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(12) **United States Design Patent** (10) **Patent No.:** **US D918,388 S**
Wiesman (45) **Date of Patent:** **** May 4, 2021**

(54) **SOLUTION DIFFUSING HEAD**

FOREIGN PATENT DOCUMENTS

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CN 208711964 * 4/2019
DE 3128428 A1 * 4/1983 B05B 13/0627
(Continued)

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(73) Assignee: **Wiesman Holdings, LLC**, York, PA (US)

OTHER PUBLICATIONS

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

Society for Maternal Fetal Medicine publications committee, with assistance of Berghella V. Progesterone and preterm birth prevention: translating clinical trials data into clinical practice. Am J Obstet Gynecol 2012; 206: 376-86.
(Continued)

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(52) **U.S. Cl.**
USPC **D24/141**

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(58) **Field of Classification Search**
USPC D23/208, 355-369; D24/187, 141
CPC A61L 9/02; A61L 9/03; A61L 9/12; A61L 9/035; A61L 9/125; B05B 3/0409; B05B 3/0495

(57) **CLAIM**

See application file for complete search history.

The ornamental design for a solution diffusing head, as shown and described.

(56) **References Cited**

U.S. PATENT DOCUMENTS

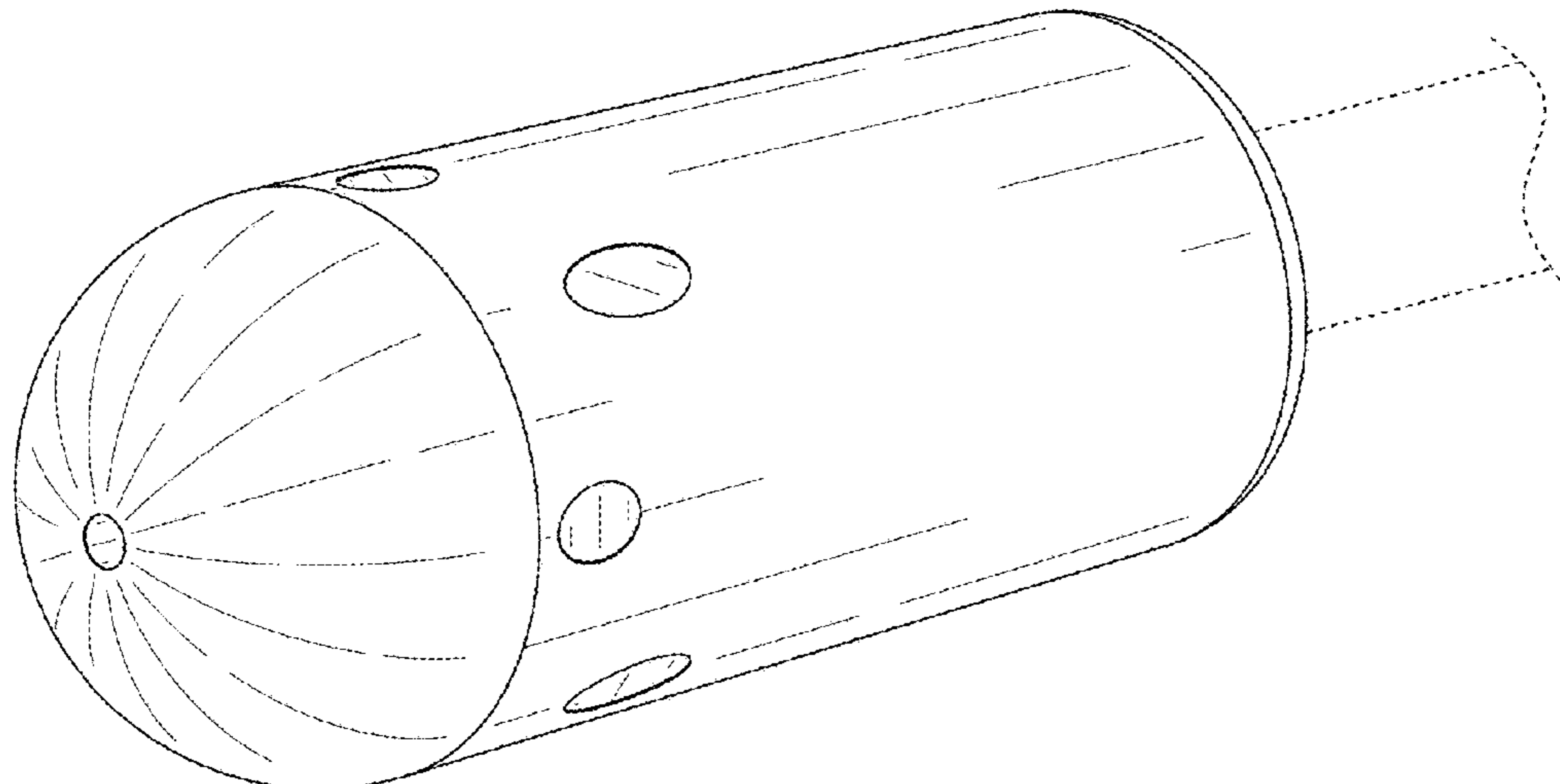
DESCRIPTION

D270,818 S * 10/1983 Simons D10/83
4,551,148 A 11/1985 Riley, Jr. et al.
D347,886 S * 6/1994 Bender D23/366
5,406,961 A * 4/1995 Artal
D393,311 S * 4/1998 Kirsner D24/141
5,891,086 A 4/1999 Weston
6,098,642 A * 8/2000 Crane B05B 3/0495
134/167 C
6,375,970 B1 4/2002 Bieniarz
6,419,646 B1 7/2002 Baxter-Jones
D463,751 S * 10/2002 Wilkinson D11/3
6,994,667 B2 2/2006 Singh
D571,465 S * 6/2008 Koros D24/133
7,577,476 B2 * 8/2009 Hochman A61B 5/0002
600/29
D616,992 S * 6/2010 Kitayama D24/186
D625,212 S * 10/2010 Abo D10/80

FIG. 1 is a top, front and right side perspective view of a solution diffusing head;
FIG. 2 is a front elevation view thereof;
FIG. 3 is a left side elevation view thereof;
