



US00D897294S

(12) **United States Design Patent** (10) **Patent No.:** **US D897,294 S**
Kato et al. (45) **Date of Patent:** **** Sep. 29, 2020**

(54) **PROGRAMMABLE CONTROLLER**

(71) Applicant: **Mitsubishi Electric Corporation,**
Tokyo (JP)

(72) Inventors: **Shinichi Kato**, Tokyo (JP); **Hisashi Hirokawa**, Tokyo (JP); **Tomoomi Nishimura**, Tokyo (JP); **Atsutomo Hayamizu**, Tokyo (JP); **Takashi Ando**, Tokyo (JP)

(73) Assignee: **Mitsubishi Electric Corporation,**
Tokyo (JP)

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

(21) Appl. No.: **29/687,088**

(22) Filed: **Apr. 10, 2019**

(30) **Foreign Application Priority Data**

Oct. 26, 2018 (JP) 2018-023543
Oct. 26, 2018 (JP) 2018-023544
Oct. 26, 2018 (JP) 2018-023545

(51) **LOC (12) Cl.** **13-03**

(52) **U.S. Cl.**
USPC **D13/162.1**

(58) **Field of Classification Search**
USPC D13/123, 162, 162.1, 184
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,904,471 B2 * 6/2005 Boggs G06F 1/025
326/40
D692,840 S * 11/2013 Liu D13/162.1
(Continued)

Primary Examiner — Selina Sikder

(74) *Attorney, Agent, or Firm* — Studebaker & Brackett
PC

(57) **CLAIM**

The ornamental design for a programmable controller, as shown and described.

DESCRIPTION

FIG. 1 is a front, top and right side perspective view of a programmable controller, showing a first embodiment of our new design;

FIG. 2 is a front view thereof;

FIG. 3 is a rear view thereof;

FIG. 4 is a top view thereof;

FIG. 5 is a bottom view thereof;

FIG. 6 is a left side view thereof;

FIG. 7 is a right side view thereof;

FIG. 8 is a reference view showing the state in use thereof;

FIG. 9 is a front, top and right side perspective view of a programmable controller, showing a second embodiment of our new design;

FIG. 10 is a front view thereof;

FIG. 11 is a rear view thereof;

FIG. 12 is a top view thereof;

FIG. 13 is a bottom view thereof;

FIG. 14 is a left side view thereof;

FIG. 15 is a right side view thereof;

FIG. 16 is a reference view showing the state in use thereof;

FIG. 17 is a front, top and right side perspective view of a programmable controller, showing a third embodiment of our new design;

FIG. 18 is a front view thereof;

FIG. 19 is a rear view thereof;

FIG. 20 is a top view thereof;

FIG. 21 is a bottom view thereof;

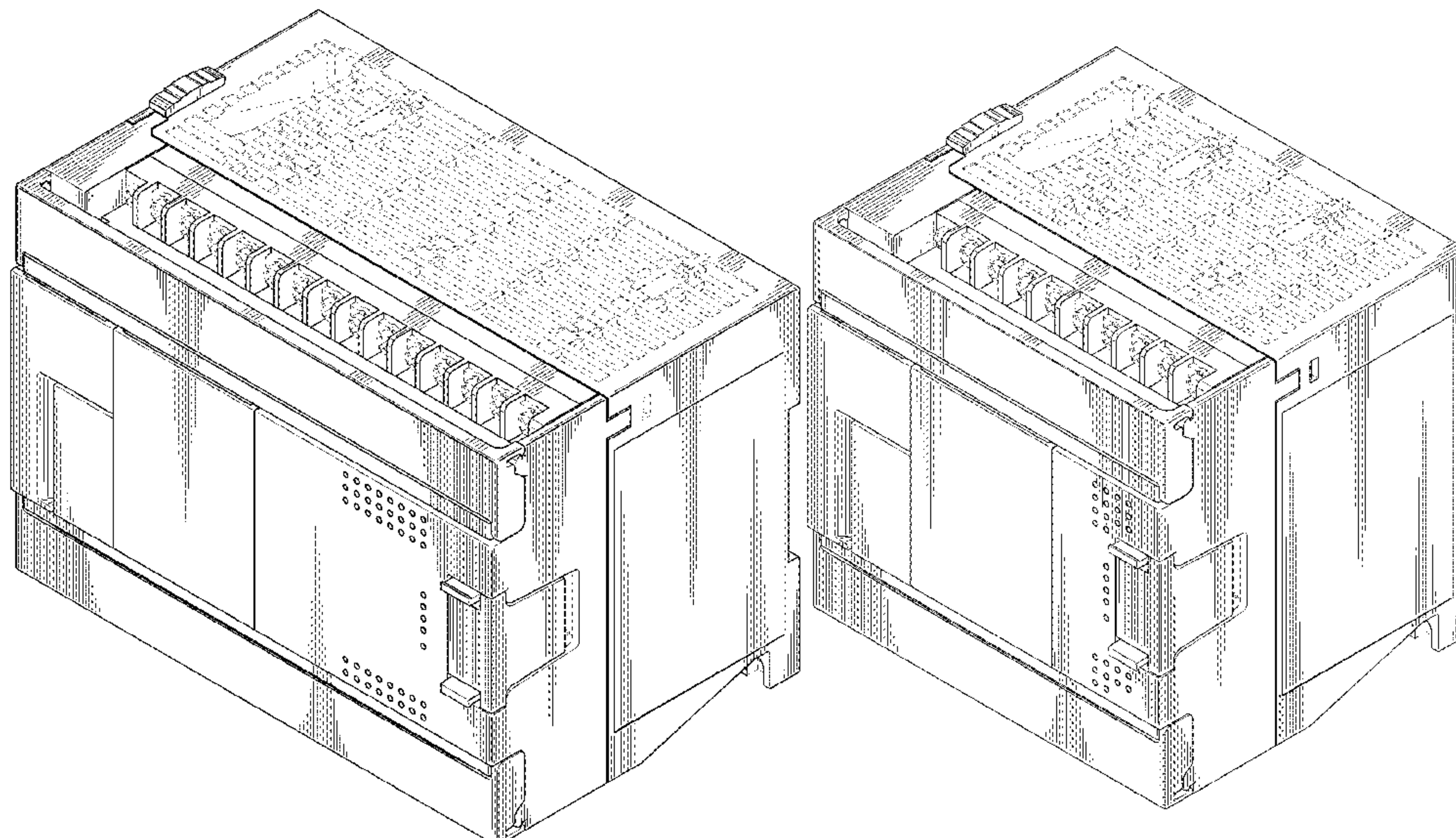
FIG. 22 is a right side view thereof;

FIG. 23 is a left side view thereof; and,

FIG. 24 is a reference view showing the state in use thereof.

The parts shown in the broken lines do not form part of the claimed designs.

1 Claim, 24 Drawing Sheets



(58) **Field of Classification Search**

CPC G05B 9/02; G05B 19/05; G05B 19/054;
G05B 19/056; G06F 1/182; G06F 1/183;
H05K 7/1462; H05K 7/1467; H05K
7/1474

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D702,647	S	*	4/2014	Liu		D13/162.1
D735,145	S	*	7/2015	Liu		D13/162.1
D772,820	S	*	11/2016	Shimano		D13/159
D815,606	S	*	4/2018	Nada		D13/162.1
2017/0031340	A1	*	2/2017	Kobayashi		G05B 9/02
2017/0285604	A1	*	10/2017	Al-Jandal		G06F 1/266

