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(12) **United States Design Patent** (10) **Patent No.:** **US D930,614 S**
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(54) **TOTEM CONTROLLER HAVING AN ILLUMINATION REGION**

(71) Applicant: **Magic Leap, Inc.**, Plantation, FL (US)

(72) Inventors: **Shigeru Natsume**, Weston, FL (US); **Timothy Michael Stutts**, Oakland Park, FL (US); **Sumanth Murali**, Plantation, FL (US); **Haney Awad**, Ft. Lauderdale, FL (US); **Brian David Schwab**, Sunrise, FL (US); **James M. Powderly**, Ft. Lauderdale, FL (US); **Savannah Niles**, Ft. Lauderdale, FL (US)

(73) Assignee: **Magic Leap, Inc.**, Plantation, FL (US)

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

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(51) **LOC (13) Cl.** **14-03**

(52) **U.S. Cl.**
 USPC **D14/218; D21/333**

(58) **Field of Classification Search**
 USPC D14/388, 218, 454, 299, 496, 400, 401, D14/402, 405, 409, 410, 412, 203.5; D21/333; D13/168
 CPC A63F 13/24; A63F 13/213; A63F 13/214; A63F 13/00; A63F 13/212; A63F 13/20; G06F 3/014; G06F 3/017; G06F 3/02; G06F 3/03547; G06F 3/03549; G06F 3/041; G06F 3/0416; G06F 3/044; G05G 9/047

See application file for complete search history.

D567,243 S	4/2008	Ashida et al.	
D567,297 S	4/2008	Del Castillo et al.	
D587,713 S	3/2009	Sutton	
D589,515 S	3/2009	Brunner et al.	
D594,066 S	6/2009	Oikawa et al.	
D611,477 S	3/2010	Brunner et al.	
D638,841 S	5/2011	Musick, Jr. et al.	
D658,184 S	4/2012	Chang et al.	
8,179,604 B1	5/2012	Prada Gomez et al.	
D665,461 S	8/2012	Ikeda et al.	
D675,644 S	2/2013	Frost et al.	
8,523,675 B2	9/2013	Young et al.	
D698,358 S	1/2014	Beams	
8,950,867 B2	2/2015	Macnamara	
D725,041 S	3/2015	Bailey et al.	
9,081,426 B2	7/2015	Armstrong	
D740,369 S	10/2015	Cho et al.	
9,215,293 B2	12/2015	Miller	
D749,044 S	2/2016	Huang	
D752,529 S	3/2016	Loretan et al.	
D753,095 S	4/2016	Jou et al.	
9,310,559 B2	4/2016	Macnamara	
D755,761 S	5/2016	Reynolds	
9,348,143 B2	5/2016	Gao et al.	
D758,367 S	6/2016	Natsume	
D759,657 S	7/2016	Kujawski et al.	
D763,359 S	8/2016	Kwong et al.	
9,417,452 B2	8/2016	Schowengerdt et al.	
D769,876 S *	10/2016	Aoyagi	D14/432
9,470,906 B2	10/2016	Kaji et al.	
9,547,174 B2	1/2017	Gao et al.	
9,671,566 B2	6/2017	Abovitz et al.	
9,740,006 B2	8/2017	Gao	
D797,743 S *	9/2017	Awad	D14/412
9,791,700 B2	10/2017	Schowengerdt et al.	
9,851,563 B2	12/2017	Gao et al.	
9,857,591 B2	1/2018	Welch et al.	
9,874,749 B2	1/2018	Bradski et al.	
D828,337 S *	9/2018	Li	D14/218
D844,608 S *	4/2019	Chen	D14/388
10,444,849 B2 *	10/2019	Li	G06F 3/03547
10,534,447 B2 *	1/2020	Li	G06F 3/04883
D884,700 S *	5/2020	Shao	D14/412
2002/0024675 A1	2/2002	Foxlin	
2006/0028436 A1	2/2006	Armstrong	
2006/0181521 A1	8/2006	Perreault et al.	
2007/0081123 A1	4/2007	Lewis	
2008/0036744 A1	2/2008	Hartl	
2009/0002218 A1	1/2009	Rigazio et al.	
2009/0090568 A1	4/2009	Min	
2009/0299686 A1	12/2009	Ho	
2010/0194687 A1	8/2010	Corson	
2012/0127062 A1	5/2012	Bar-Zeev et al.	

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,704,151 A 1/1998 West et al.

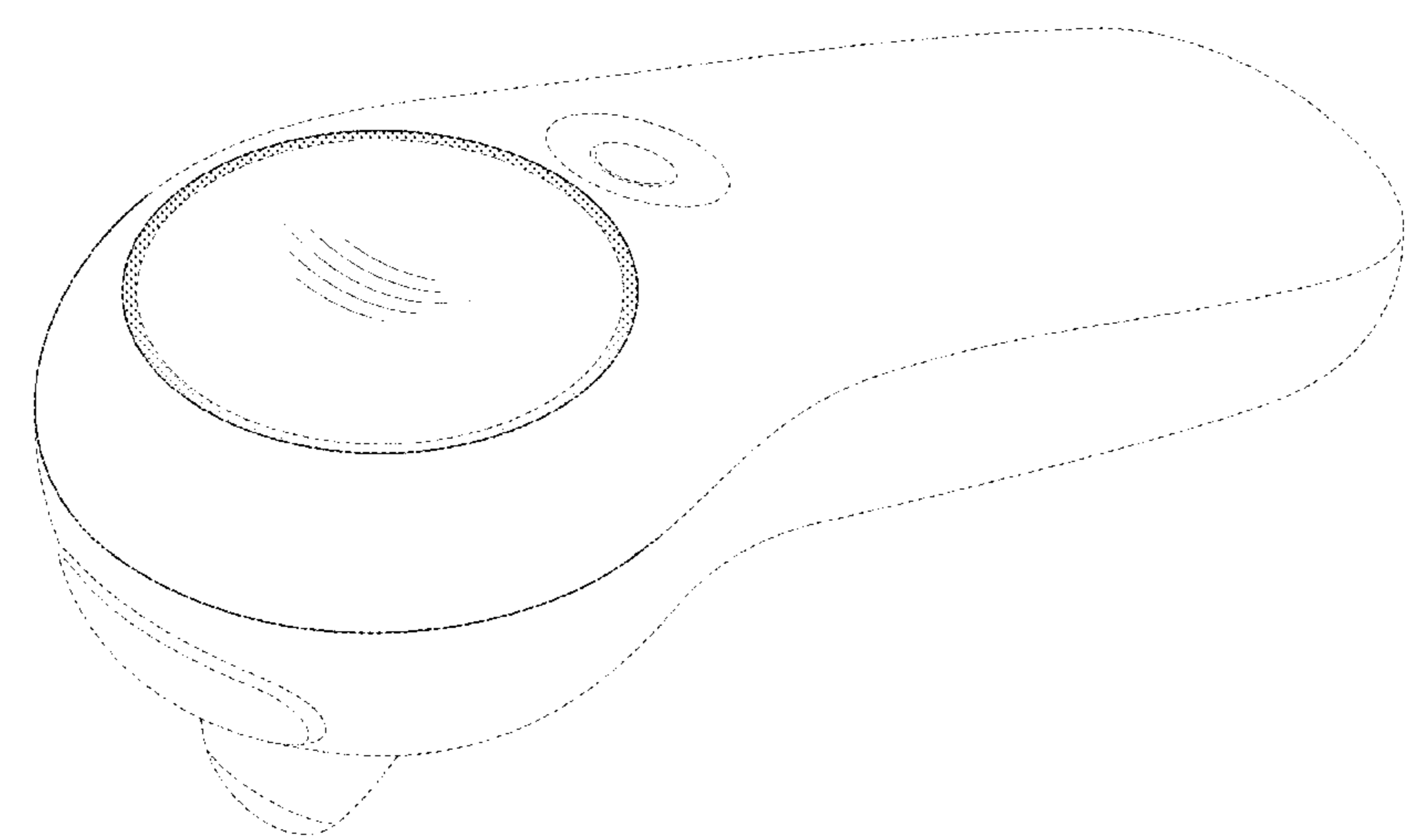
D432,131 S * 10/2000 Jones D14/402

6,850,221 B1 2/2005 Tickle

D514,570 S * 2/2006 Ohta D14/384

D563,480 S 3/2008 Blaseflug et al.

D565,668 S 4/2008 Baseflug et al.



2012/0162549	A1	6/2012	Gao et al.
2013/0082922	A1	4/2013	Miller
2013/0104085	A1	4/2013	Mlyniec et al.
2013/0117377	A1	5/2013	Miller
2013/0125027	A1	5/2013	Abovitz
2013/0208234	A1	8/2013	Lewis
2013/0242262	A1	9/2013	Lewis
2014/0071539	A1	3/2014	Gao
2014/0177023	A1	6/2014	Gao et al.
2014/0218468	A1	8/2014	Gao et al.
2014/0267420	A1	9/2014	Schowengerdt
2014/0306866	A1	10/2014	Miller et al.
2014/0320531	A1	10/2014	Elvesjö
2015/0016777	A1	1/2015	Abovitz et al.
2015/0103306	A1	4/2015	Kaji et al.
2015/0138101	A1	5/2015	Park
2015/0178939	A1	6/2015	Bradski et al.
2015/0205126	A1	7/2015	Schowengerdt
2015/0222883	A1	8/2015	Welch
2015/0222884	A1	8/2015	Cheng
2015/0268415	A1	9/2015	Schowengerdt et al.
2015/0302652	A1	10/2015	Miller et al.
2015/0309263	A2	10/2015	Abovitz et al.
2015/0317833	A1	11/2015	Ebstyne et al.
2015/0326570	A1	11/2015	Publicover et al.
2015/0346490	A1	12/2015	TeKolste et al.
2015/0346495	A1	12/2015	Welch et al.
2016/0011419	A1	1/2016	Gao
2016/0026253	A1	1/2016	Bradski et al.
2016/0259404	A1	9/2016	Woods
2018/0053284	A1	2/2018	Rodriguez et al.
2018/0314406	A1	11/2018	Powderly
2018/0314416	A1	11/2018	Powderly

FOREIGN PATENT DOCUMENTS

WO WO 2016/104922 6/2016

OTHER PUBLICATIONS

Design U.S. Appl. No. 29/657,667 to Natsume et al., filed Jul. 24, 2018.

Design U.S. Appl. No. 29/657,652 to Natsume et al., filed Jul. 24, 2018.

Invitation to Pay Additional Fees and, Where Applicable, Protest Fee for PCT Application No. PCT/US18/29988, dated Jul. 3, 2018. International Search Report and Written Opinion for PCT Application No. PCT/US18/29988, dated Aug. 30, 2018.

International Preliminary Report on Patentability for PCT Application No. PCT/US18/29988, dated Oct. 29, 2019.

Azuma, "Predictive Tracking for Augmented Realty," TR95-007, Department of Computer Science, UNC-Chapel Hill, NC, Feb. 1995.

Bimber, et al., "Spatial Augmented Reality—Merging Real and Virtual Worlds," 2005 <https://web.media.mit.edu/~raskar/book/BimberRaskarAugmentedRealityBook.pdf>.

Jacob, "Eye Tracking in Advanced Interface Design," Human-Computer Interaction Lab Naval Research Laboratory, Washington, D.C. / paper/ in *Virtual Environments and Advanced Interface Design*, ed. by W. Barfield and T.A. Furness, pp. 258-288, Oxford University Press, New York (1995).

Nilsson, L.G., "Another touch screen technology tips up", *SemiAccurate*, Dec. 30, 2009, retrieved Jan. 29, 2017, in 4 pages. URL: <http://semiaccurate.com/2009/12/30/newtouchscreentechnologytips/>.

Tanriverdi and Jacob, "Interacting With Eye Movements in Virtual Environments," Department of Electrical Engineering and Computer Science, Tufts University, Medford, MA—paper/Proc. ACM CHI 2000 Human Factors in Computing Systems Conference, pp. 265-272, Addison-Wesley/ACM Press (2000).

* cited by examiner

Primary Examiner — John Windmuller

(74) *Attorney, Agent, or Firm* — Knobbe, Martens, Olson & Bear, LLP

(57) CLAIM

The ornamental design for a totem controller having an illumination region, as shown and described.

DESCRIPTION

FIG. 1 is a top view of a totem controller having an illumination region showing a first image in a sequence for the illumination region of our design;

FIG. 2 is a top view showing a second image in the sequence thereof;

FIG. 3 is a top view showing a third image in the sequence thereof;

FIG. 4 is a top view showing a fourth image in the sequence thereof;

FIG. 5 is a top view showing a fifth image in the sequence thereof;

FIG. 6 is a top view showing a sixth image in the sequence thereof;

FIG. 7 is a top view showing a seventh image in the sequence thereof;

FIG. 8 is a top view showing an eighth image in the sequence thereof;

FIG. 9 is a top view showing a ninth image in the sequence thereof;

FIG. 10 is a top view showing a tenth image in the sequence thereof;

FIG. 11 is a top view showing an eleventh image in the sequence thereof;

FIG. 12 is a top view showing a twelfth image in the sequence thereof;

FIG. 13 is a top view showing a thirteenth image in the sequence thereof;

FIG. 14 is a front perspective view of a totem controller having an illumination region showing a first image in the sequence for the illumination region of our design;

FIG. 15 is a front perspective view showing a second image in the sequence thereof;

FIG. 16 is a front perspective view showing a third image in the sequence thereof;

FIG. 17 is a front perspective view showing a fourth image in the sequence thereof;

FIG. 18 is a front perspective view showing a fifth image in the sequence thereof;

FIG. 19 is a front perspective view showing a sixth image in the sequence thereof;

FIG. 20 is a front perspective view showing a seventh image in the sequence thereof;

FIG. 21 is a front perspective view showing an eighth image in the sequence thereof;

FIG. 22 is a front perspective view showing a ninth image in the sequence thereof;

FIG. 23 is a front perspective view showing a tenth image in the sequence thereof;

FIG. 24 is a front perspective view showing an eleventh image in the sequence thereof;

FIG. 25 is a front perspective view showing a twelfth image in the sequence thereof;

FIG. 26 is a front perspective view showing a thirteenth image in the sequence thereof;

FIG. 27 is a bottom view of a totem controller having an illumination region of FIGS. 1-26;

FIG. 28 is a left side view thereof;
FIG. 29 is a right side view thereof;
FIG. 30 is a rear view thereof;
FIG. 31 is a front view thereof;
FIG. 32 is a top view of thereof showing our design in a non-illuminated state; and,
FIG. 33 is a front perspective view thereof showing our design in a non-illuminated state.

The broken lines in FIGS. 1-33 depicting various optional components of a totem controller are included for illustrating environmental structure and form no part of the claimed design. The long-short dashed lines in FIGS. 14-26 and 33 indicate curvature and are not themselves part of the claimed design.

The appearance of the illumination region sequentially transitions between the images shown for the sequence in FIGS. 1-26. The process or period in which one image transitions to another in the sequence forms no part of the claimed design.