FIG. 4 is a right side elevation view thereof;
FIG. 5 is a top plan view thereof;
FIG. 6 is a bottom plan view thereof;
FIG. 7 is a rear elevation view thereof; and,
FIG. 8 is a top, back and left side perspective view of the solution diffusing head.
The broken lines shown in the Figures are included to show unclaimed subject matter only and form no part of the claimed design.

(Continued)

1 Claim, 4 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

7,884,093	B2	2/2011	Creasy et al.	
8,317,729	B2	11/2012	O'Brien et al.	
8,408,212	B2	4/2013	O'Brien et al.	
8,517,960	B2	8/2013	Bauer et al.	
8,568,292	B2	10/2013	Shalon et al.	
8,727,986	B2	5/2014	Hall et al.	
D778,667	S *	2/2017	Casper	D7/397
D798,659	S *	10/2017	Casper	D7/400
D838,542	S *	1/2019	Casper	D7/400
D838,543	S *	1/2019	Casper	D7/400
D838,544	S *	1/2019	Casper	D7/400
D845,703	S *	4/2019	Casper	D7/400
2002/0052404	A1	5/2002	Hunter et al.	
2003/0181897	A1	9/2003	Thomas et al.	
2004/0097957	A1	5/2004	Jaker et al.	
2004/0215181	A1	10/2004	Christopherson et al.	
2005/0095245	A1	5/2005	Riley et al.	
2006/0106361	A1 *	5/2006	Muni	A61B 5/411 604/500
2007/0142792	A1	6/2007	Terrill	
2007/0172507	A1	7/2007	Zupkas et al.	
2007/0172508	A1	7/2007	Zupkas et al.	
2008/0188829	A1	8/2008	Creasy	
2009/0076494	A1	3/2009	Azure	
2010/0003297	A1	1/2010	Tobias et al.	
2010/0021519	A1	1/2010	Shenoy	
2010/0284725	A1 *	11/2010	Zhang	A45D 34/042 401/171
2011/0060349	A1	3/2011	Cheng et al.	
2012/0100191	A1 *	4/2012	Barak	A61K 9/0031 424/400
2012/0206993	A1 *	8/2012	Casper	B01F 3/04503 366/163.2
2012/0238894	A1	9/2012	Principe et al.	
2013/0239974	A1	9/2013	O'Brien et al.	
2014/0073879	A1	3/2014	Cantor et al.	
2018/0361130	A1 *	12/2018	Wiesman	A61M 31/005

FOREIGN PATENT DOCUMENTS

DE	102017125733	A1 *	5/2019
WO	0101899	A1	1/2001
WO	2004098389	A2	11/2004
WO	2007007301	A2	1/2007
WO	2007061896	A1	5/2007
WO	2008101862	A1	8/2008
WO	2010099211	A2	9/2010
WO	2013138263	A1	9/2013

OTHER PUBLICATIONS

Committee on Practice Bulletins—Obstetrics. Prediction and prevention of preterm birth. *Obstet Gynecol* 2012; 120:964-73.