* cited by examiner

FIG. 1

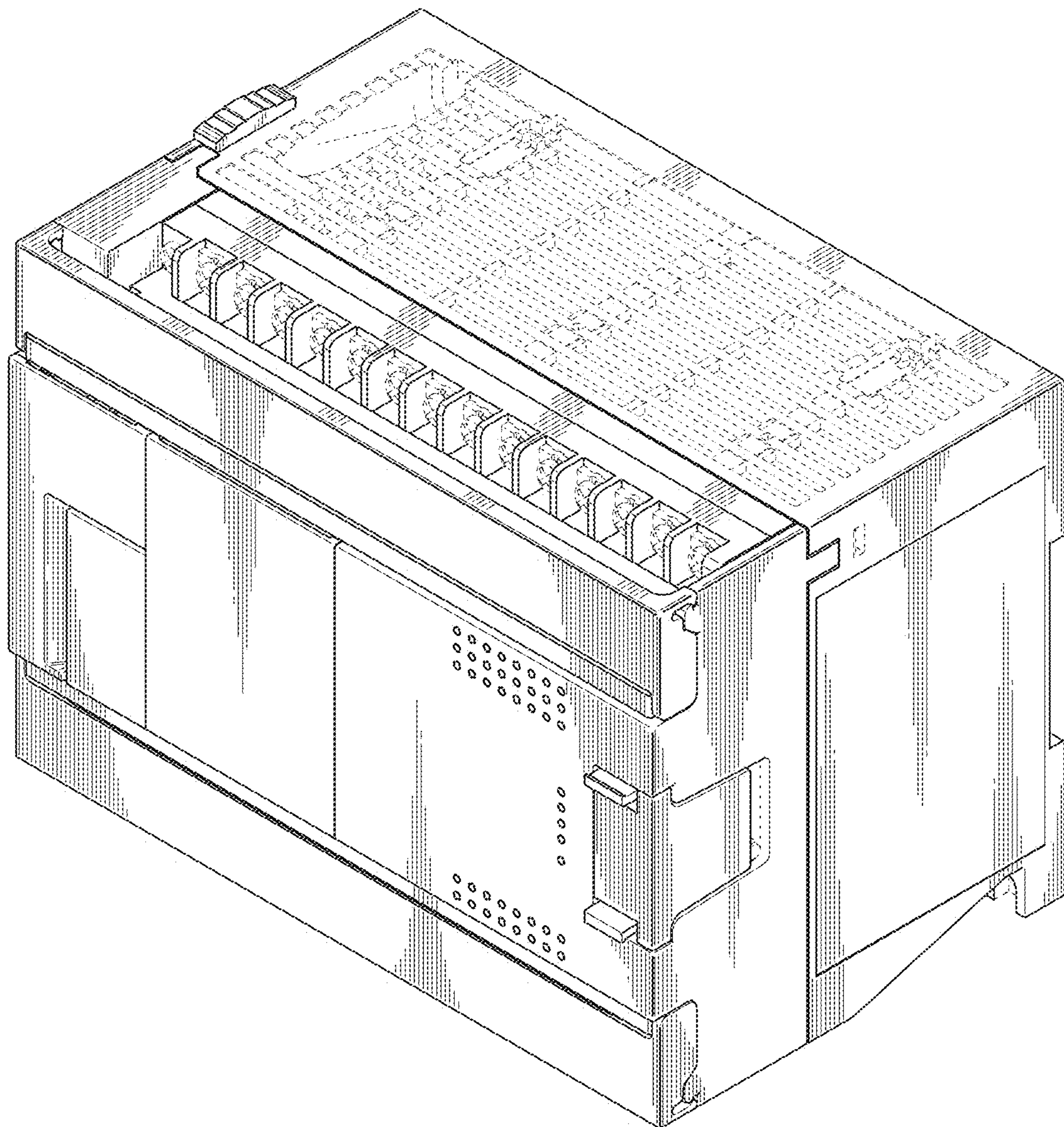


FIG. 2

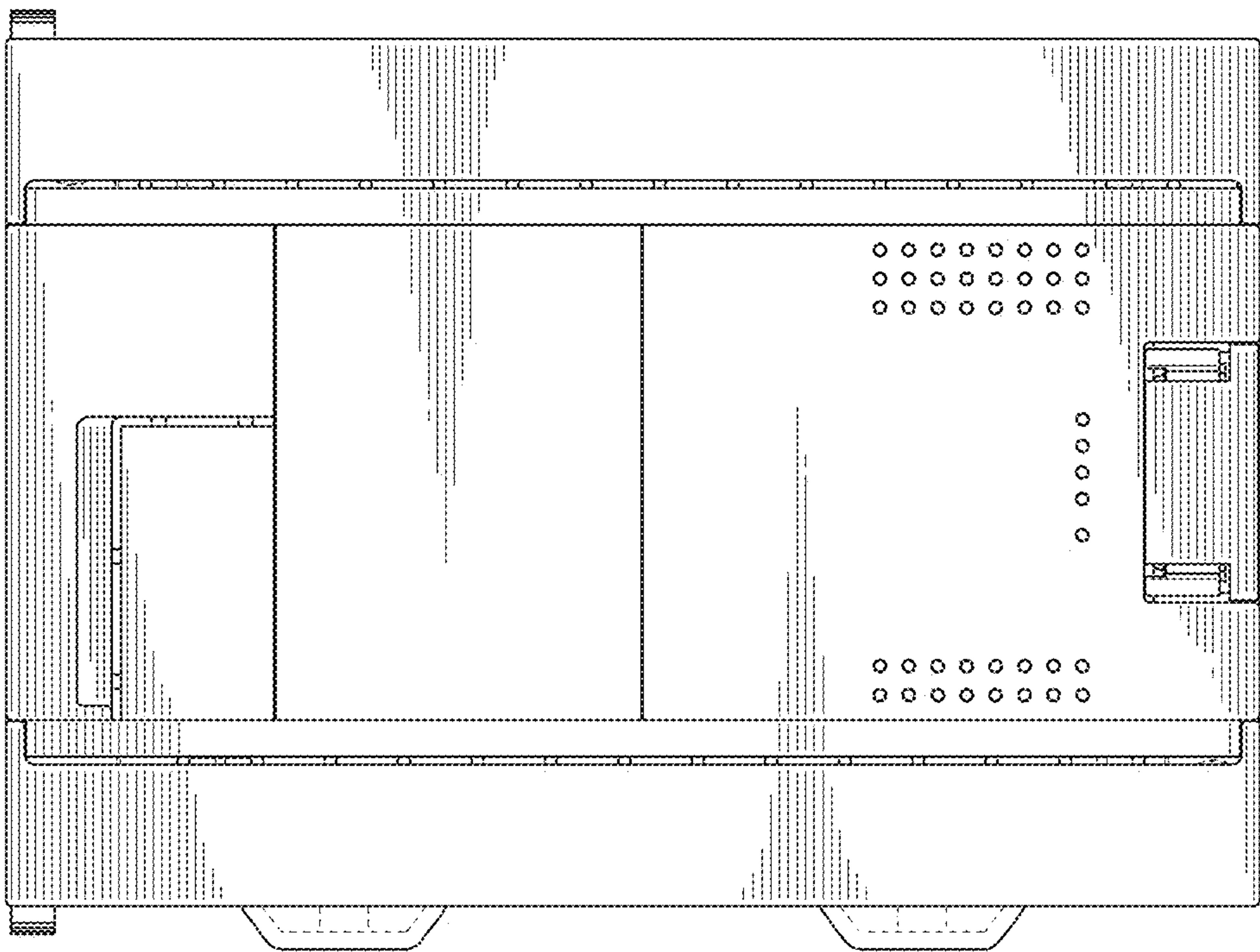


FIG. 3

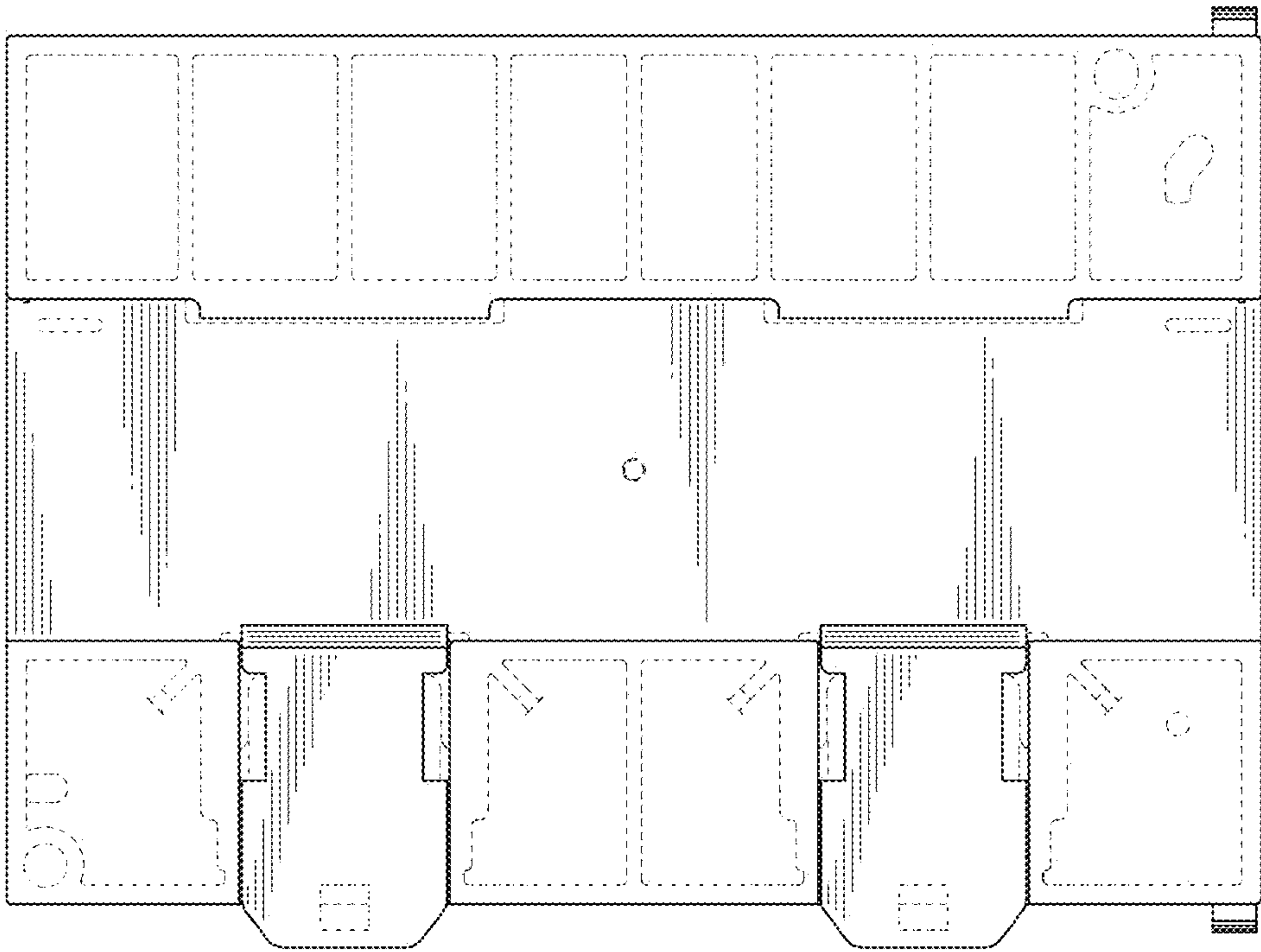


