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(12) **United States Design Patent** (10) **Patent No.:** **US D956,229 S**  
**Beer et al.** (45) **Date of Patent:** **\*\* Jun. 28, 2022**

(54) **INTRAVAGINAL DEVICE ASSEMBLY**

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

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**Related U.S. Application Data**

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(51) **LOC (13) Cl.** ..... **24-02**

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

(58) **Field of Classification Search**

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D24/214, 215; 600/29, 30; D16/237,  
D16/250; D28/4, 76, 83; D9/430, 432;  
D10/57

CPC ..... A61B 1/31; A61B 1/272; A61B 1/303;  
A61B 1/00154; A61B 17/00; A61B  
17/17; A61B 10/00; A61B 5/05; A61B  
5/0215; A61B 5/4337; A61B 5/4368;  
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6/20; A61F 6/142; A61F 6/12; A61C  
5/82; G03B 42/042; A61H 19/00

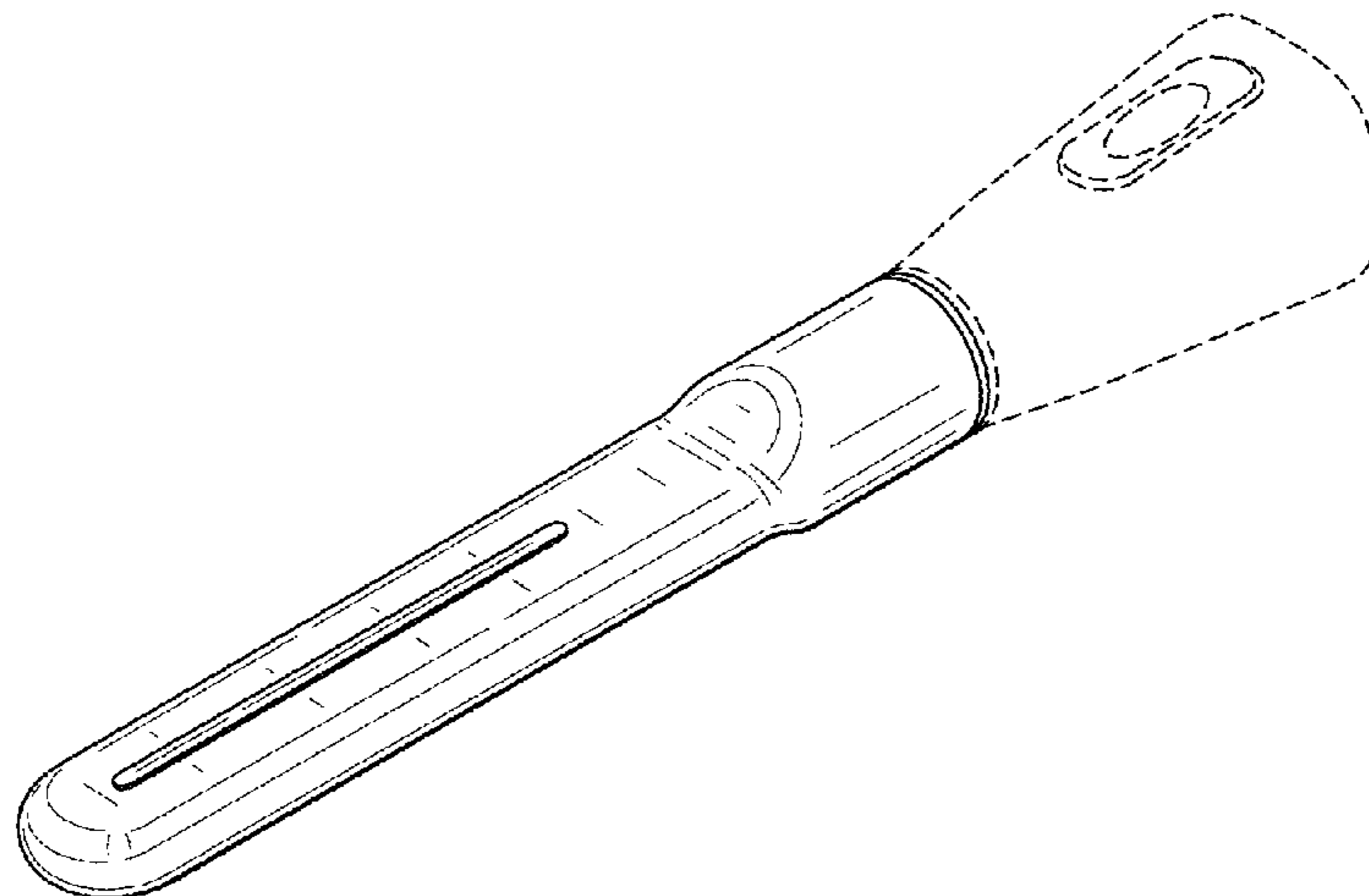
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

2,830,582 A 4/1958 Ljung  
3,854,476 A \* 12/1974 Dickinson, III ..... A61D 1/06  
128/884

4,669,478 A	6/1987	Robertson	
D309,866 S *	8/1990	Fukuda	D10/57
D310,275 S *	8/1990	Su	D28/76
5,328,077 A	7/1994	Lou	
5,386,836 A	2/1995	Biswas	
5,406,961 A	4/1995	Artal	
5,562,717 A	10/1996	Tippey et al.	
5,603,685 A	2/1997	Tutrone, Jr.	
5,674,238 A	10/1997	Sample et al.	
5,924,984 A	7/1999	Rao	
6,001,060 A	12/1999	Churchill et al.	
6,021,781 A	2/2000	Thompson et al.	
6,039,701 A	3/2000	Sliwa et al.	
6,056,699 A	5/2000	Sohn et al.	
6,080,118 A *	6/2000	Blythe	A61B 10/0012 600/549
6,086,549 A	7/2000	Neese et al.	
6,264,582 B1	7/2001	Remes	
6,272,371 B1	8/2001	Shlomo	
D458,681 S	6/2002	Sherlock et al.	
6,413,206 B2	7/2002	Biswas	
6,432,037 B1	8/2002	Eini et al.	
6,511,427 B1	1/2003	Sliwa, Jr. et al.	
6,672,996 B2	1/2004	Ross et al.	
6,679,854 B2	1/2004	Honda et al.	
6,741,895 B1 *	5/2004	Gafni	A61B 5/4337 600/38
D491,079 S *	6/2004	Lim	D10/57
D491,274 S *	6/2004	Dubniczki	D24/223
6,816,744 B2	11/2004	Garfield et al.	
7,079,882 B1	7/2006	Schmidt	
D535,203 S *	1/2007	Chen	D10/57
D548,359 S *	8/2007	Illein	D24/223
7,577,476 B2	8/2009	Hochman et al.	
7,608,037 B2	10/2009	Levy	
7,628,744 B2	12/2009	Hoffman et al.	
7,645,220 B2	1/2010	Hoffman et al.	
7,736,298 B2	6/2010	Guerquin et al.	
7,837,682 B2	11/2010	Ostrovsky et al.	
7,892,179 B2 *	2/2011	Rieth	A61B 5/4277 600/551
7,955,241 B2	6/2011	Hoffman et al.	
7,957,794 B2	6/2011	Hochman et al.	
D651,531 S *	1/2012	Rothman	D10/57
8,147,429 B2	4/2012	Mittal et al.	
8,360,954 B2	1/2013	Kim	
8,623,004 B2	1/2014	Johnson et al.	
8,715,204 B2	5/2014	Webster et al.	
8,728,140 B2	5/2014	Feemster et al.	
8,740,767 B2	6/2014	Rosen et al.	
8,805,472 B2	8/2014	Iglesias	
8,821,407 B2 *	9/2014	Kirsner	A61B 10/0012 600/551





