



US00D972241S

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

(10) **Patent No.:** **US D972,241 S**
(45) **Date of Patent:** **** Dec. 6, 2022**

(54) **CLEANING ROBOT**

(71) Applicant: **Beijing Roborock Technology Co., Ltd.**, Beijing (CN)

(72) Inventors: **Youcheng Lu**, Beijing (CN); **Caiyun Hu**, Beijing (CN)

(73) Assignee: **Beijing Roborock Technology Co., Ltd.**, Beijing (CN)

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

(21) Appl. No.: **29/776,974**

(22) Filed: **Apr. 1, 2021**

(30) **Foreign Application Priority Data**

Oct. 15, 2020 (CN) 202030613665.6

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

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

(58) **Field of Classification Search**
USPC D32/15, 16, 19, 21

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D556,961 S * 12/2007 Swyst D15/199
D660,530 S * 5/2012 Geringer D32/21

(Continued)

FOREIGN PATENT DOCUMENTS

CN 304483102 S 1/2018
CN 304546154 S 3/2018

(Continued)

OTHER PUBLICATIONS

Roborock E5 Mop Robot Vacuum Cleaner (on-line), date first available Apr. 9, 2021. Retrieved from Internet May 20, 2022, URL:

<https://www.amazon.com/Roborock-E5-Mop-Self-Charging-Connected/dp/B091Y9745N?th=1> (6 pages) (Year: 2021).*

(Continued)

Primary Examiner — Kimberly Barnes
(74) *Attorney, Agent, or Firm* — Seed IP Law Group LLP

(57) **CLAIM**

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

DESCRIPTION

FIG. 1 is a front view of a first embodiment of the new design, showing a cleaning robot;
FIG. 2 is a back view of the first embodiment;
FIG. 3 is a left view of the first embodiment;
FIG. 4 is a right view of the first embodiment;
FIG. 5 is a top view of the first embodiment;
FIG. 6 is a bottom view of the first embodiment;
FIG. 7 is a perspective view of the first embodiment;
FIG. 8 is another perspective view of the first embodiment;
FIG. 9 is yet another perspective view of the first embodiment;
FIG. 10 is still another perspective view of the first embodiment;
FIG. 11 is still another perspective view of the first embodiment;
FIG. 12 is a front view of a second embodiment of the new design, showing a cleaning robot;
FIG. 13 is a back view of the second embodiment;
FIG. 14 is a left view of the second embodiment;
FIG. 15 is a right view of the second embodiment;
FIG. 16 is a top view of the second embodiment;
FIG. 17 is a bottom view of the second embodiment;
FIG. 18 is a perspective view of the second embodiment;
FIG. 19 is another perspective view of the second embodiment;
FIG. 20 is yet another perspective view of the second embodiment;
FIG. 21 is still another perspective view of the second embodiment; and,

(Continued)

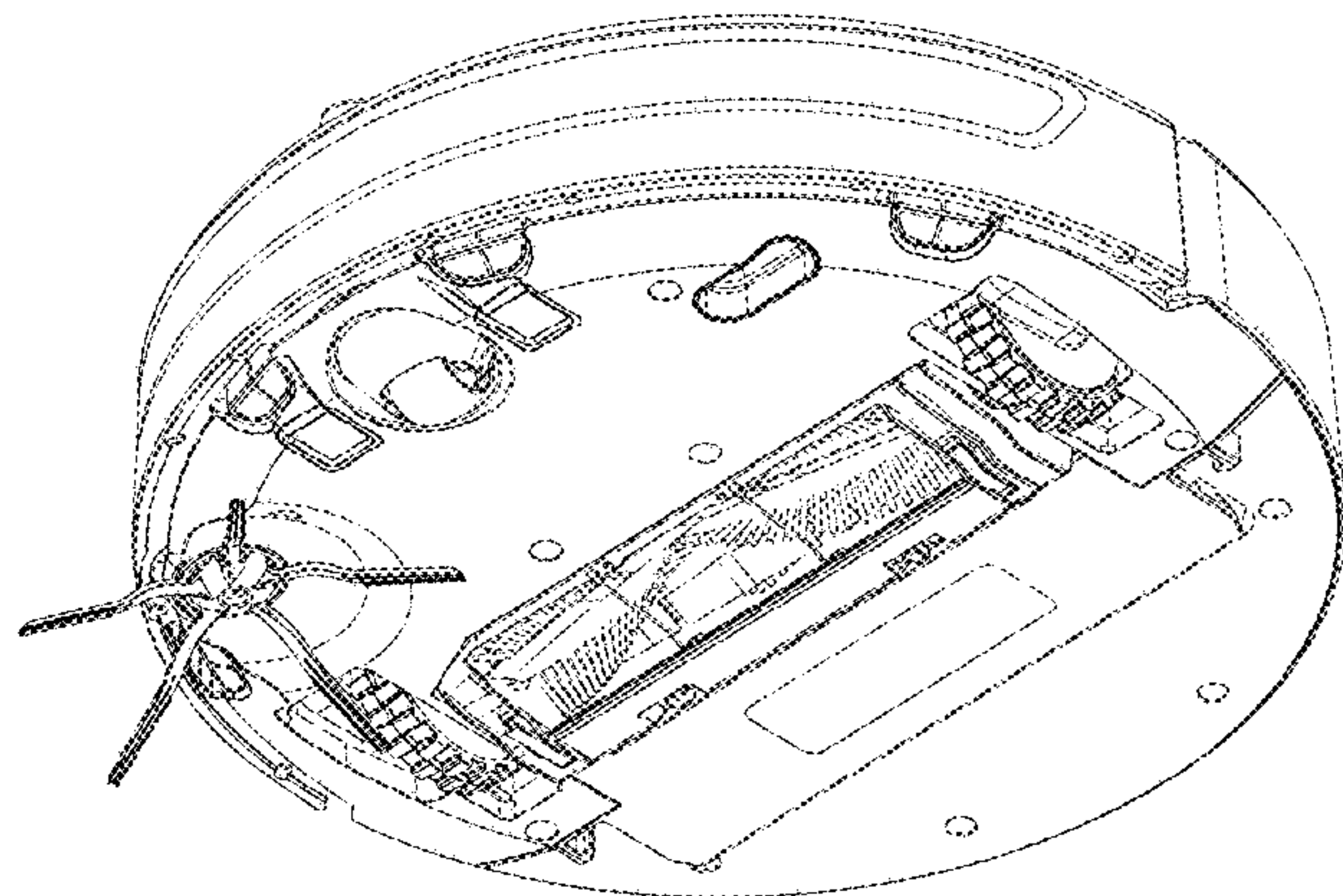
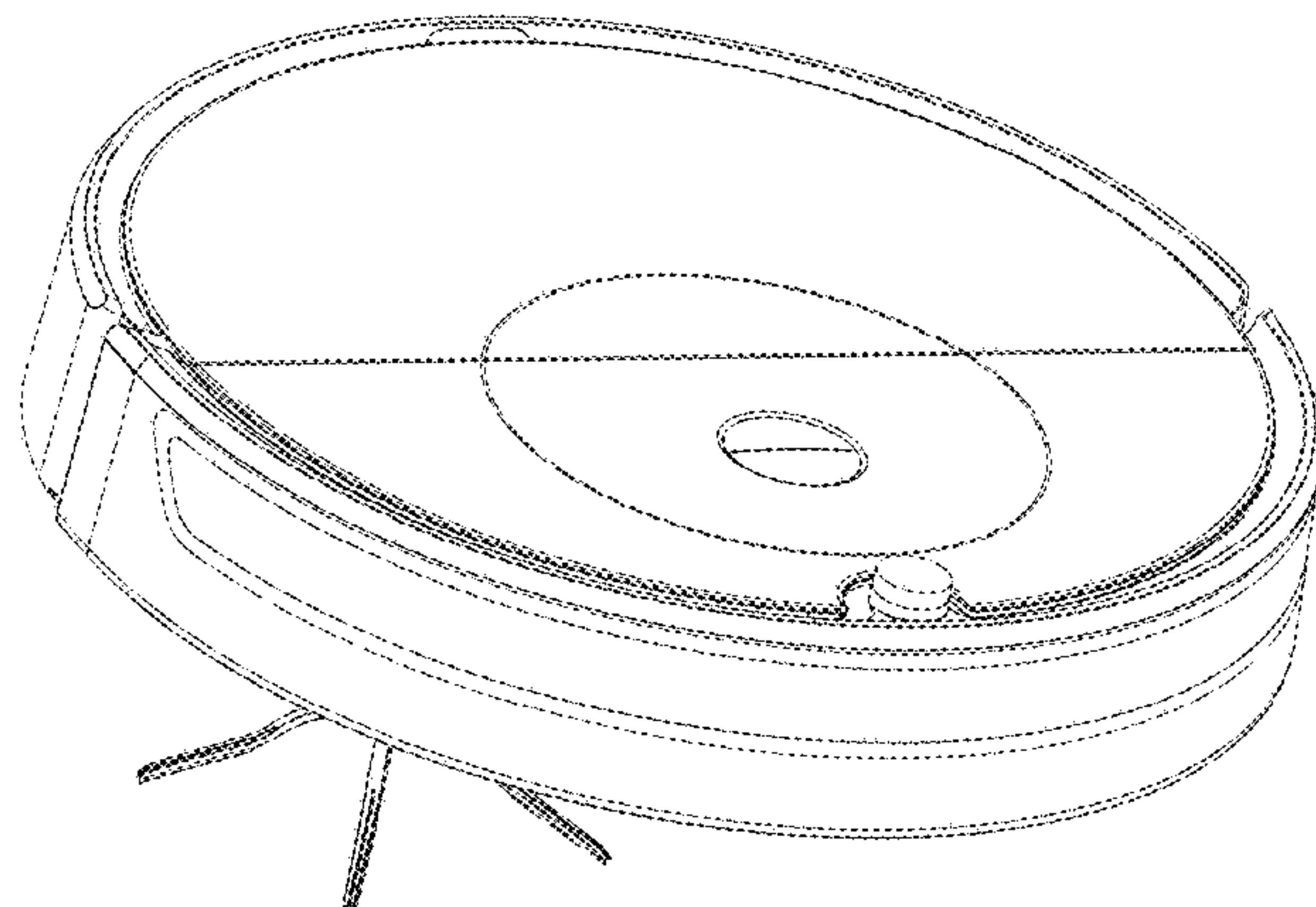


FIG. 22 is still another perspective view of the second embodiment.

