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(12) **United States Design Patent**
Feng

(10) **Patent No.: US D745,473 S**
(45) **Date of Patent: ** Dec. 15, 2015**

(54) **LIGHT EMITTING DIODE CHIP**

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(73) Assignee: **Formosa Epitaxy Incorporation**, Taoyuan (TW)

(**) Term: **14 Years**

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(30) **Foreign Application Priority Data**

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(51) **LOC (10) Cl.** **13-03**

(52) **U.S. Cl.**
USPC **D13/180**

(58) **Field of Classification Search**
USPC D13/180; D21/486, 501, 503; D25/152, D25/155, 160, 163; D26/1
CPC ... H01L 25/167; H01L 25/0753; H01L 27/15; H01L 27/156; H01L 31/02; H01L 33/00; H01L 33/0079; H01L 33/04; H01L 33/08; H01L 33/10; H01L 33/20; H01L 33/38; H01L 33/42; H01L 33/4448; H01L 33/483; H01L 33/486; H01L 24/06; H01J 3/021; H01S 5/34; F21K 9/00; F21K 9/30; F21K 9/54; B82Y 20/00; B82Y 40/00
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,280,631	A	*	4/1942	Coffey	181/293
4,032,944	A	*	6/1977	van Dongen et al.	257/88
4,189,027	A	*	2/1980	Dean et al.	181/286
D410,973	S	*	6/1999	Jensen	D21/486

(Continued)

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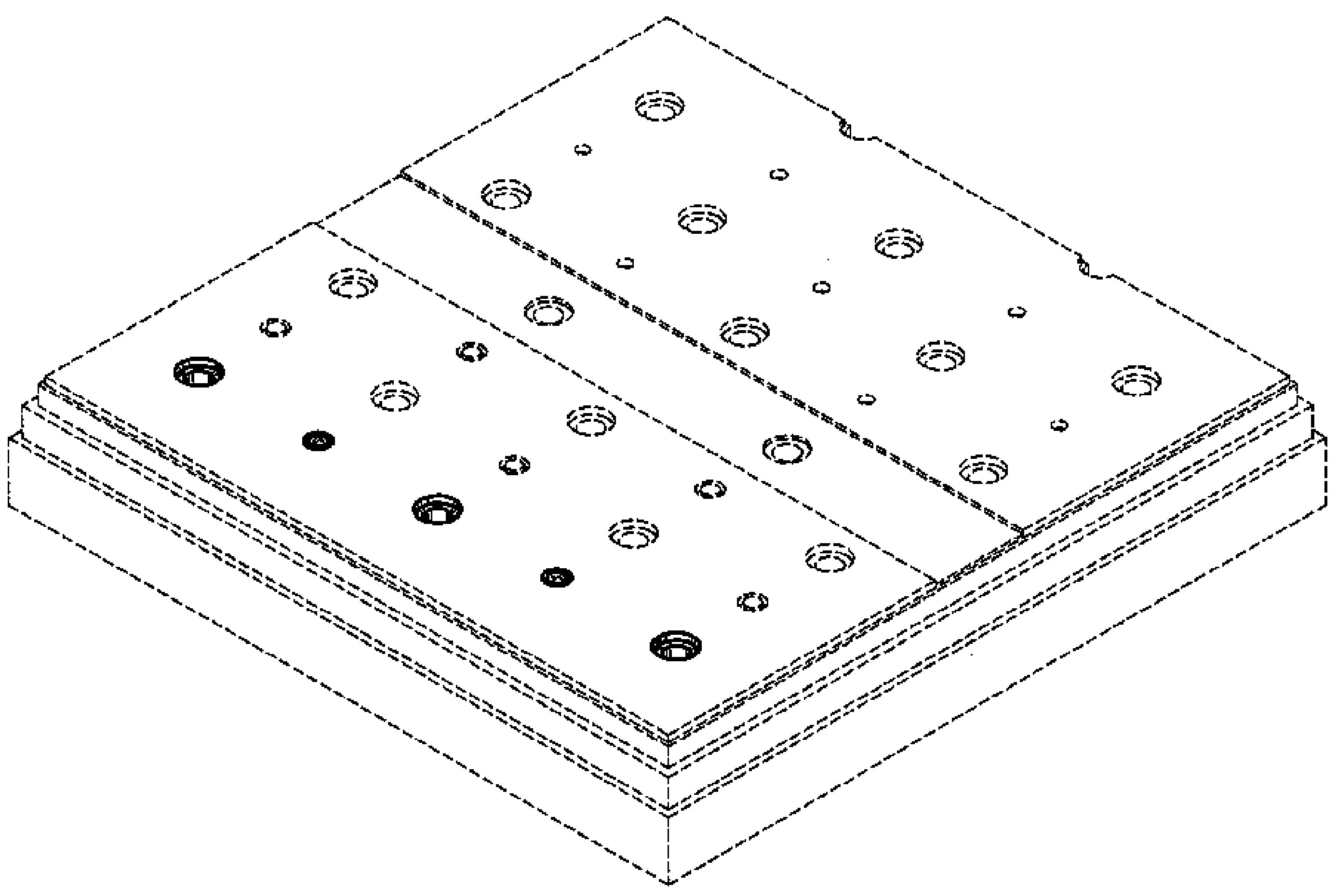
(57) **CLAIM**

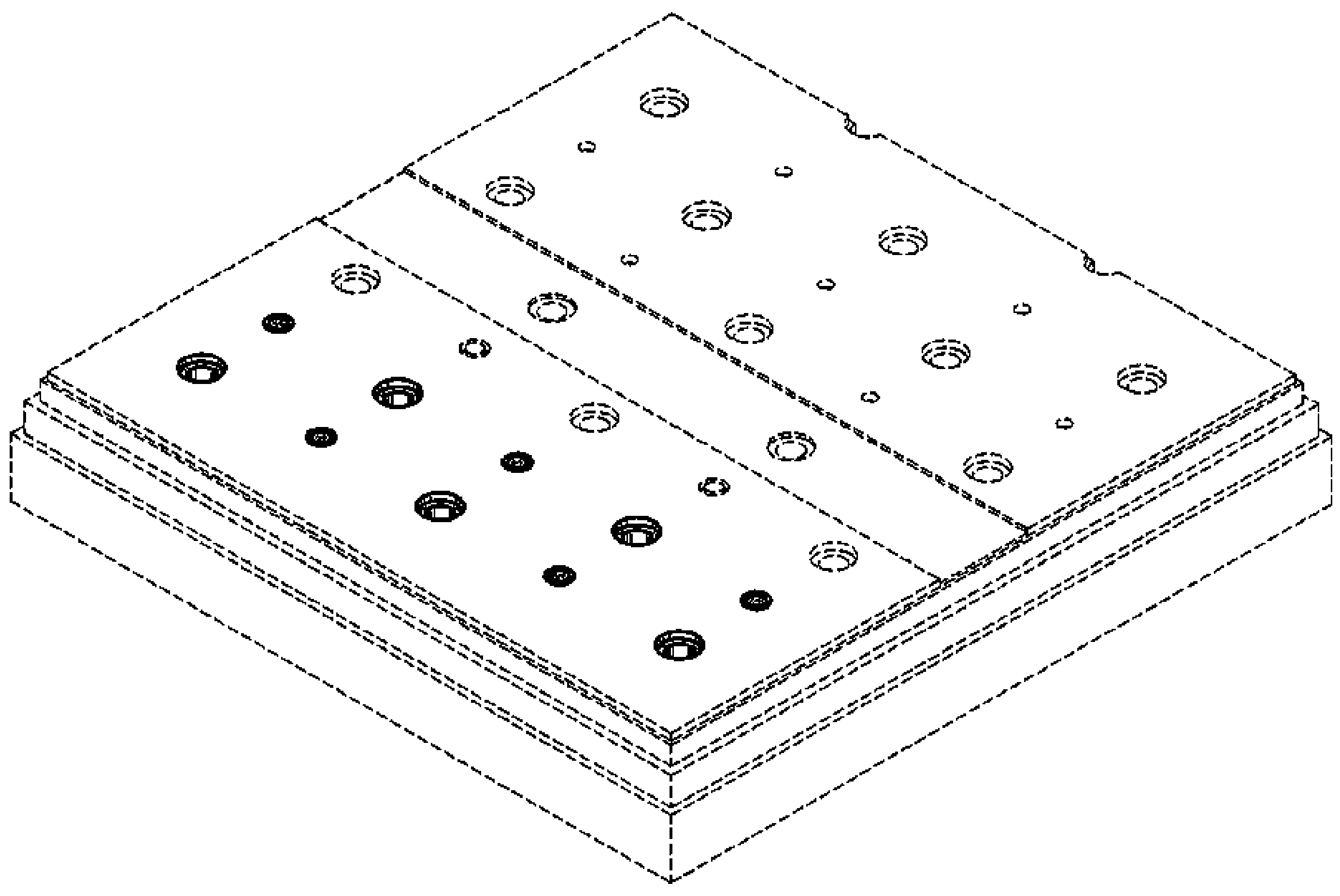
The ornamental design for a light emitting diode chip, as shown and described.

