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Kalina, Jr. et al.

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(54) **GONIOSCOPE**

(71) Applicant: **GLAUKOS CORPORATION**, San Clemente, CA (US)

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

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Related U.S. Application Data

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

(52) **U.S. Cl.**
USPC **D24/137**; D16/135

(58) **Field of Classification Search**
USPC D16/130, 131, 134, 135, 136, 137; D24/107, 133, 137, 232; D10/65
CPC A61B 3/117; A61B 3/125; A61B 3/132; A61B 3/0033; A61B 3/0083; A61B 17/0231; A61B 2090/067; A61F 9/013; A61F 9/0017
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,430,851	A		11/1947	Allen	
D166,597	S		4/1952	Filsinger	
D166,842	S	*	5/1952	Armbruster	D24/137
D175,322	S	*	8/1955	Stegeman	D24/137
D196,610	S	*	10/1963	Kolbeck	D24/150
3,112,570	A		12/1963	Vasconcellos	
D205,094	S	*	6/1966	Pulos	D24/137
D207,371	S	*	4/1967	Pulos	D24/137

(Continued)

FOREIGN PATENT DOCUMENTS

WO	WO 94/010900	5/1994
WO	WO 2009/158517	12/2009

(Continued)

OTHER PUBLICATIONS

U.S. Clinical Wick Trials, Oct. 11, 1999, website http://www.cornea.org/us.htm. Allingham, R. R., et al., "Morphometric Analysis of Schlemm's Canal in Normal and Glaucomatous Human Eyes", Glaucoma Paper Presentation, (abstract only—not dated).

(Continued)

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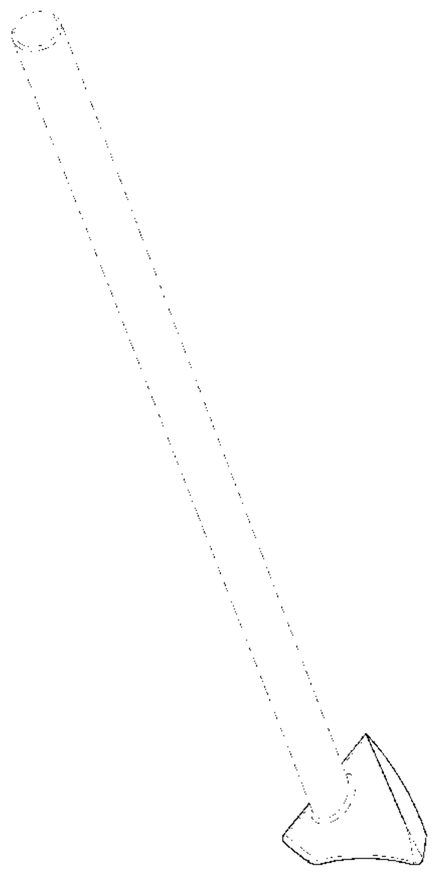
(57) **CLAIM**

The ornamental design for a gonioscope, as shown and described.

DESCRIPTION

FIG. **1** is a top, front, and right side perspective view of the gonioscope.
FIG. **2** is a front elevation view thereof.
FIG. **3** is a rear elevation view thereof.
FIG. **4** is a right side elevation view thereof.
FIG. **5** is a left side elevation view thereof.
FIG. **6** is a top plan view thereof.
FIG. **7** is a bottom plan view thereof; and,
FIG. **8** is a bottom, rear, and left side perspective view thereof.
The broken lines in the drawings depict portions of the gonioscope that form no part of the claimed design.

