



US00D917719S

(12) **United States Design Patent** (10) **Patent No.:** **US D917,719 S**
Klein et al. (45) **Date of Patent:** **** Apr. 27, 2021**

(54) **ASSAY CARTRIDGE**

(71) Applicant: **Neogen Corporation**, Lansing, MI (US)

(72) Inventors: **Frank Eric Klein**, Howell, MI (US); **Andrew John Wheeler**, Hollis Center, ME (US); **Andrew John DenHartigh**, Lansing, MI (US); **William Hoerner**, Lansing, MI (US); **Zwckxally Obregon**, Cedar Creek, TX (US); **Britton Marlatt**, Katy, TX (US)

(73) Assignee: **NEOGEN CORPORATION**, Lansing, MI (US)

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

(21) Appl. No.: **29/666,401**

(22) Filed: **Oct. 12, 2018**

Related U.S. Application Data

(62) Division of application No. 29/596,011, filed on Mar. 3, 2017, now Pat. No. Des. 834,721.

(51) **LOC (13) Cl.** **24-01**

(52) **U.S. Cl.**
USPC **D24/225**

(58) **Field of Classification Search**
USPC D24/216, 223-225, 231, 232, 186, 107, D24/108, 121; D10/81; 422/503, 551,
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,353,868 A 10/1982 Joslin et al.
4,409,988 A 10/1983 Greenspan
(Continued)

FOREIGN PATENT DOCUMENTS

CN 1882831 A 12/2006
CN 203241416 U 10/2013
(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 29/600,835, filed Apr. 17, 2017, now U.S. Pat. No. D829,337, Celia A. Murphy, Issued.

(Continued)

Primary Examiner — Lilyana Bekic

Assistant Examiner — Mary Shannon Malley

(74) *Attorney, Agent, or Firm* — Honigman LLP; Douglas H. Siegel

(57) **CLAIM**

The ornamental design for an assay cartridge, as shown and described.

DESCRIPTION

FIG. 1 is a left front bottom perspective view of an assay cartridge showing our new design;

FIG. 2 is a first left front top perspective view thereof;

FIG. 3 is a left back bottom perspective view thereof;

FIG. 4 is a left back top perspective view thereof;

FIG. 5 is a second left front top perspective view thereof;

FIG. 6 is a bottom plan view thereof;

FIG. 7 is a top plan view thereof;

FIG. 8 is a left-side elevational view thereof;

FIG. 9 is a front elevational view thereof;

FIG. 10 is a back elevational view thereof; and

FIG. 11 is a cross-sectional view thereof taken along lines XI-XI of FIG. 6.

FIG. 12 is a left front bottom perspective view of the assay cartridge in an alternate configuration of use;

FIG. 13 is a first left front top perspective view thereof;

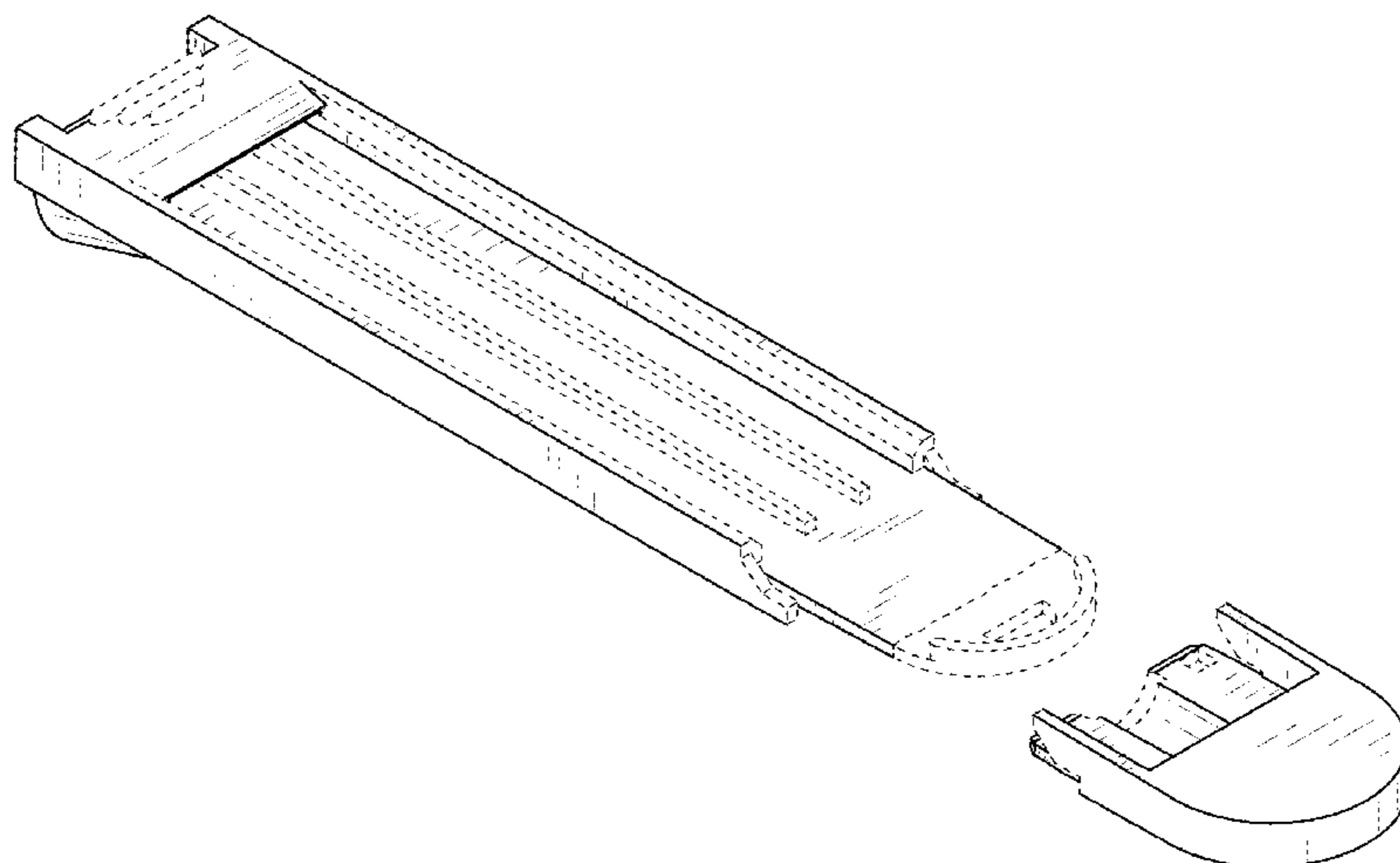
FIG. 14 is a left back bottom perspective view thereof;

FIG. 15 is a second left front top perspective view thereof; and,

FIG. 16 is a left back top perspective view thereof.

The broken lines depict portions of the assay cartridge that does not form part of the claimed design.

1 Claim, 8 Drawing Sheets



(58) **Field of Classification Search**
 USPC 422/554; 435/287.2, 287.3, 288.3, 288.4,
 435/288.5; 436/808–809
 CPC B01L 3/5027; B01L 3/502707
 See application file for complete search history.

