



US0D1087170S

(12) **United States Design Patent** (10) **Patent No.:** **US D1,087,170 S**  
**Murakami** (45) **Date of Patent:** **\*\* Aug. 5, 2025**

(54) **SUPPLY AND EXHAUST BLOCK FOR SOLENOID VALVE ASSEMBLY**

FOREIGN PATENT DOCUMENTS

TW 230292-0001 \* 7/2023

(71) Applicant: **SMC CORPORATION**, Tokyo (JP)

OTHER PUBLICATIONS

(72) Inventor: **Takashi Murakami**, Tsukubamirai (JP)

AirTACDINGJU, (earliest review date: Aug. 8, 2023), Solenoid Valve 1/4"PT Pneumatic AirTAC 4V210-08, Amazon.com, URL: ([https://www.amazon.com/Pneumatic-4V210-08-Pilot-Operated-Connection-DC24V/dp/B09SZJ31Y6/ref=sr\\_1\\_35\\_sspa?crid=undefined&th=1](https://www.amazon.com/Pneumatic-4V210-08-Pilot-Operated-Connection-DC24V/dp/B09SZJ31Y6/ref=sr_1_35_sspa?crid=undefined&th=1)), (Year: 2023).\*

(73) Assignee: **SMC CORPORATION**, Tokyo (JP)

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

(Continued)

(21) Appl. No.: **29/878,960**

(22) Filed: **Jun. 29, 2023**

*Primary Examiner* — Calvin E Vasant

*Assistant Examiner* — Cheng Chen

(30) **Foreign Application Priority Data**

(74) *Attorney, Agent, or Firm* — Oblon, McClelland, Maier & Neustadt, L.L.P.

Jan. 20, 2023 (JP) ..... 2023-000900 D

(51) **LOC (15) Cl.** ..... **23-01**

(52) **U.S. Cl.**

USPC ..... **D23/233**

(58) **Field of Classification Search**

USPC ..... D15/5, 138, 149; D23/206, 233, 249; D13/123

CPC .... F16K 27/003; F16K 27/048; F16K 27/029; F16K 31/0675; F16K 31/05; F16K 35/025; F15B 13/0857; F15B 13/0825; F15B 13/0817; F15B 13/0889; F15B 13/0839; F15B 13/0875; Y10T 137/87885; Y10T 137/87209; Y10T 137/5283; Y10T 137/86614

See application file for complete search history.

(57) **CLAIM**

The ornamental design for a supply and exhaust block for solenoid valve assembly, as shown and described.

## DESCRIPTION

FIG. 1 is a front, top, and right side perspective view of a supply and exhaust block for solenoid valve assembly showing the new design.

FIG. 2 is a rear, bottom, and left side perspective view thereof.

FIG. 3 is a front elevational view thereof.

FIG. 4 is a rear elevational view thereof.

FIG. 5 is a top plan view thereof.

FIG. 6 is a bottom plan view thereof.

FIG. 7 is a left side elevational view thereof; and,

FIG. 8 is a right side elevational view thereof.

The broken lines depict portions of the supply and exhaust block for solenoid valve assembly that form no part of the claimed design.

