



US00D921309S

(12) **United States Design Patent** (10) **Patent No.:** **US D921,309 S**
Liu (45) **Date of Patent:** **** Jun. 1, 2021**

(54) **CLEANING ROBOT**

FOREIGN PATENT DOCUMENTS

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CN 303949724 * 11/2016
CN 304483102 * 1/2018
(Continued)

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OTHER PUBLICATIONS

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MOVA Z500 Robot Vacuum and Mop, available in Amazon.com, date first available Feb. 18, 2021 [online], [site visited Apr. 2, 2021], Available from the internet URL https://www.amazon.com/dp/B08SVWQR6Z/ref=cm_sw_r_em_apc_fabc_2PHZJDKD2P12N7WRMTNF?_encoding=UTF8&psc=1 (Year: 2021).*

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

(Continued)

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Primary Examiner — Dana K Weiland
Assistant Examiner — Jennylou M Binas

(30) **Foreign Application Priority Data**

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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, 209; 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

D661,440 S * 6/2012 Lee D32/21
D733,603 S * 7/2015 Graf D10/128
(Continued)

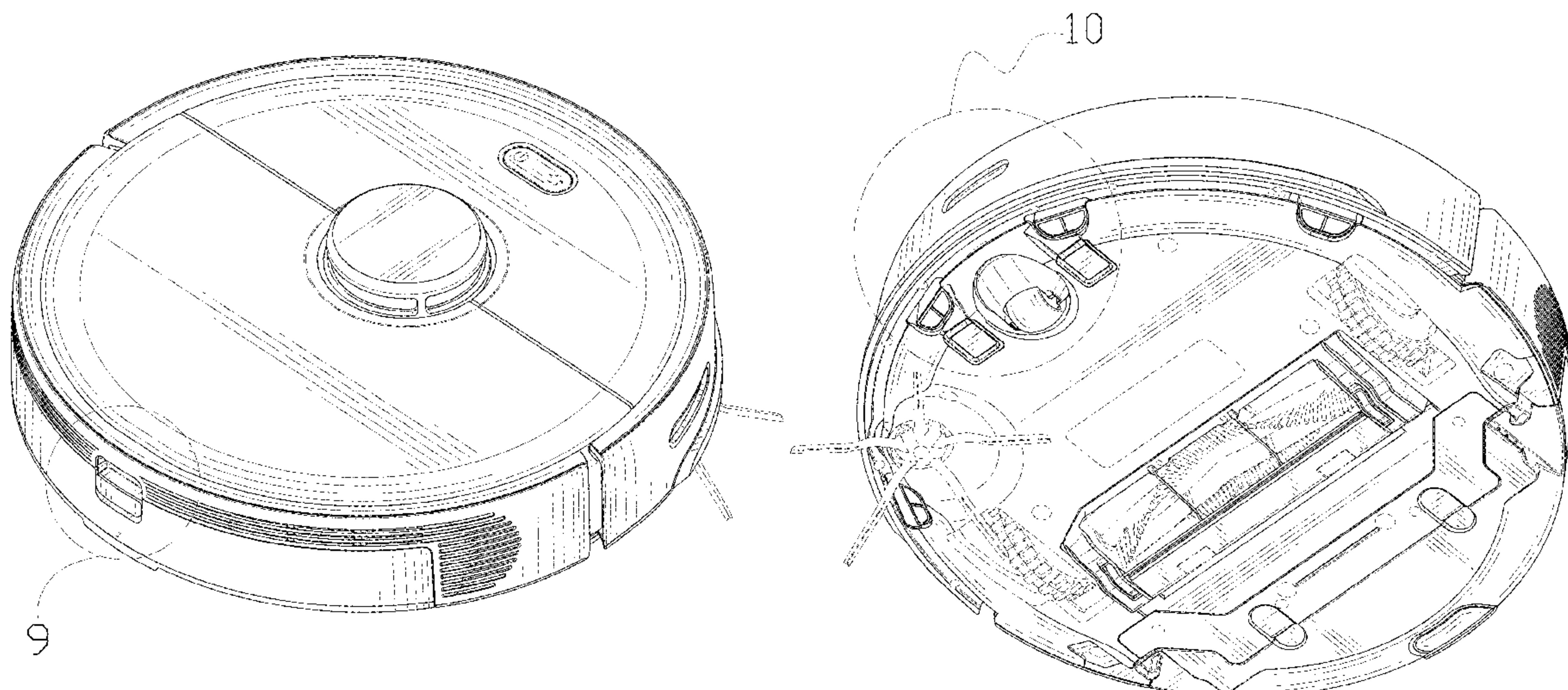
(57) **CLAIM**

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

DESCRIPTION

FIG. 1 is a perspective view of a cleaning robot showing my 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;
FIG. 8 is a bottom plan view thereof;
FIG. 9 is an enlarged view of portion 9 shown in FIG. 1; and, FIG. 10 is an enlarged view of portion 10 shown in FIG. 2. The broken lines in the drawings depict portions of the cleaning robot that form no part of the claimed design.

