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(12) **United States Design Patent** (10) **Patent No.:** **US D989,983 S**
Li et al. (45) **Date of Patent:** **** Jun. 20, 2023**

(54) **AUXILIARY OBSTACLE-SURMOUNTING RAMP FOR CLEANING ROBOT**

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(73) Assignee: **BEIJING ROBOROCK TECHNOLOGY CO., LTD.**, Beijing (CN)

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(51) **LOC (14) Cl.** **25-02**

(52) **U.S. Cl.**

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CPC **E04F 11/108** (2013.01)

(58) **Field of Classification Search**

USPC D25/48.2, 124, 48.1, 48.3, 113, 119; D15/199; D6/582, 583, 585, 587-589, D6/591, 592, 596, 597, 609; D32/15, 16, D32/19, 21

CPC E04F 11/108; E01C 11/222; A61G 3/061

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D353,071 S * 12/1994 Roberts D6/583

5,446,937 A * 9/1995 Haskins B65G 69/287
254/88

5,901,395 A * 5/1999 Vander Heiden E04F 11/108
D34/32

D418,818 S * 1/2000 Henry D25/160

D464,146 S * 10/2002 Payne D25/113

(Continued)

FOREIGN PATENT DOCUMENTS

CO 307072832 S 1/2022

OTHER PUBLICATIONS

Gloglow 4Pcs Rise Threshold Ramps. Amazon.com (Year: 2021).
Notice of Allowance dated Dec. 27, 2022, issued in corresponding
Taiwanese Patent Application No. 111304225.

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(57) **CLAIM**

We claim the ornamental design for an auxiliary obstacle-surmounting ramp for cleaning robot, as shown and described.

DESCRIPTION

FIG. 1.1 is a front view of an auxiliary obstacle-surmounting ramp for cleaning robot;

FIG. 1.2 is a back view thereof;

FIG. 1.3 is a left view thereof;

FIG. 1.4 is a right view thereof;

FIG. 1.5 is a top view thereof;

FIG. 1.6 is a bottom view thereof;

FIG. 1.7 is an enlarged views of FIG. 1.5;

FIG. 1.8 is an enlarged views of FIG. 1.6;

FIG. 1.9 is a front perspective view thereof;

FIG. 1.10 is a back perspective view thereof.

FIG. 1.11 is another back perspective view thereof. and

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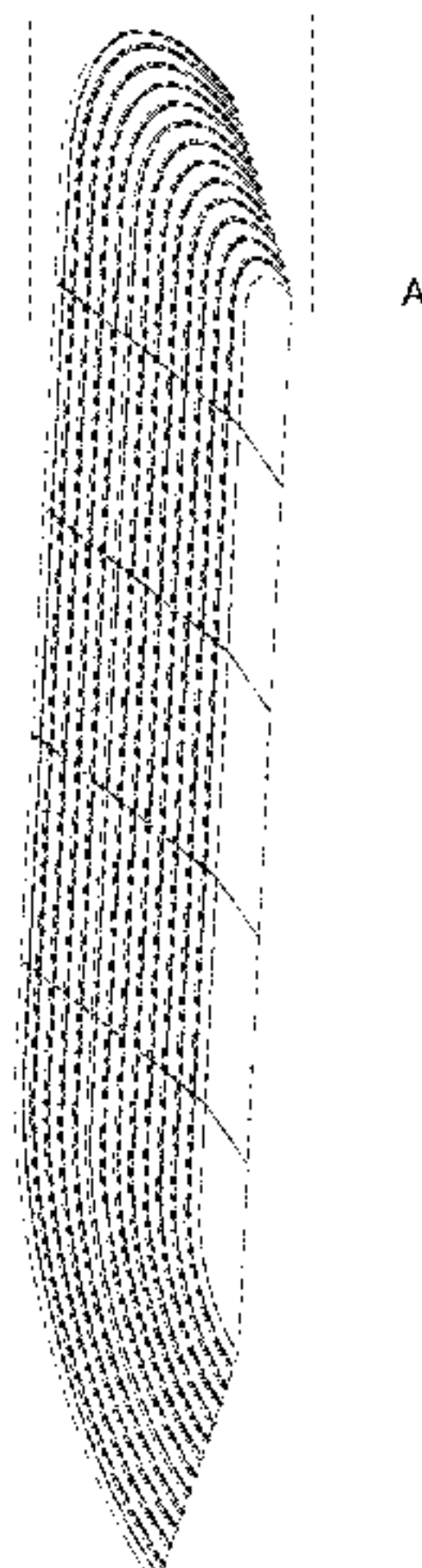


FIG. 1.12 is a partially enlarged view of a part "A" circled in FIG. 1.9.