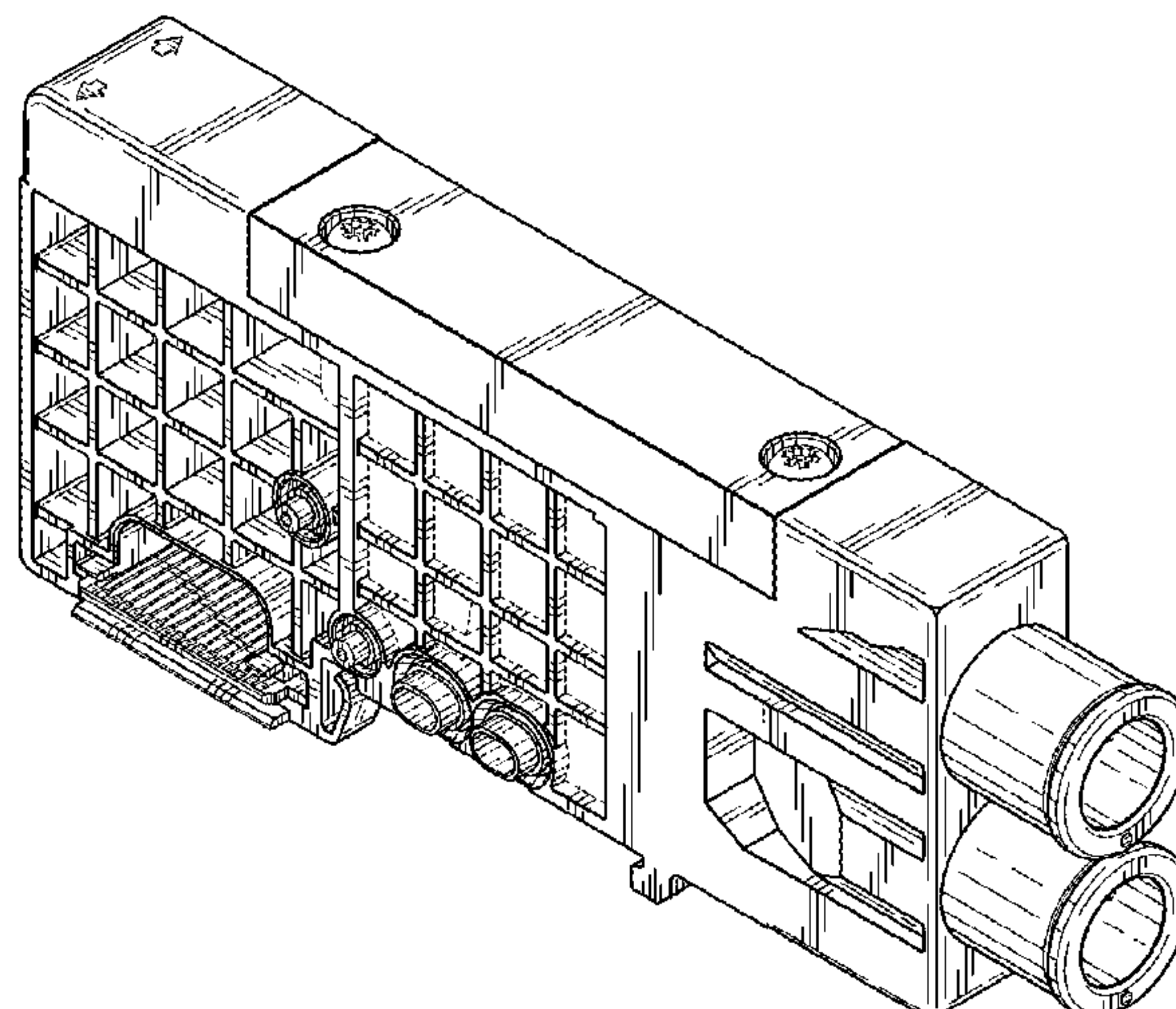
(56) **References Cited**

## U.S. PATENT DOCUMENTS

D409,279 S \* 5/1999 Hayashi ..... D23/233  
D416,309 S \* 11/1999 Hayashi ..... D23/233  
D416,980 S \* 11/1999 Sato ..... D23/233  
D426,615 S \* 6/2000 Sato ..... D23/233  
6,164,335 A \* 12/2000 Hayashi ..... F15B 13/0857  
137/884  
D443,030 S \* 5/2001 Kaneko ..... D23/233  
D459,441 S \* 6/2002 Hayashi ..... D23/233

(Continued)

**1 Claim, 8 Drawing Sheets**





(56)

