



US00D974439S

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

(10) **Patent No.:** **US D974,439 S**
(45) **Date of Patent:** **** Jan. 3, 2023**

(54) **WAREHOUSE ROBOT**
(71) Applicant: **HAI ROBOTICS CO., LTD.**,
Guangdong (CN)
(72) Inventors: **Zhe Kong**, Guangdong (CN); **Yeguang Chen**, Guangdong (CN); **Qingxin Zhan**, Guangdong (CN)

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
(Continued)

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

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

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

(Continued)

(21) Appl. No.: **29/845,922**

OTHER PUBLICATIONS

(22) Filed: **Jul. 12, 2022**

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

Related U.S. Application Data

(60) 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.

Primary Examiner — Patricia A Palasik
(74) *Attorney, Agent, or Firm* — Ladas & Parry LLP

(30) **Foreign Application Priority Data**

Mar. 13, 2019 (CN) 201930102294.2

(51) **LOC (14) 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.

(57) **CLAIM**

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

(56) **References Cited**

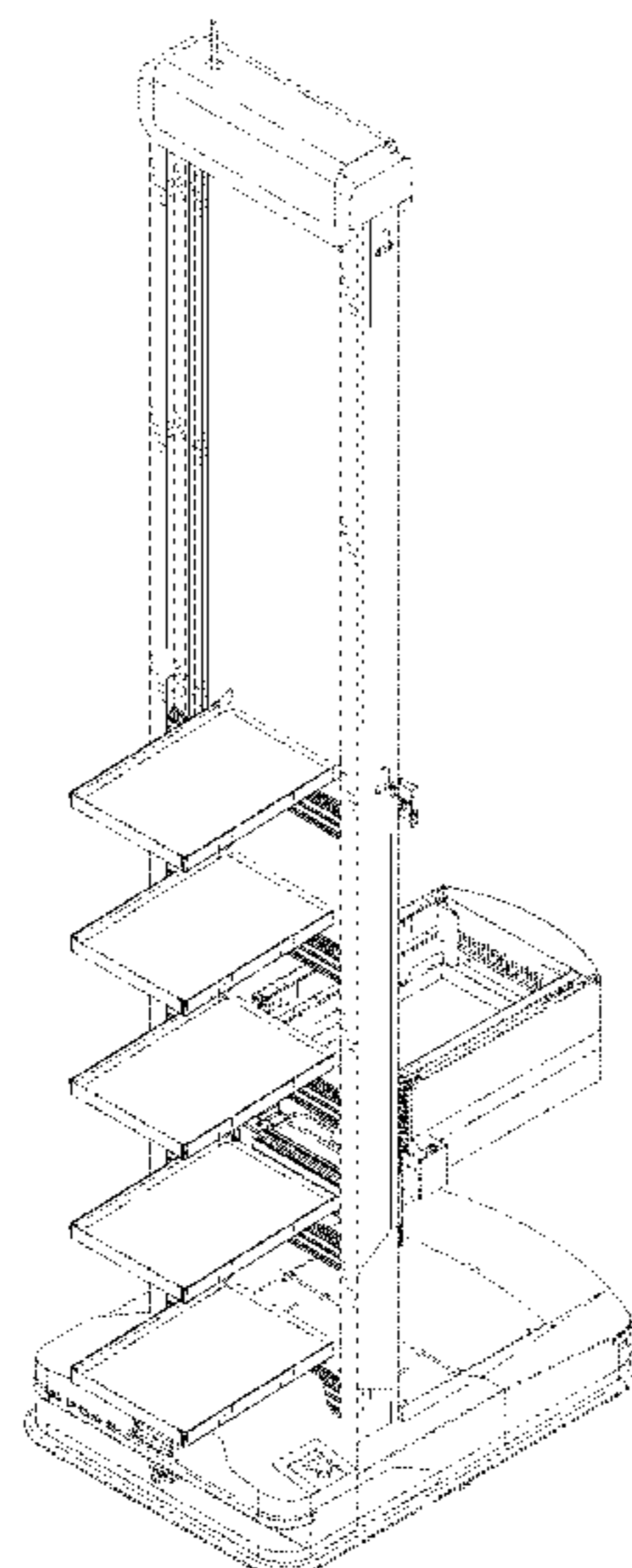
U.S. PATENT DOCUMENTS

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

DESCRIPTION

FIG. 1 is a front perspective view 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