1 Claim, 7 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

3,469,903	A	*	9/1969	Grichnik	A61B 5/162 351/243
D217,515	S	*	5/1970	Wells	D6/553
D217,516	S	*	5/1970	Wells	D6/553
3,589,800	A	*	6/1971	Cardona	A61B 3/117 351/221
3,753,611	A		8/1973	Ebbesen	
3,820,879	A		6/1974	Frisen	
4,033,679	A	*	7/1977	Sussman	A61B 3/117 351/221
4,067,646	A		1/1978	Nohda	
4,134,647	A		1/1979	Ramos-Caldera	
4,134,667	A		1/1979	Schnall et al.	
4,205,747	A		6/1980	Gilliam et al.	
4,269,307	A		5/1981	LaHaye	
4,307,944	A		12/1981	Schirmer	
4,439,026	A		3/1984	Wilms	
4,469,413	A		9/1984	Shirayanagi	
4,568,157	A		2/1986	Kurwa	
4,598,984	A		7/1986	Rol	
4,627,694	A		12/1986	Volk	
4,664,490	A		5/1987	Rol	
4,682,866	A		7/1987	Volk	
4,721,378	A		1/1988	Volk	
4,728,183	A		3/1988	Heacock et al.	
4,736,836	A		4/1988	Alongi et al.	
4,738,521	A		4/1988	Volk	
4,799,784	A		1/1989	Safir	
4,907,872	A		3/1990	Schirmer et al.	
5,007,729	A		4/1991	Erickson	
5,024,518	A		6/1991	Richards et al.	
5,046,836	A		9/1991	Volk	
5,200,773	A		4/1993	Volk	
5,216,456	A		6/1993	Volk	
5,260,578	A		11/1993	Bliton et al.	
5,281,227	A		1/1994	Sussman	
D345,213	S	*	3/1994	Shalon	D24/172
5,309,187	A		5/1994	Crossman et al.	
5,359,372	A		10/1994	Kida et al.	
5,412,441	A		5/1995	Tibbling et al.	
5,424,789	A		6/1995	Volk	
5,479,222	A		12/1995	Volk	
5,501,217	A		3/1996	Ishiguro et al.	
5,535,060	A		7/1996	Grinblat	
5,537,164	A	*	7/1996	Smith	A61B 3/117 351/205
5,548,352	A		8/1996	Dewey	
5,601,549	A		2/1997	Miyagi	
D379,514	S	*	5/1997	Laun	D24/137
5,742,440	A		4/1998	Marino	
D394,704	S		5/1998	Koepnick	
5,784,147	A		7/1998	Volk	
5,805,269	A		9/1998	Volk	
5,822,036	A		10/1998	Massie et al.	
5,830,139	A		11/1998	Abrue	
5,886,822	A		3/1999	Spitzer	
5,903,333	A		5/1999	Siminou et al.	
5,963,301	A		10/1999	Volk	
6,059,772	A		5/2000	Hsia et al.	
6,164,779	A		12/2000	Volk	
6,183,085	B1		2/2001	Roggy et al.	
6,196,686	B1	*	3/2001	Reiner	A61B 3/125 351/219
D444,236	S	*	6/2001	Koop	D24/172
6,266,182	B1		7/2001	Morita	
6,569,199	B1		5/2003	Dotan et al.	
6,596,026	B1		7/2003	Gross et al.	
6,698,886	B2		3/2004	Pollack et al.	
D489,130	S	*	4/2004	Sinding	D24/135
6,767,098	B2		7/2004	Erickson et al.	
D493,887	S	*	8/2004	Roberts	D24/137
6,942,343	B2		9/2005	Farberov	
6,976,758	B2		12/2005	Khaw et al.	
D523,881	S		6/2006	Edwards et al.	
7,072,104	B2		7/2006	Okamura et al.	
7,125,119	B2		10/2006	Farberov	
D534,194	S		12/2006	Hines et al.	
7,144,111	B1		12/2006	Ross, III et al.	
7,148,970	B2		12/2006	de Boer	
D547,450	S	*	7/2007	Hurlstone	D24/137
7,244,024	B2		7/2007	Biscardi	
D549,326	S		8/2007	Aparici et al.	
7,261,687	B2		8/2007	Yang	
7,357,504	B2		4/2008	Fischer	
7,393,104	B2		7/2008	Hara et al.	
D574,867	S		8/2008	Lewis	
7,419,262	B2		9/2008	Whalen	
7,438,413	B2		10/2008	Kashiwagi et al.	
7,447,408	B2		11/2008	Bouma et al.	
7,448,752	B2		11/2008	Levine	
7,480,058	B2		1/2009	Zhao et al.	
7,494,220	B2		2/2009	Copland	
7,501,645	B2		3/2009	Shaver	
7,503,605	B2		3/2009	Mears	
7,512,436	B2		3/2009	Petty et al.	
7,520,611	B2		4/2009	Franz et al.	
7,524,064	B2		4/2009	Wyatt	
7,549,744	B2		6/2009	Bradley	
7,575,321	B2		8/2009	Newman et al.	
7,614,747	B2		11/2009	Foster	
7,618,372	B2		11/2009	dela Houssaye	
D613,402	S	*	4/2010	Roberts	D24/137
7,708,403	B2		5/2010	Newman	
7,748,846	B2		7/2010	Todd	
7,758,190	B2		7/2010	Korb et al.	
7,766,480	B1		8/2010	Graham et al.	
7,884,945	B2		2/2011	Srinivasan et al.	
D635,257	S	*	3/2011	Ellman	D24/137
7,925,133	B2		4/2011	Bouma et al.	
7,954,947	B2		6/2011	Sugita et al.	
7,963,654	B2		6/2011	Aggarwala	
7,971,998	B2		7/2011	Lesk et al.	
D645,489	S	*	9/2011	Gille	D16/135
D645,490	S	*	9/2011	Gille	D16/135
8,011,504	B1		9/2011	Farberov	
8,070,289	B2		12/2011	Peyman	
8,070,290	B2		12/2011	Gille et al.	
8,226,236	B2		7/2012	Williams et al.	
8,369,669	B2		2/2013	Bouma et al.	
8,851,676	B2	*	10/2014	John	A61B 3/117 351/218
D737,450	S	*	8/2015	Abelson	D24/172
D833,008	S	*	11/2018	Kalina, Jr.	D24/137
10,413,178	B2	*	9/2019	Graham	A61B 3/0091
10,499,809	B2		12/2019	Kalina, Jr. et al.	
2003/0090898	A1		5/2003	Goldstein et al.	
2003/0232015	A1		12/2003	Brown et al.	
2004/0036839	A1		2/2004	Fischer et al.	
2004/0196431	A1		10/2004	Farberov	
2005/0165413	A1		7/2005	Conston et al.	
2006/0050229	A1	*	3/2006	Farberov	A61B 3/117 351/159.02
2007/0046948	A1		3/2007	Podoleanu et al.	
2007/0195269	A1		8/2007	Wei et al.	
2007/0276483	A1		11/2007	Aharoni et al.	
2007/0291277	A1		12/2007	Everett et al.	
2008/0043199	A1	*	2/2008	Whalen	A61B 3/125 351/159.67
2008/0068560	A1		3/2008	Knighton et al.	
2009/0046251	A1		2/2009	Peyman et al.	
2009/0128776	A1		5/2009	Keating et al.	
2009/0137989	A1		5/2009	Kataoka	
2009/0149829	A1		6/2009	Collins	
2009/0157062	A1		6/2009	Hauger et al.	
2009/0180123	A1		7/2009	Knighton et al.	
2009/0225324	A1		9/2009	Berstein et al.	
2010/0027857	A1		2/2010	Wang	
2010/0118269	A1		5/2010	Shea et al.	
2010/0118270	A1		5/2010	Shea et al.	
2010/0134759	A1		6/2010	Silvestrini	
2010/0208201	A1		8/2010	Knighton et al.	
2010/0249562	A1		9/2010	Zhang et al.	

