



US00D924937S

(12) **United States Design Patent** (10) **Patent No.:** **US D924,937 S**
Lörner (45) **Date of Patent:** **** Jul. 13, 2021**

(54) **HYDRAULIC PUMP**
(71) Applicant: **HAWE Hydraulik SE**, Aschheim (DE)
(72) Inventor: **Gerhard Lörner**, Zorneding (DE)
(73) Assignee: **HAWE Hydraulik SE**, Aschheim (DE)
(**) Term: **15 Years**

5,555,789 A * 9/1996 Rosengren F15B 15/082
384/57
D408,420 S * 4/1999 Buter D15/7
D428,617 S * 7/2000 Hariwara D15/7
6,089,111 A * 7/2000 Machijima G01D 11/30
73/866.5
6,592,336 B1 * 7/2003 Hirano F04B 17/03
417/201
D479,246 S * 9/2003 Leu D15/7
D480,405 S * 10/2003 Kleffmann D15/143
(Continued)

(21) Appl. No.: **29/722,190**

(22) Filed: **Jan. 27, 2020**

(30) **Foreign Application Priority Data**

Jul. 29, 2019 (EM) 006 653 234-0009

(51) **LOC (13) Cl.** **15-02**

(52) **U.S. Cl.**
USPC **D15/7**

(58) **Field of Classification Search**
USPC D15/7, 9, 143, 148–149, 199; D23/225,
D23/231–233, 235; D10/85
CPC F15B 15/16; F15B 15/26; F15B 15/1414;
F15B 15/1919; F15B 15/14; F15B 15/00;
F15B 15/08; F15B 15/18; F15B 15/20;
F02M 37/04; F04D 29/4286

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D194,516 S * 2/1963 Cordis D15/7
3,360,930 A * 1/1968 Haag F15B 15/18
60/402
D244,681 S * 6/1977 Bell D15/7
4,597,717 A * 7/1986 Mohr F04B 23/06
417/265
D295,753 S * 5/1988 LaBair D15/7
5,013,198 A * 5/1991 Schultz F04B 23/06
417/287
D335,291 S * 5/1993 Schnell D15/7
D370,683 S * 6/1996 Stahlman D15/7

OTHER PUBLICATIONS

KAWE Hydraulik, Compact hydraulic power pack type KA2 and KAW2, (published Sep. 2017), HAWE Hydraulik SE, D 8010—KA, KAW—09-2017-1.1, p. 1/70 (Year: 2017).*

(Continued)

Primary Examiner — Sheryl Lane

Assistant Examiner — Mark T. Philipps

(74) *Attorney, Agent, or Firm* — Aslan Law, P.C.

(57) **CLAIM**

The ornamental design for a hydraulic pump, as shown and described.

DESCRIPTION

FIG. 1 is a first perspective view of a hydraulic pump showing my new design;

FIG. 2 is a front side view thereof;

FIG. 3 is a top view thereof;

FIG. 4 is a left side view thereof;

