



US00D851613S

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

(10) **Patent No.:** **US D851,613 S**
(45) **Date of Patent:** **** Jun. 18, 2019**

(54) **TARGET PROFILE FOR A PHYSICAL VAPOR DEPOSITION CHAMBER TARGET**

D559,994 S 1/2008 Nagakubo et al.
D614,593 S 4/2010 Lee et al.
D616,390 S 5/2010 Sato

(Continued)

(71) Applicant: **APPLIED MATERIALS, INC.**, Santa Clara, CA (US)

FOREIGN PATENT DOCUMENTS

(72) Inventors: **William Johanson**, Gilroy, CA (US); **Kirankumar Savandaiah**, Bangalore (IN); **Anthony Chih-Tang Chan**, Sunnyvale, CA (US); **Siew Kit Hoi**, Singapore (SG); **Prashant Prabhakar Prabhu**, Karwar (IN)

CN 206573738 U 10/2017
JP D1420846 8/2011

(Continued)

(73) Assignee: **APPLIED MATERIALS, INC.**, Santa Clara, CA (US)

OTHER PUBLICATIONS

Search Report for Taiwan Design Application No. 106301373 dated Jun. 20, 2017.

(Continued)

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

Primary Examiner — Elizabeth J Oswecki

(21) Appl. No.: **29/621,221**

(74) *Attorney, Agent, or Firm* — Moser Taboada; Alan Taboada

(22) Filed: **Oct. 5, 2017**

(57) **CLAIM**

(51) **LOC (11) Cl.** **13-03**

The ornamental design for a target profile for a physical vapor deposition chamber target, as shown and described.

(52) **U.S. Cl.**
USPC **D13/182**

DESCRIPTION

(58) **Field of Classification Search**
USPC D13/182; D15/144.1, 144.2, 199
CPC H01L 21/67742; H01L 21/0226; H01L 21/02263; H01L 21/02266; H01L 21/02269; H01L 21/02271; H01L 2224/75186; H01L 2224/761185; H01L 2224/76186; H01L 2221/68363
See application file for complete search history.

FIG. 1 is a top perspective view of a target profile for a physical vapor deposition chamber target, showing our new design;
FIG. 2 is a bottom perspective view thereof;
FIG. 3 is a top plan view thereof;
FIG. 4 is a bottom plan view thereof;
FIG. 5 is a right side elevational view thereof;
FIG. 6 is a left side elevational view thereof;
FIG. 7 is a front elevational view thereof;
FIG. 8 is a back elevational view thereof; and,
FIG. 9 is an enlarged cross sectional view taken along line 9-9 in FIG. 4.

