



US00D948050S

(12) **United States Design Patent** (10) **Patent No.:** **US D948,050 S**  
**Miller et al.** (45) **Date of Patent:** **\*\* Apr. 5, 2022**

(54) **SPINAL IMPLANT**

OTHER PUBLICATIONS

- (71) Applicant: **WARSAW ORTHOPEDIC, INC.**,  
Warsaw, IN (US)
- (72) Inventors: **Keith E. Miller**, Germantown, TN  
(US); **Colleen Meara Cole Mignogna**,  
Southaven, MS (US); **Anthony J.  
Melkent**, Germantown, TN (US)
- (73) Assignee: **WARSAW ORTHOPEDIC, INC.**,  
Warsaw, IN (US)

Spinal Surgery News, "FDA Approval for Titan Spine NanoLock",  
first available Mar. 9, 2015. ([https://www.spinalsurgerynews.com/2015/03/fda-approval-for-titan\\_spine\\_nanolock/9556](https://www.spinalsurgerynews.com/2015/03/fda-approval-for-titan_spine_nanolock/9556)) (Year: 2015).\*

(Continued)

*Primary Examiner* — Lauren D McVey  
*Assistant Examiner* — Justin A Johnson

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

(57) **CLAIM**

The ornamental design for a spinal implant, as shown and described.

(21) Appl. No.: **29/724,067**

(22) Filed: **Feb. 12, 2020**

**DESCRIPTION**

(51) **LOC (13) Cl.** ..... **24-03**

(52) **U.S. Cl.**  
USPC ..... **D24/155**

(58) **Field of Classification Search**  
USPC ..... D2/617; D3/201, 203.1, 203.6, 203.7,  
D3/304, 306, 314; D8/382; D14/205,  
D14/223; D15/199; D24/101, 102, 104,  
D24/133, 141, 155, 171, 188, 190, 193,  
D24/194, 196, 216, 224, 227, 228, 229,  
D24/231; D29/123  
CPC .. A41D 19/00; A41D 19/0017; A41D 19/015;  
A41D 19/0055; A61B 17/80; A61B  
2017/00292; A61B 2017/00796; A61B  
2017/00969; A61B 50/30; A61B 50/33;  
A61B 17/8033; A61B 17/8038; A61B  
17/8042; A61B 17/8047; A61B 17/8052;  
A61B 17/8057; A61B 17/8061; A61B

FIG. 1 is a top perspective view of a first embodiment of a spinal implant showing my new design;  
FIG. 2 is a bottom perspective view thereof;  
FIG. 3 is a first side elevation view thereof;  
FIG. 4 is a second side elevation view thereof;  
FIG. 5 is a rear elevation view thereof;  
FIG. 6 is a front elevation view thereof;  
FIG. 7 is a top plan view thereof;  
FIG. 8 is a bottom plan view thereof;  
FIG. 9 is a top perspective view of a second embodiment of a spinal implant showing my new design;  
FIG. 10 is a bottom perspective view thereof;  
FIG. 11 is a first side elevation view thereof;  
FIG. 12 is a second side elevation view thereof;  
FIG. 13 is a rear elevation view thereof;  
FIG. 14 is a front elevation view thereof;  
FIG. 15 is a top plan view thereof; and,  
FIG. 16 is a bottom plan view thereof.

The broken lines immediately adjacent to solid lines depict unclaimed boundaries that form no part of the claimed design. The remaining broken lines shown in the figures are included for the purpose of illustration and form no part of the claimed design.

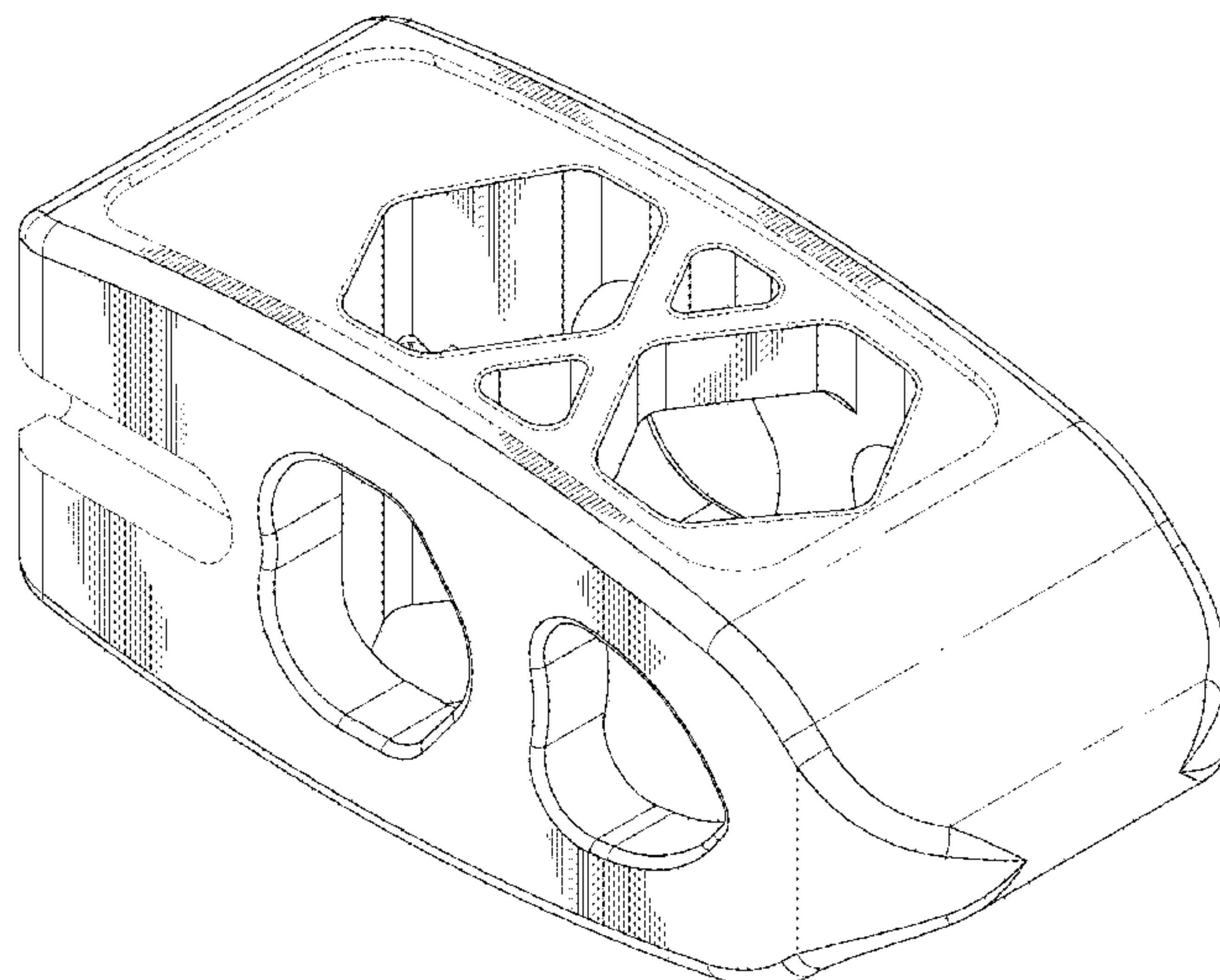
(56) **References Cited**

U.S. PATENT DOCUMENTS

- 6,176,882 B1 1/2001 Biedermann et al.
- 6,245,108 B1 6/2001 Biscup

(Continued)