FIG. 4

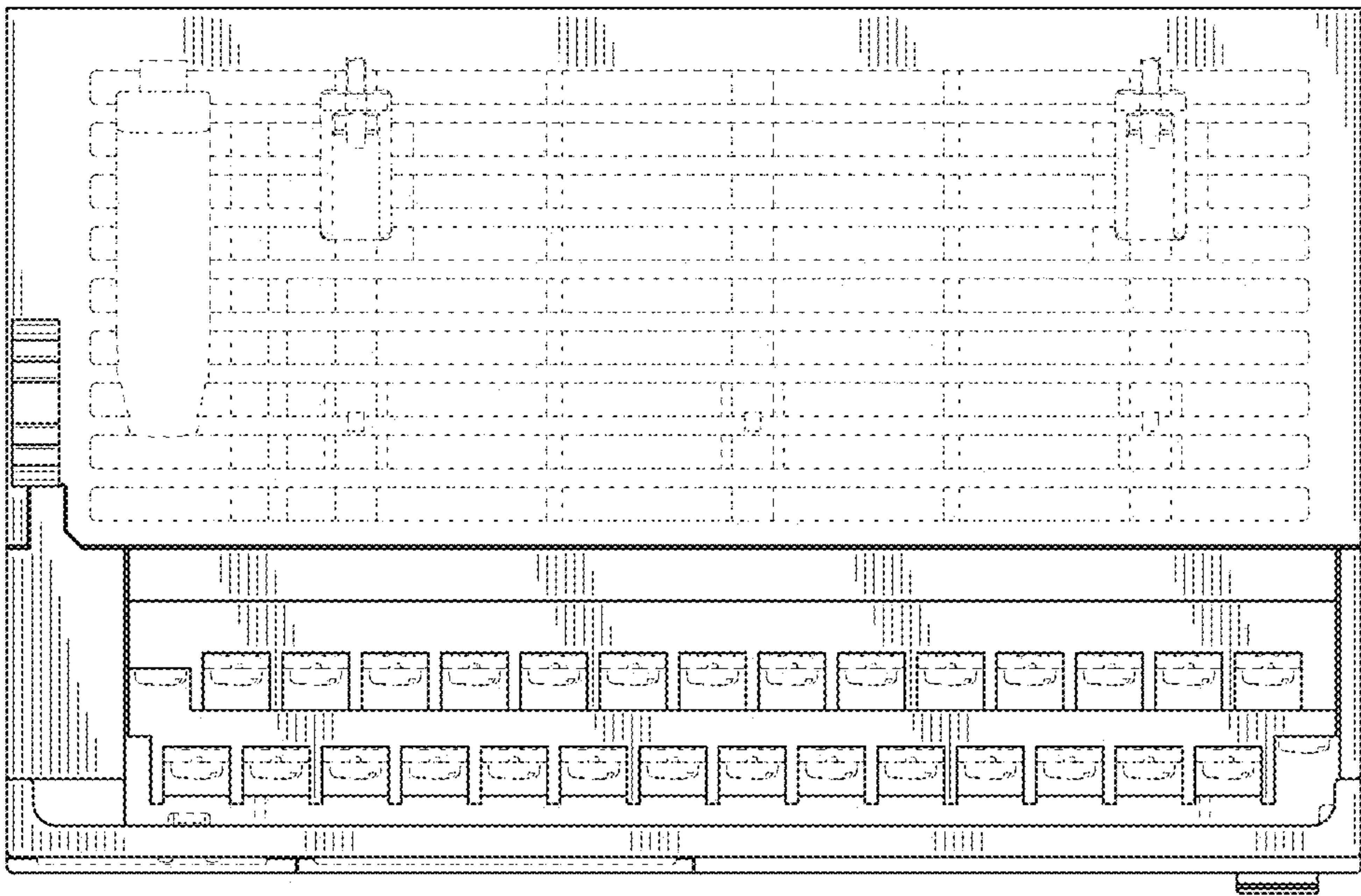


FIG. 5

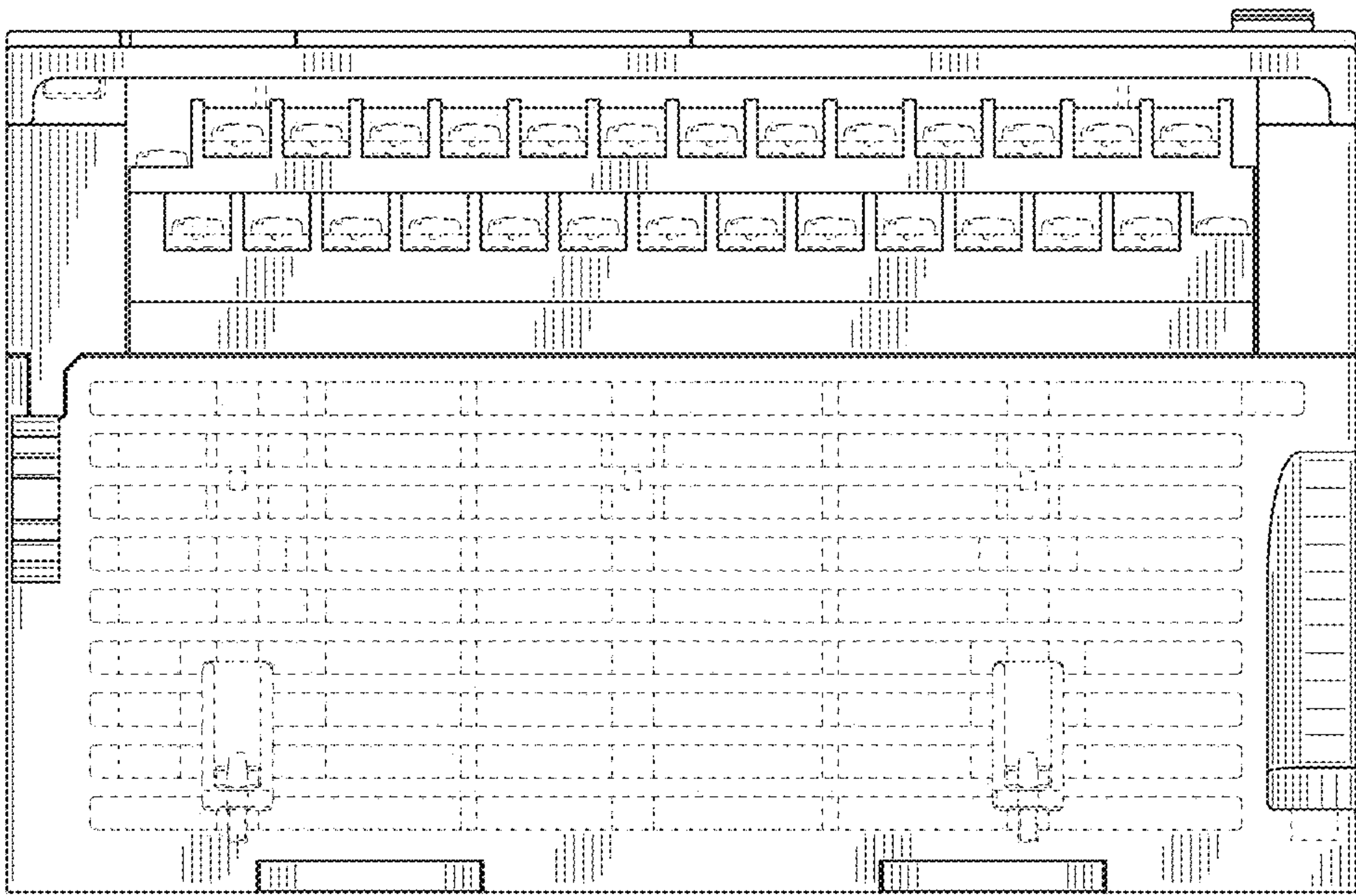


FIG. 6

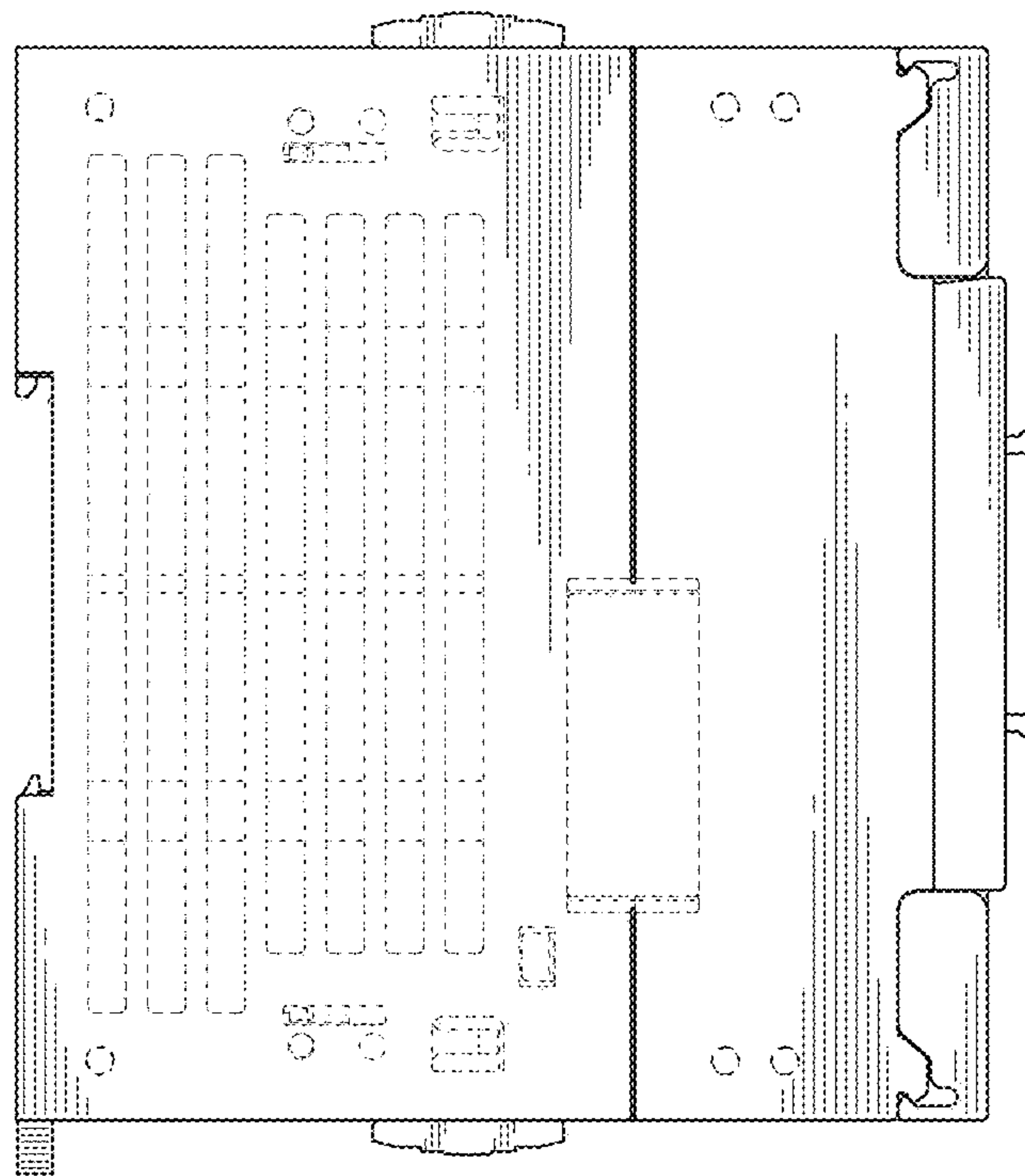


FIG. 7

