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(12) **United States Design Patent** (10) **Patent No.:** **US D849,956 S**
Demarest et al. (45) **Date of Patent:** **** May 28, 2019**

(54) **ORAL CARE DEVICE**

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

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

(52) **U.S. Cl.**
USPC **D24/181; D24/176**

(58) **Field of Classification Search**
USPC D24/152, 176-177, 180-182; D29/108
CPC A61N 5/0613; A61N 2005/0606; A61C 19/063; A61C 19/066; A61C 9/0006; A61C 7/08; A61F 5/566
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,758,374 A 8/1956 Fisher et al.
3,223,085 A 12/1965 Gores et al.
3,234,942 A 2/1966 Simor
3,380,446 A 4/1968 Martin
D215,685 S 10/1969 Helmer
3,527,219 A 9/1970 Greenberg
D229,562 S 12/1973 Sturdivant
4,003,132 A 1/1977 Beck
4,237,574 A 12/1980 Kelly et al.

D277,605 S 2/1985 Werrin
5,104,315 A 4/1992 McKinley
5,211,559 A 5/1993 Hart et al.
5,265,624 A 11/1993 Bowman
5,316,473 A 5/1994 Hare

(Continued)

FOREIGN PATENT DOCUMENTS

EP 1054642 5/2008
EP 2386264 11/2011

(Continued)

OTHER PUBLICATIONS

Barolet, 2008, "Light-Emitting Diodes (LEDs) in Dermatology,"
Semin Cutan Med Surg. 27:227-238.

(Continued)

Primary Examiner — Wan Laymon

(57) **CLAIM**

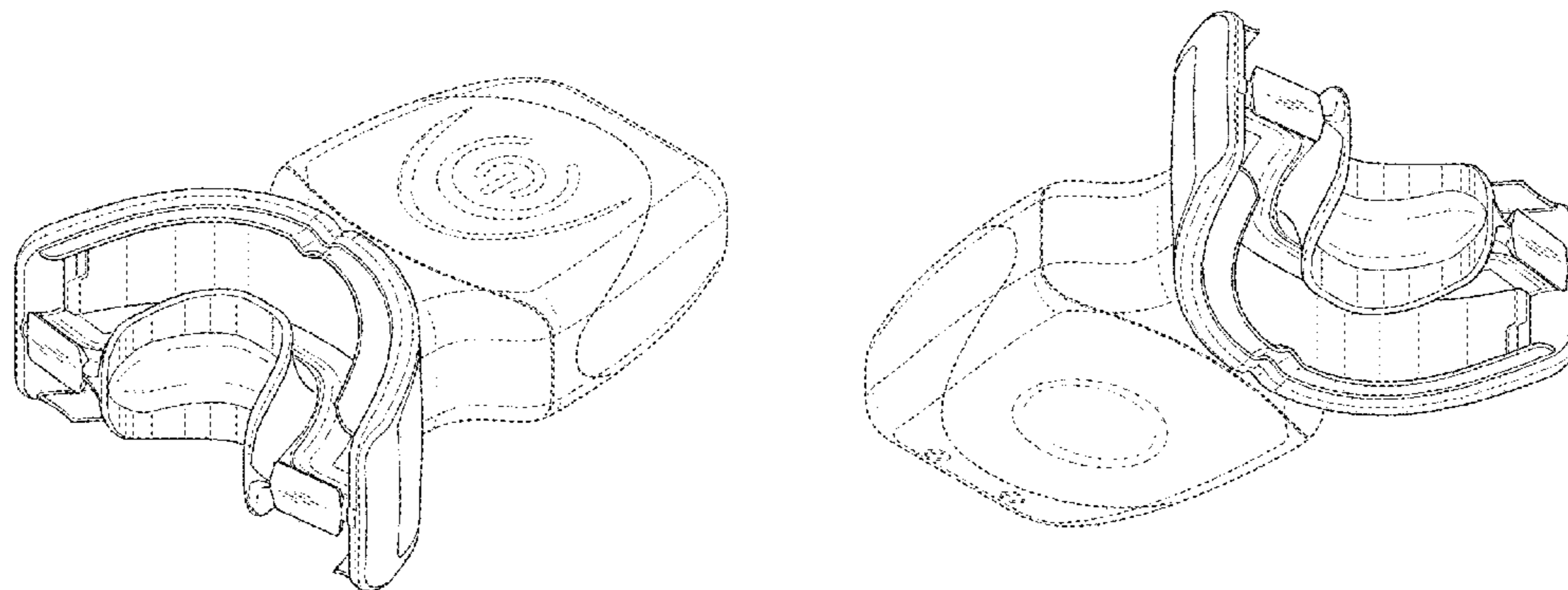
The ornamental design for an oral care device, as shown and described.

DESCRIPTION

FIG. 1 is a front top left perspective view of an oral care device according to the new design;
FIG. 2 is a front top right perspective view thereof;
FIG. 3 is a front bottom left perspective view thereof;
FIG. 4 is a front bottom right perspective view thereof;
FIG. 5 is a rear perspective view thereof;
FIG. 6 is a front view thereof;
FIG. 7 is a rear view thereof;
FIG. 8 is a left-side view thereof;
FIG. 9 is a right-side view thereof;
FIG. 10 is a top view thereof; and,
FIG. 11 is a bottom view thereof.

The broken lines in the drawings illustration portions of the oral care device that form no part of the claimed design.