1 Claim, 33 Drawing Sheets

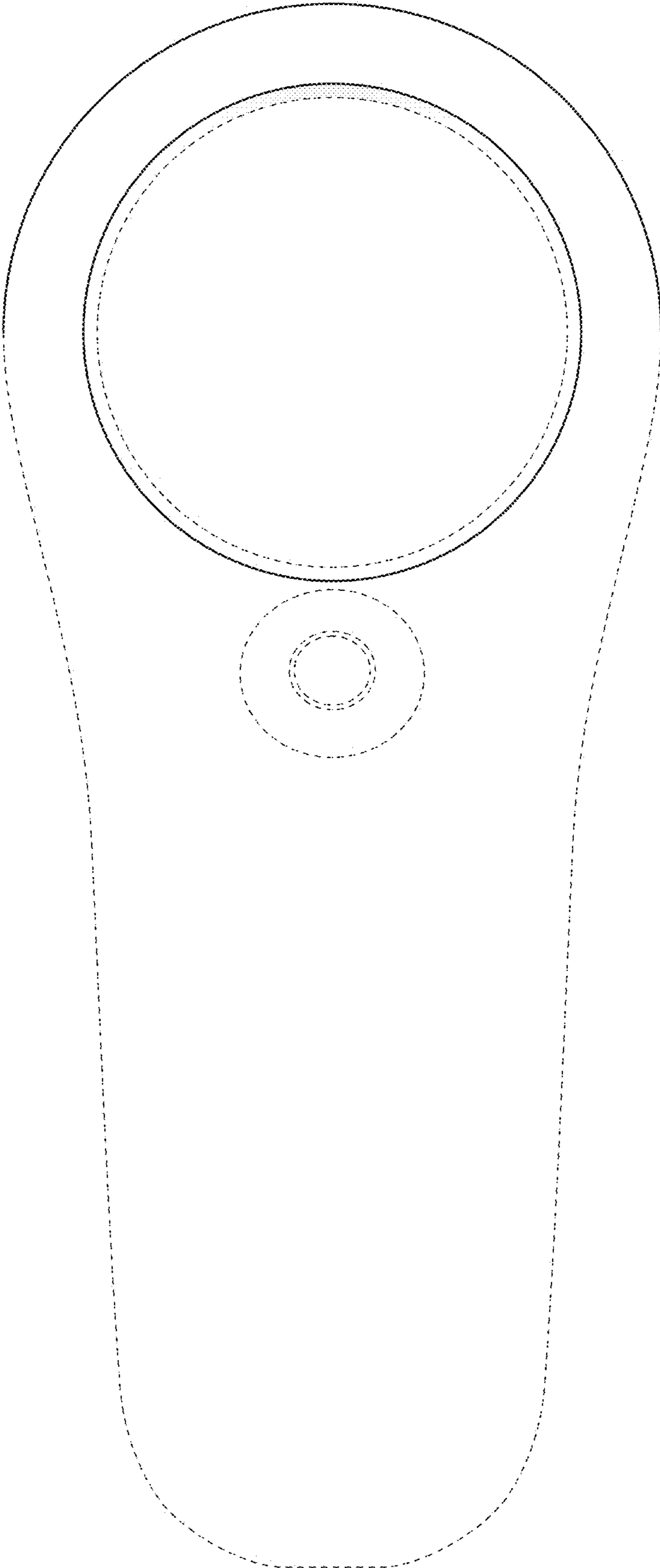


FIG. 1

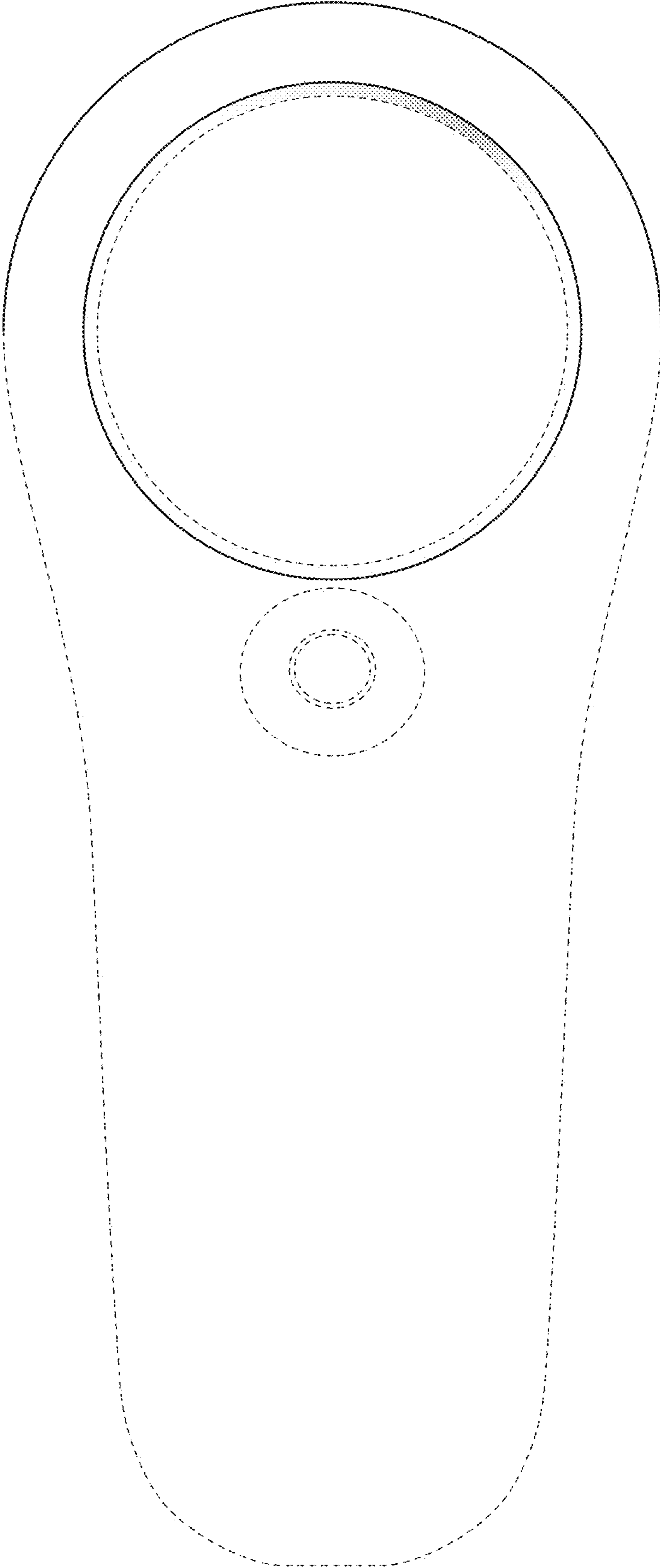


FIG. 2

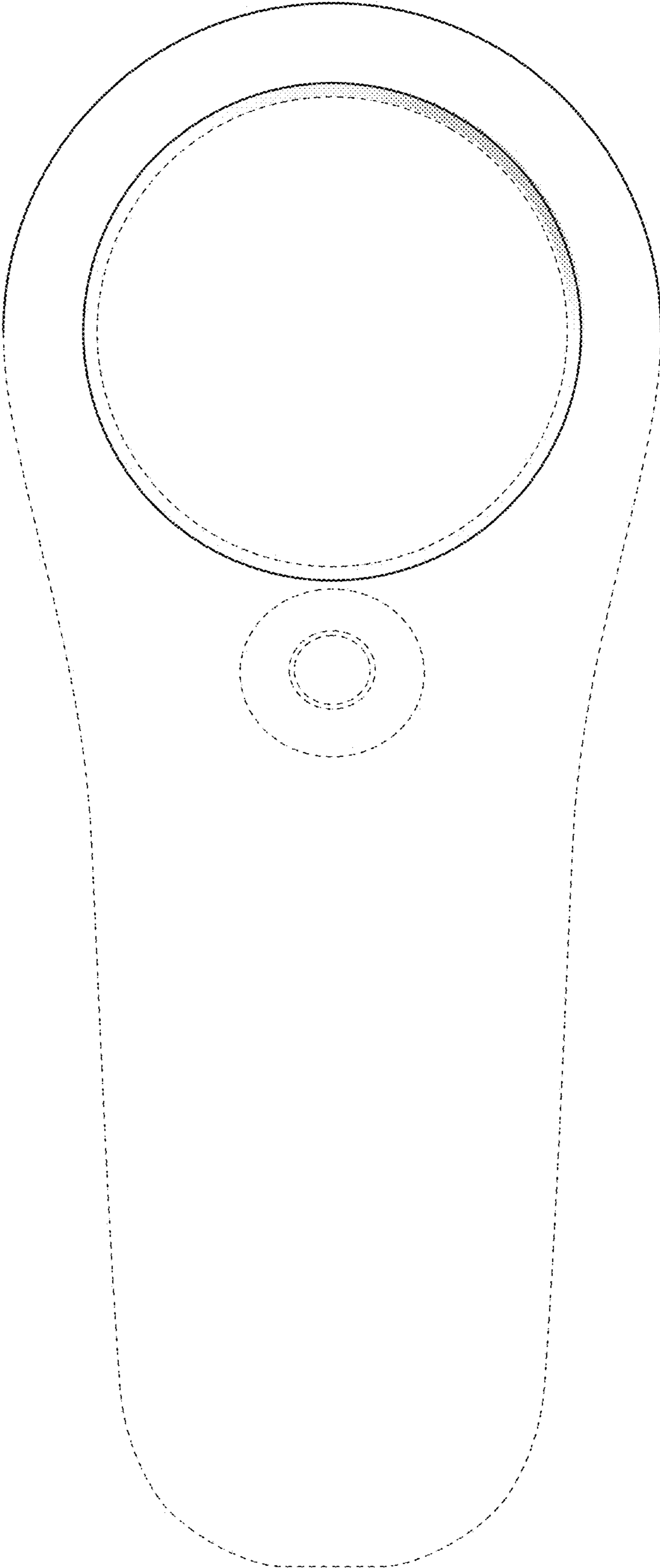


FIG. 3

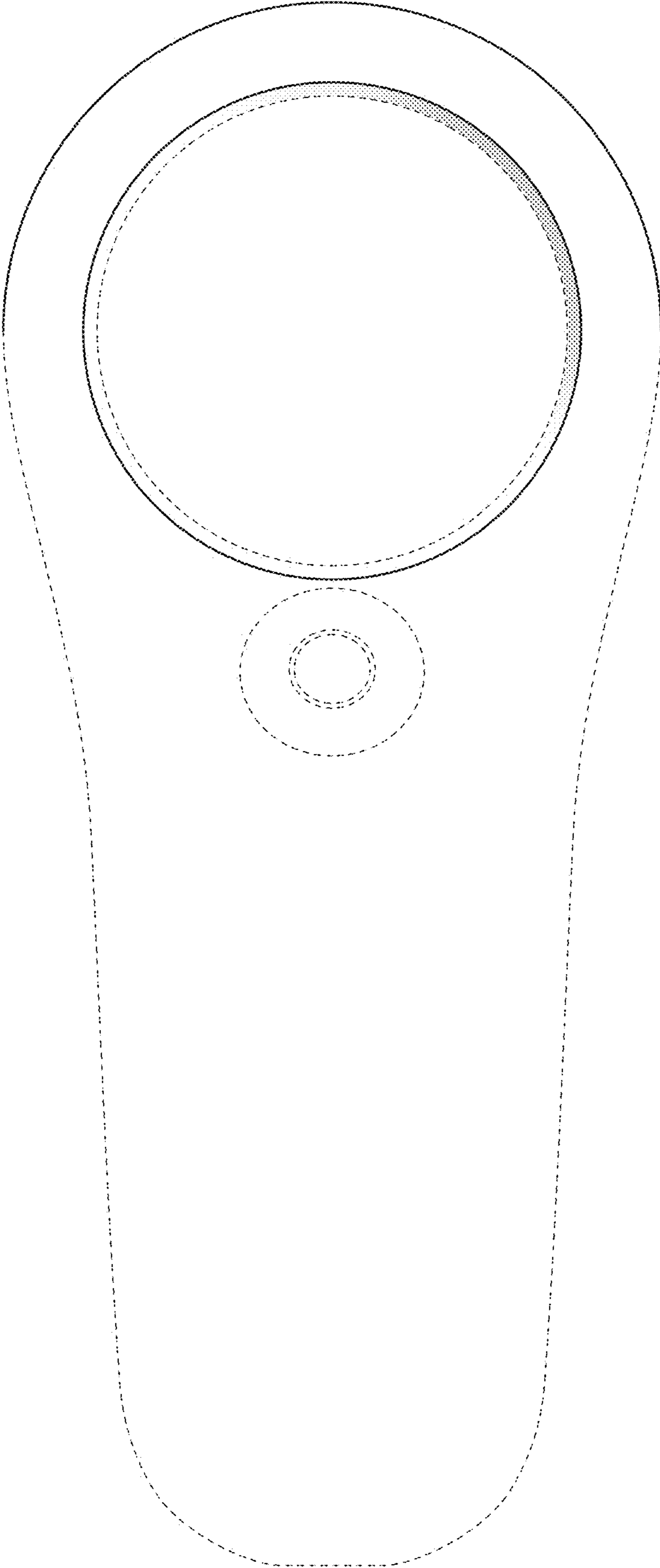


FIG. 4