Hassan SS, Romero R, Vidyadhari D, Fusey S, Baxter J, Khandelwal M, et al for the Pregnant Trial. Vaginal progesterone reduces the rate of preterm birth in women with a sonographically short cervix: a multicenter, randomized, double-blind, placebo-controlled trial. *Ultrasound Obstet Gynecol* 2011; 38: 18-31.

O'Brien JM, Houseman BA, Allen AA, Barton Jr. Methylcellulose gel is a superior contrast agent for ultrasound examination of the cervix in obstetrics patients. *Ultrasound Obstet Gynecol* 2003; 21:149-51.

Hamilton, BE, Martin JA, Osterman MJK, Curtin SC, Brady E. Division of Vital Statistics. Births: Preliminary Data for 2013. *National Vital Statistics Reports*, vol. 63, No. 2, May 29, 2014.

Behrman RE, Stith Butler A. Committee on understanding premature birth and assuring healthy outcomes: causes, consequences, and prevention. Washington, DC: National Academies Press, 2007.

Cahill AG, Odibo AO, Caughey AB, Stamilio D, Hassan S, Macones G, et al. Universal cervical length screening and treatment with vaginal progesterone to prevent preterm birth: a decision and economic analysis. *Am J Obstet Gynecol*; 2010;202:548.e1-8.

Werner EF, Hans CS, Pettker CM, Buhimisch CS, Copel J, Funai EF, et al. Universal cervical-length screening to prevent preterm birth: a cost-effectiveness analysis. *Ultrasound Obstet Gynecol* 2011; 38:32-7.

O'Brien JM, DeFranco EA, Adair CD, Lewis DF, Hall DR, How H, et al for the Progesterone Vaginal Gel Study Group. Effect of progesterone on cervical shortening in women at risk for preterm birth: secondary analysis from a randomized, double-blind, placebo-controlled trial. *Ultrasound Obstet Gynecol* 2009; 34: 653-59.

DeFranco EA, O'Brien JM, Adair CD, Lewis DF, Hall DR, Fusey S, et al. Vaginal progesterone is associated with a decreased risk of early preterm birth and improved neonatal outcome in women with a short cervix. *Ultrasound Obstet Gynecol* 2007; 30:697-705.

Romero R, Nicolaides KH, Conde-Agudelo A, Tabor A, O'Brien JM, Cetingoz E, et al. Vaginal progesterone in women with an asymptomatic sonographic short cervix in the midtrimester decreases preterm delivery and neonatal morbidity: a systematic review and meta-analysis of individual patient data. *Am J Obstet Gynecol* 2012; 206: 124.e1-19.

Berghella V, Rafael TJ, Szychowski JM, Rust OA, Owen J. Cerclage for short cervix on ultrasonography in women with singleton gestations and previous preterm birth: a meta-analysis. *Obstet Gynecol*. 2011; 117:663-71.