**1 Claim, 16 Drawing Sheets**



(58) **Field of Classification Search**

CPC ..... 17/86; A61B 17/68; A61B 17/683; A61B 2017/564; A61F 2/00; A61F 2/02; A61F 2002/046; A61F 2/12; A61F 2/20; A61F 2/203; A61F 2/26; A61F 2/28; A61F 2002/2853; A61F 2/30; A61F 2/50; A61F 2002/5038; A61F 2002/5058; A61F 2002/5064; A61F 2/52; A61F 2002/526; A61F 2/54; A61F 2/58; A61F 2/583; A61F 2/60; A61F 2/604; A61F 2/64; A61F 2/66; A61F 2002/6614; A61F 2002/6621; A61F 2002/6628; A61F 2/82; A61F 2/86; A61F 2/88; A61F 2/885; A61F 2/4014; A61F 2002/4018; A61F 2002/4022; A61F 2002/4029; A61F 2002/4033; A61F 2002/4037; A61F 2002/4044; A61F 2002/4051; A61F 2/4059; A61F 2002/4062; A61F 2002/4066; A61F 2002/407; A61F 2002/4074; A61F 2002/4077; A61F 2/4081; A61F 2002/4085; A61F 2002/4088; A61F 2002/4092; A61F 2002/4096; A61F 2/442; A61F 2/4425; A61F 2/4455; A61F 2/4465; A61F 2/447; A61F 2/4611; A61F 2002/2817; A61F 2002/2835; A61F 2002/3083; A61F 2002/30092; A61F 2002/30523; A61F 2002/30538; A61F 2/30771; A61F 2/30942; A61F 2002/30617; A61F 2002/30774; A61F 2002/30784; A61F 2002/30892; A61F 2002/30828; A61F 2002/3008; A61F 2002/30428; A61F 2002/30471; A61F 2002/30507; A61F 2002/30904; A61F 2002/30421; A61F 2002/443; A61N 1/05; A61N 1/0551; A61N 1/20; A61M 16/04

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,432,140 B1 8/2002 Lin  
 6,491,724 B1 12/2002 Ferree  
 D472,632 S 4/2003 Anderson  
 6,610,089 B1 8/2003 Liu et al.  
 6,676,703 B2 1/2004 Biscup  
 6,743,255 B2 6/2004 Ferree  
 6,773,460 B2 8/2004 Jackson

6,964,687 B1 11/2005 Bernard et al.  
 6,979,353 B2 12/2005 Bresina  
 7,137,997 B2 11/2006 Paul  
 7,141,068 B2 11/2006 Ross et al.  
 D533,277 S 12/2006 Blain  
 7,169,183 B2 1/2007 Liu et al.  
 D541,940 S 5/2007 Blain  
 7,229,477 B2 6/2007 Biscup  
 7,326,251 B2 2/2008 McCombe et al.  
 7,331,996 B2 2/2008 Sato et al.  
 D566,276 S 4/2008 Blain  
 7,500,991 B2 3/2009 Bartish et al.  
 7,569,074 B2 8/2009 Eisermann et al.  
 7,591,852 B2 9/2009 Prosser  
 7,641,690 B2 1/2010 Abdou  
 7,655,043 B2 2/2010 Peterman et al.  
 D620,110 S 7/2010 Courtney et al.  
 D620,113 S \* 7/2010 Courtney ..... D24/155  
 D627,468 S 11/2010 Richter et al.  
 D629,108 S 12/2010 Richter et al.  
 D741,488 S \* 10/2015 Tohmeh ..... D24/155  
 D754,346 S 4/2016 Pimenta et al.  
 D797,934 S 9/2017 Pimenta et al.  
 9,937,053 B2 \* 4/2018 Melkent ..... A61F 2/4455  
 D841,167 S \* 2/2019 Ricca ..... D24/155  
 10,327,913 B2 \* 6/2019 Palmatier ..... A61F 2/447  
 D877,909 S \* 3/2020 Linder ..... D24/155  
 D878,590 S \* 3/2020 Linder ..... D24/155  
 D879,961 S \* 3/2020 Linder ..... D24/155  
 D896,384 S \* 9/2020 Kapitan ..... G06K 19/06037  
 D907,771 S \* 1/2021 Trudeau ..... A61F 2/4455  
 D912,820 S \* 3/2021 Tran ..... A61F 2/4425  
 D24/155  
 2018/0078386 A1 \* 3/2018 Kieser ..... G06K 19/06037  
 2020/0405499 A1 \* 12/2020 Gerbec ..... A61F 2/4425

OTHER PUBLICATIONS

RY Ortho, "FDA Clears Joimax's Endoscopic-Assisted Fusion Cage", first available Jul. 15, 2015. (<https://ryortho.com/breaking/fda-clears-joimaxs-endoscopic-assisted-fusion-cage/>) (Year: 2015).\*

Modern Machine Shop, "Advanced Material in Additive Manufacturing Produces Better Spinal Implant", first available Apr. 13, 2017. (<https://www.mmsonline.com/articles/advanced-material-for-additive-manufacturing-produces-better-spinal-implant>) (Year: 2017).\*

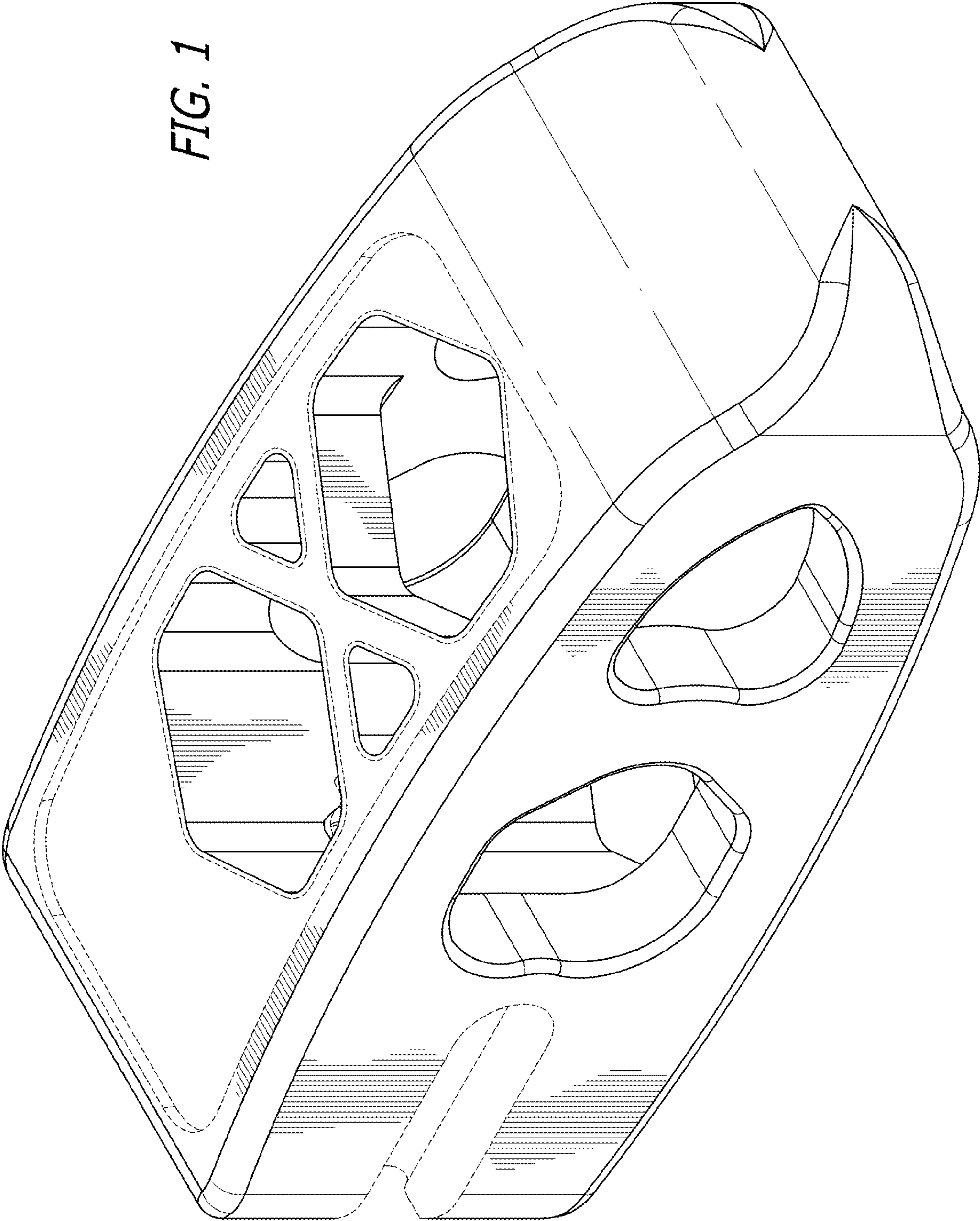
Orthoworld, "Medtronic Announces the Adaptix Interbody Navigated Titanium Cage", first available Oct. 7, 2020. (<https://www.orthoworld.com/medtronic-announces-the-adaptix-interbody-navigated-titanium-cage/>) (Year: 2020).\*

Office Action dated Sep. 29, 2020 in corresponding Japanese Patent Application No. 2020-016914 with translation summary.

