



US00D830537S

(12) **United States Design Patent** (10) **Patent No.:** **US D830,537 S**
Hwang et al. (45) **Date of Patent:** **** Oct. 9, 2018**

(54) **WEARABLE DRUG DELIVERY DEVICE WITH ADHESIVE AND LINER**

FOREIGN PATENT DOCUMENTS

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CN 101801438 B 8/2013
CN 103394143 A 11/2013

(Continued)

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OTHER PUBLICATIONS

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

(Continued)

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

(57) **CLAIM**

(21) Appl. No.: **29/552,306**

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

(22) Filed: **Jan. 21, 2016**

(51) **LOC (11) Cl.** **24-02**

DESCRIPTION

(52) **U.S. Cl.**
USPC **D24/112**

(58) **Field of Classification Search**
USPC D24/112–114, 133, 186, 104, 130, 127, D24/176, 108, 110, 220; 606/181, 185;
(Continued)

FIG. 1 is a top perspective view of a wearable drug delivery device with adhesive and liner showing our new design; FIG. 2 is a bottom perspective view thereof; FIG. 3 is a top plan view thereof; FIG. 4 is a left side elevational view thereof; FIG. 5 is a right side elevational view thereof; FIG. 6 is a front elevational view thereof; FIG. 7 is a rear elevational view thereof; and, FIG. 8 is a bottom plan view thereof.

The broken lines show portions of the design that form no part of the claimed design.

