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

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(54) **ELECTRONIC STETHOSCOPE DEVICE**
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(**) Term: **15 Years**

D207,616 S * 5/1967 King D24/134
4,254,302 A * 3/1981 Walshe A61B 7/04
381/67
4,783,813 A * 11/1988 Kempka A61B 7/04
381/67

(Continued)

FOREIGN PATENT DOCUMENTS

JP D1575867 * 5/2017
WO WO-2015105641 A1 7/2015

(Continued)

OTHER PUBLICATIONS

Eko Core Attachment, [site visited Jul. 1, 2021]. Available from Internet. URL: <https://vimeo.com/514402560> (Year: 2021).*

(Continued)

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(57) **CLAIM**

We claim the design for an electronic stethoscope device, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of an electronic stethoscope device showing our new design;
FIG. 2 is a front view thereof;
FIG. 3 is a back view thereof;
FIG. 4 is a left side view thereof;
FIG. 5 is a right view thereof;
FIG. 6 is a top side view thereof;
FIG. 7 is a bottom side view thereof; and,
FIG. 8 is a perspective view thereof, showing the environment, in which the design or article may be placed. The broken line showing of the environment is for illustrative purposes only and forms no part of the claimed design.

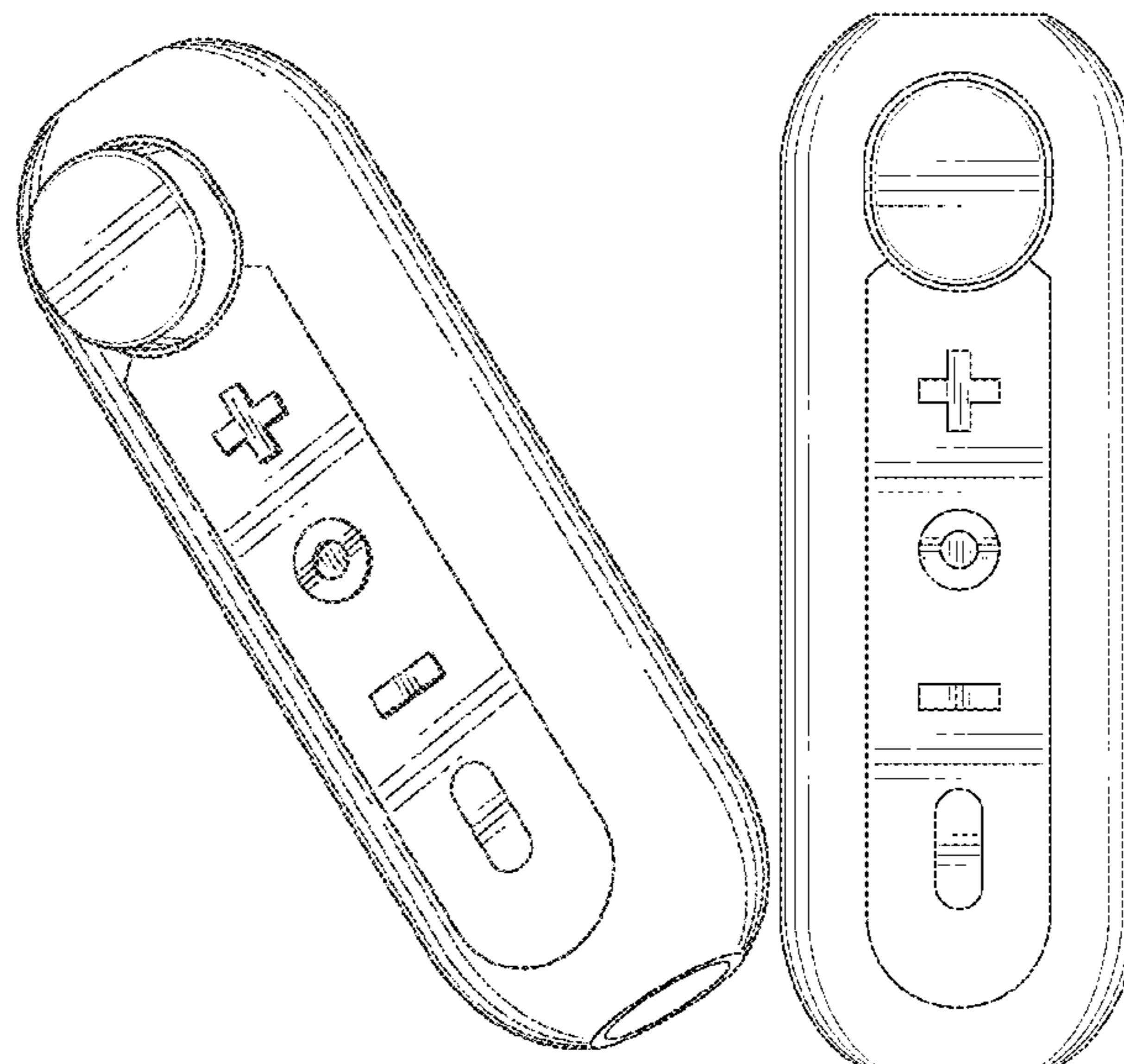
1 Claim, 7 Drawing Sheets

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(22) Filed: **Sep. 23, 2019**
(51) **LOC (13) Cl.** **24-02**
(52) **U.S. Cl.**
USPC **D24/134**
(58) **Field of Classification Search**
USPC D24/133, 134, 135, 136, 140, 167, 189;
D8/308, 315, 316, 318; D10/60, 78, 80
CPC .. A61B 7/02; A61B 7/04; A61B 7/003; A61B
5/024; A61B 5/7282; A61B 5/742; A61B
17/17; A61B 17/16; A61B 17/11; A61B
17/00; A61B 17/1675; A61B 17/1764;
A61B 17/1767; A61B 18/00; A61B
19/00; A61F 2/46; A61F 2/4601; A61F
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2002/4631
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,087,016 A * 4/1963 Dahl A61B 7/02
381/1
3,182,129 A * 5/1965 Clark et al. A61B 7/04
381/67
3,233,041 A * 2/1966 Croslin A61B 7/04
381/67
3,247,324 A 4/1966 Ralph et al.



