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United States Design Patent

Kim

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(54) CERAMIC HEATER

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D13/182, 199; D15/122, 138, 140, 144,
D15/144.1, 144.2; D23/233, 259–263;
D25/126, 128, 129, 133, 135

CPC C23C 16/4584; C23C 16/4586; C23C
16/4581; F27B 17/0025; H05B 3/0047;
H05B 3/283; H01L 21/67115; H01L
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H01L 21/67098

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

596,217 A * 12/1897 Rapp F16L 9/18
108/150

D215,083 S * 9/1969 Carter D4/116

D278,676 S * 5/1985 DeAre D7/610

D296,665 S * 7/1988 Hofer D11/146

D311,104 S * 10/1990 Smith D6/708.2

D319,955 S * 9/1991 Keller D8/21

D369,648 S * 5/1996 Fowler D23/223

D376,935 S * 12/1996 Nourse D6/692.3

5,597,022 A * 1/1997 Reifers B65F 1/06
141/390

D385,956 S * 11/1997 Doughty D23/259

5,718,408 A * 2/1998 Lin B23Q 1/25
248/676

D430,283 S * 8/2000 Wu D23/411

6,120,202 A * 9/2000 Donsky A45D 40/24
401/35

D465,677 S * 11/2002 Bryskiewicz D6/709.21

D475,447 S * 6/2003 Stout, Jr. D23/393

D488,859 S * 4/2004 Stout, Jr. D23/393

D562,599 S * 2/2008 Everson D6/692.3

D564,656 S * 3/2008 Matsutori D24/109

D636,637 S * 4/2011 Lupkes D7/558

(Continued)

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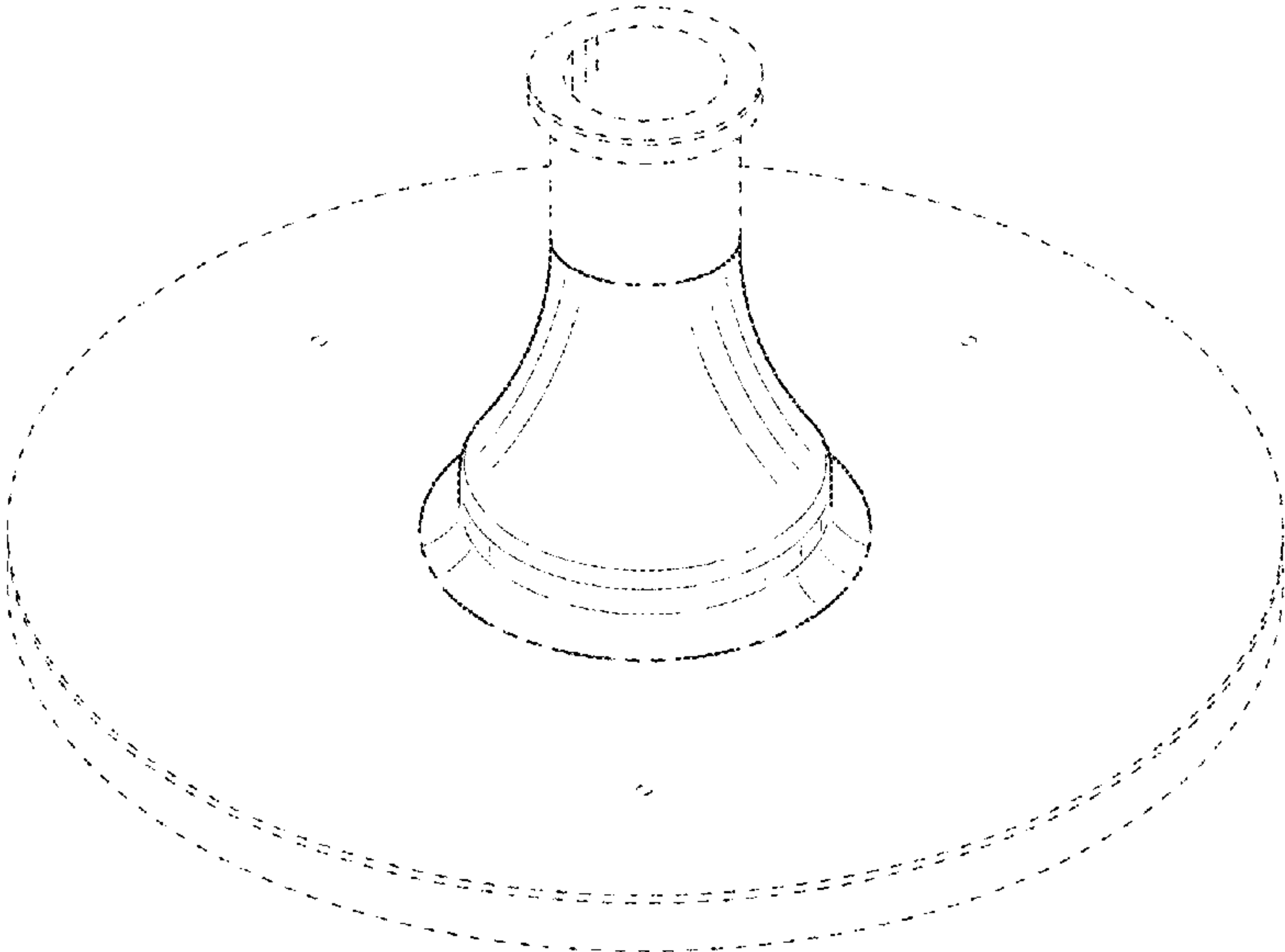
(57) CLAIM

