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

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- (54) **TOOL CONTROLLER UNIT**
- (71) Applicant: **ATLAS COPCO INDUSTRIAL TECHNIQUE AB**, Stockholm (SE)
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- (**) Term: **15 Years**
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- (30) **Foreign Application Priority Data**
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- (51) **LOC (11) Cl.** **13-03**
- (52) **U.S. Cl.**
USPC **D13/162.1; D13/162**
- (58) **Field of Classification Search**
USPC D13/110, 112, 120, 122, 123, 145-47, D13/149, 155, 158, 159, 162-64, 162.1, D13/168, 184; D14/100, 114, 348, 349, D14/439; D15/149, 199
CPC .. G05B 19/40; G05B 19/414; G05B 19/4147; G05B 19/4163; G06F 13/124; H05K 7/14
See application file for complete search history.

- (56) **References Cited**
U.S. PATENT DOCUMENTS
4,510,565 A * 4/1985 Dummermuth G05B 19/4147
700/169
4,568,866 A * 2/1986 Floro G05B 19/40
318/561
D309,600 S 7/1990 Backes
D352,275 S 11/1994 Crawley
5,493,194 A * 2/1996 Damiano G05B 19/414
307/71
D384,037 S * 9/1997 Hamada D13/162

- D400,509 S * 11/1998 Brunelle D13/162
- D400,510 S * 11/1998 Brunelle D13/162
- D402,965 S 12/1998 Bender
- D403,301 S 12/1998 Lehmann et al.
- D471,908 S 3/2003 Stone et al.
- D482,663 S * 11/2003 Droulin D13/162.1
- D510,319 S 10/2005 Tuomola et al.
- D510,320 S 10/2005 Tuomola et al.

(Continued)

OTHER PUBLICATIONS

Power Focus 600, posted on atlascopco.us, no posted date given, no production date given, [online], [site visited Jun. 6, 2017], Available from Internet, <URL: <http://www.atlascopco.us/en-us/itba/products/Assembly-tools/Electric-assembly-systems/Power-Focus-600>>.*

