



US00D951187S

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

(10) **Patent No.:** **US D951,187 S**
(45) **Date of Patent:** **** May 10, 2022**

(54) **THREE-PHASE FREQUENCY CONVERTER**

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(71) Applicant: **ABB Beijing Drive Systems Co., Ltd.**,
Beijing (CN)

(57) **CLAIM**

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

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DESCRIPTION

(73) Assignee: **ABB BEIJING DRIVE SYSTEMS CO., LTD.**, Beijing (CN)

FIG. 1 illustrates a front side view of a first embodiment of a three-phase frequency converter.

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

FIG. 2 illustrates a rear side view of the three-phase frequency converter shown in FIG. 1.

(21) Appl. No.: **29/730,650**

FIG. 3 illustrates a left side view of the three-phase frequency converter shown in FIG. 1.

(22) Filed: **Apr. 7, 2020**

FIG. 4 illustrates a right side view of the three-phase frequency converter shown in FIG. 1.

(30) **Foreign Application Priority Data**

FIG. 5 illustrates a top plan view of the three-phase frequency converter shown in FIG. 1.

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FIG. 6 illustrates a bottom plan view of the three-phase frequency converter shown in FIG. 1.

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

FIG. 7 illustrates a front side perspective view of the three-phase frequency converter shown in FIG. 1.

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

FIG. 8 illustrates a bottom side perspective view of the three-phase frequency converter shown in FIG. 1.

(58) **Field of Classification Search**
USPC D13/110, 101, 118, 123, 162, 164, 184,
D13/199; D15/149

FIG. 9 illustrates a front side view of a second embodiment of a three-phase frequency converter.

CPC H02M 7/00; H02M 7/02; H02M 7/003;
H05K 5/00; H05K 5/0017; H05K 5/04;
H05K 7/20; H05K 7/20136; H05K
7/20209; H05K 7/20418; G06F 1/20

FIG. 10 illustrates a rear side view of the three-phase frequency converter shown in FIG. 9.

See application file for complete search history.

FIG. 11 illustrates a left side view of the three-phase frequency converter shown in FIG. 9.

(56) **References Cited**

FIG. 12 illustrates a right side view of the three-phase frequency converter shown in FIG. 9.

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FIG. 13 illustrates a top plan view of the three-phase frequency converter shown in FIG. 9.

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FIG. 14 illustrates a bottom plan view of the three-phase frequency converter shown in FIG. 9.

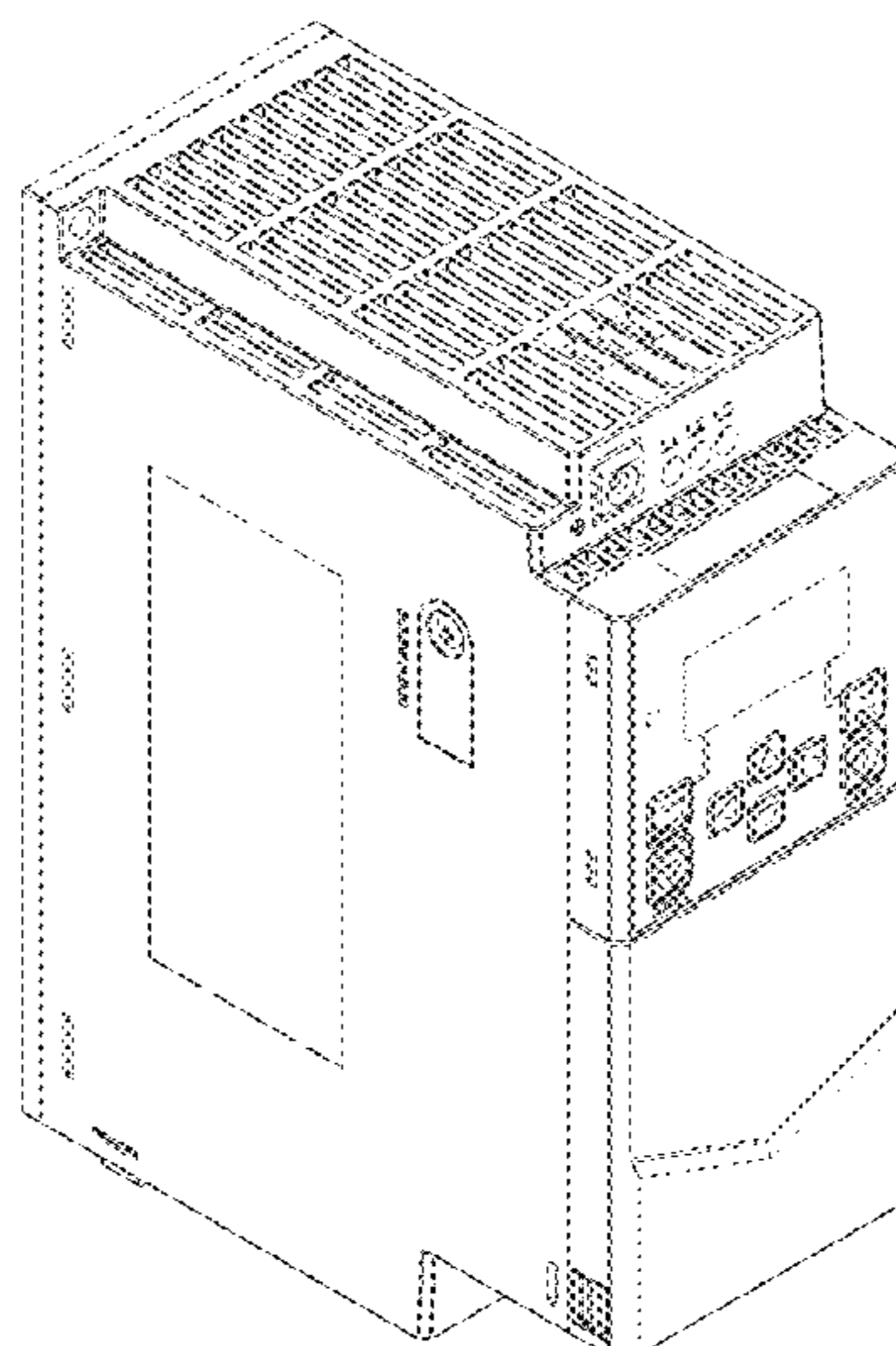
(Continued)

FIG. 15 illustrates a front side perspective view of the three-phase frequency converter shown in FIG. 9; and,

FIG. 16 illustrates a bottom side perspective view of the three-phase frequency converter shown in FIG. 9.

Primary Examiner — Derrick E Holland

1 Claim, 16 Drawing Sheets



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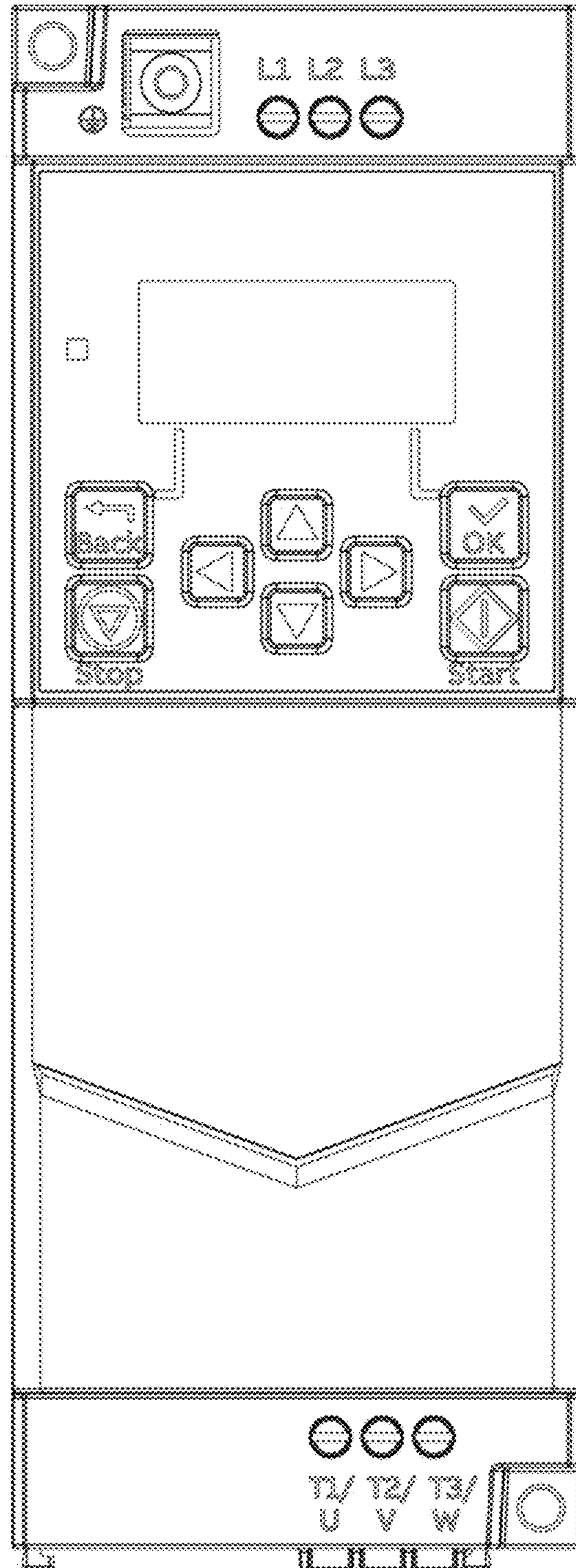


