

US00D730416S

(12) **United States Design Patent**
Jacovich et al.

(10) **Patent No.:** **US D730,416 S**

(45) **Date of Patent:** **** May 26, 2015**

(54) **LOCK RING FOR USE IN A MOLD STACK**

(56) **References Cited**

(71) Applicant: **Husky Injection Molding Systems Ltd.**, Bolton (CA)

U.S. PATENT DOCUMENTS

4,521,179 A * 6/1985 Gellert 425/548
4,530,654 A * 7/1985 Rose 425/566

(72) Inventors: **William Andrew James Jacovich**,
Newmarket (CA); **Renato Papa**,
Scarborough (CA); **Derek Robertson**
McCready, Mississauga (CA)

(Continued)

FOREIGN PATENT DOCUMENTS

(73) Assignee: **Husky Injection Molding Systems Ltd.**, Bolton, Ontario (CA)

WO 2010051620 A1 5/2010

Primary Examiner — Patricia Palasik

(**) Term: **14 Years**

(57) **CLAIM**

The ornamental design for a lock ring for use in a mold stack, as shown and described.

(21) Appl. No.: **29/441,904**

DESCRIPTION

(22) Filed: **Jan. 10, 2013**

FIG. 1 depicts a perspective view of a lock ring;
FIG. 2 depicts a top view of the lock ring of FIG. 1;
FIG. 3 depicts a cross-sectional view of the lock ring taken along line 3-3 in FIG. 2;
FIG. 4 depicts a front view of the lock ring of FIG. 1;
FIG. 5 depicts a right side view of the lock ring of FIG. 1;
FIG. 6 depicts a back view of the lock ring of FIG. 1;
FIG. 7 depicts a left side view of the lock ring of FIG. 1;
FIG. 8 depicts a bottom view of the lock ring of FIG. 1;
FIG. 9 depicts a perspective view of a lock ring in accordance with a second embodiment;
FIG. 10 depicts a top view of the lock ring of FIG. 9;
FIG. 11 depicts a cross-sectional view of the lock ring taken along line 11-11 in FIG. 10;
FIG. 12 depicts a front view of the lock ring of FIG. 9;
FIG. 13 depicts a right side view of the lock ring of FIG. 9;
FIG. 14 depicts a back view of the lock ring of FIG. 9;
FIG. 15 depicts a left side view of the lock ring of FIG. 9; and,
FIG. 16 depicts a bottom view of the lock ring of FIG. 9.
It will be understood that the dashed lines presented in the drawings do not form a part of the claimed design.

Related U.S. Application Data

(63) Continuation-in-part of application No. 29/378,972, filed on Nov. 12, 2010, now abandoned.

(51) **LOC (10) Cl.** **15-09**

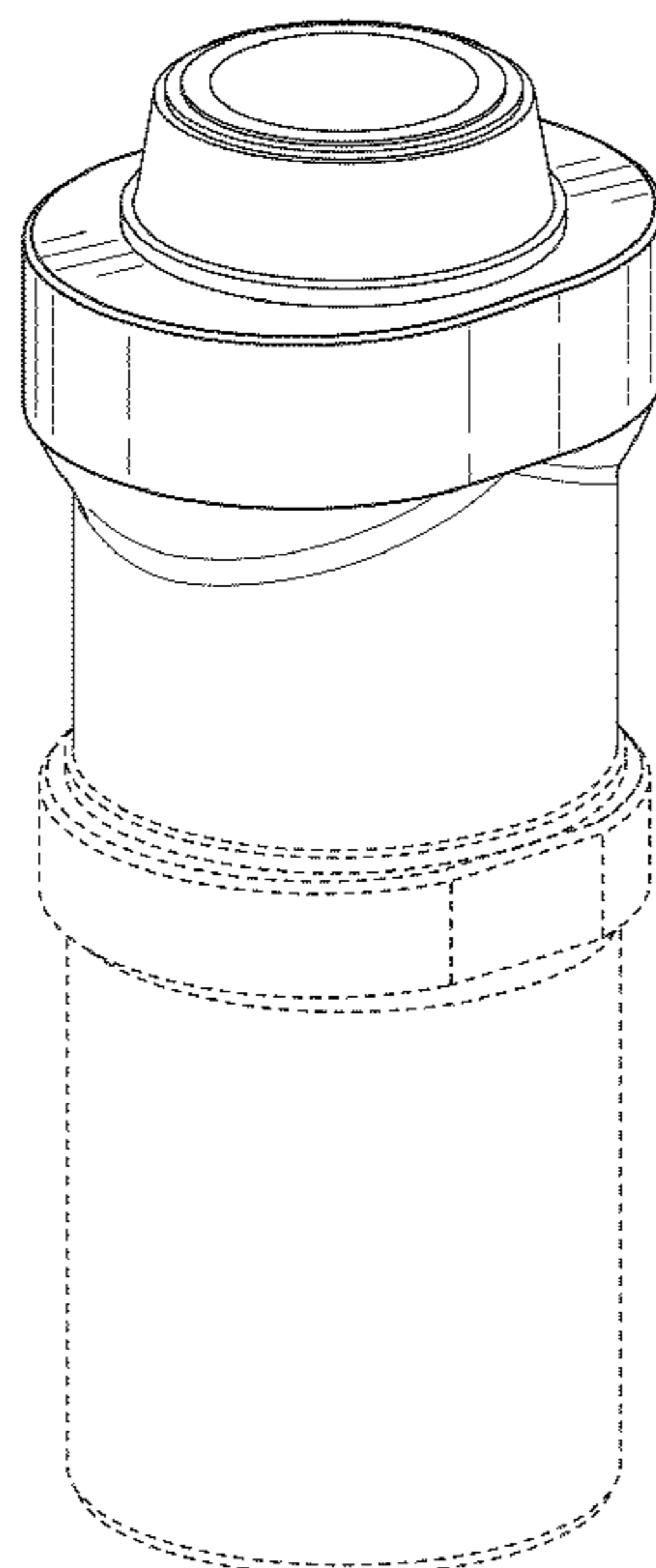
(52) **U.S. Cl.**
USPC **D15/135**

(58) **Field of Classification Search**

USPC D15/135, 136, 137, 138, 139; 65/260, 65/356, 357; 83/845; 205/70, 164, 165, 205/167, 169; 249/78, 79; 264/51, 220, 264/221; 407/42, 110, 115, 116, 117; 425/135, 146, 171, 181, 218, 253-261, 425/363, 451.9, 471, 542, 543, 547, 548, 425/552, 556, 577, 589-595; 428/71

See application file for complete search history.

1 Claim, 10 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D324,392 S * 3/1992 Wilhelm D15/136
5,562,519 A * 10/1996 Loewenton 446/126
6,099,785 A * 8/2000 Schweigert et al. 264/328.1
D519,530 S * 4/2006 Thysell et al. D15/126
7,128,865 B2 10/2006 Martin
7,361,009 B2 * 4/2008 Li 425/547
7,381,049 B2 6/2008 Li et al.