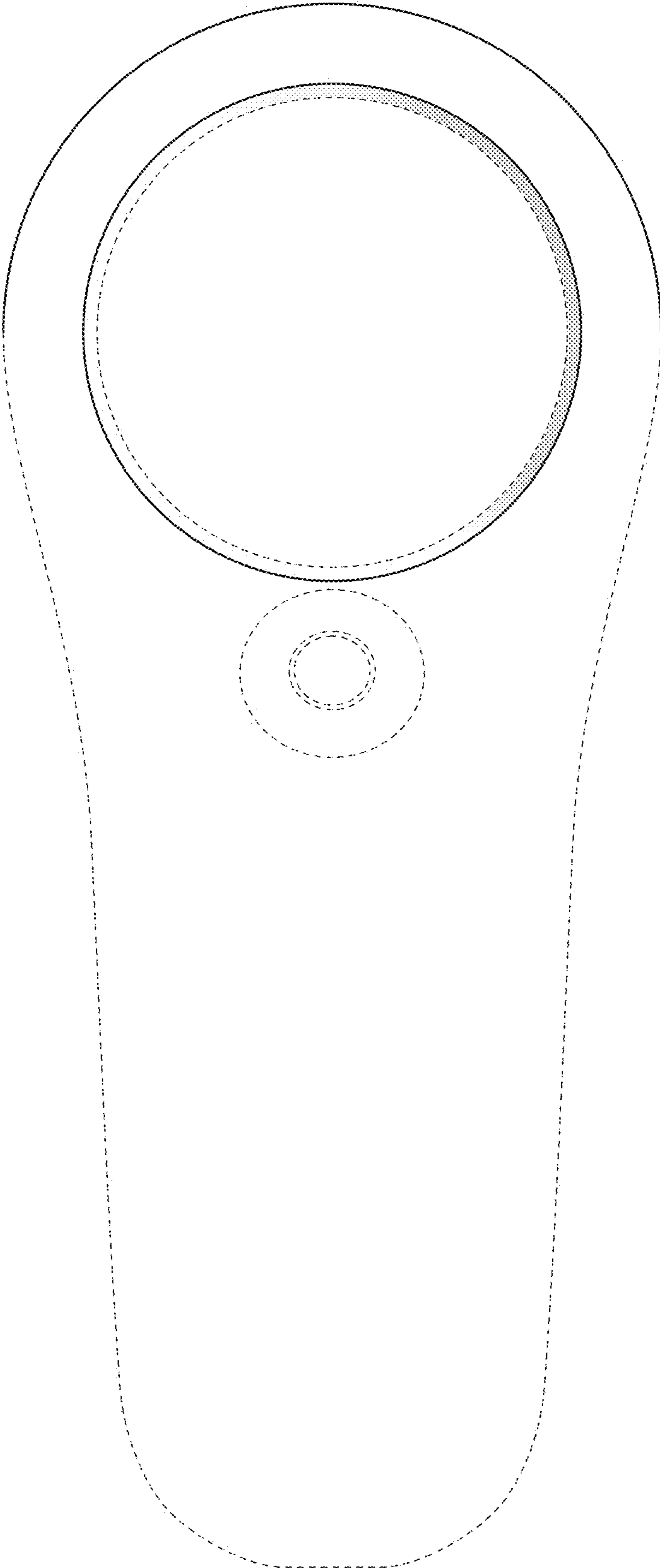


FIG. 5

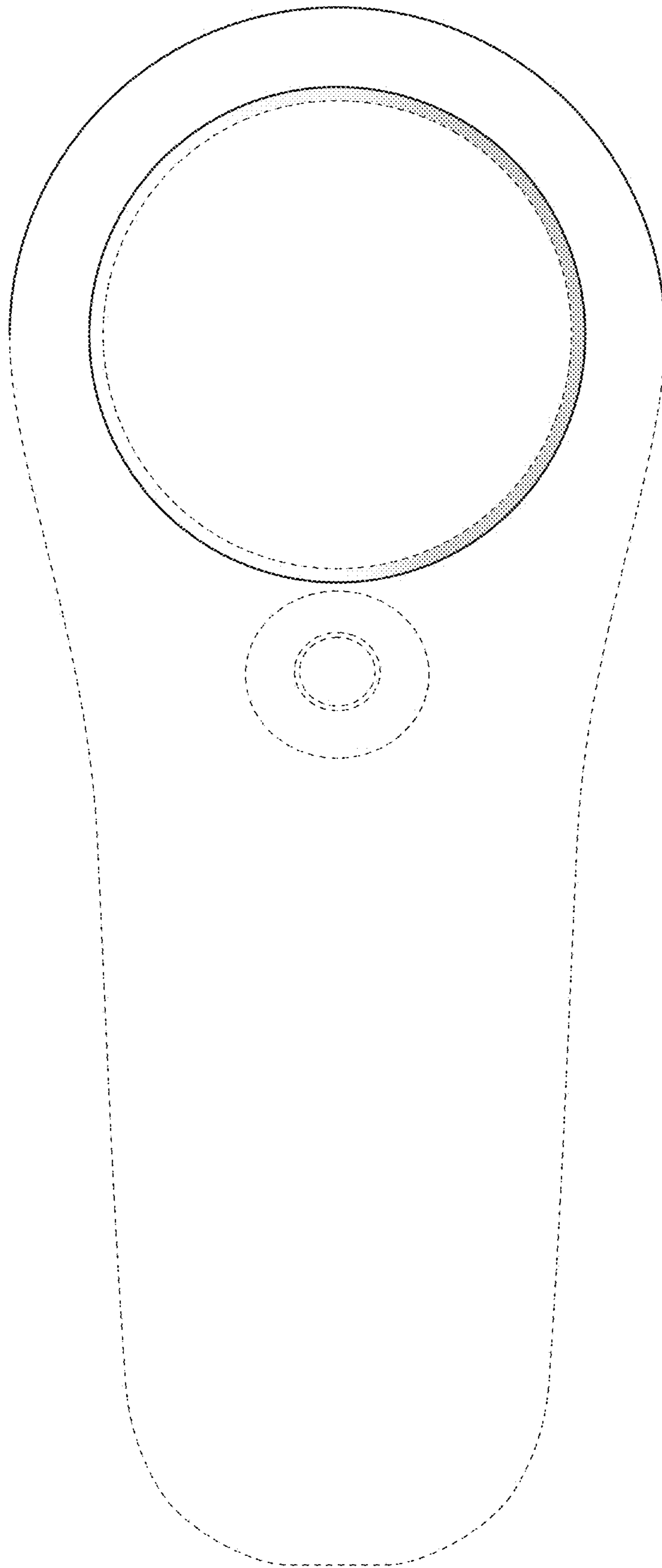


FIG. 6

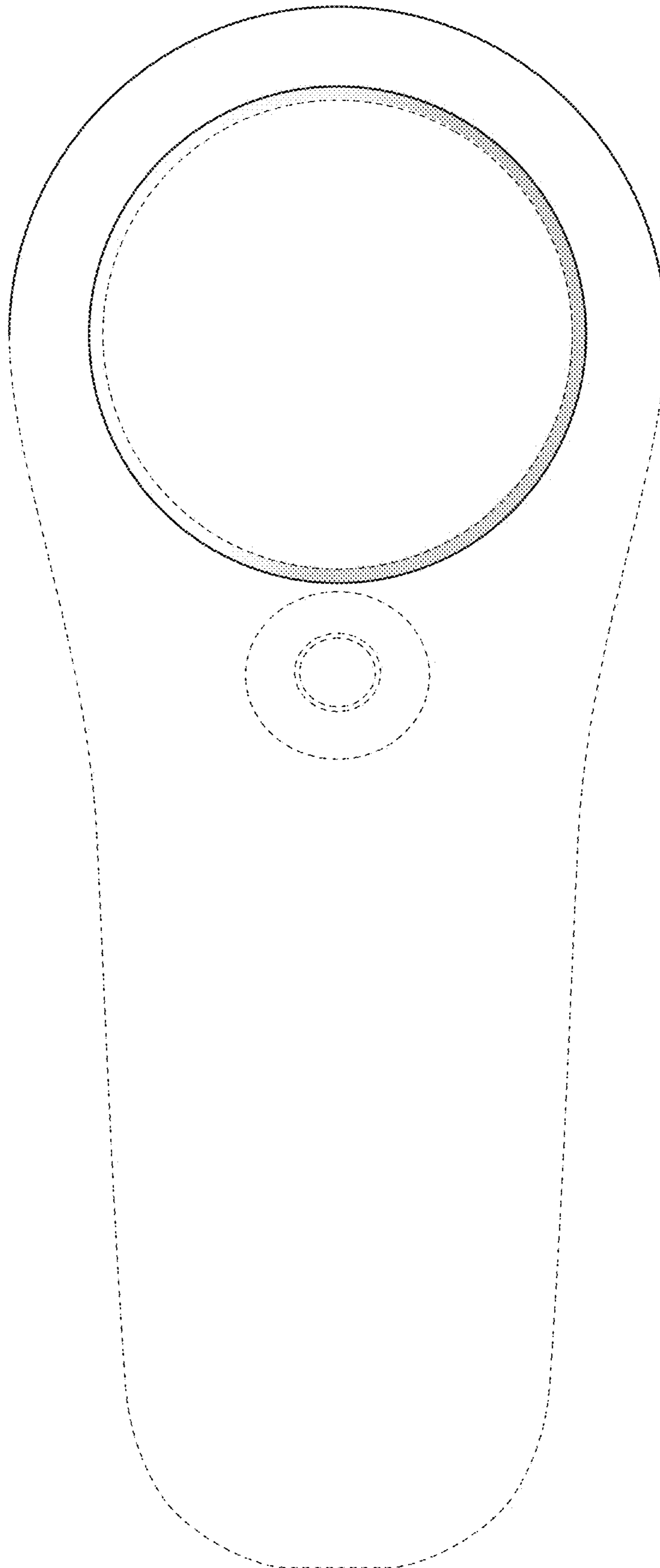


FIG. 7

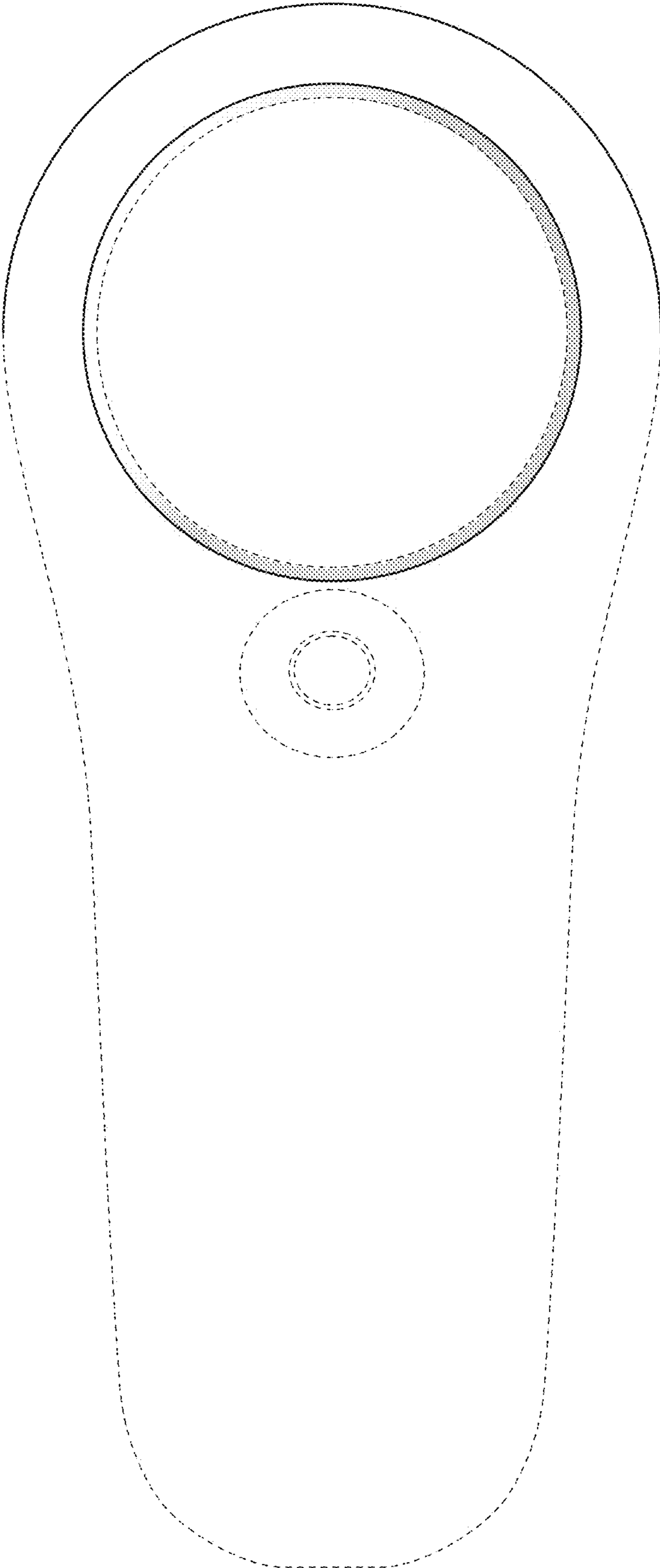


FIG. 8

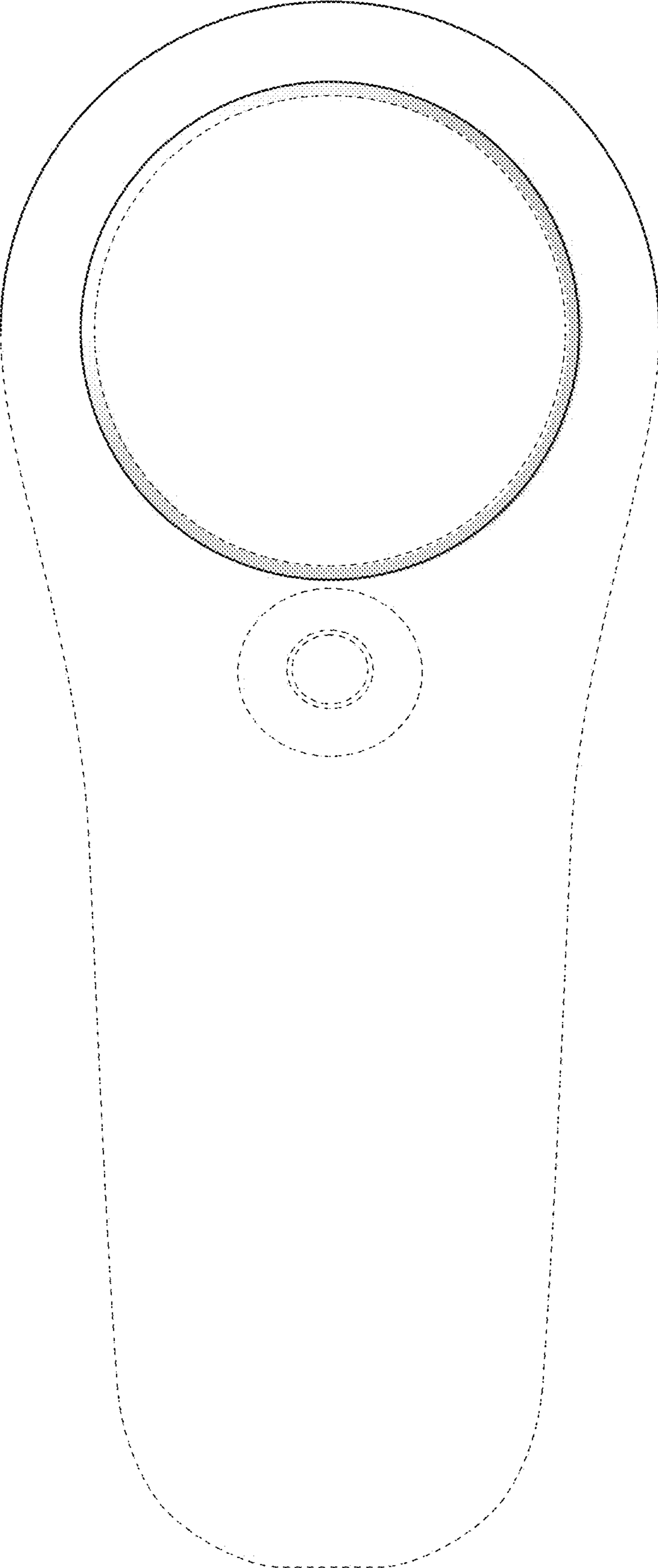


FIG. 9