1 Claim, 8 Drawing Sheets

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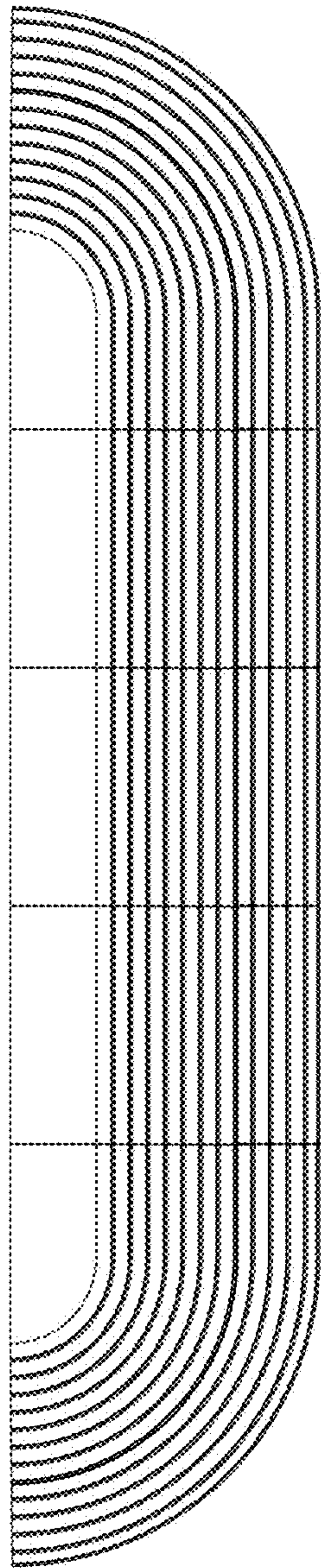
References Cited

U.S. PATENT DOCUMENTS

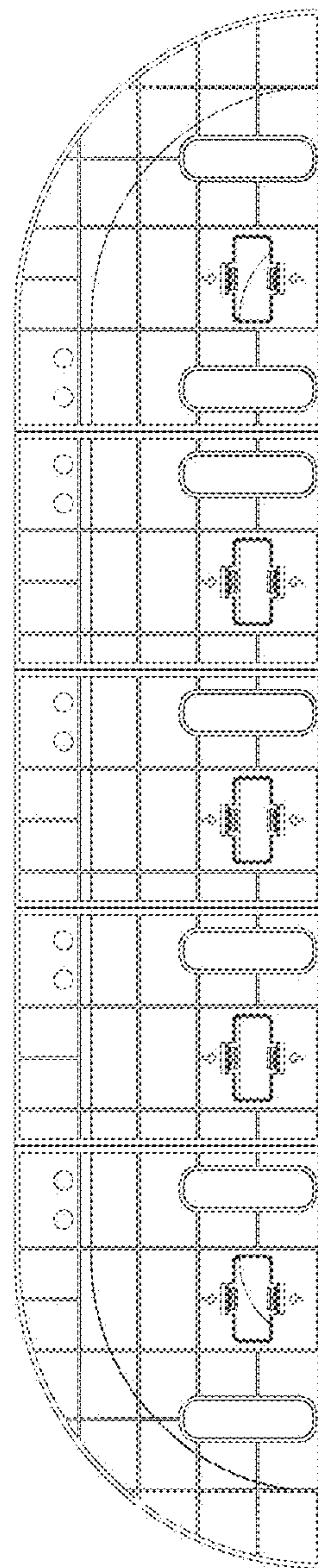
6,708,361 B1 * 3/2004 Emerson, Jr. B65G 69/30
14/69.5
6,718,588 B1 * 4/2004 Frederiksen E04F 11/002
404/35
D758,612 S * 6/2016 Skaar D25/48.2
9,462,920 B1 * 10/2016 Morin A47L 11/4011
D774,660 S * 12/2016 Skaar D25/48.2
D796,059 S * 8/2017 Skaar D25/48.2
D923,905 S * 6/2021 Forsberg D34/32
D959,175 S * 8/2022 Everard D6/587