References Cited

U.S. PATENT DOCUMENTS

6,425,416 B1 \* 7/2002 Narita ..... F15B 13/0825  
137/884  
D533,254 S \* 12/2006 Miyazoe ..... D23/233  
D533,255 S \* 12/2006 Miyazoe ..... D23/233  
D558,688 S \* 1/2008 Koyama ..... D13/166  
D564,072 S \* 3/2008 Yoshimura ..... D23/233  
D623,270 S \* 9/2010 Fukano ..... D23/233  
D653,308 S \* 1/2012 Senba ..... D23/233  
D742,481 S \* 11/2015 Inaba ..... D23/233  
D892,979 S \* 8/2020 Kimura ..... D23/233  
D961,049 S \* 8/2022 Yoshida ..... D23/233  
D961,730 S \* 8/2022 Yoshida ..... D23/233  
D963,799 S \* 9/2022 Yoshida ..... D23/233  
D973,181 S \* 12/2022 Murakami ..... D23/233  
D1,012,240 S \* 1/2024 Iida ..... D23/233  
2005/0236053 A1 \* 10/2005 Miyazoe ..... F15B 13/0857  
137/625.64  
2005/0236054 A1 \* 10/2005 Miyazoe ..... F15B 13/0857  
137/625.64  
2005/0236595 A1 \* 10/2005 Miyazoe ..... F15B 13/0825  
251/129.09  
2006/0081802 A1 \* 4/2006 Miyazoe ..... F16K 27/003  
251/129.15

2009/0045367 A1 \* 2/2009 Lee ..... F15B 13/0839  
251/129.15  
2018/0128385 A1 \* 5/2018 Itoh ..... F16K 37/005  
2019/0154166 A1 \* 5/2019 Yoshimura ..... F16K 31/0613  
2019/0277421 A1 \* 9/2019 Yoshimura ..... F16K 31/0655  
2021/0332909 A1 \* 10/2021 Yoshimura ..... F16K 31/0627  
2021/0396329 A1 \* 12/2021 Mita ..... H01F 7/127  
2023/0139784 A1 \* 5/2023 Ohki ..... F16K 27/003  
251/129.01

OTHER PUBLICATIONS

SMC, (date retrieved Oct. 28, 2024), SJ4000, 4 Port Solenoid Valve, Smcusa.com, URL: (<https://www.smcusa.com/products/sj4000-4-port-solenoid-valve~174811>), (Year: 2024).  
Automation Distribution, (date retrieved Oct. 28, 2024), SMC SJ3160N-5MZ-N7 SJ2000/3000 SeriesNon plug-in Individual Wiring Solenoid Valves, Automationdistribution.com, URL: (<https://automationdistribution.com/smc-sj3160n-5mz-n7-pack-of-1/>), (Year: 2024).  
Coast Pneumatics, (date retrieved Oct. 28, 2024), VOVK-BT6-M32C-MN-5T1P-B3F, Coastpneumatics.com, URL: (<https://www.coastpneumatics.com/product/8122788/>), (Year: 2024).\*