1 Claim, 16 Drawing Sheets

(58) Field of Classification Search

CPC ... A47L 9/009; A47L 9/14; A47L 9/28; A47L 11/40

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

D669,235 S	10/2012	Bassett et al.	
8,600,553 B2 *	12/2013	Svendsen	A47L 11/4061 318/580
D714,002 S	9/2014	Casini	
D714,003 S	9/2014	Casini	
9,278,690 B2 *	3/2016	Smith	B60W 30/09
9,320,398 B2 *	4/2016	Hussey	A47L 11/4041
9,408,515 B2	8/2016	Rosenstein et al.	
9,474,427 B2 *	10/2016	Lee	A47L 11/4061
9,936,844 B2 *	4/2018	Nakamura	H01T 23/00
D840,617 S	2/2019	Dou et al.	
10,271,699 B2	4/2019	Li et al.	
D860,559 S	9/2019	Thackray et al.	
D867,701 S	11/2019	Mi et al.	
D869,109 S	12/2019	Yu et al.	
D884,298 S	5/2020	Li et al.	
D885,699 S	5/2020	Li	
D901,110 S	11/2020	Li et al.	
D903,961 S	12/2020	Li	
D906,607 S	12/2020	Chen	
10,905,303 B2 *	2/2021	Hu	A47L 11/4083
D919,210 S	5/2021	Mi et al.	
D919,211 S	5/2021	Chang et al.	
D919,910 S	5/2021	Li	
D921,308 S	6/2021	Cao et al.	
D921,309 S	6/2021	Liu	
D929,690 S	8/2021	Cheng et al.	
D932,123 S	9/2021	Li	
D933,319 S	10/2021	Lyu	
D935,712 S	11/2021	Wang	
D938,116 S	12/2021	Yu et al.	
D940,771 S	1/2022	Xie et al.	

11,330,953 B2 *	5/2022	Pastore	A47L 11/4061
2011/0040437 A1 *	2/2011	Lynch	A47L 9/2805 901/1
2019/0142233 A1 *	5/2019	Swett	A47L 9/1409 15/347
2019/0298120 A1 *	10/2019	Zhu	A47L 9/1409
2022/0047134 A1 *	2/2022	Burbank	A47L 9/2852

FOREIGN PATENT DOCUMENTS

CN	305037394 S	2/2019
CN	305037395 S	2/2019
CN	305049478 S	2/2019
CN	305049483 S	2/2019
CN	305751267 S	5/2020
CN	305989616 S	8/2020
CN	305997239 S	8/2020
CN	306162557 S	11/2020
CN	306224062 S	12/2020
CN	306273701 S	1/2021
CN	306273705 S	1/2021
CN	306391805 S	3/2021
CN	306423156 S	3/2021
CN	306532525 S	5/2021
CN	306532533 S	5/2021
CN	306551179 S	5/2021
CN	306551180 S	5/2021
CN	306562300 S	5/2021
CN	306655039 S	7/2021
CN	306713674 S	7/2021
CN	306746551 S	8/2021
CN	306818042 S	9/2021
CN	306832412 S	9/2021
JP	1668025 S	9/2020
JP	D1693862 *	8/2021

OTHER PUBLICATIONS

Roborock E5 Review—Best budget robot vacuum for seniors in 2021 (on-line), dated Sep. 27, 2021. Retrieved from Internet May 20, 2022, URL: <https://robotobzor.com/reviews/roborock/roborock-e5.html> (1 page) (Year: 2021).*

Robot Vacuums, iRobot Roomba, Roomba 800 series, p. 18, (JPO design division publicly known data No. HC26004837), with English Translation. 4 pages, downloaded Aug. 3, 2021.