(56) **References Cited**

U.S. PATENT DOCUMENTS

2010/0265461	A1*	10/2010	Gille	A61B 3/117 351/219
2011/0026789	A1	2/2011	Hsu et al.	
2011/0103658	A1	5/2011	Davis et al.	
2011/0213342	A1	9/2011	Tripathi et al.	
2012/0099077	A1	4/2012	Abt	
2012/0257167	A1*	10/2012	Gille	A61B 3/117 351/219
2013/0103145	A1	4/2013	John et al.	
2013/0182223	A1*	7/2013	Wardle	A61B 3/117 351/219
2014/0307229	A1	10/2014	Hassan et al.	
2017/0181622	A1*	6/2017	Graham	A61B 3/125
2018/0070817	A1*	3/2018	Kalina, Jr.	A61B 3/117
2018/0310821	A1*	11/2018	Kalina, Jr.	A61B 17/0231

FOREIGN PATENT DOCUMENTS

WO	WO 10/077987	7/2010
WO	WO 2013/109771	7/2013

OTHER PUBLICATIONS

Bahler, Cindy K., BS, Gregrory T. Smedley, PhD, Jianbo Zhou, PhD, Douglas H. Johnson, MD., Trabecular Bypass Stents Decrease Intraocular Pressure in Cultured Human Anterior Segments, American Journal of Ophthalmology, Dec. 2004, vol. 138, pp. 988-994.

"Beam Steering by Wedge Prisms," last updated Jun. 15, 2006, available at: http://micro.magnet.fsu.edu/primer/java/prismsandbeamsplitters/wedgeprisms/index.html.

Beck, Allen D., et al., "360° Trabeculotomy for Primary Glaucoma," Arch. Ophthalmol, 113 (Sep. 1995), pp. 1200-1202.

Buskirk, E. Michael et al., "Lens Depression and Aqueous Outflow in Enucleated Primate Eyes", American Journal of Ophthalmology, vol. 76, No. 5, Nov. 1973, pp. 632-640.

Guttman, Cheryl, Continuous IOP Monitoring Possible with Microsensor: Implantable Device Aims to Overcome Deficiencies of Current Monitoring Techniques. (Improvement in Patient Management) (Intraocular Pressure), Ophthalmology Times, Oct. 15, 2003, as cited in HighBeam Research, http://www.highbeam.com/DocPrint.aspx?DocId=1G1:109595800.

http://glaucomatoday.com/2016/1 O/gonioscopy-is-essential-for-migs/ Posted Oct. 2016.

https://entokey.com/gonioscopy-2/ Uploaded Oct. 2016.

https://web.archive.org/web/20170106073123/http://ocularinc.com/ Available Jan. 6, 2017.

Haag-Streit Contact Glasses Brochure, retrieved Mar. 20, 2007.

Newell, Frank W., Ophthalmology Principles and Concepts, 1996, Anne S. patterson/Mosby, Eighth edition, pp. 10-21 and 32.

Nickells, Robert W., Apoptosis of Retinal Ganglion Cells in Glaucoma: An Update of the Molecular Pathways Involved in Cell Death, Survey of Ophthalmology, vol. 43, Supplement 1, Jun. 1999, pp. S-151 through S-161.

Ocular Hill Surgical Gonioprism from at least as early as Jun. 29, 2007 in 3 pages, downloaded from http://www.ocularinc.com.

Ocular Khaw Surgical Gonioprism from at least as early as Jun. 29, 2007 in 3 pages, downloaded from http://ocularinc.com.

Ocular Swan Autoclavable Gonioprism from at least as early as Jun. 29, 2007 in 3 pages, downloaded from http://ocularinc.com.

VanDenburgh, A.M., et al.; A Novel Ocular Hypotensive Lipid: Initial Safety and Efficacy of AGN 192024; Glaucoma Clinical Pharmacology II, Abstract B58, IVOS 1998 vol. 39, (cover page and p. S258).

Volk, "Aspheric Ophthalmic Lenses", Refraction, International Ophthalmology Clinics, vol. 5, No. 2, Jun. 1965.