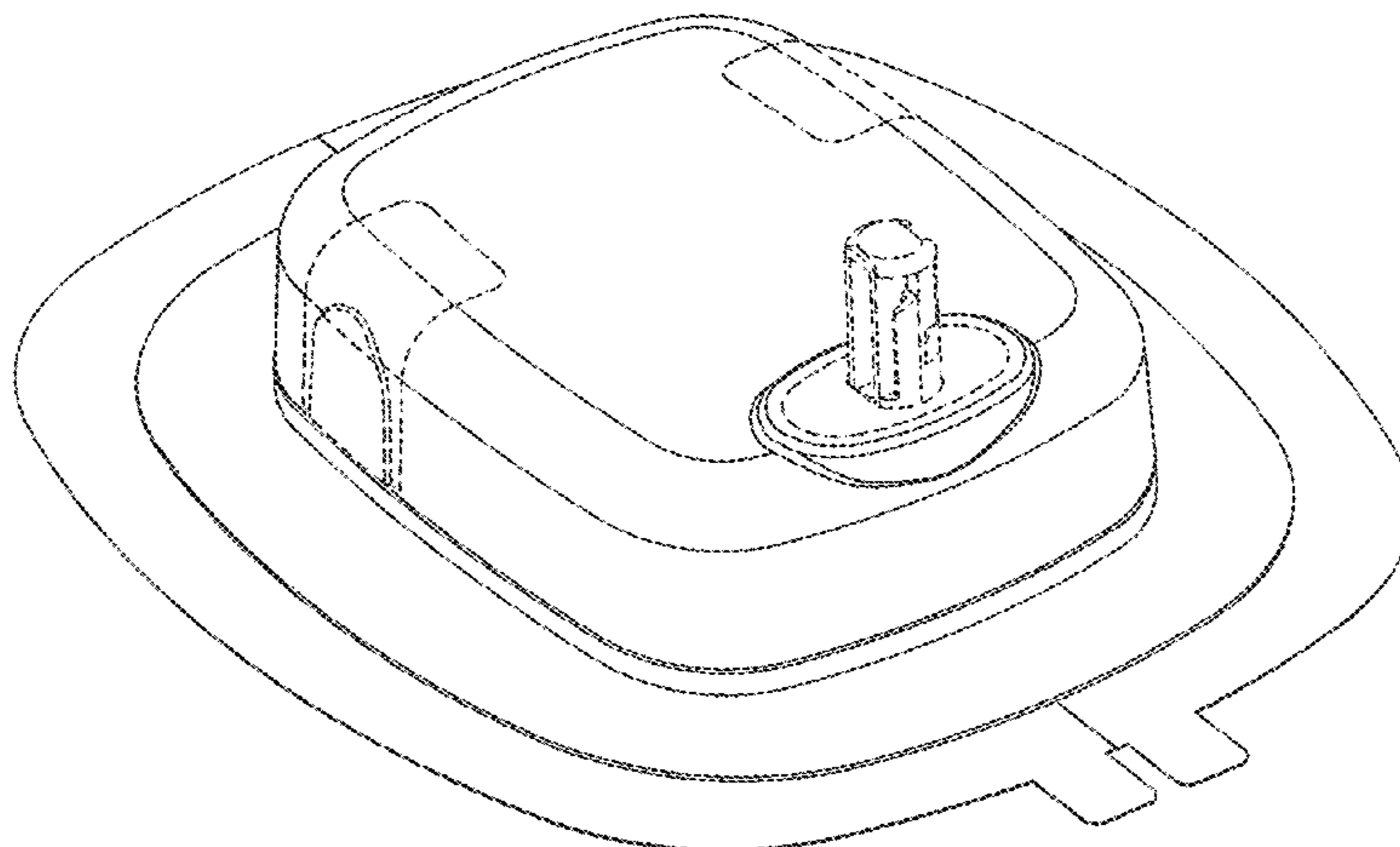
(56) **References Cited**

U.S. PATENT DOCUMENTS

D370,011 S * 5/1996 Lindeman D14/137
5,665,065 A 9/1997 Colman et al.

(Continued)

1 Claim, 6 Drawing Sheets



(58) **Field of Classification Search**
 USPC .. 604/232, 187, 158, 164.08, 192, 263, 163,
 604/181, 184, 198, 227, 168.01, 275,
 604/890.1; D9/414, 424, 417, 426
 CPC A61M 2005/14252; A61M 2005/1581;
 A61M 5/14248; A61M 2005/14513;
 A61M 2005/206
 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.
 D445,496 S * 7/2001 Anderson D24/110
 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
 D495,303 S * 8/2004 Coullahan D13/168
 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.
 D544,092 S * 6/2007 Lewis D24/108
 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.
 7,678,079 B2 3/2010 Shermer et al.
 7,708,717 B2 5/2010 Estes et al.
 D622,685 S * 8/2010 Garra D14/137
 7,771,391 B2 8/2010 Carter
 7,802,923 B2 9/2010 Arnold et al.
 7,857,131 B2 12/2010 Vedrine
 7,922,708 B2 4/2011 Estes et al.
 7,927,306 B2 4/2011 Cross et al.
 7,931,621 B2 4/2011 Cross et al.
 7,938,801 B2 5/2011 Hawkins et al.
 7,976,493 B2 * 7/2011 Carter A61M 5/14244
 604/67
 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
 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 Merno 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 Cindrich 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.
 D714,266 S * 9/2014 Okamura D14/191
 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 Cindrich et al.
 9,433,757 B2 9/2016 Constantineau et al.
 D769,438 S * 10/2016 Crosby D24/110
 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.
 2005/0238507 A1 10/2005 DiIanni et al.
 2006/0183984 A1 8/2006 Dobbles et al.
 2007/0282269 A1 12/2007 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.
 2009/0254041 A1 * 10/2009 Krag A61M 5/14224
 604/180
 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
 2011/0306929 A1 * 12/2011 Levesque A61M 5/322
 604/150
 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.
 2014/0276576 A1 * 9/2014 Cole A61M 5/158
 604/506
 2015/0065959 A1 3/2015 Carter et al.
 2015/0250943 A1 * 9/2015 Momose A61M 5/14276
 604/151
 2015/0292779 A1 10/2015 Chen
 2015/0306307 A1 * 10/2015 Cole A61M 5/14248
 604/508

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, 9th 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, 9th 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, 9th International Conference on Advanced Technologies & Treatments for Diabetes, Milan, Italy—Feb. 3-6, 2016, 1 page.