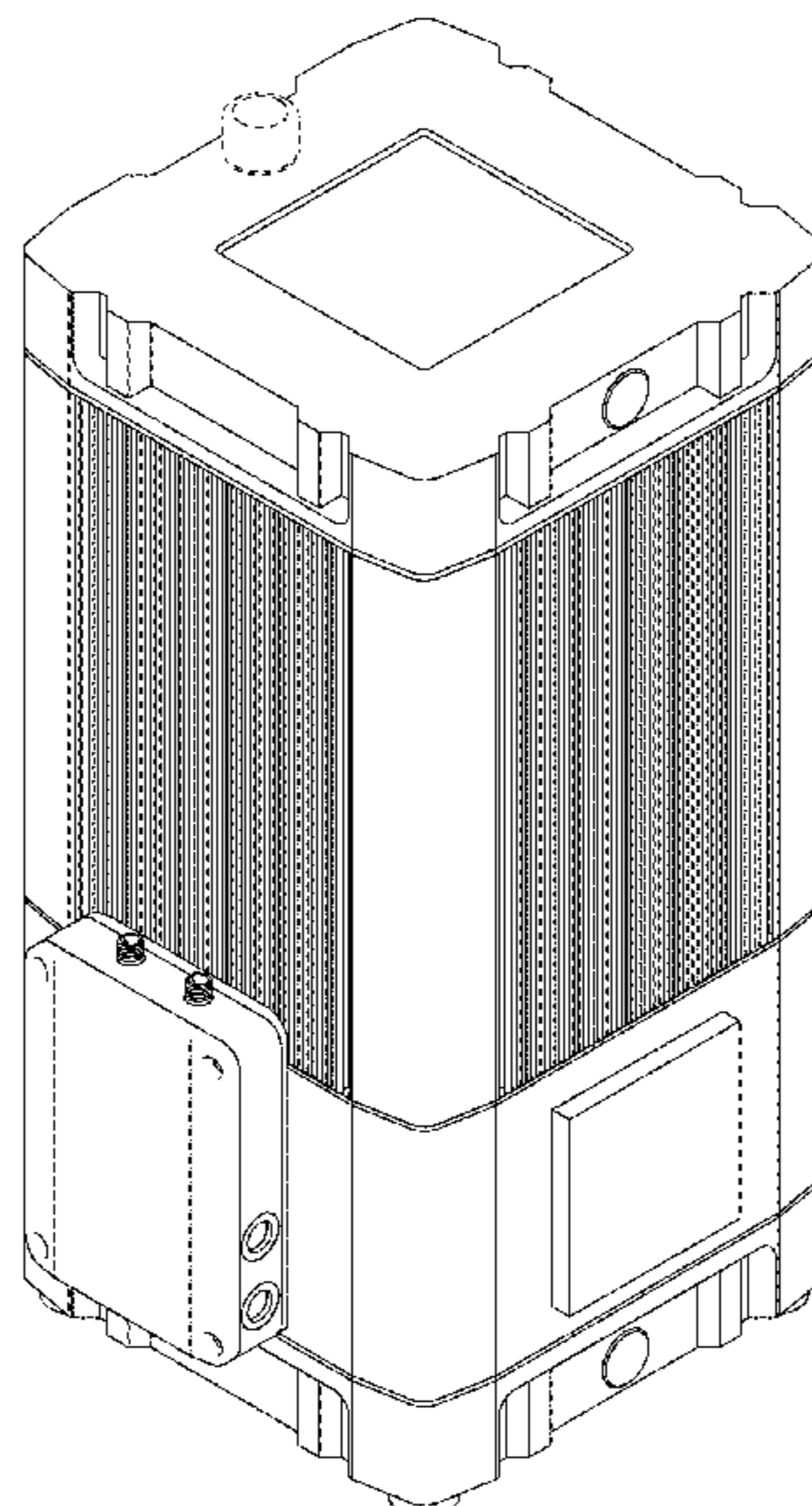
FIG. 5 is a right side view thereof;

FIG. 6 is a bottom view thereof; and,

FIG. 7 is a rear view thereof.

The broken (dashed) lines shown in the figures are included for the purpose of illustrating portions of the hydraulic pump which form no part of the claimed design.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

6,828,782 B2 * 12/2004 Nagai F15B 15/2807
 324/207.24
 D516,583 S * 3/2006 Strong D15/7
 D685,403 S * 7/2013 Mangold D15/143
 8,863,645 B2 * 10/2014 Andersen F15B 15/082
 92/88
 9,212,655 B2 * 12/2015 Neumair F04B 1/08
 D760,805 S * 7/2016 Monden D15/7
 9,493,329 B2 * 11/2016 Lemke F15B 13/0892
 D805,560 S * 12/2017 Kudo D15/7
 D819,700 S * 6/2018 Kudo D15/7
 D871,457 S * 12/2019 Ikari D15/7
 D888,770 S * 6/2020 Mizutani D15/7
 D888,771 S * 6/2020 Mizutani D15/7
 D888,774 S * 6/2020 Asahara D15/7
 D903,717 S * 12/2020 Schaefer D15/7
 2003/0070428 A1 * 4/2003 Heusser F15B 20/00
 60/468
 2005/0091972 A1 * 5/2005 Redman F15B 15/088
 60/413

2006/0228235 A1 * 10/2006 Neumair F04B 23/025
 417/410.1
 2008/0010984 A1 * 1/2008 Arbel F04B 1/1071
 60/476
 2011/0126703 A1 * 6/2011 Terasaki F15B 15/2892
 92/5 R
 2019/0226504 A1 * 7/2019 Richter F15B 15/18
 2020/0300276 A1 * 9/2020 Tamura F15B 15/14
 2020/0347847 A1 * 11/2020 Simon F04C 29/0085

OTHER PUBLICATIONS

Design World Online, HAWE hydraulics compact power units, (site visited Dec. 11, 2020), Design World Online website, URL:<<https://www.designworldonline.com/hawe-hydraulics-compact-power-units/>> (Year: 2020).*

Design Engineering, Allied Motion looks to OEMs with its Integrated Drive Electronics, Published Jul. 3, 2018), Design-Engineering.com, URL:<<https://www.design-engineering.com/products/electrohydraulic-pump-drive-motor/>> (Year: 2018).*