The ornamental design for a ceramic heater, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of the overall shape of a ceramic heater showing my new design,
FIG. 2 is a front view thereof,
FIG. 3 is a rear view thereof,
FIG. 4 is a left side view thereof,
FIG. 5 is a right side view thereof,
FIG. 6 is a top plan view thereof; and,
FIG. 7 is a bottom plan view thereof.
The broken lines shown in the drawings illustrate portions form no part of the claimed design.
The product of the present design is made of metal and ceramic material.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D645,889 S * 9/2011 Nakamura D15/144.1

D670,794 S * 11/2012 Antoniello D23/262

8,397,438 B2 * 3/2013 Hoy E04D 13/1407

52/302.1

D683,442 S * 5/2013 Cudworth D24/109

D715,410 S * 10/2014 Lohmann D23/259

D733,263 S * 6/2015 Fujii D23/262

D748,760 S * 2/2016 Lohmann D23/259

D783,144 S * 4/2017 Leonard D23/393

D810,924 S * 2/2018 Emmenegger D24/109

D814,018 S * 3/2018 Emmenegger D24/109

D815,272 S * 4/2018 Emmenegger D24/109

D817,463 S * 5/2018 Curley D23/260

D837,950 S * 1/2019 Santos D23/261

D849,810 S * 5/2019 Kim D15/144.1

D856,498 S * 8/2019 Bayyouk D23/269

10,716,442 B2 * 7/2020 Bidigare F01N 3/021

D943,551 S * 2/2022 Chen D14/222

