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

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(54) **ELECTRODE PLATE FOR PLASMA PROCESSING APPARATUS**

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(73) Assignee: **TOKYO ELECTRON LIMITED**, Tokyo (JP)

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

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(30) **Foreign Application Priority Data**

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(51) **LOC (10) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/224**

(58) **Field of Classification Search**
USPC D24/224, 107, 216; D27/227; D23/200, D23/213, 214, 215, 222, 223, 229, 283; D15/138; D13/182, 123; 138/144, 138/144.1; 239/548
CPC .. B05B 1/00; B05B 1/04; B05B 1/005; B05B 1/14; A47K 3/00
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D363,464 S * 10/1995 Fukasawa D13/182
D411,516 S * 6/1999 Imafuku D13/182
D465,824 S * 11/2002 Barry D23/213
D536,714 S * 2/2007 Braunschweig D15/126
D624,155 S * 9/2010 Yokoyama D23/213
D639,384 S * 6/2011 Flowers D23/213
D649,623 S * 11/2011 Flowers D23/213
D649,986 S * 12/2011 Fujikata D15/138
D662,178 S * 6/2012 Flowers D23/213
8,206,506 B2 * 6/2012 Kadkhodayan H01J 37/3244 118/715

(Continued)

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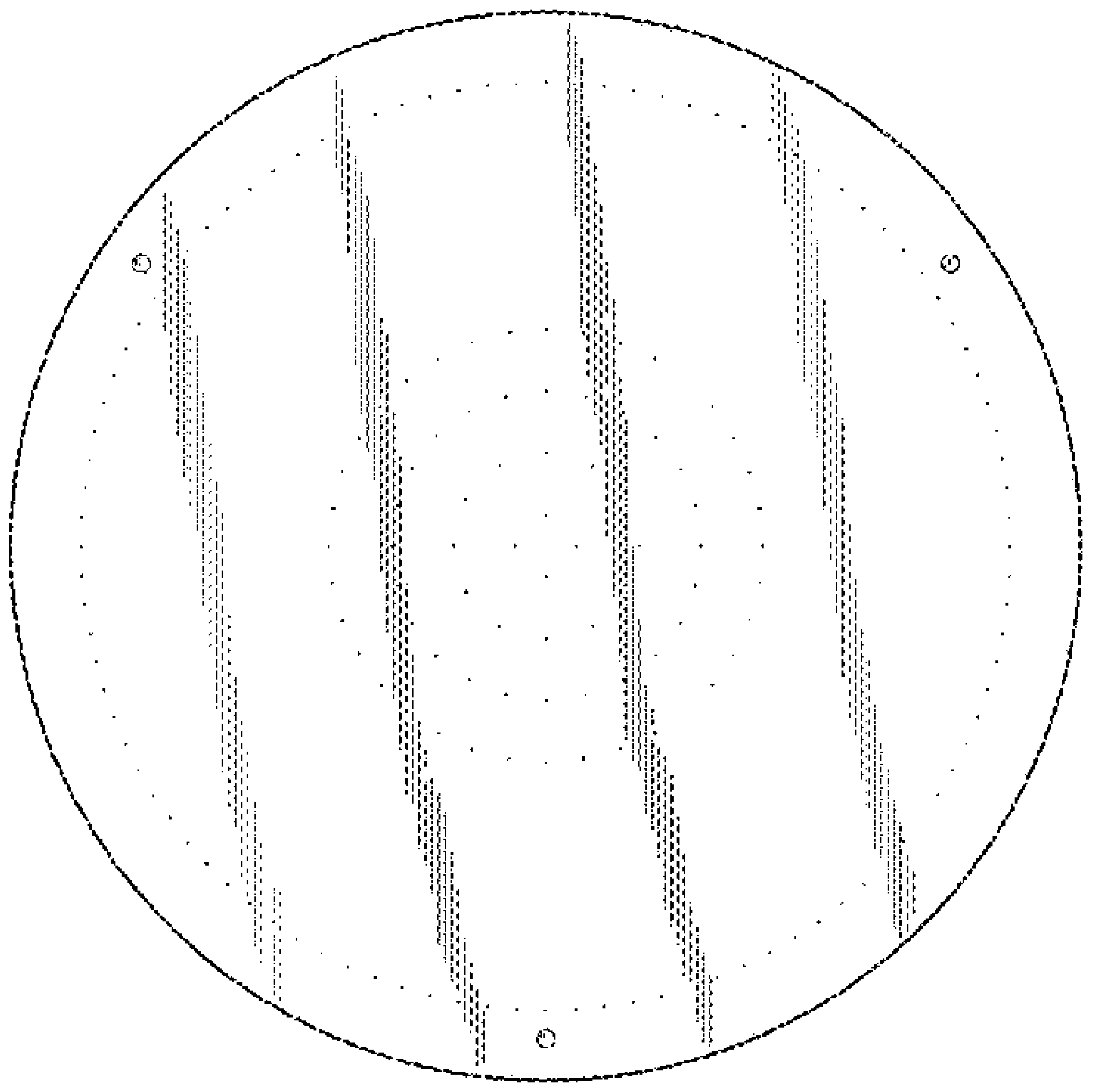
(57) **CLAIM**

