



US00D804417S

(12) **United States Design Patent** (10) **Patent No.:** **US D804,417 S**  
**Baacke et al.** (45) **Date of Patent:** **\*\* Dec. 5, 2017**

(54) **FREQUENCY CONVERTER**

(71) Applicant: **SEW-EURODRIVE GmbH & Co. KG**, Bruchsal (DE)  
(72) Inventors: **Bettina Baacke**, Karlsruhe (DE); **Martina Findik**, Karlsruhe (DE); **Jürgen Goos**, Speyer (DE); **Dirk Momann**, Bruchsal (DE); **Jürgen Ott**, Dettenheim (DE); **Thomas Hannich**, Bruchsal (DE); **Markus Zieger**, Forst (DE); **Harald Meyer**, Niefern-Öschelbronn (DE); **Hans Krattenmacher**, Bretten (DE)

(73) Assignee: **SEW-EURODRIVE GmbH & Co. KG**, Bruchsal (DE)

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

(21) Appl. No.: **29/565,491**

(22) Filed: **May 20, 2016**

(30) **Foreign Application Priority Data**

Jan. 14, 2016 (DE) ..... 40 2015 001 928

(51) **LOC (10) Cl.** ..... **13-02**

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

(58) **Field of Classification Search**  
USPC ..... D13/101, 102, 107, 108, 110, 112, 118, D13/119, 123, 133, 138.1, 162, 184, 199  
CPC ..... H02P 27/04; H02P 27/06; H02P 27/047; H02P 2201/09; H02P 2201/11; H02M 2001/0067; H02M 2001/007; H02M 2001/0045; H02M 2001/0083; H02M 2001/009; H02M 7/003; H02M 7/06; H02M 7/00; G06F 1/00; G06F 1/188; G06F 1/189; G06F 1/26; G06F 11/2015; H01R 13/66; H01R 13/60; H01R 13/72; H01R 13/6675; H01R 31/065; H05K 5/0021; H05K 5/0208; H05K 5/0247; H05K 5/00

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,790,372 A \* 8/1998 Dewey ..... G06F 1/189 312/223.2  
D429,213 S \* 8/2000 Colver ..... D13/110  
7,414,860 B1 \* 8/2008 Chen ..... H05K 5/0208 361/759  
D586,744 S \* 2/2009 Jaskari ..... D13/110  
(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 29/565,488; Frequency Converter; Bettina Baacke et al; filed May 20, 2016.

(Continued)

*Primary Examiner* — Rosemary K Tarcza

*Assistant Examiner* — Christy Nemeth

(74) *Attorney, Agent, or Firm* — Finnegan, Henderson, Farabow, Garrett & Dunner, LLP

