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(12) **United States Design Patent** (10) **Patent No.:** **US D850,030 S**
Tian et al. (45) **Date of Patent:** **** May 28, 2019**

(54) **ULTRASONIC CLEANER**

(56) **References Cited**

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U.S. PATENT DOCUMENTS

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2,896,648	A *	7/1959	Lazarus	B08B 3/12
					134/1
3,007,478	A *	11/1961	Leonhardt	A61L 2/025
					134/1
3,180,626	A *	4/1965	Mettler	.....	B08B 3/12
					134/184
3,403,245	A *	9/1968	Eaton	.....	B08B 3/12
					134/1
3,480,258	A *	11/1969	Massa	.....	B08B 3/12
					366/111
3,516,645	A *	6/1970	Franklin	.....	B06B 1/0261
					310/316.01
3,584,244	A *	6/1971	Vest	.....	B06B 1/0253
					310/316.01
3,595,532	A *	7/1971	Doyle	.....	B08B 3/12
					366/111
3,640,295	A *	2/1972	Peterson	.....	A61L 2/025
					134/1
4,111,545	A *	9/1978	Meltzer	G03G 21/0029
					15/256.53
4,114,194	A *	9/1978	Walter	A47L 15/13
					310/318

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(52) **U.S. Cl.**
USPC **D32/1**

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CPC B08B 3/12; B06B 1/0253; B06B 1/0276; B06B 1/0261; B63B 59/08; B01D 33/03; A61C 17/20; A47L 13/10; A47L 15/13; A61L 2/025; G21F 9/28; G01N 21/15; G03G 21/0029; F22B 37/483

See application file for complete search history.

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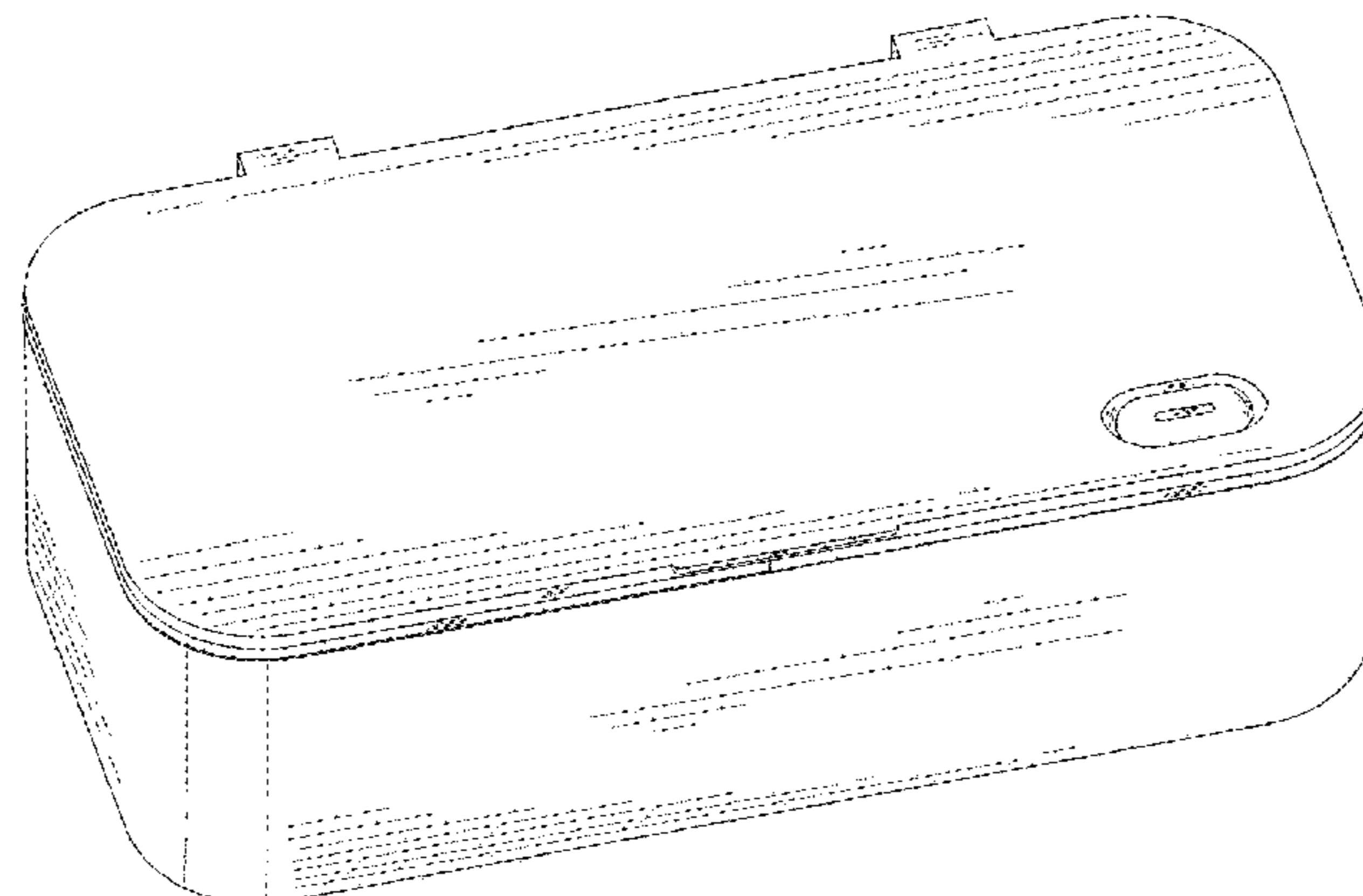
(57) **CLAIM**