D595,319 S * 6/2009 Park D15/126
7,645,132 B2 * 1/2010 McCready 425/192 R
7,762,802 B2 * 7/2010 Mai 425/190
D631,073 S * 1/2011 Papa et al. D15/135
D682,651 S * 5/2013 McRoberts et al. D8/70
2009/0214694 A1 * 8/2009 Mai 425/577
2013/0029004 A1 * 1/2013 Looije 425/556
2013/0142902 A1 * 6/2013 Papa et al. 425/577
2013/0236590 A1 * 9/2013 Jacovich et al. 425/541

* cited by examiner

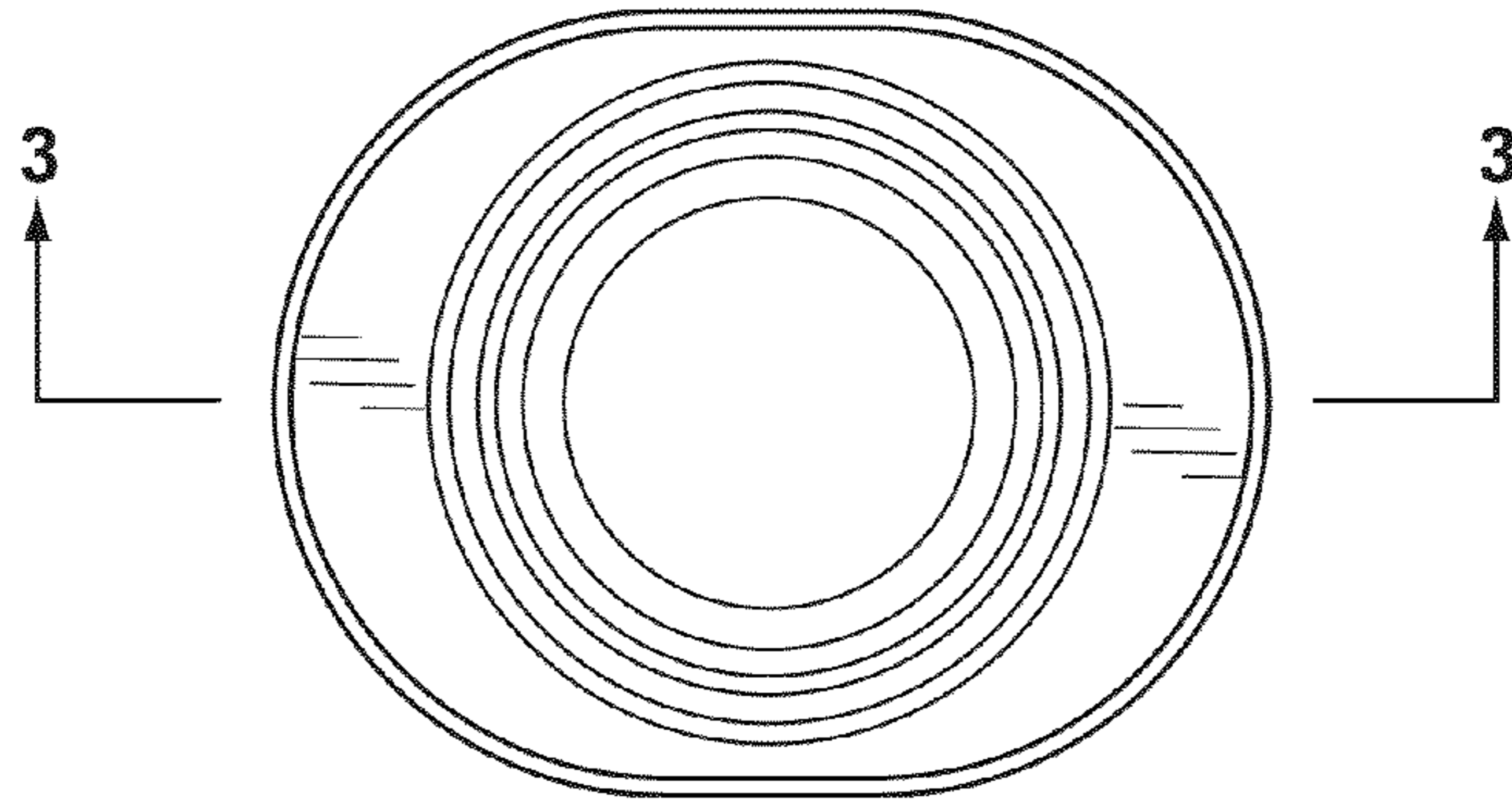


FIG. 2

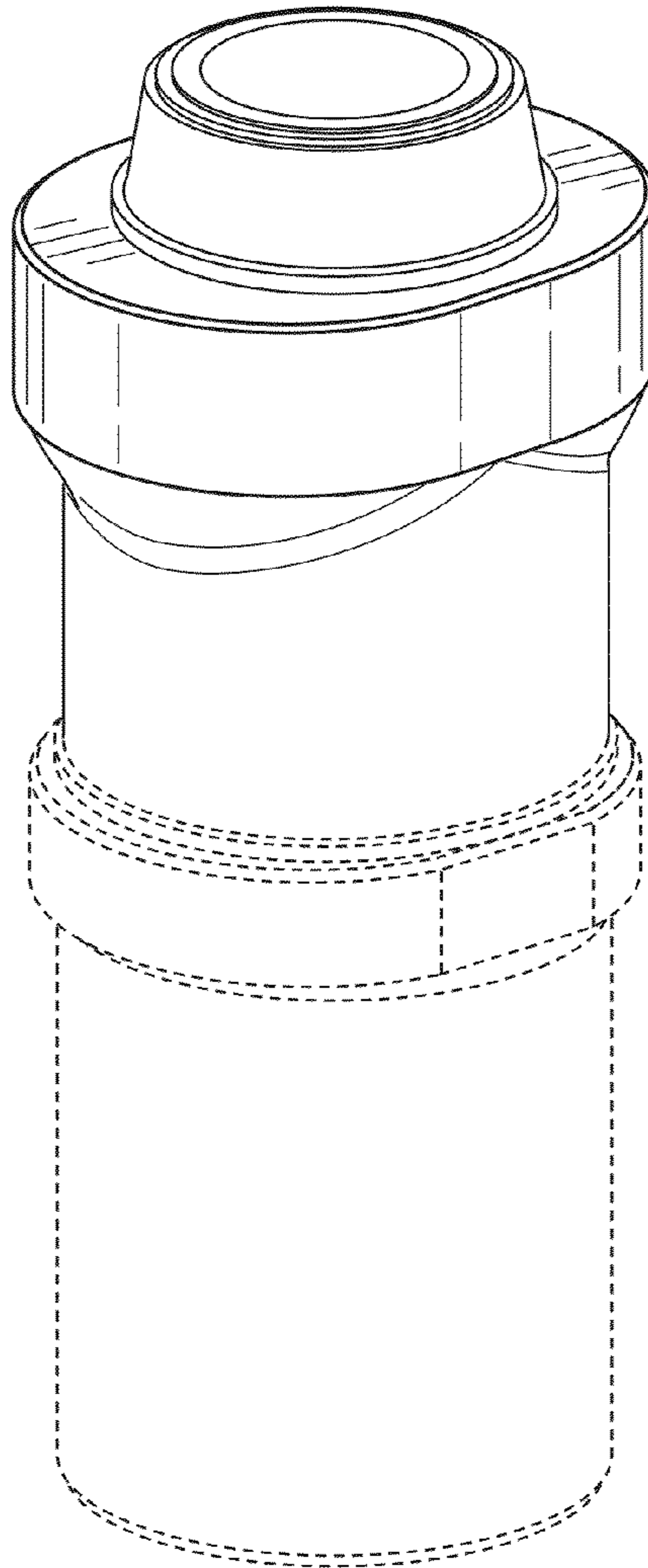


FIG. 1

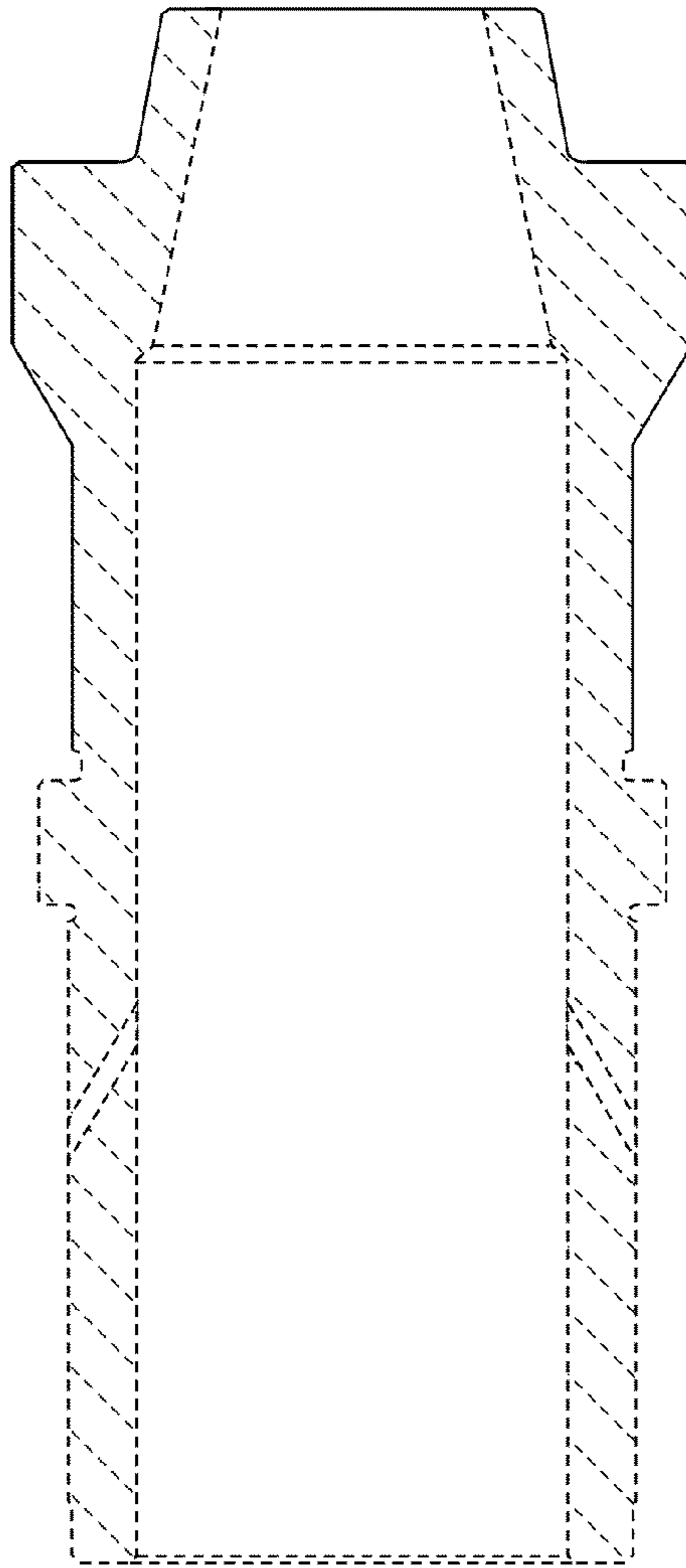