DESCRIPTION

FIG. **1** is a perspective view of a light emitting diode chip showing a first embodiment of my new design;
FIG. **2** is a front view of the first embodiment;
FIG. **3** is a rear view of the first embodiment;
FIG. **4** is a left side view of the first embodiment;
FIG. **5** is a right side view of the first embodiment;
FIG. **6** is a top view of the first embodiment;
FIG. **7** is a bottom view of the first embodiment;
FIG. **8** is a perspective view of the light emitting diode chip showing an alternate environment;
FIG. **9** is a front view thereof;
FIG. **10** is a rear view thereof;
FIG. **11** is a left side view thereof;
FIG. **12** is a right side view thereof;
FIG. **13** is a top view thereof;
FIG. **14** is a bottom view thereof;
FIG. **15** is a perspective view of a light emitting diode chip showing a second embodiment of my new design;
FIG. **16** is a front view of the second embodiment;
FIG. **17** is a rear view of the second embodiment;
FIG. **18** is a left side view of the second embodiment;
FIG. **19** is a right side view of the second embodiment;
FIG. **20** is a top view of the second embodiment; and,
FIG. **21** is a bottom view of the second embodiment.
The broken line portions of the light emitting diode chip in FIGS. **1-21** represent unclaimed portions of the design and form no part thereof.

1 Claim, 15 Drawing Sheets





(56) **References Cited**

U.S. PATENT DOCUMENTS

D412,189	S	*	7/1999	Poulsen	D21/502
6,012,543	A	*	1/2000	Shimpo et al.	181/286
6,764,196	B2	*	7/2004	Bailey	362/147
6,870,125	B2	*	3/2005	Doi et al.	219/121.6
D510,912	S	*	10/2005	Asakawa	D13/180
D511,329	S	*	11/2005	Suenaga	D13/180
7,621,654	B2	*	11/2009	Nishimoto et al.	362/241
7,690,809	B2	*	4/2010	Tsai et al.	362/147
D616,506	S	*	5/2010	Kossmann	D21/501
7,710,014	B2	*	5/2010	Lee et al.	313/497
7,786,491	B2	*	8/2010	Ueda et al.	257/81
D646,647	S	*	10/2011	Chen et al.	D13/180
8,415,689	B2	*	4/2013	Lim	257/91
8,569,739	B2	*	10/2013	Kim et al.	257/14
8,704,249	B2	*	4/2014	Kamiya et al.	257/91
8,749,263	B2	*	6/2014	Ohta et al.	324/762.01
D725,052	S	*	3/2015	Chen et al.	D13/180
2003/0001477	A1	*	1/2003	Sasaguri	313/310
2005/0184647	A1	*	8/2005	Chang	313/497
2006/0022575	A1	*	2/2006	Ryu et al.	313/495
2006/0160409	A1	*	7/2006	Shimizu et al.	439/490
2006/0208628	A1	*	9/2006	Lee	313/497
2006/0261725	A1	*	11/2006	Lee	313/495
2007/0096624	A1	*	5/2007	Lee et al.	313/496
2007/0176206	A1	*	8/2007	Choi et al.	257/198
2008/0030117	A1	*	2/2008	Chen et al.	313/311
2008/0116782	A1	*	5/2008	Kim et al.	313/496
2010/0208761	A1	*	8/2010	Coleman et al.	372/45.01
2011/0220872	A1	*	9/2011	Fukunaga et al.	257/13
2011/0291070	A1	*	12/2011	Won et al.	257/13
2011/0291120	A1	*	12/2011	Tak et al.	257/88
2012/0056232	A1	*	3/2012	Fujimoto et al.	257/99
2012/0153260	A1	*	6/2012	Kim et al.	257/14
2013/0285105	A1	*	10/2013	Wei et al.	257/99
2013/0321902	A1	*	12/2013	Choi	359/344
2014/0191650	A1	*	7/2014	Lee et al.	313/310
2014/0353709	A1	*	12/2014	Lee et al.	257/99

