US00D865167S

(12) United States Design Patent

Kirgizov et al.

(10) Patent No.: US D865,167 S
(45) Date of Patent: ** Oct. 29, 2019

(54) **DIGITAL STETHOSCOPE**

(71) Applicant: **Bat Call D. Adler Ltd.**, Nesher (IL)

(72) Inventors: **Dmitry Kirgizov**, Ramat Gan (IL); **Roee Haimovich**, Migdal Ha'emek (IL)

(73) Assignee: **Bat Call D. Adler Ltd.**, Nesher (IL)

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

(21) Appl. No.: **29/630,202**

(22) Filed: **Dec. 20, 2017**

(51) **LOC (12) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/134**

(58) **Field of Classification Search**
USPC D24/134, 133, 135, 136, 140, 189
CPC A61B 7/04; A61B 17/17; A61B 17/16; A61B 17/11; A61B 17/00; A61B 18/00; A61B 19/00; A61B 17/1675; A61B 17/1764; A61B 17/1767; A61B 7/02; A61F 2/46; A61F 2/4601; A61F 2/4603; A61F 2/461; A61F 2/3868; A61F 2002/4631
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

872,448	A *	12/1907	Penhallow	A61B 7/02 181/131
3,433,959	A	3/1969	Atwood et al.	
3,580,082	A	5/1971	Strack et al.	
D353,196	S *	12/1994	Savage	D24/134
5,853,005	A	12/1998	Scanlon	
6,154,551	A	11/2000	Frenkel	
D462,442	S *	9/2002	Webb	D24/133
6,520,924	B2	2/2003	Lee	
D483,488	S *	12/2003	Luthy	D24/140
6,699,204	B1	3/2004	Kehyayan et al.	
6,788,417	B1	9/2004	Zumberge et al.	
D525,360	S *	7/2006	Nakamura	D24/134
D583,940	S *	12/2008	Wong	D24/134
7,458,939	B2	12/2008	Munk	
D621,504	S *	8/2010	Martinez	D24/134

(Continued)

FOREIGN PATENT DOCUMENTS

CN	103479385	A	1/2014
CN	103479386	A	1/2014

(Continued)

OTHER PUBLICATIONS

Amazon. Link: https://www.amazon.com/Thinklabs-One-Digital-Stethoscope/dp/B07BRQRNW7. Jan. 6, 2019. Thinklabs One Digital Stethoscope. (Year: 2019).*

(Continued)

Primary Examiner — Susan Moon Lee
Assistant Examiner — Lauren D McVey
(74) *Attorney, Agent, or Firm* — Kligler & Associates

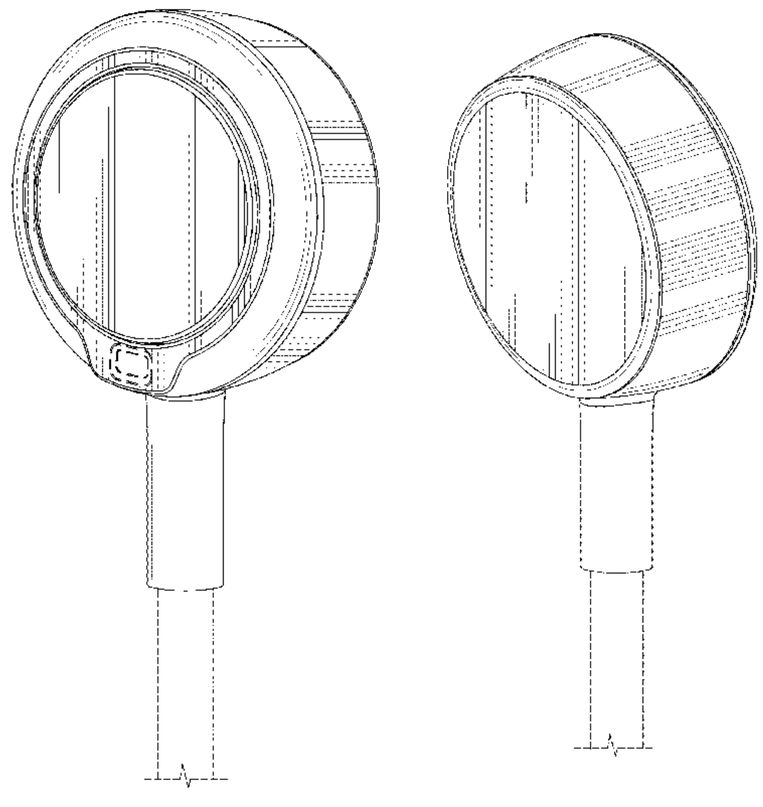
(57) **CLAIM**

The ornamental design for a digital stethoscope, as shown and described.