\* cited by examiner



FIG. 1



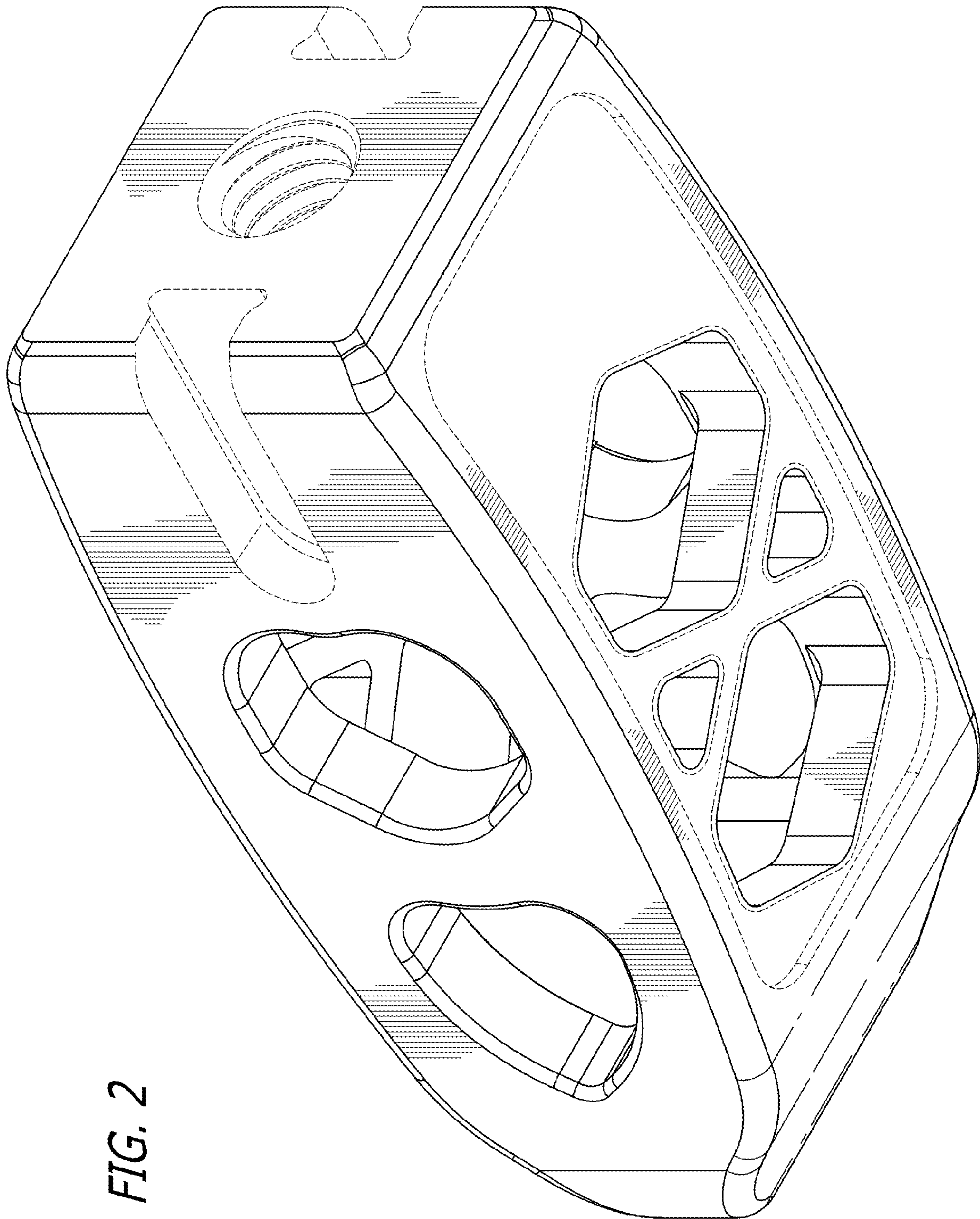


FIG. 2

FIG. 3

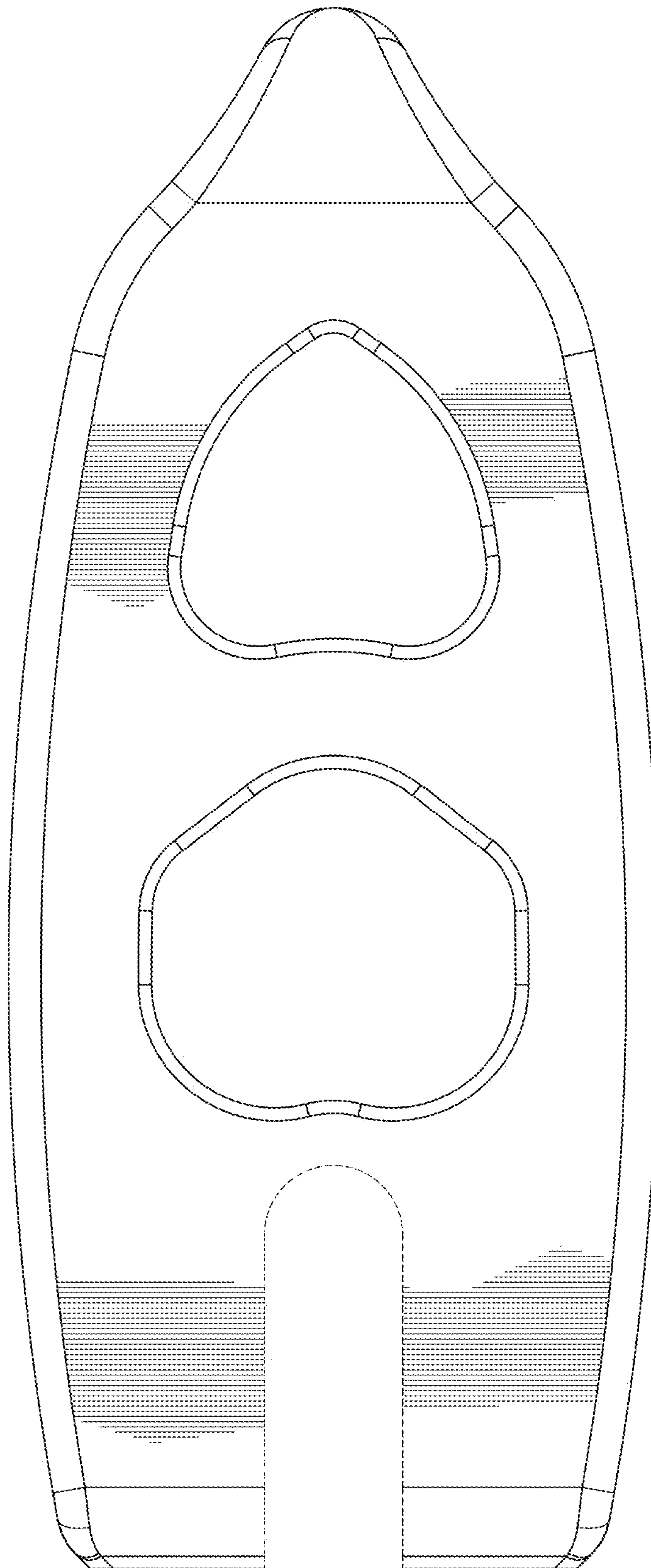