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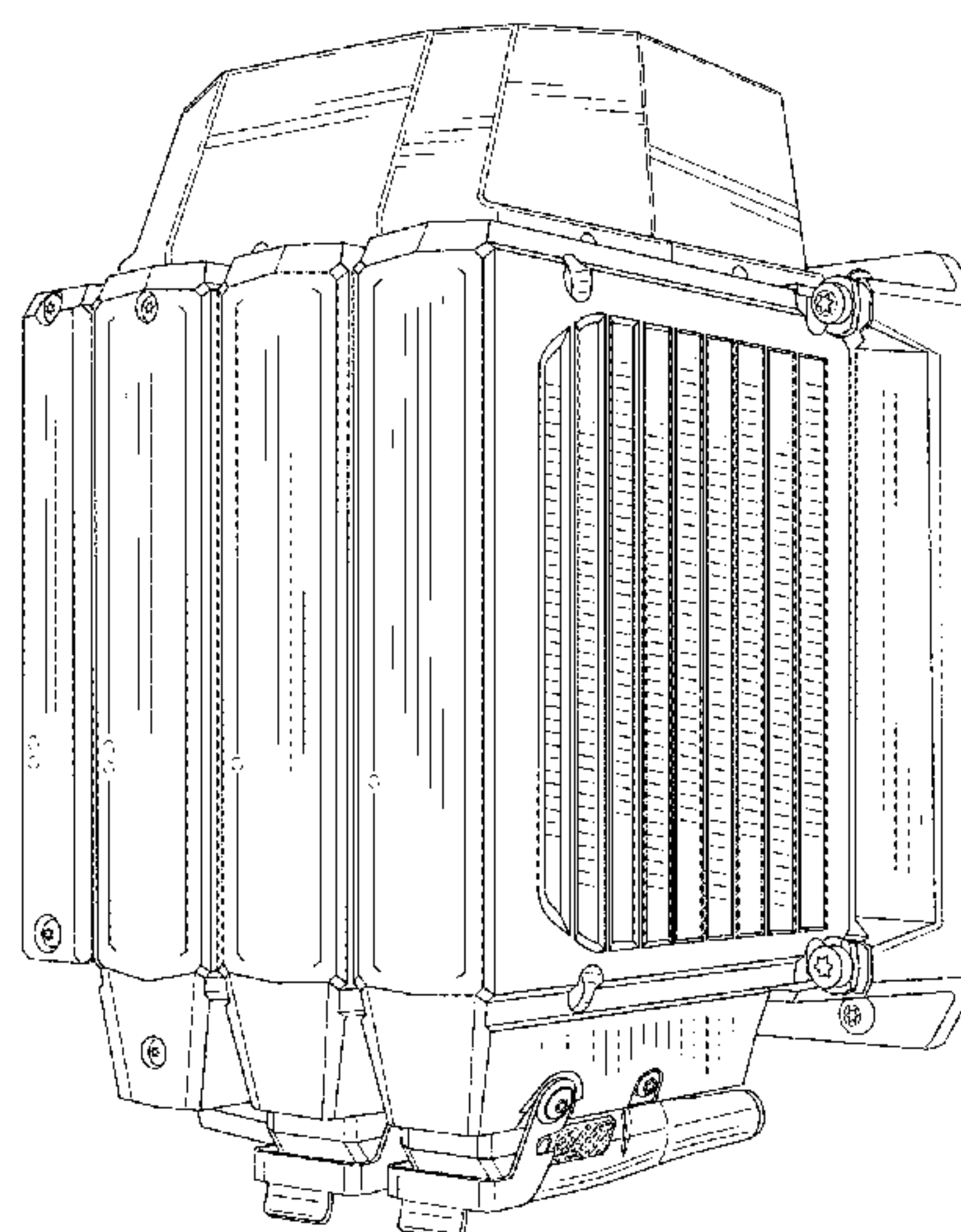
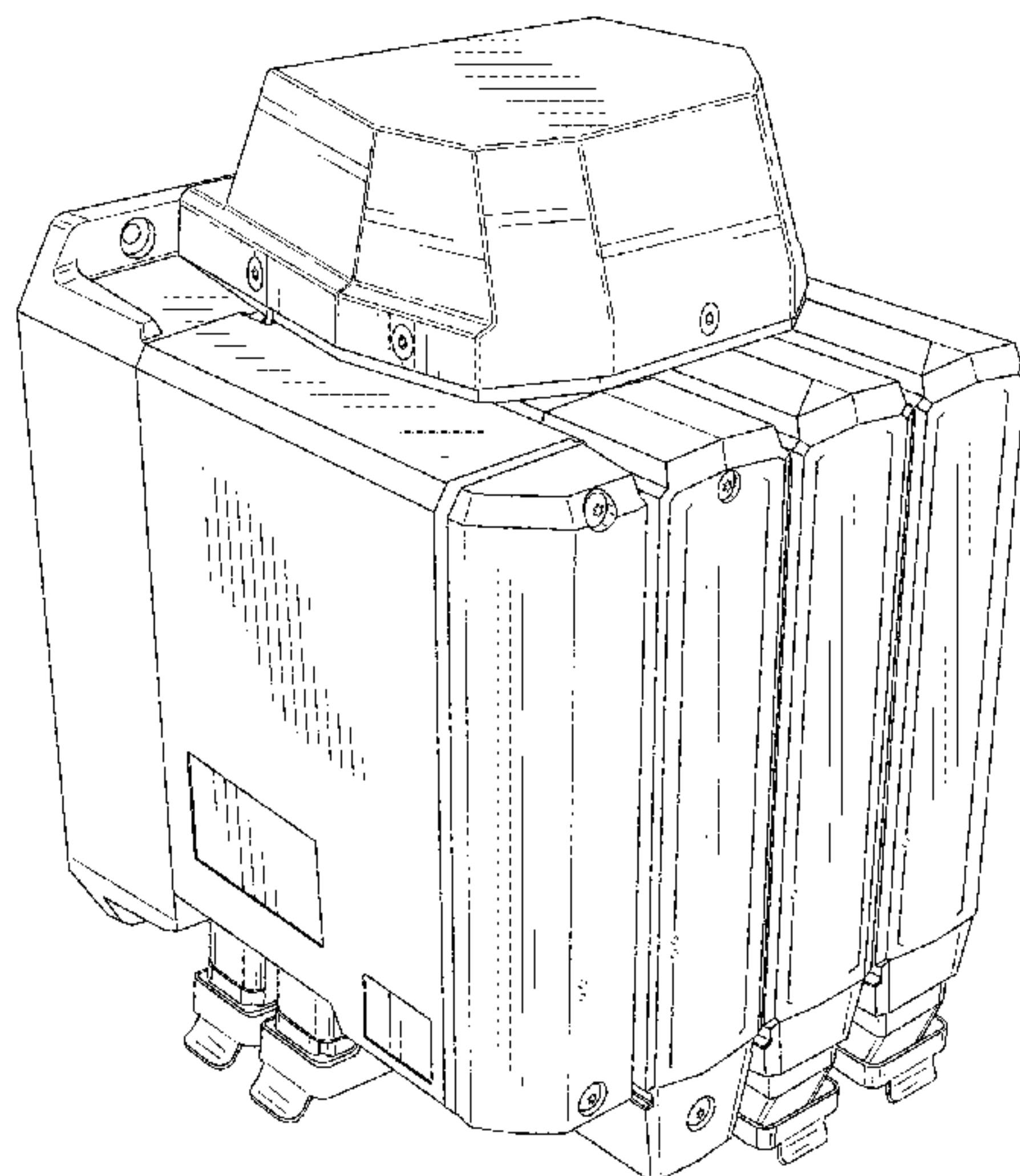
(57) **CLAIM**

The ornamental design for a tool controller unit, as shown.

DESCRIPTION

FIG. 1 is a front, top and left side perspective view of a tool controller unit showing our new design; FIG. 2 is a front, bottom and right 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 portions of the tool controller unit shown in broken lines form no part of the claimed design.

1 Claim, 8 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D541,269 S	4/2007	Heesen	
D575,778 S *	8/2008	Dearborn	D14/300
D583,379 S	12/2008	Lindner et al.	
D583,380 S	12/2008	Lindner et al.	
D583,381 S	12/2008	Lindner et al.	
D583,382 S	12/2008	Lindner et al.	
D584,252 S	1/2009	Lewis, II et al.	
D598,867 S	8/2009	Nada et al.	
D609,195 S *	2/2010	Yamashita	D13/162
D647,521 S	10/2011	Takeda et al.	
D647,522 S	10/2011	Paul	
D659,651 S *	5/2012	Wong	D13/162.1
D659,652 S *	5/2012	Wong	D13/162.1
D717,733 S *	11/2014	Cech	D13/147
D724,546 S	3/2015	Liu et al.	
D728,477 S	5/2015	Meyer	
9,363,917 B2	6/2016	Merlet et al.	
D766,840 S	9/2016	Greiser et al.	
D771,565 S *	11/2016	Saarivirta	D13/110
D771,566 S	11/2016	Saarivirta et al.	
D772,159 S	11/2016	Takano et al.	
D772,161 S	11/2016	Saarivirta et al.	
D772,162 S *	11/2016	Saarivirta	D13/110
D772,173 S	11/2016	Takano et al.	
D780,698 S *	3/2017	Karlen	D13/158