* cited by examiner

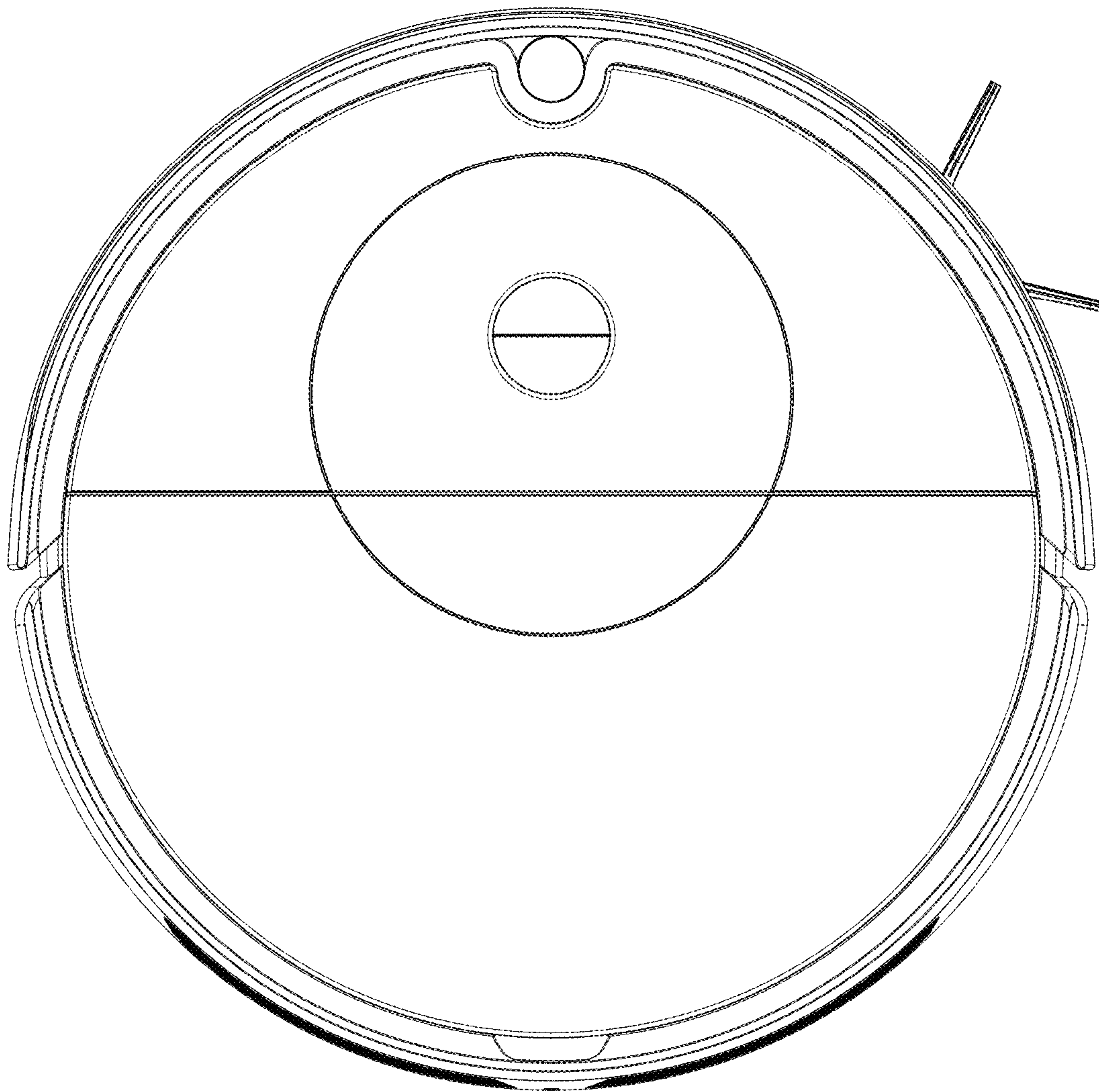


FIG. 1

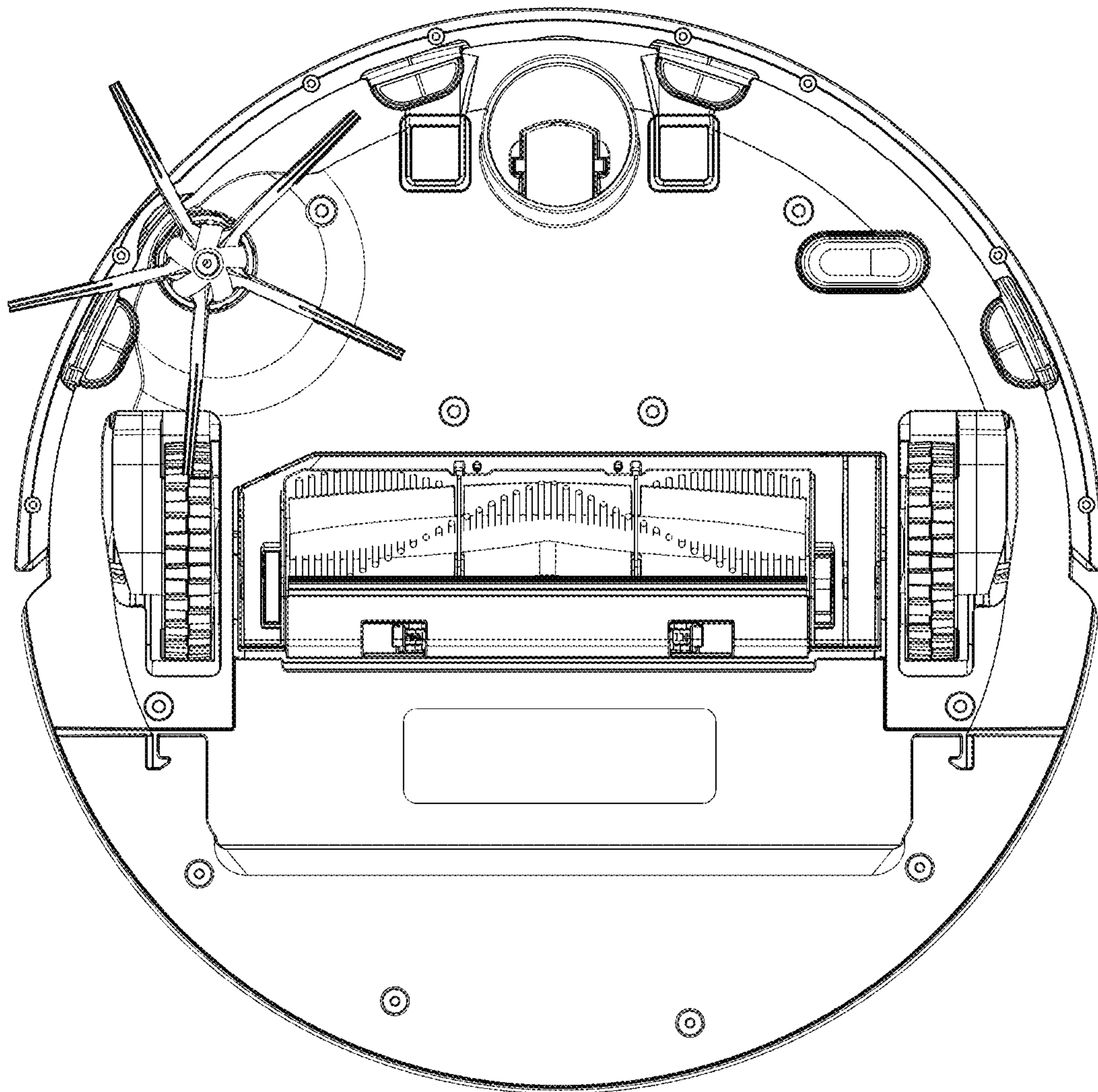


FIG. 2

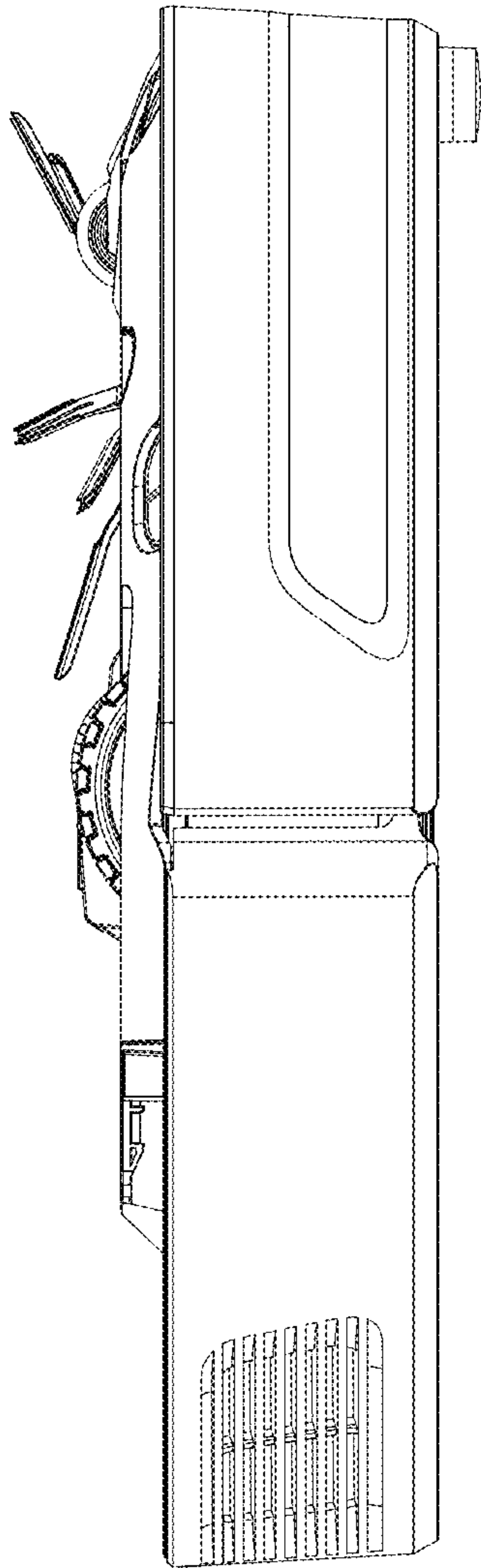


FIG. 3