The ornamental design for an electrode plate for plasma processing apparatus, as shown and described.

DESCRIPTION

FIG. **1** is a front view of an electrode plate for plasma processing apparatus of the present invention.
FIG. **2** is a rear view thereof.
FIG. **3** is a top plan view thereof.
FIG. **4** is a bottom view thereof.
FIG. **5** is a right side view thereof.
FIG. **6** is a left side view thereof.
FIG. **7** is a perspective view thereof.
FIG. **8** is a sectional view of the electrode plate for plasma processing apparatus taken along section line **8-8** of FIG. **4**.
FIG. **9** is an enlarged view of the portion indicated by arrows **9-9** of the electrode plate for plasma processing apparatus of FIG. **8**; and,
FIG. **10** is a reference view of the electrode plate for plasma processing apparatus in use, wherein the electrode plate for plasma processing apparatus is used in the bottom part of a shower head, that is arranged to face a susceptor.
The features shown in broken lines depict environmental subject matter only and form no part of the claimed design.

1 Claim, 10 Drawing Sheets



(56) References Cited

U.S. PATENT DOCUMENTS

8,402,918	B2	*	3/2013	Kadkhodayan	H01J 37/3255 118/723 E
D699,199	S	*	2/2014	Kuwabara	D13/182
D704,299	S	*	5/2014	Flowers	D23/213
D716,742	S	*	11/2014	Jang	D13/182
D733,255	S	*	6/2015	Blum	D23/213
D736,348	S	*	8/2015	Tan	D23/213
D760,347	S	*	6/2016	Hanna	D23/213
D770,992	S	*	11/2016	Tauchi	D13/182
2012/0097770	A1	*	4/2012	Lee	B05B 1/185 239/548