WO WO-2017/149688 A1 9/2017  
 WO WO-2018/023037 A1 2/2018  
 WO WO-2019/084468 A1 5/2019  
 WO WO-2019/084469 A1 5/2019  
 WO WO-2020/092343 A1 5/2020

OTHER PUBLICATIONS

Glazer et al., “Pelvic floor muscle biofeedback in the treatment of urinary incontinence: A literature review,” *Appl Psychophysiol Biofeedback*. 31(3):187-201 (2006) (Abstract only).  
 Kandadai et al., “Correct Performance of Pelvic Muscle Exercises in Women Reporting Prior Knowledge,” *Female Pelvic Med Reconstr Surg*. 21(3):135-40 (2015).  
 Malcovati et al., *Interface Circuitry and Microsystems. MEMS—A Practical Guide to Design, Analysis, and Applications*. Jan G. Korvink and Oliver Paul, 901-942 (2006).  
 Moen et al., “Pelvic floor muscle function in women presenting with pelvic floor disorders,” *Int Urogynecol J Pelvic Floor Dysfunct*. 20(7):843-6 (2009).  
 Nygaard et al., “Efficacy of pelvic floor muscle exercises in women with stress, urge, and mixed urinary incontinence,” *Am J Obstet Gynecol*. 174(1 Pt 1):120-125 (1996) (Abstract only).  
 Parekh et al., “The role of pelvic floor exercises on post-prostatectomy incontinence,” *J Urol*. 170(1):130-33 (2003) (Abstract Only) (2 pages).  
 Rosenbaum et al., “The Role of Pelvic Floor Physical Therapy in the Treatment of Pelvic and Genital Pain-Related Sexual Dysfunction,” *J Sex Med*. 5(3): 513-23 (2008).  
 Rosenbaum, “Pelvic floor involvement in male and female sexual dysfunction and the role of pelvic floor rehabilitation in treatment: a literature review,” *J Sex Med*. 4(1):4-13 (2007) (Abstract only) (2 pages).  
 Rosenblatt et al., “Evaluation of an accelerometer-based digital health system for the treatment of female urinary incontinence: A pilot study,” *Neurourol Urodyn*. 38(7): 1944-1952 (2019).  
 Rosenblatt et al., “Interactive Pelvic Floor Muscle Training for Female Urinary Incontinence,” *Renovia, Inc.*, retrieved Apr. 30, 2019 from <[renoviainc.com/wp-content/uploads/2018/04/REN005.01-White-Paper-12Apr18-FINAL.pdf](http://renoviainc.com/wp-content/uploads/2018/04/REN005.01-White-Paper-12Apr18-FINAL.pdf)> (2018) (6 pages).

\* cited by examiner

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(57)

**CLAIM**

The ornamental design for an intravaginal device assembly, substantially as shown and described.

**DESCRIPTION**

FIG. 1 is a front and left side perspective view of an intravaginal device assembly, with the intravaginal device removed from the case for ease of illustration, embodying the claimed design;  
 FIG. 2 is an enlarged front view of the intravaginal device of FIG. 1;  
 FIG. 3 is an enlarged rear view of the intravaginal device of FIG. 1;  
 FIG. 4 is a top view of the intravaginal device of FIG. 1;  
 FIG. 5 is a bottom view of the intravaginal device of FIG. 1;  
 FIG. 6 is a right side view of the intravaginal device of FIG. 1;  
 FIG. 7 is a left side view of the intravaginal device of FIG. 1;  
 FIG. 8 is a front and left side perspective view of a case, in a closed position, containing the intravaginal device shown in FIG. 1;  
 FIG. 9 is an exploded view of the case and intravaginal device of FIG. 8;  
 FIG. 10 is a front and left side perspective view of a partially opened case containing the intravaginal device shown in FIG. 1;  
 FIG. 11 is an enlarged front view of the case containing the intravaginal device shown in FIG. 8;  
 FIG. 12 is an enlarged rear view of the case containing the intravaginal device shown in FIG. 8;  
 FIG. 13 is a right side view of the case and intravaginal device shown in FIG. 10;  
 FIG. 14 is a left side view of the case and intravaginal device shown in FIG. 10;  
 FIG. 15 is a top view of the case and intravaginal device shown in FIG. 10; and,  
 FIG. 16 is a bottom view of the case and intravaginal device shown in FIG. 10.  
 The broken lines show portions of the intravaginal device assembly that form no part of the claimed design.