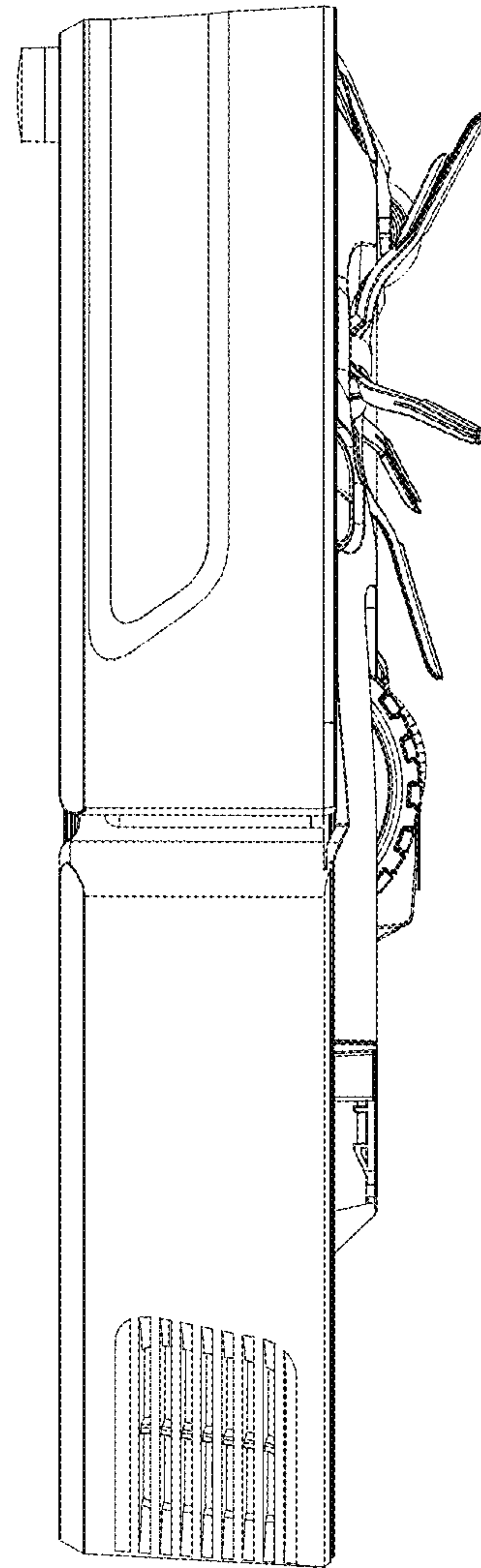


FIG. 4

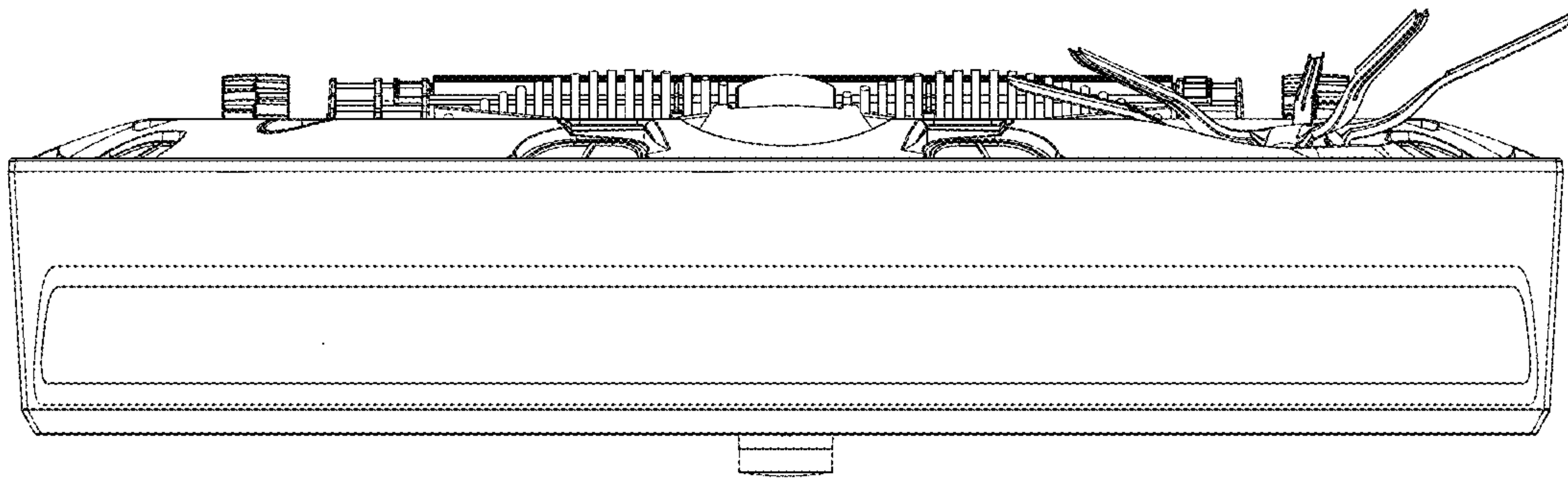


FIG. 5

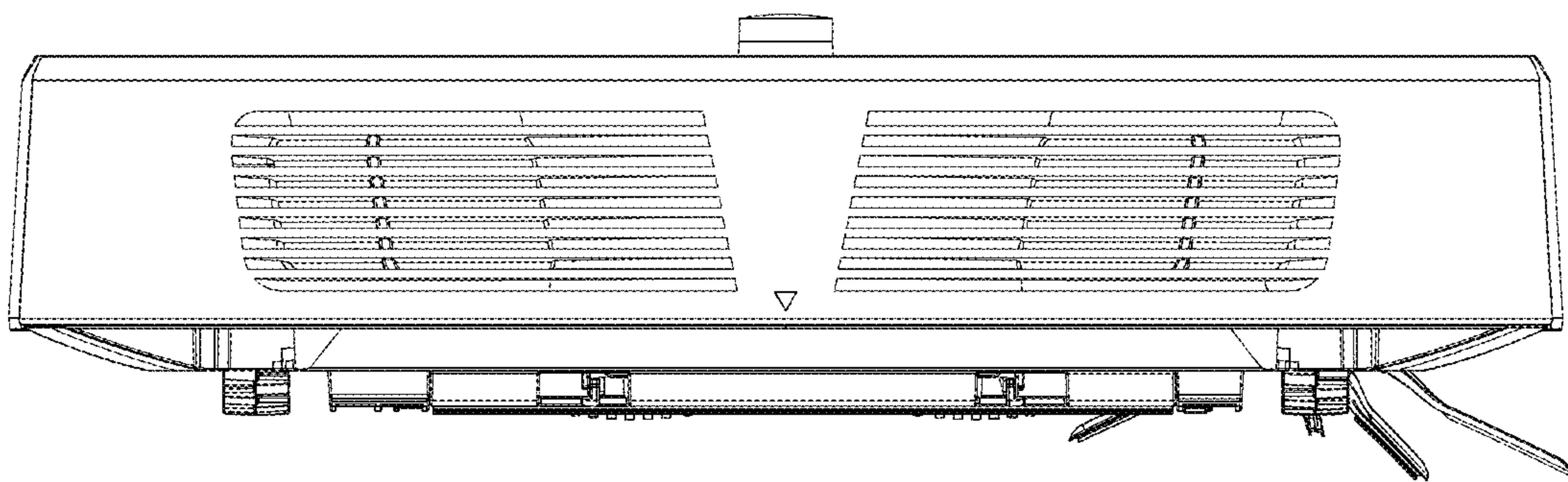


FIG. 6

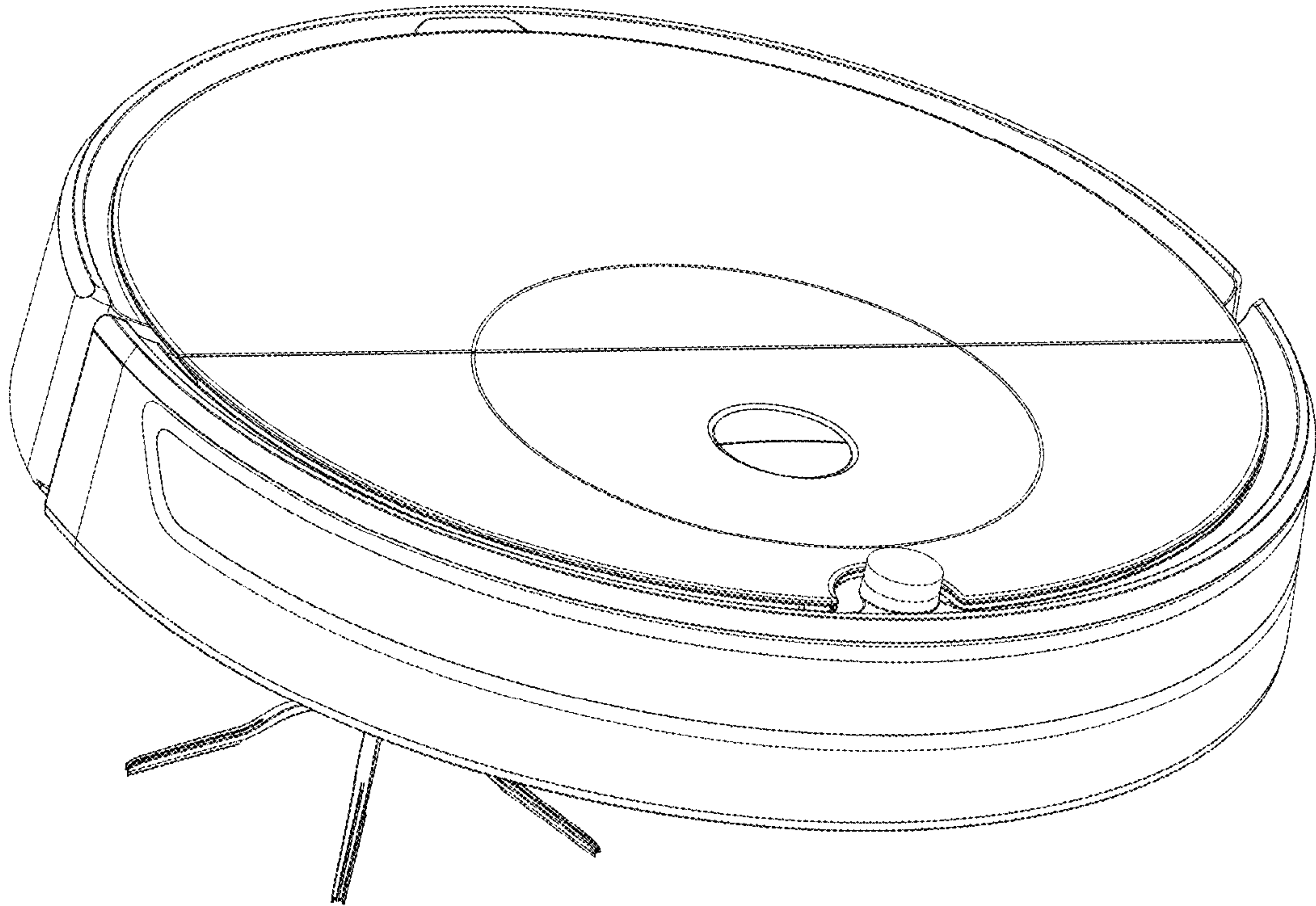


