



US00D852375S

(12) **United States Design Patent** (10) **Patent No.:** **US D852,375 S**
Druga, Sr. et al. (45) **Date of Patent:** **** Jun. 25, 2019**

(54) **CELL COLLECTION AND CENTRIFUGE TUBE ASSEMBLY**

D634,440 S * 3/2011 Svard D24/224
D643,935 S * 8/2011 Wilkinson D24/224
D651,322 S * 12/2011 Svard D24/224

(Continued)

(71) Applicant: **Wake Forest University Health Sciences**, Winston-Salem, NC (US)

FOREIGN PATENT DOCUMENTS

(72) Inventors: **John David Druga, Sr.**, Pinehurst, NC (US); **Philip Jayson Brown**, Winston-Salem, NC (US); **Aaron Van Gorkom**, Winston-Salem, NC (US)

WO WO 1995/027561 A1 10/1995
WO WO 2010/014970 A1 2/2010
WO PCT/US18/56015 10/2018

(73) Assignee: **Wake Forest University Health Sciences**, Winston-Salem, NC (US)

OTHER PUBLICATIONS

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

Hecht et al. "Comparison of three cell block techniques for detection of low frequency abnormal cells" *Pathology and Laboratory Medicine International* 5:1-7 (2013).

(Continued)

(21) Appl. No.: **29/623,480**

Primary Examiner — Anhdao Doan

(22) Filed: **Oct. 25, 2017**

(74) *Attorney, Agent, or Firm* — Myers Bigel, P.A.

(51) **LOC (11) Cl.** **24-01**

(57) **CLAIM**

(52) **U.S. Cl.**
USPC **D24/224**; D24/216

The ornamental design for a cell collection and centrifuge tube assembly, as shown and described.

(58) **Field of Classification Search**
USPC D24/216, 223–233, 186, 107, 121;
D10/81

DESCRIPTION

CPC B01L 3/50; B01L 3/5021; B01L 3/5082;
B01L 3/50825; B01L 3/523; B04B
5/0414; C12M 1/16; A61B 10/0096
See application file for complete search history.

FIG. 1 is a top, side perspective view of a cell collection and centrifuge tube assembly showing our design;
FIG. 2 is a bottom perspective view thereof;
FIG. 3 is a side view thereof;
FIG. 4 is a second side view thereof;
FIG. 5 is a third side view thereof;
FIG. 6 is a fourth side view thereof;
FIG. 7 is a top view thereof;
FIG. 8 is a bottom view thereof;
FIG. 9 is a section view taken along line 9-9 in FIG. 5 illustrating an internal seal lip of the tube; and,
FIG. 10 is a top, side perspective environmental view thereof.

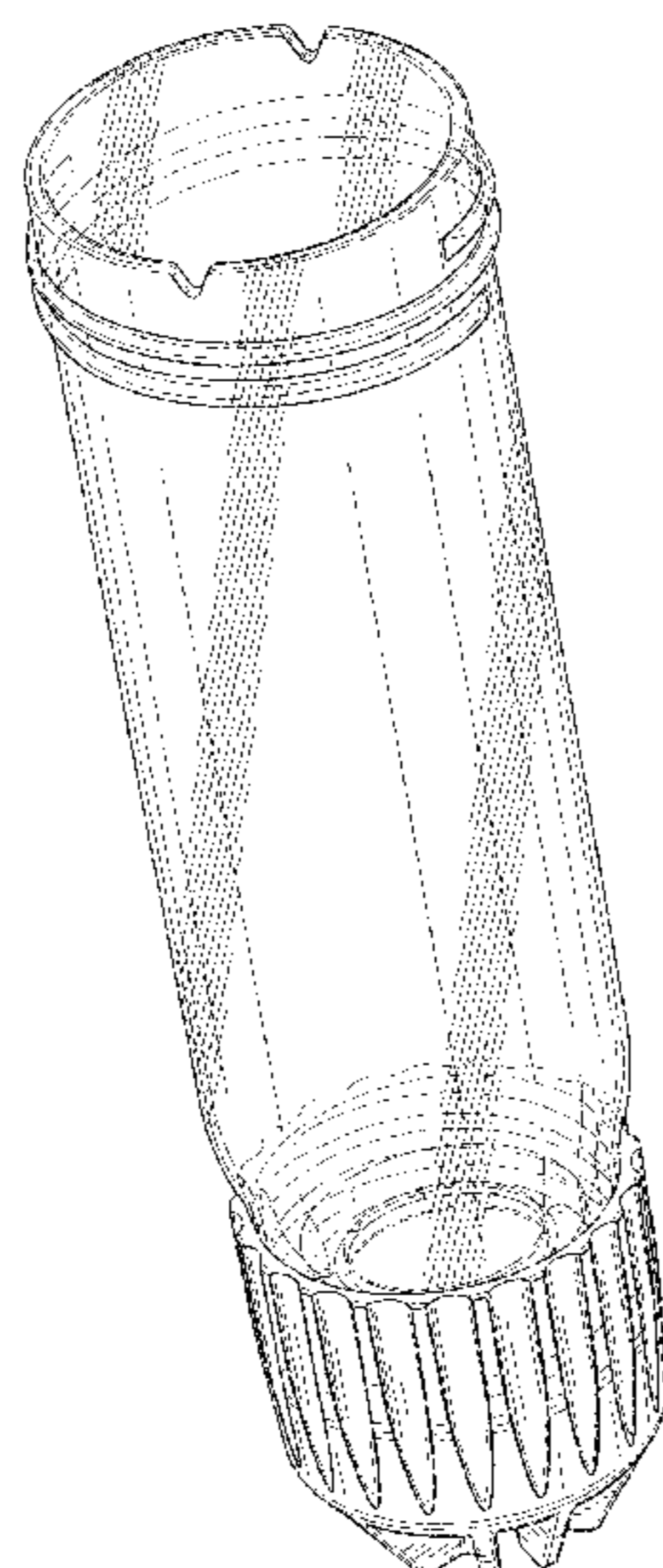
In FIG. 10, the broken lines depict environmental subject matter only and form no part of the claimed design.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D252,612 S * 8/1979 Mull D24/224
D278,653 S * 4/1985 Savitz D24/219
D310,264 S * 8/1990 Leoncavallo D24/224
5,137,710 A 8/1992 Smalley et al.
5,234,667 A 8/1993 Li et al.
5,301,685 A 4/1994 Guirguis
D447,812 S * 9/2001 Conway D24/216
D457,645 S * 5/2002 Eden D24/224
6,913,921 B2 7/2005 Fischer