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 D15/199
 10,399,616 B2 * 9/2019 Ellerman A63H 33/26
 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
 D918,281 S * 5/2021 Kong D15/199
 D959,529 S * 8/2022 Kong D15/199
 D961,646 S * 8/2022 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
 2018/0099810 A1 * 4/2018 Wu B65G 1/0492
 2019/0133396 A1 * 5/2019 Lim A47L 5/12
 2019/0270472 A1 * 9/2019 Akamatsu B62B 5/0093
 2019/0352092 A1 * 11/2019 Zheng B66F 9/063

FOREIGN PATENT DOCUMENTS

CN 304144857 S 5/2017
 CN 206569571 U 10/2017
 CN 206885961 U 1/2018
 CN 304460809 S 1/2018
 CN 108313606 A 7/2018
 CN 108726061 A 11/2018
 CN 304918626 S 11/2018
 CN 304998633 S 1/2019
 CN 305009308 S 1/2019
 CN 305009309 S 1/2019
 CN 305010573 S 1/2019
 CN 208746865 U 4/2019
 CN 209684551 U 11/2019
 CN 209684554 U 11/2019
 CN 112607293 A 4/2021
 JP D1290893 1/2007
 KR 30-0563974 6/2010
 SU 867871 A1 9/1981
 WO WO2016151504 A1 9/2016
 WO WOD096716-0005 8/2018

