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(12) **United States Design Patent** (10) **Patent No.:** **US D973,030 S**
Lee et al. (45) **Date of Patent:** **** Dec. 20, 2022**

(54) **SEMICONDUCTOR DEVICE**
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(**) Term: **15 Years**

D851,612 S * 6/2019 Wang D13/182
10,557,191 B2 * 2/2020 Nishida H01L 51/56
10,600,744 B2 * 3/2020 Chikamatsu H01L 21/565
10,605,828 B2 * 3/2020 Kung G01R 31/2865
10,651,050 B2 * 5/2020 Nakano H01L 21/6835
10,672,878 B2 * 6/2020 Ohoka H01L 29/417
D916,039 S * 4/2021 Yamanaka D13/182
(Continued)

FOREIGN PATENT DOCUMENTS

GB 8207767000-1000 * 4/2020
JP D1684023 * 4/2021
(Continued)

OTHER PUBLICATIONS

J-Quad, Announced on Apr. 12, 2018 [online], retrieved on Sep. 9, 2022, retrieved from online, https://www.amazon.com/dp/B07C55B8LB/ref=emc_b_5_t (Year: 2018).*
(Continued)

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(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.

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(57) **CLAIM**

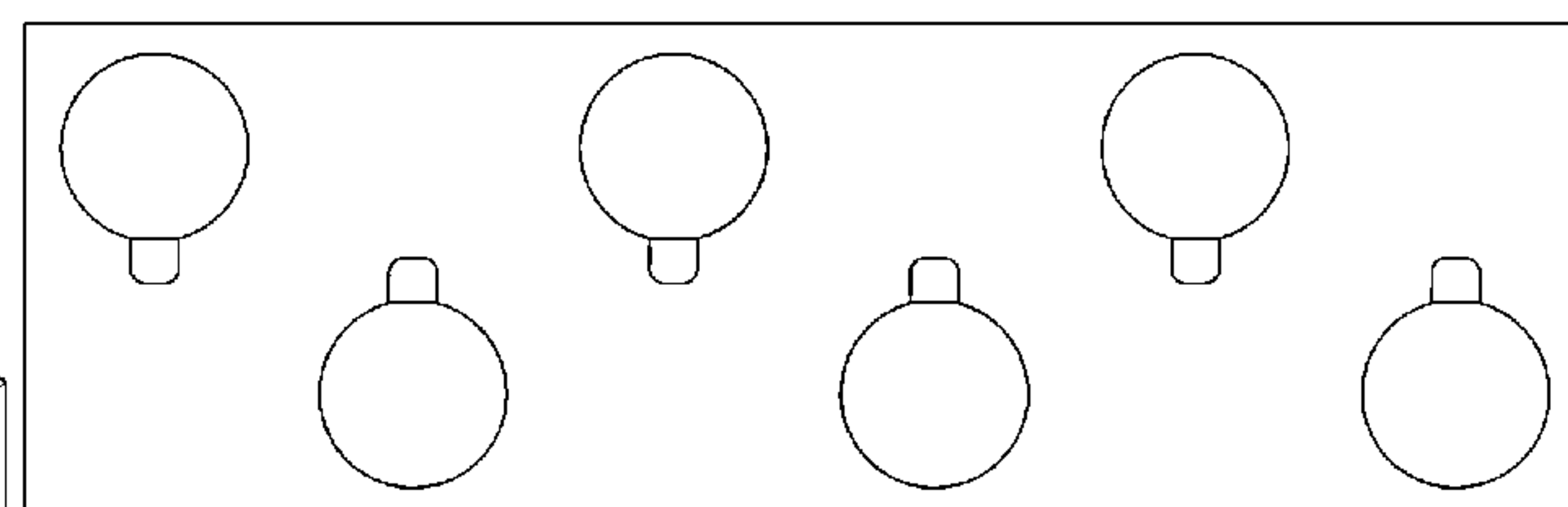
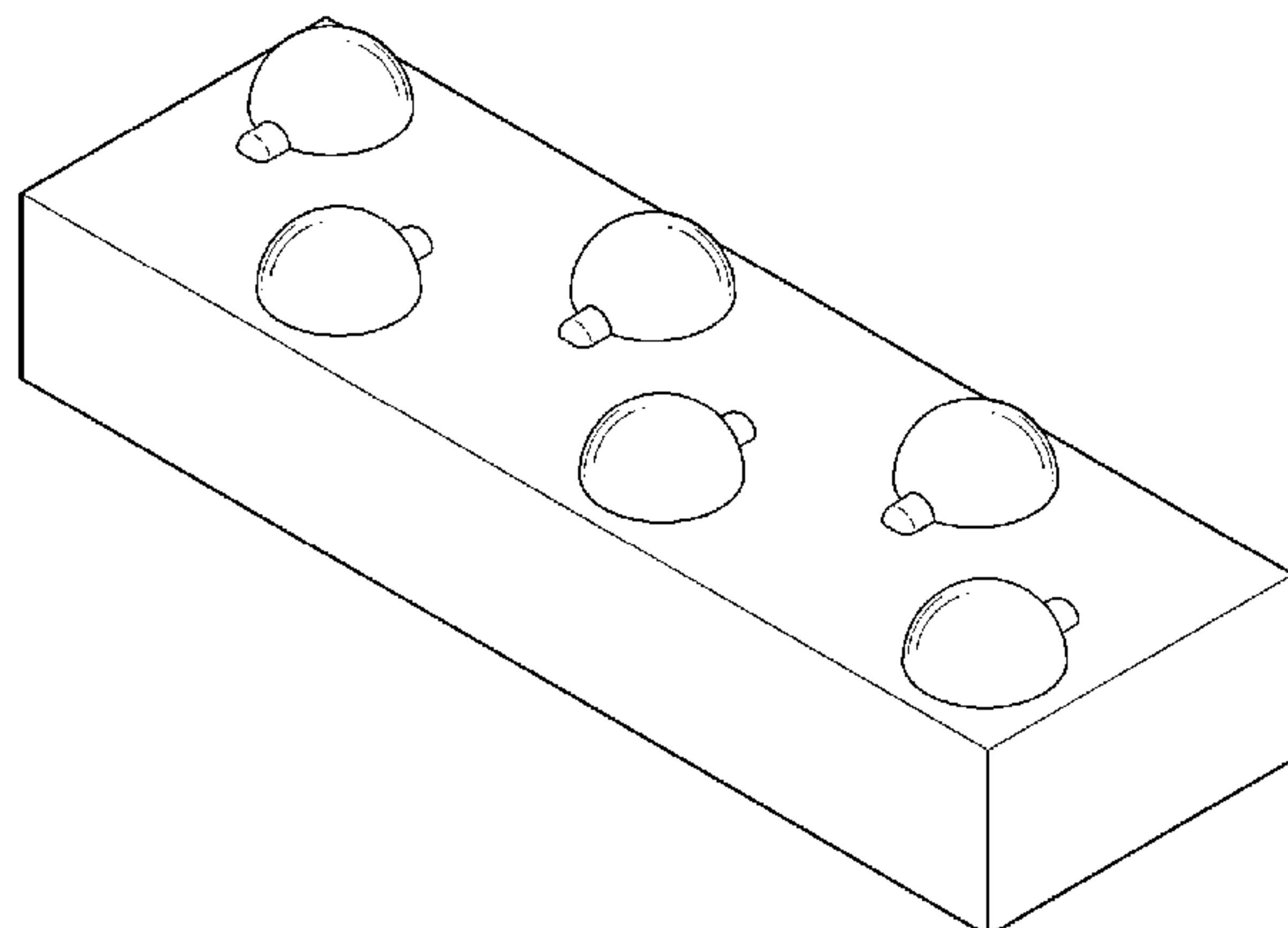
The ornamental design for a semiconductor device, as shown and described.