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

8,322,539	B1	12/2012	Ellis et al.	
D743,571	S *	11/2015	Jackson	D24/216
D776,291	S *	1/2017	Wan	D24/216
D778,460	S *	2/2017	Marechal	D24/224
2002/0110923	A1	8/2002	Robinson	
2005/0101879	A1	5/2005	Shidham	
2006/0116270	A1 *	6/2006	Hatamian	B01L 3/50215 494/10
2007/0111194	A1	5/2007	Pellaux et al.	
2007/0218542	A1	9/2007	Li et al.	
2008/0068707	A1	3/2008	Goodman	
2010/0216220	A1	8/2010	Dawson	
2011/0250586	A1	10/2011	Halverson	
2017/0057705	A1 *	3/2017	Bailey	B01L 3/50825
2017/0087548	A1	3/2017	Tian et al.	

OTHER PUBLICATIONS

International Preliminary Report on Patentability corresponding to International Patent Application No. PCT/US2013/047619 (11 Pages) (dated Jan. 8, 2015).

International Search Report and the Written Opinion of the International Searching Authority corresponding to International Patent Application No. PCT/US2013/047619 (16 pages) (dated Sep. 25, 2013).

Nathan et al. "Improved Preparation and Its Efficacy in Diagnosing Cytology" *American Journal of Clinical Pathology* 114:599-606 (2000).

Thermo Electron Corporation, Shandon Cytoblock® Cell Block Preparation System, Rev. 4, Date stated as Sep. 2003, which is believed to be either Sep. 2003 or Mar. 2009, 6 Pages.