FIG. 1

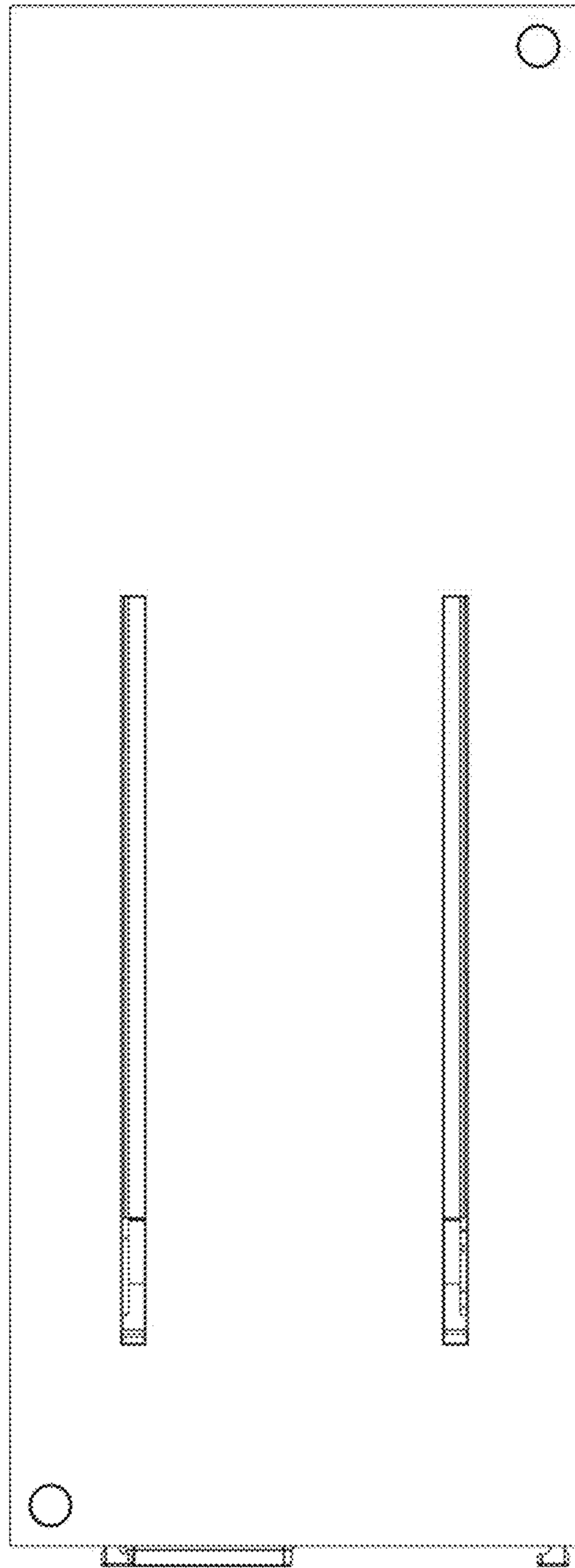


FIG. 2

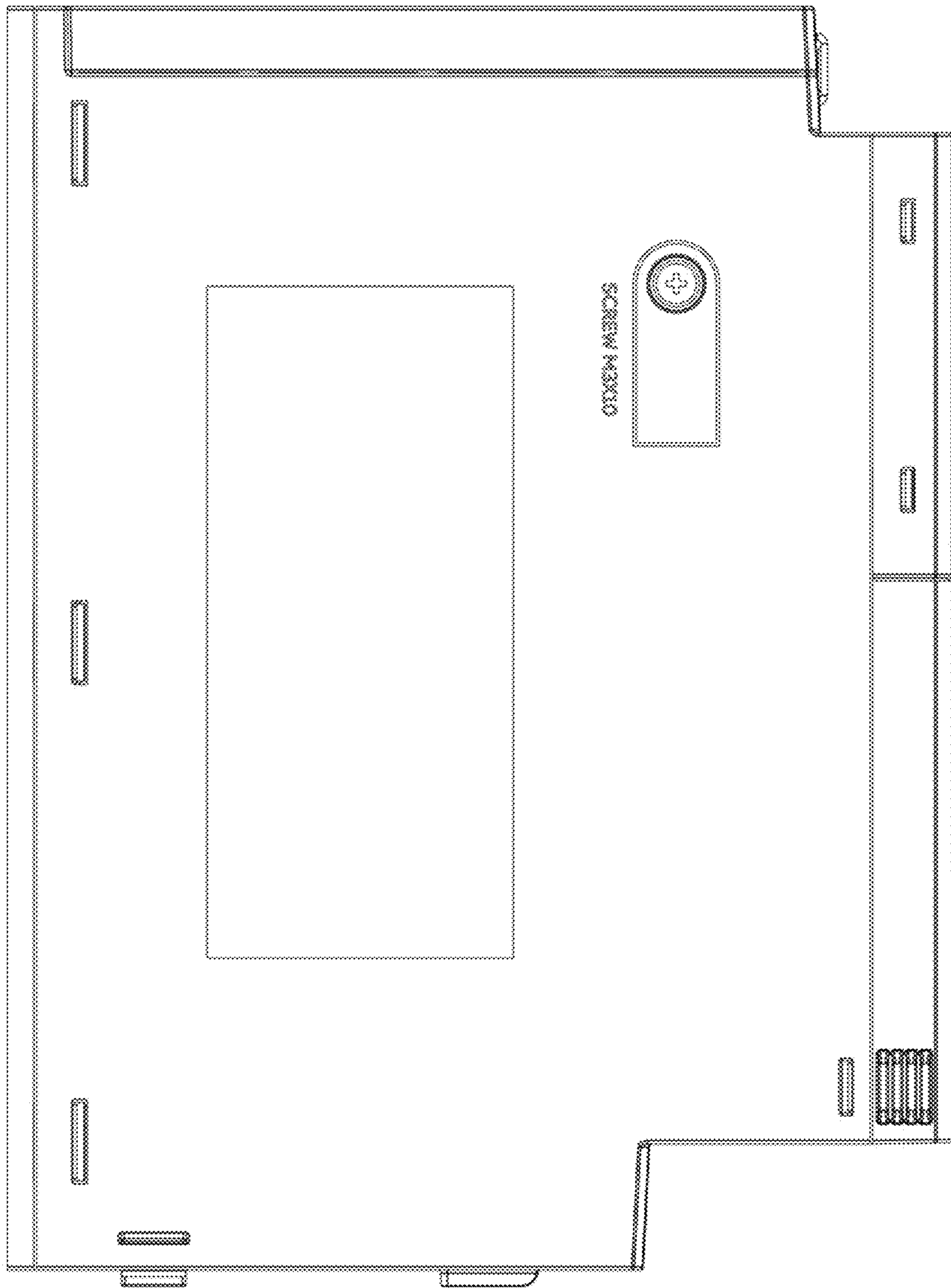


FIG. 3