FIG. 7

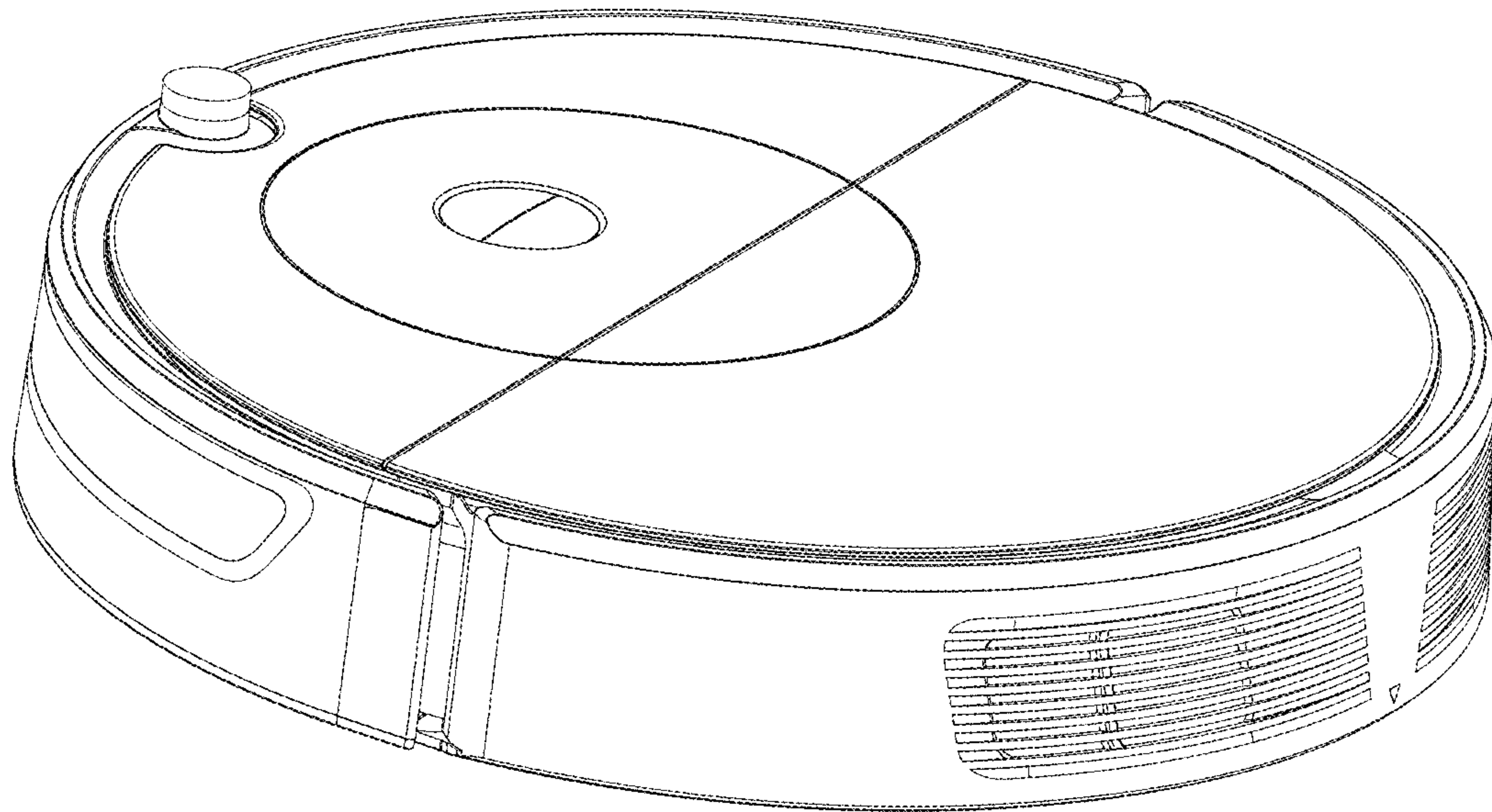


FIG. 8

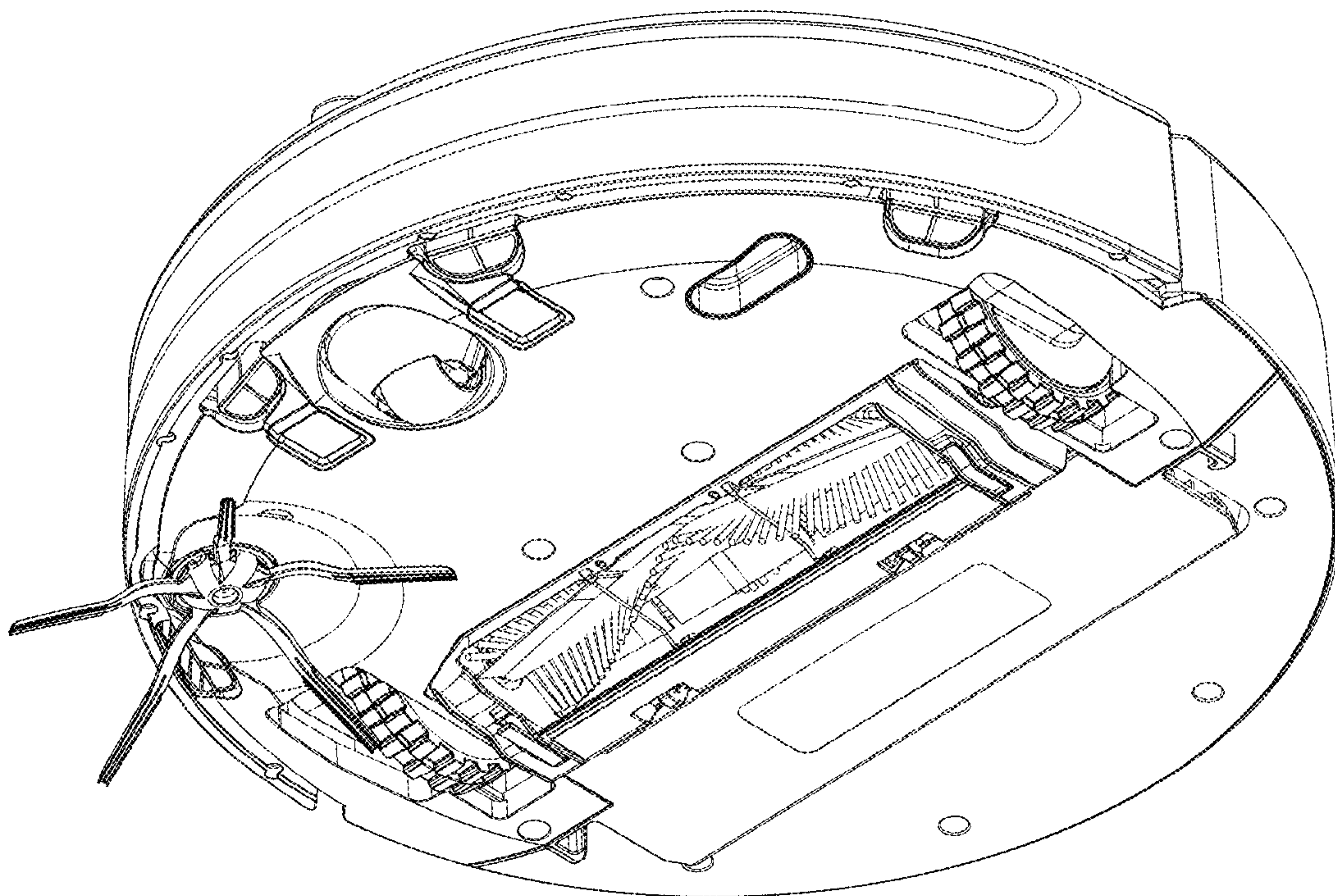


FIG. 9

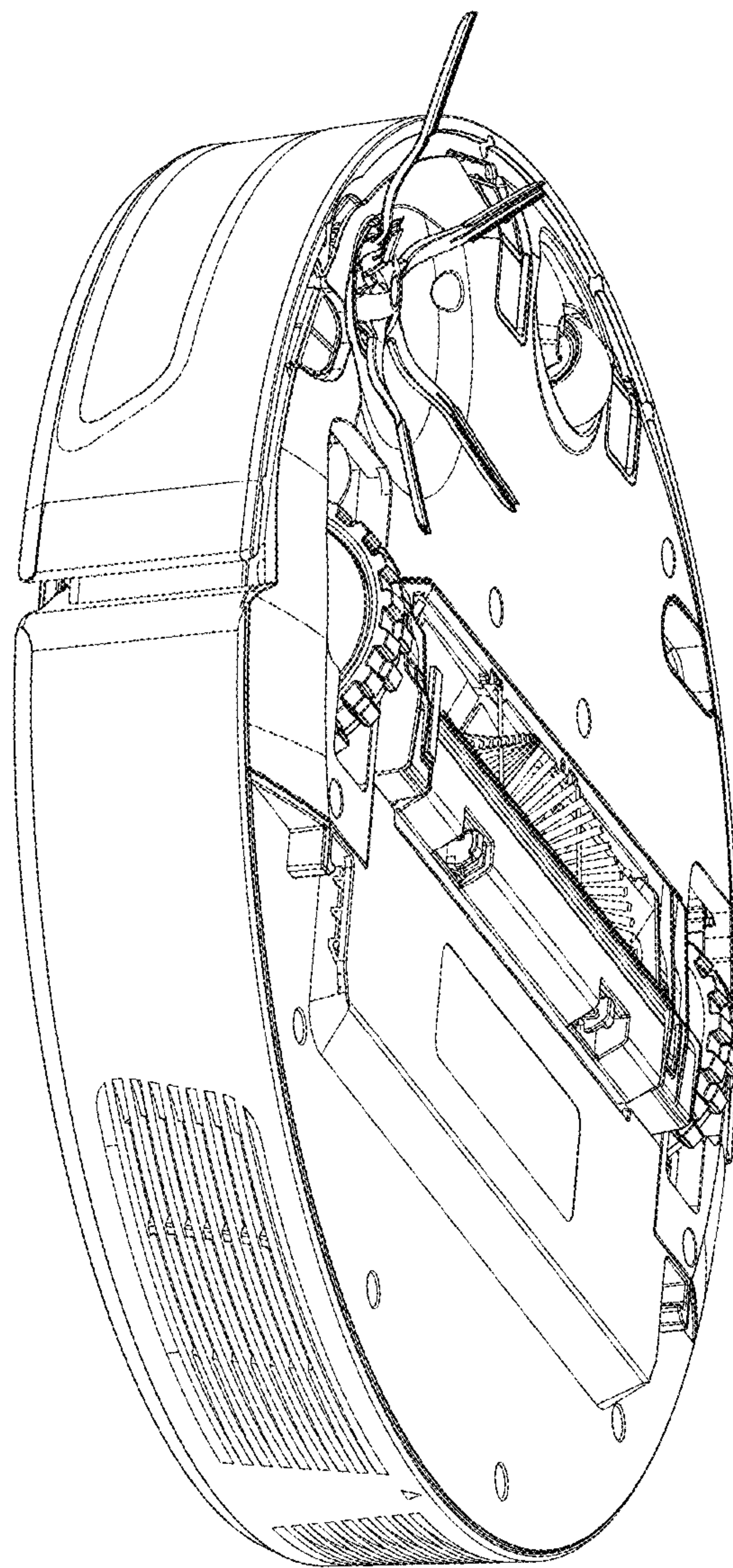


FIG. 10

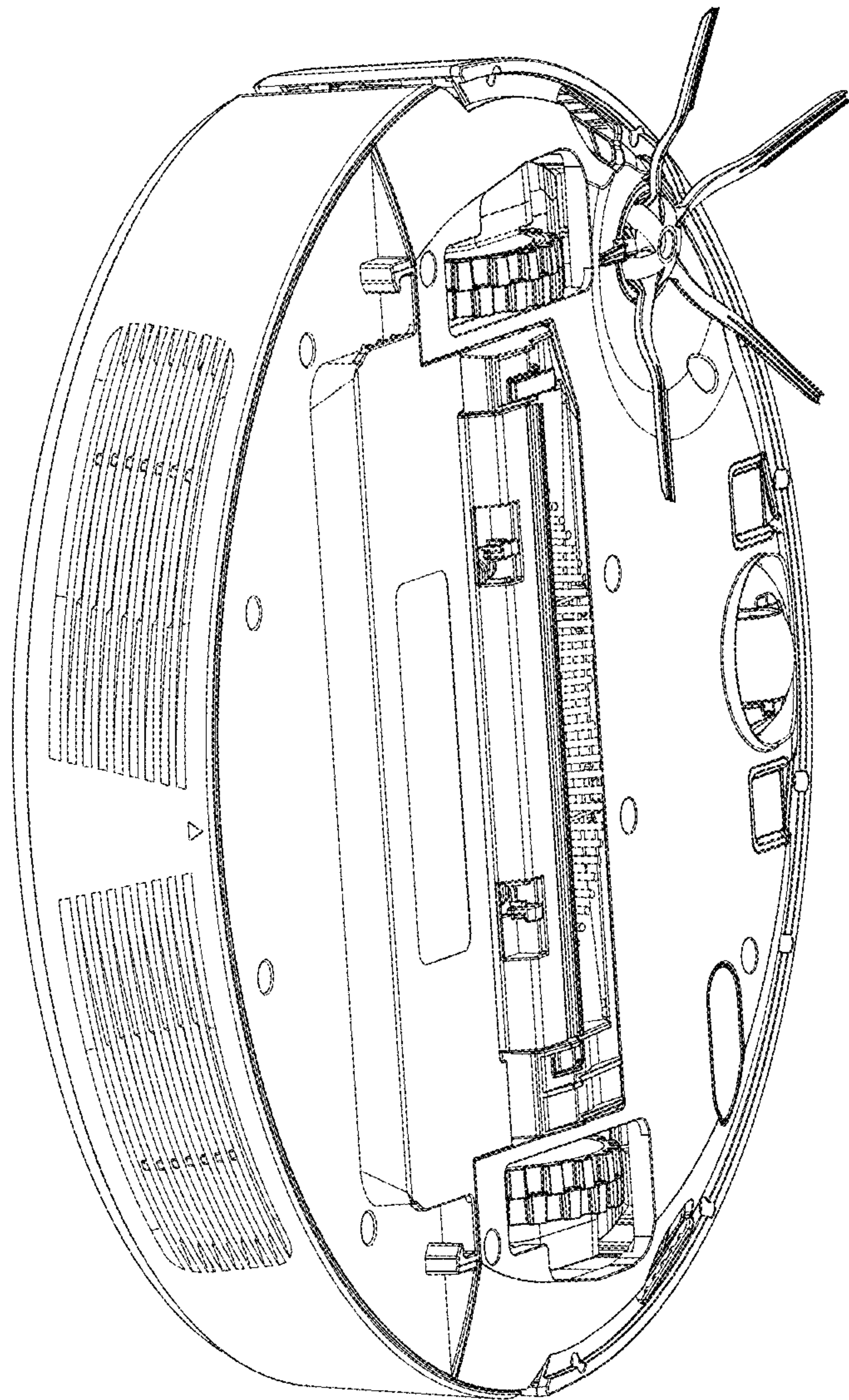