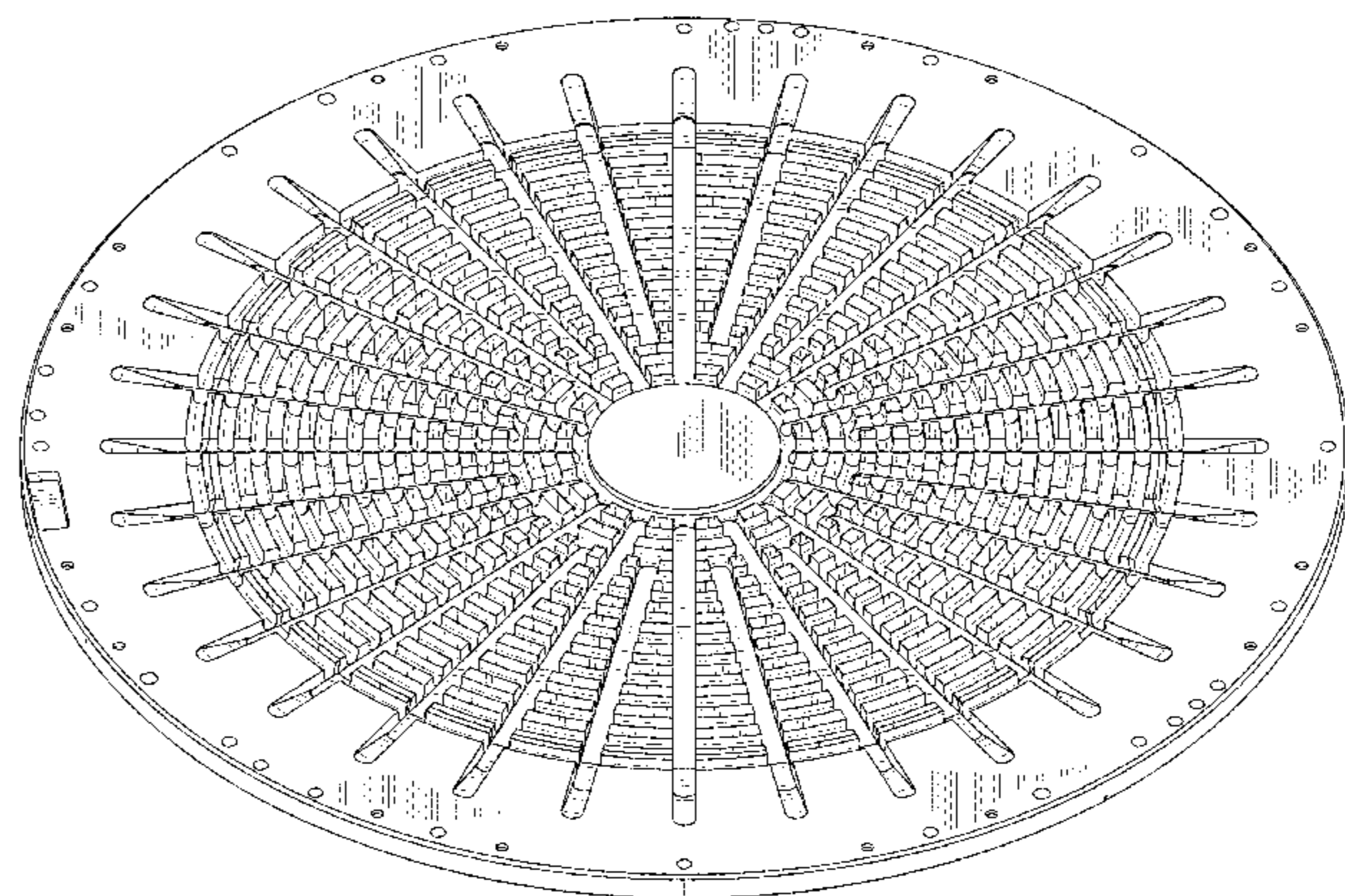
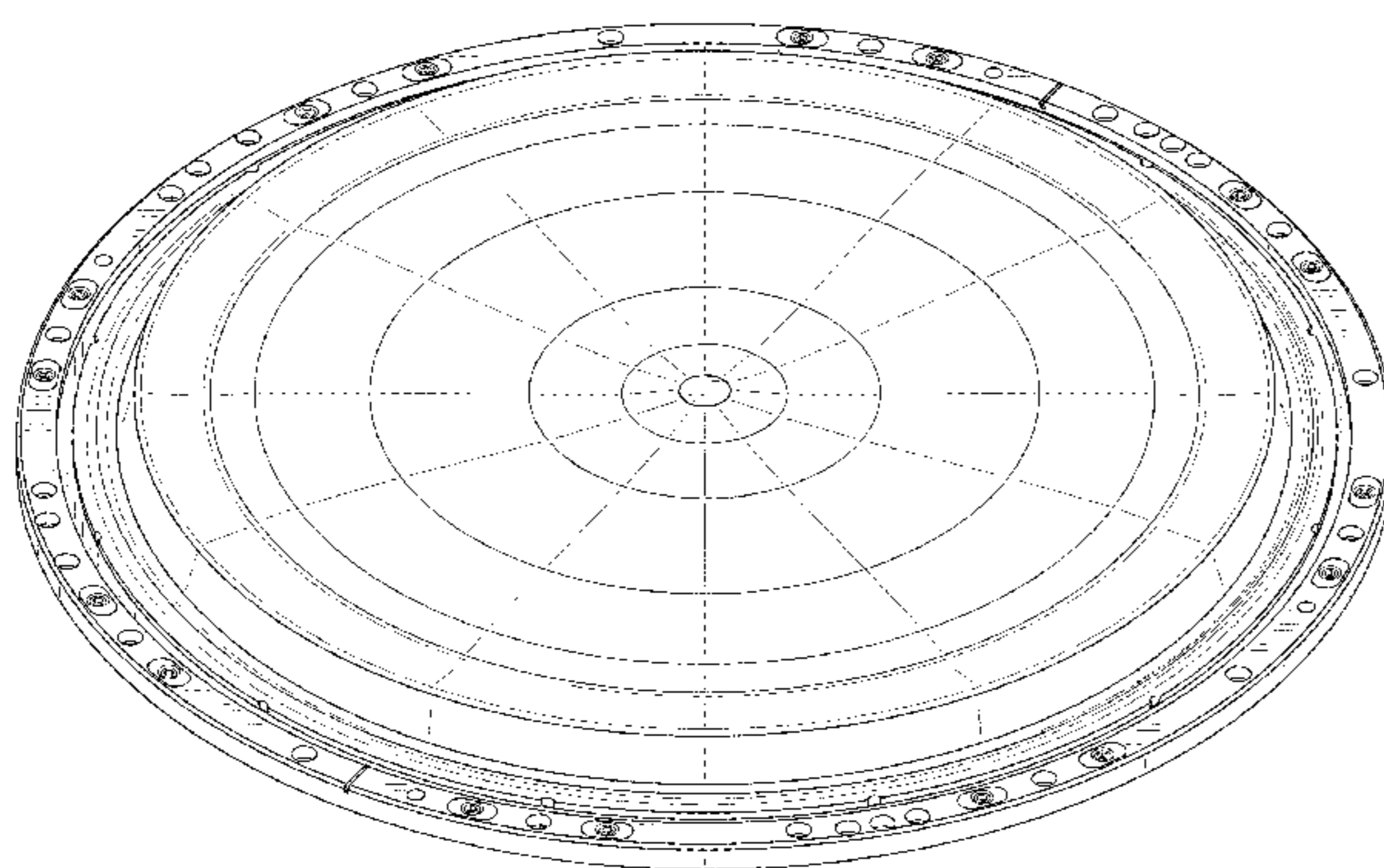
The dashed lines of the cut line showing the plane upon which FIG. 9 is taken in FIG. 4 forms no part of the claimed design.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D363,464 S * 10/1995 Fukasawa D13/182
D411,516 S * 6/1999 Imafuku D13/182
6,659,850 B2 12/2003 Korovin et al.
D557,226 S 12/2007 Uchino
D559,993 S 1/2008 Nagakubo et al.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D633,452 S 3/2011 Namiki et al.
 D649,126 S 11/2011 Takahashi
 D691,974 S 10/2013 Osada
 D716,742 S 11/2014 Jang et al.
 D724,553 S 3/2015 Choi et al.
 D732,145 S * 6/2015 Yamagishi D23/259
 D733,843 S * 7/2015 Yamagishi D23/259
 D741,823 S 10/2015 Tateno et al.
 D767,234 S 9/2016 Kirkland et al.
 D769,200 S 10/2016 Fukushima et al.
 D770,992 S 11/2016 Tauchi et al.
 D790,041 S * 6/2017 Jang D23/259
 D793,572 S * 8/2017 Kozuka D24/224
 D795,208 S 8/2017 Sasaki et al.
 D797,067 S 9/2017 Zhang et al.
 D797,691 S 9/2017 Joubert et al.
 D798,248 S 9/2017 Hanson et al.
 D801,942 S 11/2017 Riker et al.
 D810,705 S 2/2018 Krishnan et al.
 D825,504 S * 8/2018 Zhang D13/182
 D825,505 S * 8/2018 Hanson D13/182
 D836,572 S 12/2018 Riker et al.