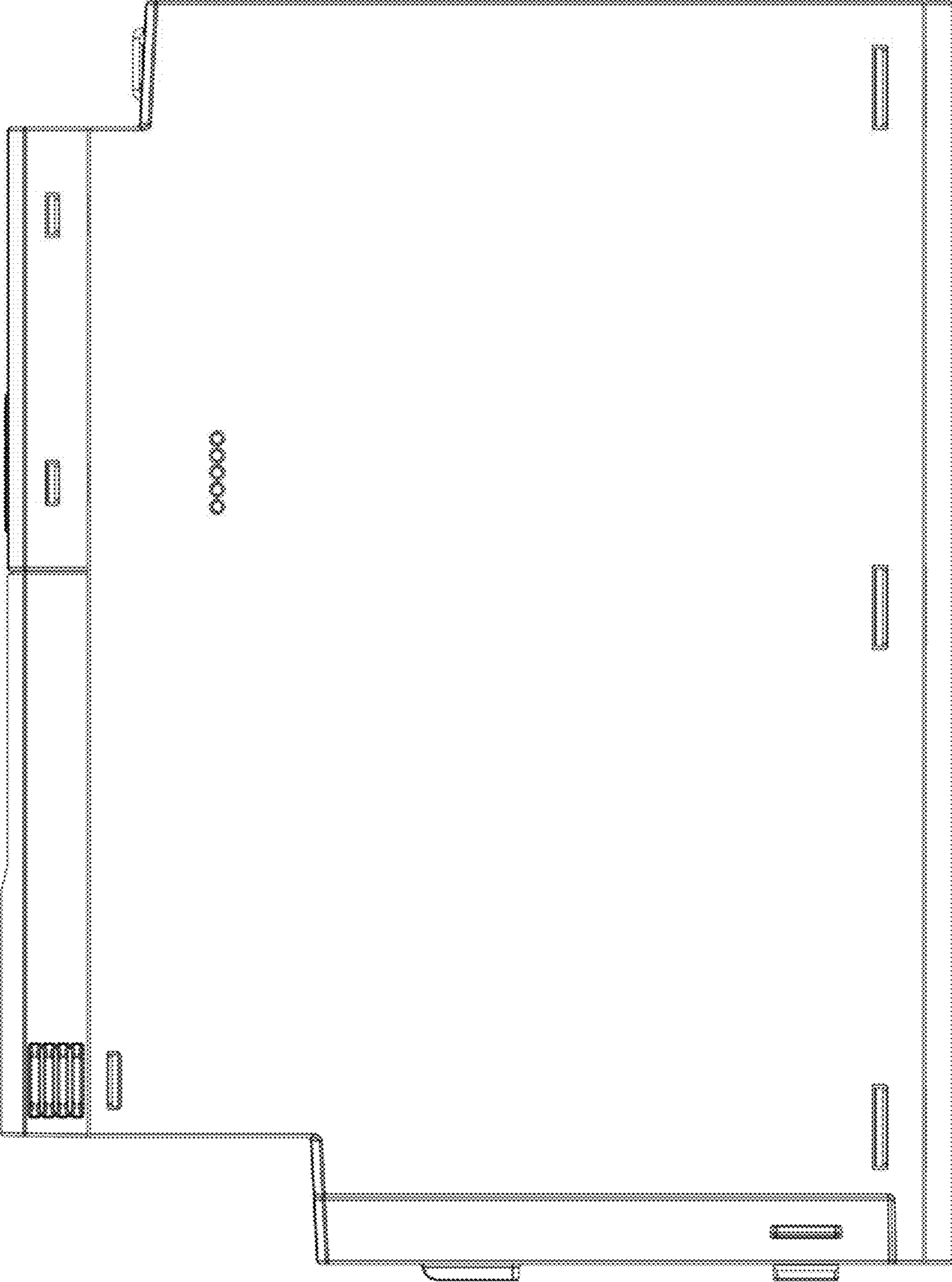


FIG. 4

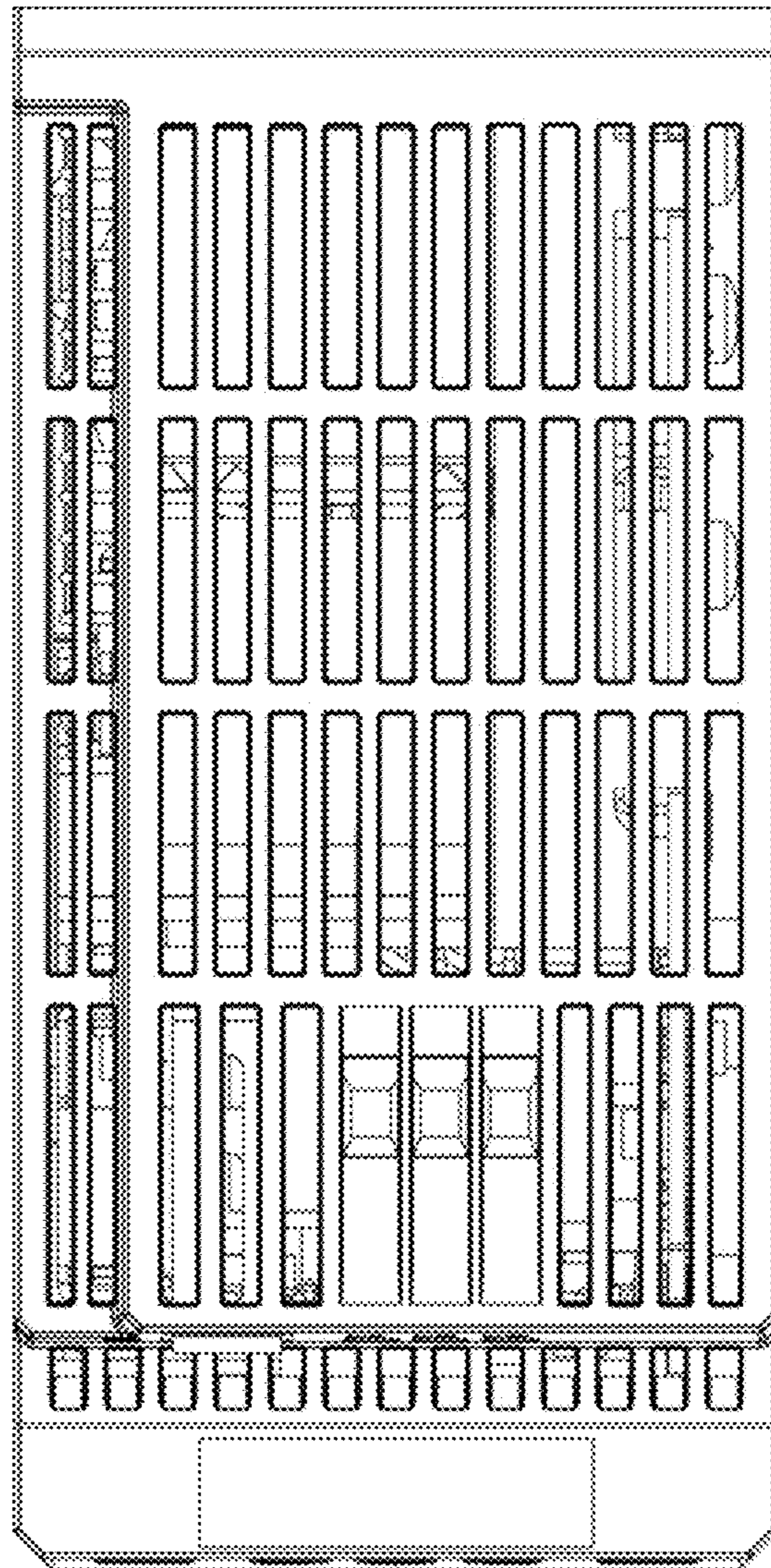


FIG. 5

