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

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(54) **ADHESIVE LINER FOR WEARABLE DRUG DELIVERY DEVICE**

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

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(52) **U.S. Cl.**  
USPC ..... **D24/128**

(58) **Field of Classification Search**  
USPC ..... D24/127-131, 112-114, 133, 186;  
606/181, 185; 604/264, 523-528, 272,  
(Continued)

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D375,355 S \* 11/1996 Bierman ..... 604/180  
5,665,065 A 9/1997 Colman et al.  
(Continued)

**FOREIGN PATENT DOCUMENTS**

CN 101801438 B 8/2013  
CN 103394143 A 11/2013  
(Continued)

**OTHER PUBLICATIONS**

PAQ®, a Simple 3-Day Basal/Bolus Insulin Delivery Device, for People with Type 2 Diabetes, CeQur Corporation, Abstract from ATTD 2016, 9<sup>th</sup> International Conference on Advanced Technologies & Treatments for Diabetes, Milan, Italy—Feb. 3-6, 2016, 1 page.

(Continued)

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(57) **CLAIM**

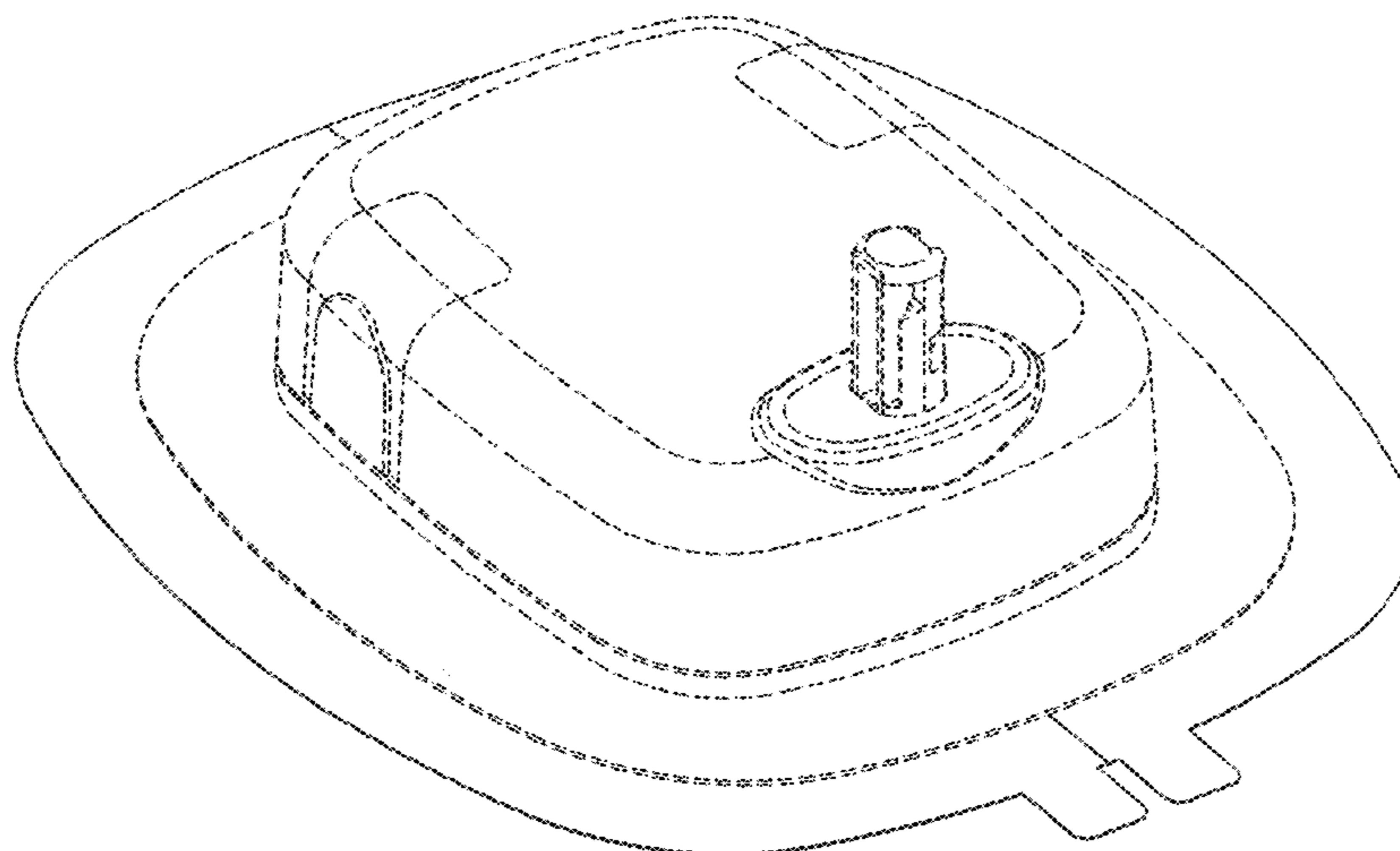
The ornamental design for an adhesive liner for a wearable drug delivery device, as shown and described.