(56)

References Cited

U.S. PATENT DOCUMENTS

5,025,809	A *	6/1991	Johnson	.....	A61B 7/04 600/528
D337,536	S *	7/1993	Epstein	.....	D10/78
D353,195	S *	12/1994	Savage	.....	D24/134
D362,063	S *	9/1995	Savage	.....	D24/134
5,561,275	A *	10/1996	Savage	.....	A61B 7/04 181/131
D376,366	S	12/1996	Patton et al.		
5,623,131	A *	4/1997	Earnest	.....	A61B 7/02 181/131
D389,576	S *	1/1998	Grasfield	.....	D24/134
5,717,769	A	2/1998	Williams		
5,737,429	A *	4/1998	Lee	.....	A61B 7/04 381/67
5,774,563	A	6/1998	Deslauriers et al.		
5,909,495	A *	6/1999	Andrea	.....	A61B 7/04 381/67
D416,201	S *	11/1999	Pinchuk	.....	D10/2
6,002,777	A *	12/1999	Grasfield	.....	A61B 7/04 181/131
6,139,505	A	10/2000	Murphy		
D445,184	S *	7/2001	Meyer	.....	D24/134
6,409,675	B1	6/2002	Turcott		
6,533,736	B1	3/2003	Moore		
D477,405	S *	7/2003	Sommerfeld	.....	D24/134
D477,874	S *	7/2003	Sommerfeld	.....	D24/134
D479,712	S	9/2003	Ng		
D490,717	S *	6/2004	Cetera	.....	D10/2
D512,028	S *	11/2005	Martin	.....	D13/168
6,966,400	B1 *	11/2005	Rollins	.....	A61B 7/02 181/131
D527,819	S *	9/2006	Poulsen	.....	A61B 7/02 D24/134
D557,624	S	12/2007	Coster et al.		
D559,266	S	1/2008	Oh		
D564,368	S *	3/2008	Molyneux	.....	D10/31
D584,974	S	1/2009	Fukuda et al.		
D595,415	S	6/2009	Fukuzawa		
D602,466	S	10/2009	Hibino et al.		
D609,197	S *	2/2010	Koskela	.....	A61B 7/04 D13/168
D613,137	S *	4/2010	Wieberdink	.....	A61B 7/026 D8/14
D616,990	S *	6/2010	Suzuki	.....	D24/186
D618,681	S *	6/2010	Richter	.....	D14/358
D628,560	S *	12/2010	Bodley	.....	D14/217
D629,319	S *	12/2010	Tian	.....	D10/78
D635,667	S *	4/2011	Soerensen	.....	D24/134
D659,836	S	5/2012	Bensch et al.		
D682,718	S	5/2013	Azuma		
8,491,488	B1	7/2013	Criley et al.		
D688,706	S	8/2013	Lee et al.		
D689,386	S *	9/2013	Stegmann	.....	A61B 5/002 D10/81
D693,710	S	11/2013	Bachel et al.		
D700,083	S *	2/2014	Brigham	.....	A61B 7/04 D10/70
D701,610	S *	3/2014	Thomas	.....	G01M 3/243 D24/200
D701,782	S *	4/2014	Lekgoathi	.....	A61B 5/0022 D10/81
D707,827	S *	6/2014	Tseng	.....	A61B 5/282 D24/186
D711,532	S *	8/2014	Habboushe	.....	D24/134
D715,249	S *	10/2014	Zhou	.....	A61B 5/0022 D14/159
D715,665	S *	10/2014	Park	.....	G01M 3/243 D10/98
8,855,757	B2	10/2014	Kapoor		
D720,245	S *	12/2014	Neigher	.....	D10/70
D723,952	S *	3/2015	Gross	.....	H04R 1/46 D10/57
D733,888	S *	7/2015	Tuhkanen	.....	D24/167
D738,757	S *	9/2015	Gross	.....	A61B 7/04 D10/57
D739,035	S *	9/2015	Tavidian	.....	D24/200
D744,109	S	11/2015	Yoneta et al.		
D748,273	S *	1/2016	Chang	.....	D24/186
D748,785	S *	2/2016	Denison	.....	D24/139
D750,979	S *	3/2016	Roth	.....	D10/46
D752,229	S	3/2016	Chen et al.		
D755,974	S	5/2016	Chen et al.		
D756,814	S *	5/2016	Pankewich, Jr.	.....	D10/65
D760,903	S	7/2016	Lin et al.		
D761,434	S	7/2016	Nelson et al.		
D765,264	S *	8/2016	Zin	.....	D24/223
9,404,829	B1 *	8/2016	Tien	.....	G01M 3/243
9,439,599	B2 *	9/2016	Thompson	.....	A61B 5/0022
D787,684	S *	5/2017	Vežina	.....	D24/187
D789,817	S *	6/2017	Shen	.....	D10/83
D791,952	S	7/2017	Florescu et al.		
D794,201	S *	8/2017	Newhouse	.....	D24/169
D794,805	S	8/2017	Kranz et al.		
D796,350	S	9/2017	Bone		
D800,313	S	10/2017	Chang		
D808,285	S	1/2018	Bone		
D808,930	S	1/2018	Lee et al.		
D810,593	S	2/2018	Liu		
D810,944	S	2/2018	Goolkasian		
D815,292	S *	4/2018	Goldman	.....	D24/186
D817,930	S	5/2018	Kim et al.		
D819,221	S *	5/2018	Lei	.....	D24/200
D819,619	S *	6/2018	Li	.....	D14/240
D825,356	S *	8/2018	Yu	.....	D10/70
D830,556	S *	10/2018	Sebban	.....	A61B 5/0022 D24/167
D830,968	S *	10/2018	Wang	.....	D13/107
D831,195	S *	10/2018	Guillermo	.....	G01M 3/243 D24/112
D836,472	S	12/2018	Zhiyuan		
D838,923	S *	1/2019	Ni	.....	D30/199
D840,531	S *	2/2019	Guillermo	.....	D24/112
D841,497	S *	2/2019	Blair	.....	A61B 5/150099 D10/78
D841,498	S *	2/2019	Blair	.....	D10/78
D843,249	S *	3/2019	Blair	.....	A61B 5/150099 D10/78
D850,626	S *	6/2019	Gardner	.....	D24/186
D851,253	S	6/2019	Goolkasian		
D851,256	S *	6/2019	Newhouse	.....	D24/169
D853,572	S *	7/2019	Yi	.....	D24/200
D854,434	S *	7/2019	Blair	.....	D10/78
D854,953	S *	7/2019	Blair	.....	D10/78
D854,954	S *	7/2019	Blair	.....	D10/78
D855,484	S *	8/2019	Plested	.....	D10/104.1
D860,154	S *	9/2019	Hu	.....	D14/155
D866,784	S *	11/2019	Peck	.....	D24/214
D870,305	S *	12/2019	Yamazaki	.....	D24/214
D871,510	S *	12/2019	Martisauskas	.....	D21/423
D875,691	S *	2/2020	Zu	.....	A61B 7/04 D13/168
D875,927	S *	2/2020	Ohashi	.....	D24/134
D876,247	S *	2/2020	Hernandez	.....	D10/52
D879,290	S *	3/2020	Harman	.....	A61B 7/04 D24/138
D880,703	S *	4/2020	Emery	.....	D24/187
D880,720	S *	4/2020	Ou Yang	.....	A61B 7/04 D24/217
D885,937	S *	6/2020	Hazan	.....	D10/47
D887,544	S *	6/2020	Inoue	.....	A61B 7/04 D24/107
D894,415	S *	8/2020	Blank	.....	A61B 7/04 D24/214
D897,110	S *	9/2020	Blank	.....	A61B 7/003 D4/102
D899,610	S *	10/2020	Yang	.....	A61B 7/026 D24/200
D900,325	S *	10/2020	Emery	.....	A61B 7/04 D24/187
D901,031	S *	11/2020	Yoon	.....	A61B 7/04 D24/209