**1 Claim, 10 Drawing Sheets**

FIG. 1

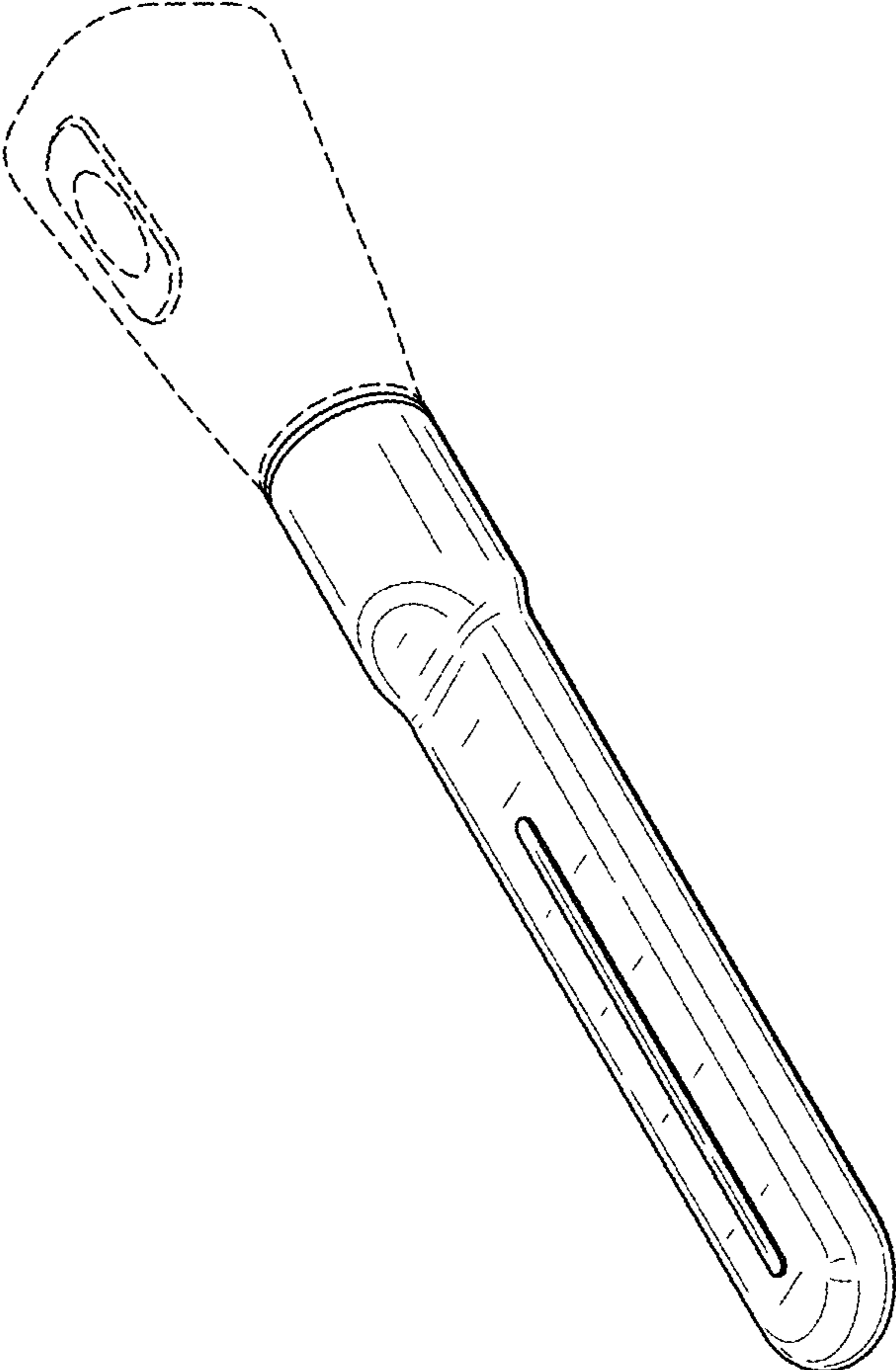


FIG. 2

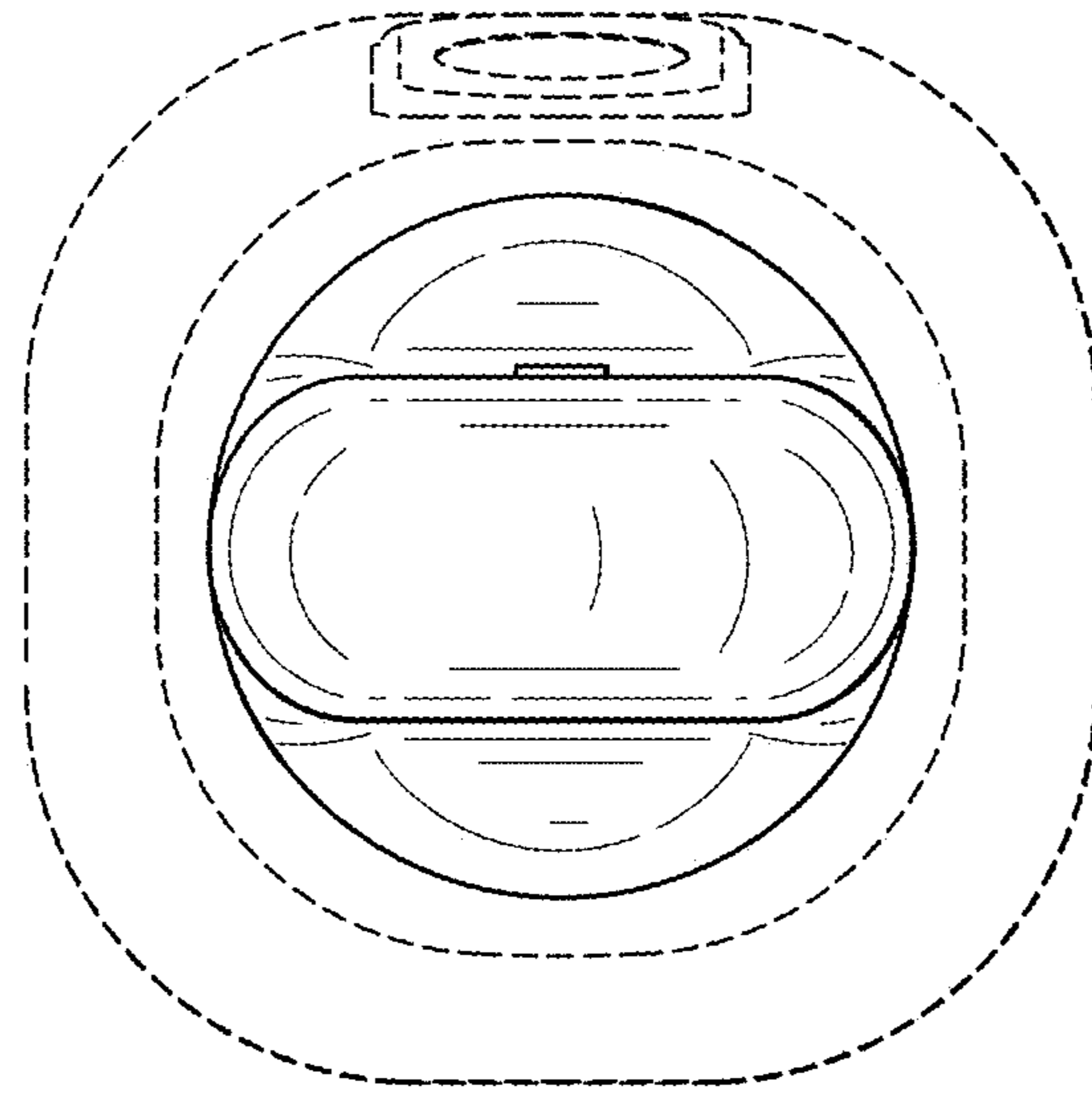


FIG. 3