2004/0149567 A1 8/2004 Kosyachkov
 2005/0152089 A1 7/2005 Matsuda et al.
 2005/0193952 A1 9/2005 Goodman et al.
 2007/0076345 A1* 4/2007 Bang H01L 21/67259
 361/234
 2014/0261180 A1 9/2014 Yoshidome et al.
 2015/0170888 A1 6/2015 Riker et al.
 2016/0002776 A1 1/2016 Nal et al.
 2016/0002788 A1 1/2016 Nal et al.

FOREIGN PATENT DOCUMENTS

JP D1421157 8/2011
 JP D1422692 9/2014
 TW 223429 5/1994
 TW 223430 5/1994
 TW D146490 4/2012

OTHER PUBLICATIONS

Search Report for Taiwan Design Application No. 107305358 dated Feb. 21, 2019.

* cited by examiner

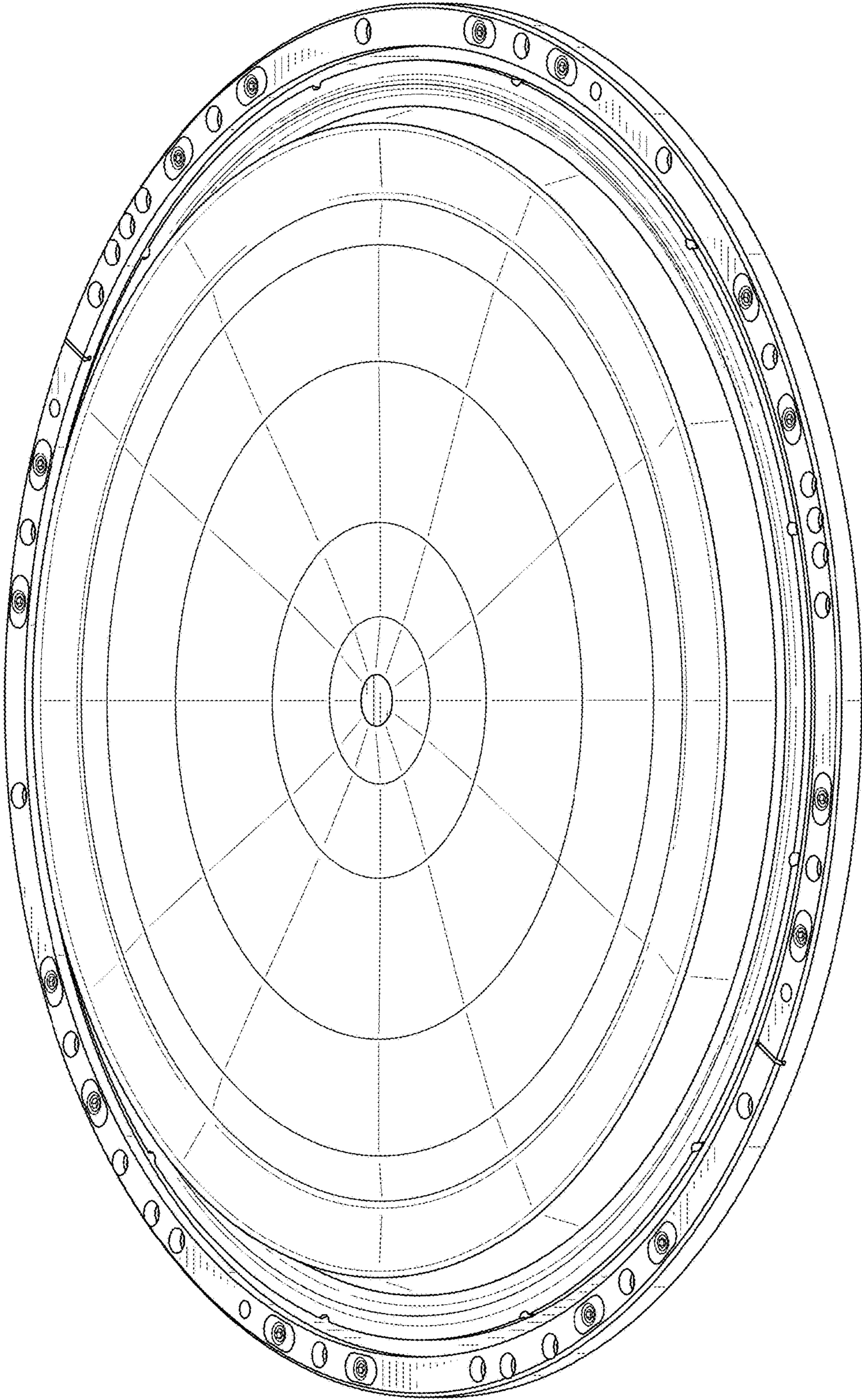


FIG. 1