DESCRIPTION

FIG. **1** is a bottom, left-side perspective view of a digital stethoscope showing our new design;
FIG. **2** is a top, right-side perspective view thereof;
FIG. **3** is a top plan view thereof;
FIG. **4** is a bottom plan view thereof.
FIG. **5** is a front elevation view thereof;
FIG. **6** is a rear elevation view thereof;
FIG. **7** is a right side elevation view thereof; and,
FIG. **8** is a left side elevation view thereof.
The broken lines immediately adjacent to the shaded areas depict the bounds of the claimed design, while all other broken lines are directed to environment. The broken lines form no part of the claimed design.

1 Claim, 6 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

7,976,480	B2	7/2011	Grajales et al.	
8,015,878	B2	9/2011	Melikechi et al.	
8,419,652	B2	4/2013	Rajamani et al.	
8,475,396	B2	7/2013	Jones et al.	
D709,204	S *	7/2014	Kovach	D24/187
8,920,343	B2	12/2014	Sabatino	
9,101,274	B2 *	8/2015	Bakema	B06B 1/06
D750,679	S *	3/2016	Habraken	D16/135
9,277,330	B2	3/2016	Aharoni et al.	
9,445,779	B2	9/2016	Shams et al.	
D821,576	S *	6/2018	Alatriste	D24/134
D837,979	S *	1/2019	Shan	D24/134
2001/0030077	A1	10/2001	Watson	
2002/0071570	A1	6/2002	Cohen et al.	
2005/0222515	A1	10/2005	Polyshchuk et al.	
2007/0050715	A1	3/2007	Behar	
2008/0013747	A1	1/2008	Tran	
2011/0137209	A1	6/2011	Lahiji et al.	
2011/0222697	A1	9/2011	Dong et al.	
2011/0224988	A1	9/2011	Mahajan et al.	
2013/0041278	A1	2/2013	Bai et al.	
2014/0073864	A1	3/2014	Engelbrecht et al.	
2014/0290372	A1	10/2014	Lagaros et al.	
2015/0073306	A1	3/2015	Abeyratne et al.	
2015/0119758	A1	4/2015	Rogers et al.	
2017/0079612	A1 *	3/2017	Park	A61B 7/04

FOREIGN PATENT DOCUMENTS

CN	203506748	U	4/2014
CN	304170284	*	6/2017
CN	304250517	*	8/2017
CN	304318235	*	10/2017
CN	107510473	A	12/2017
DE	202005006661	U1	8/2005
KR	20120040530	A	4/2012
WO	9325874	A1	12/1993
WO	2002009586	A2	2/2002
WO	2006075263	A1	7/2006
WO	2011117862	A2	9/2011
WO	2017141165	A1	8/2017

OTHER PUBLICATIONS

Bat-Call. Link: https://bat-call.com/products/compusteth/. Visited Mar. 23, 2019, Bat Call's CompuSteth. (Year: 2019).*

Padmanabhan et al., "Accelerometer type cardiac transducer for detection of low-level heart sounds", IEEE Transactions on Biomedical Engineering, vol. 40, No. 1, pp. 21-28, Jan. 1, 1993.

International Application # PCT/IB2017/050833 search report dated Jul. 23, 2017.

International Application # PCT/IB2018/056335 search report dated Dec. 26, 2018.

International Application # PCT/IB2018/056336 search report dated Dec. 25, 2018.

Bukhman et al., "Spectral analysis of acoustic vibrations on the surface of the human body," Acoustical Physics, vol. 41, Issue 1, 10 pages, 1995.