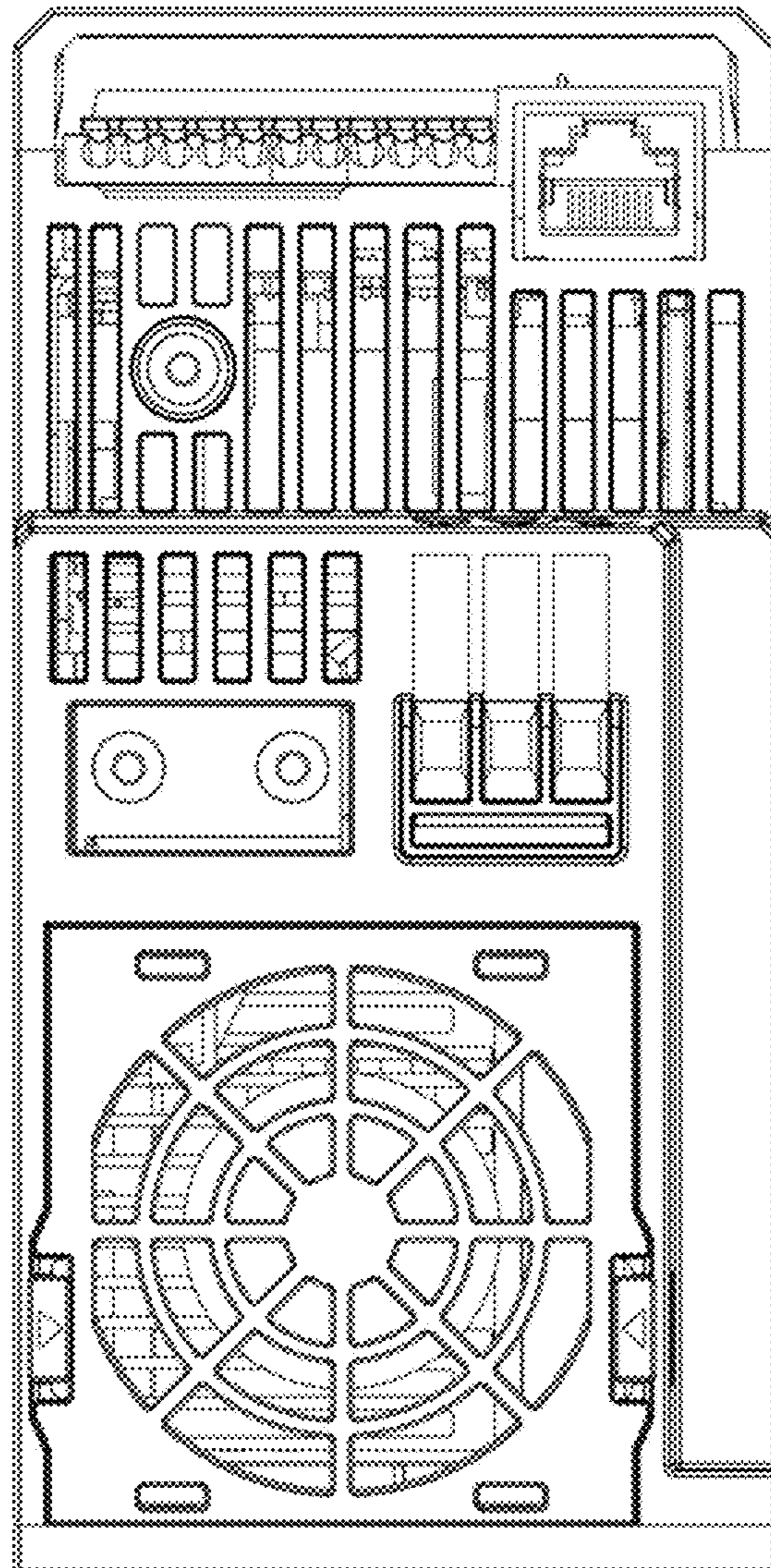


FIG. 6

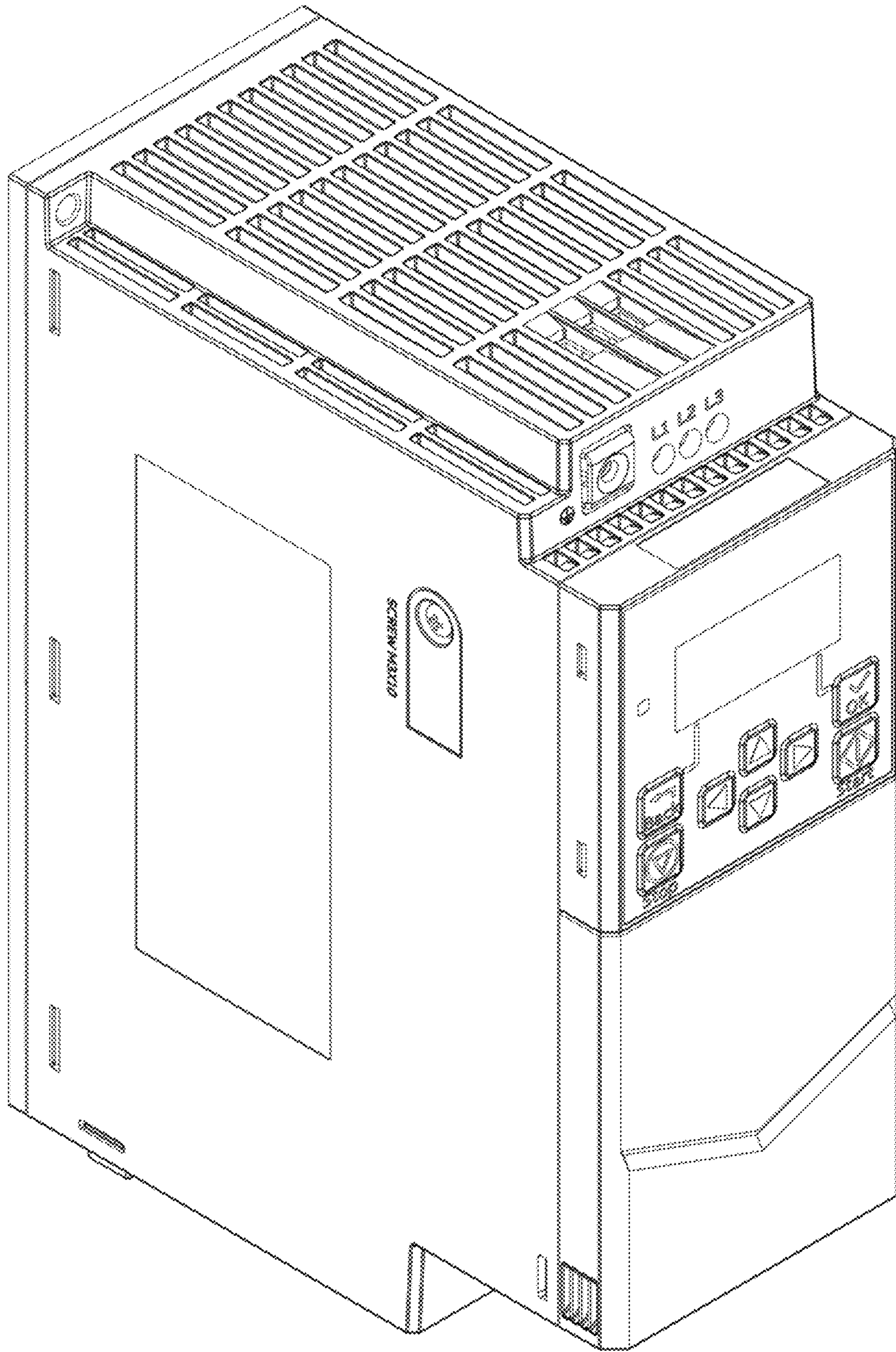


FIG. 7