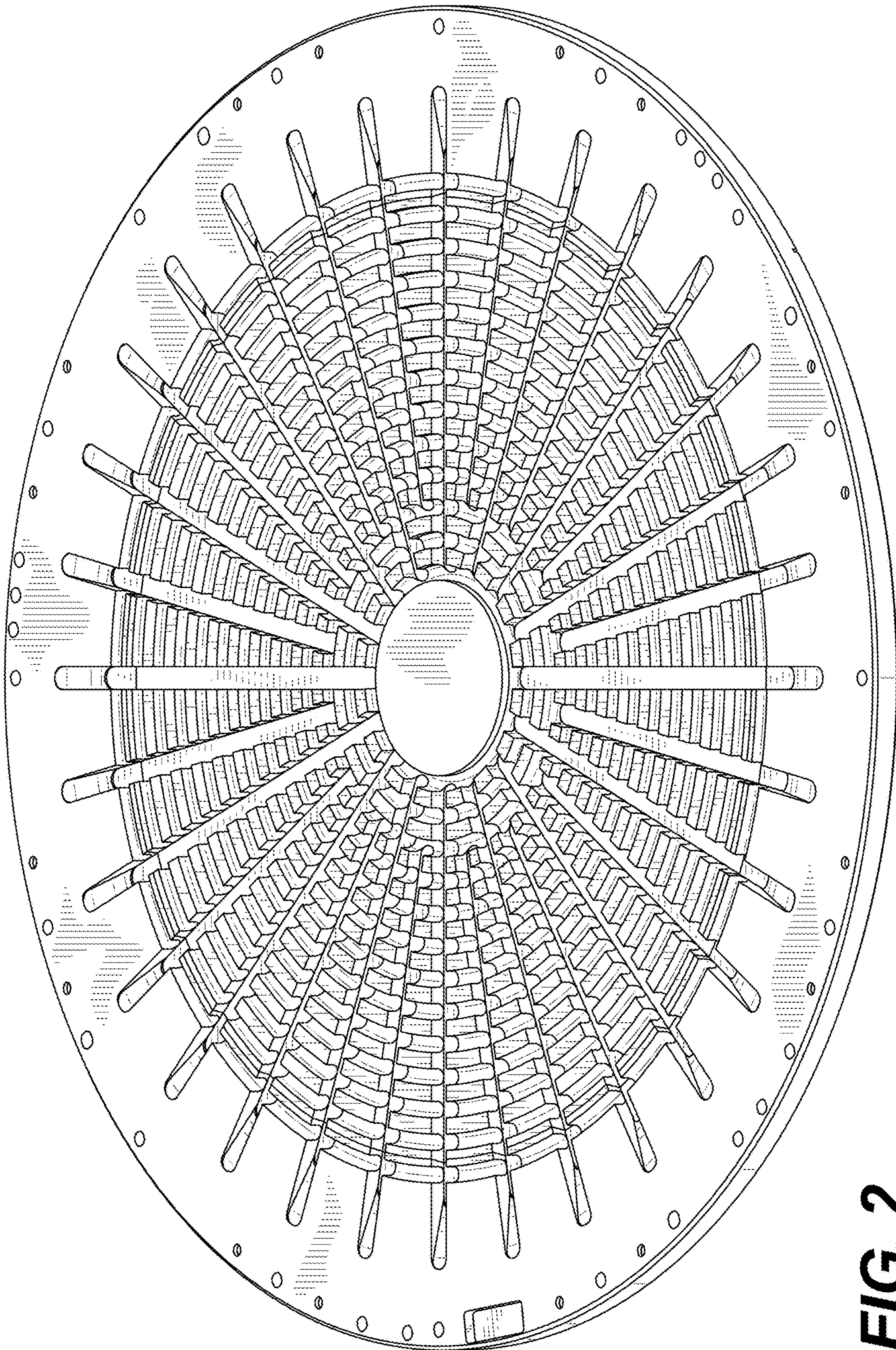


FIG. 2

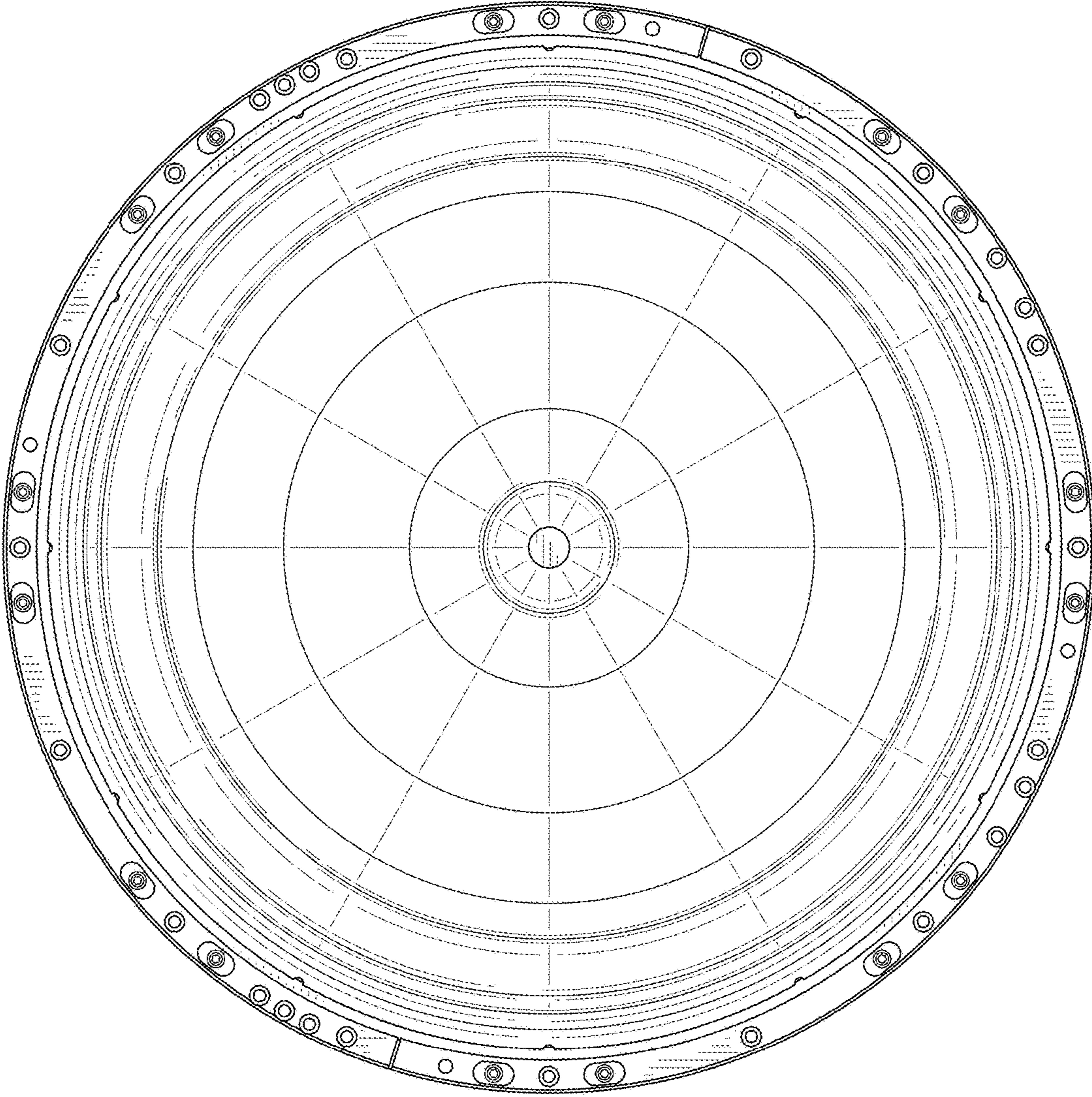


FIG. 3

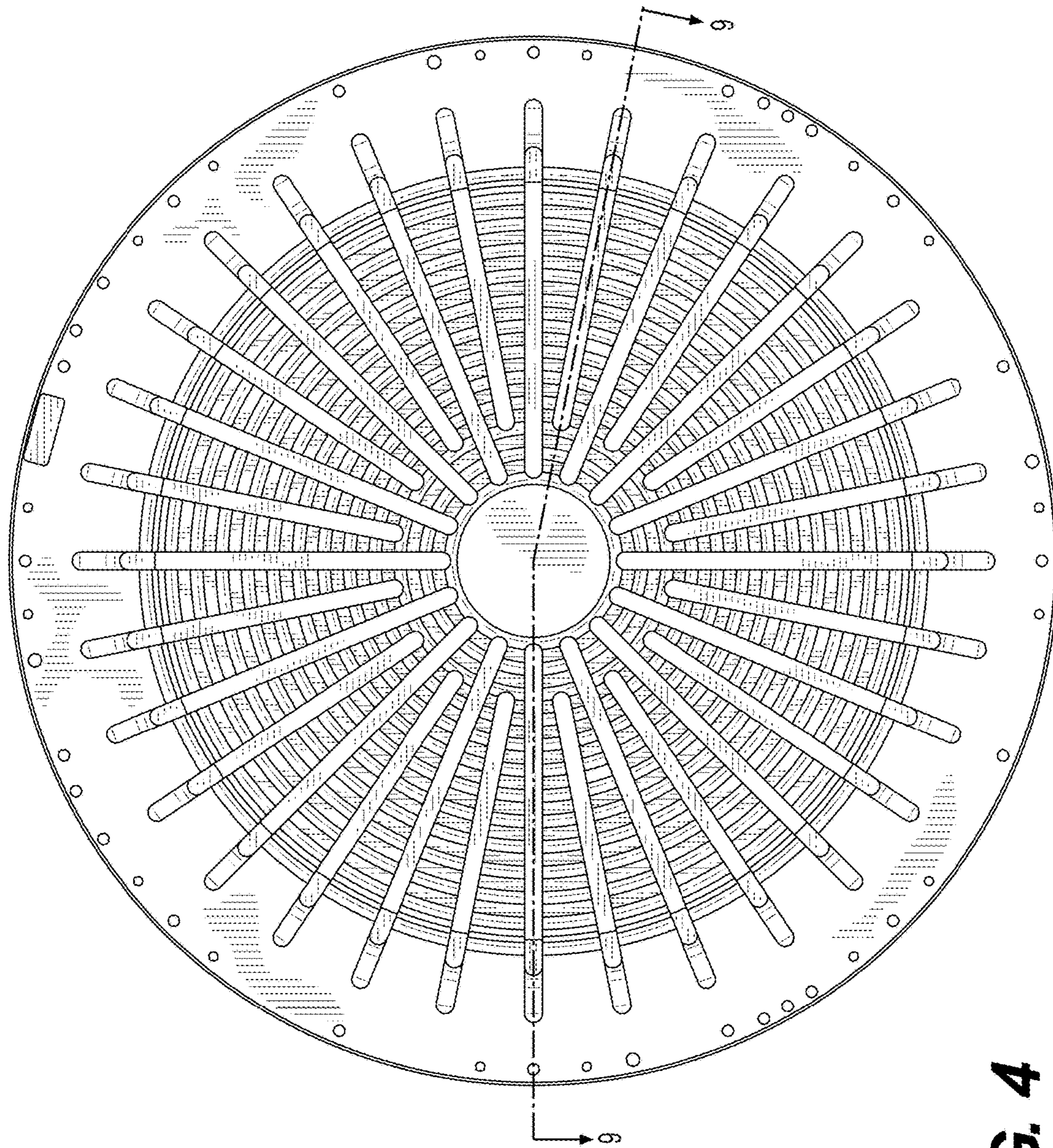


FIG. 4

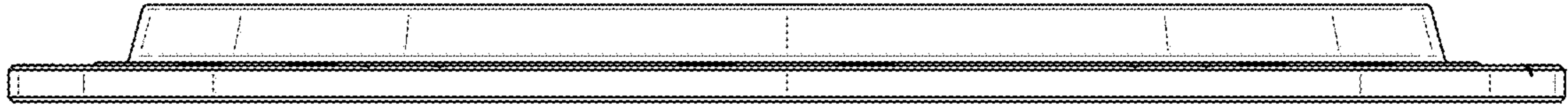


FIG. 5