1 Claim, 10 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D777,674 S * 1/2017 Mininger D13/139.7
D835,869 S * 12/2018 Li D32/21
D840,617 S * 2/2019 Dou D32/21
D867,701 S * 11/2019 Mi D32/31
D869,109 S * 12/2019 Yu 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
D885,699 S * 5/2020 Li D32/21
D901,110 S * 11/2020 Li D32/21
D902,508 S * 11/2020 Ebrahimi Afrouzi D32/21
2015/0230665 A1 * 8/2015 Denny A47J 45/063
220/753
2019/0171222 A1 * 6/2019 Nan G05D 1/0238
2020/0205627 A1 * 7/2020 Choi A47L 9/106

FOREIGN PATENT DOCUMENTS

CN 304926998 * 12/2018
CN 305211139 * 6/2019
IN 317525-001-0001 * 6/2020
JP D1668715 * 9/2020
RU 00110054 * 7/2018
WO D209160-001 * 7/2020

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: 2020).*

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 (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).*

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 (Year: 2020).*

TECBOT Robot Vacuum Cleaner, available in Amazon.com, date first available Dec. 9, 2020 [online], [site visited Apr. 2, 2021], Available from the internet URL https://www.amazon.com/dp/B08H4ZXX5T/ref=cm_sw_r_em_apa_fabc_X0WA9SPDYEV RD2Q82W2Y?_encoding=UTF8&psc=1 (Year: 2020).*

Lenovo X1, announced in YouTube on Nov. 17, 2019 [online], [site visited Apr. 2, 2021], Available from the internet URL <https://www.youtube.com/watch?v=jxda5BLkFYM> (Year: 2019).*

Roborock S5 Max, announced in YouTube on Dec. 5, 2019 [online], [site visited Apr. 2, 2021], Available from the internet URL <https://www.youtube.com/watch?v=kBL3LPQulEc> (Year: 2019).*

Robot Vacuum Cleaner-Tesvor S6+, available in Amazon.com, date first available Oct. 23, 2020 [online], [site visited Apr. 2, 2021], Available from the internet https://www.amazon.com/Robot-Vacuum-Cleaner-Navigation-Recognition/dp/B08QMM5Q52/ref=sr_1_1?dchild=1&keywords=Robot+Vacuum+Cleaner++Tesvor+S6%2B+2700Pa+Precise+Laser+Navigation&qid=1617891206&s=home-garden&sr=1-1 (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).*