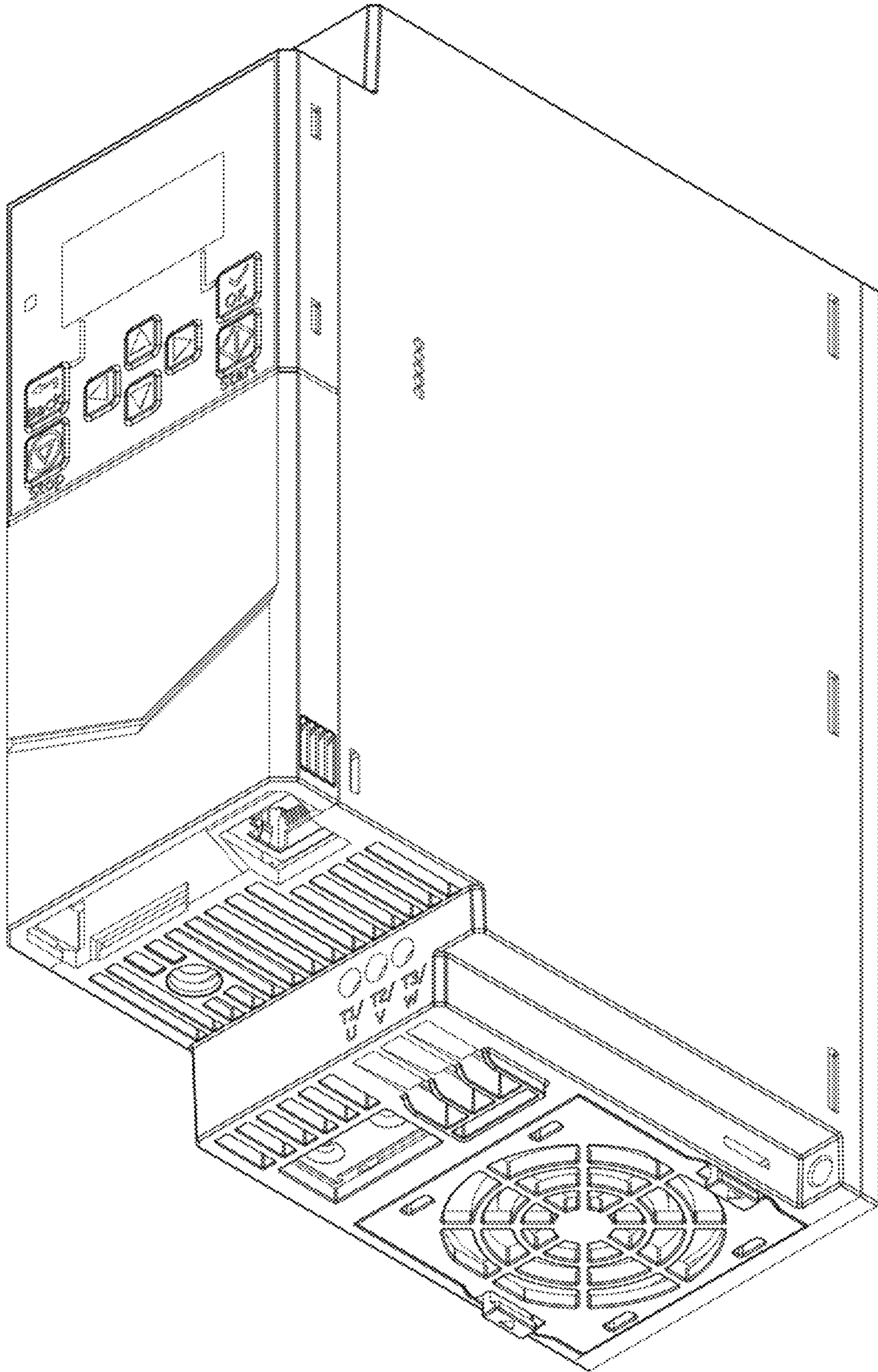


FIG. 8

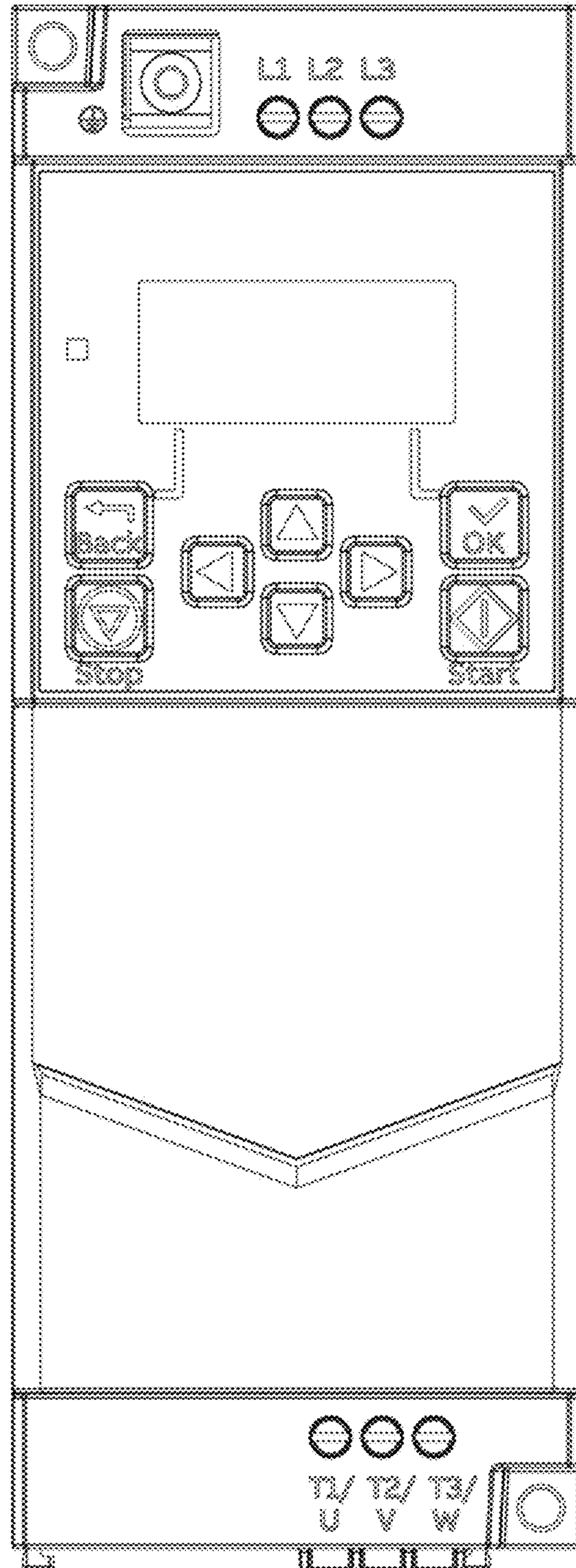


FIG. 9

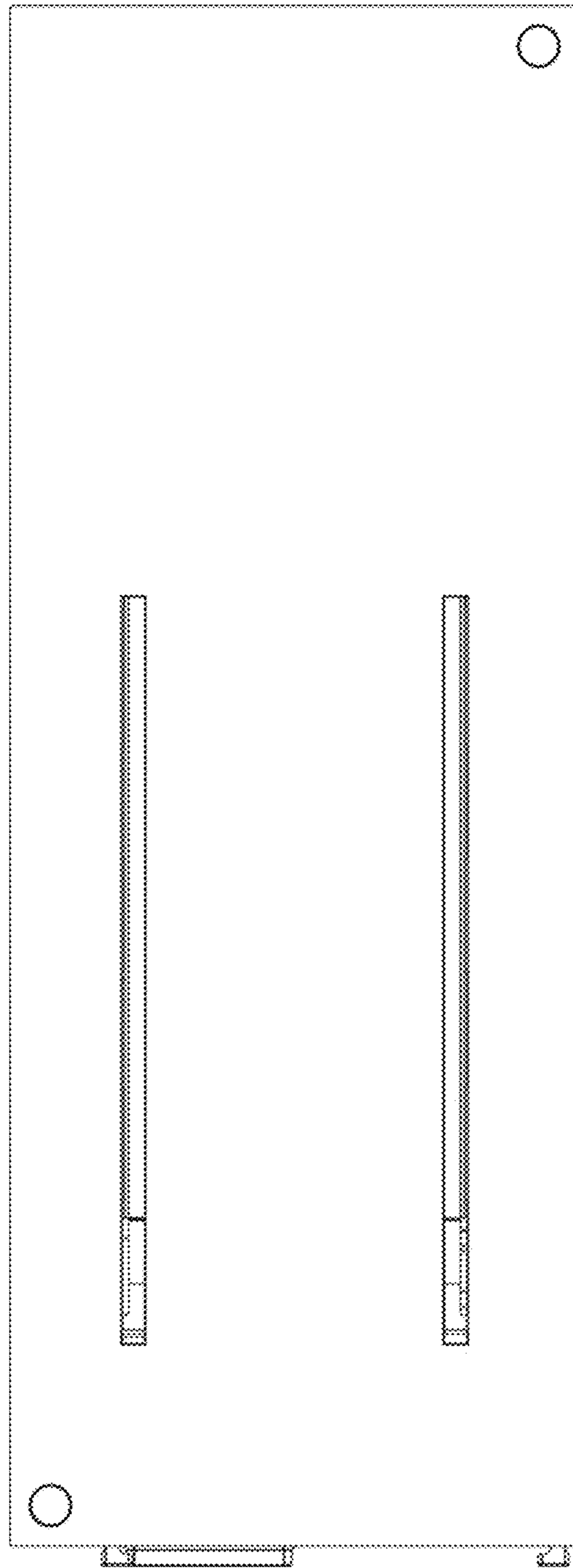