* cited by examiner

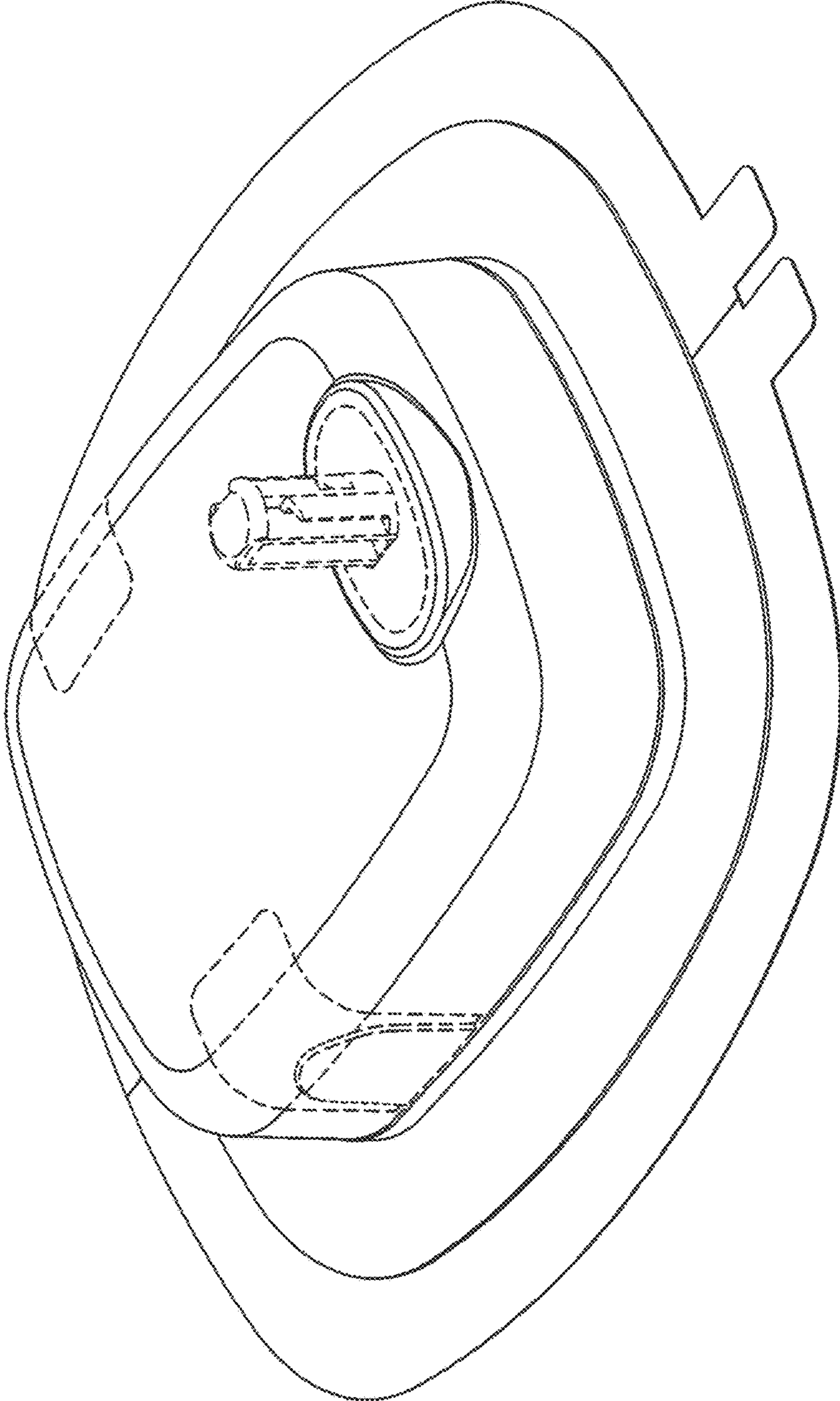


FIG.1