* cited by examiner

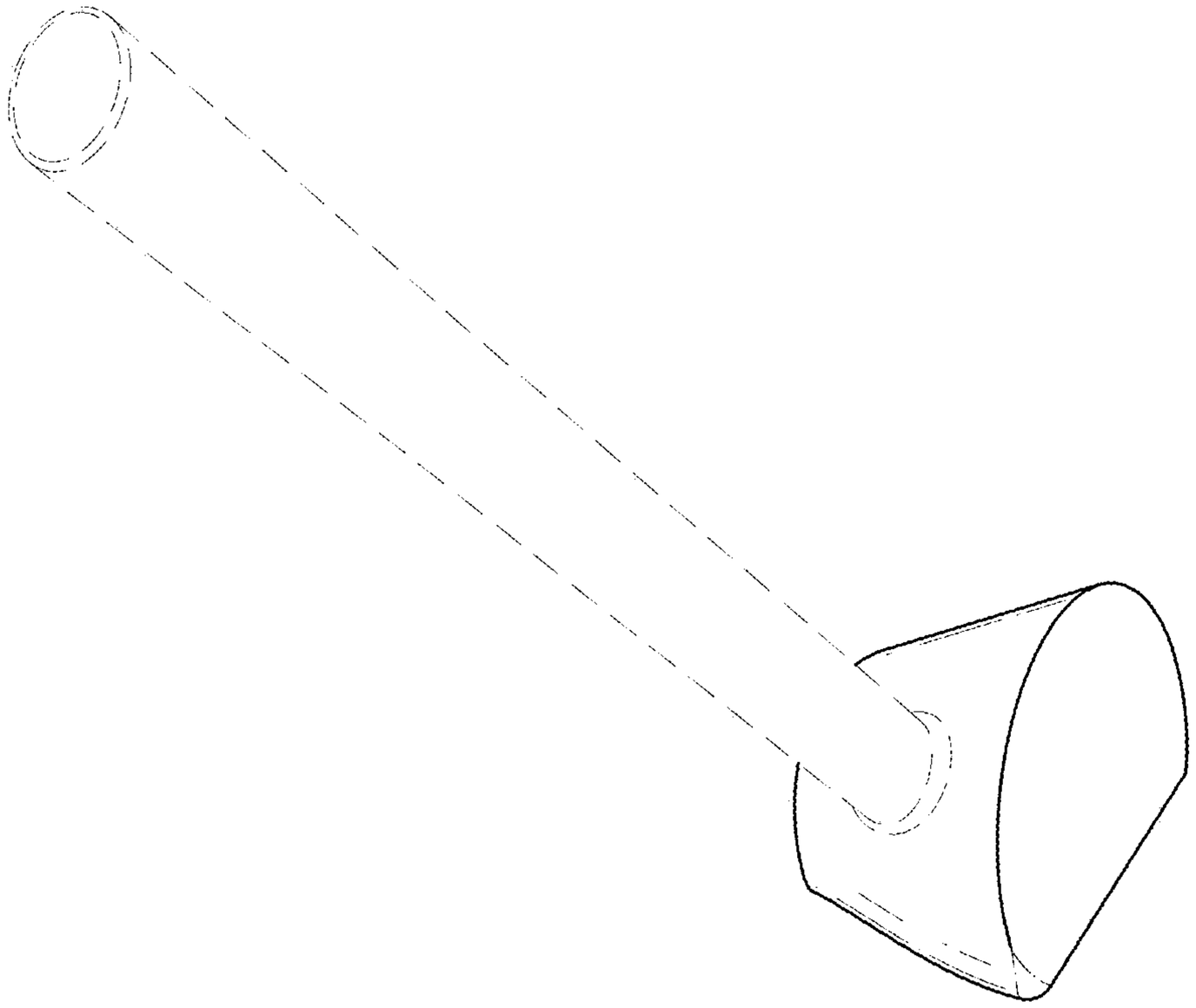
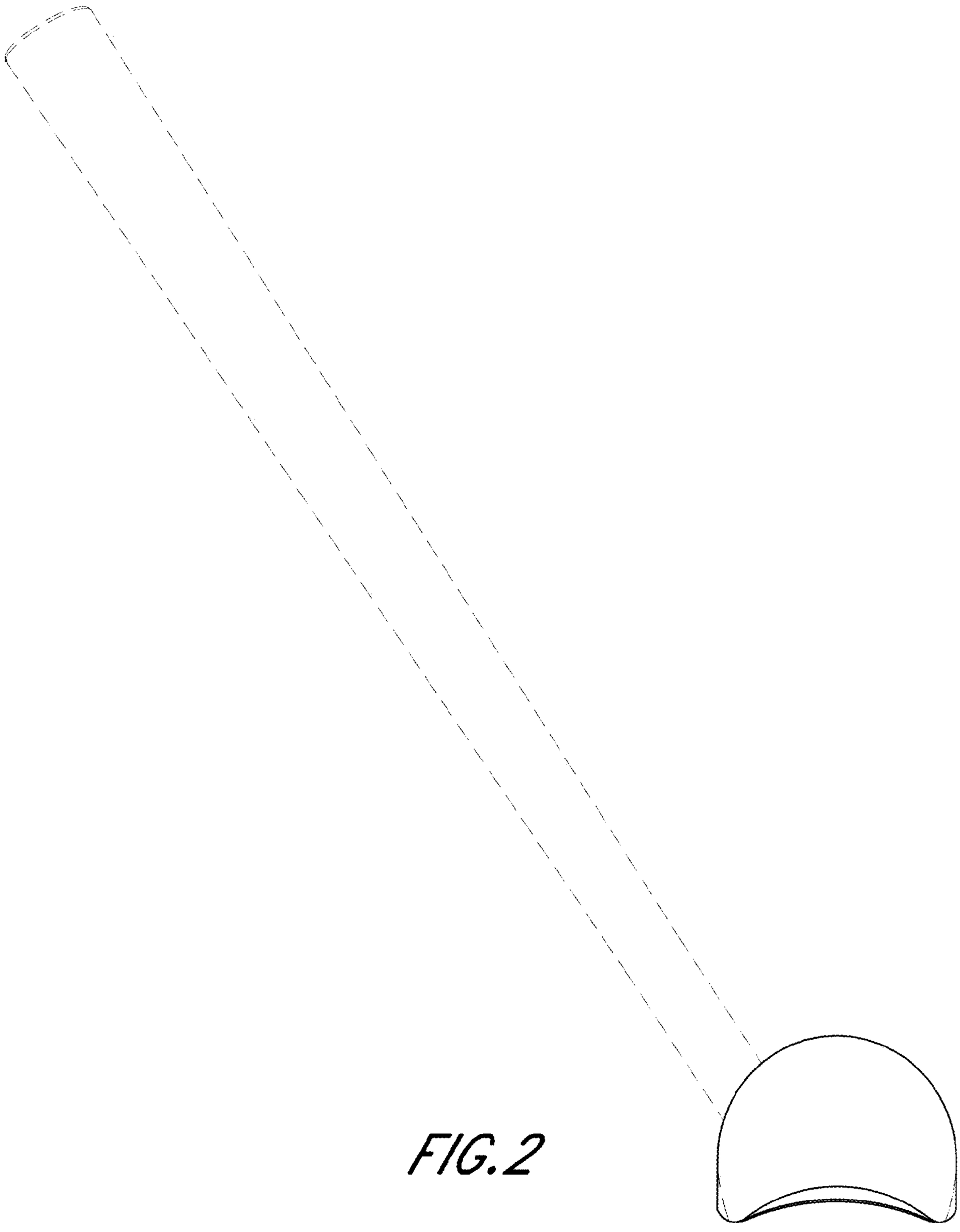


