



US00D826180S

(12) **United States Design Patent** (10) **Patent No.:** **US D826,180 S**
Stray et al. (45) **Date of Patent:** **** Aug. 21, 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)

D400,510 S 11/1998 Brunelle
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 et al.
D510,319 S 10/2005 Tuomola et al.
D510,320 S 10/2005 Tuomola et al.
D541,269 S 4/2007 Heesen
D575,778 S 8/2008 Dearborn et al.

(Continued)

(**) Term: **15 Years**
(21) Appl. No.: **29/573,496**
(22) Filed: **Aug. 5, 2016**

(30) **Foreign Application Priority Data**
Feb. 5, 2016 (EM) 002973974-0004
(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, 145-47,
D13/155, 158, 159, 162-64, 162.1, 168,
D13/184; D14/100, 114, 348, 349, 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
4,568,866 A 2/1986 Floro et al.
D309,600 S 7/1990 Backes
D352,275 S 11/1994 Crawley
5,493,194 A 2/1996 Damiano et al.
D384,037 S 9/1997 Hamada
D400,509 S 11/1998 Brunelle

OTHER PUBLICATIONS

Motorola Supervisory Control and Data Acquisition (SCADA) system, 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>.*

(Continued)

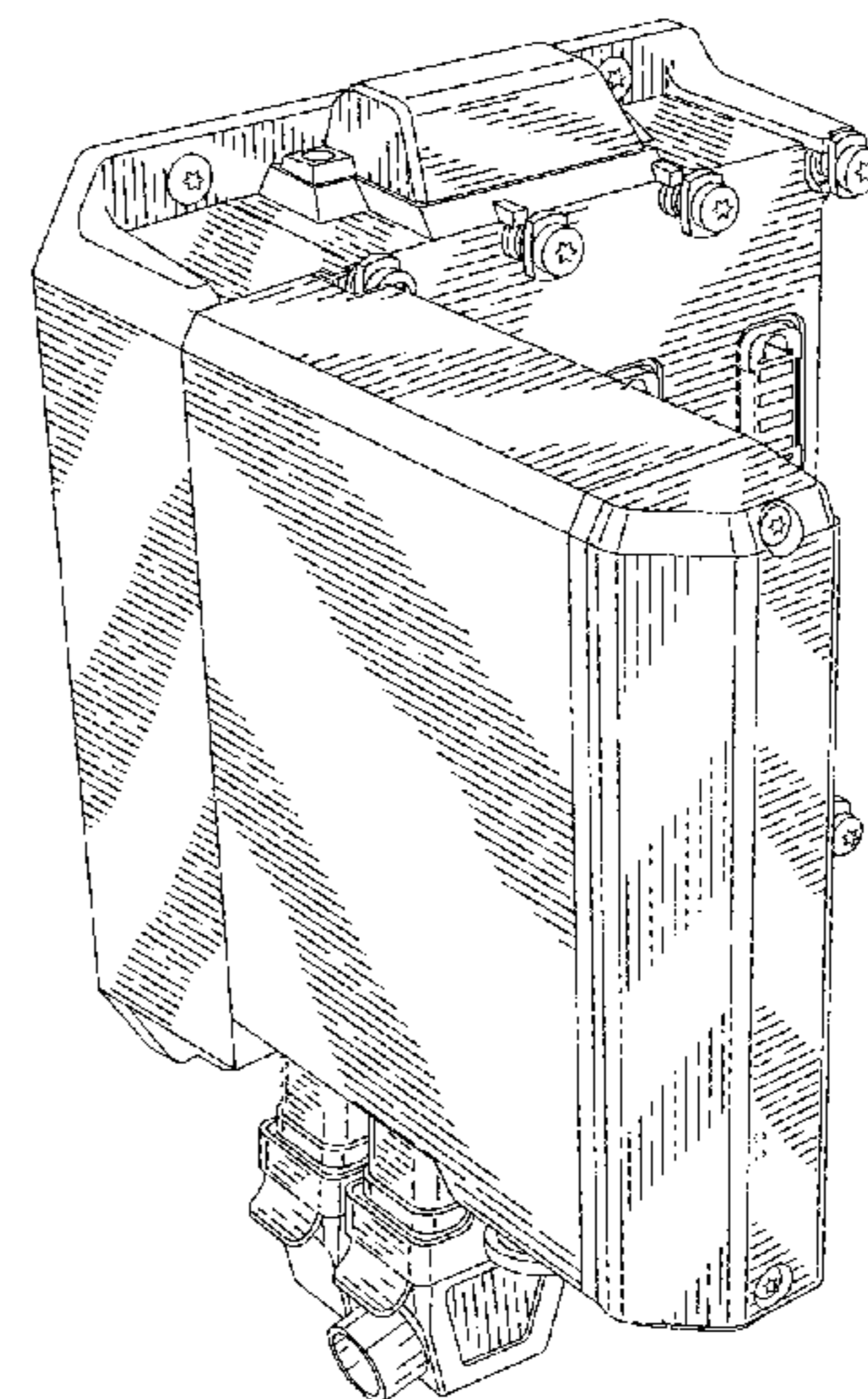
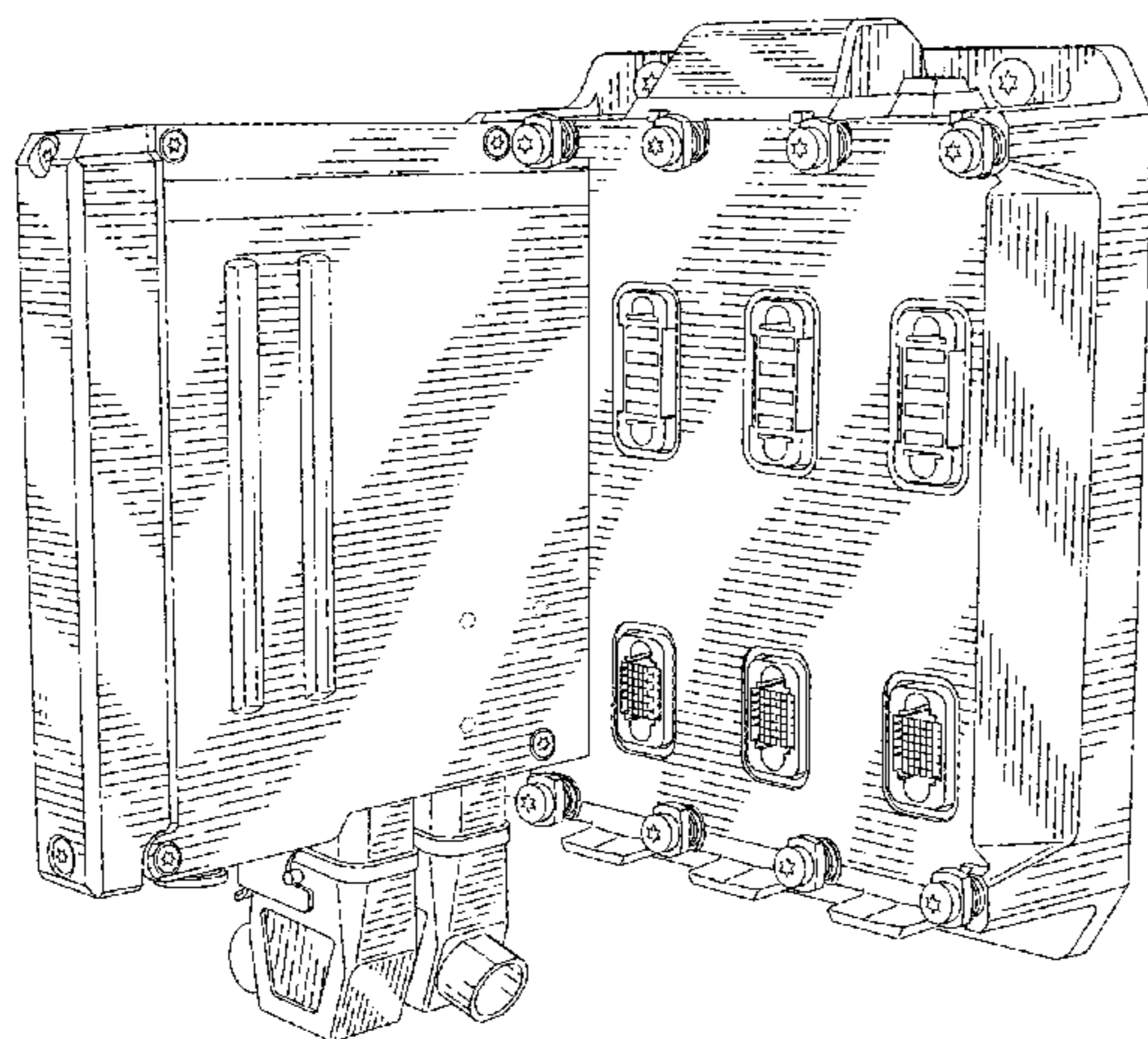
Primary Examiner — Melanie H Tung
Assistant Examiner — Fritzgerald L Butac
(74) *Attorney, Agent, or Firm* — Holtz, Holtz & Volek PC

(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 rear, top and left side perspective view thereof; FIG. 3 is a left side elevational view thereof; FIG. 4 is a right side elevational view thereof; FIG. 5 is a top plan view thereof; FIG. 6 is a bottom plan view thereof; FIG. 7 is a rear elevational view thereof; and, FIG. 8 is a front elevational view thereof. The broken lines show portions of a tool controller unit that form no part of the claimed design.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

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	D14/300
D647,522 S	10/2011	Paul	
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	D13/162
D728,477 S	5/2015	Meyer	
9,363,917 B2 *	6/2016	Merlet	H05K 7/1432
D766,840 S	9/2016	Greiser	
D771,565 S	11/2016	Saarivirta et al.	
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 et al.	
D772,173 S	11/2016	Takano et al.	
D780,698 S	3/2017	Karlen et al.	