FIG. 10

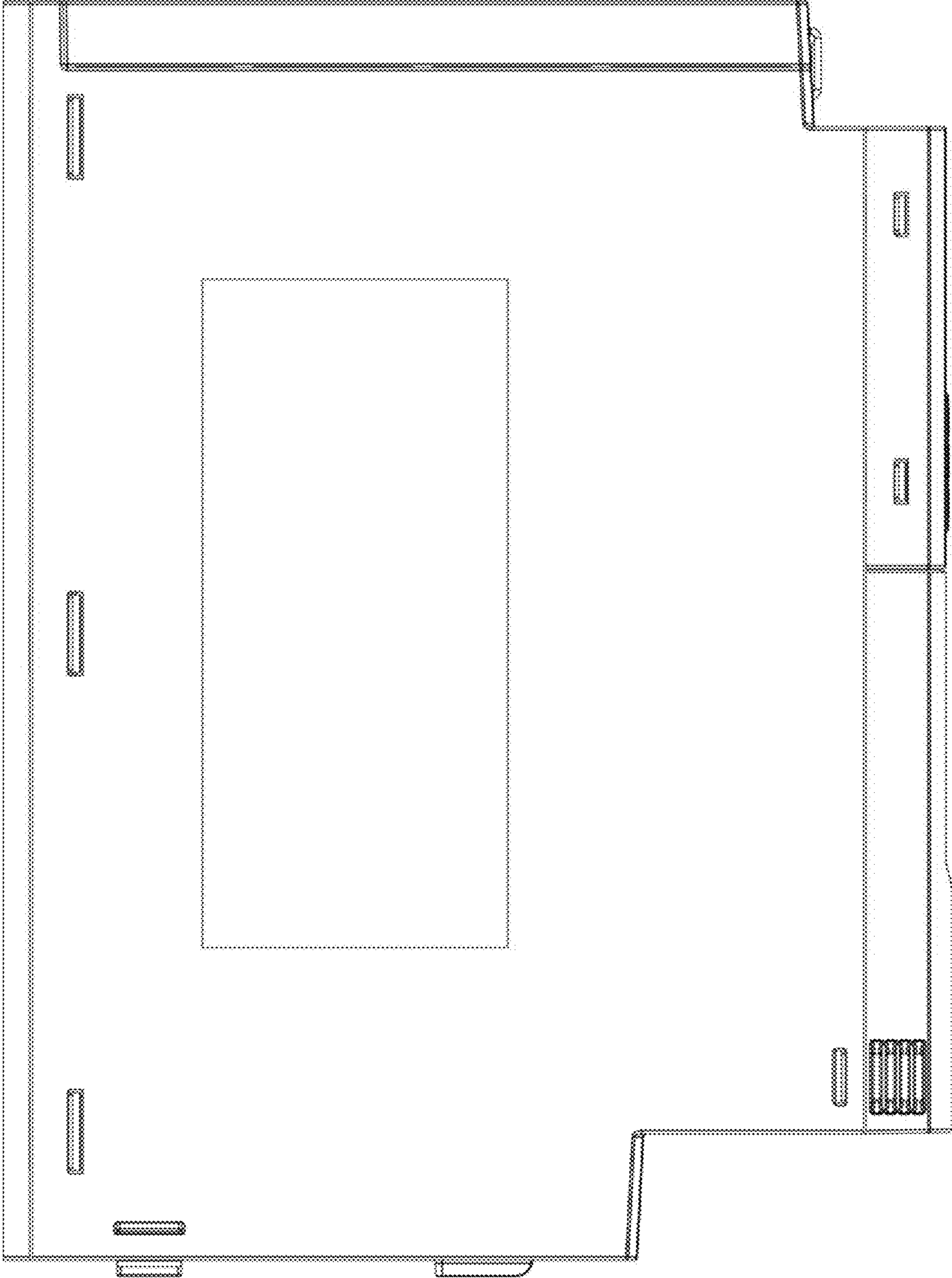


FIG. 11

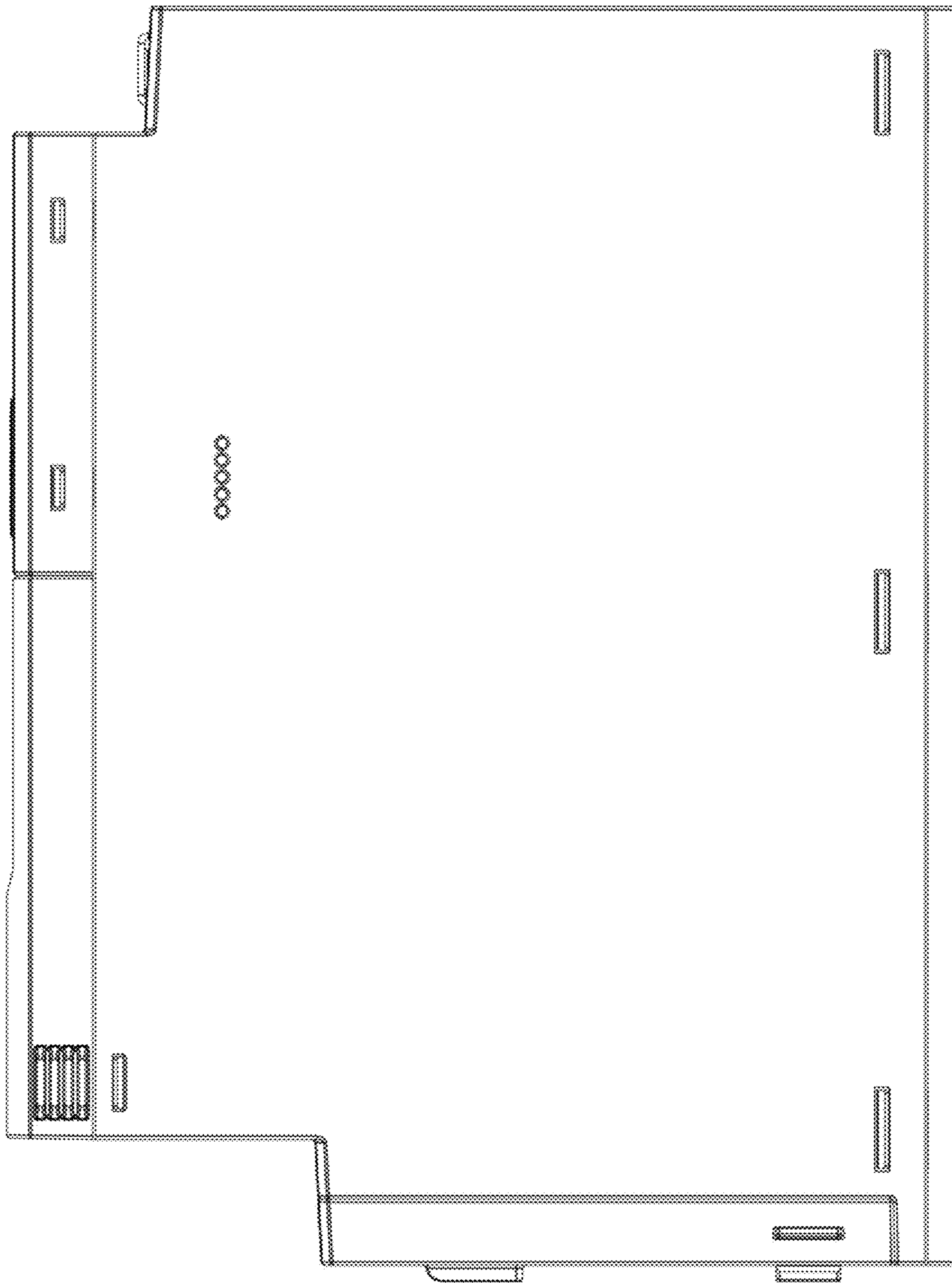


