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**Trochum et al.**

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(54) **CONTROLLER**

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(\*\*) Term: **14 Years**

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

(58) **Field of Classification Search**  
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D14/388; D15/9  
CPC ..... F04B 49/00; F04B 49/06; F04B 49/065;  
F25B 2400/077; G05B 19/409; G05B  
2219/13164; G05B 2219/36163; H05K 5/02;  
H05K 5/0204; H05K 5/0247  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

4,676,914	A *	6/1987	Mills	.....	E04H 4/1245 210/108
D388,769	S *	1/1998	Pritchard	.....	D13/162
D399,197	S *	10/1998	Clark	.....	D14/443
D412,897	S	8/1999	Attwood et al.		
D457,502	S *	5/2002	Sykes	.....	D13/162
D556,698	S *	12/2007	Walser	.....	D13/164
D566,597	S *	4/2008	Schneor	.....	D10/103
D575,239	S *	8/2008	Shah	.....	D13/162

D621,794	S *	8/2010	Haeske	.....	D13/164
7,864,158	B1 *	1/2011	McGeever	.....	G05B 19/409 345/158
D637,562	S *	5/2011	Worm	.....	D13/162
8,436,559	B2 *	5/2013	Kidd	.....	F04B 17/03 318/34
D710,312	S *	8/2014	Branson	.....	D13/162
D722,297	S *	2/2015	Rader	.....	D13/162
9,051,930	B2 *	6/2015	Stiles, Jr.	.....	F04B 49/20
D735,680	S *	8/2015	Harrison	.....	D13/162
D738,830	S *	9/2015	Suthmann	.....	D13/162
2002/0163785	A1 *	11/2002	Brechbill	.....	F04B 39/12 361/730
2006/0129088	A1 *	6/2006	Gill	.....	F04B 49/00 604/67

(Continued)

**OTHER PUBLICATIONS**

Ingersoll-Rand Company Limited, Advanced Machine Control, 2010, 2 pages.

(Continued)