D980,947 S * 3/2023 Kim D23/214

2002/0175158 A1 * 11/2002 Sanoner A47G 19/2288

219/442

2003/0062359 A1 * 4/2003 Ho H01L 21/67109

219/468.1

2007/0151517 A1 * 7/2007 Baik C23C 14/50

118/725

2007/0221648 A1 * 9/2007 Unno H01L 21/67103

219/385

2010/0055312 A1 * 3/2010 Kato C23C 16/45508

118/668

2010/0163183 A1 * 7/2010 Tanaka H01L 21/67248

118/712

2013/0136878 A1 * 5/2013 Elliot H01L 21/68792

228/119

2013/0316094 A1 * 11/2013 Leeser H01J 37/3244

392/407

2014/0014642 A1 * 1/2014 Elliot H01L 21/67103

219/444.1

2016/0002779 A1 * 1/2016 Lin H01J 37/32724

118/500

* cited by examiner

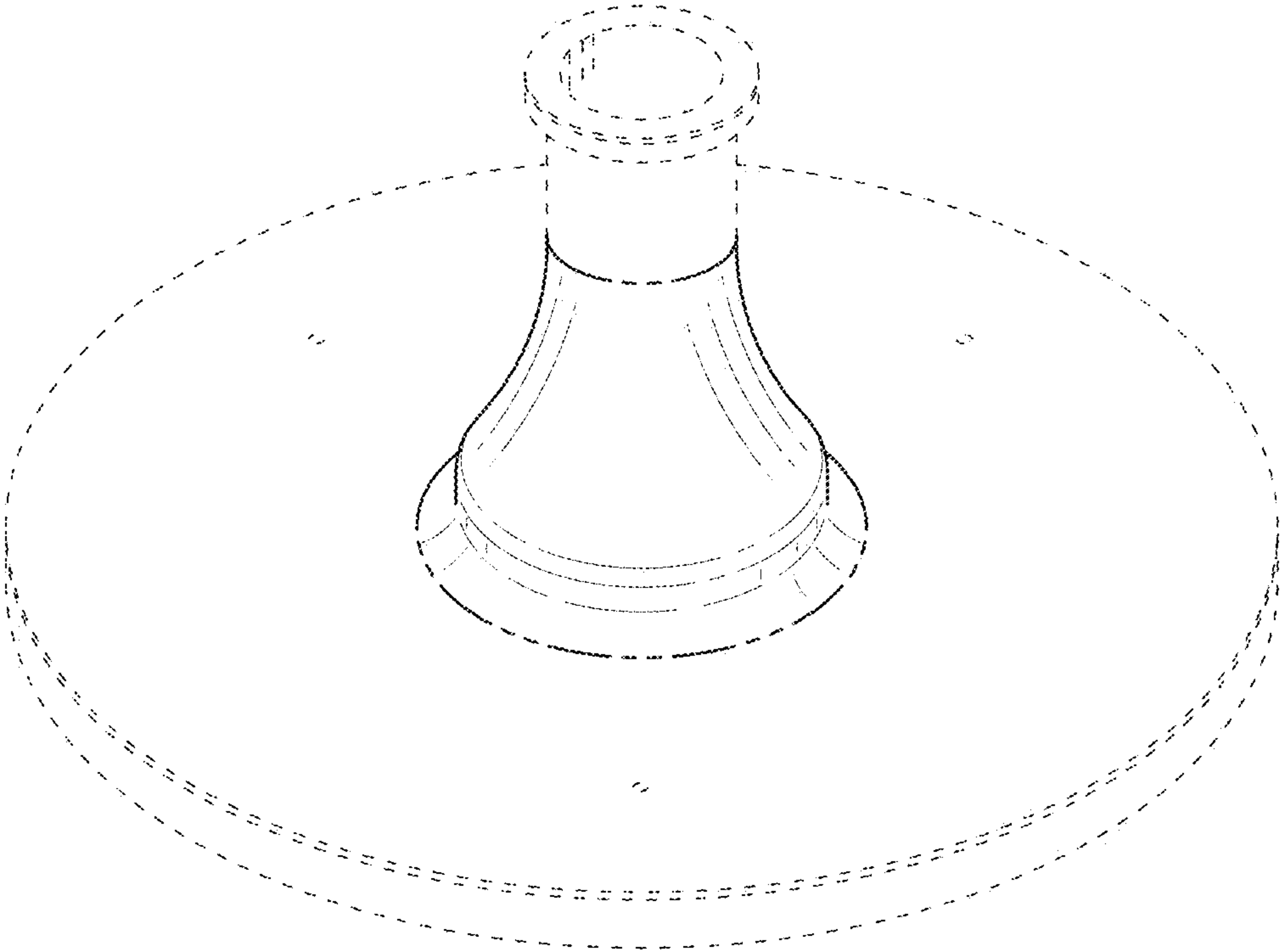