FIG. 12

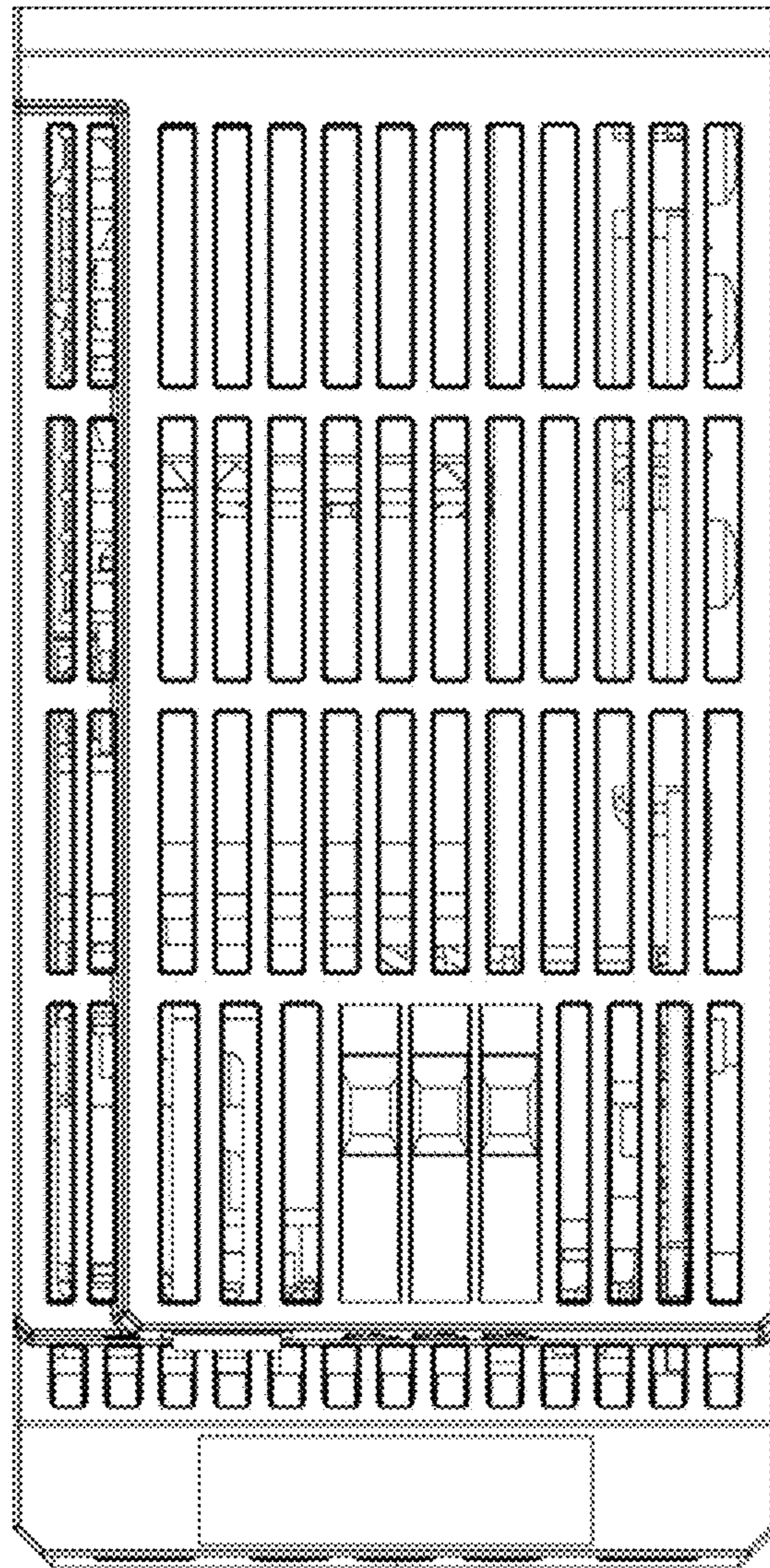


FIG. 13

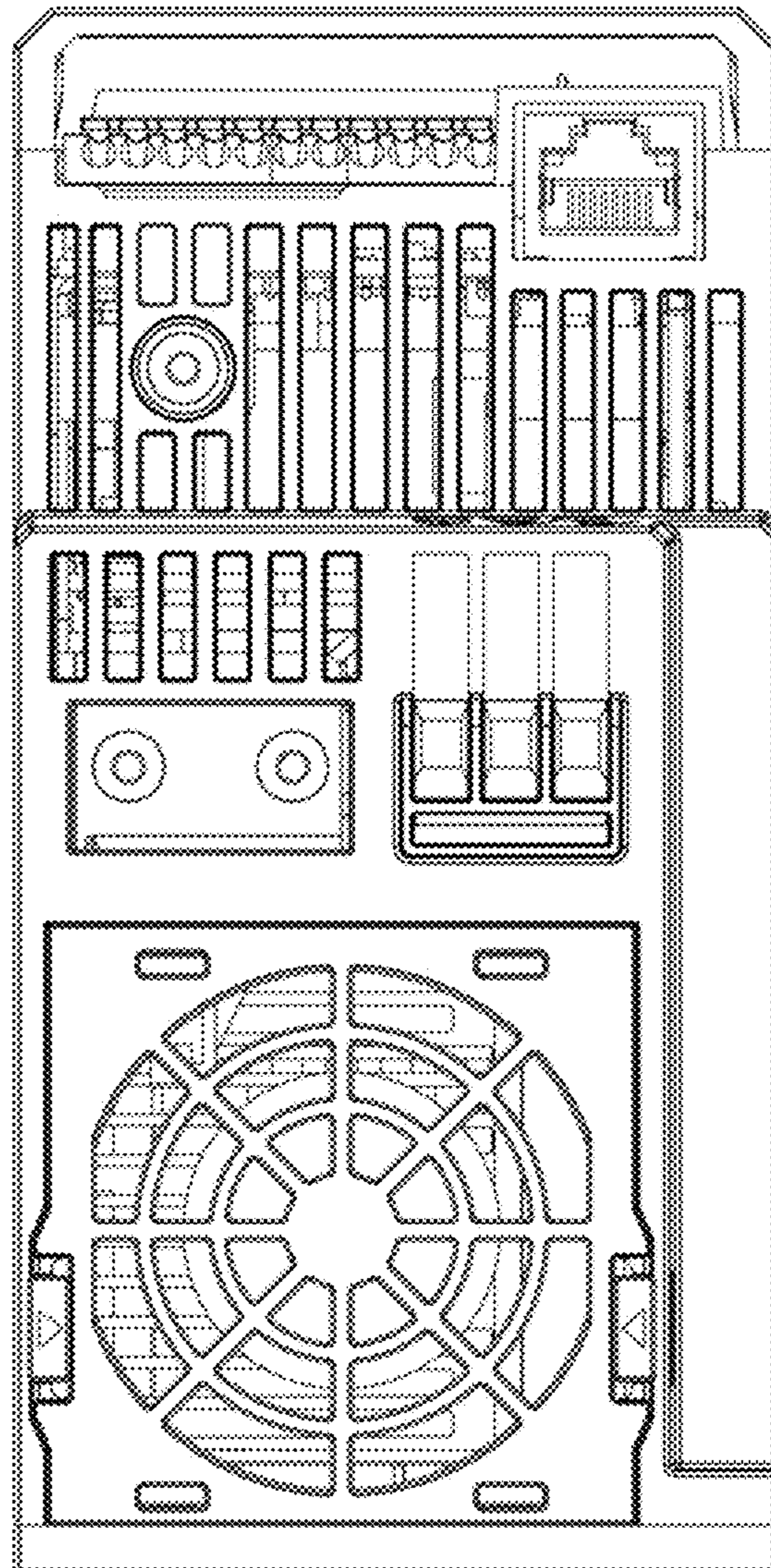


