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

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(54) **WAREHOUSE ROBOT**

CPC ..... B65G 1/0435; B65G 1/1373; B65G  
2203/0216; B66F 9/063; G06Q 10/08  
See application file for complete search history.

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(56) **References Cited**

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U.S. PATENT DOCUMENTS

D314,401 S \* 2/1991 Lehman ..... D20/3  
5,127,486 A \* 7/1992 Yardley ..... B62D 1/28  
180/168  
5,187,664 A \* 2/1993 Yardley ..... G05D 1/0265  
180/167

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(Continued)

(\* ) Notice: This patent is subject to a terminal dis-  
claimer.

FOREIGN PATENT DOCUMENTS

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

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

(Continued)

(21) Appl. No.: **29/856,469**

OTHER PUBLICATIONS

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terpart application CN201930102294.2 dated Aug. 23, 2019.

**Related U.S. Application Data**

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Bockius LLP

(60) 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.

(57) **CLAIM**

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

(30) **Foreign Application Priority Data**

**DESCRIPTION**

Mar. 13, 2019 (CN) ..... 201930102294.2

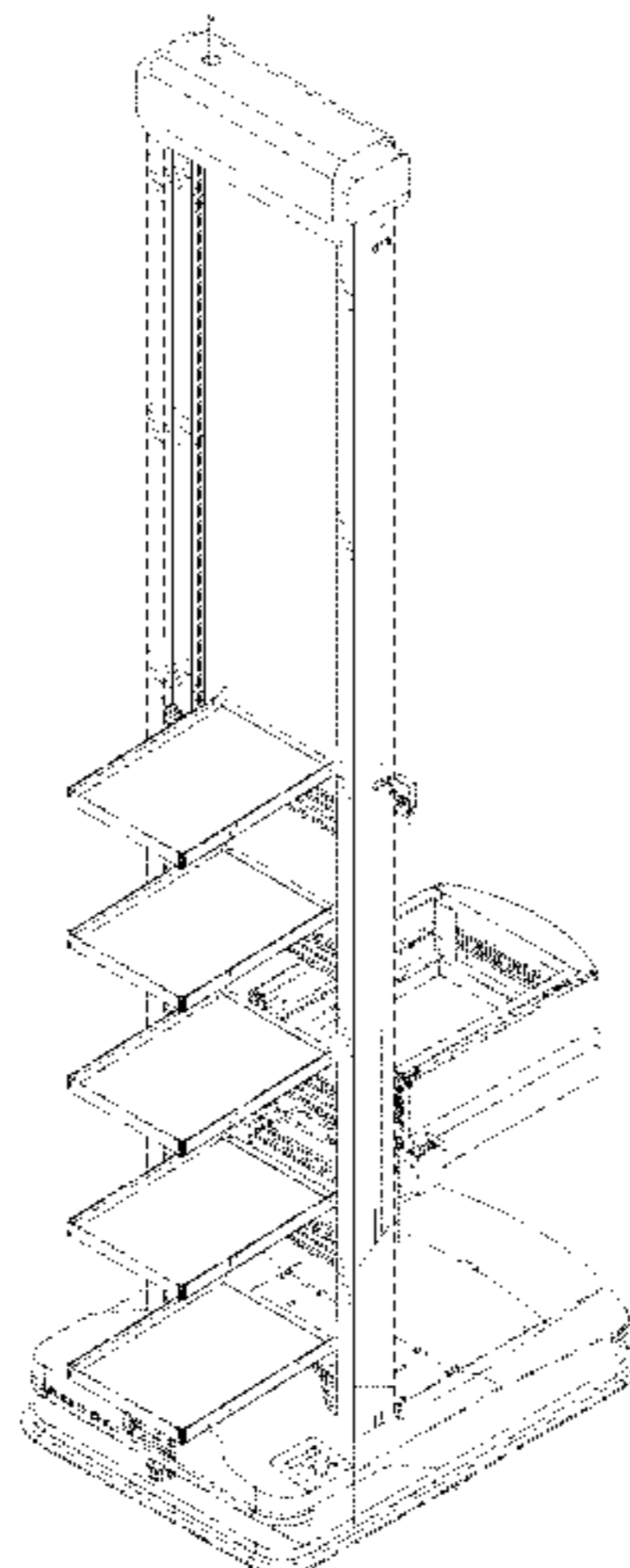
(51) **LOC (14) Cl.** ..... **15-99**

(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

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.

