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(12) **United States Design Patent** (10) **Patent No.:** **US D924,823 S**
Saiki et al. (45) **Date of Patent:** **** Jul. 13, 2021**

(54) **ADIABATIC PLATE FOR SUBSTRATE PROCESSING APPARATUS**

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

(58) **Field of Classification Search**
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D5/99

CPC C23C 16/4582; H01L 21/67303; H01L 21/67309; H01L 21/6875; B32B 15/08

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 5,088,006 A * 2/1992 del Puerto H01L 21/6838
257/714
- 5,358,781 A * 10/1994 Sakai B32B 15/08
442/378
- D359,476 S * 6/1995 Sakashita D13/182
- D404,374 S * 1/1999 Kimura D13/182
- 6,631,935 B1 * 10/2003 Casarotti H01L 21/67259
294/185
- D547,147 S * 7/2007 Tran 8/19

- 7,329,947 B2 * 2/2008 Adachi H01L 21/00
257/706
- D616,392 S * 5/2010 Sato D13/182
- D651,992 S * 1/2012 Nishiguchi D13/182
- D654,883 S * 2/2012 Honma D13/182
- D654,884 S * 2/2012 Honma D13/182
- D720,309 S * 12/2014 Kaneko D13/182
- D793,352 S * 8/2017 Hill D13/182
- D804,437 S * 12/2017 Kantor D13/182
- 10,008,402 B1 * 6/2018 Ogitsu H01L 21/67309
- D843,184 S * 3/2019 Woodcock D8/20
- D849,422 S * 5/2019 Tai D5/99

(Continued)

FOREIGN PATENT DOCUMENTS

- JP 1343932 S 11/2008
- JP 1375365 S 12/2009
- JP 1568061 S 1/2017

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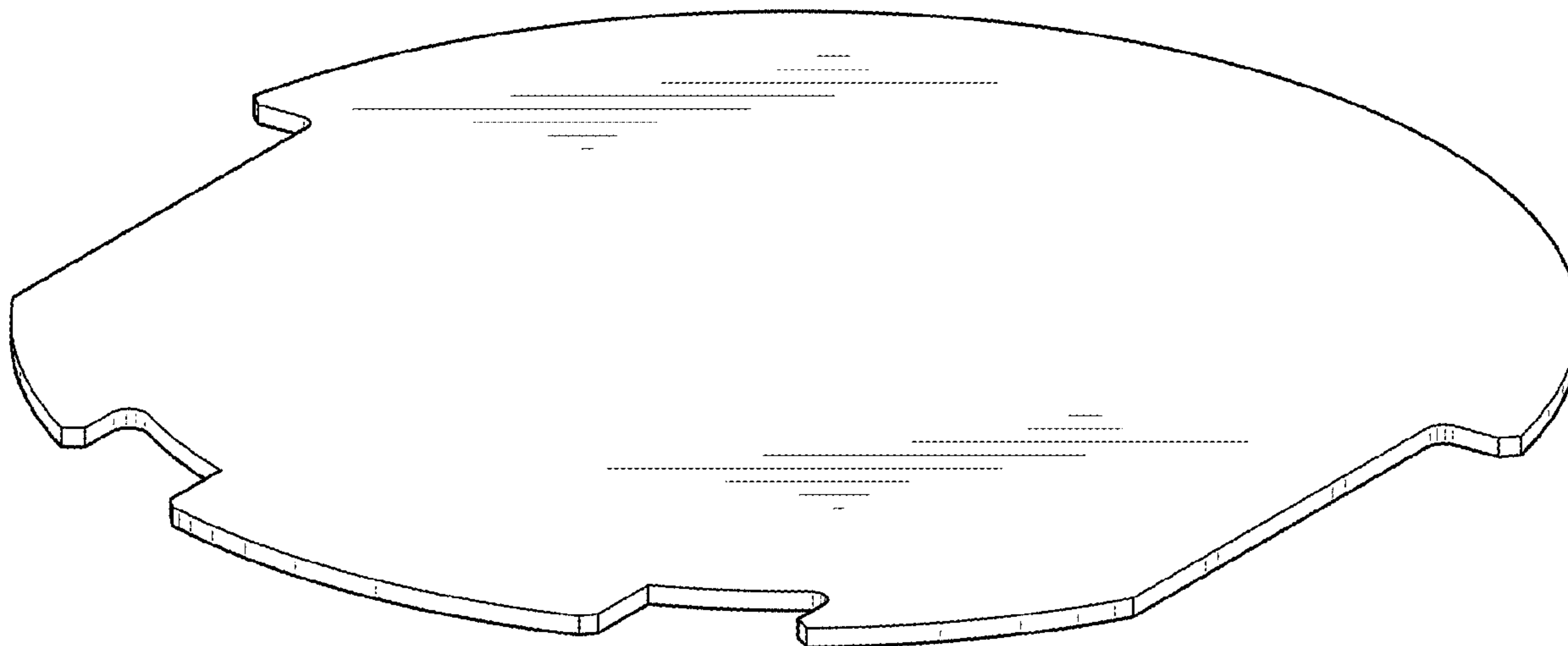
(57) **CLAIM**

