



US00D883207S

(12) **United States Design Patent** (10) **Patent No.:** **US D883,207 S**
Sakamoto (45) **Date of Patent:** **** May 5, 2020**

(54) **FREQUENCY CONVERTER**

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

(21) Appl. No.: **29/656,056**

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(51) **LOC (12) Cl.** **13-02**

(52) **U.S. Cl.**
USPC **D13/110**

(58) **Field of Classification Search**
USPC D13/103, 104, 107, 110, 112, 119, 120, D13/133, 156
CPC H01R 13/641; H01M 2/1022; H01M 2/1027; H01M 2/1072; H01M 2/105; H01M 2/1077; H02B 1/20
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D606,017 S	12/2009	Charlson et al.	
D641,696 S	7/2011	Charlson et al.	
D641,697 S	7/2011	Charlson et al.	
D657,739 S *	4/2012	Miyawaki	D13/104
D705,719 S *	5/2014	Wong	D13/103
D711,821 S *	8/2014	Wang	D13/103
D759,587 S *	6/2016	Santos	D13/103
D762,565 S *	8/2016	Akana	D13/103
D775,073 S *	12/2016	Oshiba	D13/119
D812,000 S *	3/2018	Li	D13/108
D820,198 S *	6/2018	Smith	D13/103
D842,237 S *	3/2019	Qiu	D13/103

D844,560 S *	4/2019	Miller	D13/108
D852,742 S *	7/2019	Li	D13/110
2008/0050645 A1 *	2/2008	Kai	H01M 2/1077 429/61
2009/0123821 A1 *	5/2009	Kim	H01M 2/0404 429/124
2011/0070465 A1 *	3/2011	Kim	H01M 10/42 429/7
2015/0207181 A1 *	7/2015	Fink	H01M 2/043 429/7
2017/0264059 A1 *	9/2017	Cote	H01R 25/006
2019/0131678 A1 *	5/2019	Kim	H01M 2/10
2019/0189982 A1 *	6/2019	Lee	H01M 10/0472
2019/0198952 A1 *	6/2019	Choi	H01M 10/6554

* cited by examiner

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(57) **CLAIM**

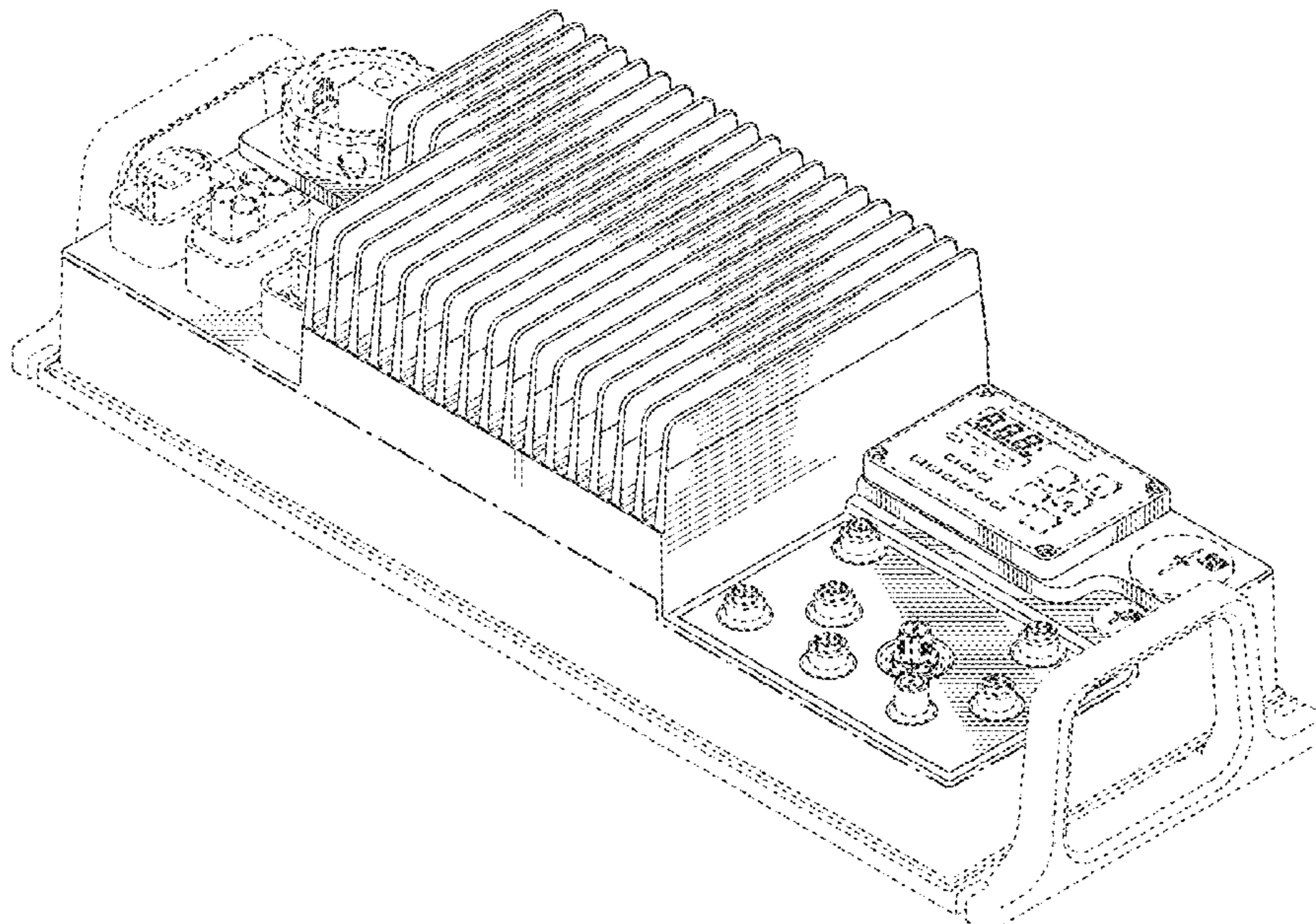
The ornamental design for a frequency converter, as shown and described.