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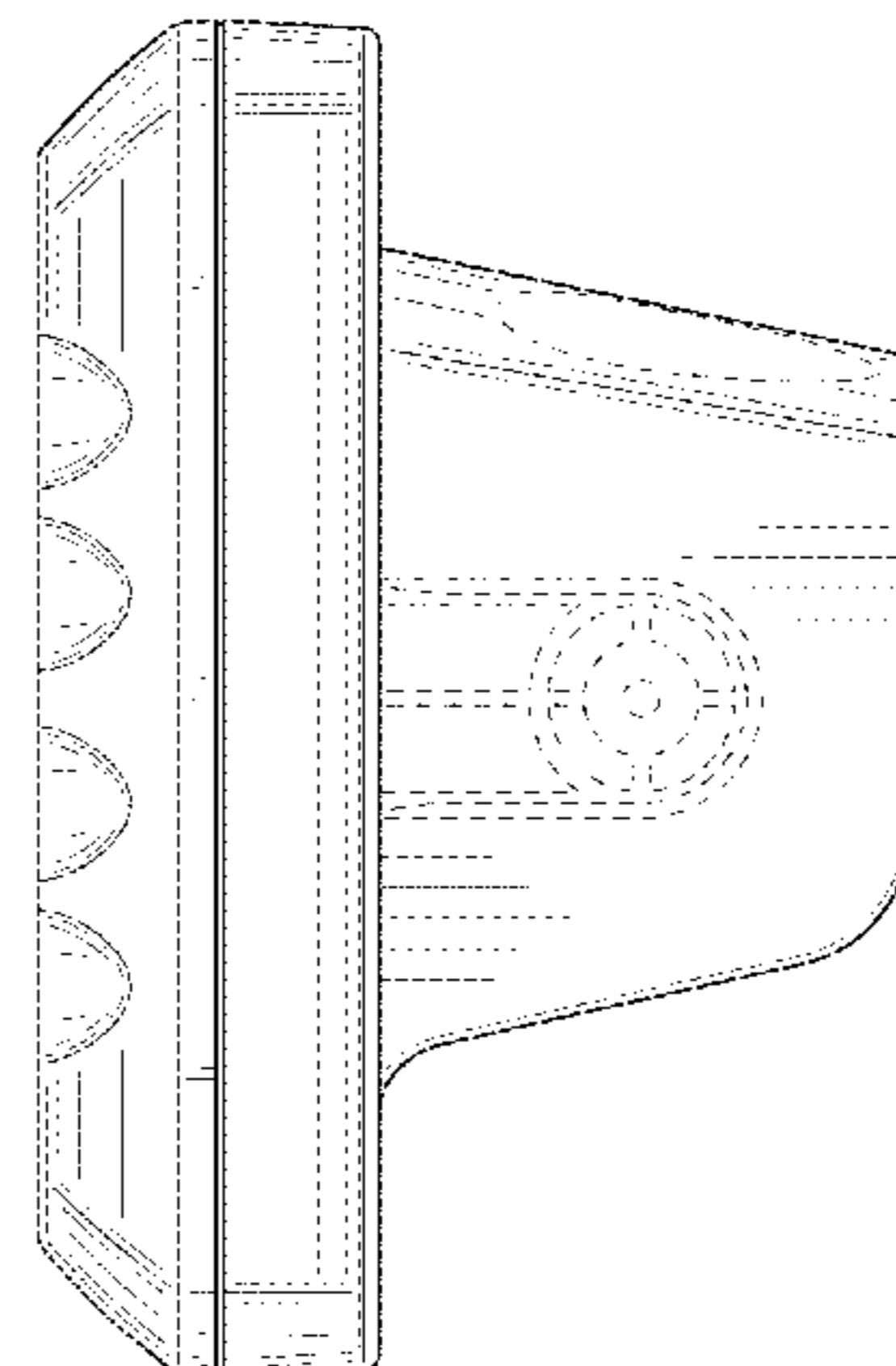
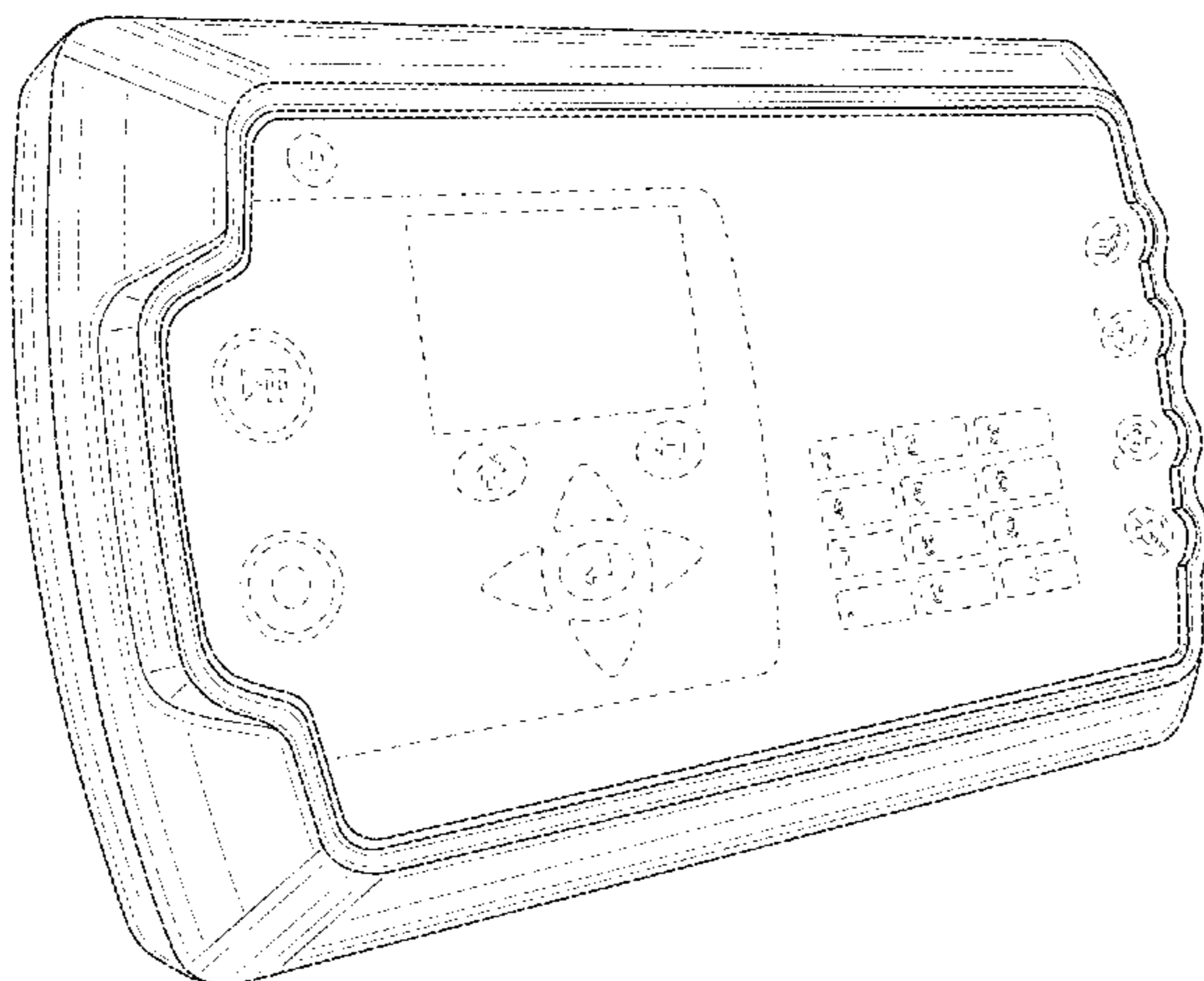
(57) **CLAIM**