1 Claim, 9 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,487,662 A 1/1996 Kipke et al.
 5,490,520 A 2/1996 Schaefer et al.
 5,520,539 A 5/1996 Divjak
 5,562,449 A 10/1996 Jacobs et al.
 5,642,737 A 7/1997 Parks
 5,766,011 A 6/1998 Sibner
 5,792,067 A 8/1998 Karell
 D403,771 S 1/1999 Werrin
 5,863,202 A 1/1999 Fontenot et al.
 D413,386 S 8/1999 Werrin
 D433,138 S 10/2000 Kesling
 D434,501 S 11/2000 Redhage
 6,280,196 B1 8/2001 Berghash
 6,350,123 B1 2/2002 RizoIU et al.
 D456,515 S 4/2002 Dinu
 6,398,713 B1 6/2002 Ewing et al.
 D464,732 S 10/2002 Huffman
 6,457,973 B1 10/2002 FetZ et al.
 6,616,447 B1 9/2003 RizoIU et al.
 6,752,630 B2 6/2004 Roetzer
 D492,785 S * 7/2004 Garabito D24/181
 6,893,259 B1 5/2005 ReizenSON
 6,948,936 B2 9/2005 Miller et al.
 D512,148 S 11/2005 Kwok
 D521,150 S 5/2006 Kwok
 D528,208 S 9/2006 Moriyama
 D529,177 S 9/2006 Huffman
 D529,178 S 9/2006 Huffman
 7,331,784 B2 2/2008 Suzuki
 D582,559 S 12/2008 Khawaled et al.
 7,645,137 B2 1/2010 Wasluch
 7,775,795 B2 8/2010 Khawaled et al.
 7,802,988 B2 9/2010 Yarborough
 7,810,503 B2 10/2010 Magnin
 8,172,570 B2 5/2012 Baughman
 D661,806 S 6/2012 Khawaled et al.
 8,215,954 B2 7/2012 Levine
 8,241,035 B2 8/2012 Jones et al.
 8,607,774 B2 12/2013 Waslucha
 8,940,033 B2 * 1/2015 Dwyer A61C 19/066
 362/249.02
 9,299,887 B2 3/2016 Lowenthal et al.
 D765,255 S * 8/2016 Levine D24/181
 9,492,257 B2 11/2016 Jablow et al.
 9,636,198 B2 5/2017 Kodama
 D795,440 S * 8/2017 Way D24/181
 9,901,744 B2 * 2/2018 Demarest A61N 5/0613
 9,913,992 B2 * 3/2018 Demarest A61C 19/066
 2001/0012608 A1 8/2001 Darnell
 2003/0069626 A1 4/2003 Lattner et al.
 2003/0194383 A1 * 10/2003 Gentile A61C 19/063
 424/53
 2005/0048444 A1 3/2005 Creamer
 2005/0153256 A1 7/2005 Livolsi
 2005/0202363 A1 9/2005 Osterwalder
 2005/0266370 A1 12/2005 Suzuki
 2006/0019214 A1 1/2006 Lawrence et al.
 2006/0039874 A1 2/2006 Wong
 2006/0141422 A1 6/2006 Philp, Jr. et al.
 2006/0172260 A1 8/2006 Allred et al.
 2006/0234189 A1 10/2006 Duret
 2007/0003905 A1 1/2007 Nguyen et al.
 2007/0009856 A1 1/2007 Jones et al.
 2007/0015112 A1 1/2007 Hochman et al.
 2007/0054233 A1 3/2007 RizoIU et al.
 2007/0276455 A1 11/2007 Fiset
 2008/0003540 A1 1/2008 Khawaled et al.
 2008/0008978 A1 1/2008 Conrad et al.
 2008/0032253 A1 2/2008 Montgomery et al.
 2008/0063999 A1 3/2008 Osborn
 2008/0115792 A1 5/2008 Burger
 2008/0199830 A1 8/2008 Fontenot et al.
 2008/0233541 A1 9/2008 DeVreese et al.
 2009/0017422 A1 1/2009 Creamer
 2009/0029311 A1 1/2009 Chan

2009/0114232 A1 5/2009 Landi et al.
 2009/0117513 A1 5/2009 Nemeh et al.
 2009/0208543 A1 8/2009 Nathoo
 2010/0136498 A1 6/2010 Baughman
 2010/0151407 A1 6/2010 RizoIU et al.
 2011/0076636 A1 3/2011 Wolff et al.
 2012/0183919 A1 7/2012 Levine
 2012/0214122 A1 8/2012 Dwyer et al.
 2012/0244489 A1 9/2012 Carnahan
 2012/0295218 A1 11/2012 Moll
 2012/0322024 A1 12/2012 DeVreese et al.
 2013/0004912 A1 1/2013 Brown et al.
 2013/0026504 A1 1/2013 Marx et al.
 2013/0045457 A1 2/2013 Chetiar et al.
 2013/0209964 A1 8/2013 Nemeh et al.
 2013/0280671 A1 10/2013 Brawn et al.
 2013/0175515 A1 11/2013 Roti et al.
 2014/0186789 A1 7/2014 Valoir
 2014/0227657 A1 8/2014 Sanders
 2014/0238417 A1 * 8/2014 TurkbAS A61C 19/063
 128/861
 2014/0272770 A1 9/2014 Hurley
 2014/0355251 A1 12/2014 Kahrs et al.
 2015/0037749 A1 2/2015 Levine et al.
 2015/0044628 A1 2/2015 Flyash
 2015/0132709 A1 5/2015 Park et al.
 2015/0164618 A1 6/2015 Heacock et al.
 2015/0204490 A1 7/2015 Zheng et al.
 2015/0360606 A1 12/2015 Thompson et al.
 2016/0035924 A1 2/2016 Oraw et al.
 2016/0271415 A1 9/2016 Min
 2016/0331487 A1 11/2016 Newman et al.
 2018/0178005 A1 * 6/2018 Johansson A61C 19/066

FOREIGN PATENT DOCUMENTS

JP 2012-110500 6/2012
 KR 100773379 B1 11/2007
 KR 101525123 B1 6/2015
 WO WO 2005/ 07637 11/2005
 WO WO 2006/020128 2/2006
 WO WO 2010/098761 9/2010
 WO WO 2011/152585 12/2011
 WO WO 2011/159522 12/2011
 WO WO 2011/163220 12/2011
 WO WO 2013/093743 6/2013
 WO WO 2013/155366 10/2013

OTHER PUBLICATIONS

Belikov et al., 2010, "Study of the dynamics of the absorption spectra of human tooth enamel and dentine under heating and ablation by submillisecond pulse radiation of an erbium laser with a generation wavelength of 2.79-um," Optics and Spectroscopy 109(2):211-216.
 Bosch et al., 1987, "Optical properties of dentin," Chapter 3, Dentin and Dentine Reactions in the Oral Cavity, pp. 34-40.
 Brodbelt et al., 1981 "Translucency of Human dental enamel," J Dent. Res. 60:1749-1753.
 De Moor et al., 2009, "The Use of the KTP Laser, an Added Value for Tooth Bleaching," J Oral Laser Applications 9:219-226.
 Elliott, 2015, "Teeth Whitening, spot zapping, hair taming and even wrinkle erasing: so could Blue technology be the future of beauty?" <http://www.dailymail.co.uk/femail/article-3099582/Teeth-whitening-spot-zapping-hair-taming-wrinkle-erasing-BLUE-technology-future-beauty.html>.
 Hirmer et al., 2012, "Spectroscopic study of human teeth and blood from visible to terahertz frequencies for clinical diagnosis of dental pulp vitality," J Infrared Mill Terahz Waves 33:366-375.
 International Preliminary Report on Patentability in International Application No. PCT/IL04/01174 dated Jul. 3, 2006.
 International Search Report in International Application No. PCT/IL2004/001174, dated Nov. 24, 2005.
 International Search Report and Written Opinion in International Application No. PCT/US2016/067573, dated Jul. 13, 2017.

(56)

References Cited

OTHER PUBLICATIONS

International Search Report and Written Opinion of the International Searching Authority in International Application No. PCT/US2016/067564, dated Mar. 16, 2017.

Janine, 2012, "Power White: The Tanda Pearl Ionic Teeth Whitening System Works (and How)," BeautyGeeks website, <https://imabeautygeek.com/2012/08/21/power-white-the-tanda-pearl-ionic-teeth-whitening-system-works-and-how/>.

Joiner et al., 2003, "Tooth colour: a review of the literature," J of Dentistry 32:3-12.

Partial International Search Report issued in International Application No. PCT/US2016/067573, dated Mar. 22, 2017.

Spitzer et al., 1975, "The absorption and scattering of light in bovine and human dental enamel," Calcif. Tiss. Res. 17:129-137.