\* cited by examiner



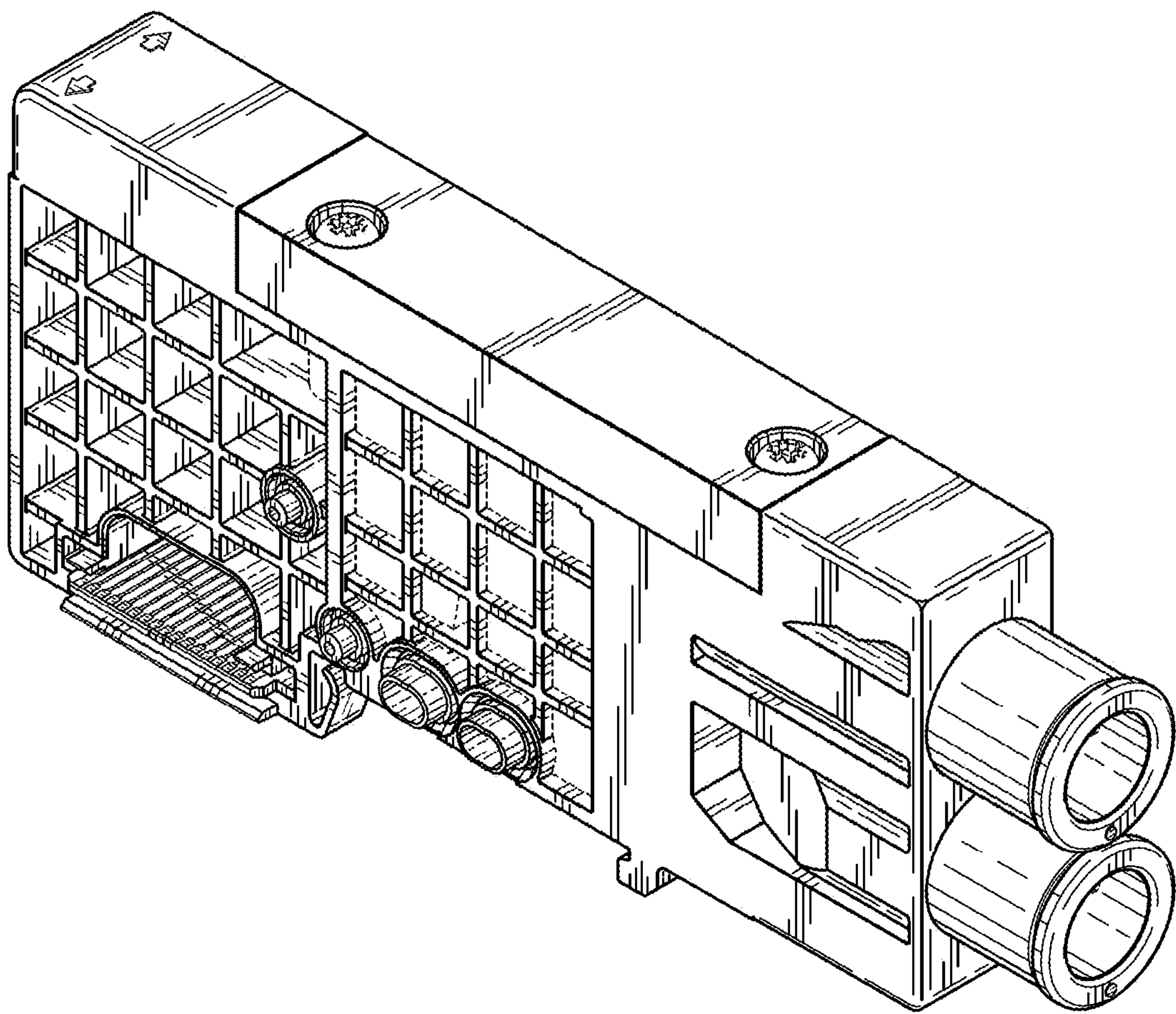


FIG. 1