FIG. 3

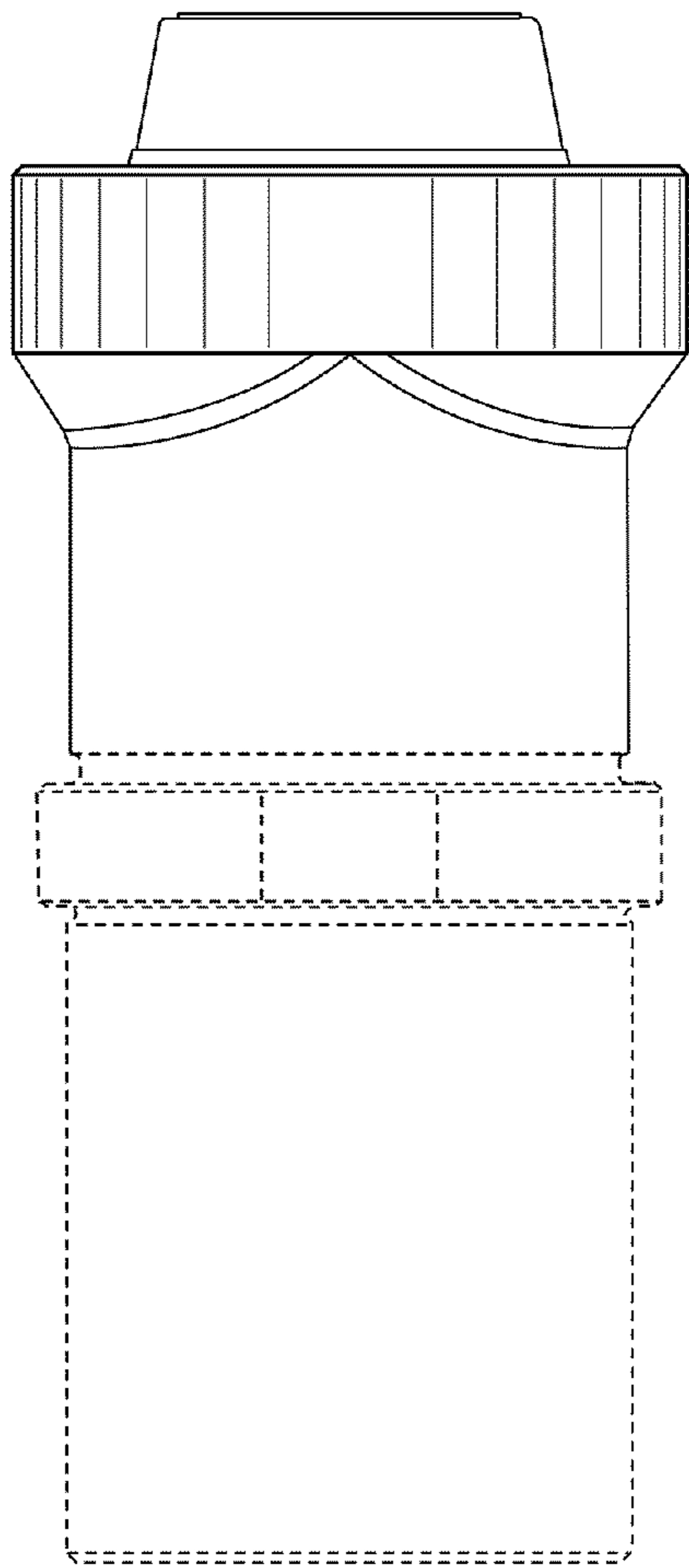


FIG. 4

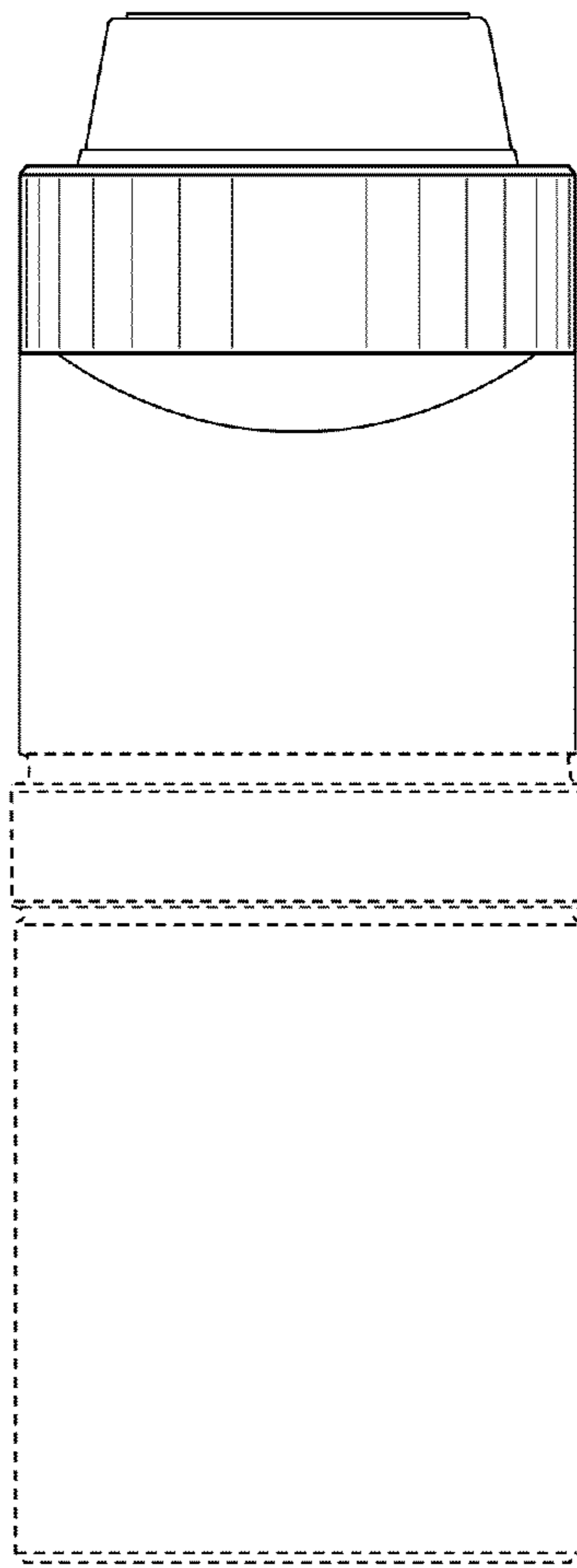


FIG. 5

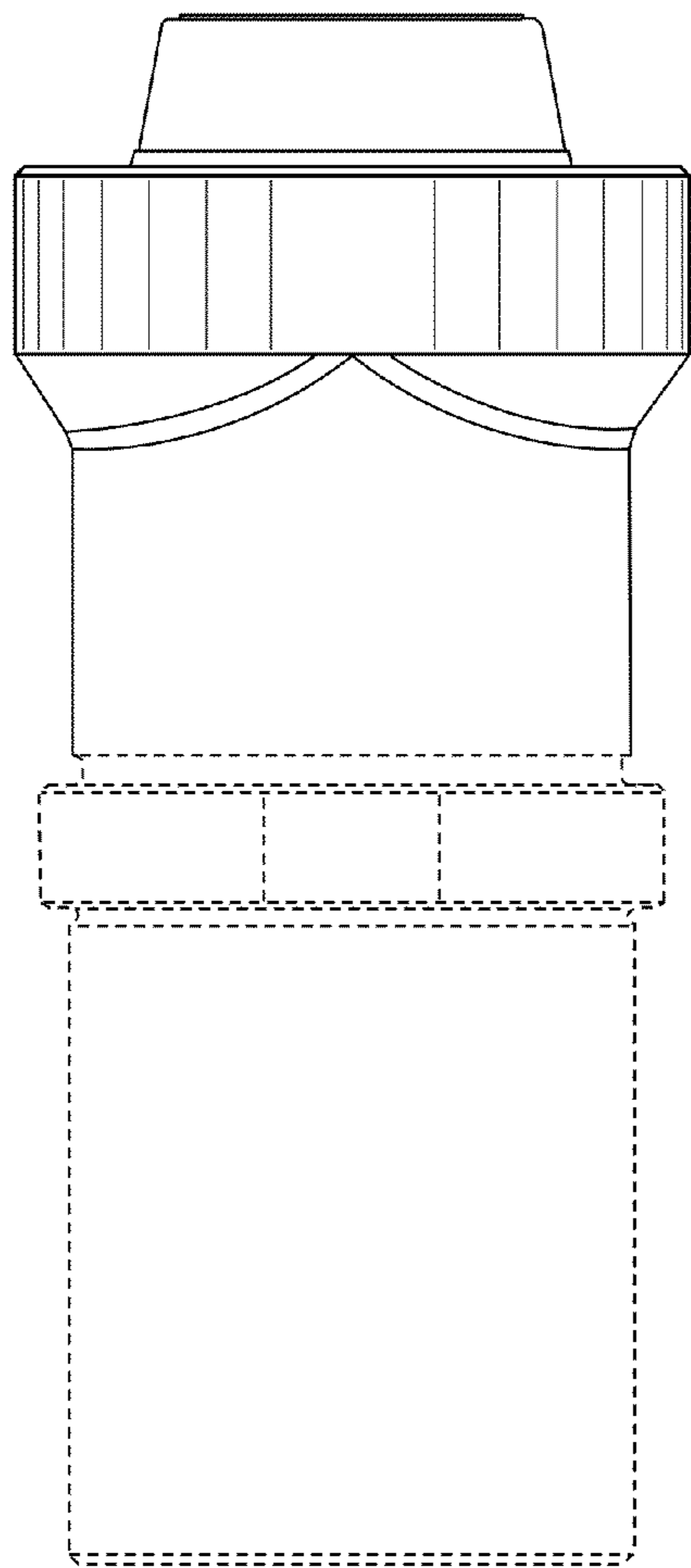


FIG. 6