* cited by examiner

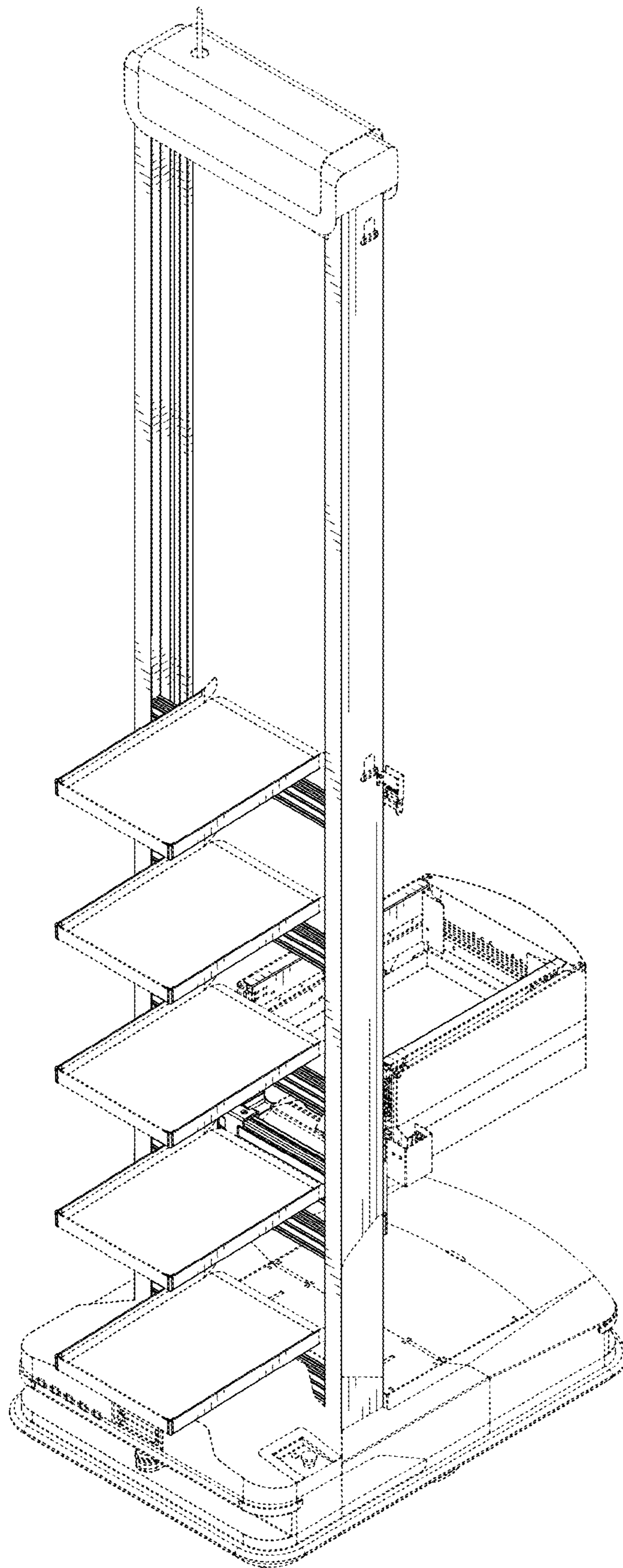


FIG. 1

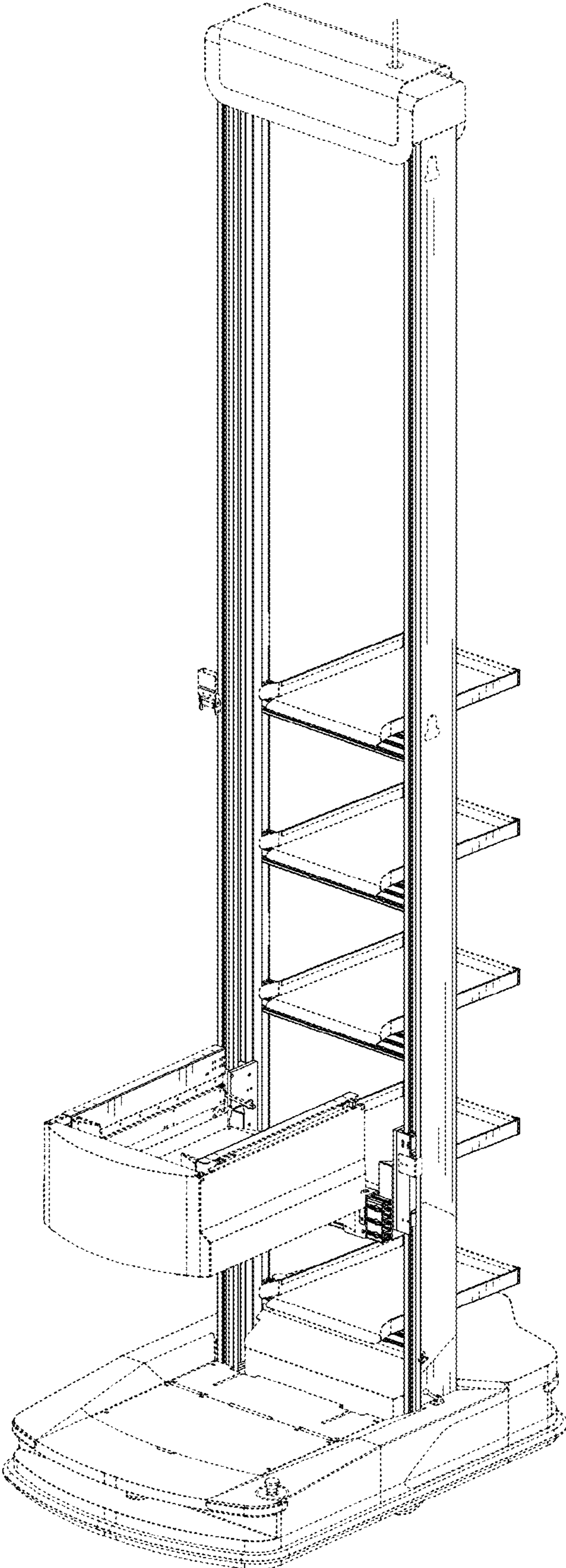