The ornamental design for a controller, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view of a design of a controller; FIG. 2 is a front elevation view of the controller of FIG. 1; FIG. 3 is a rear elevation view of the controller of FIG. 1; FIG. 4 is a left side elevation view of the controller of FIG. 1; FIG. 5 is a right side elevation view of the controller of FIG. 1; FIG. 6 is a top plan view of the controller of FIG. 1; and, FIG. 7 is a bottom plan view of the controller of FIG. 1. The broken lines shown in the drawings illustrate portions of the controller that form no part of the claimed design.

**1 Claim, 6 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

2008/0232980 A1\* 9/2008 Huang ..... F04B 49/00  
417/282  
2010/0119379 A1\* 5/2010 Becker ..... F04B 45/00  
417/48

OTHER PUBLICATIONS

Prominent Dosiertechnik GmbH, Operating Instructions—Solenoid Metering Pump, 1999, 75 pages.  
Watson-Marlow Bredel Pumps, Heavy Duty Process Pumps, publicly available prior to Aug. 26, 2014, 24 pages.  
Pulsafeeder, Vision Series Model UV, publicly available prior to Aug. 26, 2014, 2 pages.

Ingersoll-Rand Company Limited, Remote Communication and Control, 2010, 2 pages.

Pulsafeeder, MC9200 Series Cooling Tower Controller, publicly available prior to Aug. 26, 2014, 2 pages.

Pulsafeeder, MicroVision Cooling Tower Controller, publicly available prior to Aug. 26, 2014, 2 pages.

Ingersoll-Rand Company, X-Series System Automation, 2009, 8 pages.

LMI Milton Roy, Roytronic Series A, May 2009, 4 pages.

Larox Flowsys Incorporated, LPP-M2-S Metering Pumps, publicly available prior to Aug. 26, 2014, 2 pages.

Blue-White Industries, Ltd., ProSeries Flex-Pro Peristaltic Metering Pump, Aug. 14, 2013, 6 pages.