* cited by examiner

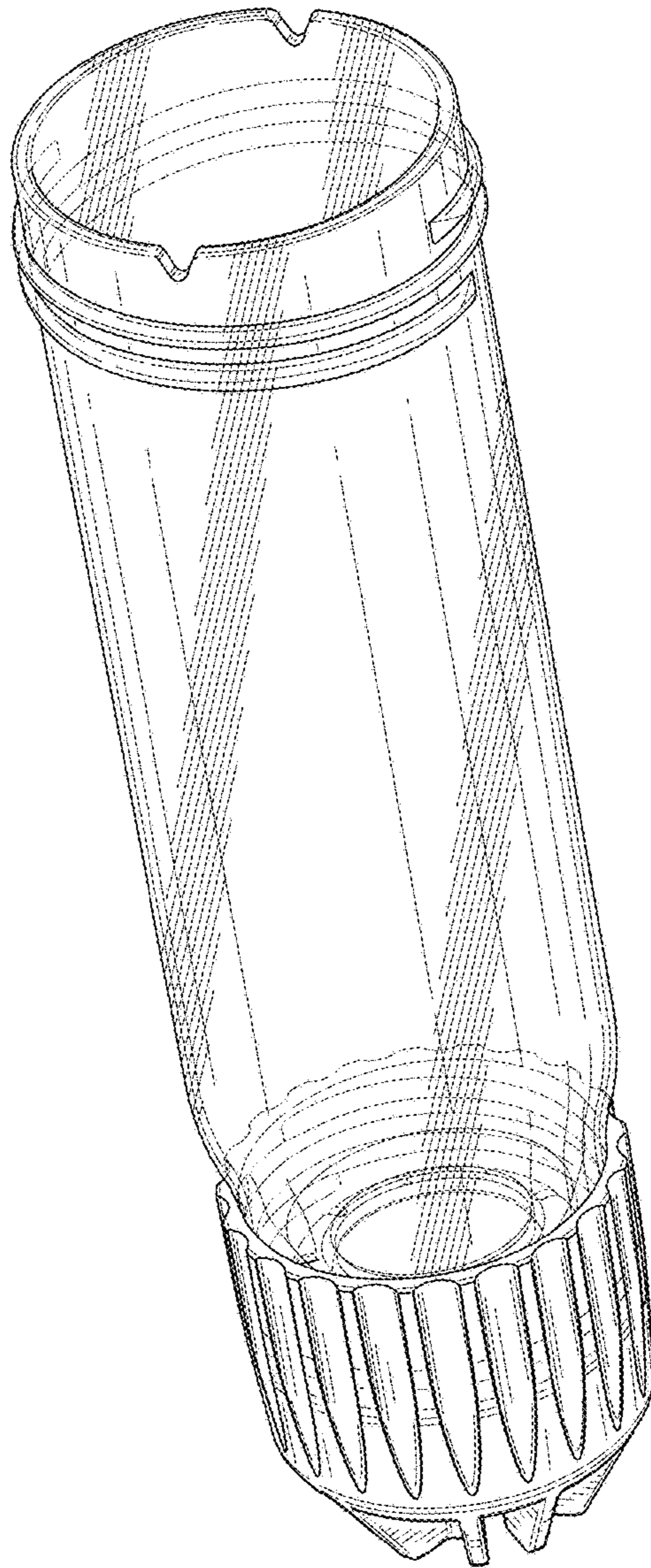


FIG. 1

