



US00D748595S

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

(10) **Patent No.:** **US D748,595 S**
(45) **Date of Patent:** **** Feb. 2, 2016**

(54) **POWER SEMICONDUCTOR MODULE**

(56) **References Cited**

(71) Applicant: **Infineon Technologies AG**, Neubiberg (DE)

U.S. PATENT DOCUMENTS

(72) Inventors: **Andras Bertalan**, Warstein-Allagen (DE); **Georg Borghoff**, Warstein (DE); **Alexander Hoehn**, Soest (DE)

5,408,128 A * 4/1995 Furnival H01L 23/49811
257/690
5,410,450 A * 4/1995 Iida H01L 23/49575
174/533
D364,383 S * 11/1995 Yamada D13/146
D364,384 S * 11/1995 Shimizu D13/146
D364,385 S * 11/1995 Shimizu D13/146
6,078,501 A * 6/2000 Catrambone H02M 7/003
174/50
D441,726 S * 5/2001 Sofue D13/182
D441,727 S * 5/2001 Sekimoto D13/182
6,521,983 B1 * 2/2003 Yoshimatsu H01L 25/072
257/678
D476,959 S * 7/2003 Yamada D13/182
D525,215 S * 7/2006 Hisaishi D13/182
D539,761 S * 4/2007 Takahashi D13/182
D548,202 S * 8/2007 Takahashi D13/182
D548,203 S * 8/2007 Takahashi D13/182
D587,662 S * 3/2009 Soutome D13/182
D589,012 S * 3/2009 Soyano D13/182
D606,951 S * 12/2009 Soyano D13/182

(73) Assignee: **Infineon Technologies AG**, Neubiberg (DE)

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

(21) Appl. No.: **29/516,506**

(22) Filed: **Feb. 3, 2015**

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

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

(58) **Field of Classification Search**

USPC D13/110, 182; 257/678, 684, 690, 691;
361/679.01, 713, 728, 736, 760, 761,
361/772, 775, 783, 820; 174/250, 253;
438/15, 25, 26, 51, 55, 63, 64, 106
CPC H01L 21/00; H01L 2224/042; H01L
2242/43; H01L 2021/00; H01L 2021/02;
H01L 2021/04; H01L 21/4814; H01L
21/4846; H01L 21/4871; H01L 21/67144;
H01L 23/12; H01L 23/13; H01L 23/14;
H01L 23/147; H01L 2924/171; H01L
2924/1711; H01L 2924/1715; H01L
2924/17151; H01L 2924/181; H01L
2924/1811; H01L 2924/1815; H01L
2924/19042; H01L 2924/1905; H01L
2224/08054; H01L 23/58; H05B 41/14;
H02B 6/4201; G02B 6/4256; G02B 6/4257;
G02B 6/4261; G02B 6/4262; G02B 6/428;
G02B 6/4281; H05K 1/14; H05K 1/141;
H05K 1/142; H05K 1/144; H05K 1/18;
H05K 1/181; H05K 1/182; H05K 1/026

See application file for complete search history.

(Continued)