* cited by examiner

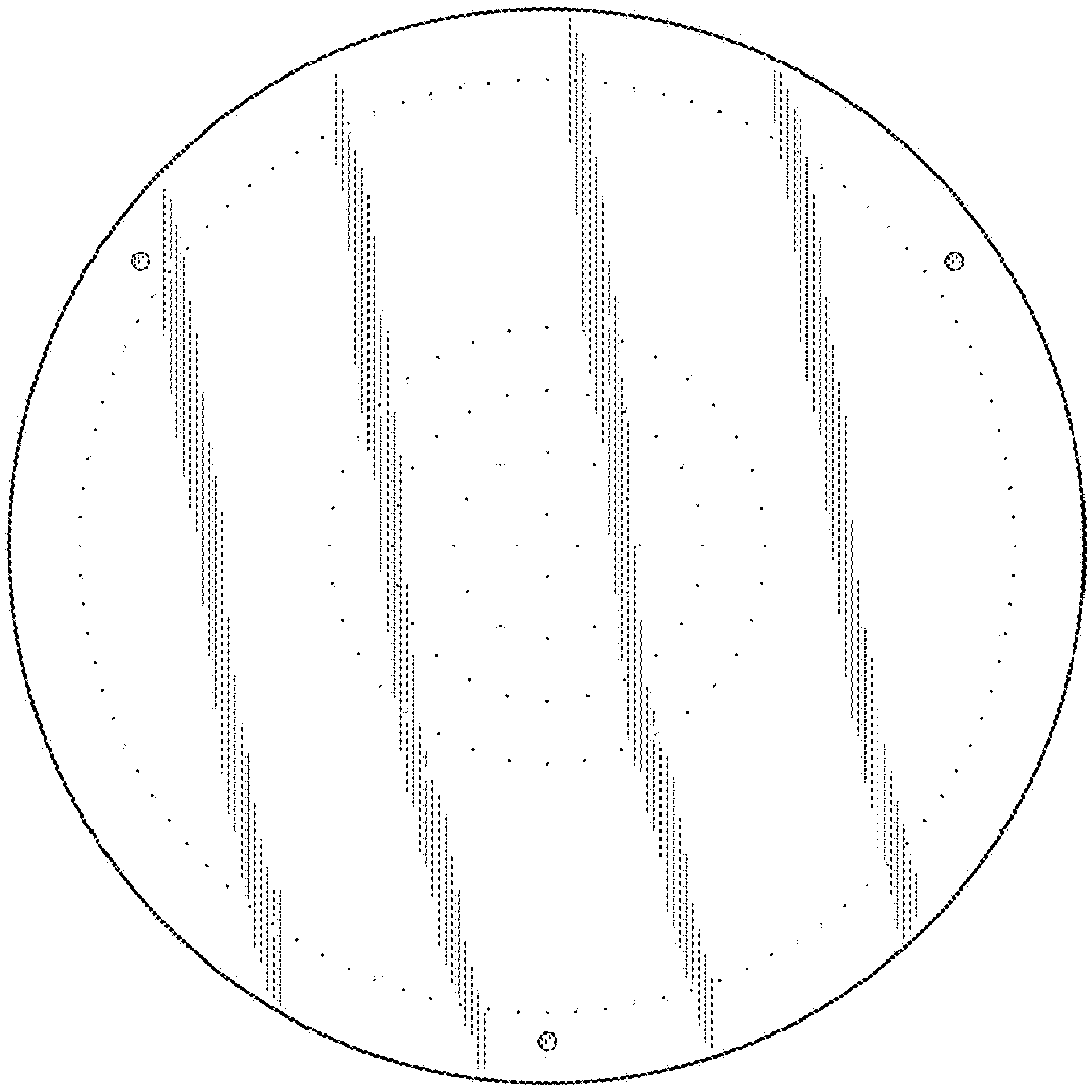


FIG. 1

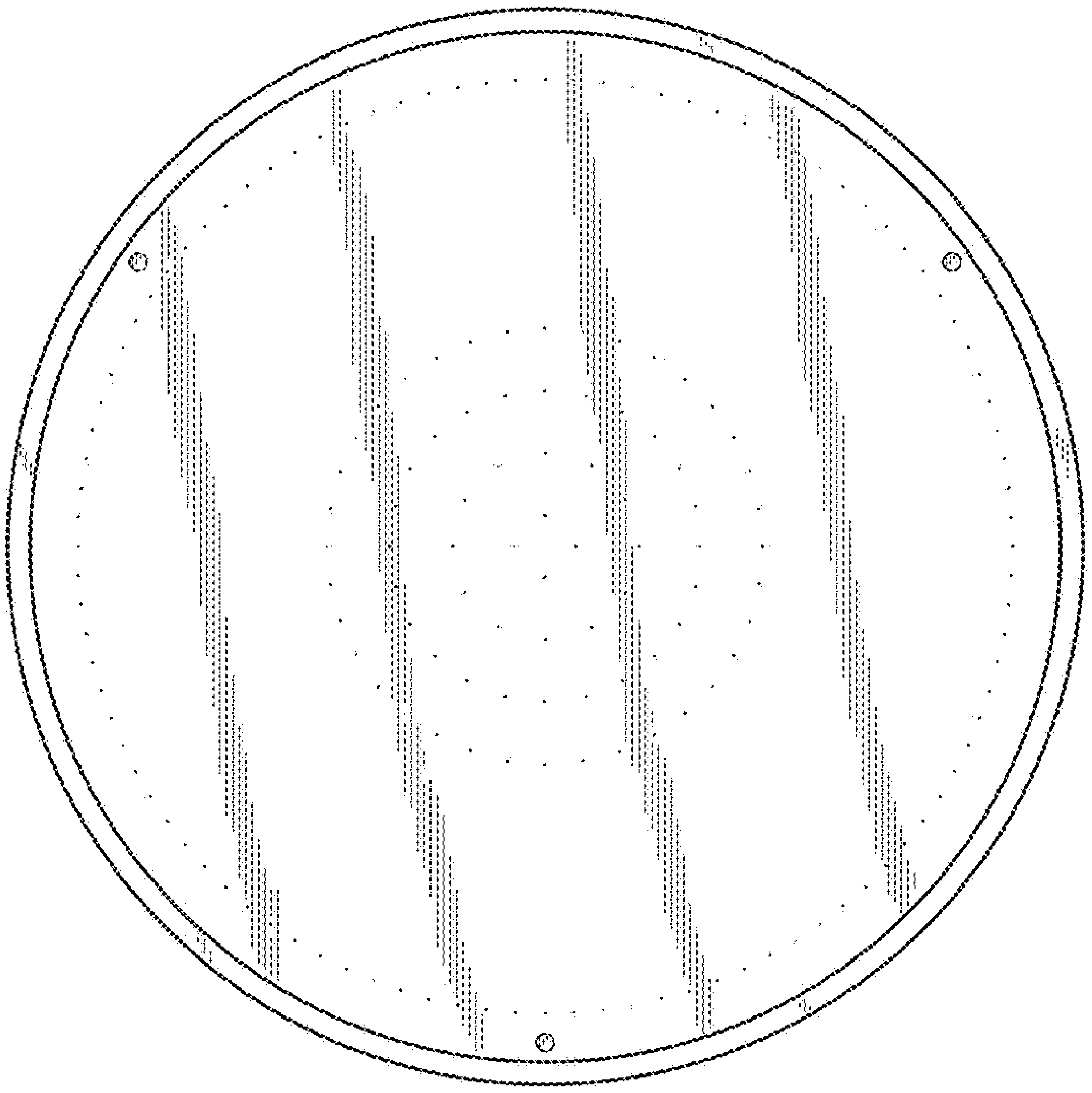


