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

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(54) **WAREHOUSE ROBOT**  
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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)

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

FOREIGN PATENT DOCUMENTS  
CN 303126323 S 3/2015  
CN 303986810 S 12/2016  
(Continued)

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OTHER PUBLICATIONS

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**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.

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(30) **Foreign Application Priority Data**

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(57) **CLAIM**

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

(51) **LOC (14) Cl.** ..... **15-99**

**DESCRIPTION**

(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.

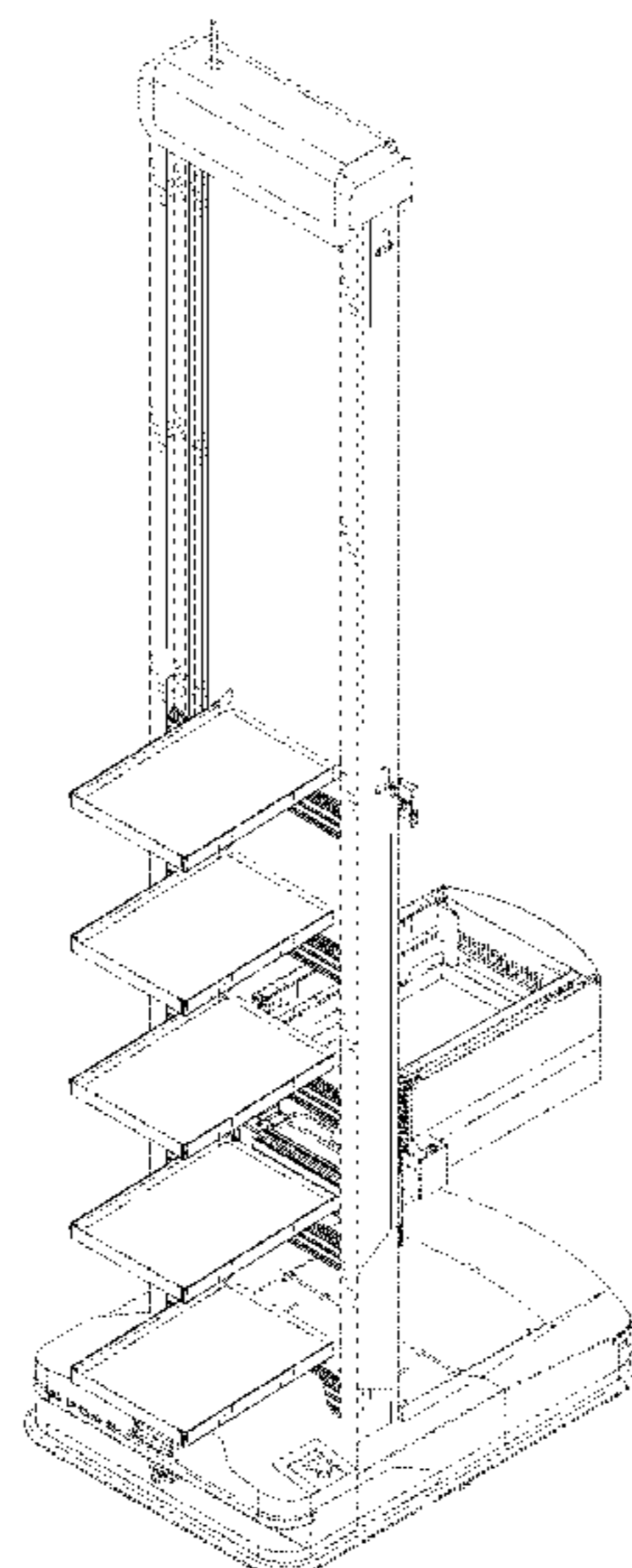
FIG. 1 is a front perspective view a warehouse robot showing our new design;  
FIG. 2 is a rear perspective view thereof;  
FIG. 3 is a front elevational view thereof;  
FIG. 4 is a rear elevational view thereof;  
FIG. 5 is a left side elevational view thereof;  
FIG. 6 is a right side elevational view 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.