OTHER PUBLICATIONS

Bosch Rexroth programmable digital controller assembly for secondary control of axial piston units, posted on hyquip.co.uk, no posted date given, no production date given, [online], [site visited Jun. 6, 2017], Available from Internet, <URL: <http://hyquip.co.uk/control-electronics/4562-bosch-rexroth-programmable-digital-controller-assembly-for-the-se>>.*

Atlas Copco Controllers (Electric Assembly Tools), posted on amtest-smt.com, no posted date given, no production date given, [online], [site visited Jun. 6, 2017], Available from Internet, <URL: [http://www.amtest-smt.com/en/products/industrial-tools/electric-assembly-tools/atlas-copco/atlas-copco-controllers-\(electric-assembly-tools\),317.html](http://www.amtest-smt.com/en/products/industrial-tools/electric-assembly-tools/atlas-copco/atlas-copco-controllers-(electric-assembly-tools),317.html)>.*

Related Design U.S. Appl. No. 29/573,486, Title: "Tool Controller Unit", First Named Inventor: Ola Stray, Filed: Aug. 5, 2016.

Related Design U.S. Appl. No. 29/573,495, Title: "Tool Controller Unit", First Named Inventor: Ola Stray, Filed: Aug. 5, 2016.

Related Design U.S. Appl. No. 29/573,496, Title: "Tool Controller Unit", First Named Inventor: Ola Stray, Filed: Aug. 5, 2016.

Related Design U.S. Appl. No. 29/573,497, Title: "Tool Controller Unit", First Named Inventor: Ola Stray, Filed: Aug. 5, 2016.

"Broken Tool Detection Unit", posted on directindustry.com, [online], <URL: <http://www.directindustry.com/prod/schubert-system-elektronik-gmbh-bk-mikro/product-92575-1044857.html>>.

"Honeywell Process Controller", posted on automationworld.com, posted Nov. 26, 2015, [online] <URL: <https://www.automationworld.com/article/technologies/rtu/honeywell-process-controller-simplifies-management-distributed-oil-and-gas>>.

"Machine Controllers", posted on moog.com, copyrighted 2016, [online] <URL: <http://www.moog.com/products/controllers-controls-software/industrial-controllers-software/machine-controllers.html>>.

"Motorola Supervisory Control and Data Acquisition (SCADA) systems", posted on uscubed.com, [online] <URL: <https://www.uscubed.com/services-motorolascada.php>>.

"Omron EJ1NTC4BQQ Modular Temperature Controller", posted on shopeross.com, available since 2014, [online], <URL: https://www.shopeross.com/product/omron-ej1ntc4bqq-modular-temperature-controller-200-2300-deg-c?gclid=Cj0KEQjwyN7JBRCZn7LKgb3ki8kBEiQAaLEsqu4kgvGzhO7h2NHuHMO_i1N3w>.