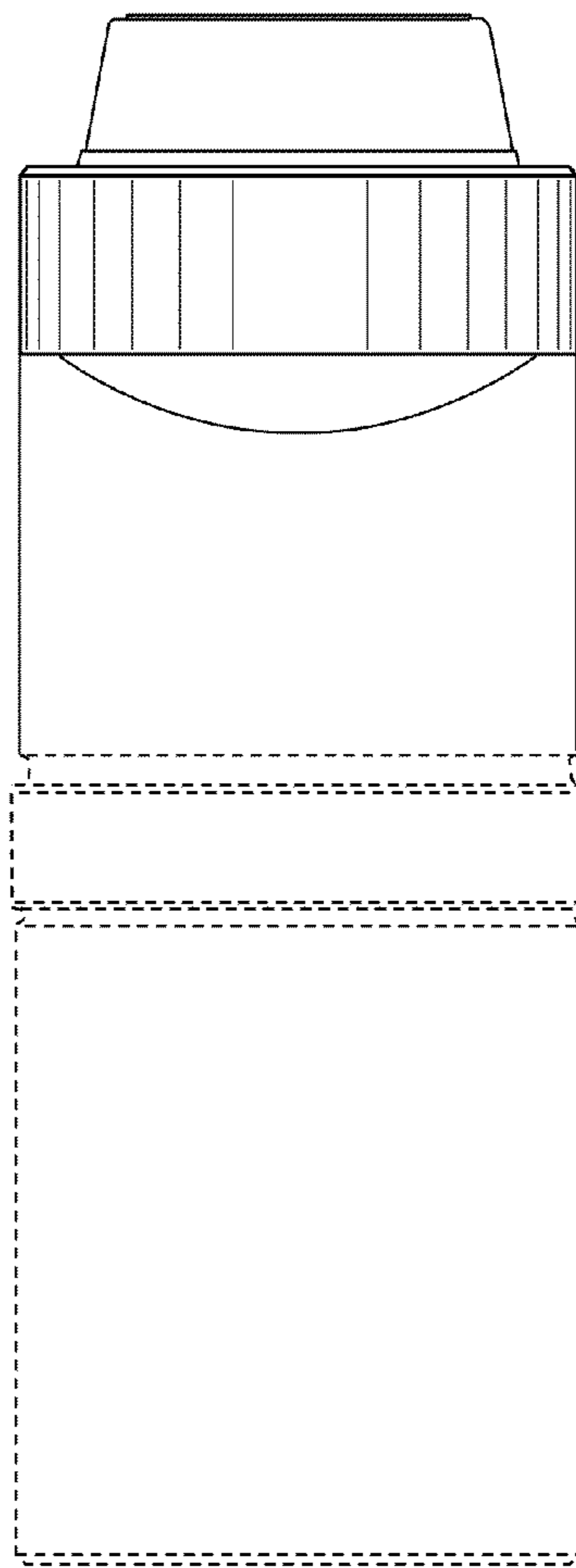


FIG. 7

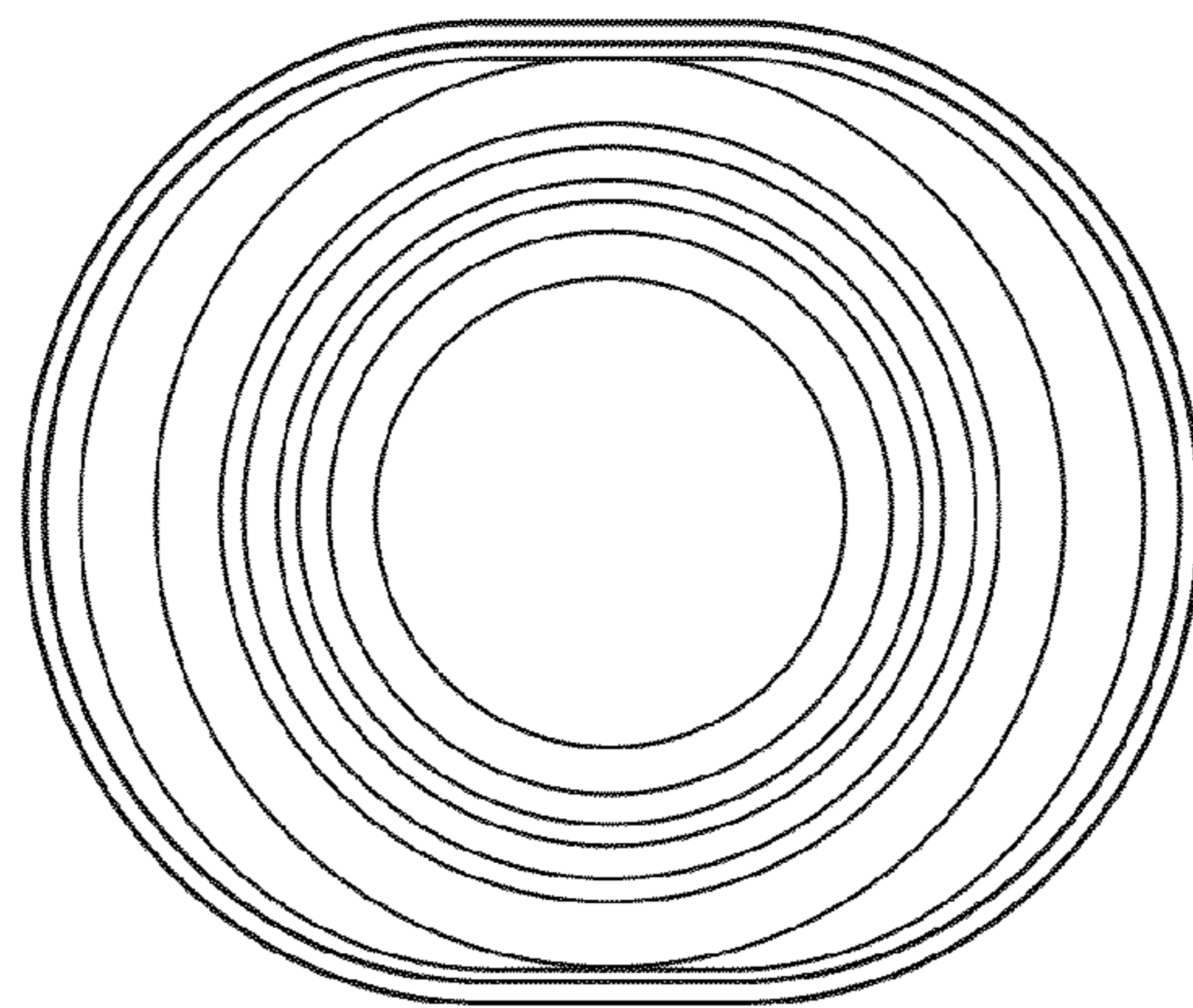


FIG. 8

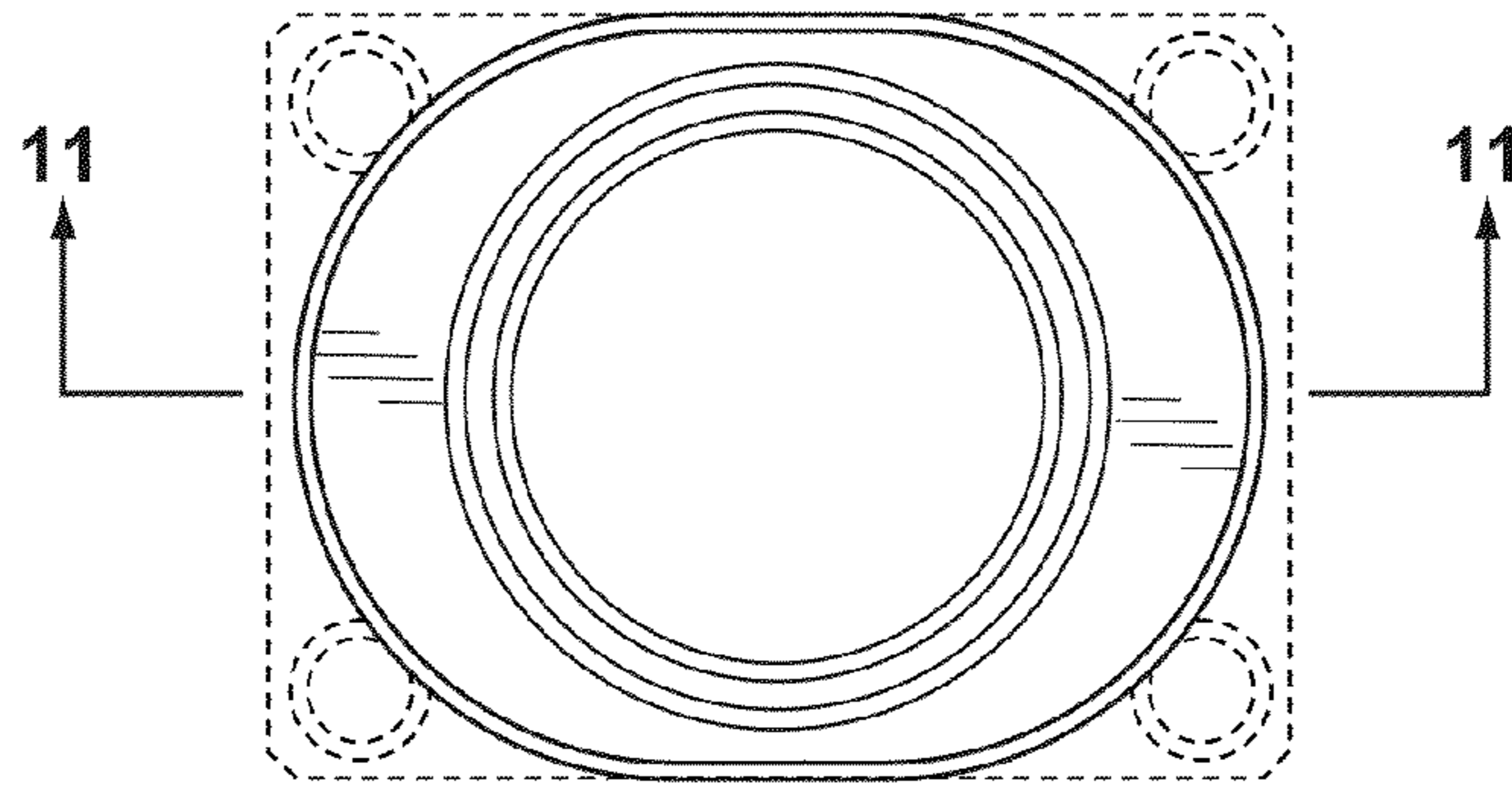


FIG. 10

