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(12) **United States Design Patent**  
**Horner et al.**

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(54) **FLUID TRAP**

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

(21) Appl. No.: **29/627,794**

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(51) **LOC (13) Cl.** ..... **23-01**

(52) **U.S. Cl.**

USPC ..... **D23/209**; D23/365

(58) **Field of Classification Search**

USPC ..... D23/209, 235, 341, 358, 363-365, 393;  
D15/5; 210/355; 55/498; D32/21-25,  
D32/31, 32; D24/232-234

CPC ..... F02M 35/04; F02M 35/10; F02M 35/024;  
B01D 46/0002; B01D 46/10

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

- 1,165,288 A 12/1915 Rimmer
- 1,789,194 A 1/1931 Rockwell
- 2,577,606 A 12/1951 Conley

(Continued)

**FOREIGN PATENT DOCUMENTS**

- WO 9408698 4/1994
- WO 2016142690 9/2016

(Continued)

**OTHER PUBLICATIONS**

Boyle 35 hour filter found online [Sep. 11, 2018]—<http://www.boviemedical.com/smoke-shark-ii/>.

(Continued)

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(57) **CLAIM**

The ornamental design for a fluid trap, as shown and described.

**DESCRIPTION**

FIG. 1 is a front perspective view of the fluid trap showing the new design;

FIG. 2 is a front elevational view of the fluid trap;

FIG. 3 is a back elevational view of the fluid trap;

FIG. 4 is a right side elevational view of the fluid trap;

FIG. 5 is a left side elevational view of the fluid trap;

FIG. 6 is a top plan view of the fluid trap;

FIG. 7 is a bottom plan view of the fluid trap;

FIG. 8 is a left side view of the filter trap in cross-section;

FIG. 9 is another front perspective view of the fluid trap showing the new design;

FIG. 10 is another front elevational view of the fluid trap;

FIG. 11 is another back elevational view of the fluid trap;

FIG. 12 is another right side elevational view of the fluid trap;

FIG. 13 is another left side elevational view of the fluid trap;

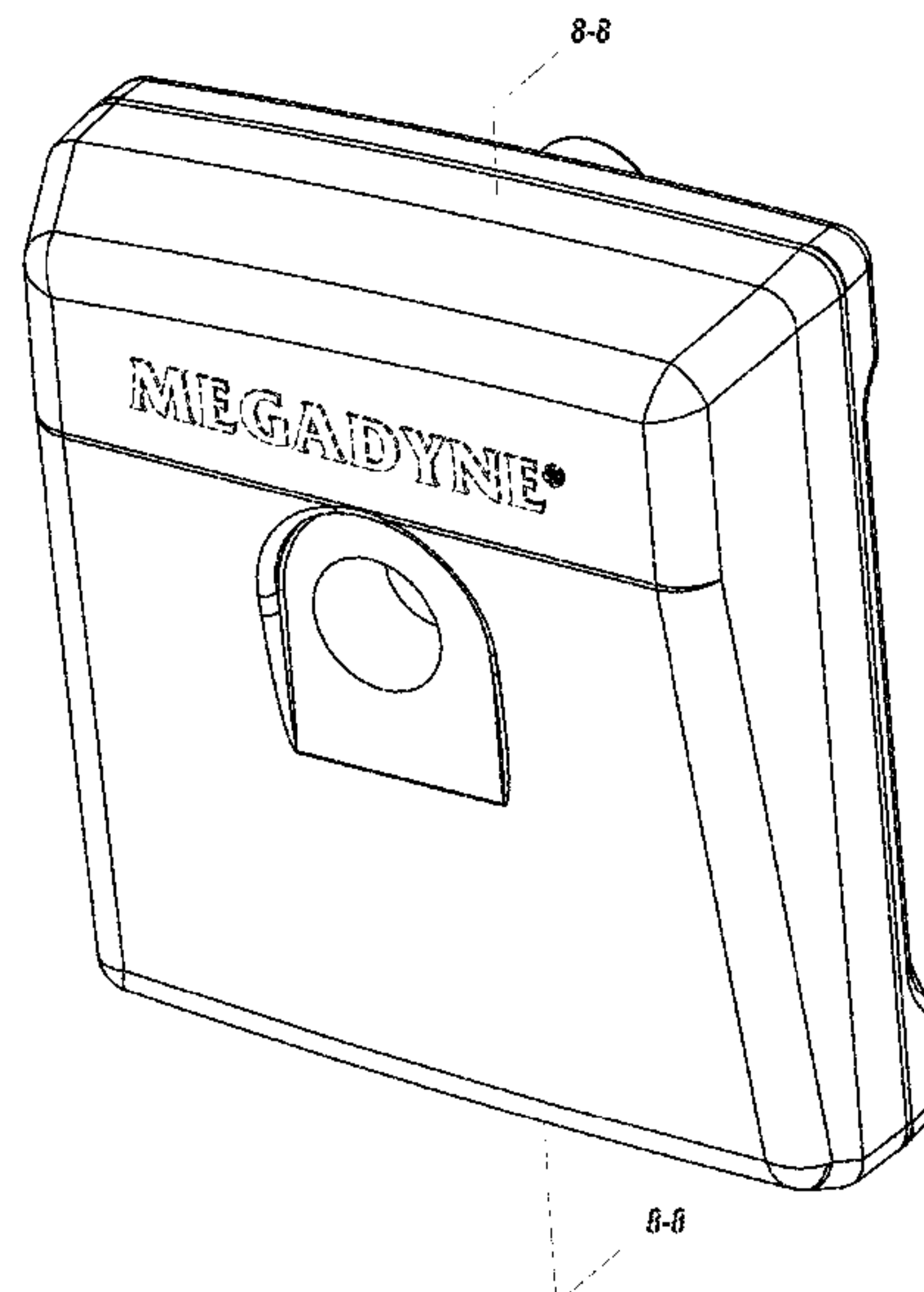
FIG. 14 is another top plan view of the fluid trap;

FIG. 15 is another bottom plan view of the fluid trap; and,

FIG. 16 is another left side view of the filter trap in cross-section.

The broken lines shown in the Figures are for illustrating portions of the fluid trap that form no part of the claimed design.

**1 Claim, 10 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

3,815,752 A 6/1974 Hoffman et al.  
 3,841,490 A 10/1974 Hoffman et al.  
 4,116,649 A 9/1978 Cullen et al.  
 4,157,234 A 6/1979 Shaffer et al.  
 4,396,206 A 8/1983 Tsuge et al.  
 4,619,672 A 10/1986 Robertson  
 4,701,193 A 10/1987 Robertson et al.  
 4,786,298 A 11/1988 Billet et al.  
 4,810,269 A 3/1989 Stackhouse et al.  
 4,826,513 A 5/1989 Stackhouse et al.  
 4,986,839 A 1/1991 Wertz et al.  
 5,108,389 A 4/1992 Comescu  
 5,144,176 A 9/1992 Popper  
 5,160,334 A 11/1992 Billings et al.  
 5,221,192 A 6/1993 Heflin et al.  
 5,226,939 A 7/1993 Nicolas et al.  
 5,242,474 A 9/1993 Herbst et al.  
 5,288,469 A 2/1994 Skalla et al.  
 5,318,516 A 6/1994 Comescu  
 5,336,218 A 8/1994 Linhares  
 5,342,349 A 8/1994 Kaufman  
 D357,738 S \* 4/1995 Kaufman ..... D24/162  
 5,423,779 A 6/1995 Yeh  
 5,431,650 A 7/1995 Comescu  
 5,507,859 A 4/1996 Kaiser  
 5,522,808 A 6/1996 Skalla  
 5,597,385 A 1/1997 Moerke  
 5,620,441 A 4/1997 Greff et al.  
 5,674,219 A 10/1997 Monson et al.  
 5,690,480 A 11/1997 Suzuki et al.  
 5,853,410 A 12/1998 Greff et al.  
 5,874,052 A 2/1999 Holland  
 5,910,291 A 6/1999 Skalla et al.  
 5,992,413 A 11/1999 Martin et al.  
 6,050,792 A 4/2000 Shaffer  
 6,110,259 A 8/2000 Schultz et al.  
 6,129,530 A 10/2000 Shaffer  
 6,203,590 B1 3/2001 Byrd  
 6,203,762 B1 3/2001 Skalla et al.  
 6,331,246 B1 \* 12/2001 Beckham ..... A61M 1/0056  
 210/136  
 6,439,864 B1 8/2002 Shaffer  
 6,511,308 B2 1/2003 Shaffer  
 6,524,307 B1 2/2003 Palmerton et al.  
 6,544,210 B1 4/2003 Trudel et al.  
 6,585,791 B1 7/2003 Garito et al.  
 6,589,316 B1 7/2003 Schultz et al.  
 6,592,543 B1 7/2003 Wortrich et al.  
 6,616,722 B1 9/2003 Cartellone  
 6,663,698 B2 12/2003 Mishin et al.  
 D485,339 S 1/2004 Klug  
 6,709,248 B2 3/2004 Fujioka et al.  
 6,736,620 B2 5/2004 Satoh  
 6,758,885 B2 7/2004 Leffel et al.  
 6,786,707 B2 9/2004 Kim  
 D513,314 S 12/2005 Iddings  
 7,014,434 B2 3/2006 Fujioka et al.  
 D521,137 S 5/2006 Khalil  
 D545,955 S 7/2007 Otrlas  
 7,258,712 B2 8/2007 Schultz et al.  
 D553,228 S \* 10/2007 Virr ..... D23/358  
 7,276,052 B2 10/2007 Kobayashi et al.  
 D555,803 S 11/2007 Galrto  
 7,294,116 B1 11/2007 Ellman et al.  
 D574,323 S \* 8/2008 Waaler ..... D13/112  
 7,465,156 B2 12/2008 Lee  
 7,497,340 B2 3/2009 Hershberger et al.  
 7,597,731 B2 10/2009 Palmerton  
 D616,986 S \* 6/2010 Biegen ..... D24/144  
 D625,399 S 10/2010 Horiguchi  
 D626,204 S 10/2010 Morgan  
 7,819,957 B2 10/2010 Roberts et al.  
 7,942,655 B2 5/2011 Shaffer  
 8,033,798 B2 10/2011 Suh et al.  
 8,142,175 B2 3/2012 Duppert et al.