FIG. 11

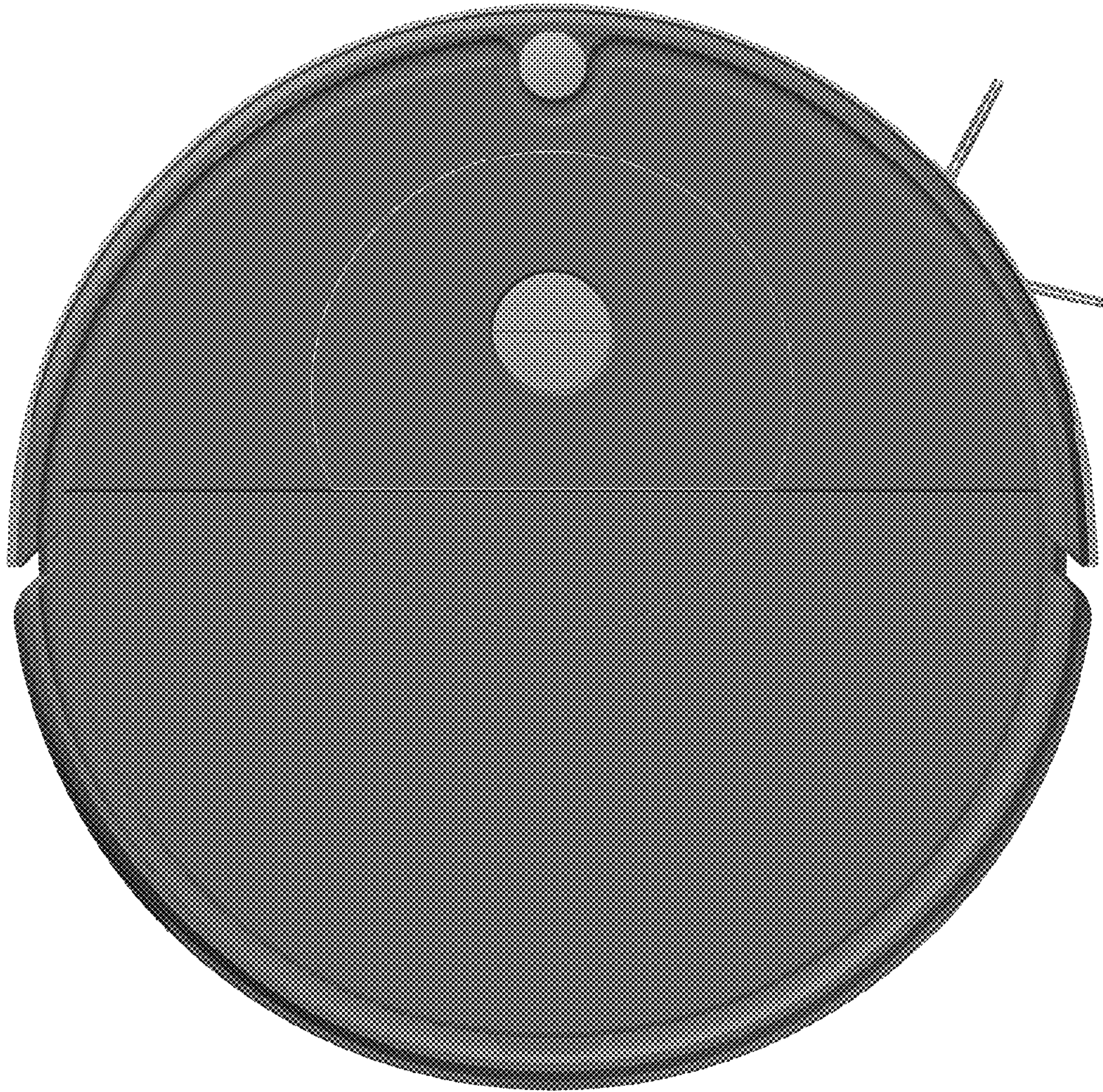


FIG. 12

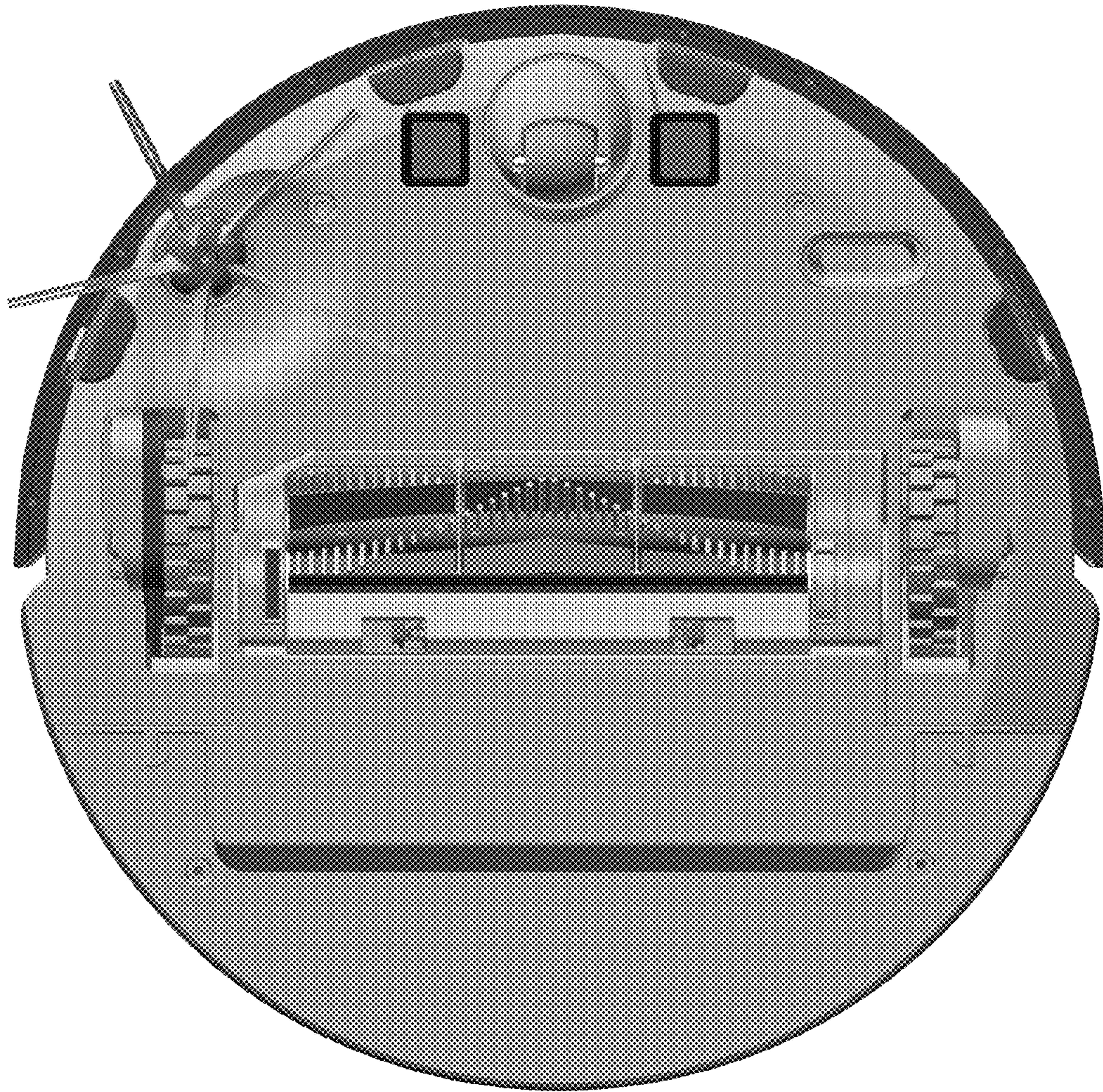


FIG. 13

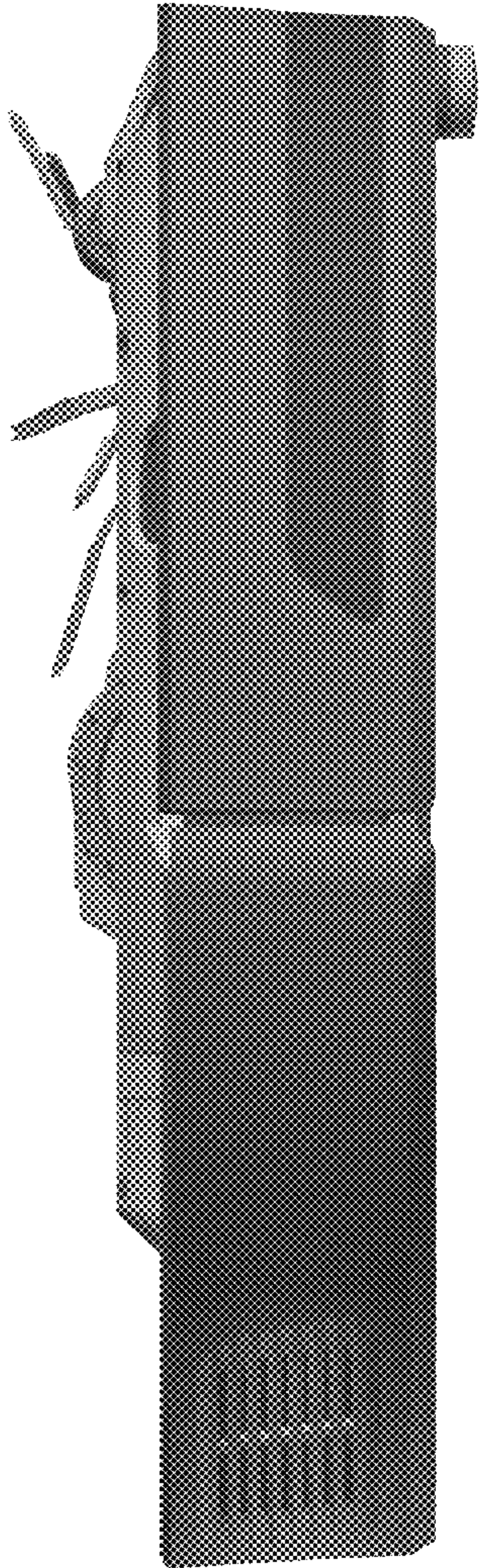


FIG. 14