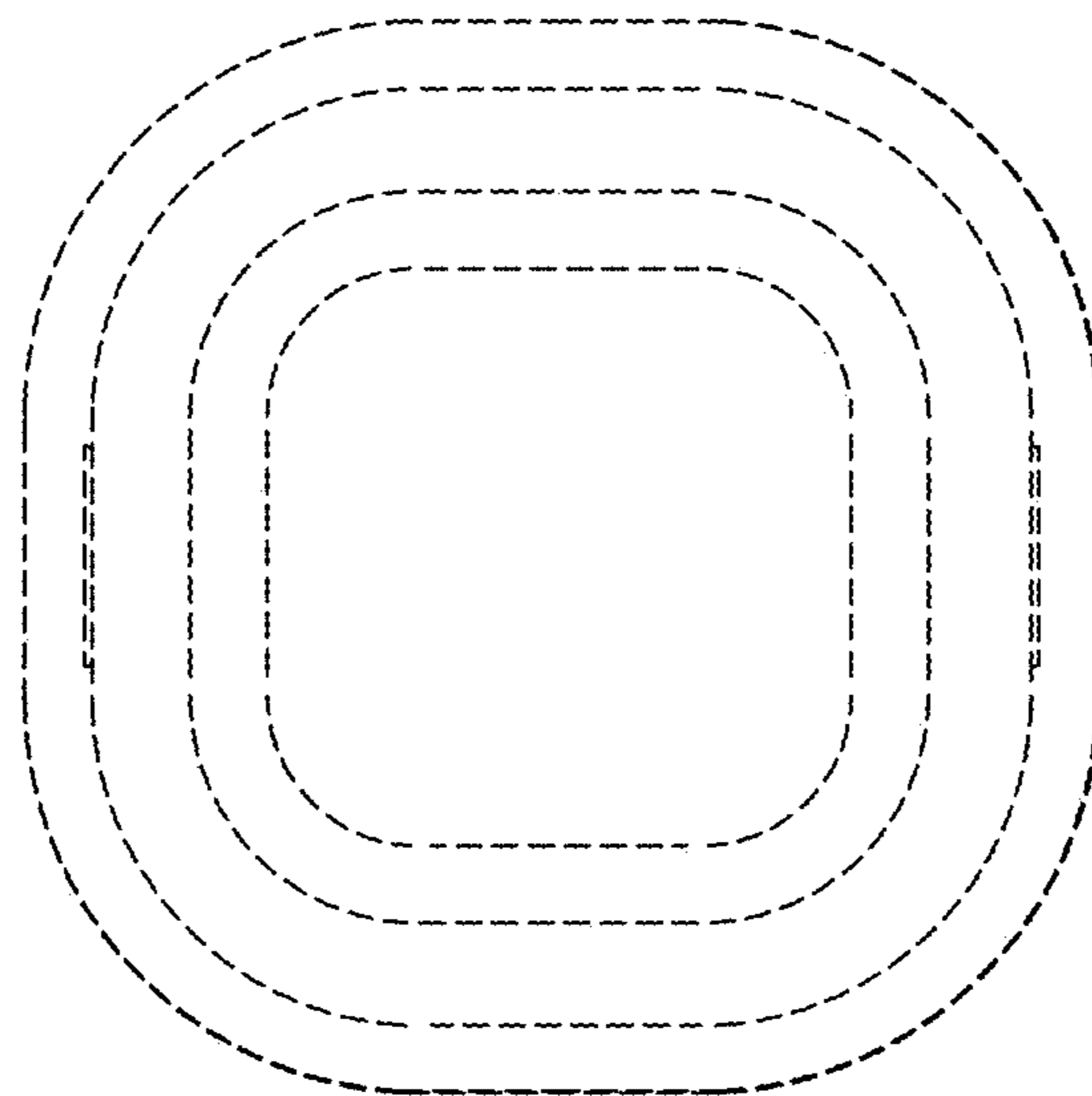


FIG. 4

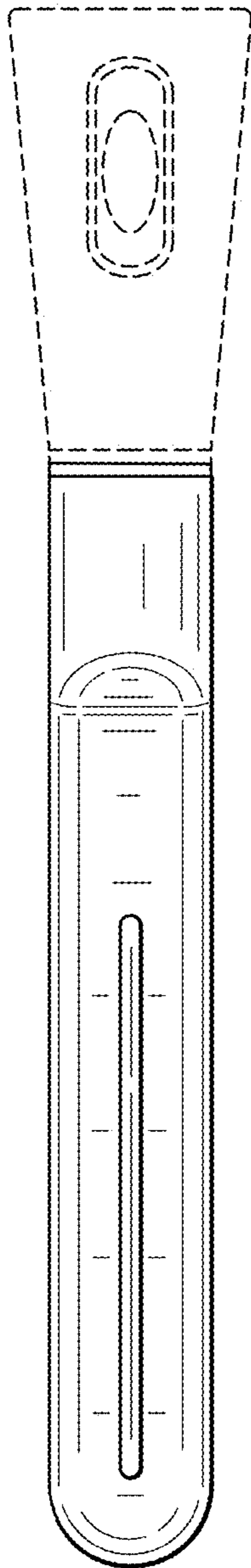


FIG. 5

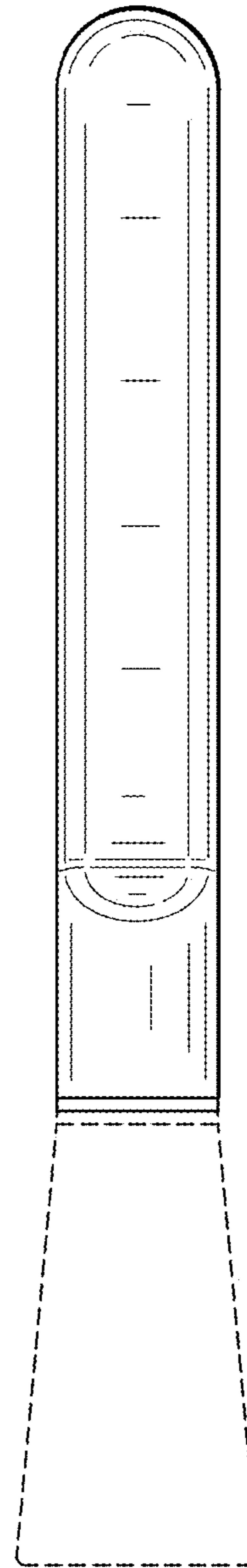