FIG. 2

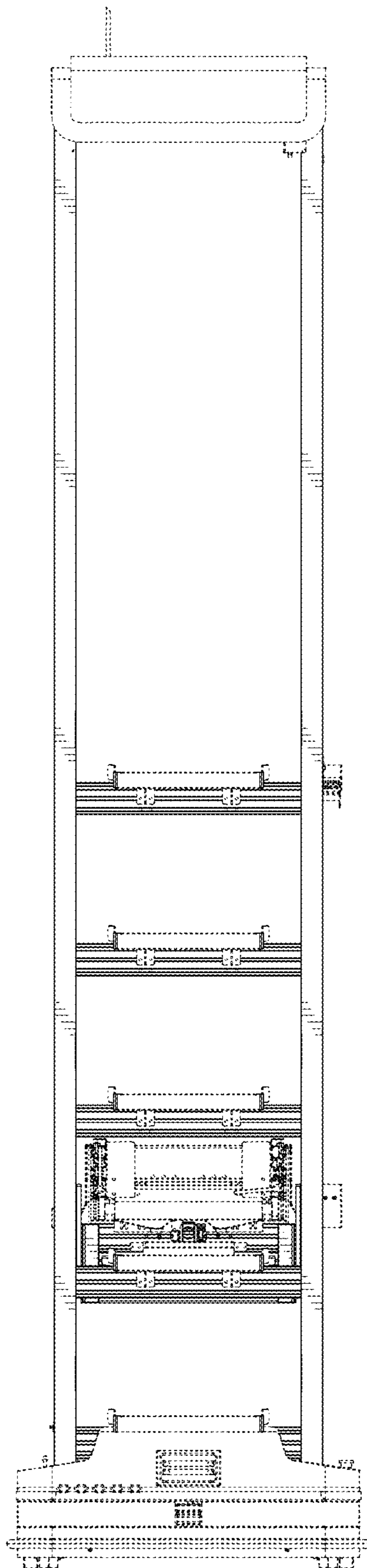


FIG. 3