FIG. 4

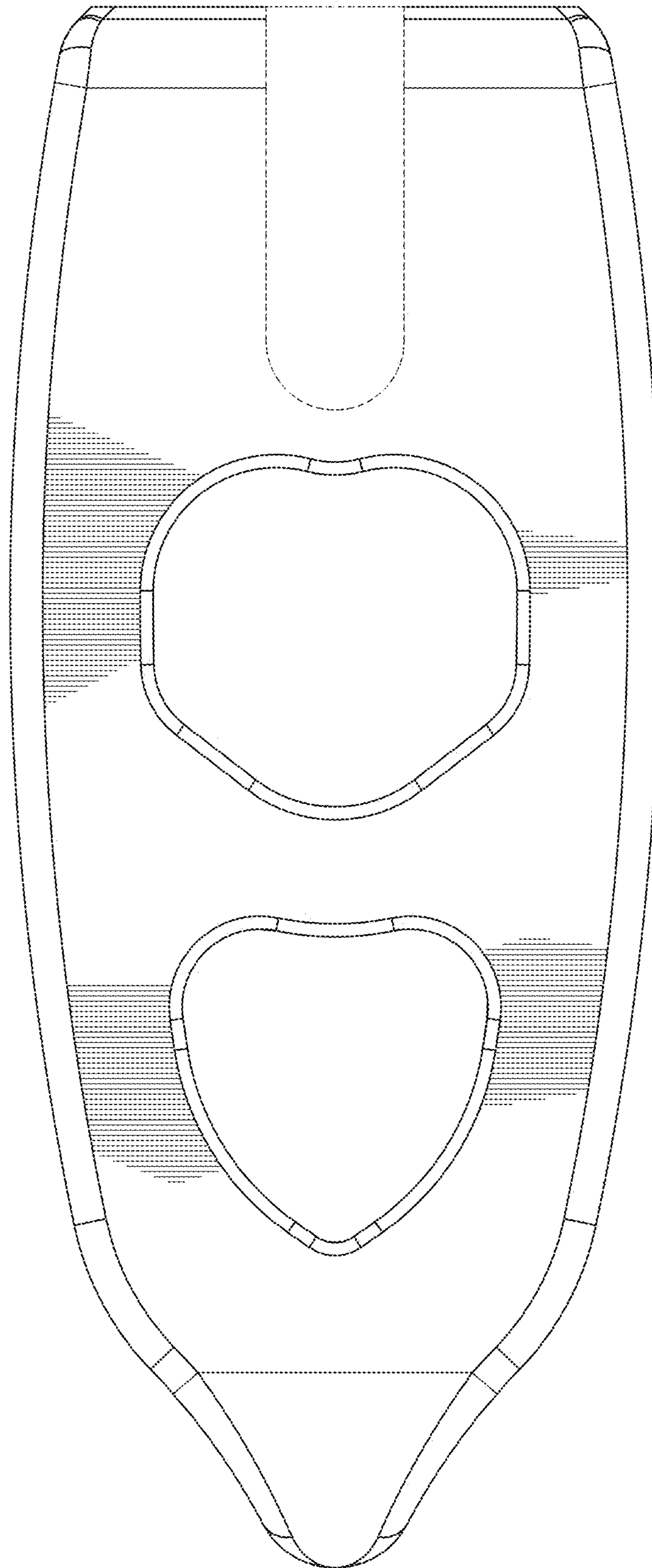




FIG. 5

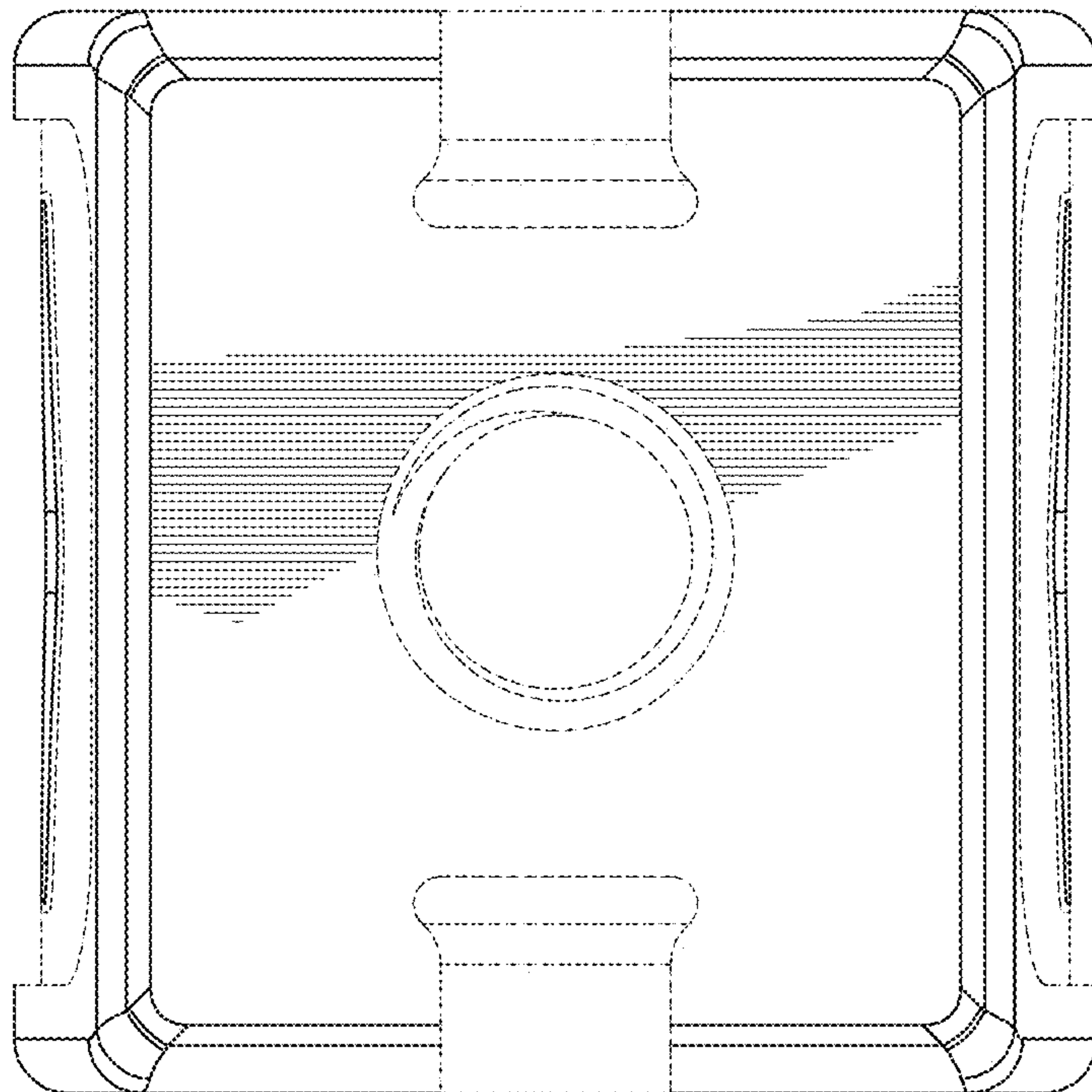