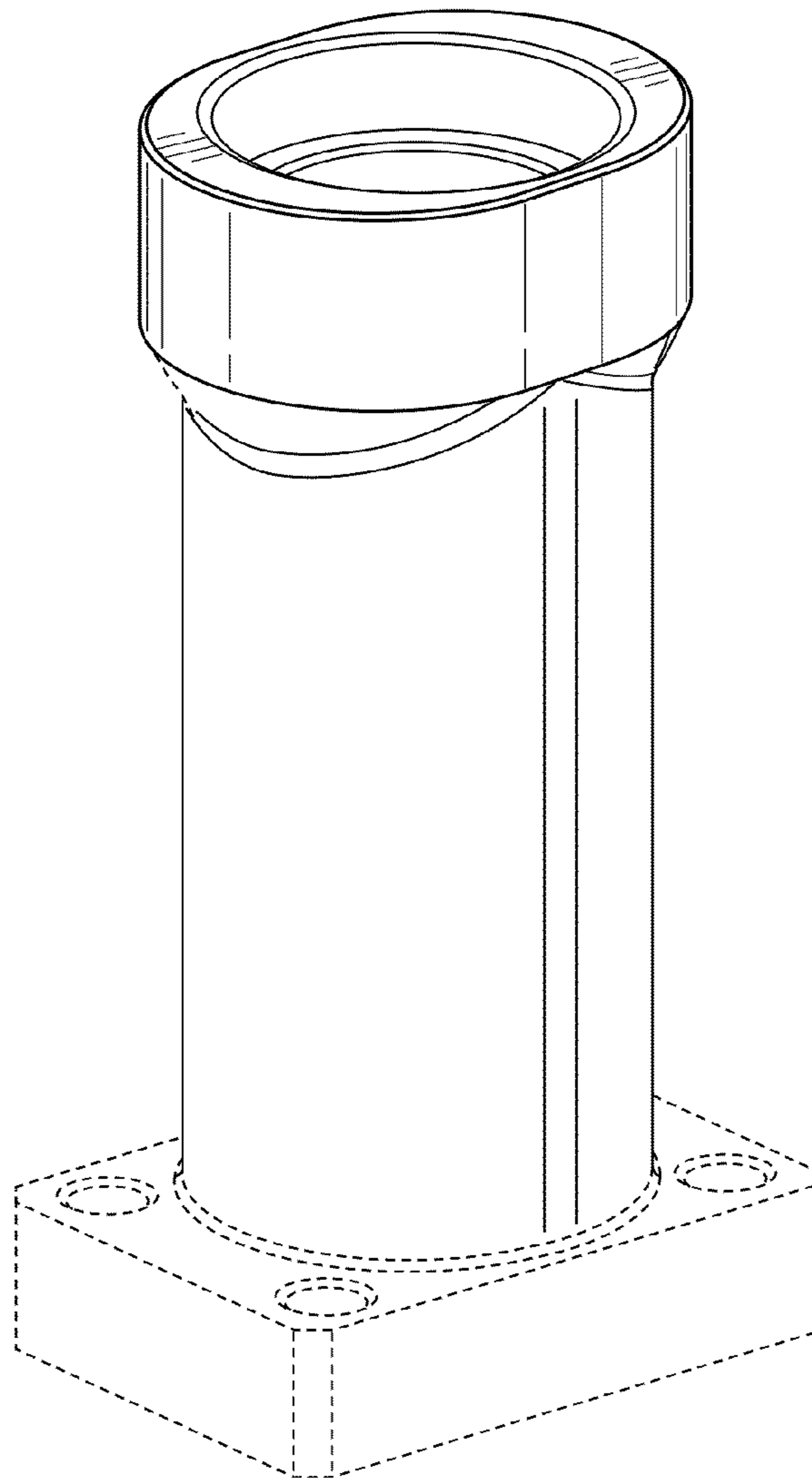


FIG. 9

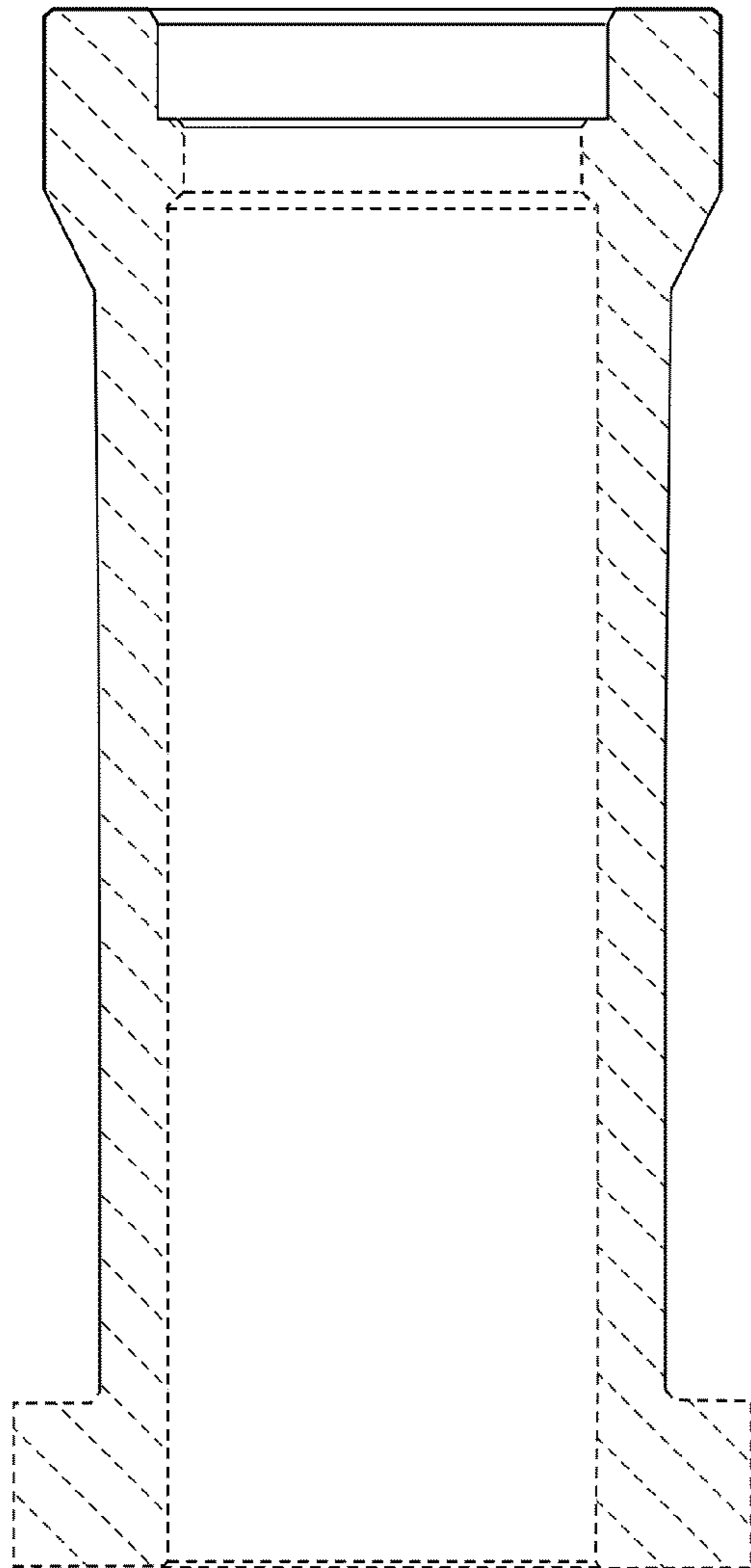


FIG. 11

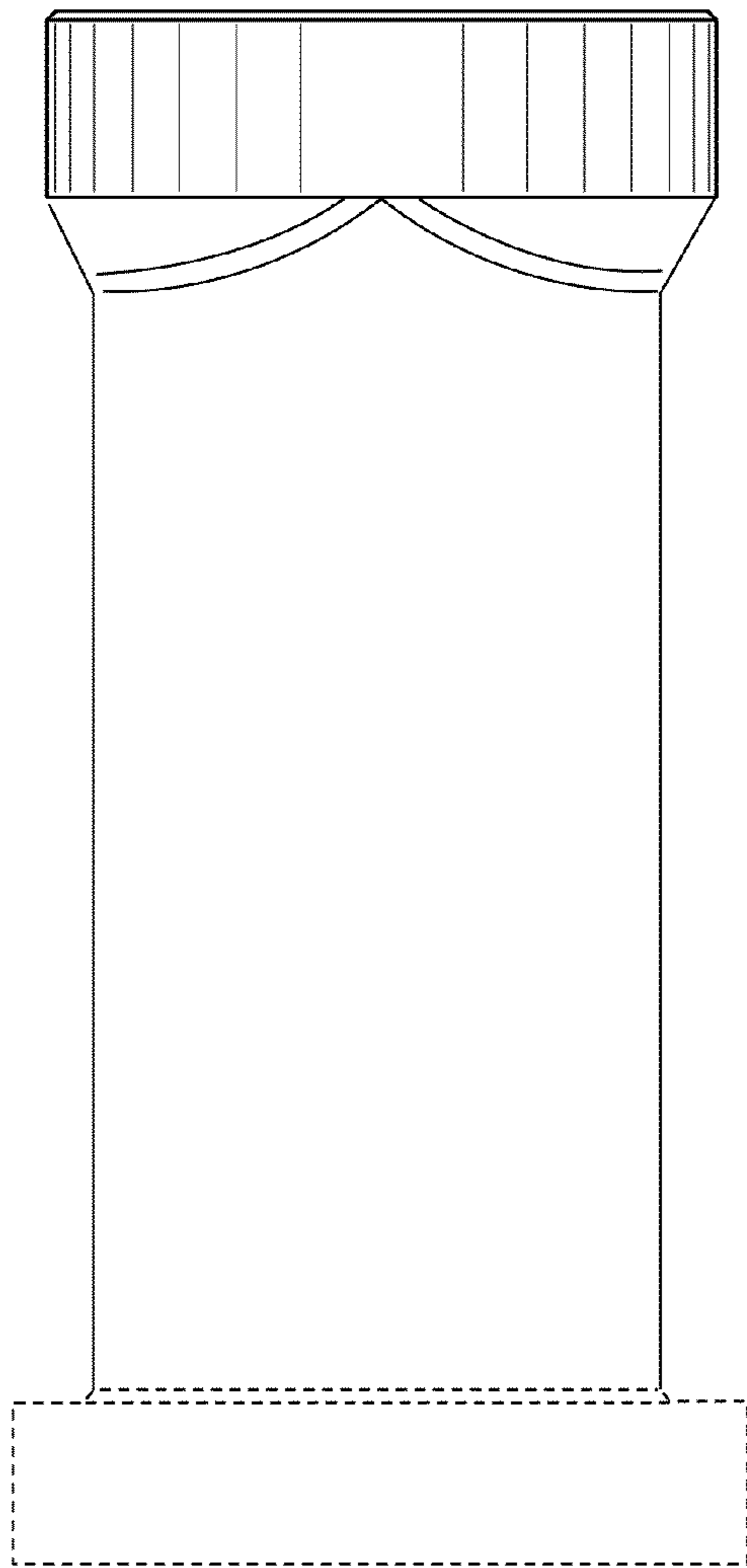


FIG. 12

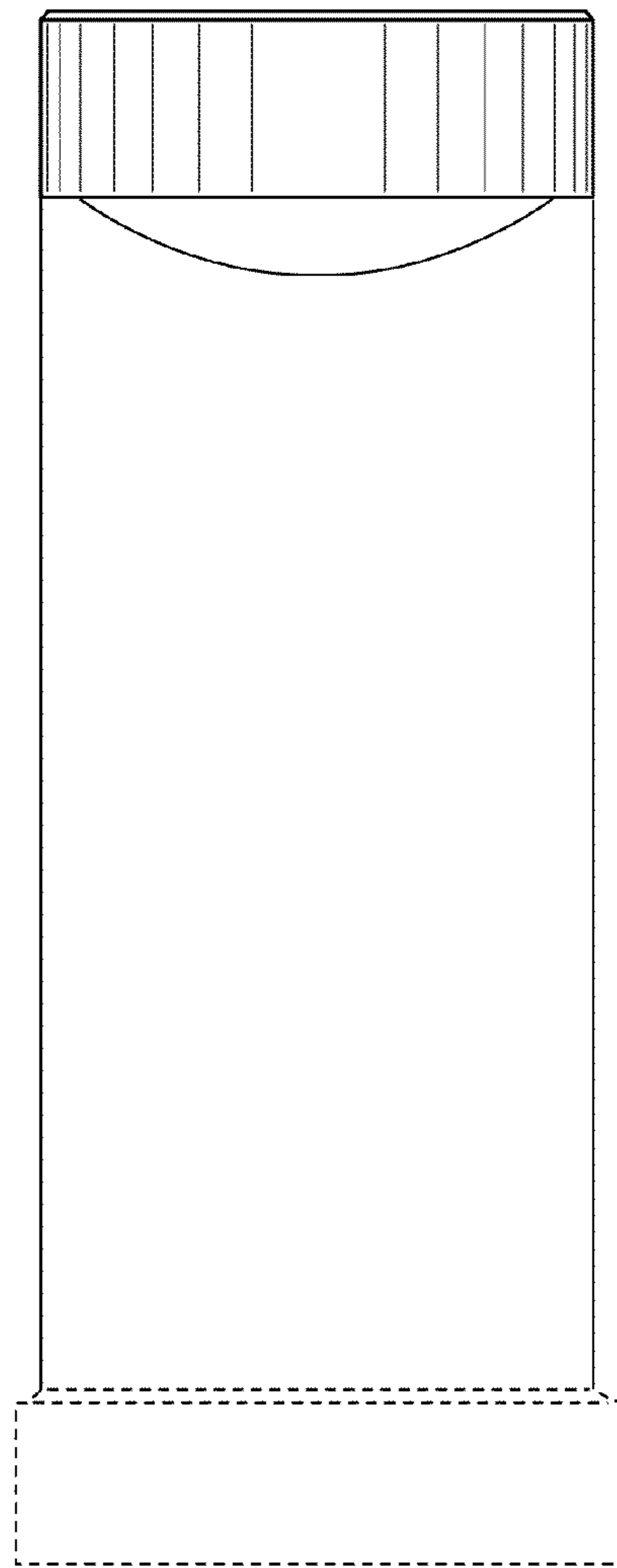