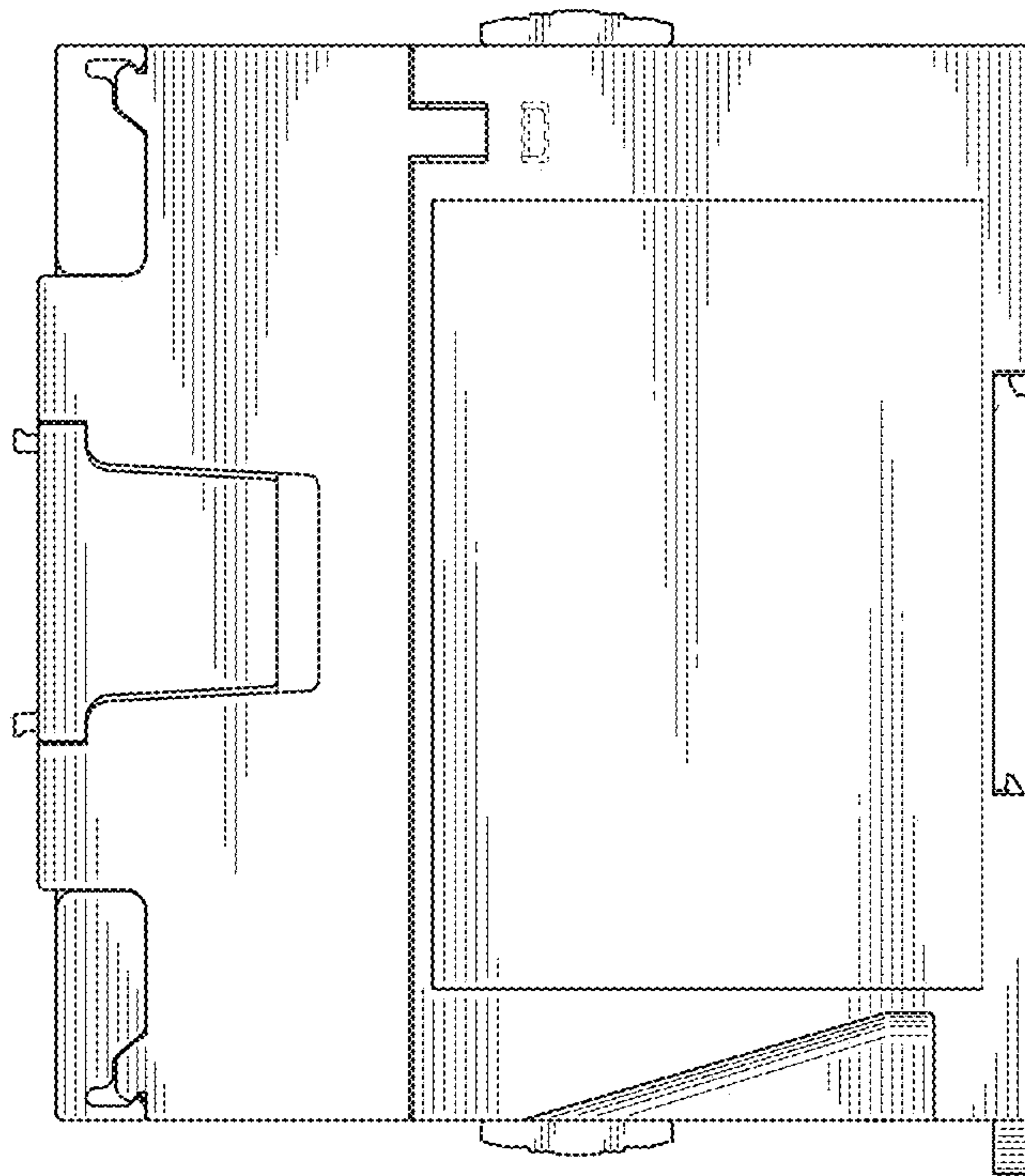


FIG. 8

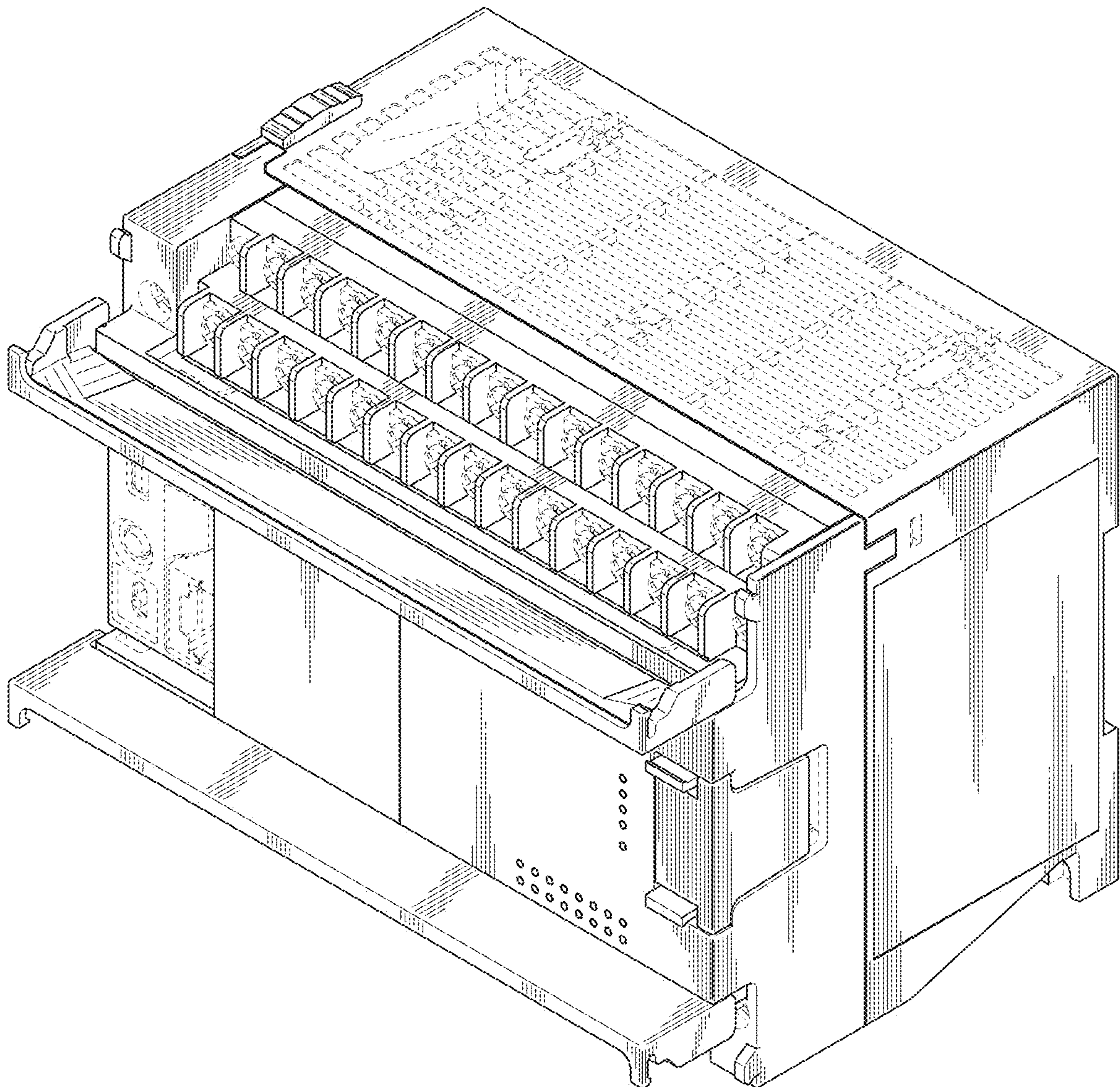


FIG. 9

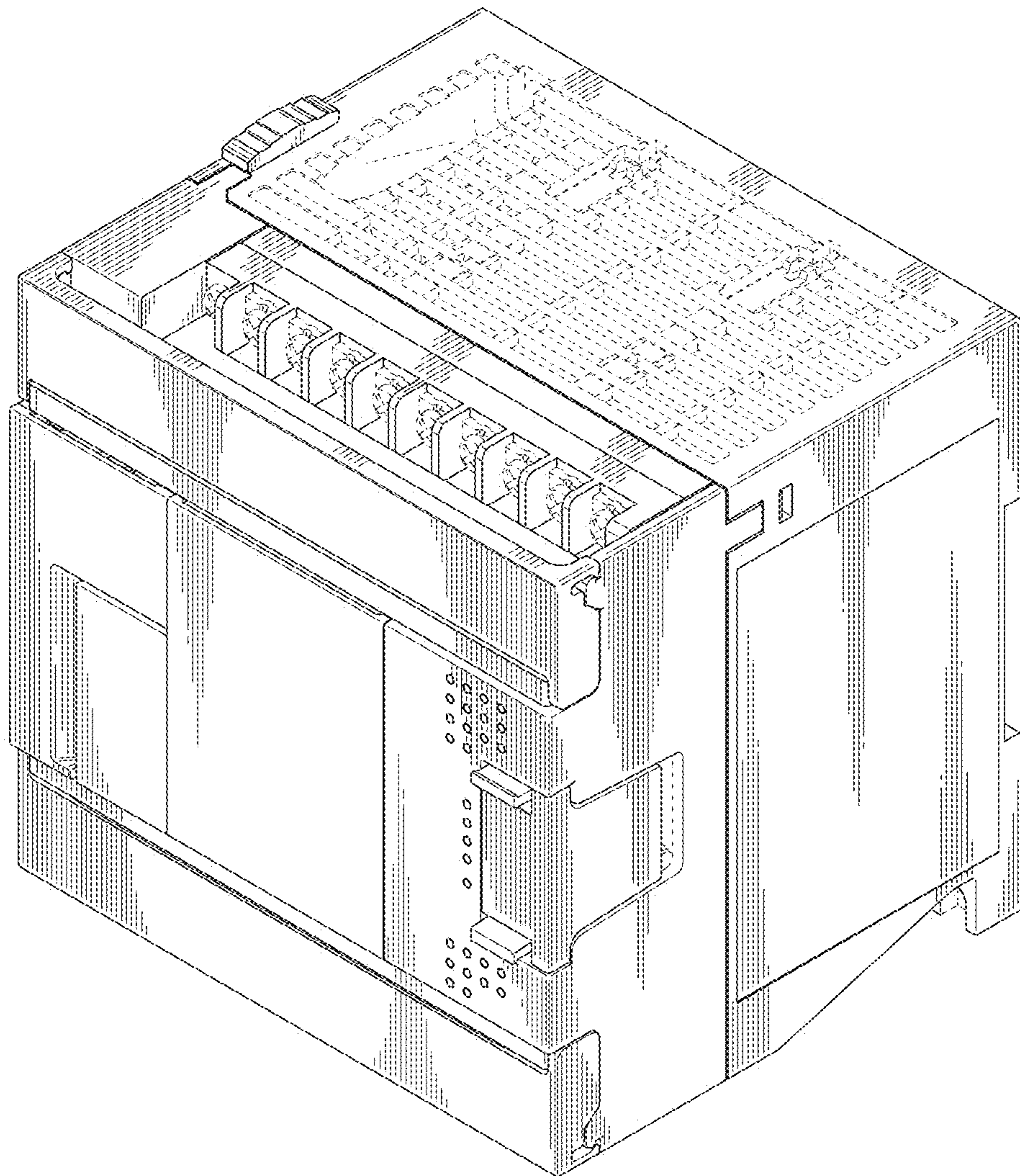


FIG. 10

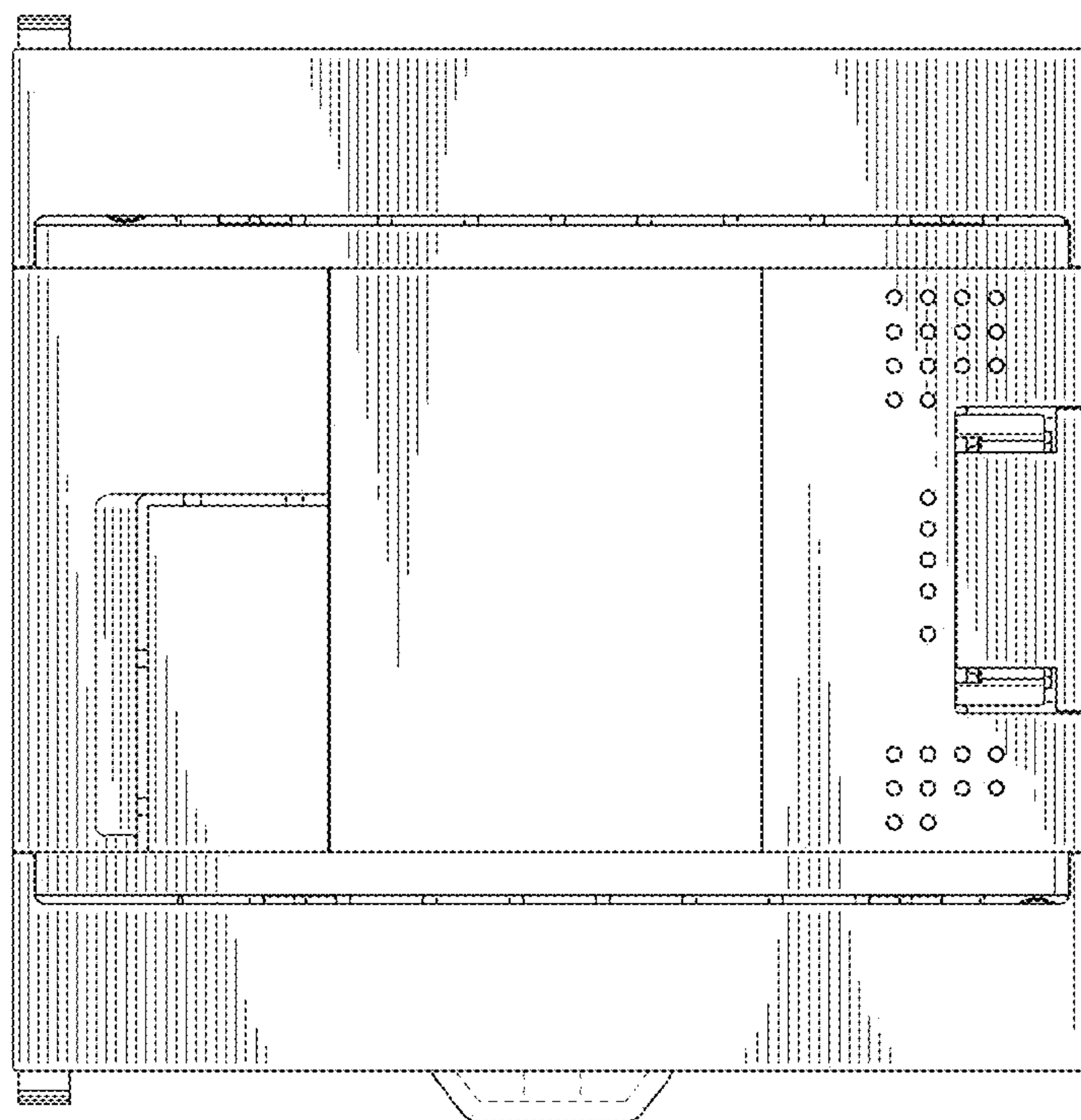