DESCRIPTION

FIG. 1 is a front, top, and right-side perspective view of a semiconductor device showing our new design;
FIG. 2 is a front view thereof;
FIG. 3 is a back view thereof;
FIG. 4 is a left-side view thereof;
FIG. 5 is a right-side view thereof;
FIG. 6 is a top view thereof; and,
FIG. 7 is a bottom view thereof.

1 Claim, 2 Drawing Sheets

(56) **References Cited**
U.S. PATENT DOCUMENTS
D523,403 S * 6/2006 Mizukoshi D13/182
D648,290 S * 11/2011 Mori D13/182
D704,670 S * 5/2014 Chen D13/182
D704,671 S * 5/2014 Chen 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
D827,591 S * 9/2018 Ikeda D13/182



(56)

References Cited

U.S. PATENT DOCUMENTS

D933,618 S * 10/2021 Shirata D13/182
D949,807 S * 4/2022 Wada D13/182
2008/0061415 A1* 3/2008 Morishita H01L 25/03
257/E21.705

FOREIGN PATENT DOCUMENTS

JP D1712327 * 4/2022
KR 301145173.0000 * 1/2022
KR 301145174.0000 * 1/2022

OTHER PUBLICATIONS

Dongwoon, Announced on May 23, 2020 [online], retrieved on Sep. 9, 2022, retrieved from online, https://web.archive.org/web/20200523183258/https://www.immersion.com/use_cases/dongwoon-haptic-ic/ (Year: 2020).*

Audio Xpress, Announced on May 28, 2020 [online], retrieved on Sep. 9, 2022, retrieved from online, <https://audioxpress.com/news/cirrus-logic-launches-advanced-haptic-and-sensing-ic-solutions-for-richer-immersive-user-experiences> (Year: 2020).*