* cited by examiner

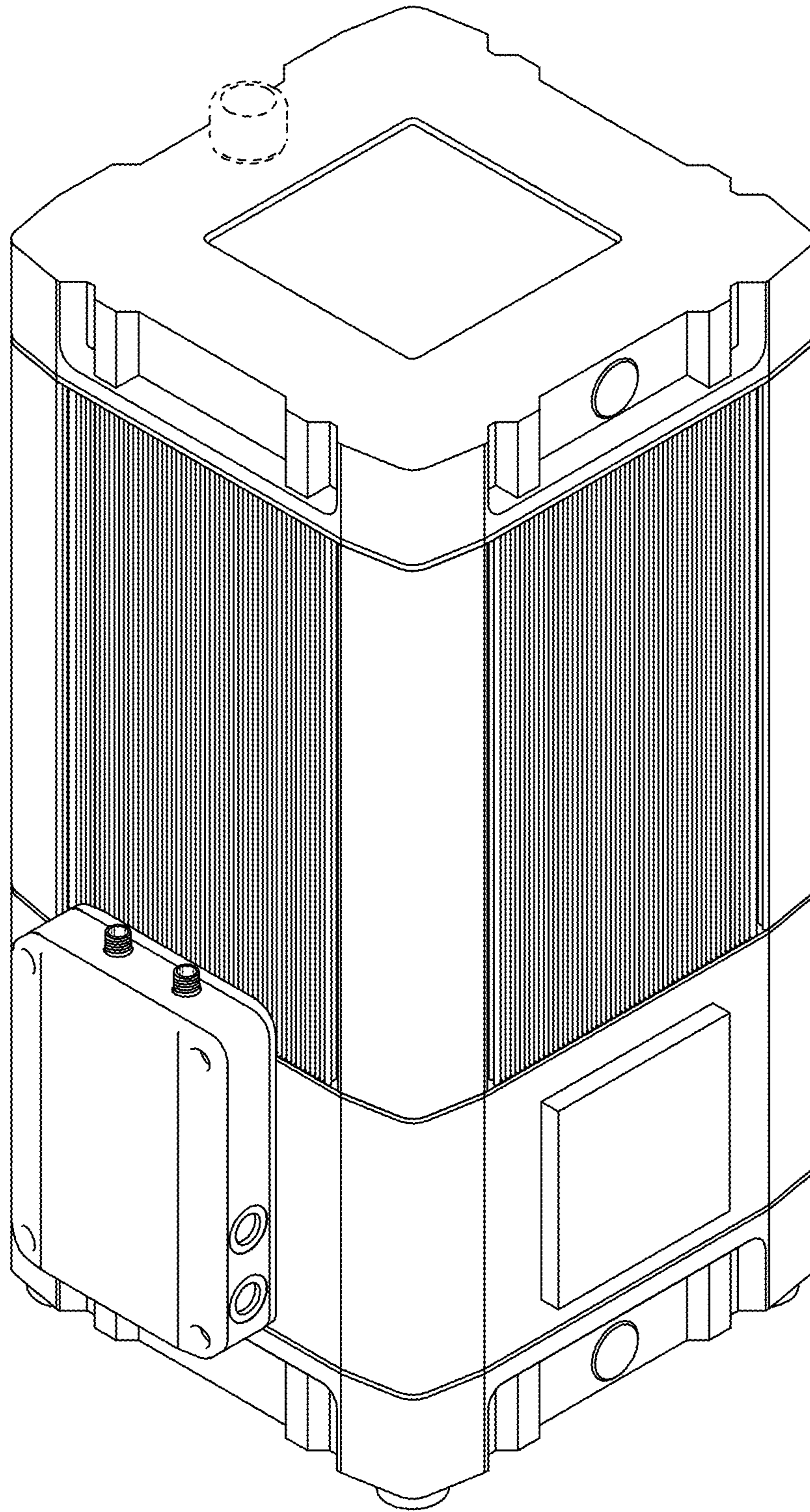


