US00D815051S

(12) United States Design Patent

Stray et al.

(10) Patent No.: US D815,051 S
(45) Date of Patent: ** Apr. 10, 2018

(54) **TOOL CONTROLLER UNIT**

(71) Applicant: **ATLAS COPCO INDUSTRIAL TECHNIQUE AB**, Stockholm (SE)

(72) Inventors: **Ola Stray**, Saltsjöbaden (SE); **Ola Petter Nyström**, Hägersten (SE)

(73) Assignee: **Atlas Copco Industrial Technique AB**, Stockholm (SE)

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

(21) Appl. No.: **29/573,495**

(22) Filed: **Aug. 5, 2016**

(30) **Foreign Application Priority Data**

Feb. 5, 2016 (EM) 002973974-0003

(51) **LOC (11) Cl.** **13-03**

(52) **U.S. Cl.**
USPC **D13/162**; D13/162.1

(58) **Field of Classification Search**
USPC D13/110, 112, 120, 122, 123, 145–147, 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	D13/162.1
D352,275	S	*	11/1994	Crawley	D13/122
5,493,194	A	*	2/1996	Damiano	G05B 19/414 307/71
D384,037	S		9/1997	Hamada	
D400,509	S		11/1998	Brunelle	
D400,510	S		11/1998	Brunelle	
D402,965	S	*	12/1998	Bender	D13/162
D403,301	S		12/1998	Lehmann et al.	
D471,908	S		3/2003	Stone et al.	
D482,663	S		11/2003	Droulin et al.	
D510,319	S		10/2005	Tuomola et al.	
D510,320	S	*	10/2005	Tuomola	D13/110

(Continued)

OTHER PUBLICATIONS

Machine Controllers, posted on moog.com, copyrighted 2016, no production date given, [online], [site visited Jun. 6, 2017], Available from Internet, <URL: http://www.moog.com/products/controllers-controls-software/industrial-controllers-software/machine-controllers.html>.*

(Continued)

Primary Examiner — Melanie H Tung
Assistant Examiner — Fritzgerald L Butac
(74) *Attorney, Agent, or Firm* — Holtz, Holtz & Volek PC