**DESCRIPTION**

FIG. 1 is a top perspective view of an adhesive liner for a wearable drug delivery device;  
FIG. 2 is a bottom perspective view of the adhesive liner of FIG. 1;  
FIG. 3 is a top plan view of the adhesive liner of FIG. 1;  
FIG. 4 is a left side elevational view of the adhesive liner of FIG. 1;  
FIG. 5 is a right side elevational view of the with adhesive liner of FIG. 1;  
FIG. 6 is a front elevational view of the adhesive liner of FIG. 1;  
FIG. 7 is a back elevational view of the adhesive liner of FIG. 1; and,  
FIG. 8 is a bottom plan view of the adhesive liner of FIG. 1.

The broken line showing of parts of the drawings is included for the purpose of illustrating use and environment and forms no part of the claimed design.

**1 Claim, 6 Drawing Sheets**



(58) **Field of Classification Search**  
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 128/200.24, 207.14, 207.15  
 CPC ..... A61M 5/14248; A61M 5/158; A61M  
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 A61M 27/00; A61M 25/0043; A61M  
 25/0067; A61M 25/0097; A61F 2/958  
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,816,779 A 10/1998 Lawless et al.  
 5,913,180 A 6/1999 Ryan  
 6,006,239 A 12/1999 Bhansali et al.  
 6,589,229 B1 7/2003 Connelly et al.  
 6,656,147 B1 12/2003 Gertsek et al.  
 6,656,148 B2 12/2003 Das et al.  
 6,685,675 B1 2/2004 Hadvary et al.  
 6,740,059 B2 5/2004 Flaherty  
 6,824,529 B2 11/2004 Gross et al.  
 6,843,782 B2 1/2005 Gross et al.  
 7,052,251 B2 5/2006 Nason et al.  
 7,297,138 B2\* 11/2007 Fangrow, Jr. .... A61M 5/158  
 604/164.01  
 D564,087 S 3/2008 Yodfat et al.  
 D574,016 S 7/2008 Yodfat et al.  
 D577,118 S 9/2008 Yodfat et al.  
 7,517,440 B2 4/2009 Anex et al.  
 7,648,494 B2 1/2010 Kornerup et al.  
 7,660,615 B2\* 2/2010 VanAntwerp ..... A61B 5/14532  
 439/834  
 7,678,079 B2 3/2010 Shermer et al.  
 7,708,717 B2 5/2010 Estes et al.  
 D619,245 S\* 7/2010 Moga ..... D24/113  
 7,771,391 B2 8/2010 Carter  
 7,802,923 B2 9/2010 Arnold et al.  
 7,857,131 B2 12/2010 Vadrine  
 7,922,708 B2 4/2011 Estes et al.  
 7,927,306 B2 4/2011 Cross et al.  
 7,927,325 B2\* 4/2011 Bright ..... A61M 5/14276  
 604/523  
 7,931,621 B2\* 4/2011 Cross ..... A61M 5/1413  
 604/158  
 D638,534 S\* 5/2011 Moga ..... D24/113  
 7,938,801 B2\* 5/2011 Hawkins ..... A61M 5/14248  
 604/131  
 7,976,500 B2 7/2011 Adams et al.  
 8,062,253 B2 11/2011 Nielsen et al.  
 8,062,256 B2 11/2011 Carter et al.  
 8,114,064 B2 2/2012 Alferness et al.  
 8,128,596 B2 3/2012 Carter  
 8,128,597 B2 3/2012 Cross et al.  
 8,162,923 B2 4/2012 Adams et al.  
 8,226,606 B2 7/2012 Adams et al.  
 8,226,607 B2 7/2012 Carter et al.  
 8,231,572 B2 7/2012 Carter et al.  
 8,231,577 B2 7/2012 Carter et al.  
 8,267,921 B2 9/2012 Yodfat et al.  
 8,337,486 B2 12/2012 Yodfat et al.  
 8,352,041 B2 1/2013 Das et al.  
 8,361,030 B2 1/2013 Carter  
 D679,392 S\* 4/2013 Peterson ..... D24/128  
 8,409,151 B2 4/2013 Hawkins et al.  
 8,414,563 B2 4/2013 Kamen et al.  
 8,449,504 B2 5/2013 Carter et al.  
 D684,685 S 6/2013 Schneider et al.  
 D684,686 S 6/2013 Cronenberg  
 D685,083 S 6/2013 Schneider et al.  
 D685,084 S 6/2013 Guarraia et al.  
 8,469,920 B2 6/2013 Mernoe et al.  
 D687,140 S 7/2013 Guarraia et al.  
 D687,141 S 7/2013 Schneider et al.  
 8,491,529 B2 7/2013 Yodfat et al.