The ornamental design for an “ultrasonic cleaner,” as shown and described.

DESCRIPTION

FIG. 1 is a front, bottom and left side perspective view of an ultrasonic cleaner showing my new design; FIG. 2 is a front elevational view of FIG. 1; FIG. 3 is a rear elevational view of FIG. 1; FIG. 4 is a left side elevational view of FIG. 1; FIG. 5 is a right side elevational view of FIG. 1; FIG. 6 is a top plan view of FIG. 1; and, FIG. 7 is a bottom plan view of FIG. 1.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

4,320,528 A * 3/1982 Scharton F22B 37/483
134/1
D266,794 S * 11/1982 Puskas D32/1
4,442,852 A * 4/1984 Lord B08B 3/12
134/135
D300,677 S * 4/1989 Van Hoyer D32/1
D307,653 S * 5/1990 Weirsmann D32/1
D307,654 S * 5/1990 Weirsmann D32/1
D315,039 S * 2/1991 Wortham D32/1
D315,815 S * 3/1991 Miller D32/1
D321,564 S * 11/1991 Miller D24/217
5,109,174 A * 4/1992 Shewell B06B 1/0276
310/316.01
6,259,653 B1 * 7/2001 Courson B63B 59/08
114/222
6,564,711 B1 * 5/2003 Meyer G03G 21/0029
101/423
6,644,327 B1 * 11/2003 Mitsumori B08B 3/12
134/1
D593,262 S * 5/2009 Gong D24/217
D631,620 S * 1/2011 Choi D32/1
D633,260 S * 2/2011 Choi D32/1
D633,663 S * 3/2011 Choi D32/1
D685,540 S * 7/2013 Yao D32/1