Primary Examiner — Elizabeth J Oswecki

(74) *Attorney, Agent, or Firm* — Murphy, Bilak & Homiller, PLLC

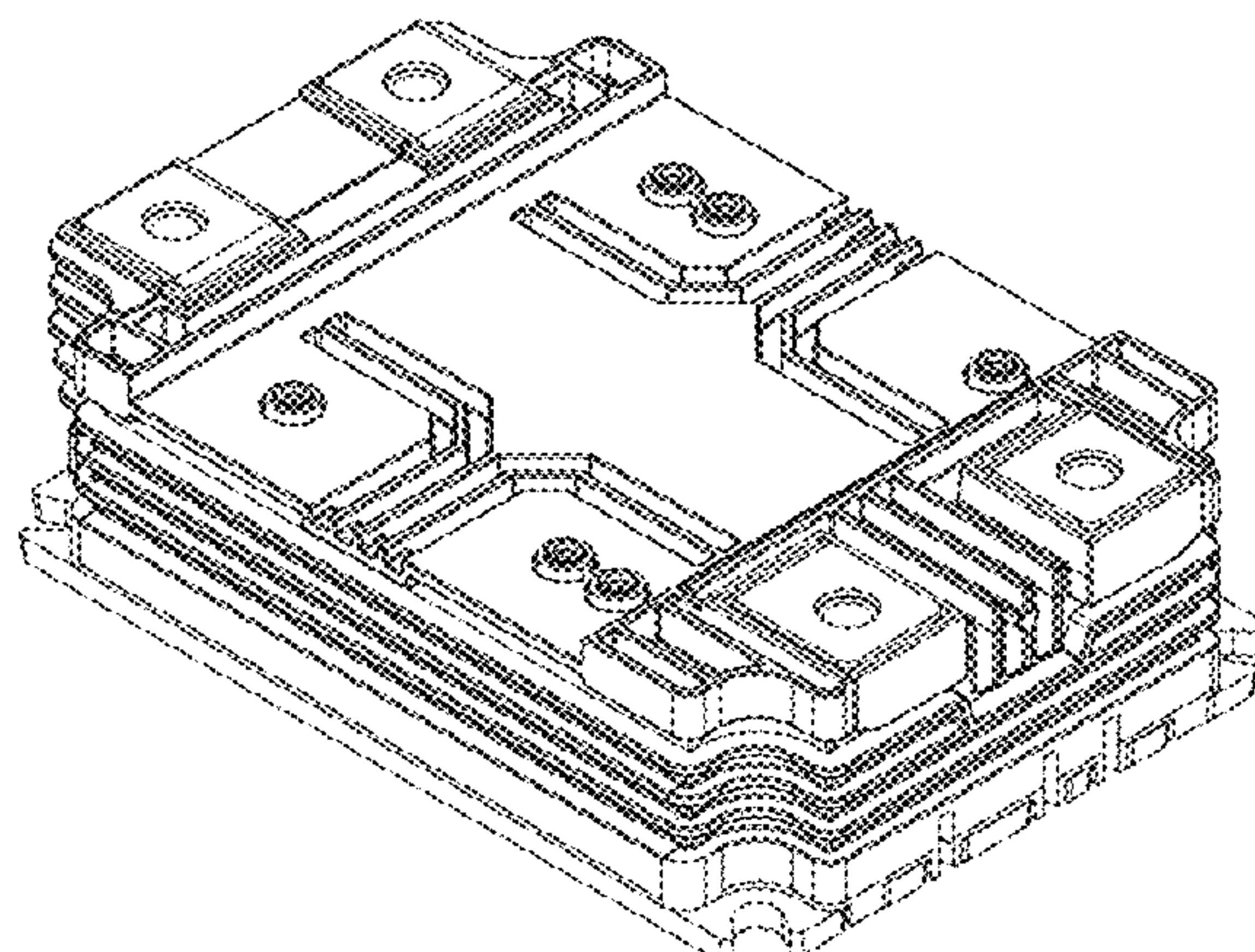
(57) **CLAIM**

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

DESCRIPTION

FIG. 1 is a top, side, perspective view of a power semiconductor module showing our new design;
FIG. 2 is another top, side, perspective view thereof;
FIG. 3 is a side elevational view thereof;
FIG. 4 is a top plan view thereof;
FIG. 5 is another side elevational view thereof;
FIG. 6 is a bottom plan view thereof; and,
FIG. 7 is another side elevational view thereof.
All surfaces not shown form no part of the claimed design.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D653,633 S * 2/2012 Soyano D13/182
D653,634 S * 2/2012 Soyano D13/182
D674,760 S * 1/2013 Mochizuki D13/182
D686,174 S * 7/2013 Soyano D13/182
D689,446 S * 9/2013 Soyano D13/180
8,526,199 B2 * 9/2013 Matsumoto H01L 23/04
361/783

D699,693 S * 2/2014 Otsuka D13/182
D703,625 S * 4/2014 Lim D13/182
D704,670 S * 5/2014 Chen D13/182
D704,671 S * 5/2014 Chen D13/182
D705,184 S * 5/2014 Takahashi D13/182
D706,232 S * 6/2014 Nakamura D13/182
D710,317 S * 8/2014 Chen D13/182
D710,318 S * 8/2014 Chen D13/182
D710,319 S * 8/2014 Chen D13/182