* cited by examiner

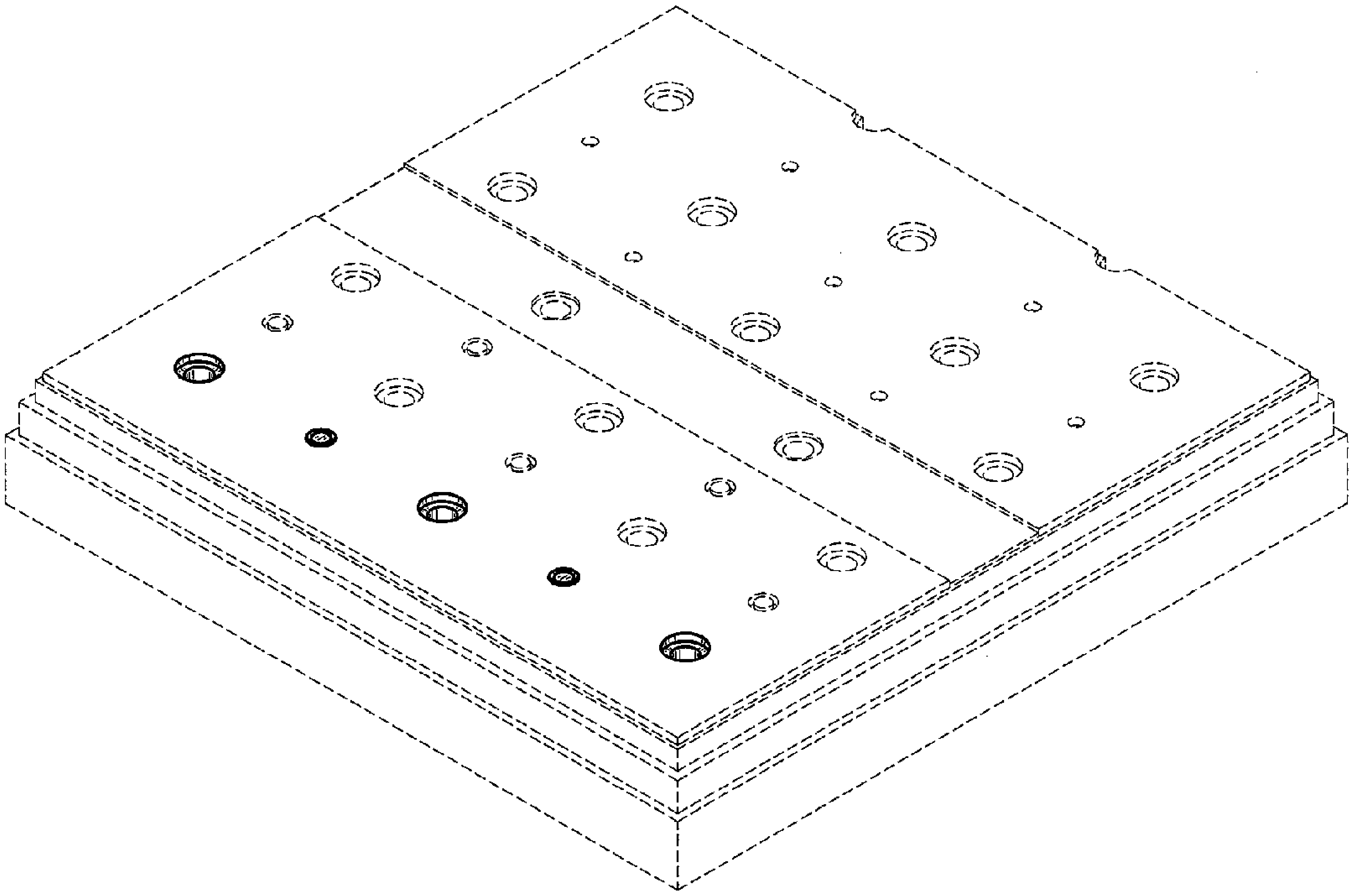


FIG. 1

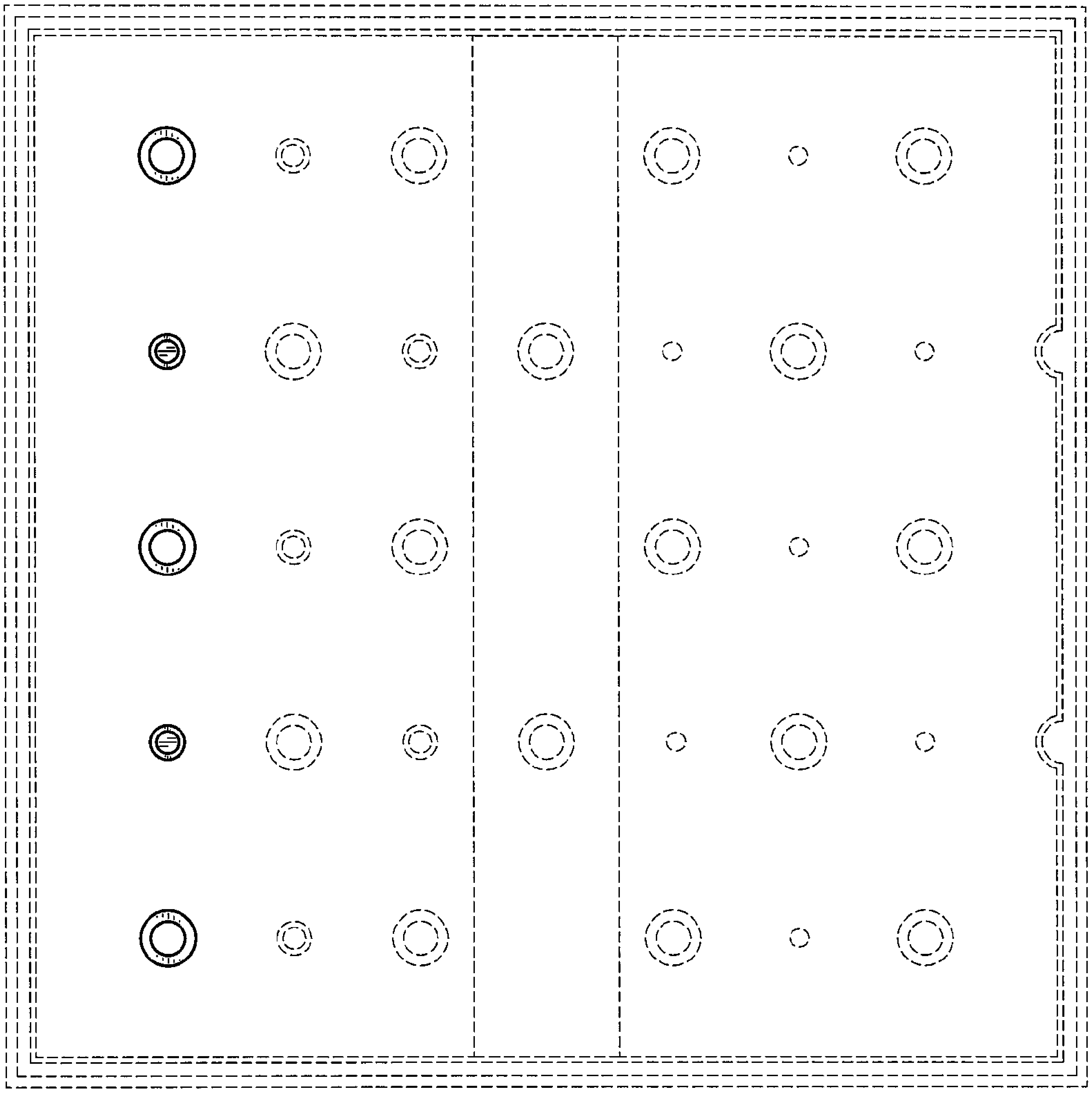


FIG. 2

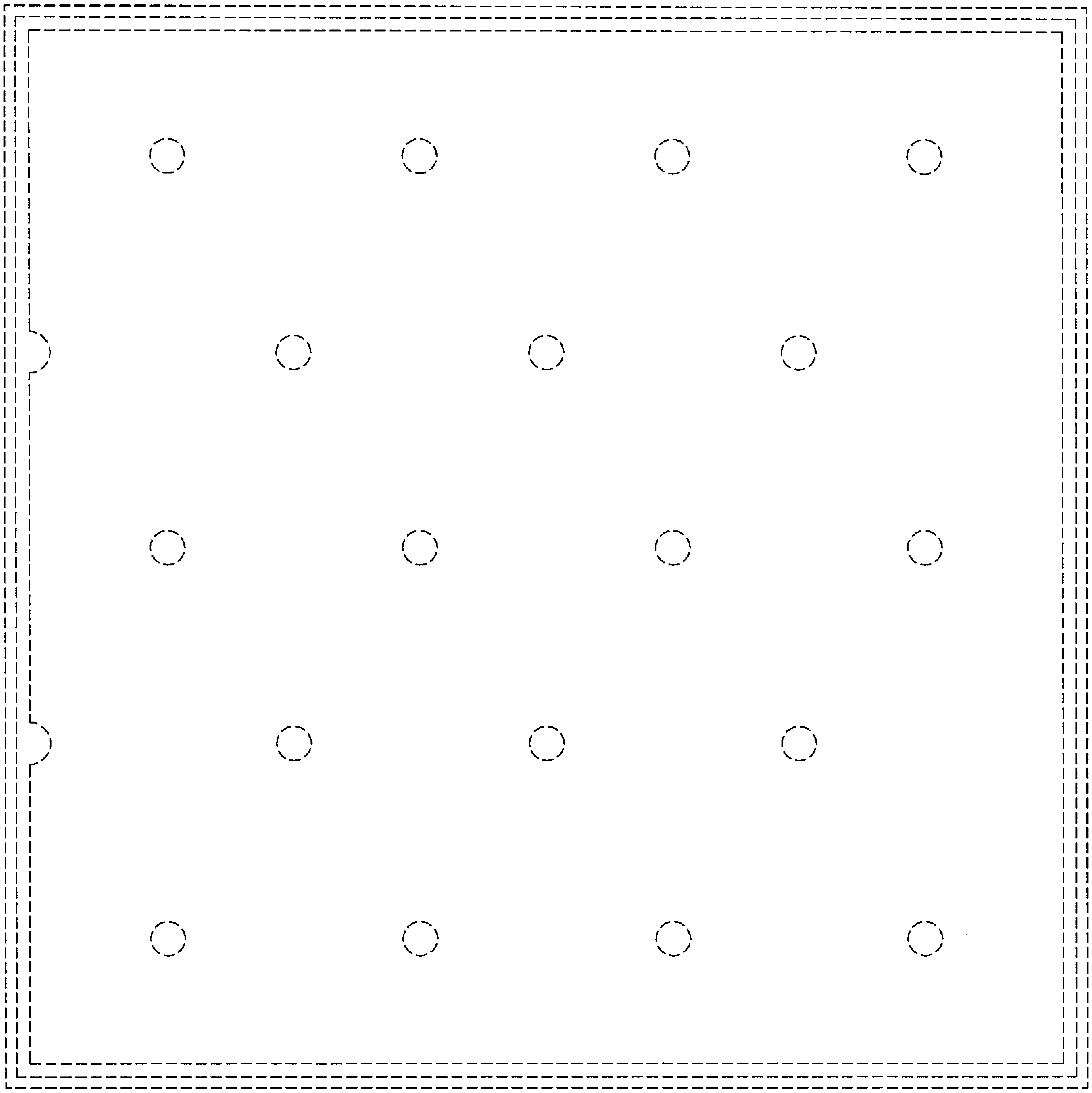


FIG. 3

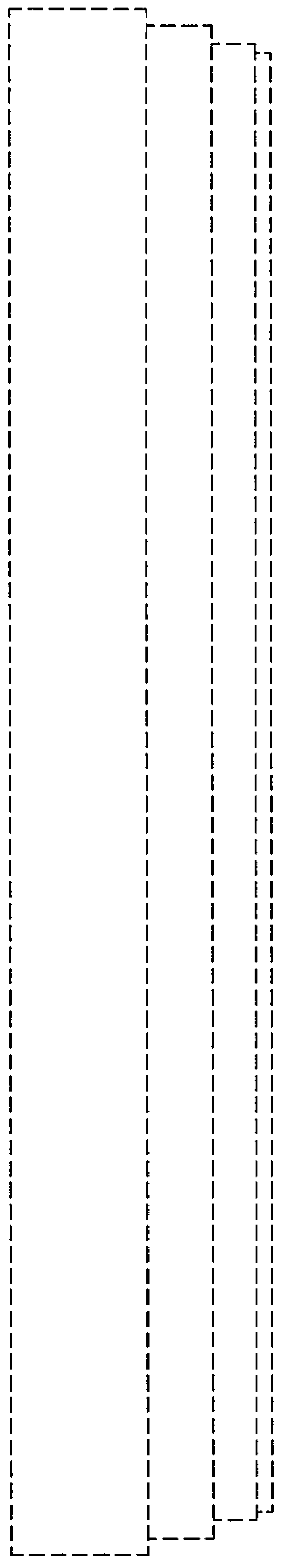


FIG. 4