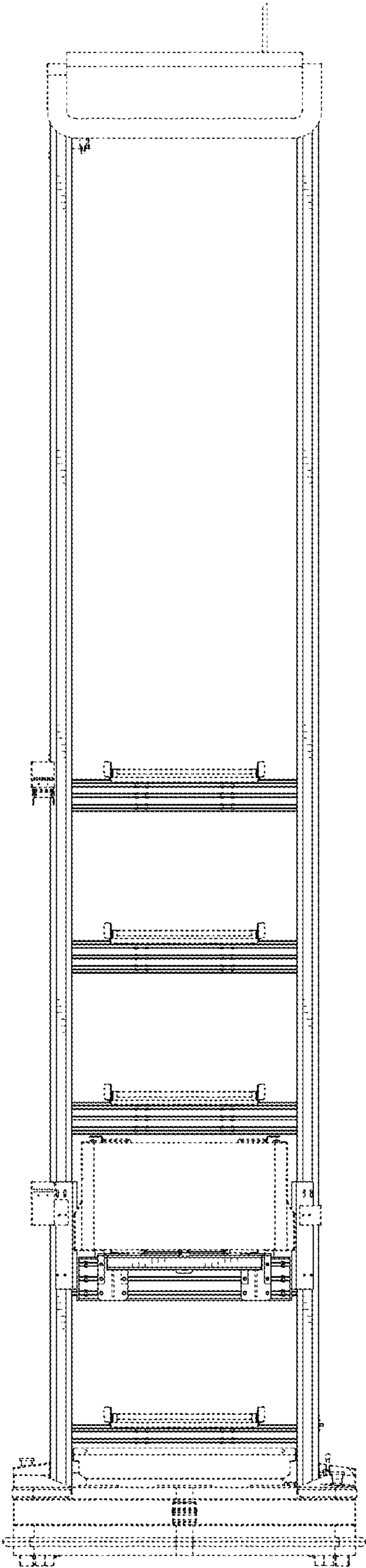


FIG. 4

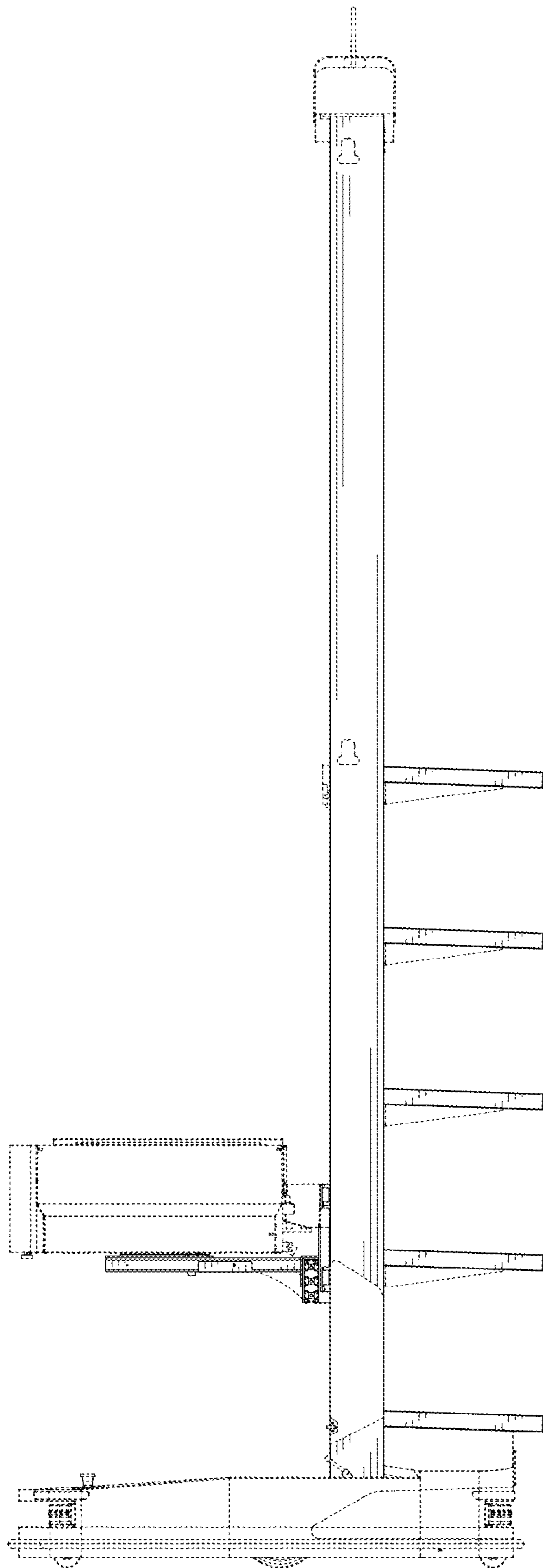


FIG. 5