(56) **References Cited**
 U.S. PATENT DOCUMENTS

4,599,219	A	7/1986	Cooper et al.	
5,726,010	A	3/1998	Clark	
5,726,013	A	3/1998	Clark	
D405,539	S	2/1999	Poissant et al.	
5,985,675	A	11/1999	Charm et al.	
D419,439	S	1/2000	Markovsky et al.	
6,136,610	A	10/2000	Polito et al.	
6,319,466	B1	11/2001	Markovsky et al.	
6,372,516	B1	4/2002	Sun	
6,514,769	B2	2/2003	Lee	
6,524,804	B2	2/2003	Degelaen et al.	
7,044,919	B1	5/2006	Catt et al.	
7,097,983	B2	8/2006	Markovsky et al.	
D556,909	S *	12/2007	Reihanifam	D24/111
7,785,899	B2	8/2010	Saul et al.	
7,803,322	B2	9/2010	Borich et al.	
8,106,155	B2	1/2012	Degelaen et al.	
8,470,609	B2	6/2013	Chen	
8,883,489	B2	11/2014	Pang et al.	
D724,221	S *	3/2015	Chung	D24/169
9,008,373	B2	4/2015	Markovsky et al.	
D730,536	S *	5/2015	Mangan	D24/225
9,063,137	B2	6/2015	Saul et al.	
D752,759	S *	3/2016	Chung	D24/169
D761,438	S *	7/2016	Higgins	D24/232
9,488,657	B2	11/2016	Graham et al.	
D799,055	S *	10/2017	Kennedy	D24/224
D803,416	S *	11/2017	Leaver	D24/224
2003/0207442	A1	11/2003	Markovsky et al.	
2004/0096356	A1	5/2004	Degelaen et al.	
2005/0112024	A1	5/2005	Guo et al.	
2005/0220668	A1	10/2005	Coville	
2006/0160205	A1	7/2006	Blackburn et al.	
2006/0292036	A1	12/2006	Gould et al.	
2008/0026451	A1 *	1/2008	Braman	C12N 15/1006 435/270
2008/0031779	A1	2/2008	Polito et al.	
2009/0023201	A1 *	1/2009	Hongo	B01L 7/52 435/287.2
2010/0267049	A1	10/2010	Rutter et al.	
2011/0171754	A1	7/2011	Redmond et al.	
2012/0088230	A1	4/2012	Givens et al.	
2013/0137189	A1	5/2013	Polito et al.	
2013/0280698	A1	10/2013	Propper et al.	
2014/0057362	A1	2/2014	Markovsky et al.	
2014/0120556	A1	5/2014	Moll et al.	
2014/0138260	A1 *	5/2014	Briman	B01L 3/5027 205/775
2014/0271362	A1	9/2014	Markovsky et al.	
2014/0334980	A1	11/2014	Graham et al.	
2015/0276613	A1	10/2015	Markovsky et al.	

2016/0018426	A1	1/2016	Moriya et al.	
2016/0103075	A1	4/2016	Borich et al.	
2016/0129445	A1 *	5/2016	Corey	C12Q 1/6806 435/286.1
2016/0158746	A1 *	6/2016	Taylor	B01L 3/5027 435/6.12
2016/0187239	A1	6/2016	Givens et al.	
2016/0310948	A1	10/2016	Nowakowski et al.	
2017/0199152	A1 *	7/2017	Briman	G01N 33/5438
2017/0370914	A1 *	12/2017	Kasdan	G01N 33/6872

FOREIGN PATENT DOCUMENTS

CN	103212454	B	6/2019	
EP	1095270	B2	11/2010	
WO	WO2006073500	A3	7/2006	
WO	WO2011140476	A1	11/2011	
WO	WO2012027583	A2	3/2012	
WO	WO2012145730	A2	10/2012	
WO	WO2014126918	A1	8/2014	
WO	WO2015017591	A1	2/2015	

OTHER PUBLICATIONS

U.S. Appl. No. 29/653,674, filed Jun. 18, 2018, Anhdao Doan, Pending.

U.S. Appl. No. 15/488,793, filed Apr. 17, 2017, Patricia Kathryn Wright, Pending.

U.S. Appl. No. 15/488,627, filed Apr. 17, 2017, now U.S. Pat. No. 9,833,783, Christine T. Mui, Issued.

U.S. Appl. No. 29/596,011, filed Mar. 3, 2017, now U.S. Pat. No. D834,721, Mary S. Malley, Issued.

2007 Neogen Corporation's Product Brochure for Reveal AccuScan III, 2 pages.

2012 Neogen Corporation's Product Brochure for AccuScan Pro, 1 page.

2014 Neogen Corporation's AccuScan Pro User Manual, 14 pages.

2015 Neogen Corporation's AccuScan Gold Manual, 12 pages.

Alere™ Reader, 7 pages, [date unknown].

Charm EZ brochure, Jun. 2015, 4 pages.

Envirologix QuickComb product insert, Rev. Jan. 7, 2016, 6 pages.

Neogen Corporation's presentation regarding AccuScan Gold, Nov. 2015, 21 pages.

Neogen Corporation's user guide presentation regarding AccuScan Pro, Aug. 2012, 13 pages.

Neogen Corporation's User's Guide for Reveal AccuScan III, Nov. 2010, 9 pages.

Photographs of Accuscan Gold device, 4 pages, publicly available before Apr. 17, 2016.

Photographs of Accuscan Pro device, 4 pages, publicly available before Apr. 17, 2016.

Reveal Sciences CareType™ Analysis System, 2 pages, 2009.

Charm EZ Lite brochure, May 2015, 2 pages.

Charm EZ-M brochure, Sep. 2015, 4 pages.

Neogen Corporation's product and directions for use regarding Reveal Q+ product line, 2014, 2 pages.

