



US00D637697S

(12) **United States Design Patent**  
**Steiner**

(10) **Patent No.:** **US D637,697 S**

(45) **Date of Patent:** **\*\* May 10, 2011**

(54) **STEPPED CRIMP RING**

(75) Inventor: **Richard A. Steiner**, East Haddam, CT  
(US)

(73) Assignee: **Rostra Tool Company**, Branford, CT  
(US)

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

(21) Appl. No.: **29/307,720**

(22) Filed: **May 7, 2008**

(51) **LOC (9) Cl.** ..... **23-01**

(52) **U.S. Cl.** ..... **D23/262**

(58) **Field of Classification Search** ..... D23/259–269;  
277/179, 205, 207, 215, 230, 231, 345; 285/242,  
285/345, 353, 231

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

2,768,844	A *	10/1956	Schadeberg	.....	285/148.18
2,955,322	A *	10/1960	Hite	.....	249/83
D234,847	S *	4/1975	Hoffman	.....	D23/262
4,060,264	A *	11/1977	Gajajiva	.....	285/148.19
4,166,485	A *	9/1979	Wokas	.....	141/52
D258,526	S *	3/1981	Nederman	.....	D23/262
4,690,434	A *	9/1987	Schmidt	.....	285/31
D292,308	S *	10/1987	Beltran	.....	D23/269
4,852,917	A *	8/1989	Viall, Jr.	.....	285/353
5,056,832	A *	10/1991	Nagagawa et al.	.....	285/345
D327,120	S *	6/1992	Ambrosi	.....	D23/262
5,176,412	A *	1/1993	Washizu	.....	285/319
5,199,750	A *	4/1993	Yang	.....	285/231
5,228,721	A *	7/1993	Whittle et al.	.....	285/23
D346,433	S *	4/1994	Cooper	.....	D23/259
D379,493	S *	5/1997	Woods	.....	D23/269
D423,307	S *	4/2000	Dittmann, Jr.	.....	D7/700
6,270,125	B1 *	8/2001	Rowley et al.	.....	285/242
6,371,522	B1 *	4/2002	Wolff	.....	285/24
6,457,718	B1 *	10/2002	Quesada	.....	277/314
D484,577	S *	12/2003	Brue et al.	.....	D23/259
D494,256	S *	8/2004	Nortier	.....	D23/249
6,783,160	B2 *	8/2004	Rowley	.....	285/242

D515,675 S \* 2/2006 Tremoulet et al. .... D23/269  
7,128,091 B2 \* 10/2006 Istre, Jr. .... 137/515.5  
D577,795 S \* 9/2008 Smith et al. .... D23/262

(Continued)