D687,536 S 8/2013 Guarraia et al.  
 D688,784 S 8/2013 Schneider et al.  
 8,500,692 B2 8/2013 Yodfat et al.  
 8,512,287 B2 8/2013 Cindrigh et al.  
 8,613,719 B2 12/2013 Karratt et al.  
 8,753,310 B2 6/2014 Sullivan et al.  
 8,753,315 B2 6/2014 Alferness et al.  
 8,758,308 B2 6/2014 Alferness et al.  
 8,795,230 B2 8/2014 Schoonmaker et al.  
 8,795,234 B2 8/2014 Kadamus et al.  
 8,808,269 B2 8/2014 Bazargan et al.  
 D732,663 S\* 6/2015 Miner ..... D24/128  
 D744,095 S\* 11/2015 Winter ..... D24/129  
 D747,456 S 1/2016 Sonderegger et al.  
 D747,457 S 1/2016 Glace et al.  
 D747,458 S 1/2016 Sonderegger et al.  
 D747,459 S 1/2016 Sonderegger et al.  
 9,254,373 B2 2/2016 Hørdum  
 D754,842 S 4/2016 Sonderegger et al.  
 D754,843 S 4/2016 Sonderegger et al.  
 D756,504 S 5/2016 Sonderegger et al.  
 9,364,606 B2 6/2016 Cindrigh et al.  
 9,433,757 B2 9/2016 Constantineau et al.  
 9,480,792 B2 11/2016 Constantineau et al.  
 9,522,229 B2 12/2016 Sonderegger et al.  
 9,522,231 B2 12/2016 Schneider et al.  
 D775,967 S\* 1/2017 Lien ..... D24/133  
 D776,284 S\* 1/2017 Ratto ..... D24/186  
 2005/0238507 A1 10/2005 DiIanni et al.  
 2006/0183984 A1 8/2006 Dobbles et al.  
 2007/0262269 A1 11/2007 Carter et al.  
 2007/0287960 A1 12/2007 Adams et al.  
 2007/0299408 A1 12/2007 Alferness et al.  
 2008/0119790 A1 5/2008 Hawkins et al.  
 2008/0167641 A1 7/2008 Hansen et al.  
 2008/0249473 A1 10/2008 Rutti et al.  
 2009/0088692 A1 4/2009 Adams et al.  
 2009/0182277 A1 7/2009 Carter  
 2009/0240240 A1 9/2009 Hines et al.  
 2009/0247982 A1 10/2009 Krulevitch et al.  
 2009/0281497 A1 11/2009 Kamen et al.  
 2010/0049128 A1 2/2010 McKenzie et al.  
 2010/0167385 A1 7/2010 Celentano et al.  
 2010/0204657 A1 8/2010 Yodfat et al.  
 2010/0234805 A1 9/2010 Kaufmann et al.  
 2011/0098652 A1 4/2011 Hasted et al.  
 2011/0282293 A1 11/2011 Hørdum  
 2011/0306931 A1 12/2011 Kamen et al.  
 2011/0319862 A1 12/2011 Friedman et al.  
 2012/0053522 A1 3/2012 Yodfat et al.  
 2012/0150115 A1 6/2012 Kamen et al.  
 2012/0209241 A1 8/2012 Drew  
 2012/0215175 A1 8/2012 Alferness et al.  
 2013/0072872 A1 3/2013 Yodfat et al.  
 2013/0226092 A1 8/2013 Hawkins et al.  
 2014/0088504 A1 3/2014 King  
 2014/0148756 A1 5/2014 Yodfat et al.  
 2014/0236086 A1 8/2014 Levesque et al.  
 2014/0236087 A1 8/2014 Alderete, Jr. et al.  
 2015/0065959 A1 3/2015 Carter et al.  
 2015/0292779 A1 10/2015 Chen

FOREIGN PATENT DOCUMENTS

WO WO 2009013736 A1 1/2009  
 WO WO-2009045780 A2 4/2009  
 WO WO-2009117466 A1 9/2009  
 WO WO-2015199981 A1 12/2015

OTHER PUBLICATIONS

Human Factor Testing Provided Valuable Input into the Iterative Optimization of PAQ®, CeQur Corporation, Abstract from ATTD 2016, 9<sup>th</sup> International Conference on Advanced Technologies & Treatments for Diabetes, Milan, Italy—Feb. 3-6, 2016, 1 page.  
 Validation of Adhesive Tape Optimization of PAQ®, a Simple 3-Day Wearable Basal/Bolus Insulin Delivery Device, in Normal

(56)

**References Cited**

OTHER PUBLICATIONS

Volunteers, CeQur Corporation, Abstract from ATTD 2016, 9<sup>th</sup> International Conference on Advanced Technologies & Treatments for Diabetes, Milan, Italy—Feb. 3-6, 2016, 1 page.

PAQ®, a Simple 3-Day Wearable Basal/Bolus Insulin Delivery Device, Designed for Discreet Diabetes Management, CeQur Corporation, Abstract from ATTD 2016, 9<sup>th</sup> International Conference on Advanced Technologies & Treatments for Diabetes, Milan, Italy—Feb. 3-6, 2016, 1 page.

