



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

(10) **Patent No.:** **US D1,072,012 S**
(45) **Date of Patent:** **** Apr. 22, 2025**

(54) **WAREHOUSE ROBOT**

(71) Applicant: **HAI ROBOTICS CO., LTD.**,
Shenzhen (CN)

(72) Inventors: **Zhe Kong**, Shenzhen (CN); **Yeguang Chen**, Shenzhen (CN); **Qingxin Zhan**, Shenzhen (CN)

(73) Assignee: **HAI ROBOTICS CO., LTD.**,
Shenzhen (CN)

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

(21) Appl. No.: **29/943,085**

(22) Filed: **May 20, 2024**

Related U.S. Application Data

(60) Continuation of application No. 29/916,794, filed on Nov. 15, 2023, now Pat. No. Des. 1,032,679, which is a continuation of application No. 29/848,281, filed on Aug. 1, 2022, now Pat. No. Des. 1,006,082, which is a continuation of application No. 29/839,764, filed on May 24, 2022, now Pat. No. Des. 970,576, which is a continuation of application No. 29/777,083, filed on Apr. 2, 2021, now Pat. No. Des. 961,646, which is a division of application No. 29/701,254, filed on Aug. 9, 2019, now Pat. No. Des. 918,281.

Foreign Application Priority Data

Mar. 13, 2019 (CN) 201930102294.2

(51) **LOC (15) Cl.** **15-99**

(52) **U.S. Cl.**
USPC **D15/199**

(58) **Field of Classification Search**
USPC D15/122, 199; D21/578-583, 621, 622;
D34/18, 28, 34

CPC B65G 1/0435; B65G 1/1373; B65G 2203/0216; B66F 9/063; G06Q 10/08

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D314,401 S * 2/1991 Lehman D20/3
5,127,486 A * 7/1992 Yardley B62D 1/28
180/168

(Continued)

FOREIGN PATENT DOCUMENTS

CN 303126323 S 3/2015
CN 303986810 S 12/2016

(Continued)

OTHER PUBLICATIONS

Search Report from Chinese Intellectual Property Office for counterpart application CN201930102294.2 issued on Aug. 23, 2019.

Primary Examiner — Patricia A Palasik

(74) *Attorney, Agent, or Firm* — Ladas & Parry LLP

(57) **CLAIM**

The ornamental design for a warehouse robot as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of a warehouse robot showing our new design;

FIG. 2 is a rear 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;

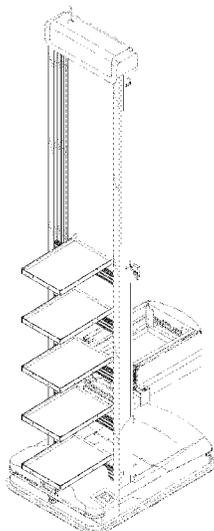
FIG. 6 is a right side elevational view thereof; and,

FIG. 7 is a top plan view thereof.

No bottom plan view is included because the bottom of the warehouse robot will not be visible in use.