* cited by examiner

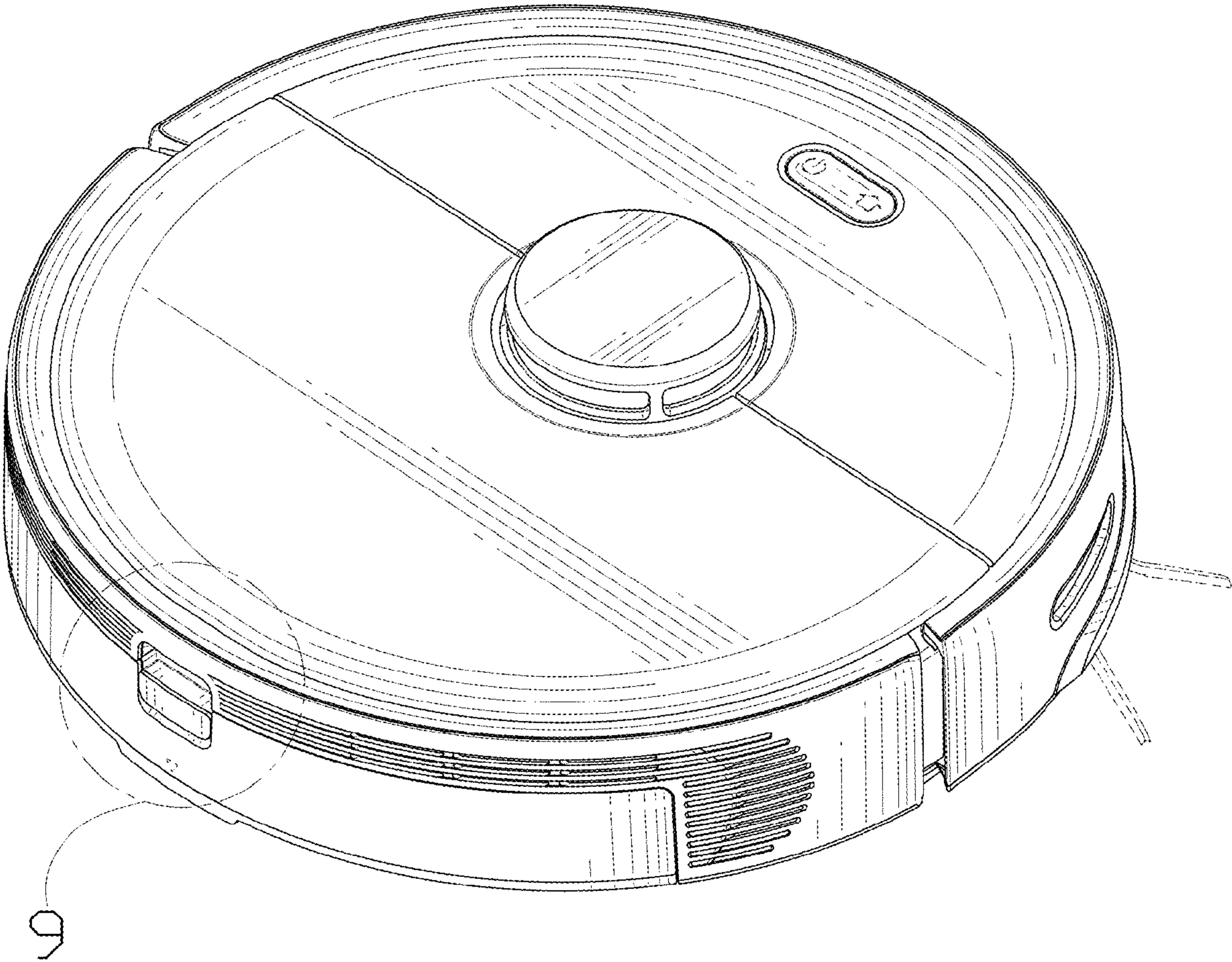


FIG. 1