* cited by examiner

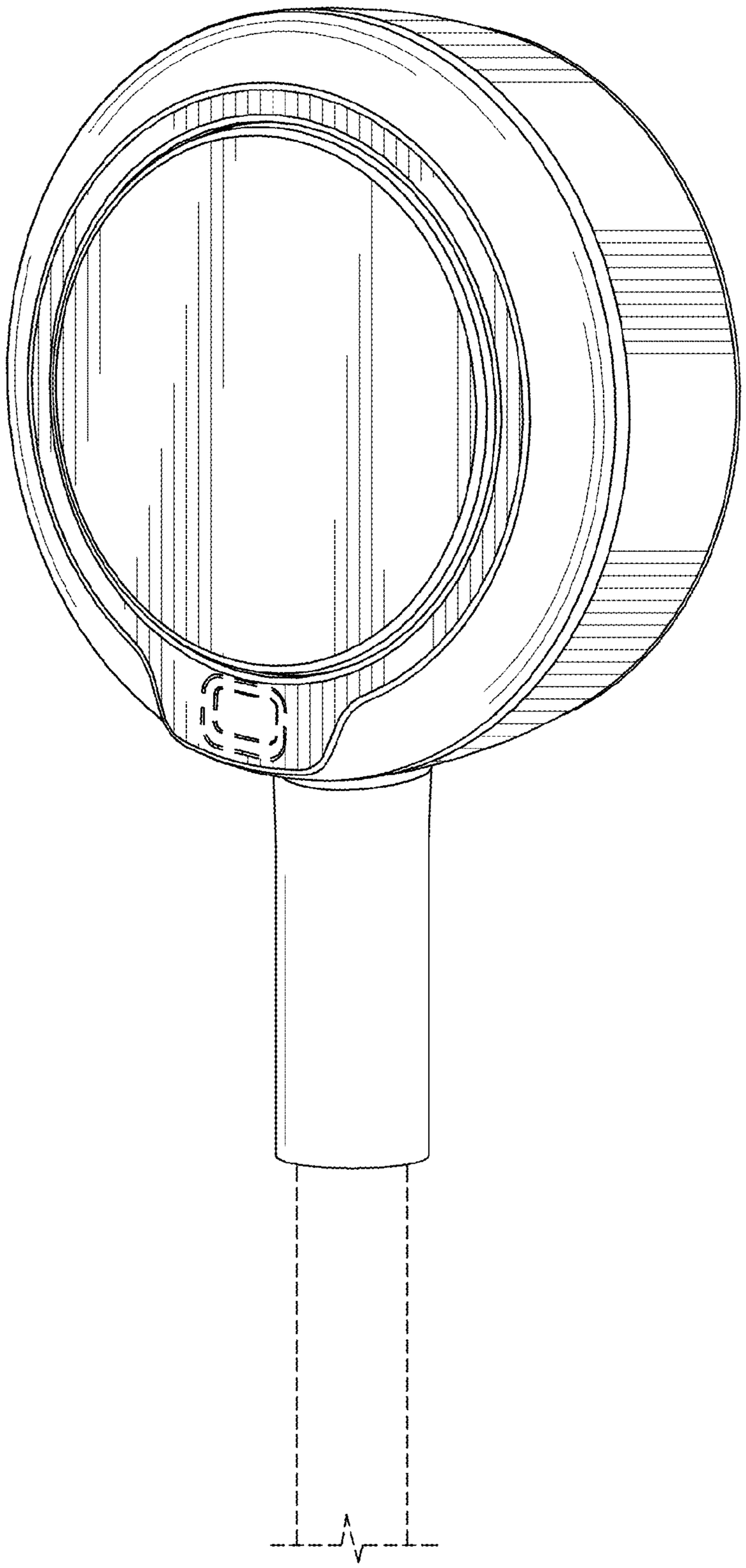


FIG. 1