OTHER PUBLICATIONS

Honeywell Process Controller, posted on automationworld.com, posted Nov. 26, 2015, no production date given, [online], [site visited Jun. 7, 2017], Available from Internet, <URL: <https://www.automationworld.com/article/technologies/rtu/honeywell-process-controller-simplifies-management-distributed-oil-and-gas>>.*

Omron EJINTC4BQQ Modular Temperature Controller, posted on shopeross.com, no posted date given, available since 2014, [online], [site visited Jun. 7, 2017], Available from Internet, <URL: https://www.shopeross.com/product/omron-ej1ntc4bqq-modular-temperature-controller-200-2300-deg-c?gclid=Cj0KEQjwyN7JBRCZn7LKgb3ki8kBEiQAaLEsqu4kgvGzhO7h2NHuHMO_i1N3w>.*

“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](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 hiyquip.co.uk, online, <<http://hiyquip.co.uk/control-electronics/4562-bosch-rexroth-programmable-digital-controller-assembly-for-the-se>>.

“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>>.

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

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

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. 29/573,495, 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.

* cited by examiner

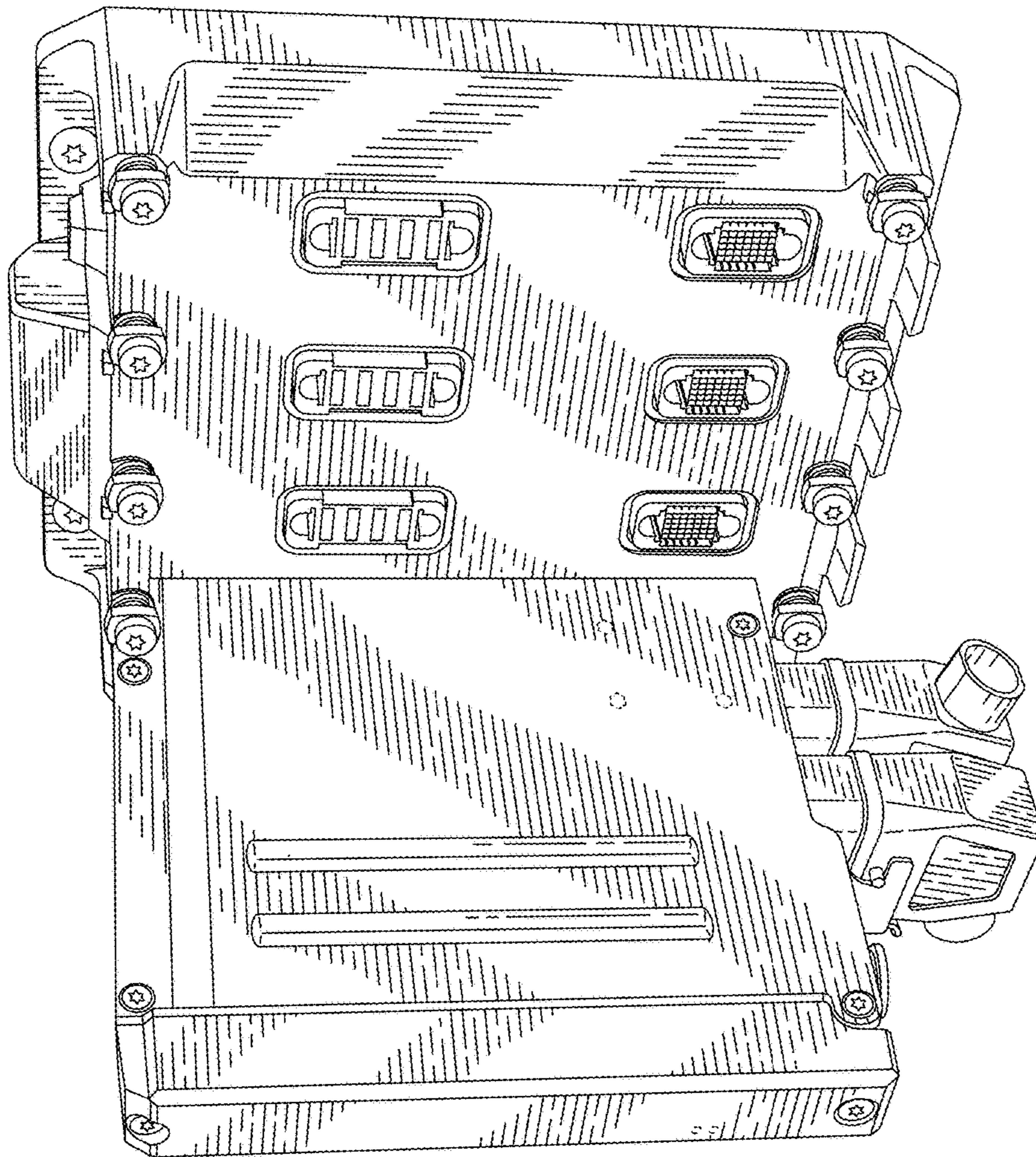


FIG. 1

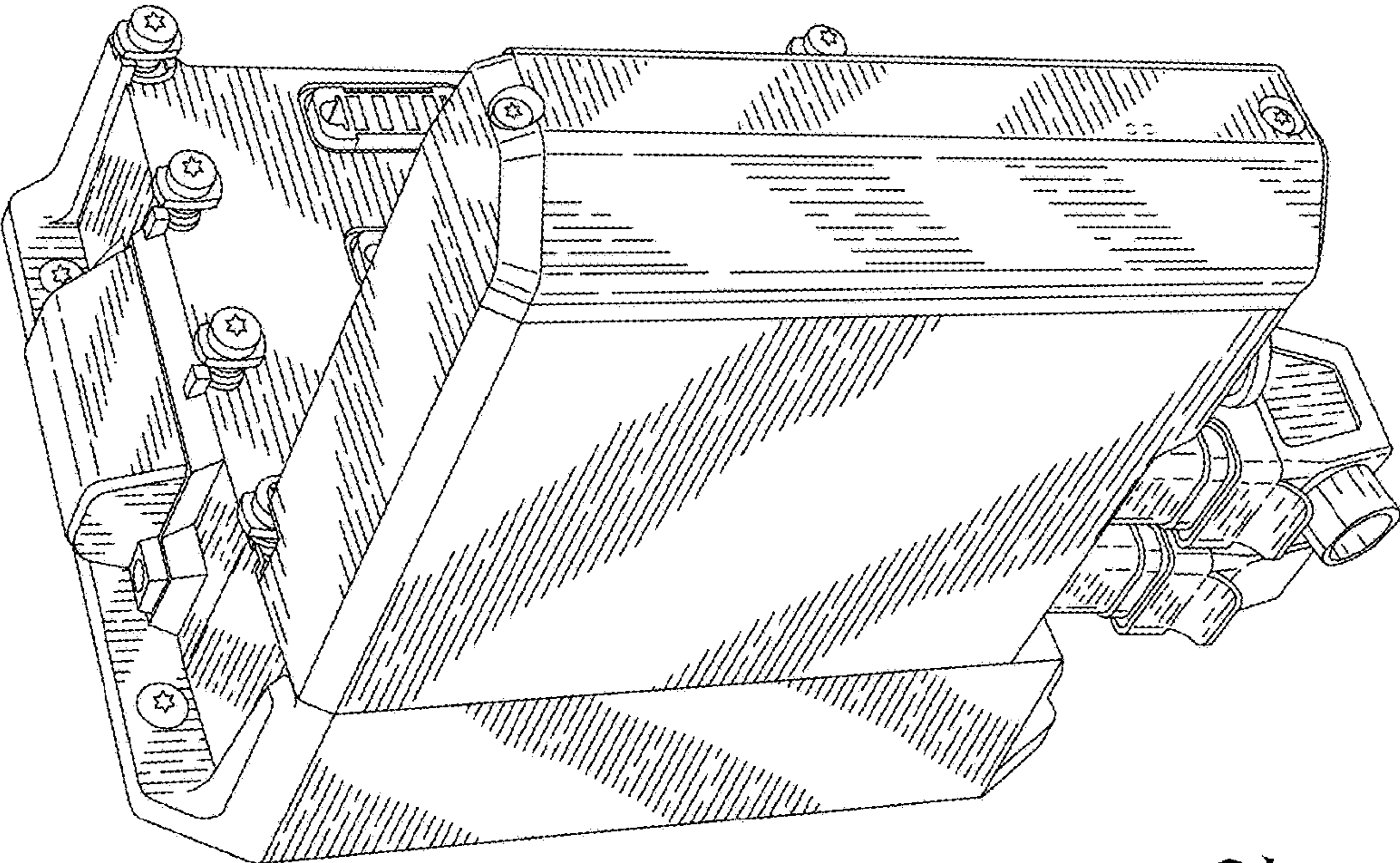