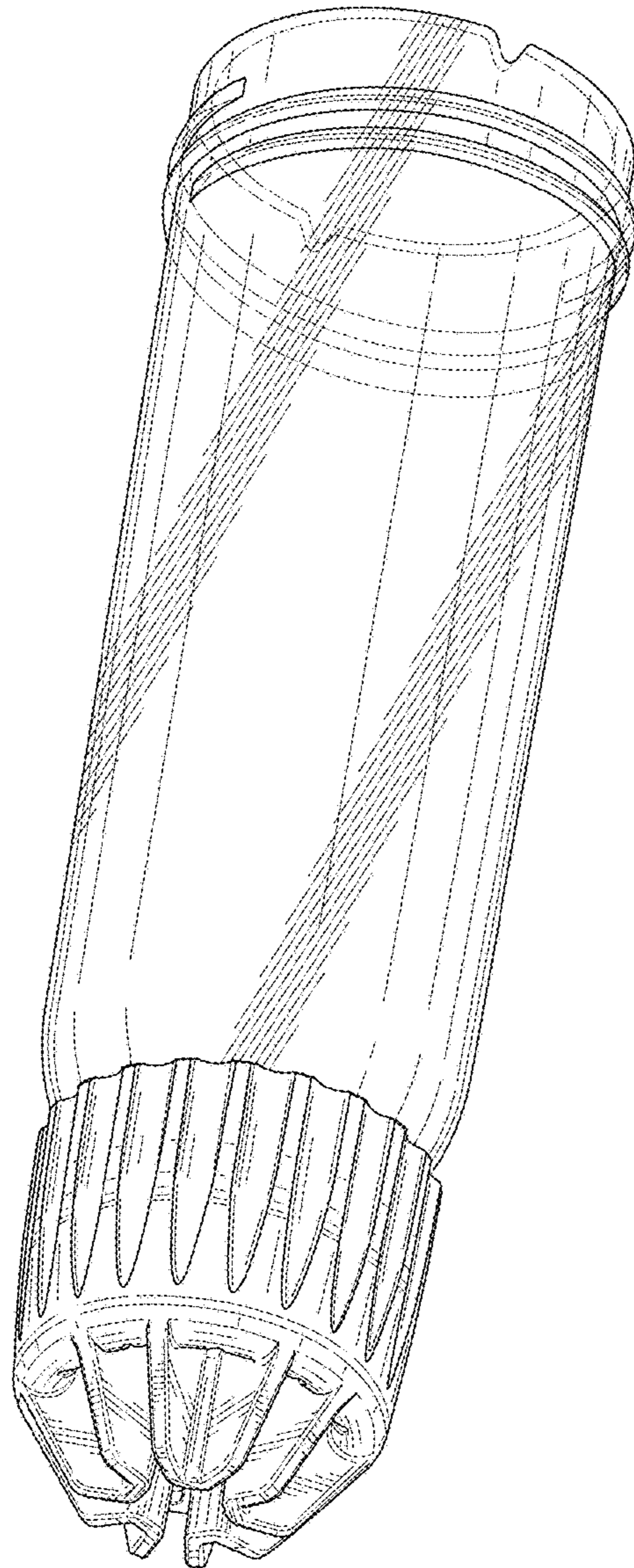


FIG. 2

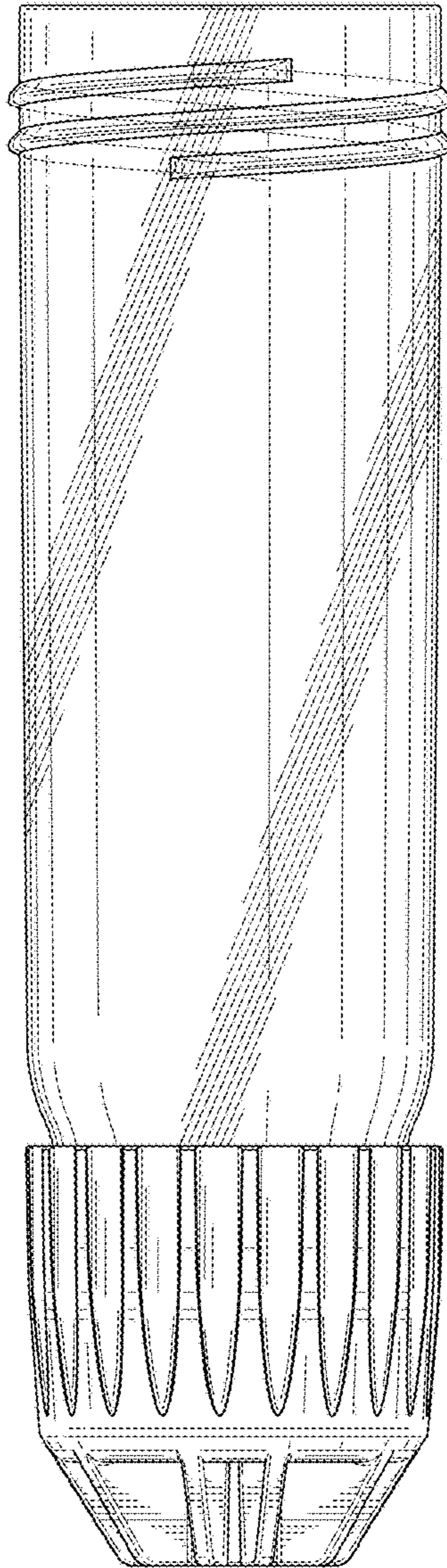


FIG. 3