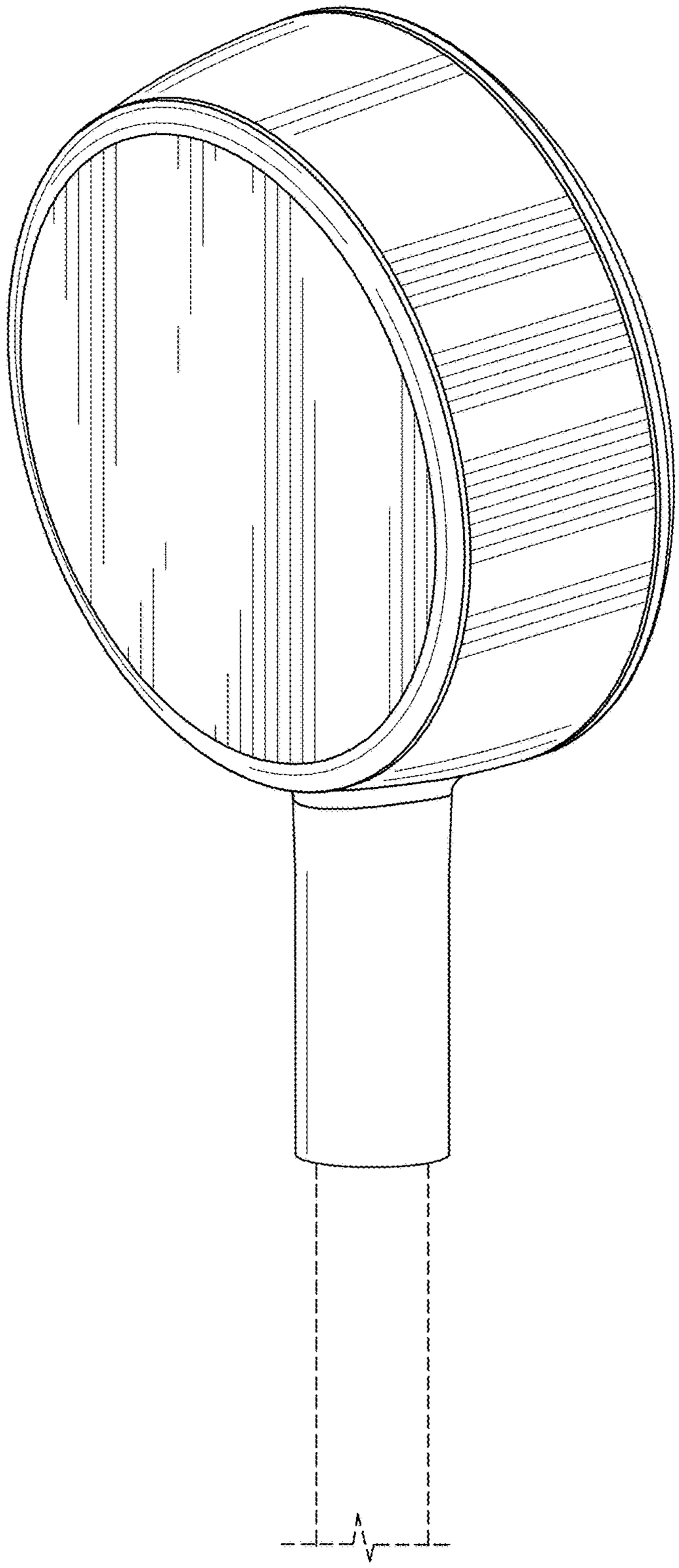


FIG. 2