\* cited by examiner

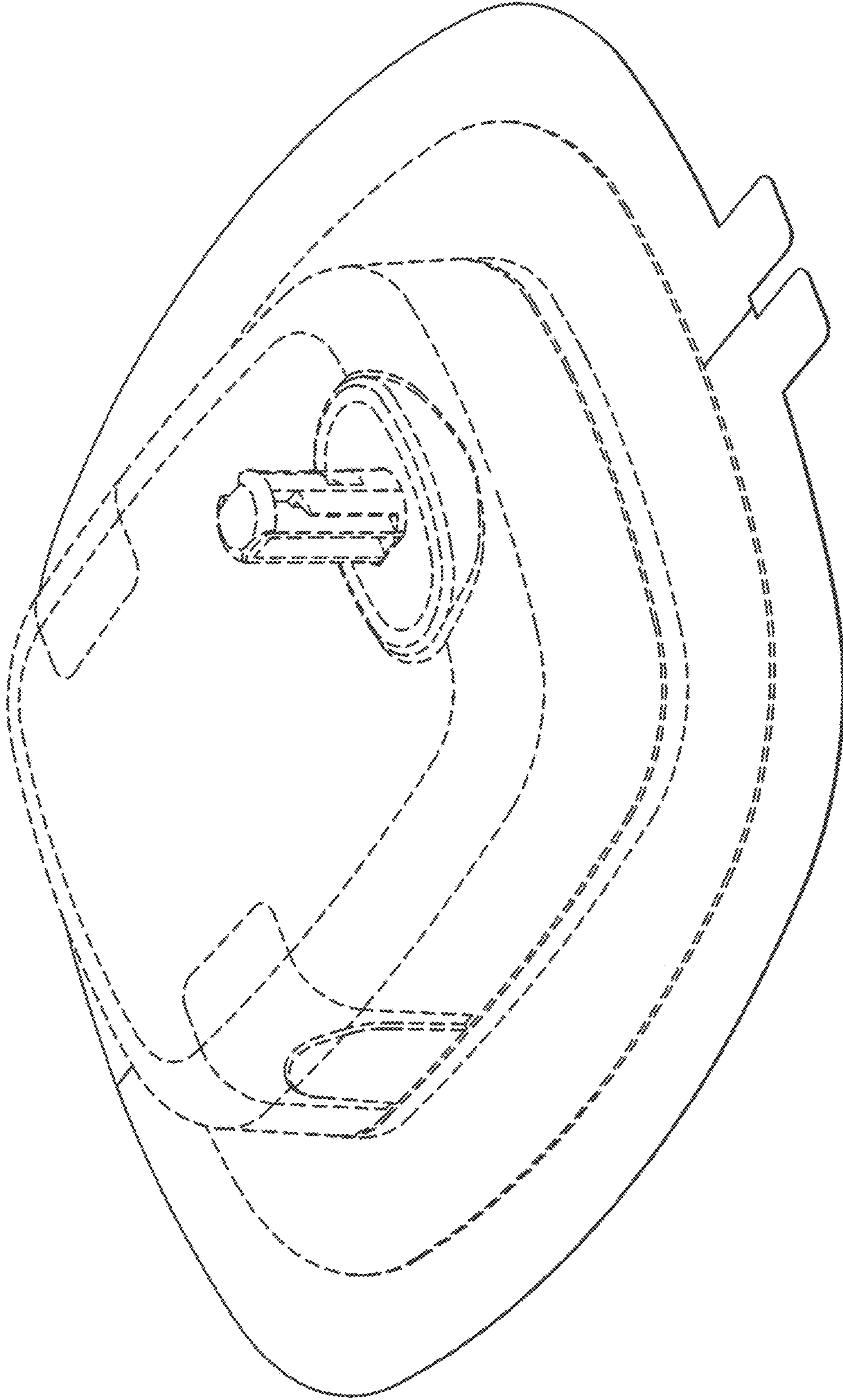


FIG. 1