* cited by examiner

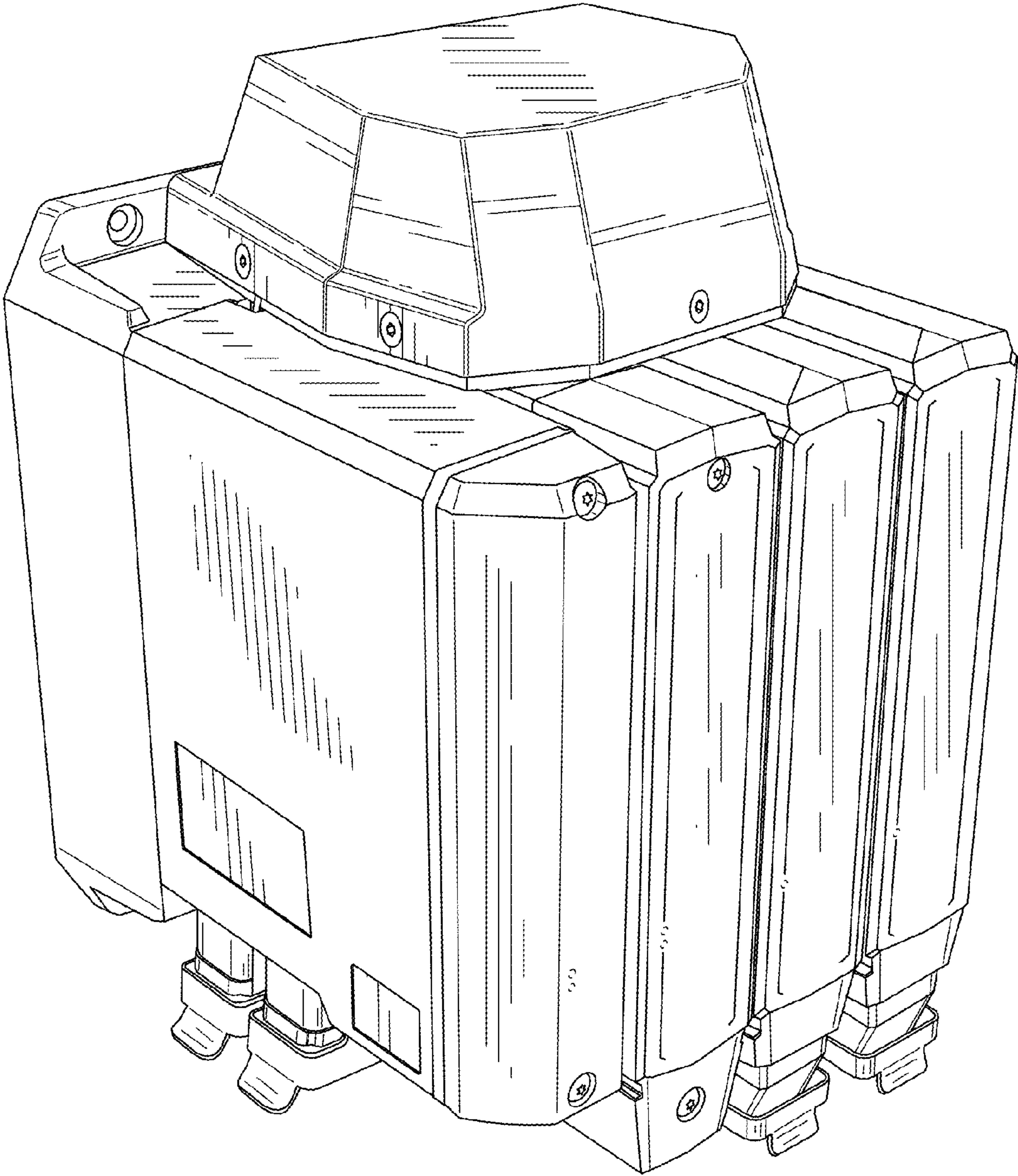


FIG. 1