* cited by examiner

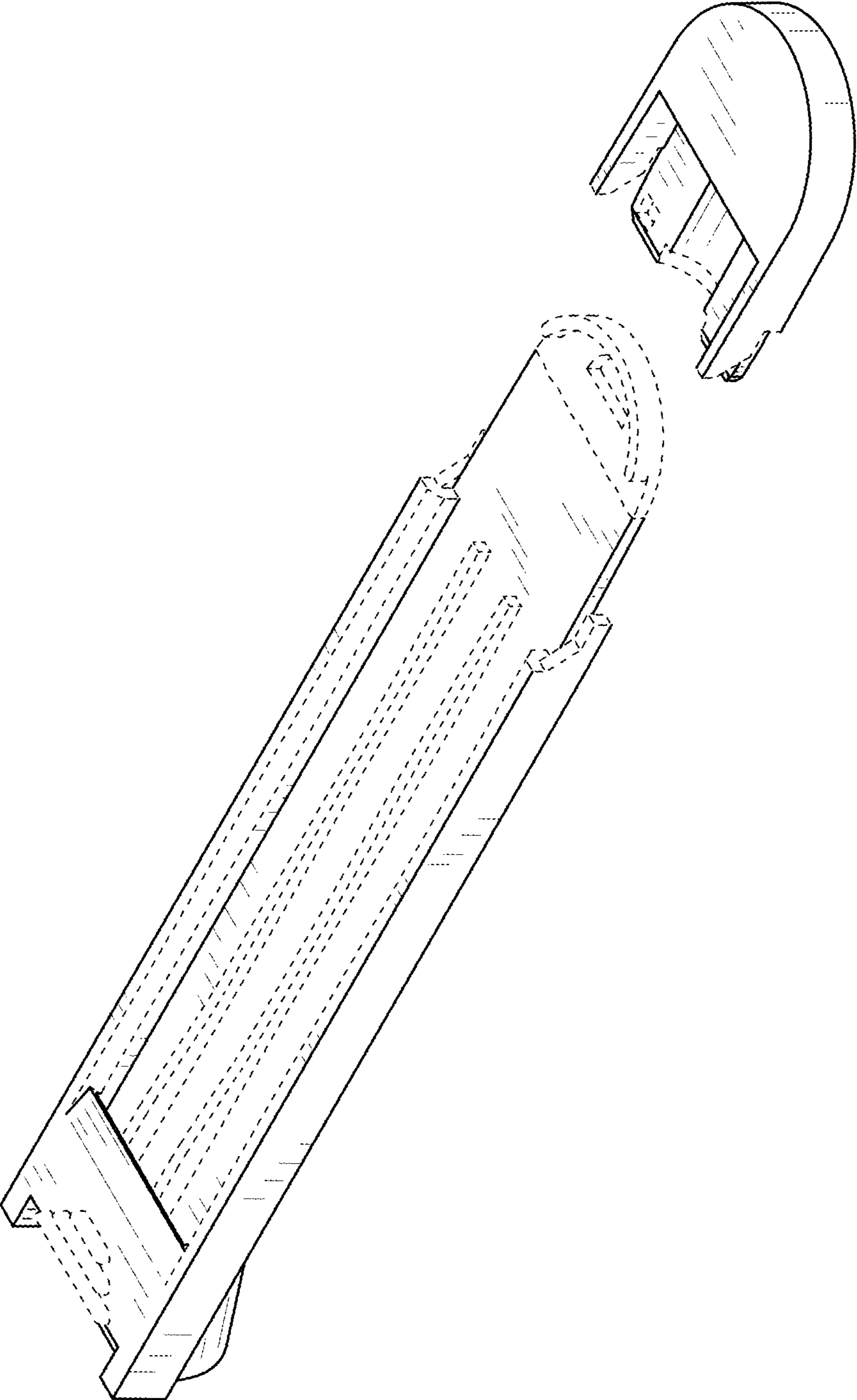


FIG. 1

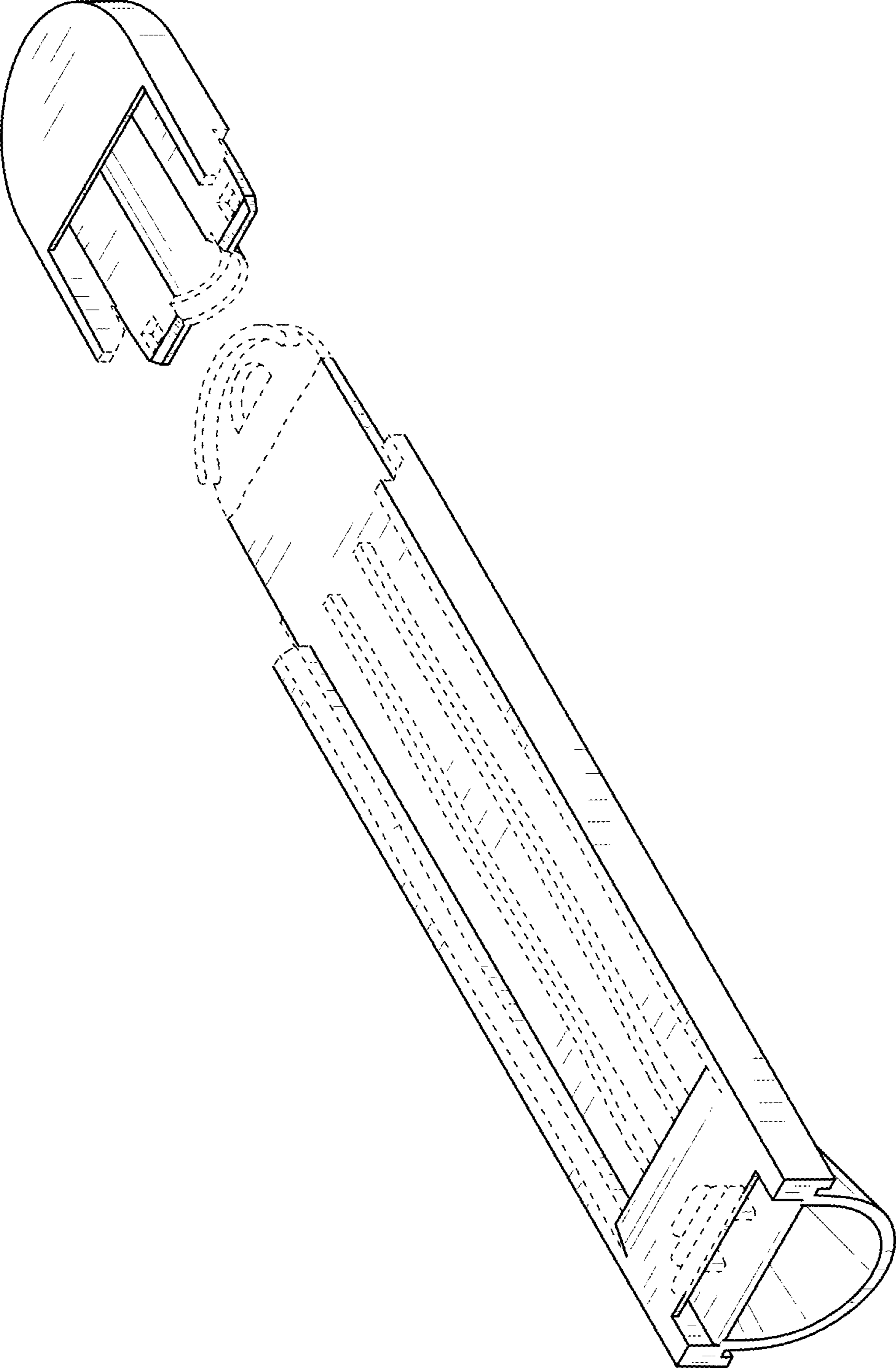


FIG. 2