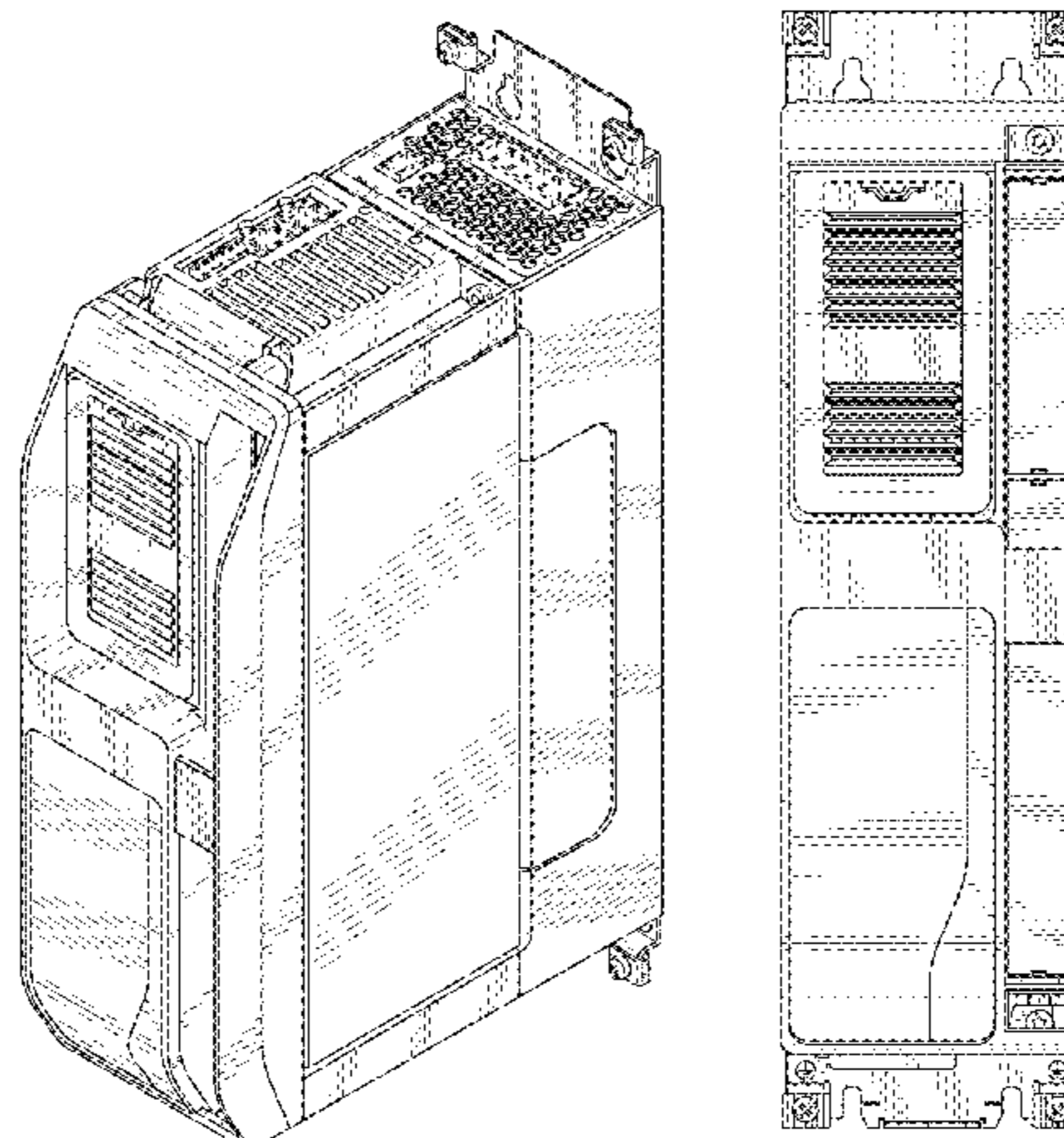
(57) **CLAIM**

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

**DESCRIPTION**

FIG. 1 is a top, front, right perspective view of a frequency converter, showing our new design;  
FIG. 2 is a front elevation view thereof;  
FIG. 3 is a rear elevation view thereof;  
FIG. 4 is a left side elevation view thereof;  
FIG. 5 is a right side elevation view thereof;  
FIG. 6 is a top plan view thereof; and,  
FIG. 7 is a bottom plan view thereof.  
The broken lines of even length shown in the drawings illustrate portions of the frequency converter that form no part of the claimed design.