* cited by examiner

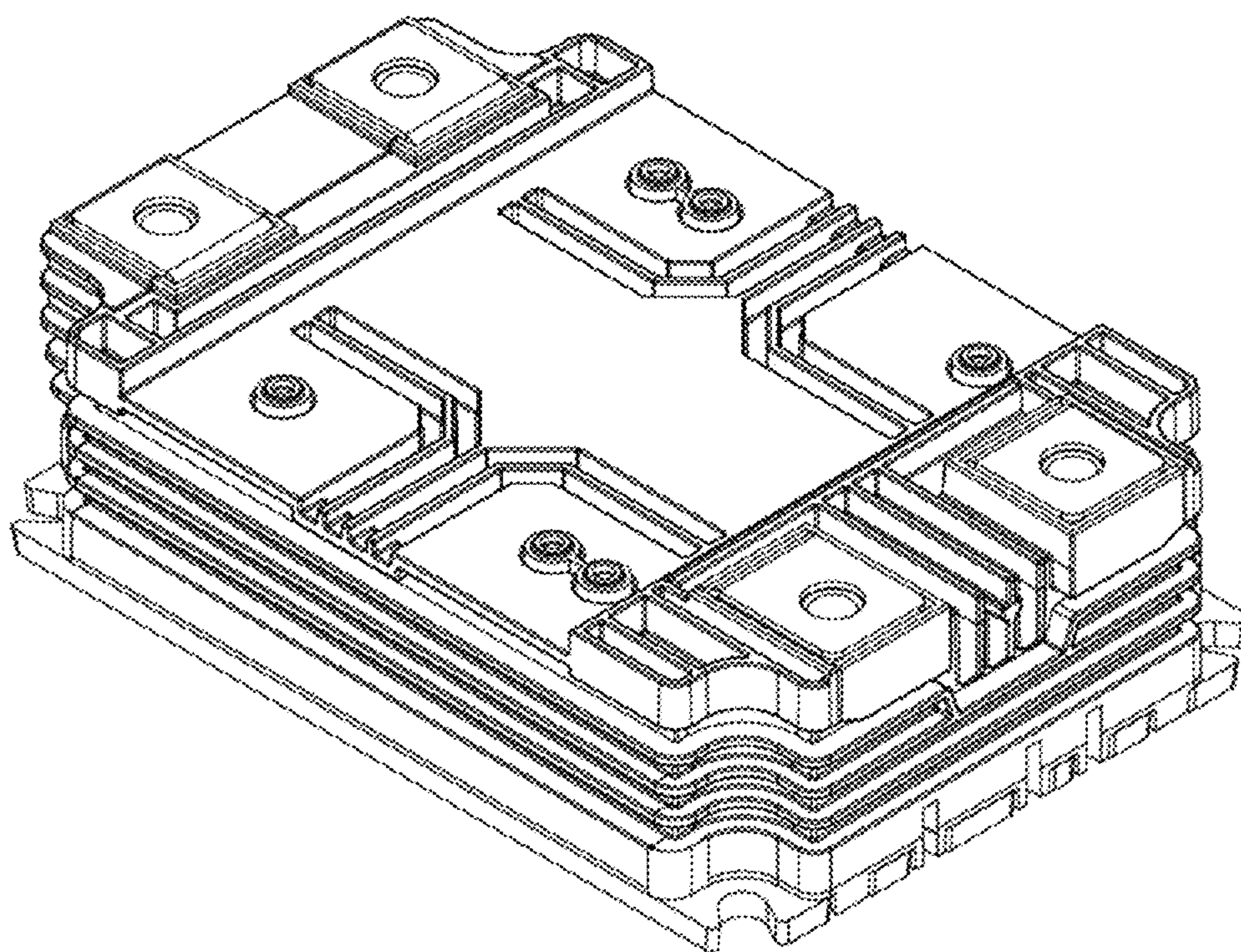


