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

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(54) **SEMICONDUCTOR DEVICE**

OTHER PUBLICATIONS

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ON Semiconductor, announced on Aug. 19, 2018 [online], retrieved on Aug. 8, 2020, retrieved from internet, <https://www.amazon.com/Semiconductor-LM2902N-LM2902-Quadruple-Operational/dp/B07GNRVNV4> (Year: 2018).*

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(Continued)

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

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(21) Appl. No.: **29/767,915**

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(30) **Foreign Application Priority Data**

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(51) **LOC (14) Cl.** **13-03**

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

(58) **Field of Classification Search**

USPC D13/101, 110, 112, 118, 120, 123, 133,
D13/146, 147, 159, 154, 156, 174, 182,
D13/184, 199; D14/356, 433, 435, 438
CPC H01R 24/00; H01R 12/00; H01R 12/70;
H01R 13/62
See application file for complete search history.

(57) **CLAIM**

The ornamental design for a semiconductor device, as shown and described.

DESCRIPTION

FIG. 1 is a front, top, and right side perspective view of a semiconductor device showing our new design; FIG. 2 is a rear, bottom and left side perspective view thereof; FIG. 3 is a front view thereof, the rear view being an identical image of FIG. 3; FIG. 4 is a top plan view thereof; FIG. 5 is a bottom plan view thereof; FIG. 6 is a right side view thereof; FIG. 7 is a left side view thereof; FIG. 8 is an enlarged view of the portion indicated by line 8-8 in FIG. 6; and, FIG. 9 is an enlarged view of the portion indicated by line 9-9 in FIG. 7.

The broken lines illustrate portions of the semiconductor device that form no part of the claimed design. The dash-dotted lines denote the boundary of the claim and form no part of the claimed design.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D394,244	S	*	5/1998	Majumdar	.....	D13/182
D401,912	S	*	12/1998	Majumdar	.....	D13/182
D505,399	S	*	5/2005	Yoshida	.....	D13/182
D505,400	S	*	5/2005	Kawafuji	.....	D13/182
D717,254	S	*	11/2014	Jo	.....	D13/182
D717,255	S	*	11/2014	Lim	.....	D13/182
D717,256	S	*	11/2014	Sohn	.....	D13/182

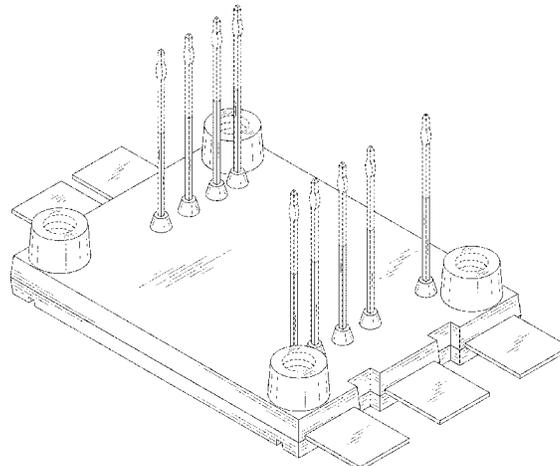
(Continued)

FOREIGN PATENT DOCUMENTS

CN	201430034780	*	11/2014
CN	201630226416	*	9/2017

(Continued)

1 Claim, 9 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D719,113 S * 12/2014 Sohn D13/182
D719,926 S * 12/2014 Sohn D13/182
D777,124 S * 1/2017 Hasegawa D13/182
D783,550 S * 4/2017 Hasegawa D13/182
D906,271 S * 12/2020 Kanda D13/182

FOREIGN PATENT DOCUMENTS

JP 2014-7263 * 1/2014
JP D1495177 S 4/2014
JP D1495182 S 4/2014
JP D1495189 S 4/2014
JP D1495701 S 4/2014
JP D1495702 S 4/2014
JP D1495703 S 4/2014
JP D1495704 S 4/2014

JP D1495705 S 4/2014
JP D2013-14732 * 6/2017
JP D2019-23880 * 7/2020
JP D2020-15954 * 8/2021
WO WO-D212528-002 * 7/2021

OTHER PUBLICATIONS

Unbranded Analog Device, announced on Nov. 26, 2018 [online],
retrieved on Aug. 8, 2022, retrieved from internet, <https://www.amazon.com/Semiconductor-LM2902N-LM2902-Quadruple-Operational/dp/B07GNRVNV4> (Year: 2018).
Rohm, announced on Jul. 20, 2021 [online], retrieved on Aug. 8,
2022, <https://web.archive.org/web/20210720165742/https://www.rohm.com/news-detail?news-title=hybrid-igbts-with-built-in-sic-diode&defaultGroupId=false> (Year: 2021).*