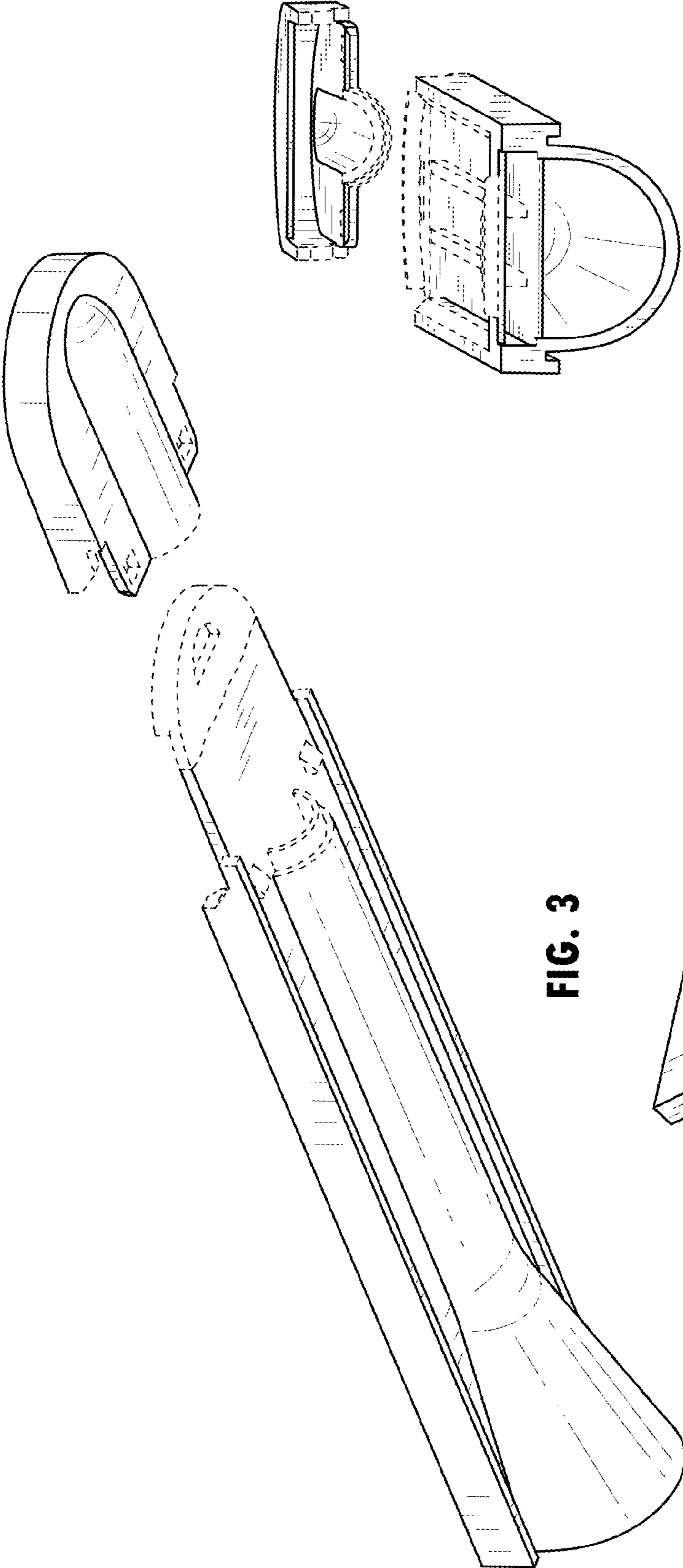


FIG. 5

FIG. 3

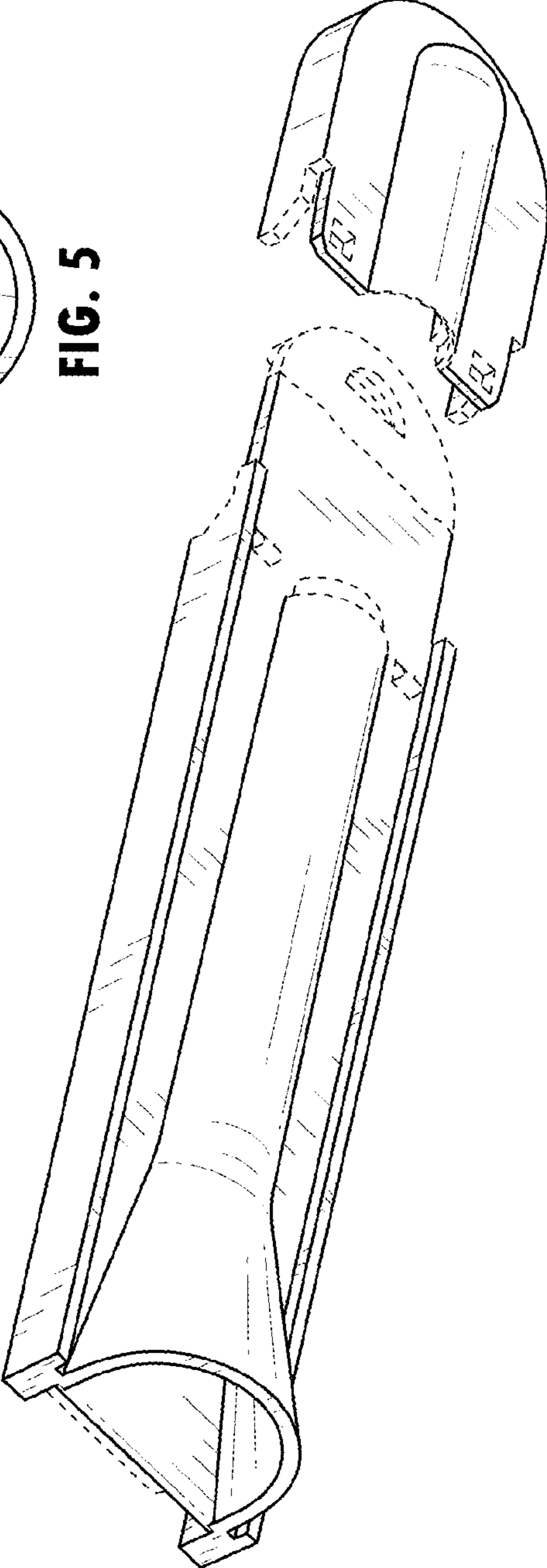


FIG. 4

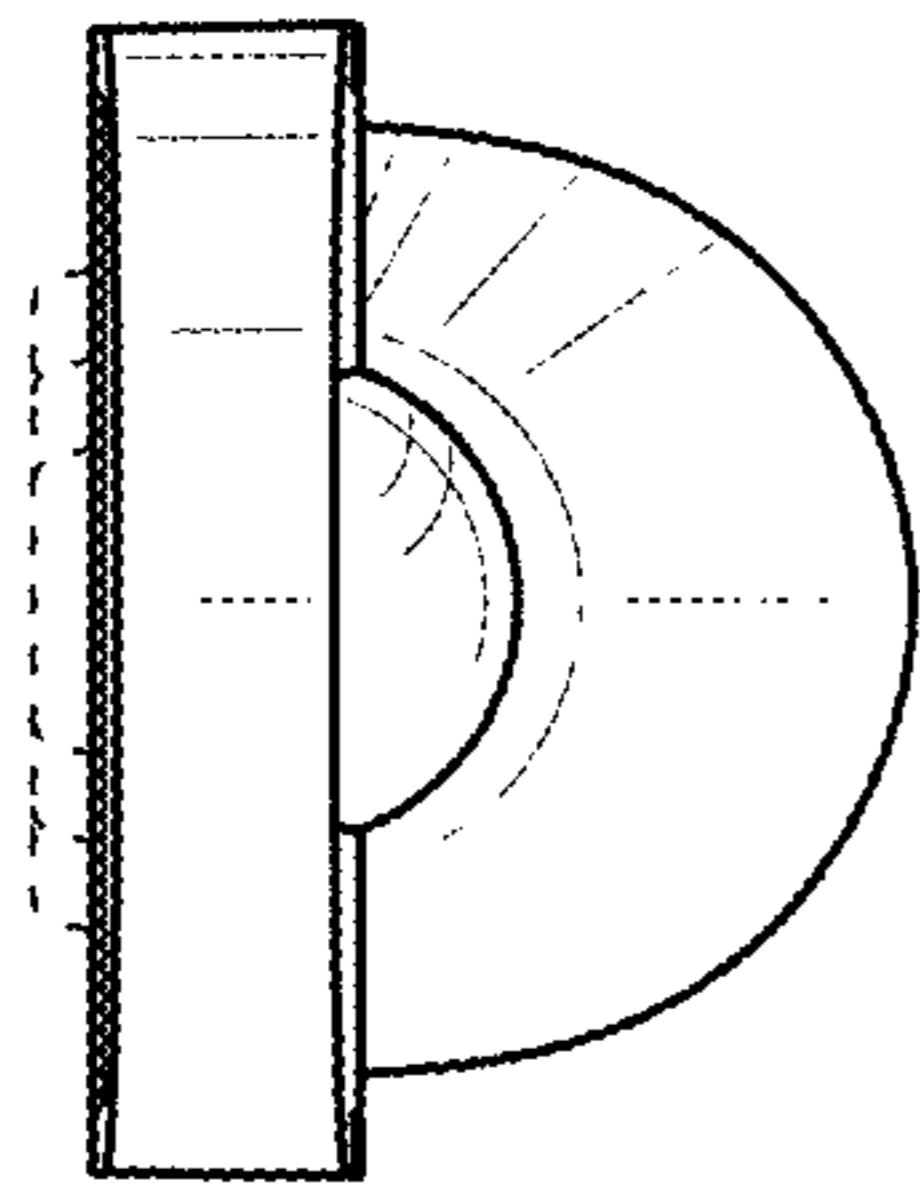