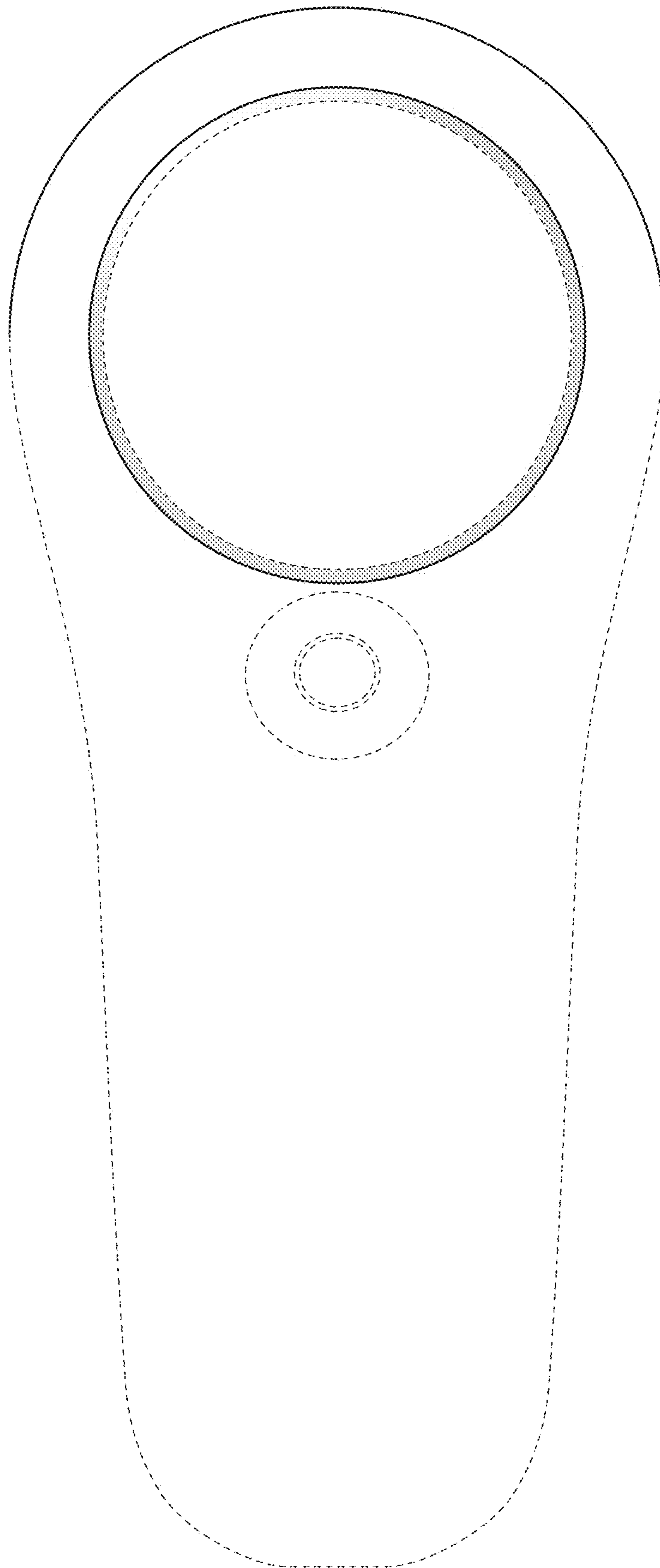


FIG. 10

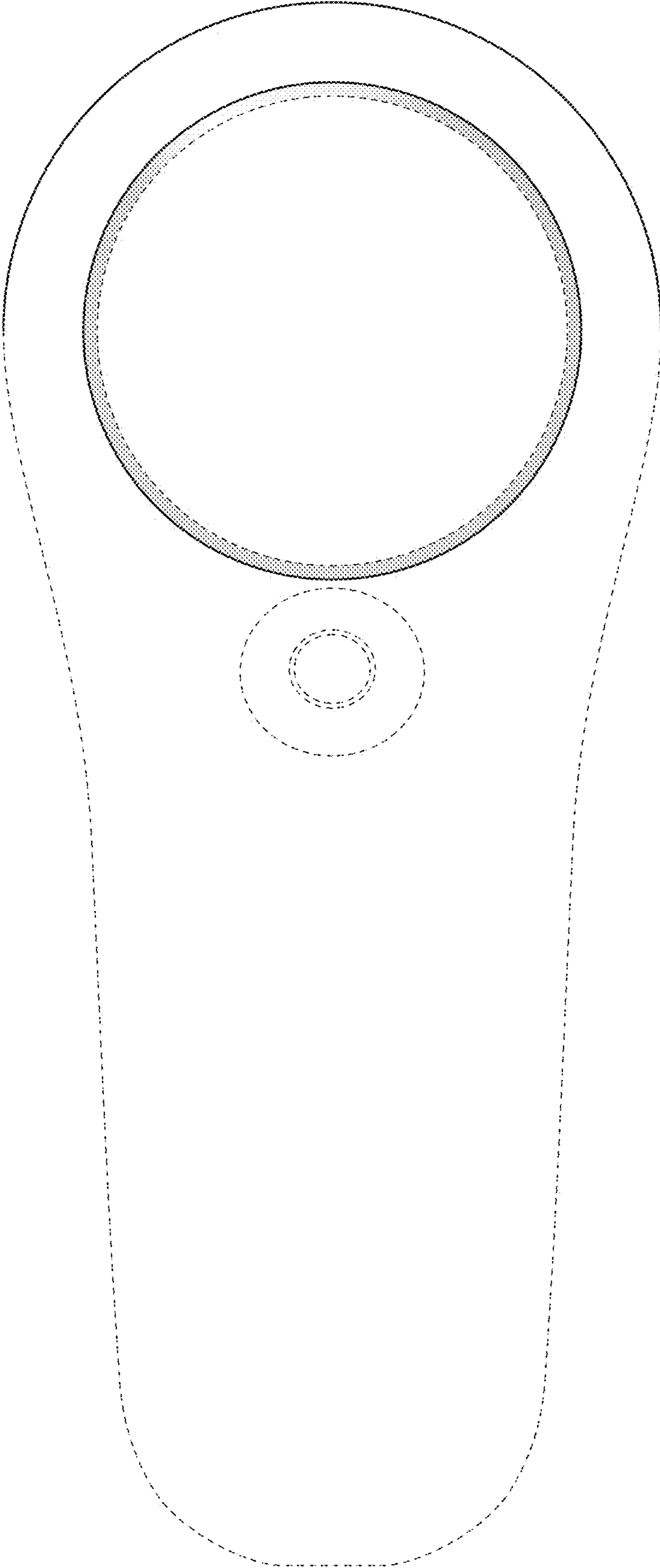


FIG. 11

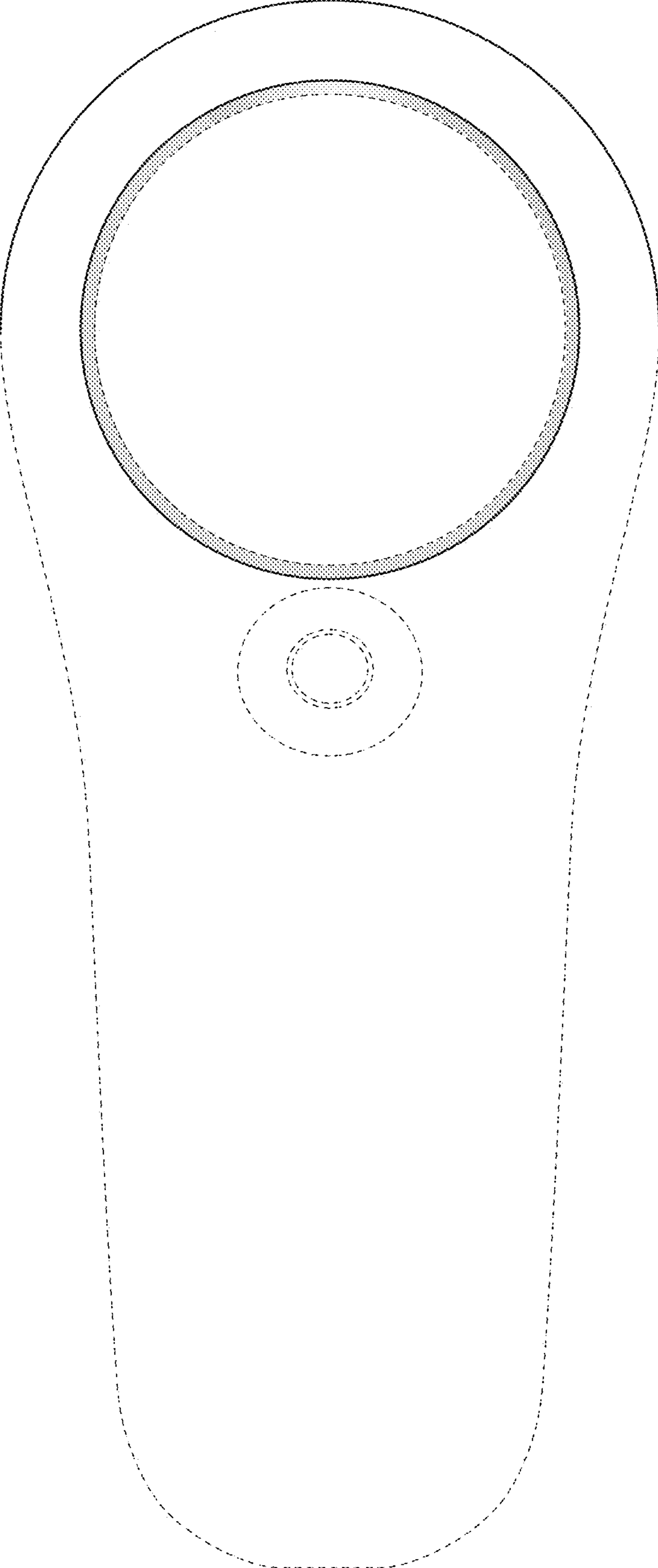


FIG. 12

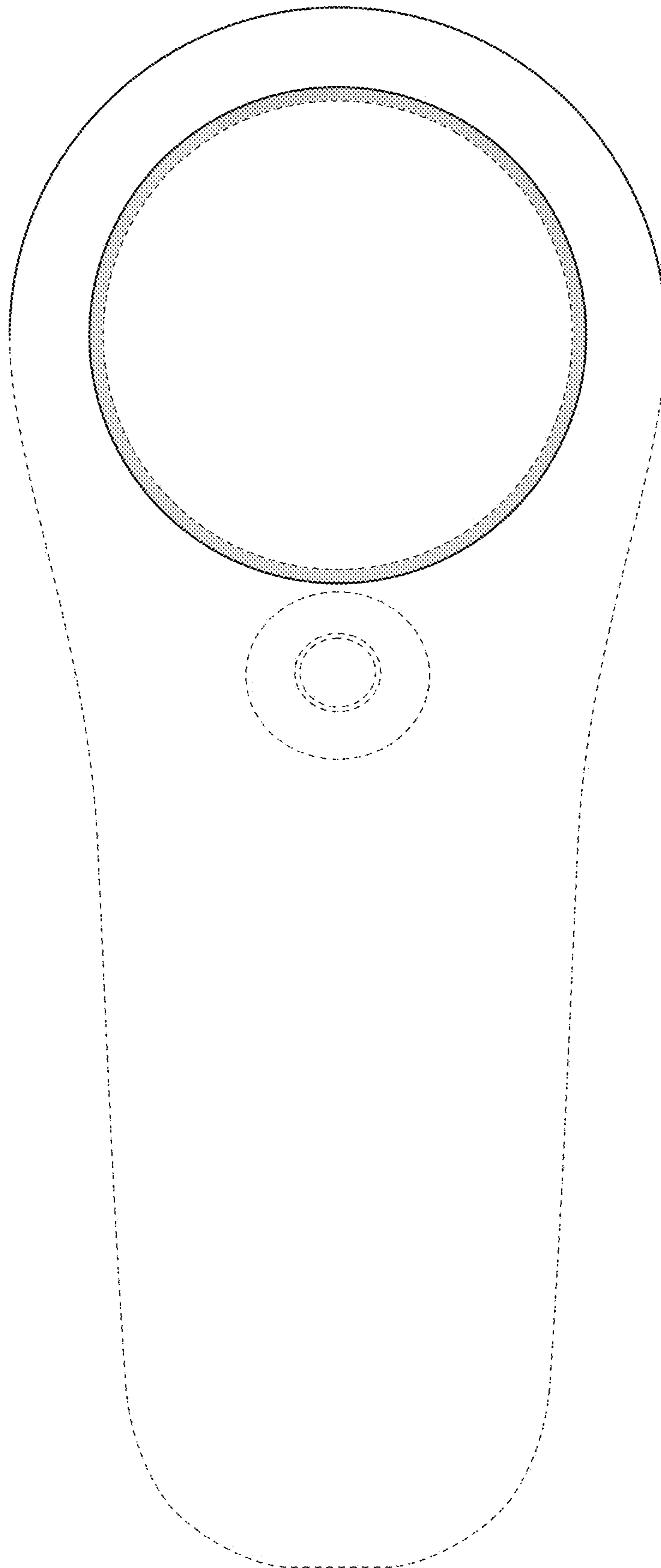


FIG. 13

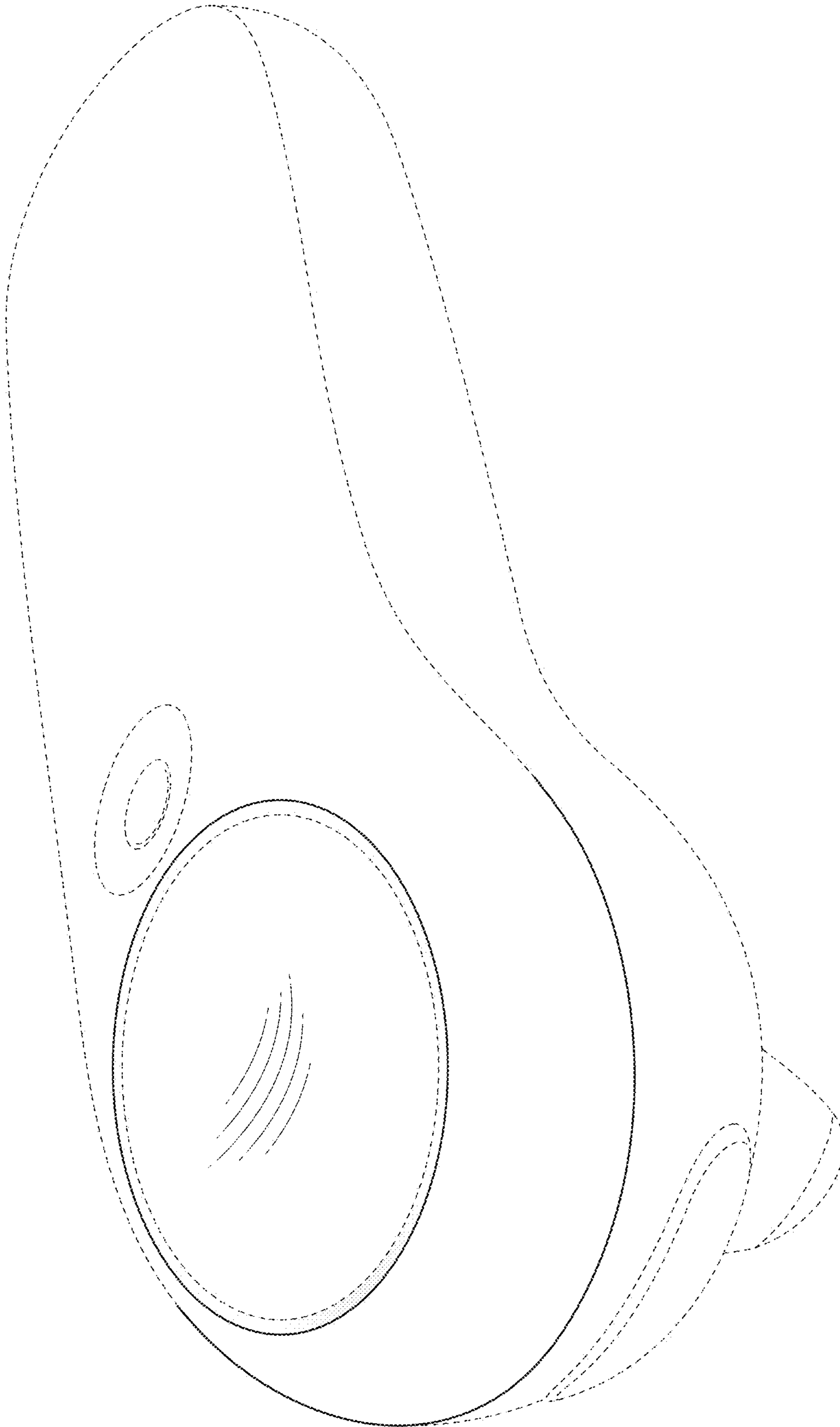


FIG. 14