The broken lines in the figures illustrate portions of the warehouse robot that form no part of the claimed design.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,187,664 A * 2/1993 Yardley G05D 1/0265
180/167
5,324,948 A * 6/1994 Dudar G01S 15/931
250/253
D384,468 S 9/1997 Tobias
D625,059 S * 10/2010 Morenstein D32/21
8,898,844 B1 * 12/2014 Dooley A47L 11/408
15/98
D722,631 S * 2/2015 Stone D15/199
D743,647 S * 11/2015 Heck D32/21
D810,799 S * 2/2018 Sokuza D15/199
D812,663 S * 3/2018 Waters D15/199
D839,331 S * 1/2019 Nilsson D15/199
D849,813 S * 5/2019 Sutherland D21/578
10,399,616 B2 * 9/2019 Ellerman A63H 33/005
D864,270 S * 10/2019 Hu D15/199
D865,021 S * 10/2019 Hu D15/199
D871,475 S * 12/2019 Kolb D15/199
D871,477 S * 12/2019 Kolb D15/199
D873,173 S * 1/2020 Brucker D12/1
D873,174 S * 1/2020 Sokuza D12/1
D879,852 S * 3/2020 Chen B62D 1/28
D15/199
D880,550 S * 4/2020 Sokuza G01B 11/005
D15/199
D886,173 S * 6/2020 Sokuza A63H 33/26
D15/199
D887,468 S * 6/2020 Hirvesaar B66F 9/063
D15/199
D959,529 S * 8/2022 Kong D15/199
D961,646 S * 8/2022 Kong D15/199
11,465,840 B2 * 10/2022 Cheng B25J 9/1638
D969,896 S * 11/2022 Kong D15/199
D969,899 S * 11/2022 Kong D15/199
D981,463 S * 3/2023 Kong D15/199
D982,050 S * 3/2023 Kong D15/199
D998,011 S * 9/2023 Kong D15/199
D1,032,679 S * 6/2024 Kong D15/199
D1,045,949 S * 10/2024 Kong D15/199
D1,045,950 S * 10/2024 Kong D15/199
2012/0026481 A1 * 2/2012 Chen G05D 1/0242
356/4.01
2015/0224640 A1 * 8/2015 Vu B25J 5/007
700/259
2016/0327383 A1 * 11/2016 Becker G01B 11/005
2017/0121109 A1 5/2017 Behling
2018/0096299 A1 4/2018 Jarvis
2018/0099810 A1 * 4/2018 Wu B25J 5/007
2018/0127212 A1 5/2018 Jarvis
2019/0033837 A1 1/2019 Zanger

2019/0133396 A1 * 5/2019 Lim G05D 1/0246
2019/0270472 A1 * 9/2019 Akamatsu B62B 5/0079
2019/0352092 A1 11/2019 Zheng
2021/0354966 A1 11/2021 Kong

FOREIGN PATENT DOCUMENTS

CN 106379681 A 2/2017
CN 304144857 S 5/2017
CN 106927179 A 7/2017
CN 206569571 U 10/2017
CN 107600856 A 1/2018
CN 206885961 U 1/2018
CN 304460809 S 1/2018
CN 304473783 S 1/2018
CN 304541348 S 3/2018
CN 108313606 A 7/2018
CN 108726061 A 11/2018
CN 208150249 U 11/2018
CN 304918626 S 11/2018
CN 109264627 A 1/2019
CN 304998633 S 1/2019
CN 305009308 S 1/2019
CN 305009309 S 1/2019
CN 305010573 S 1/2019
CN 305053096 S 3/2019
CN 305075601 S 3/2019
CN 305087825 S 3/2019
CN 208746865 U 4/2019
CN 109748027 A 5/2019
CN 305173287 S 5/2019
CN 305189193 S 5/2019
CN 305203829 S 6/2019
CN 305372670 S 10/2019
CN 209684551 U 11/2019
CN 209684554 U 11/2019
CN 305594153 S 2/2020
CN 305611506 S 2/2020
CN 112607293 A 4/2021
CN 306678711 S 7/2021
CN 307790398 S 1/2023
CN 307904746 S 3/2023
CN 307925412 S 3/2023
GB 2080265 A 2/1982
IN 939CHE2015 A 8/2016
JP D1290893 1/2007
KR 30-0563974 6/2010
KR 101676715 B1 11/2016
SU 867871 A1 9/1981
WO WO2016151504 A1 9/2016
WO WO2016151505 A1 9/2016
WO WOD096716-0005 8/2018
WO WO2020133641 A1 7/2020