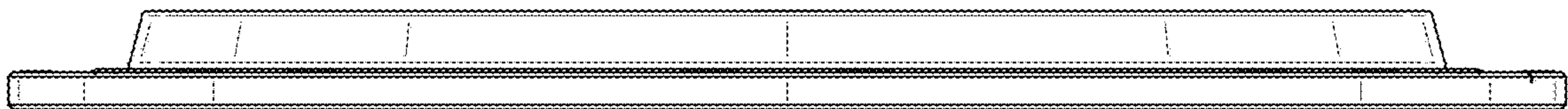


FIG. 6

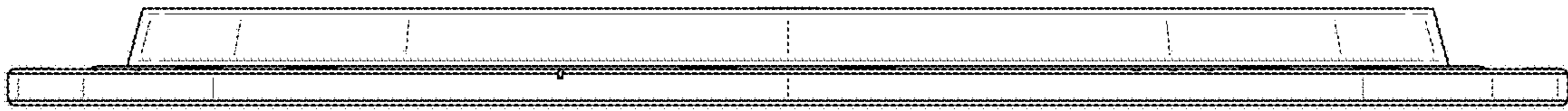


FIG. 7

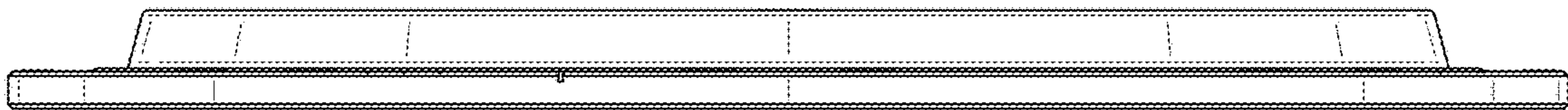


FIG. 8

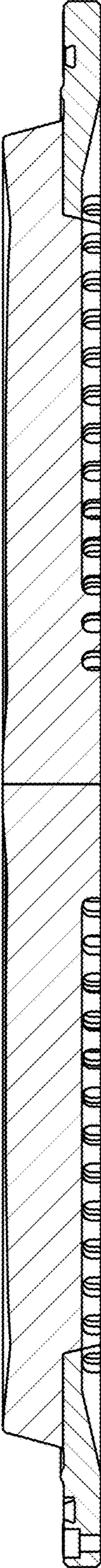


FIG. 9