8,147,577 B2 4/2012 Palmerton  
 8,190,398 B2 5/2012 Kitaguchi et al.  
 D666,704 S 9/2012 Osendorf  
 8,298,420 B2 10/2012 Burrows  
 8,556,570 B2 \* 10/2013 Ishihara ..... B01D 46/00  
 415/1  
 8,608,816 B2 12/2013 Palmerton et al.  
 8,684,705 B2 4/2014 Magoon et al.  
 8,727,744 B2 5/2014 Magoon et al.  
 9,011,366 B2 4/2015 Dean et al.  
 9,028,230 B2 5/2015 Shaffer  
 9,067,030 B2 6/2015 Stearns et al.  
 9,074,598 B2 7/2015 Shaffer et al.  
 D736,933 S \* 8/2015 Qiu ..... D13/112  
 D737,449 S \* 8/2015 Zheng ..... D13/112  
 9,199,047 B2 12/2015 Stearns et al.  
 9,215,964 B2 12/2015 Loske  
 9,366,254 B2 6/2016 Murakami  
 9,387,295 B1 7/2016 Mastri et al.  
 9,387,296 B1 7/2016 Mastri et al.  
 D764,649 S 8/2016 Ko  
 9,415,160 B2 8/2016 Bonano et al.  
 9,435,339 B2 9/2016 Calhoun et al.  
 9,474,512 B2 10/2016 Blackhurst et al.  
 9,532,843 B2 1/2017 Palmerton  
 9,549,849 B2 1/2017 Charles  
 9,579,428 B1 2/2017 Reasoner et al.  
 D783,178 S \* 4/2017 Mead ..... D24/232  
 D802,024 S 11/2017 Aoki  
 9,867,914 B2 1/2018 Bonano  
 9,943,355 B2 \* 4/2018 Babini ..... A61B 18/04  
 2004/0223859 A1 11/2004 Sharp  
 2005/0000196 A1 1/2005 Schultz  
 2005/0189283 A1 9/2005 Smit et al.  
 2005/0263004 A1 12/2005 Larsen et al.  
 2006/0099096 A1 5/2006 Shaffer et al.  
 2007/0066970 A1 3/2007 Ineson  
 2009/0022613 A1 1/2009 Dai et al.  
 2011/0067699 A1 3/2011 Caruso  
 2011/0203585 A1 8/2011 Cozean et al.  
 2013/0023160 A1 9/2013 Healey et al.  
 2013/0231606 A1 9/2013 Stearns  
 2014/0356207 A1 12/2014 Yang  
 2015/0224237 A1 8/2015 Reasoner et al.  
 2015/0273381 A1 10/2015 Stoner et al.  
 2016/0000494 A1 1/2016 Comescu  
 2016/0001102 A1 1/2016 Huh  
 2016/0287817 A1 10/2016 Mastri et al.  
 2016/0367266 A1 12/2016 Palmerton et al.  
 2017/0014557 A1 1/2017 Minskoff et al.  
 2017/0014560 A1 1/2017 Minskoff et al.  
 2017/0095603 A1 4/2017 Cho  
 2017/0165725 A1 6/2017 Hersey et al.  
 2017/0181768 A1 6/2017 Galley  
 2019/0159830 A1 5/2019 Horner et al.  
 2019/0160409 A1 5/2019 Horner et al.  
 2019/0160410 A1 5/2019 Horner et al.

FOREIGN PATENT DOCUMENTS

WO 201703712 1/2017  
 WO 2017/066720 4/2017  
 WO 2017112684 6/2017

OTHER PUBLICATIONS

“Megadyne Surgical Smoke Evacuation System found online [Sep. 11, 2018]—<http://www.hcp-austria.com/Minivac%20Smoke%20Evacuators.html>”.  
 Non-Final Office Action for U.S. Appl. No. 29/627,793 dated Oct. 29, 2018.  
 Non-Final Office Action for U.S. Appl. No. 15/826,342 dated Jul. 16, 2019.  
 Final Office Action for U.S. Appl. No. 15/826,342 dated Nov. 5, 2019.  
 Notice of Allowance for U.S. Appl. No. 15/826,342 dated Jan. 31, 2020.



(56)

**References Cited**

OTHER PUBLICATIONS

Notice of Allowance for U.S. Appl. No. 15/826,342 dated Apr. 23, 2020.

International Search Report and Written Opinion for PCT/IB2018/059377 dated Mar. 6, 2019.

Notice of Allowance for U.S. Appl. No. 15/826,344 dated Apr. 22, 2020.

First Substantive Examination for MX/f/2018/001583 dated Jan. 20, 2020.

Non-Final Office Action for U.S. Appl. No. 15/826,344 dated Sep. 12, 2019.

Notice of Allowance for U.S. Appl. No. 15/826,344 dated Jan. 23, 2020.

International Search Report and Written Opinion for PCT/IB2018/059375 dated May 7, 2019.