* cited by examiner

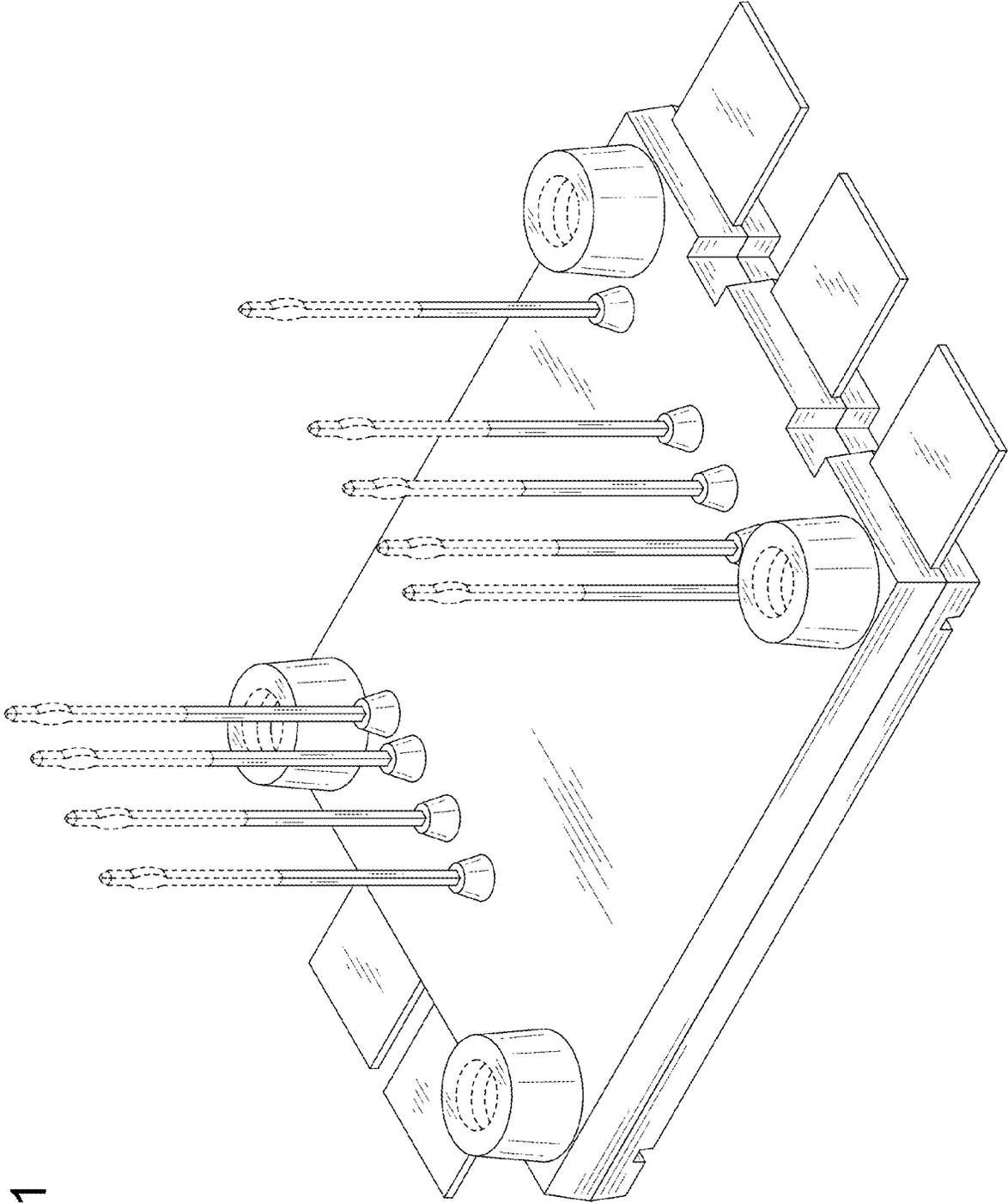