FIG. 6

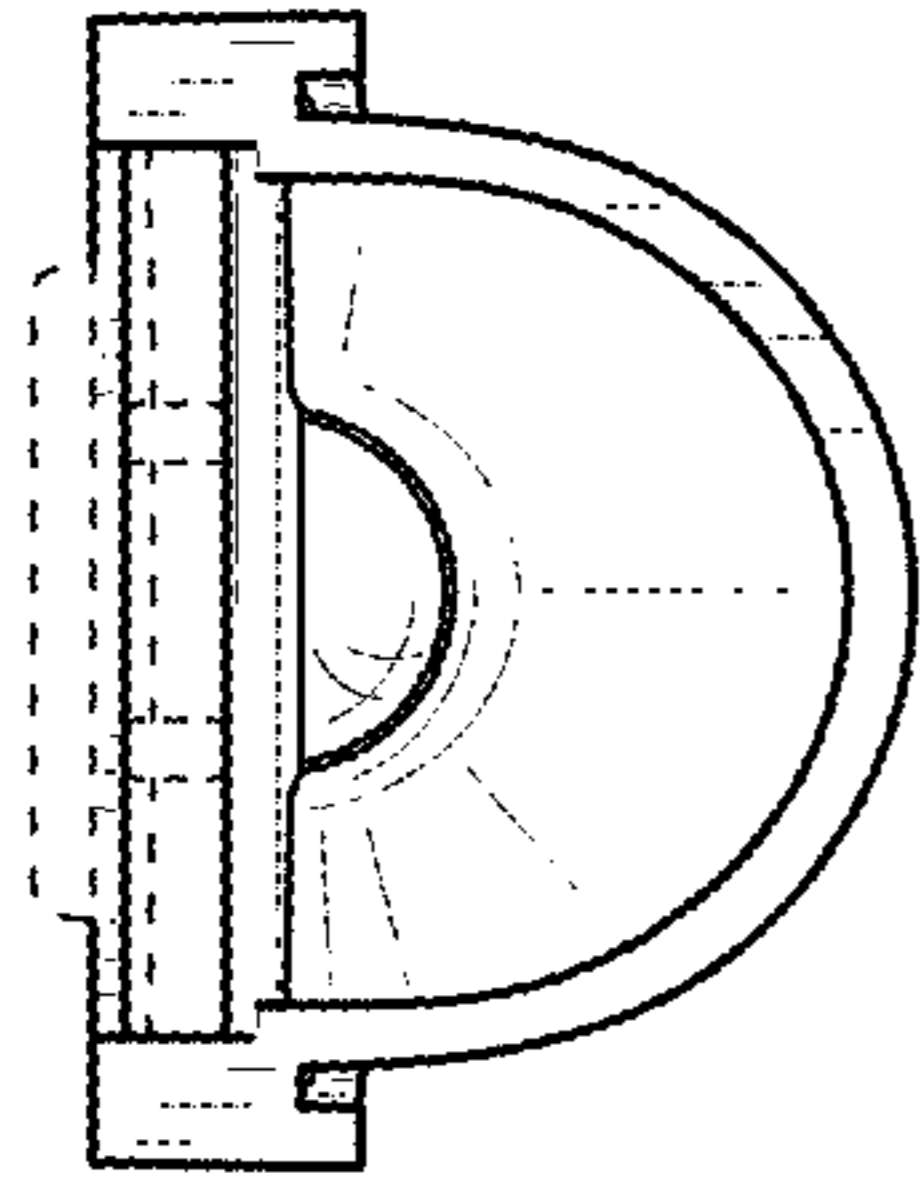


FIG. 7

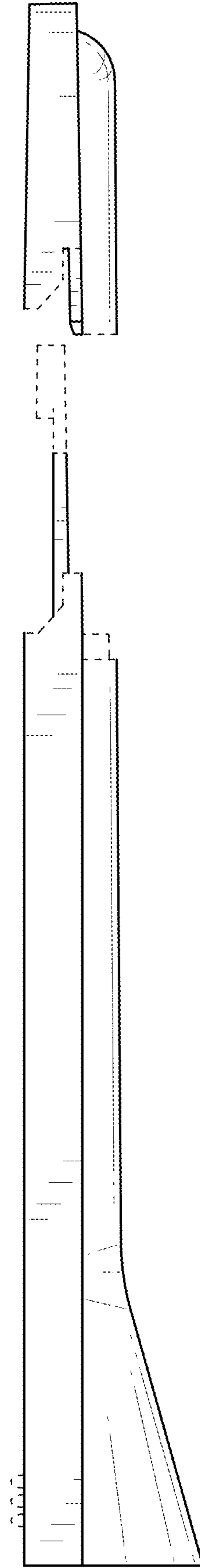


FIG. 8