DESCRIPTION

FIG. 1 is a front, bottom, right perspective view of a frequency converter showing my new design; FIG. 2 is a front, top, left perspective view thereof; FIG. 3 is a front elevational view thereof; FIG. 4 is a left side elevational view thereof; FIG. 5 is a right side elevational view thereof; FIG. 6 is a top plan view thereof; and, FIG. 7 is a bottom plan view thereof.

The broken lines illustrating the unclaimed portions of the frequency converter form no part of the claimed design. Dot-dash broken lines defining the boundaries of the claimed design form no part of the claimed design.

1 Claim, 6 Drawing Sheets



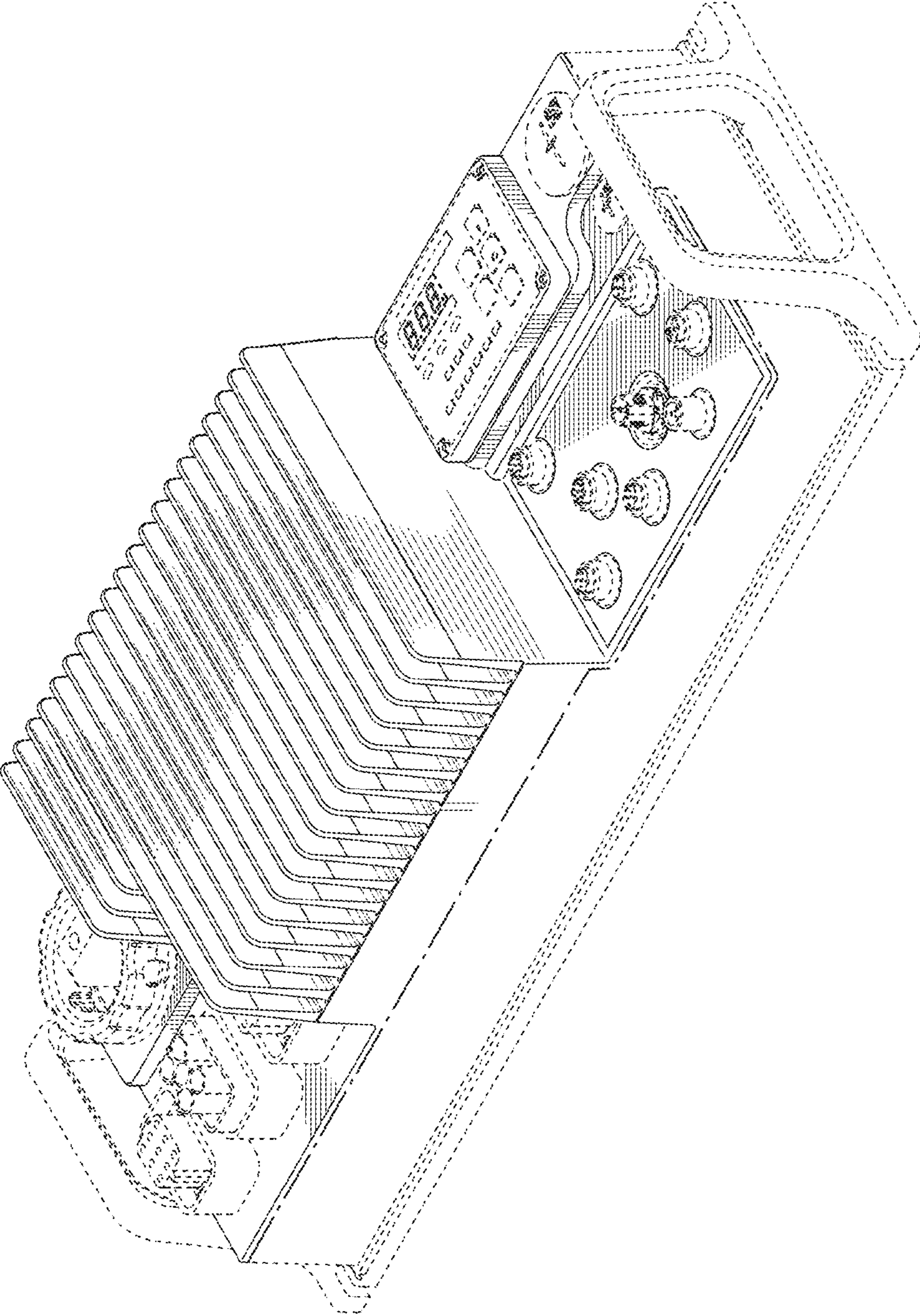