* cited by examiner

FIG. 1

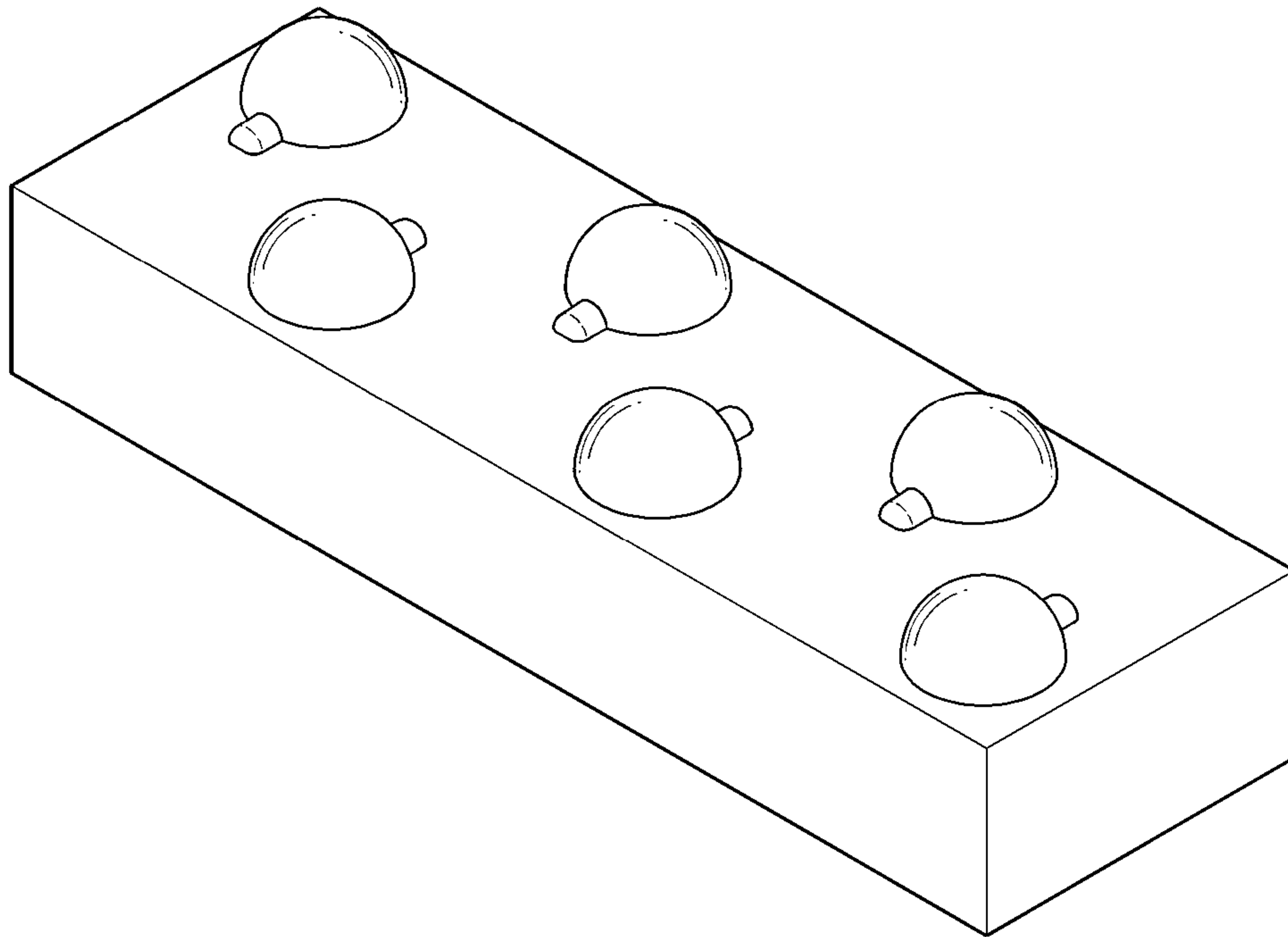


FIG. 2