(56)

References Cited

U.S. PATENT DOCUMENTS

D901,705 S * 11/2020 Du A61B 7/02
D24/214
D910,162 S * 2/2021 Inoue D24/107
D910,720 S * 2/2021 Breuvar A61B 7/04
D15/7
D911,520 S * 2/2021 Lin A61B 7/04
D24/134
D915,229 S * 4/2021 King A61B 7/04
D10/70
D917,314 S * 4/2021 Wu A61B 7/04
D10/57
D921,120 S * 6/2021 Martisaukas A61B 7/02
D21/423
2002/0186850 A1 12/2002 Deslauriers et al.
2004/0032957 A1 2/2004 Mansy et al.
2004/0076303 A1 4/2004 Vyshedskiy et al.
2005/0014999 A1 1/2005 Rahe-Meyer
2005/0078533 A1 4/2005 Vyshedskiy et al.
2005/0209523 A1 9/2005 Umeda et al.
2006/0047215 A1 3/2006 Newman et al.
2007/0208233 A1 9/2007 Kovacs
2007/0273504 A1 11/2007 Tran
2008/0228095 A1* 9/2008 Richardson A61B 7/026
600/528
2008/0232605 A1* 9/2008 Bagha A61B 7/04
381/67
2008/0298603 A1 12/2008 Smith
2012/0190303 A1* 7/2012 Wong A61B 7/02
455/41.2
2012/0215077 A1* 8/2012 Geissler A61B 7/003
600/301
2012/0310115 A1* 12/2012 Bedingham A61B 5/002
600/586
2013/0116584 A1 5/2013 Kapoor
2013/0150754 A1* 6/2013 Rogers A61B 7/04
600/586
2014/0012149 A1 1/2014 Trice
2014/0153730 A1* 6/2014 Habboushe H04R 1/46
381/67
2014/0270218 A1* 9/2014 Wang A61B 7/04
381/67
2014/0328210 A1 11/2014 Knaappila
2015/0057512 A1 2/2015 Kapoor
2015/0065814 A1 3/2015 Kapoor
2016/0014550 A1 1/2016 Chiddarwar et al.
2016/0100817 A1 4/2016 Hussain
2016/0144192 A1 5/2016 Sanghera et al.

2018/0116626 A1 5/2018 Darbari et al.
2018/0168473 A1 6/2018 Du et al.
2018/0256061 A1 9/2018 Landgraf et al.