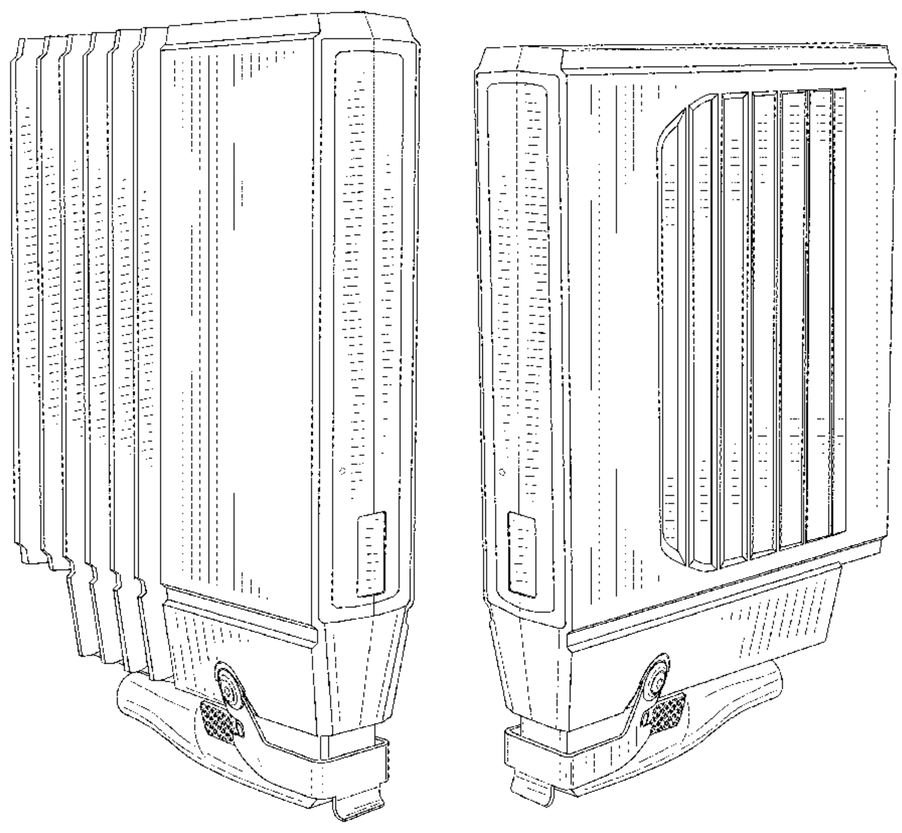
(57) **CLAIM**

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

DESCRIPTION

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

1 Claim, 6 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

D541,269	S	*	4/2007	Heesen	D14/314
D575,778	S		8/2008	Dearborn et al.	
D583,379	S	*	12/2008	Lindner	D14/439
D583,380	S	*	12/2008	Lindner	D14/439
D583,381	S	*	12/2008	Lindner	D14/439
D583,382	S	*	12/2008	Lindner	D14/439
D584,252	S	*	1/2009	Lewis, II	D13/184
D598,867	S	*	8/2009	Nada	D13/162.1
D609,195	S		2/2010	Yamashita et al.	
D647,521	S		10/2011	Takeda et al.	
D647,522	S	*	10/2011	Paul	D14/349
D659,651	S		5/2012	Wong	
D659,652	S		5/2012	Wong	
D717,733	S		11/2014	Cech et al.	
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 et al.	
D771,566	S	*	11/2016	Saarivirta	D13/110
D772,159	S	*	11/2016	Takano	D13/110
D772,161	S	*	11/2016	Saarivirta	D13/110
D772,162	S		11/2016	Saarivirta et al.	
D772,173	S	*	11/2016	Takano	D13/162
D780,698	S	*	3/2017	Karlen	D13/158

OTHER PUBLICATIONS

Motorola Supervisor Control and Data Aquisition (SCADA) systems, posted on uscubed.com, no posted date given, no production date given, [online], [site visited Jun. 6, 2017], Available from Internet, <URL: https://www.uscubed.com/services-motorolascada.php>.*

Broken Tool Detection Unit, posted on directindustry.com, no posted date given, no production date given, [online], [site visited Jun. 6, 2017], Available from Internet, <URL: http://www.directindustry.com/prod/schubert-system-elektronik-gmbh-bk-mikro/product-92575-1044857.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. 29/573,491, 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.

"Atlas Copco Controllers (Electric Assembly Tools)", posted on amtest-smt.com, online <http://www.amtest-smt.com/en/products/industrial-tools/electric-assembly-tools/atlas-copco/atlas-copco-controllers-(electric-assembly-tools),317.html>.

"Bosch Rexroth programmable digital controller assembly for secondary control of axial piston units", posted on hyquip.co.uk, online, <http://hyquip.co.uk/control-electronics/4562-bosch-rexroth-programmable-digital-controller-assembly-for-the-se>.

"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>.

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

"Power Focus 600" posted on atlascopco.us, online, <http://www.atlascopco.us/en-us/itba/products/Assembly-tools/Electric-assembly-systems/Power-Focus-600>.