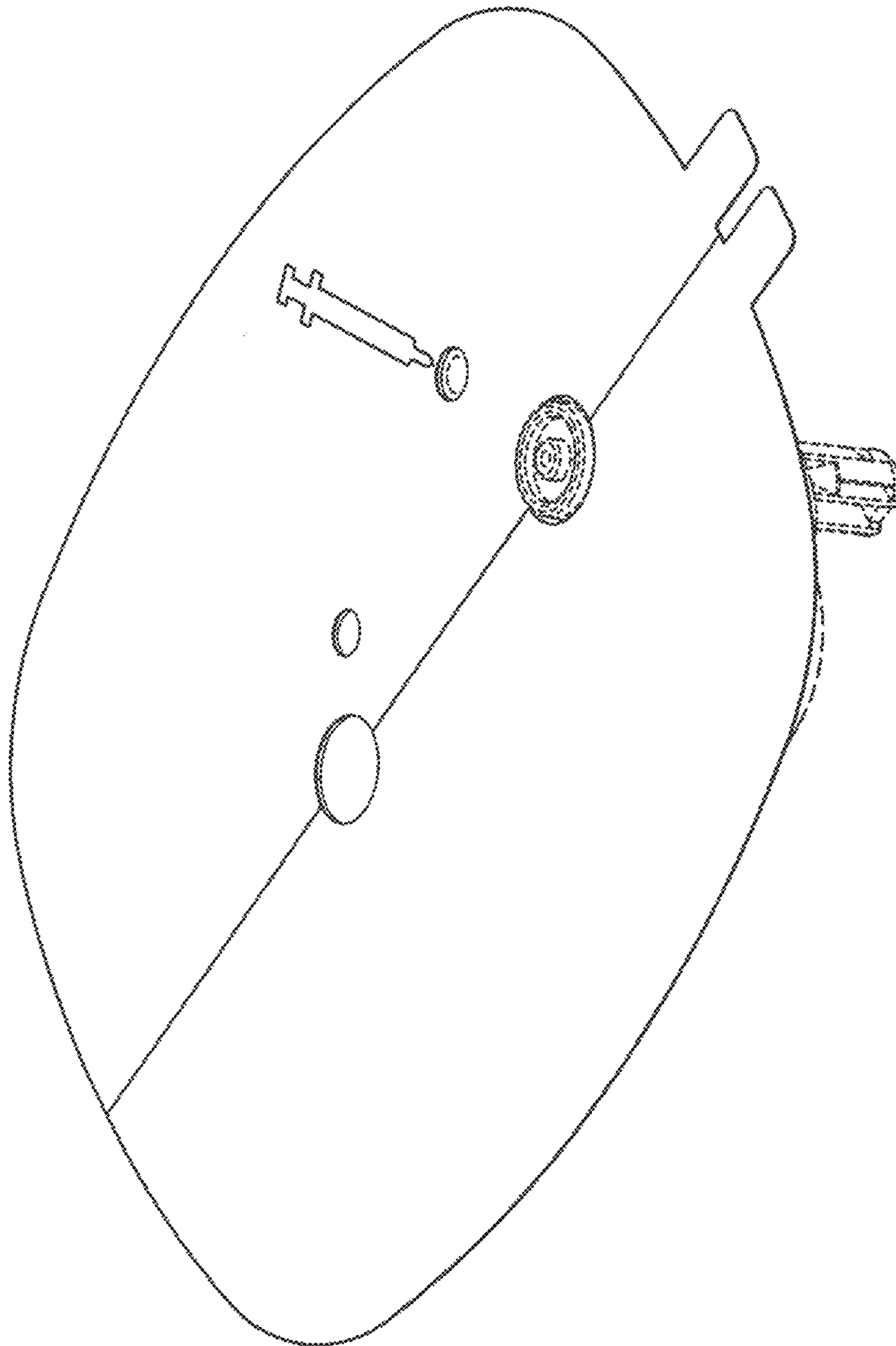


FIG. 2

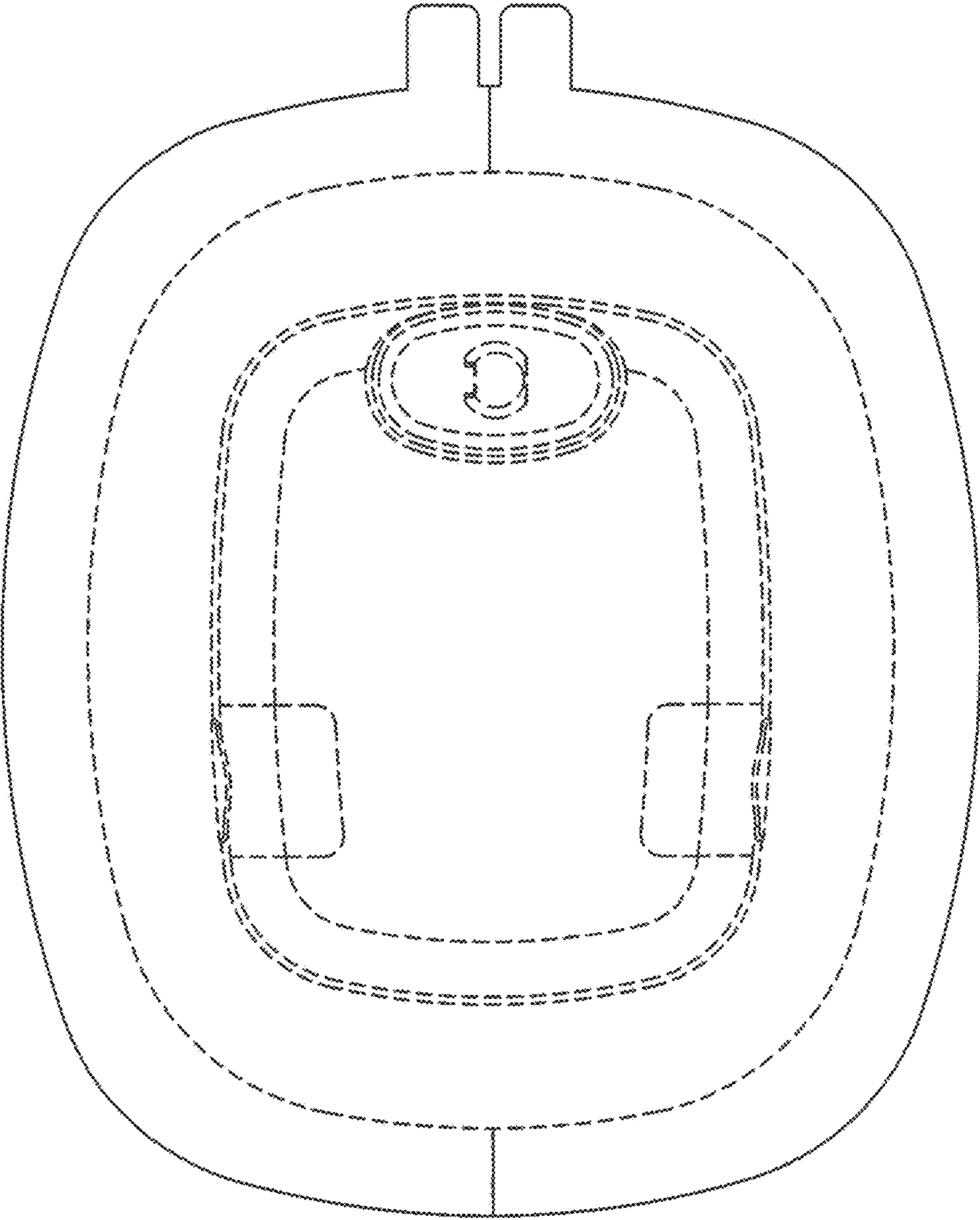


FIG.3