FIG. 6

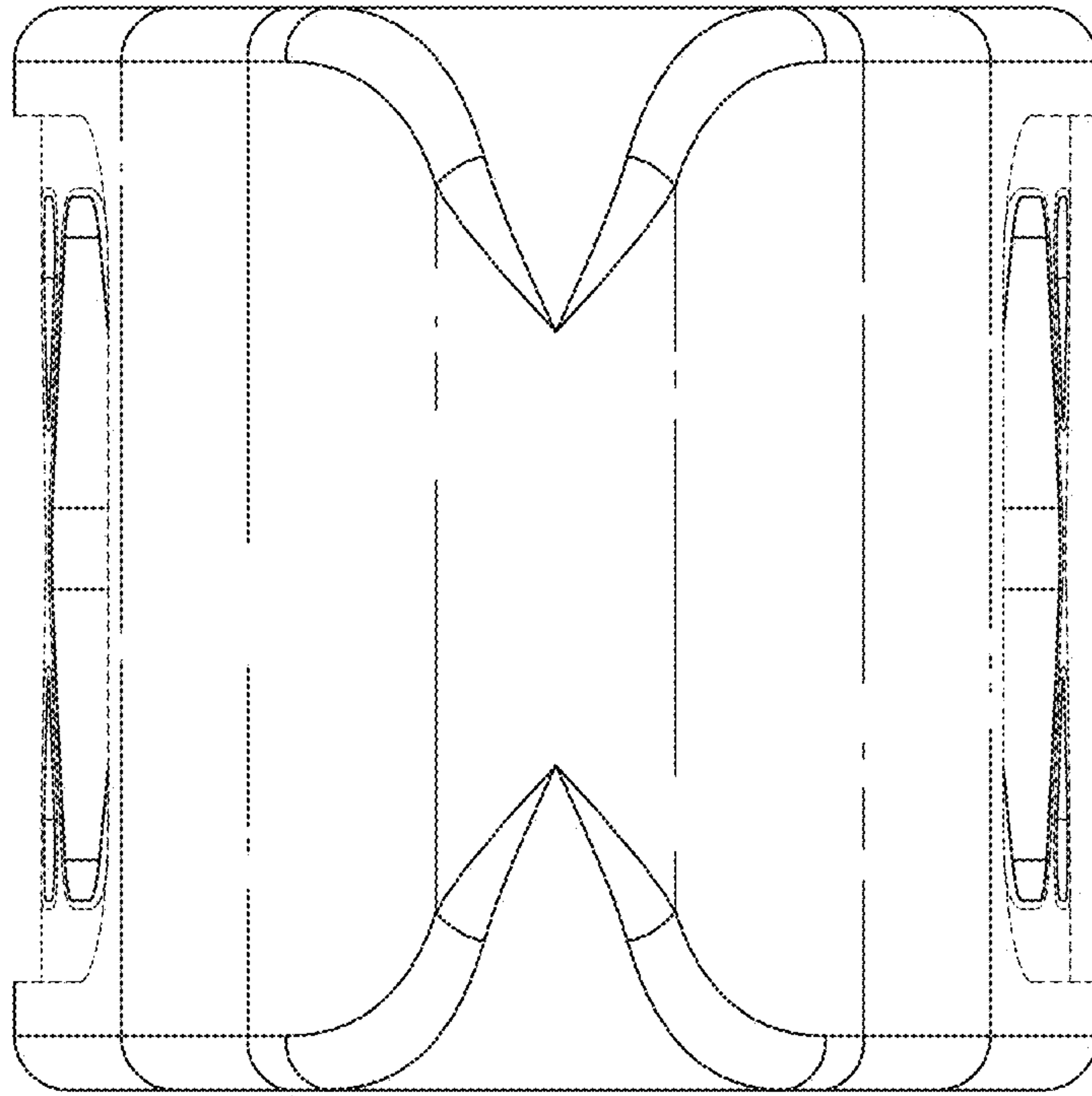




FIG. 7

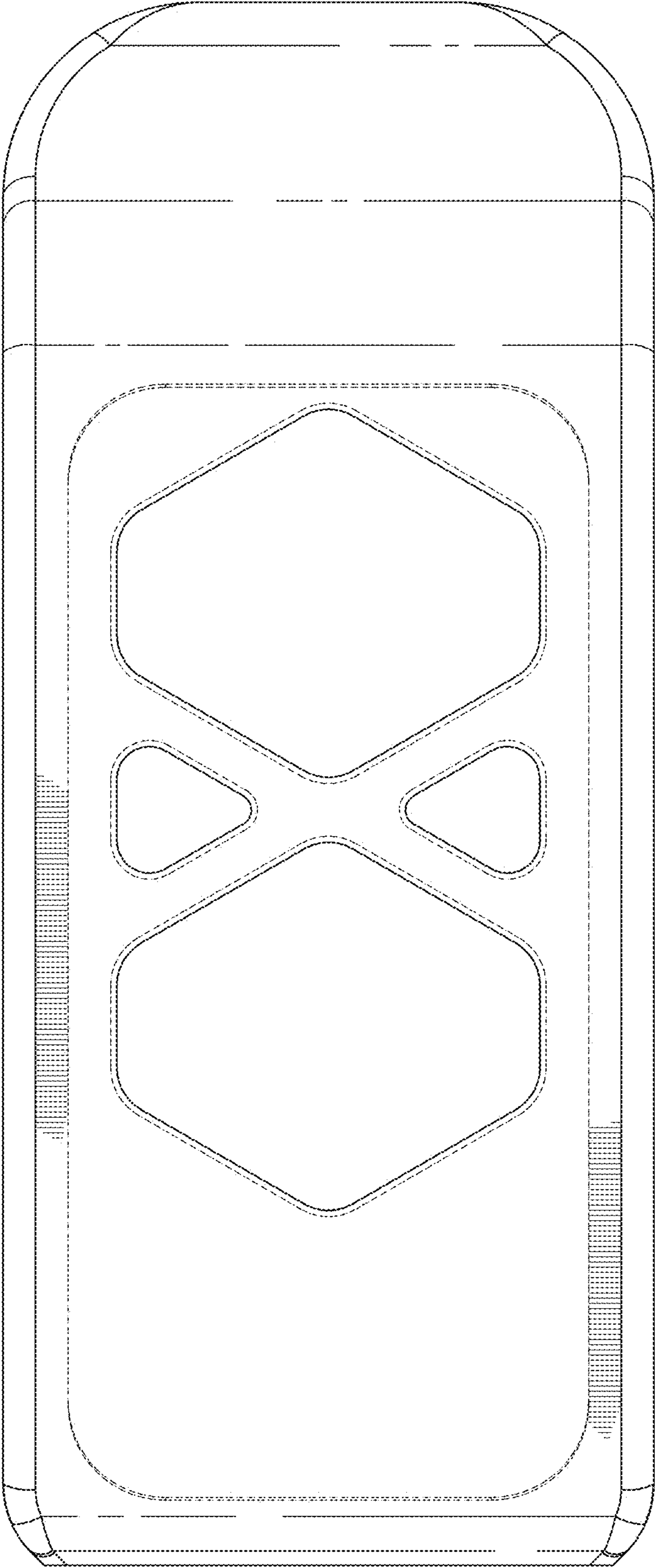


FIG. 8