FIG. 13

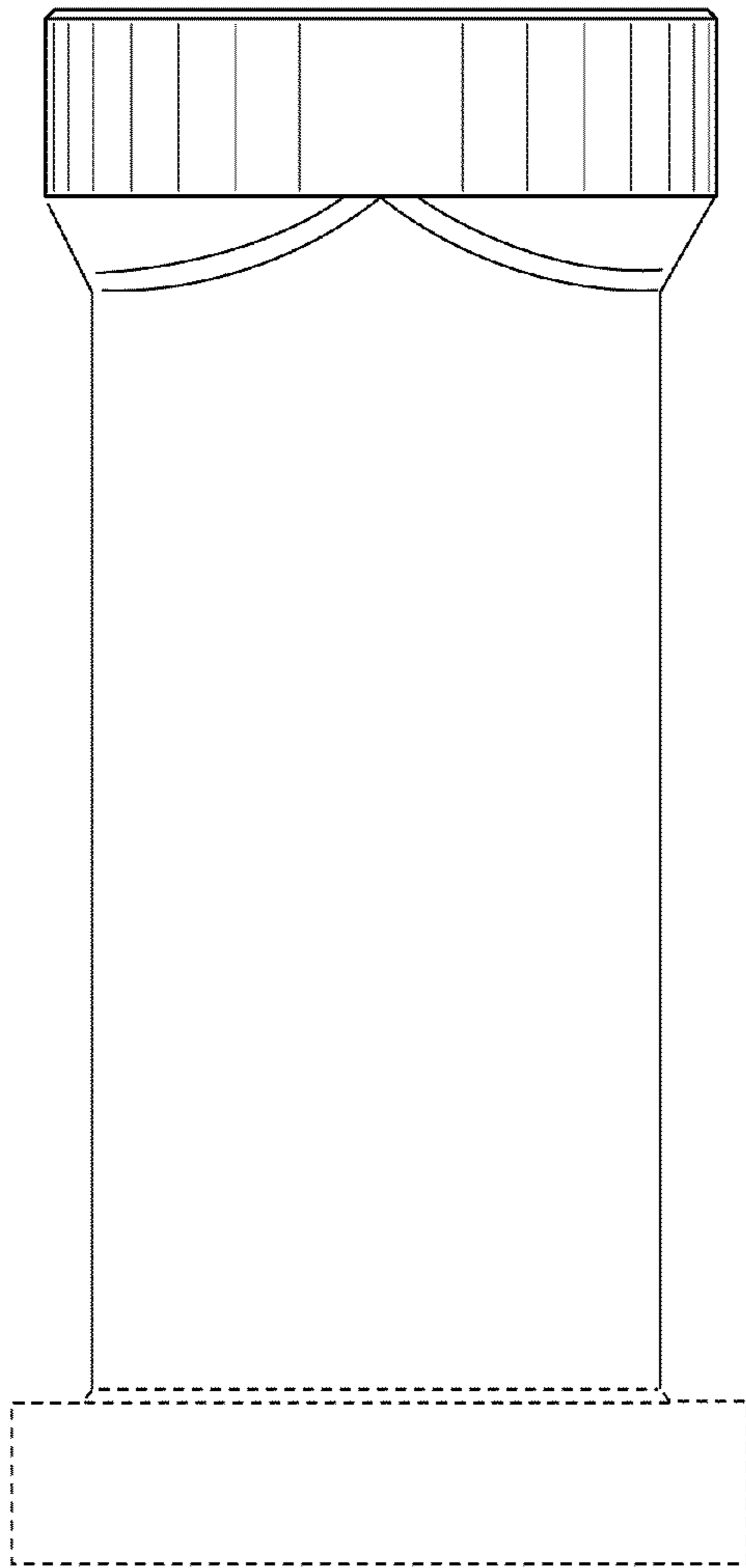


FIG. 14

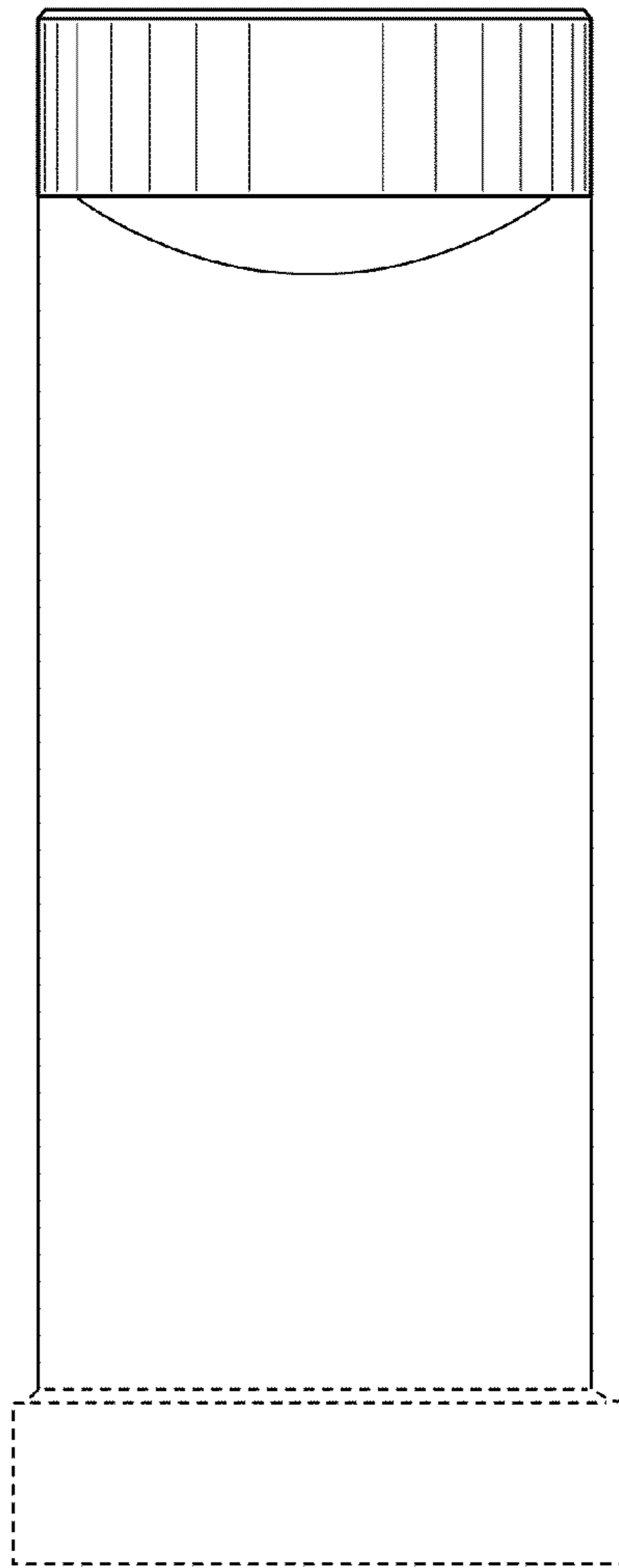


FIG. 15

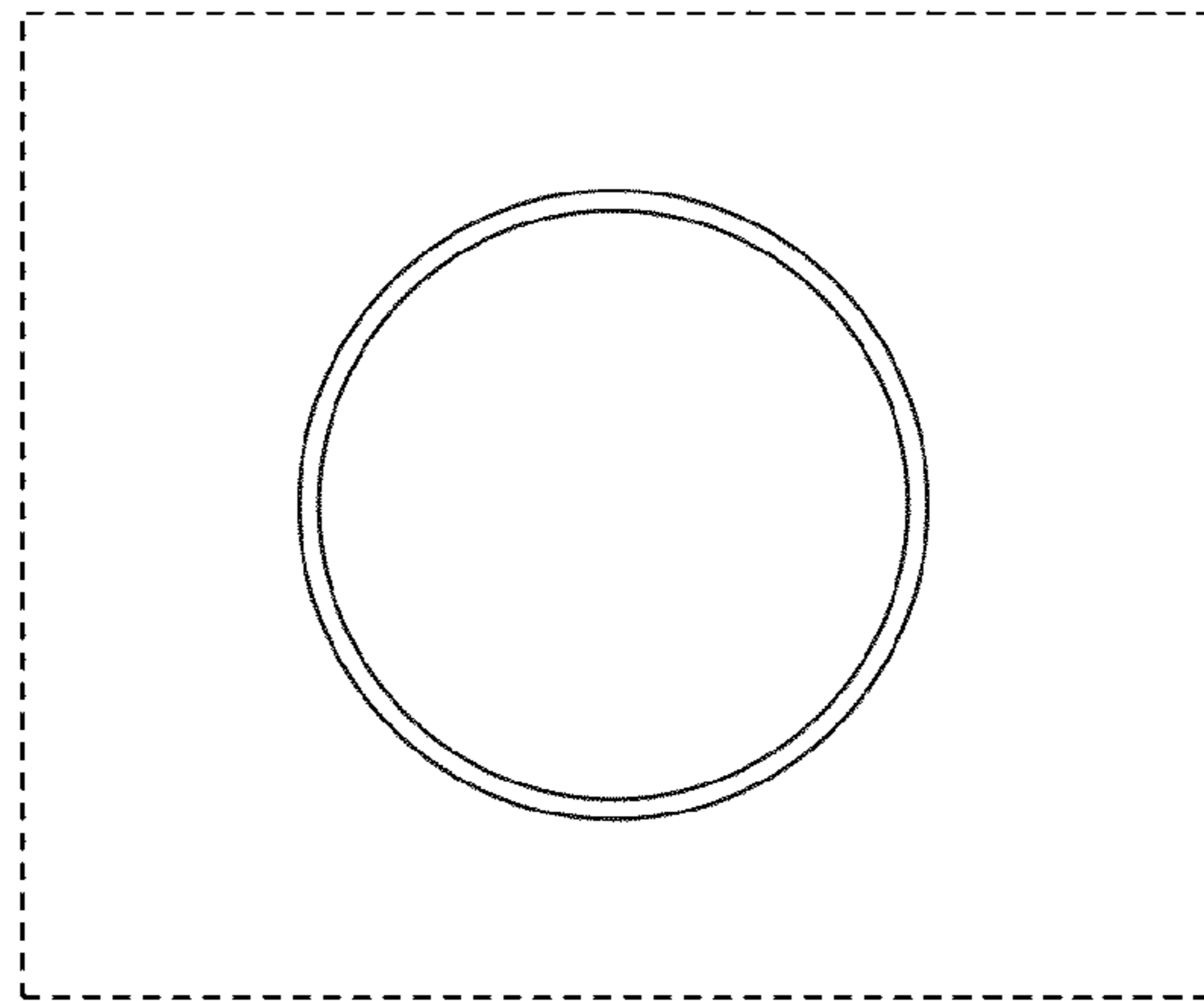


FIG. 16