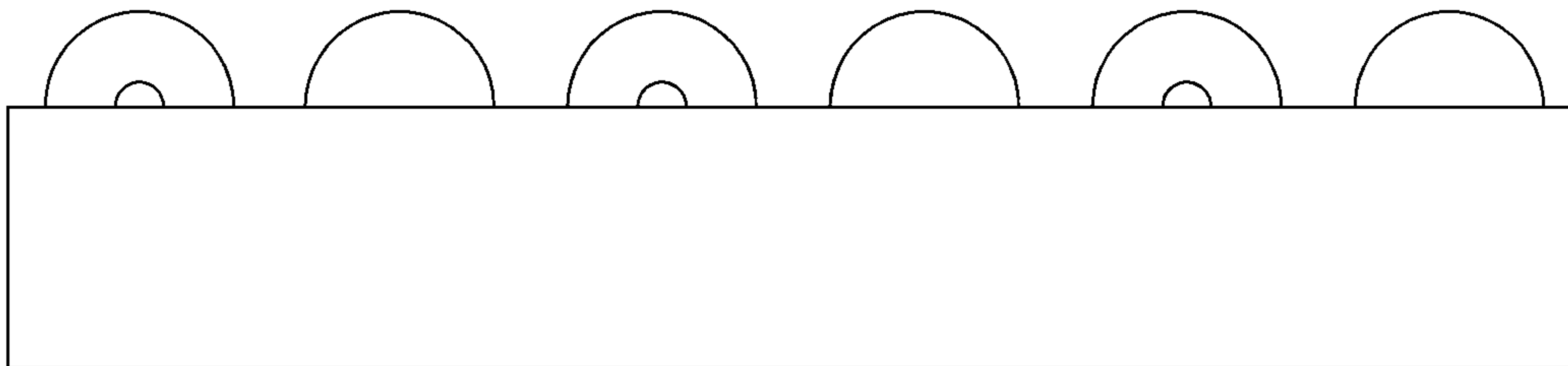


FIG. 3

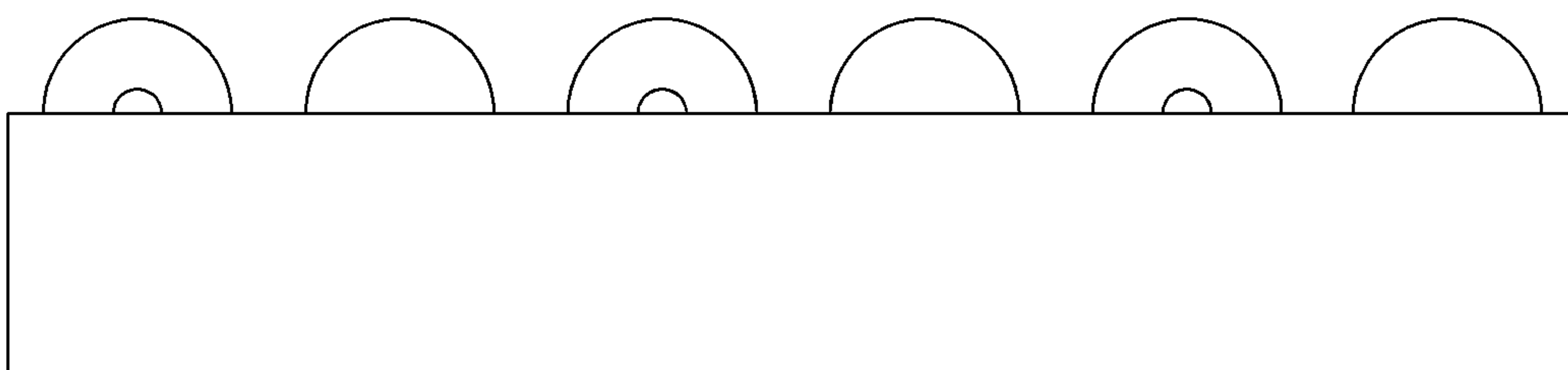


