



US00D816048S

(12) **United States Design Patent** (10) **Patent No.:** **US D816,048 S**
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(54) **TOOL CONTROLLER UNIT**
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D400,510 S 11/1998 Brunelle
D402,965 S 12/1998 Bender
D403,301 S * 12/1998 Lehmann D13/110
D471,908 S * 3/2003 Stone D14/356
D482,663 S 11/2003 Droulin et al.
D510,319 S * 10/2005 Tuomola D13/110
D510,320 S 10/2005 Tuomola et al.
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

(Continued)

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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**
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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
4,568,866 A 2/1986 Floro et al.
D309,600 S * 7/1990 Backes D13/162.1
D352,275 S 11/1994 Crawley
5,493,194 A * 2/1996 Damiano G05B 19/414
307/71
D384,037 S 9/1997 Hamada
D400,509 S 11/1998 Brunelle

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)

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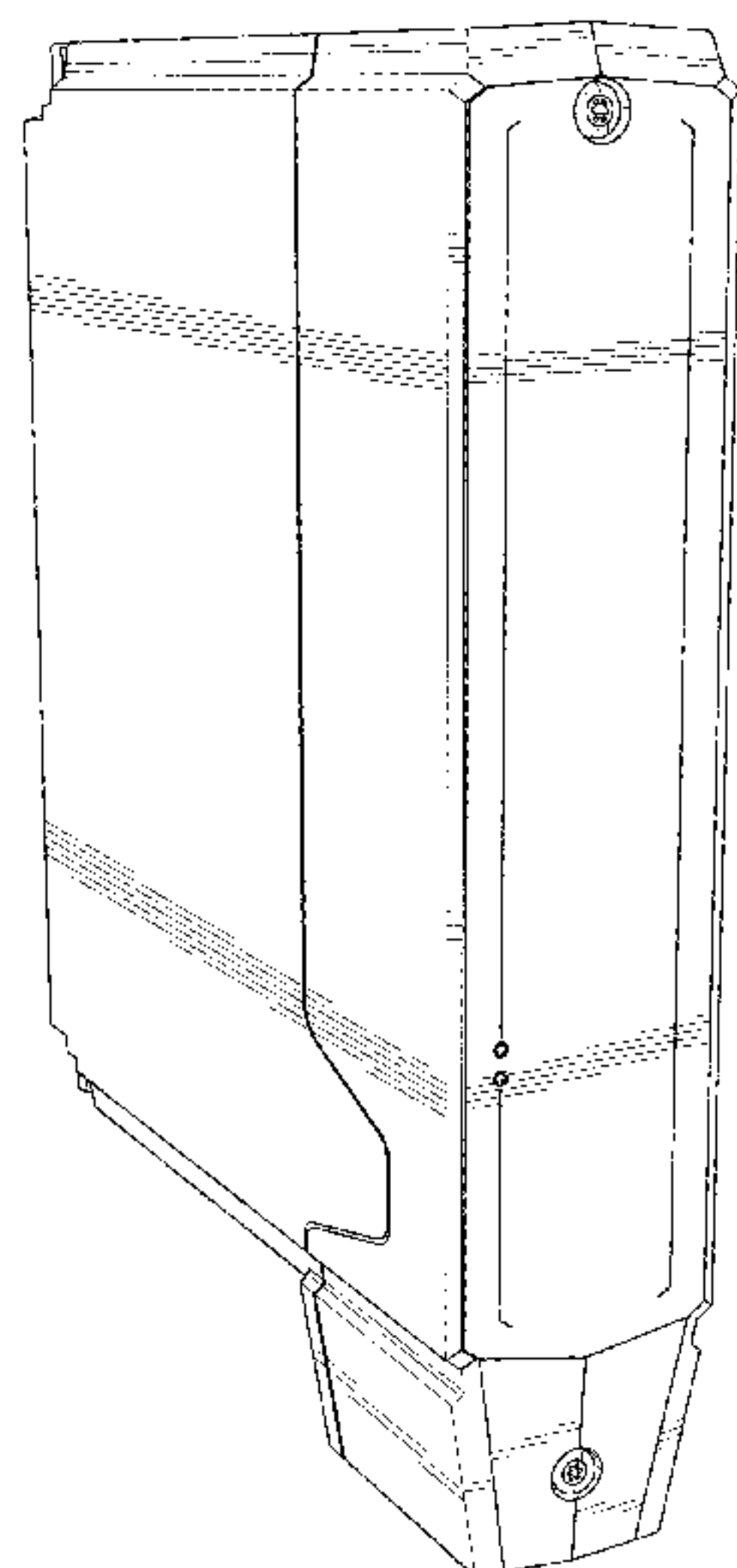
(57) **CLAIM**

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 elevational view thereof; FIG. 3 is a rear elevational view thereof; FIG. 4 is a top plan view thereof; FIG. 5 is a bottom plan view thereof; FIG. 6 is a left side elevational view thereof; and, FIG. 7 is a right side elevational view thereof. The portions of the tool controller shown in broken lines form no part of the claimed design.