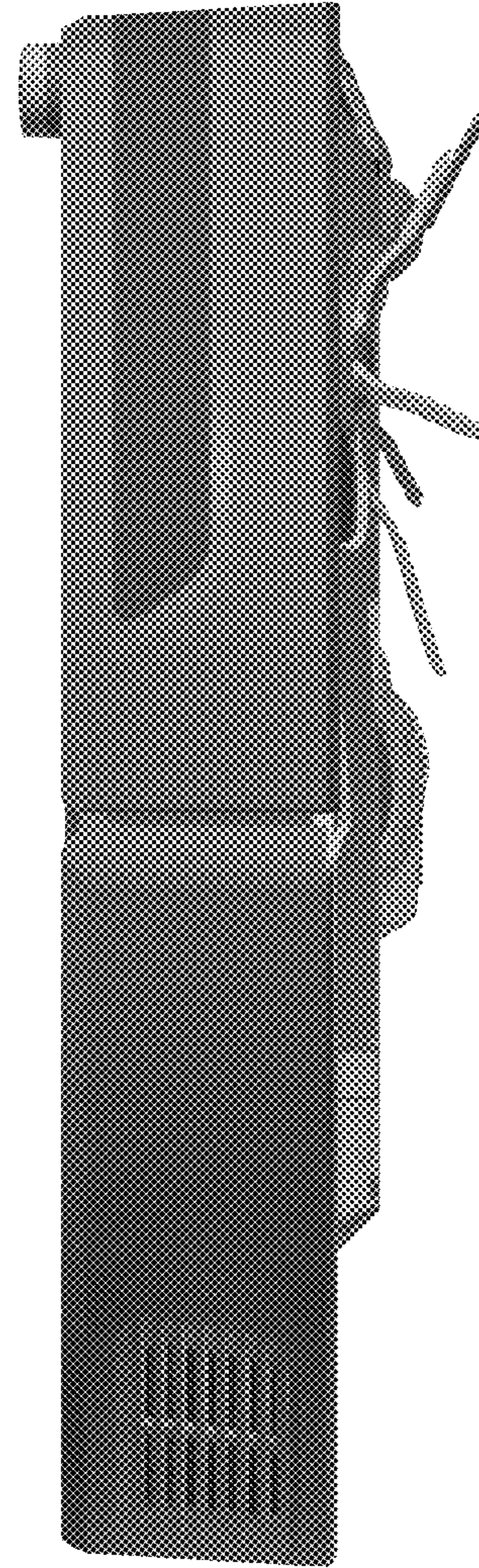


FIG. 15

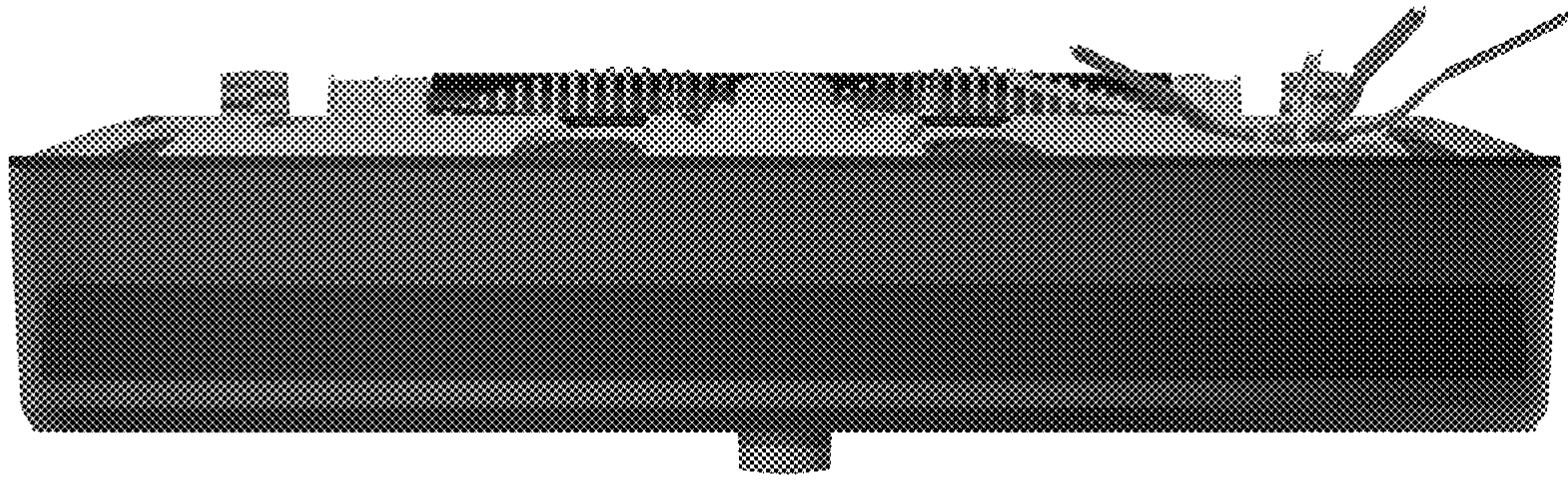


FIG. 16

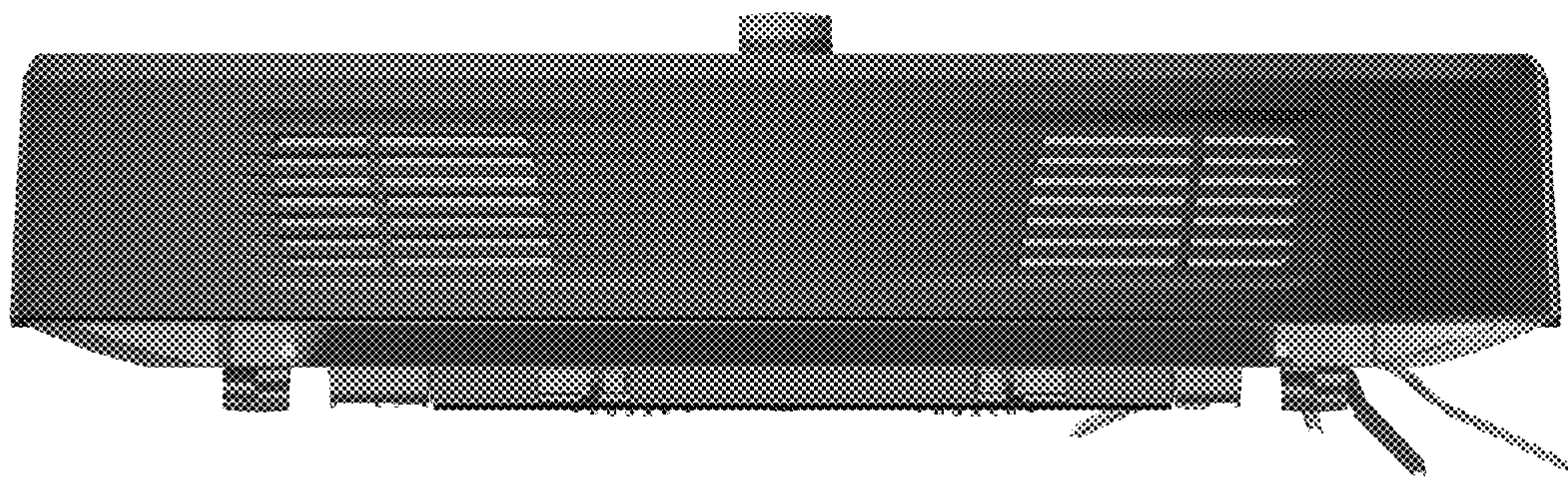


FIG. 17

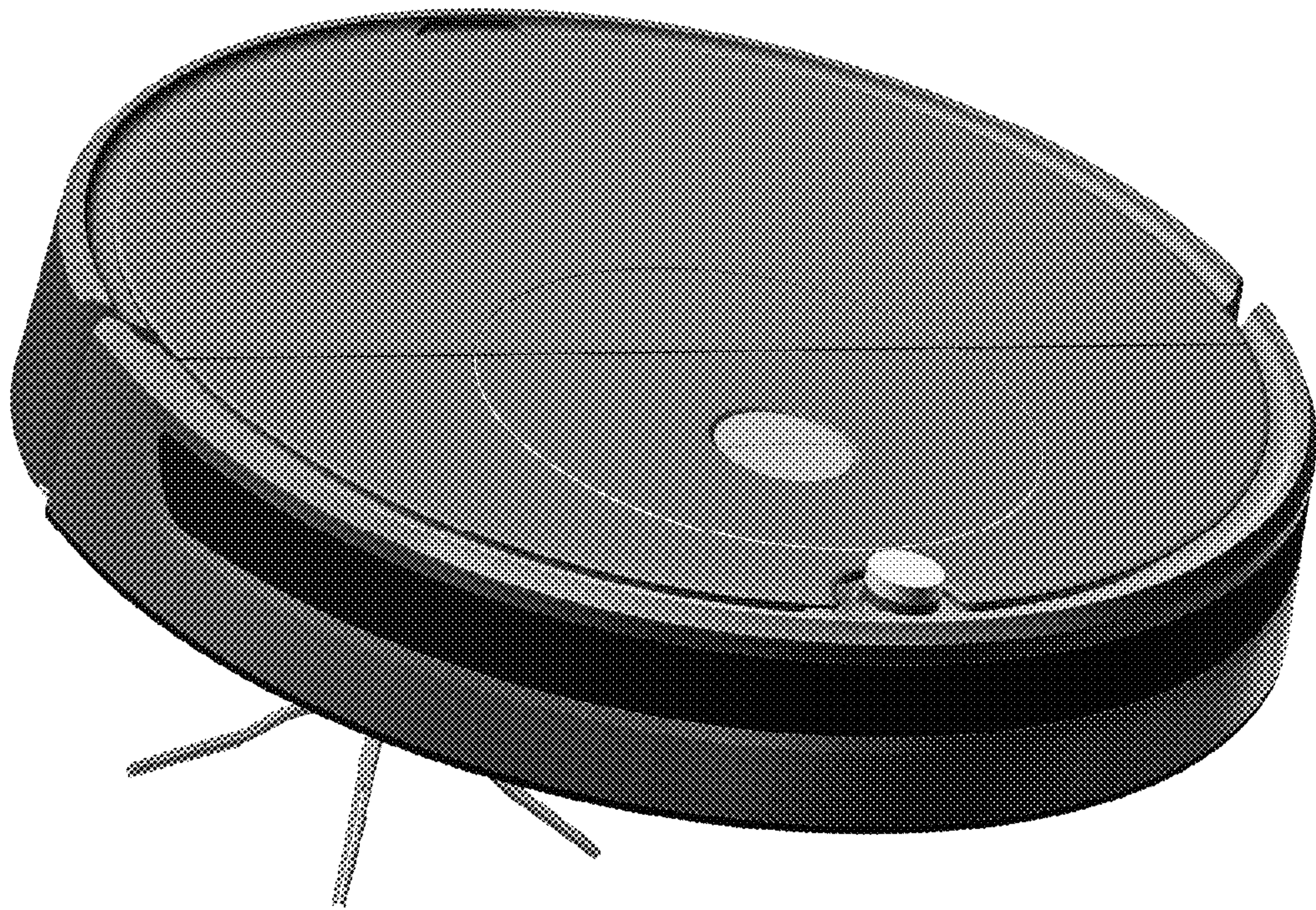