FIG.1

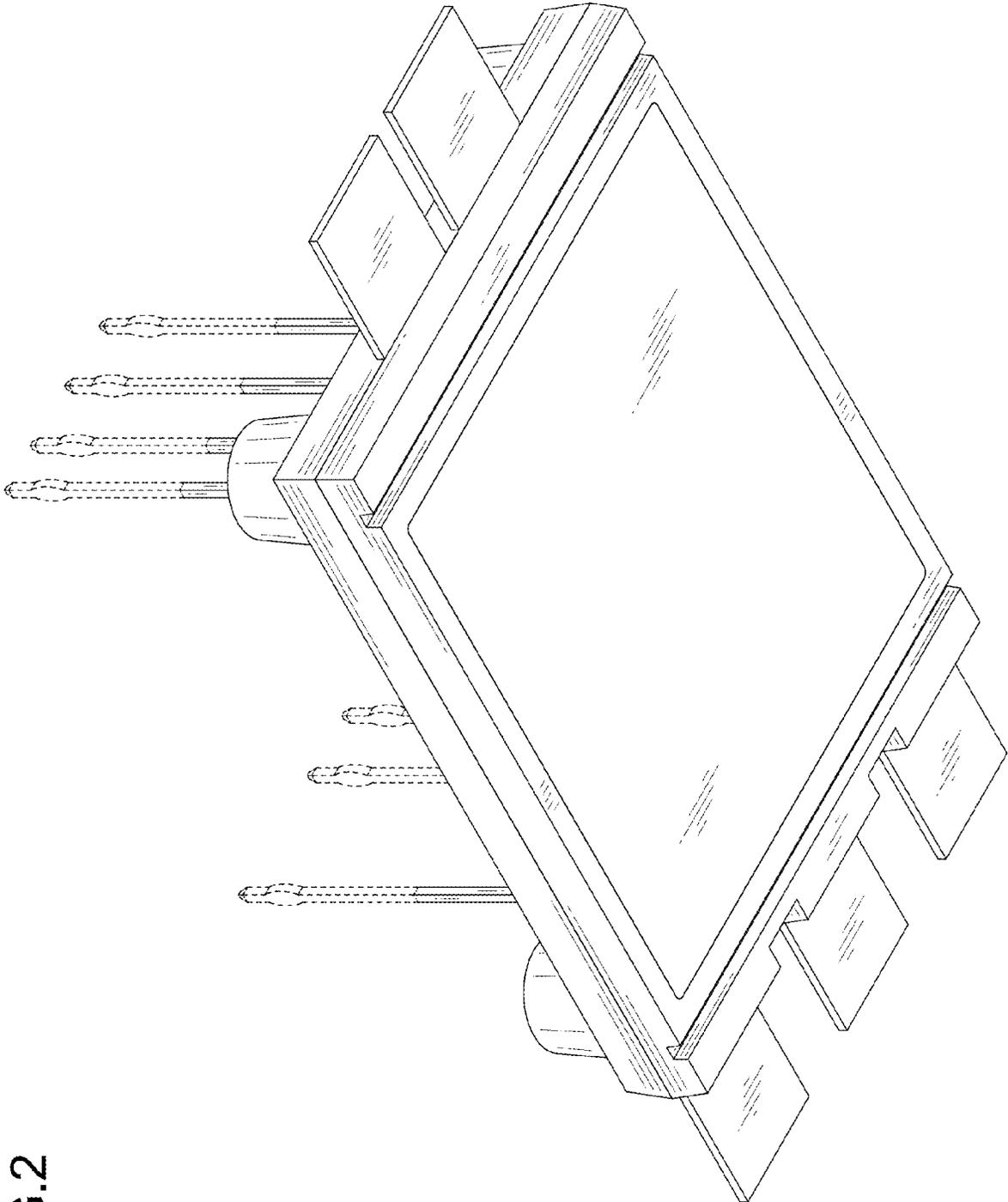


FIG.2