(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

**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

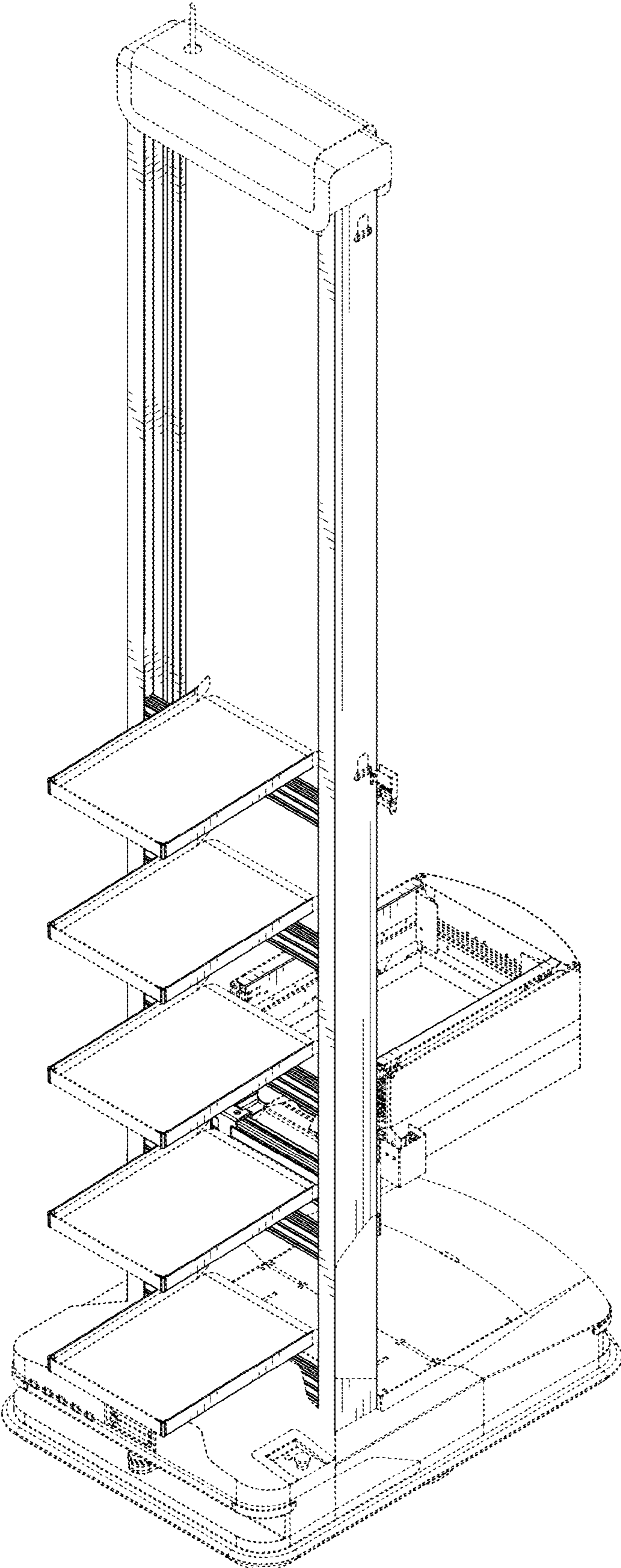


FIG. 1



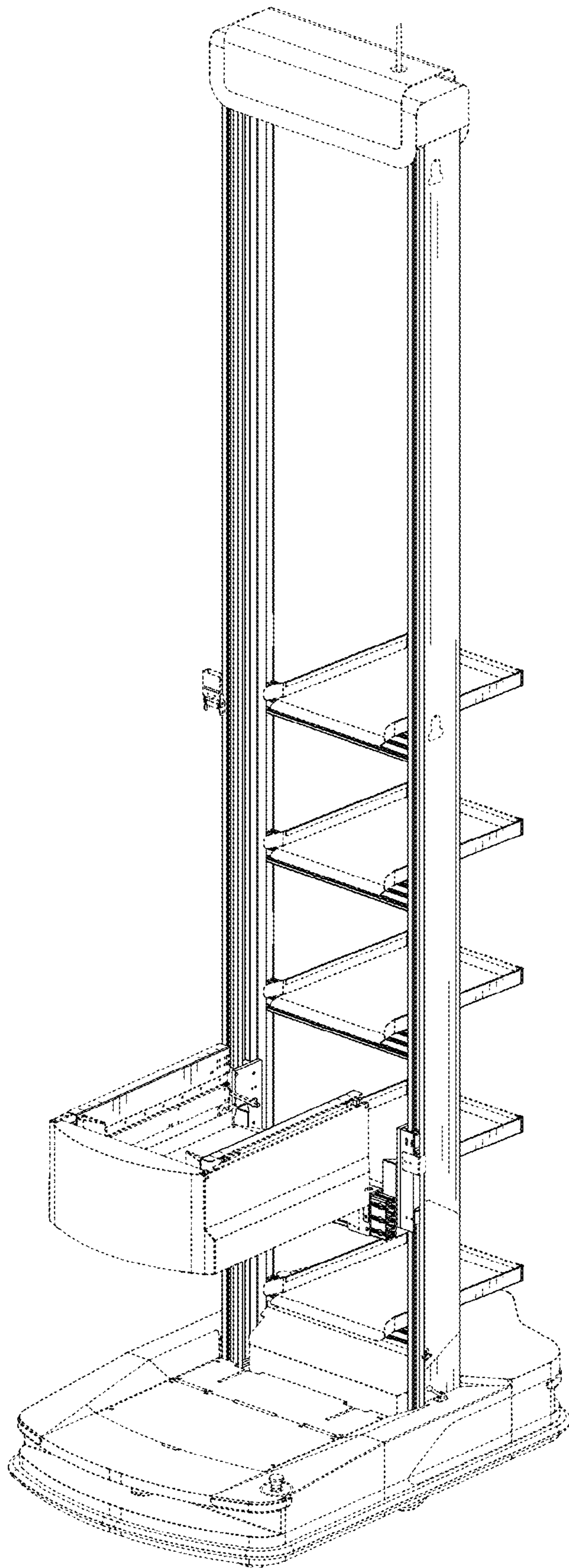


