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

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(54) **ROBOTIC VACUUM CLEANER**

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(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, 106.2, 106.5; D13/108, 109; D14/344
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

D548,902 S * 8/2007 Chun D32/21
D593,265 S * 5/2009 Carr D32/21
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
D661,440 S * 6/2012 Lee D32/21
D690,478 S * 9/2013 Li 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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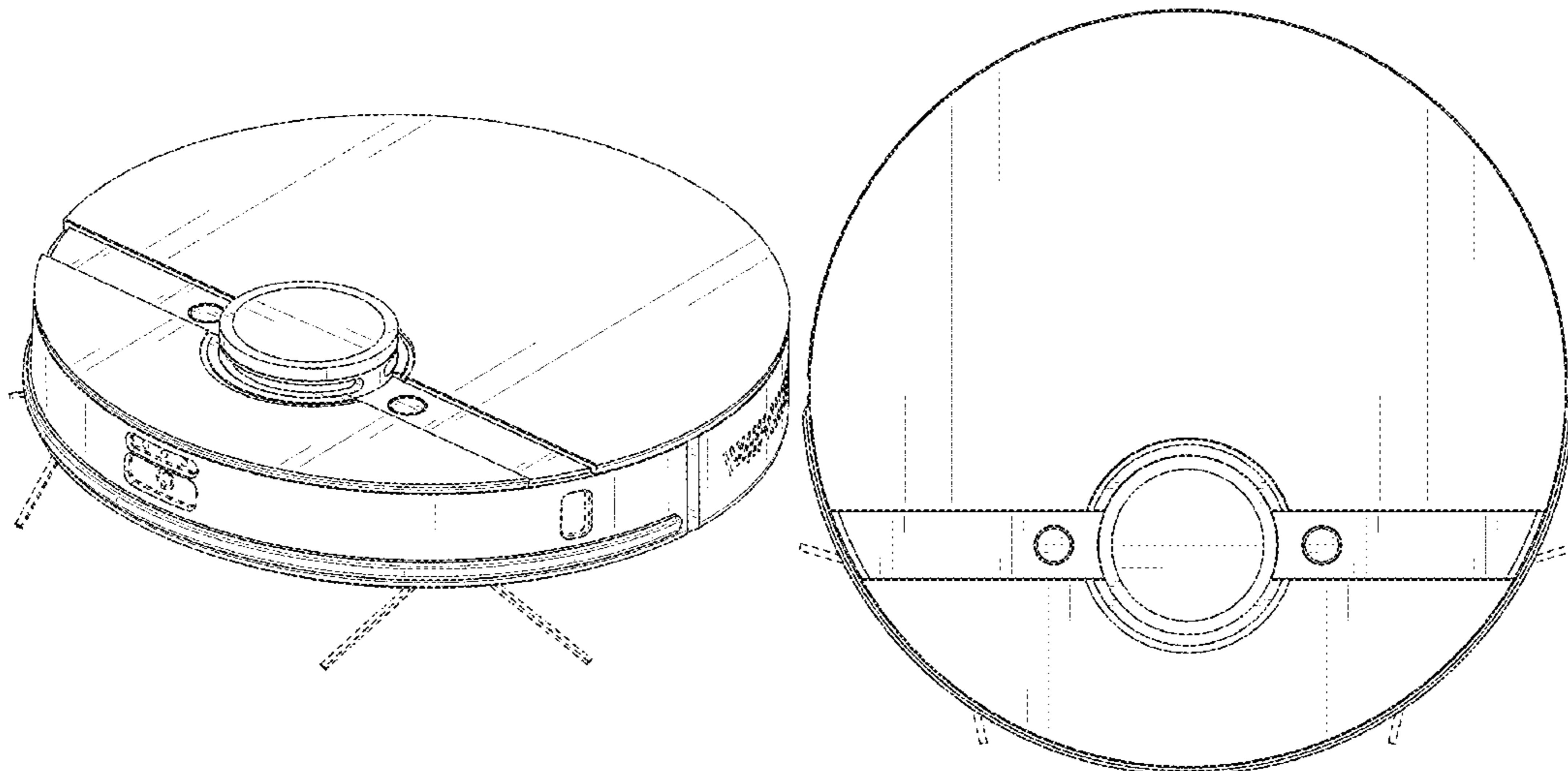
(57) **CLAIM**