FIG. 6

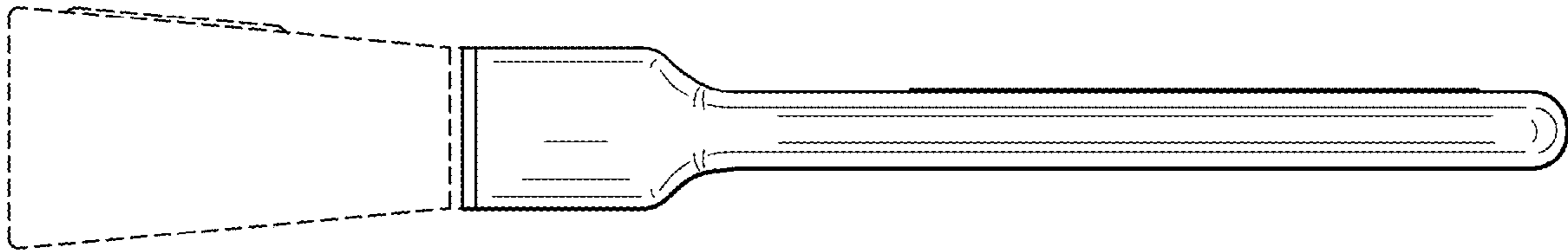


FIG. 7

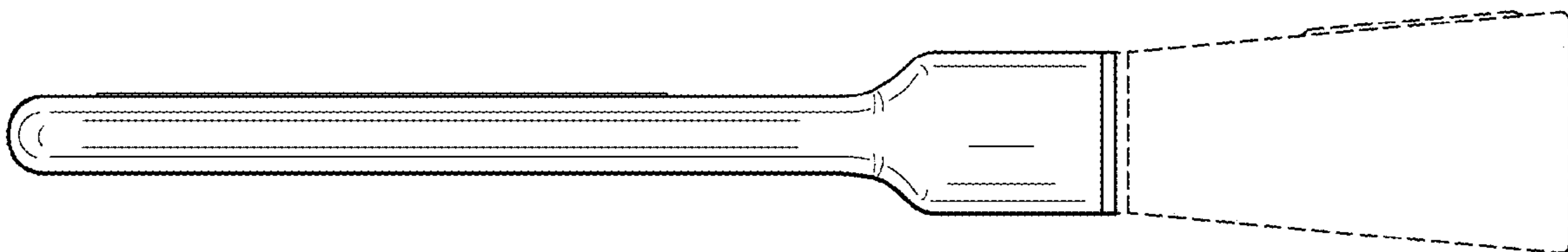
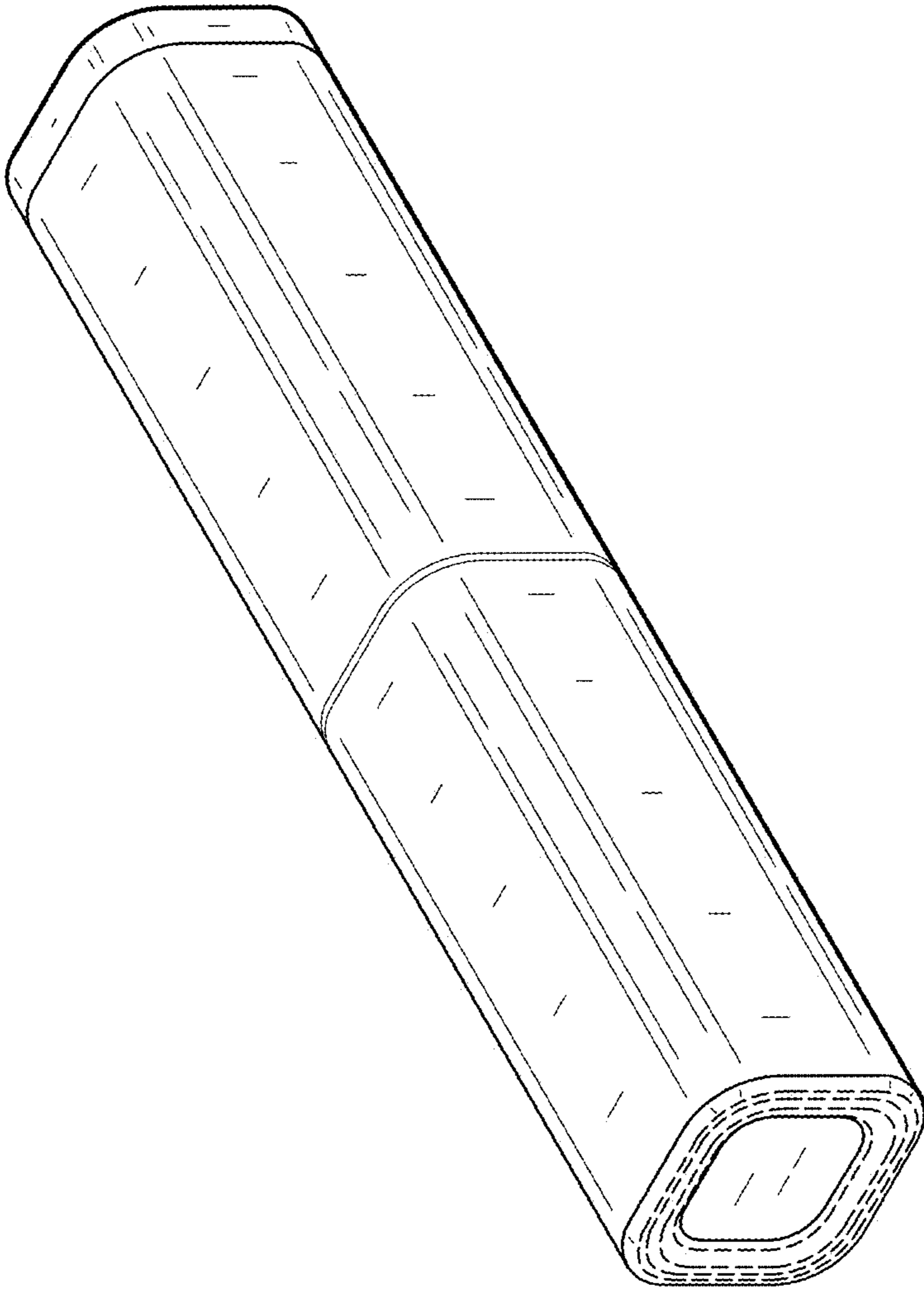