FIG. 2

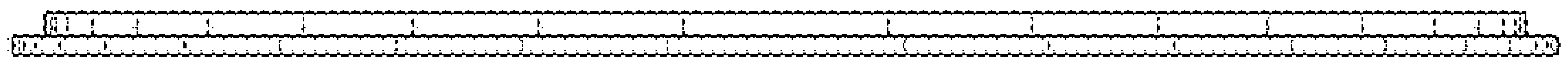


FIG. 3

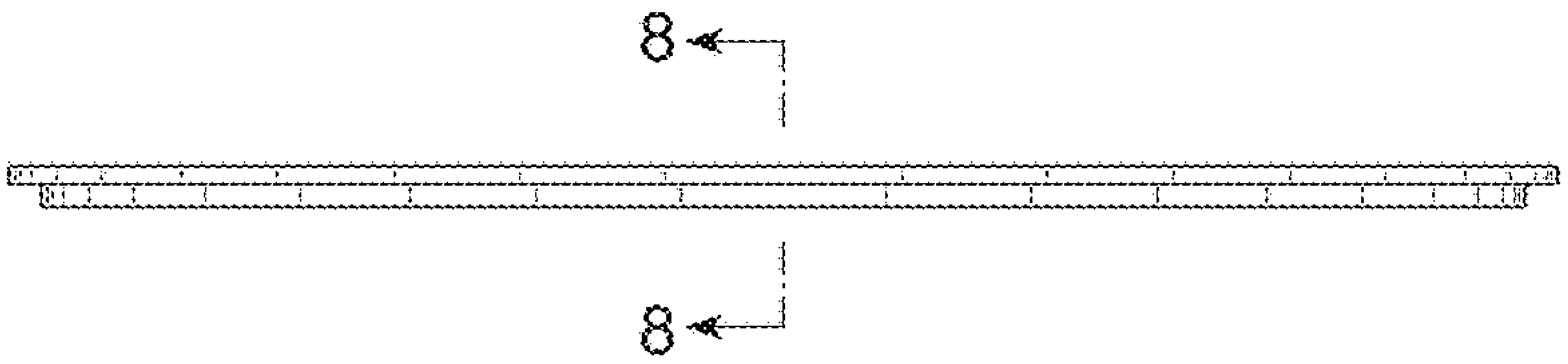