FIG. 2

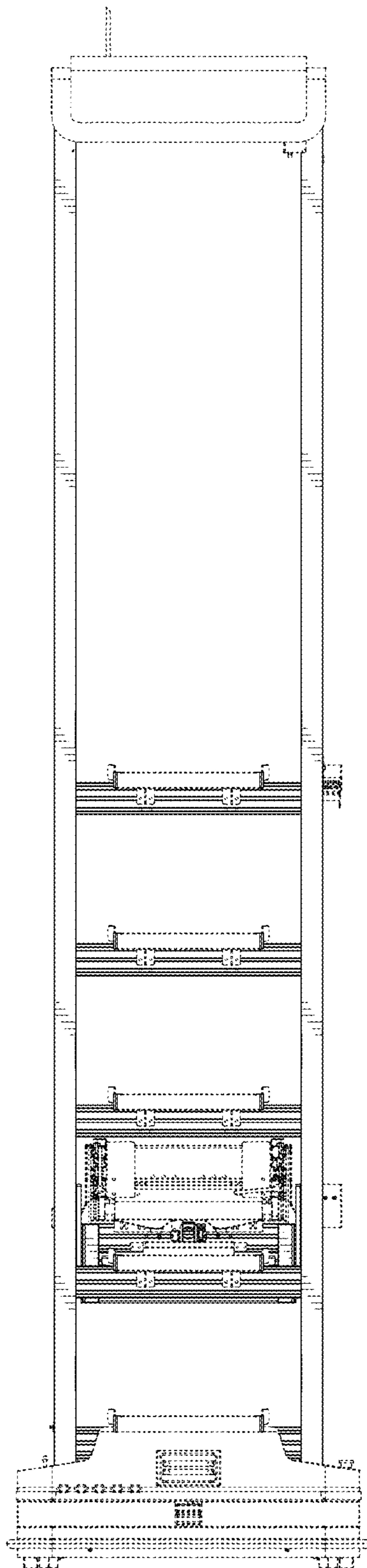


FIG. 3