**1 Claim, 7 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

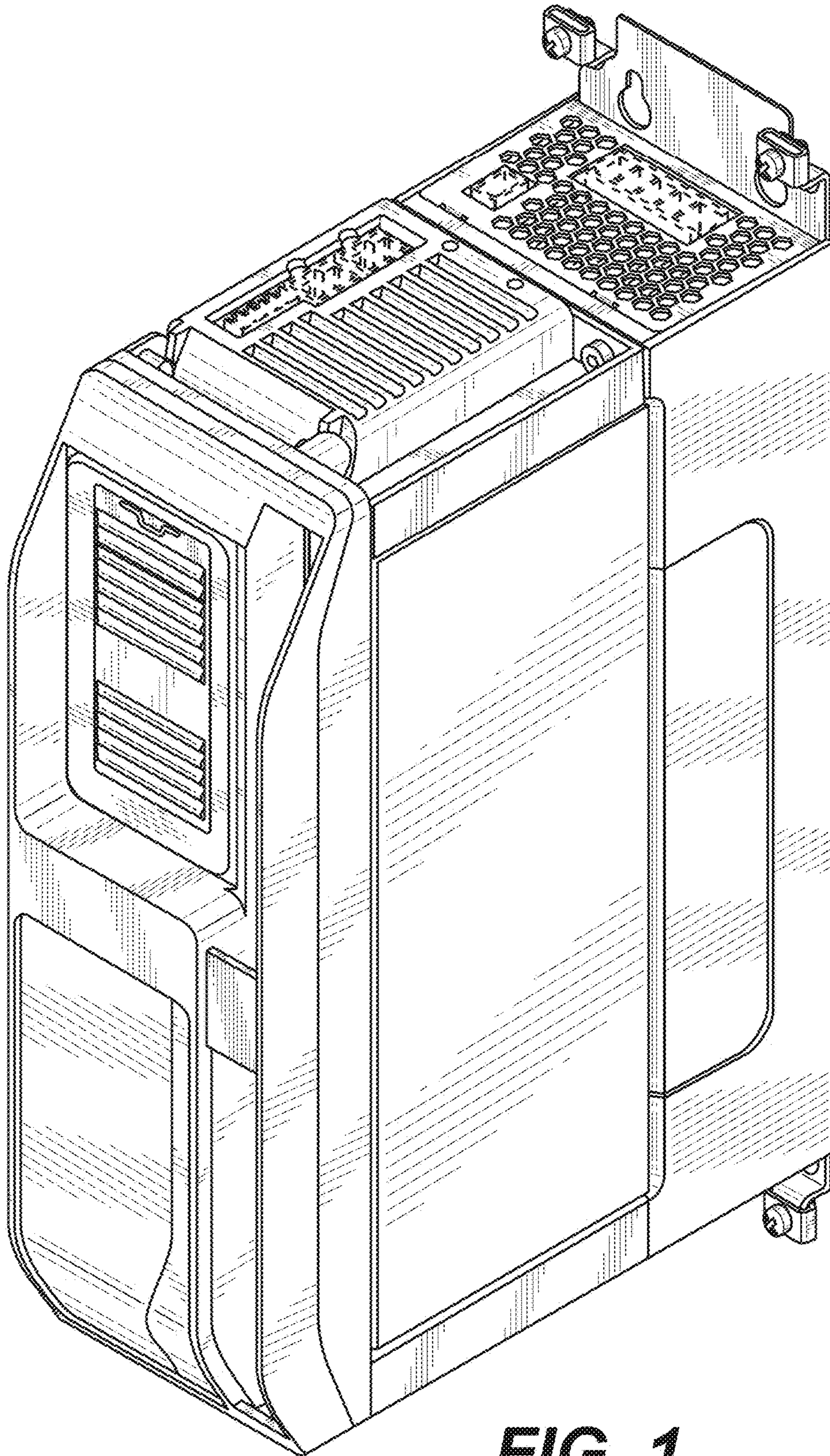
D654,022 S \* 2/2012 Sun ..... D13/110  
D673,910 S \* 1/2013 Lostun ..... D13/110  
D683,698 S \* 6/2013 Savolainen ..... D13/110  
D685,733 S \* 7/2013 Savolainen ..... D13/110  
D698,725 S \* 2/2014 Shin ..... D13/110  
D700,574 S \* 3/2014 Savolainen ..... D13/110  
8,693,170 B2 \* 4/2014 Barreau ..... H02M 7/003  
248/674  
D708,135 S \* 7/2014 Hakala ..... D13/110  
D713,337 S \* 9/2014 Hakala ..... D13/110  
9,048,776 B2 \* 6/2015 Tio ..... H02P 6/14  
D742,313 S \* 11/2015 Gao ..... D13/110  
D770,975 S \* 11/2016 Nada ..... D13/110  
D772,159 S \* 11/2016 Takano ..... D13/110  
D772,162 S \* 11/2016 Saarivirta ..... D13/110  
2001/0019495 A1 \* 9/2001 Miettinen ..... H02M 7/003  
363/157