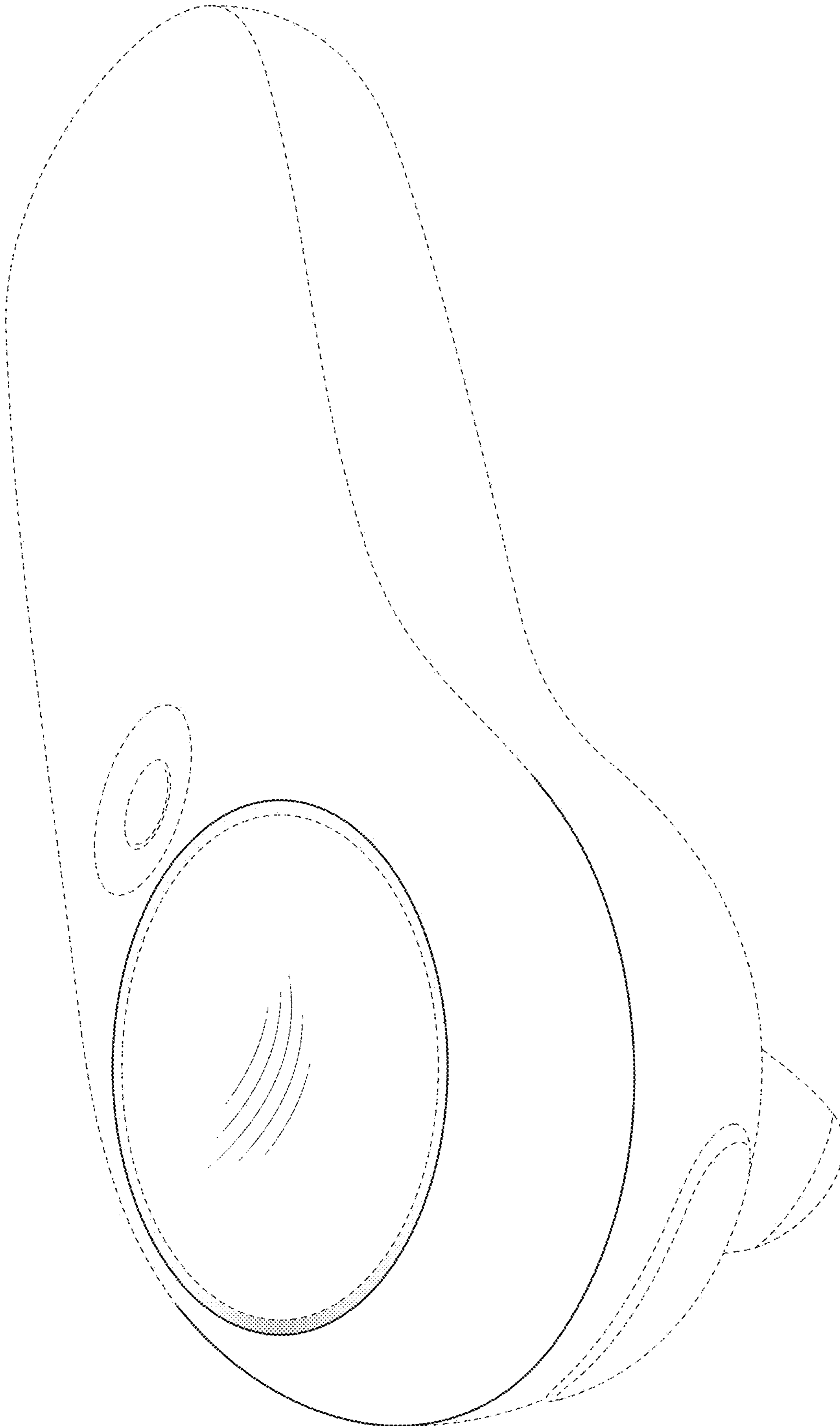


FIG. 15

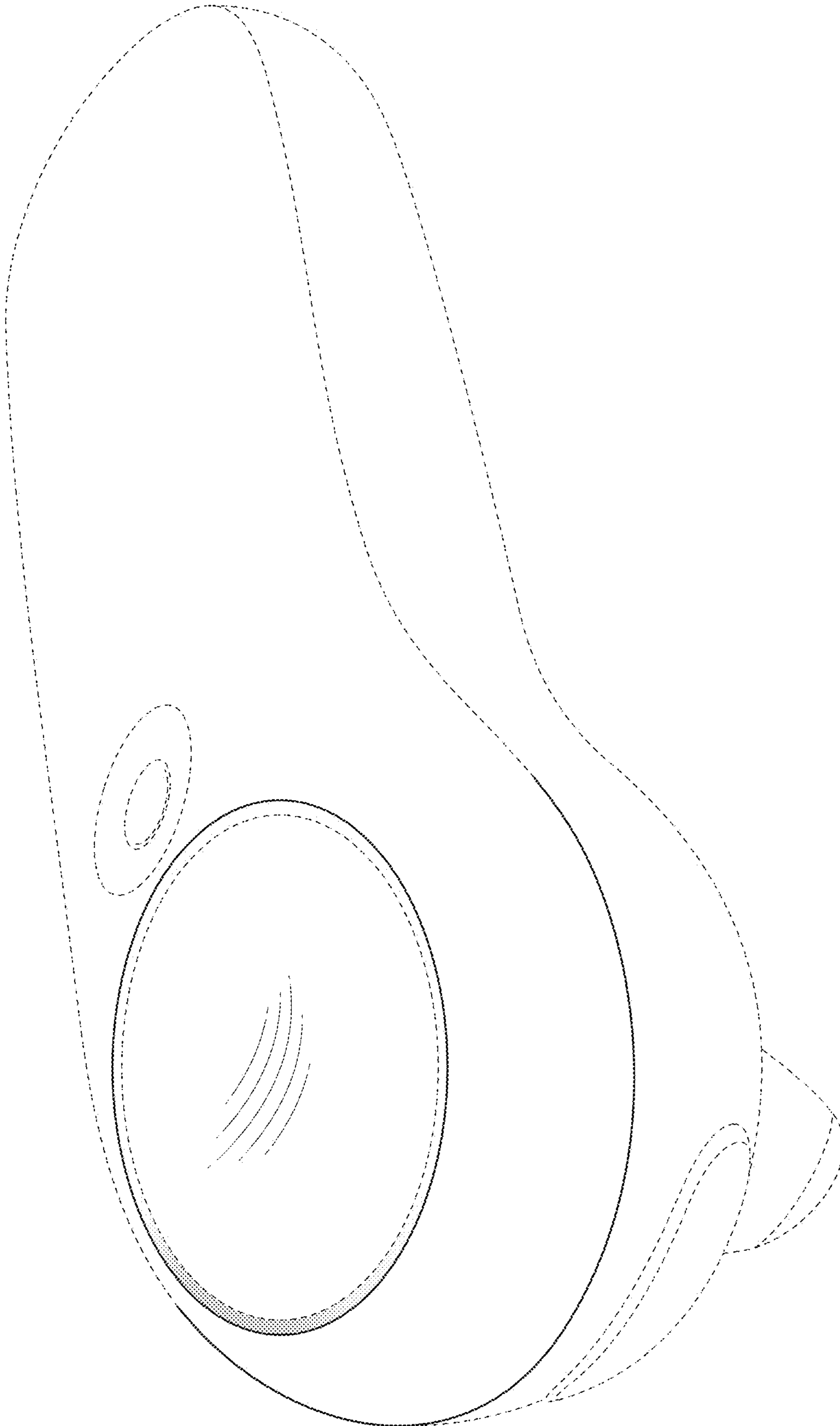


FIG. 16

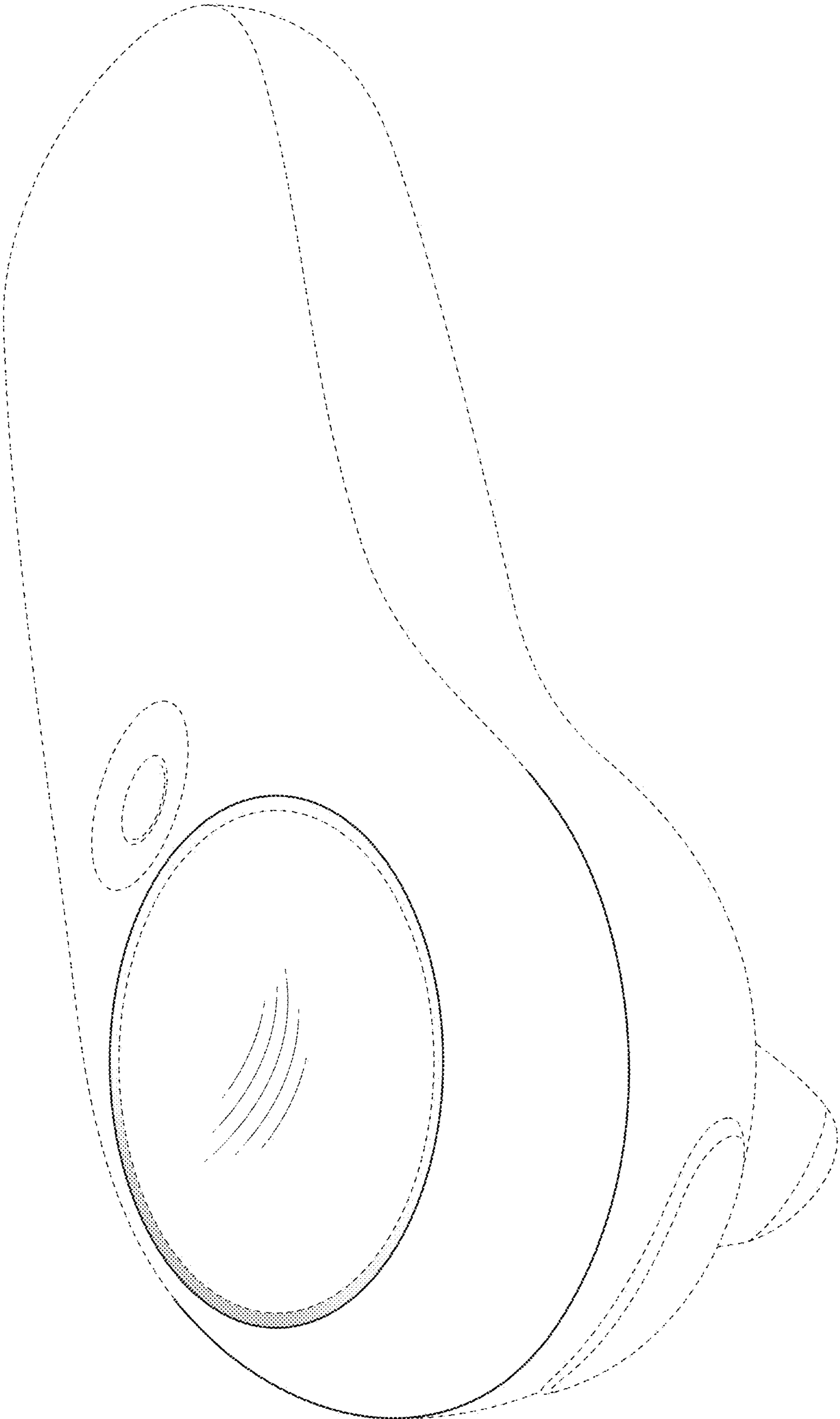


FIG. 17

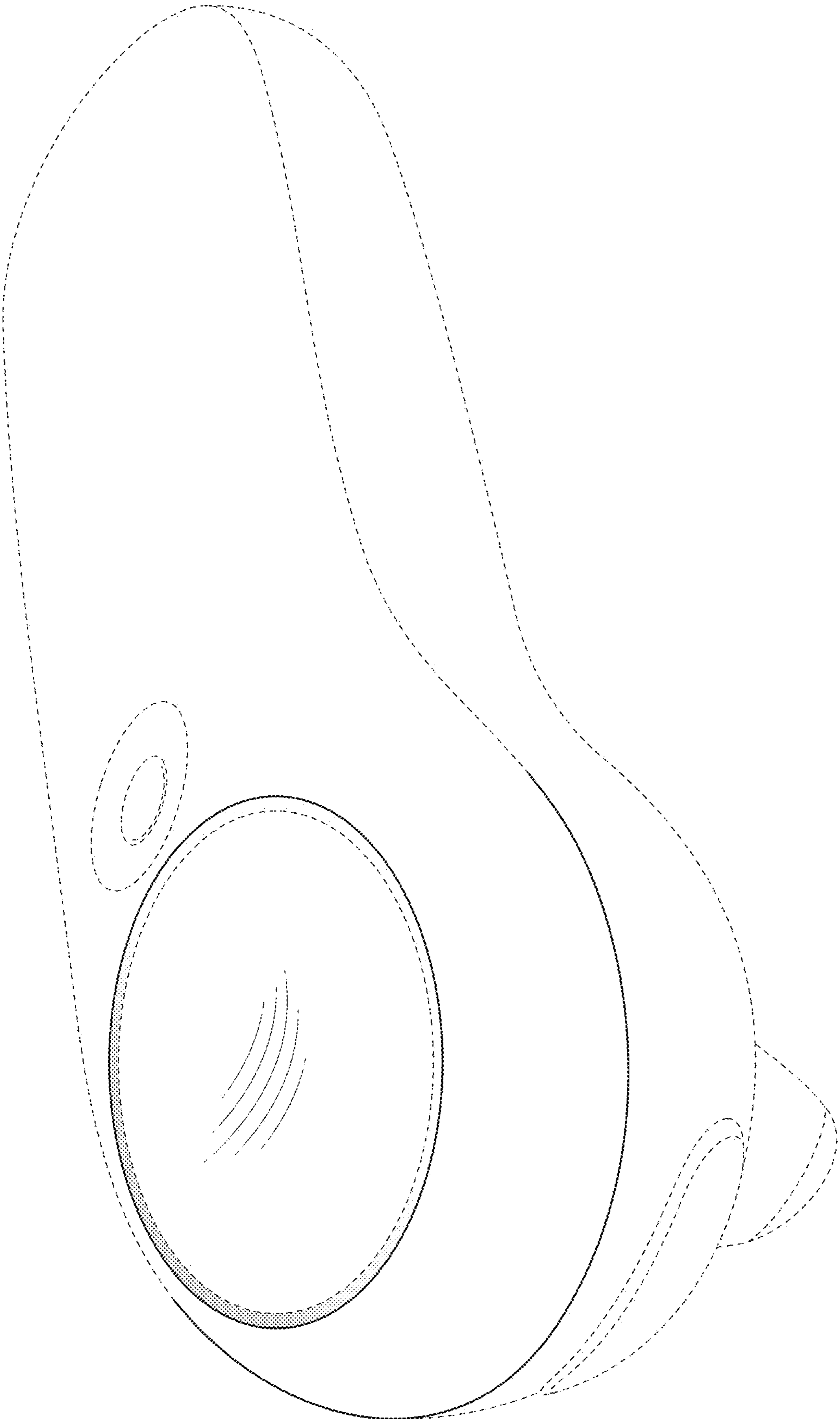


FIG. 18

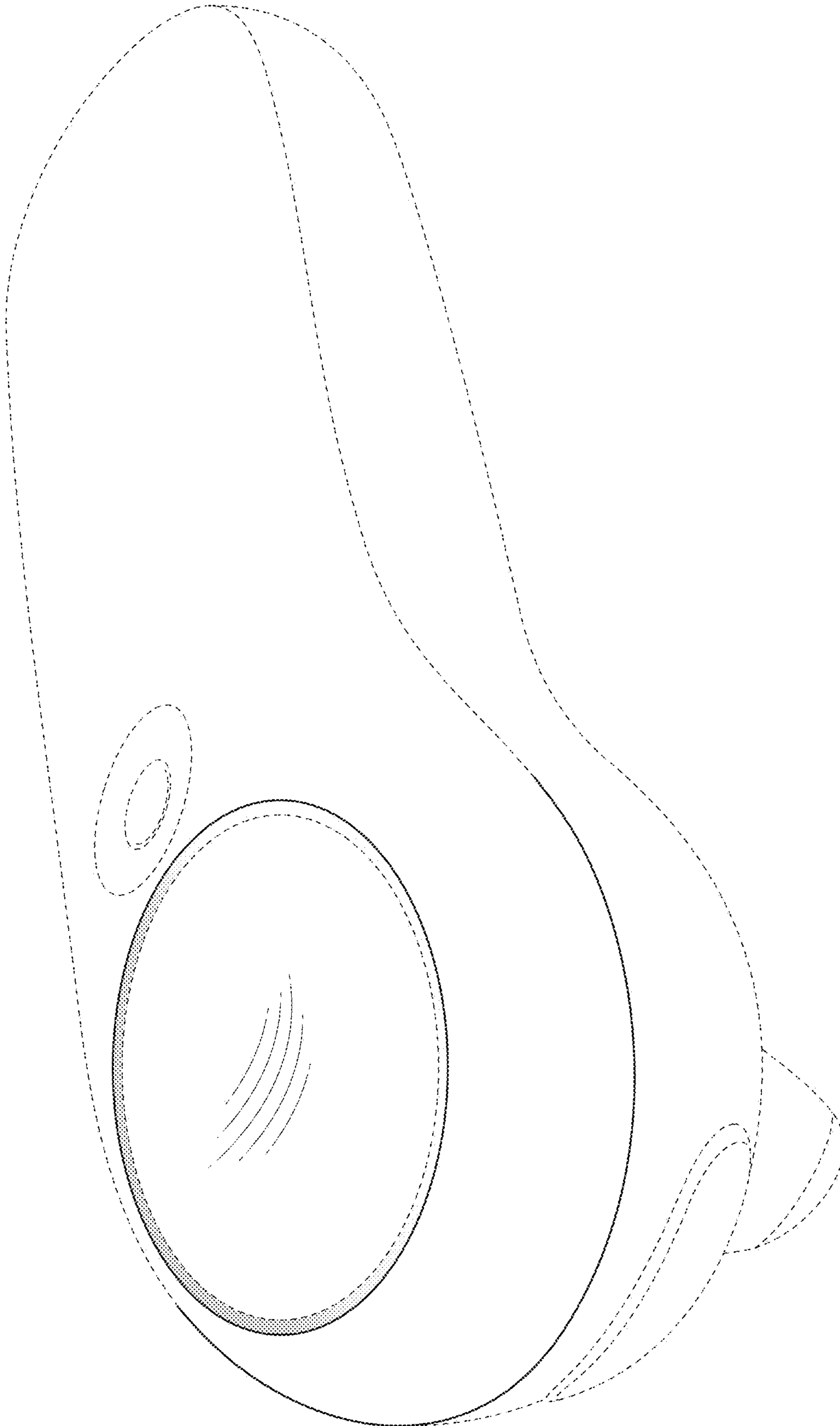