FIG. 1

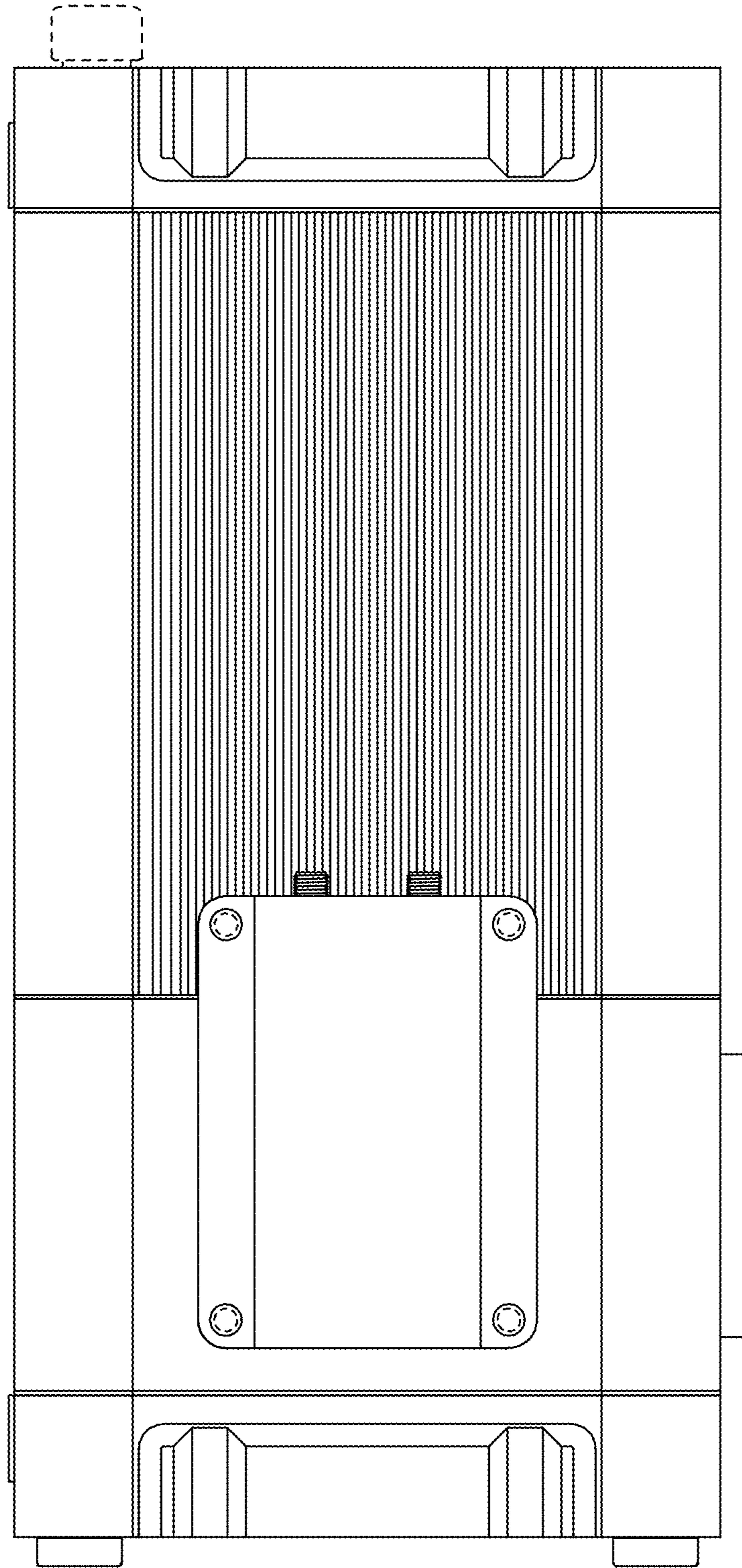


FIG. 2