OTHER PUBLICATIONS

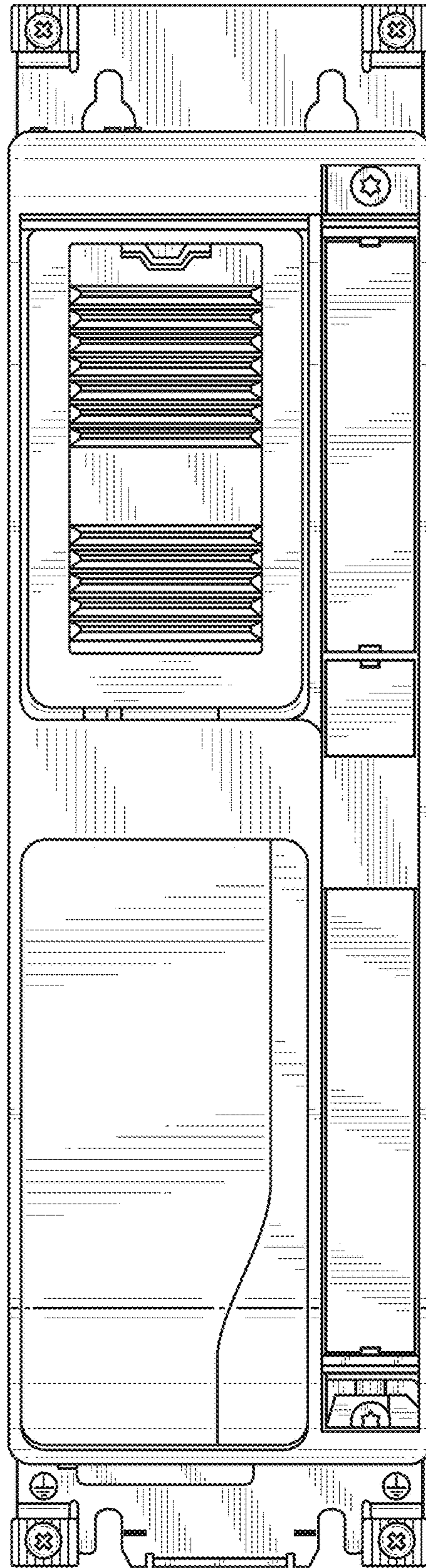
U.S. Appl. No. 29/565,484; Frequency Converter; Bettina Baacke et al; filed May 20, 2016.