\* cited by examiner

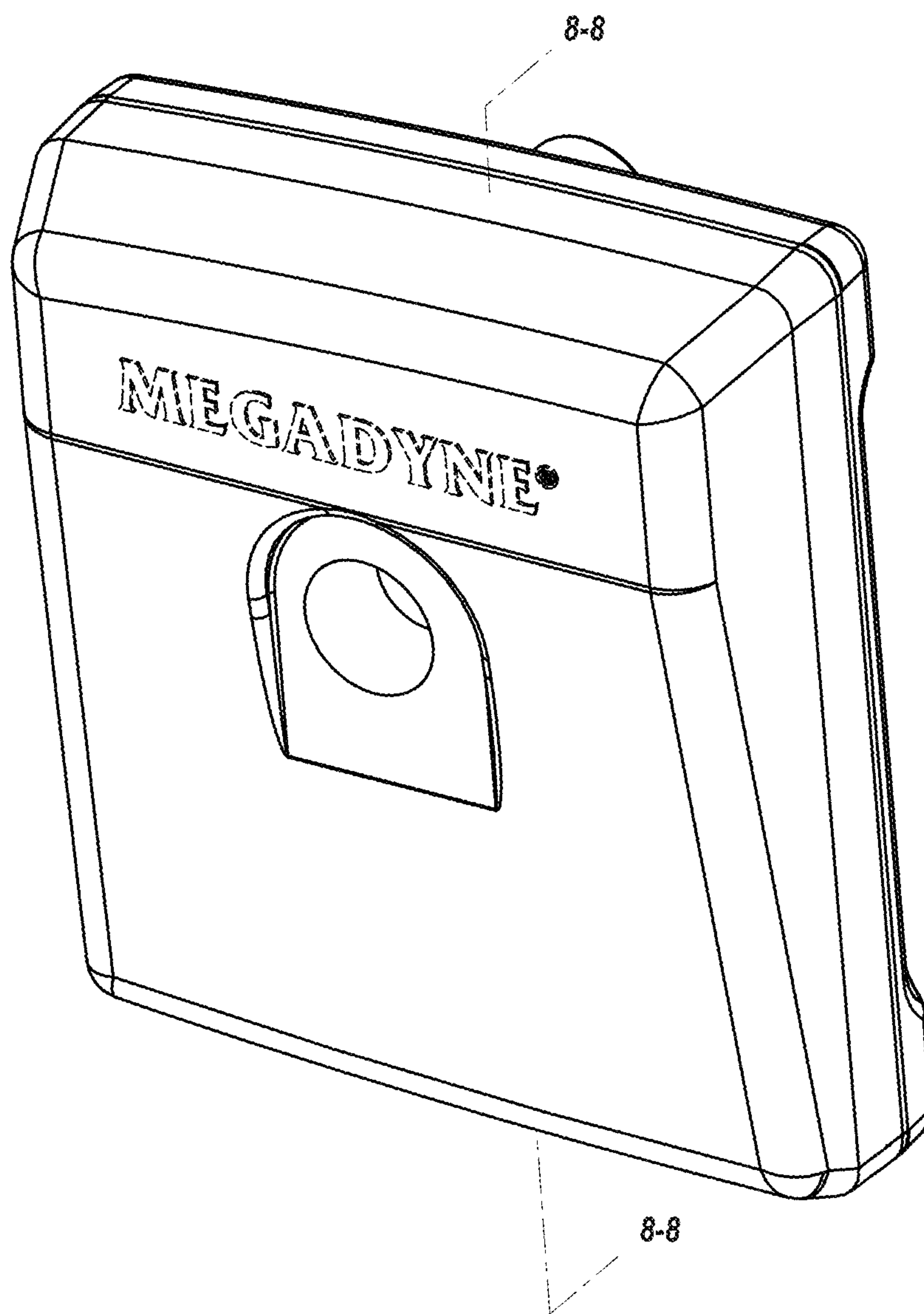


FIG. 1

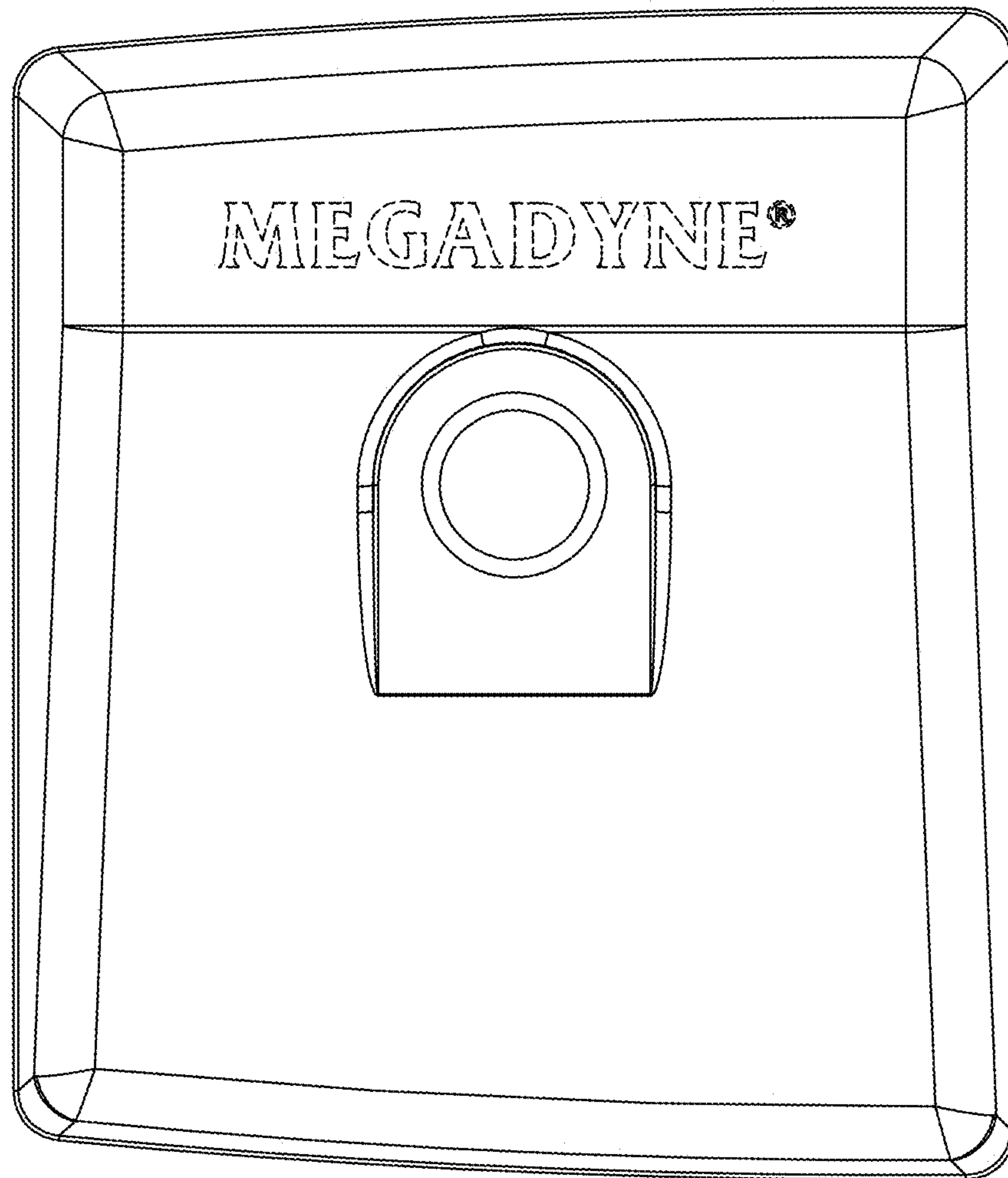


FIG. 2