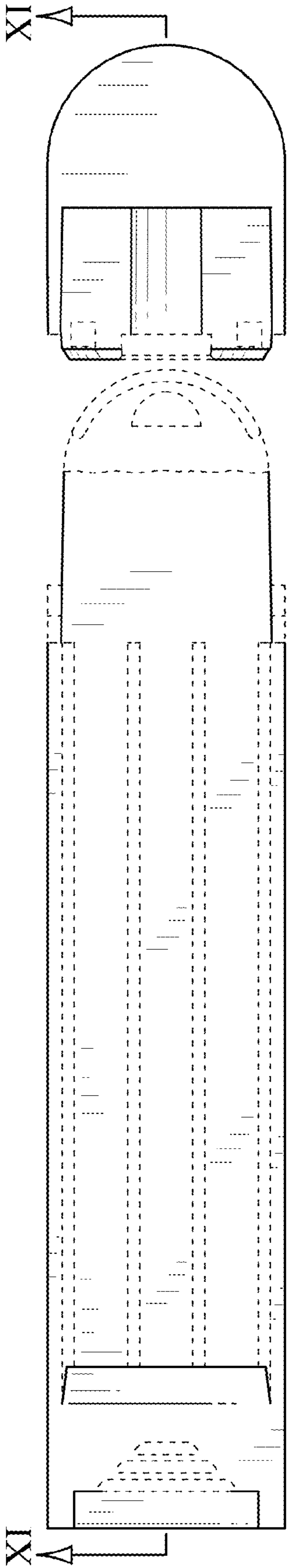


FIG. 9

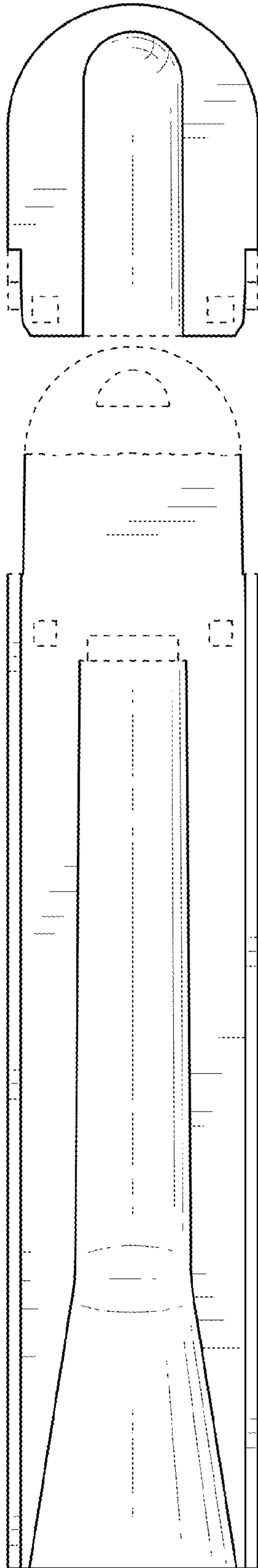


FIG. 10

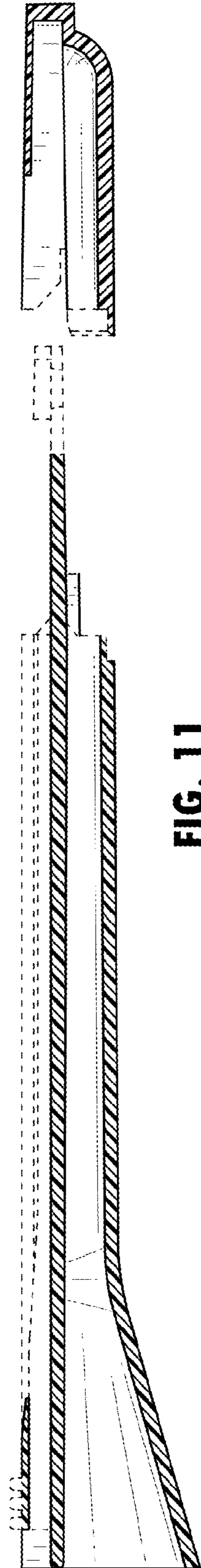