\* cited by examiner



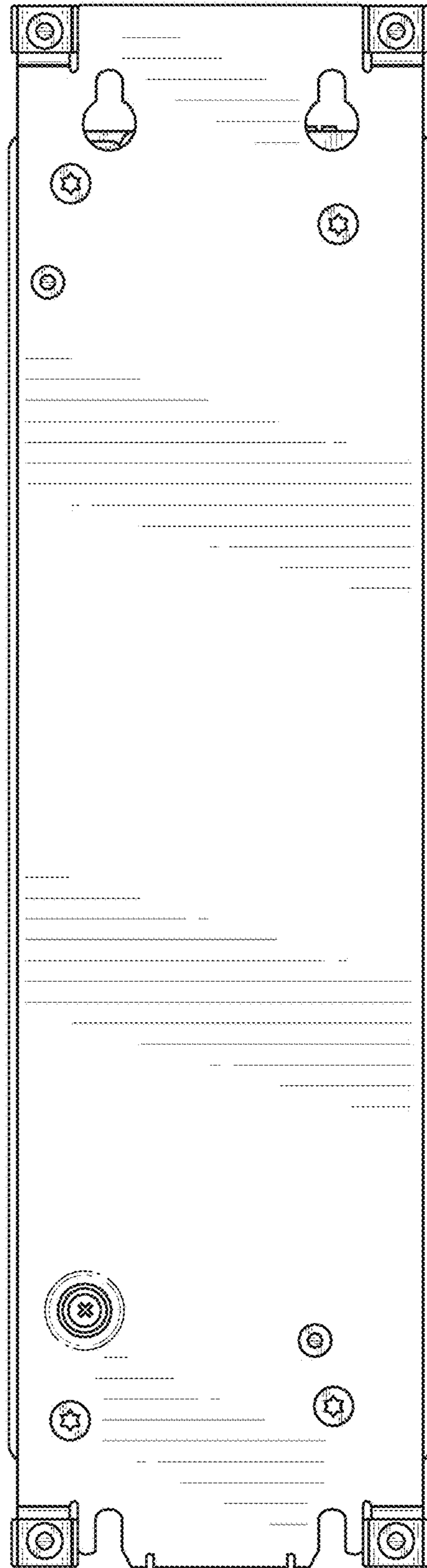


**FIG. 1**