FIG. 1



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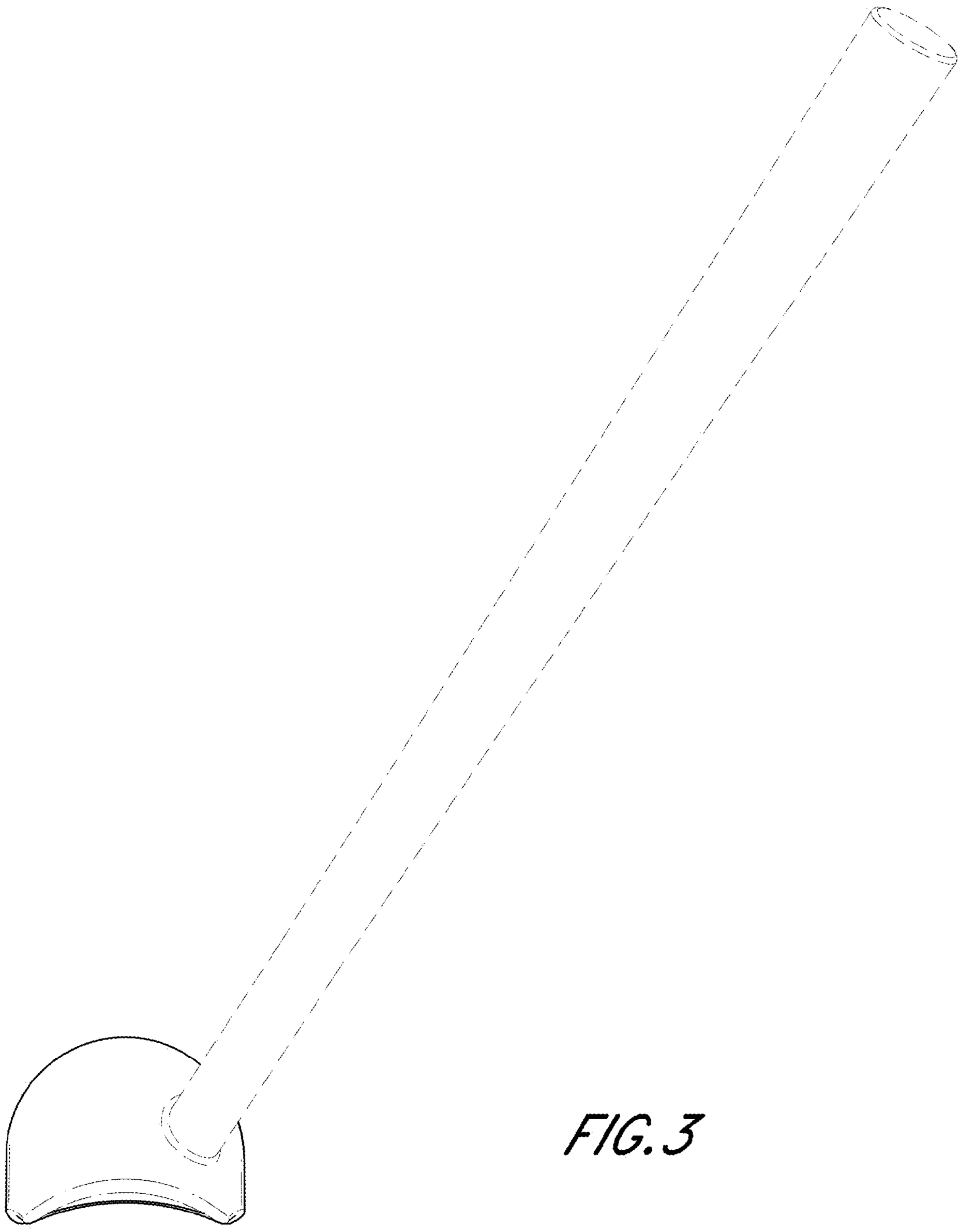