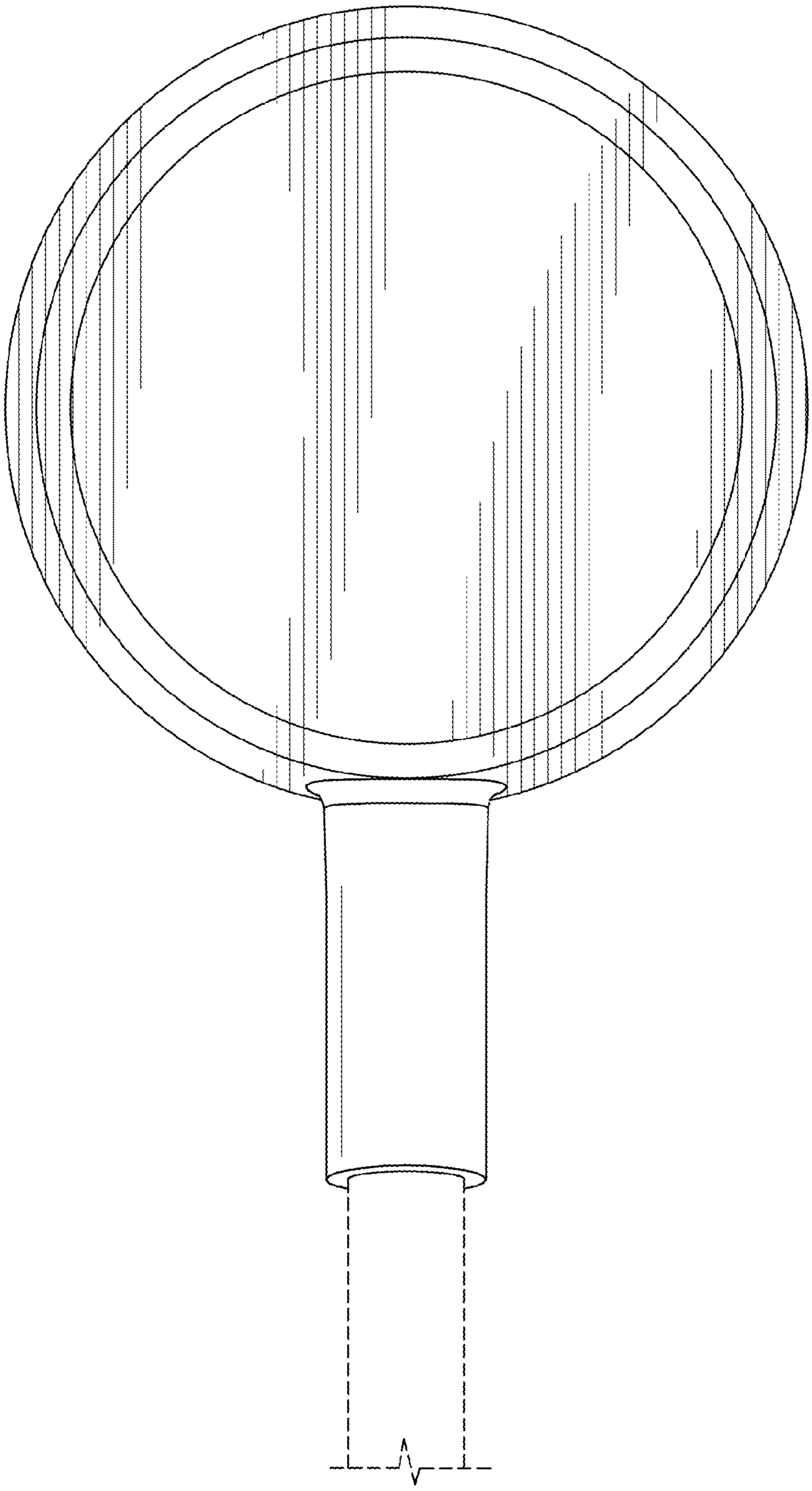


FIG. 3

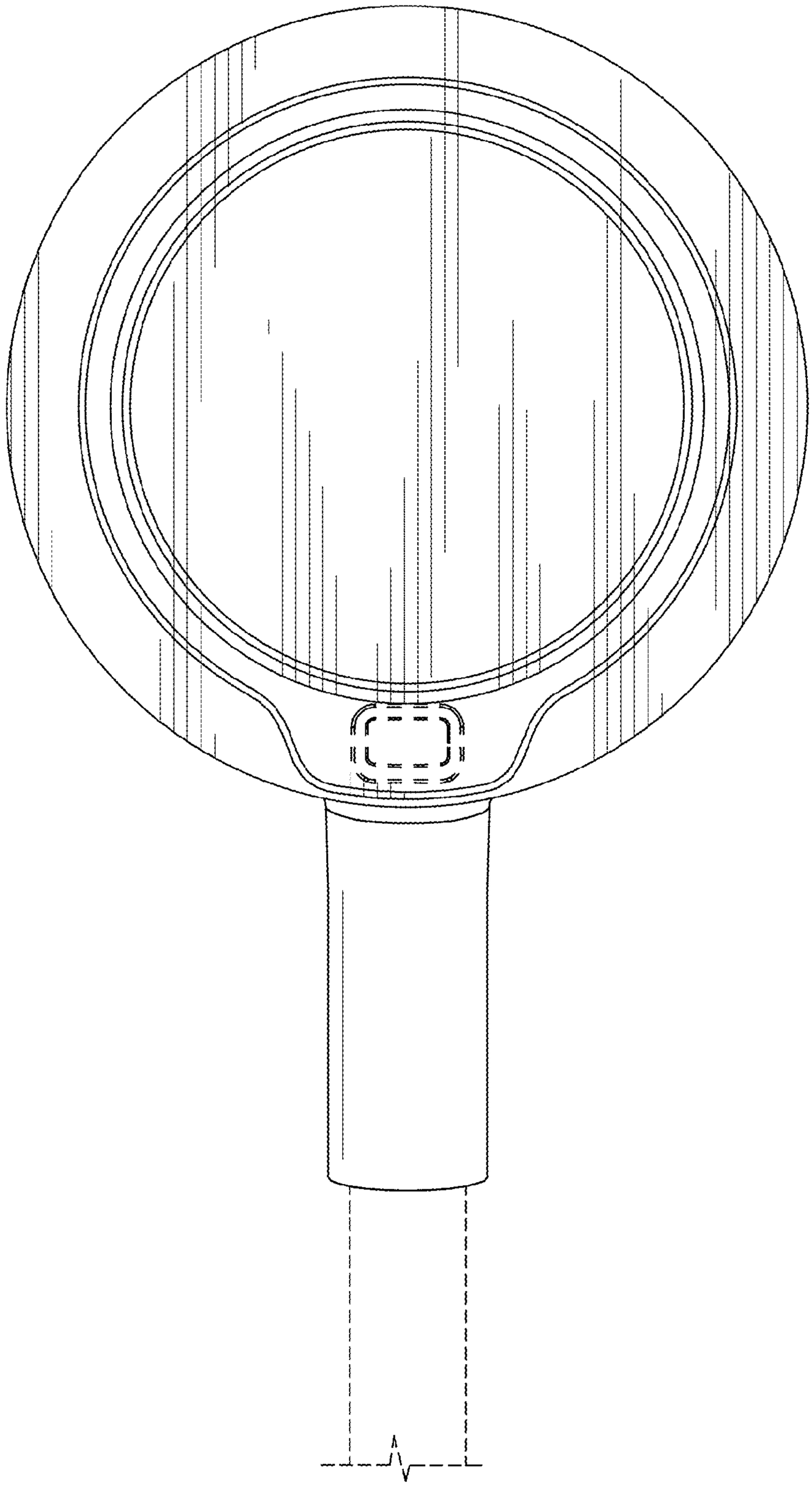