*Primary Examiner* — T. Chase Nelson

*Assistant Examiner* — Eric L Goodman

(74) *Attorney, Agent, or Firm* — Cantor Colburn LLP

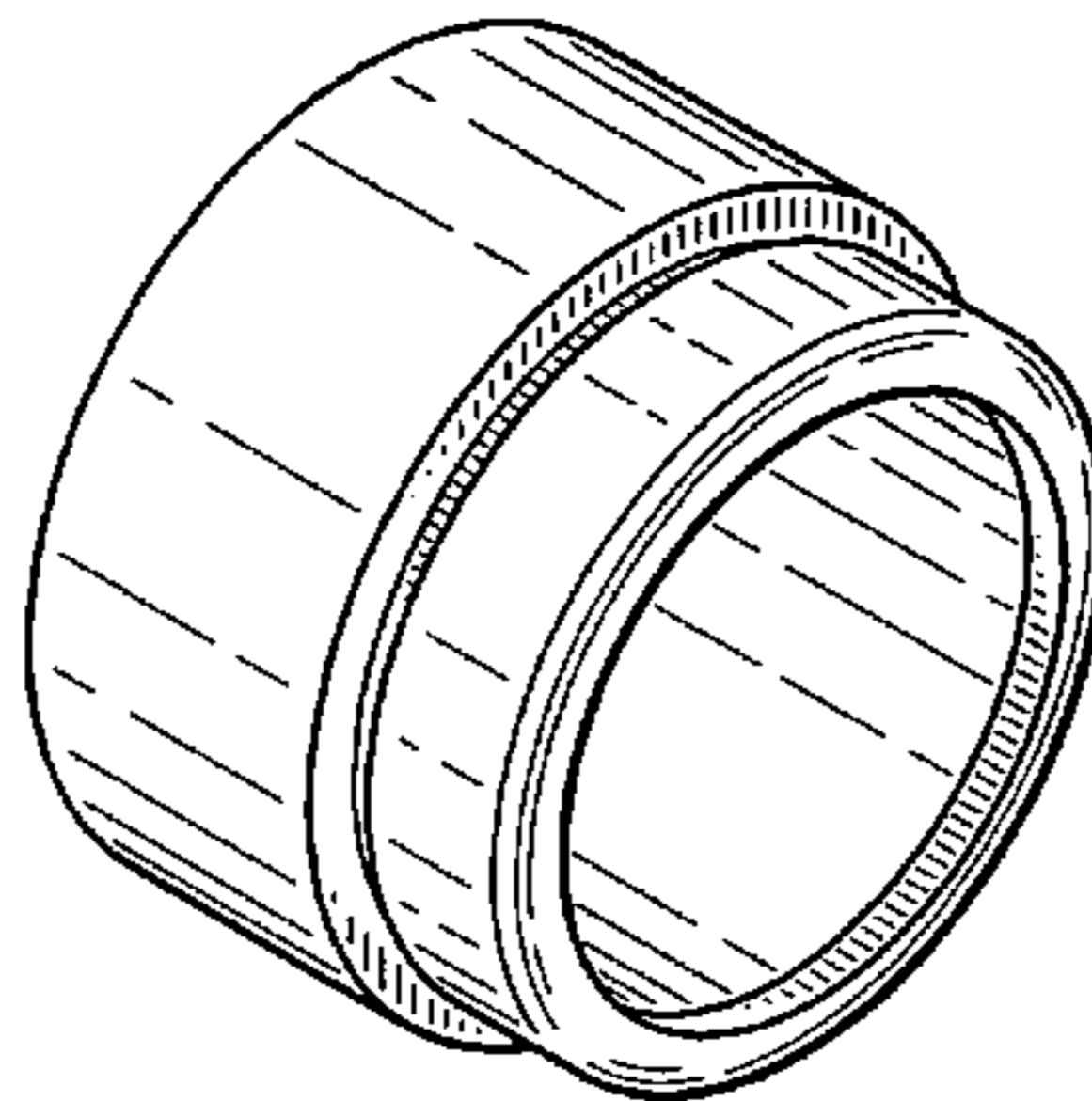
(57) **CLAIM**

The ornamental design for a stepped crimp ring, as shown and described.

**DESCRIPTION**

FIG. 1 is a front perspective view of the stepped crimp ring of my design, incorporating an annular groove;  
 FIG. 2 is a rear perspective view thereof;  
 FIG. 3 is a front elevational view thereof;  
 FIG. 4 is a rear elevational view thereof;  
 FIG. 5 is a side elevational view thereof, the opposite side being a mirror image;  
 FIG. 6 is a top plan view thereof, the bottom view being a mirror image;  
 FIG. 7 is a side elevational view thereof, in cross-section, taken along line 7—7 of FIG. 3;  
 FIG. 8 is a side elevational view thereof showing the stepped crimp ring attaching a pipe to a connector, with the broken lines shown for illustrative purposes and not a part of the claimed design;  
 FIG. 9 is an alternate embodiment of a front perspective view of the stepped crimp ring of my design, without an annular groove;  
 FIG. 10 is a rear perspective view thereof;  
 FIG. 11 is a front elevational view thereof;  
 FIG. 12 is a rear elevational view thereof;  
 FIG. 13 is a side elevational view thereof, the opposite side being a mirror image;  
 FIG. 14 is a top plan view thereof, the bottom view being a mirror image;  
 FIG. 15 is a side elevational view thereof, in cross-section, taken along line 15—15 of FIG. 11; and,  
 FIG. 16 is a side elevational view thereof showing the stepped crimp ring attaching a pipe to a connector, with the broken lines shown for illustrative purposes and not a part of the claimed design.