\* cited by examiner

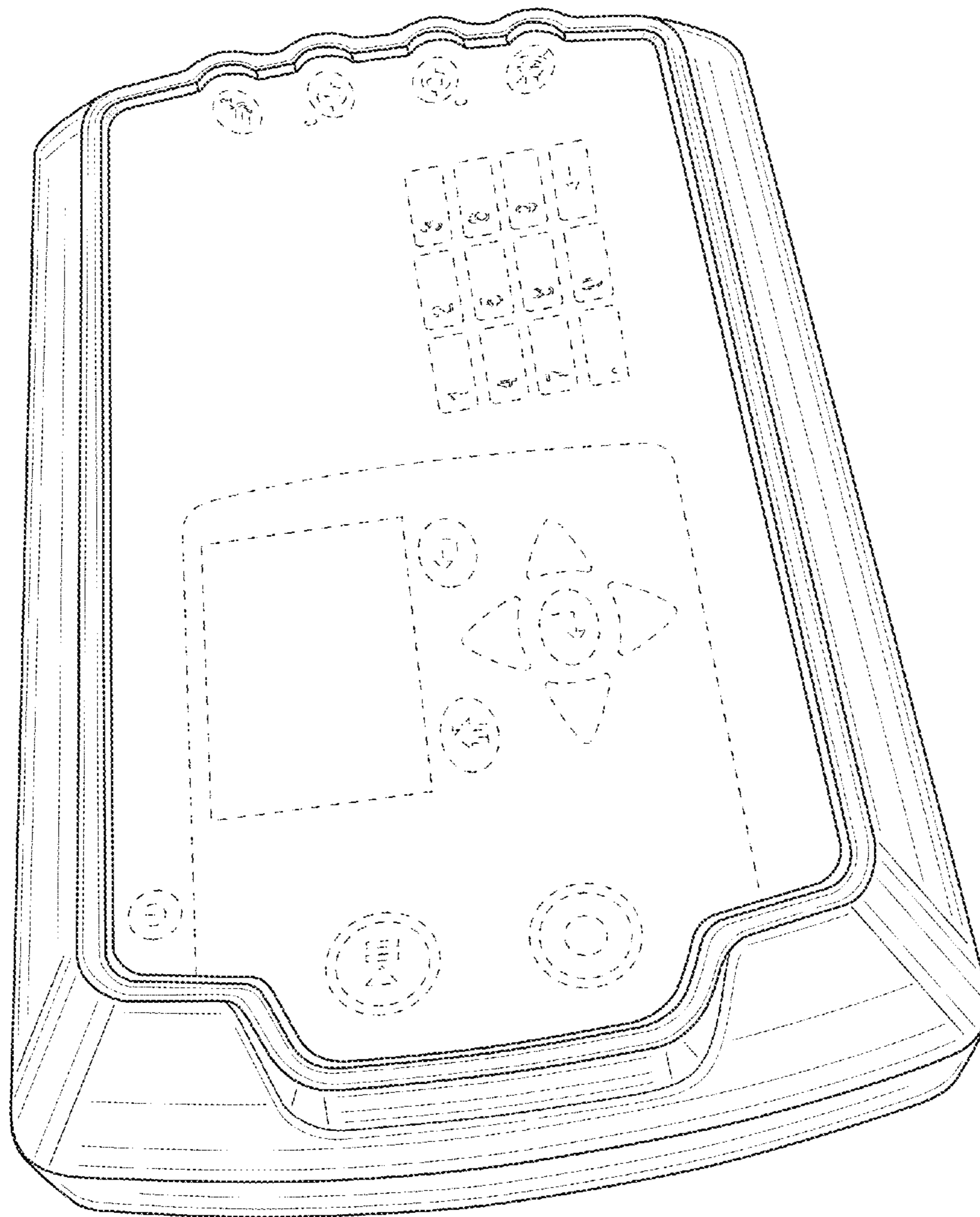


FIG. 1