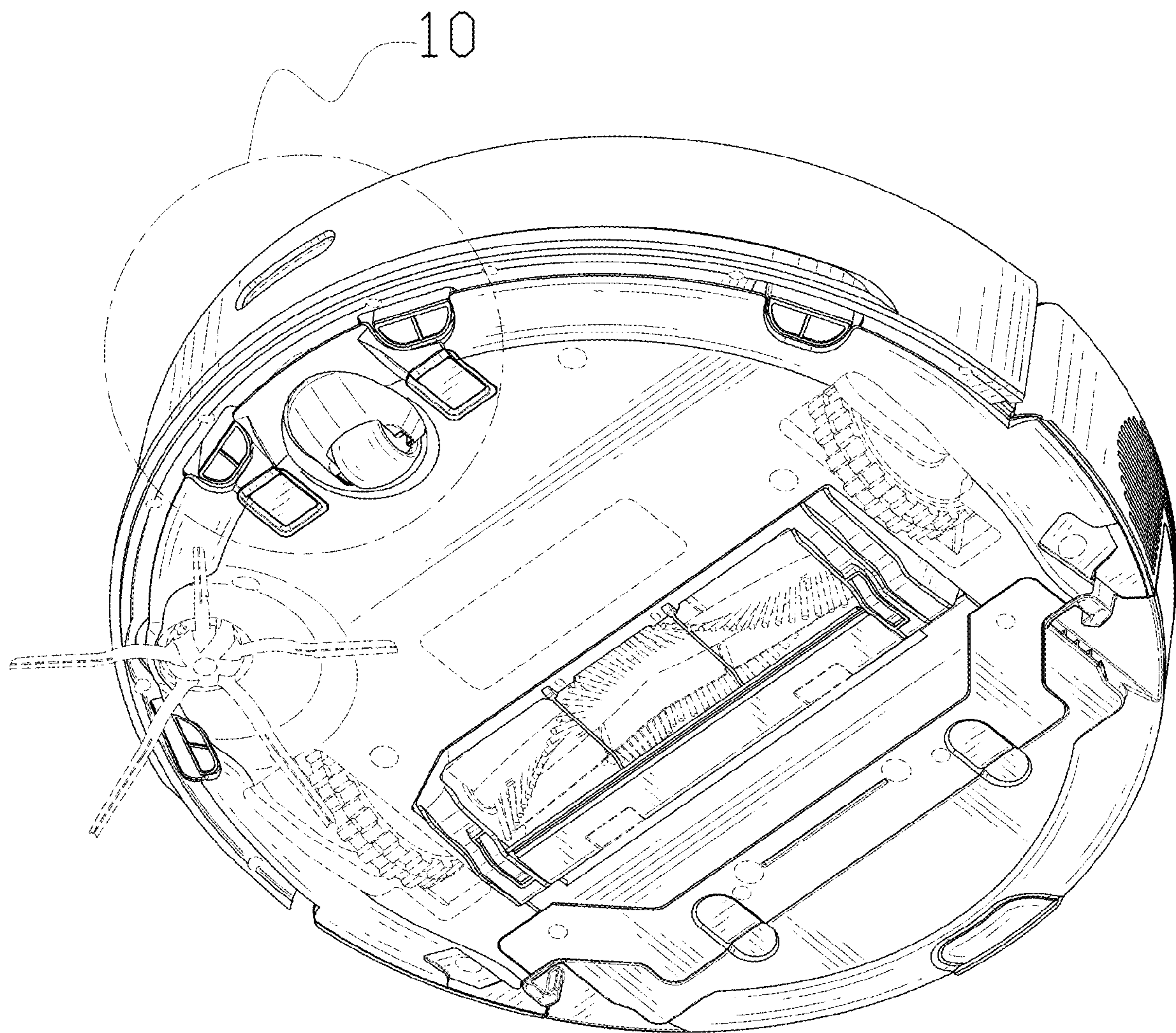


FIG. 2

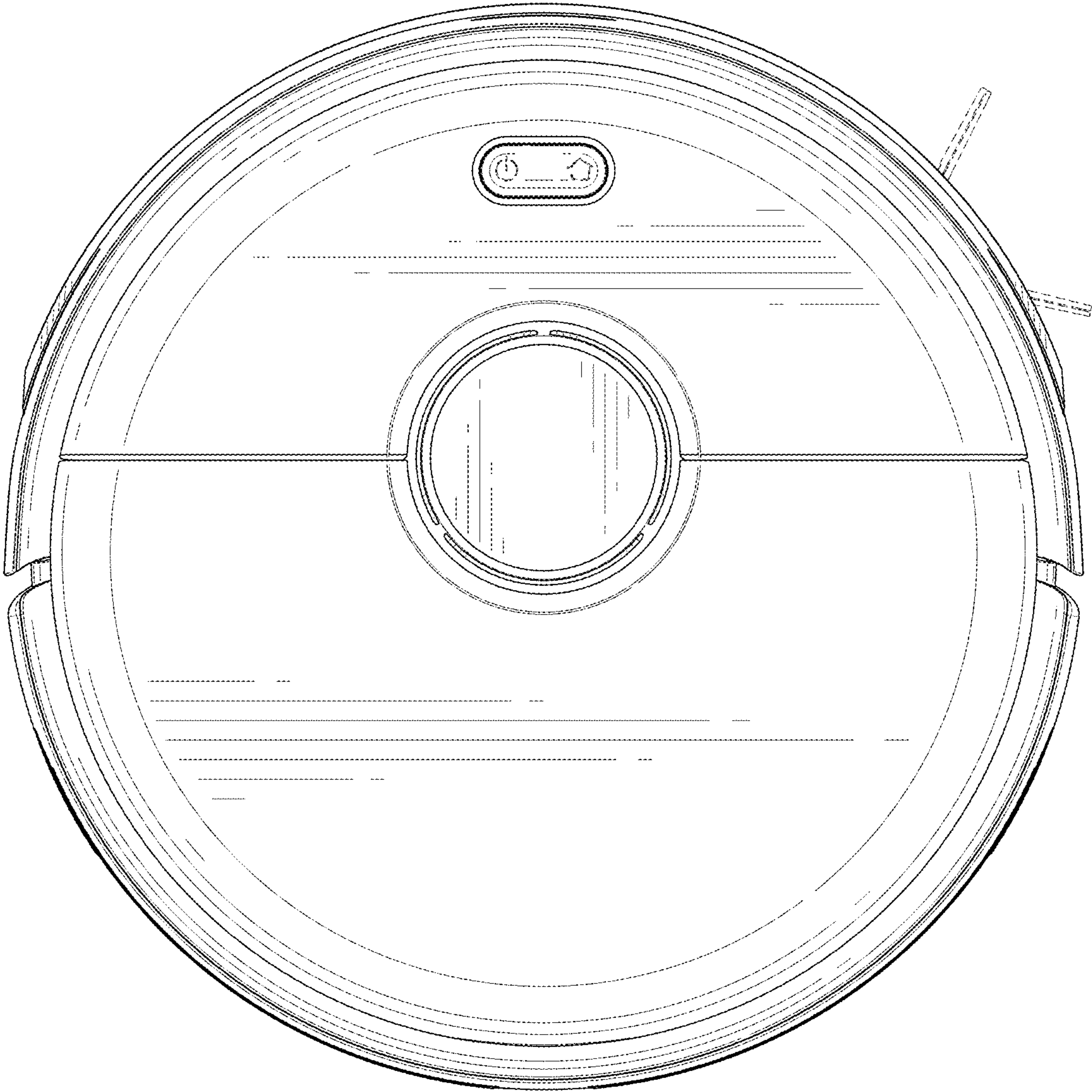


FIG. 3