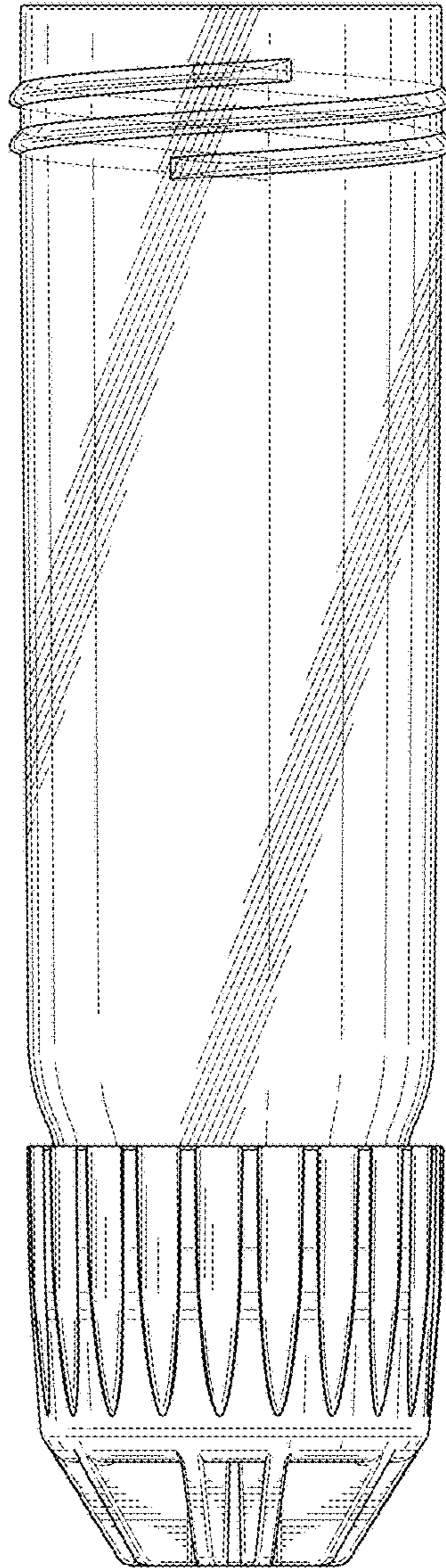


FIG. 4

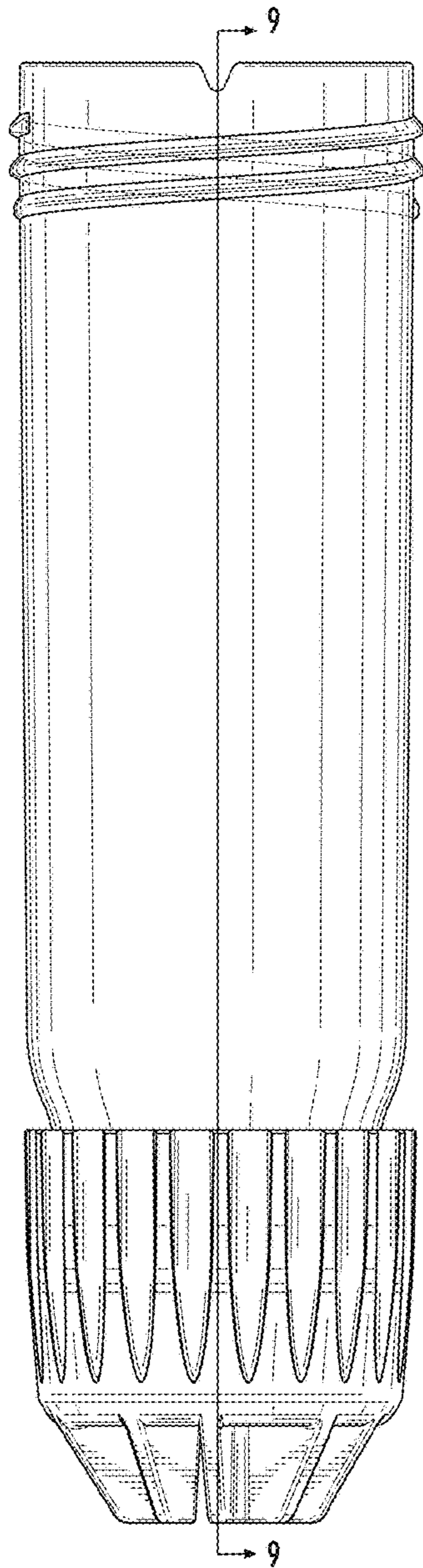