FIG. 4

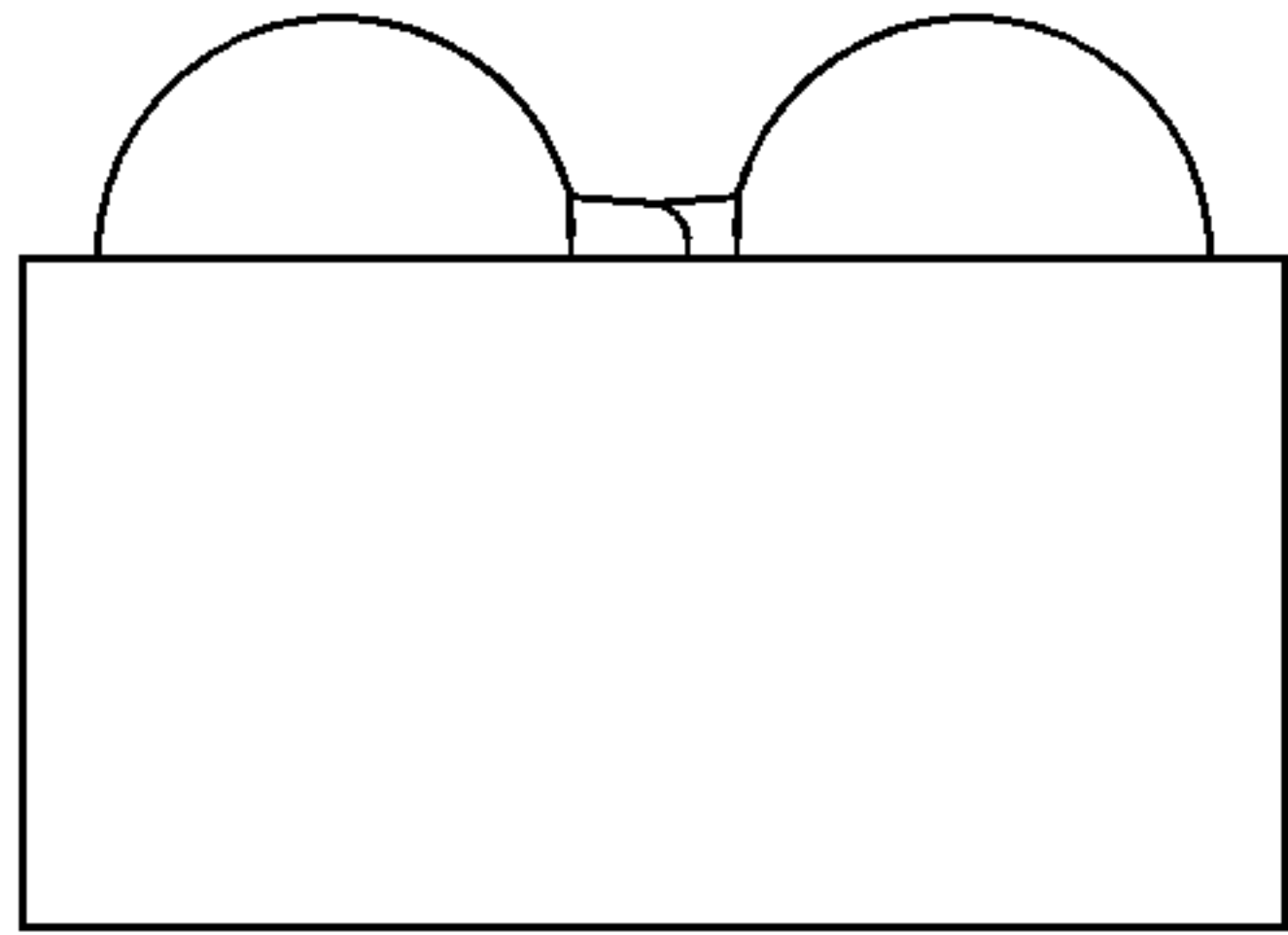


FIG. 5