FIG. 11

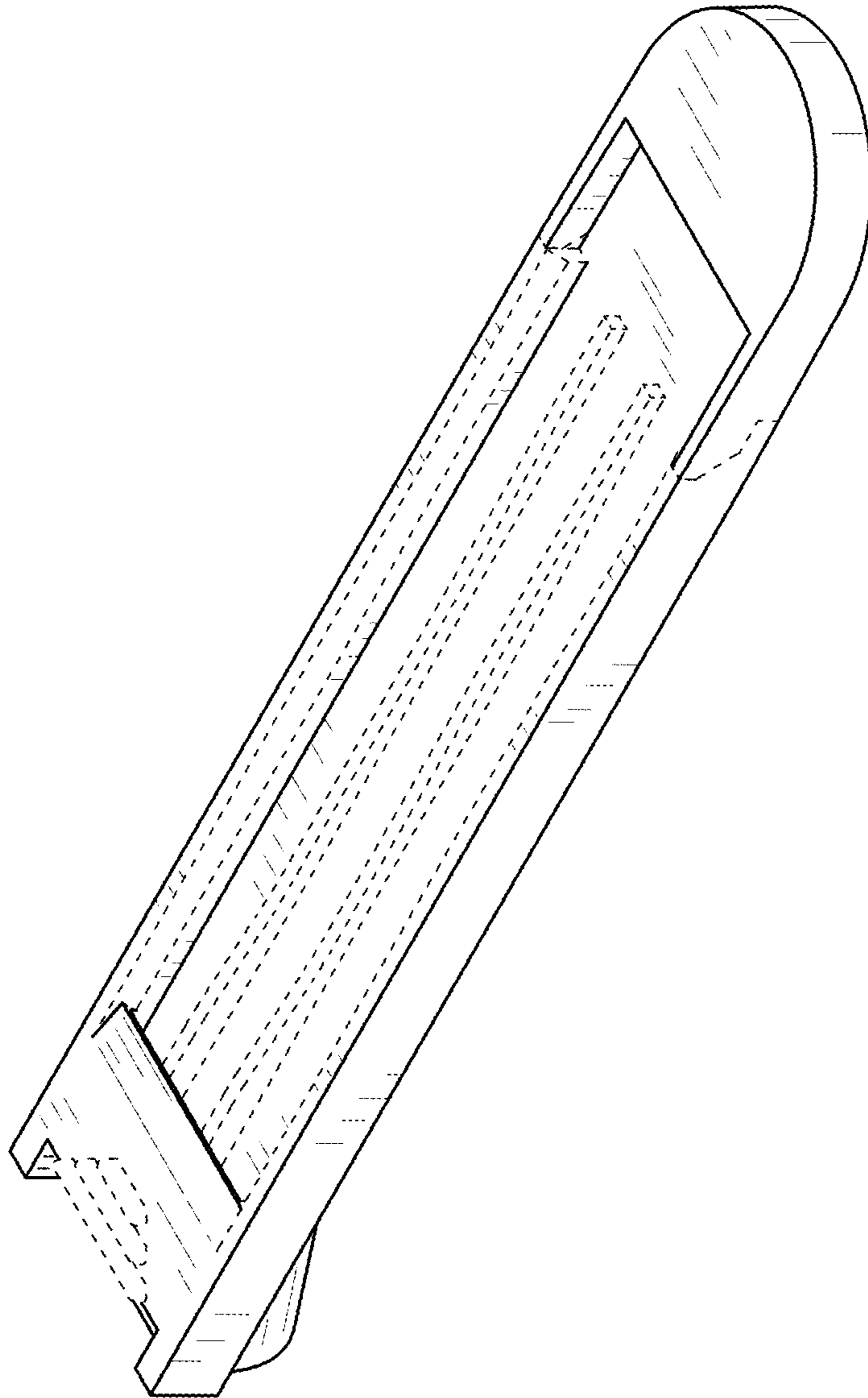


FIG. 12

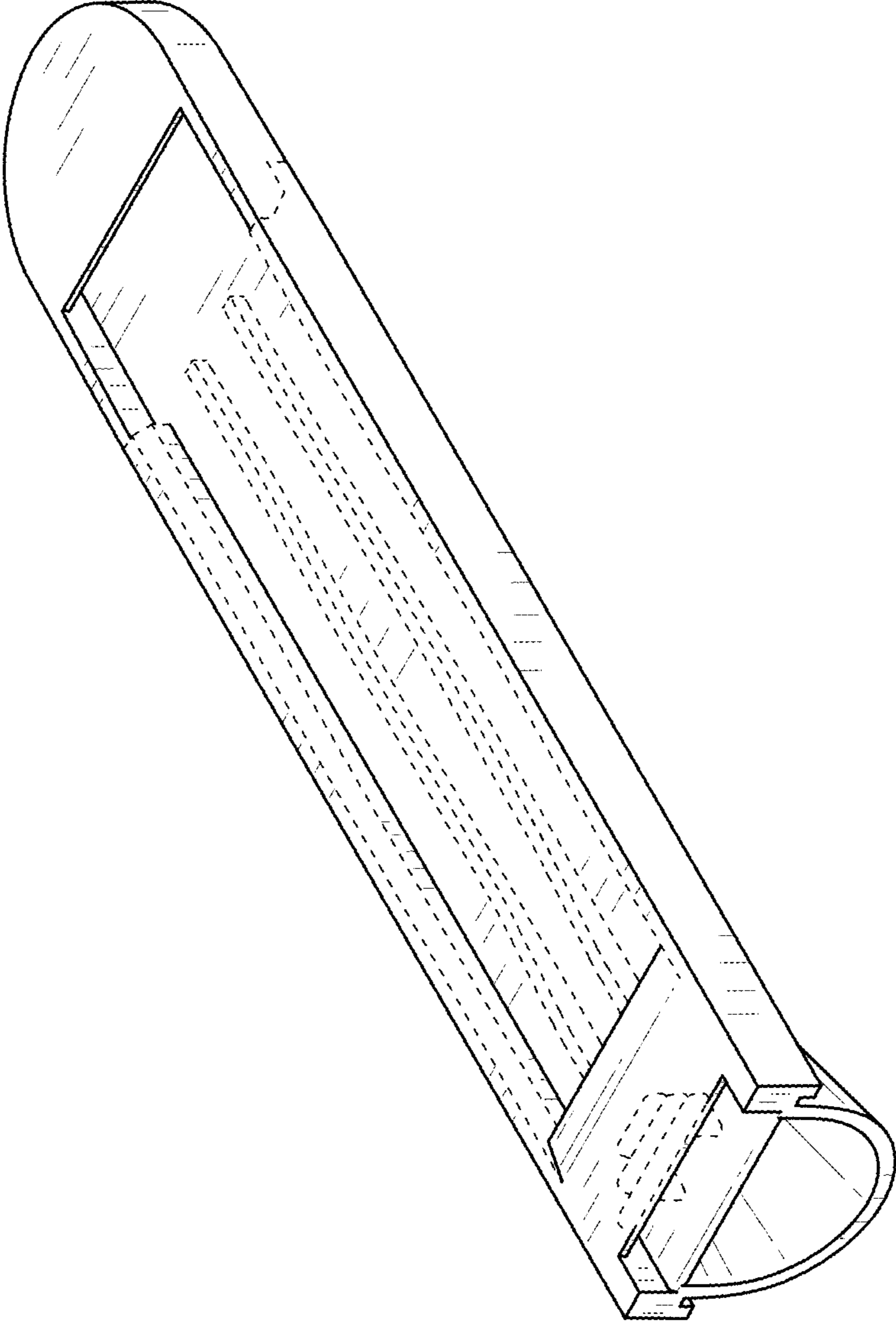


FIG. 13

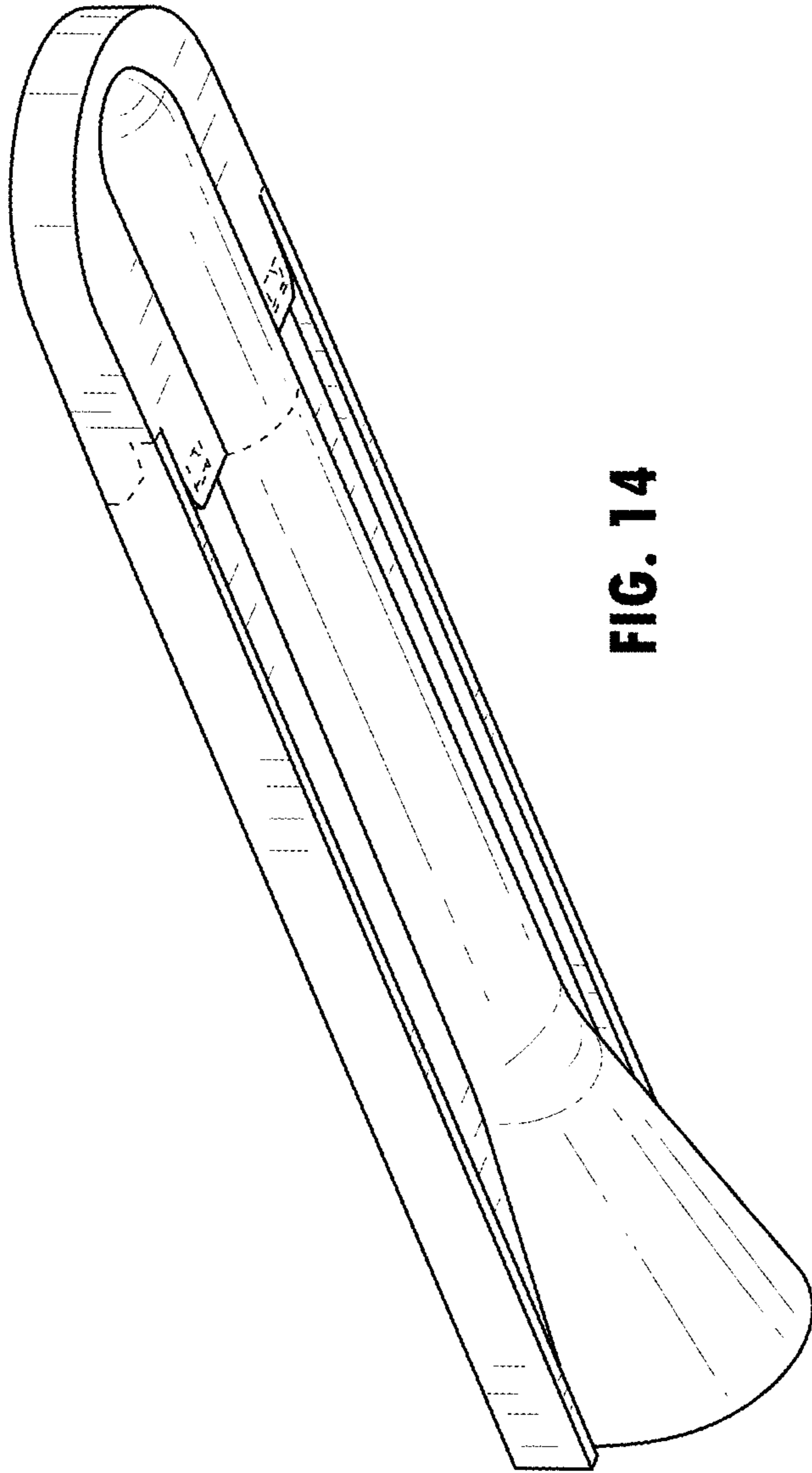