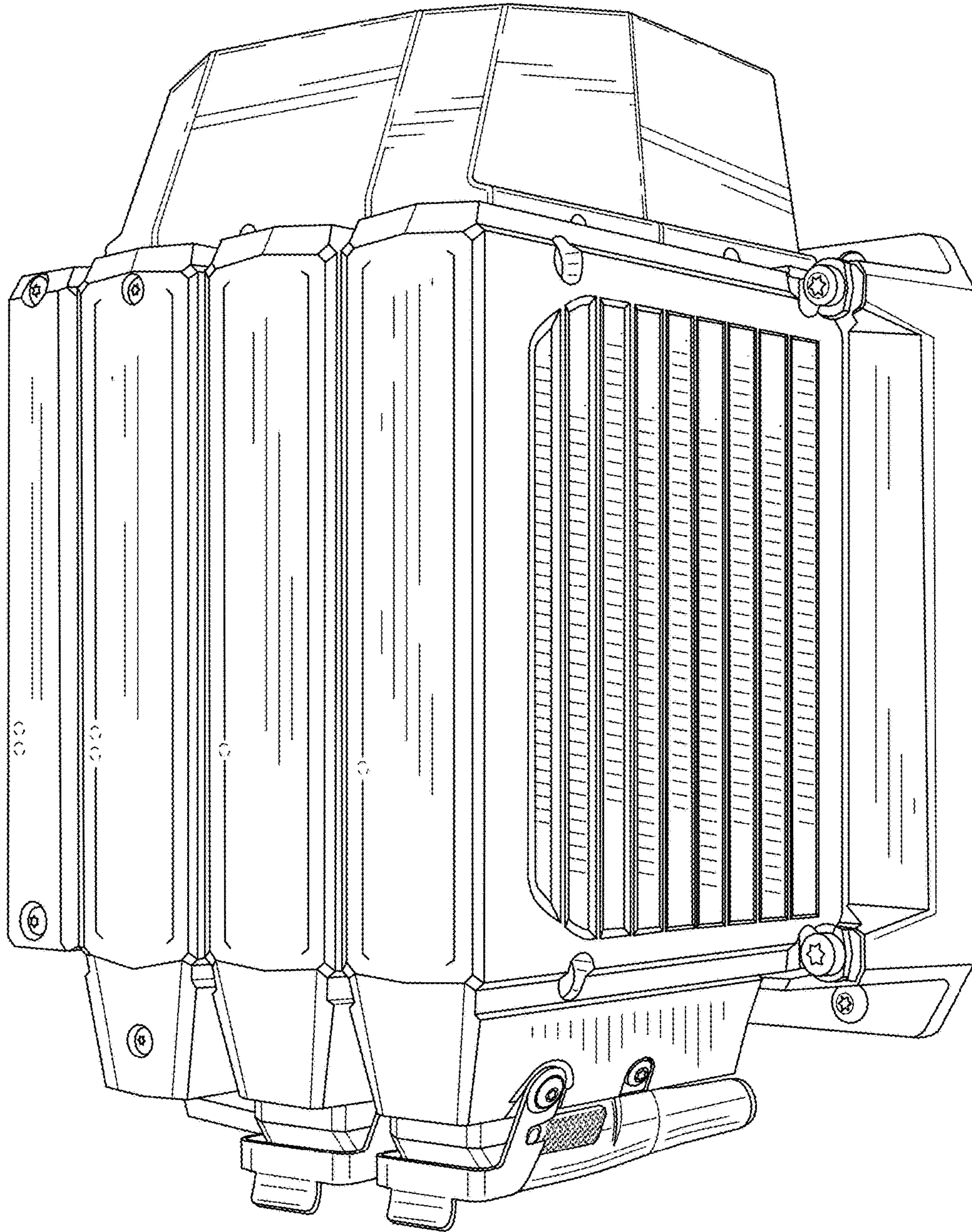


FIG. 2

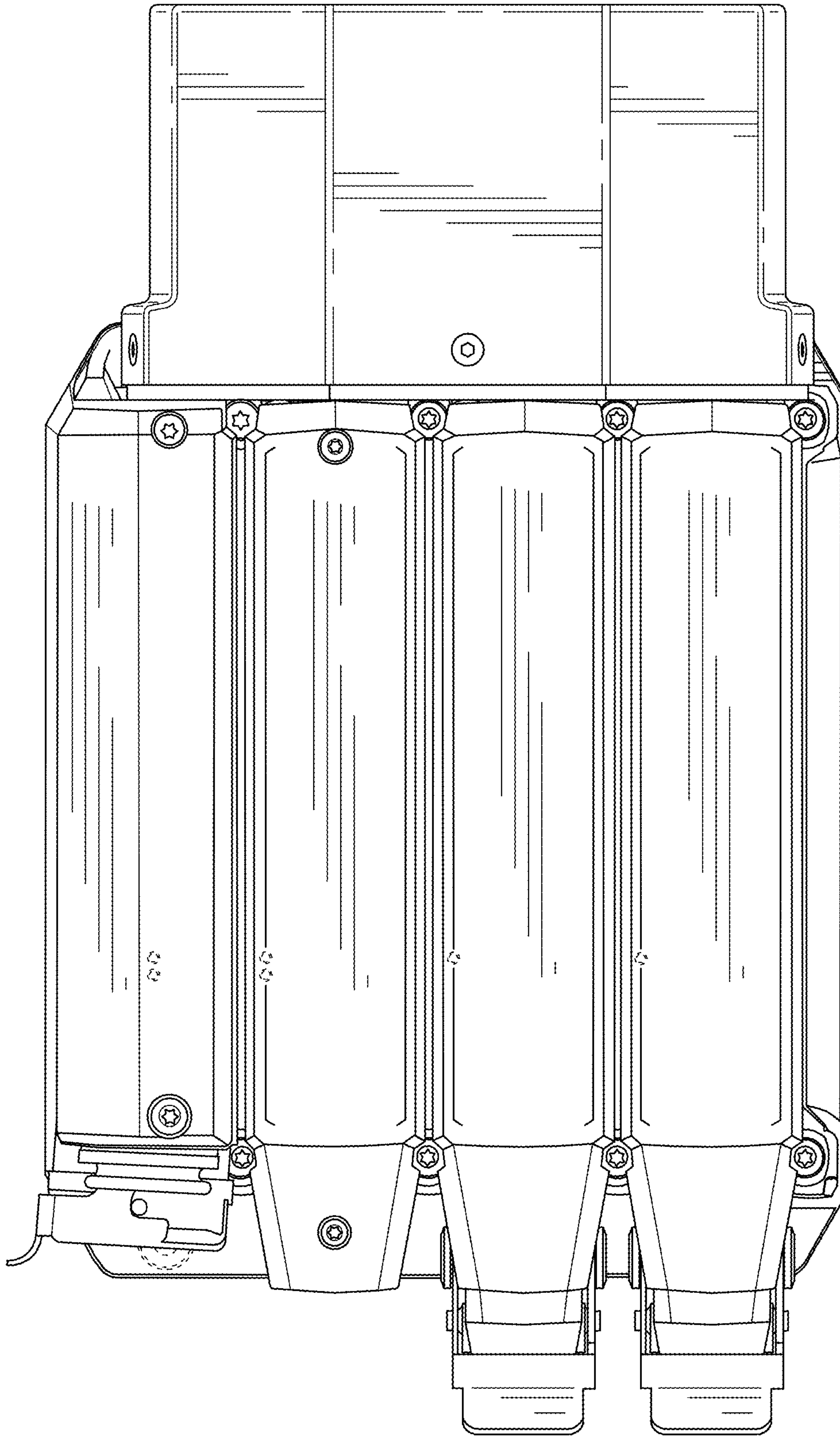


FIG. 3