FOREIGN PATENT DOCUMENTS

WO WO-2018118935 A1 6/2018
WO WO-2018182956 A1 10/2018
WO WO-2020041363 A1 2/2020

OTHER PUBLICATIONS

Dan et al. Playing and Acquiring Heart Sounds and Electrocardiogram Simultaneously Based on LabVIEW, 2008 World Automation Congress, Hawaii, HI, 2008, pp. 1-4 (<http://ieeexplore.ieee.org/stamp/stamp.jsp?p=&arnumber=4699304&isnumber=4698939>).
PR Newswire. Smart Heart Monitor Keeps the Cardiologist a Heartbeat Away. MPO. (Jun. 7, 2017) retrieved from https://http://www.mpo-mag.com/contents/view_breaking-news/2017-06-07/smart-heart-monitor-keeps-the-cardiologist-a-learthead-away.
PCT/US2014/070476 International Search Report and Written Opinion issued dated Apr. 30, 2015.
PCT/US2017/067337 International Search Report and Written Opinion dated Jan. 30, 2018.
PCT/US2018/021964 International Search Report and Written Opinion dated May 30, 2018.
PCT/US2019/047333 International Invitation to Pay Additional Fees dated Sep. 30, 2019.
PCT/US2019/047333 International Search Report and Written Opinion dated Dec. 6, 2019.
Portable ECG Monitor FL10/PM10 with Bluetooth Wireless Transmission Dec. 28, 2016; Retrieved from http://www.pulseoximeter.org/fl10.html?utm_source=googlepepla&utm_medium=adwords&id=18283950120; Jun. 5, 2017.
Rijjuven Corp., i2Dtx CardioSleeve, downloaded from <http://djuven.com/medicaldevices/cardiosleeve> on Mar. 5, 2017.
U.S. Appl. No. 14/152,278 Office Action dated Jun. 15, 2016.
U.S. Appl. No. 14/152,278 Office Action dated Jun. 29, 2017.
U.S. Appl. No. 14/152,278 Office Action dated Oct. 16, 2015.
U.S. Appl. No. 15/455,987 Office Action dated Jun. 6, 2019.
U.S. Appl. No. 15/455,987 Office Action dated Sep. 20, 2018.
U.S. Appl. No. 29/566,812 Office Action dated Aug. 22, 2017.
U.S. Appl. No. 29/566,812 Office Action dated Jun. 15, 2017.