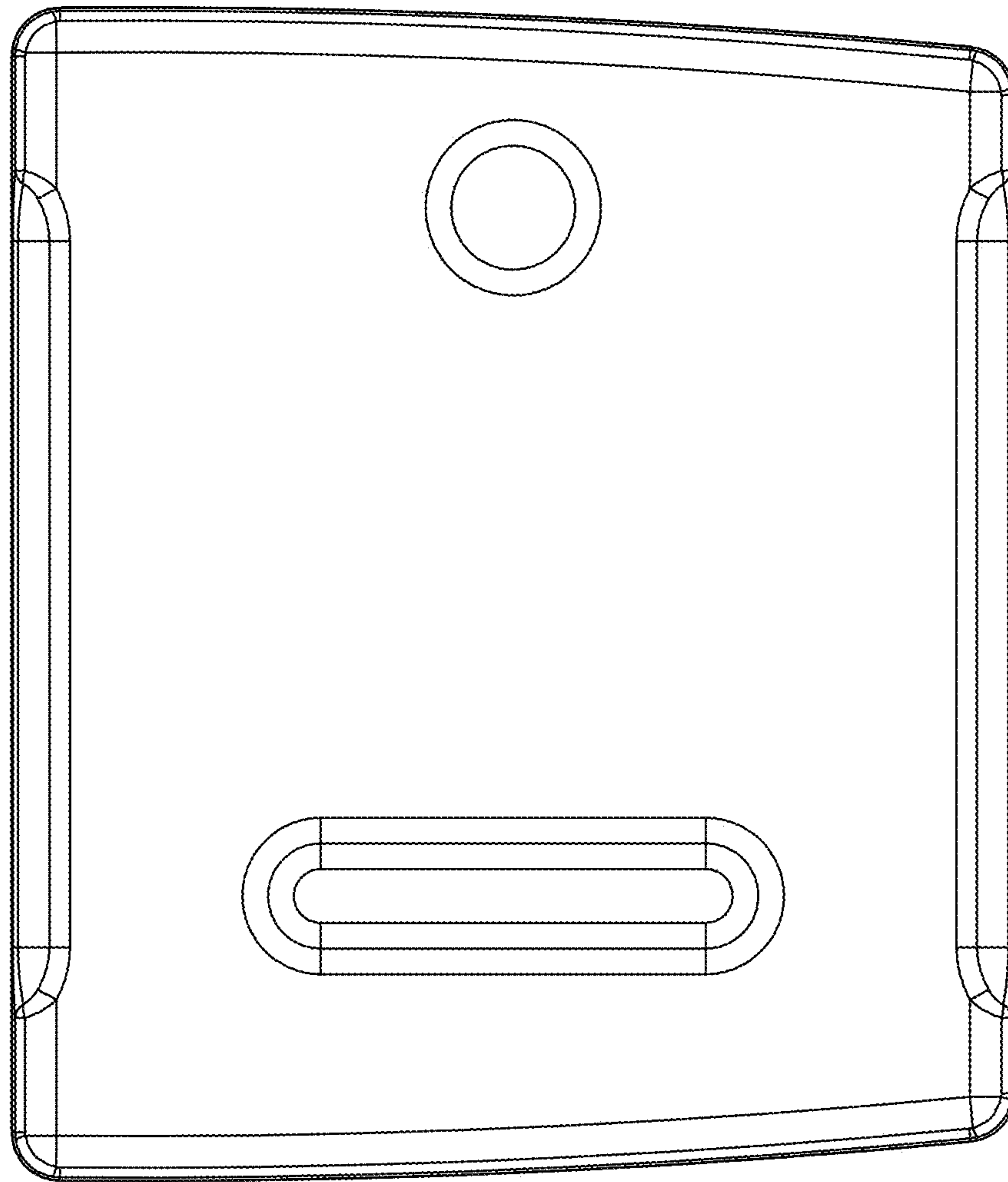


FIG. 3

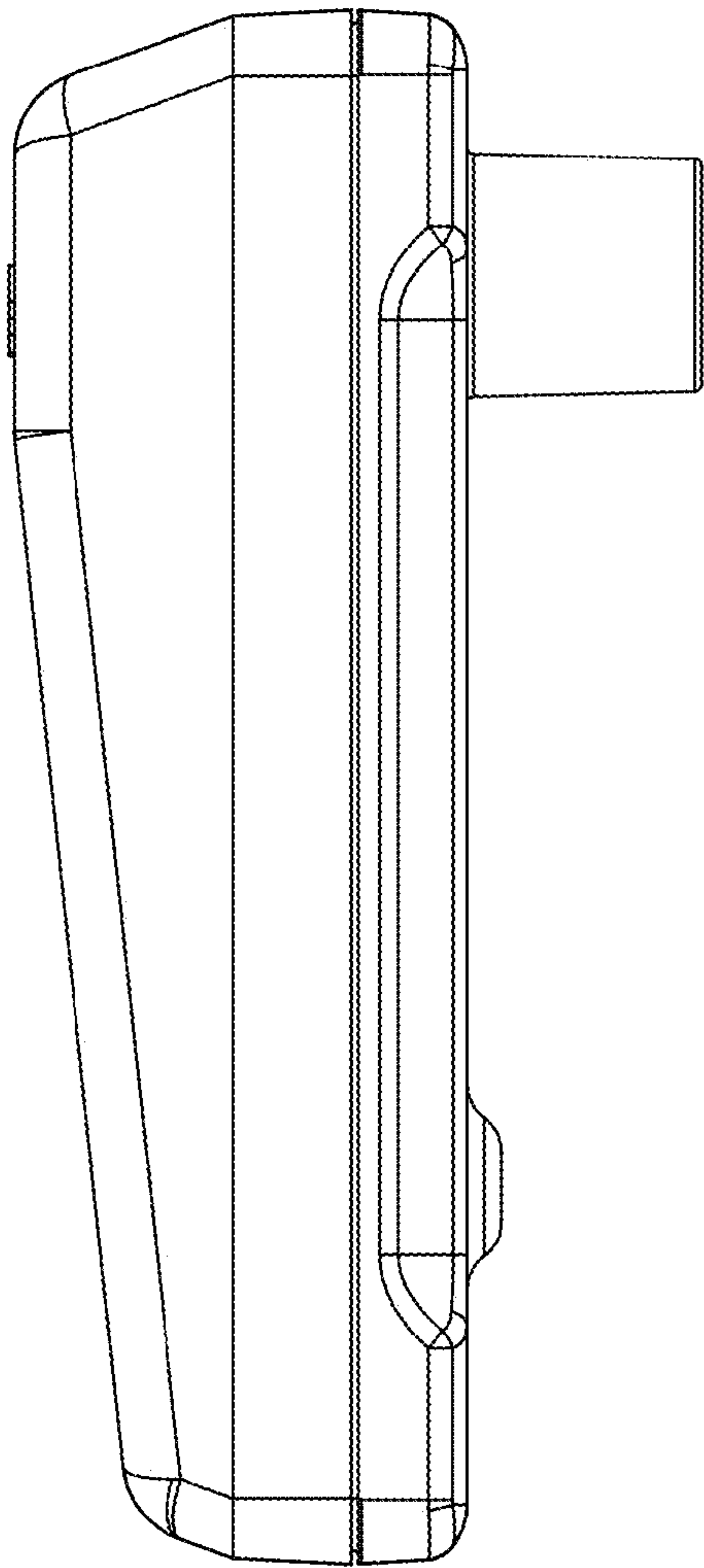


FIG. 4

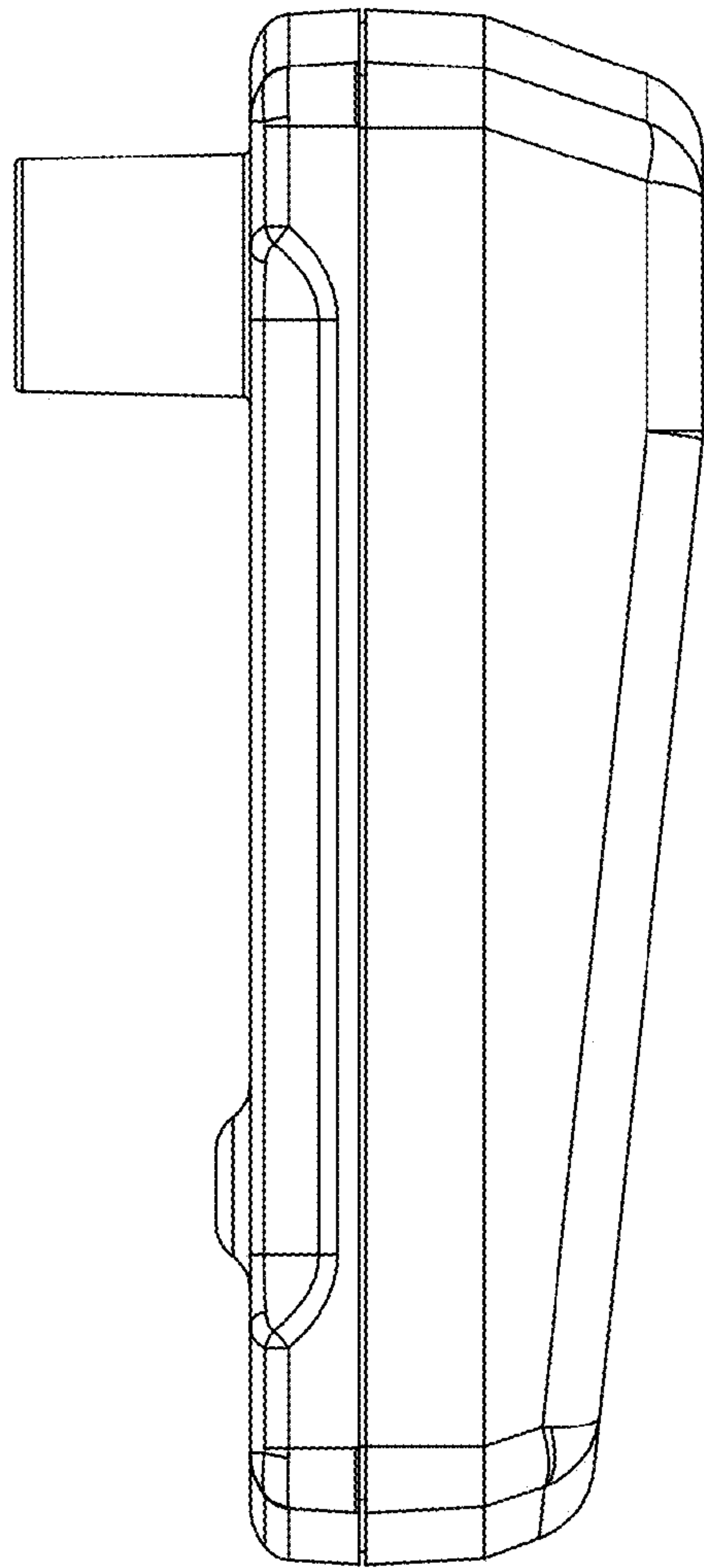


FIG. 5