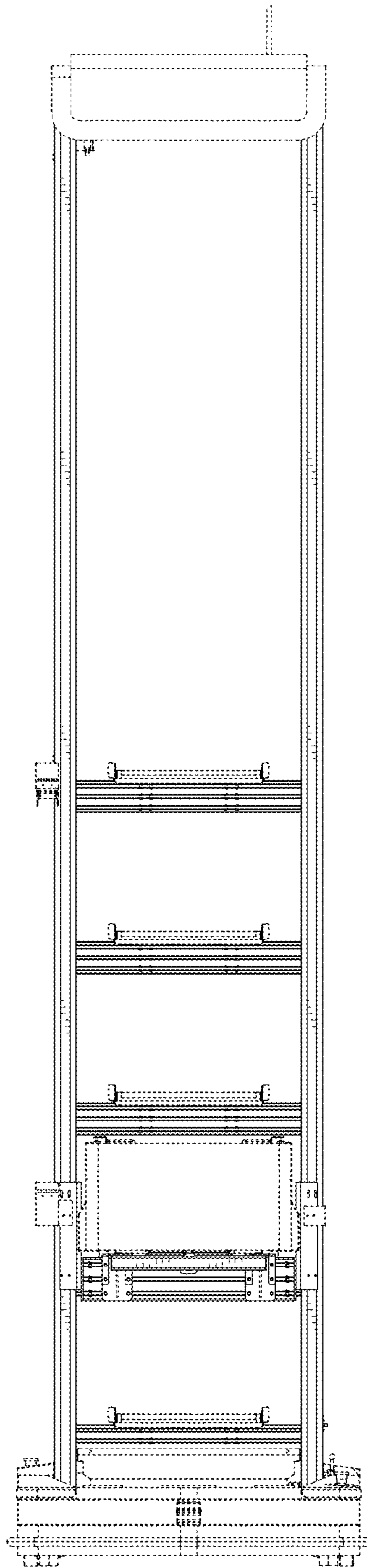


FIG. 4

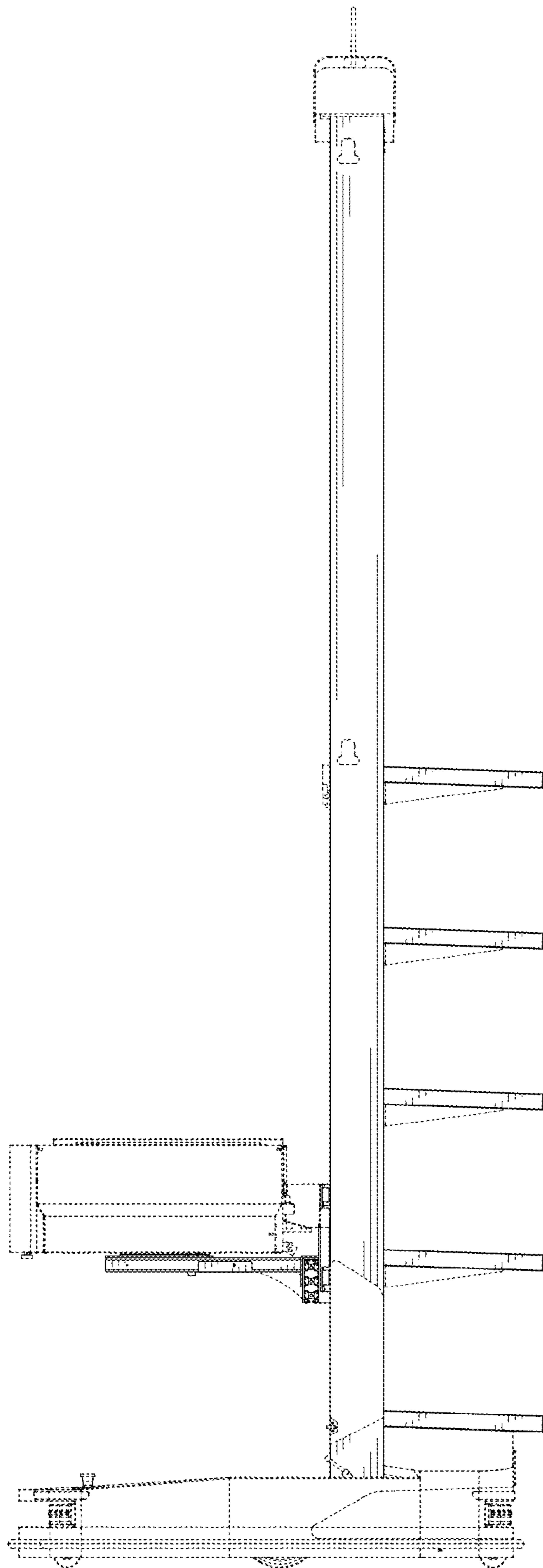


FIG. 5