* cited by examiner

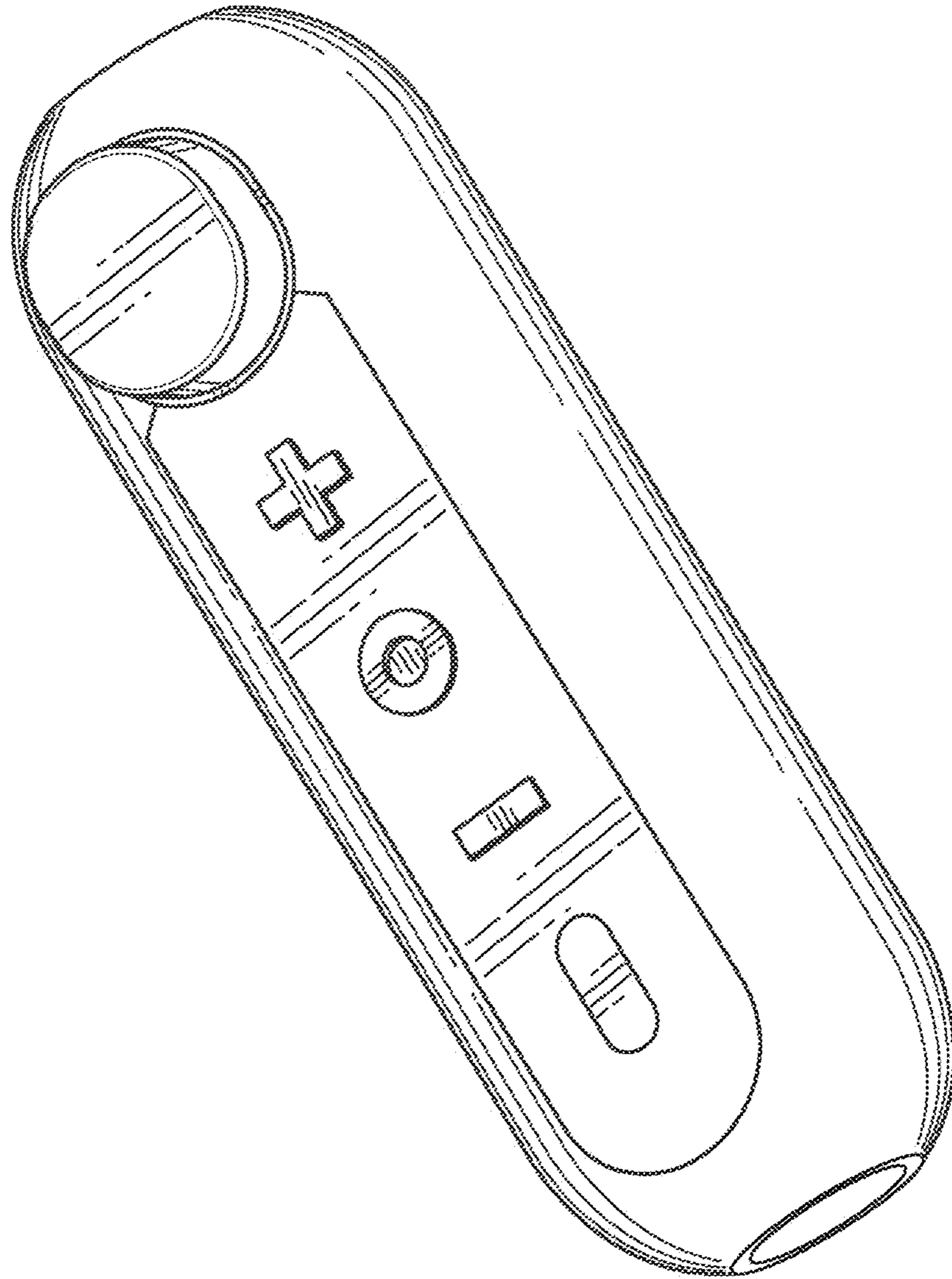


FIG. 1

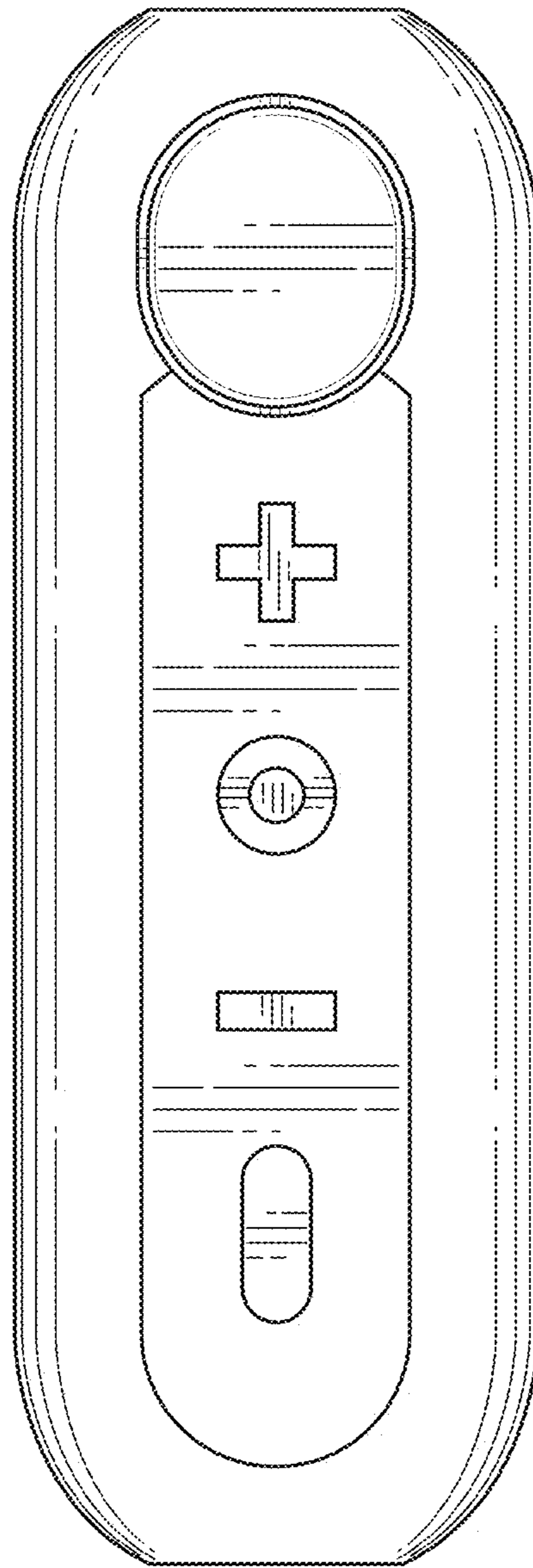