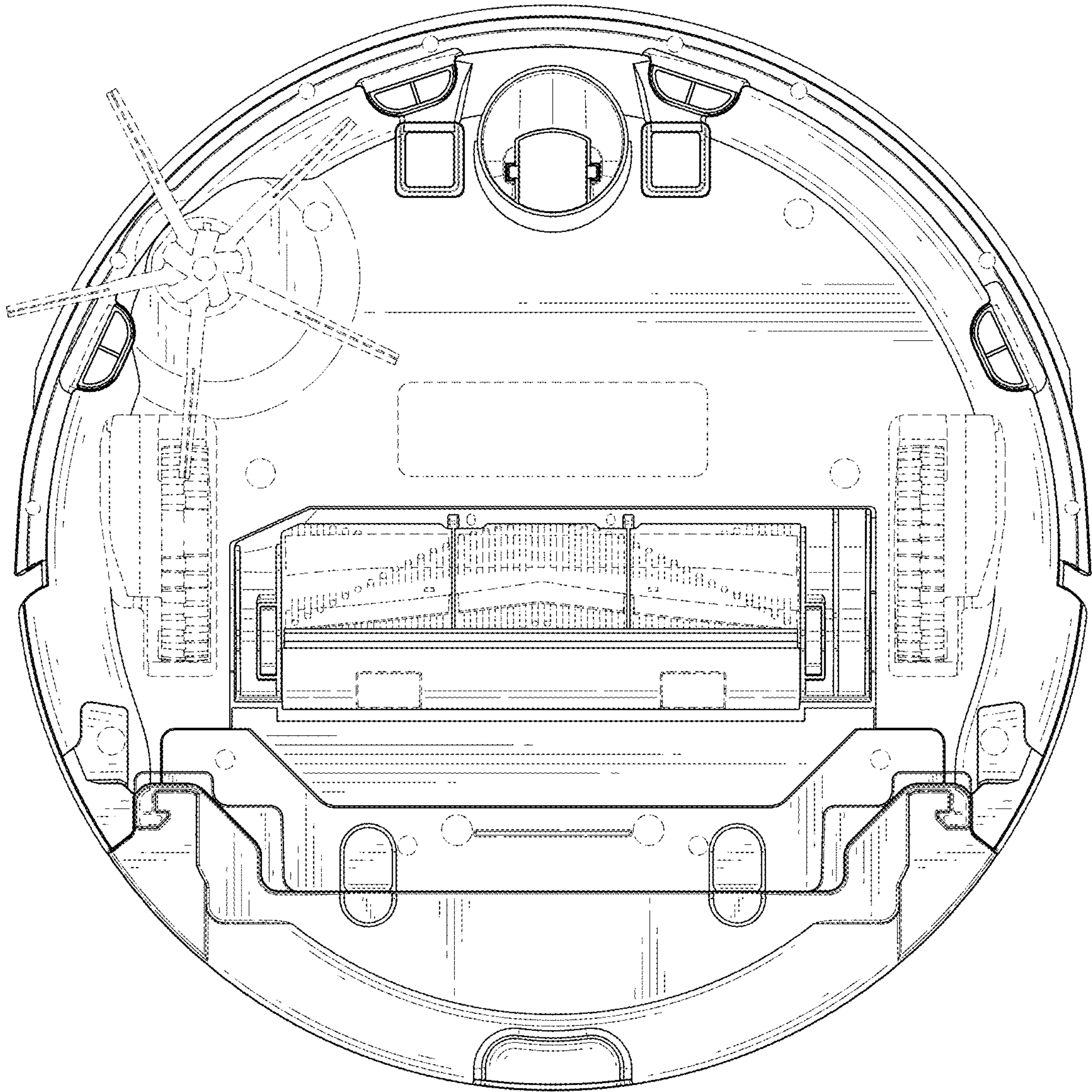


FIG. 4

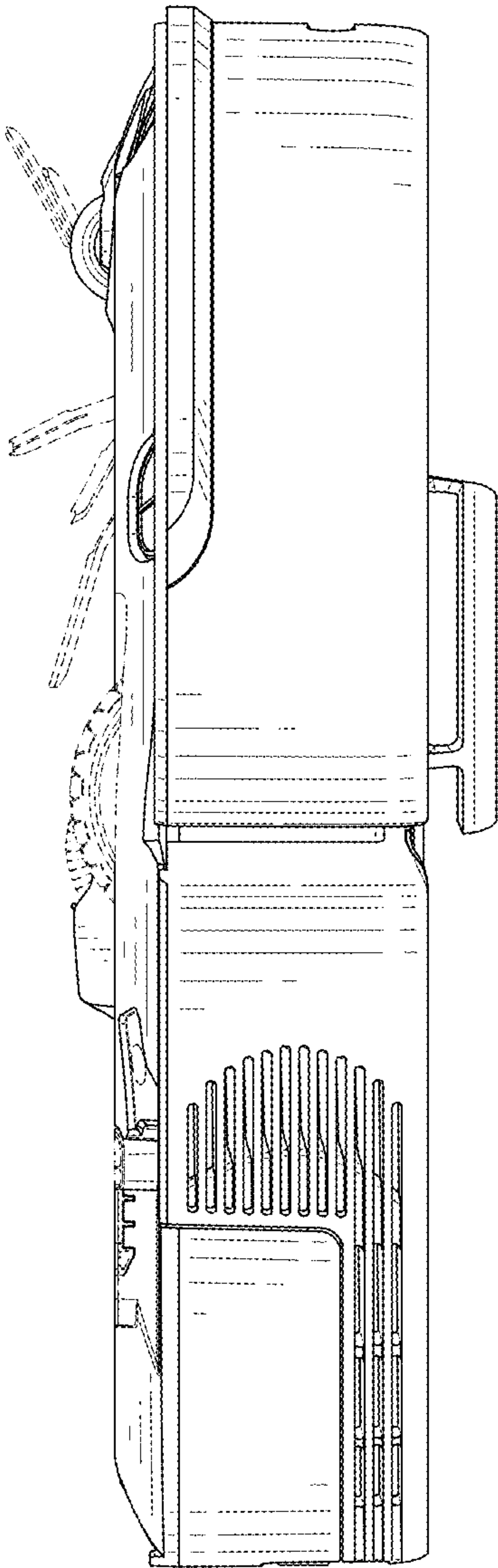