D748,872 S * 2/2016 Yao D32/1
D778,004 S * 1/2017 Yao D32/1
D778,005 S * 1/2017 Yao D32/1
D781,509 S * 3/2017 Yao D32/1
2002/0195120 A1 * 12/2002 Pfeifer B08B 3/12
134/1
2004/0099294 A1 * 5/2004 Gross G21F 9/28
134/169 R
2004/0250844 A1 * 12/2004 Kumazaki A47L 13/00
134/201
2005/0077190 A1 * 4/2005 Djordjevic B08B 3/12
205/705
2005/0120756 A1 * 6/2005 Mah A47L 13/10
68/3 SS
2007/0267039 A1 * 11/2007 Sullivan B08B 3/12
134/1
2009/0308416 A1 * 12/2009 Utz B08B 3/12
134/115 R
2015/0174621 A1 * 6/2015 Zhao B08B 3/12
118/302
2015/0335410 A1 * 11/2015 Zhao A61C 17/20
433/86
2016/0146721 A1 * 5/2016 Ji G01N 21/15
134/1
2016/0340203 A1 * 11/2016 Davis B01D 33/03
2017/0036251 A1 * 2/2017 Sato B08B 3/12

* cited by examiner

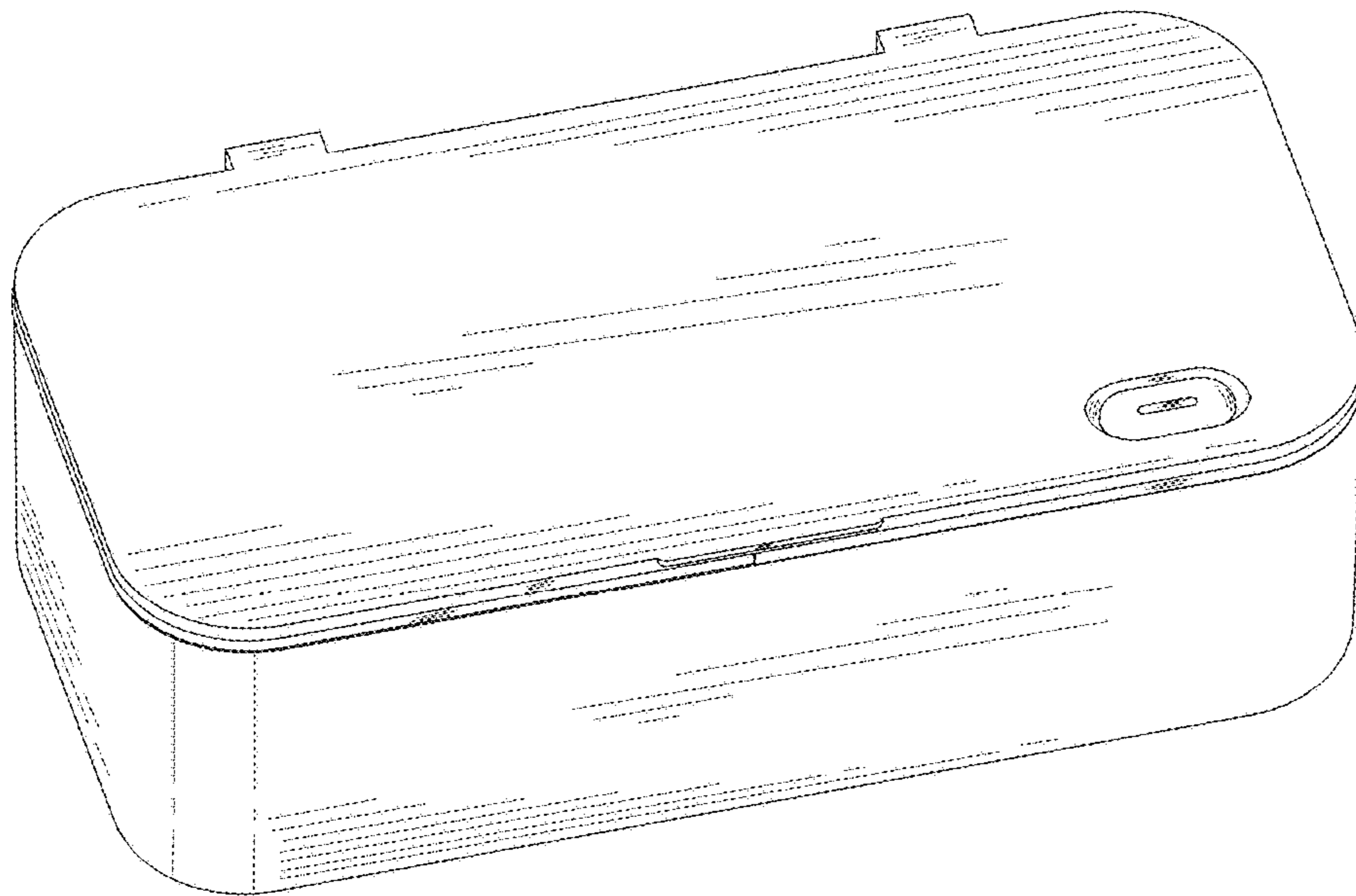


FIG.1

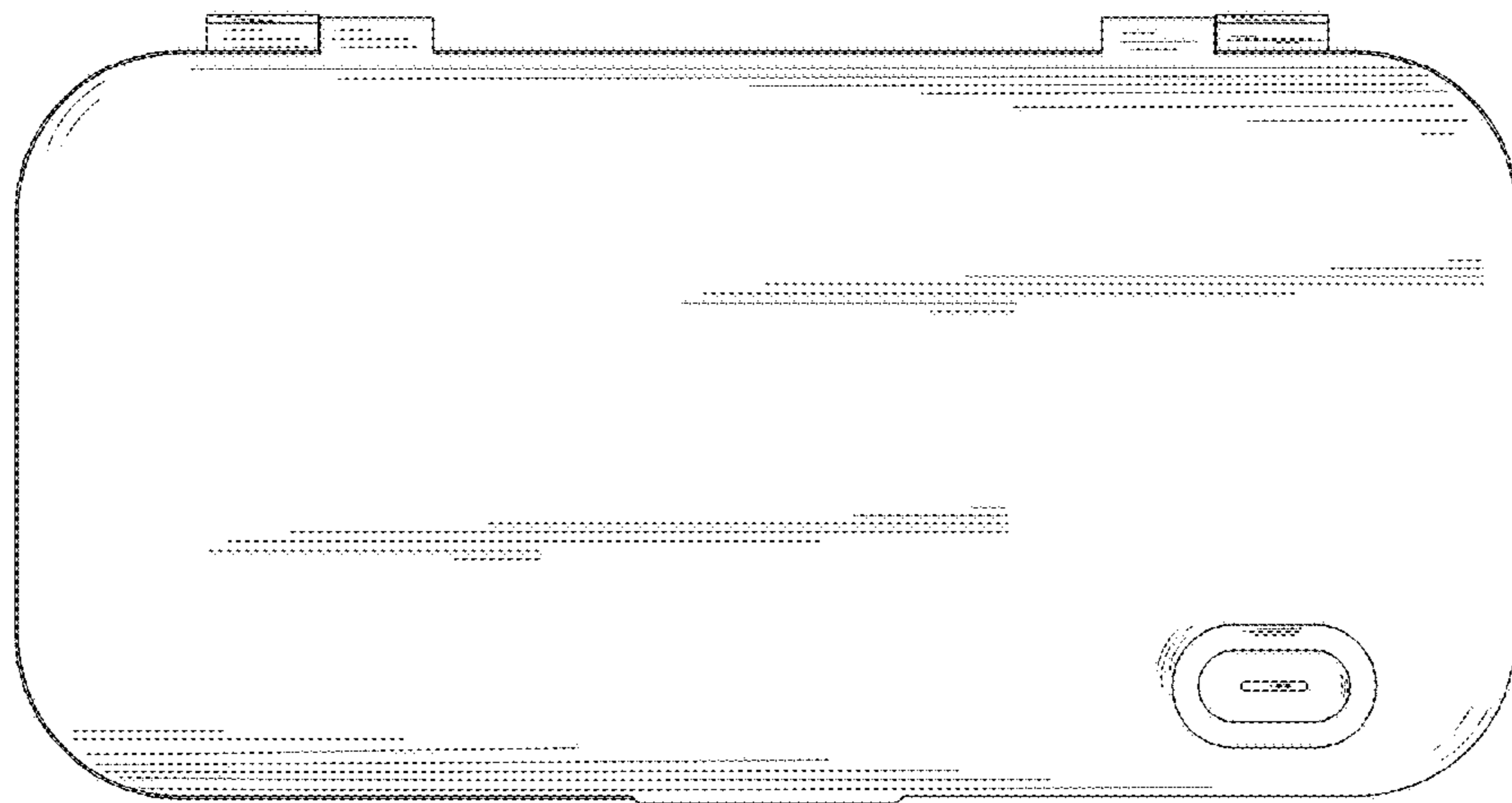


FIG.2

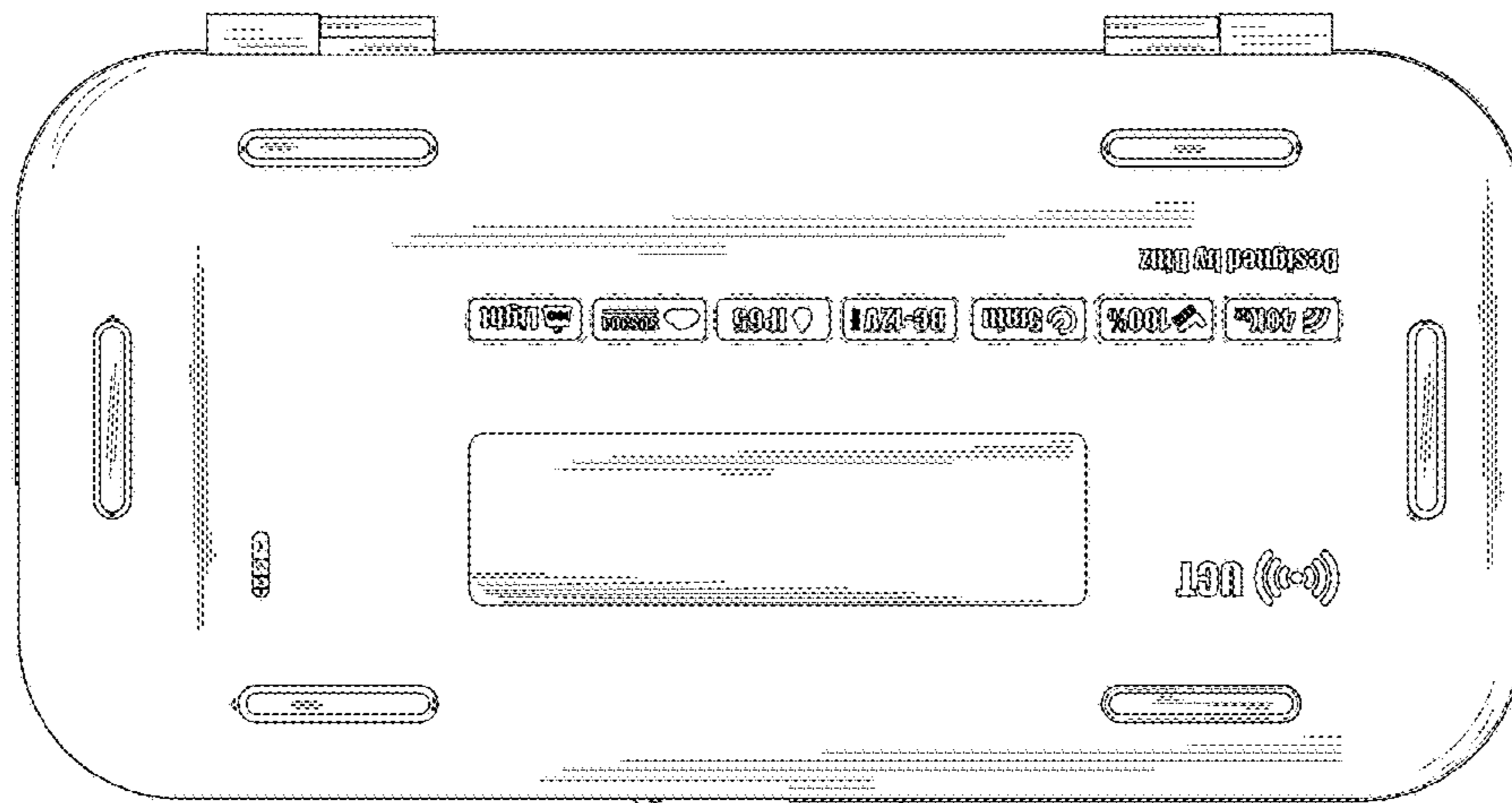