* cited by examiner

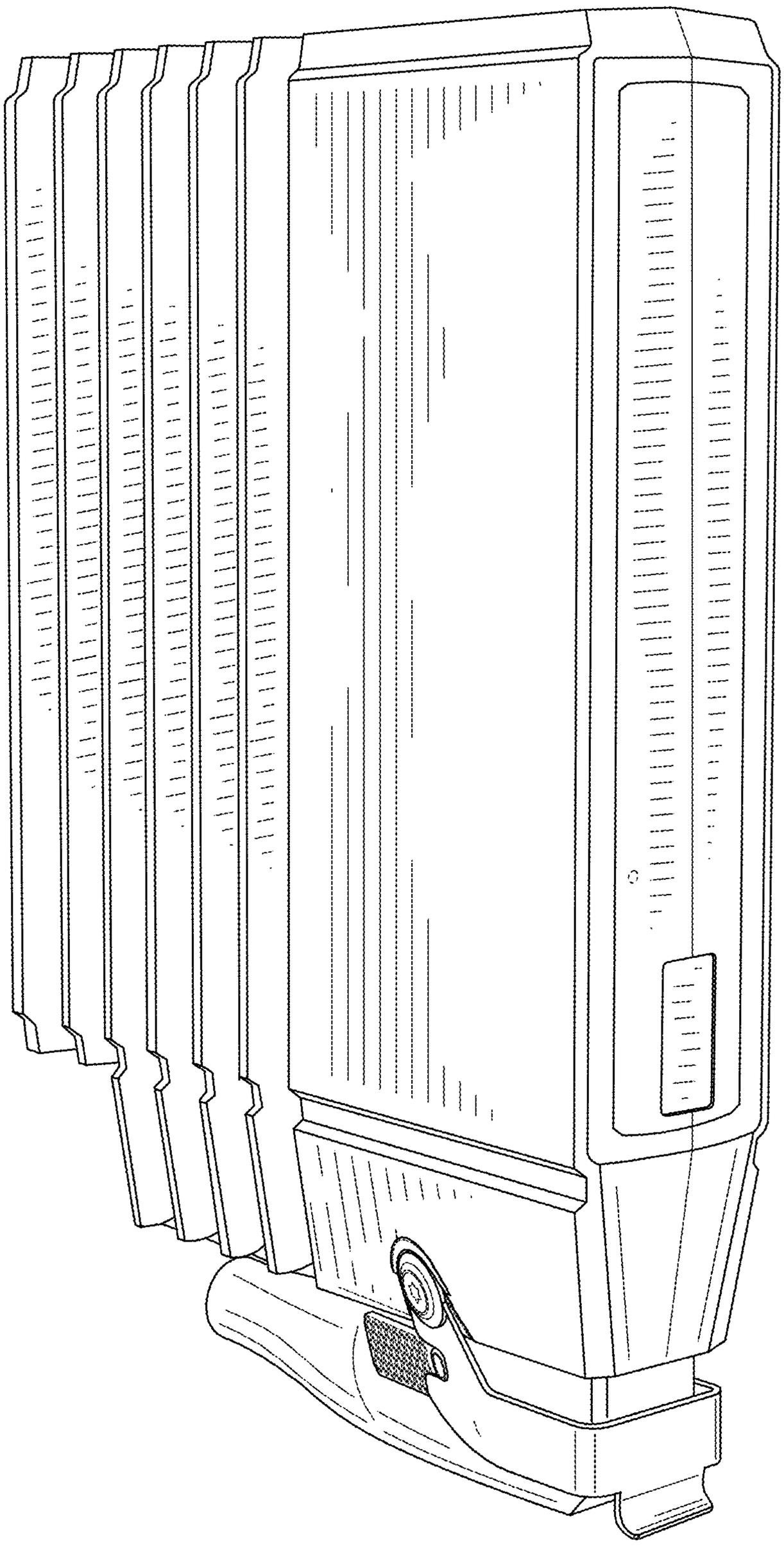


FIG. 1