FIG. 5

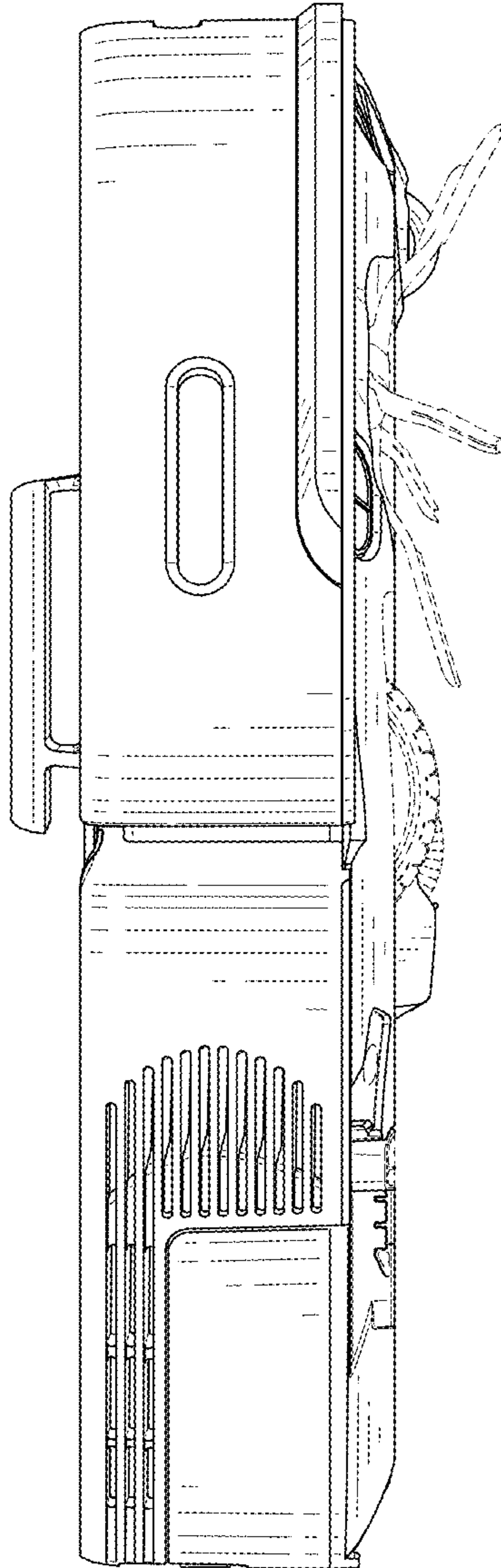


FIG. 6

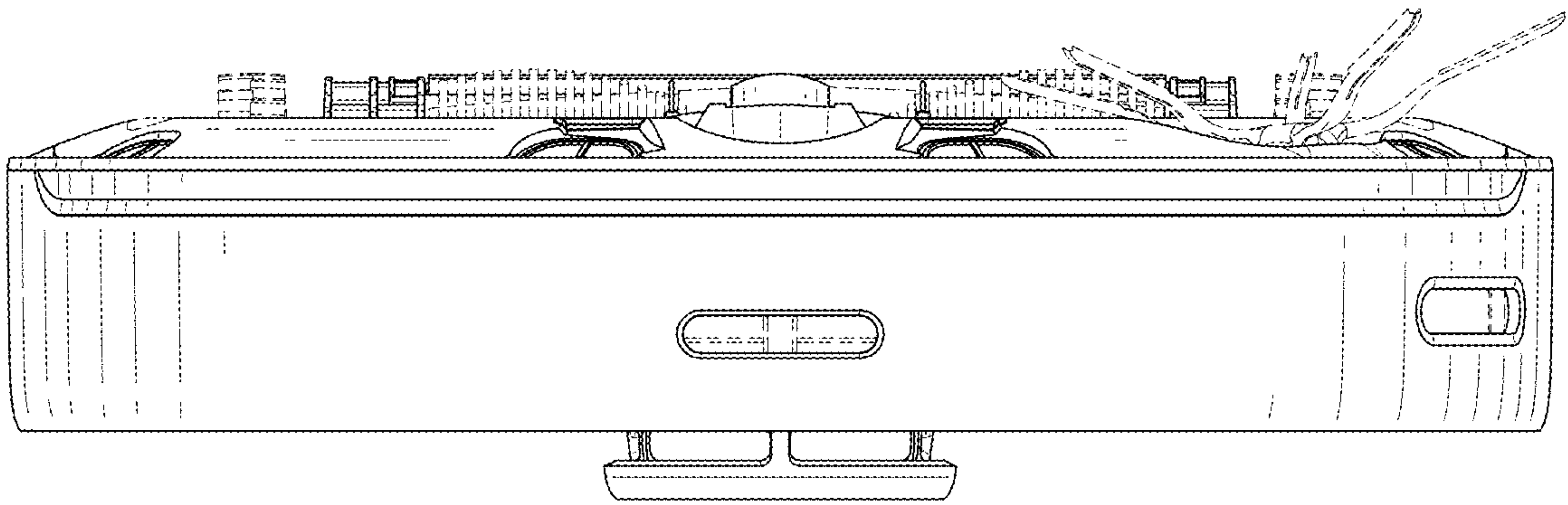