* cited by examiner

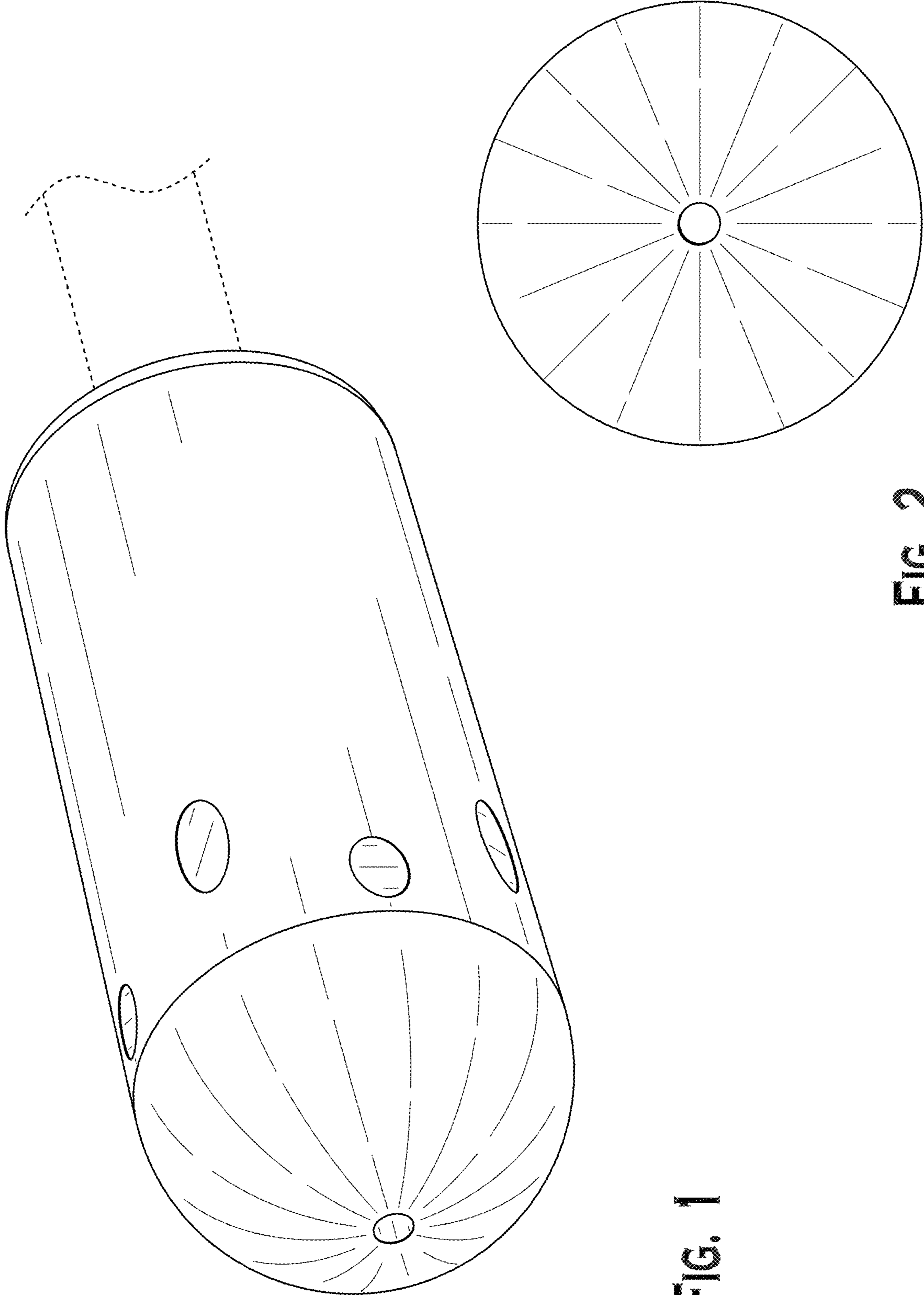


FIG. 1

FIG. 2