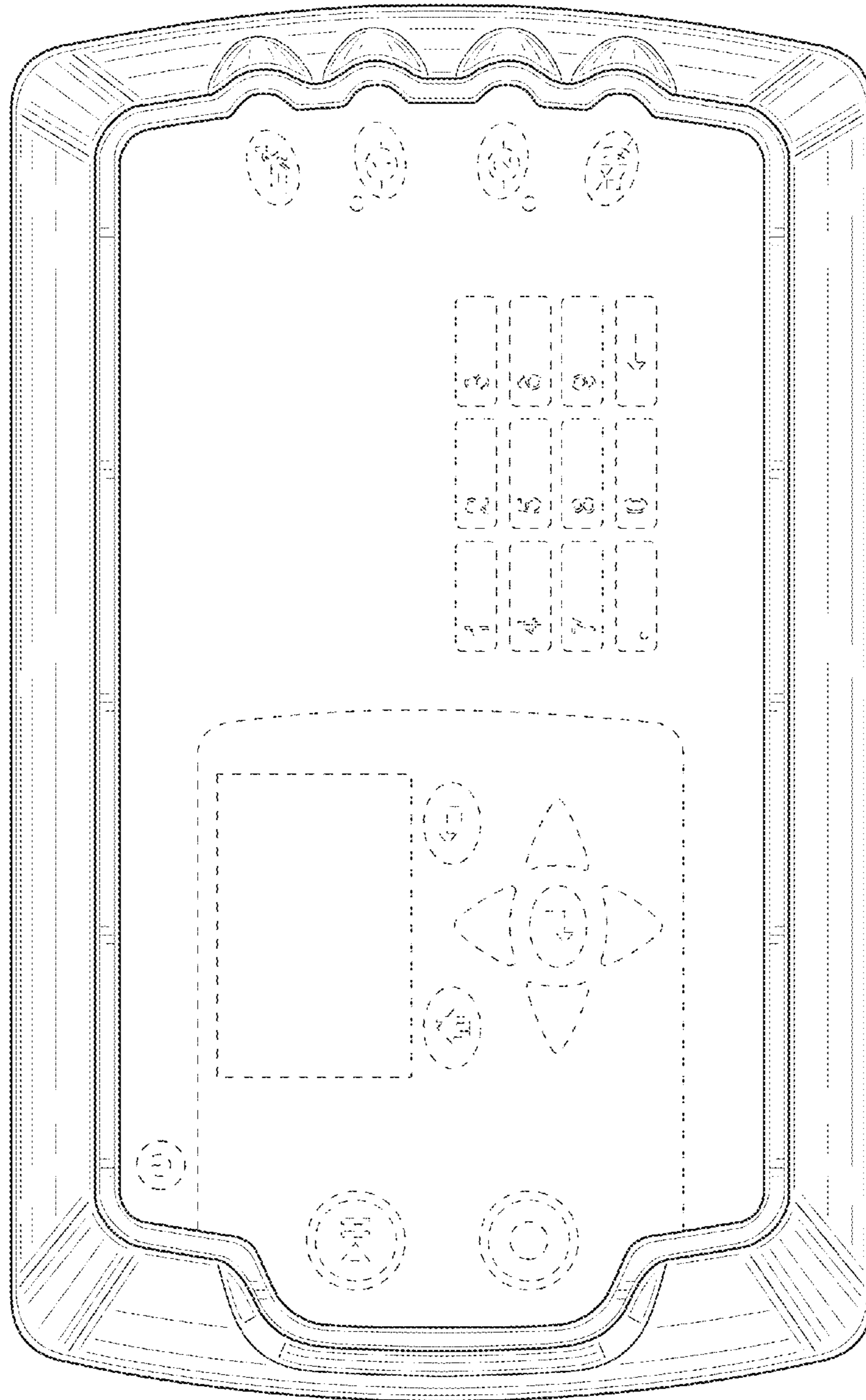
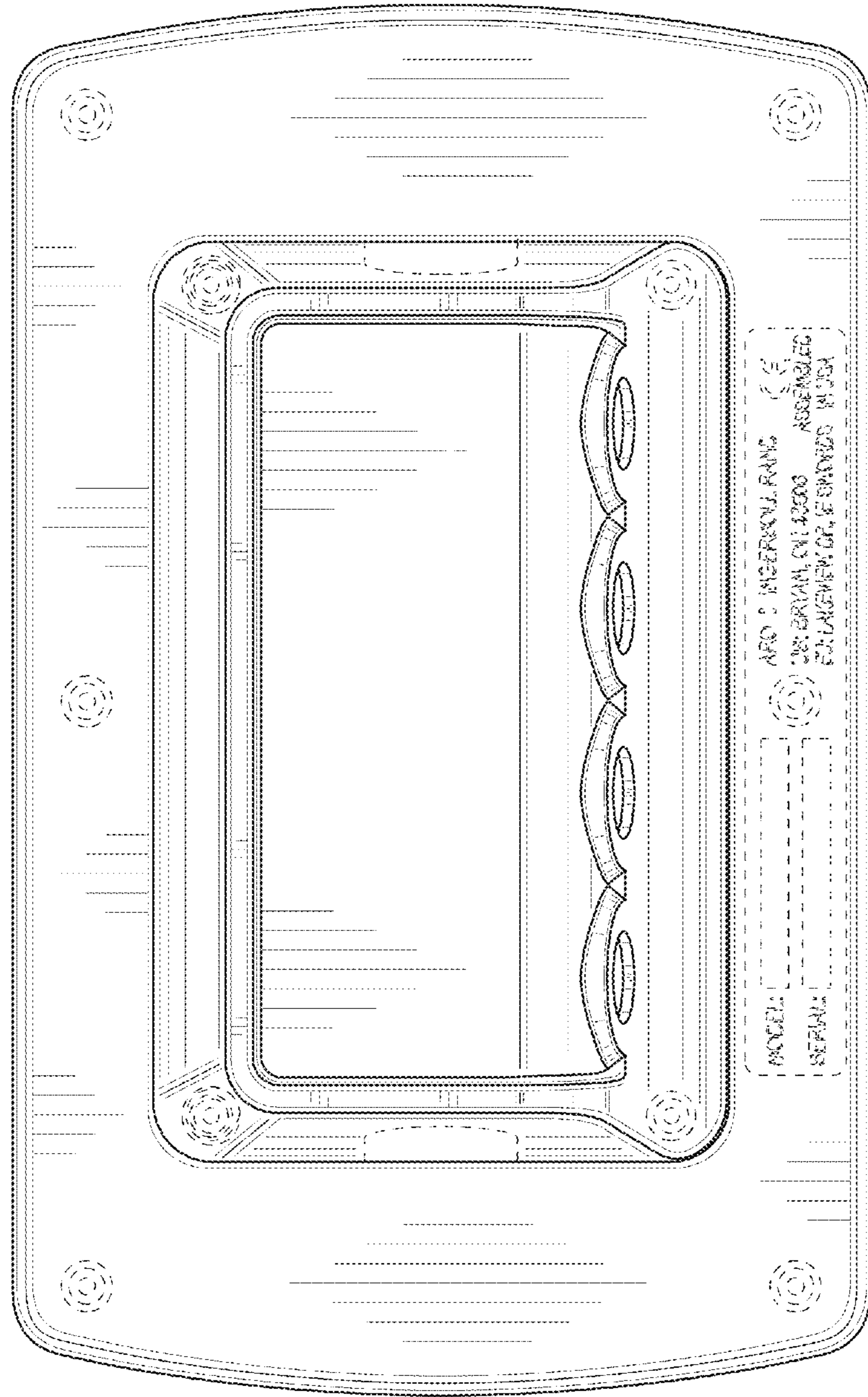