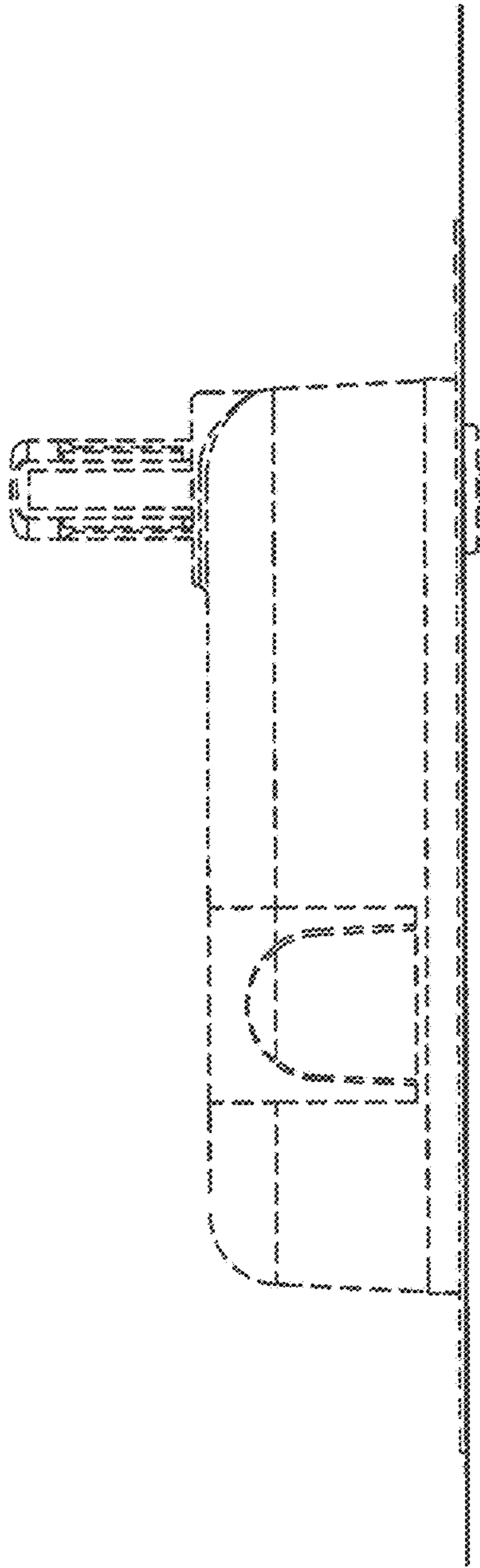


FIG. 4

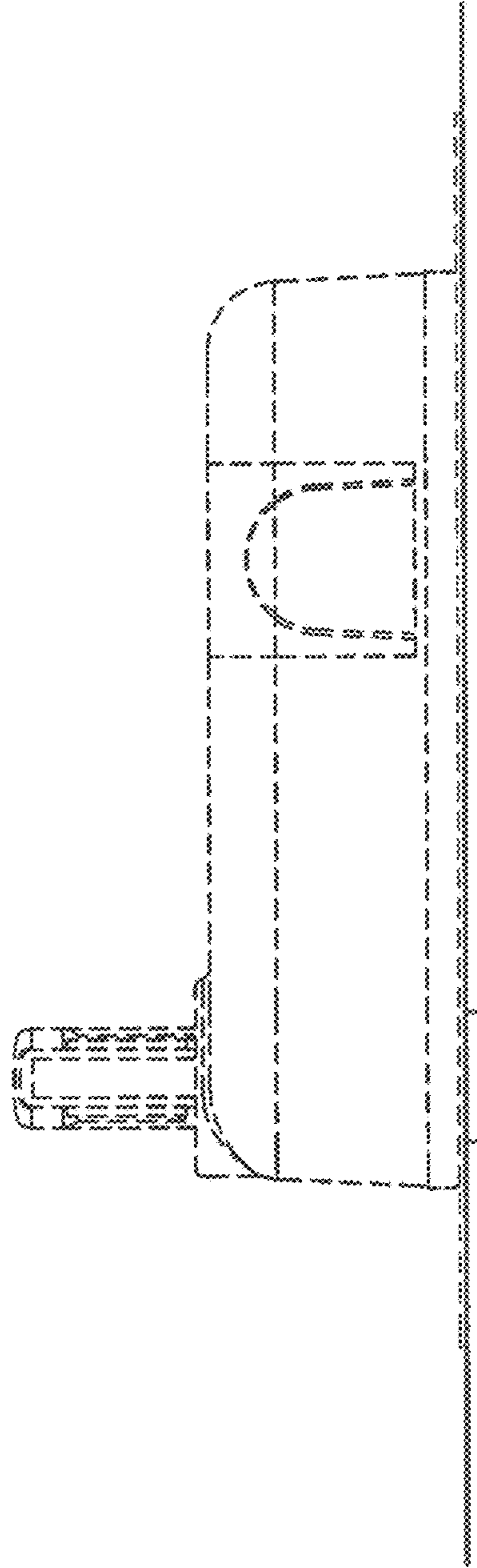