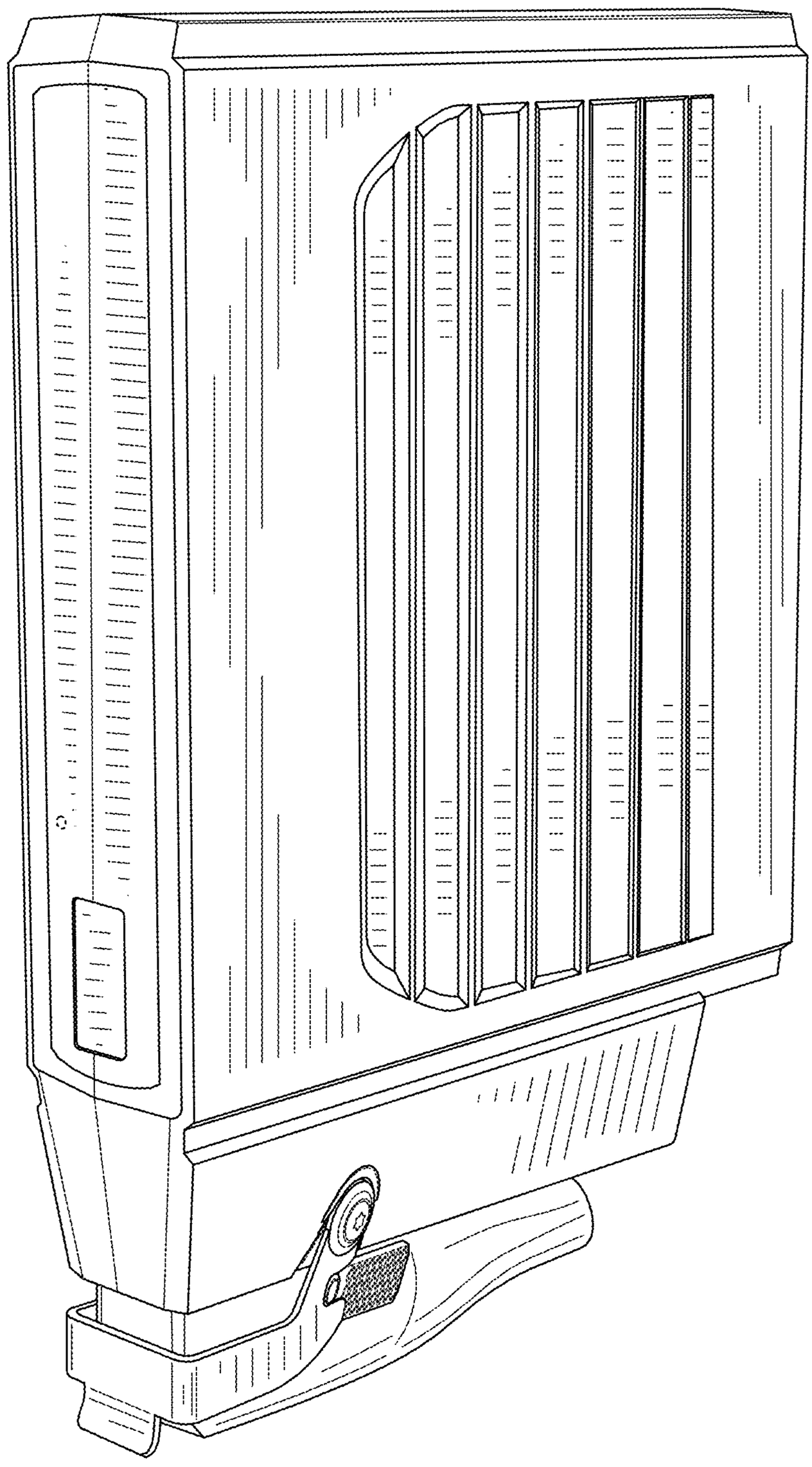


FIG. 2

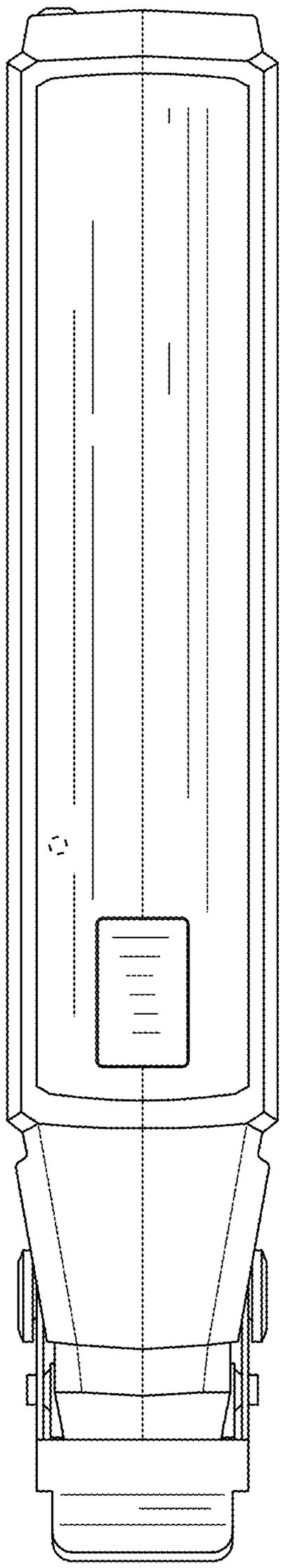


FIG. 3