FIG. 5

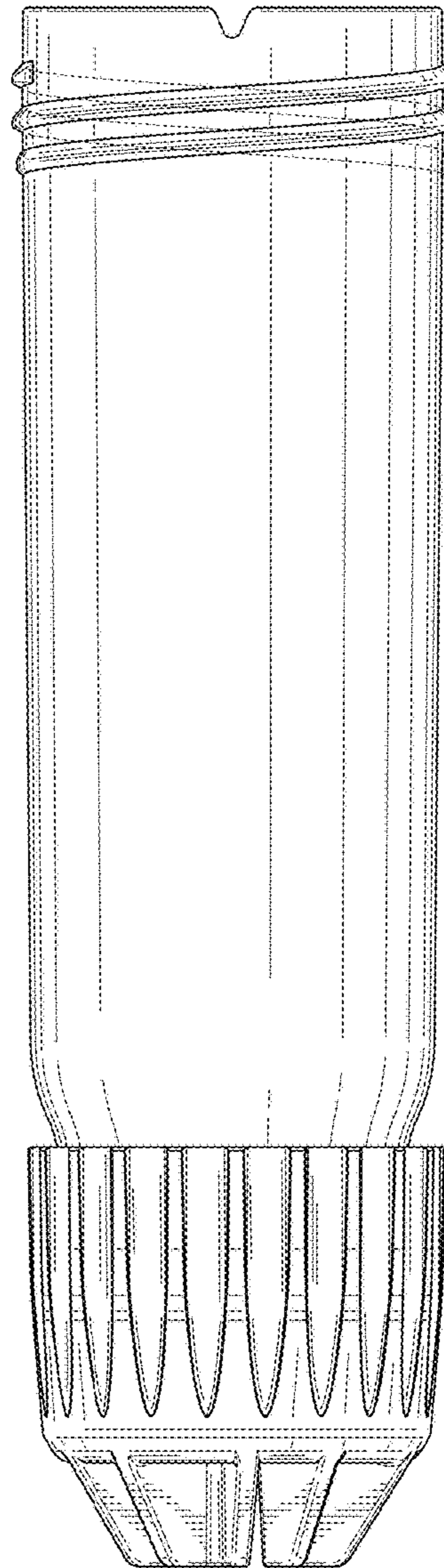


FIG. 6

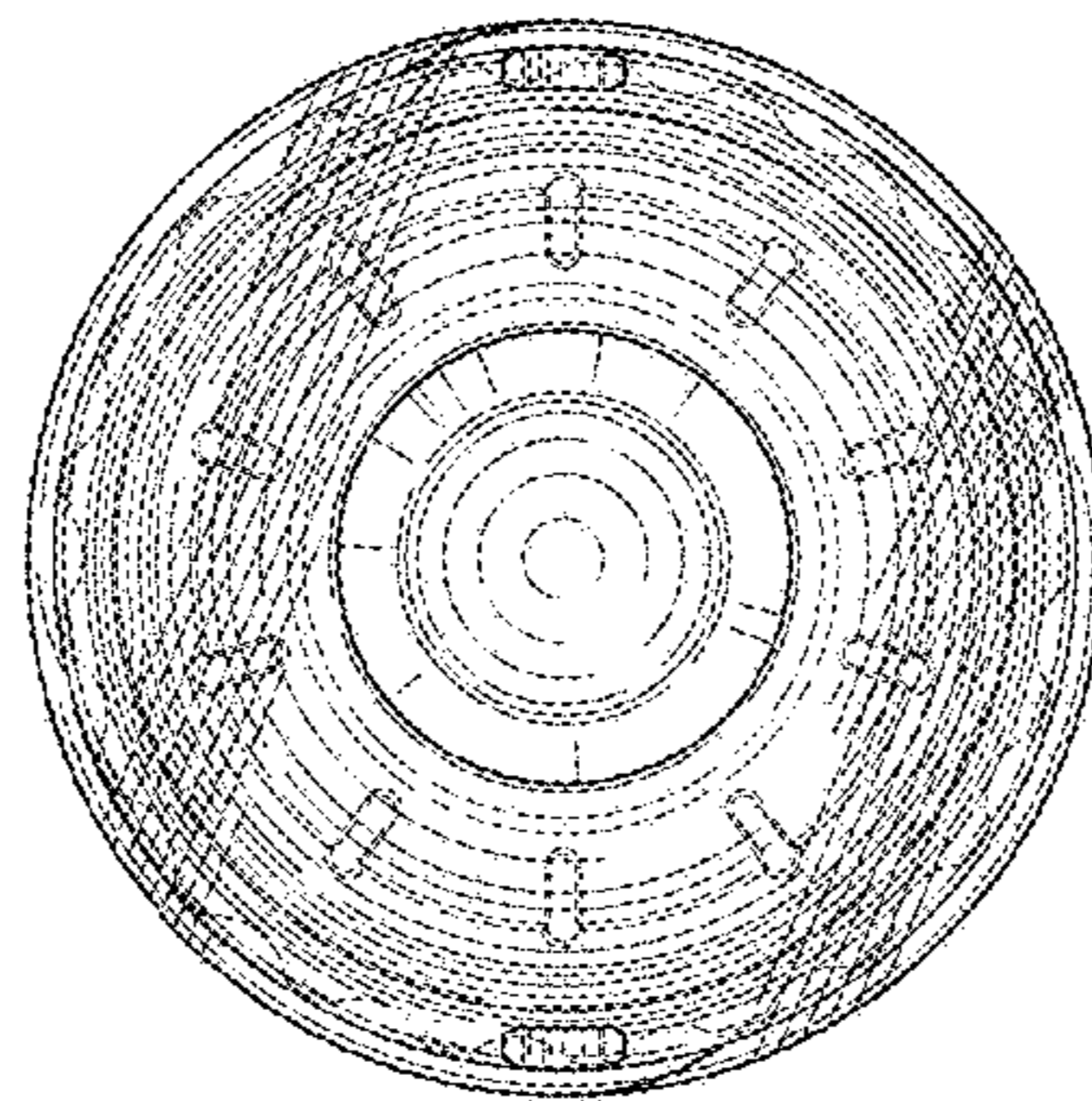