FIG. 19

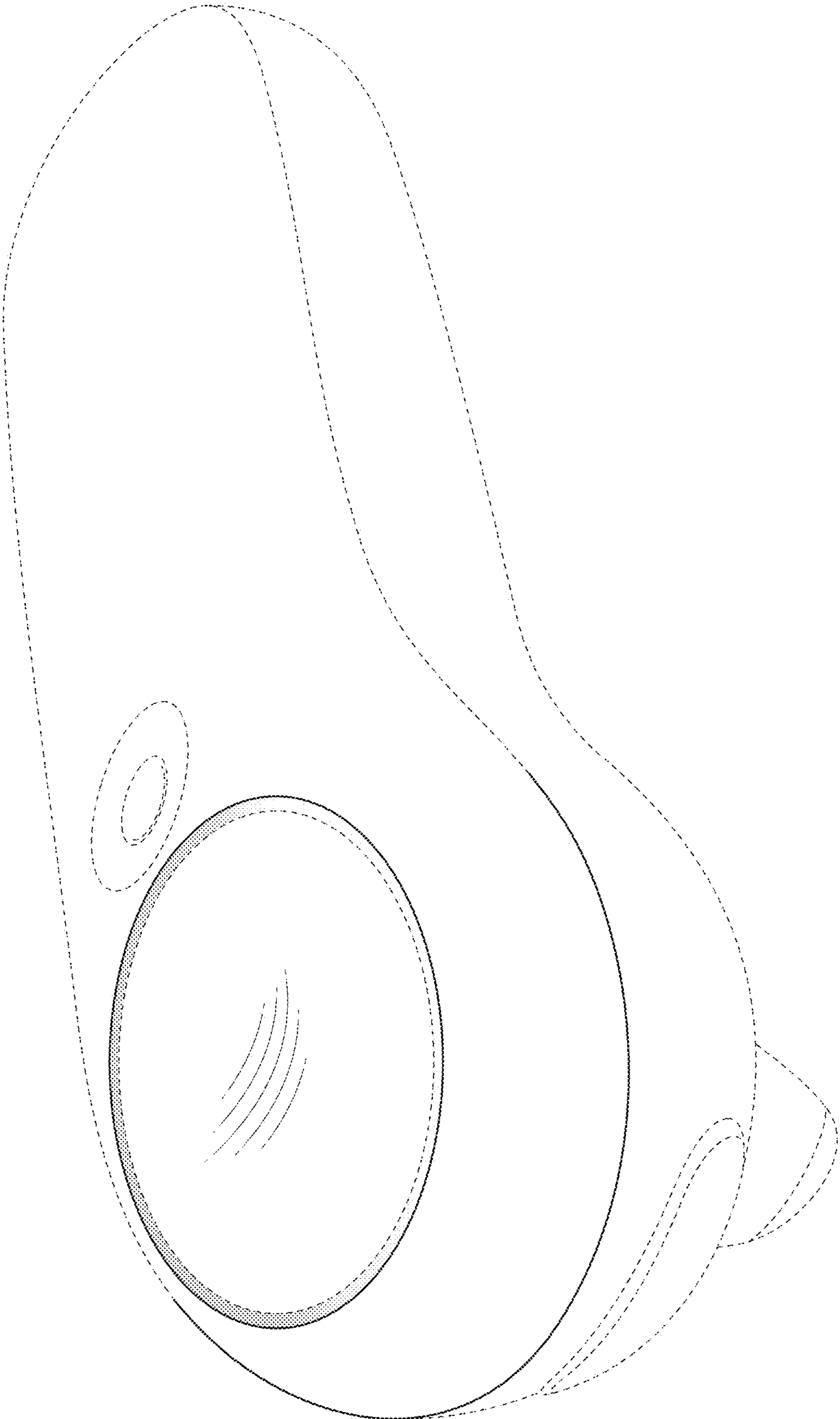


FIG. 20

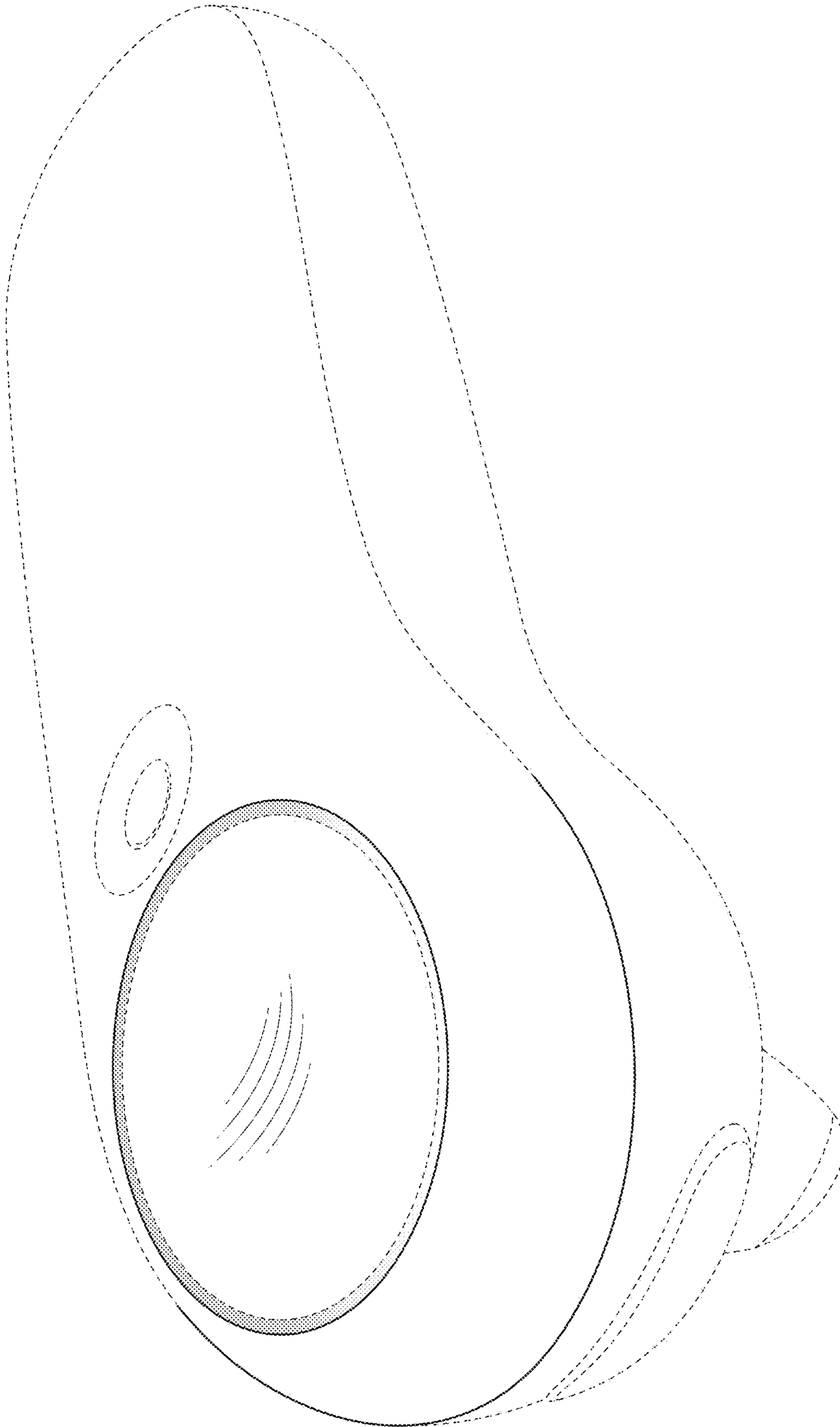


FIG. 21

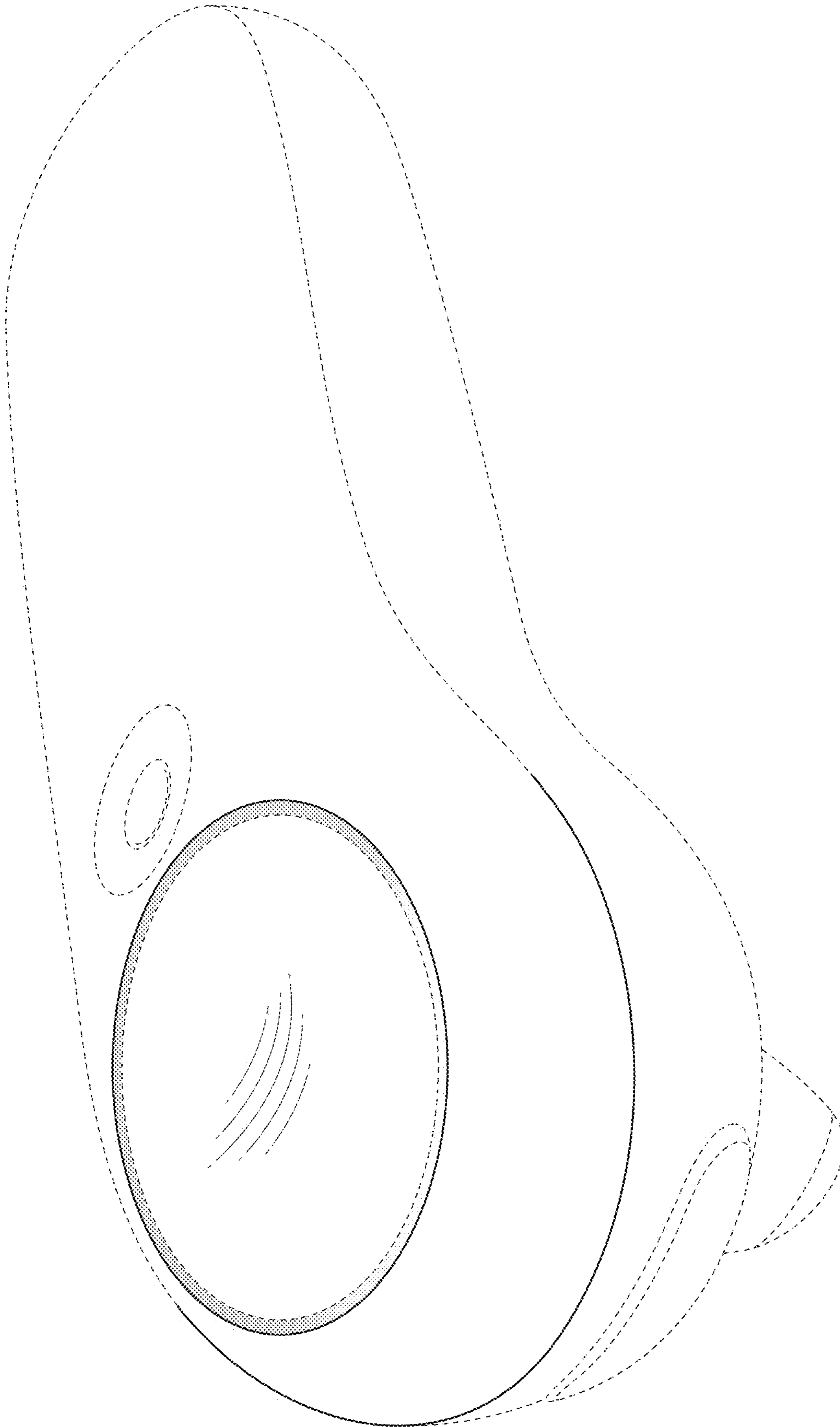


FIG. 22

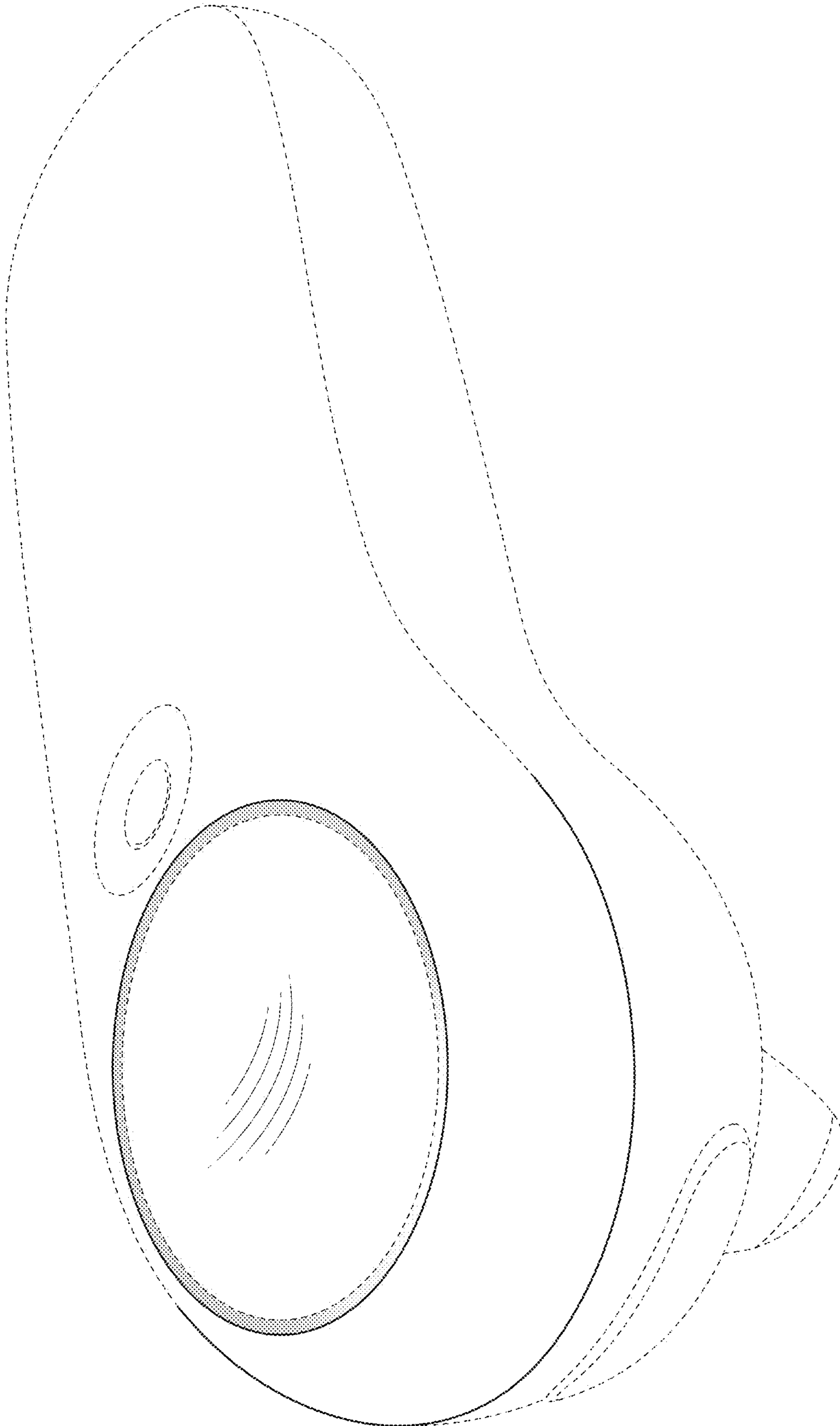


FIG. 23

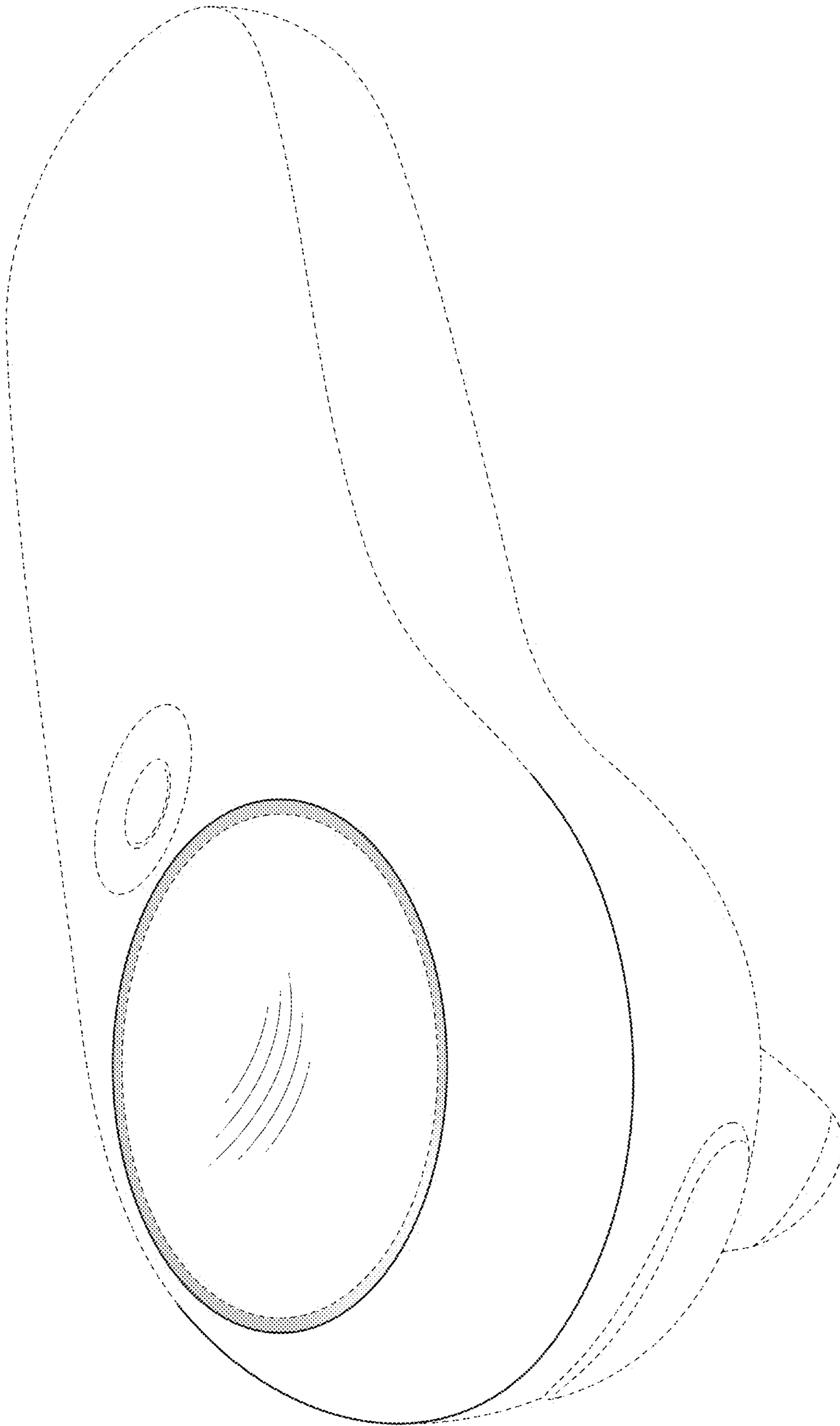