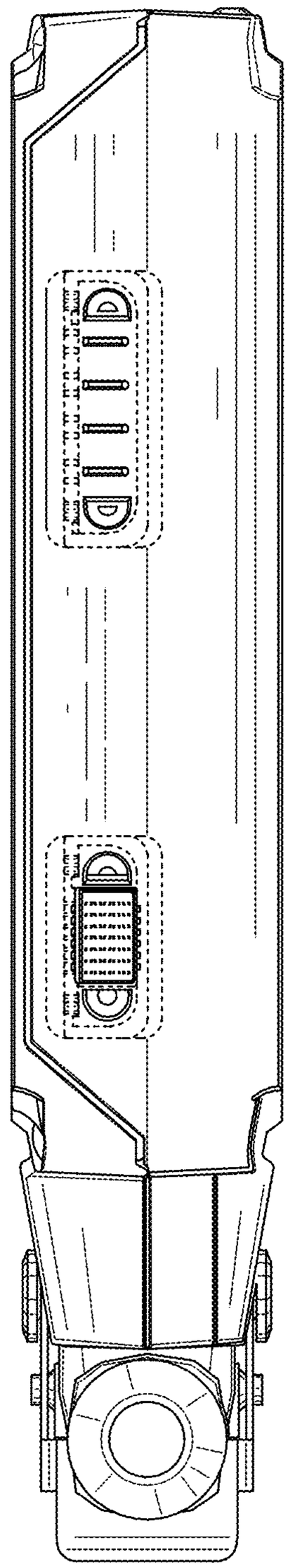


FIG. 4

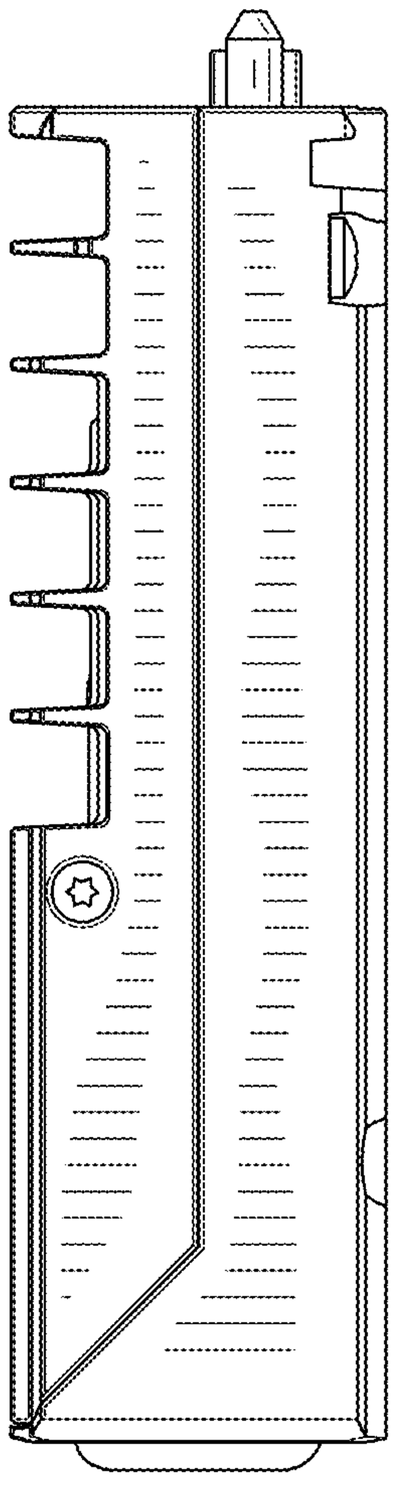