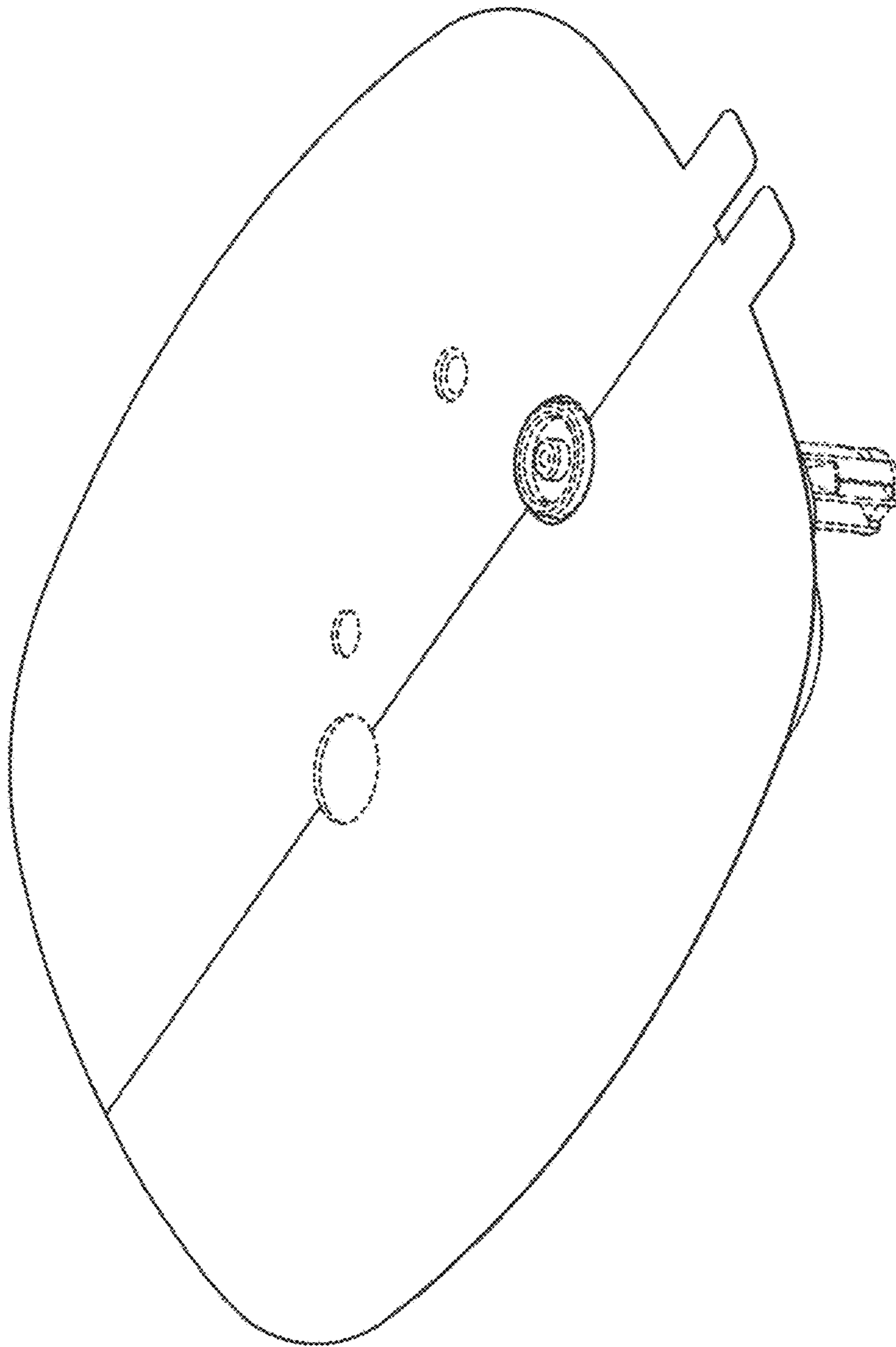


FIG.2