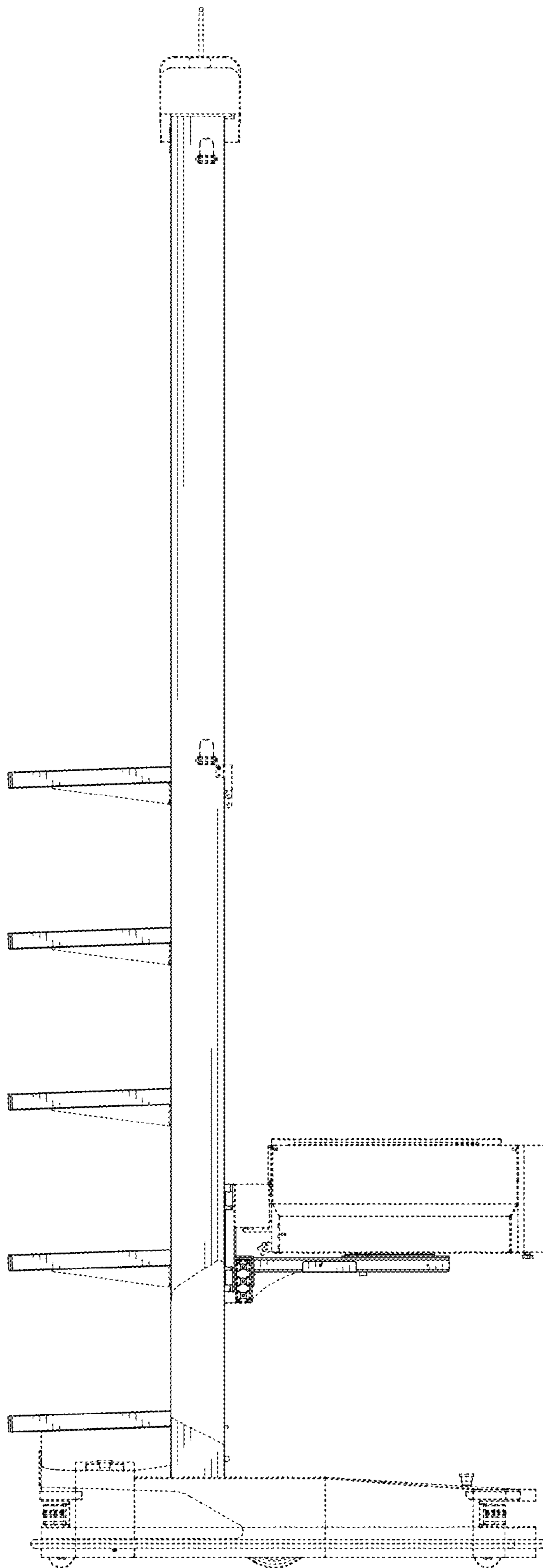


FIG. 6



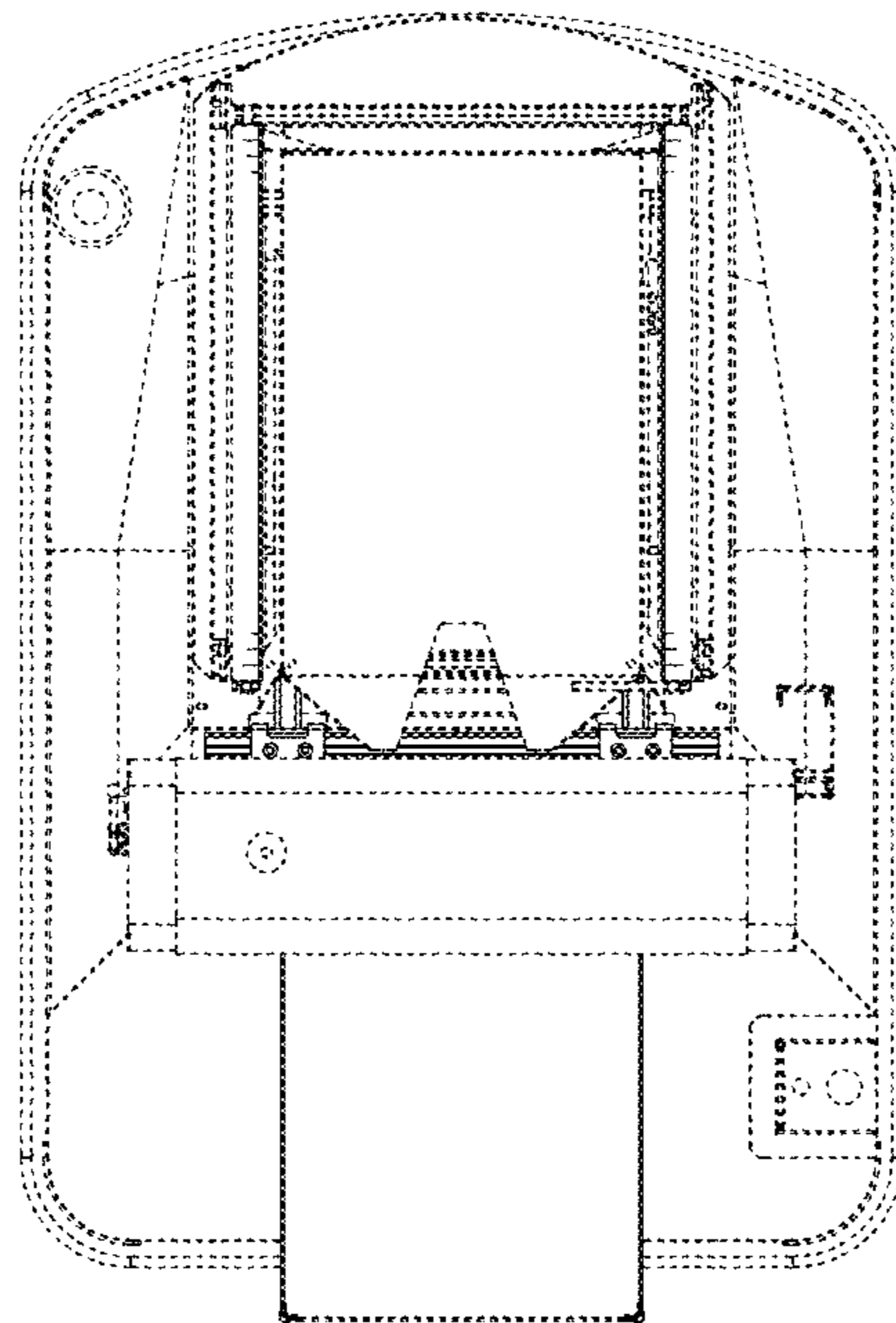


FIG. 7