FIG. 24

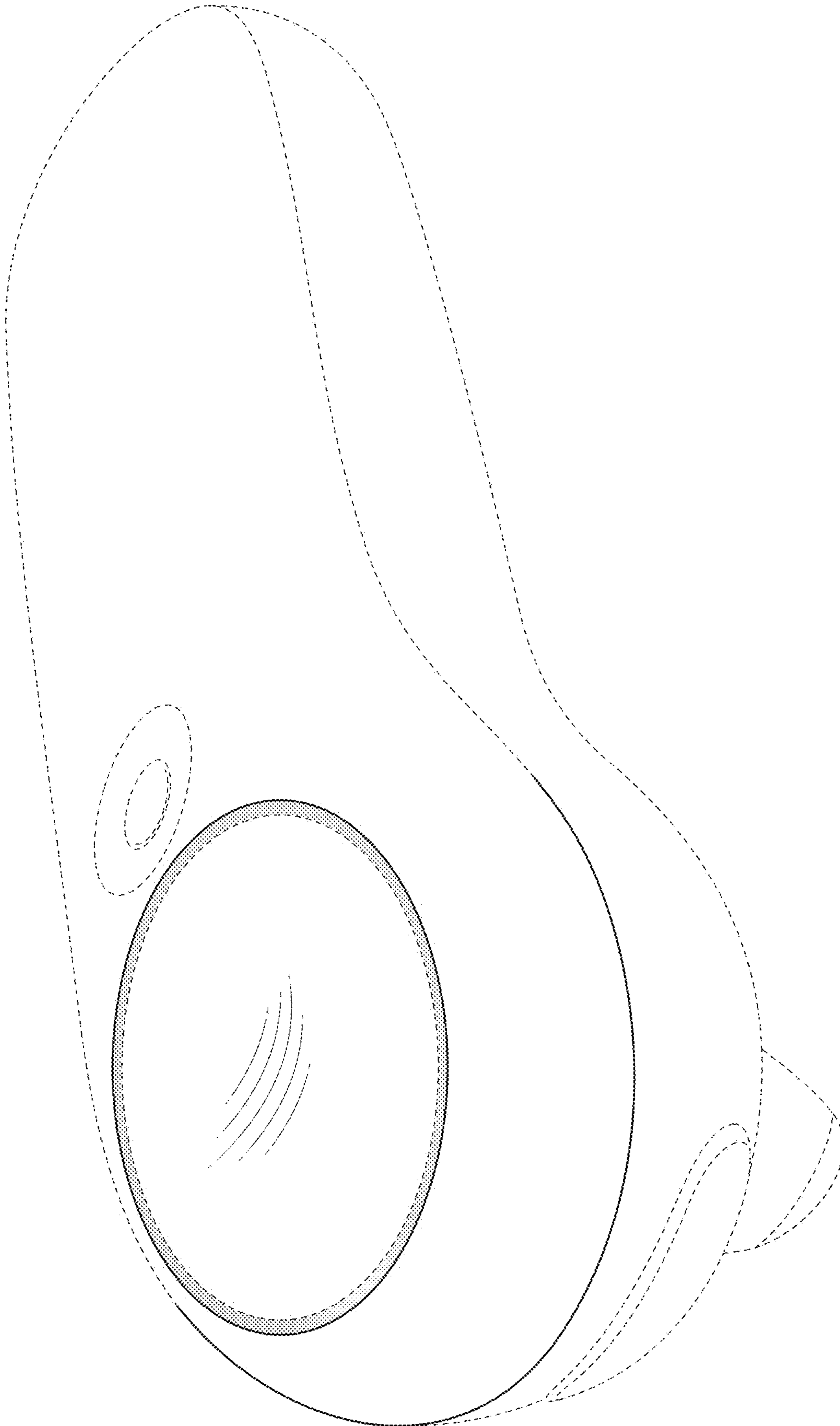


FIG. 25

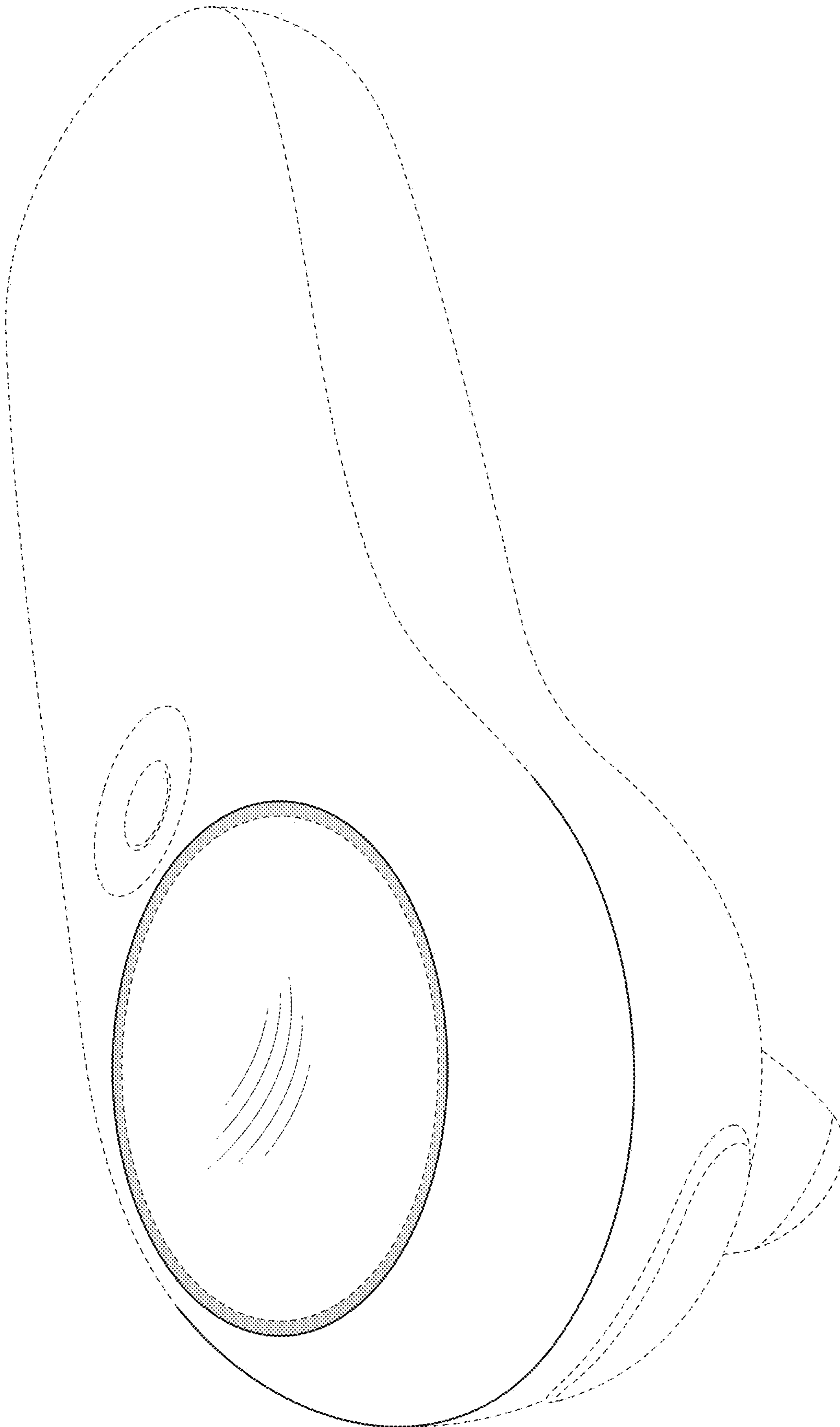


FIG. 26

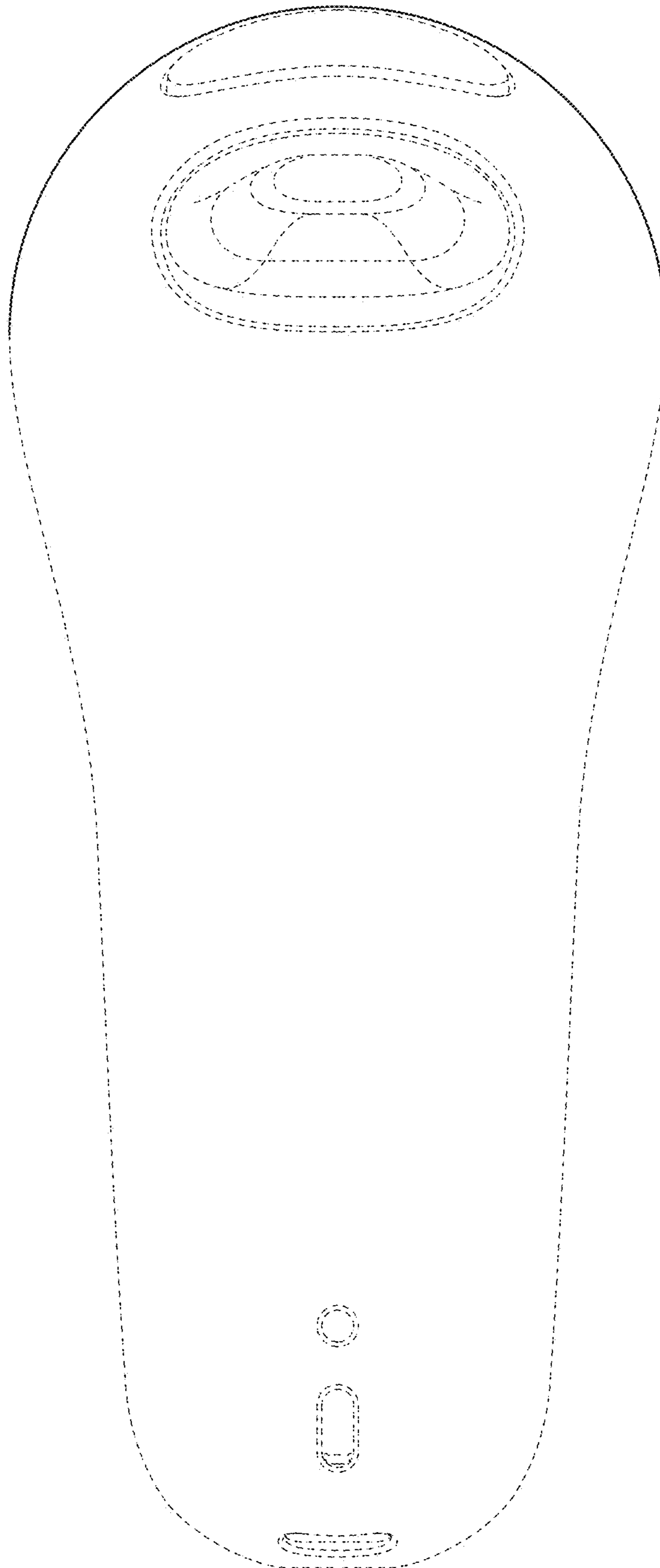


FIG. 27

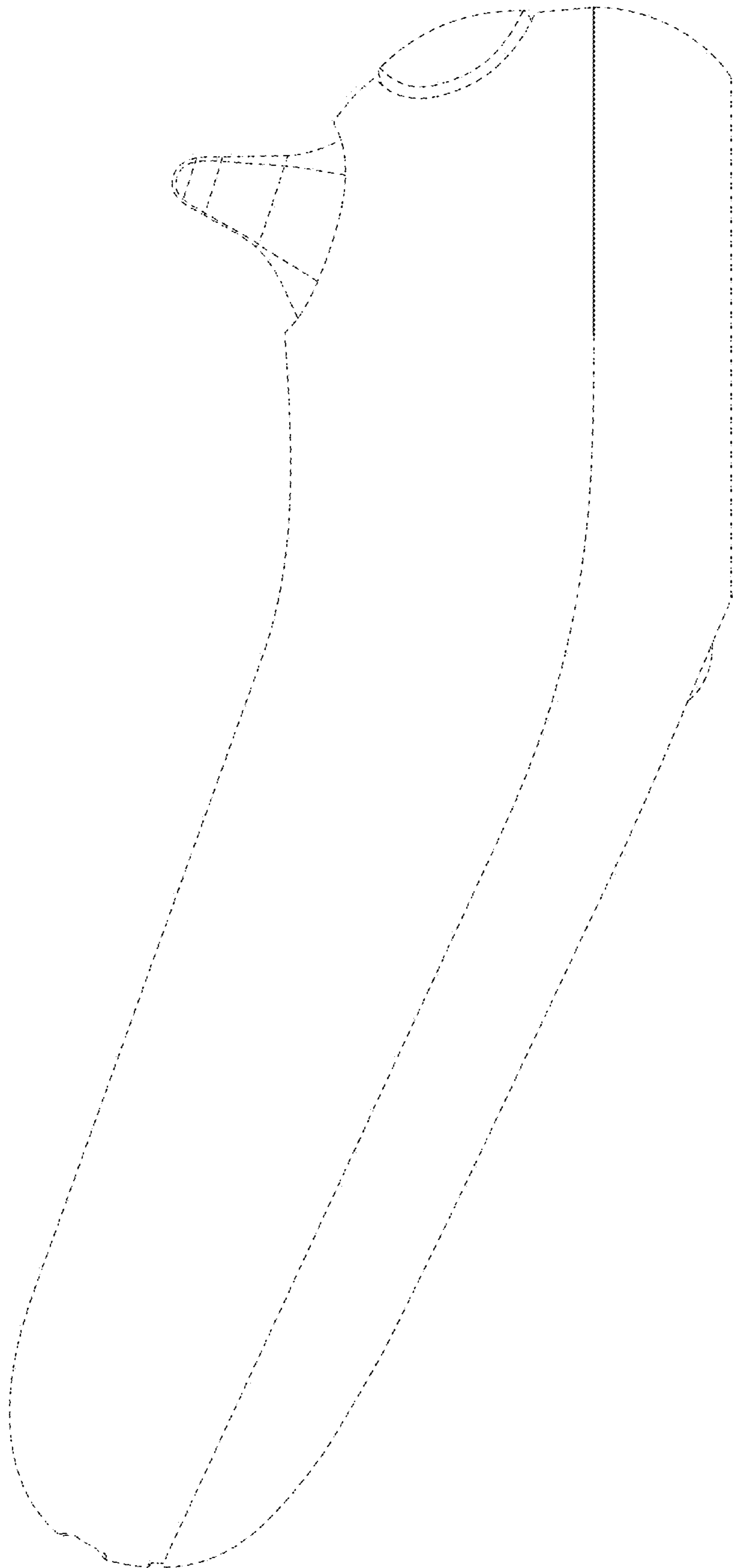


FIG. 28