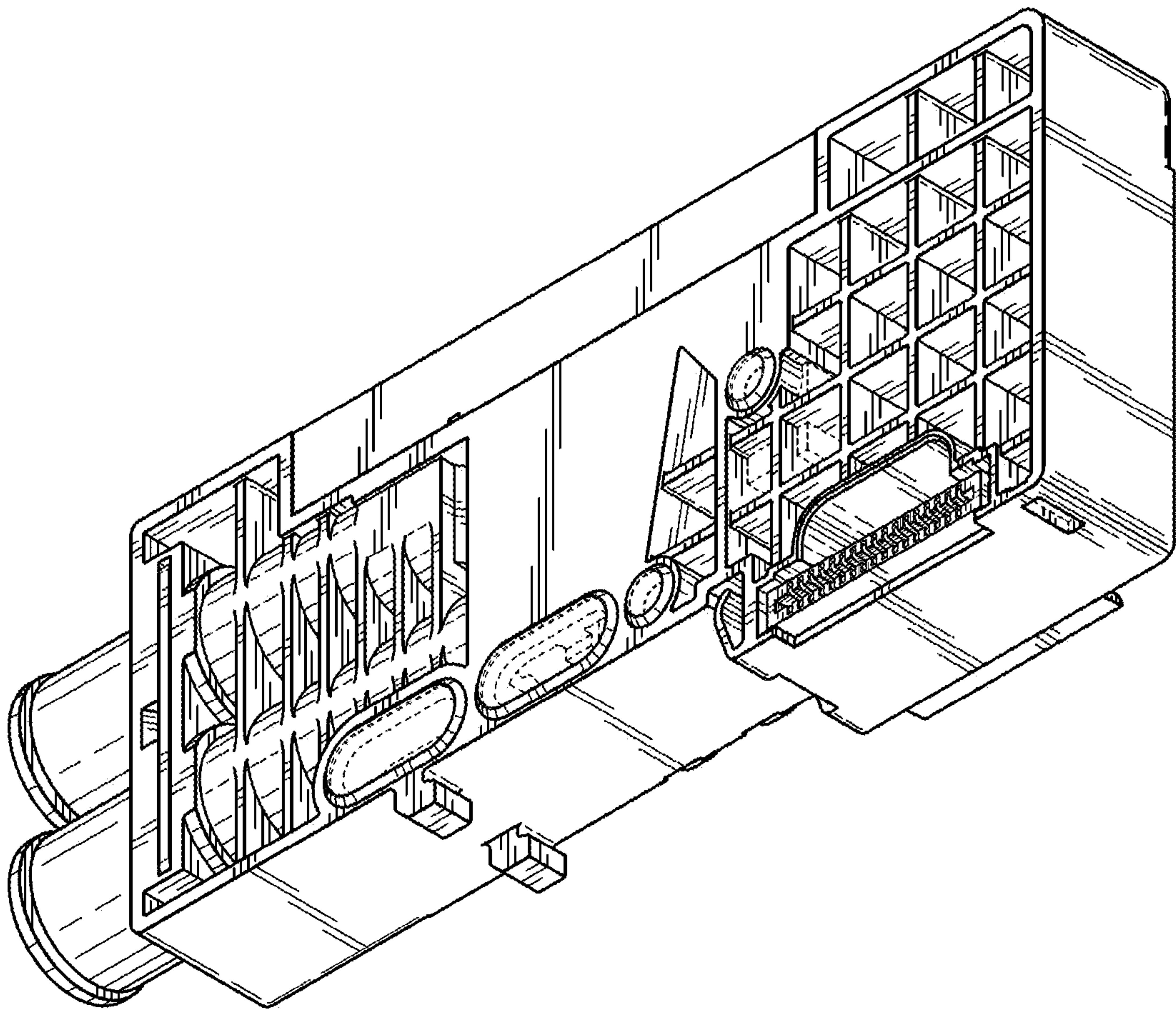


FIG. 2



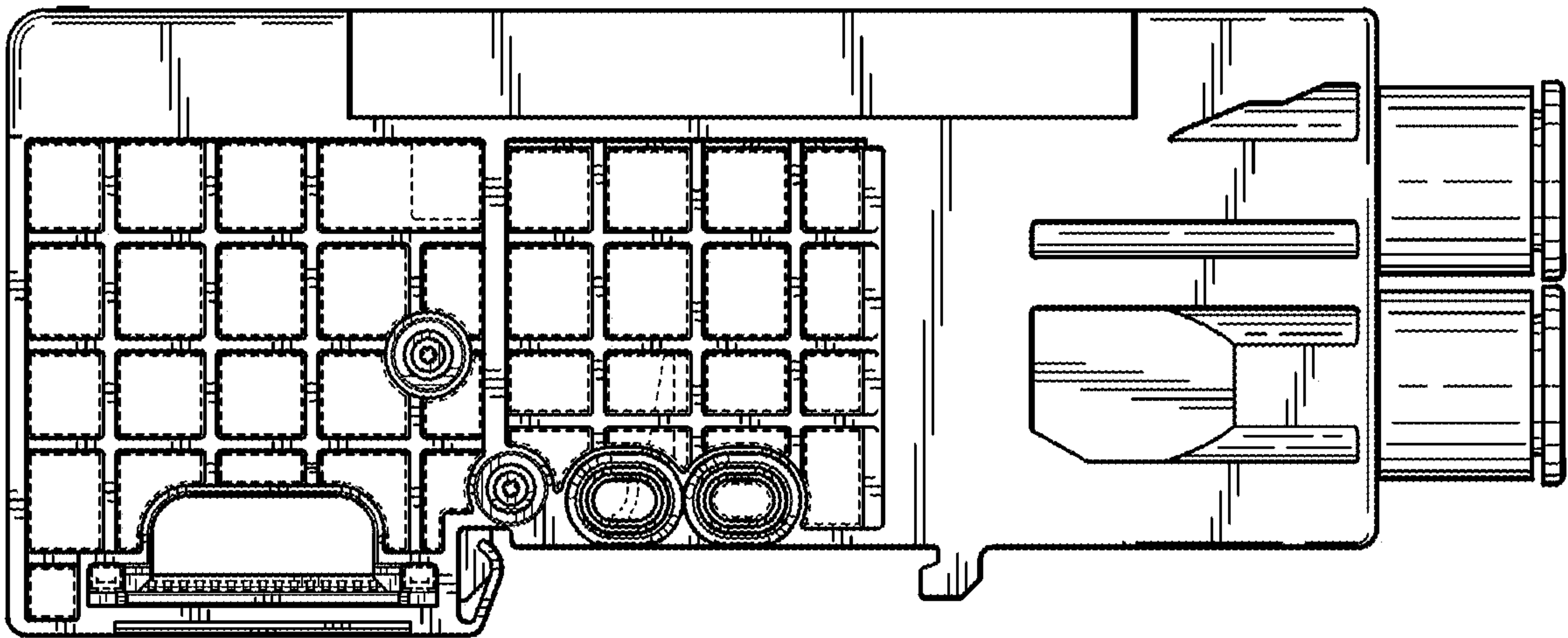