FIG. 1

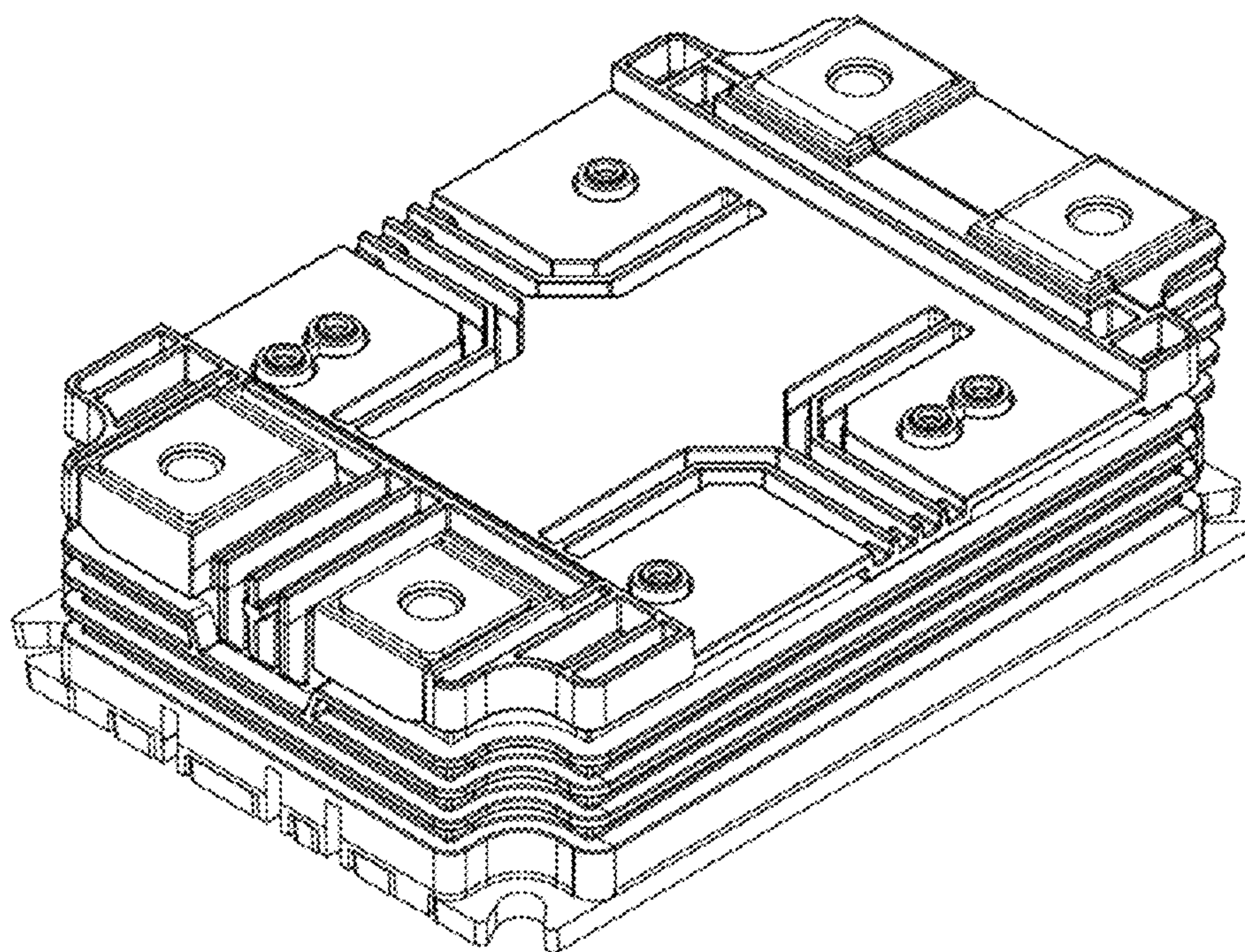


FIG. 2