FIG. 1

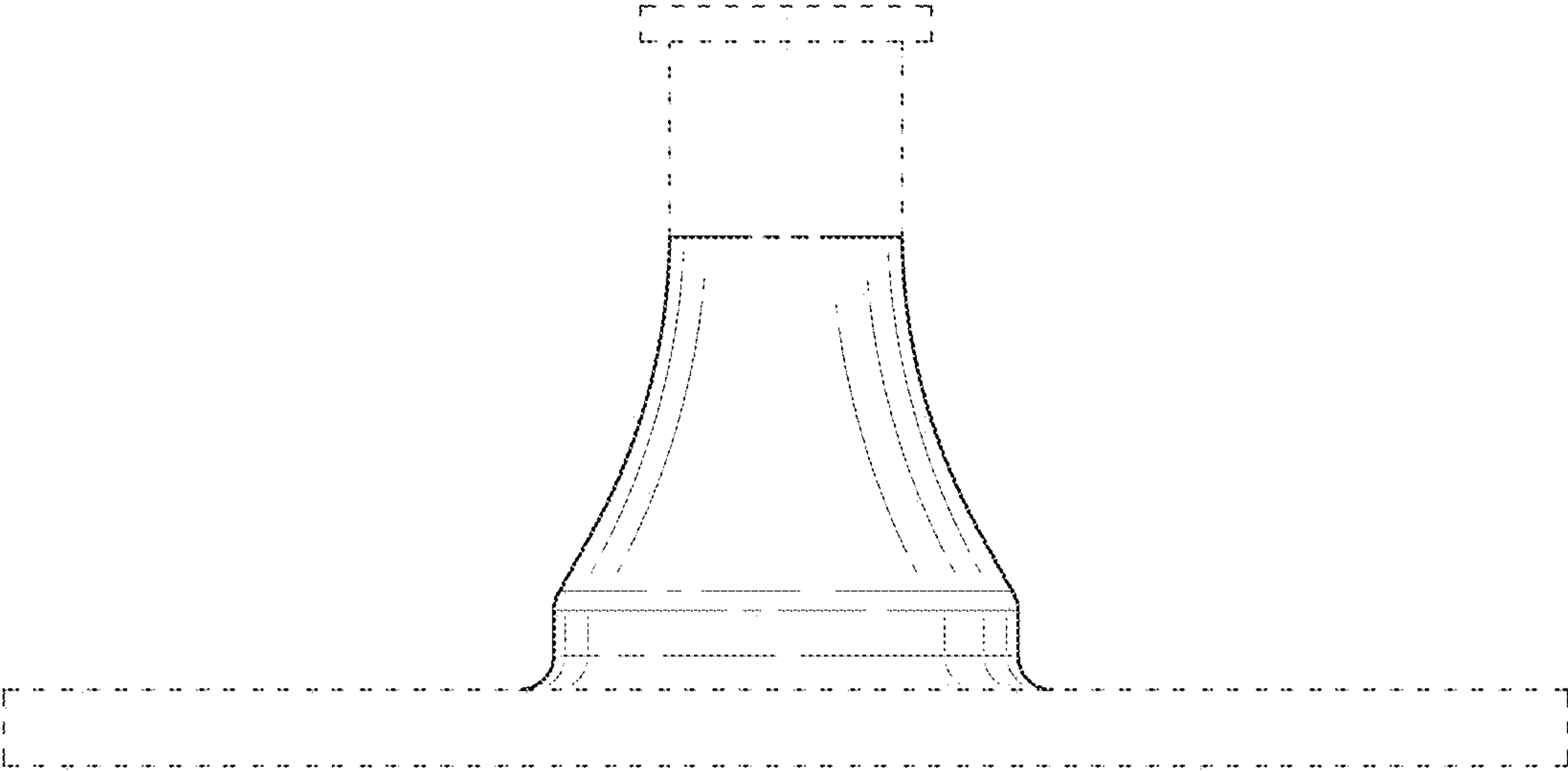


FIG. 2

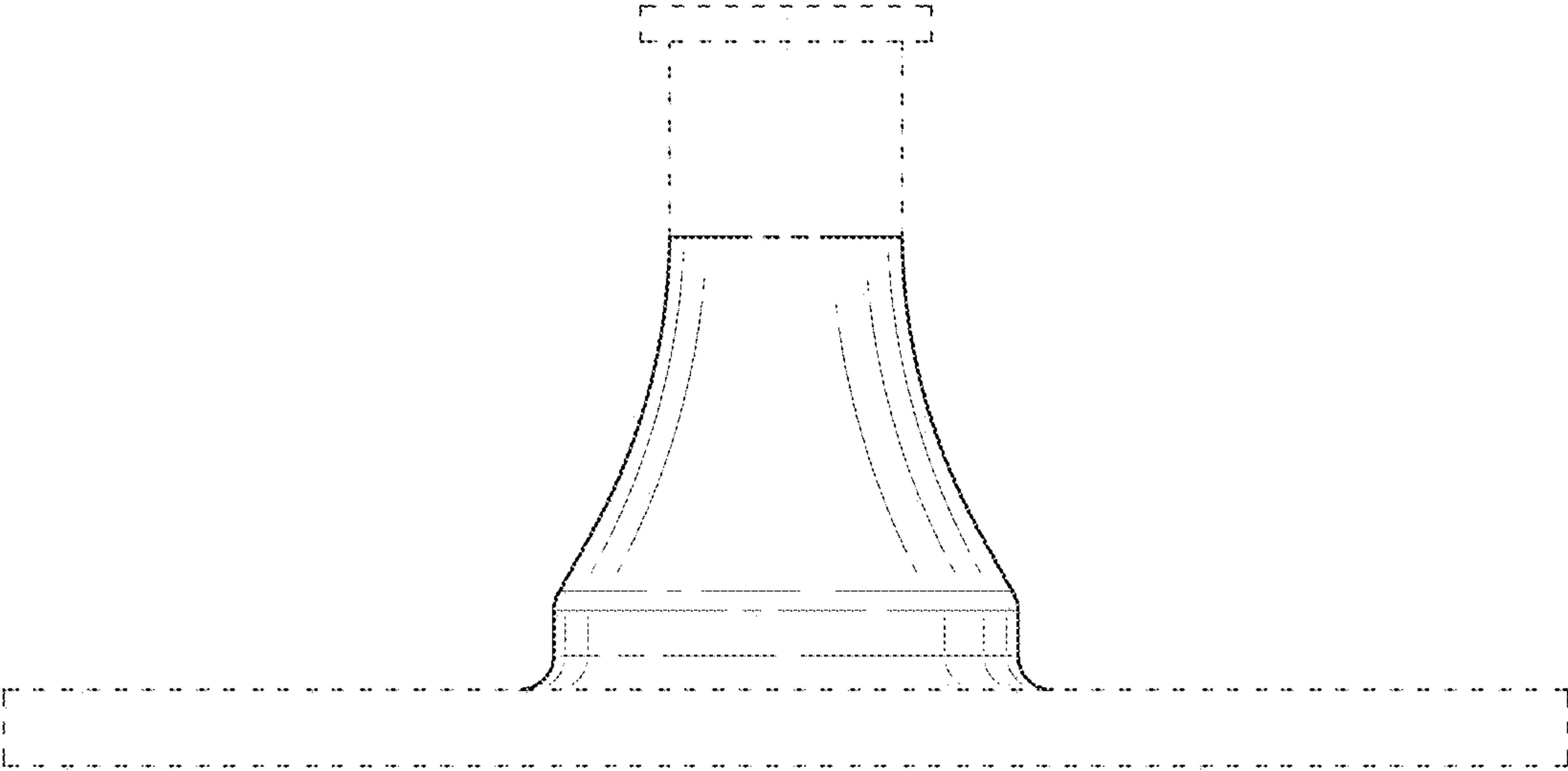


FIG. 3

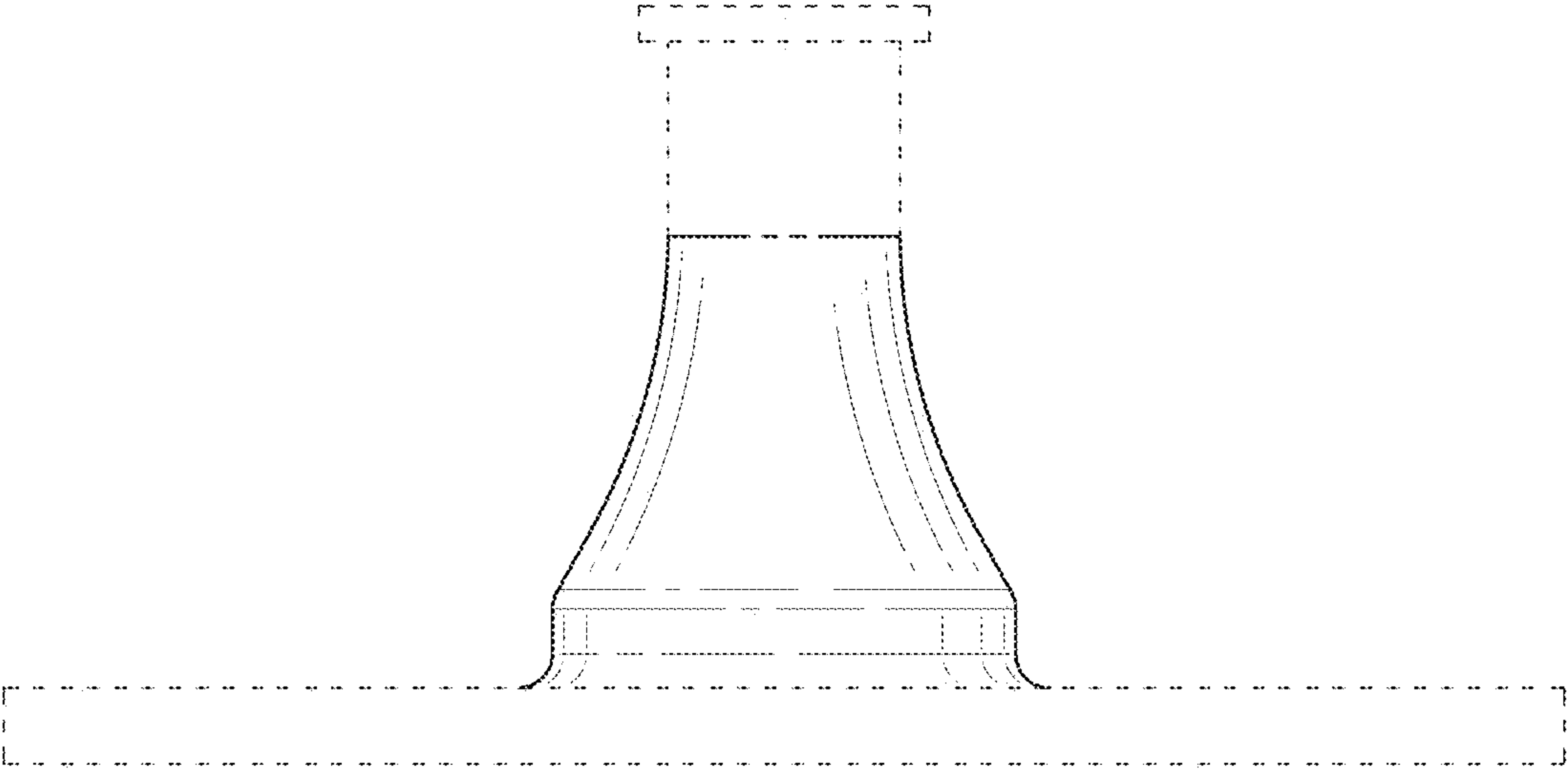


FIG. 4

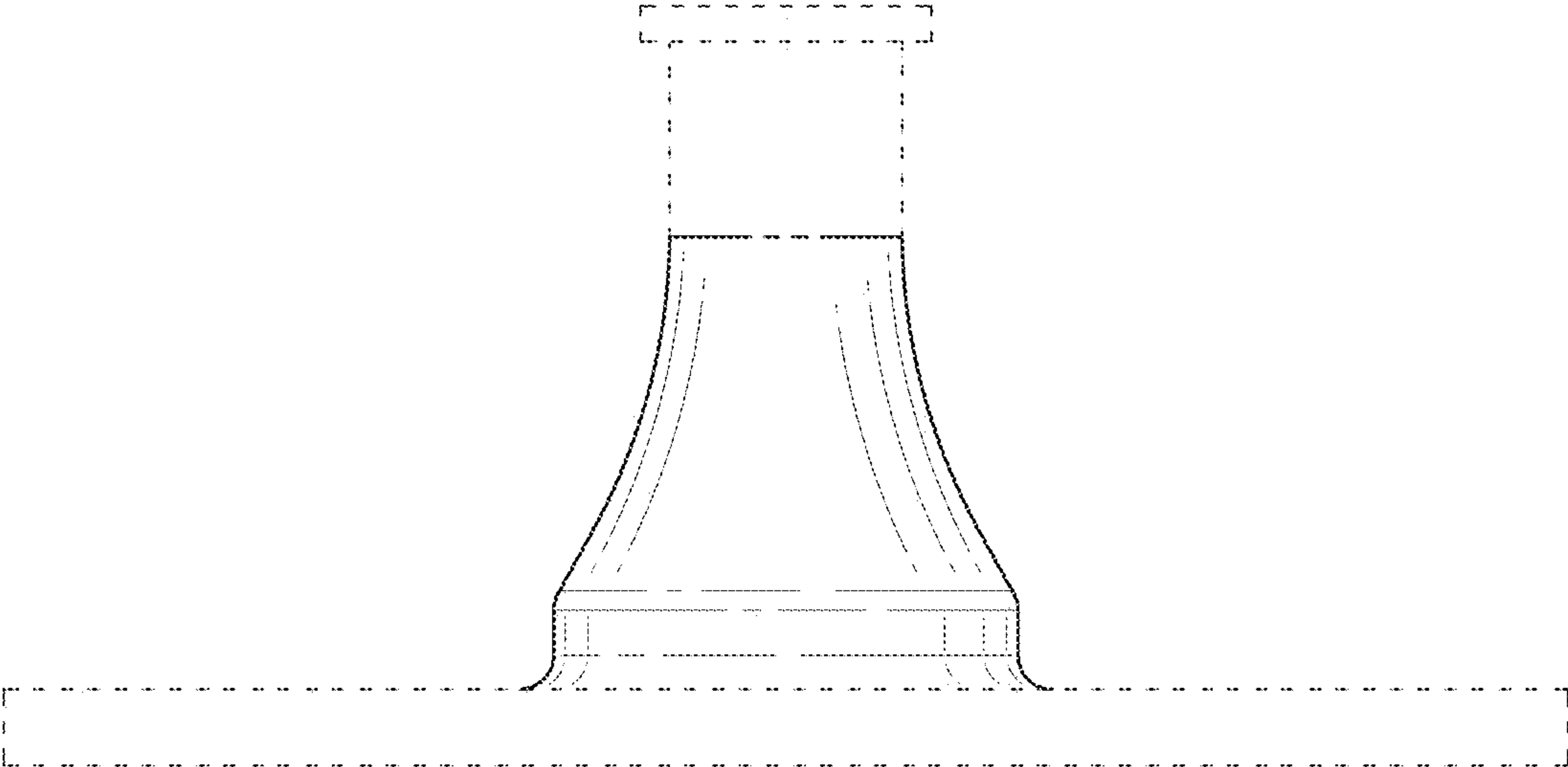


FIG. 5

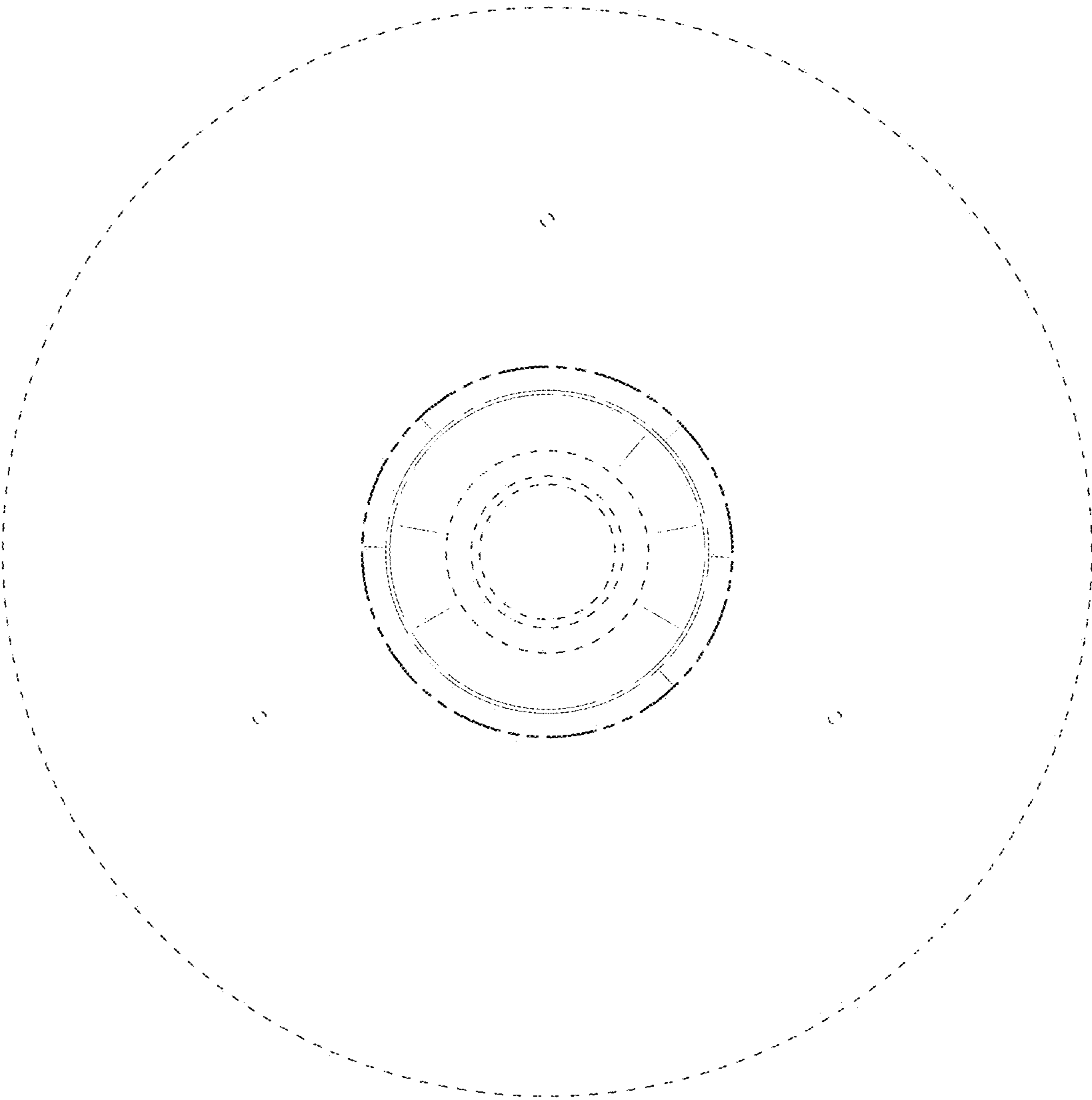


FIG. 6

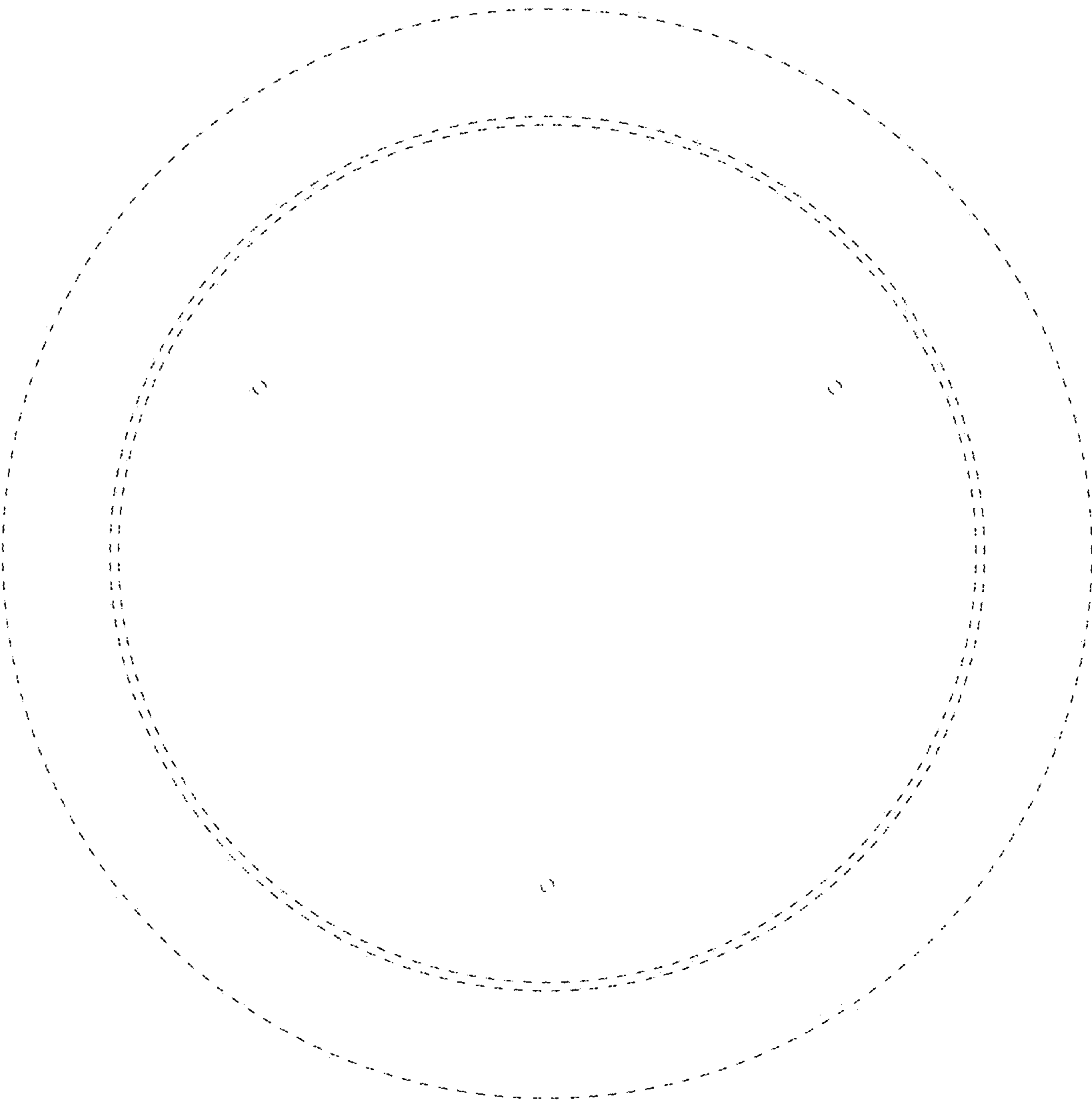


FIG. 7