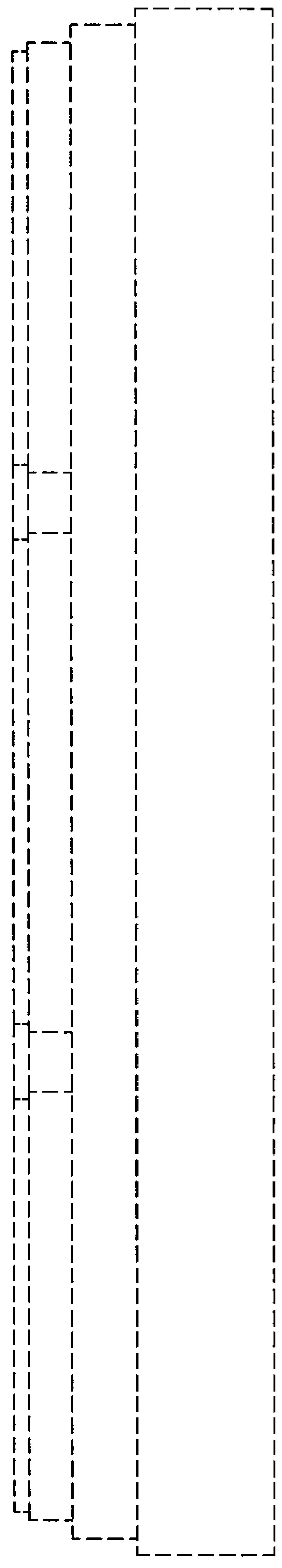


FIG. 5

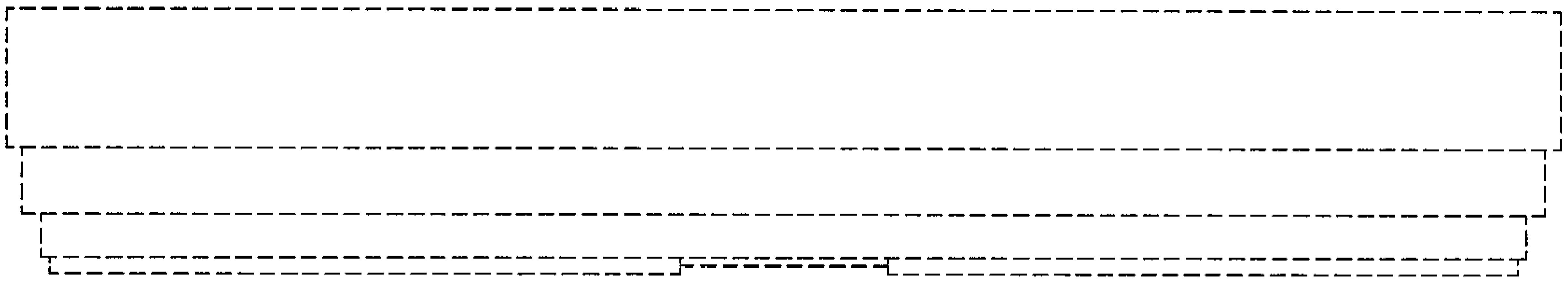
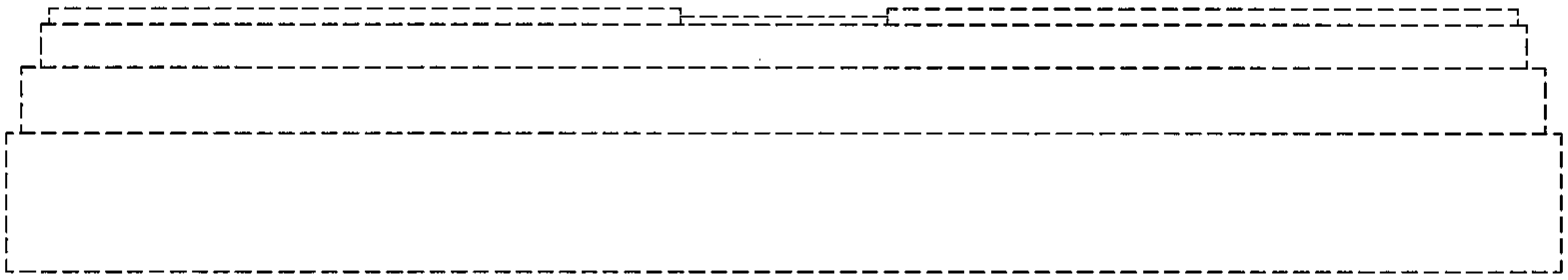


FIG. 6



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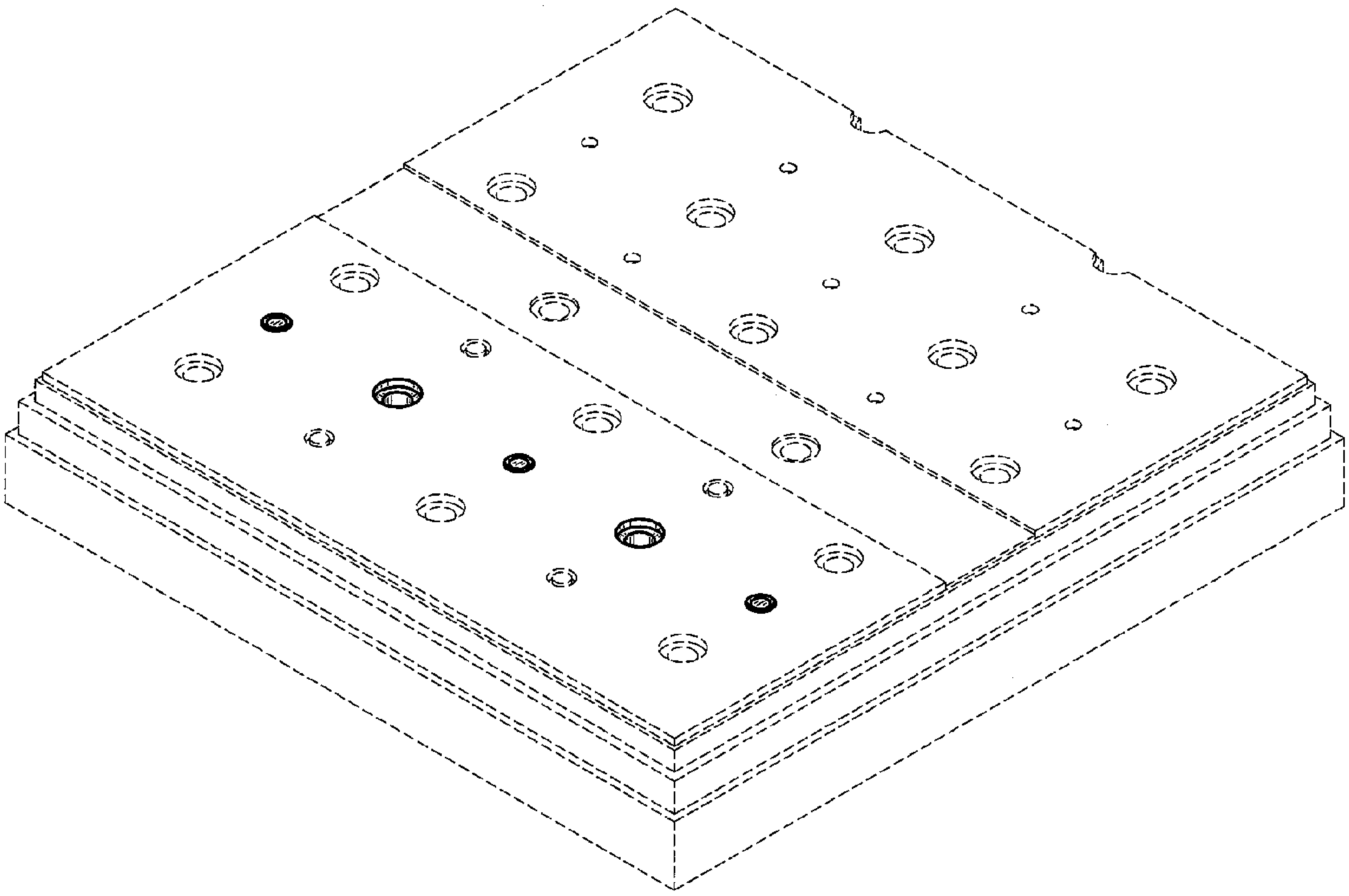