FIG. 3



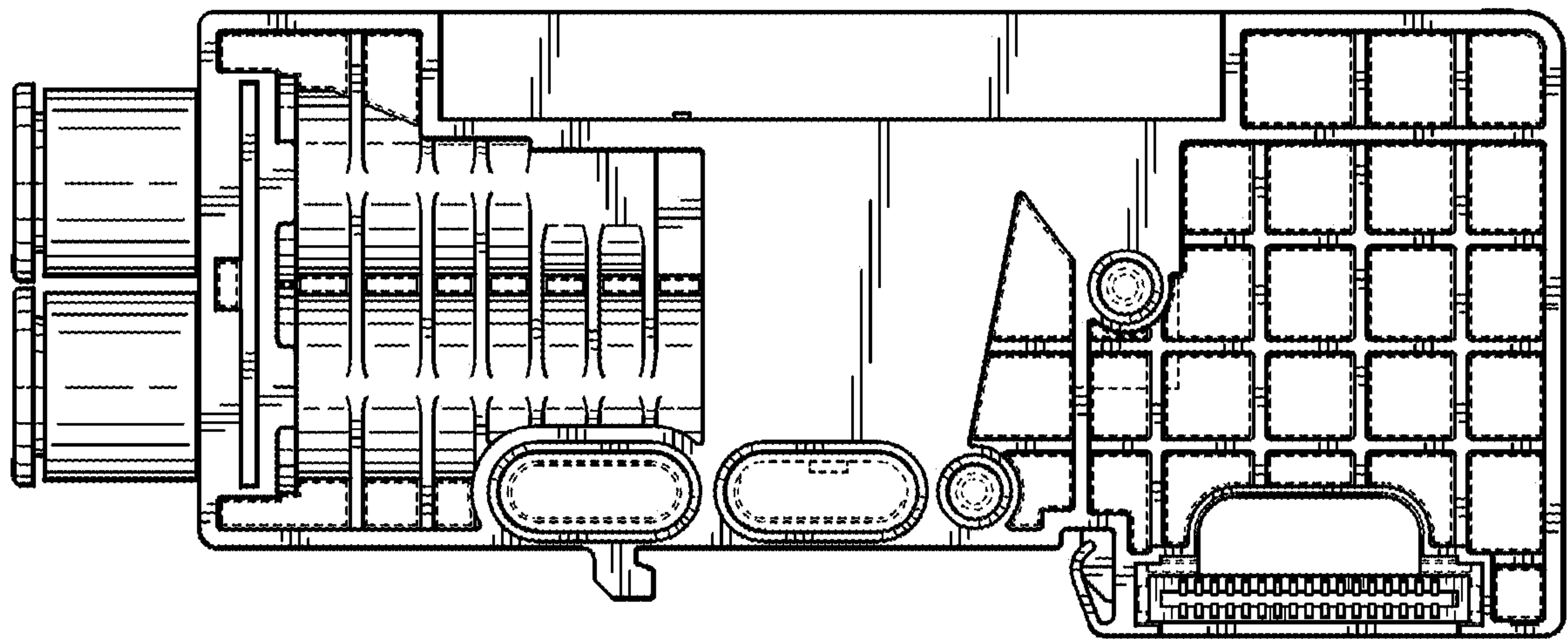


FIG. 4



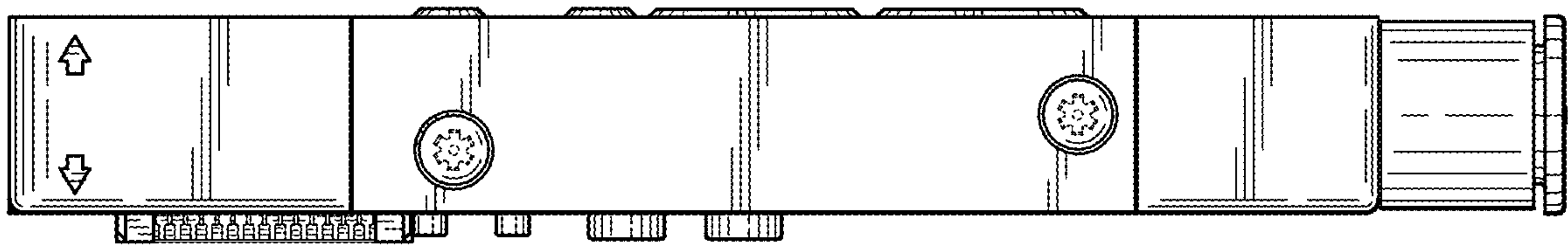