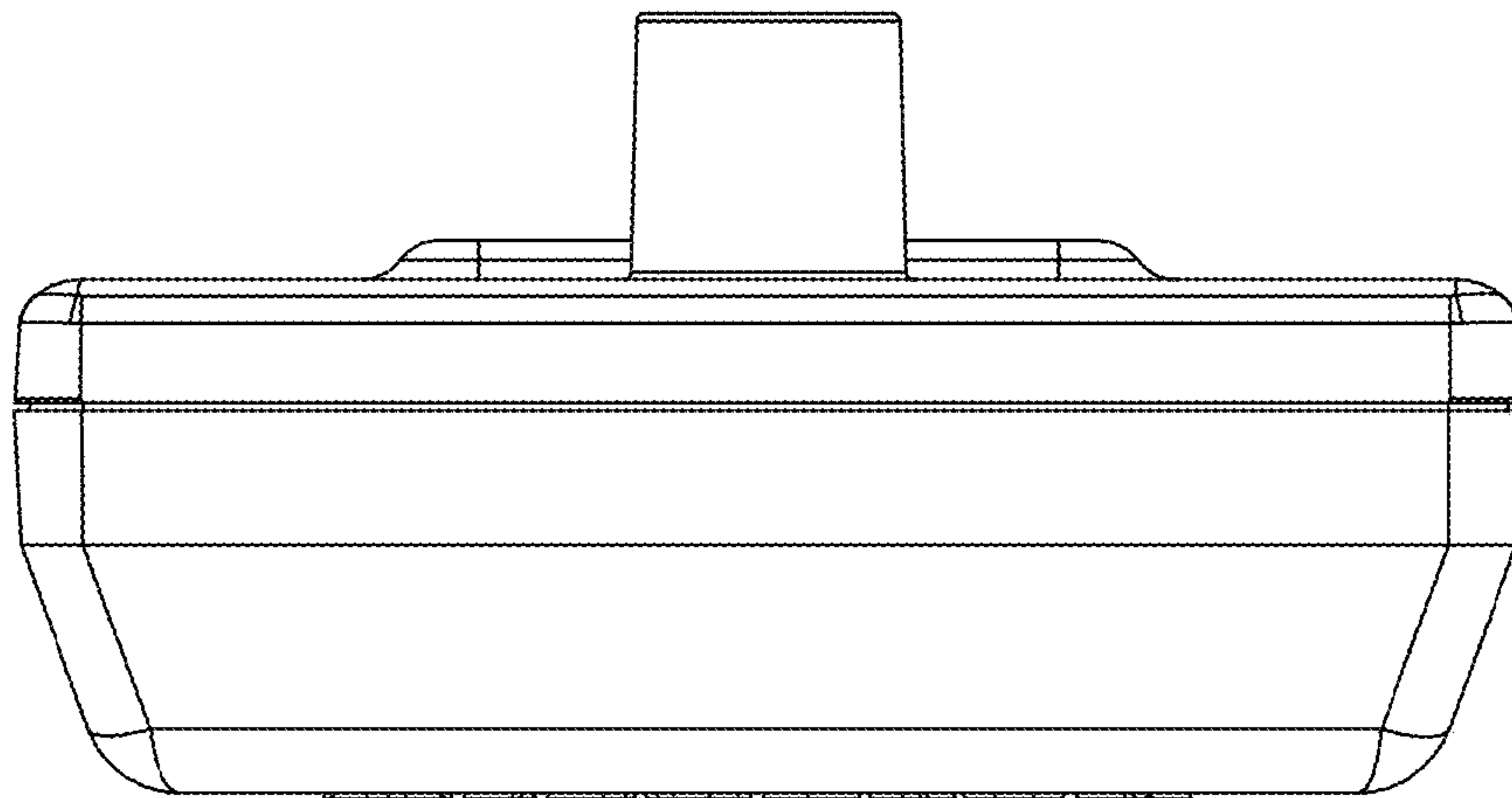


FIG. 6

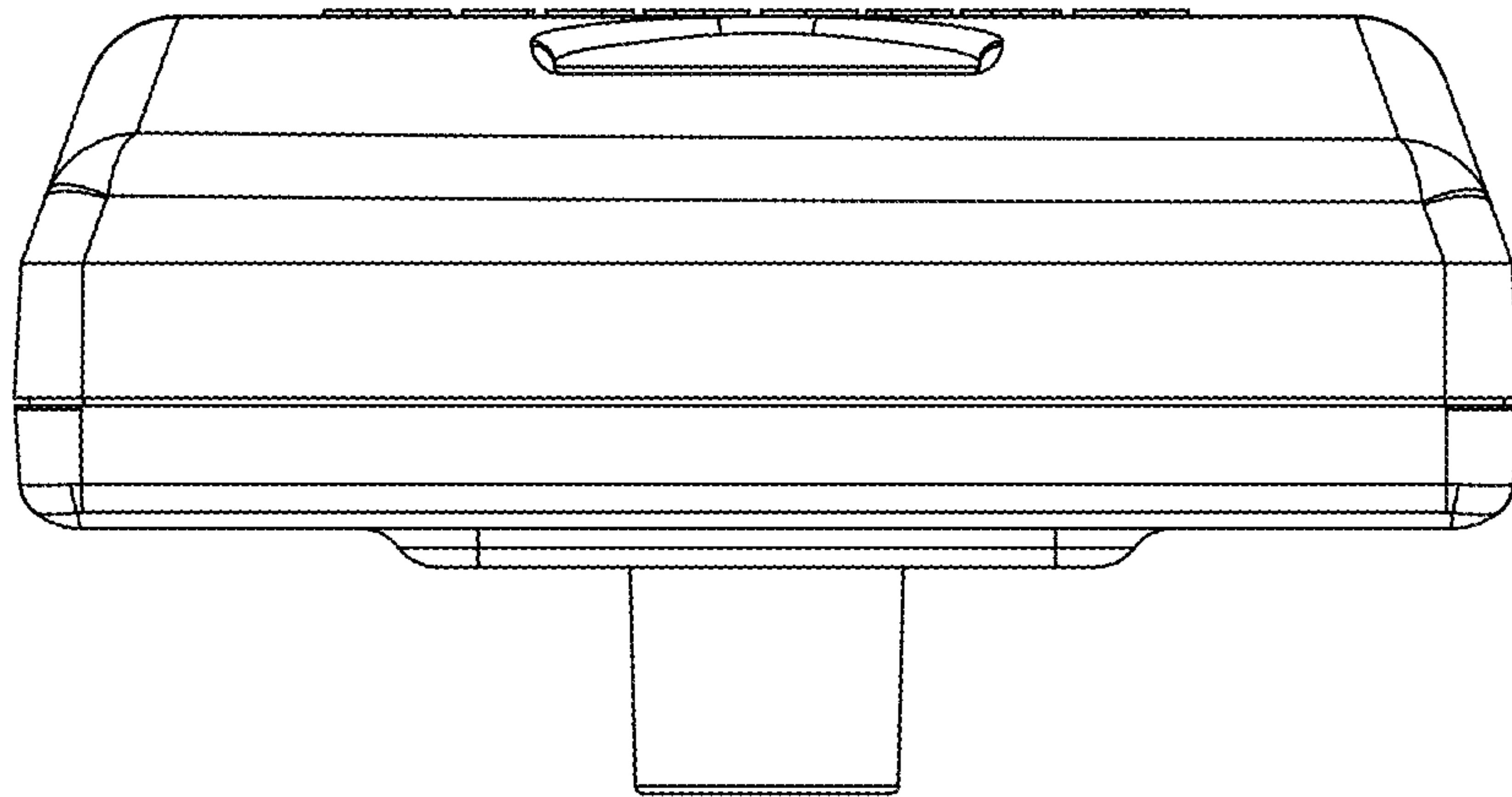


FIG. 7

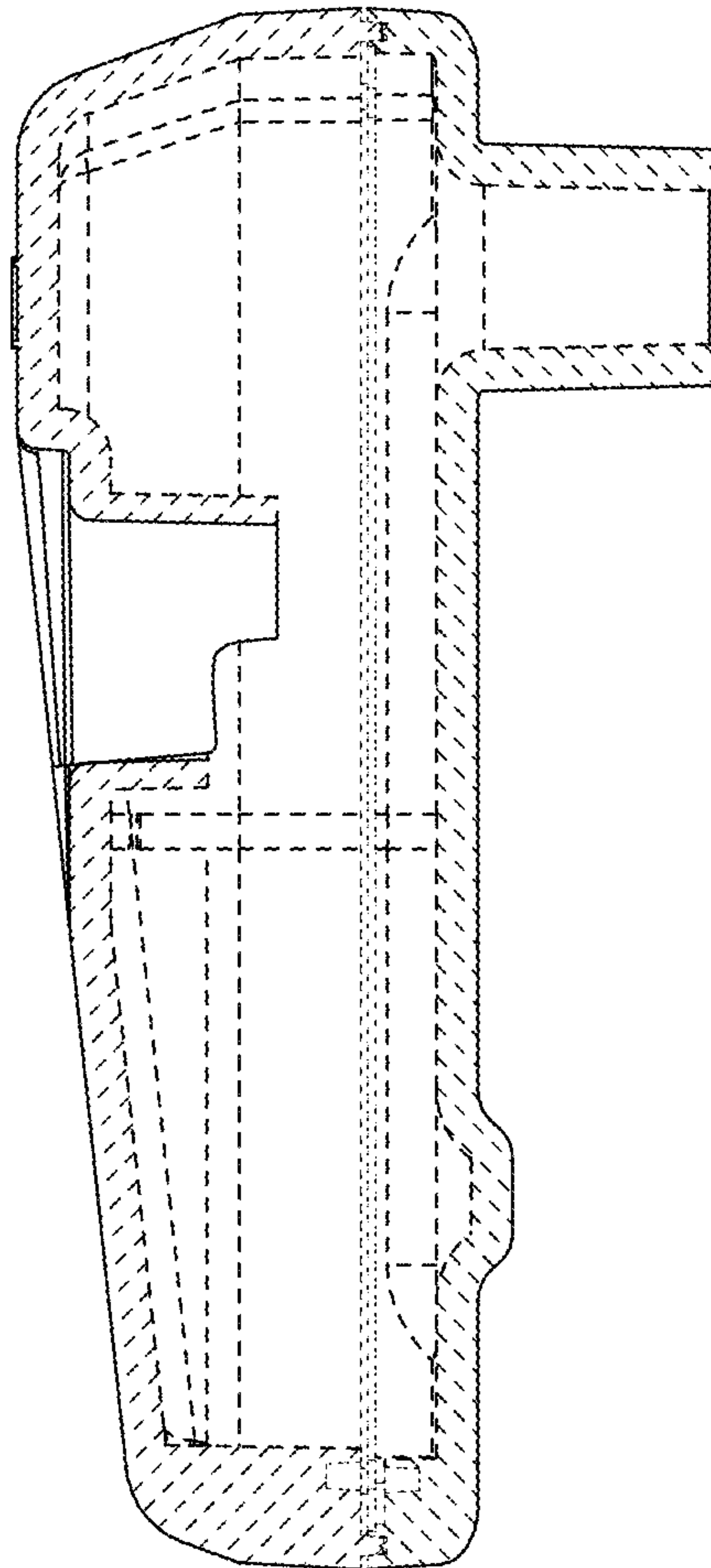