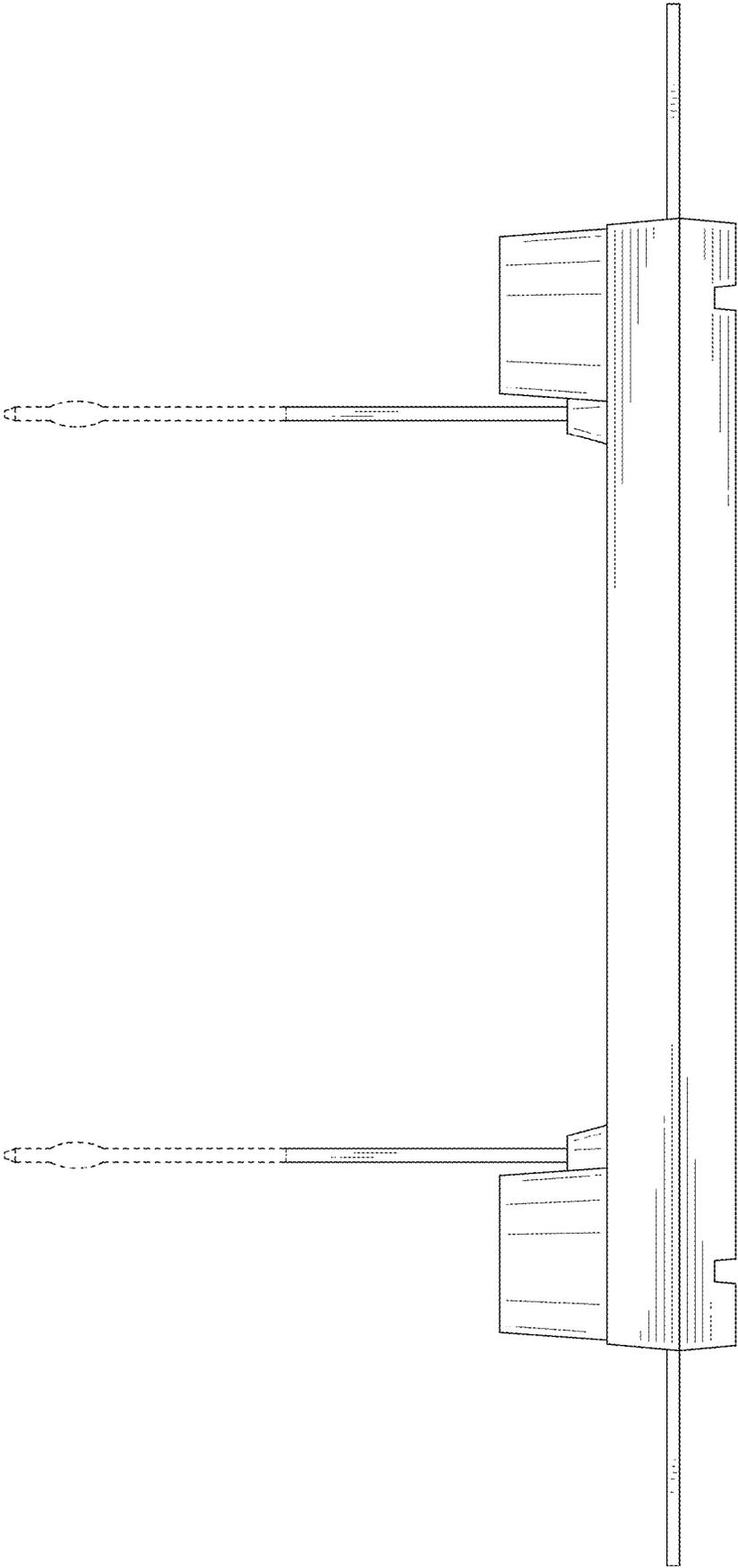


FIG.3

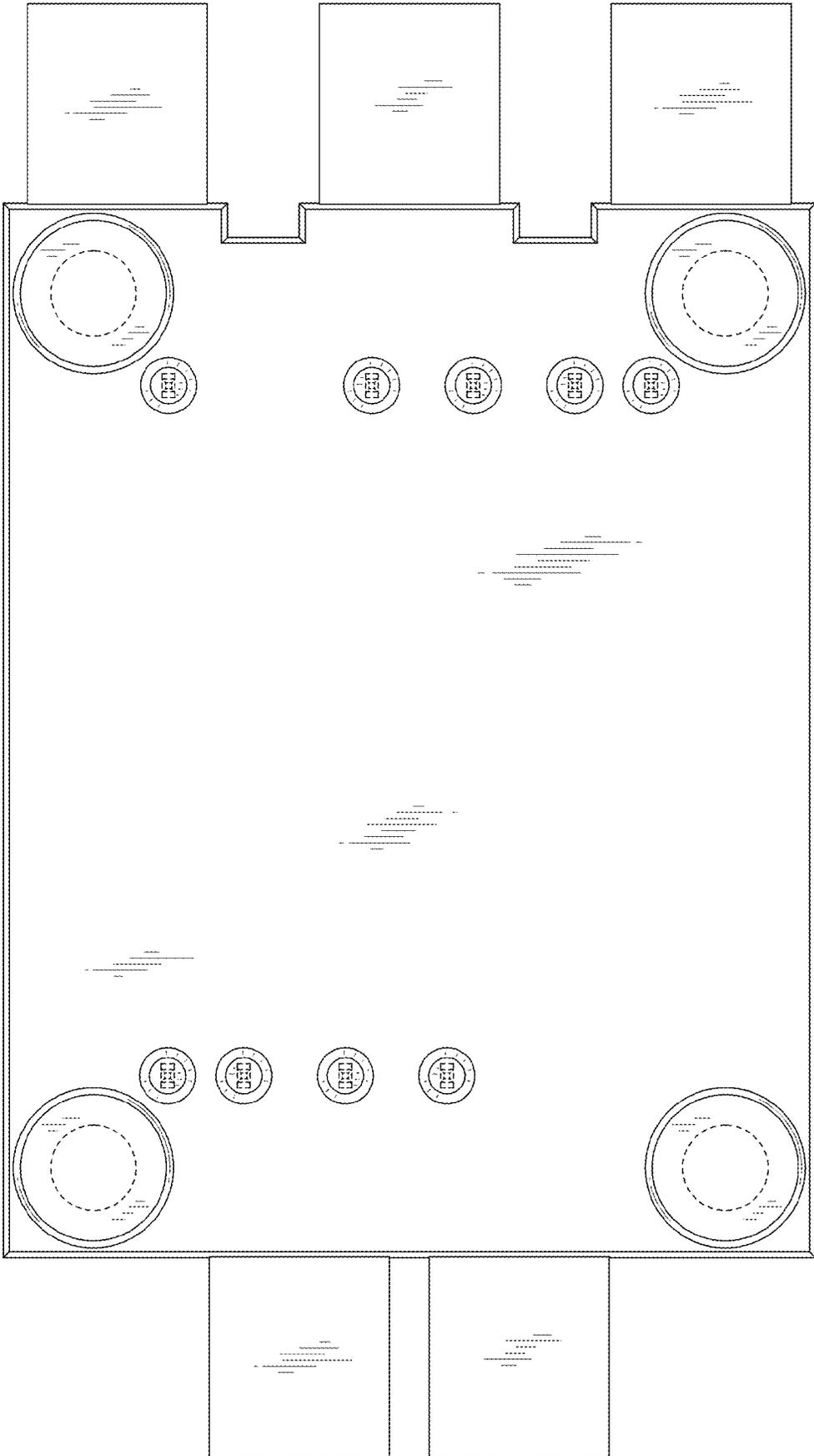