FIG. 11

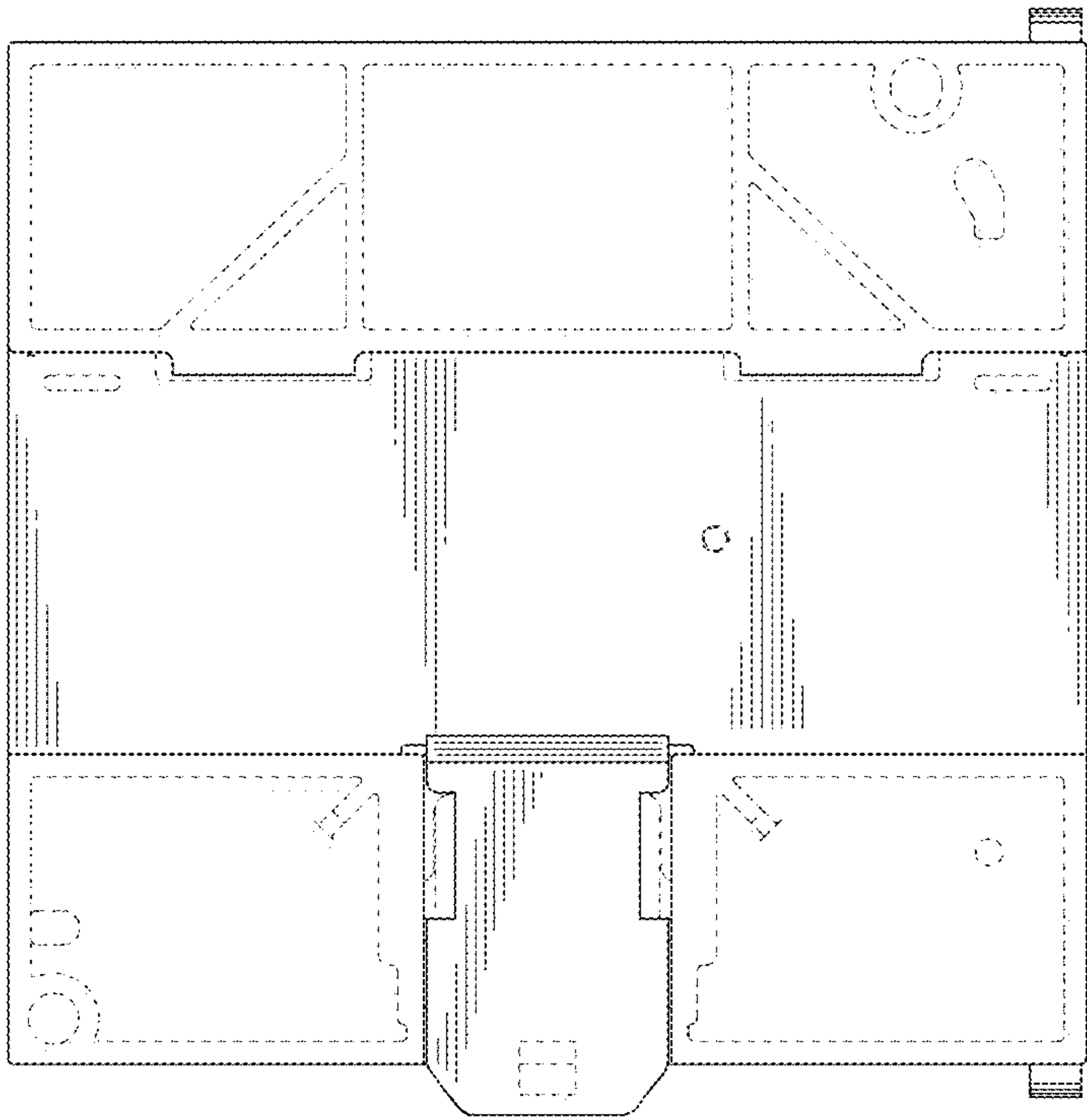


FIG. 12

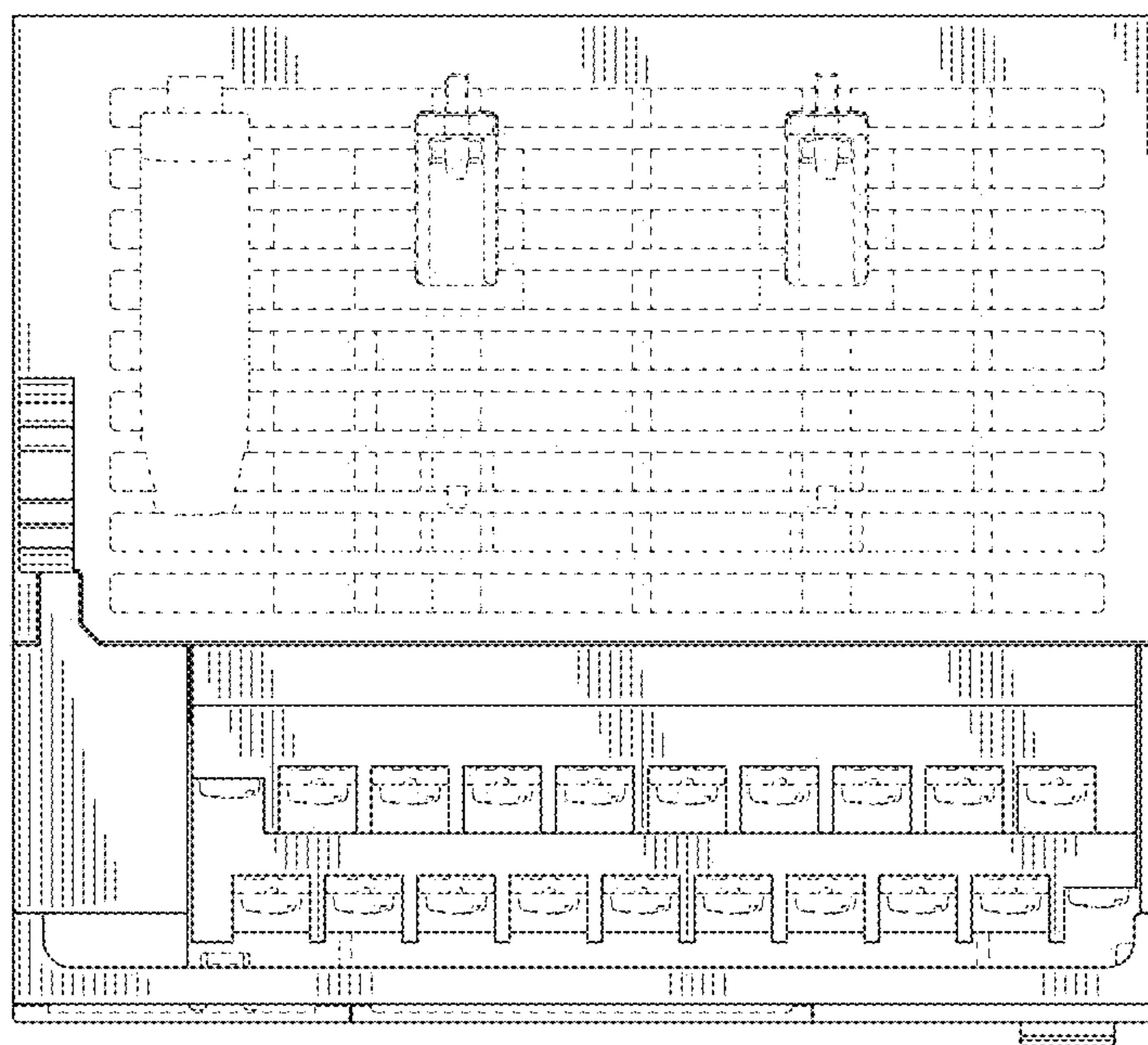


FIG. 13

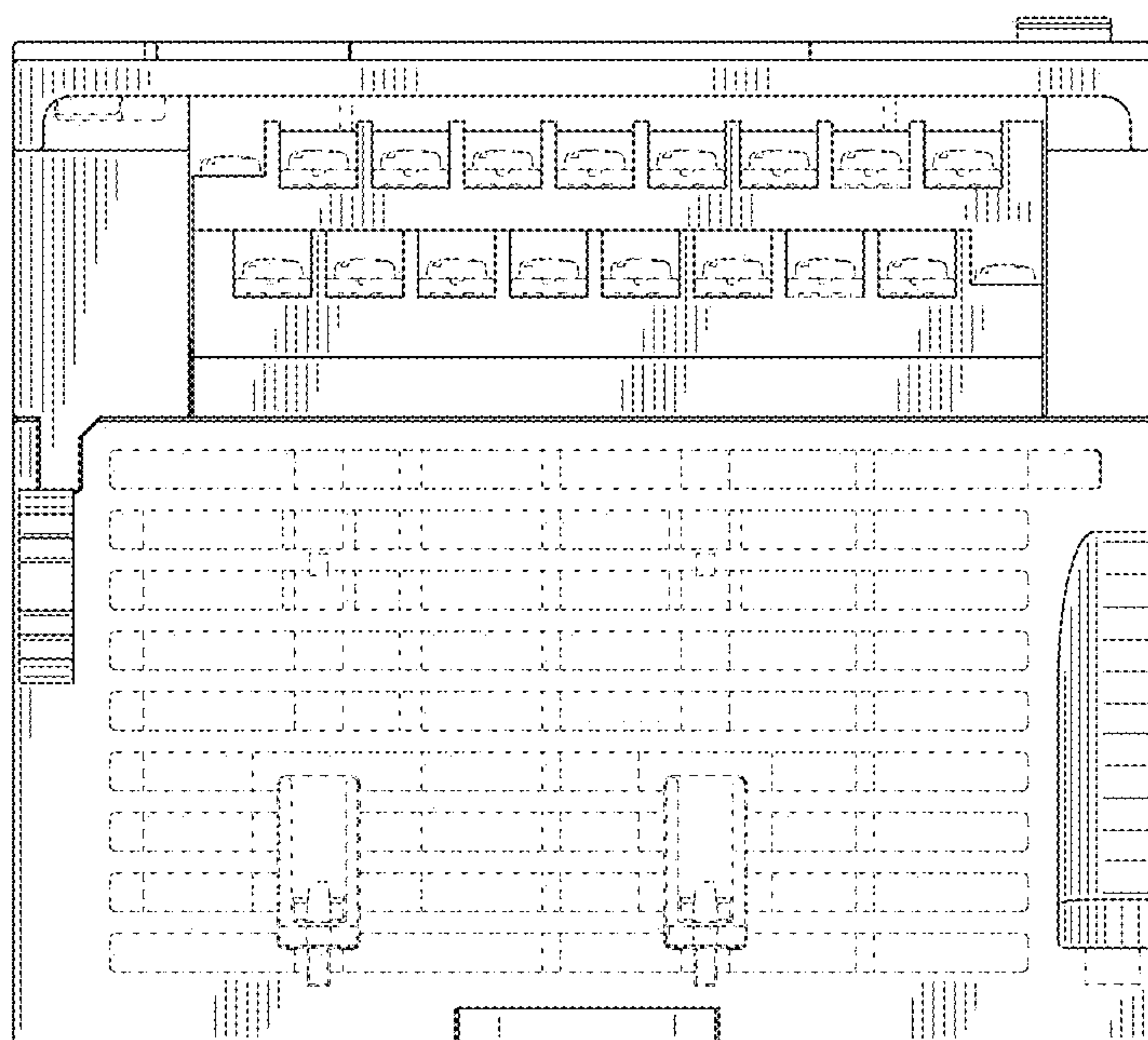


FIG. 14