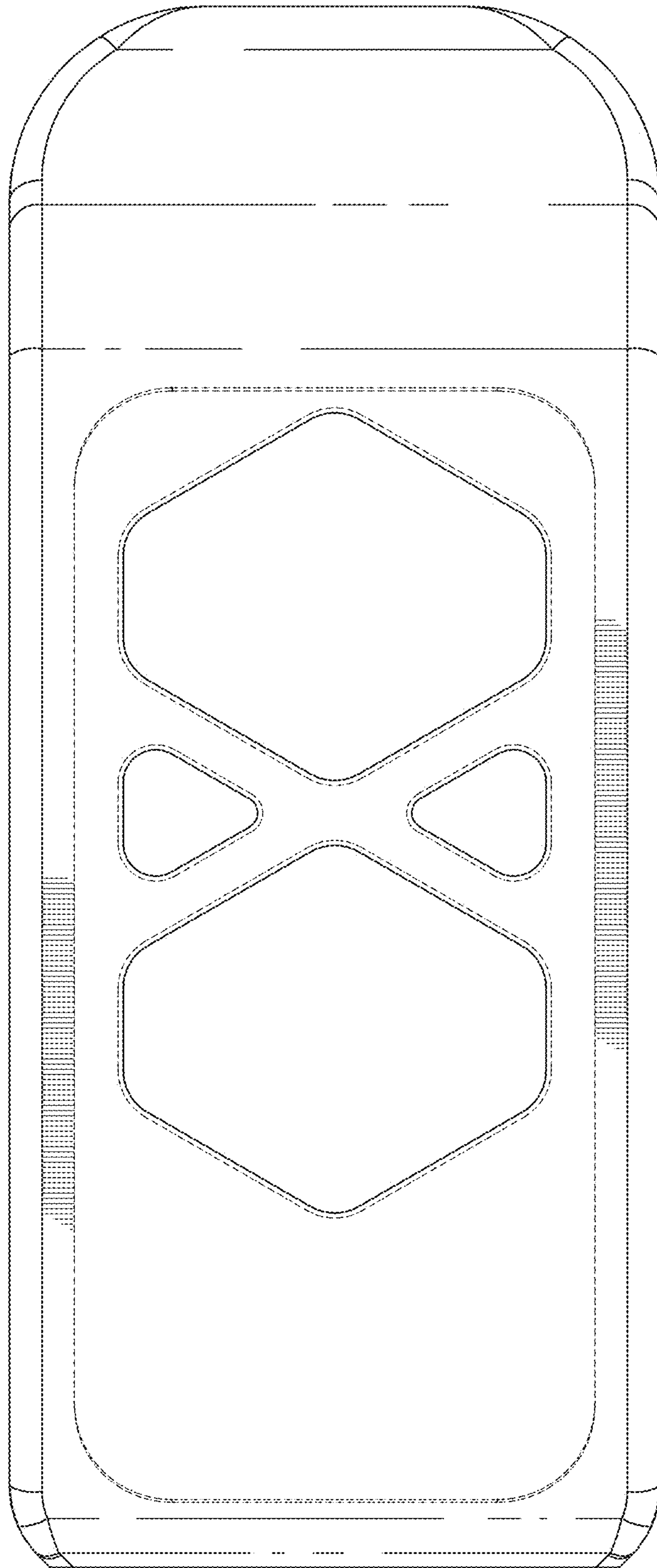
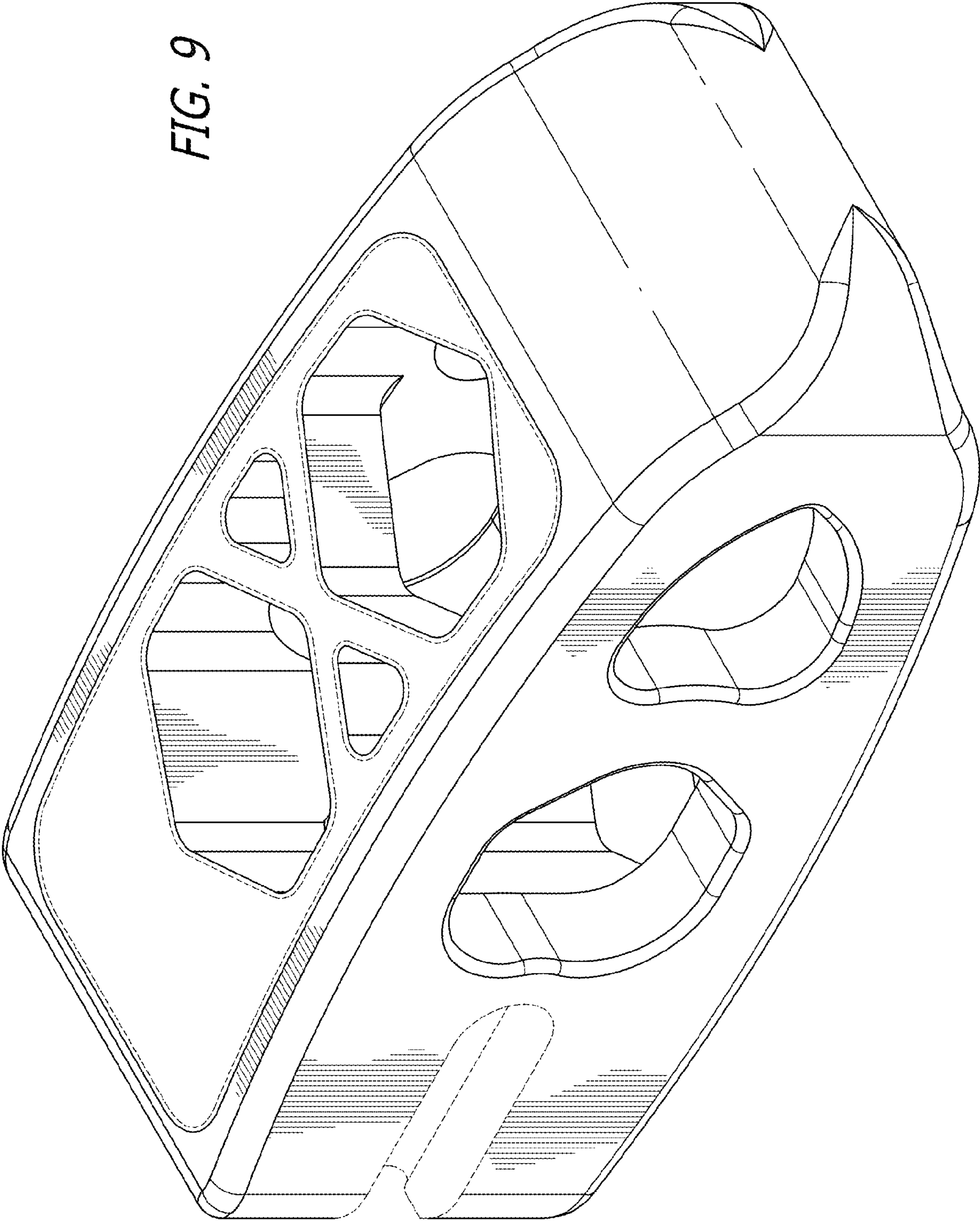
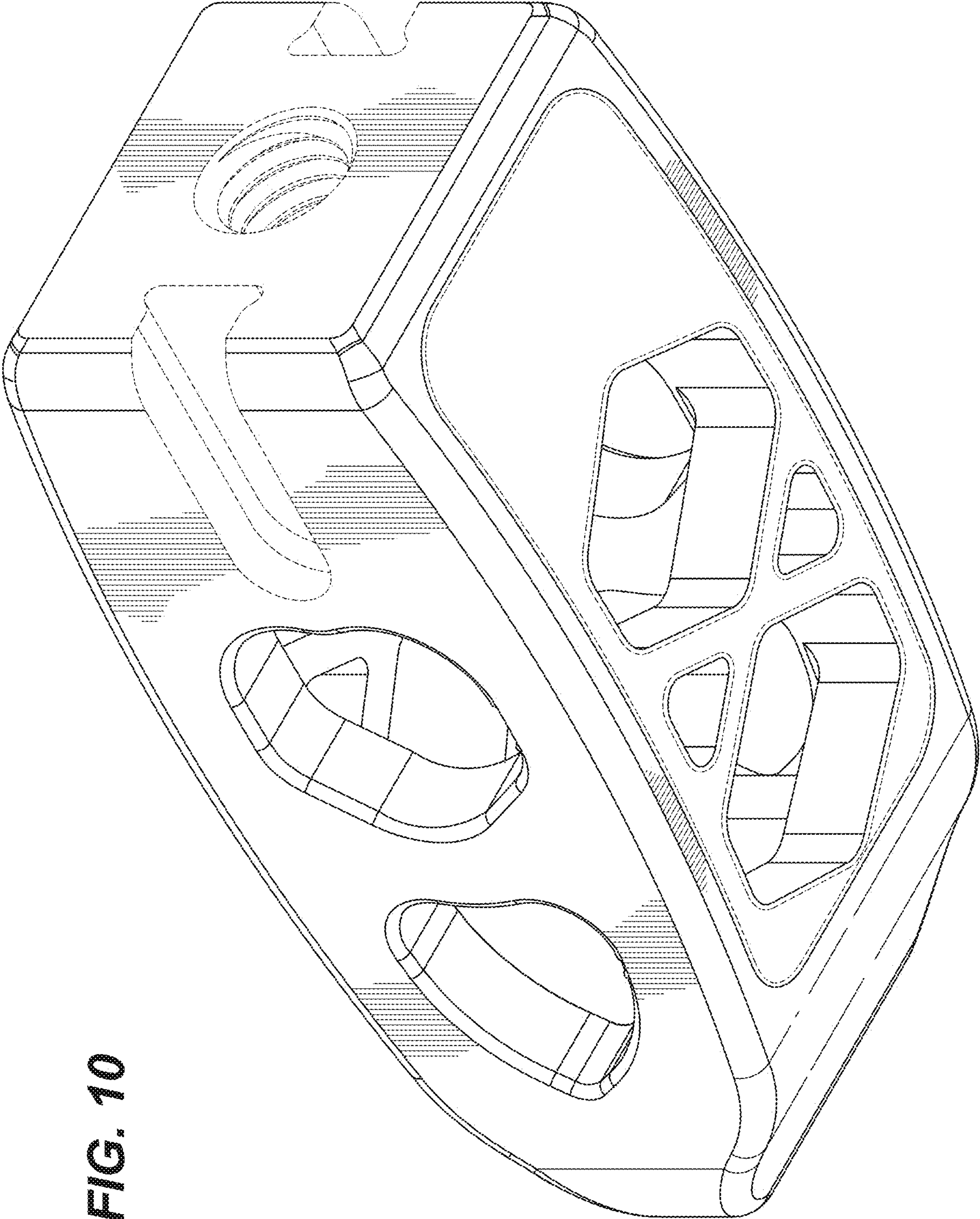