FIG. 1

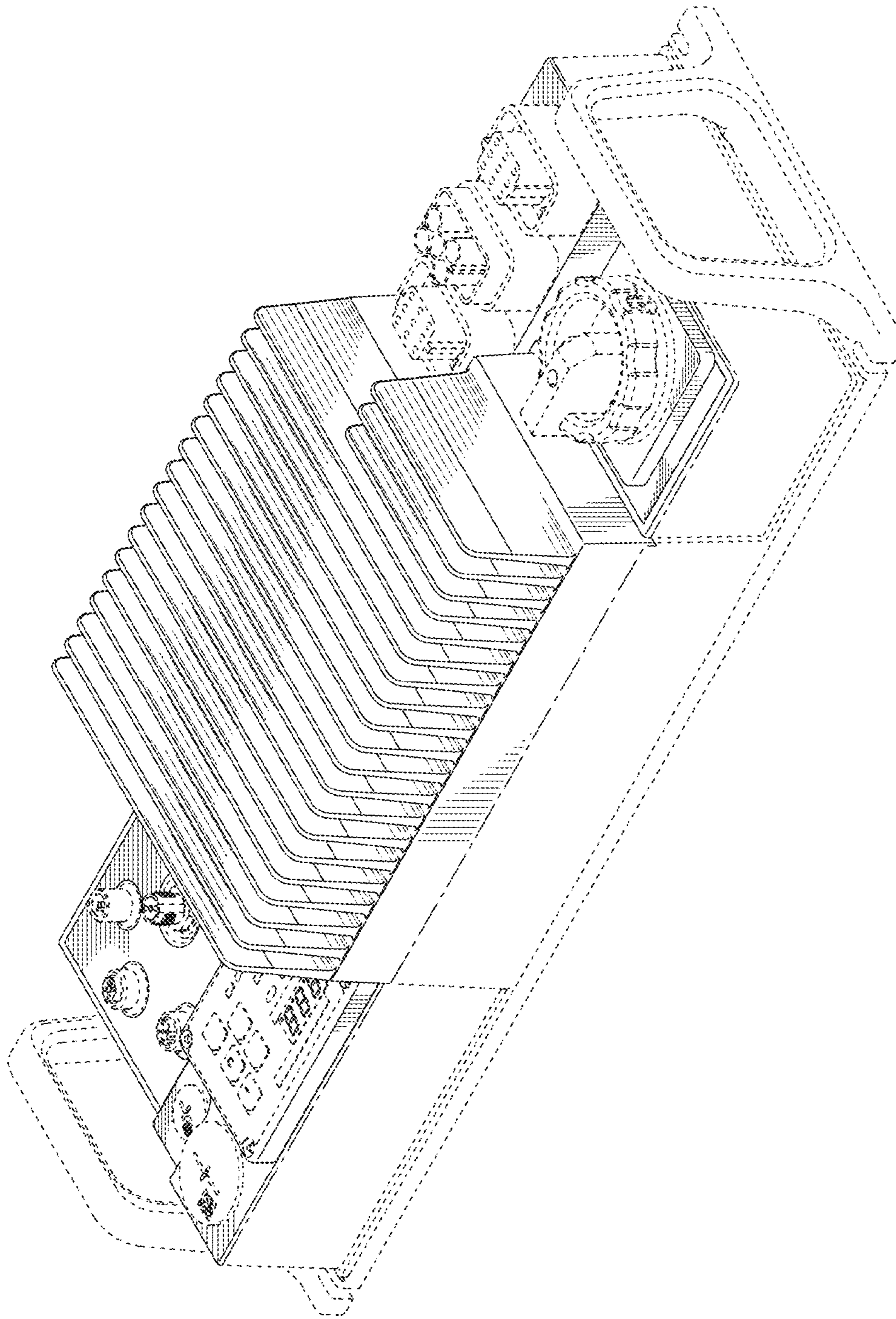


FIG. 2

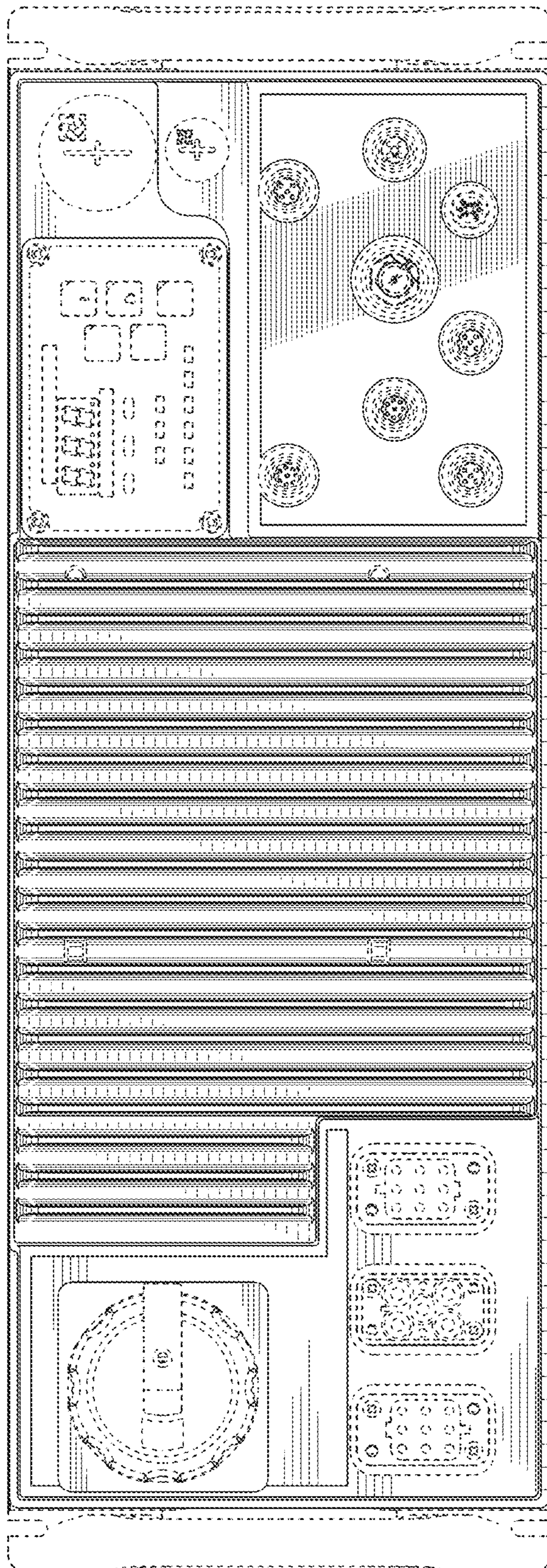


FIG. 3

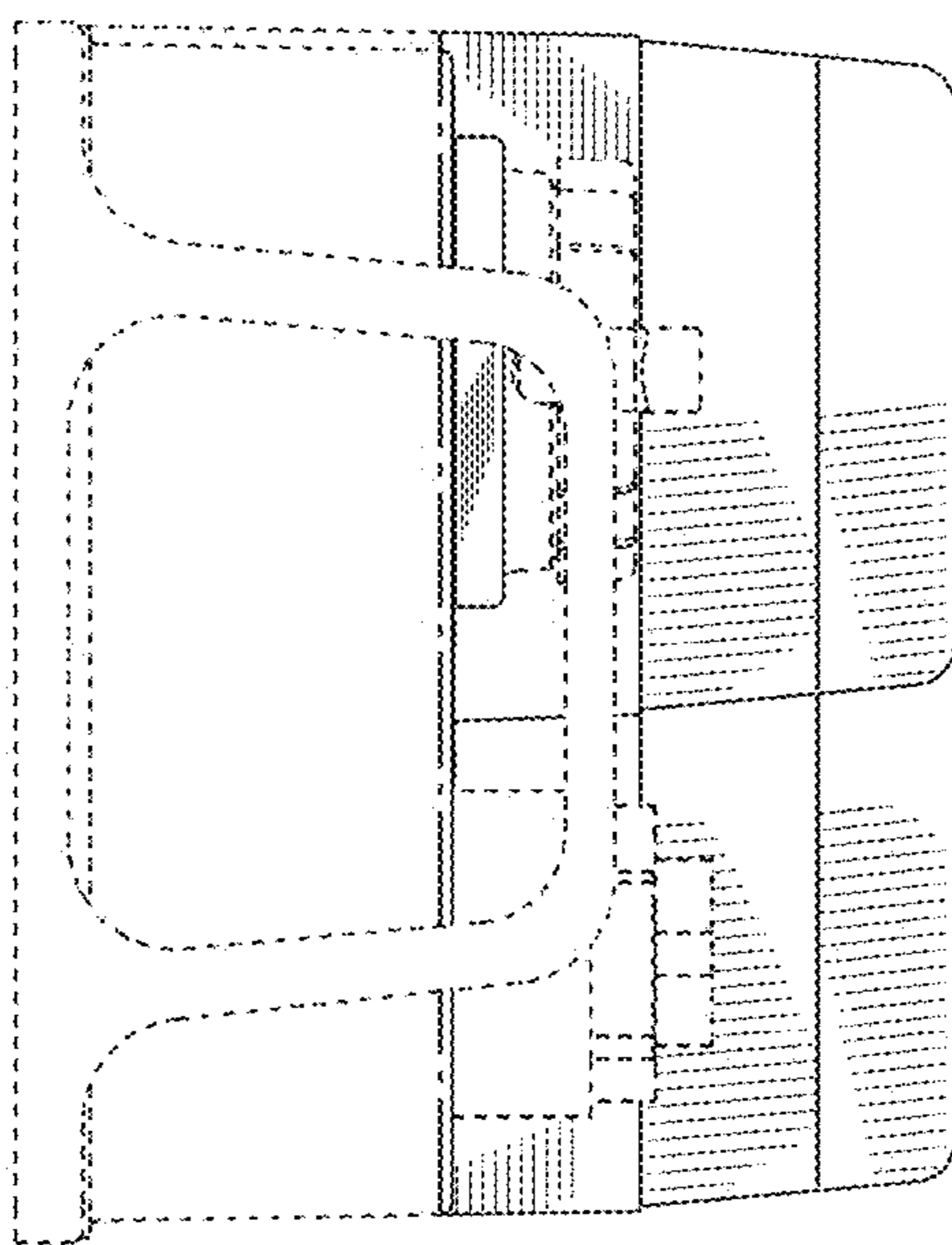