FIG. 8

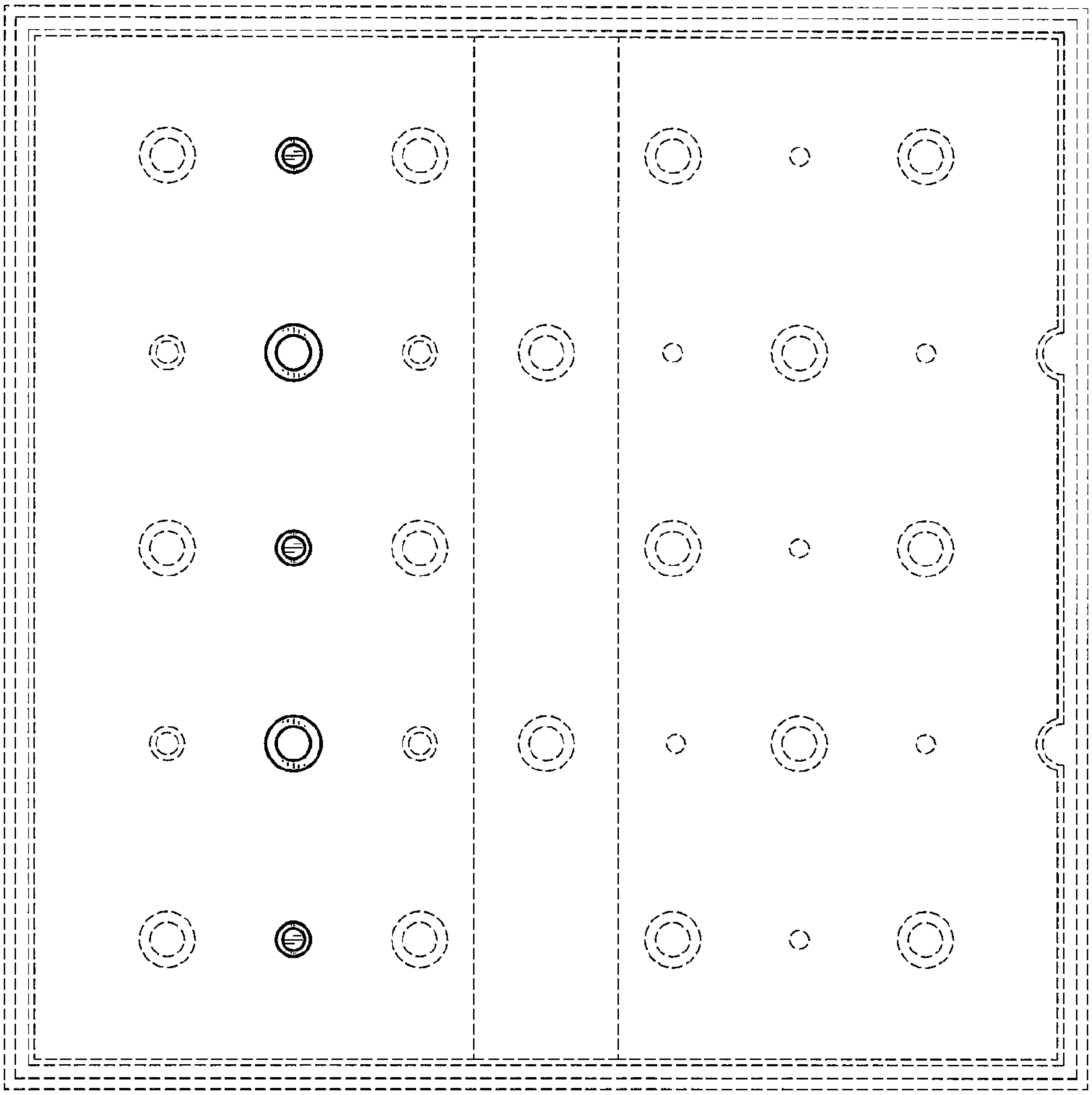
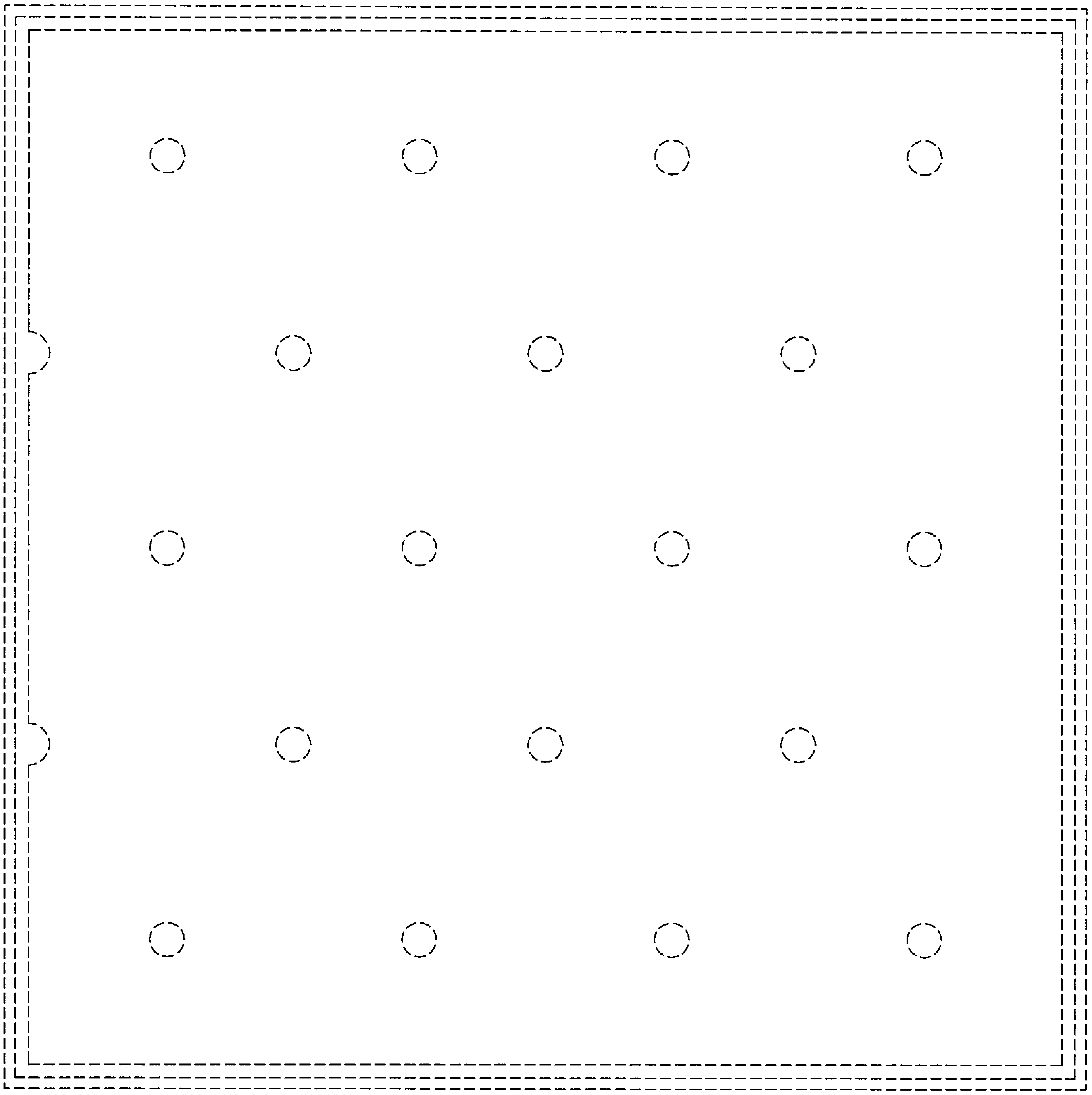