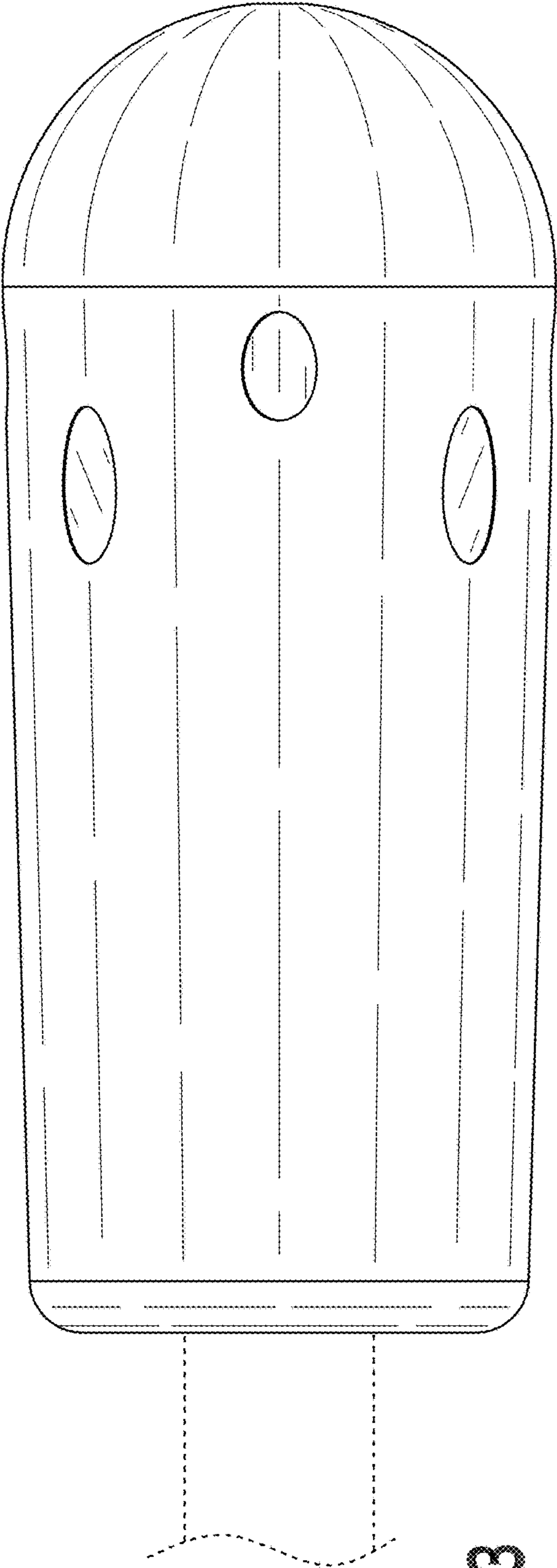


FIG. 3

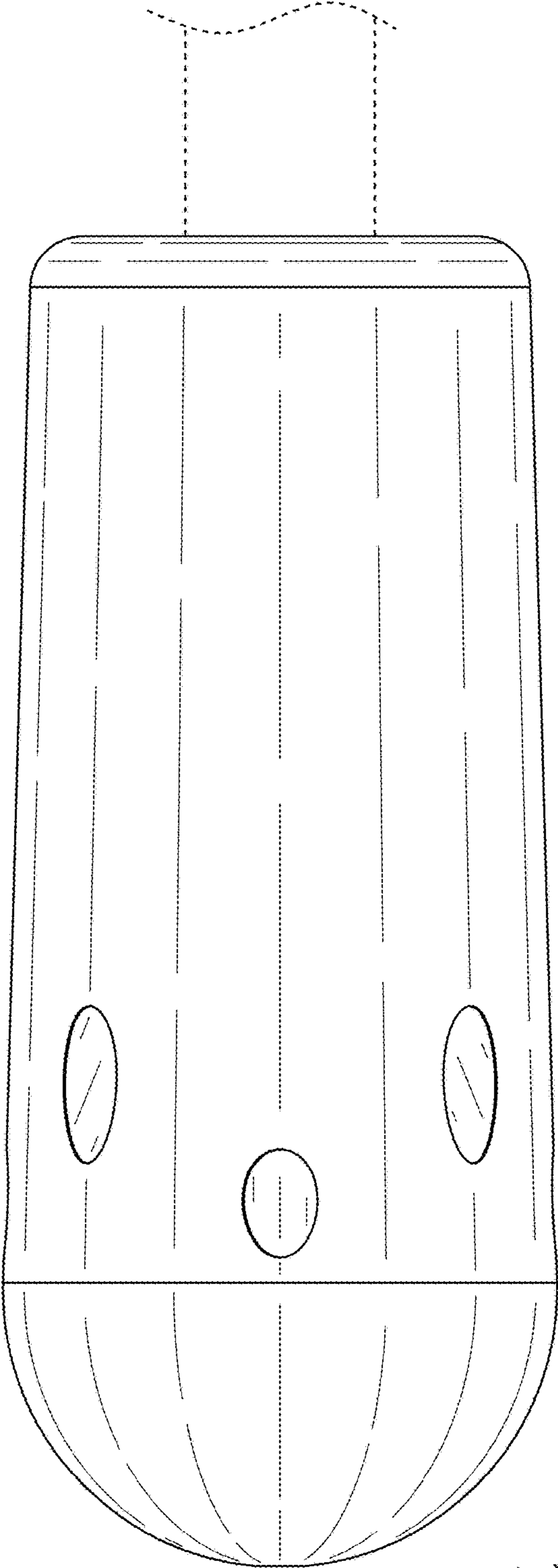