FIG.4

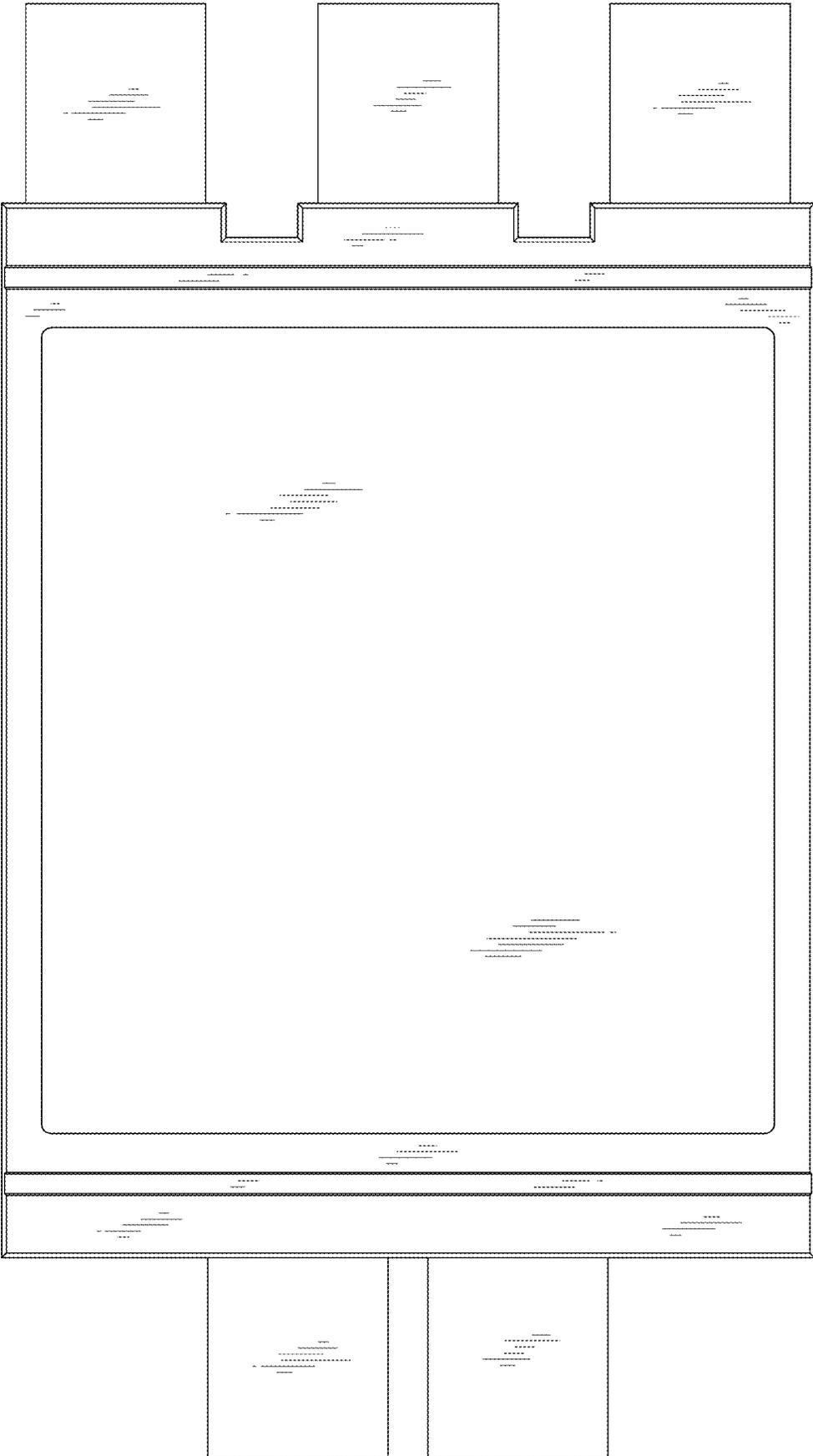


FIG. 5