FIG. 5



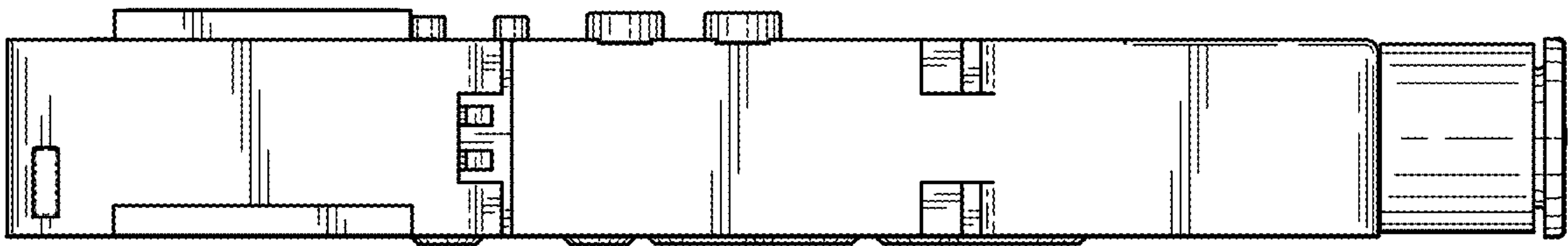


FIG. 6