FIG.3

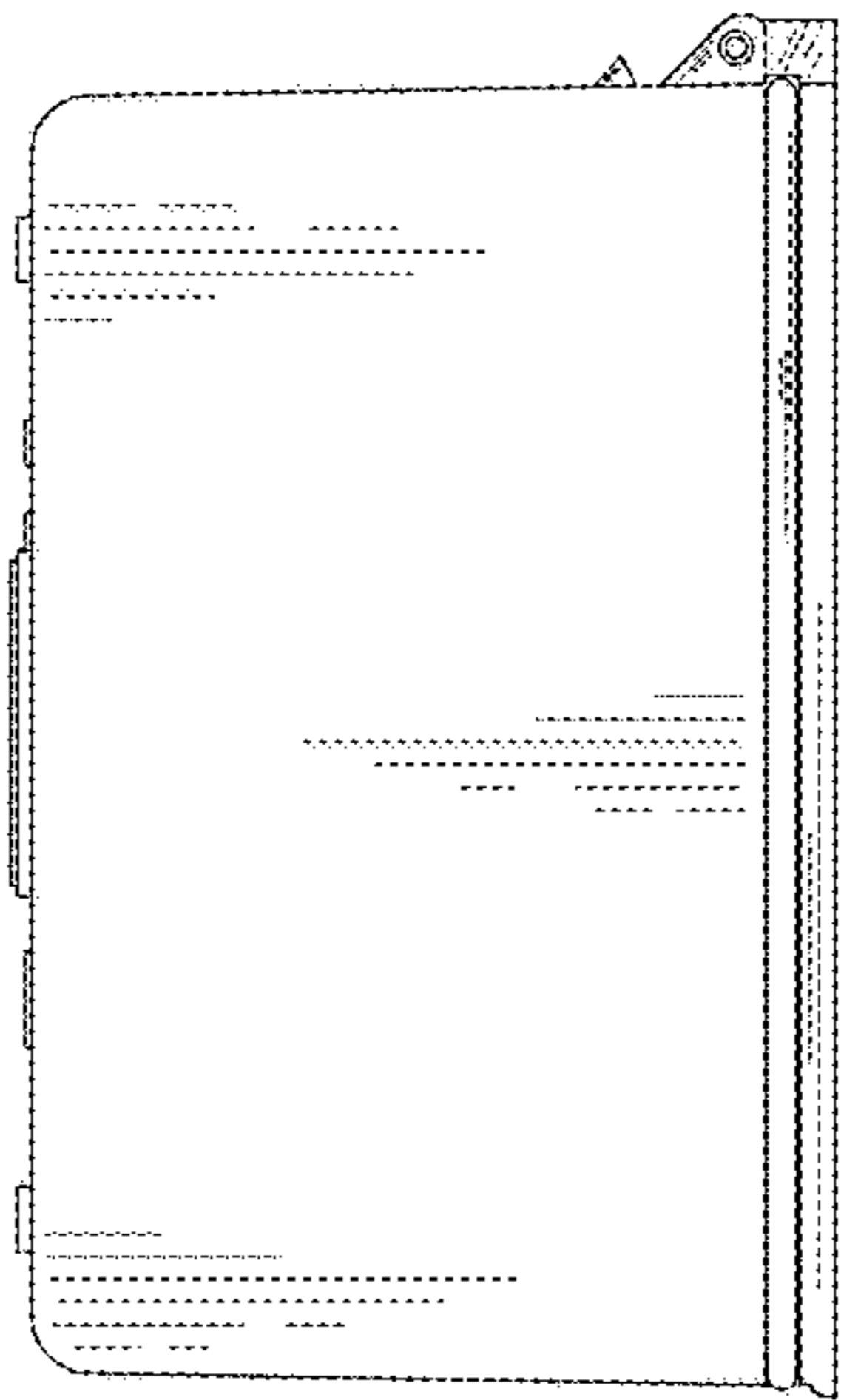


FIG.4

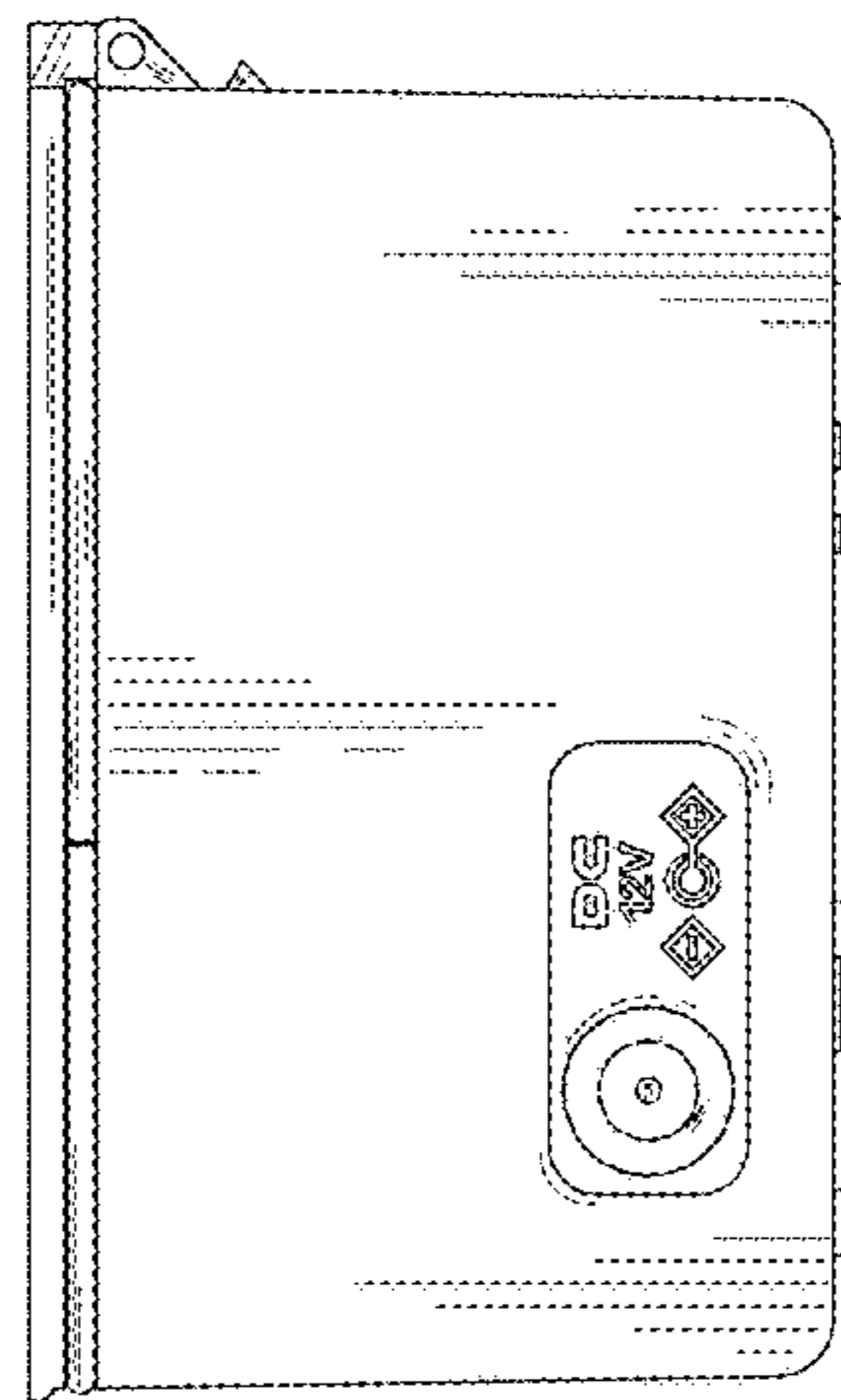


FIG.5



FIG.6

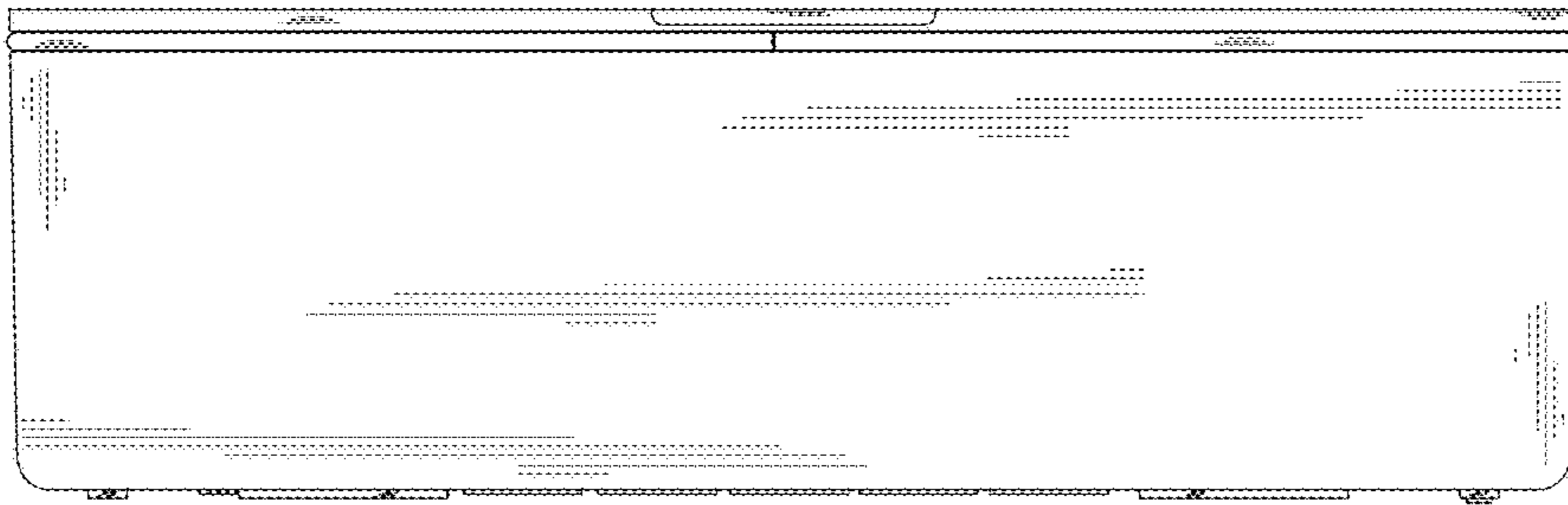


FIG.7