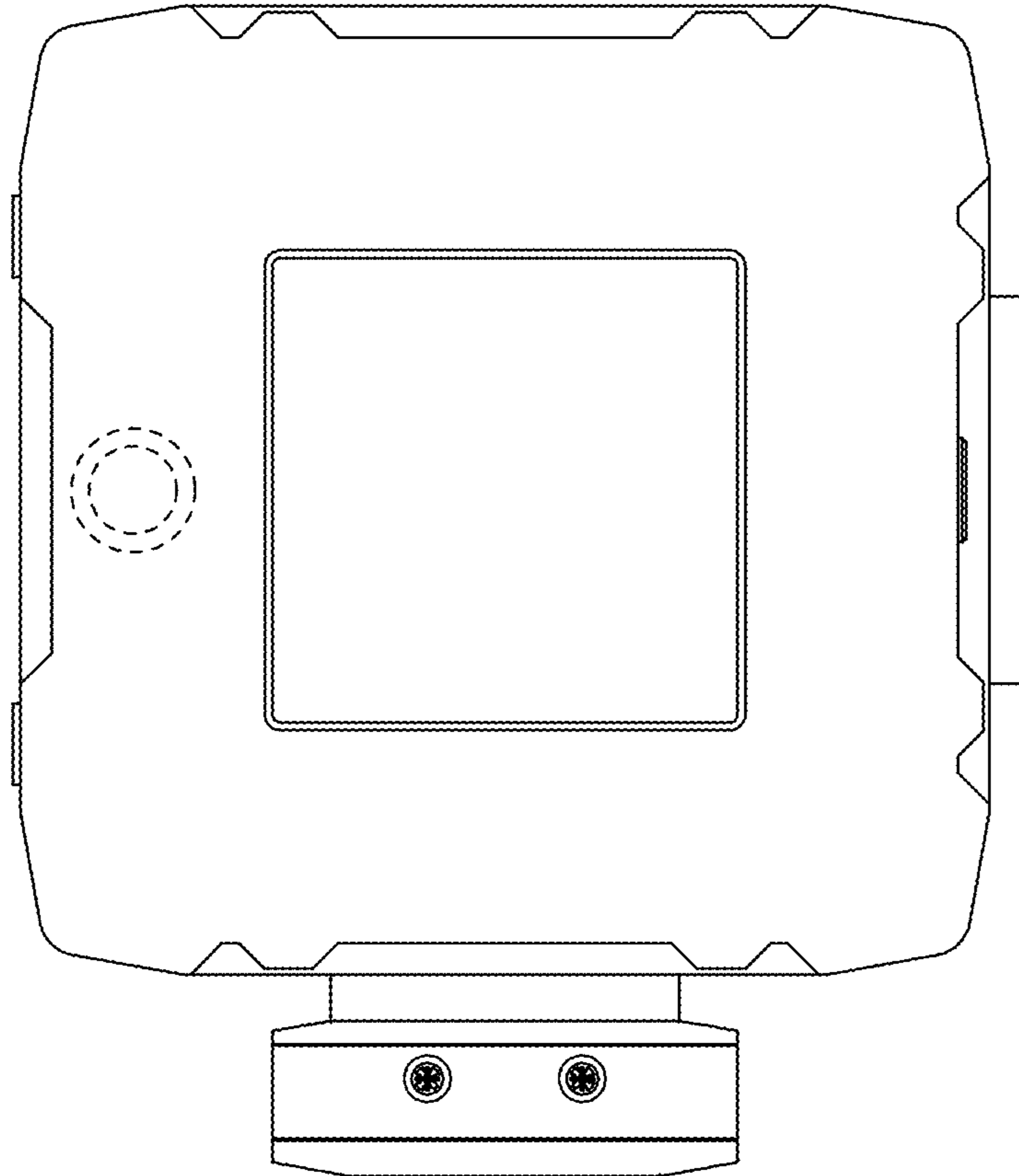


FIG. 3