Written Opinion of the International Searching Authority in International Application No. PCT/IL2004/01174 dated Jun. 29, 2006.

Young et al., 2012, "A study of hydrogen peroxide chemistry and photochemistry in tea stain solution with relevance to clinical tooth whitening," J of Dentistry 40(Supp. 2):e11-e16.

* cited by examiner

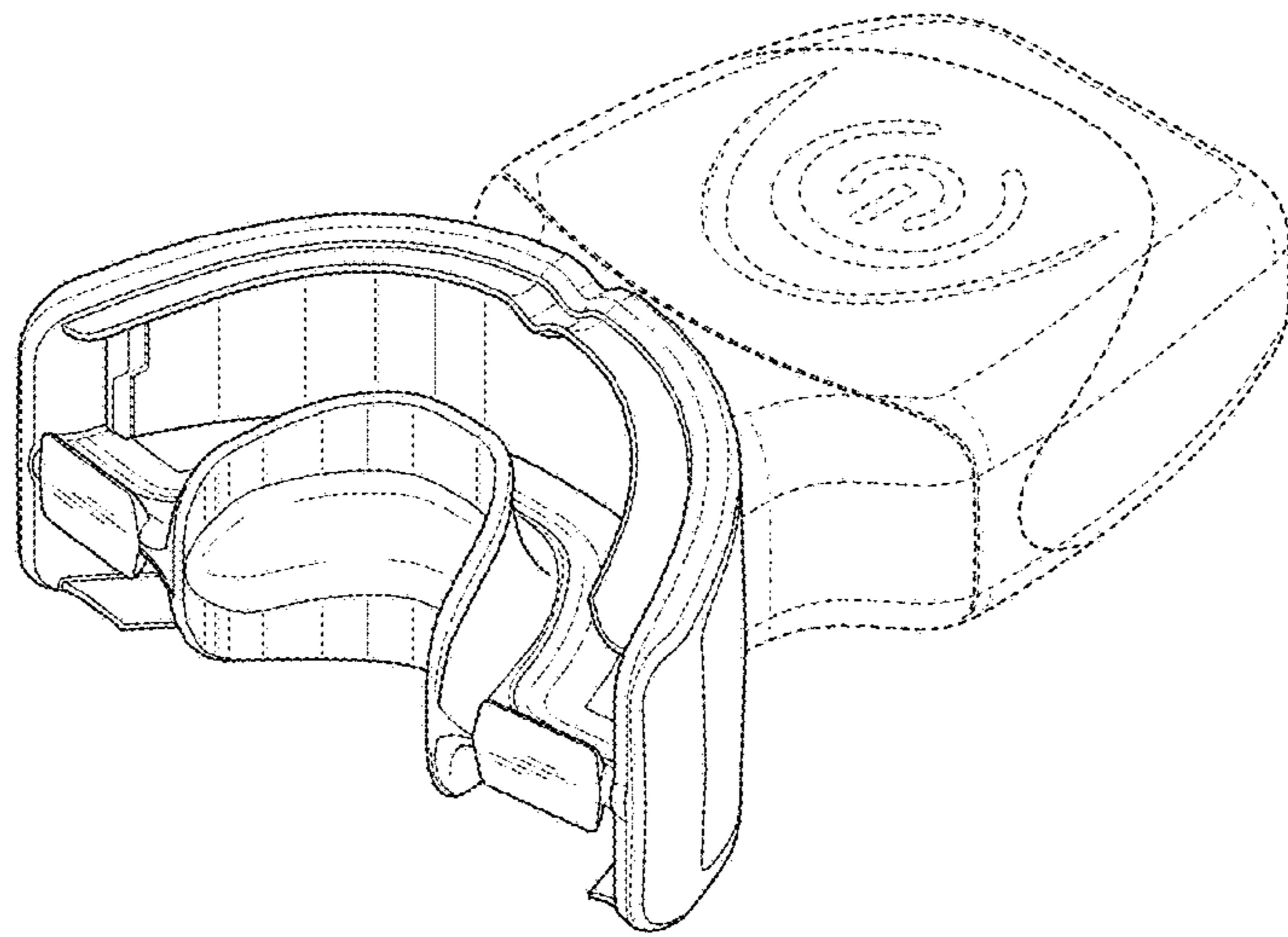


FIG. 1

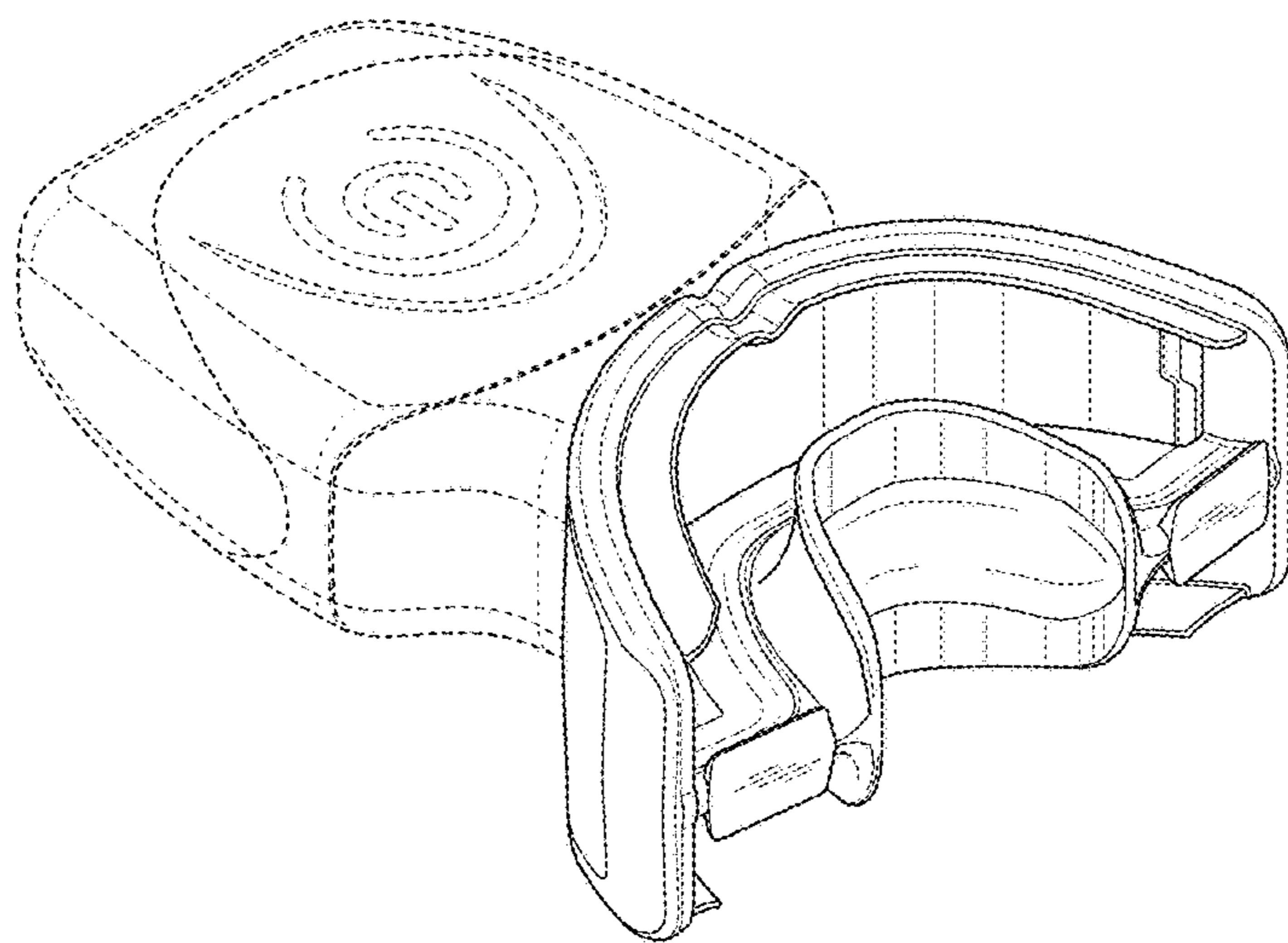


FIG. 2