FIG. 5

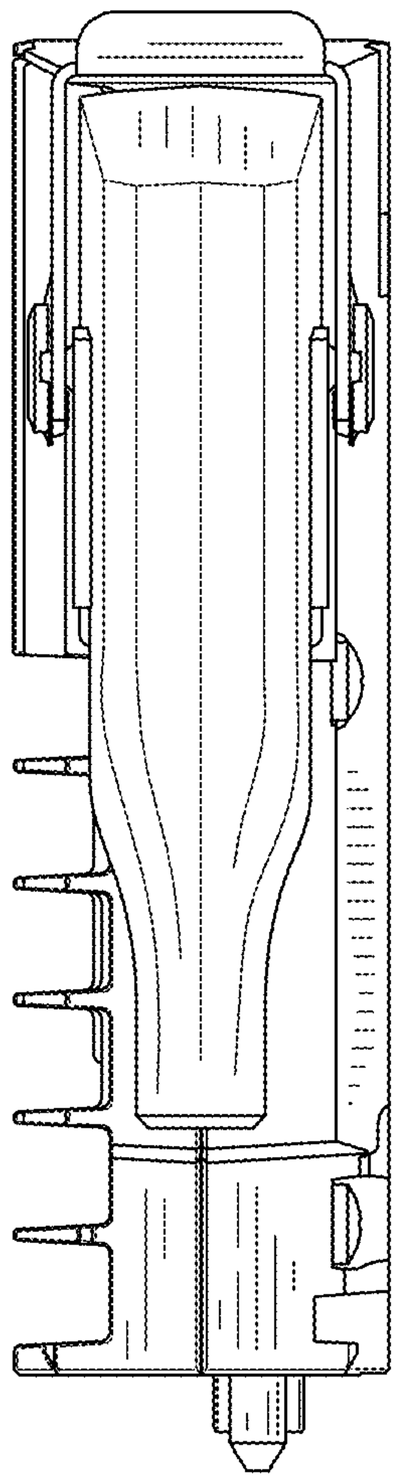


FIG. 6