FIG. 8



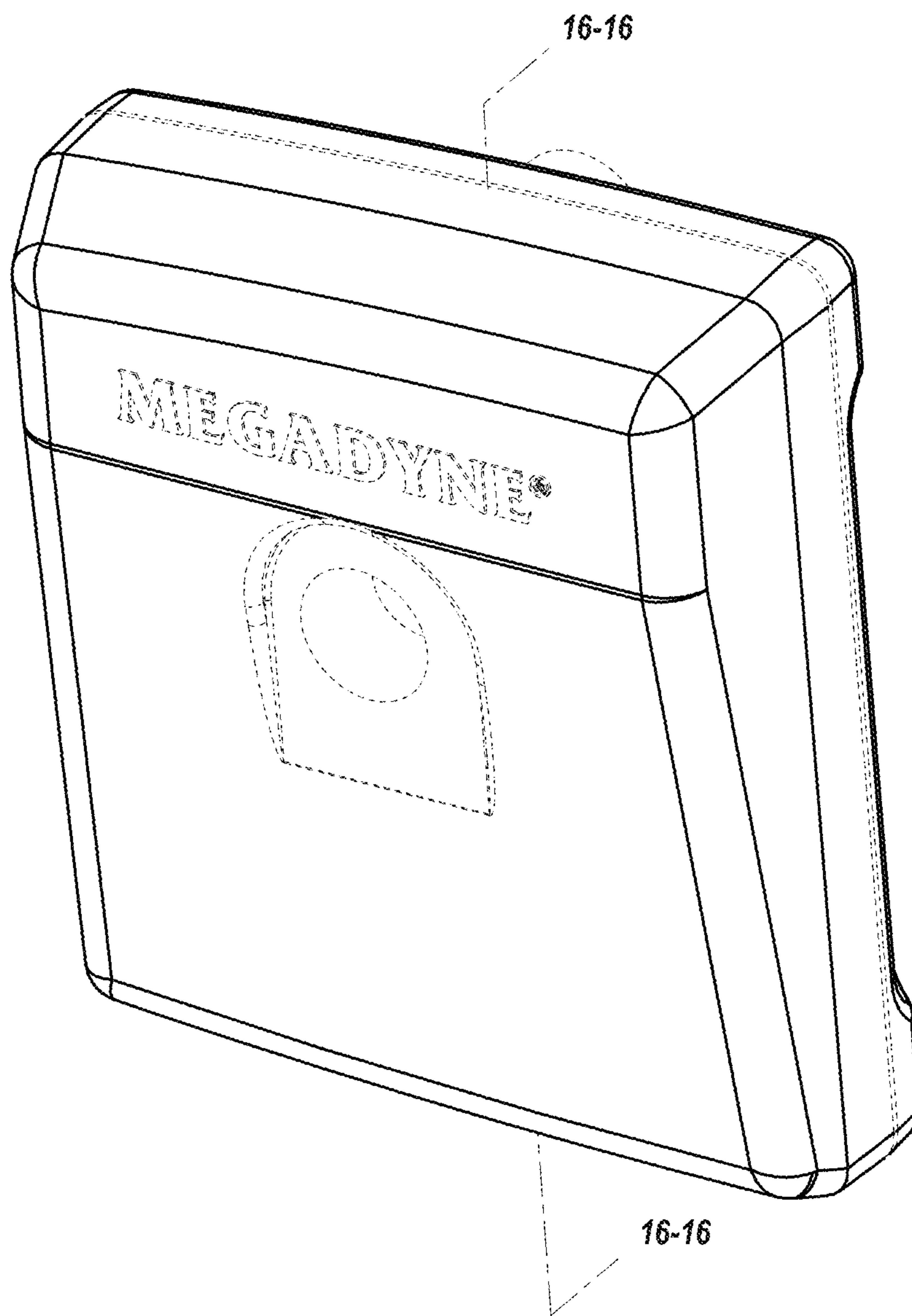
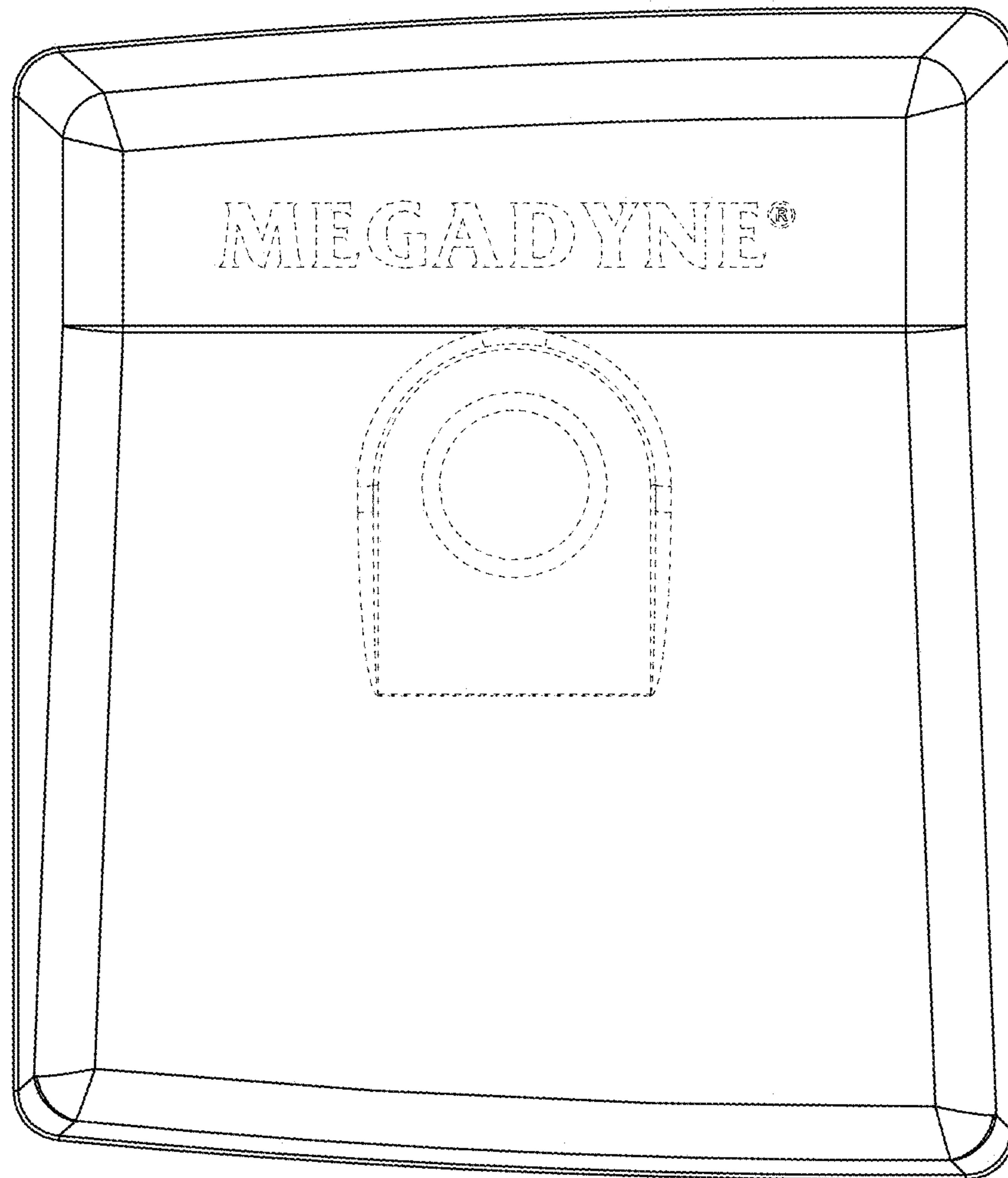
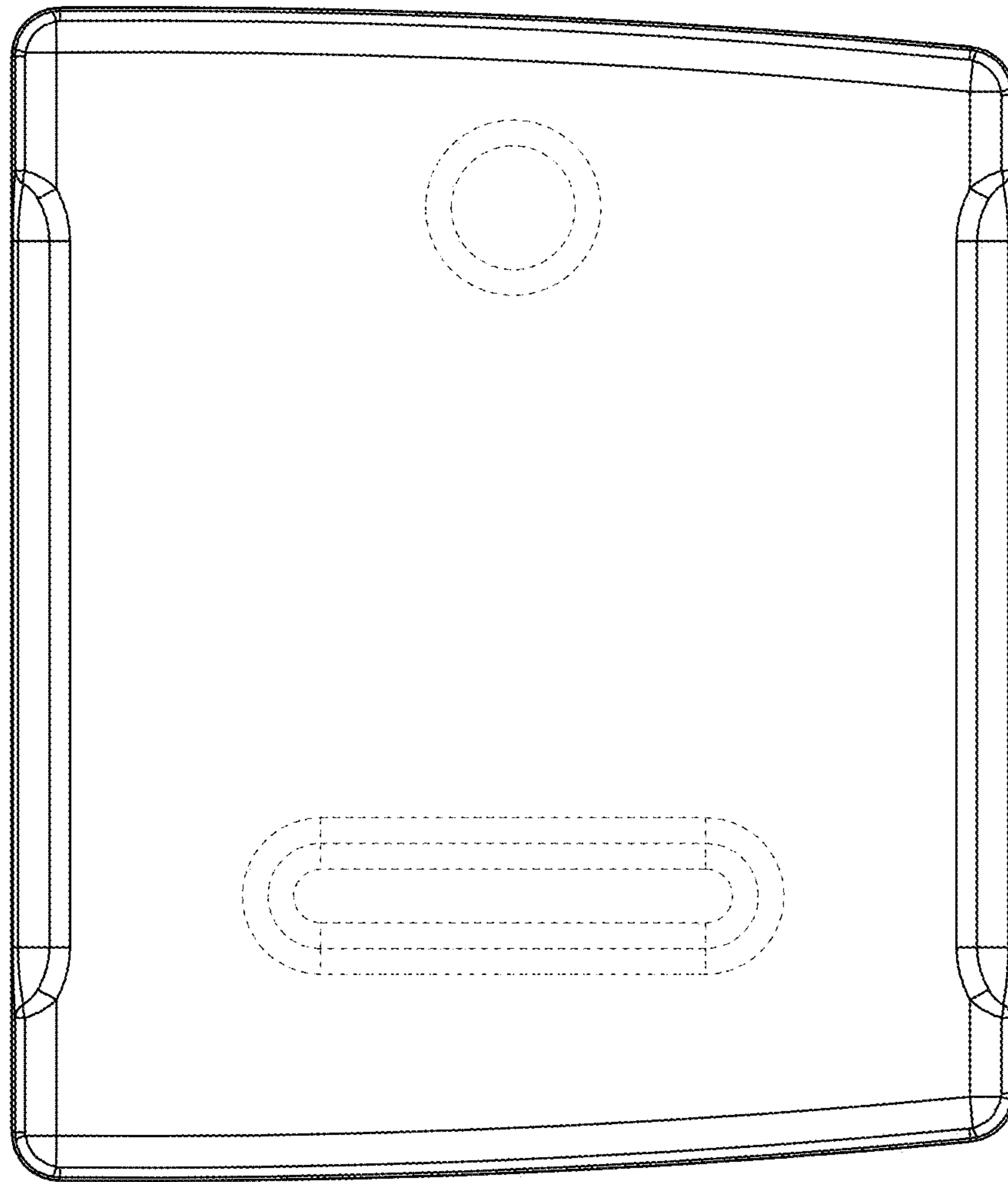