(Continued)



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

5,324,948 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 ..... 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  
D959,529 S \* 8/2022 Kong ..... D15/199  
D961,646 S \* 8/2022 Kong ..... D15/199  
11,465,840 B2 \* 10/2022 Cheng ..... B25J 15/0014  
D969,896 S \* 11/2022 Kong ..... D15/199  
D969,899 S \* 11/2022 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 9/1981  
WO 2016/151504 A1 9/2016  
WO D096716-0005 8/2018

\* cited by examiner

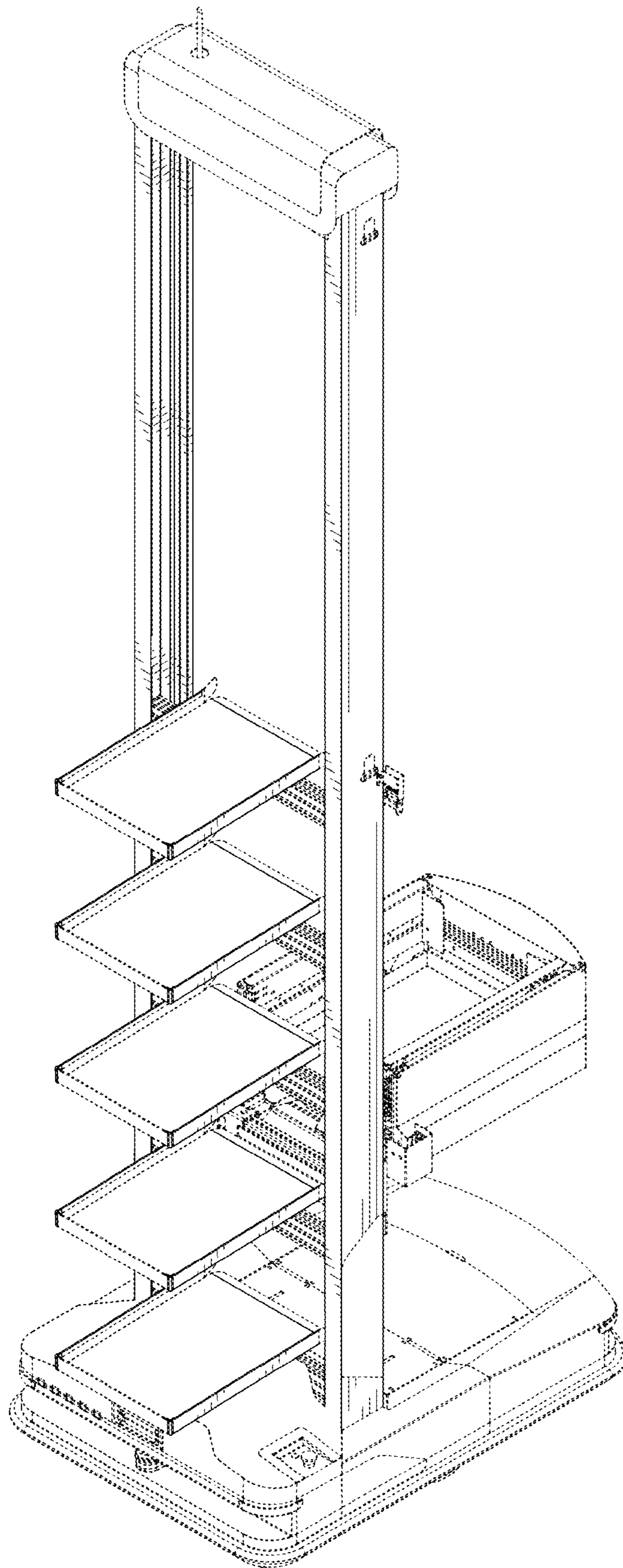


FIG. 1



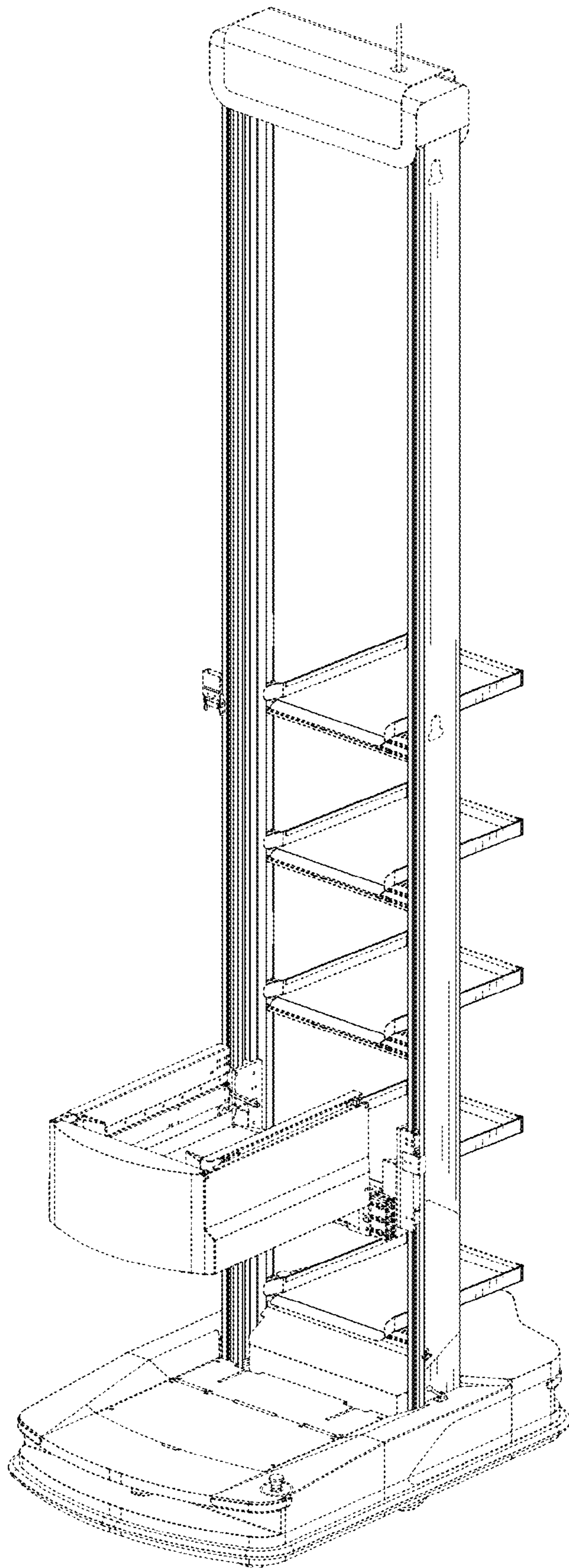


FIG. 2

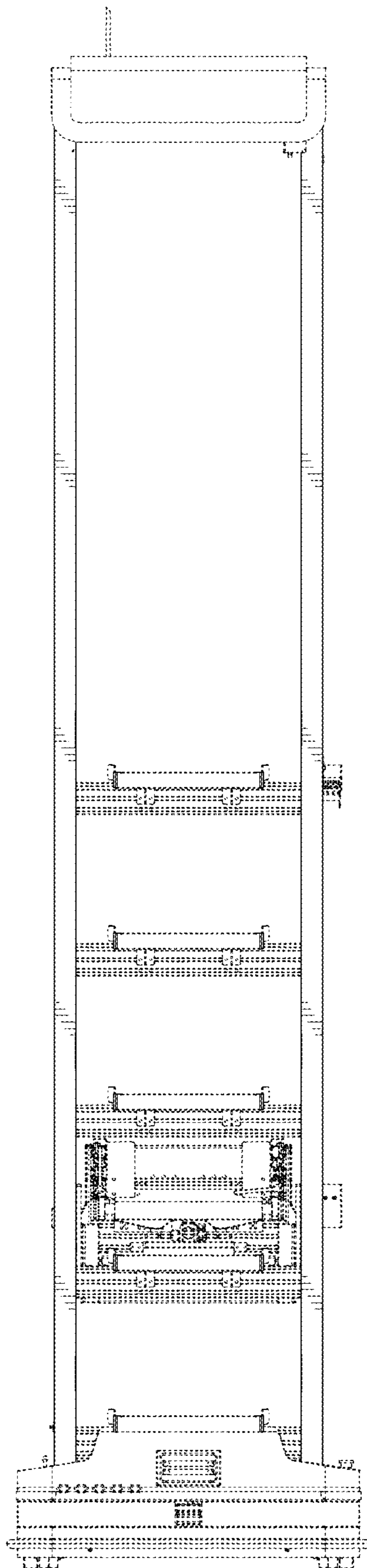


FIG. 3

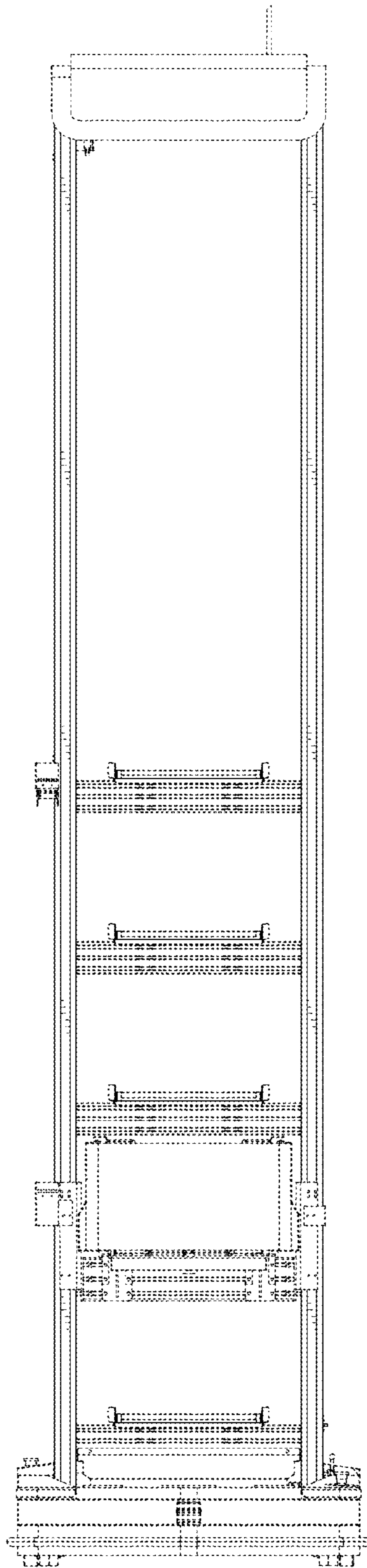