FIG. 7

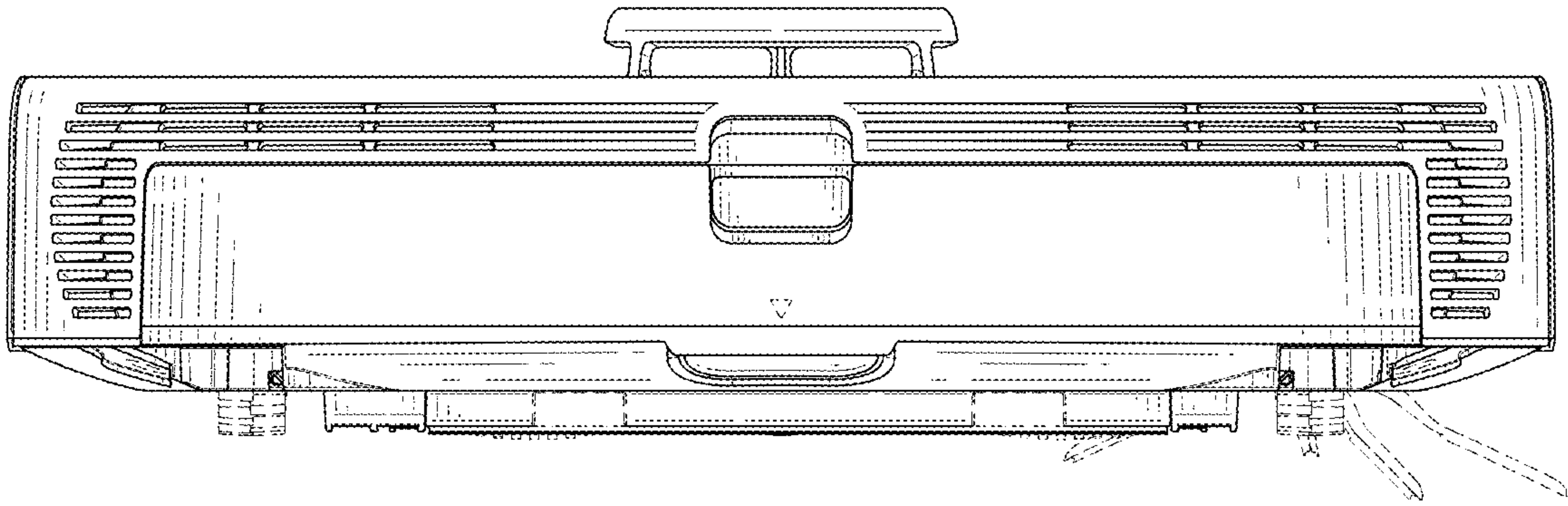


FIG. 8