FIG. 2

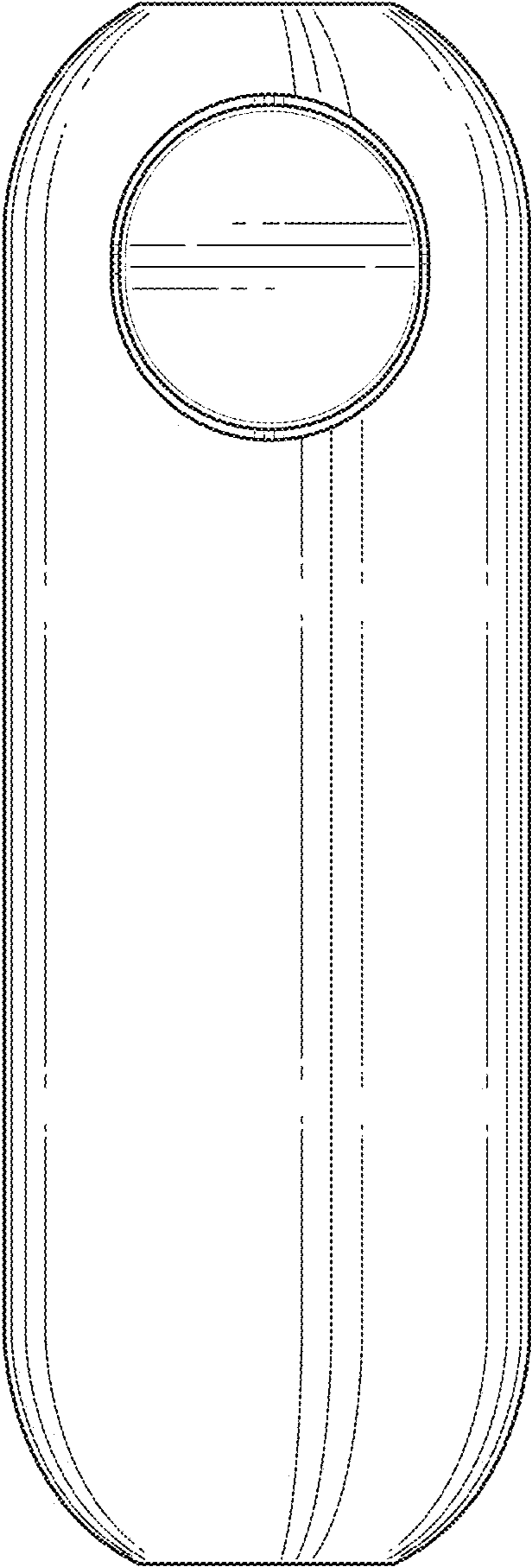


FIG. 3

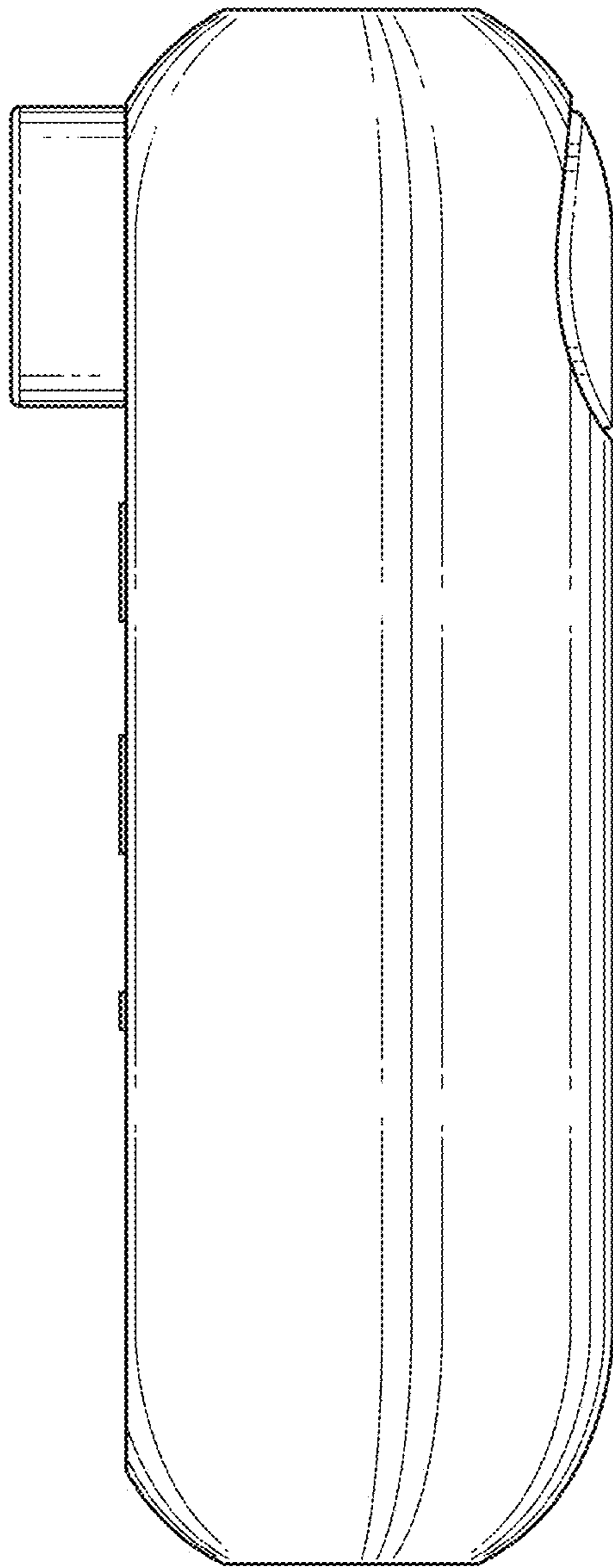