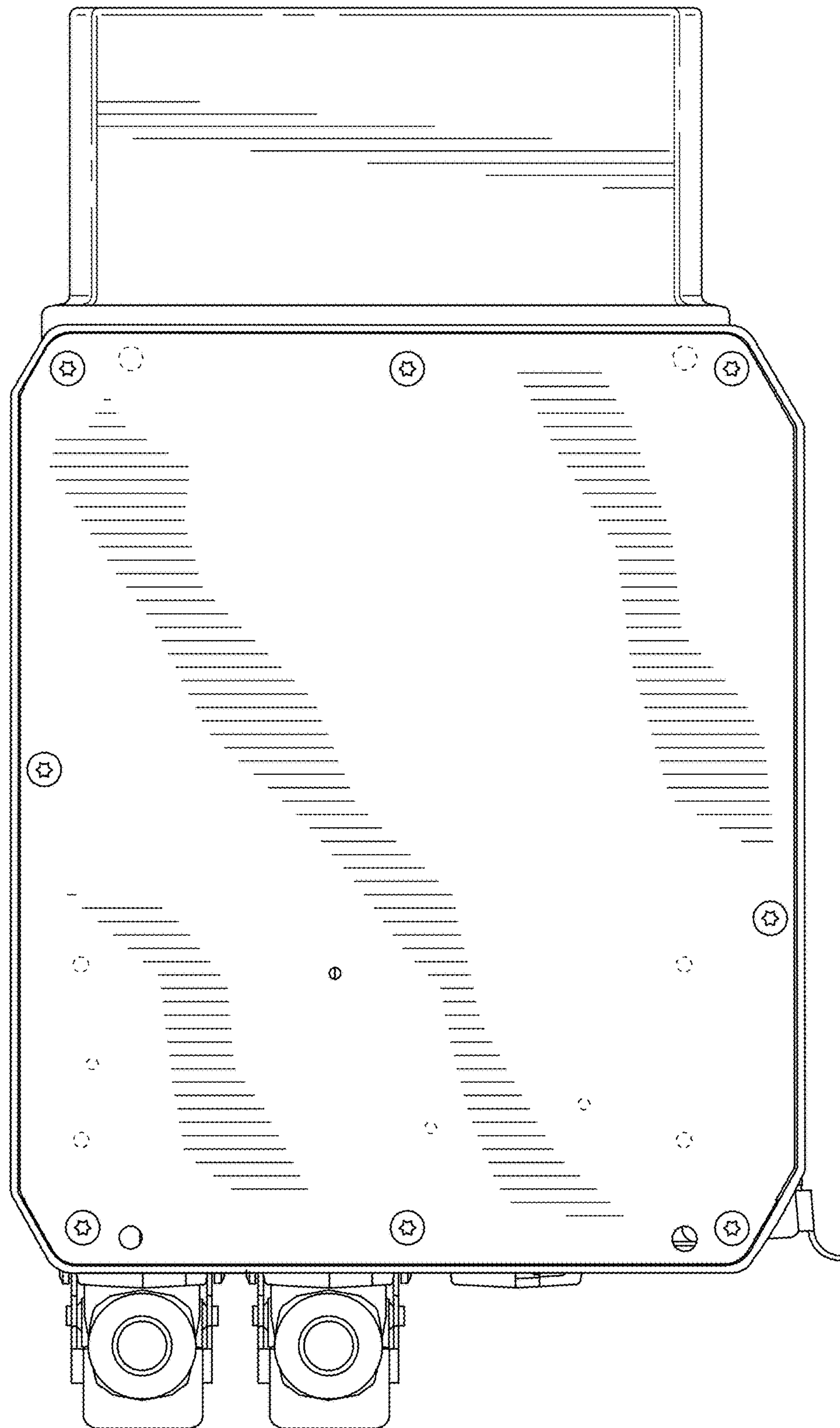


FIG. 4

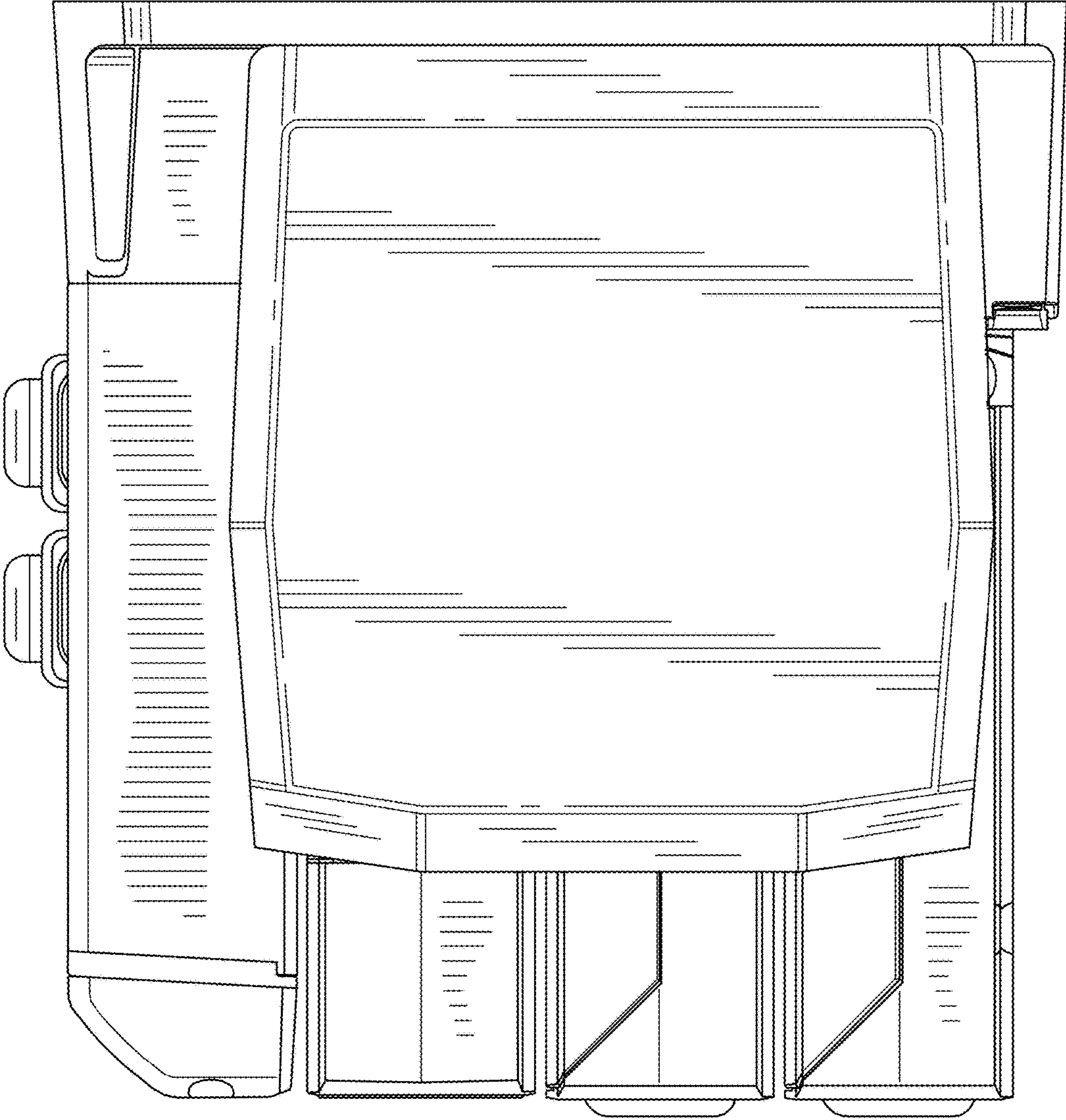