D969,517 S * 11/2022 Everard D6/583
D969,518 S * 11/2022 Everard D6/583
2002/0194788 A1 * 12/2002 Bennett E06B 1/70
52/630
2005/0166352 A1 * 8/2005 Keppler H01R 13/24
15/319
2012/0244308 A1 * 9/2012 Lee A47L 23/266
428/221
2013/0199101 A1 * 8/2013 Rager-Frey E06B 1/70
49/469
2017/0292273 A1 * 10/2017 Gilsing E06B 1/70
2020/0087976 A1 * 3/2020 Bagnall E06B 7/14
2020/0121153 A1 * 4/2020 Letsky A47L 9/2873
2020/0324662 A1 * 10/2020 Väin B60L 53/31
2021/0127923 A1 * 5/2021 Liang A47L 11/4011
2021/0282617 A1 * 9/2021 Deng A47L 9/2805
2022/0025655 A1 * 1/2022 Everard G09F 23/00
2022/0346611 A1 * 11/2022 Stroop A47L 9/0063
2022/0400925 A1 * 12/2022 Hoobler B08B 1/005
2023/0029165 A1 * 1/2023 Li A47L 11/28

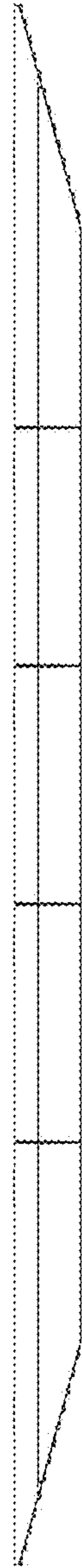
* cited by examiner



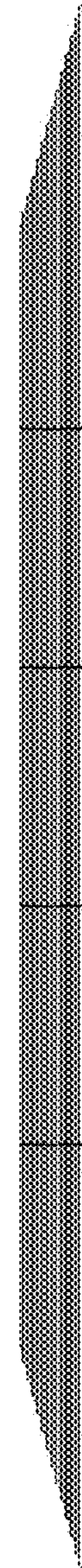
1.1



1.2



1.3



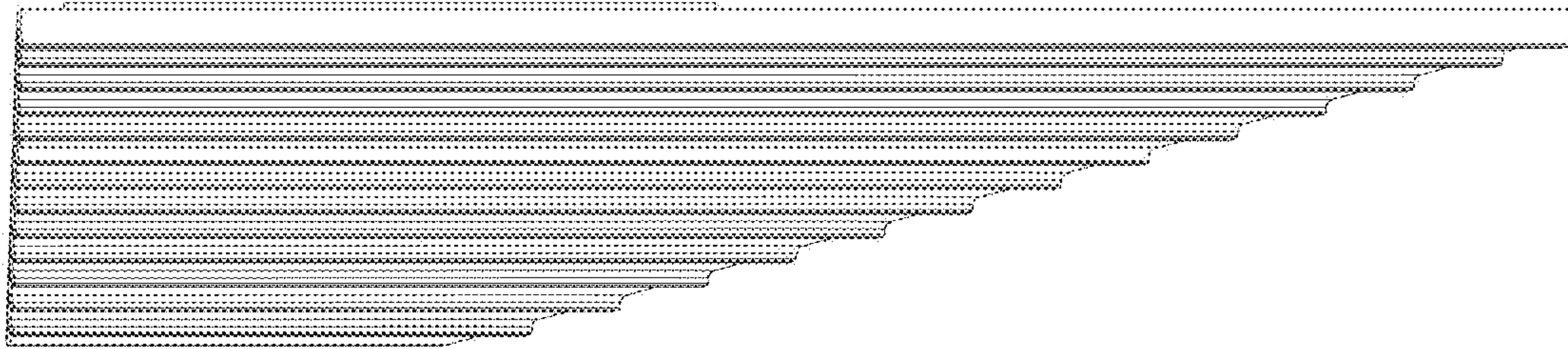
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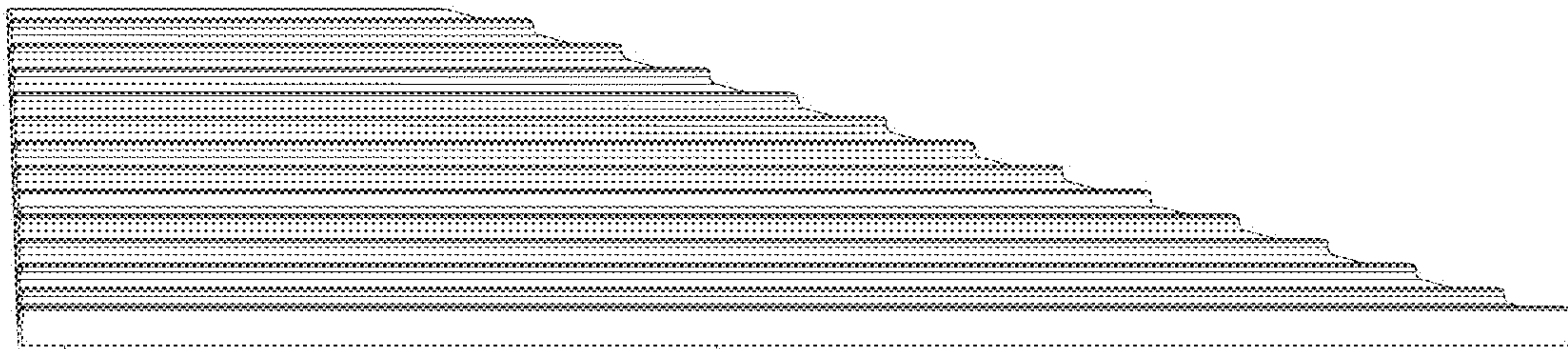
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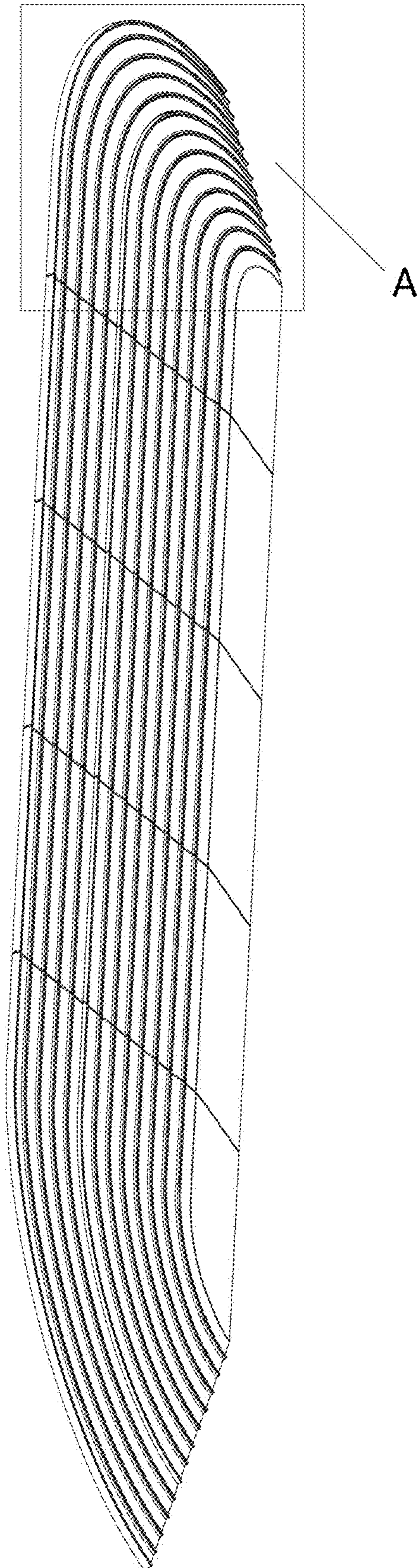