FIG. 9



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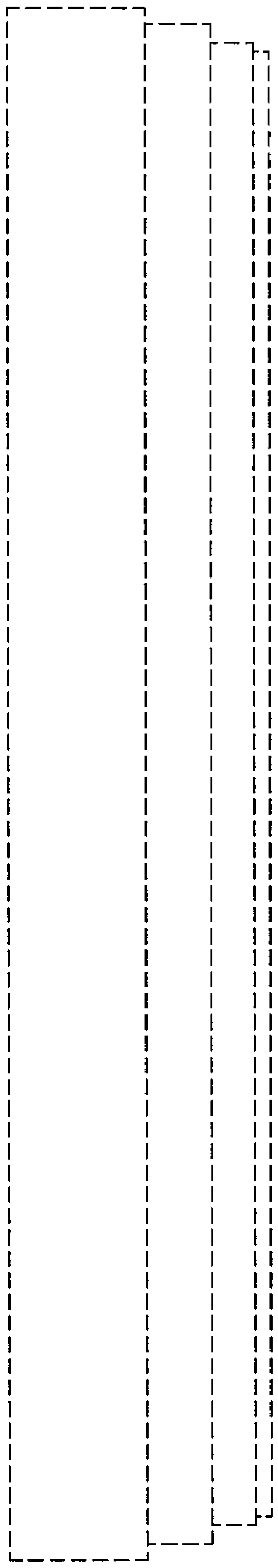

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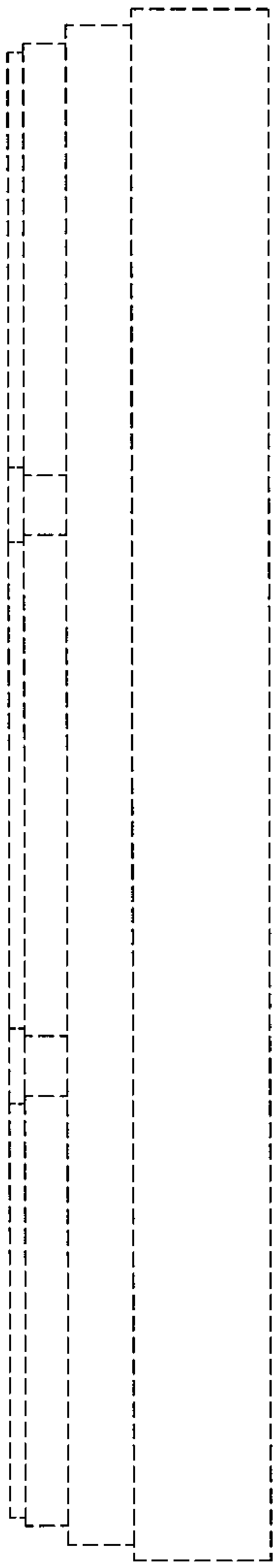

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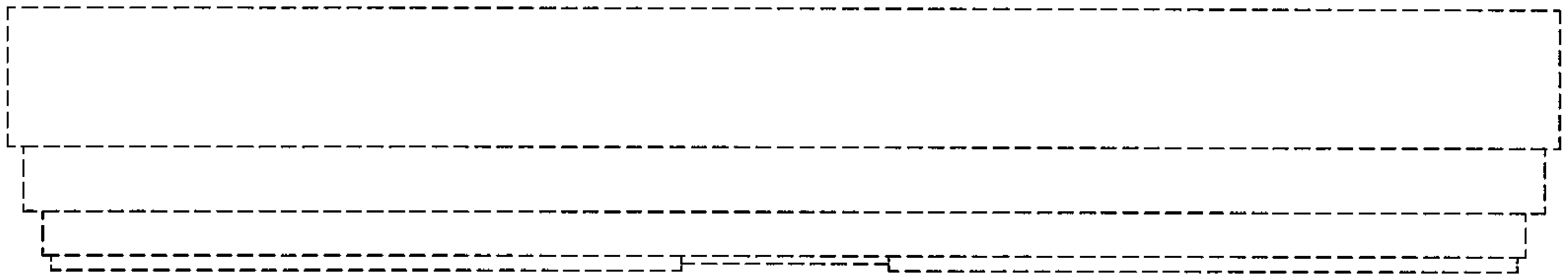