FIG. 7

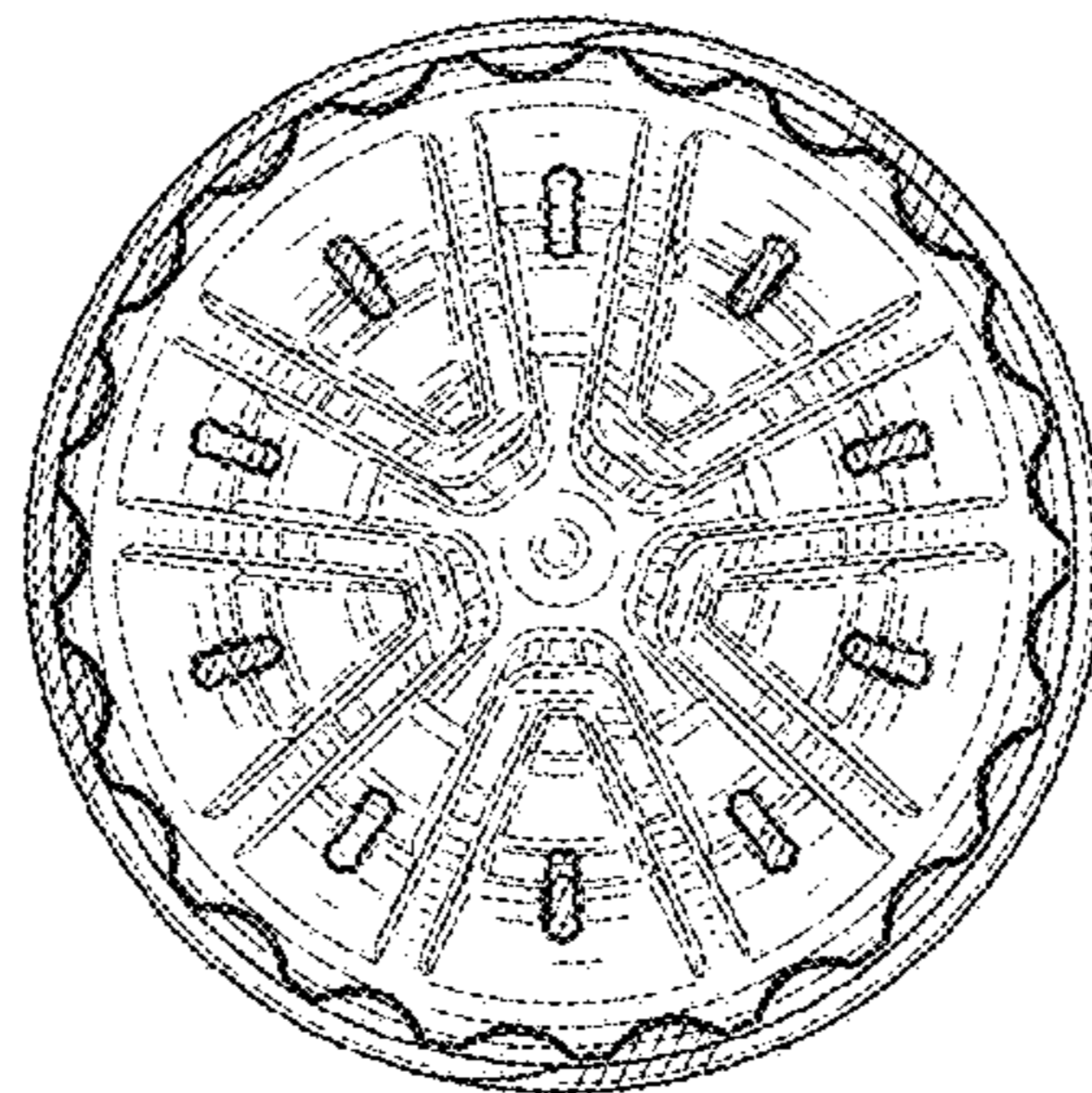


FIG. 8