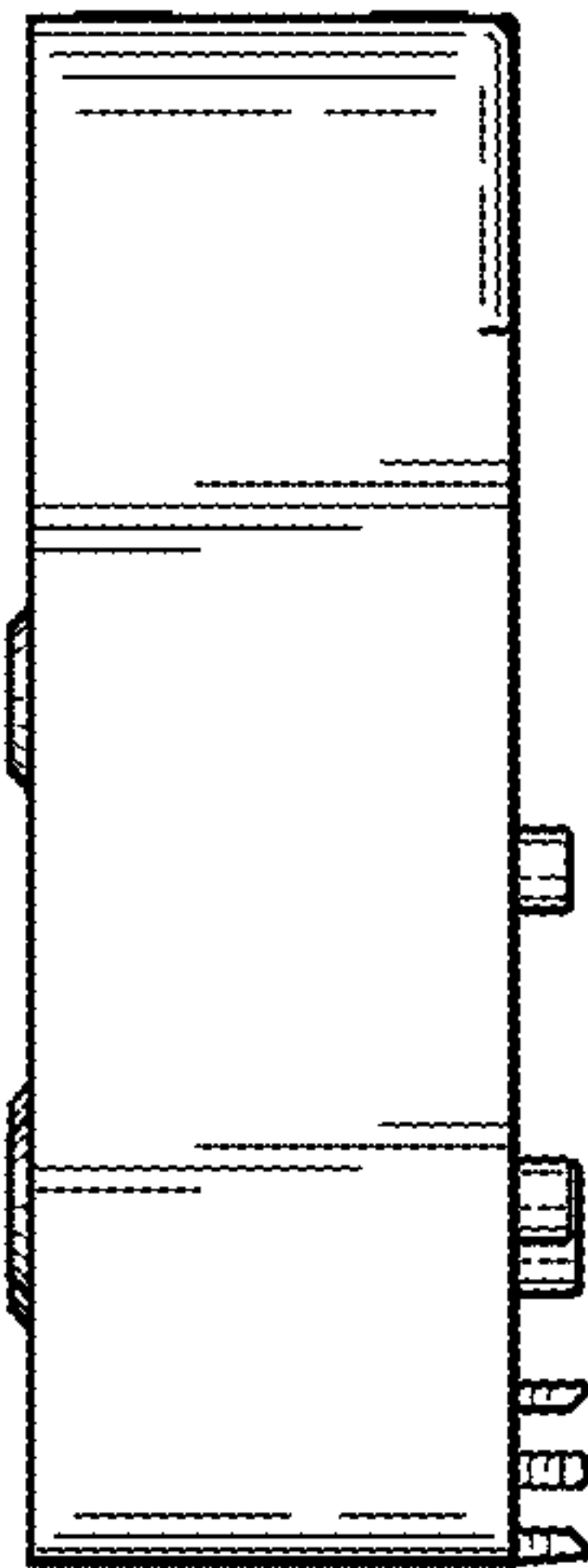


FIG. 7



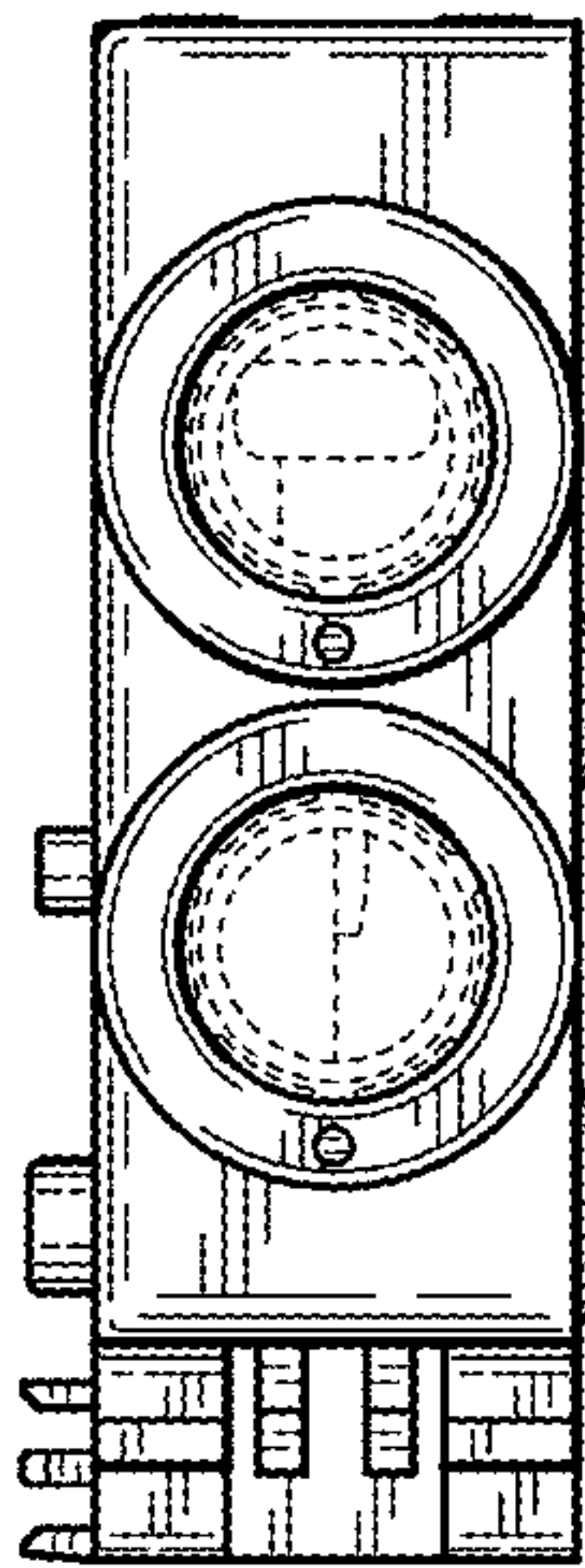


FIG. 8