FIG. 13

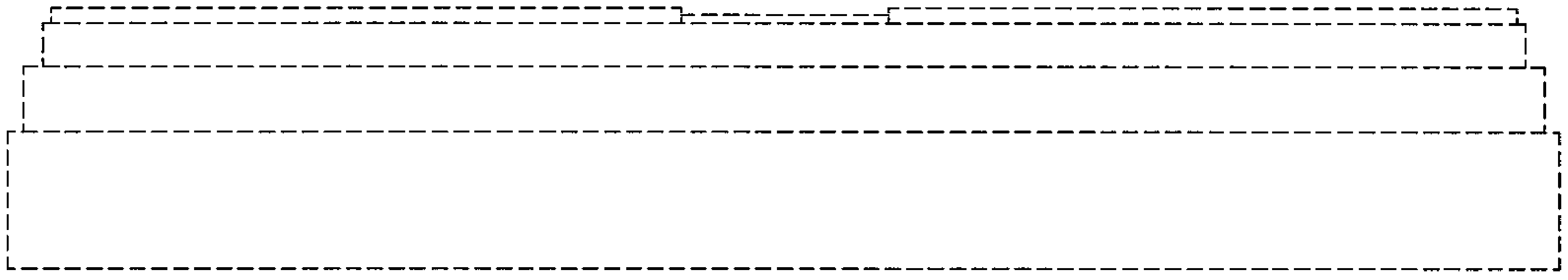


FIG. 14

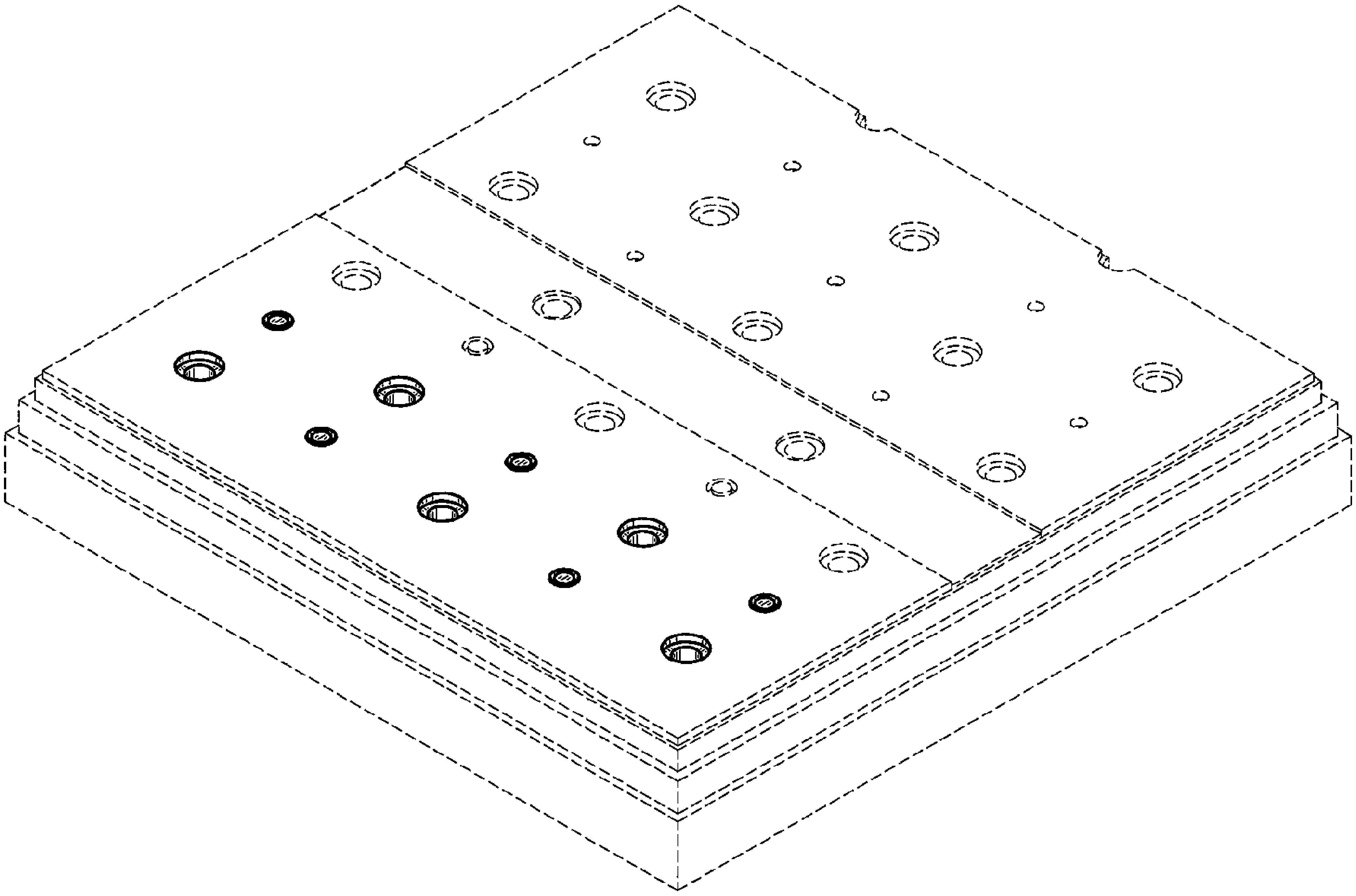
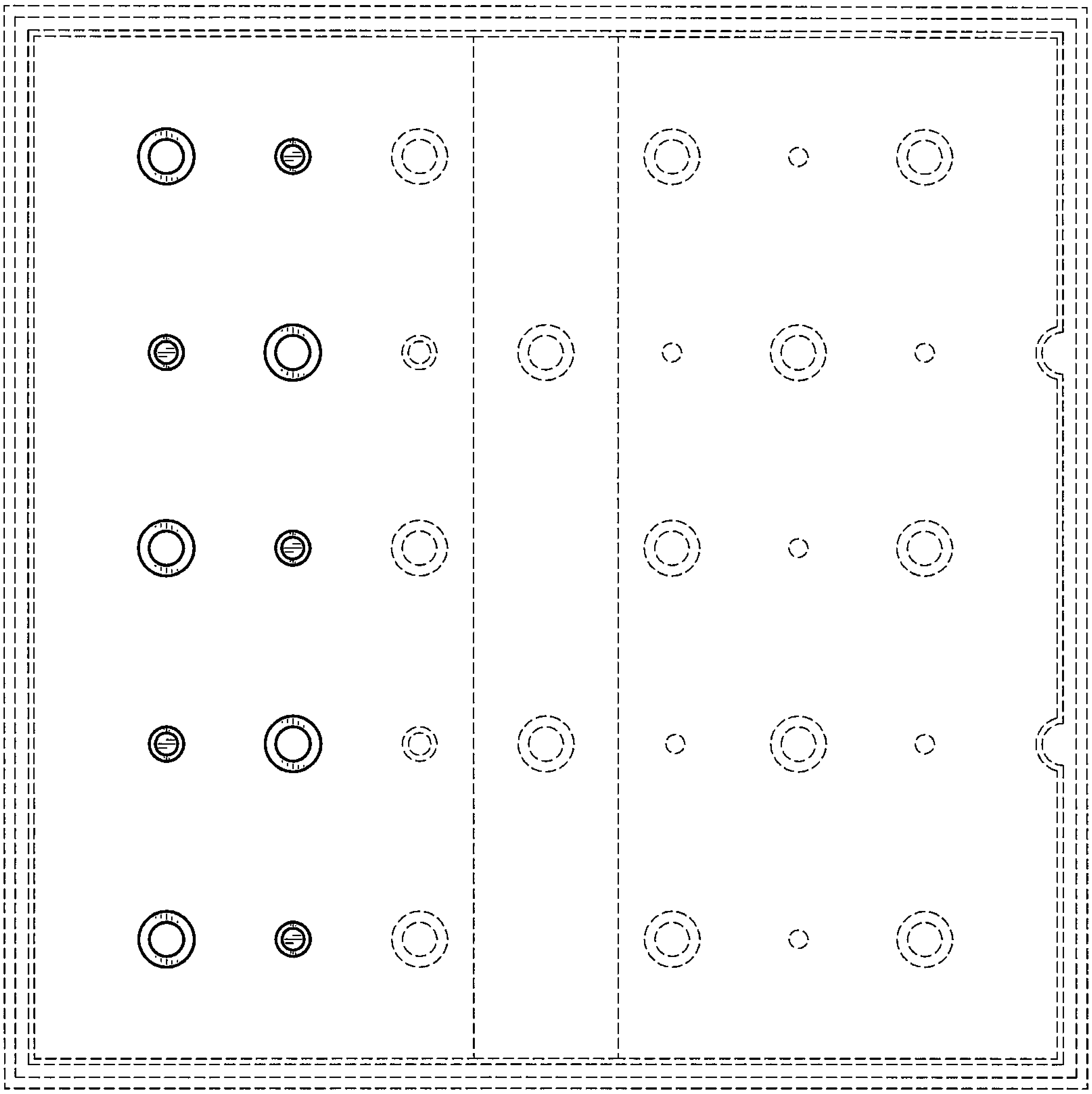