FIG. 8





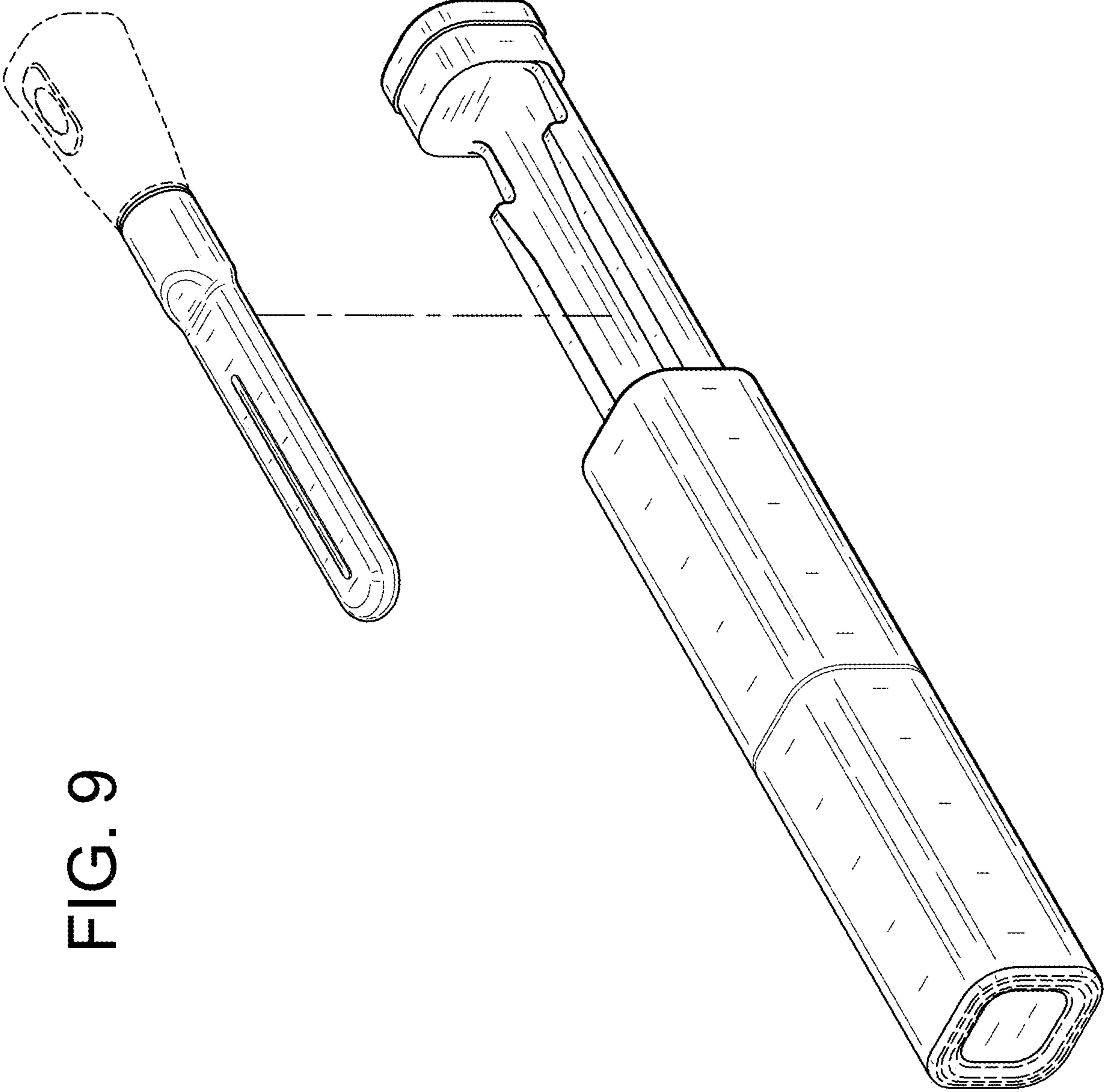


FIG. 9

FIG. 10

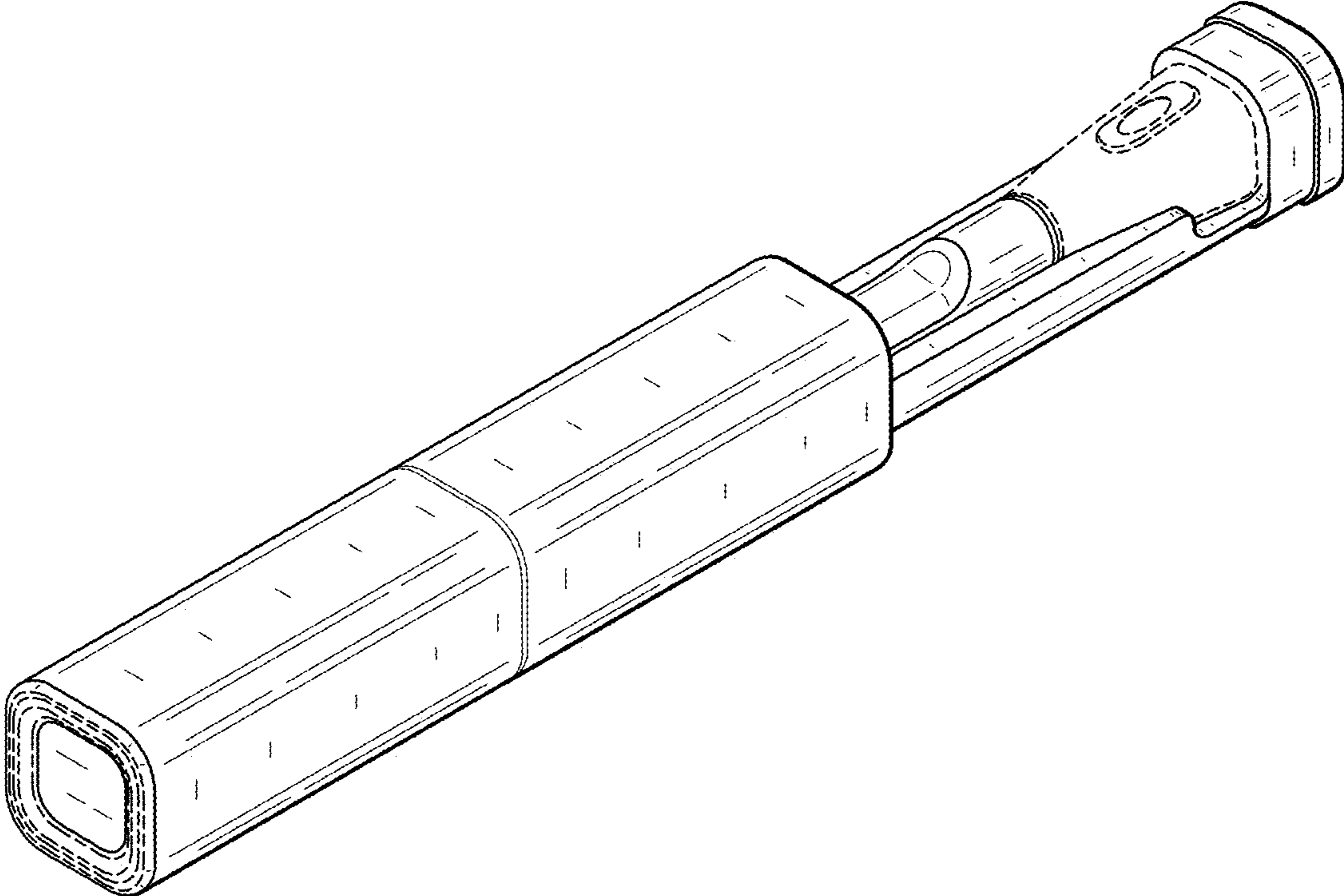


FIG. 11