FIG. 5

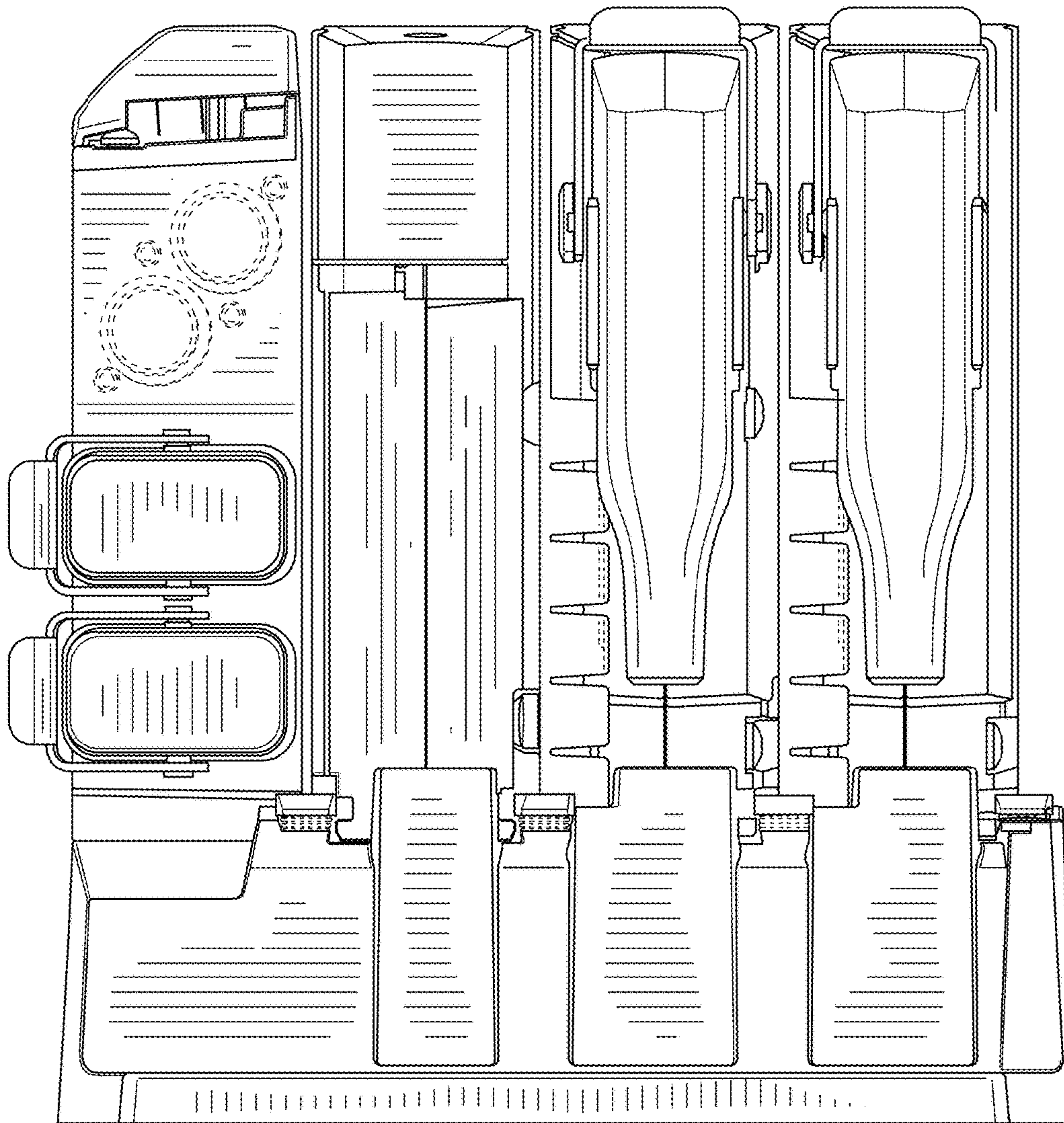


FIG. 6

