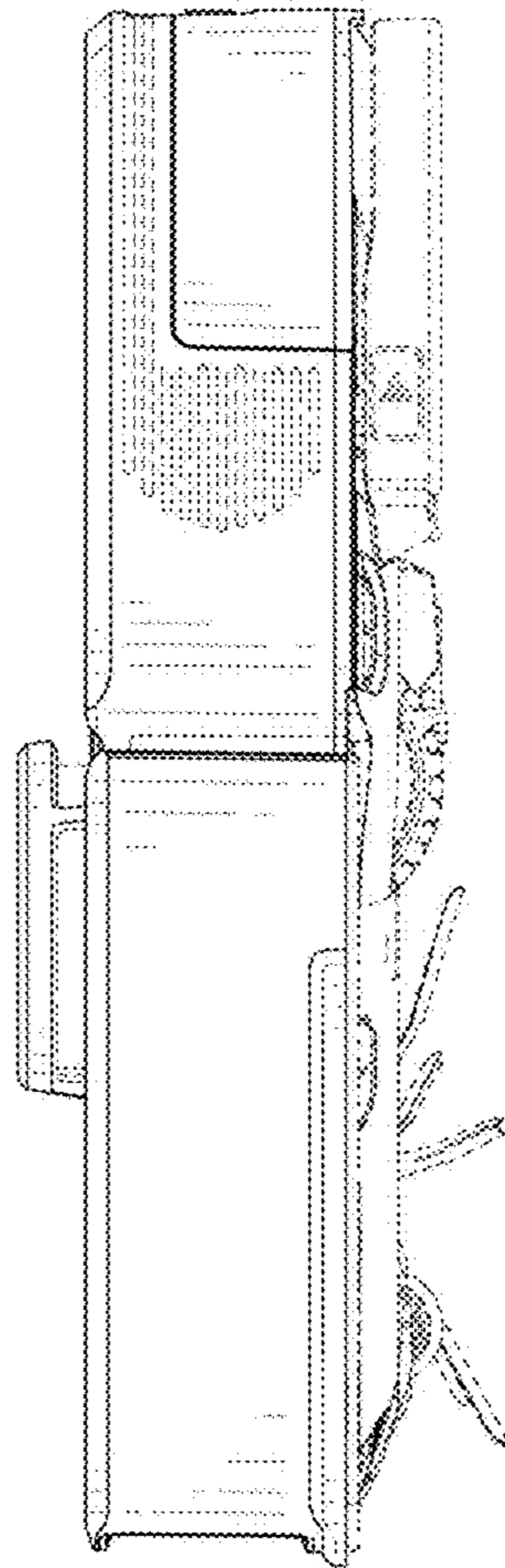


FIG. 6



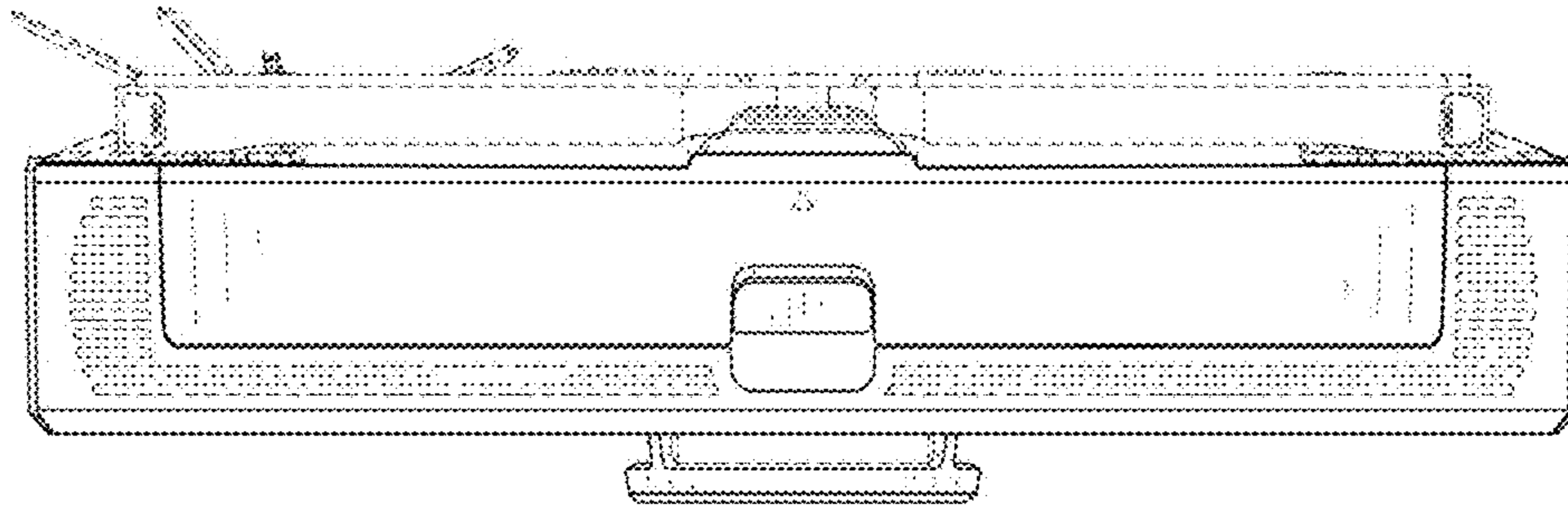