FIG. 14

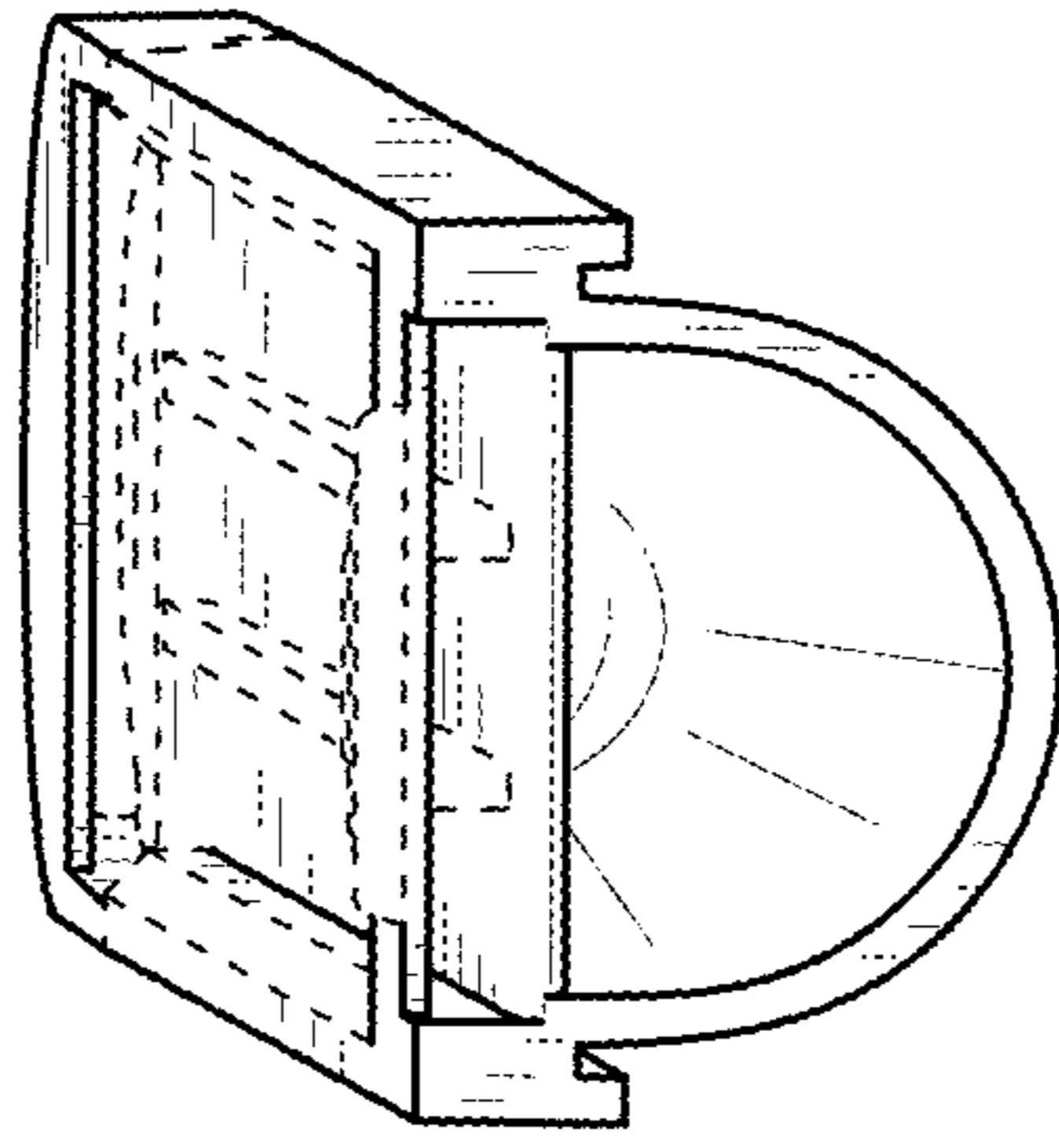


FIG. 15

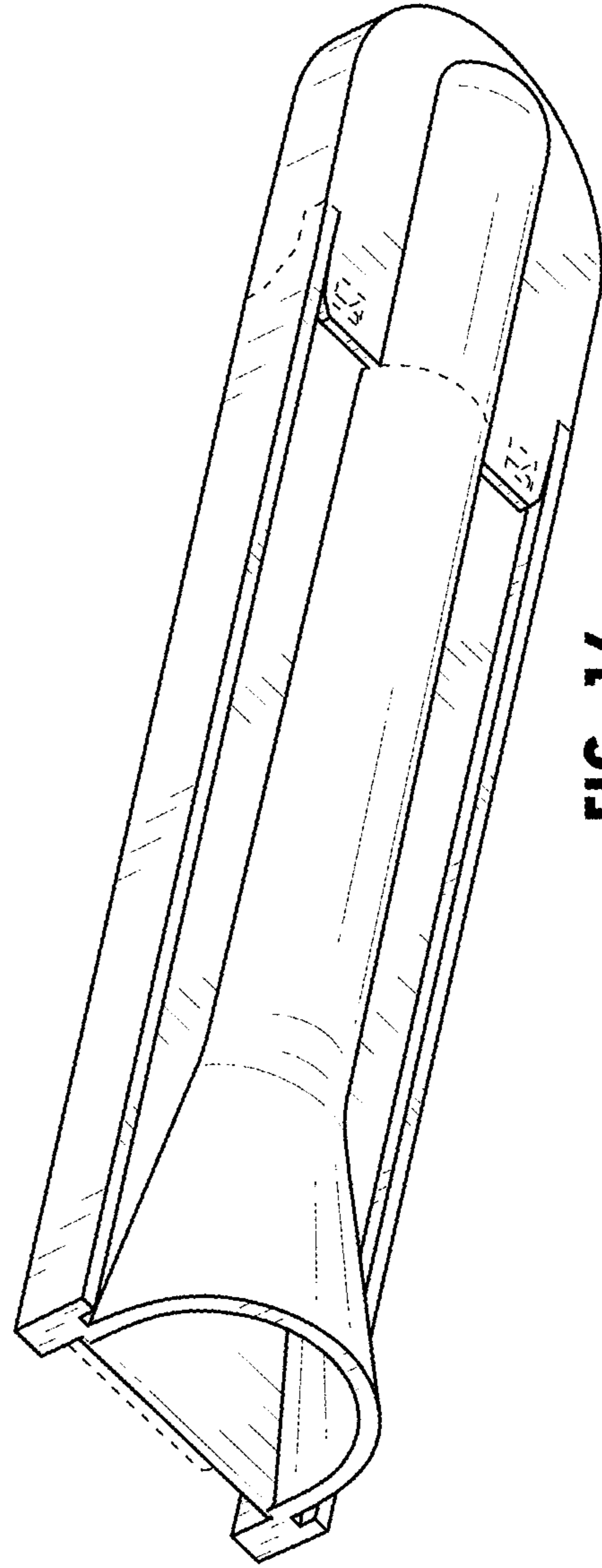


FIG. 16