FIG. 4

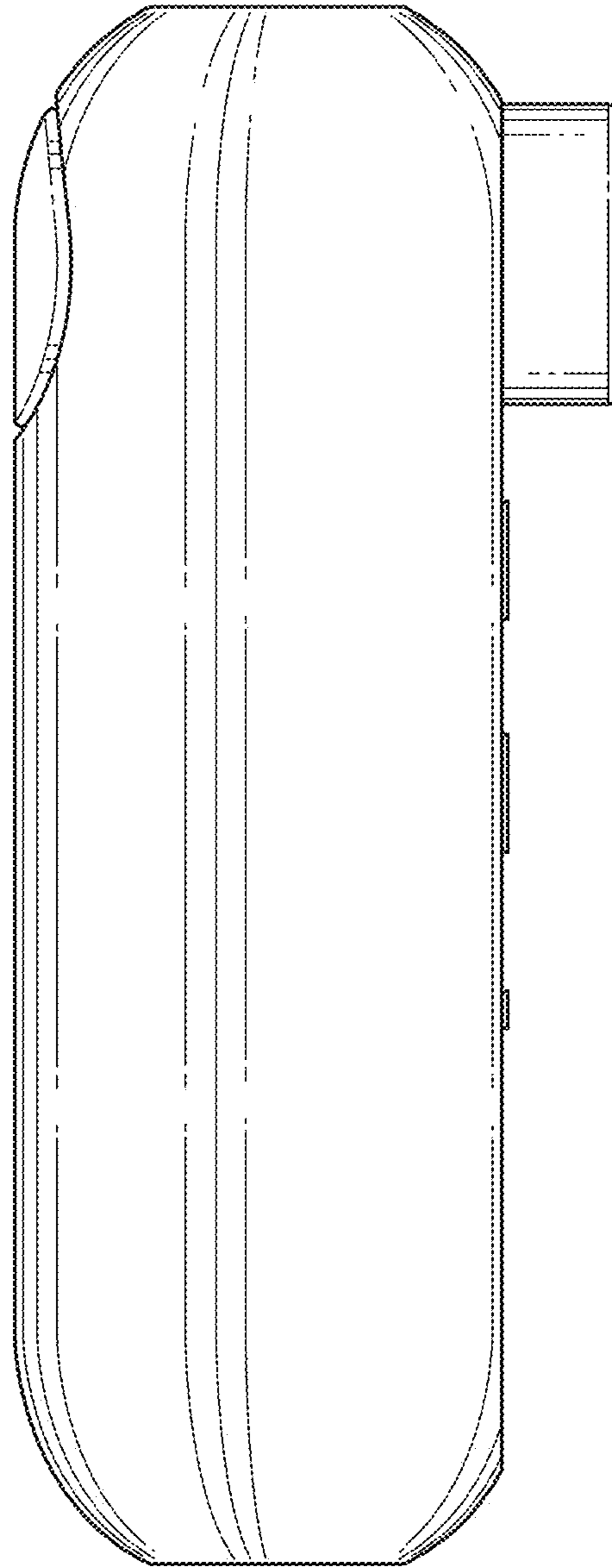


FIG. 5

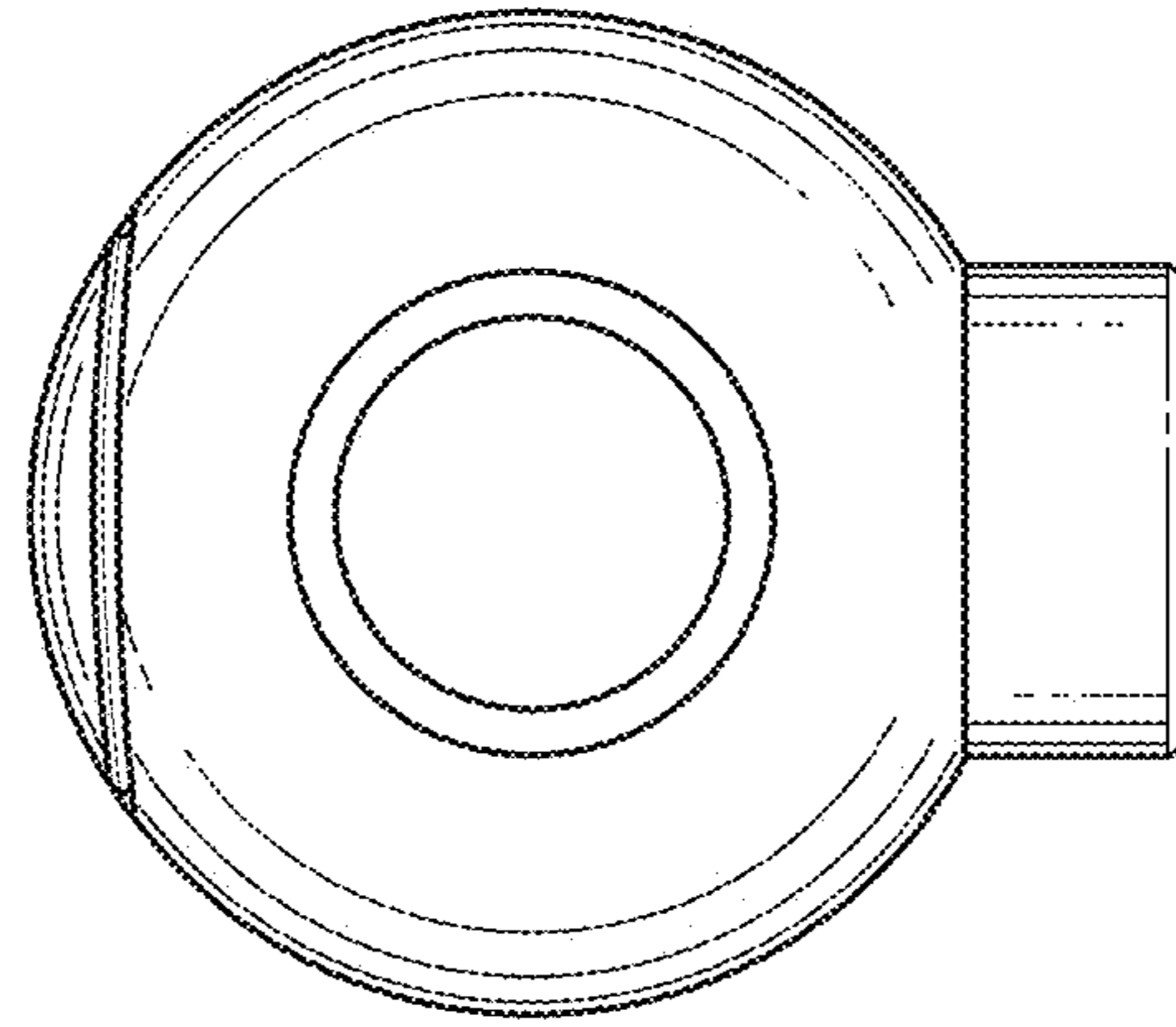