FIG. 4

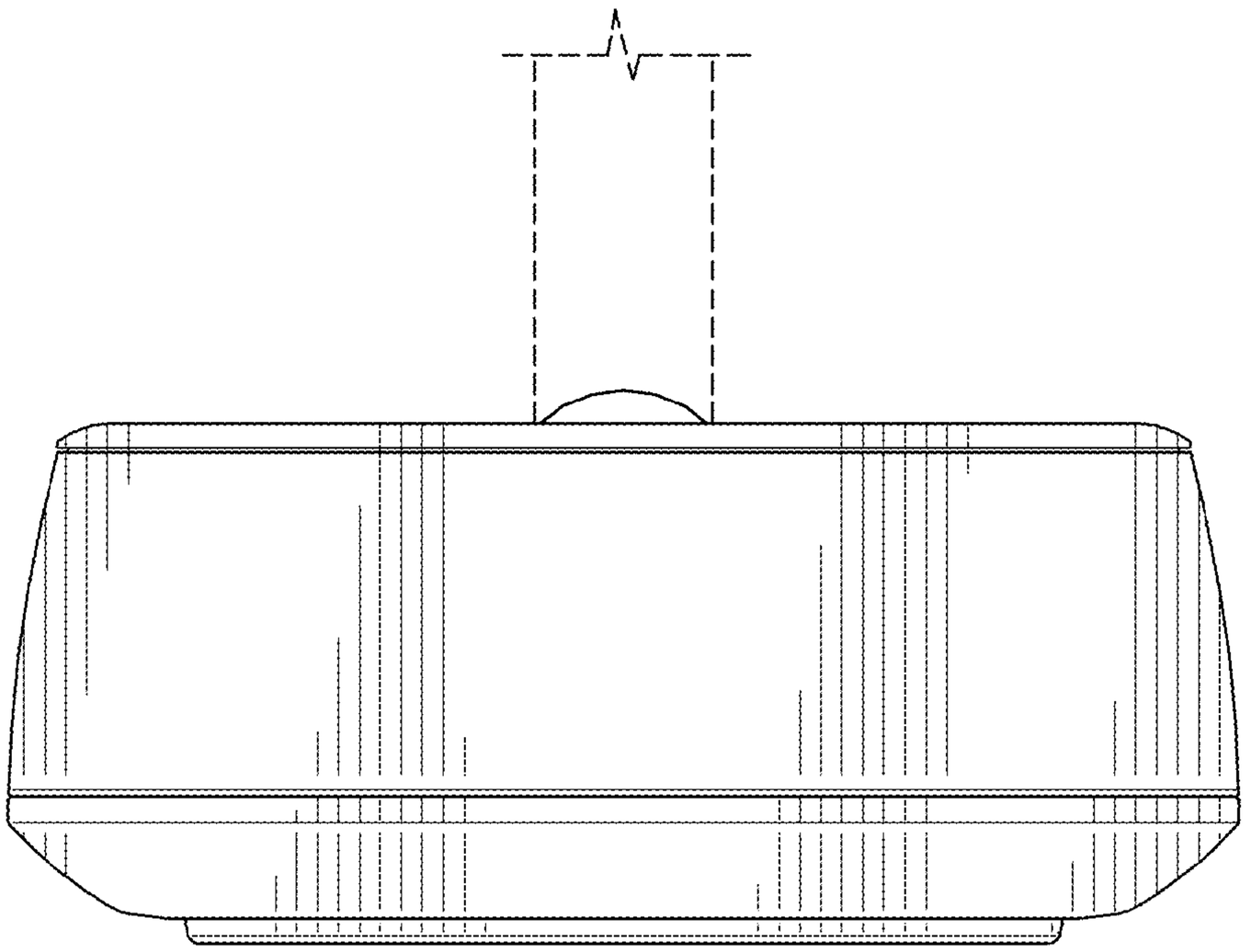


FIG. 5