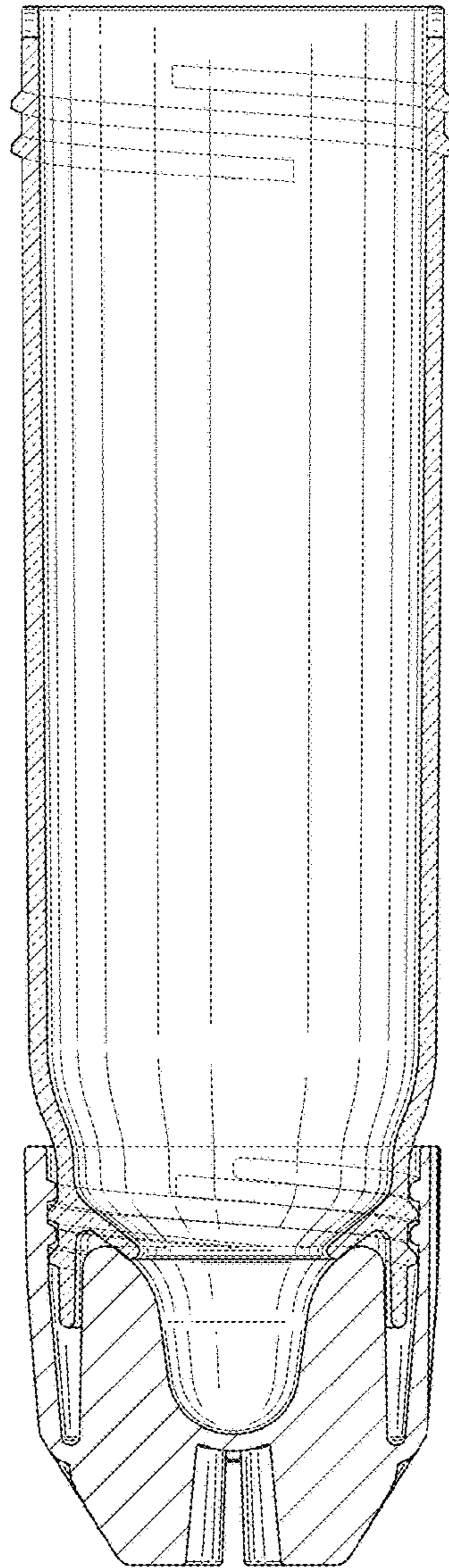


FIG. 9

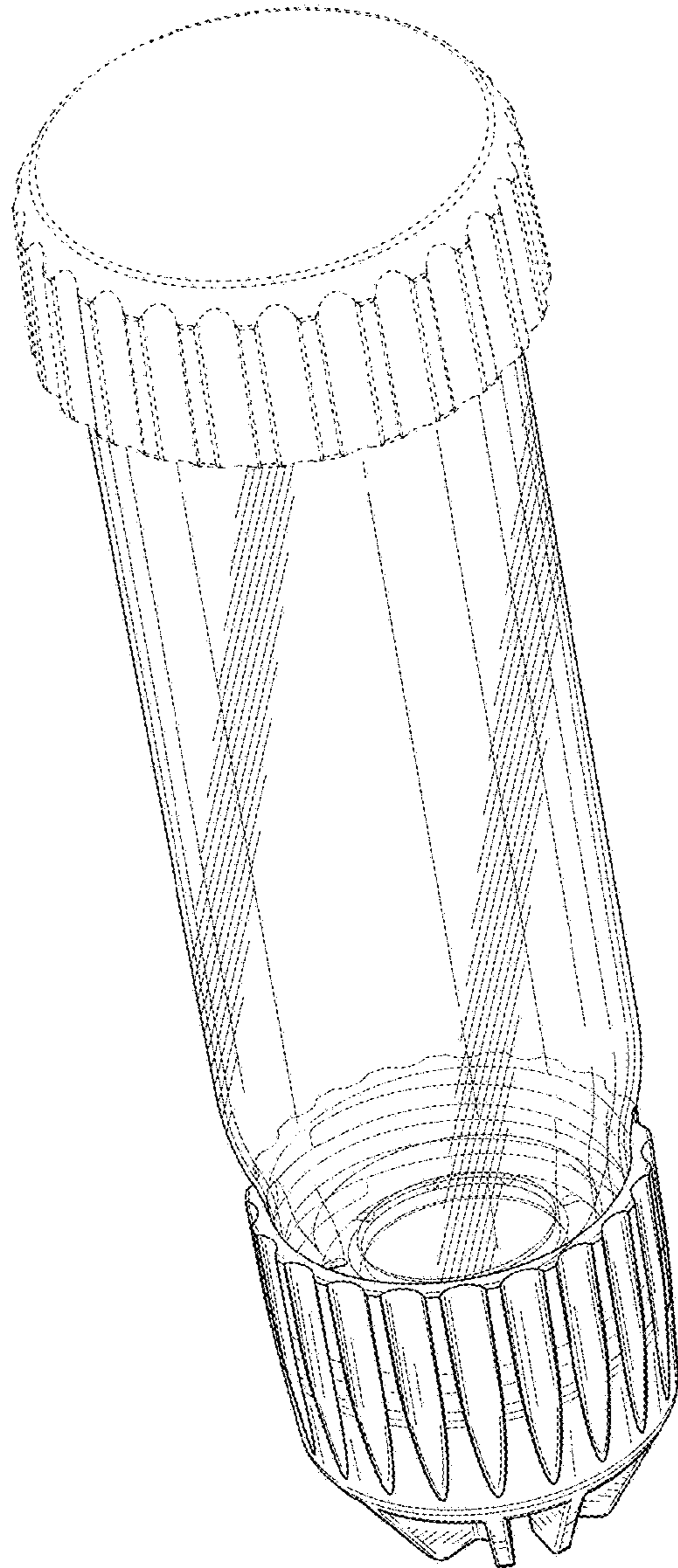


FIG. 10