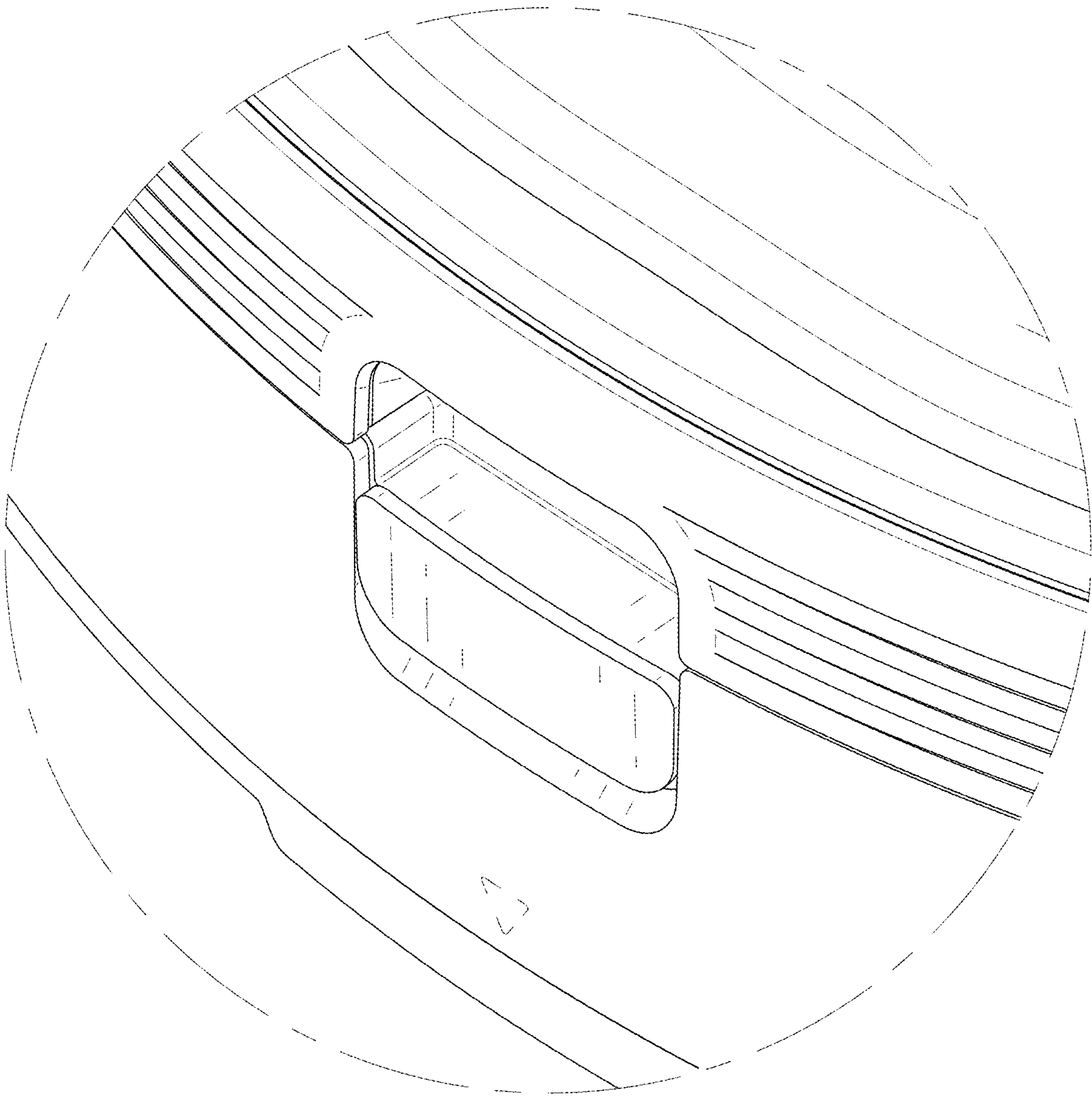


FIG. 9

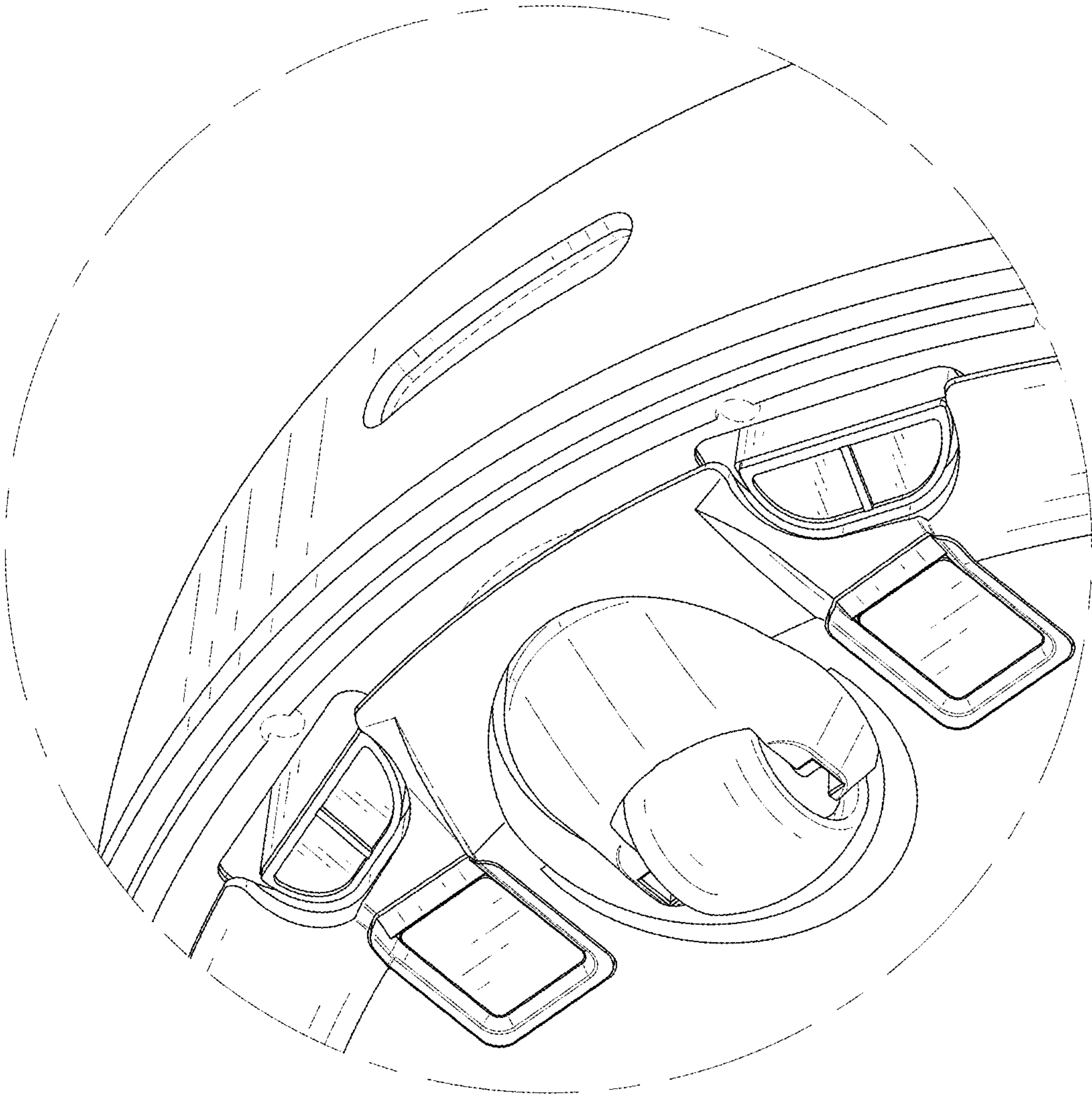


FIG. 10