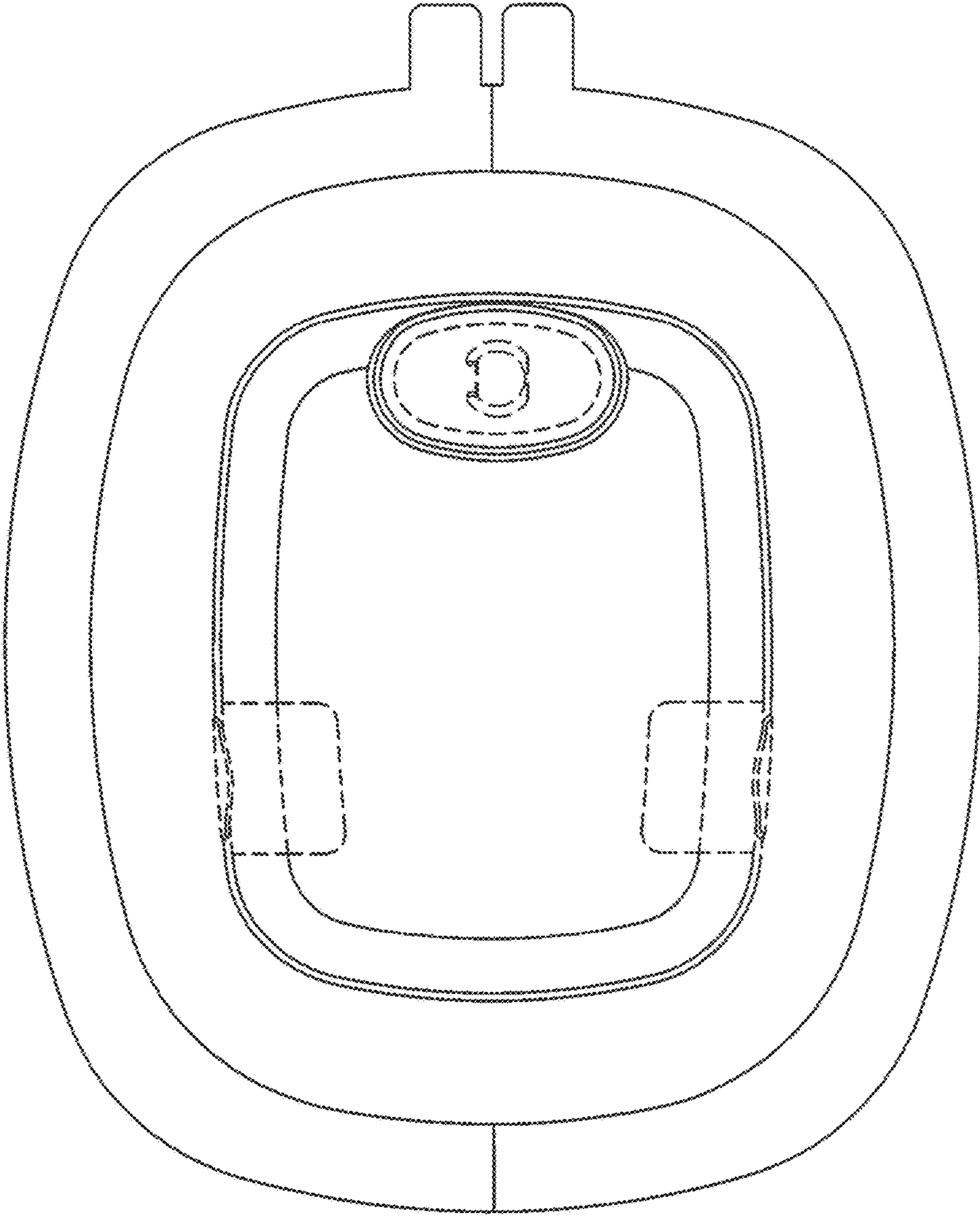


FIG.3

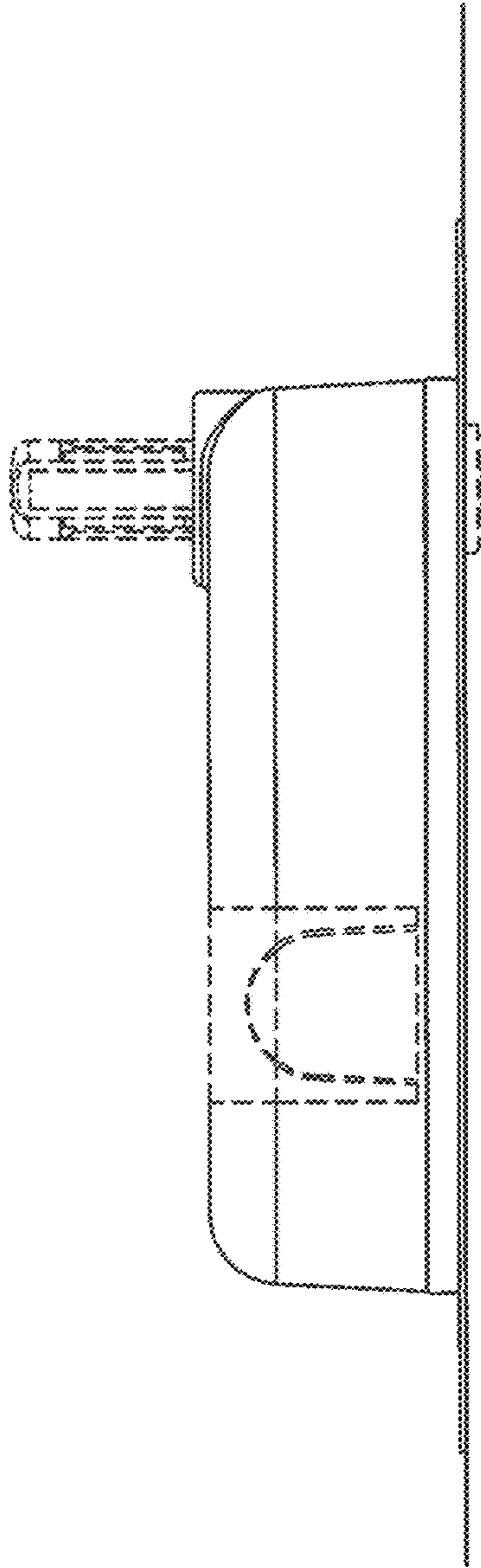