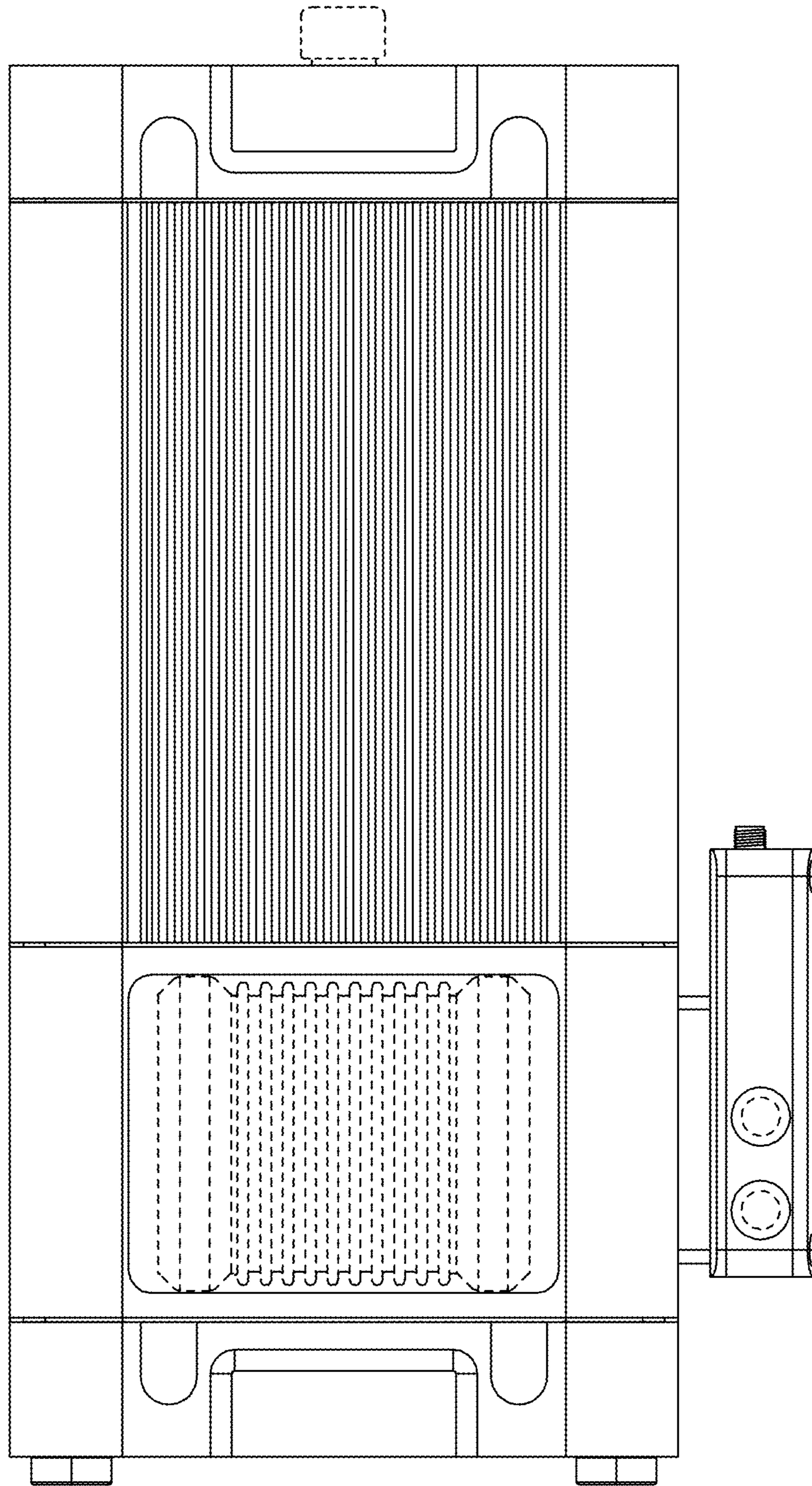


FIG. 4

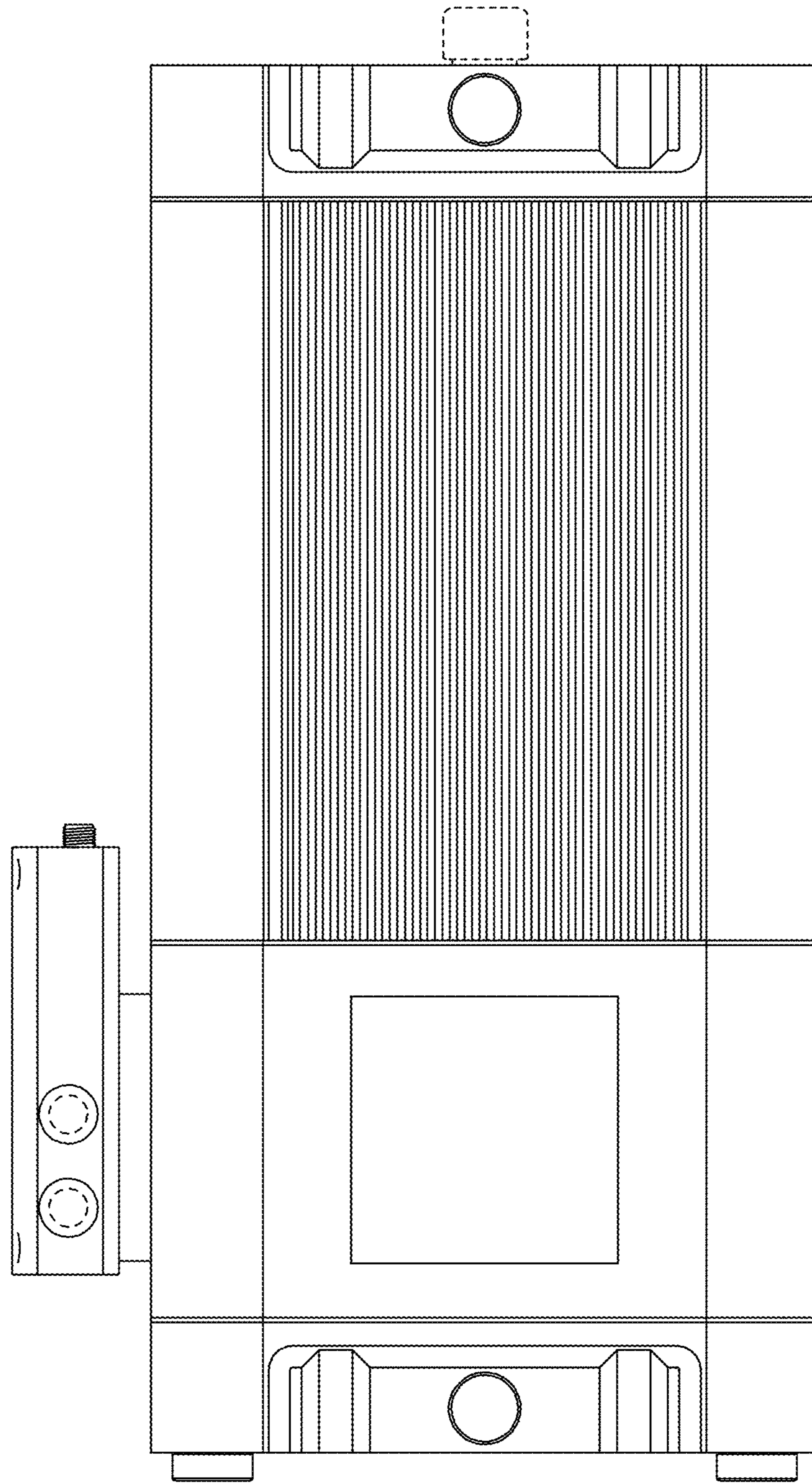