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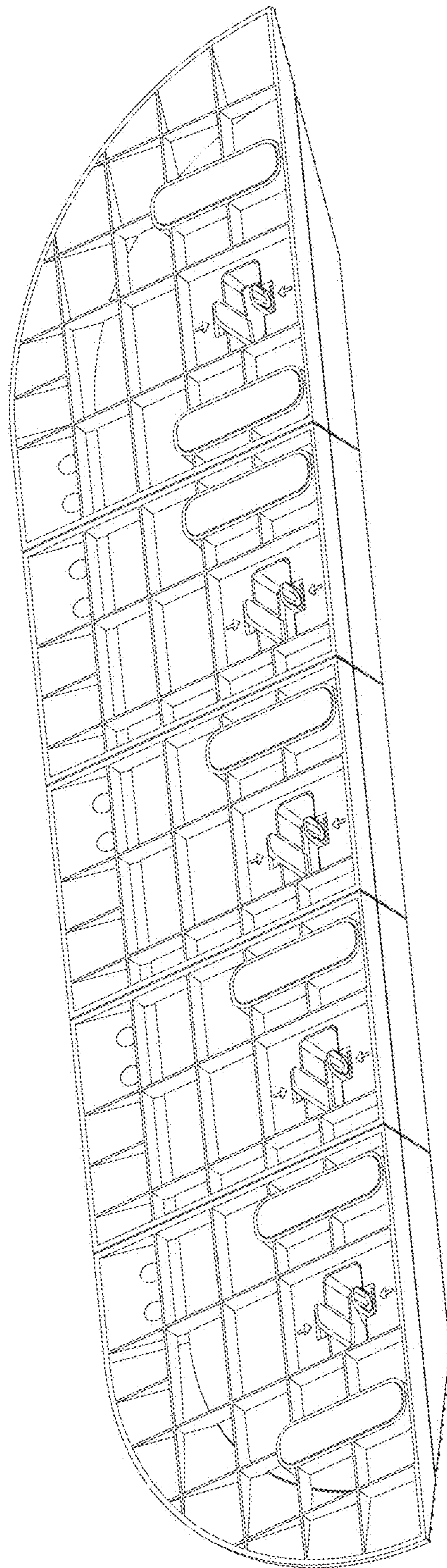
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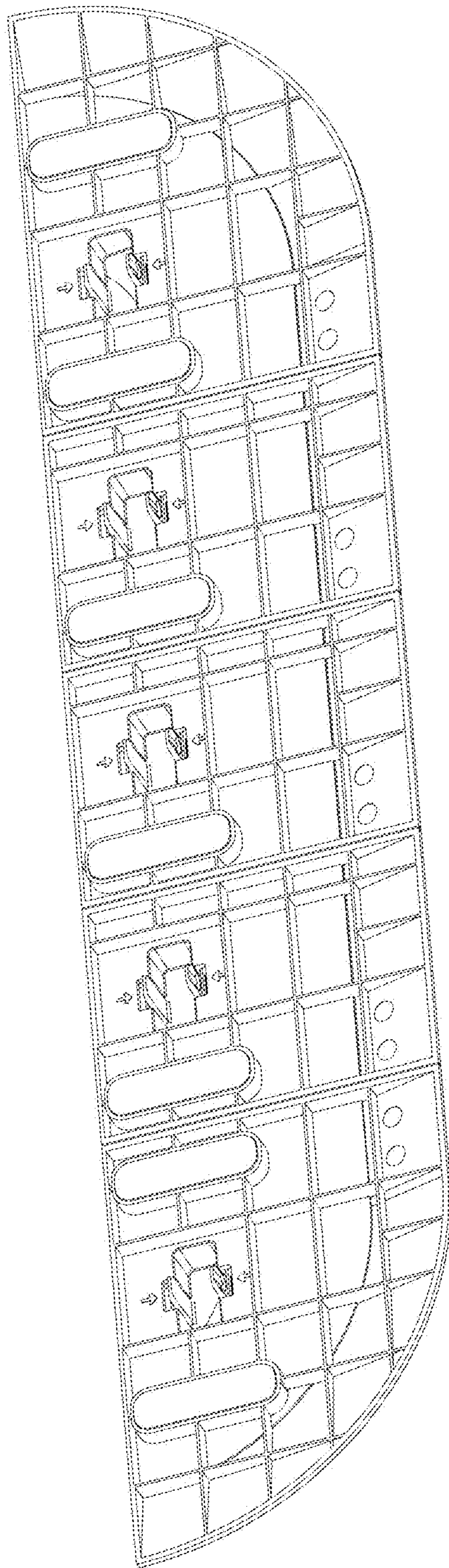
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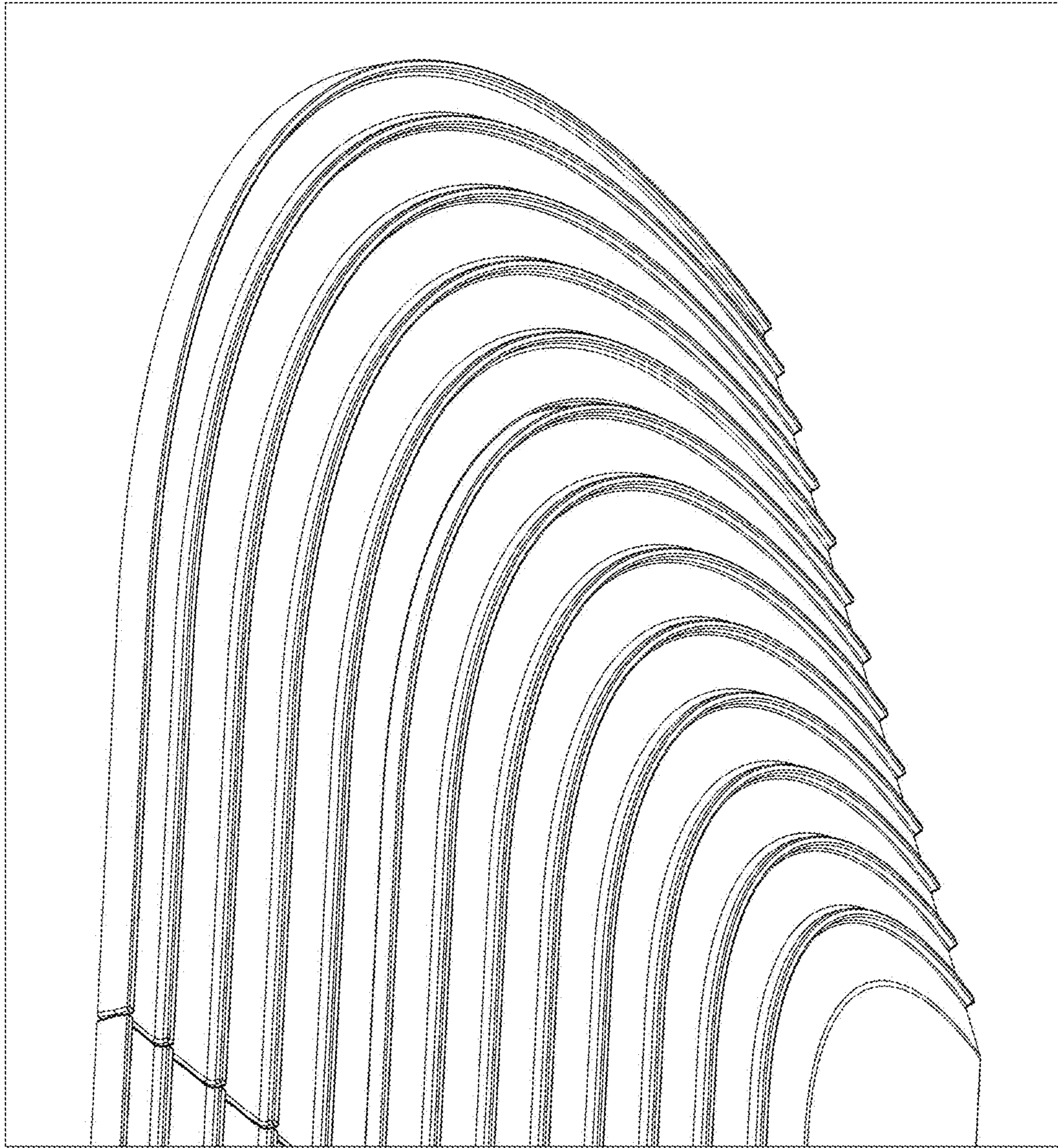
1.9



1.10



1.11



1.12