We claim the ornamental design for an adiabatic plate for substrate processing apparatus, as shown and described.

DESCRIPTION

FIG. 1 is a front, bottom and right side perspective view of an adiabatic plate for substrate processing apparatus showing our new design;
 FIG. 2 is a front elevational view thereof;
 FIG. 3 is a rear elevational view thereof;
 FIG. 4 is a top plan view thereof;
 FIG. 5 is a bottom plan view thereof;
 FIG. 6 is a left side elevational view thereof;
 FIG. 7 is a right side elevational view thereof; and,
 FIG. 8 is a cross-sectional view take along line 8-8 in FIG. 2.

1 Claim, 5 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D852,763 S * 7/2019 Kneip D13/182
10,453,713 B2 * 10/2019 Cho H01L 21/02238
D900,044 S * 10/2020 Kang D13/182
10,941,787 B2 * 3/2021 Sakai F04D 19/042
2002/0167122 A1 * 11/2002 Meron H01L 21/68728
269/91
2004/0256284 A1 * 12/2004 Nanjo H01L 21/6838
206/710
2010/0055555 A1 * 3/2010 Fukase H01M 50/183
429/145
2017/0335458 A1 * 11/2017 Murata C23C 16/345
2019/0287832 A1 * 9/2019 Vaughan C23C 16/4583
2020/0144053 A1 * 5/2020 Hamano H01L 21/02505