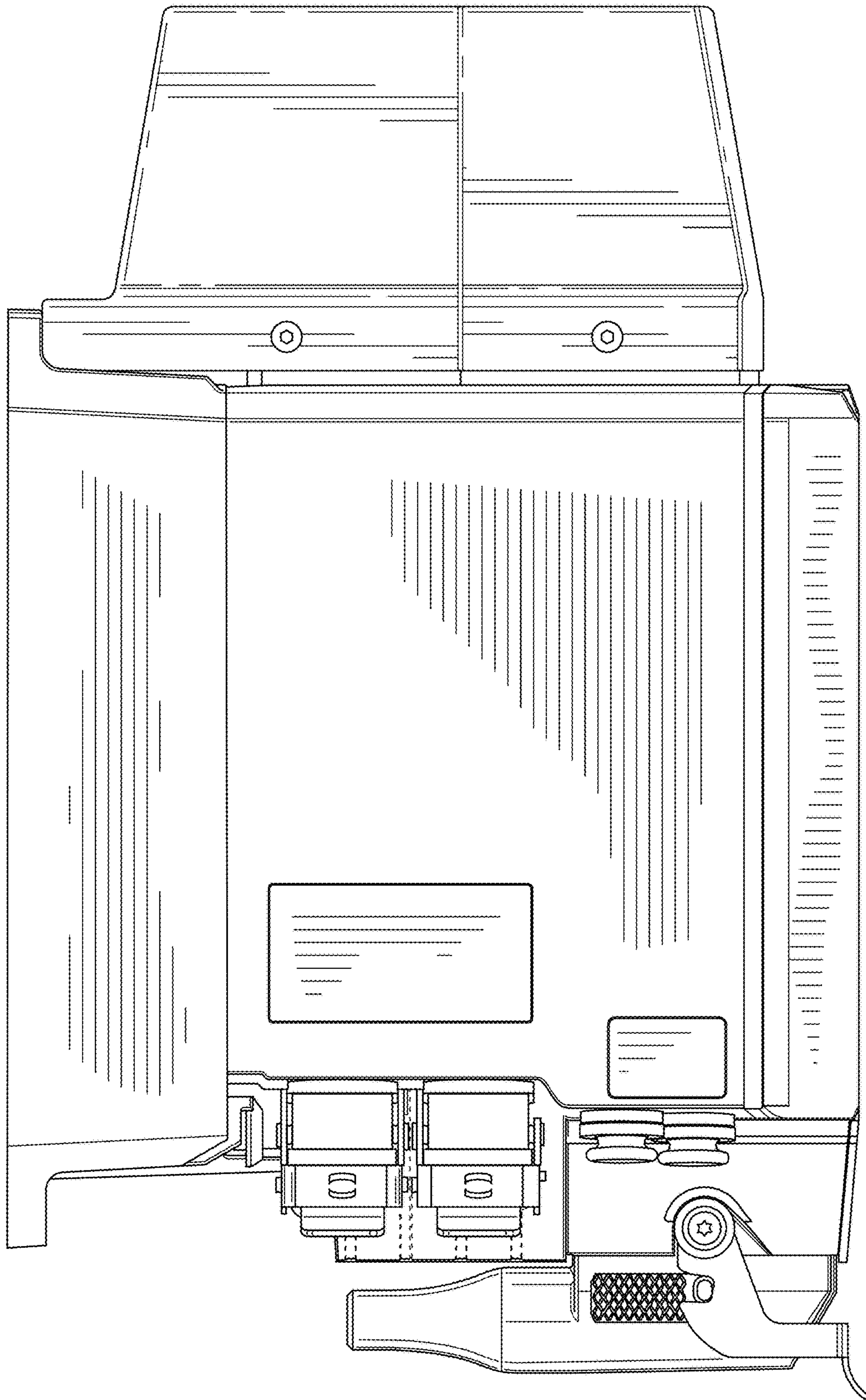


FIG. 7

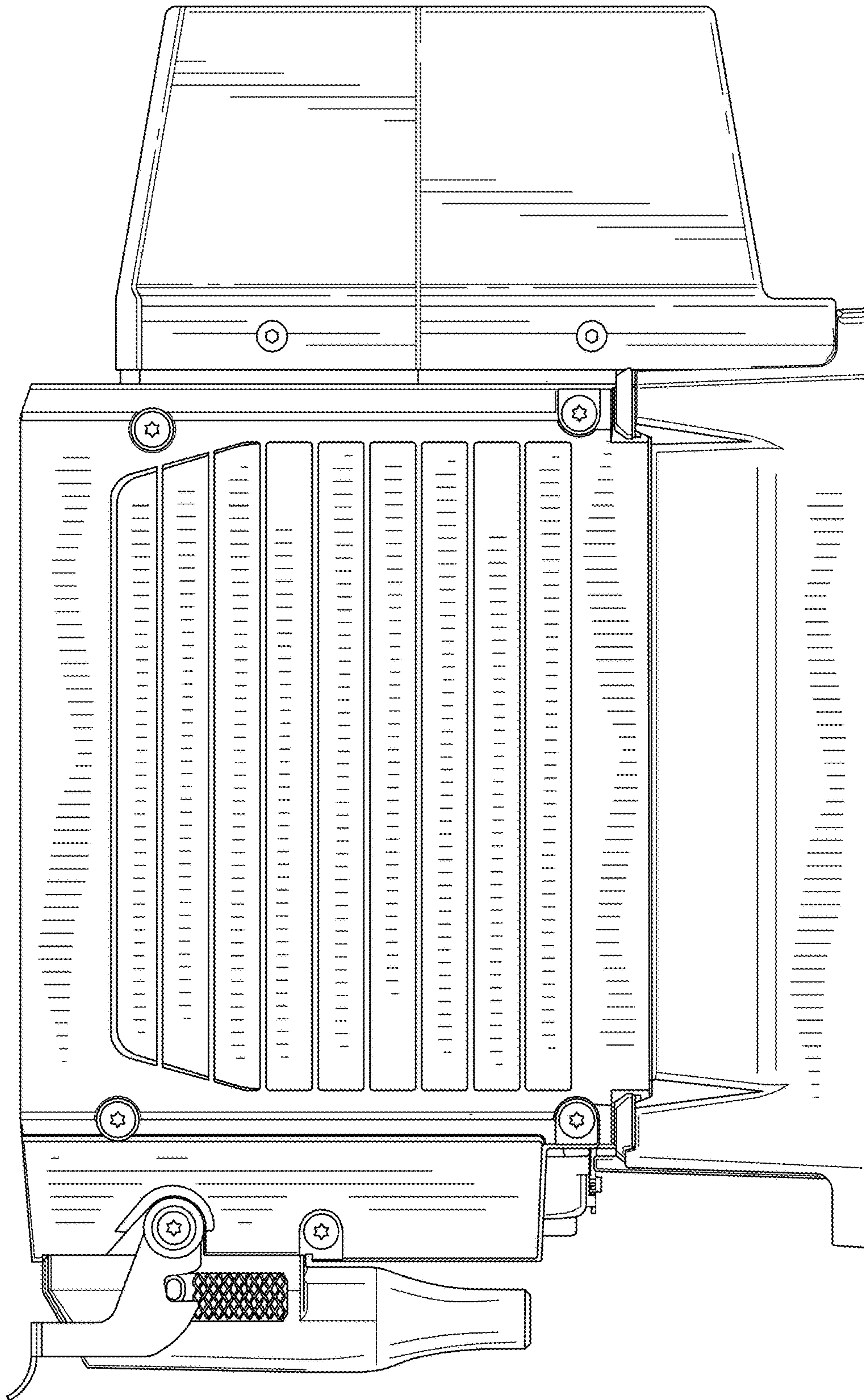


FIG. 8