* cited by examiner

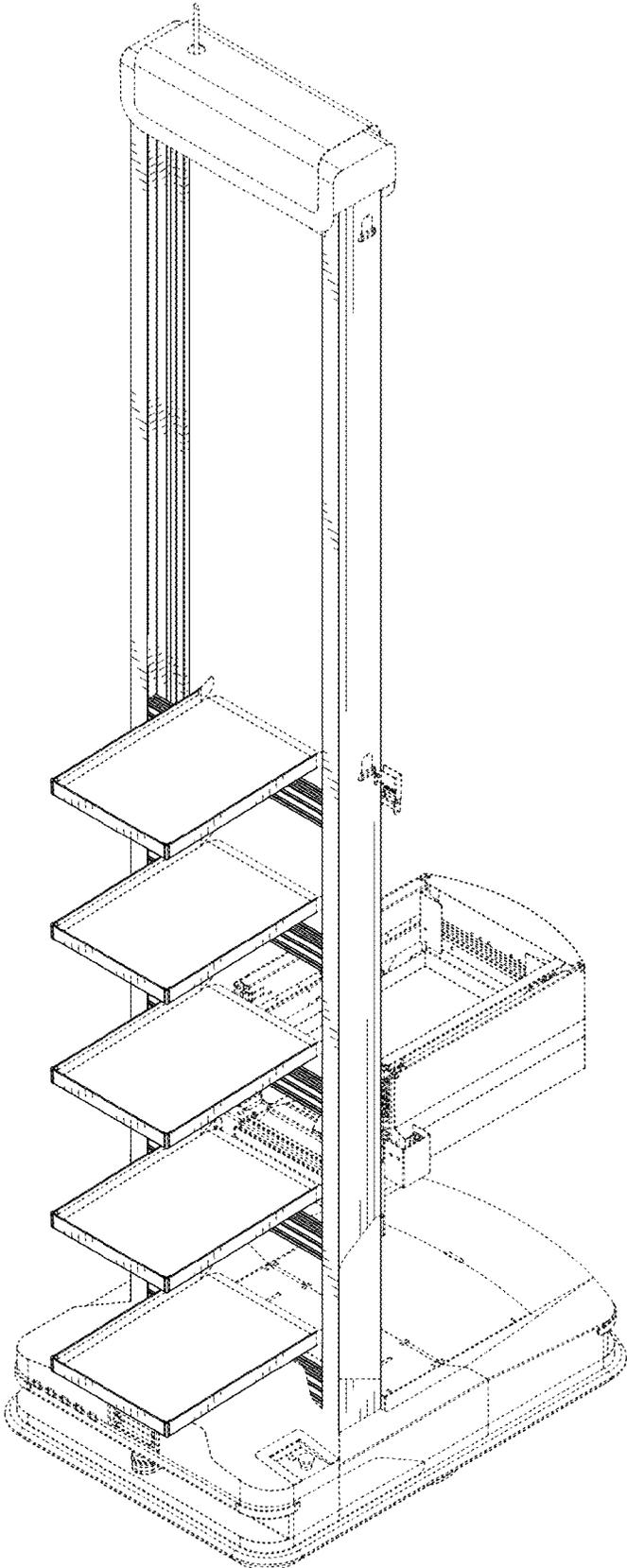


FIG. 1

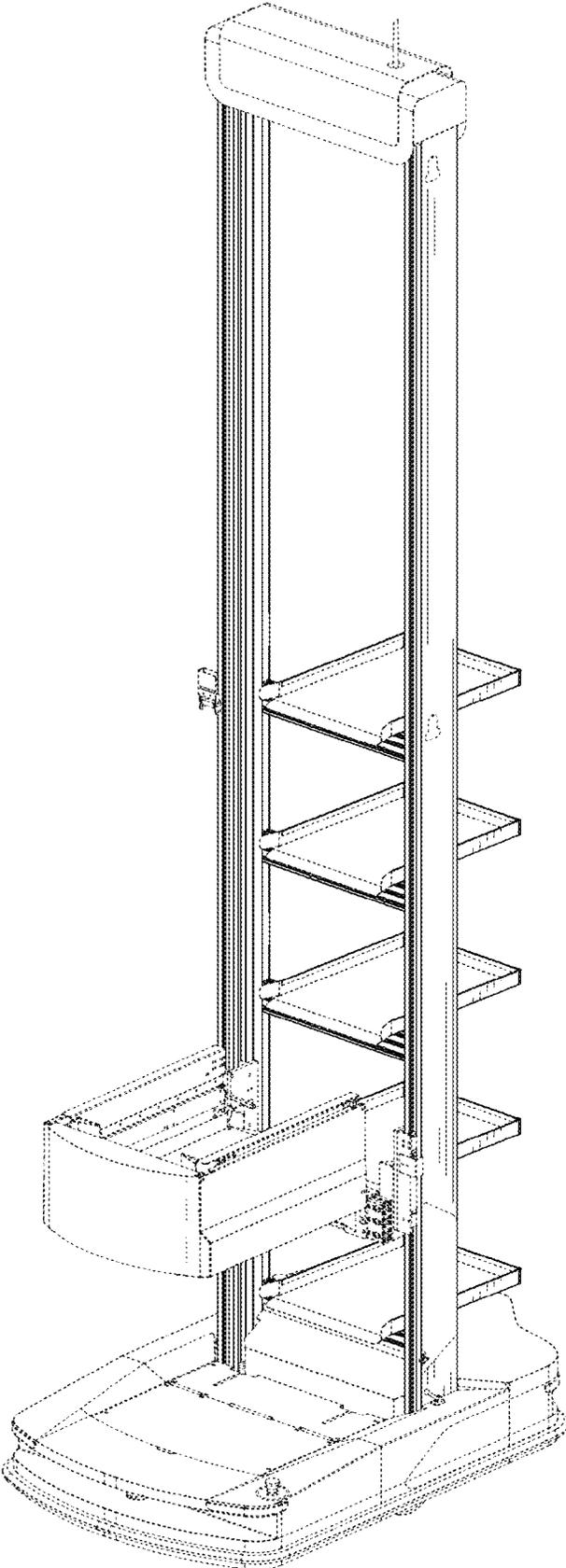