FIG. 14

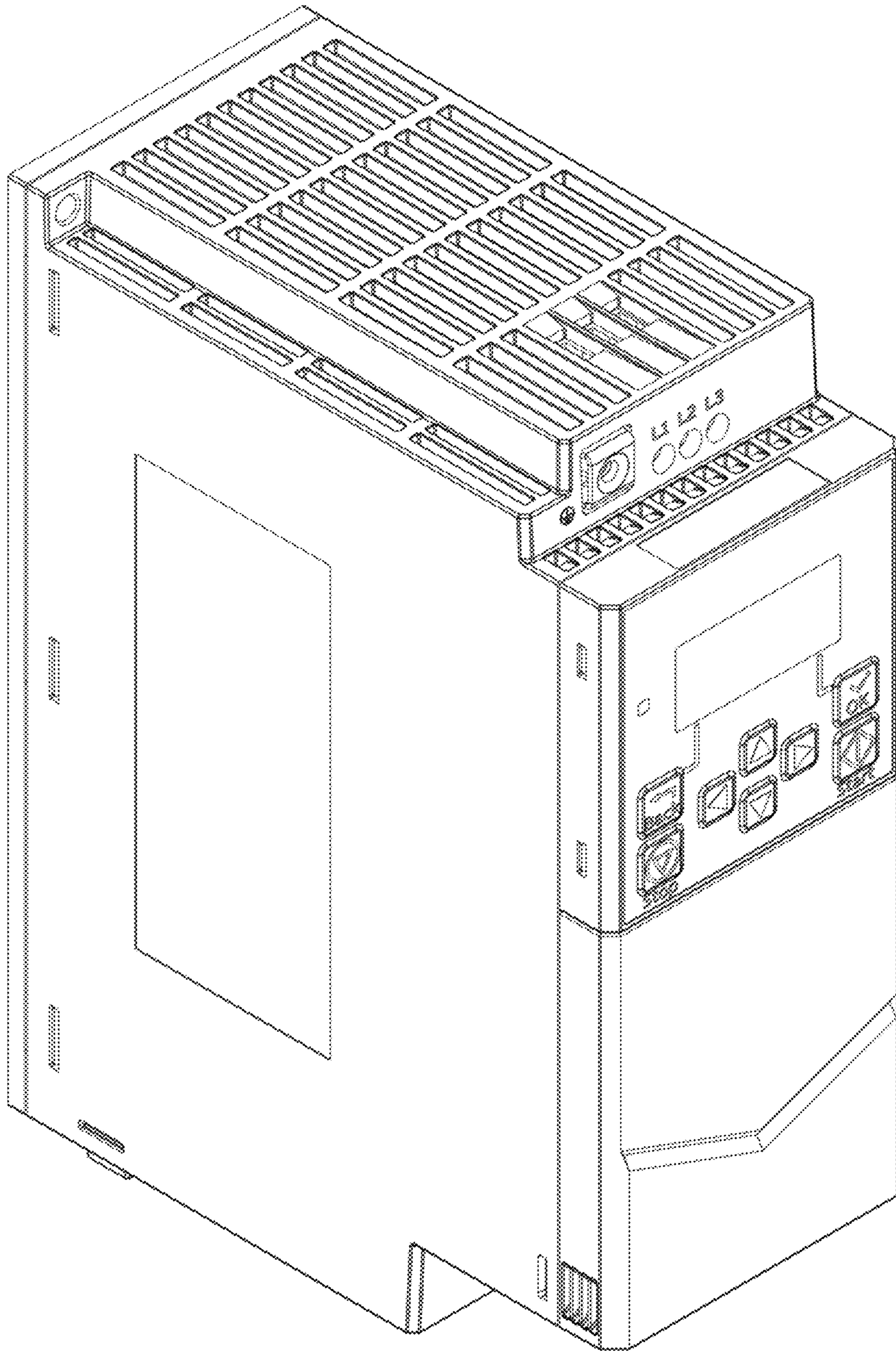


FIG. 15

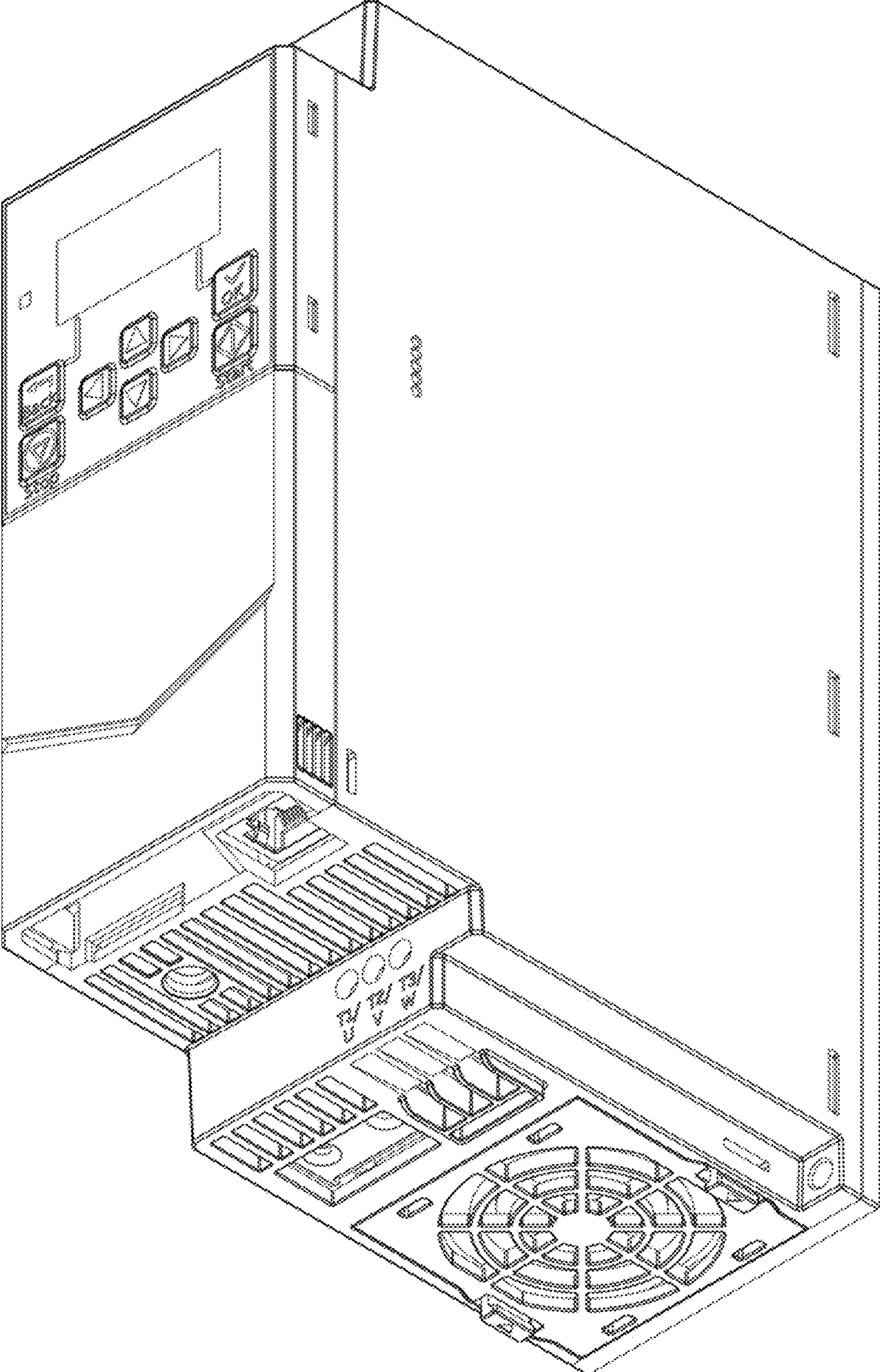


FIG. 16