* cited by examiner

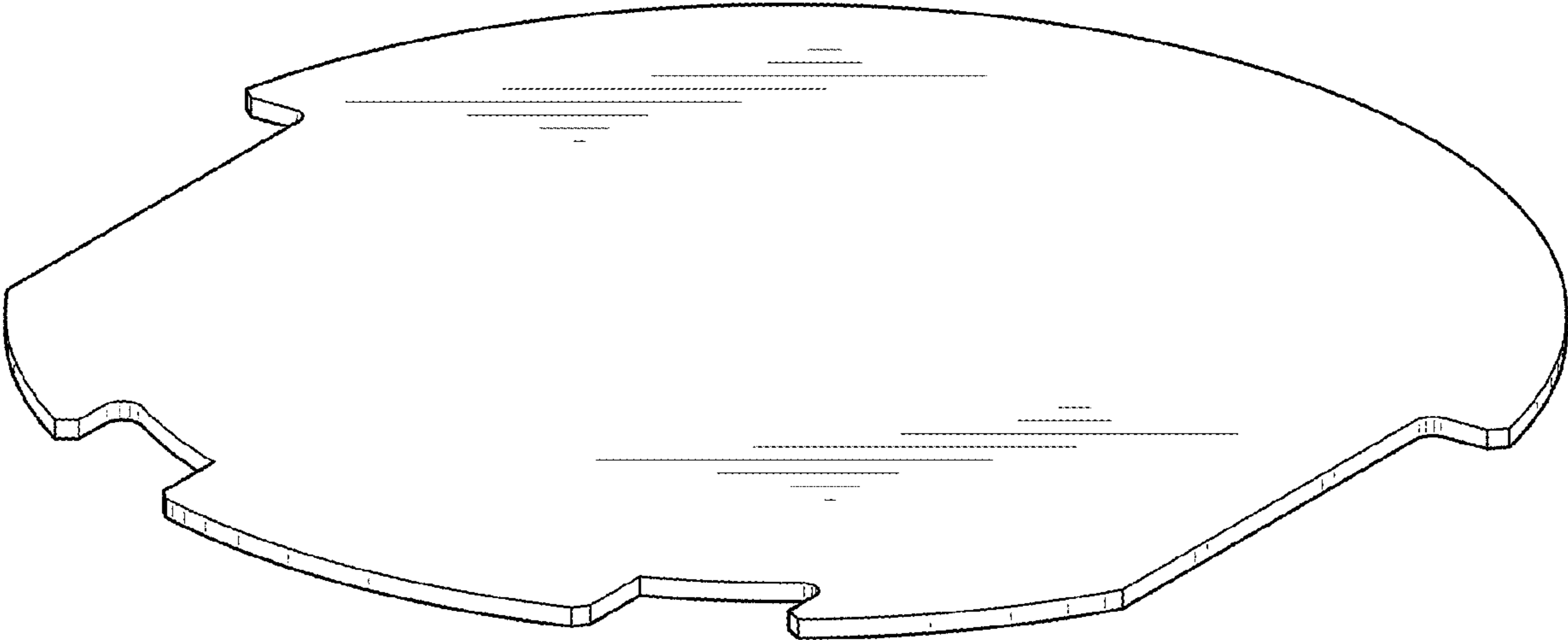


FIG. 1

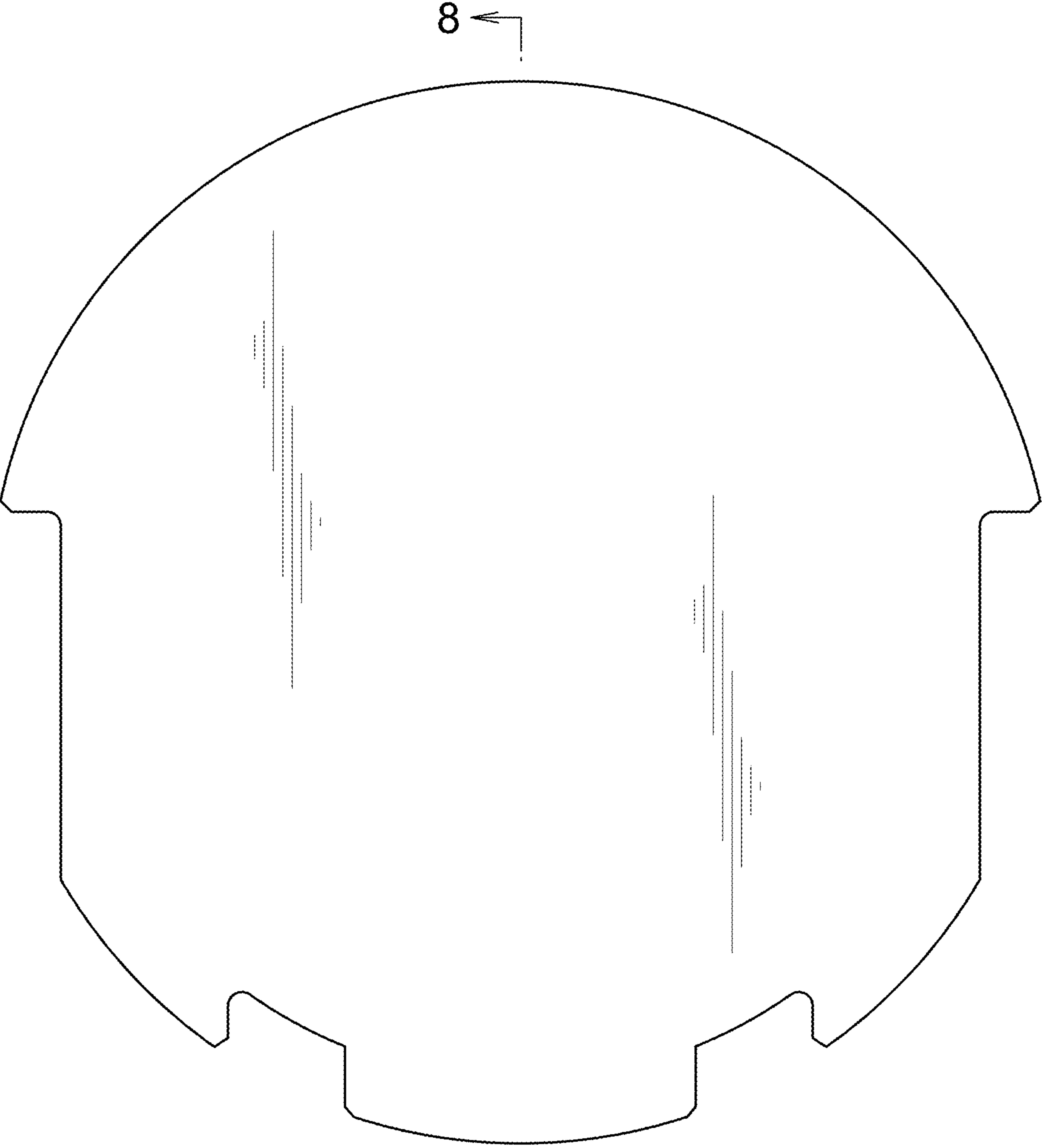


FIG. 2