FIG. 15



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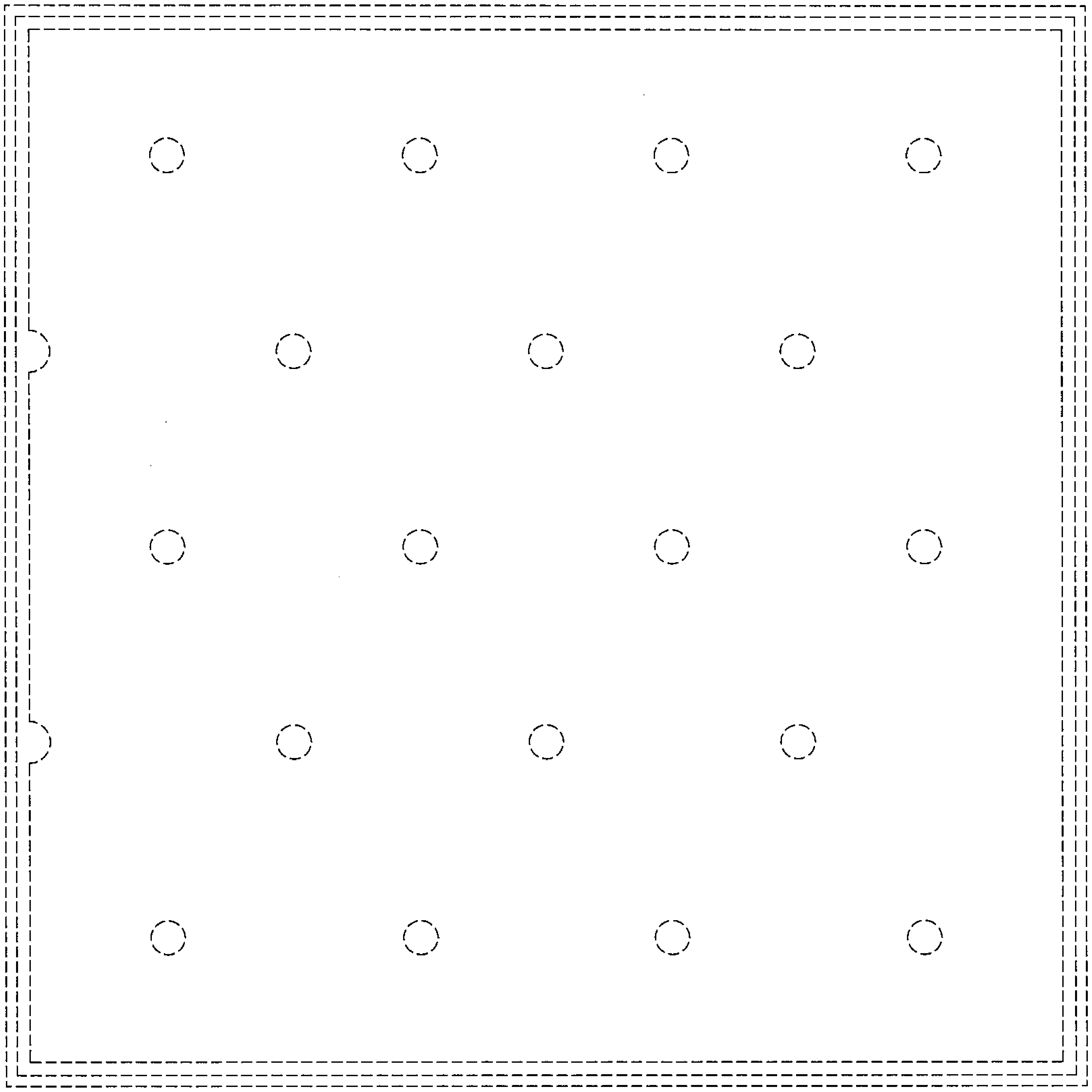

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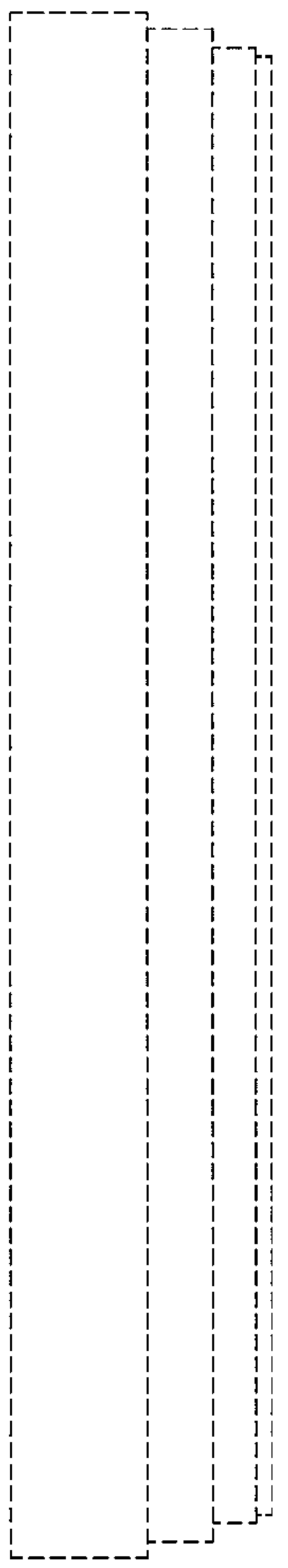

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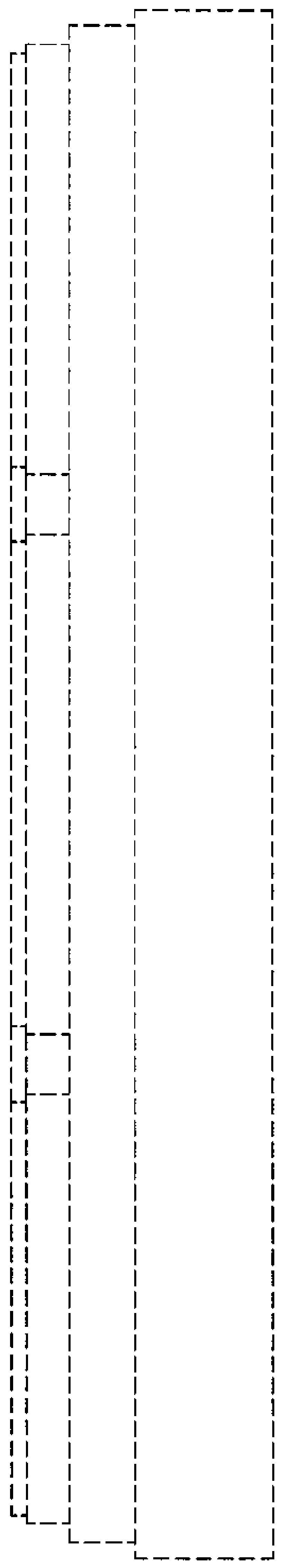

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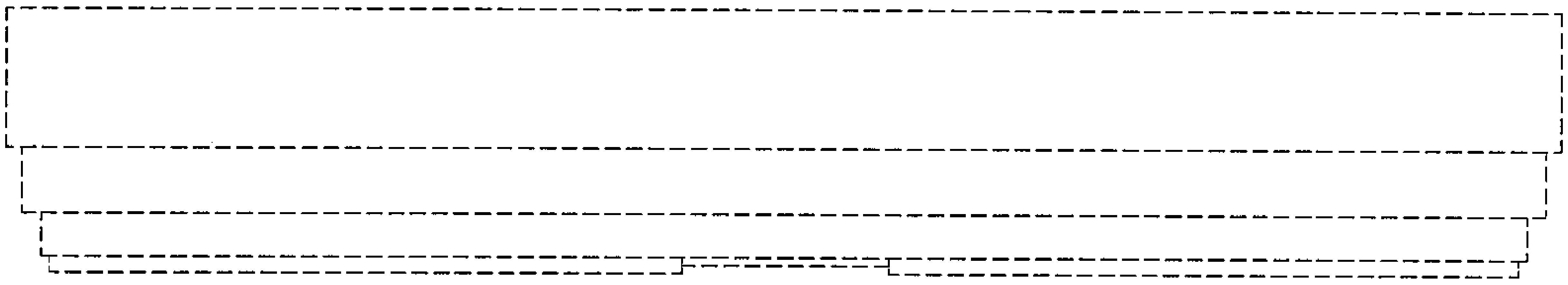

FIG. 20

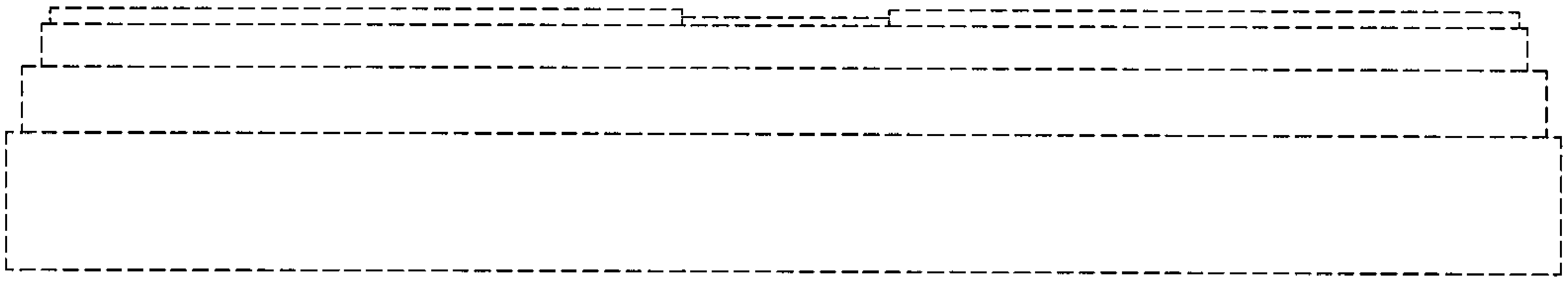

FIG. 21