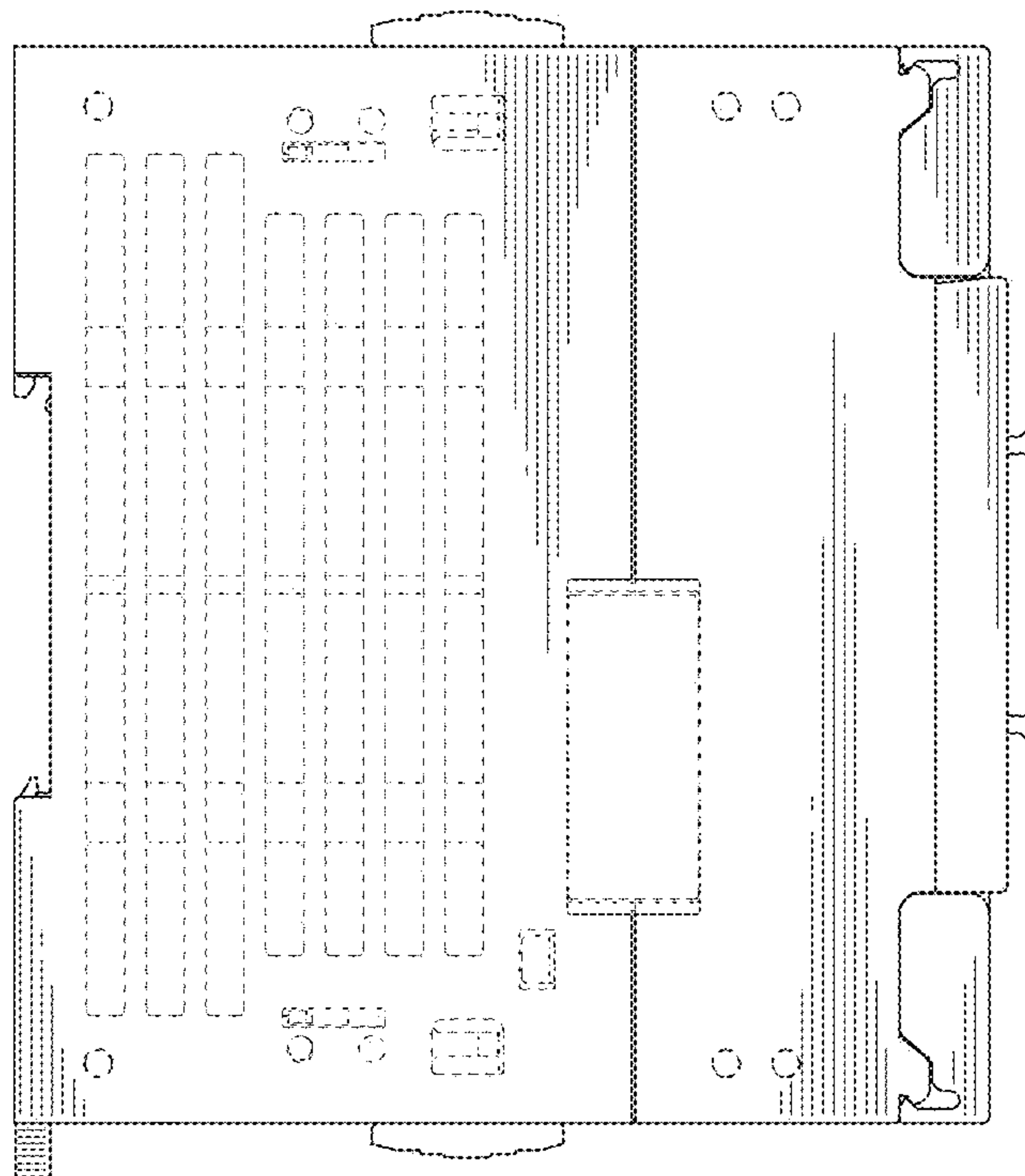


FIG. 15

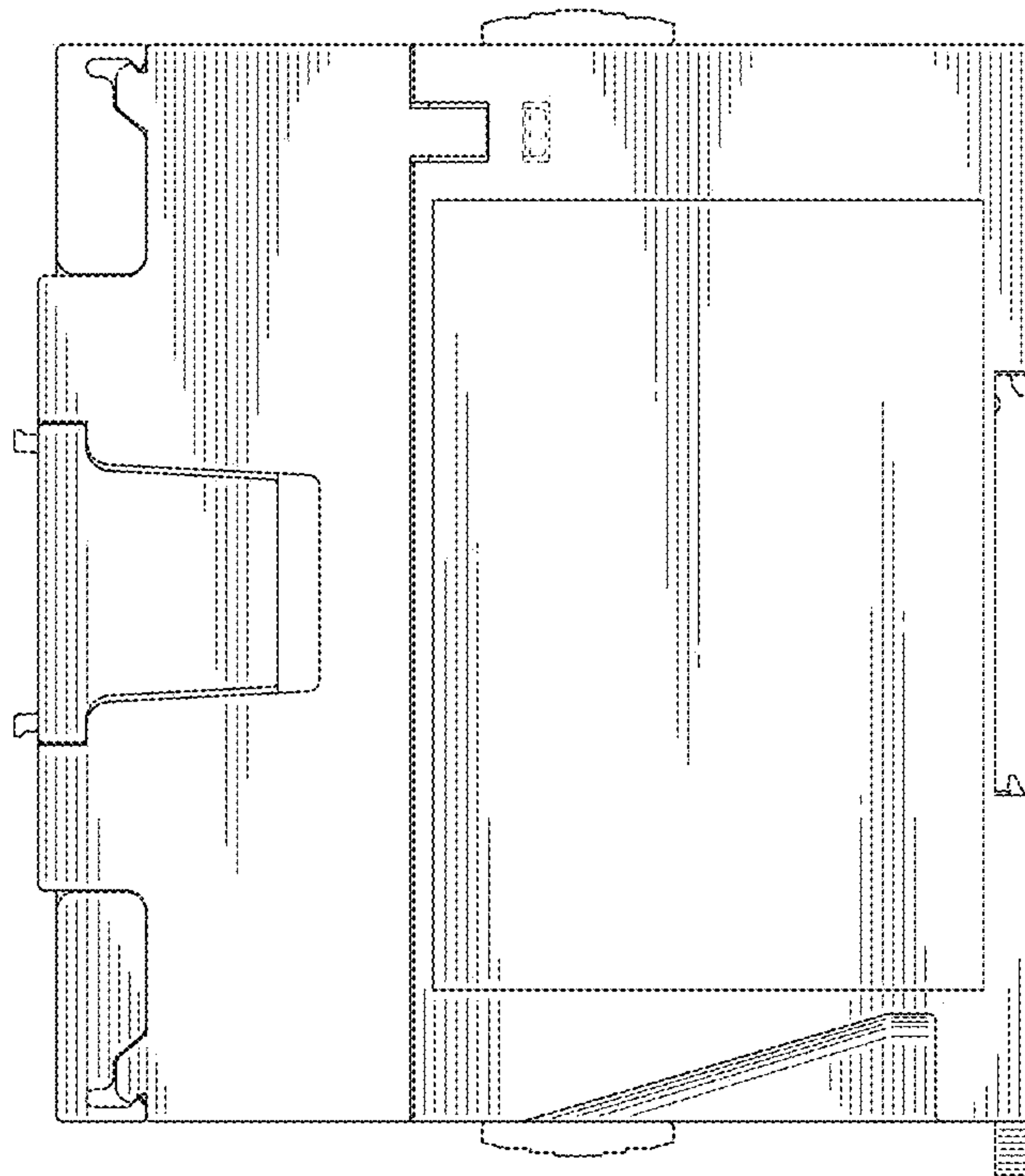


FIG. 16

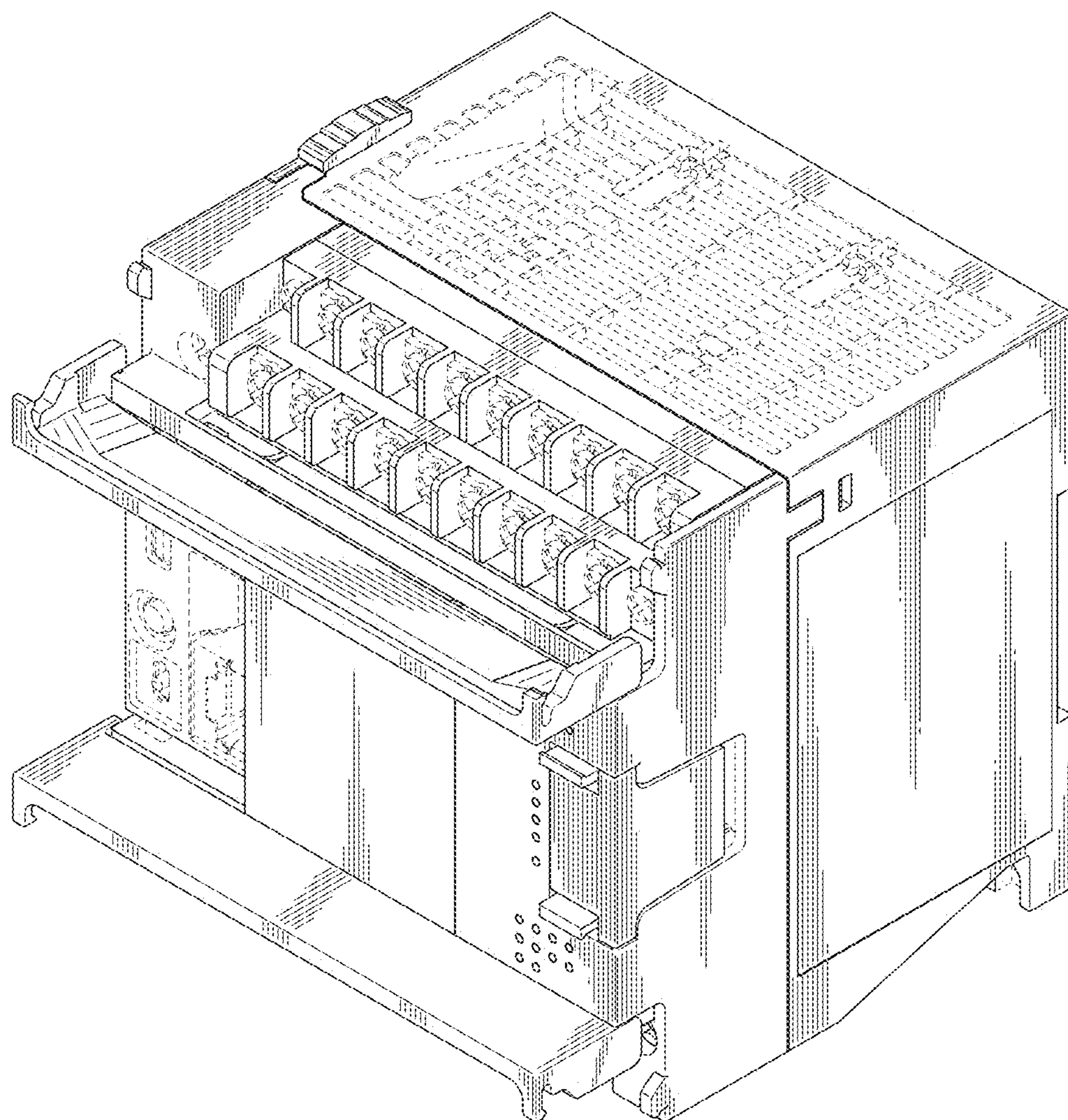


FIG. 17