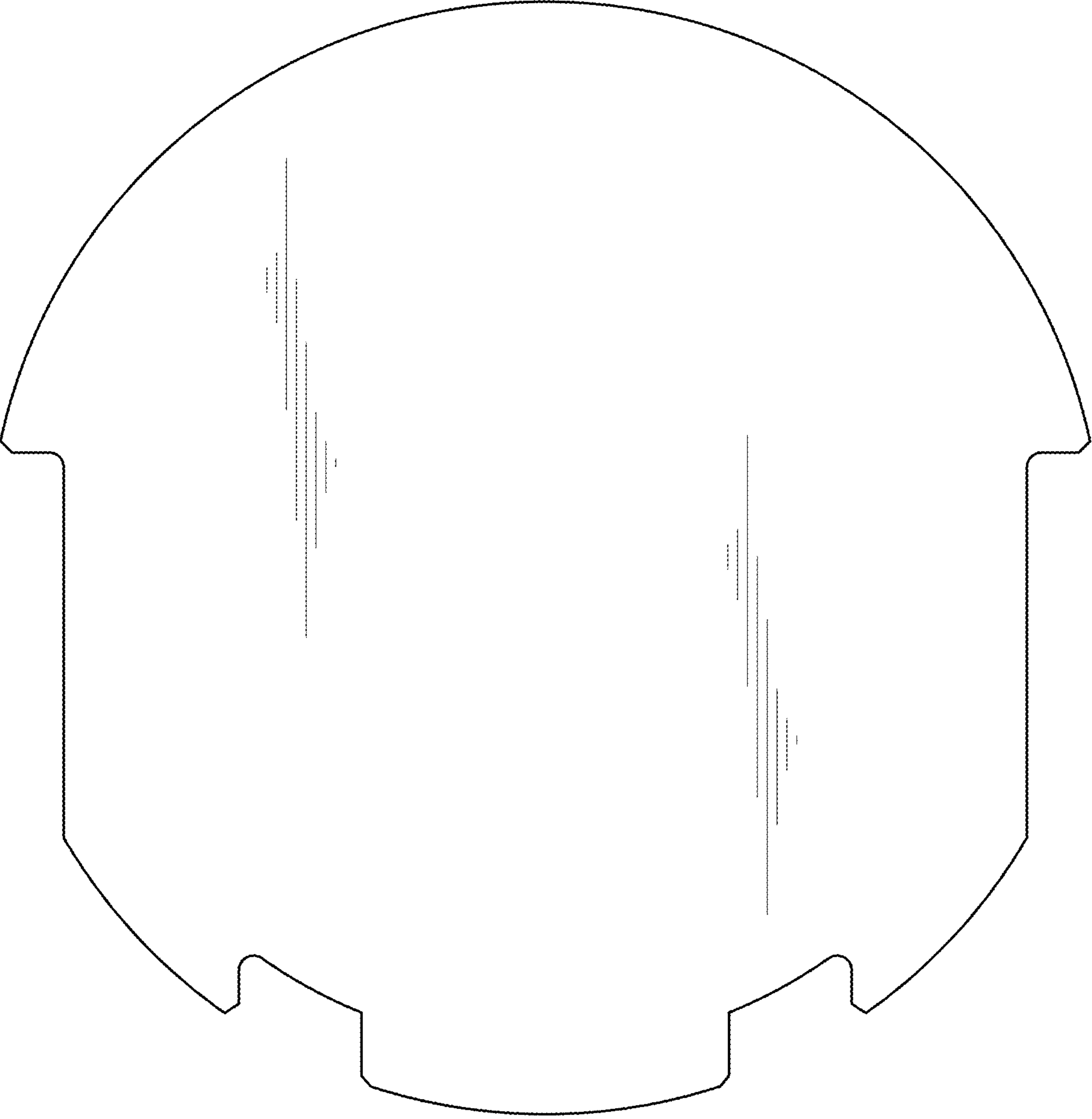


FIG. 3



FIG. 4

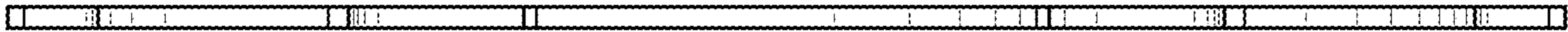


FIG. 5



FIG. 6



FIG. 7



FIG. 8