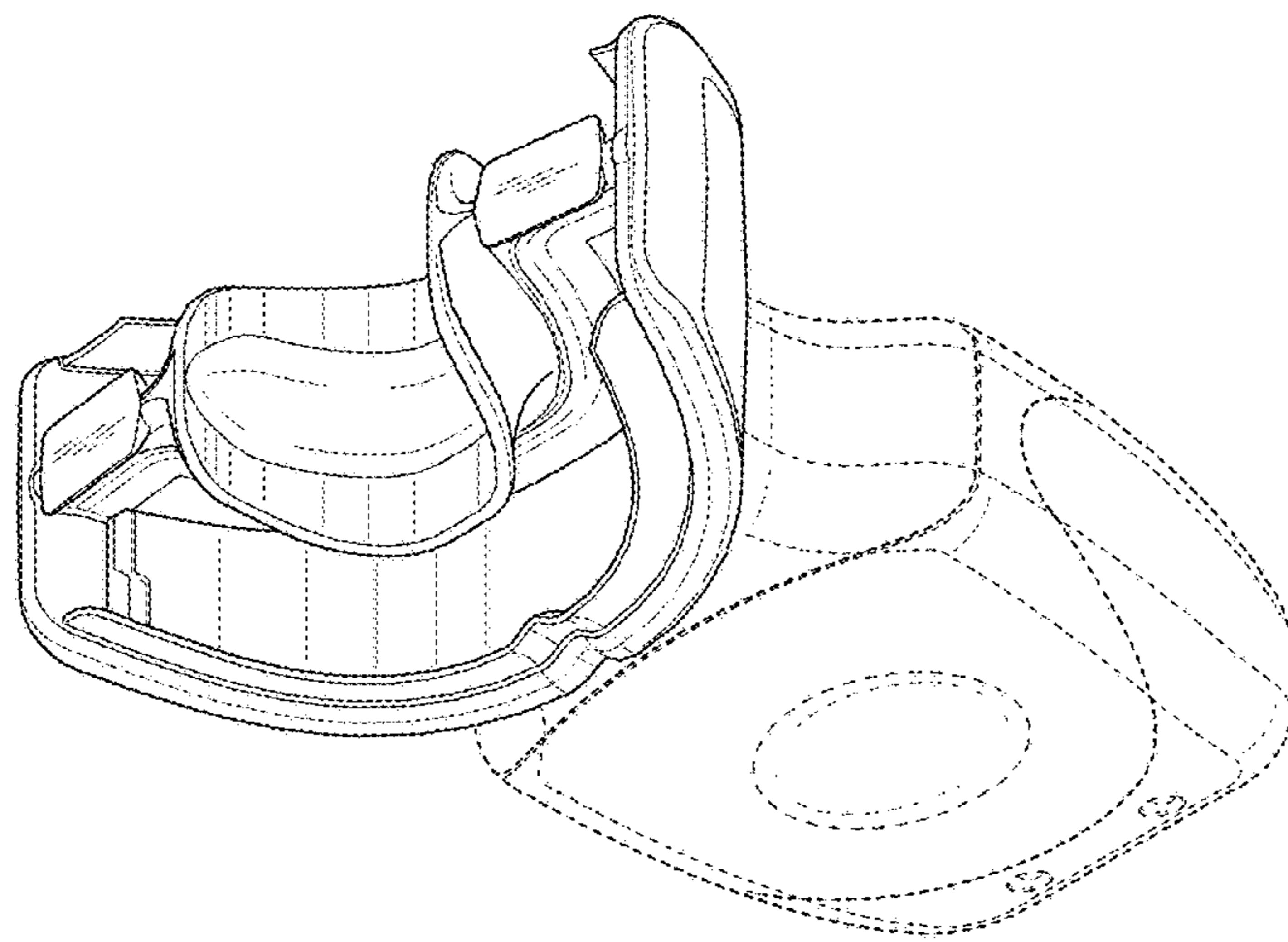


FIG. 3

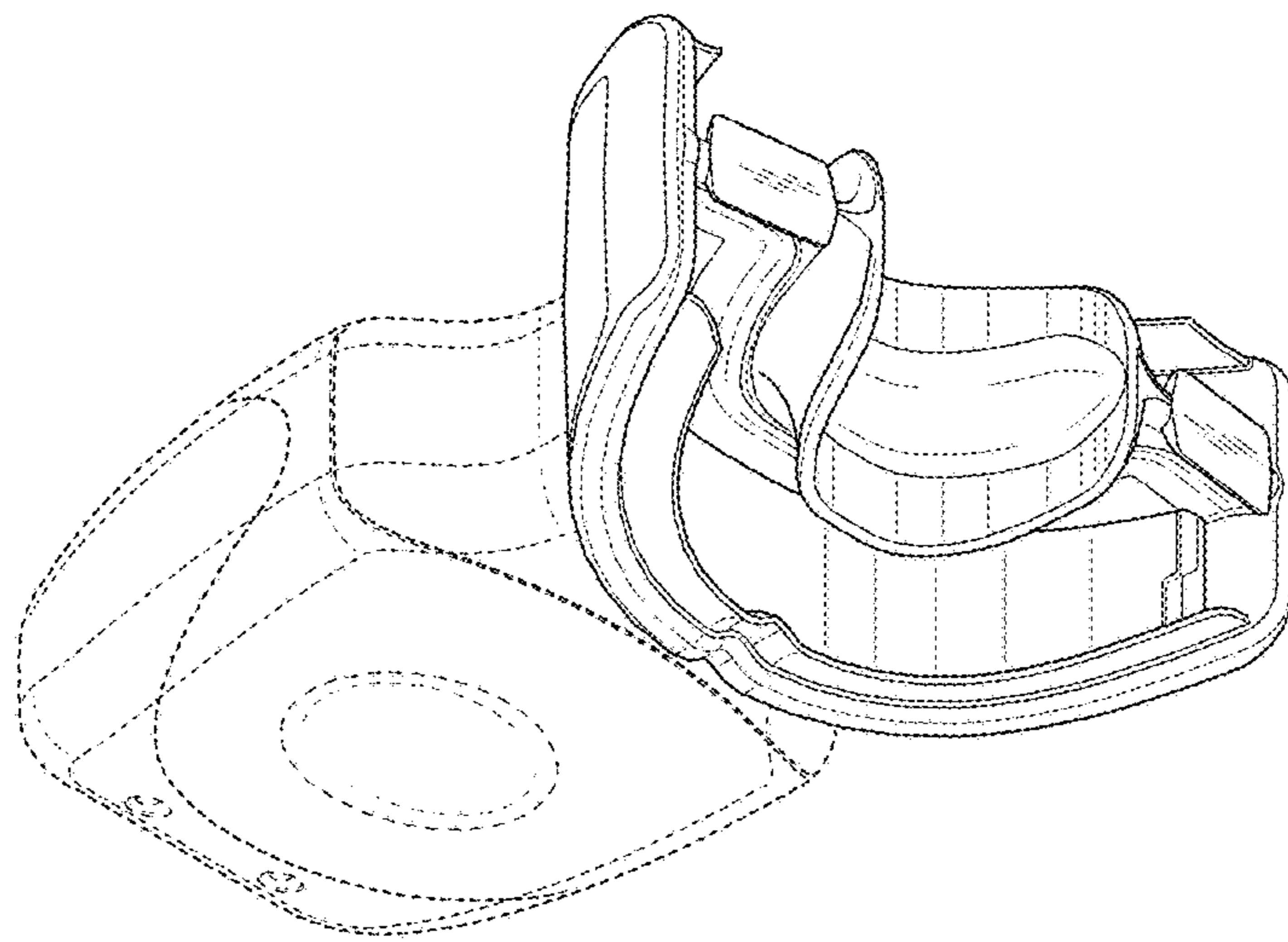


FIG. 4

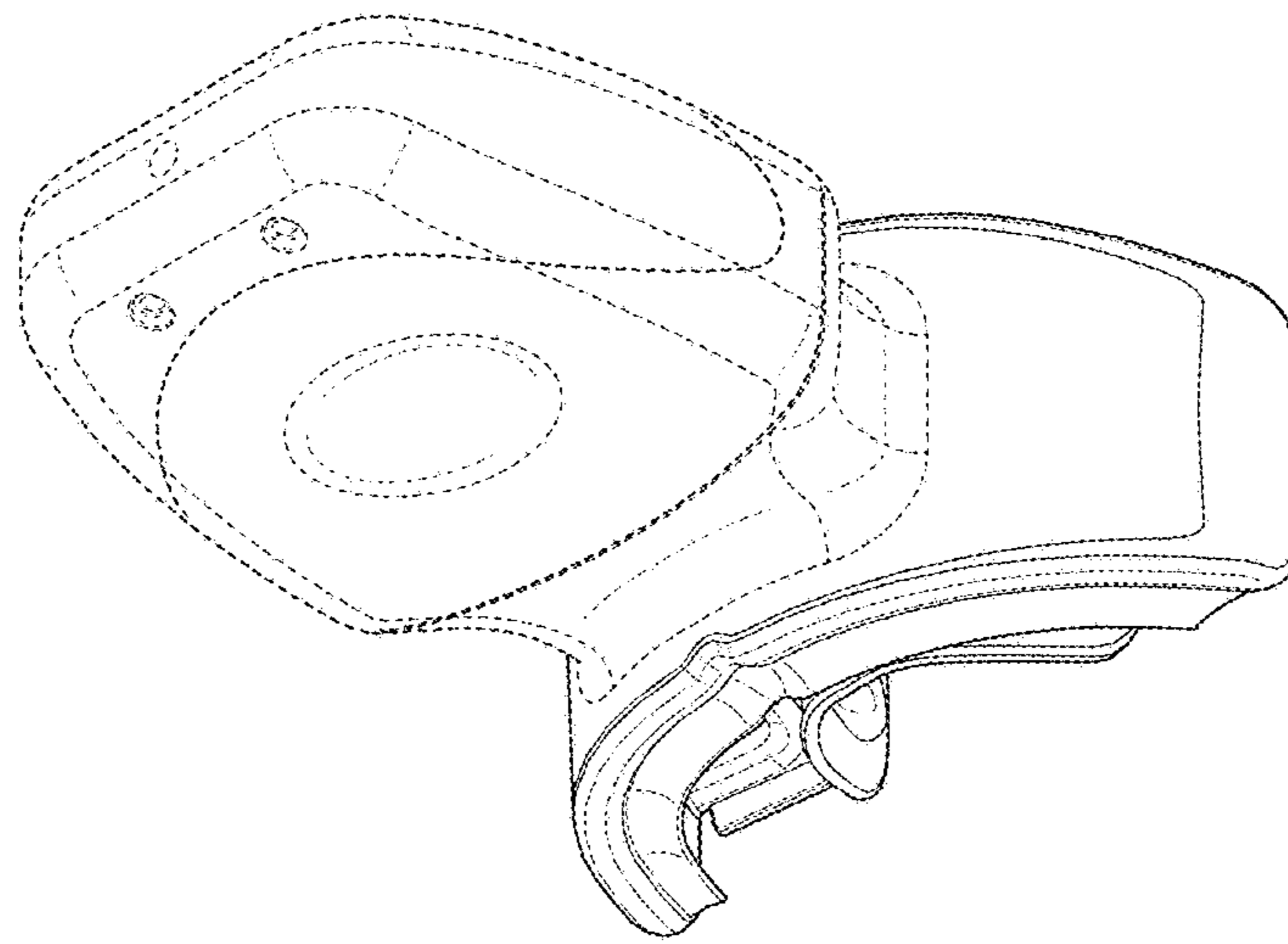


FIG. 5