FIG. 6

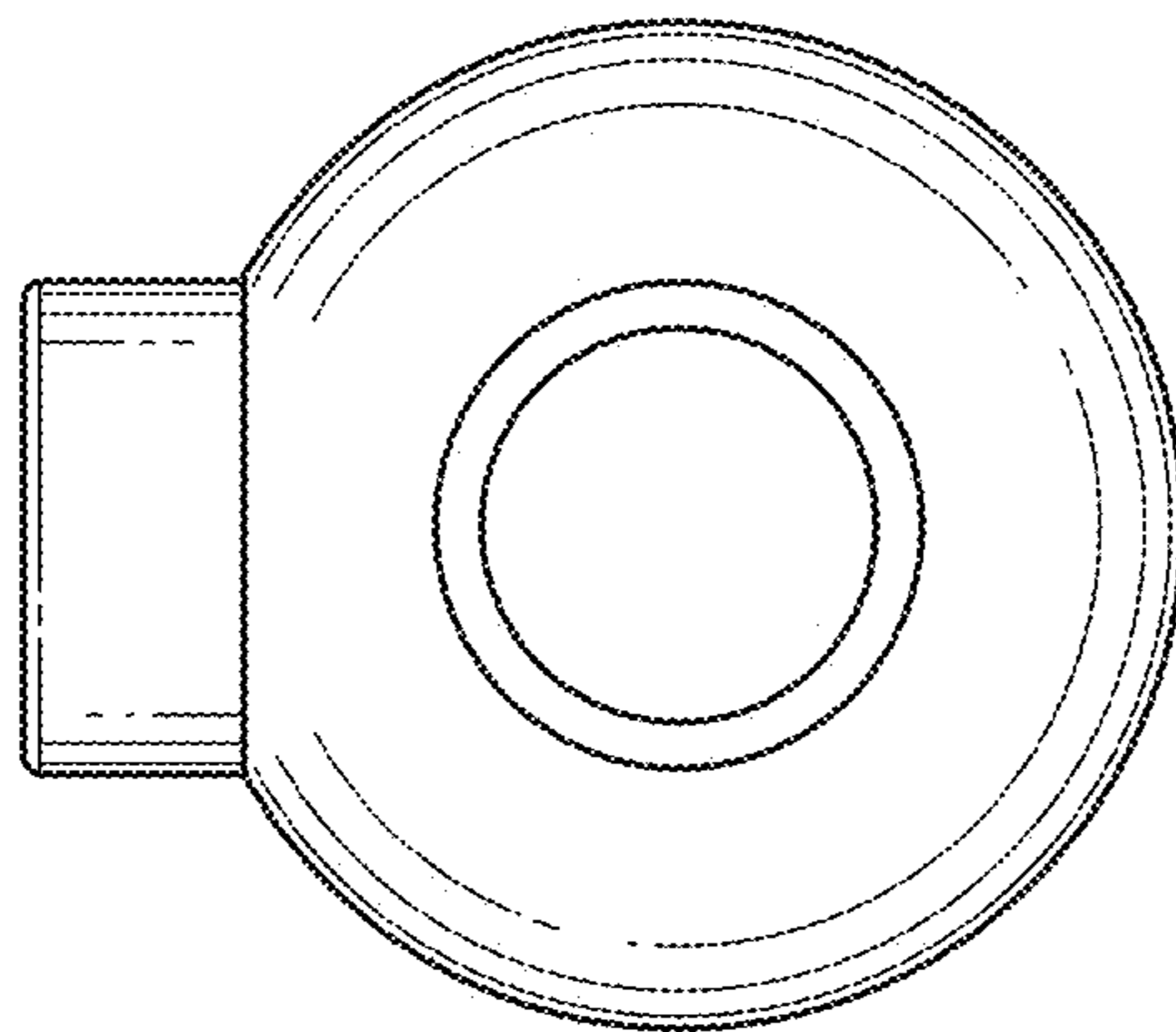


FIG. 7

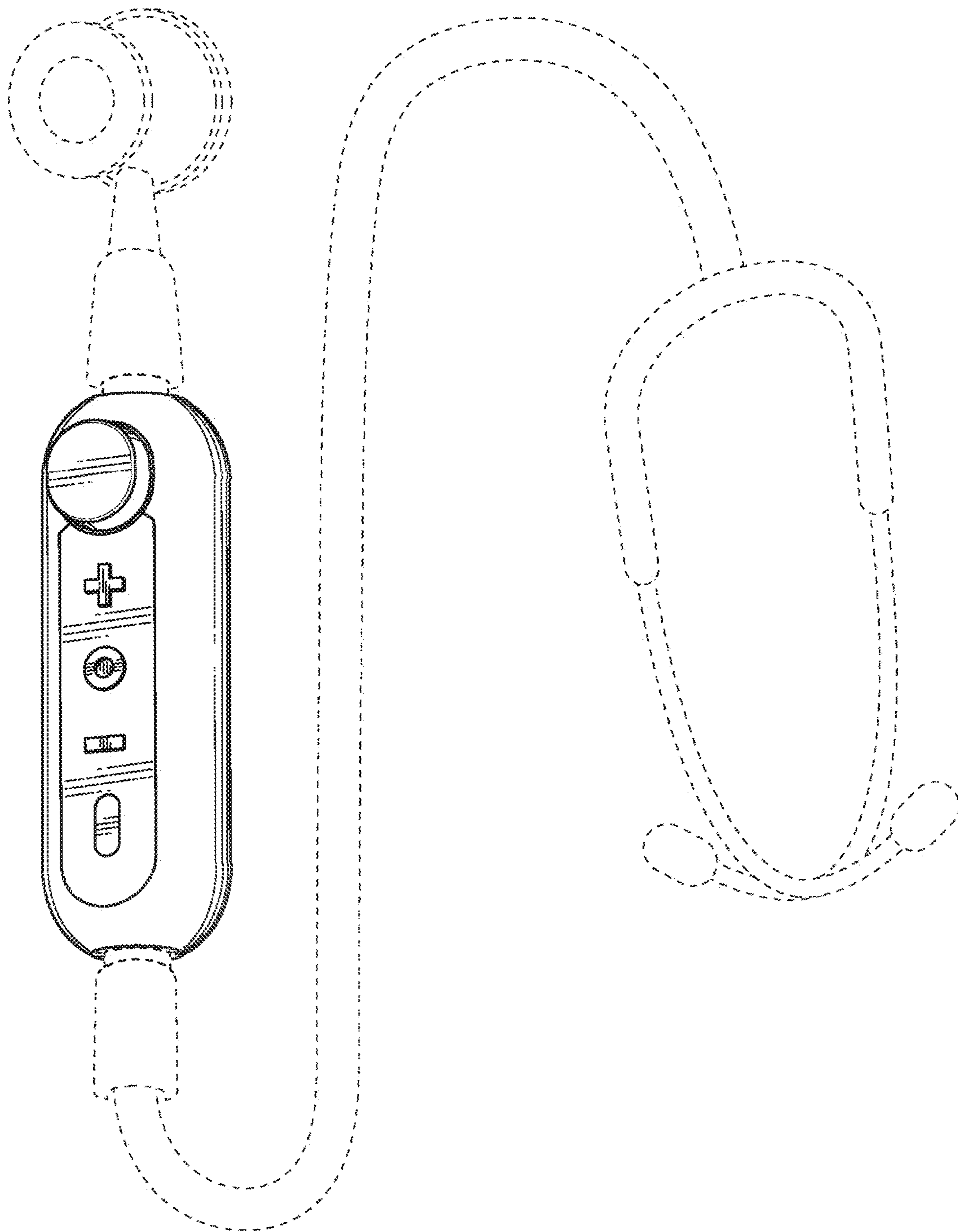


FIG. 8