FIG. 4

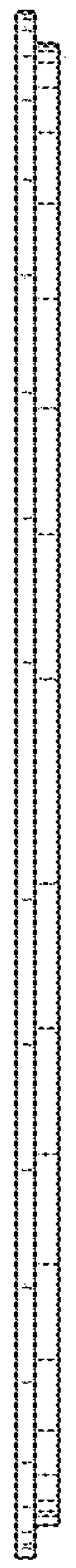


FIG. 5

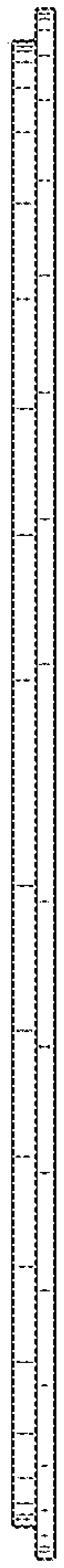


FIG. 6

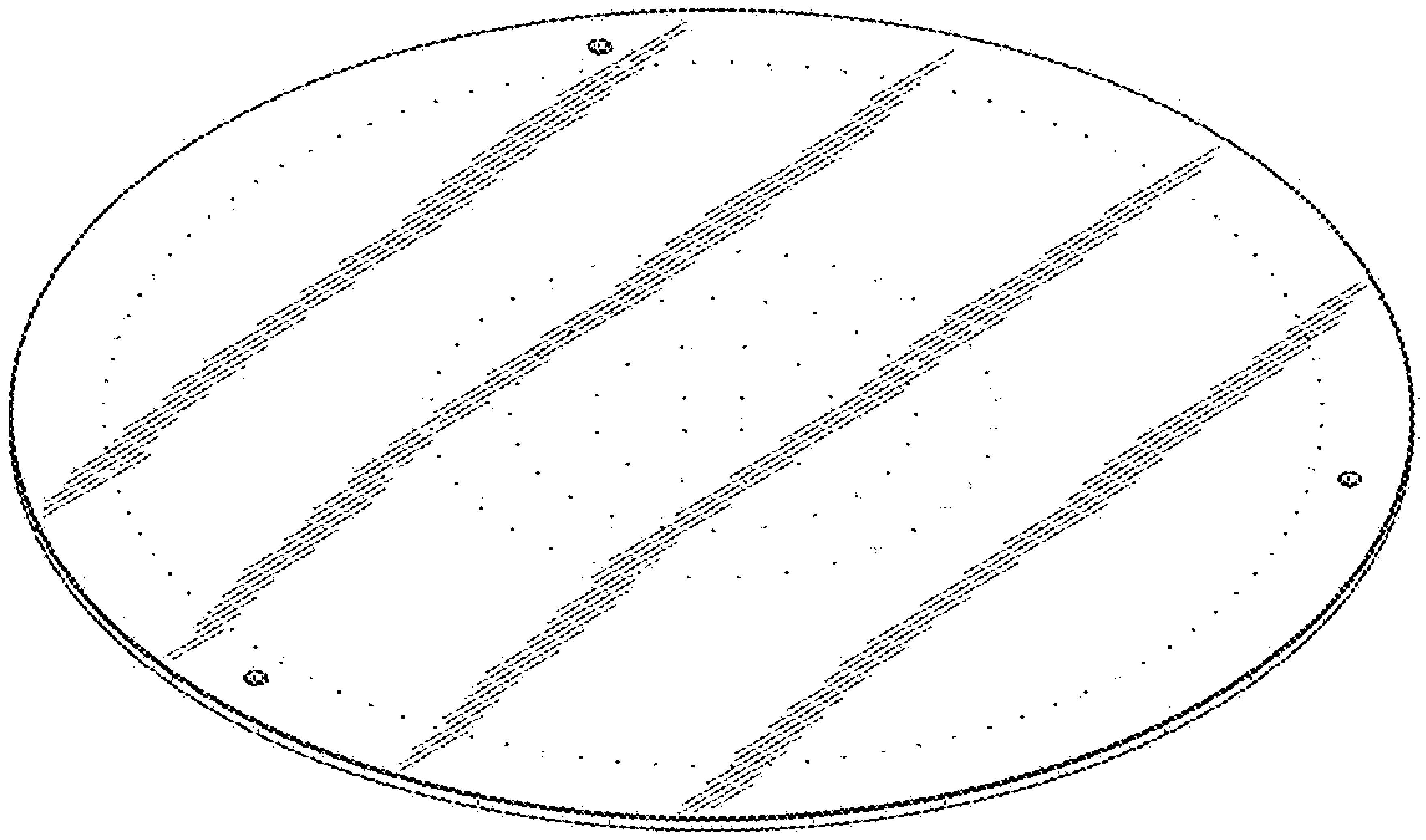


FIG. 7

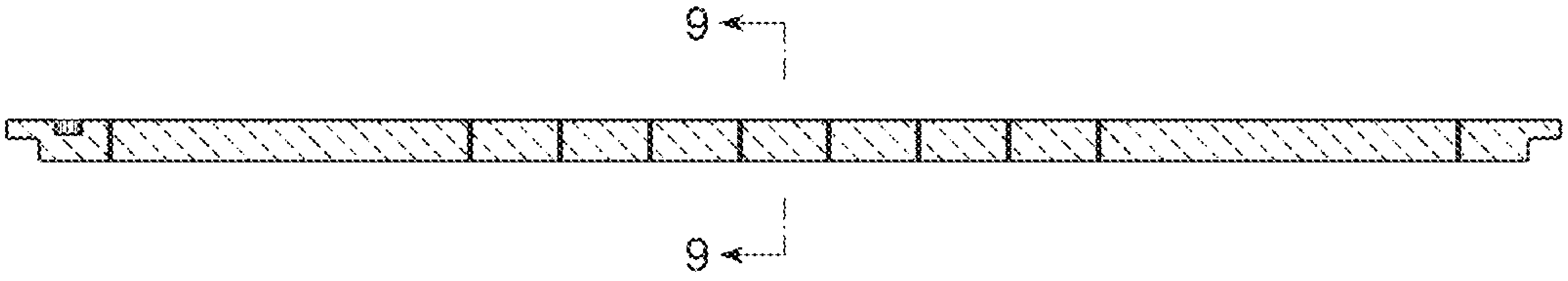