FIG. 2

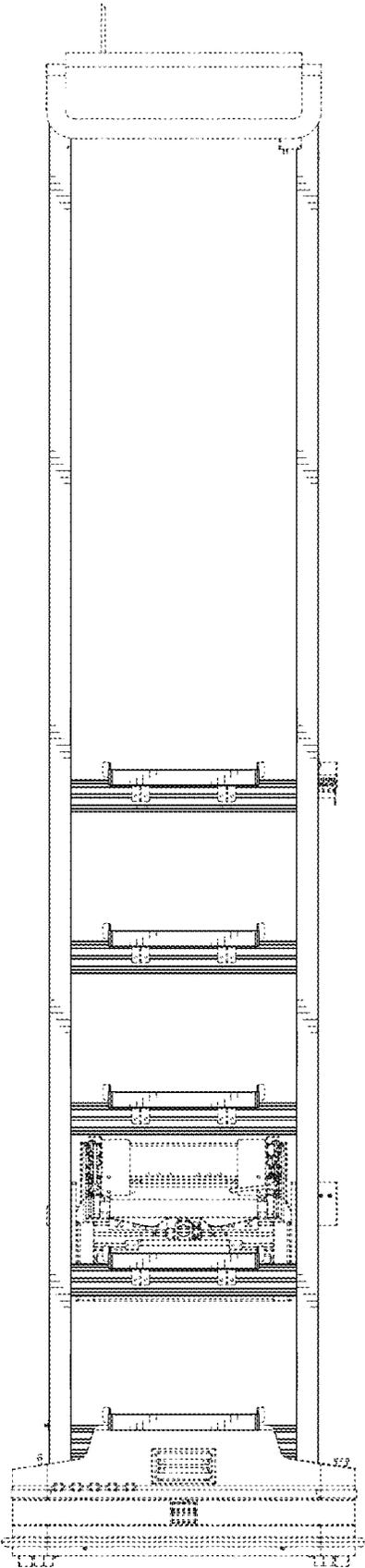


FIG. 3