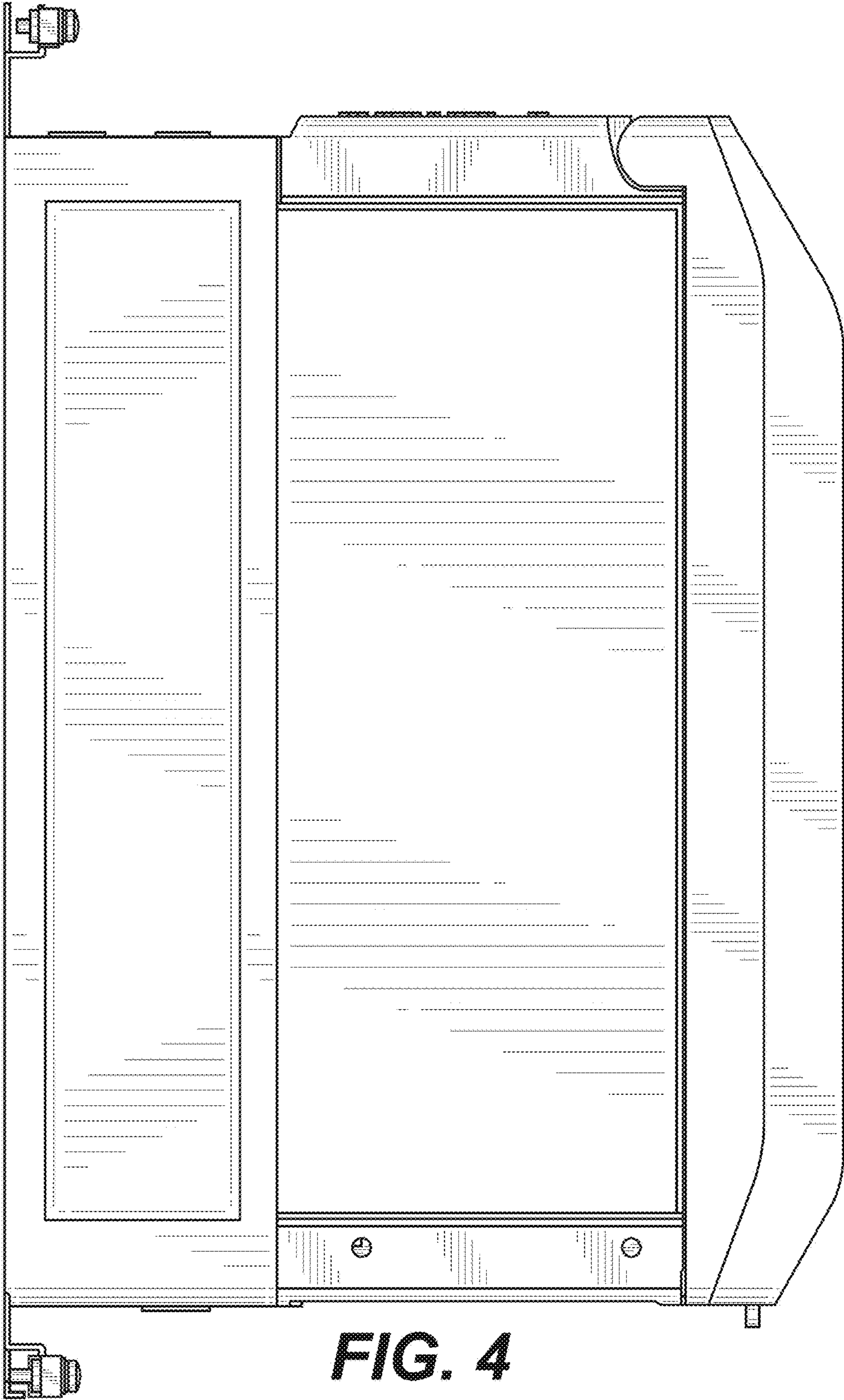


**FIG. 2**

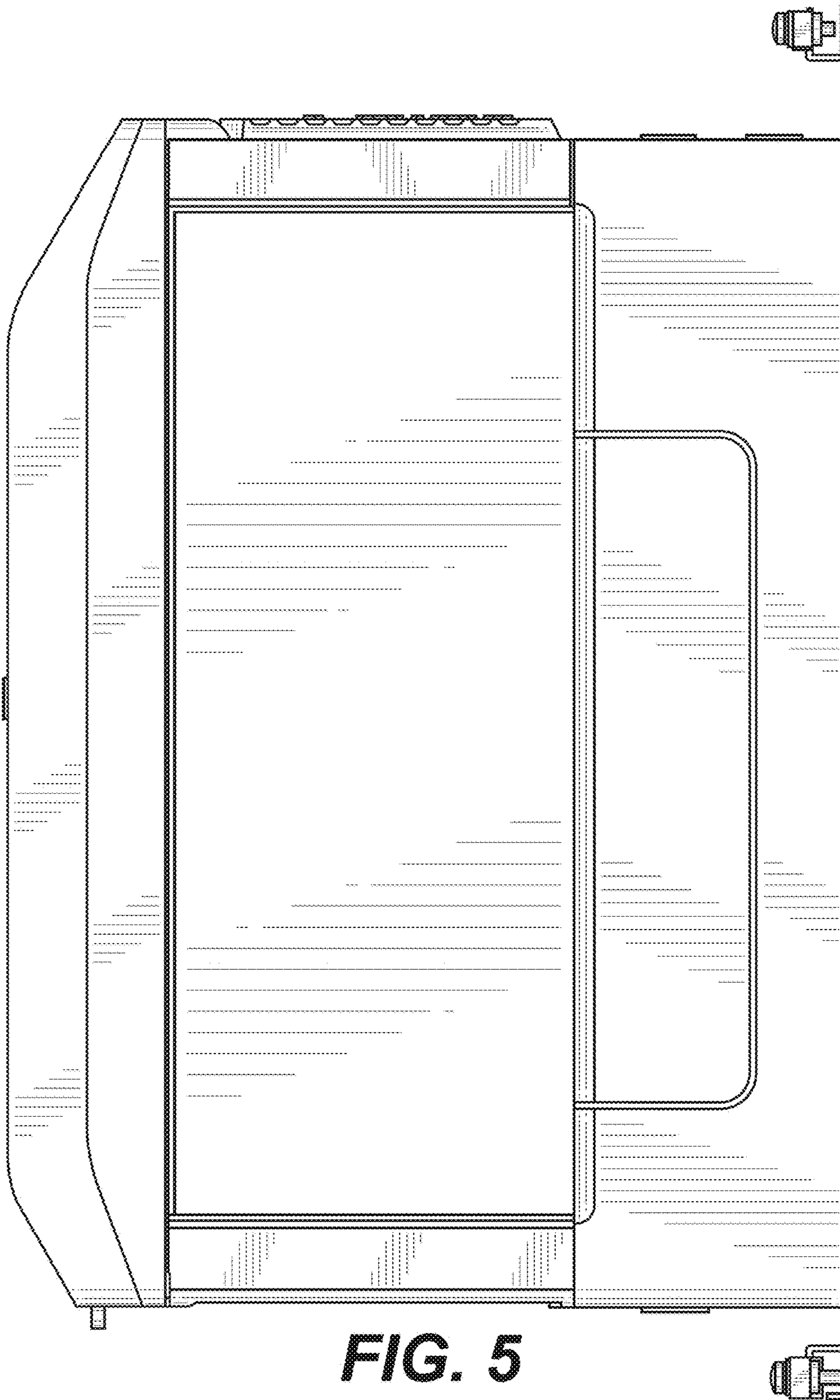