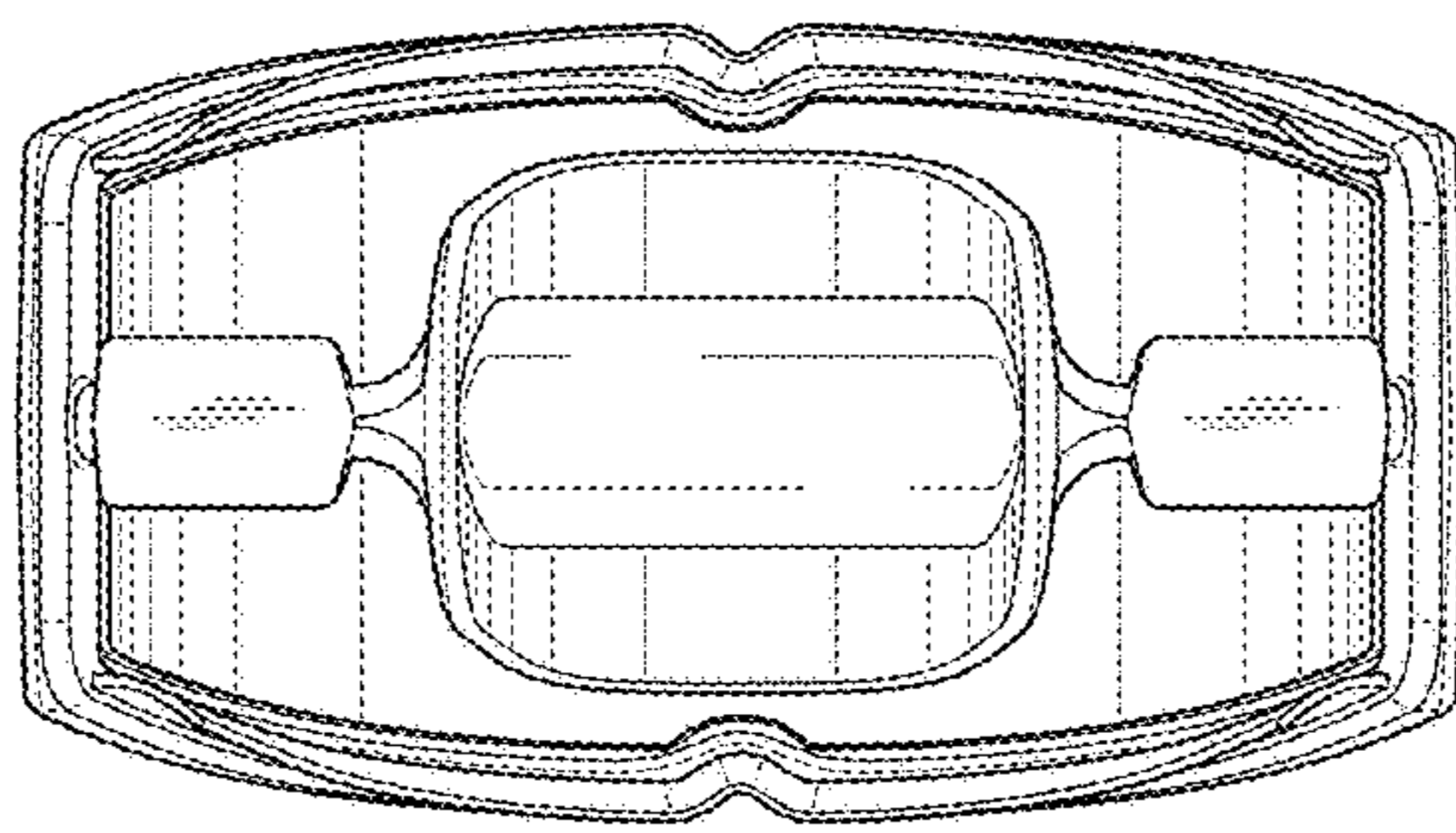


FIG. 6

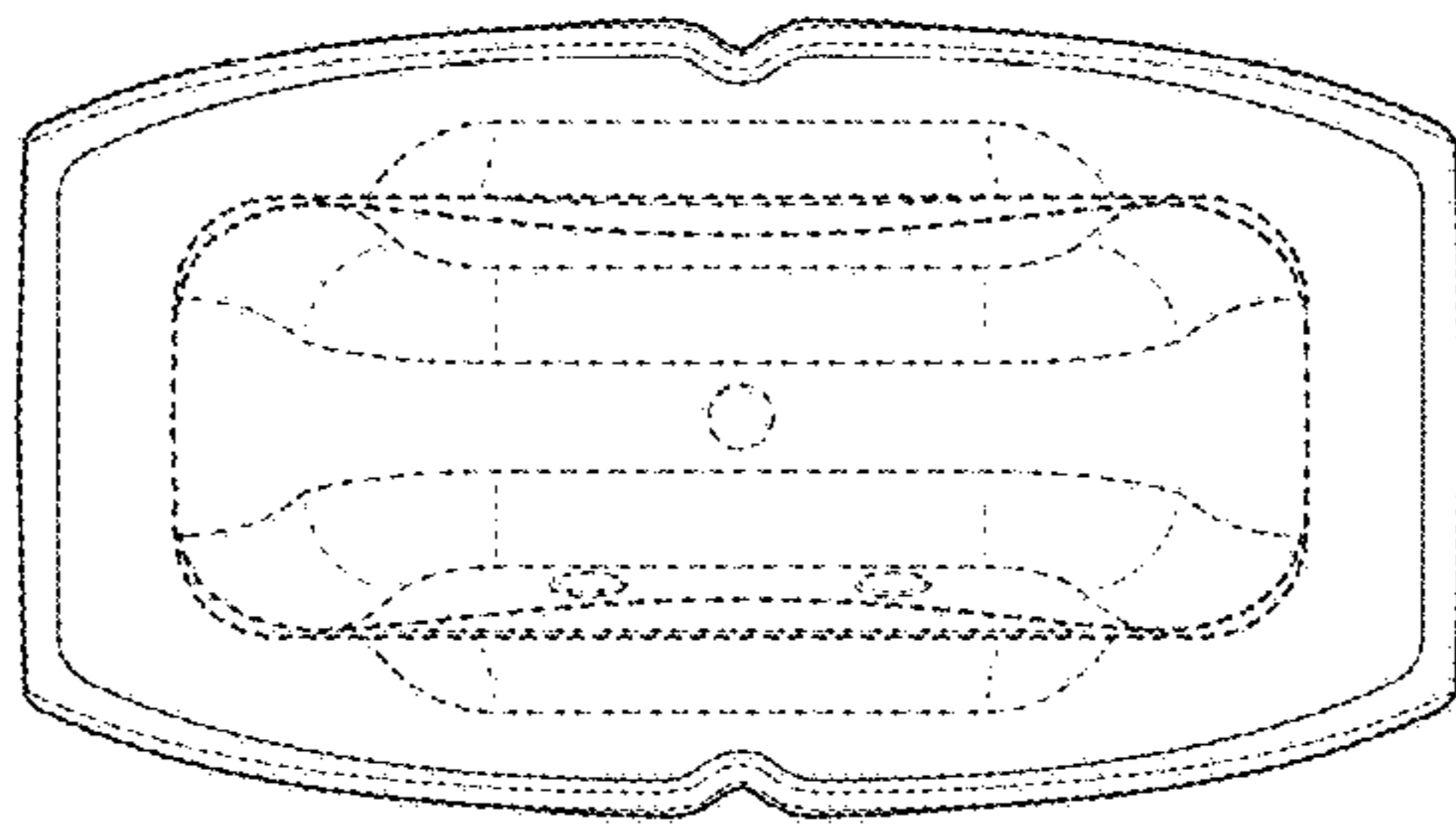


FIG. 7

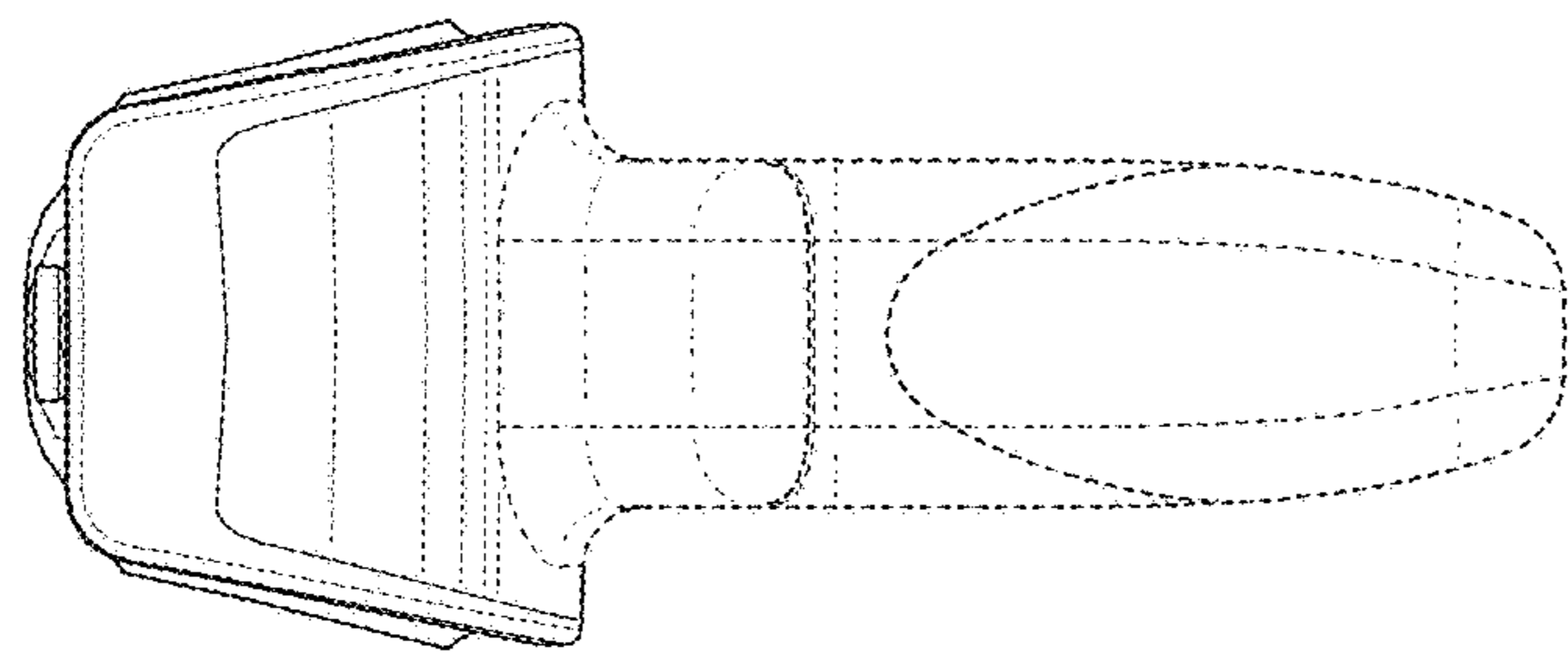


FIG. 8