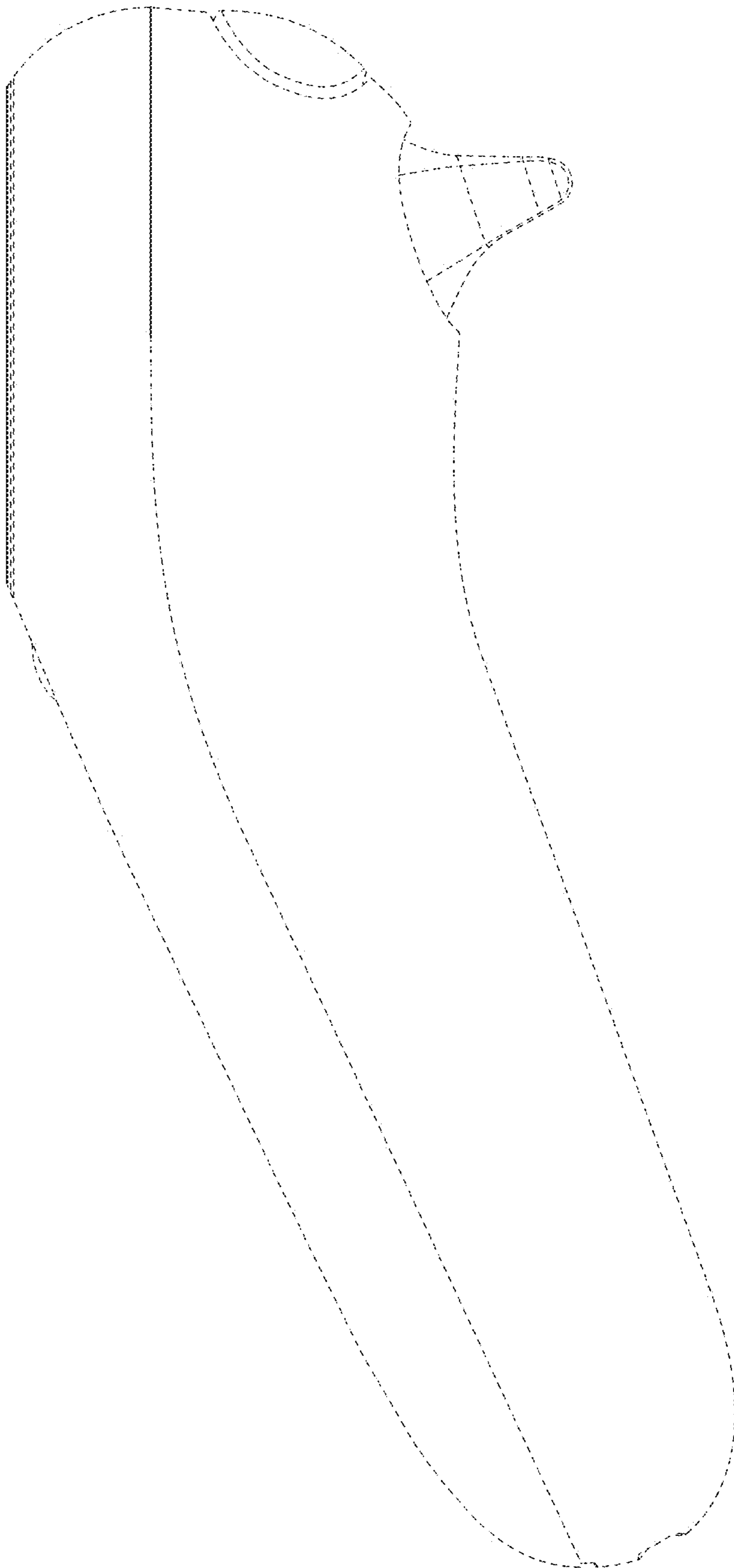


FIG. 29

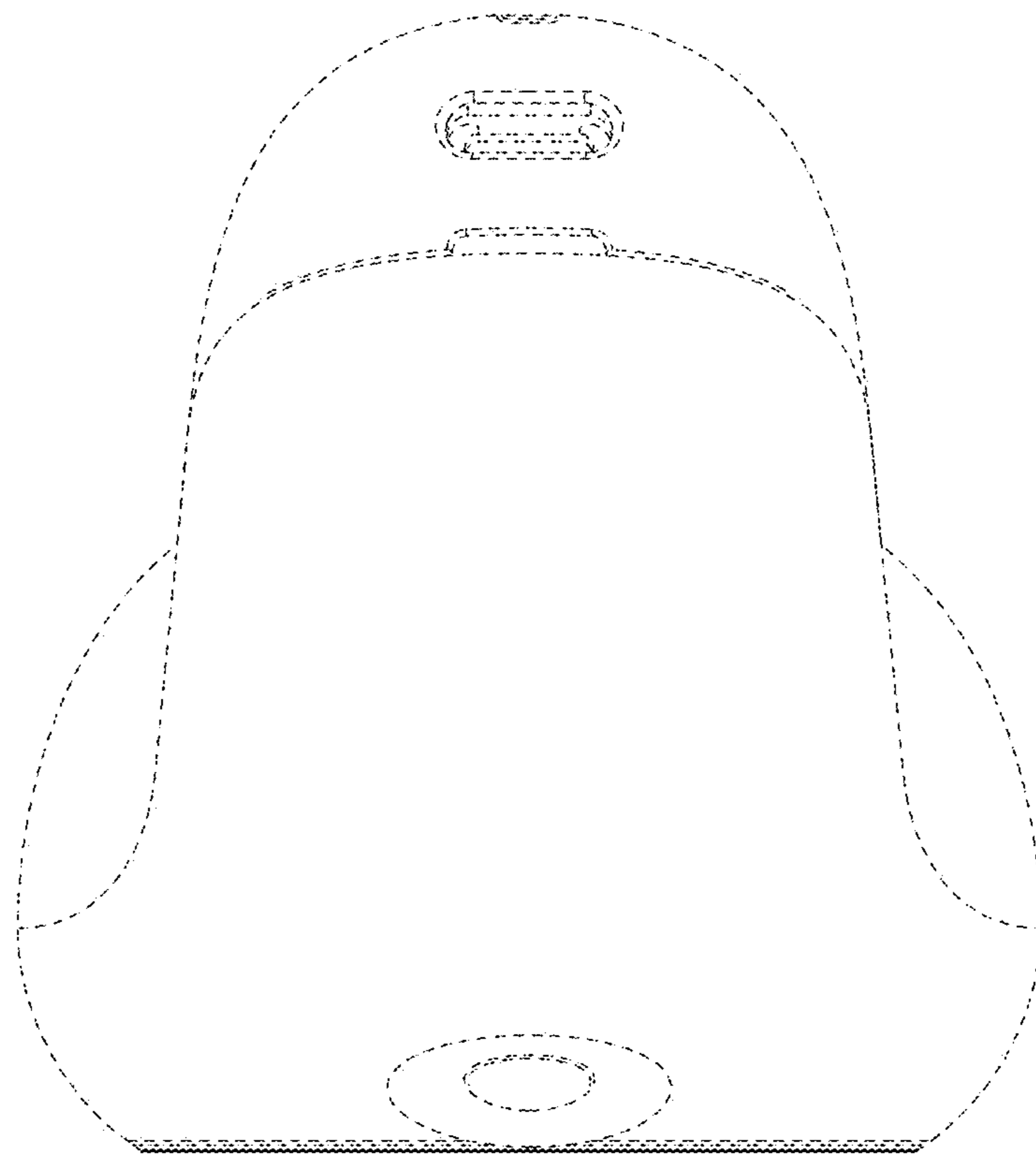


FIG. 30

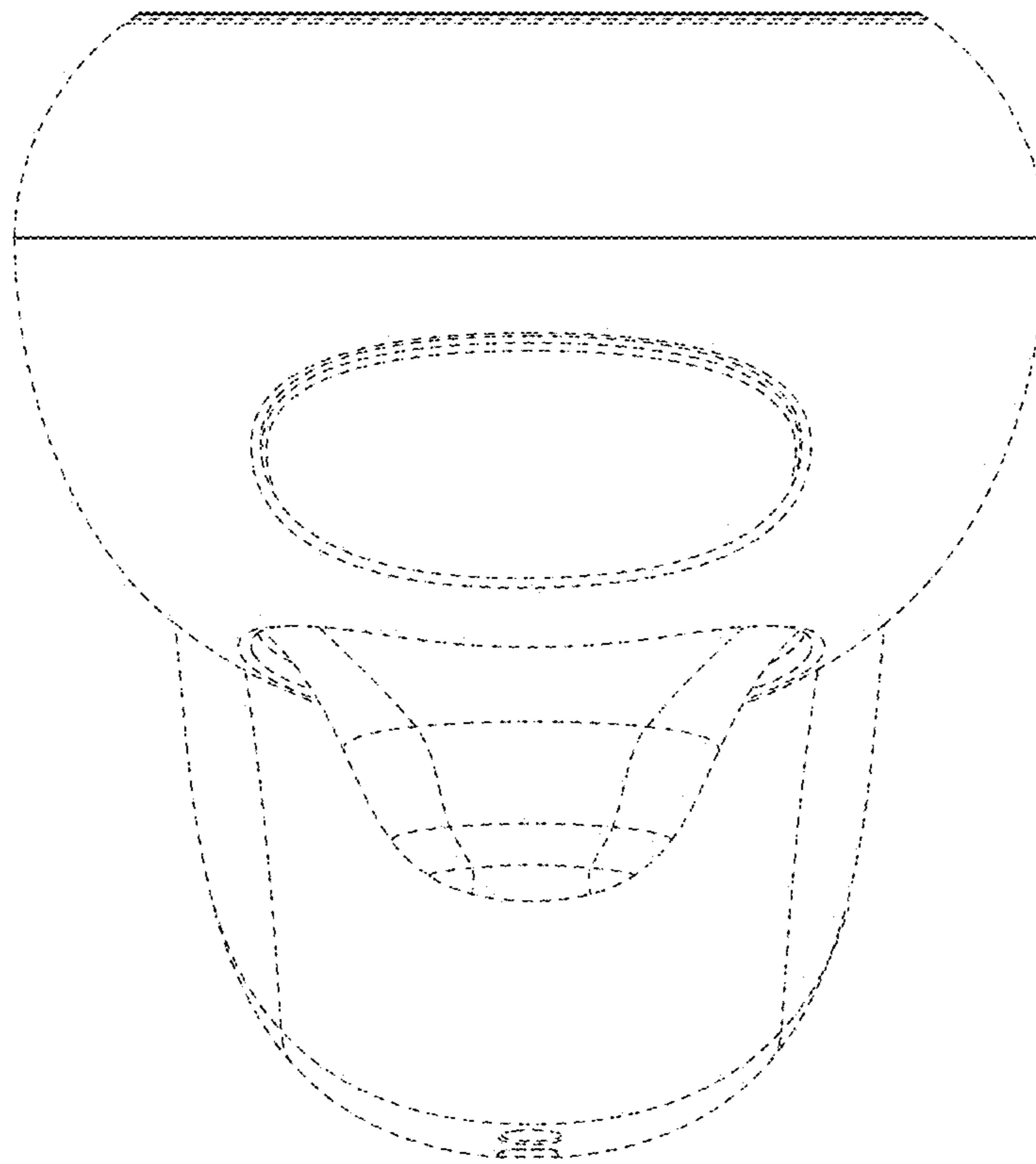


FIG. 31

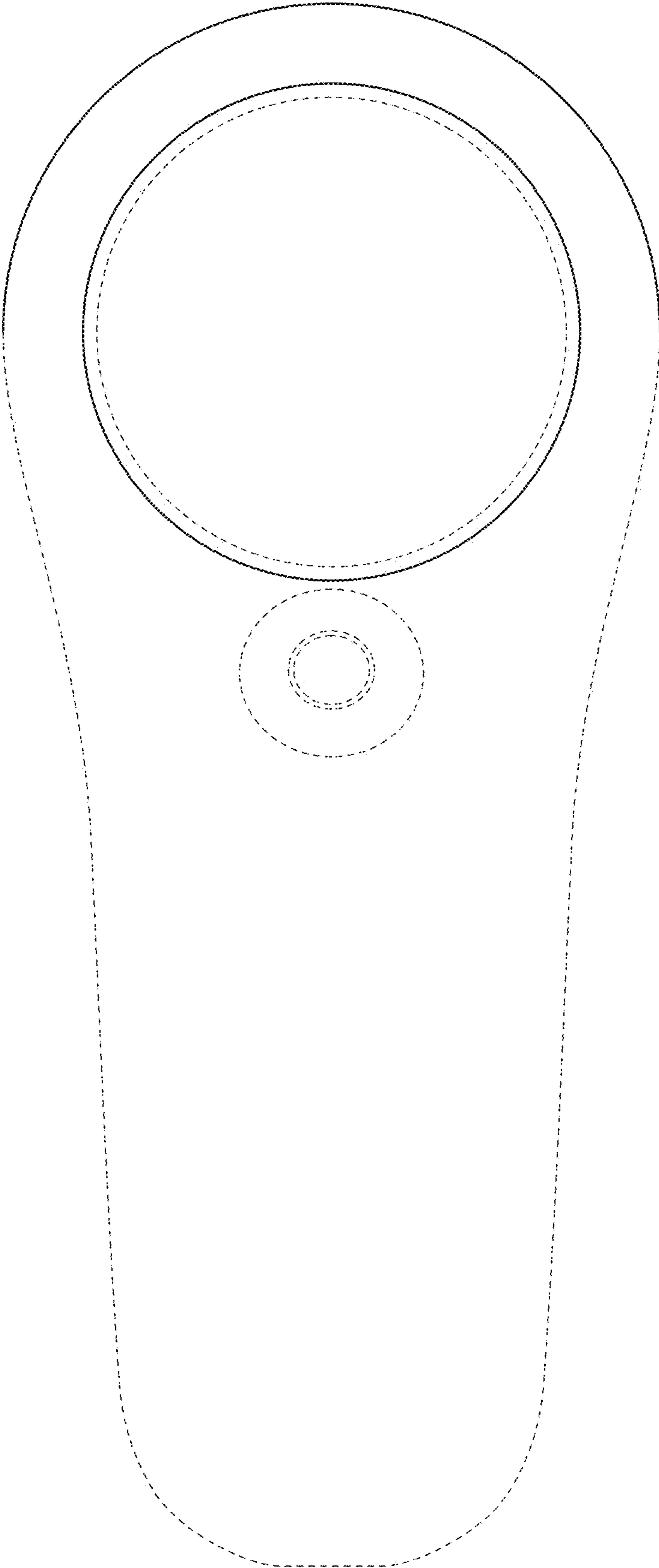


FIG. 32

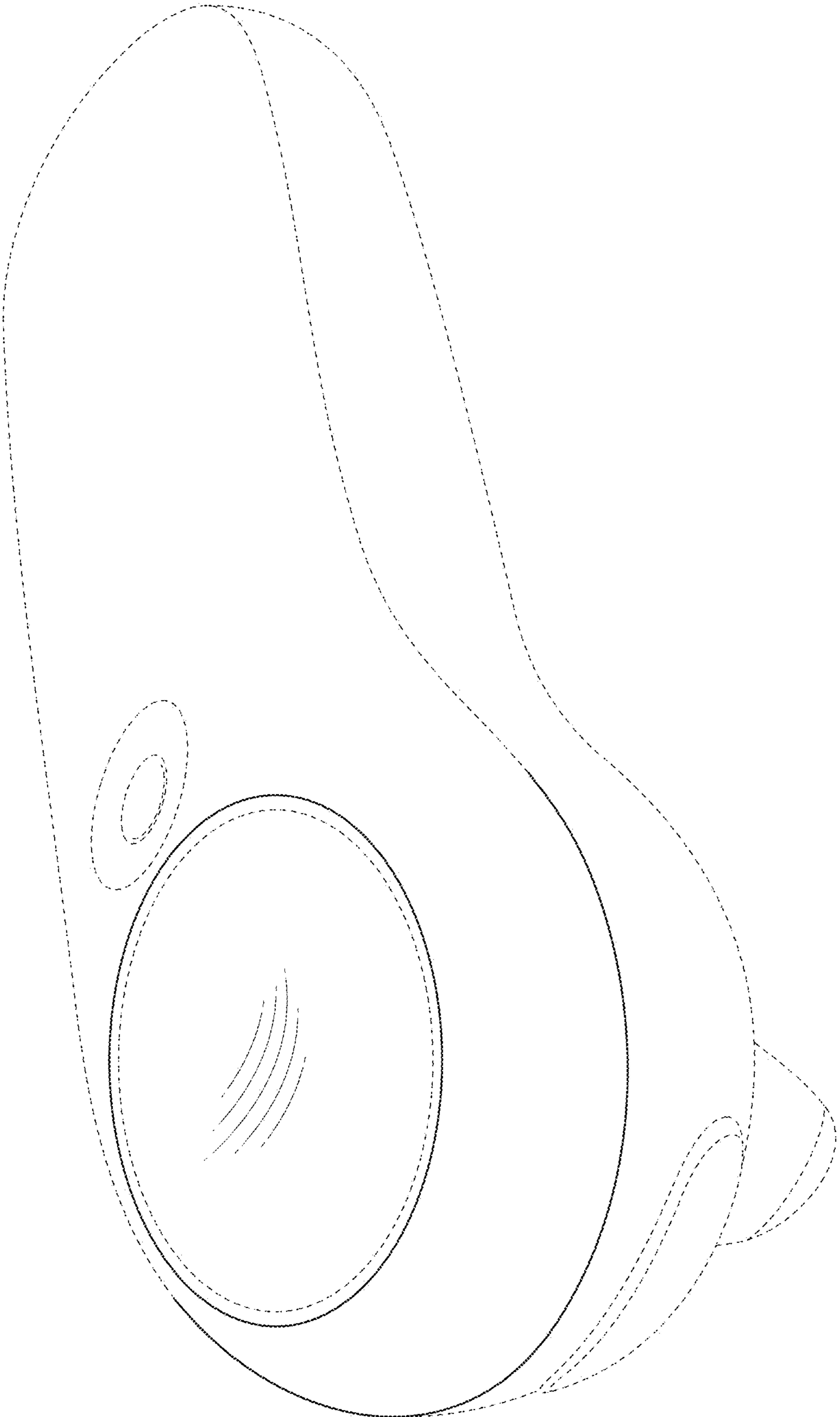


FIG. 33