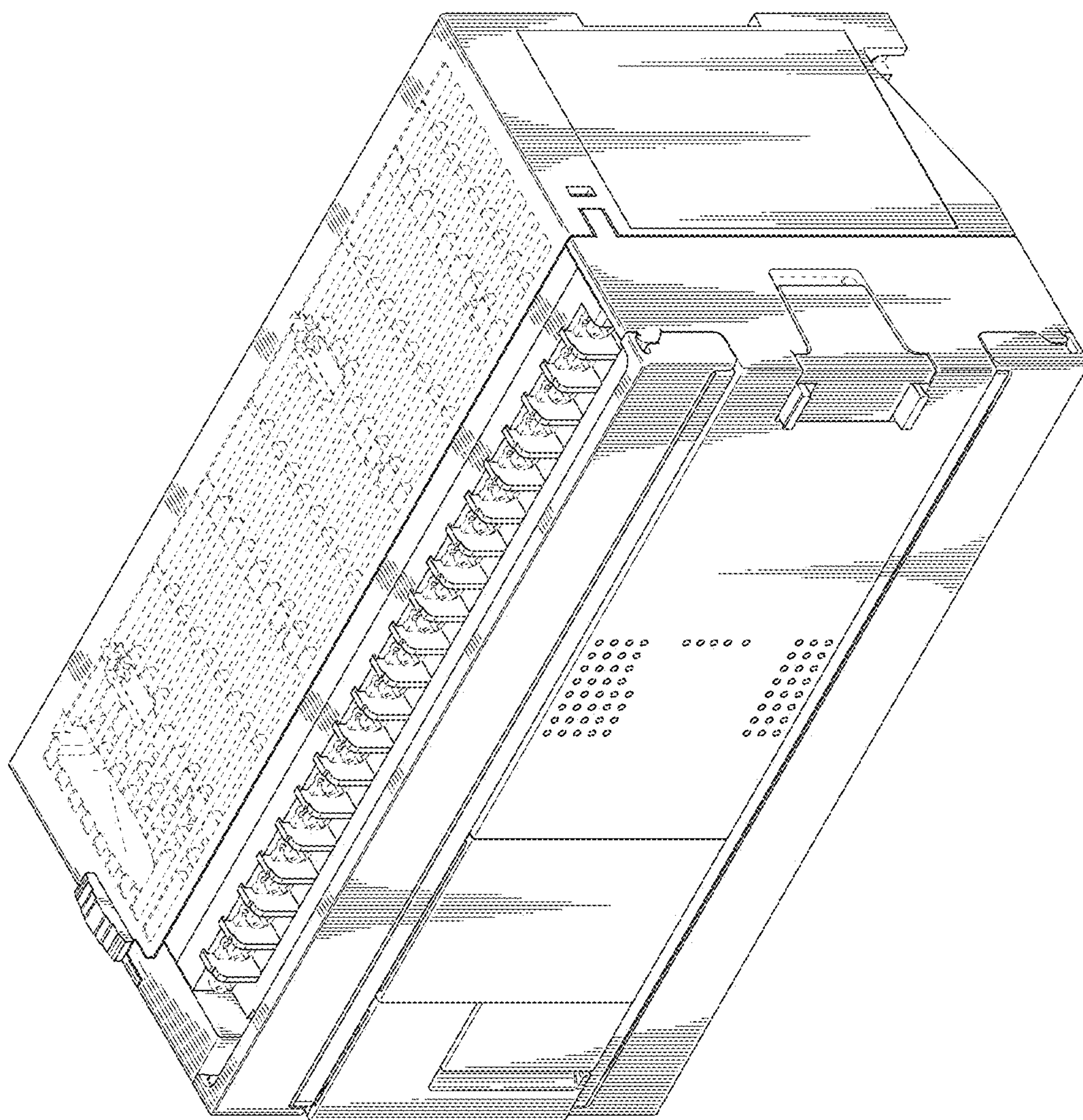


FIG. 18

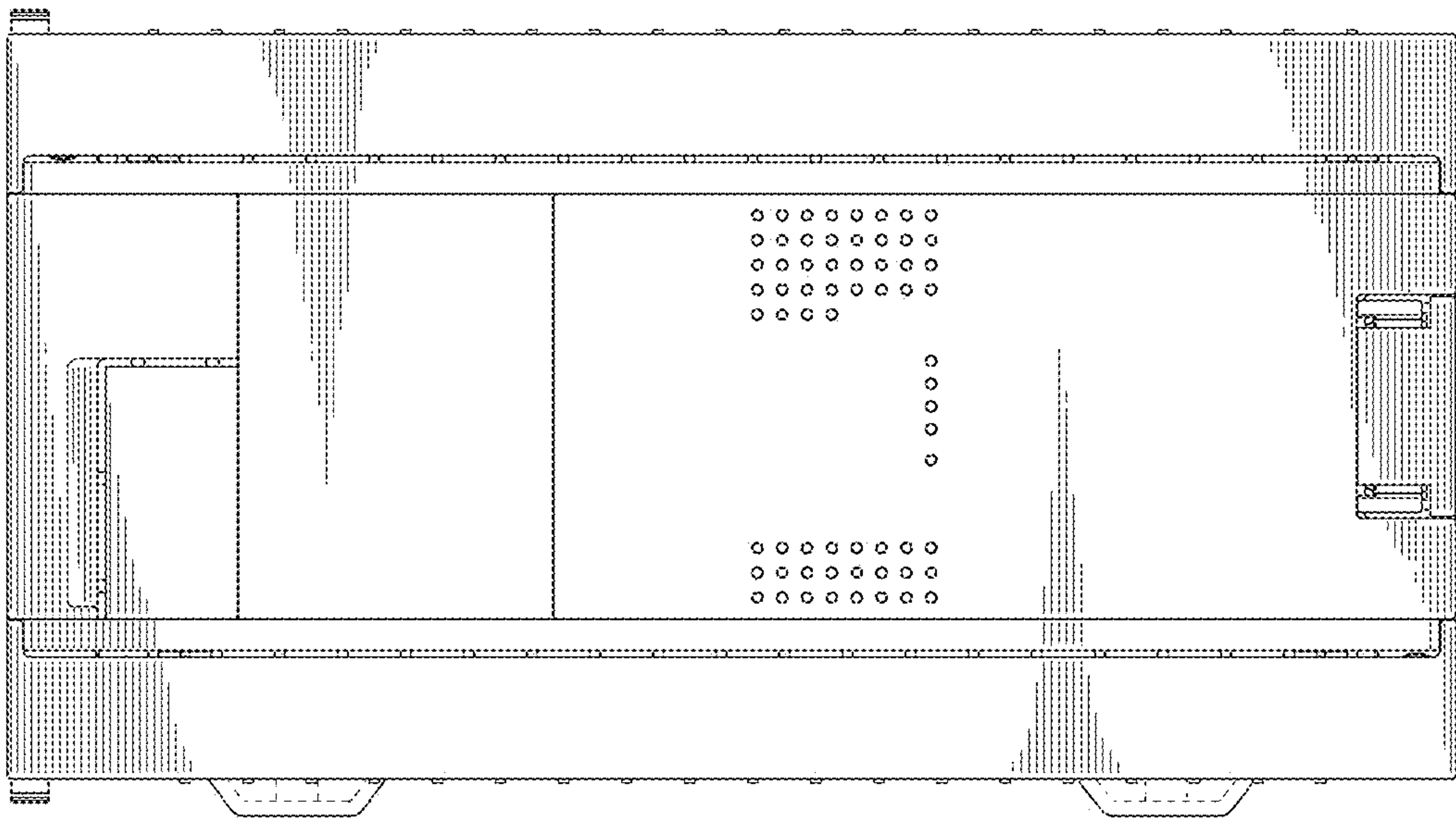


FIG. 19

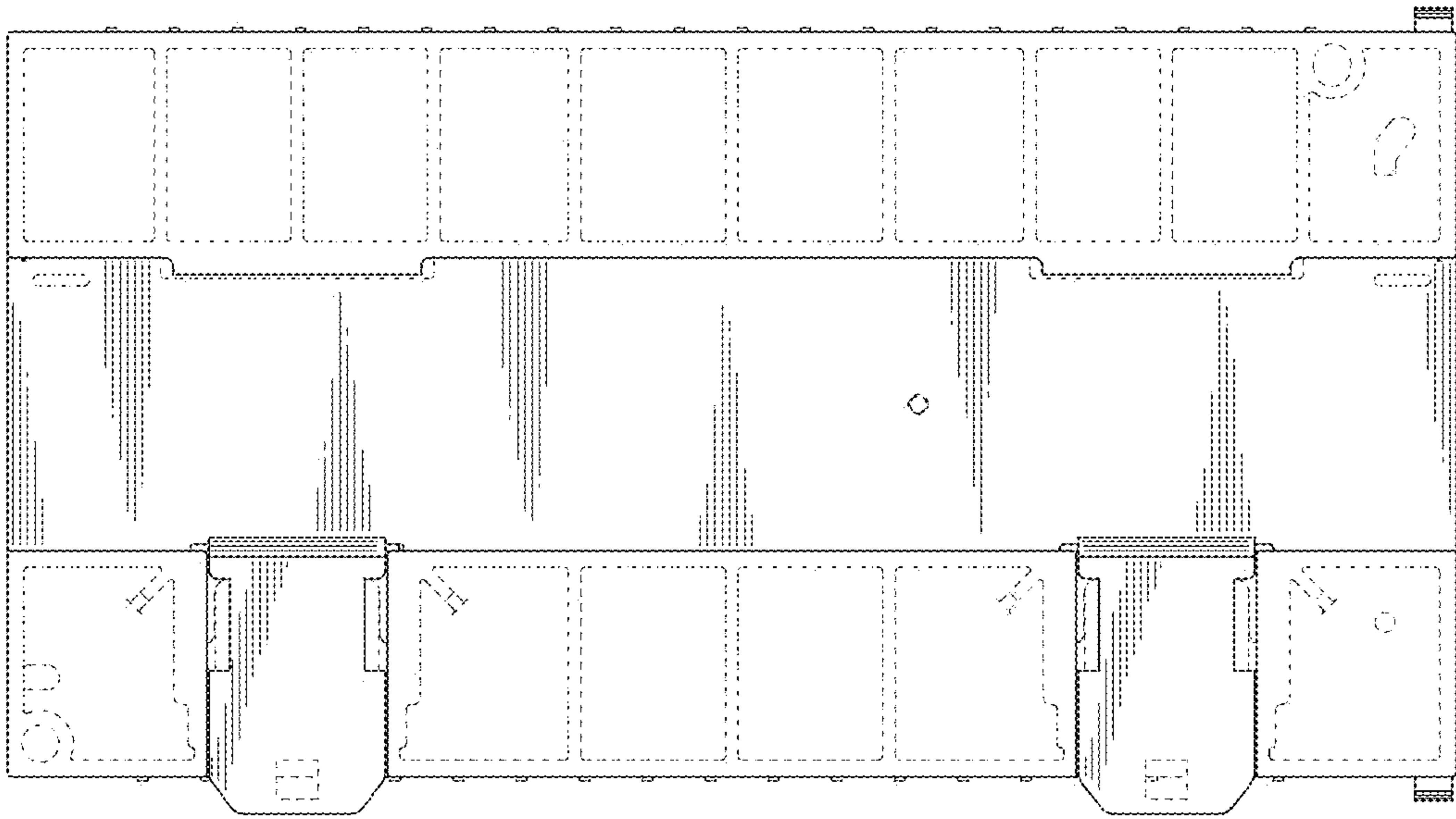


FIG. 20

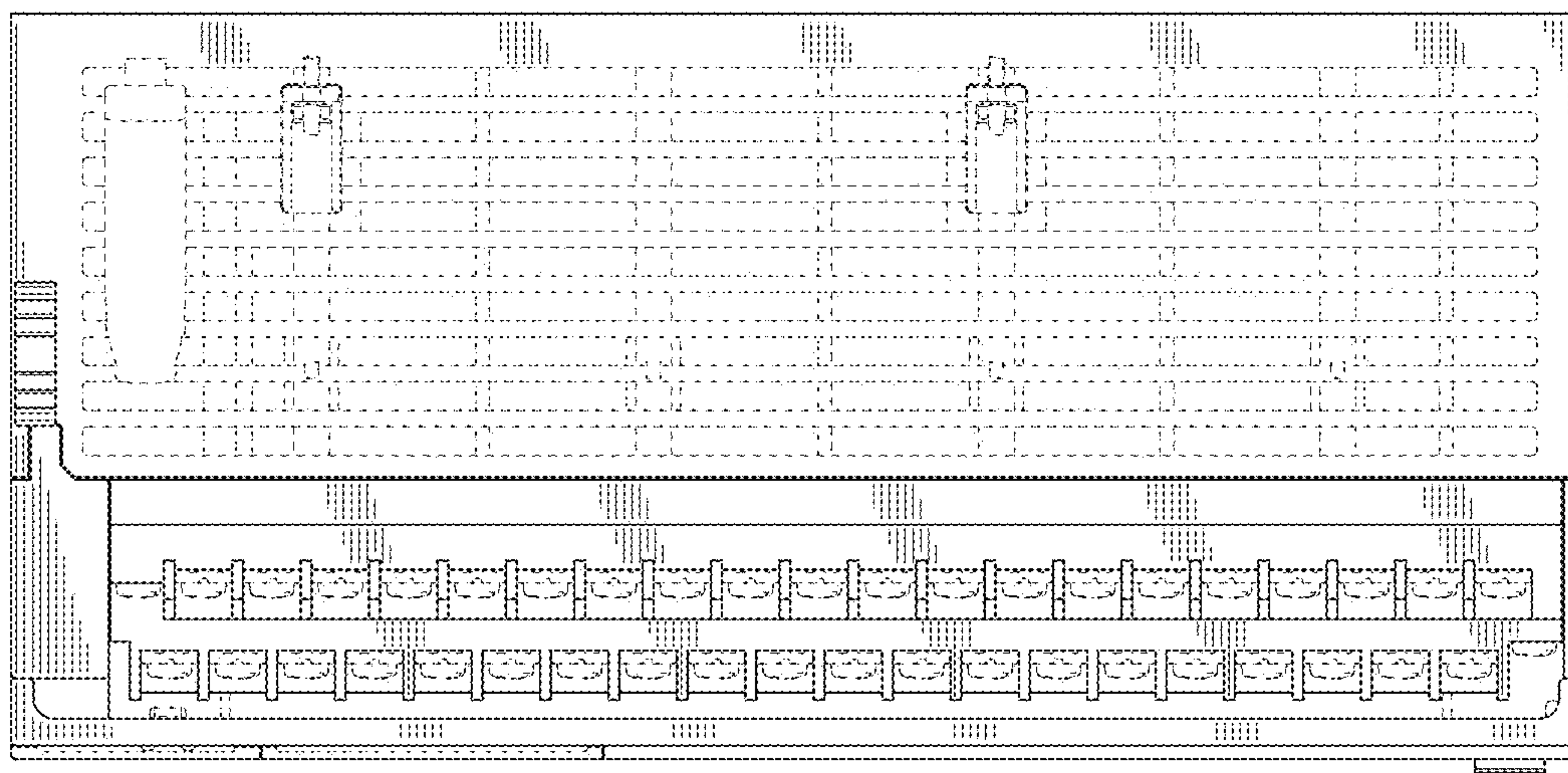