FIG. 8

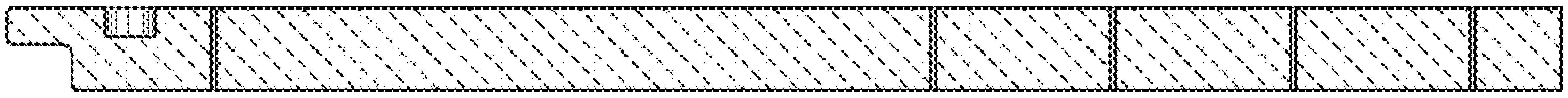


FIG. 9

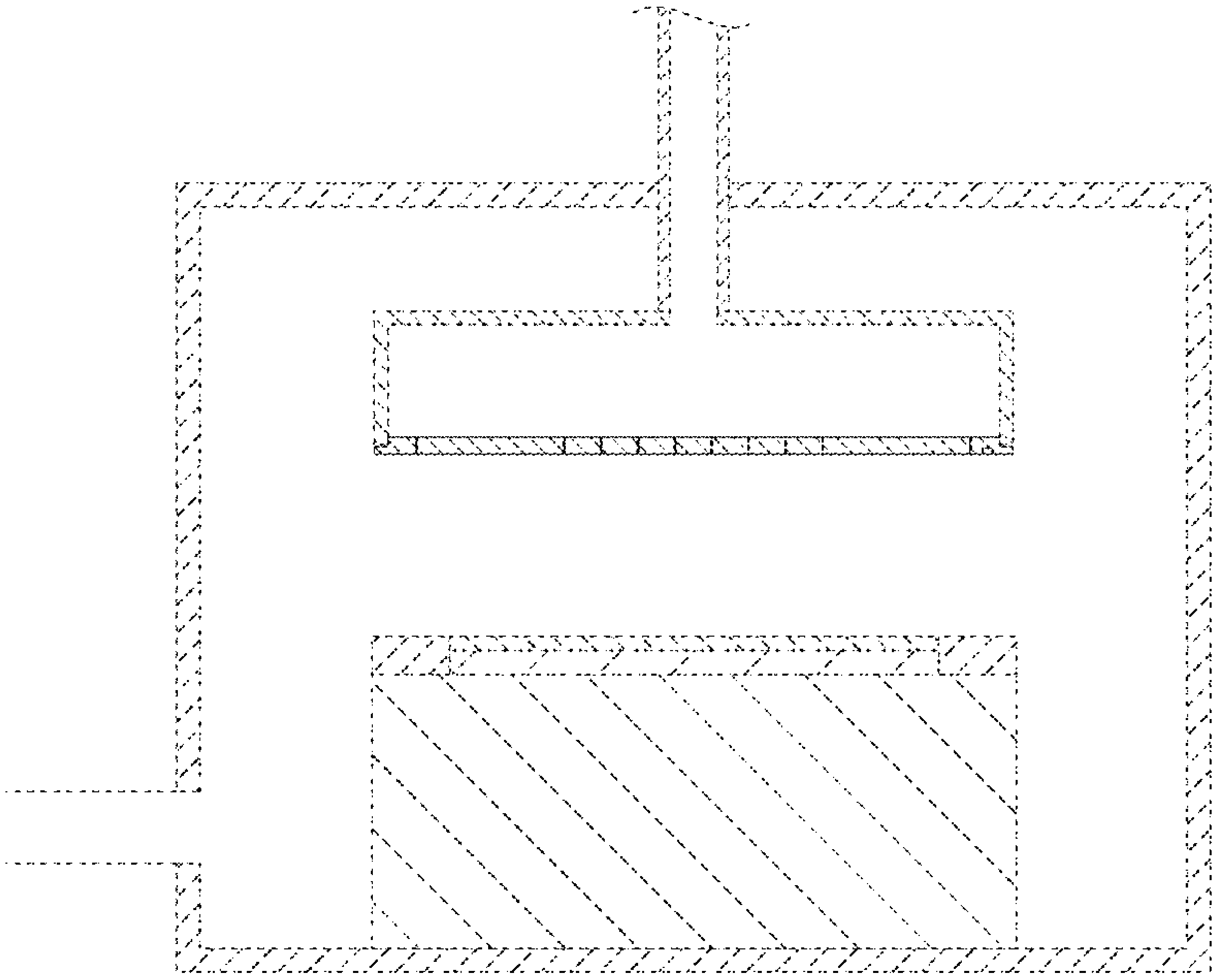


FIG. 10