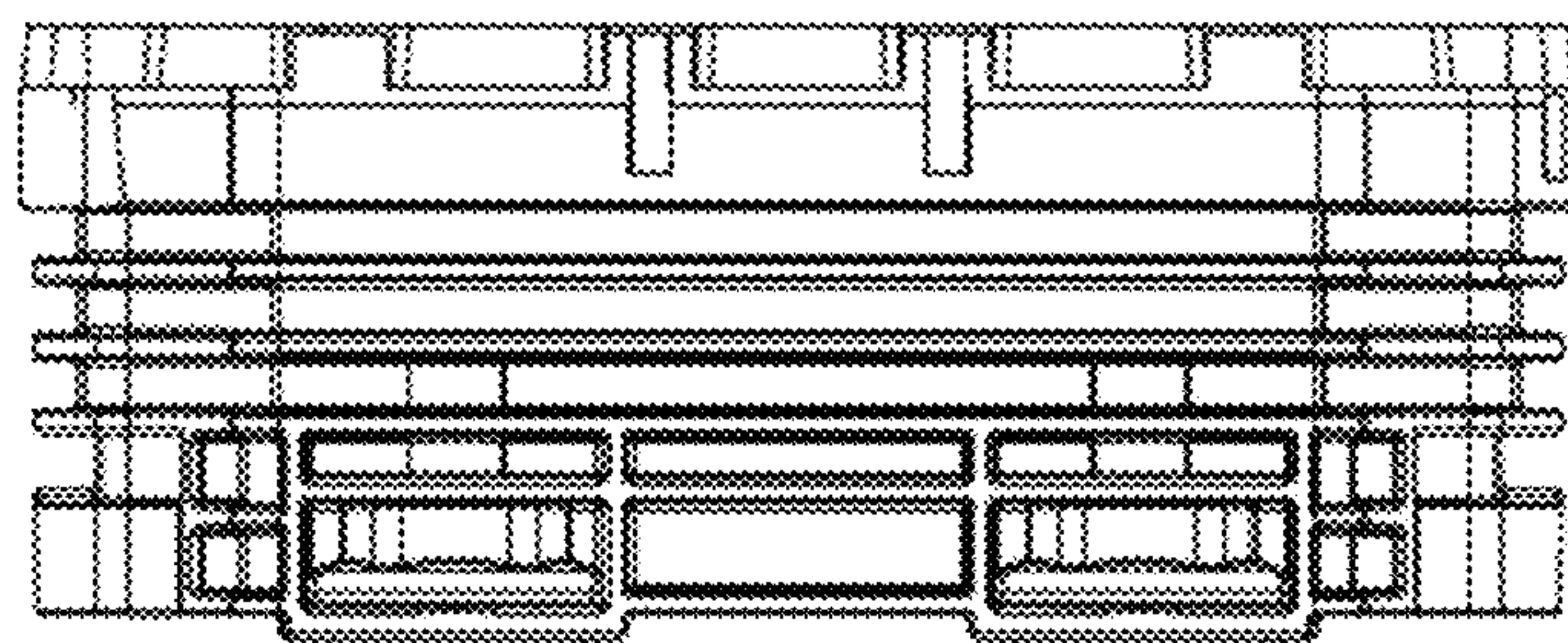


FIG. 3

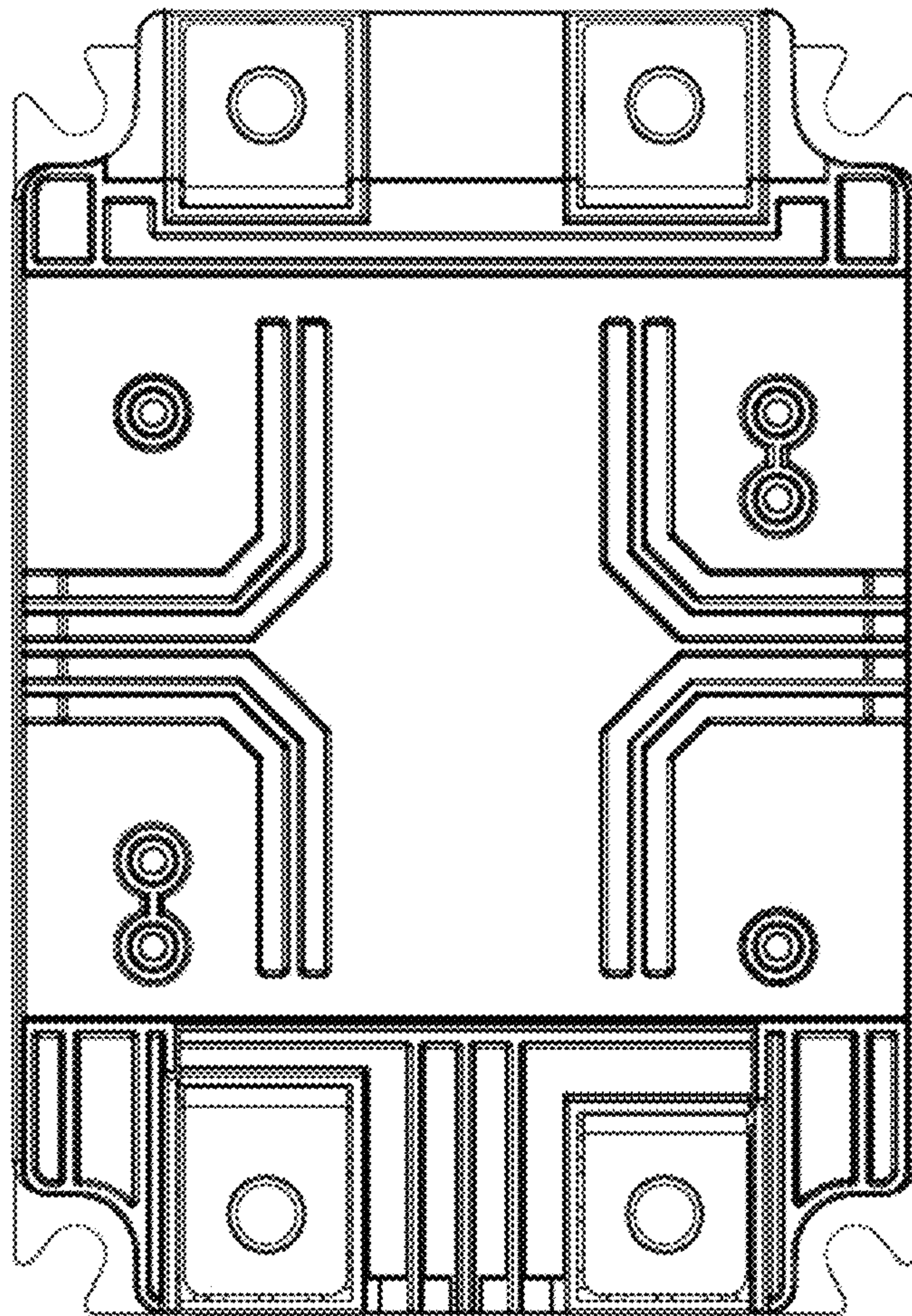