FIG. 4

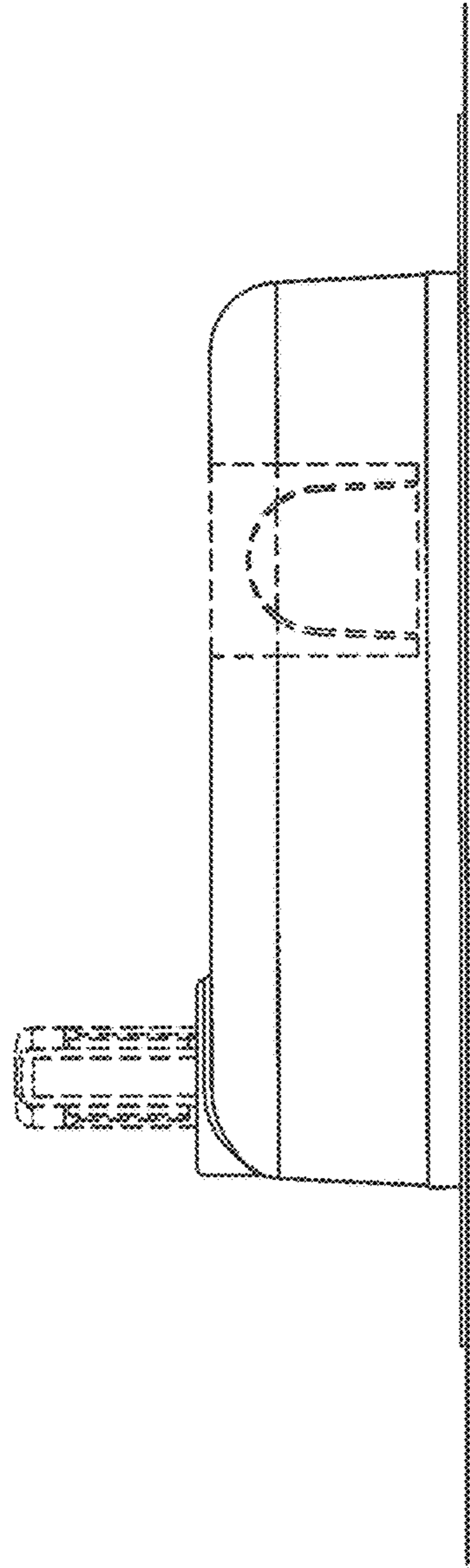


FIG. 5