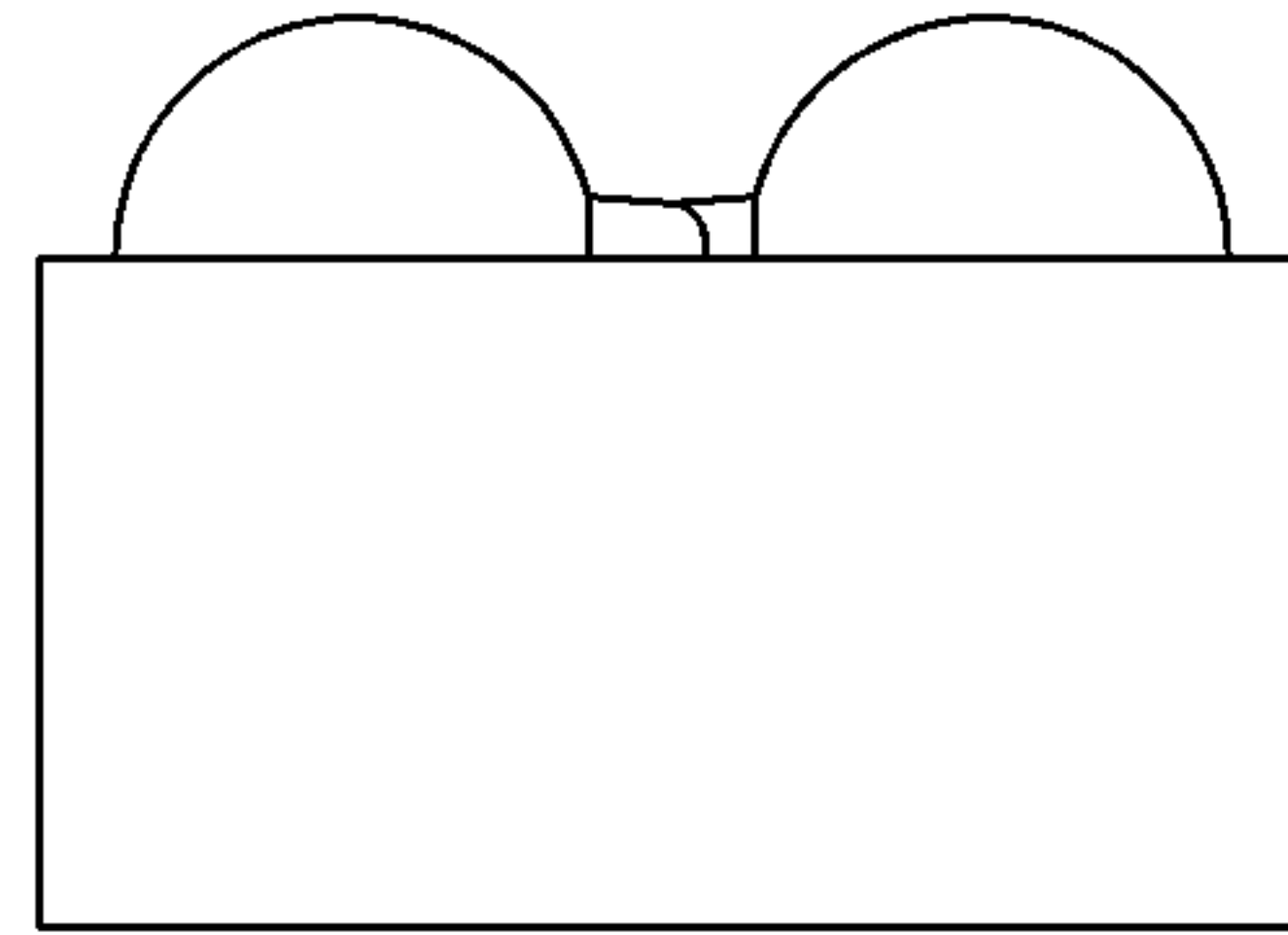


FIG. 6

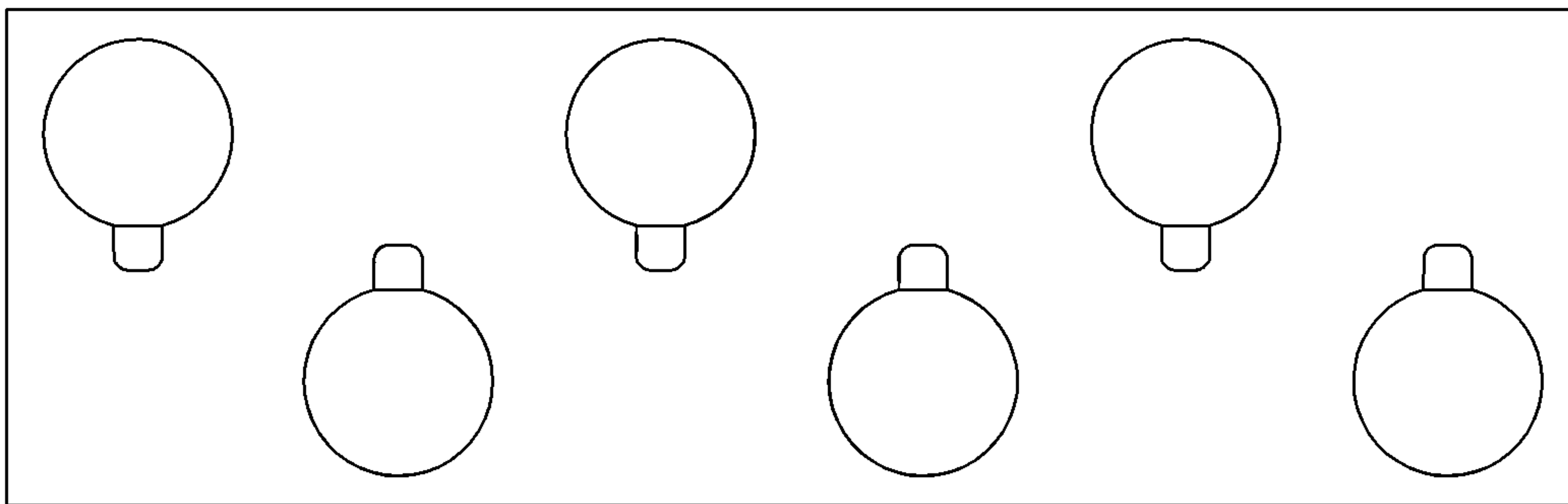


FIG. 7