FIG. 4

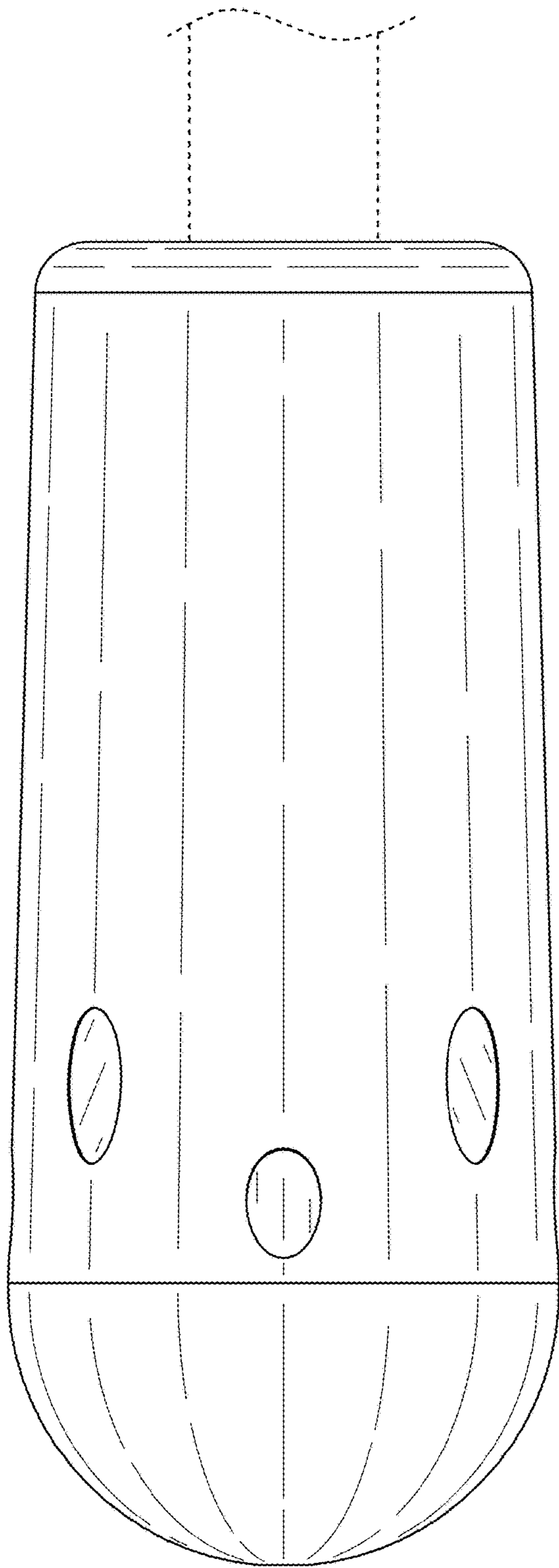


FIG. 5