FIG. 7

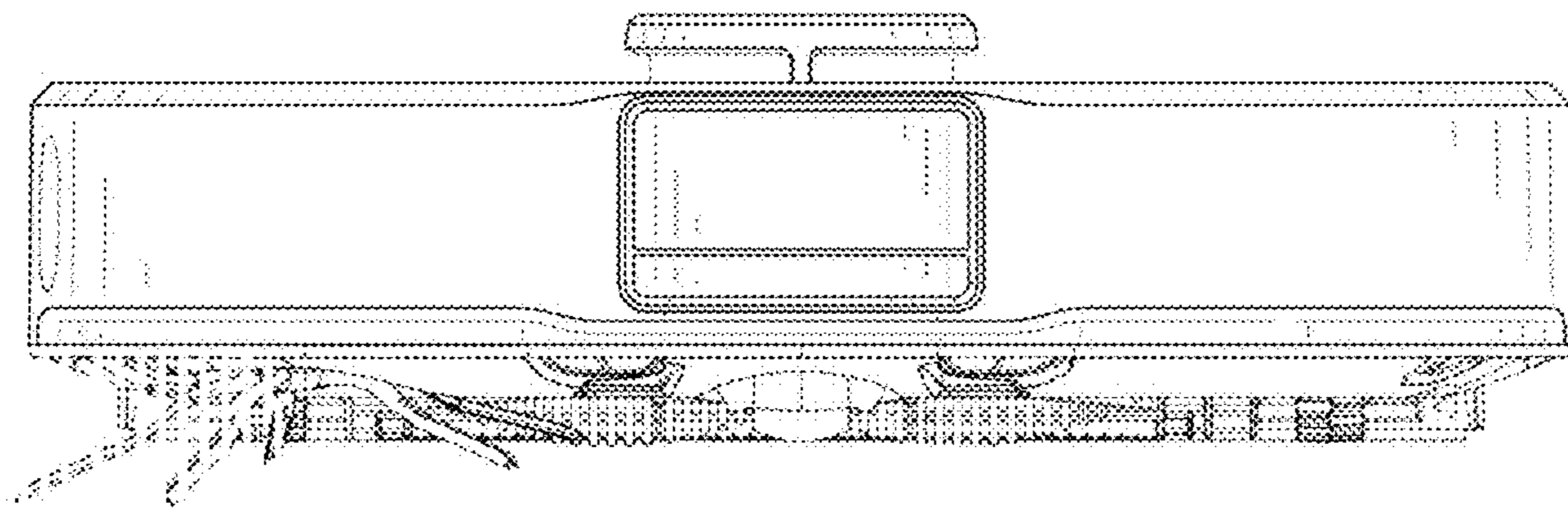


FIG. 8