FIG. 5

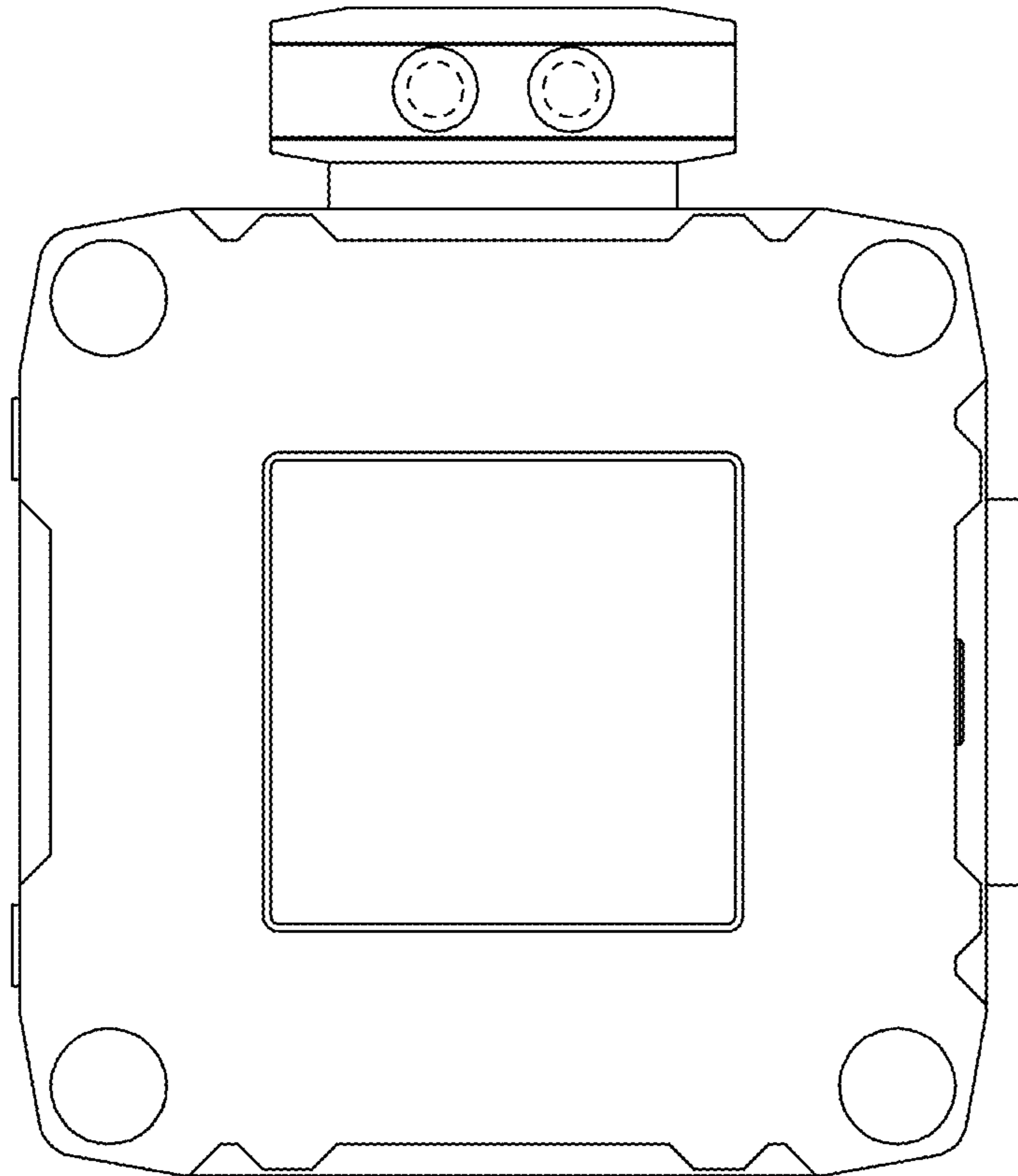