FIG. 2



MODEL: APO 3 INSEKUNJ. RANG C E  
SERIAL: 2013 BIRIAN, CILACANG ASSEMBLED  
BY LAUGHEW, DR. B. SPANCO IN USA

FIG. 3

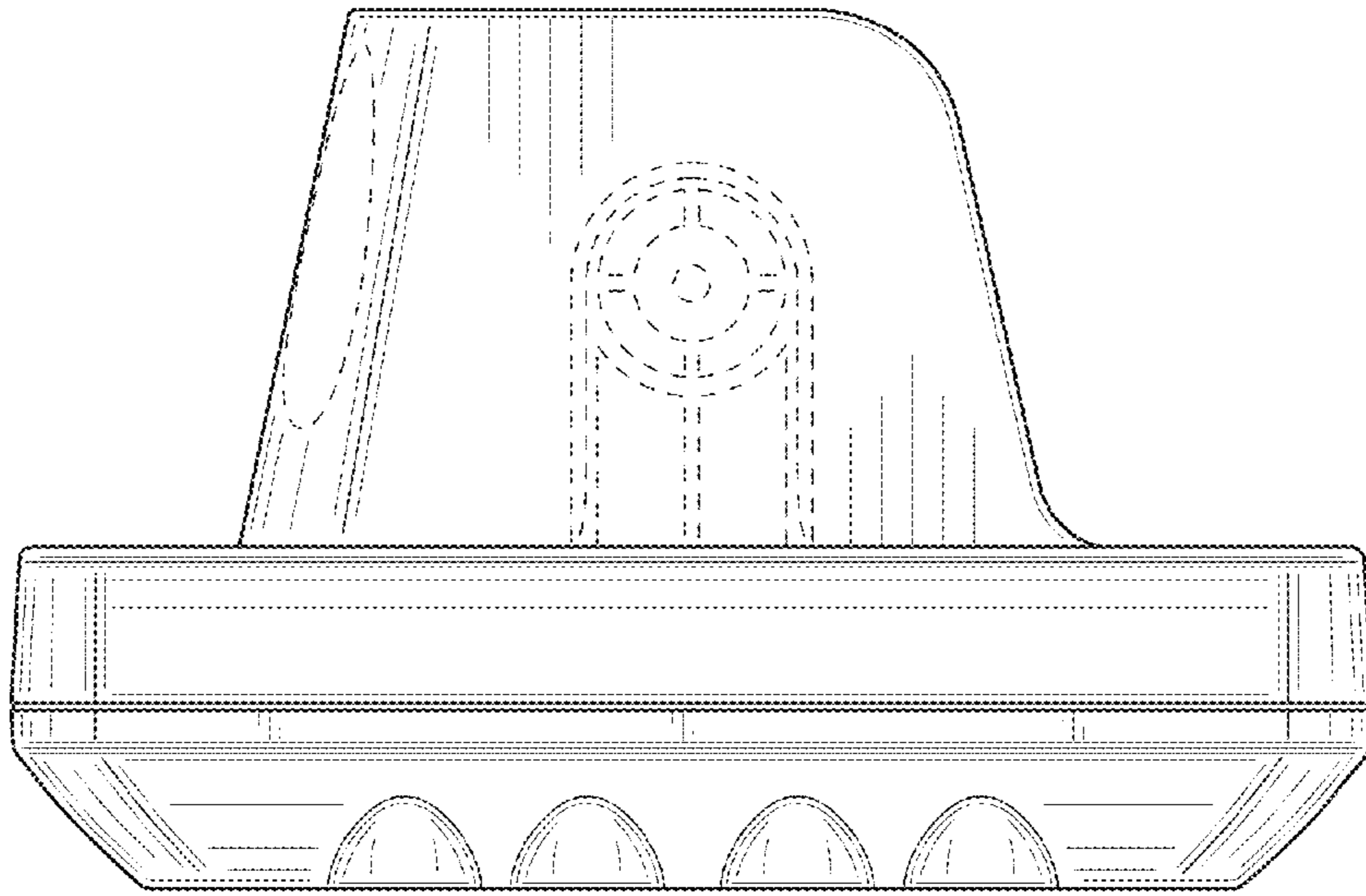


FIG. 5

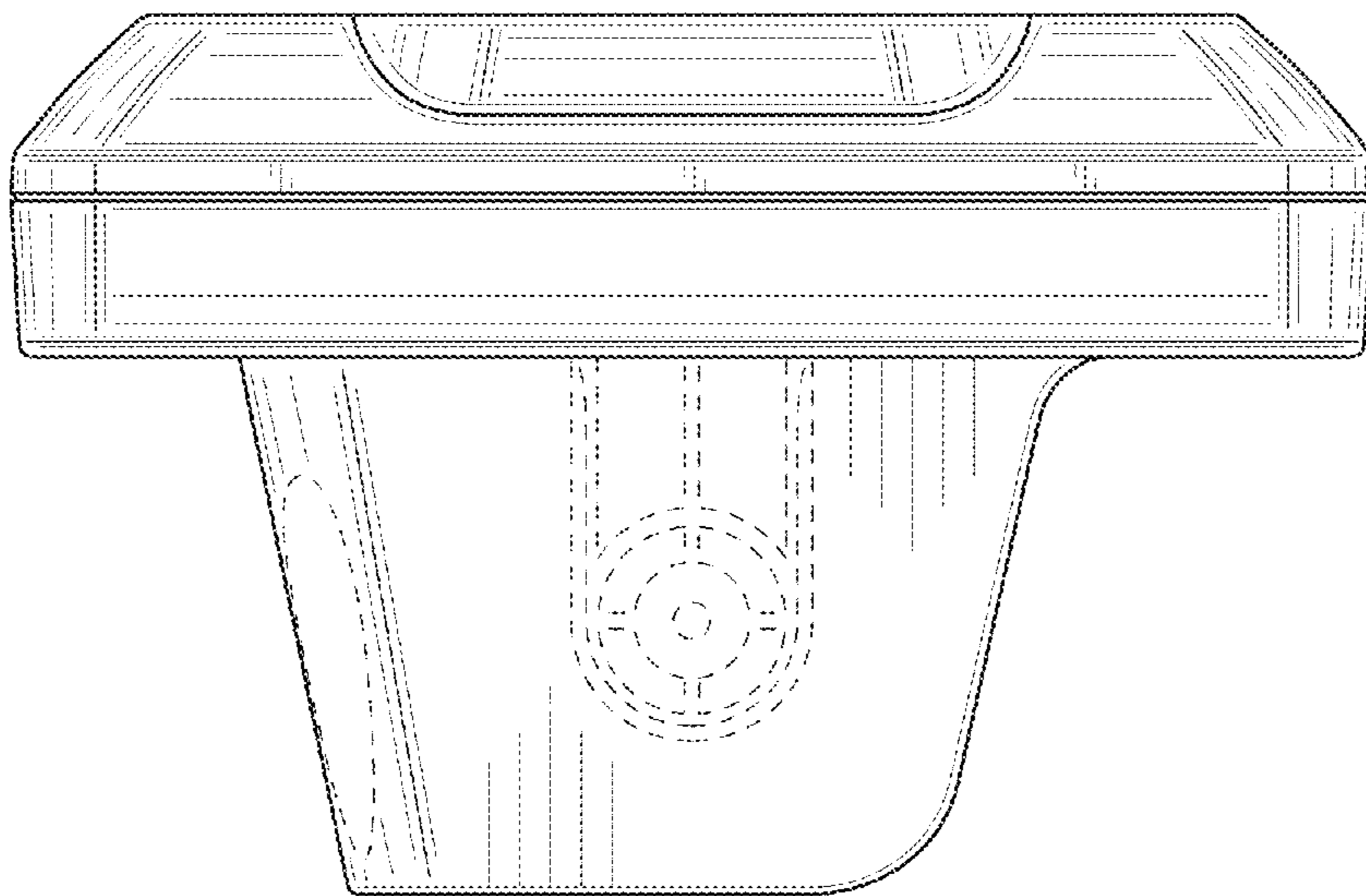