FIG. 18

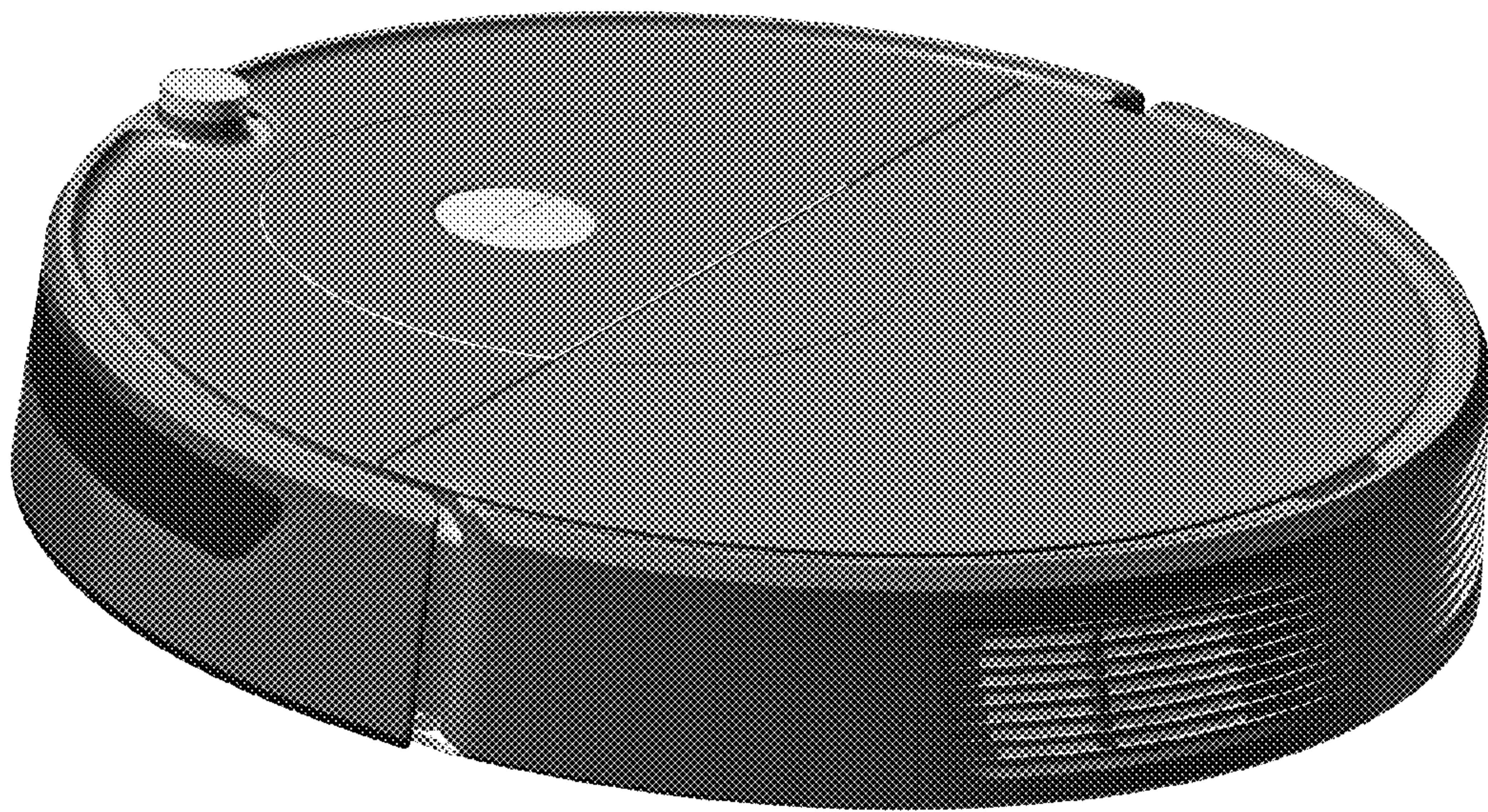


FIG. 19

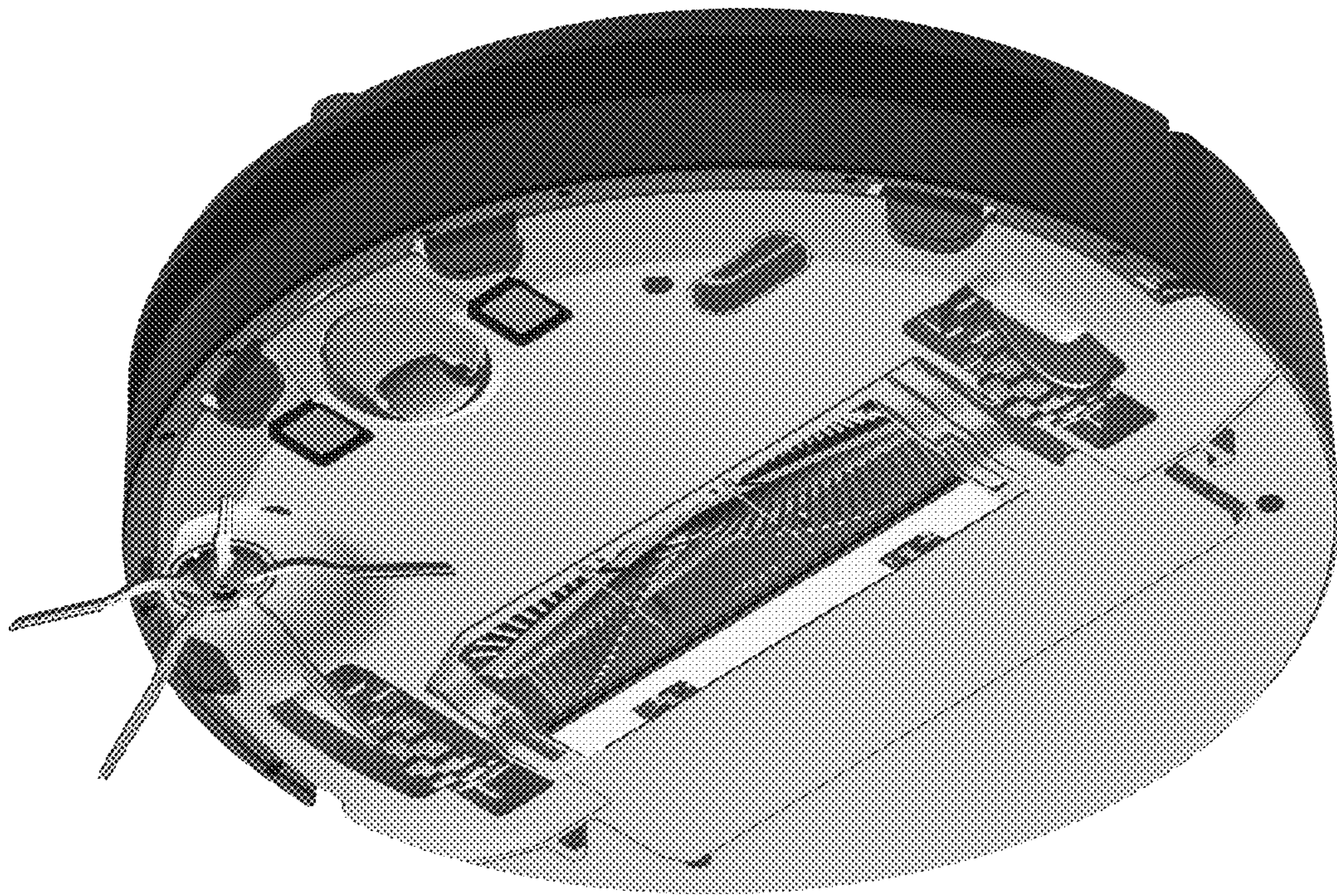


FIG. 20

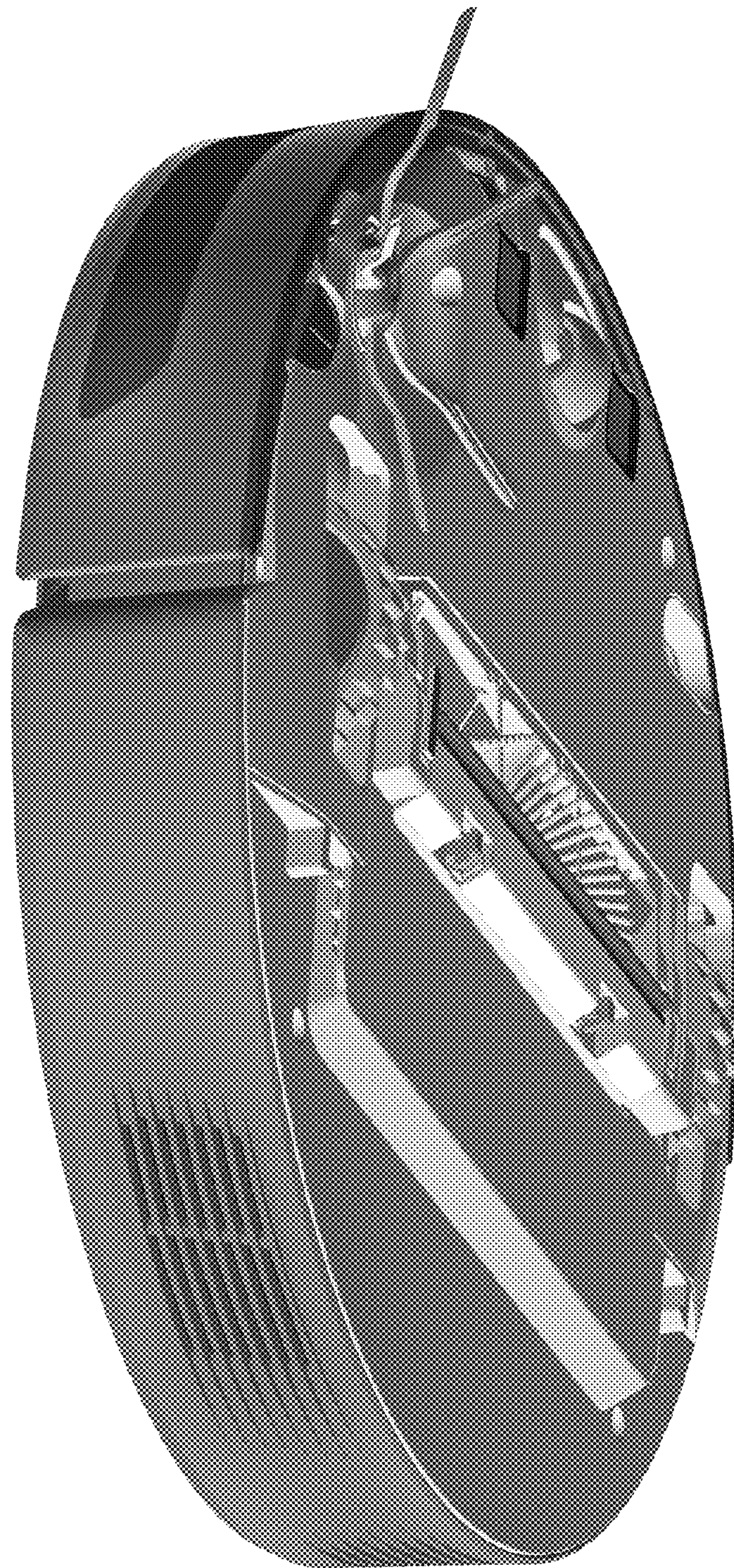


FIG. 21



FIG. 22