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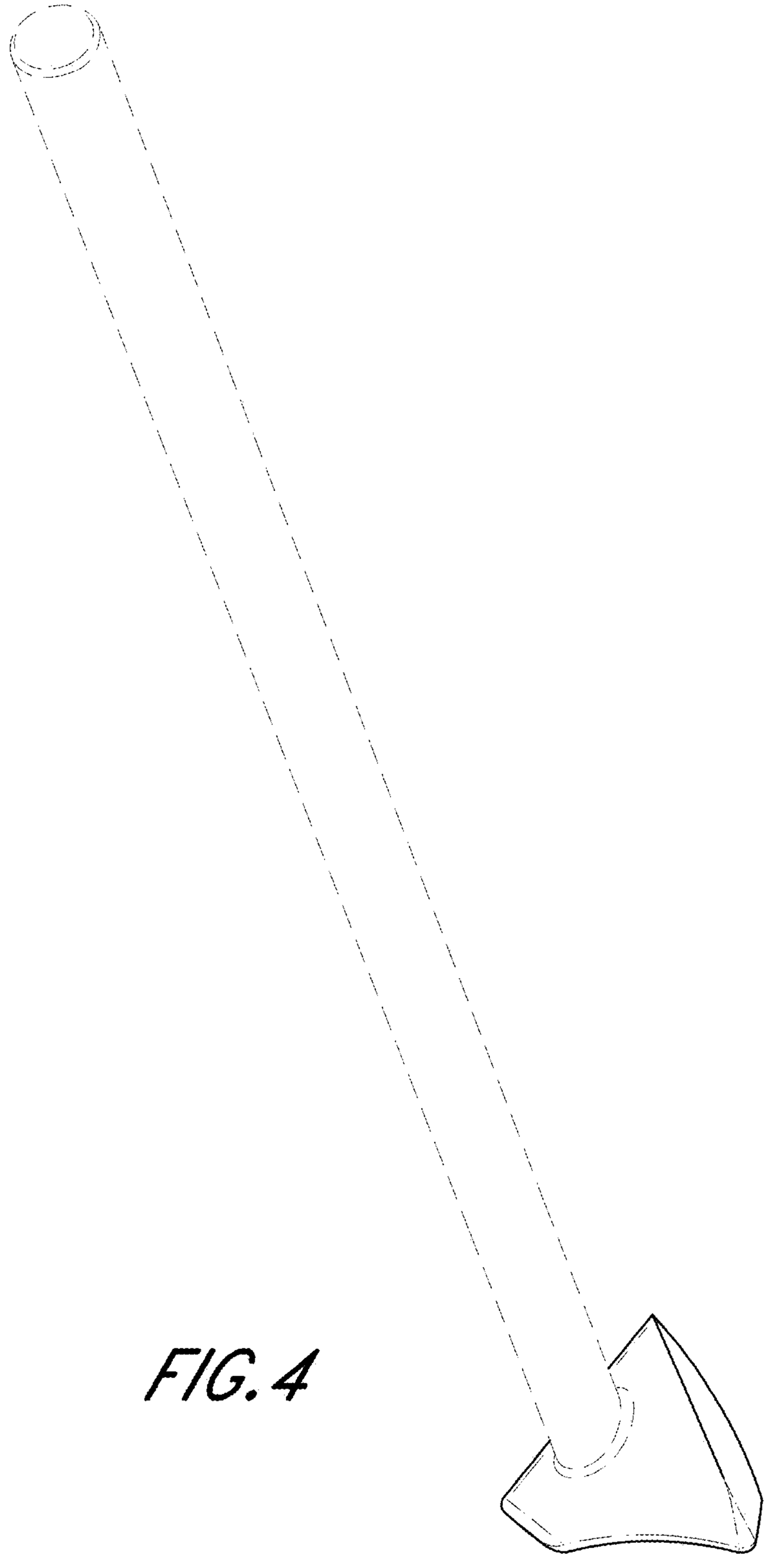