FIG. 4

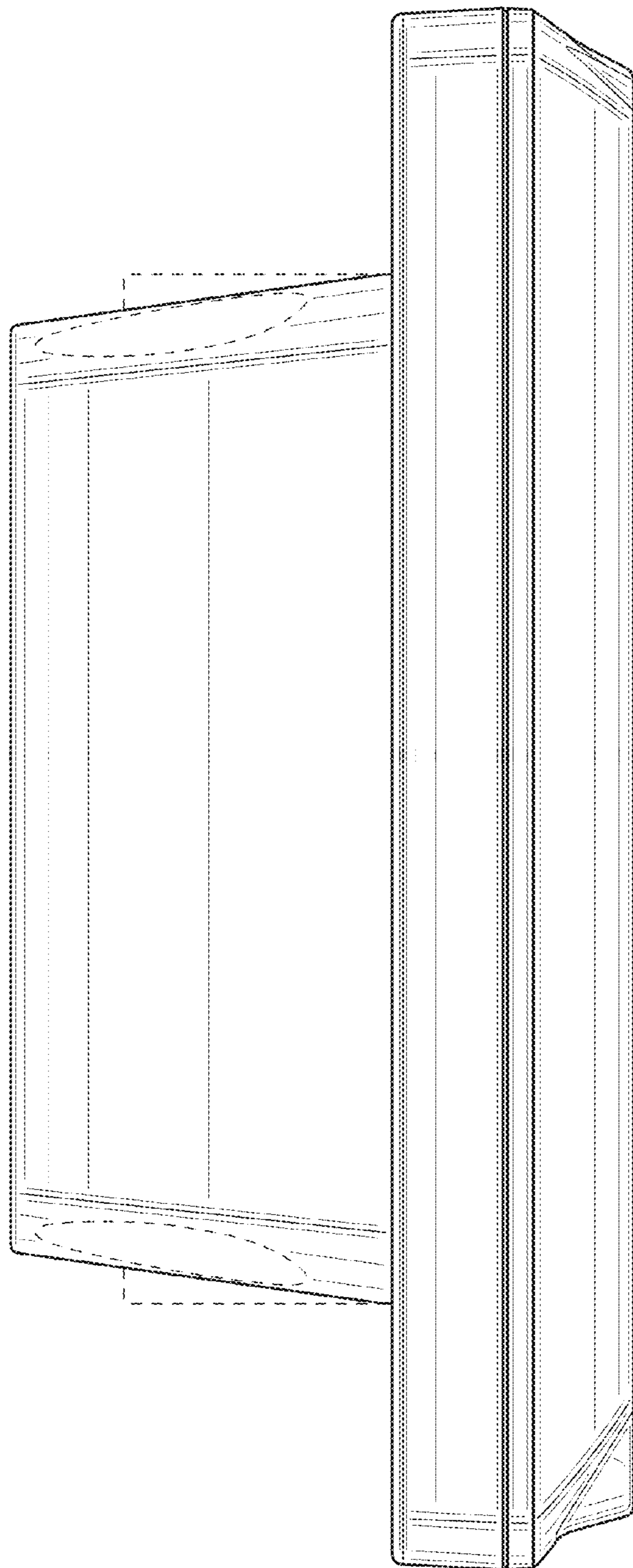


FIG. 6

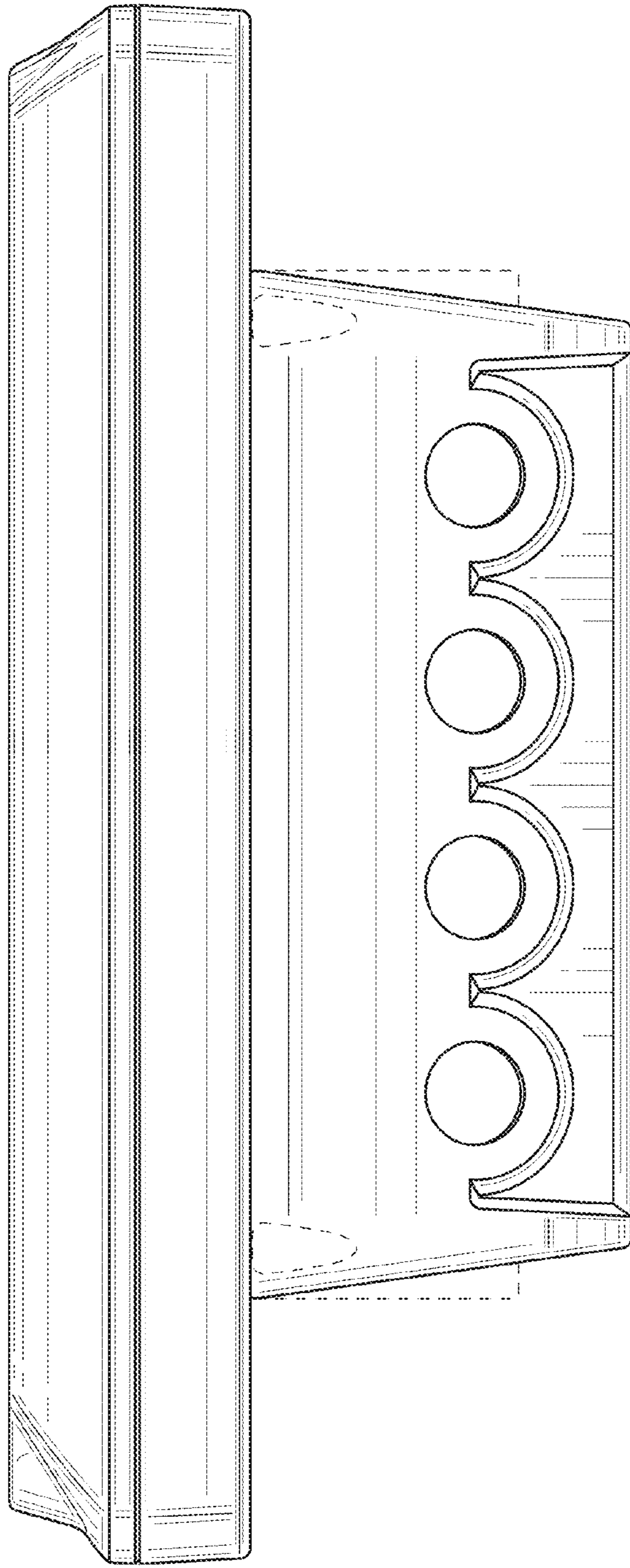


FIG. 7