1 Claim, 5 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D583,381 S	*	12/2008	Lindner	.....	D14/439
D583,382 S	*	12/2008	Lindner	.....	D14/439
D584,252 S		1/2009	Lewis, II et al.		
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	.....	D13/107
9,363,917 B2		6/2016	Merlet et al.		
D766,840 S	*	9/2016	Greiser	.....	D13/162
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 et al.		
D780,698 S		3/2017	Karlen et al.		

OTHER PUBLICATIONS

Motorola Supervisor Control and Data Acquisition (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. 29/573,495, 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.

"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 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 EJINTC4BQQ Modular Temperature Controller", posted on shopcross.com, available since 2014, [online], <URL: https://www.shopcross.com/product/omron-ejintc4bgq-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

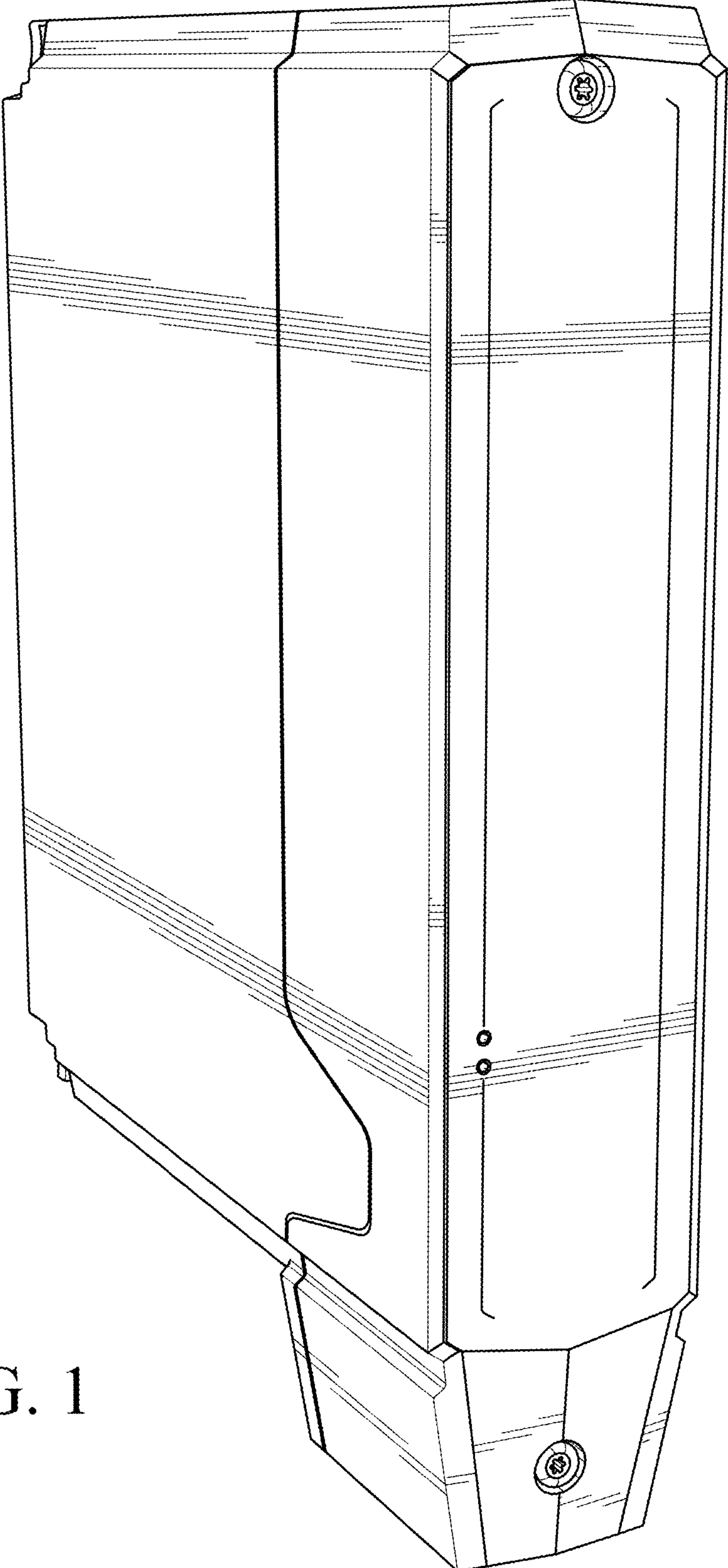


FIG. 1

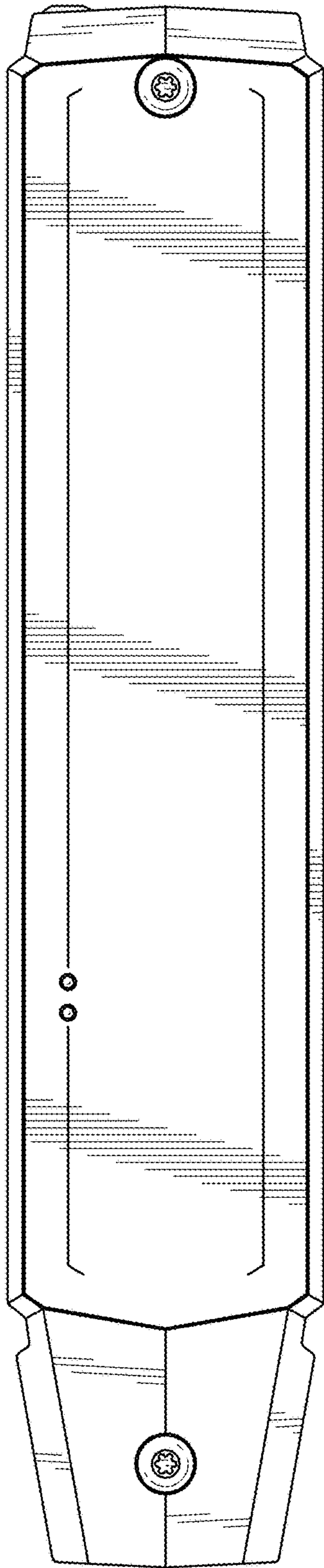


FIG. 2

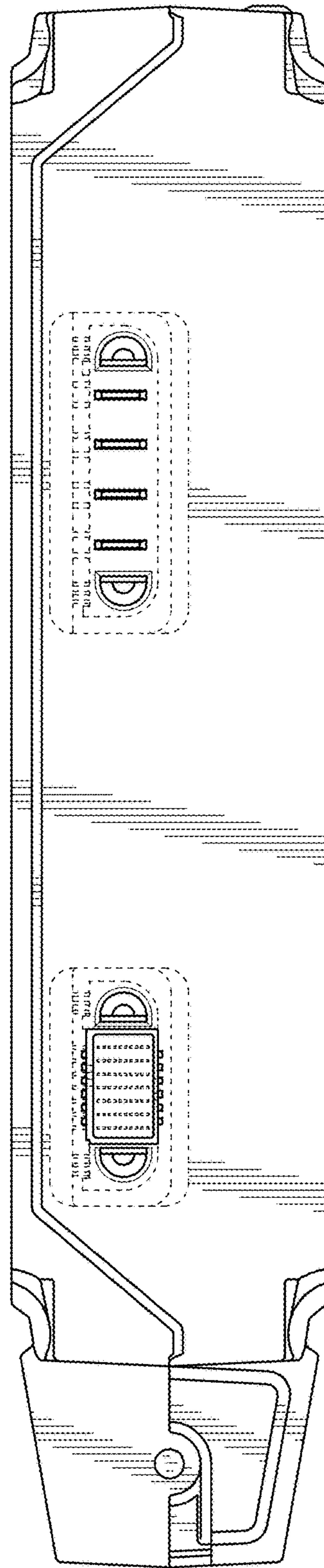


FIG. 3

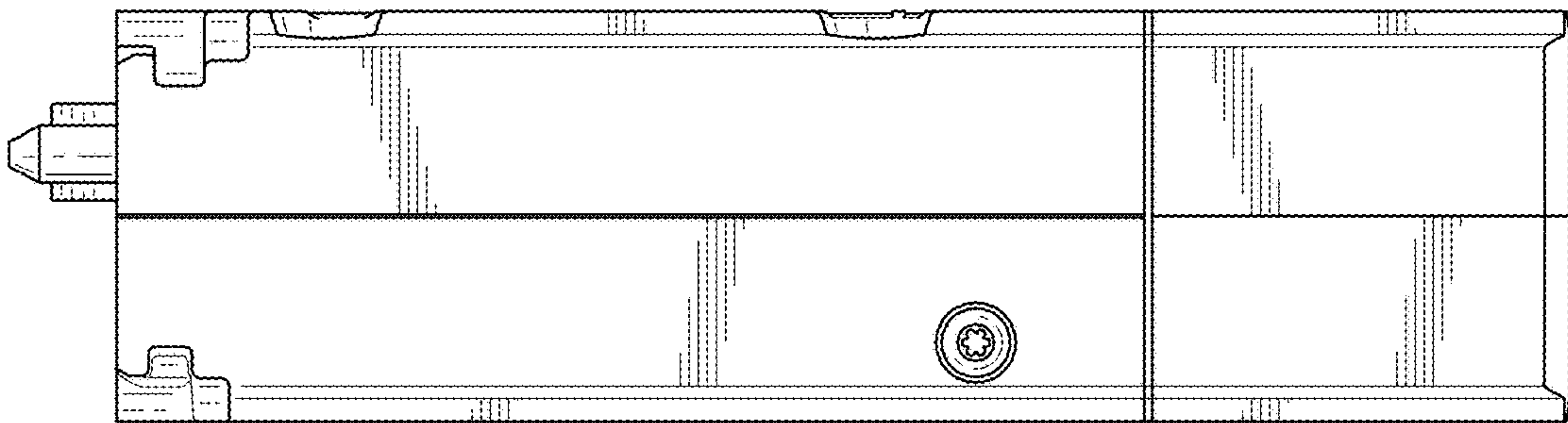


FIG. 4



FIG. 5

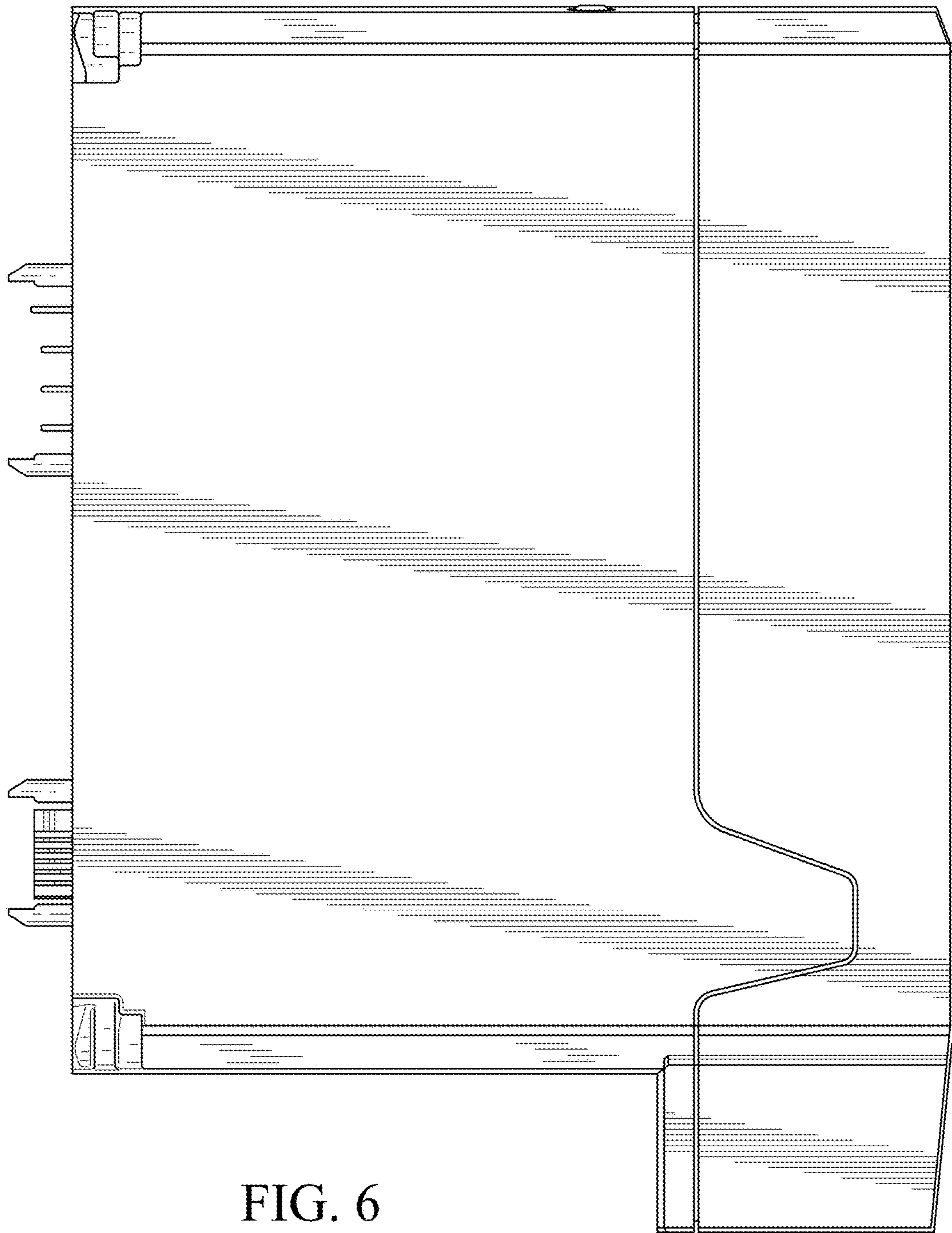


FIG. 6

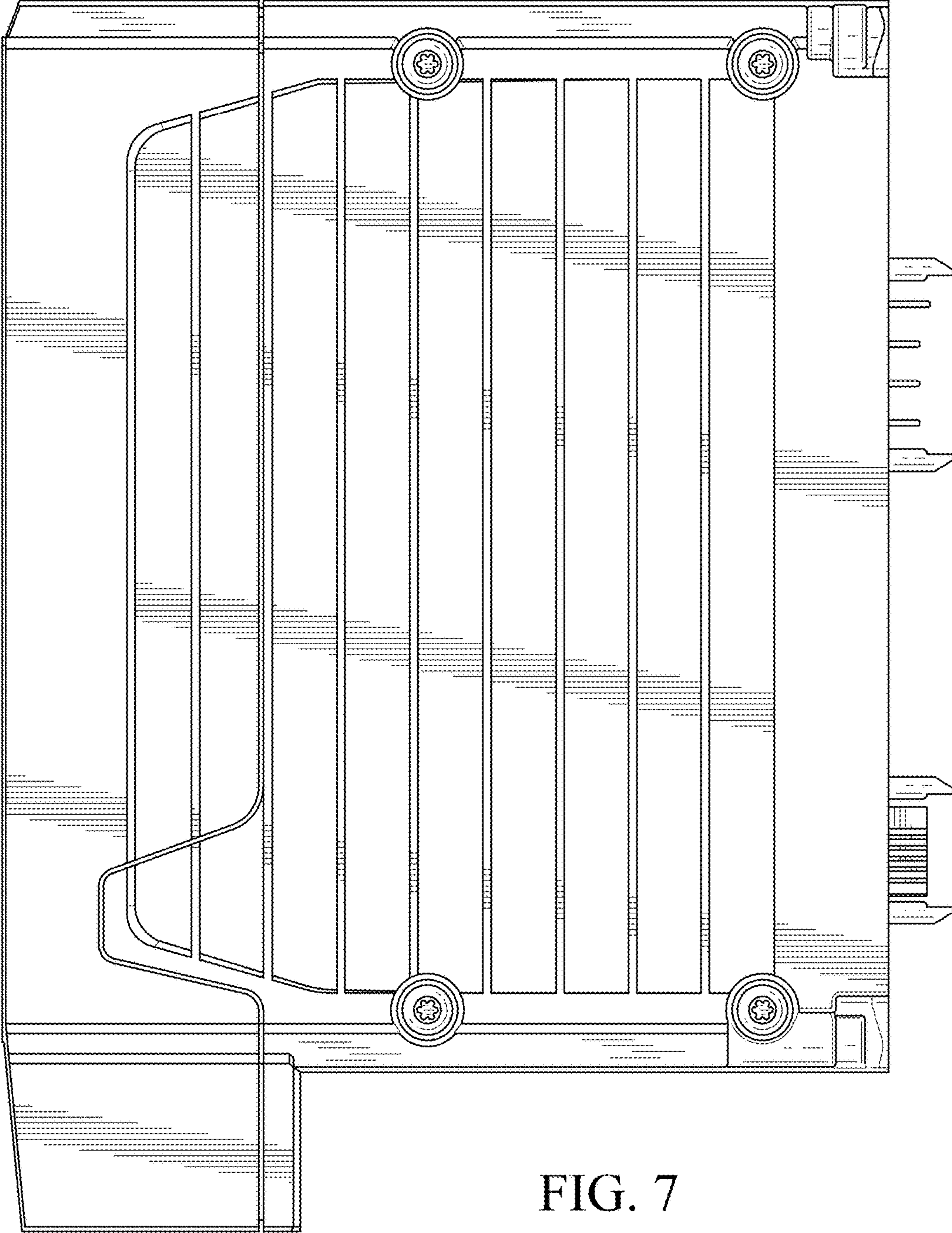


FIG. 7