FIG. 2

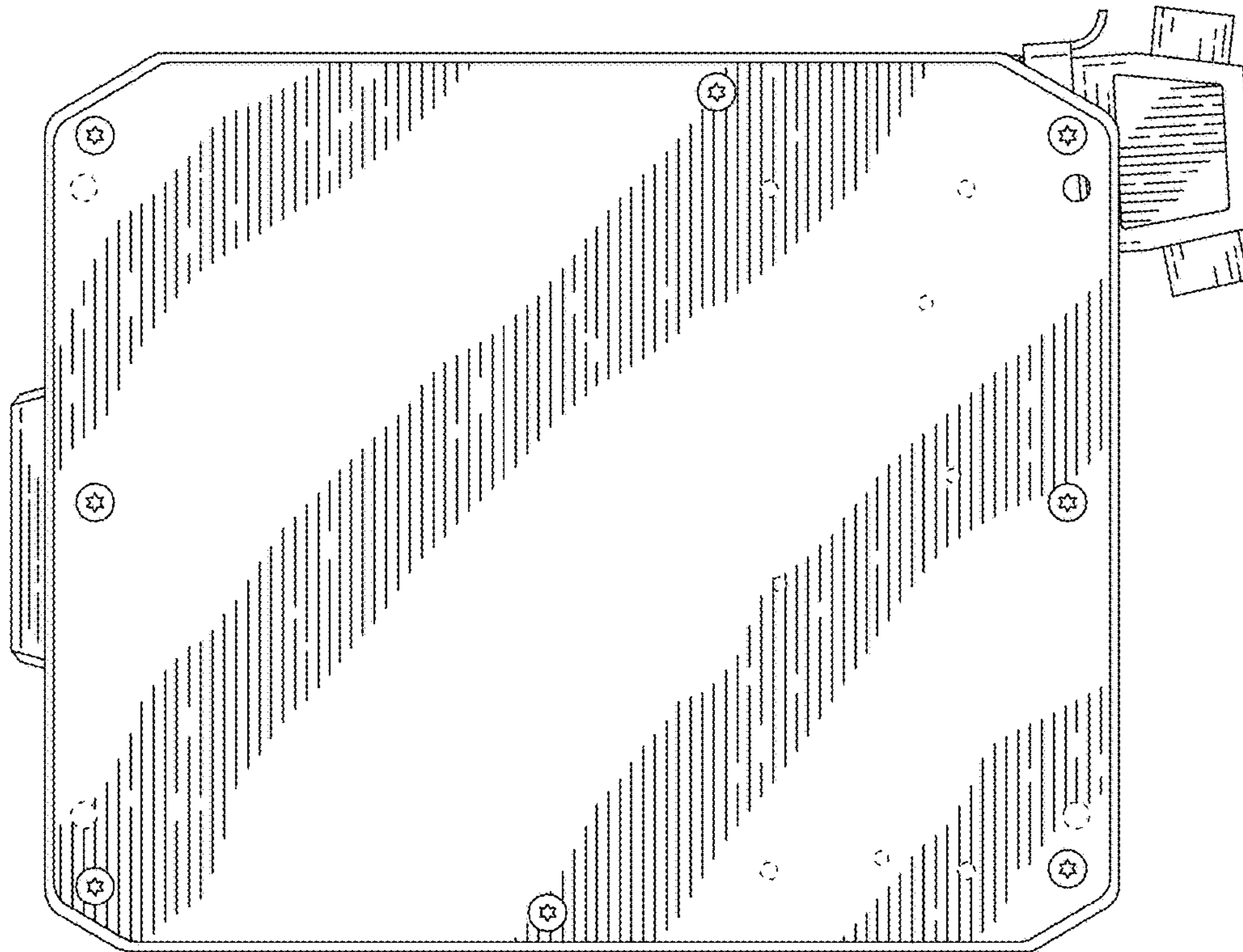


FIG. 4

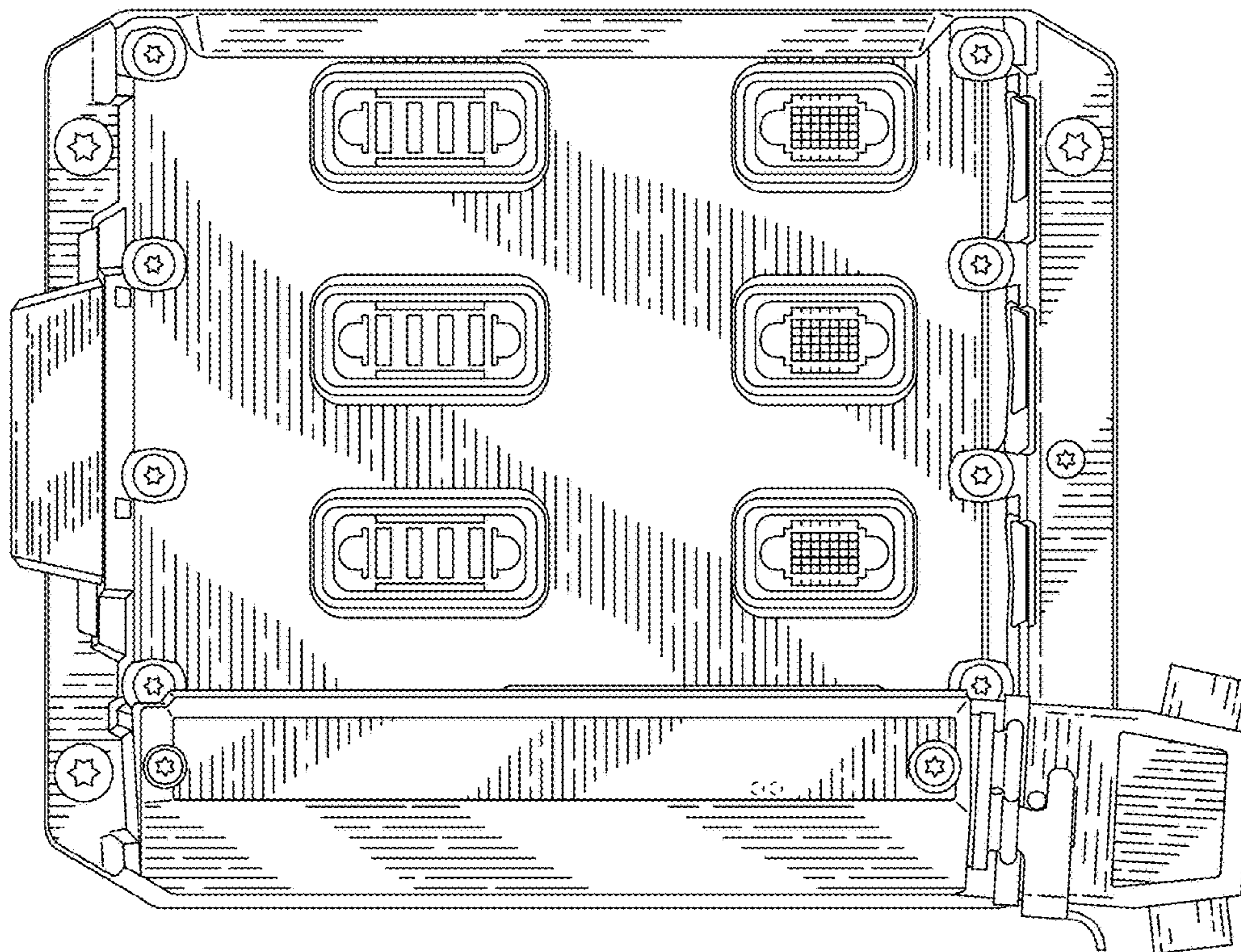


FIG. 3

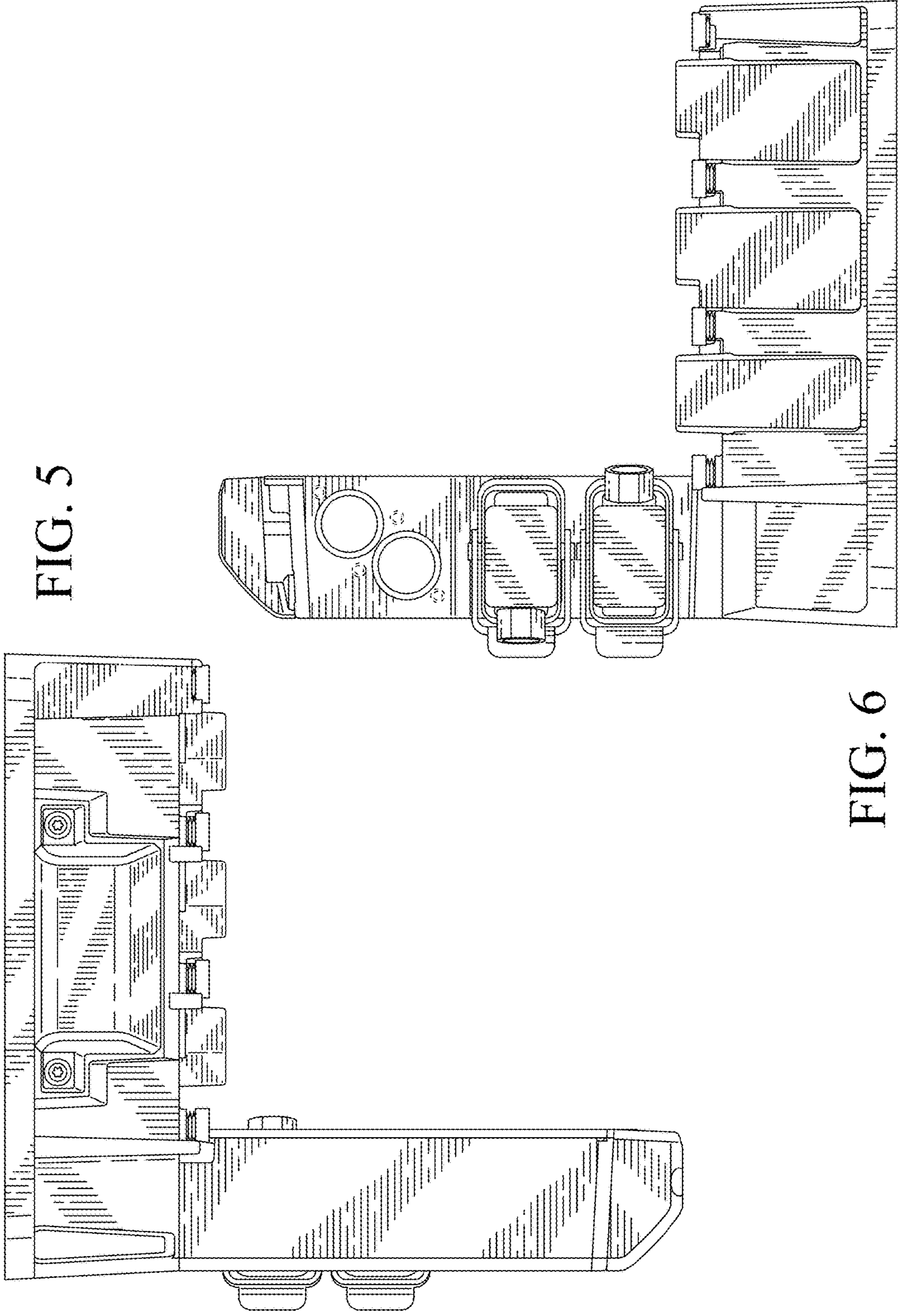


FIG. 5

FIG. 6

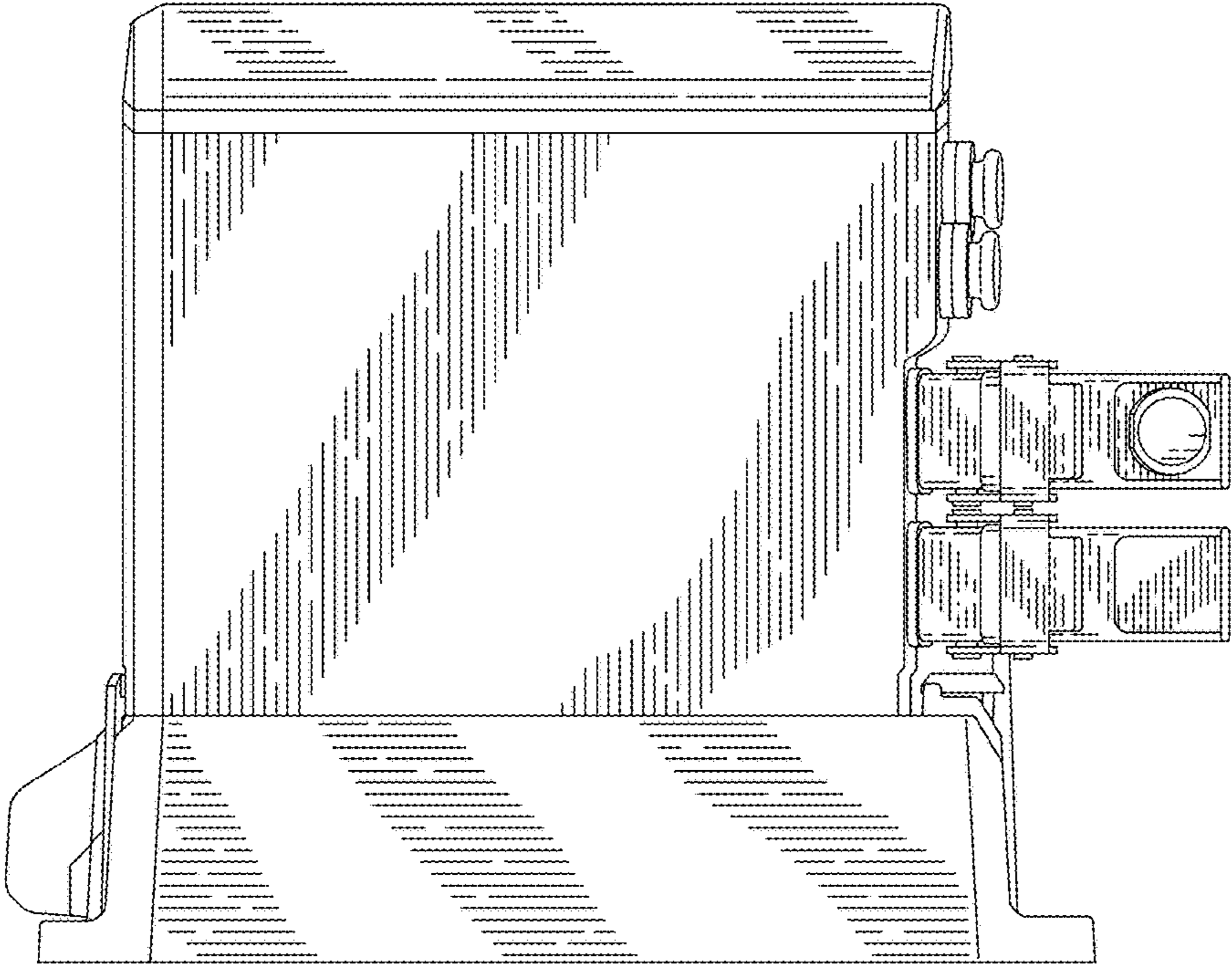


FIG. 7

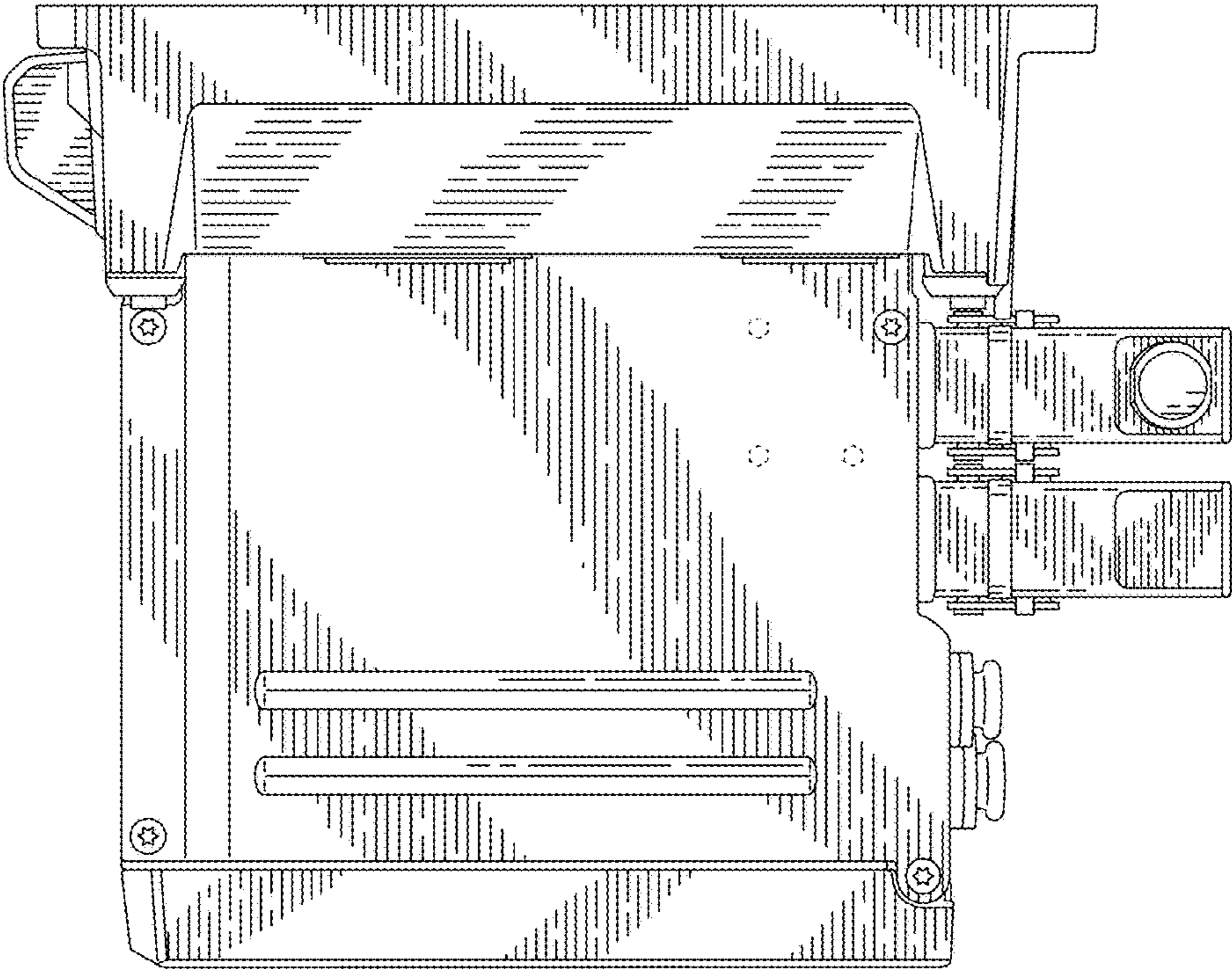


FIG. 8