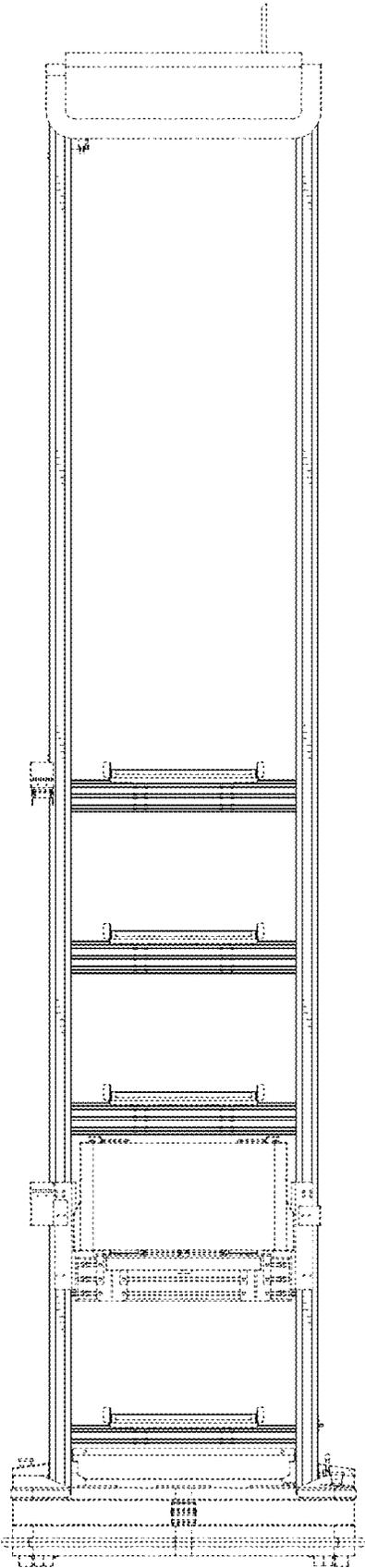


FIG. 4

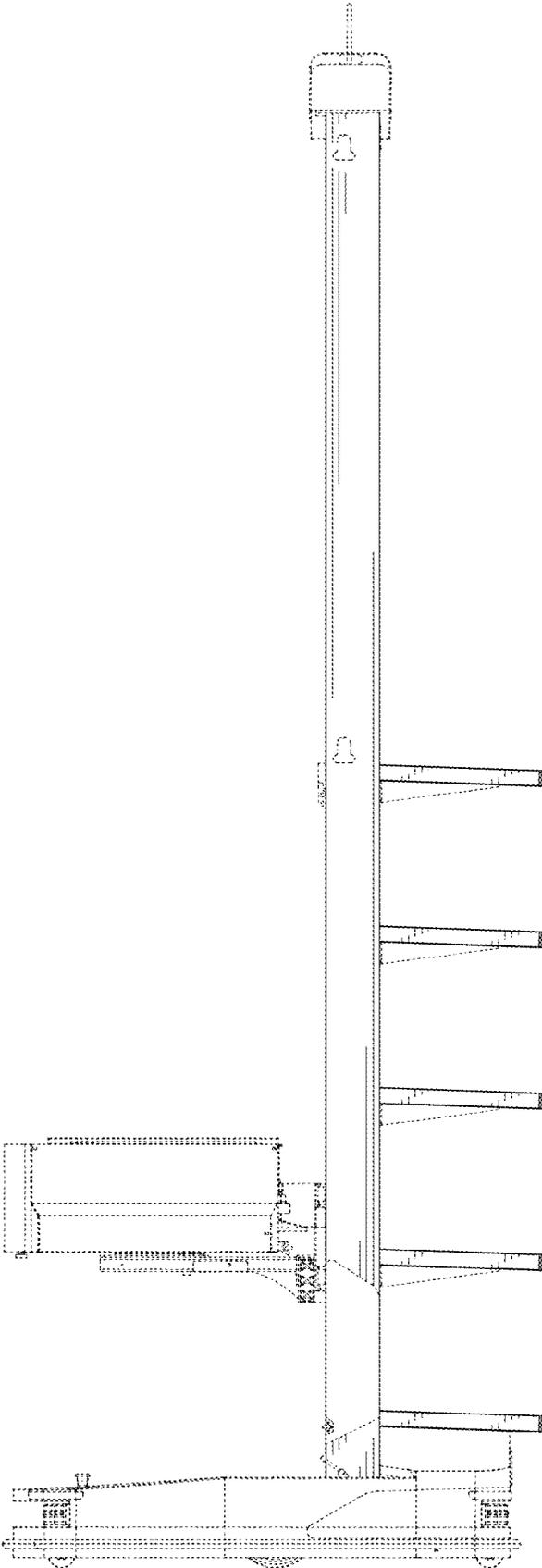


FIG. 5