FIG. 4

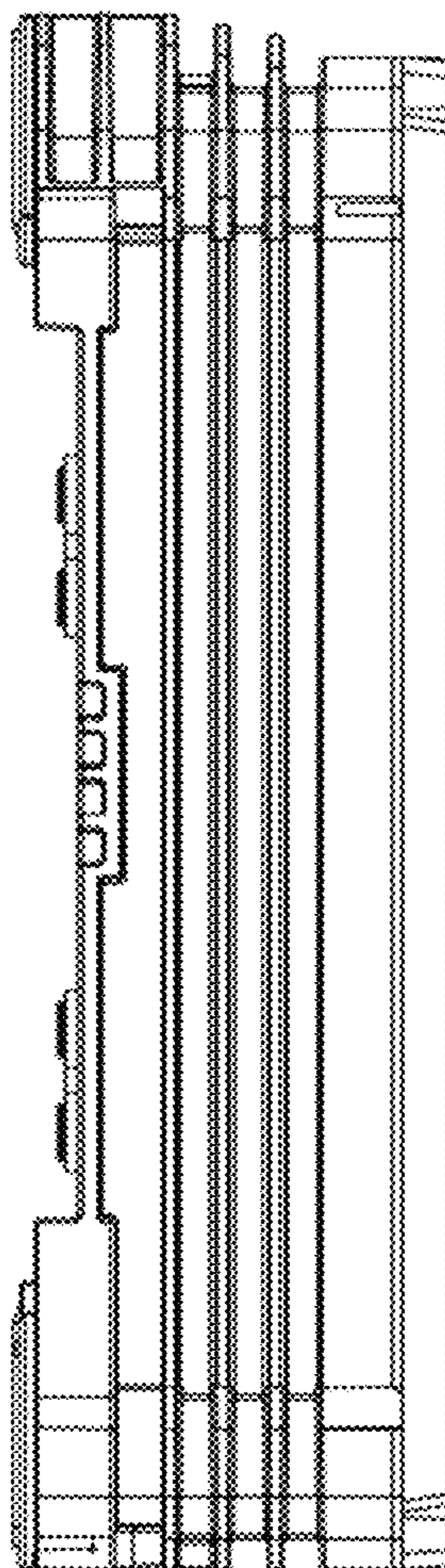