FIG. 5

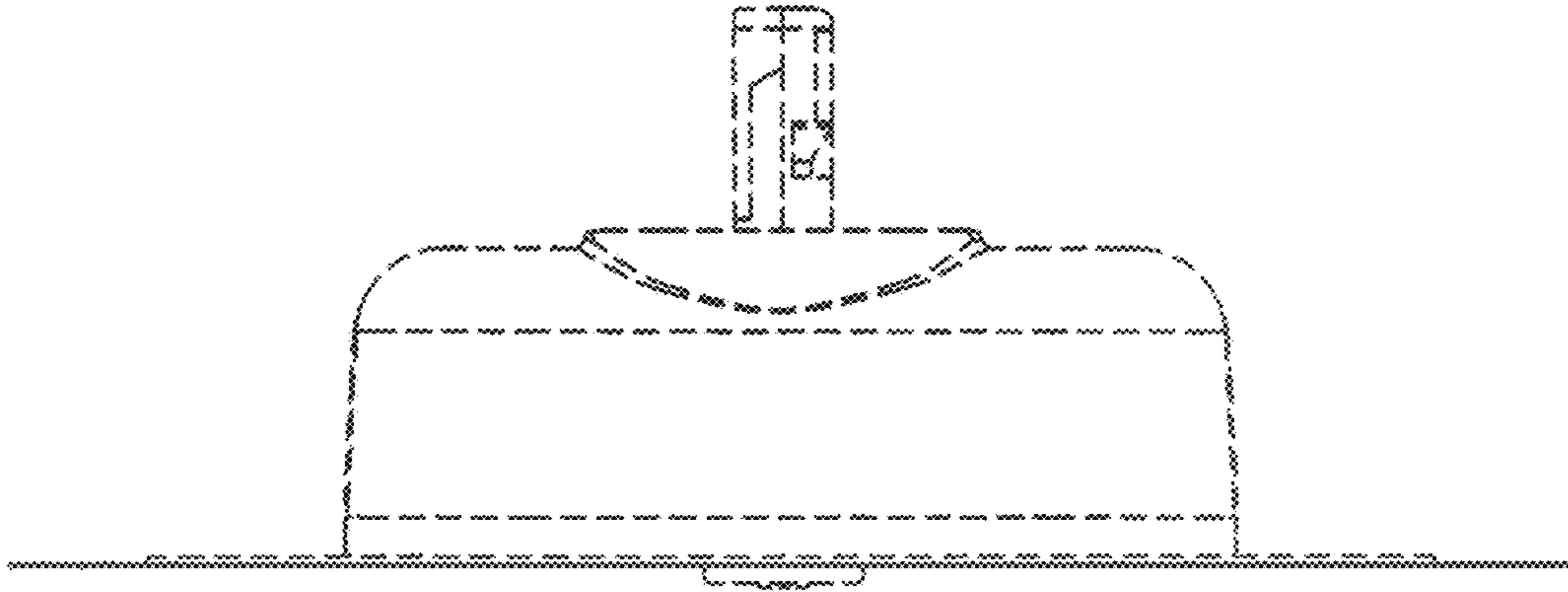


FIG. 6