**1 Claim, 6 Drawing Sheets**



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## U.S. PATENT DOCUMENTS

2003/0127855	A1*	7/2003	Heverly .....	285/227	2004/0021318	A1*	2/2004	Fritze et al. ....	285/340
2003/0214133	A1*	11/2003	Robison et al. ....	285/256	2006/0043692	A1*	3/2006	Cai et al. ....	280/124.152
2003/0227169	A1*	12/2003	Fritze et al. ....	285/322	2008/0093817	A1*	4/2008	Russell .....	280/124.106

\* cited by examiner

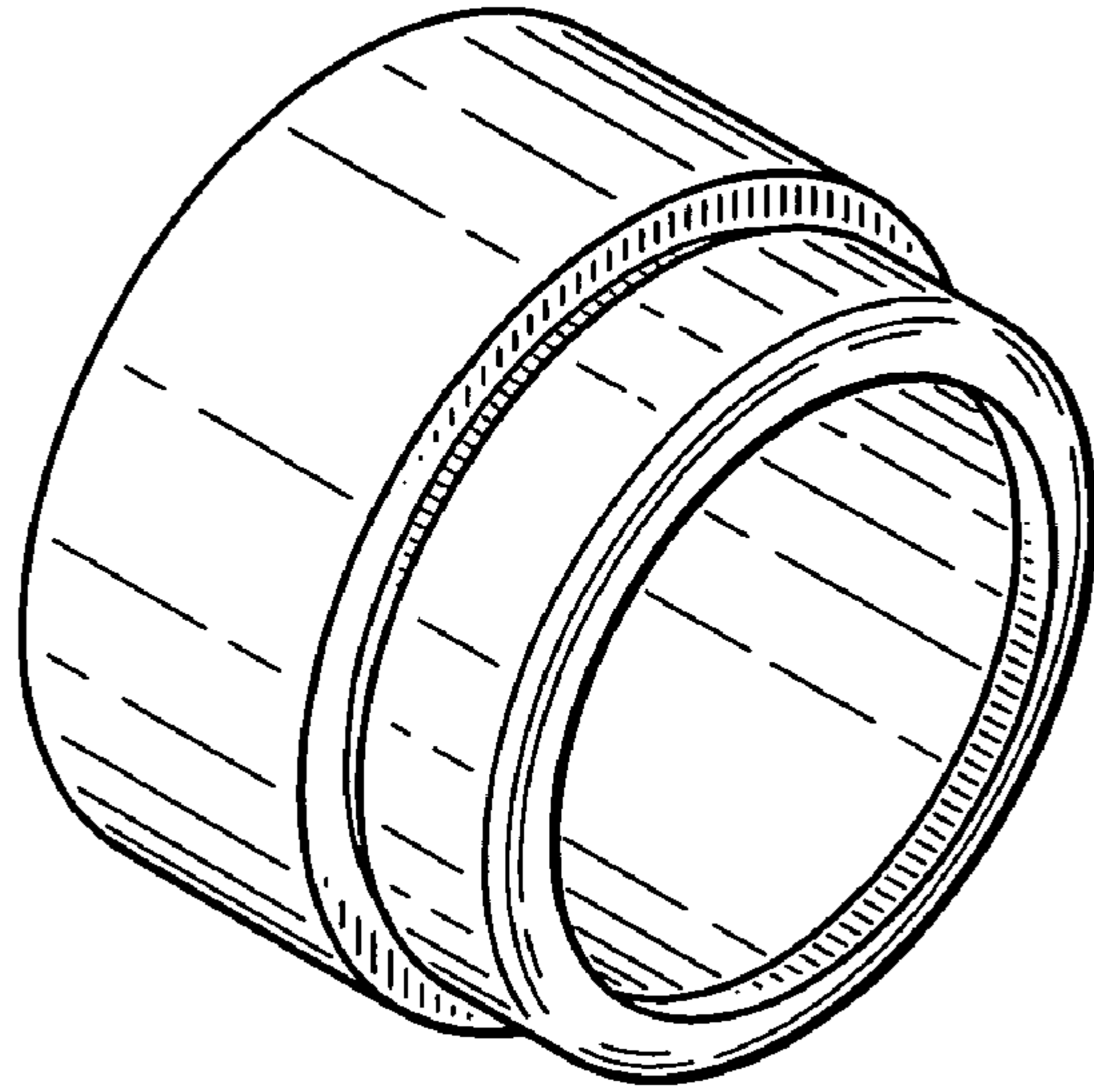