FIG. 9







**FIG. 10**

**FIG. 11**

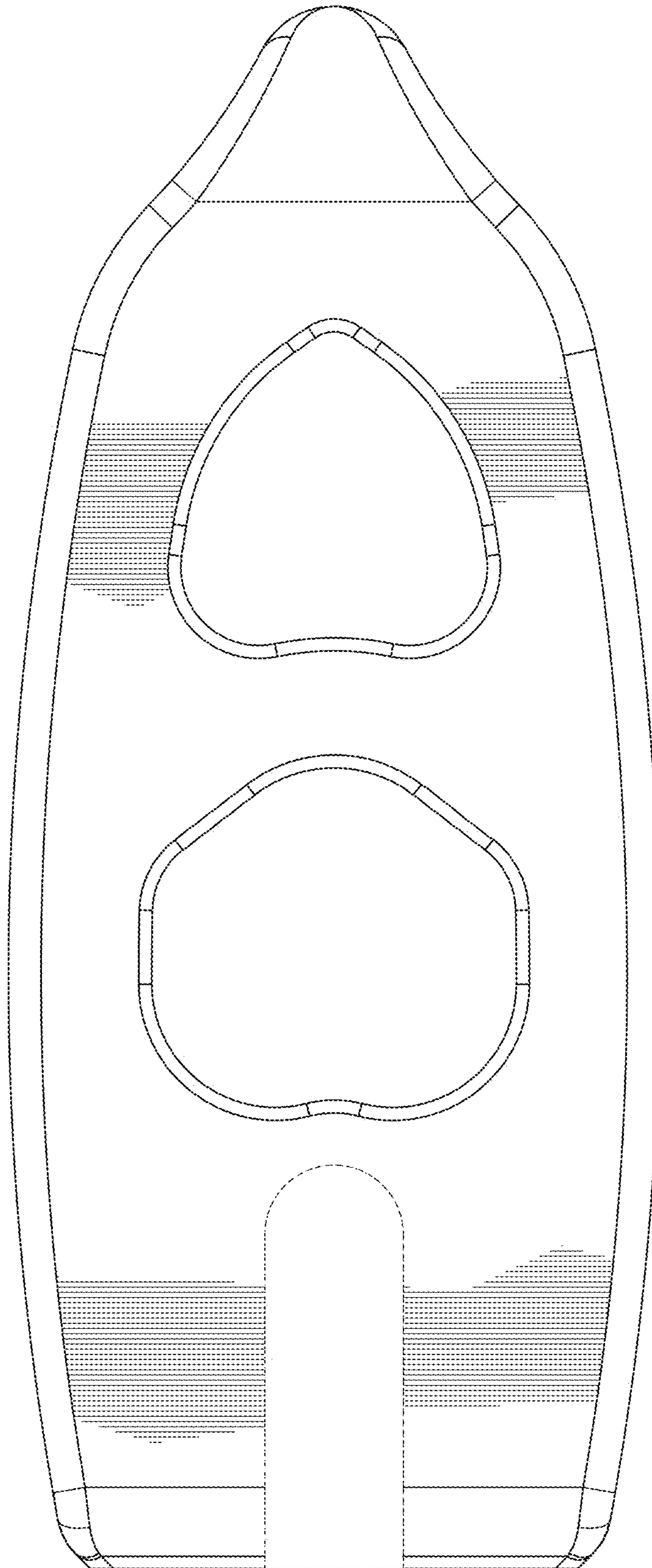
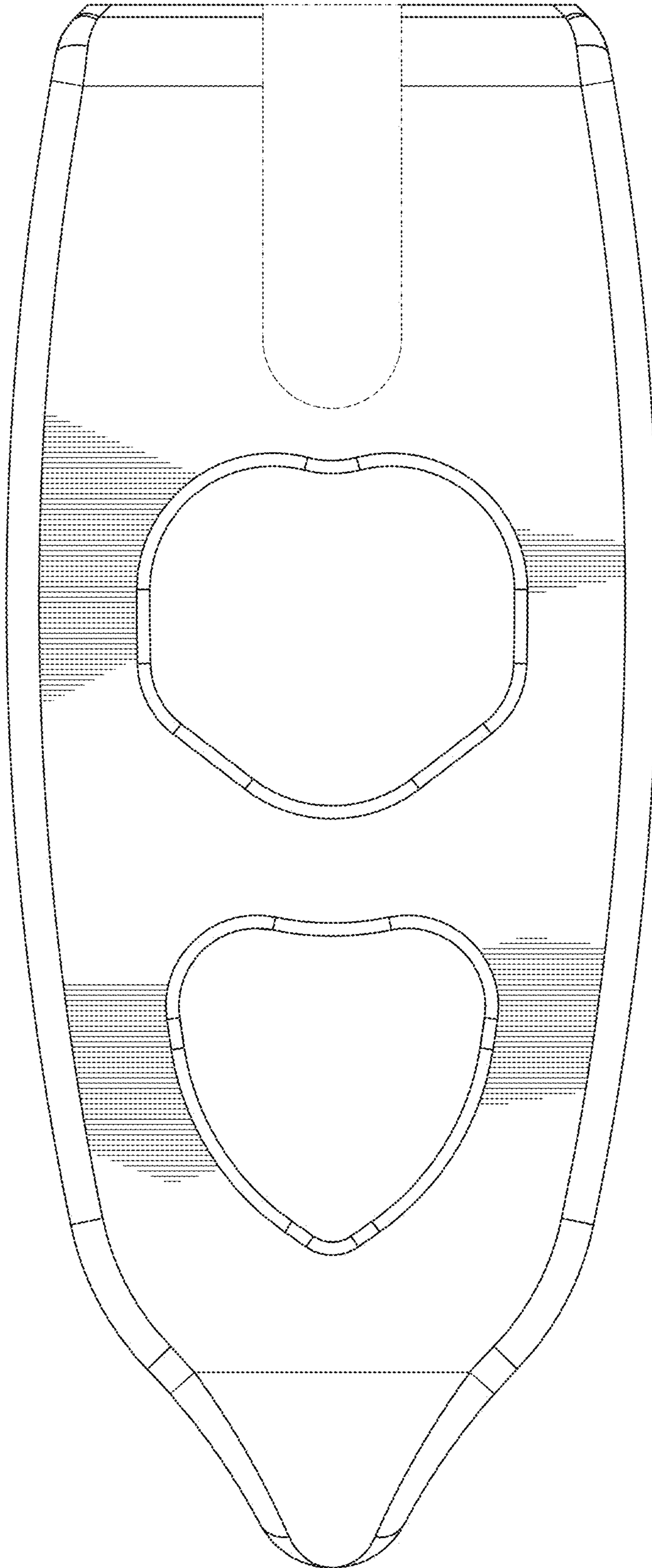
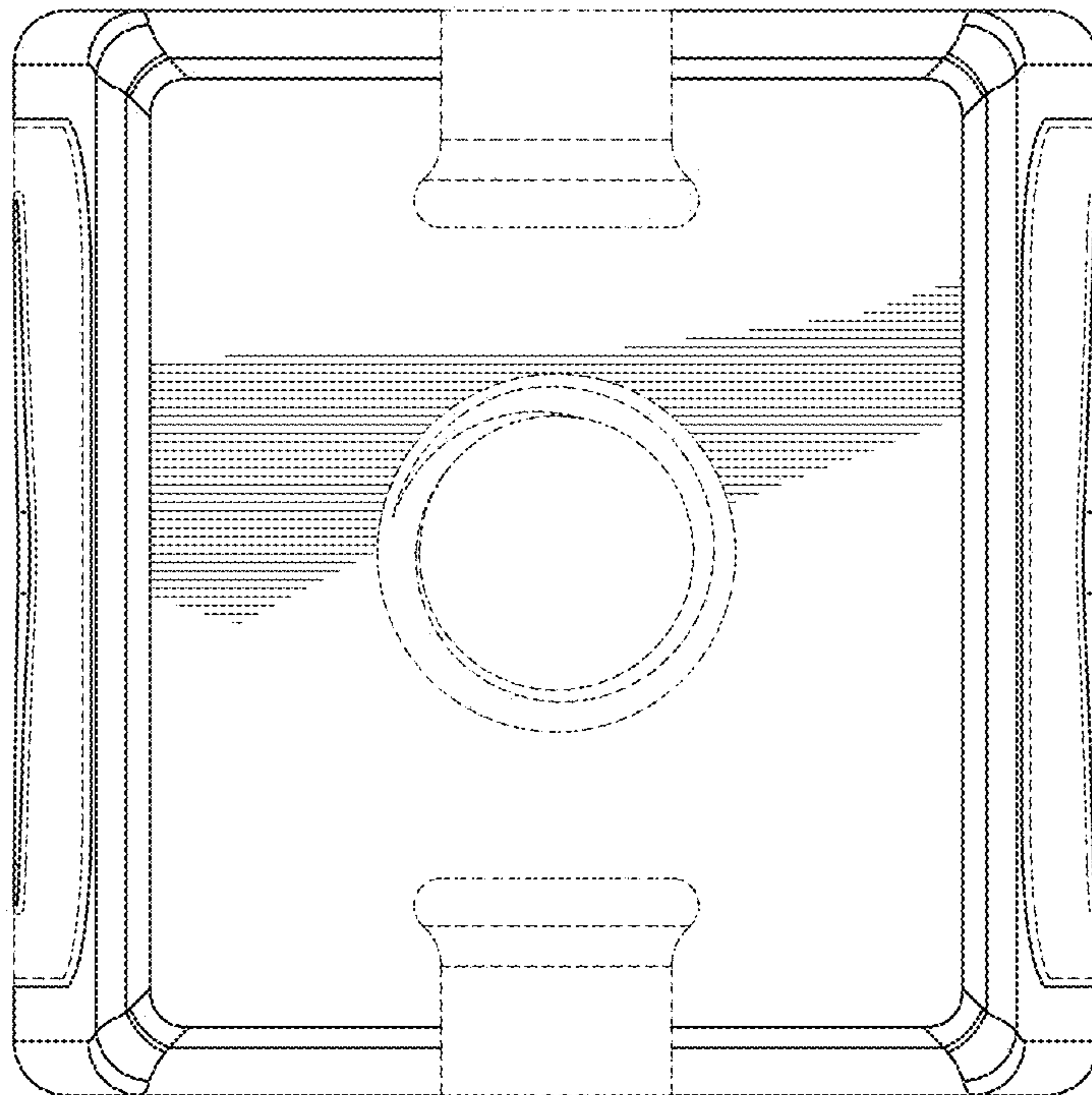