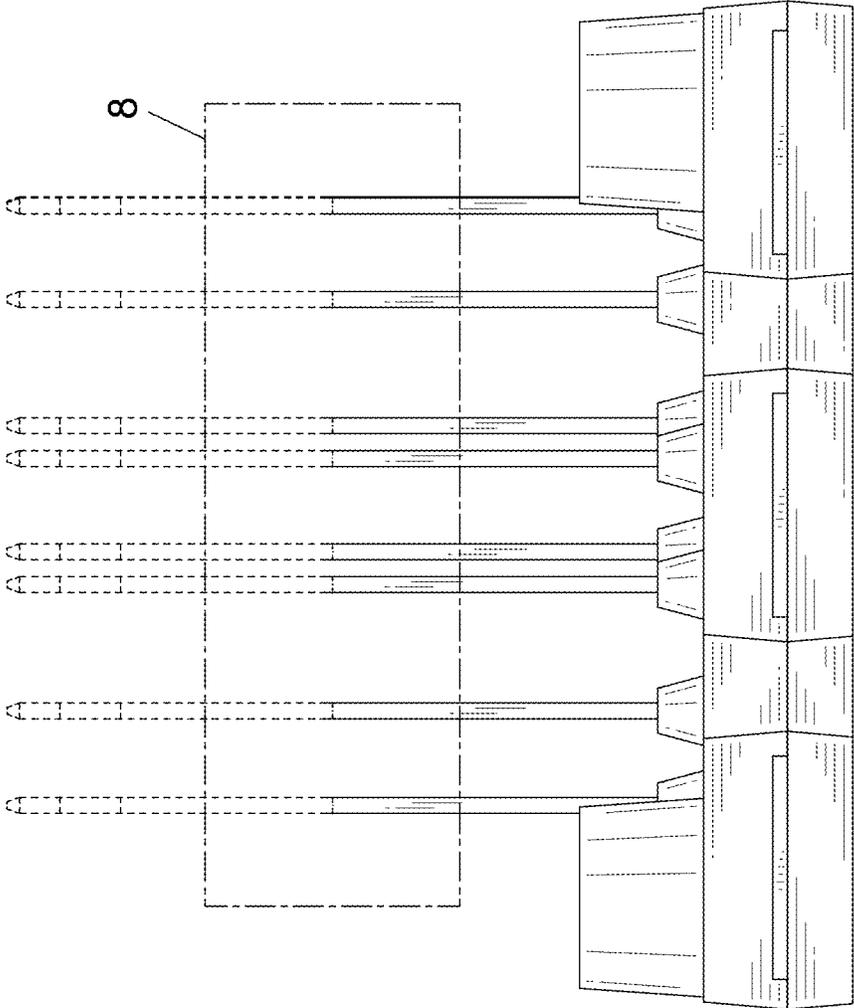


FIG.6