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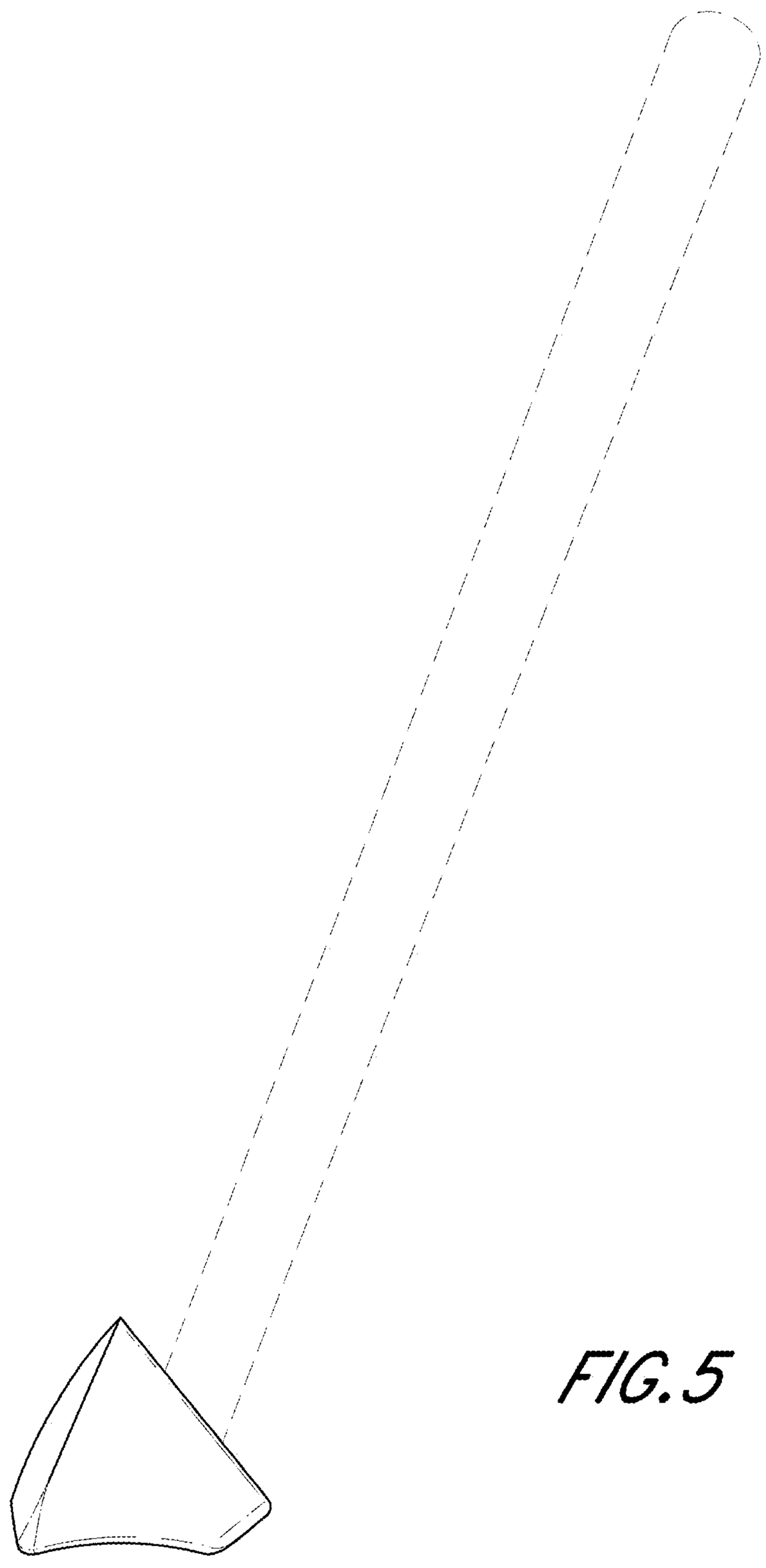

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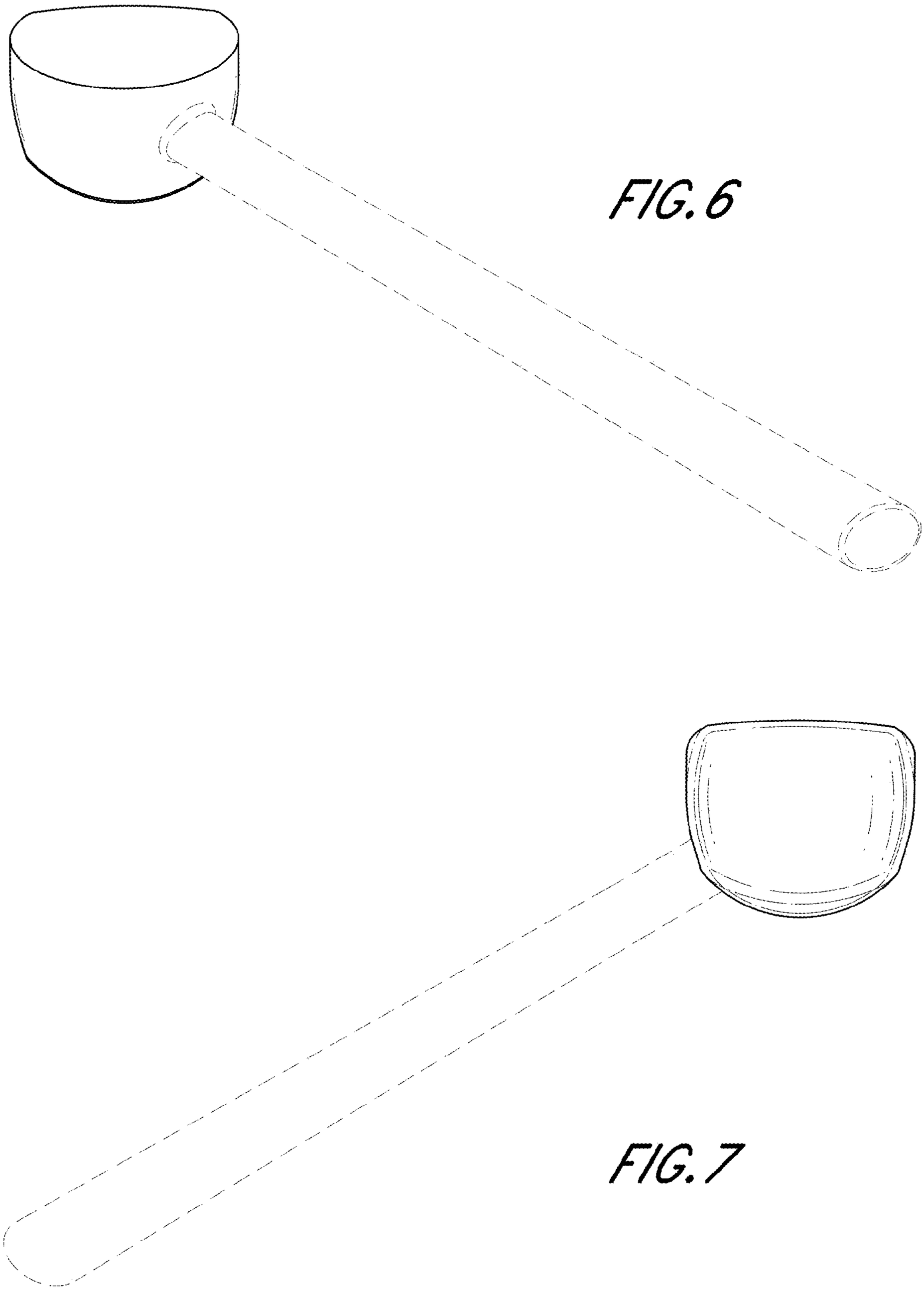