The ornamental design for a robotic vacuum cleaner, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a robotic vacuum cleaner, showing our new design;
FIG. 2 is a front elevation view thereof.
FIG. 3 is a back elevation view thereof;
FIG. 4 is a left elevation view thereof;
FIG. 5 is a right elevation view thereof;
FIG. 6 is a top plan view thereof; and,
FIG. 7 is a bottom plan view thereof.
The broken lines show portions of the robotic vacuum cleaner that form no part of the claimed design.

1 Claim, 5 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

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
 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 304705643 * 6/2018
 CN 304732111 * 7/2018
 CN 304926998 * 12/2018
 CN 305211139 * 6/2019
 EM 006763751-001 * 9/2019
 IN 317525-001-0001 * 6/2020
 JP D1668715 * 9/2020
 RU 00110054 * 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 (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 (Year: 2019).*

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).*

* cited by examiner

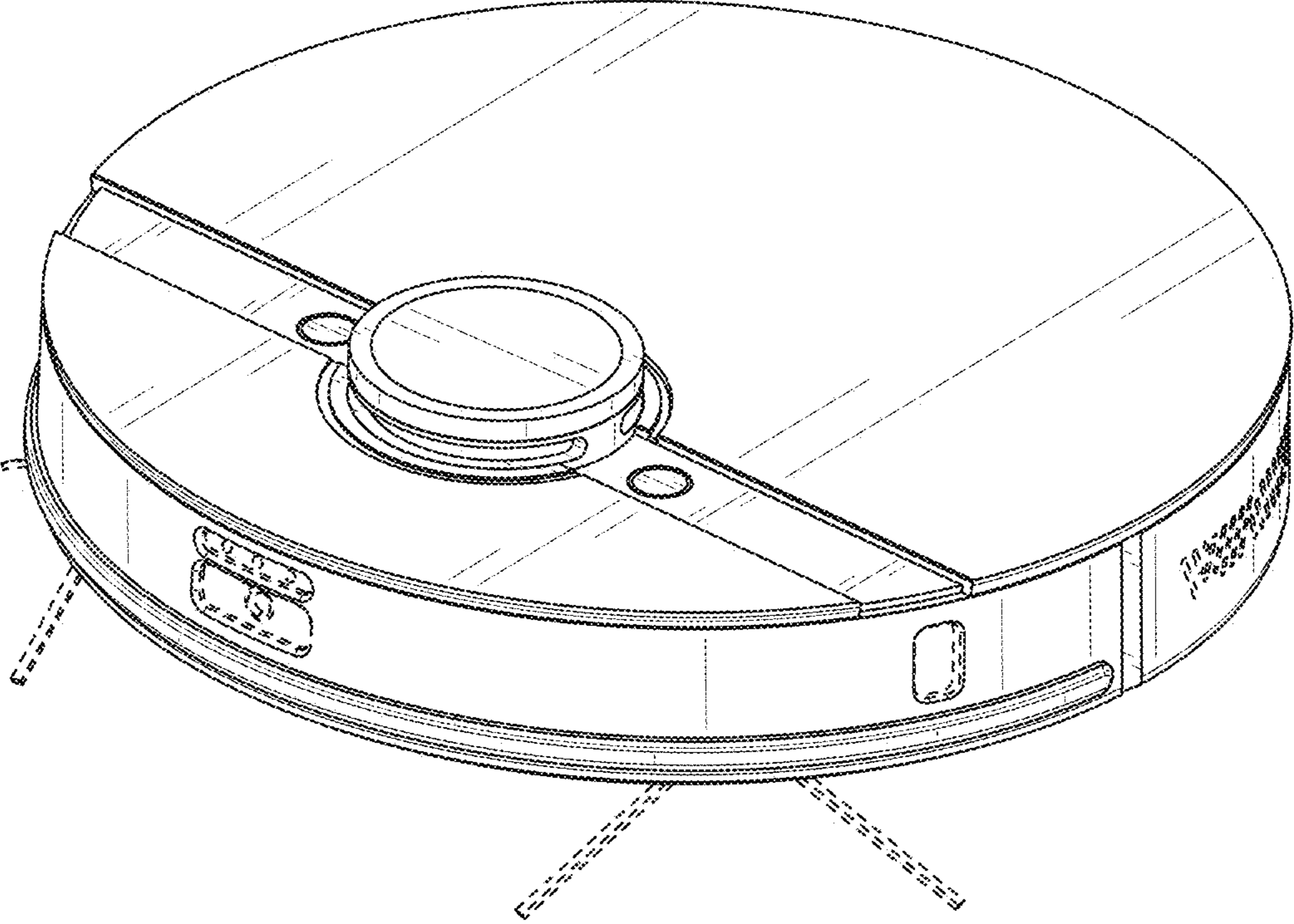


FIG. 1

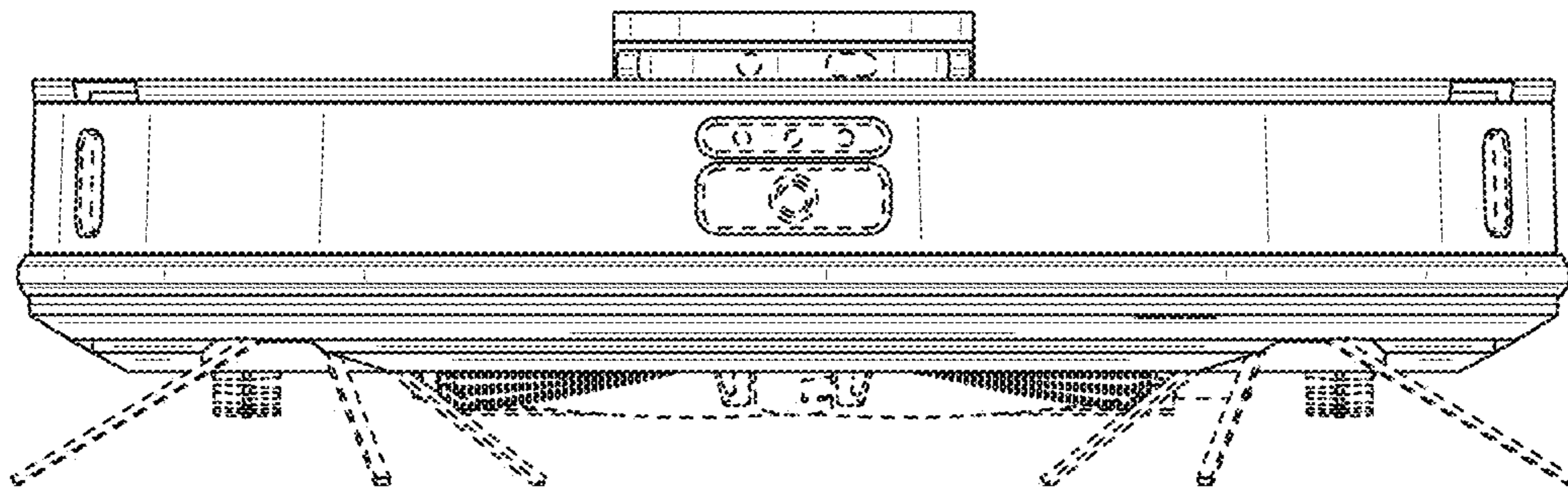


FIG. 2