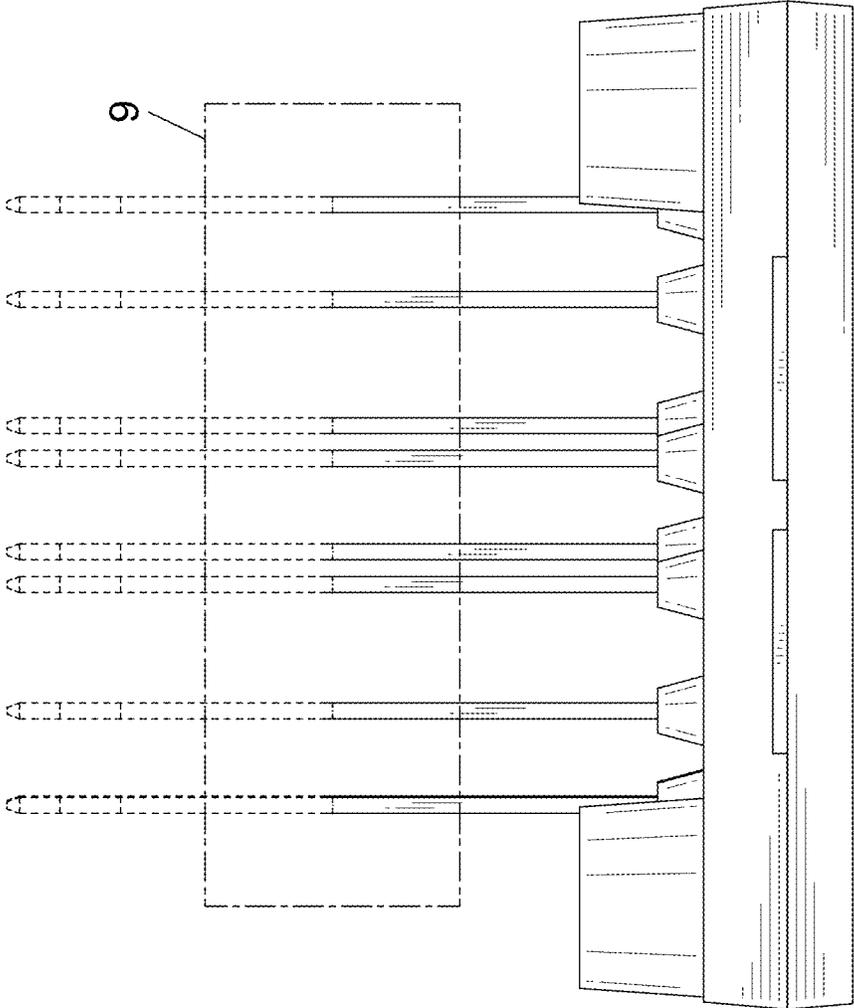


FIG.7

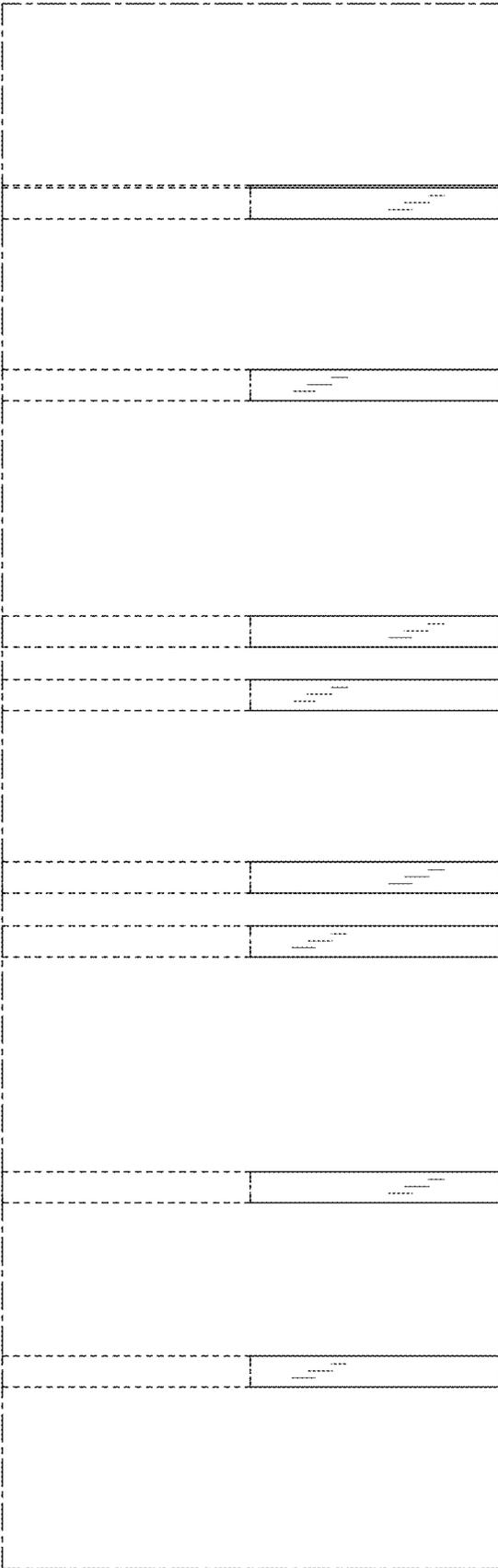