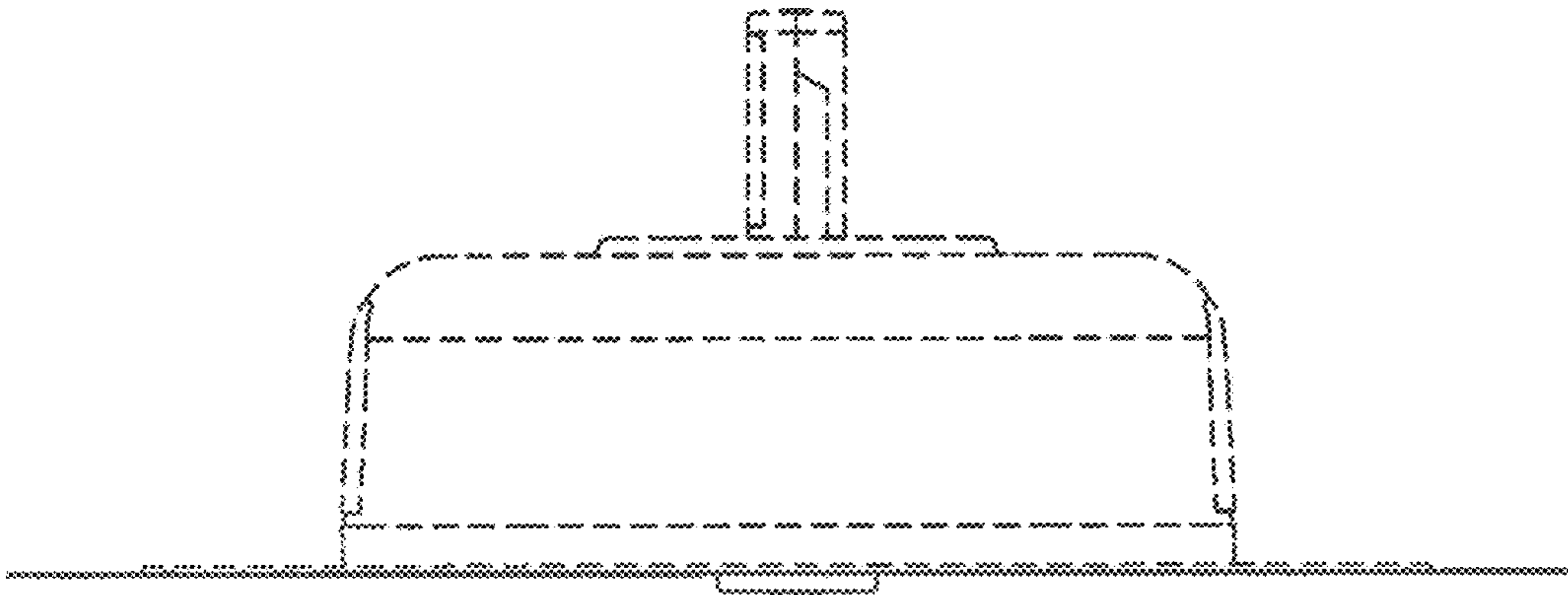


FIG. 7



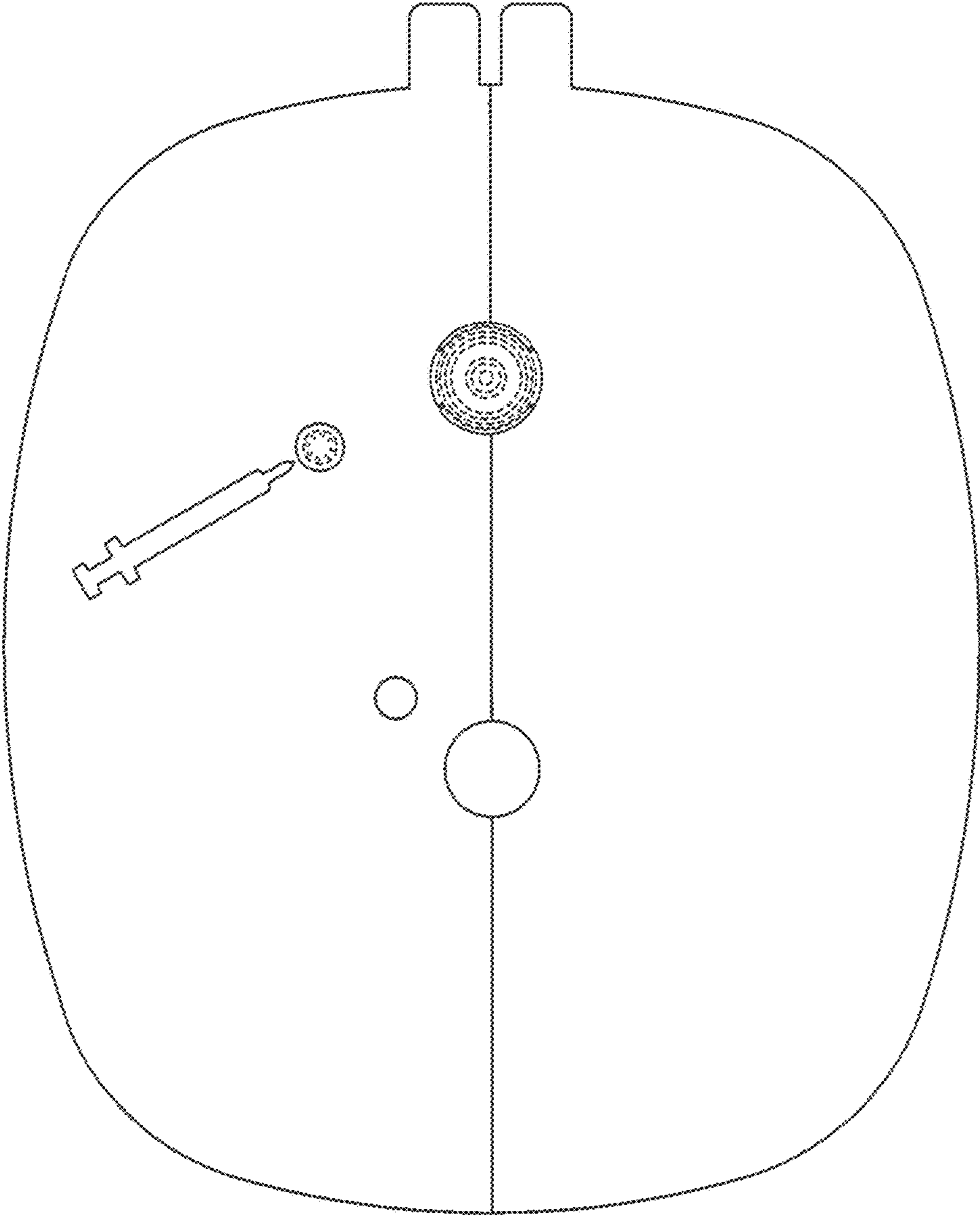


FIG.8