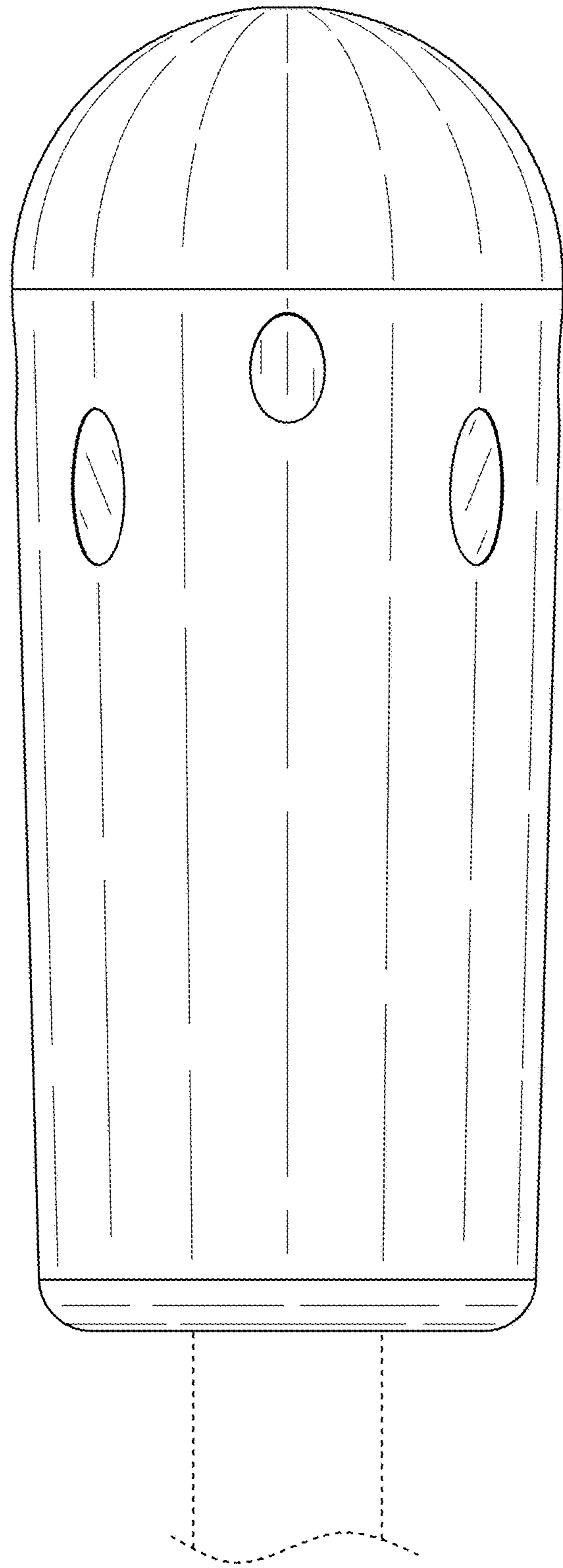


FIG. 6

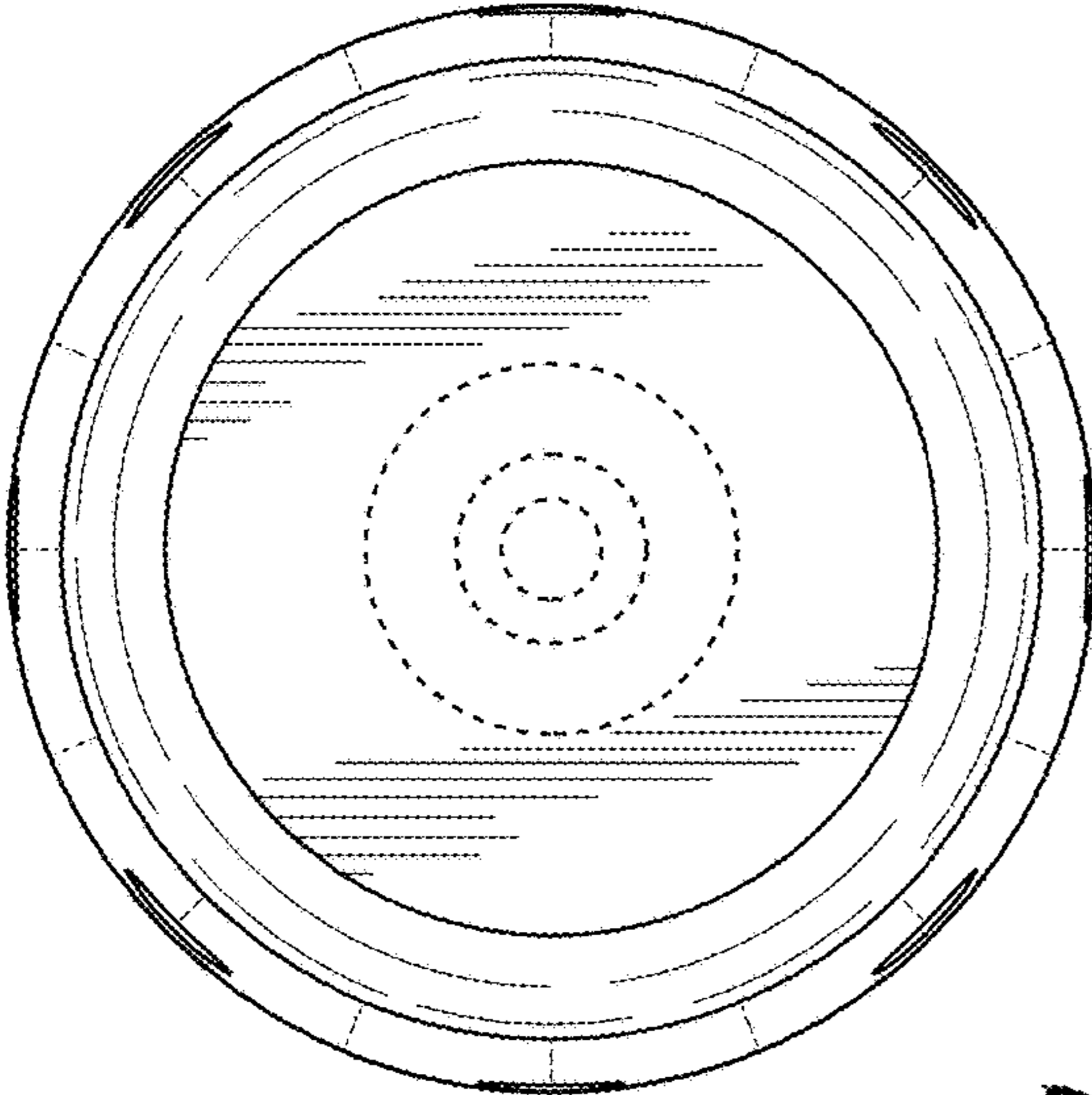