FIG. 6

FIG. 7

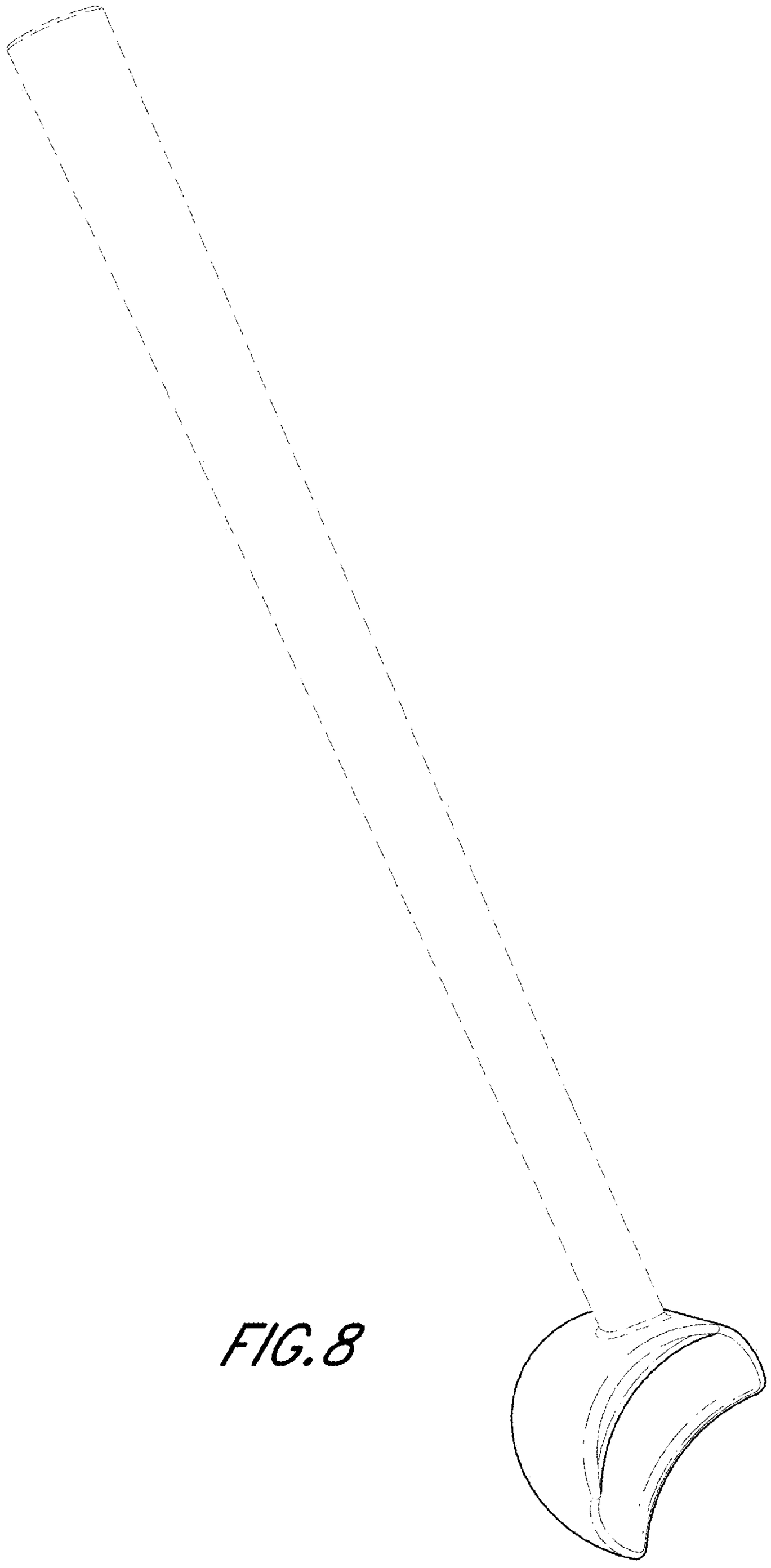

FIG. 8