FIG. 4

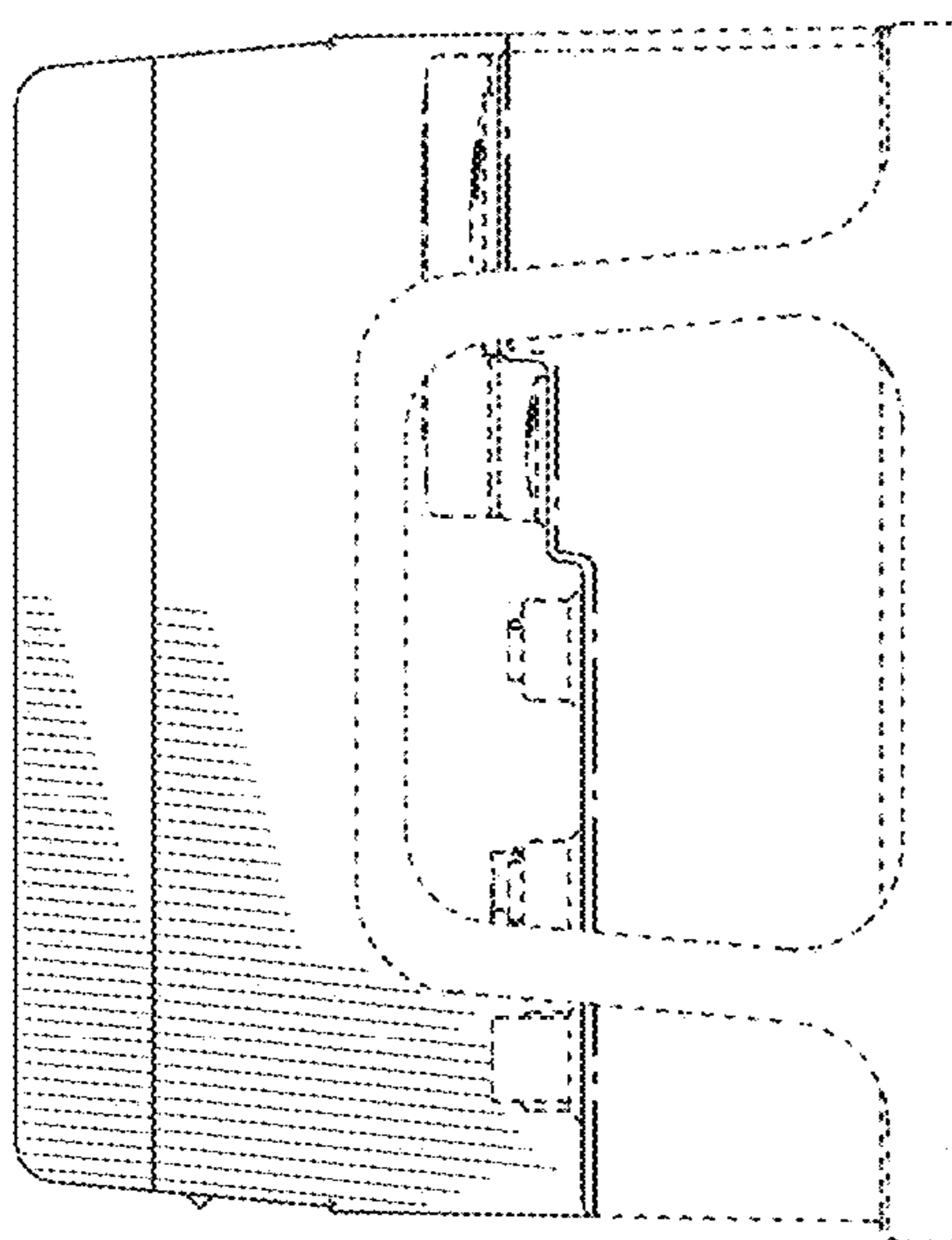


FIG. 5

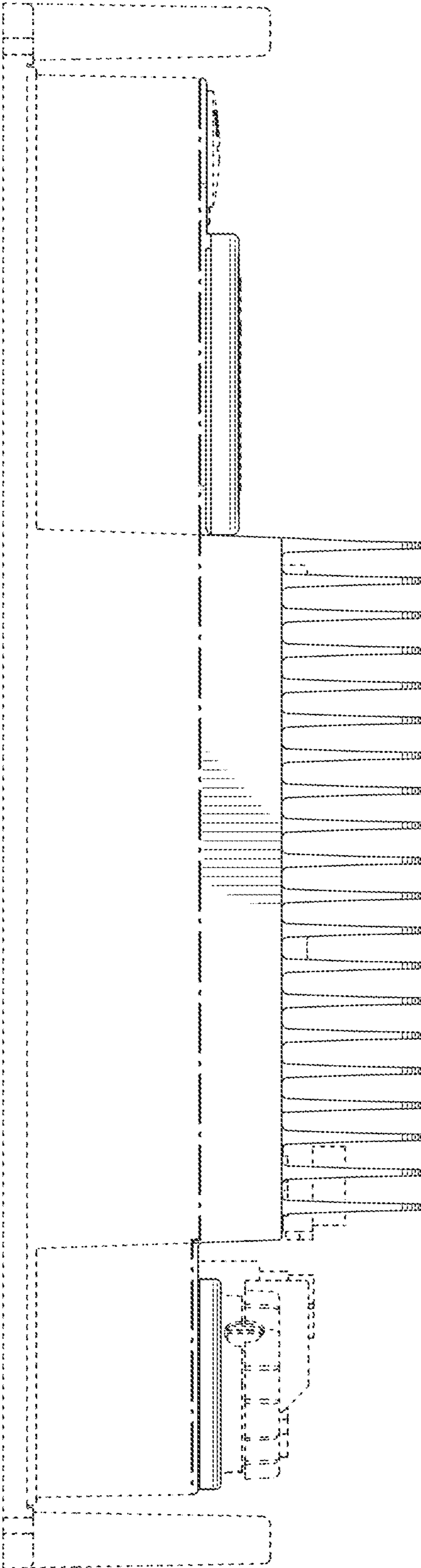


FIG. 6

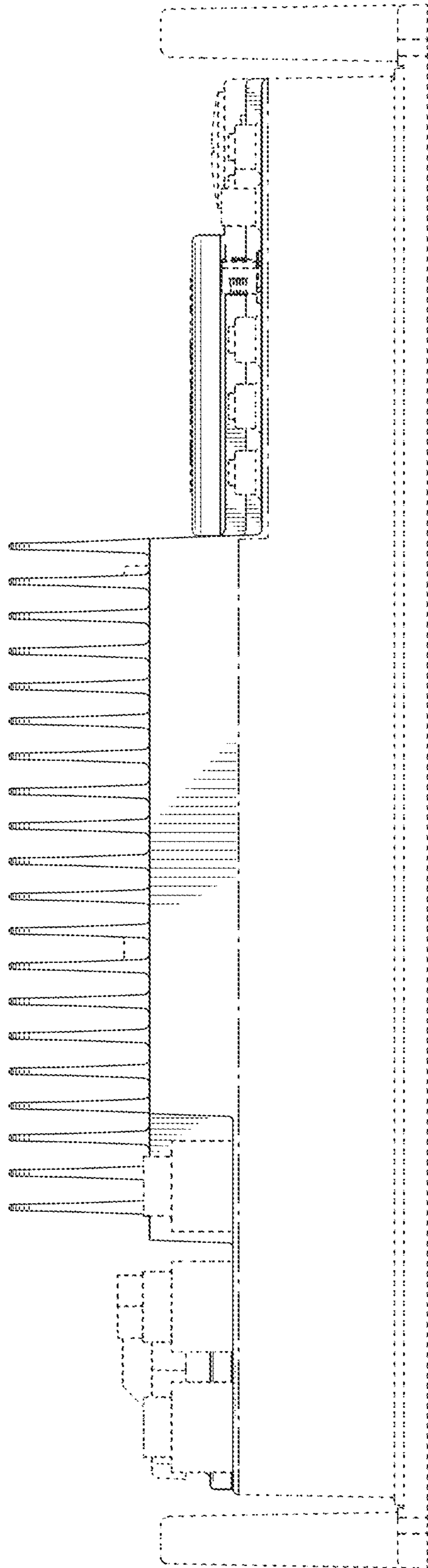


FIG. 7