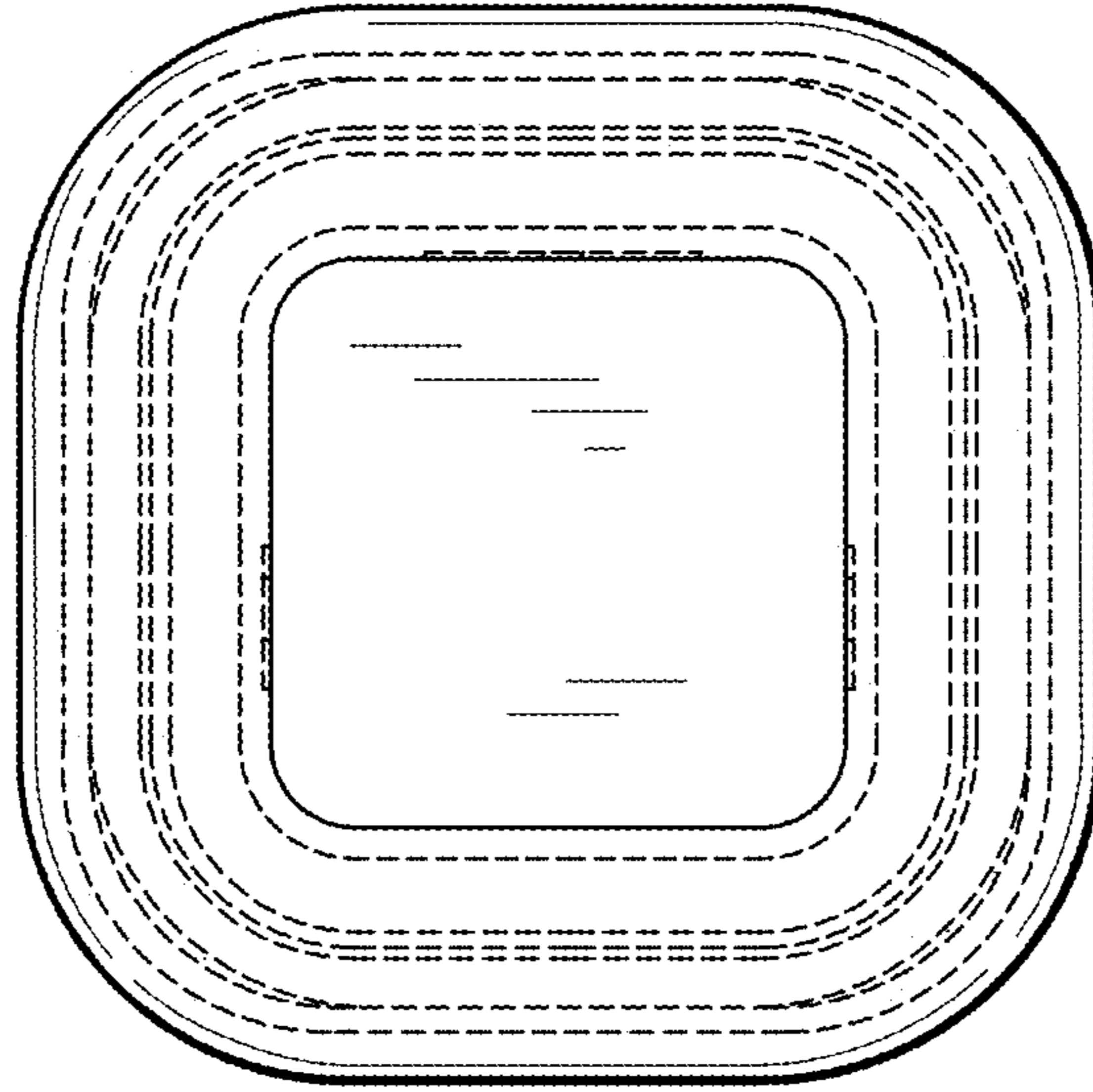


FIG. 12

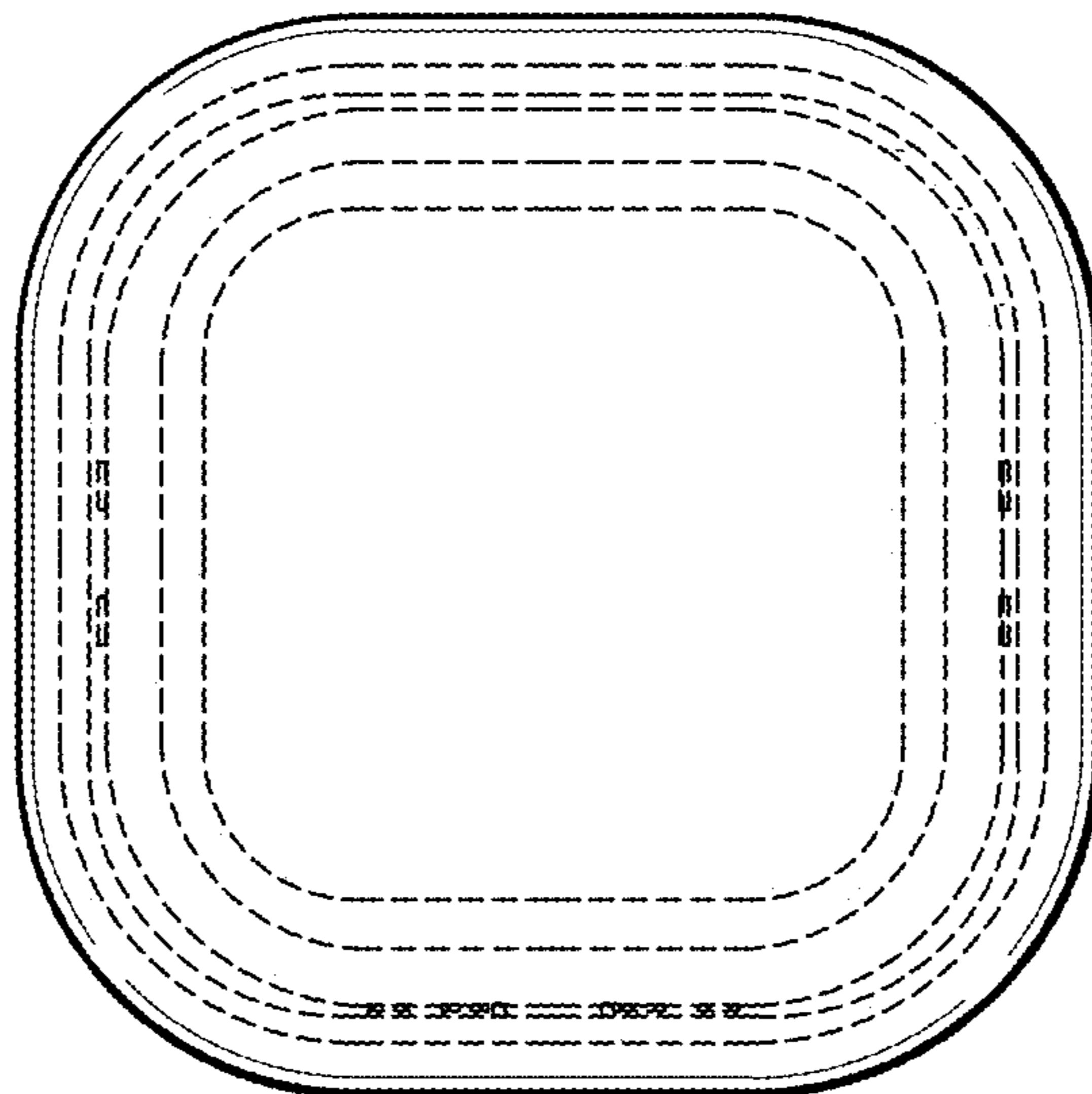


FIG. 13

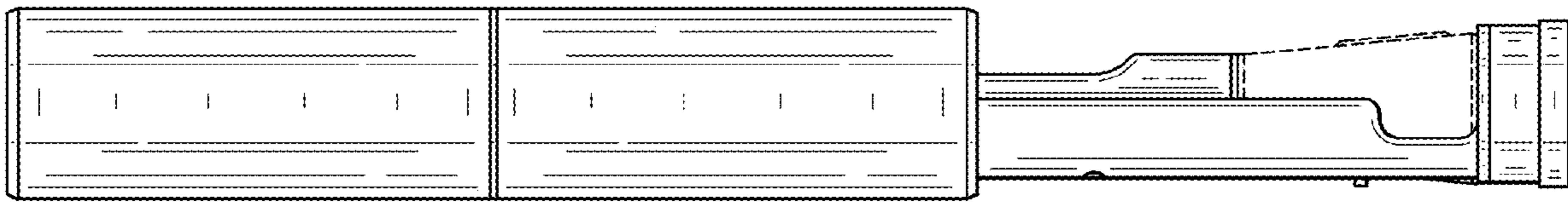