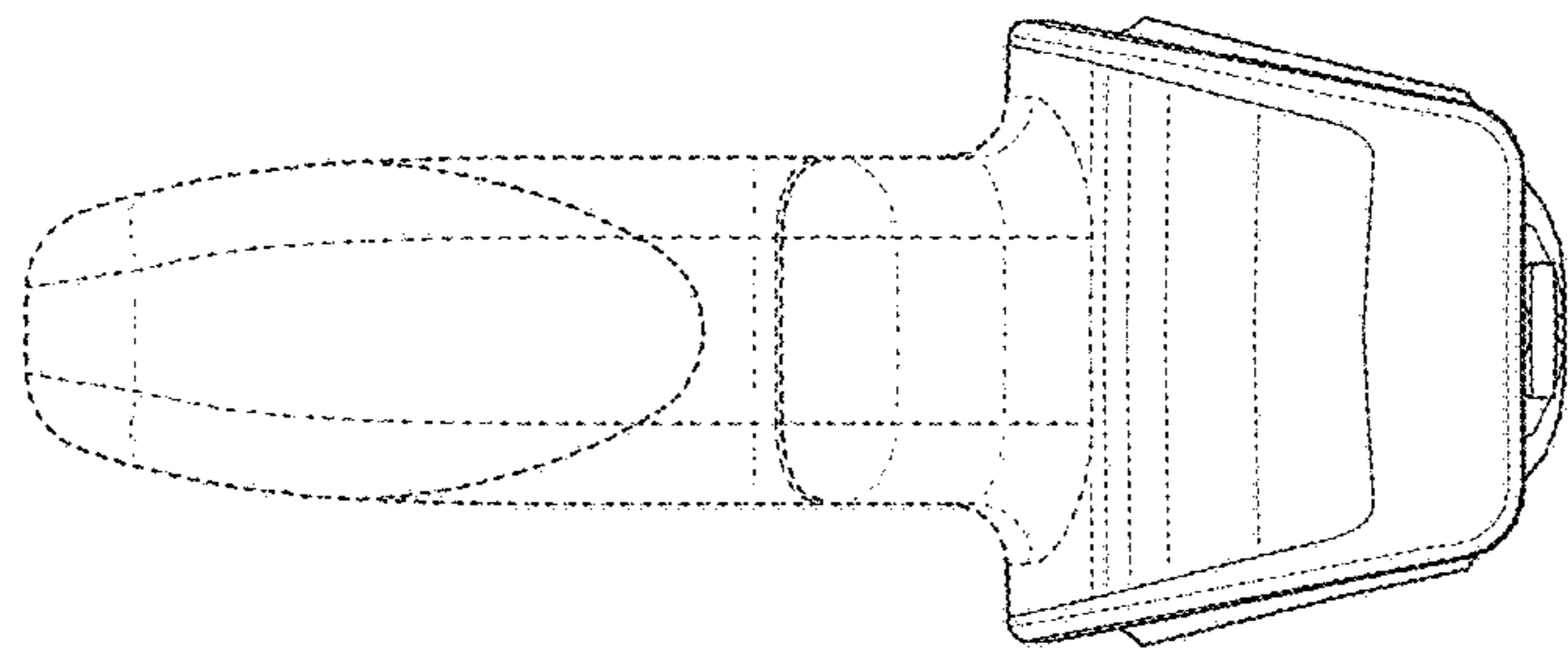


FIG. 9

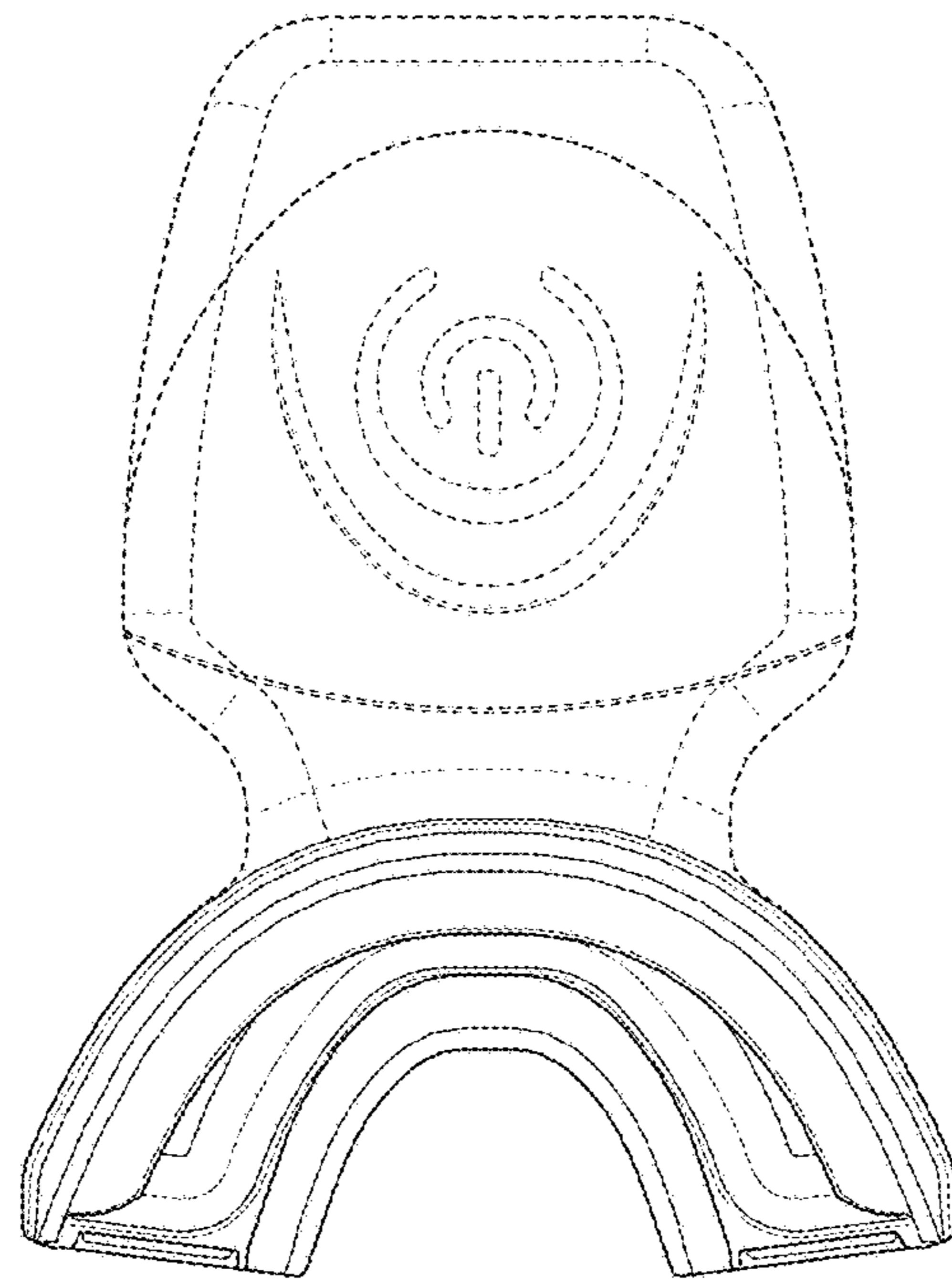


FIG. 10

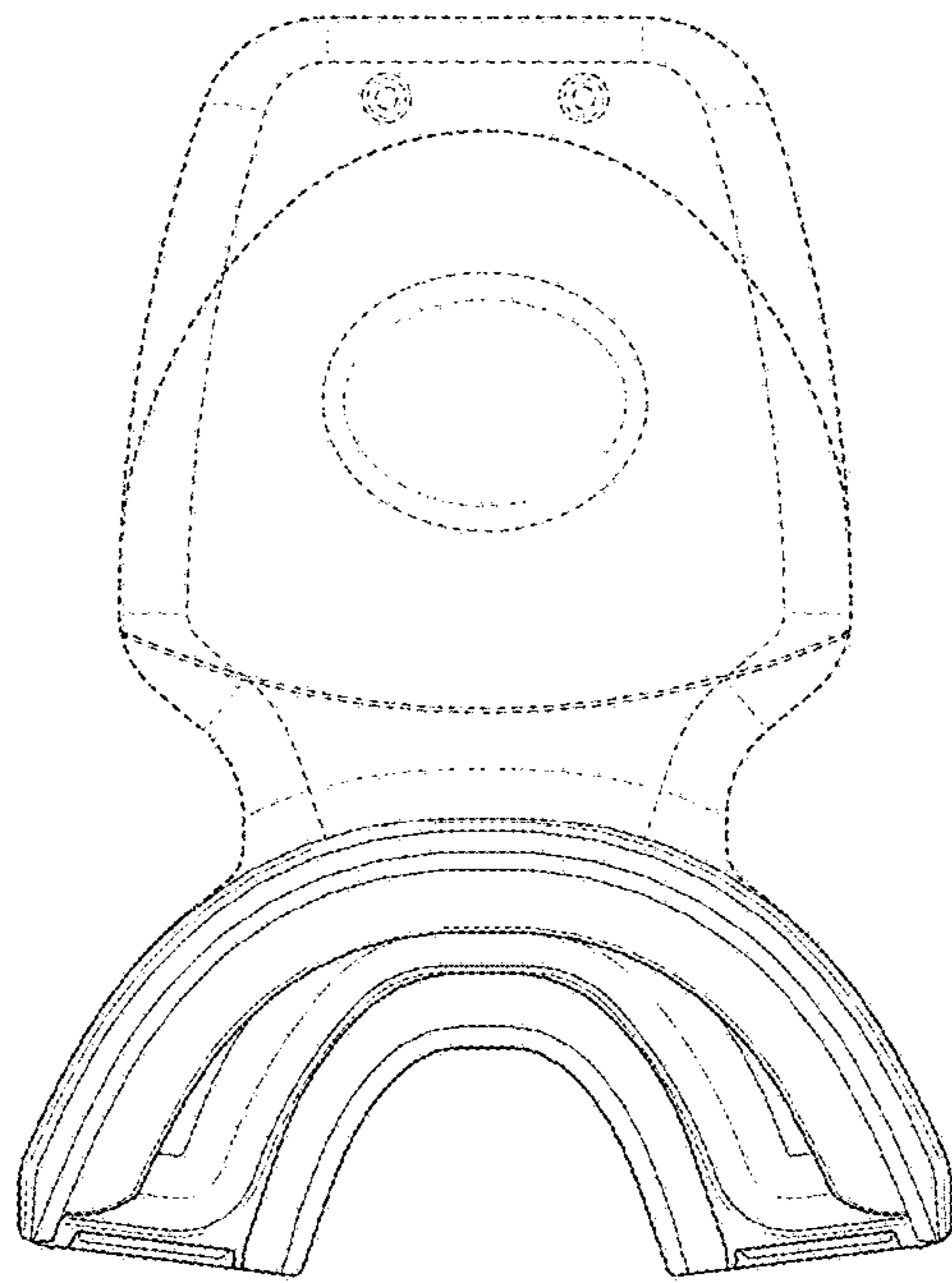


FIG. 11