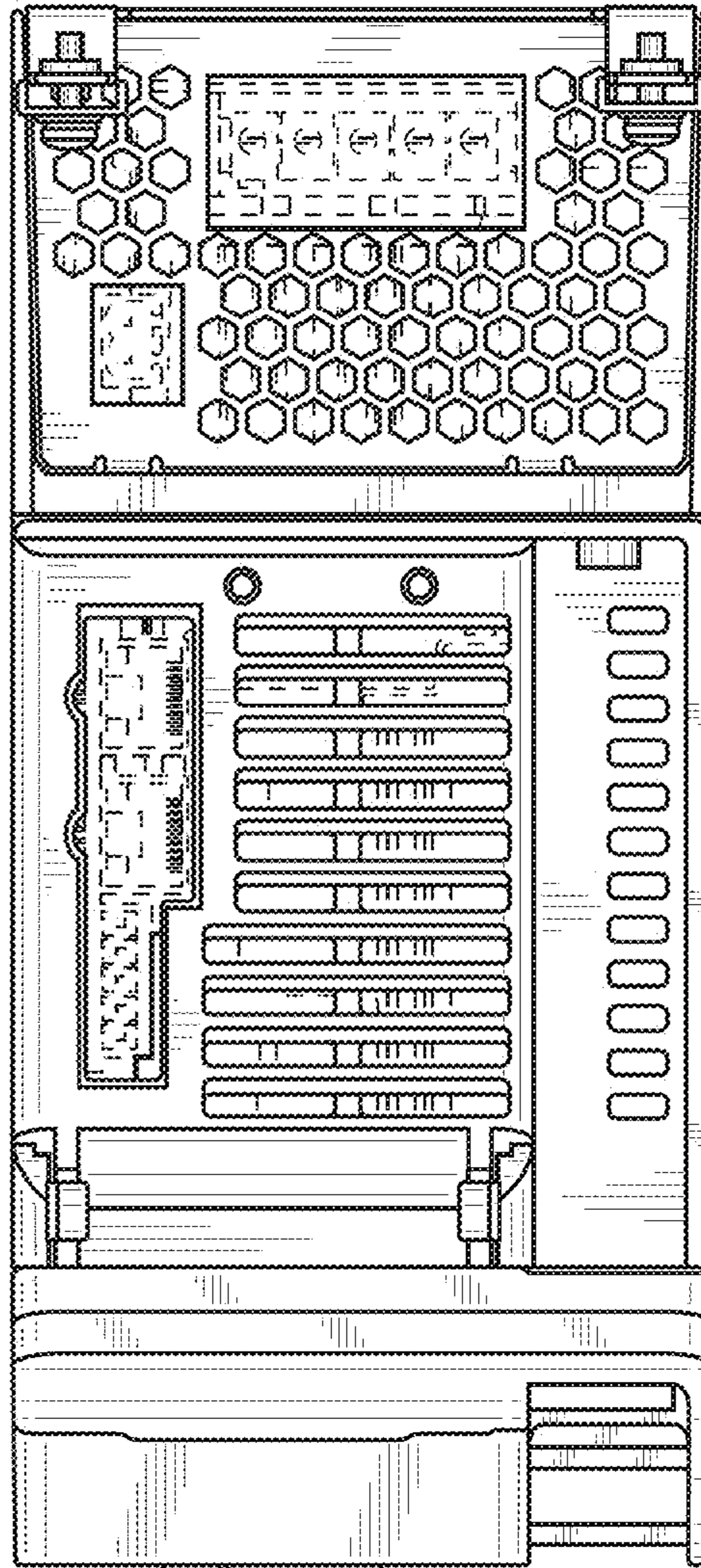
**FIG. 3**



**FIG. 4**