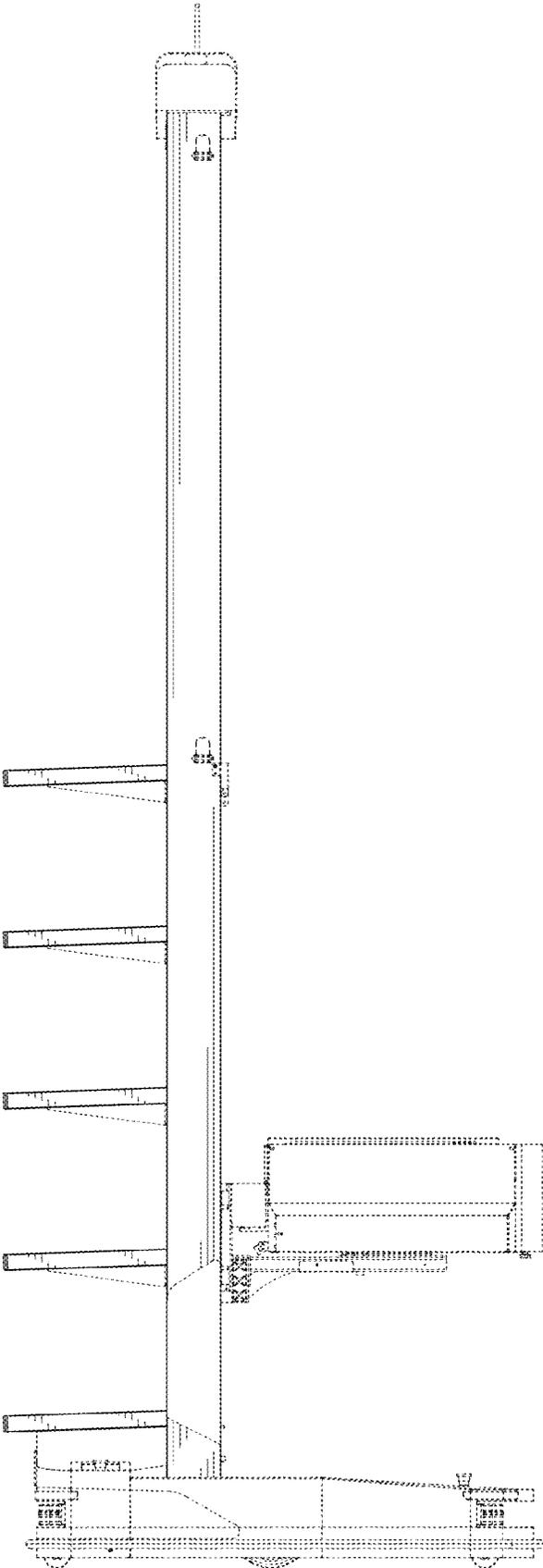


FIG. 6

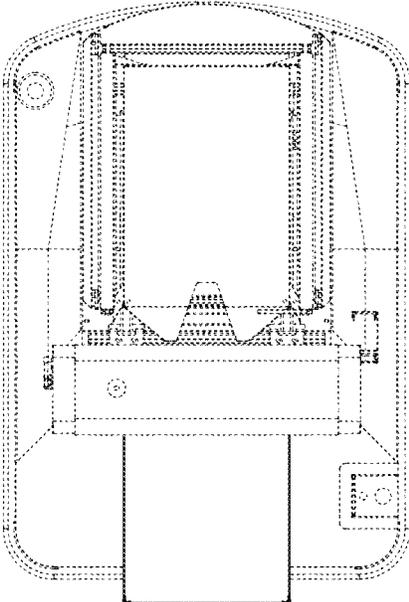


FIG. 7