FIG. 5



FIG. 6

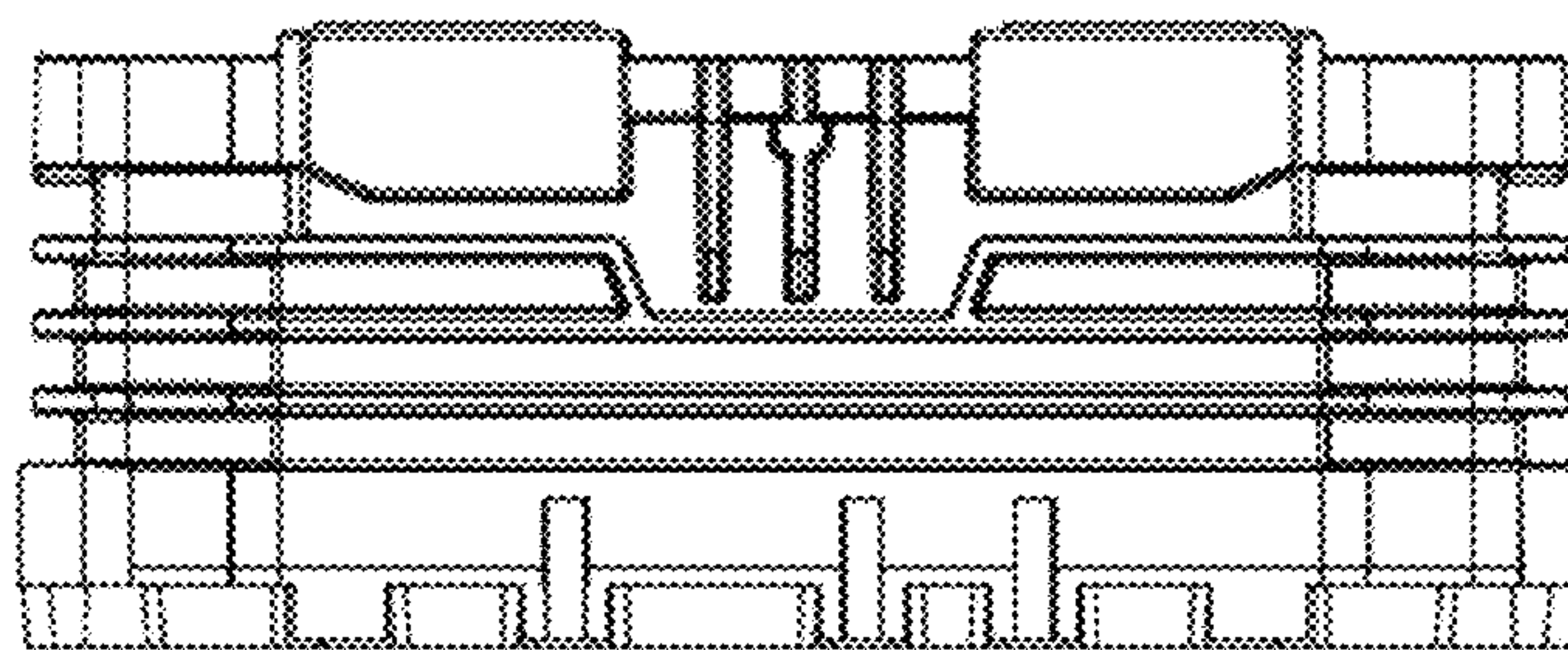


FIG. 7