FIG. 21

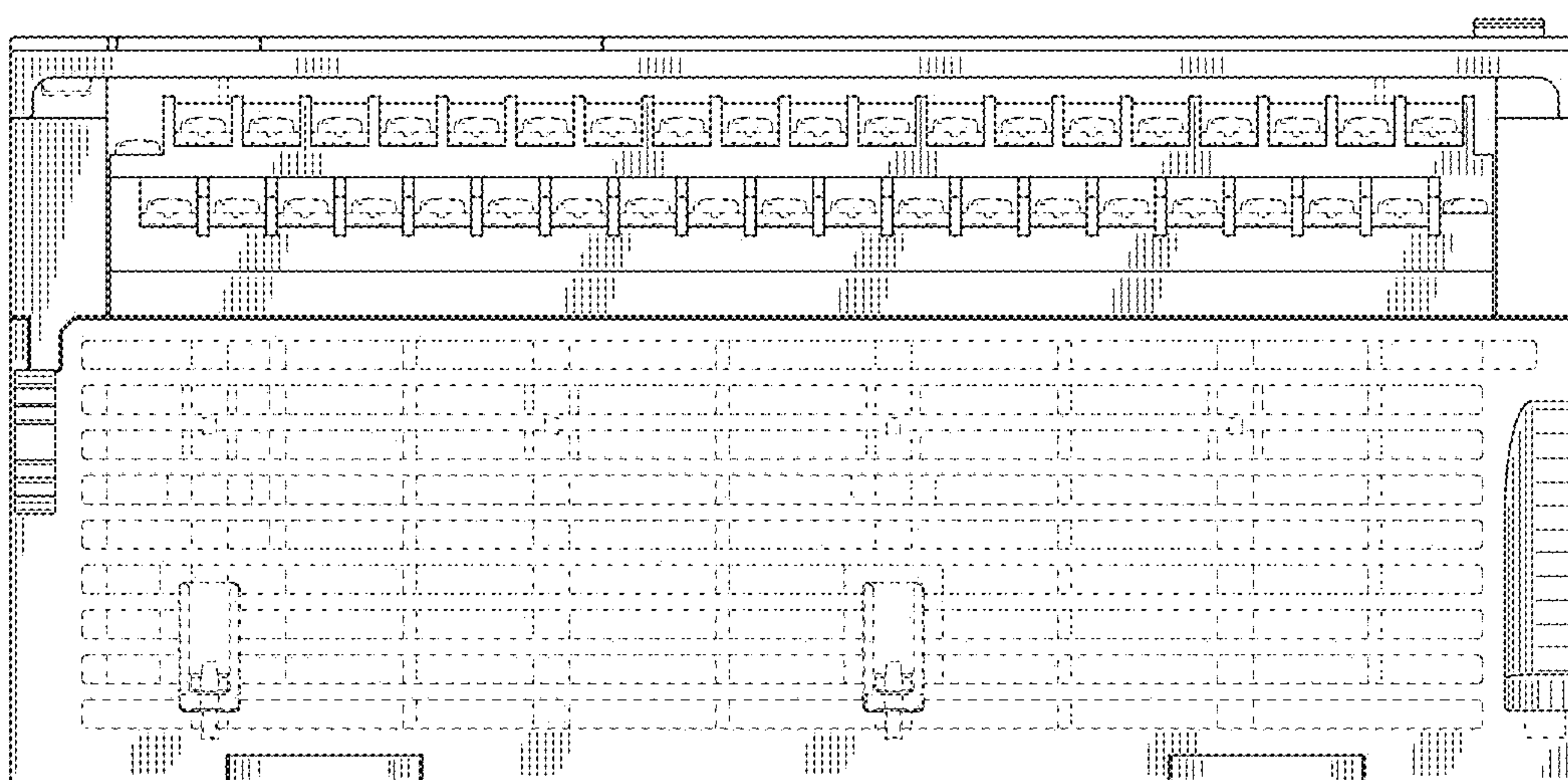


FIG. 22

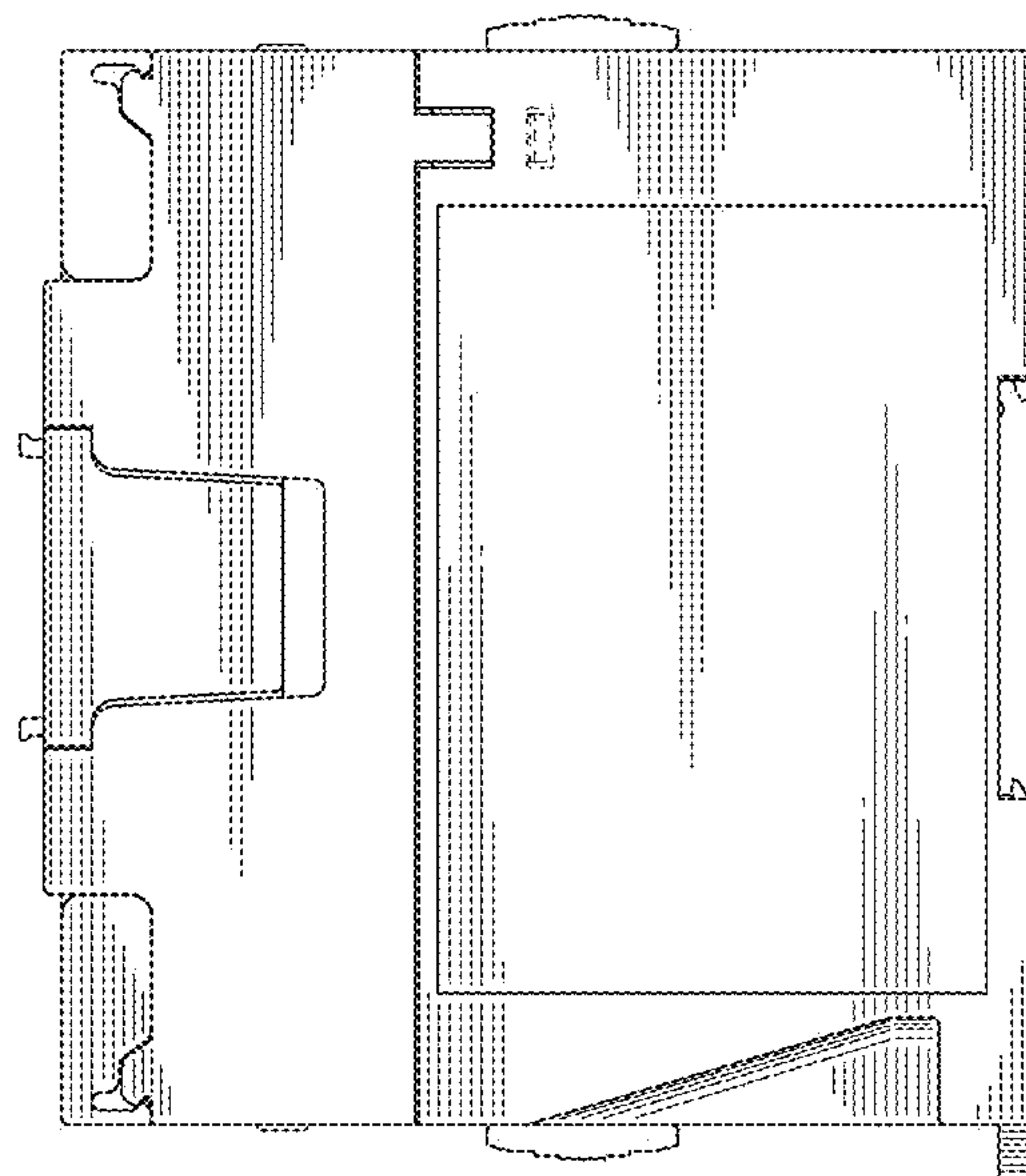


FIG. 23

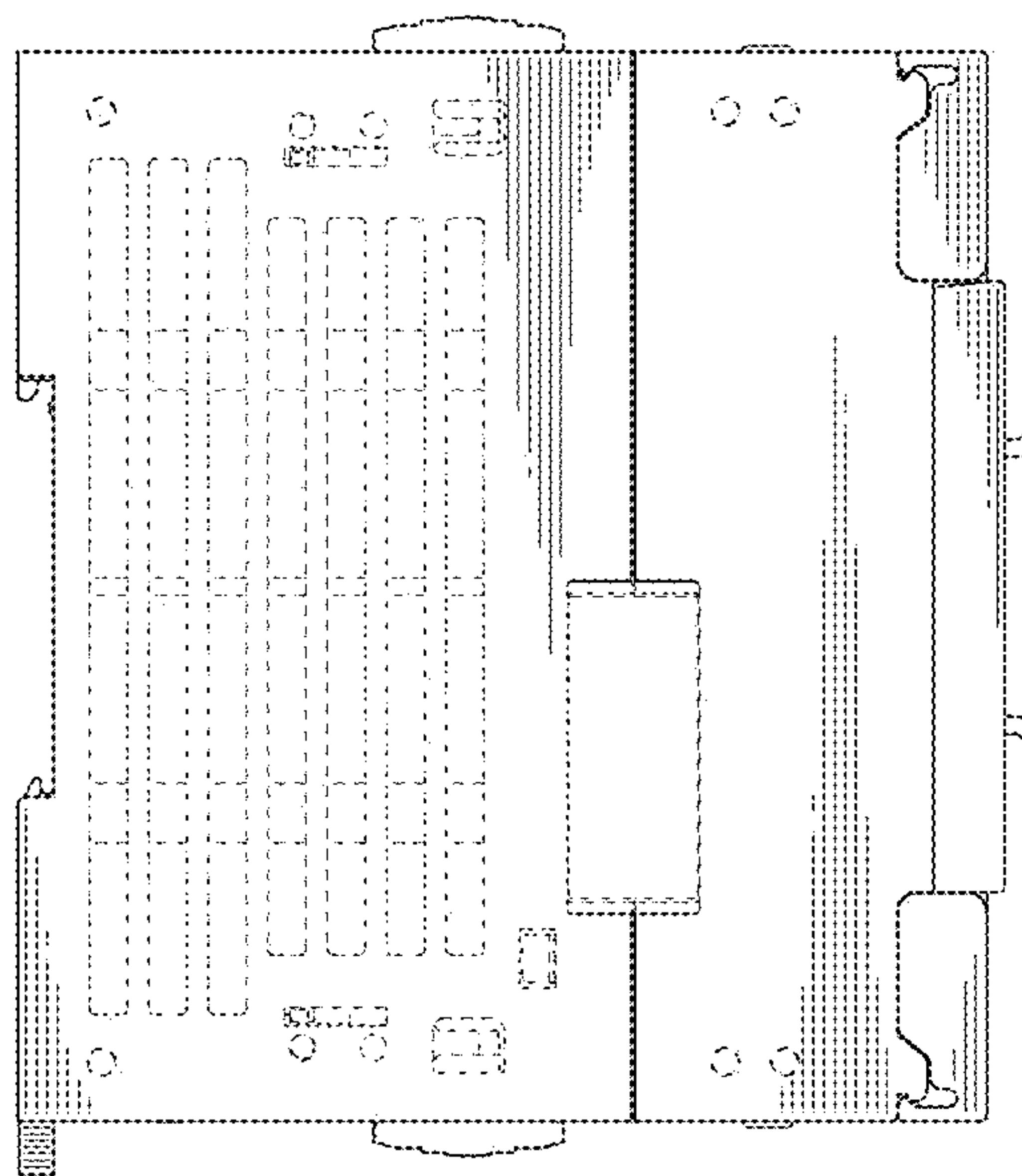


FIG. 24