FIG. 4

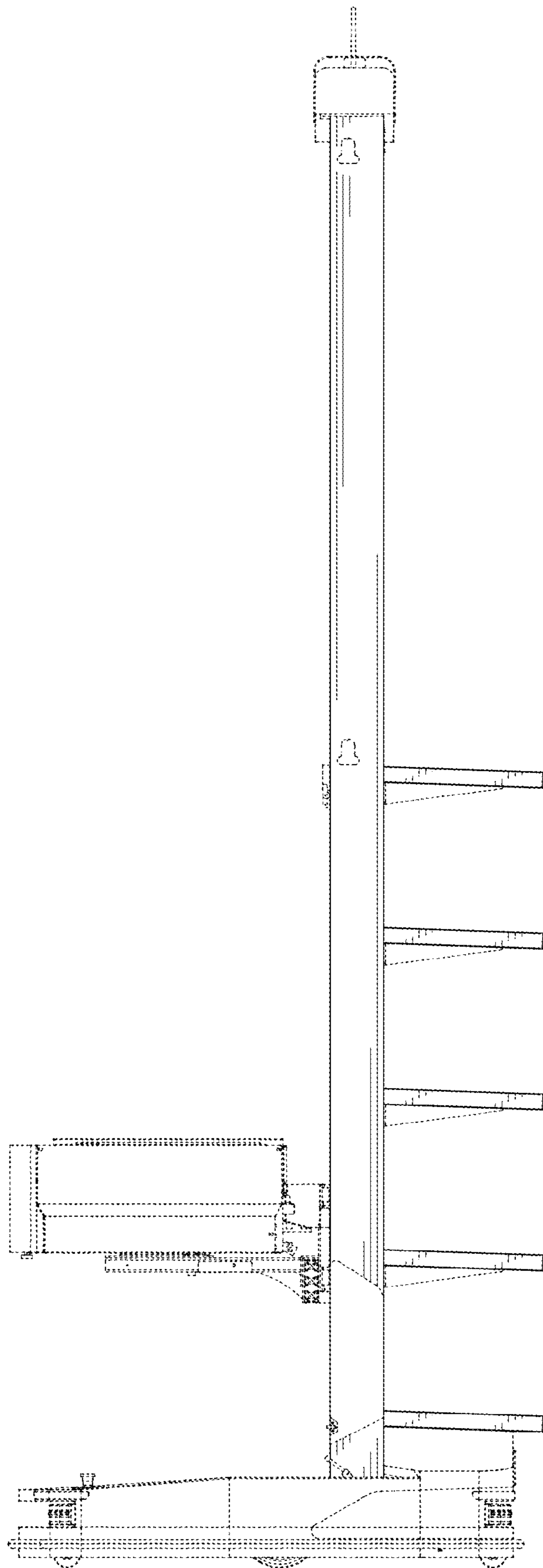


FIG. 5

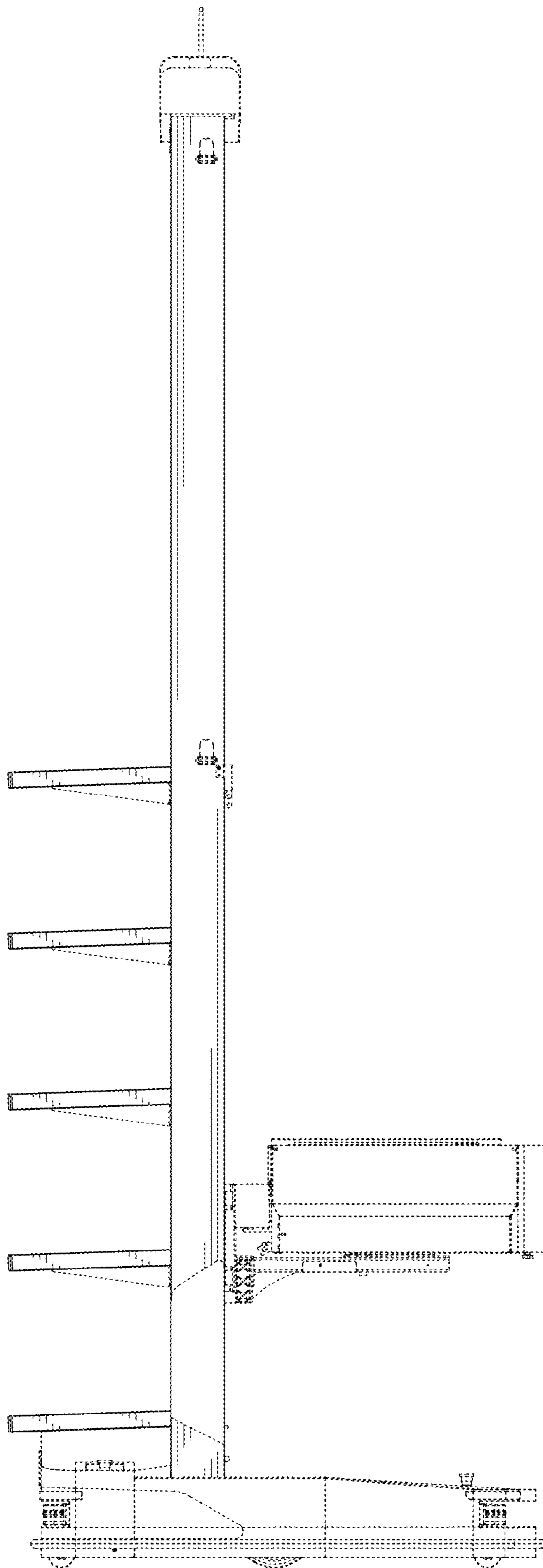


FIG. 6



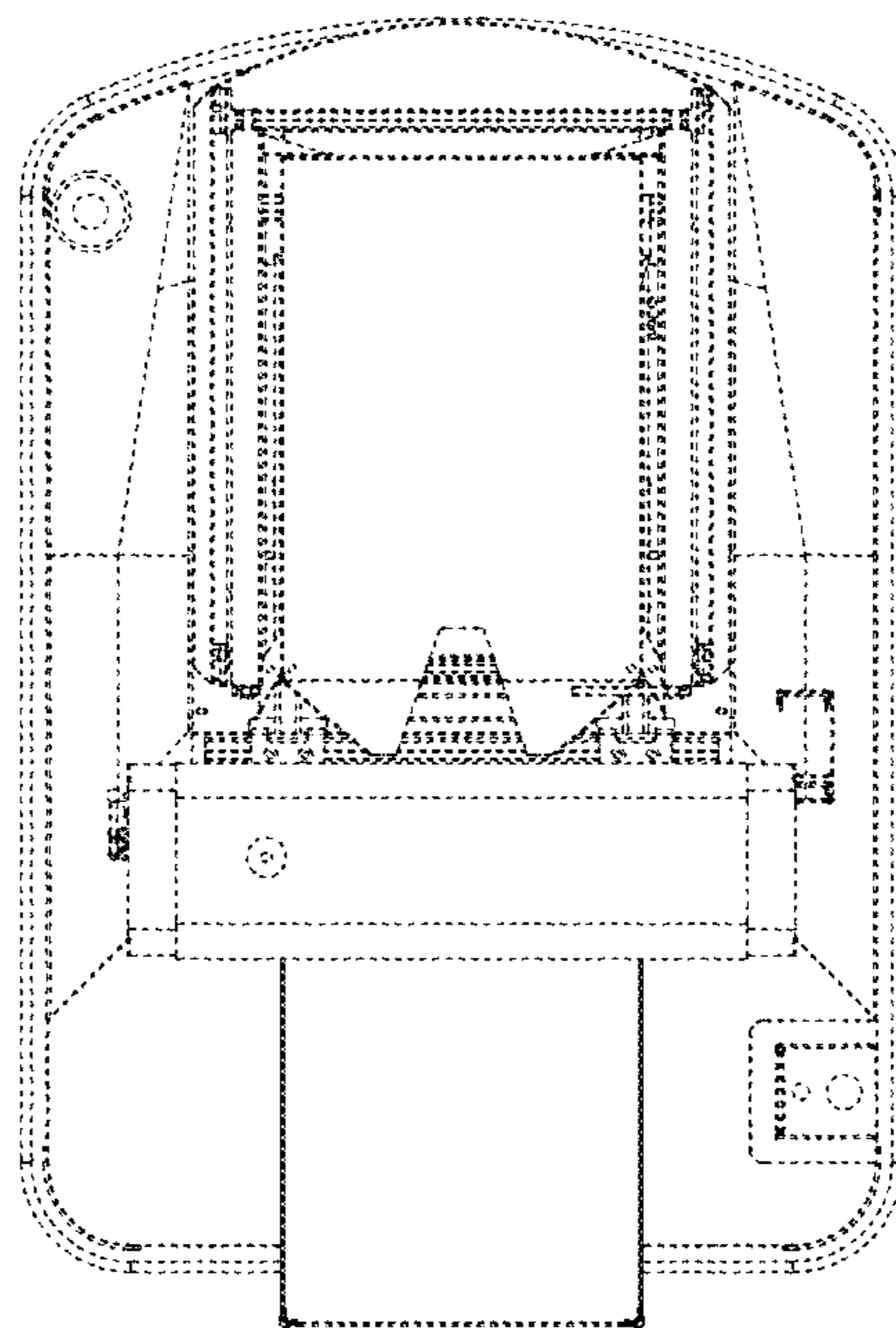


FIG. 7