FIG. 9



**FIG. 10**



**FIG. 11**

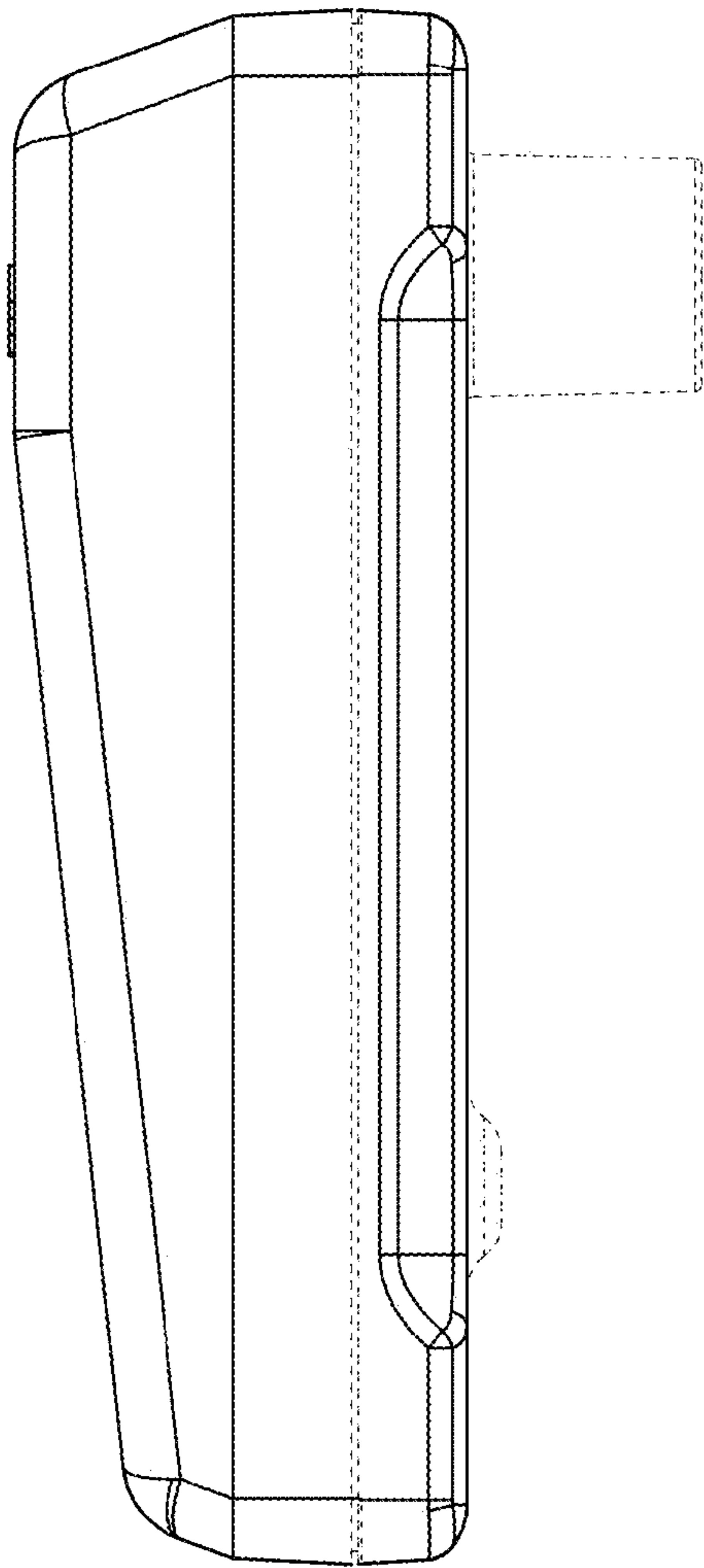


FIG. 12

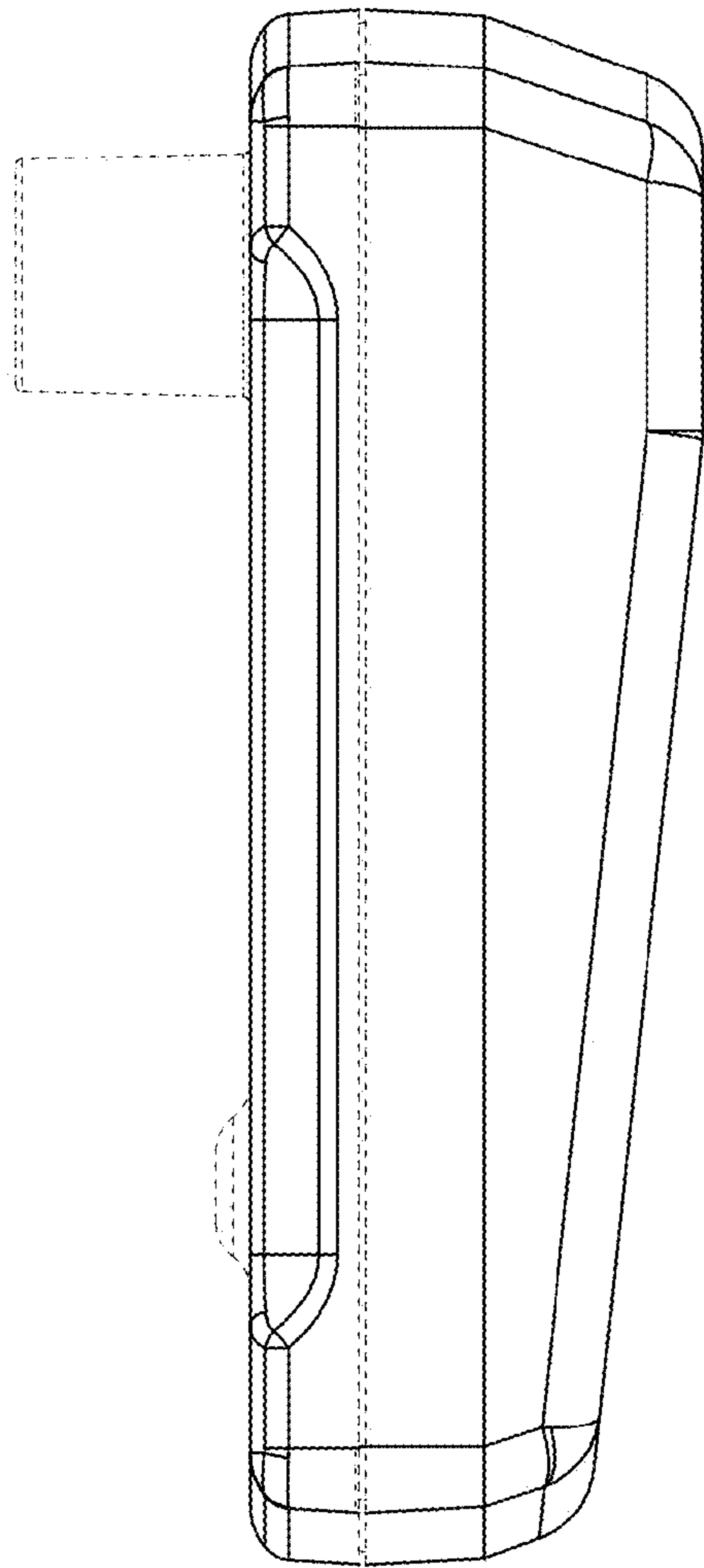


FIG. 13