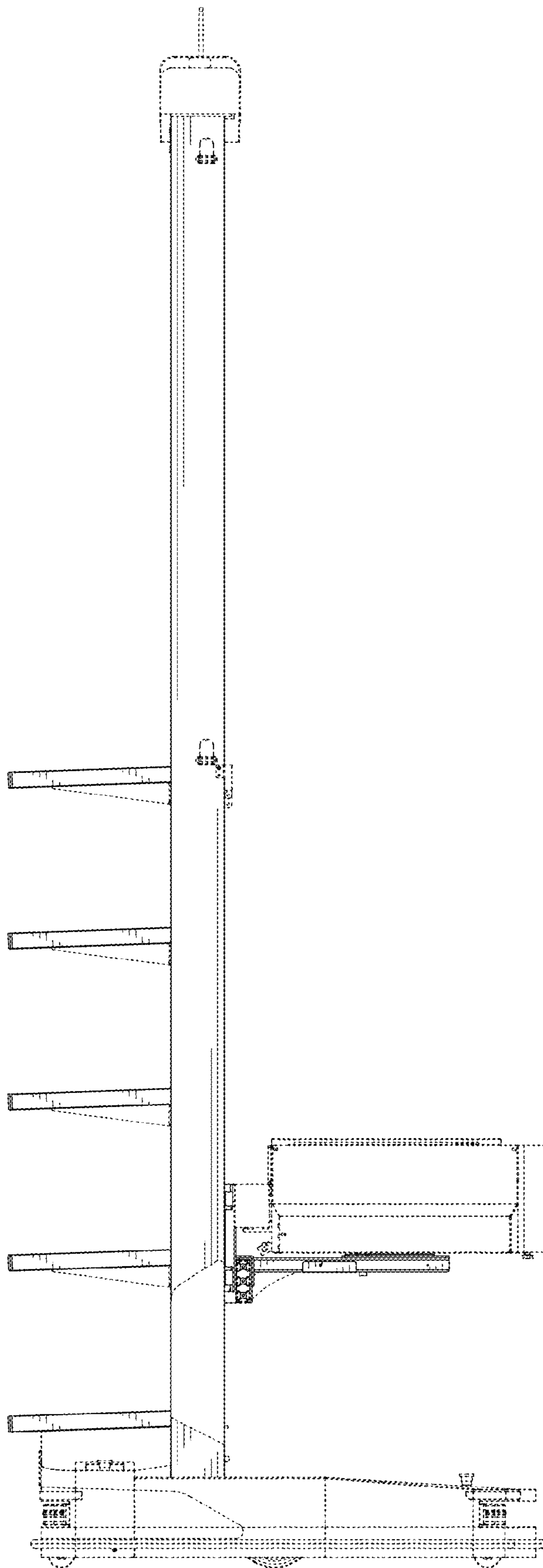


FIG. 6

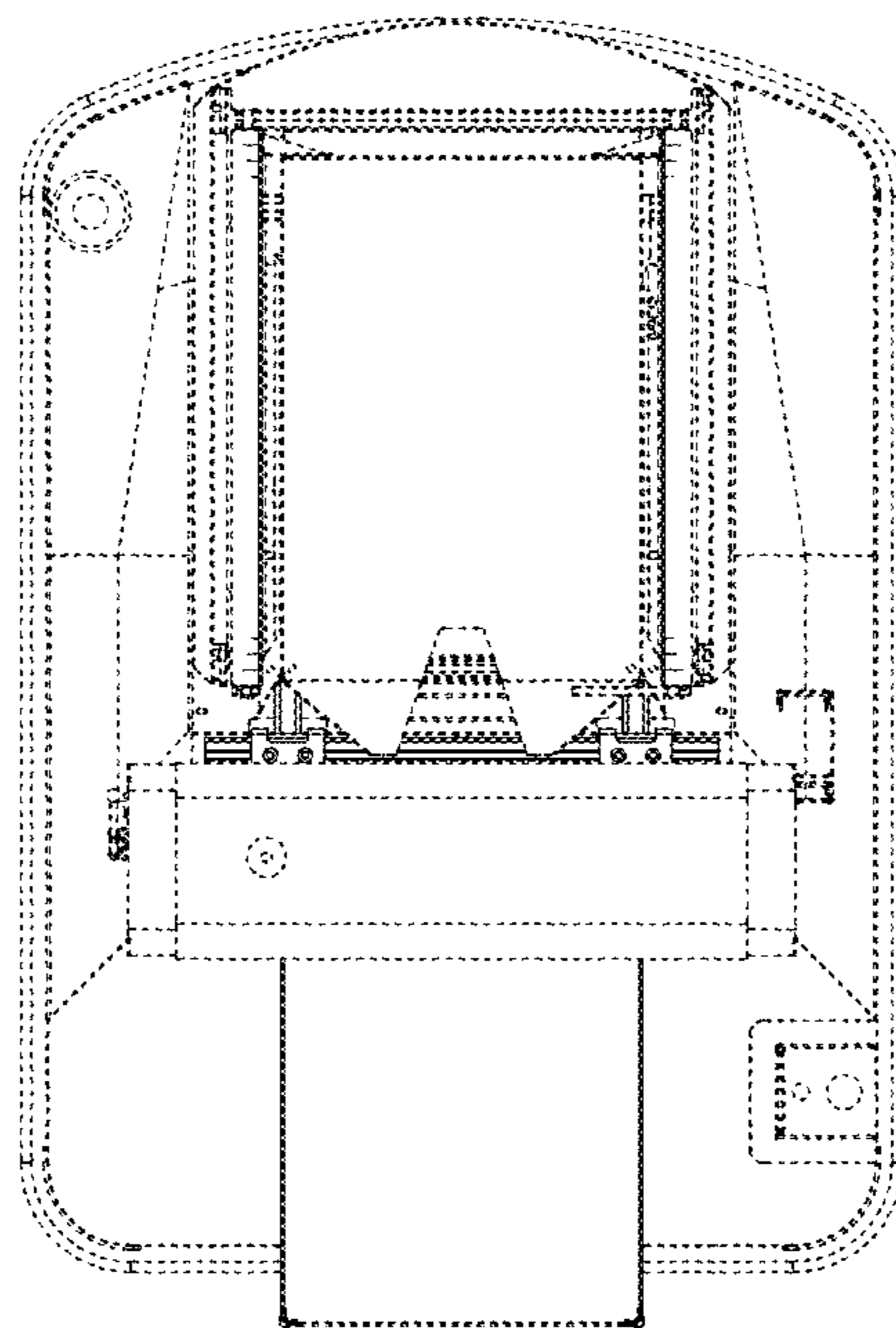


FIG. 7