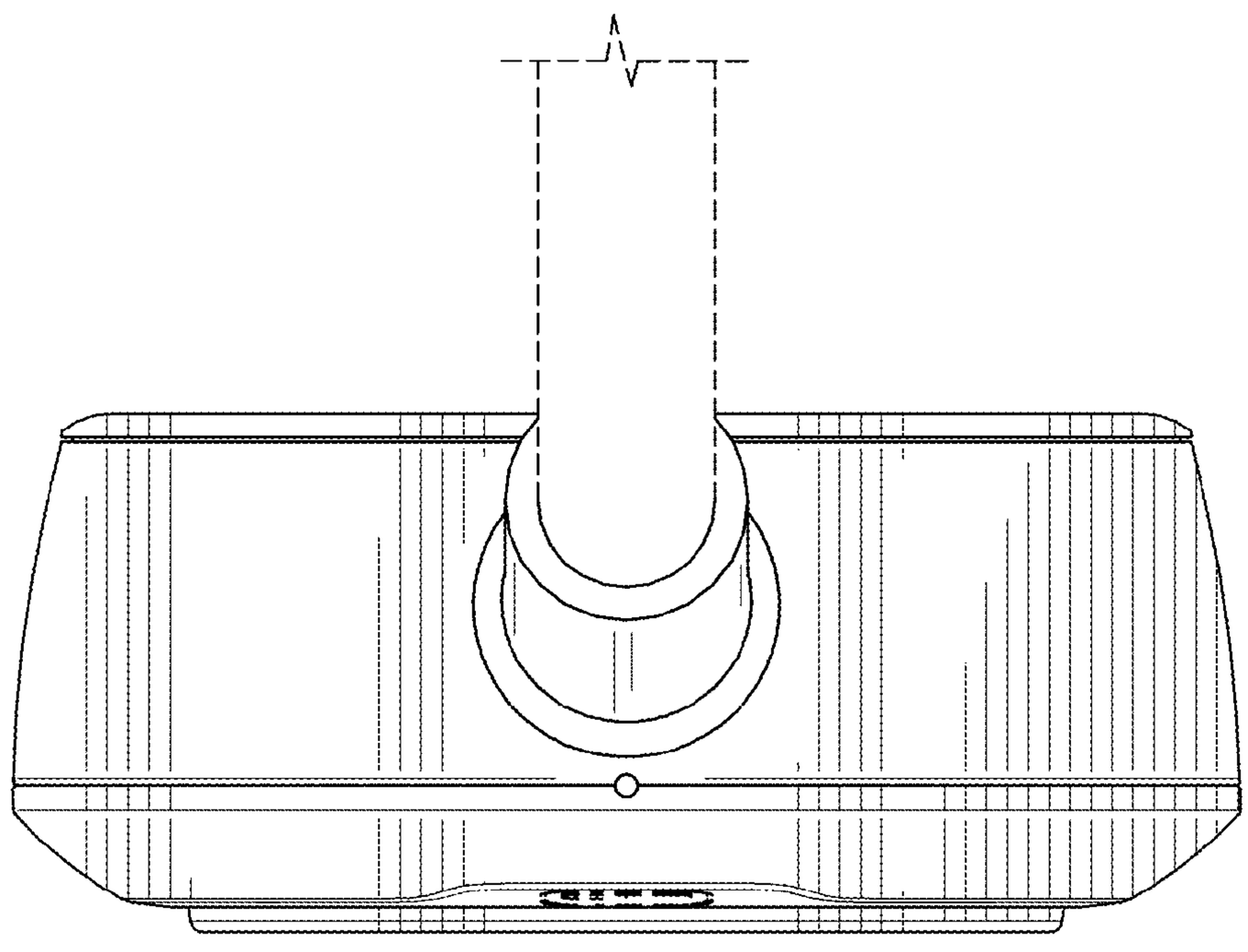


FIG. 6

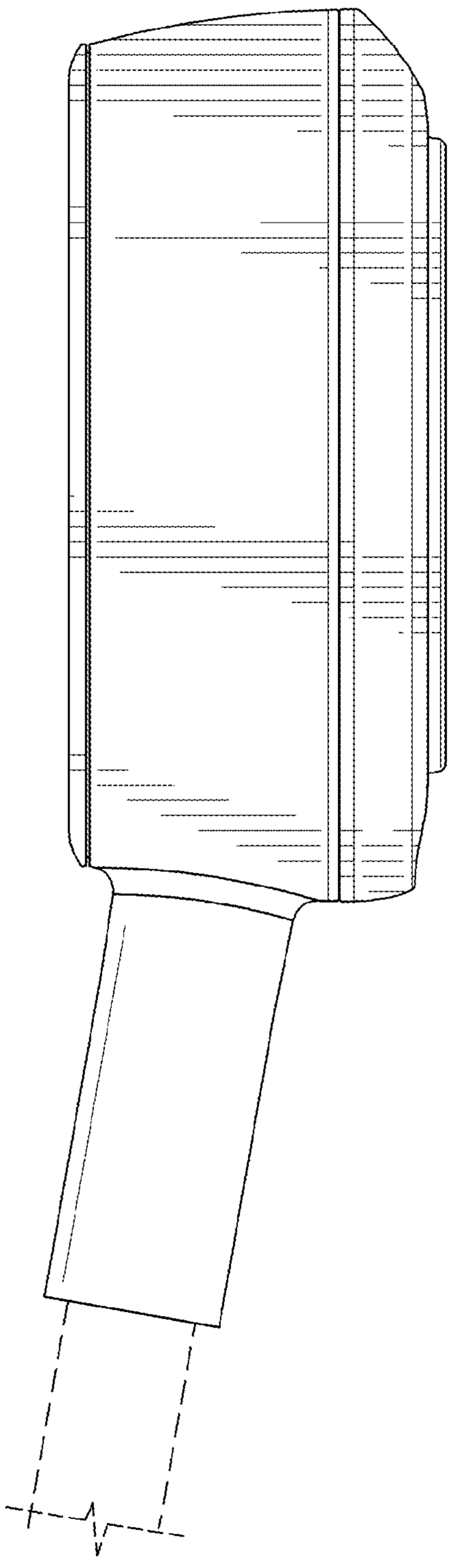