FIG. 12

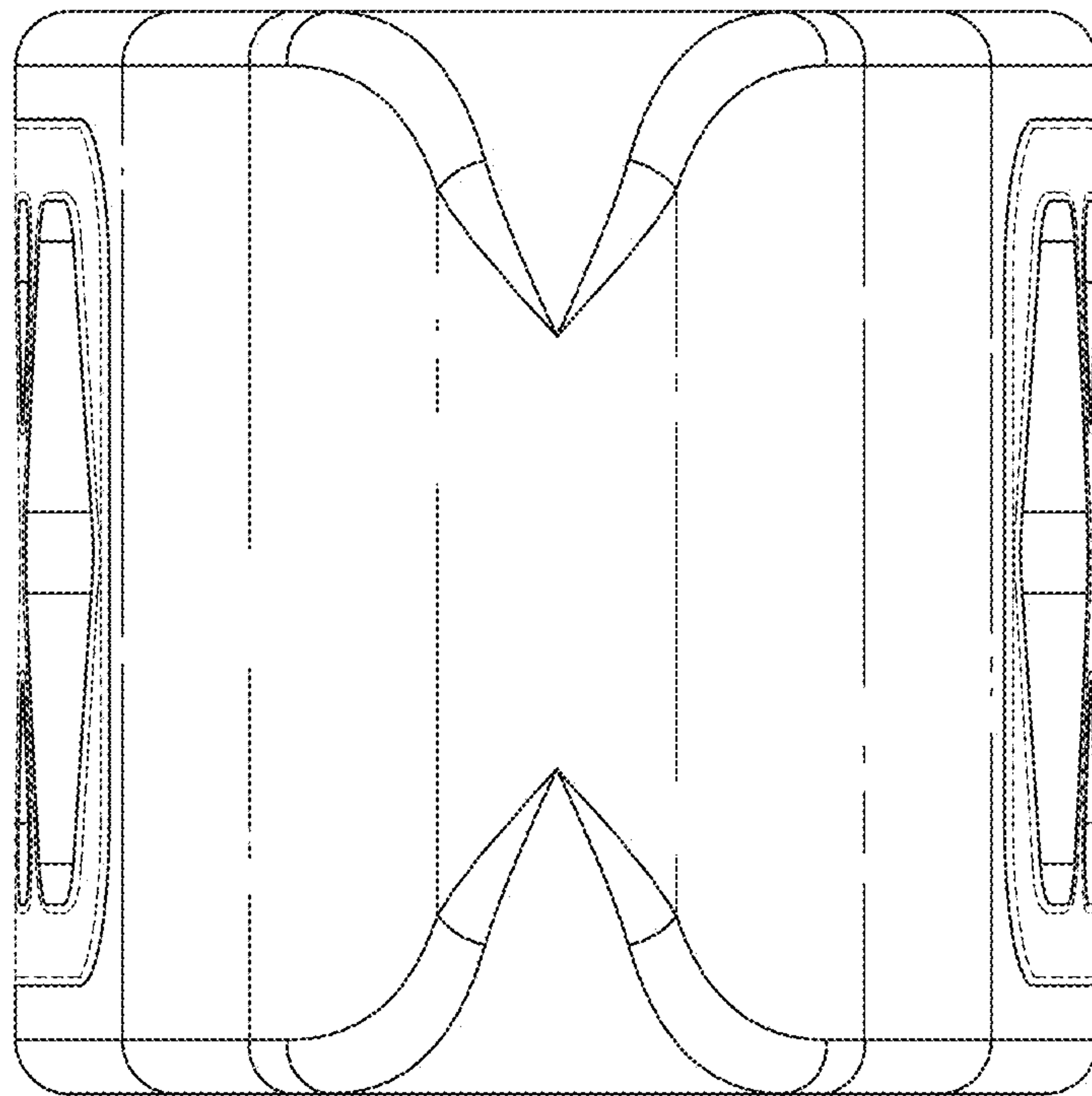




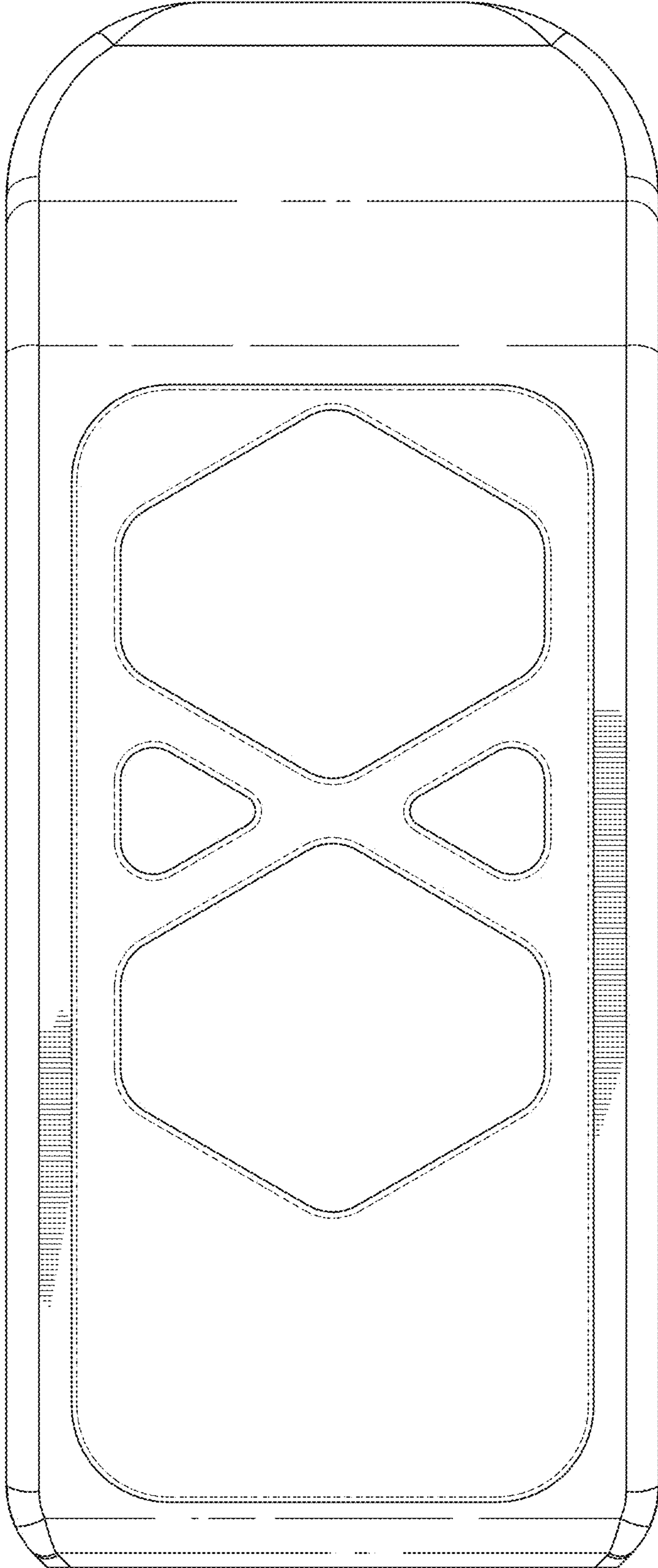
**FIG. 13**



**FIG. 14**



**FIG. 15**





**FIG. 16**