FIG. 14

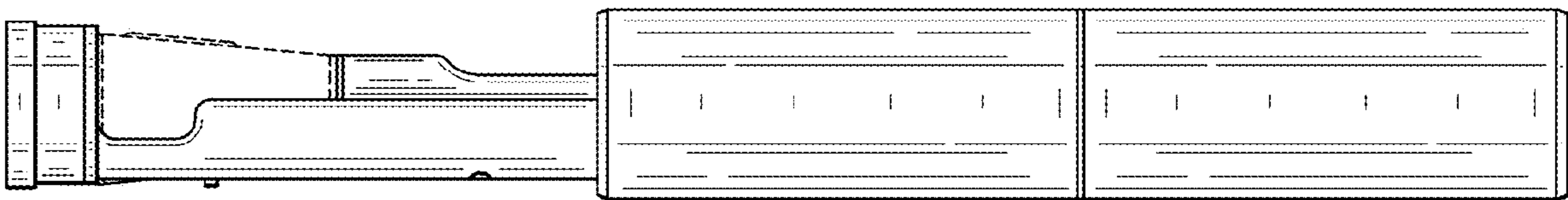


FIG. 15

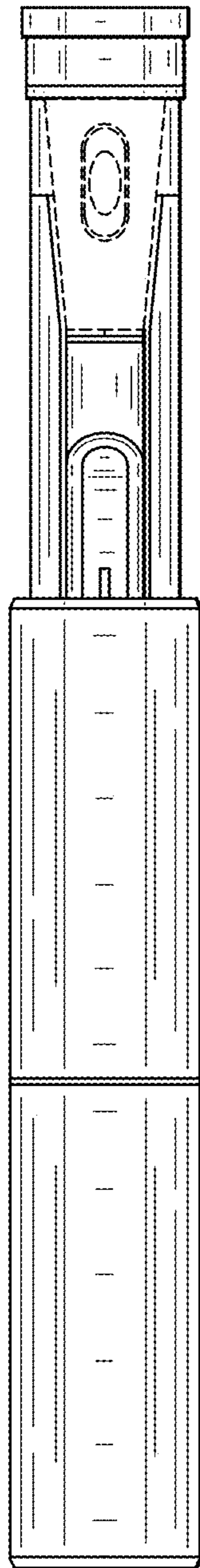


FIG. 16