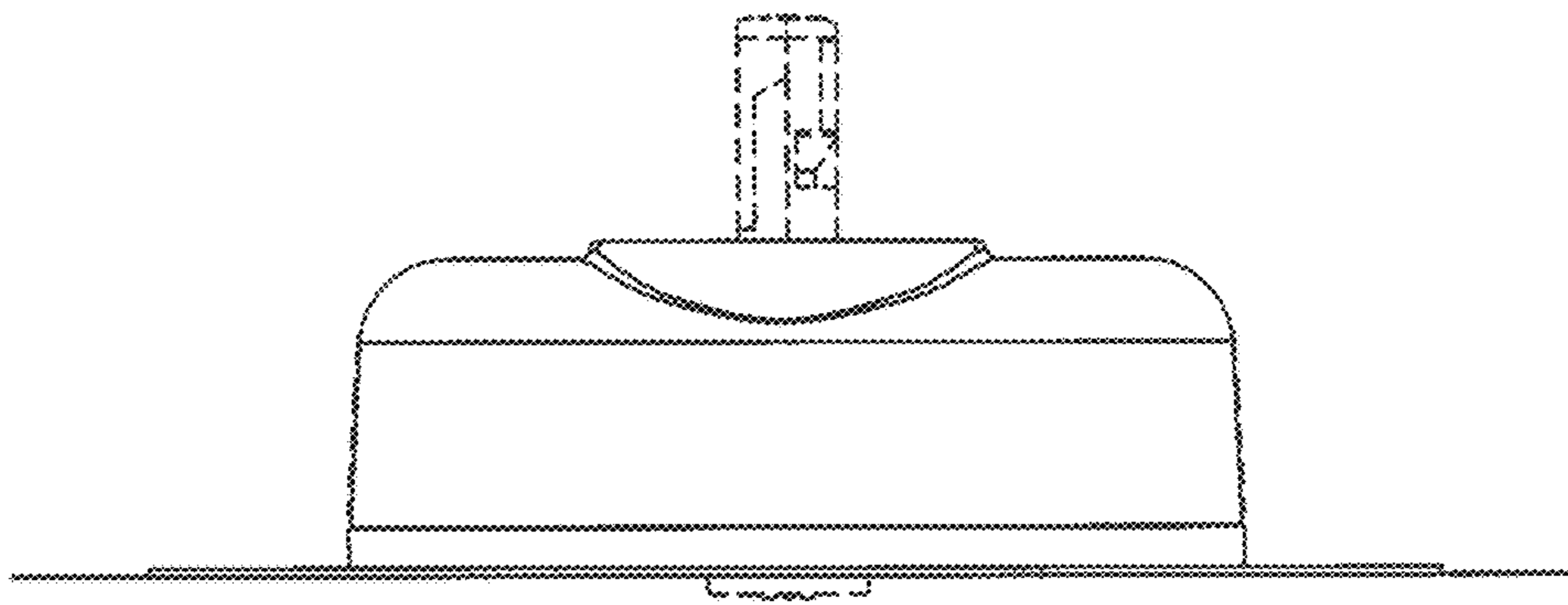


FIG. 6

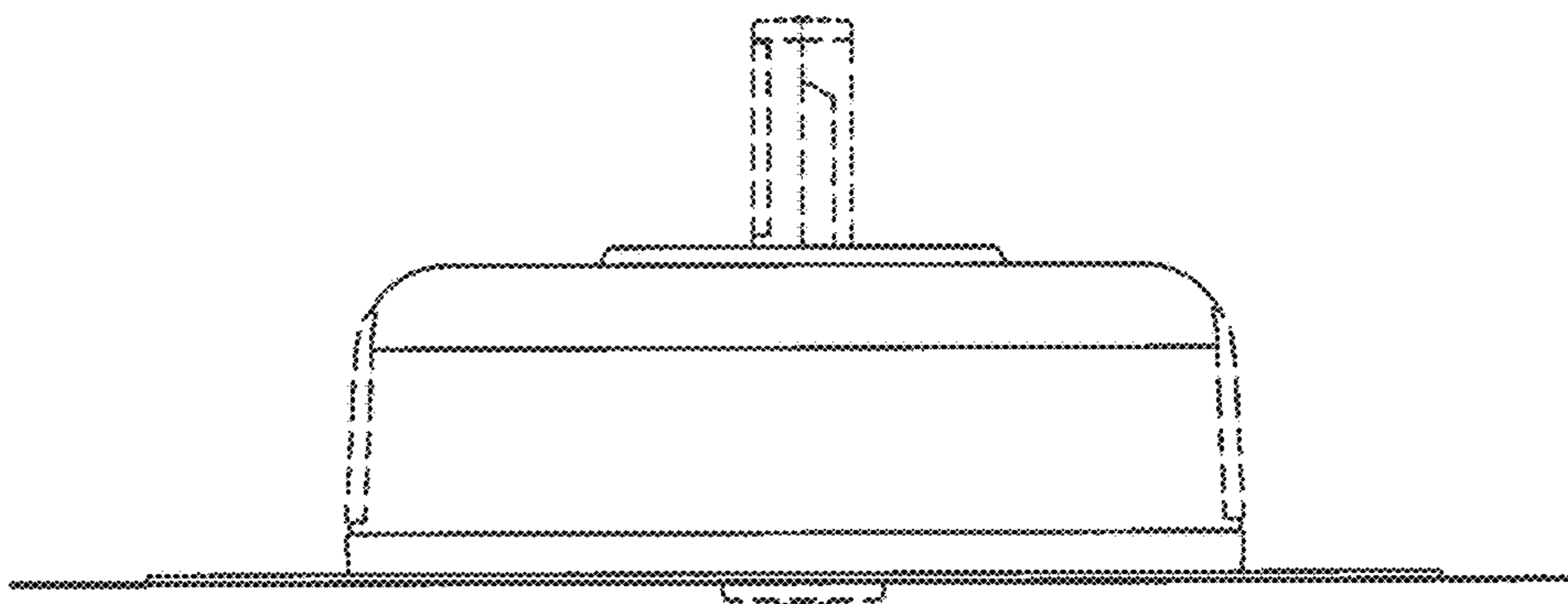