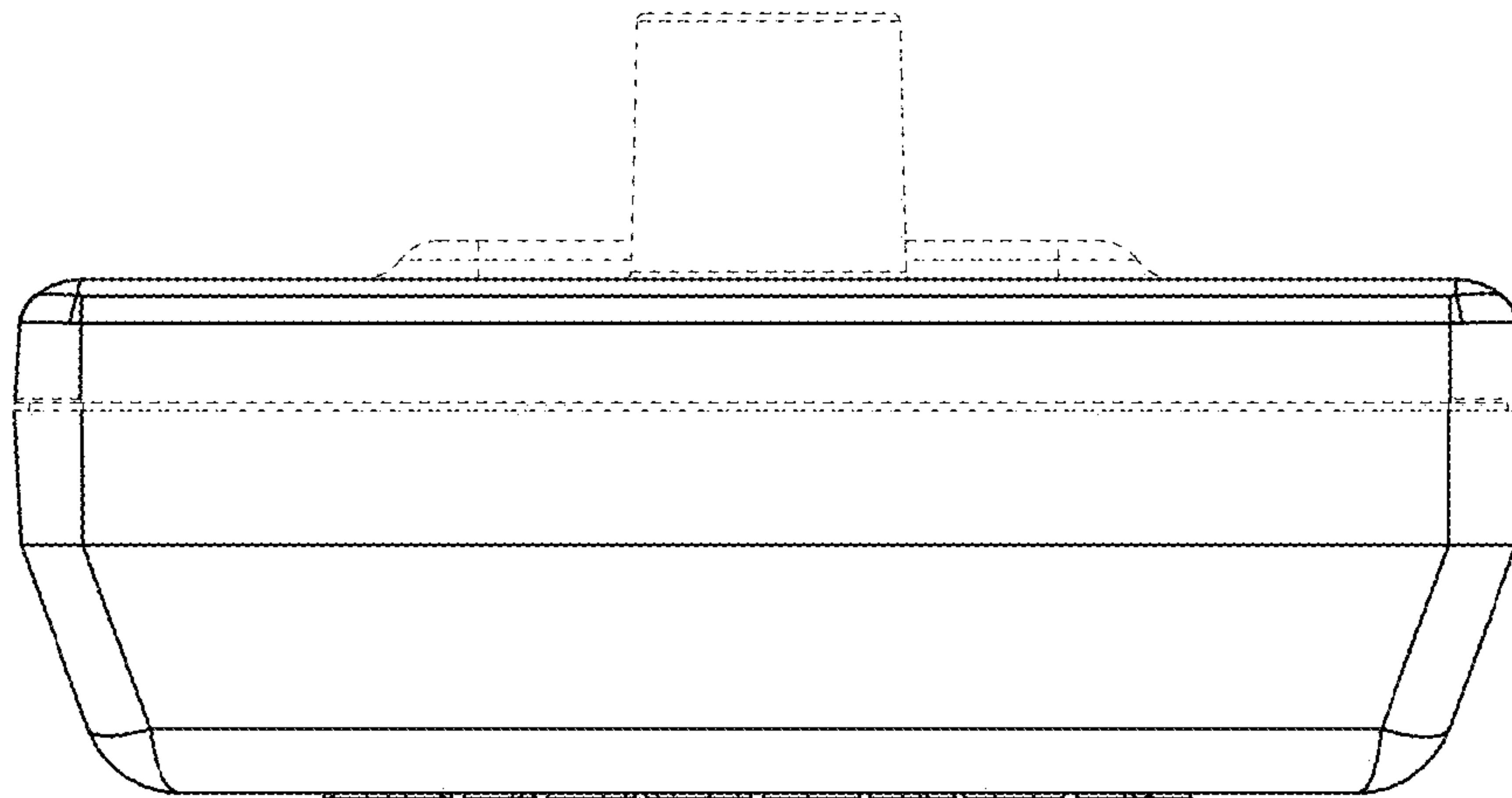


FIG. 14



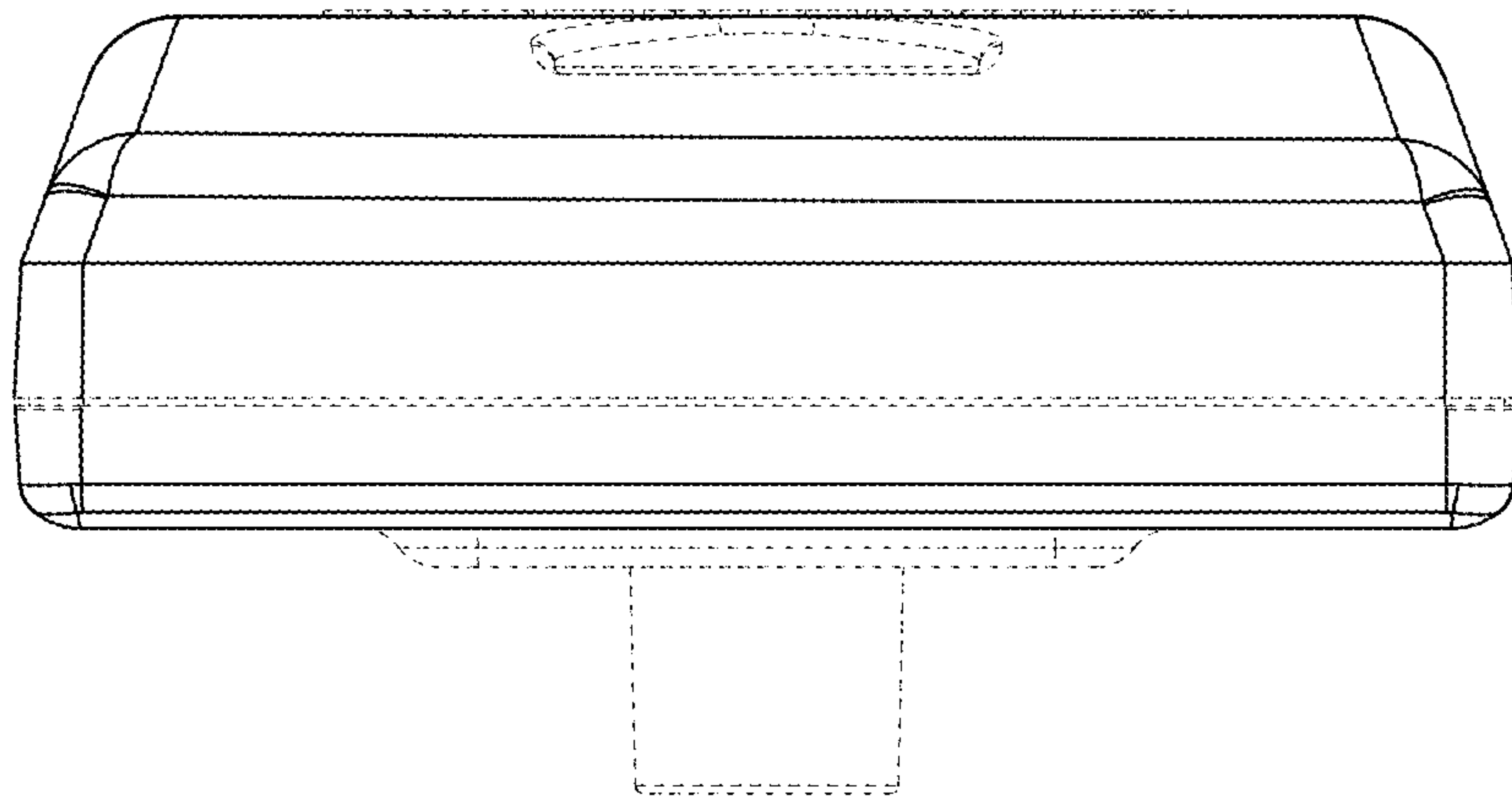


FIG. 15

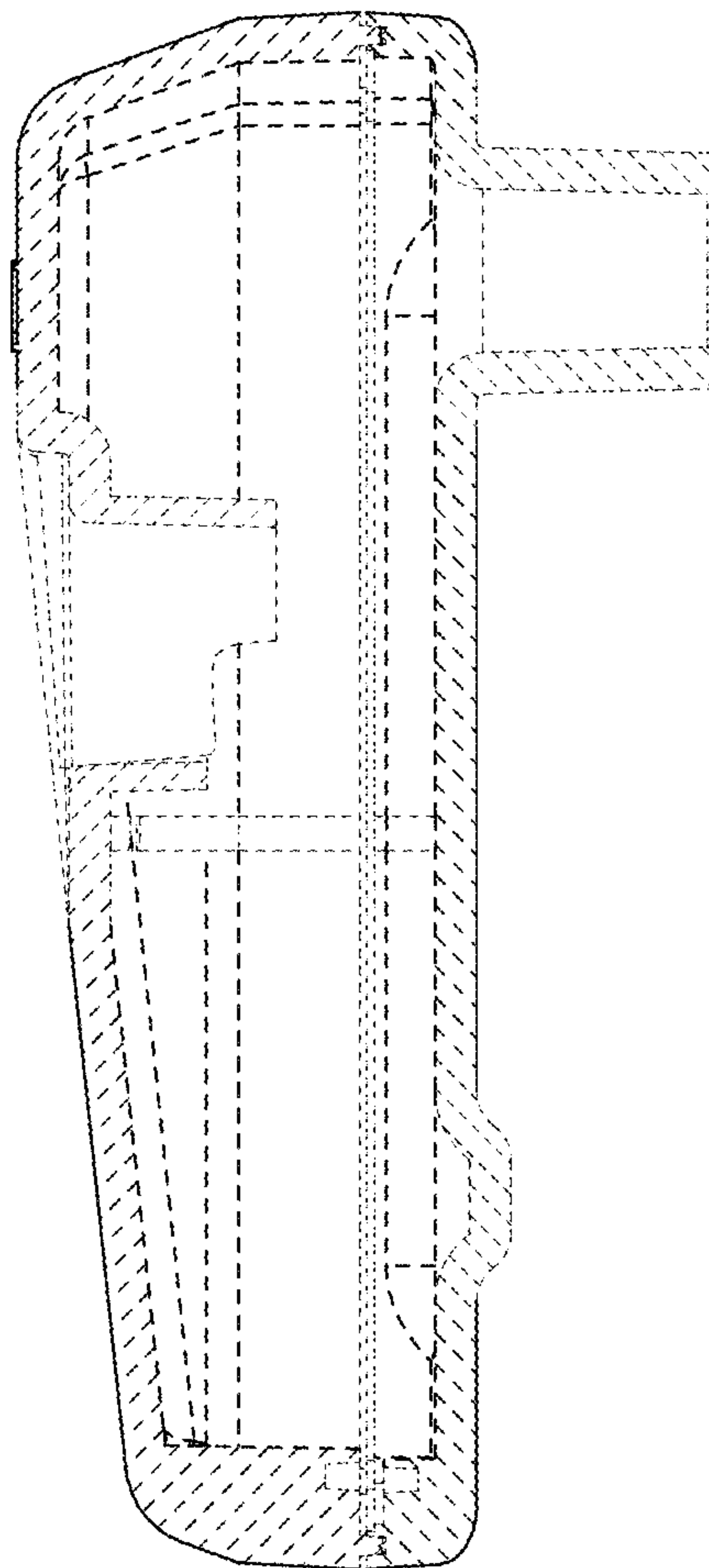


FIG. 16