FIG. 8

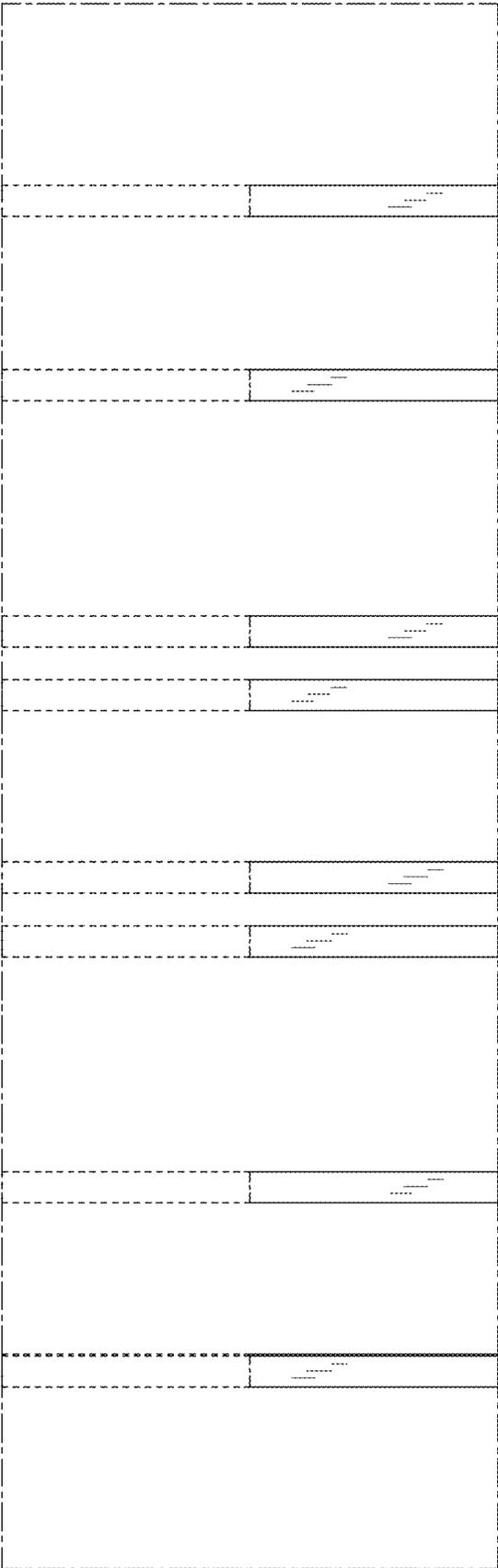


FIG.9