FIG. 7

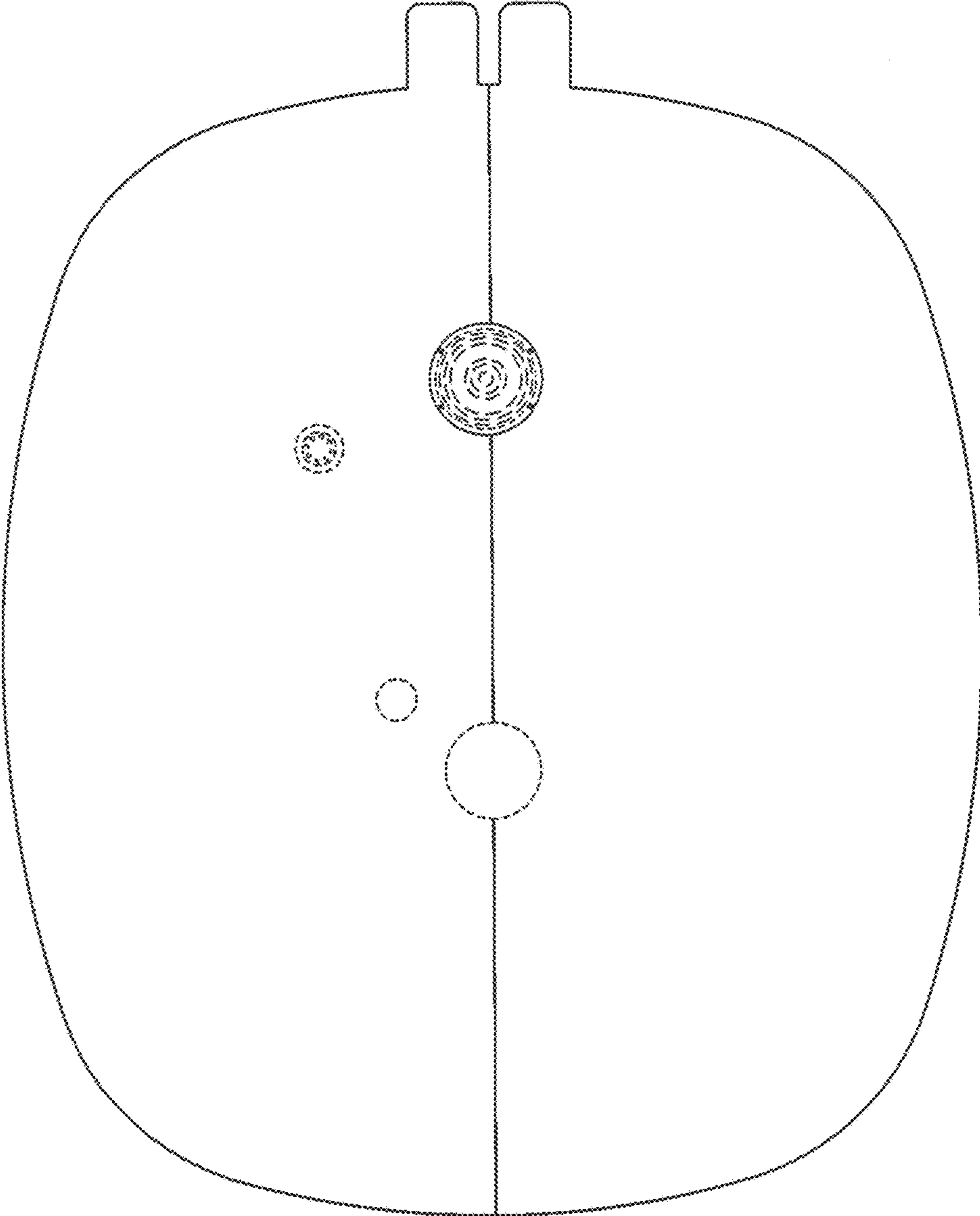


FIG.8