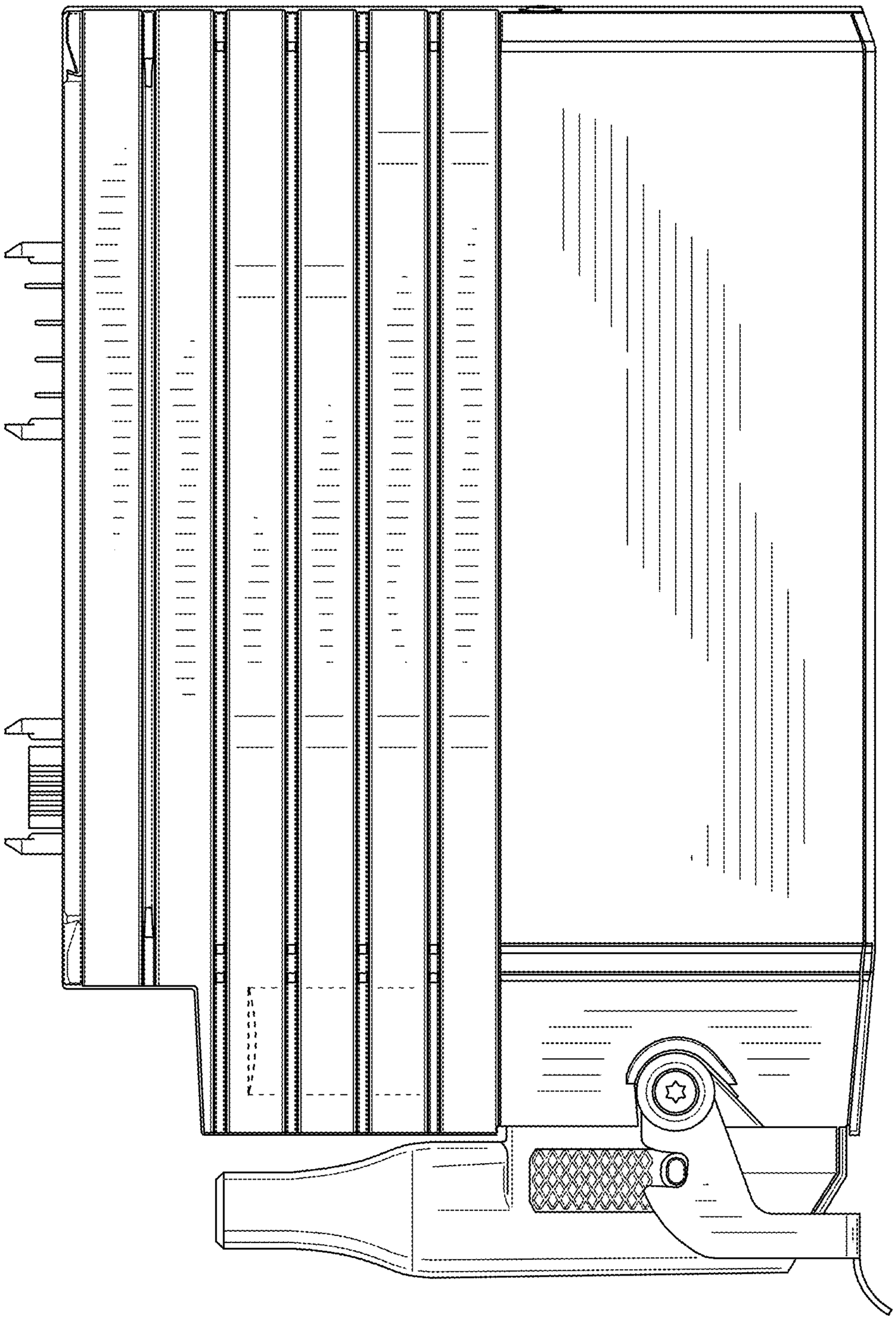


FIG. 7

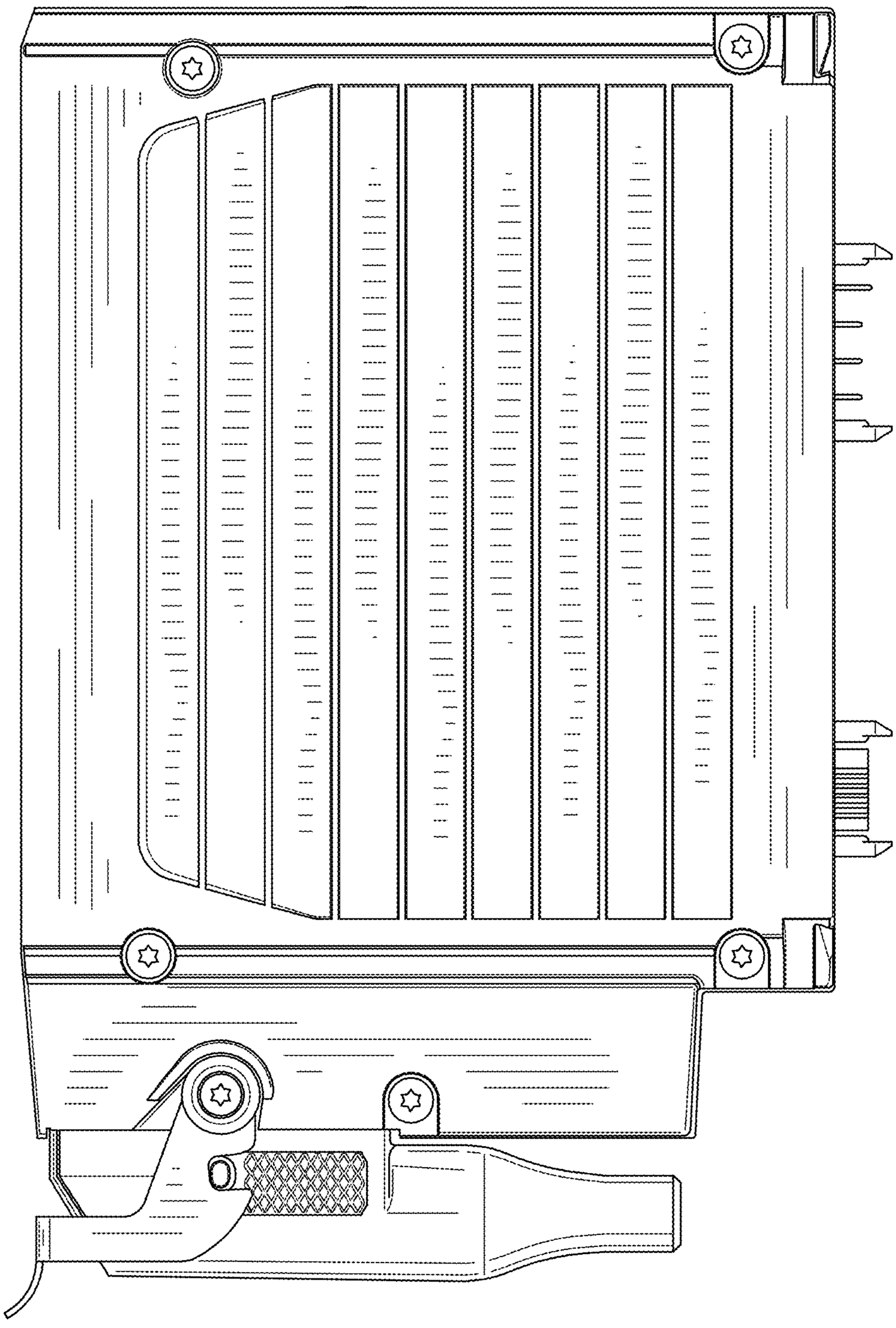


FIG. 8