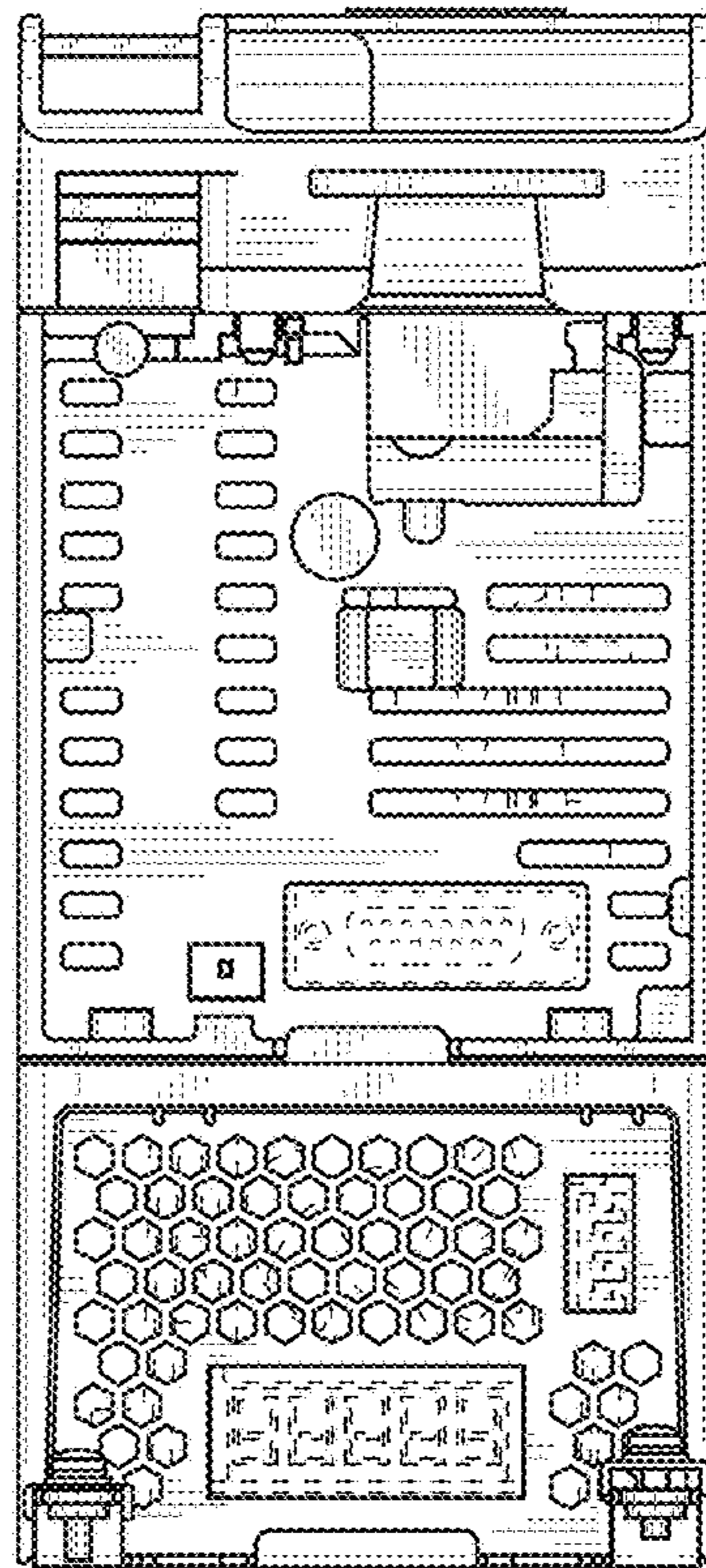


**FIG. 5**



**FIG. 6**





**FIG. 7**