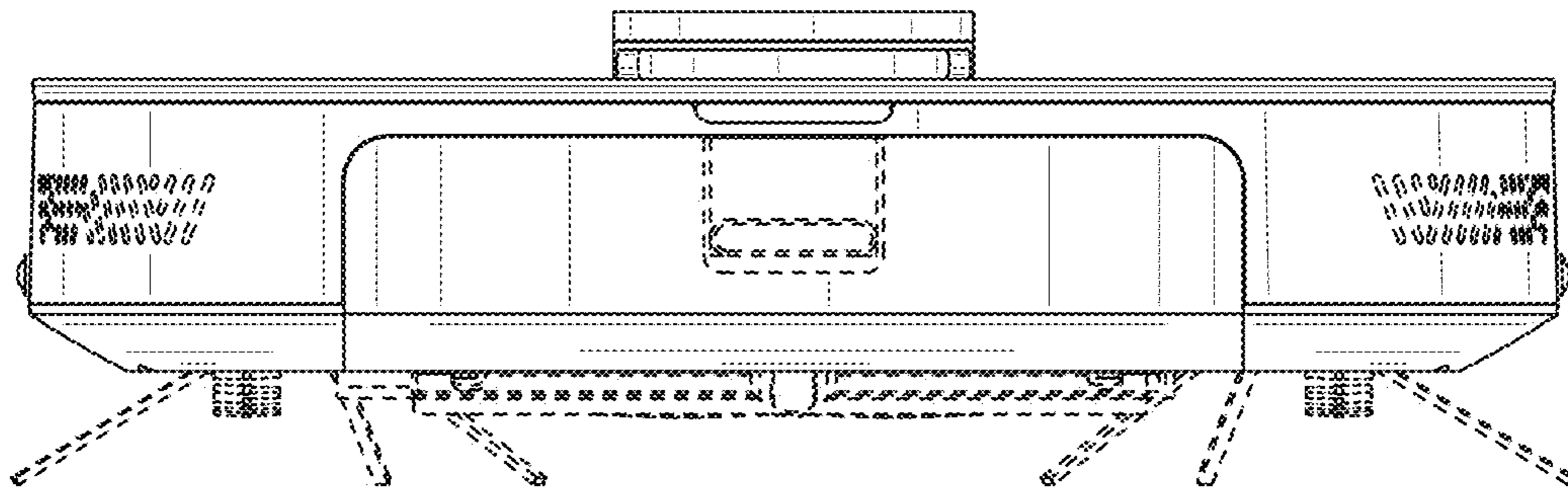


FIG. 3

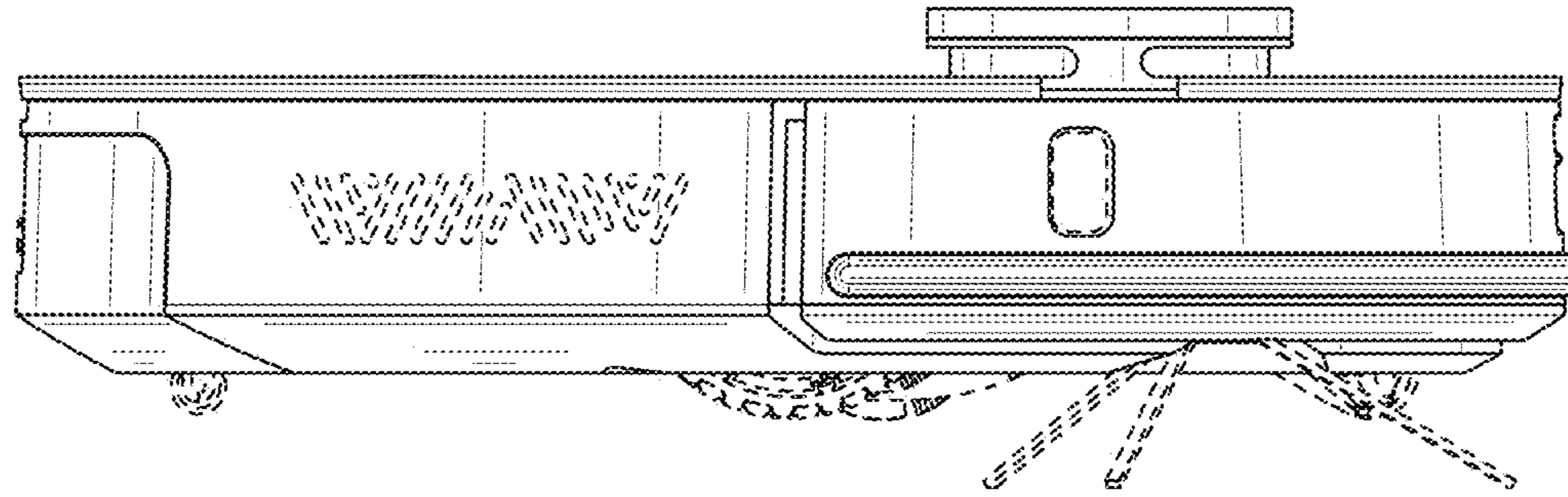


FIG. 4

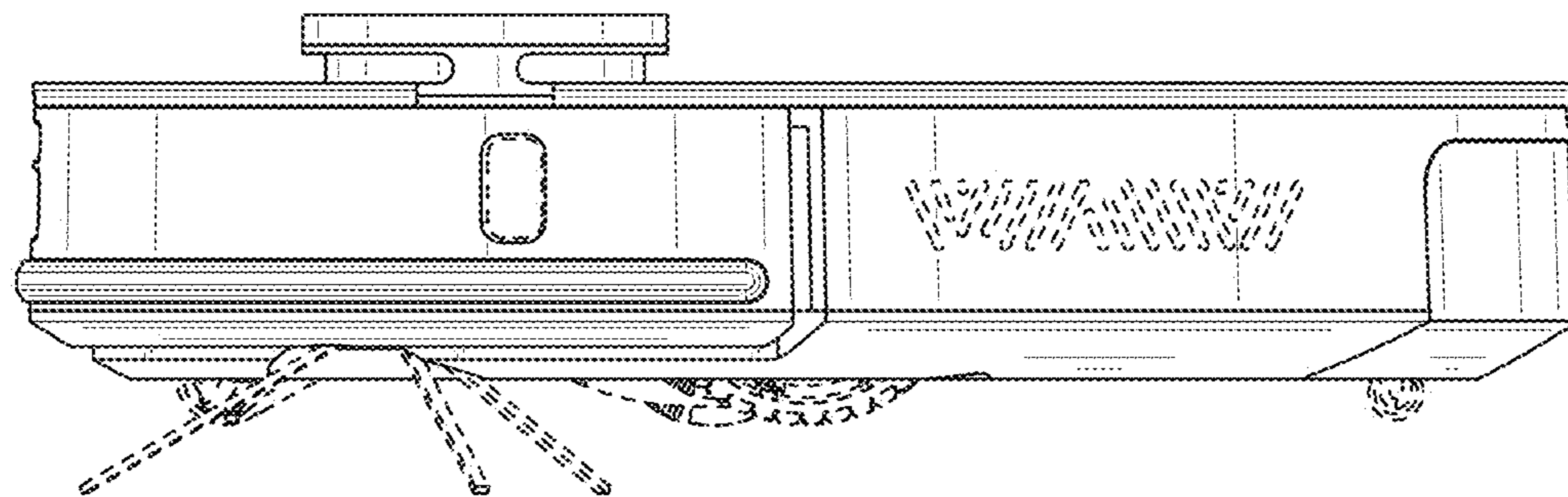


FIG. 5

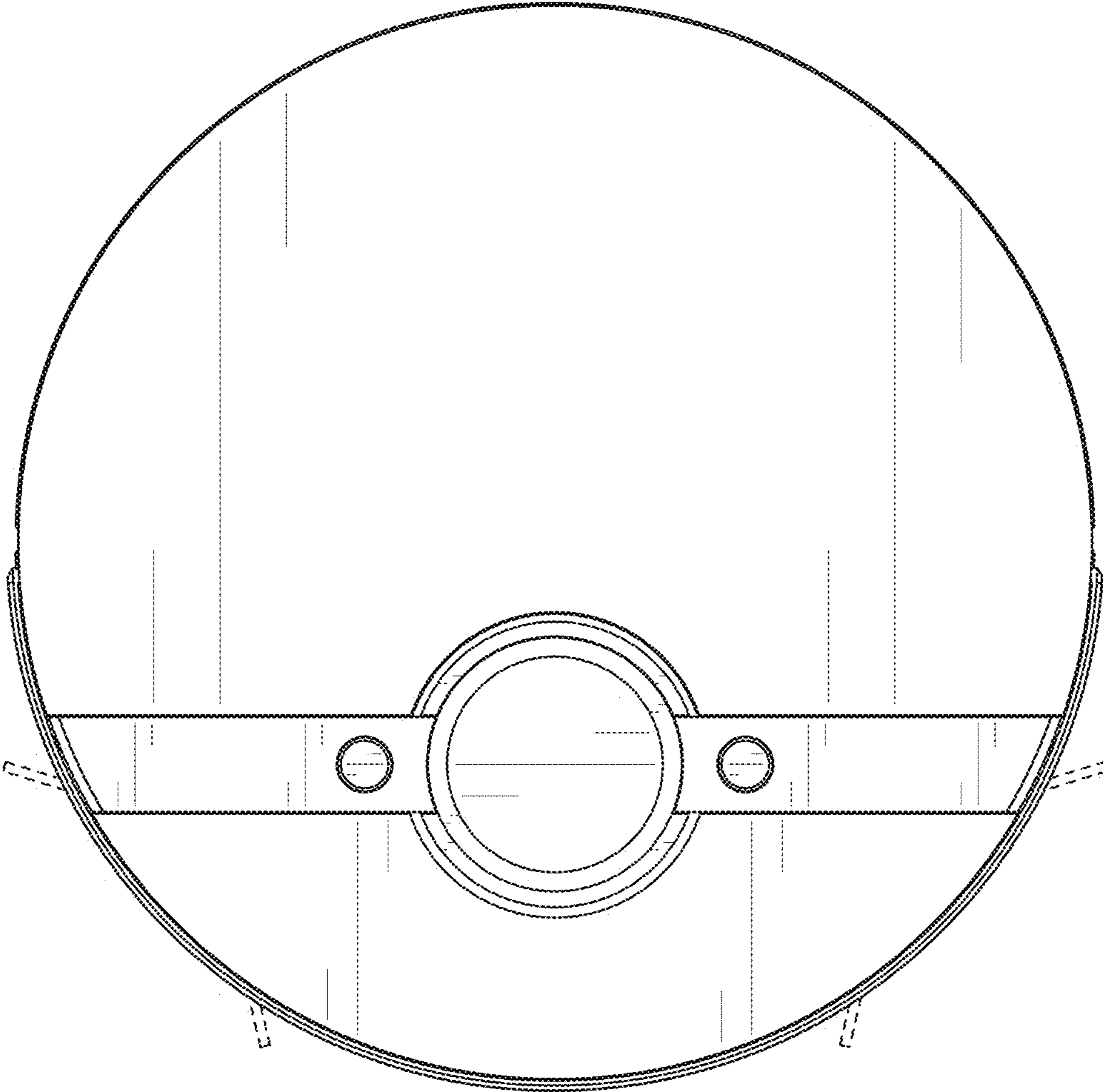


FIG. 6

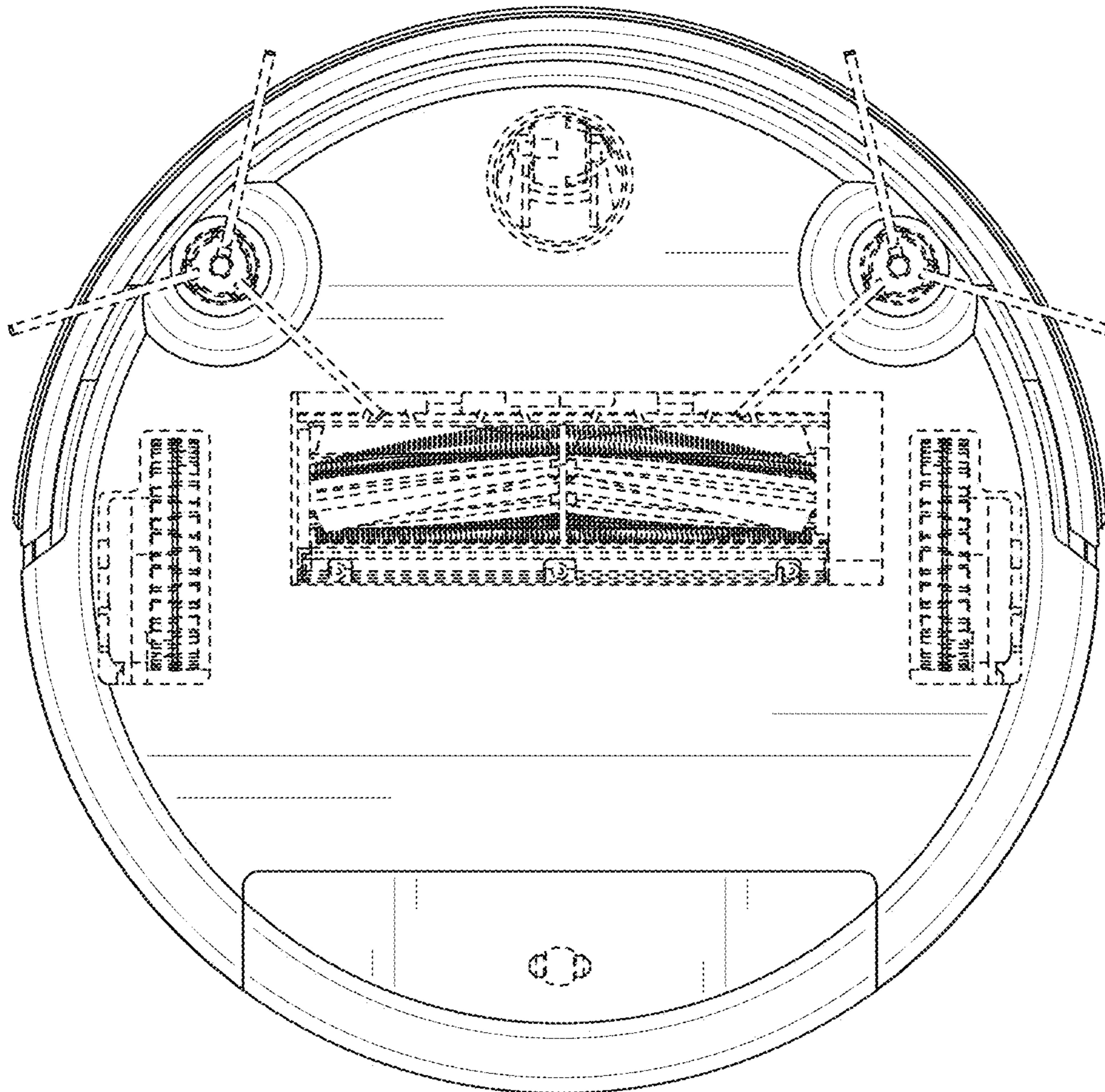


FIG. 7