FIG. 7

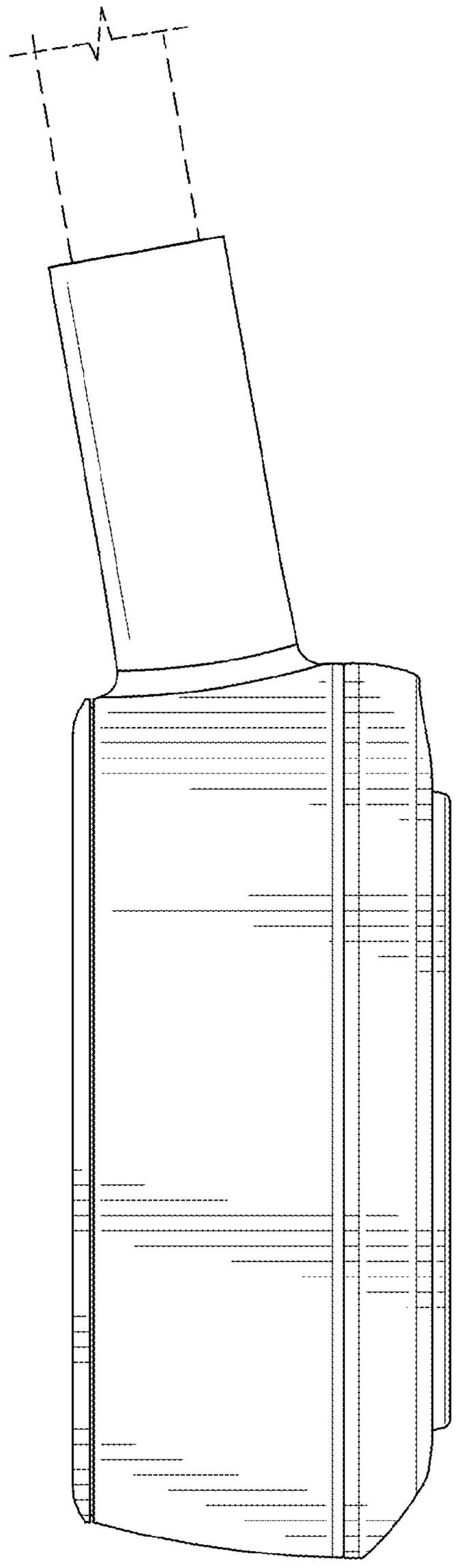


FIG. 8