FIG. 6

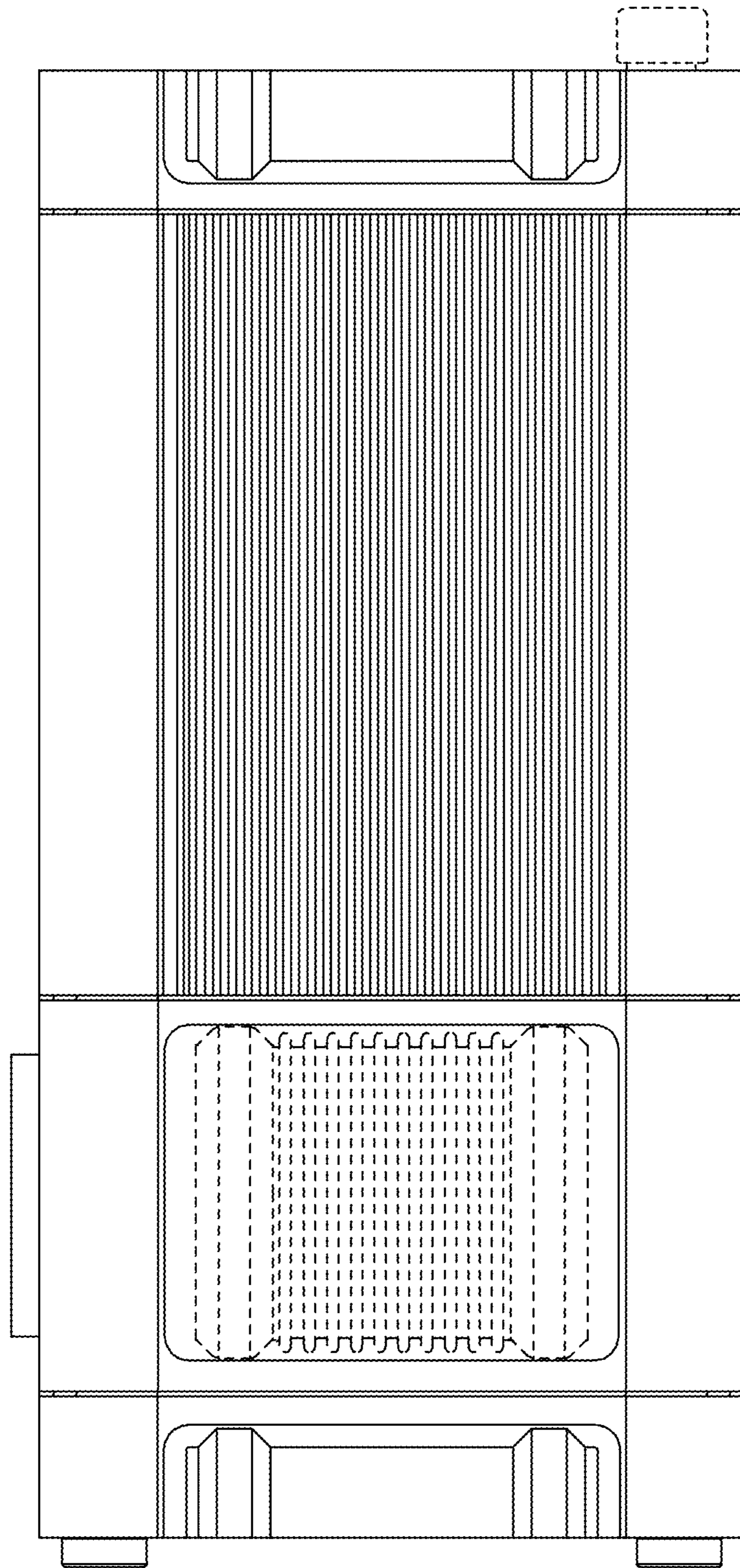


FIG. 7