FIG. 7

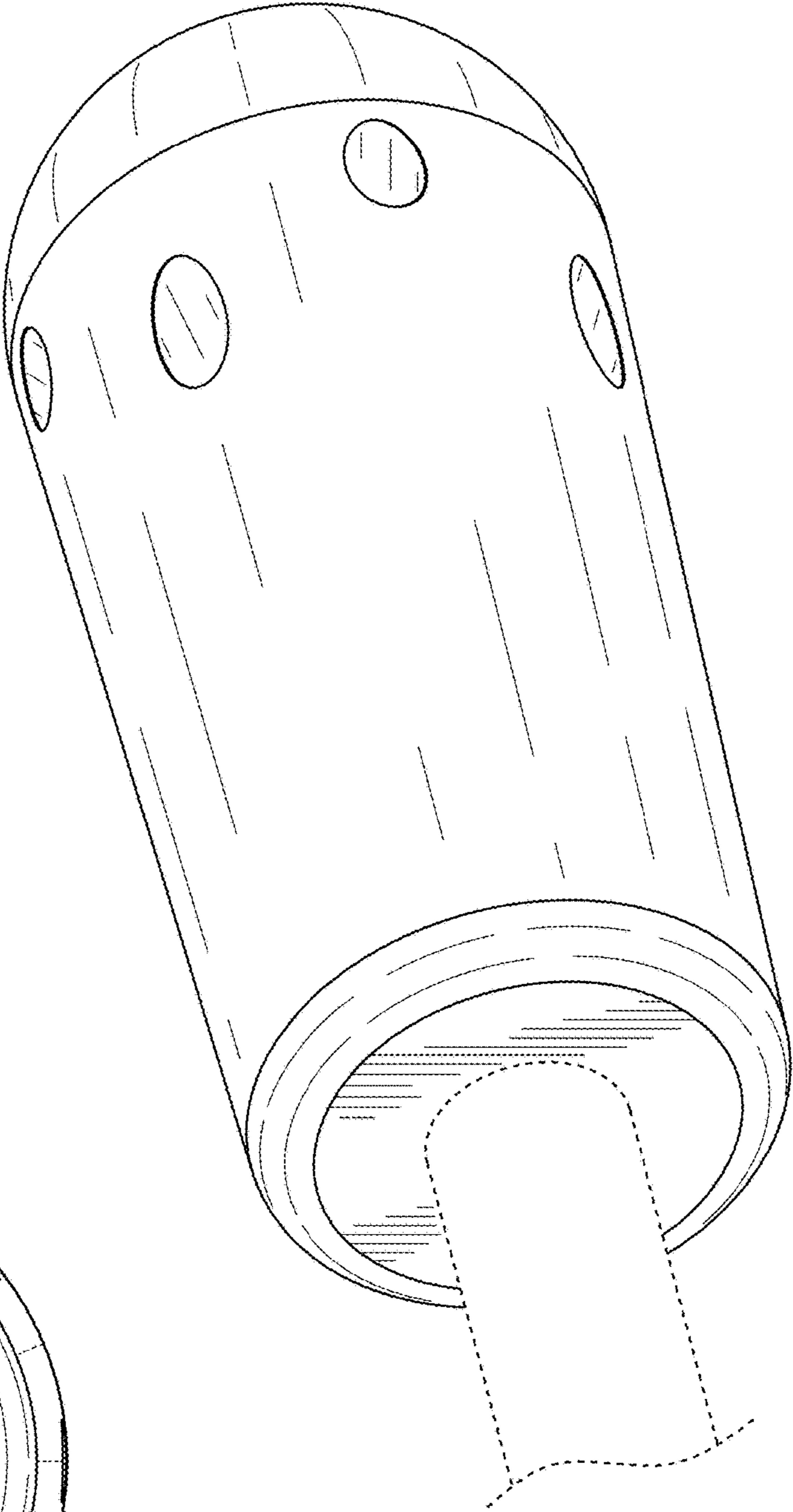


FIG. 8