FIG. 1

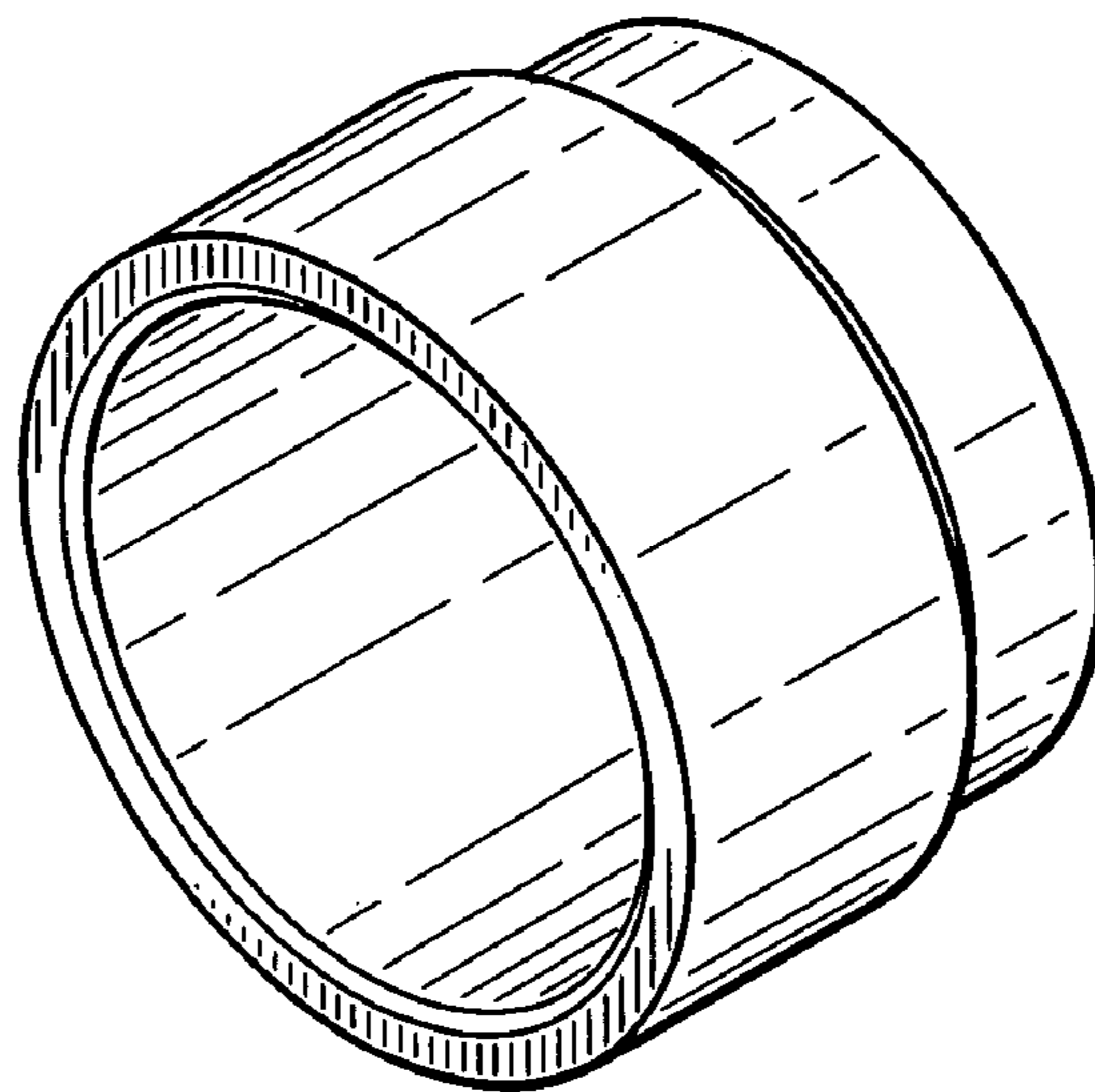


FIG. 2

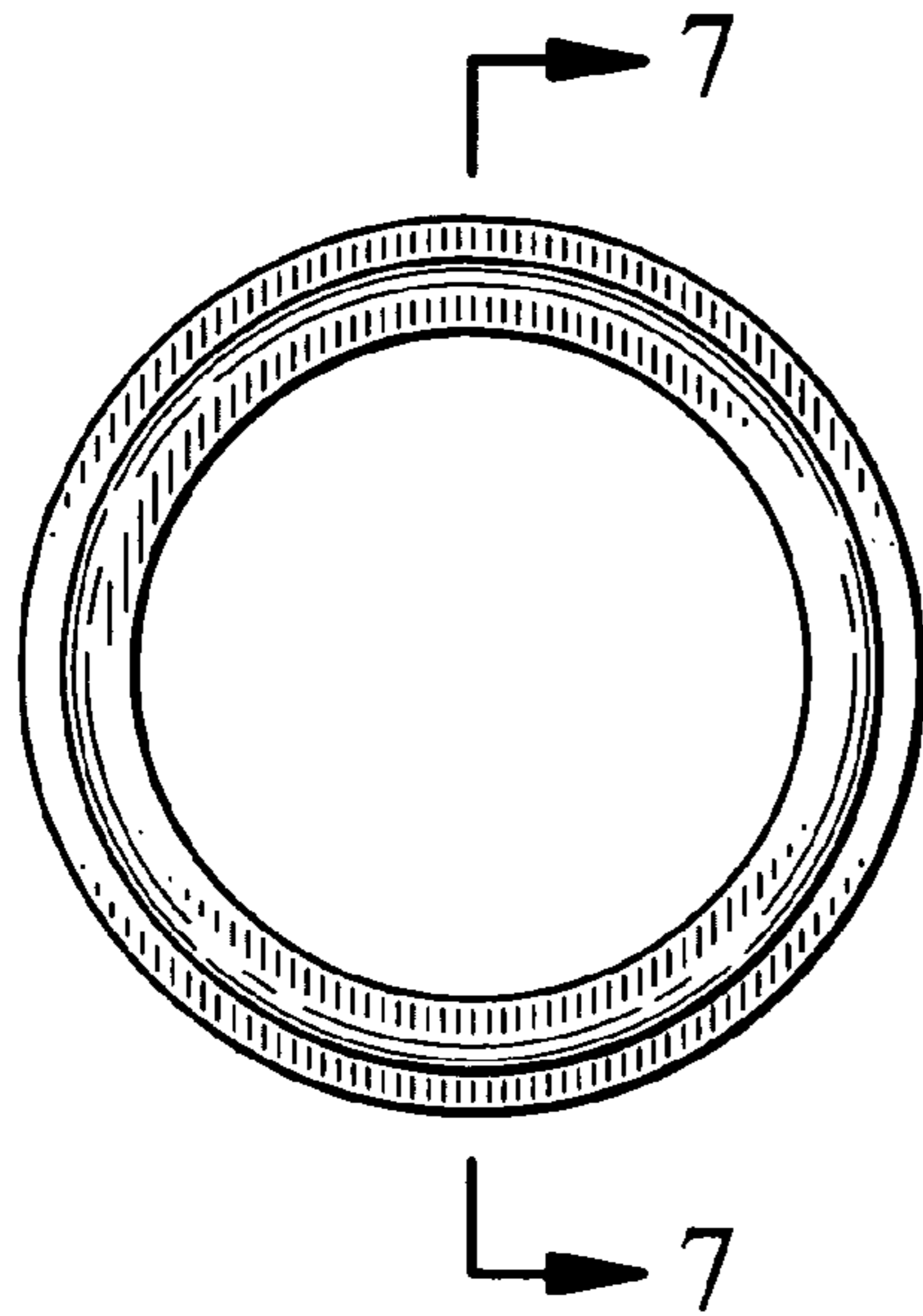


FIG. 3

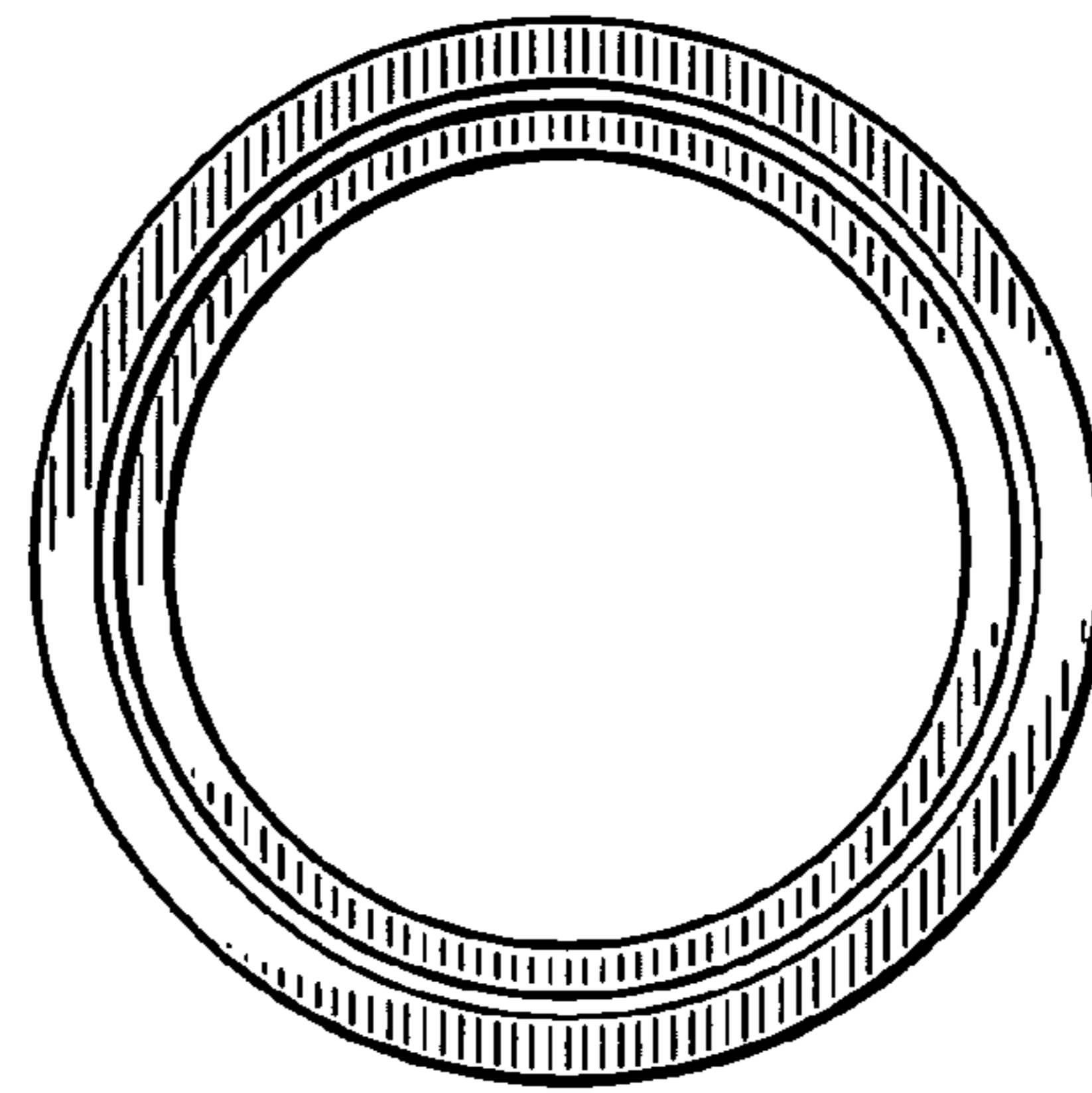


FIG. 4

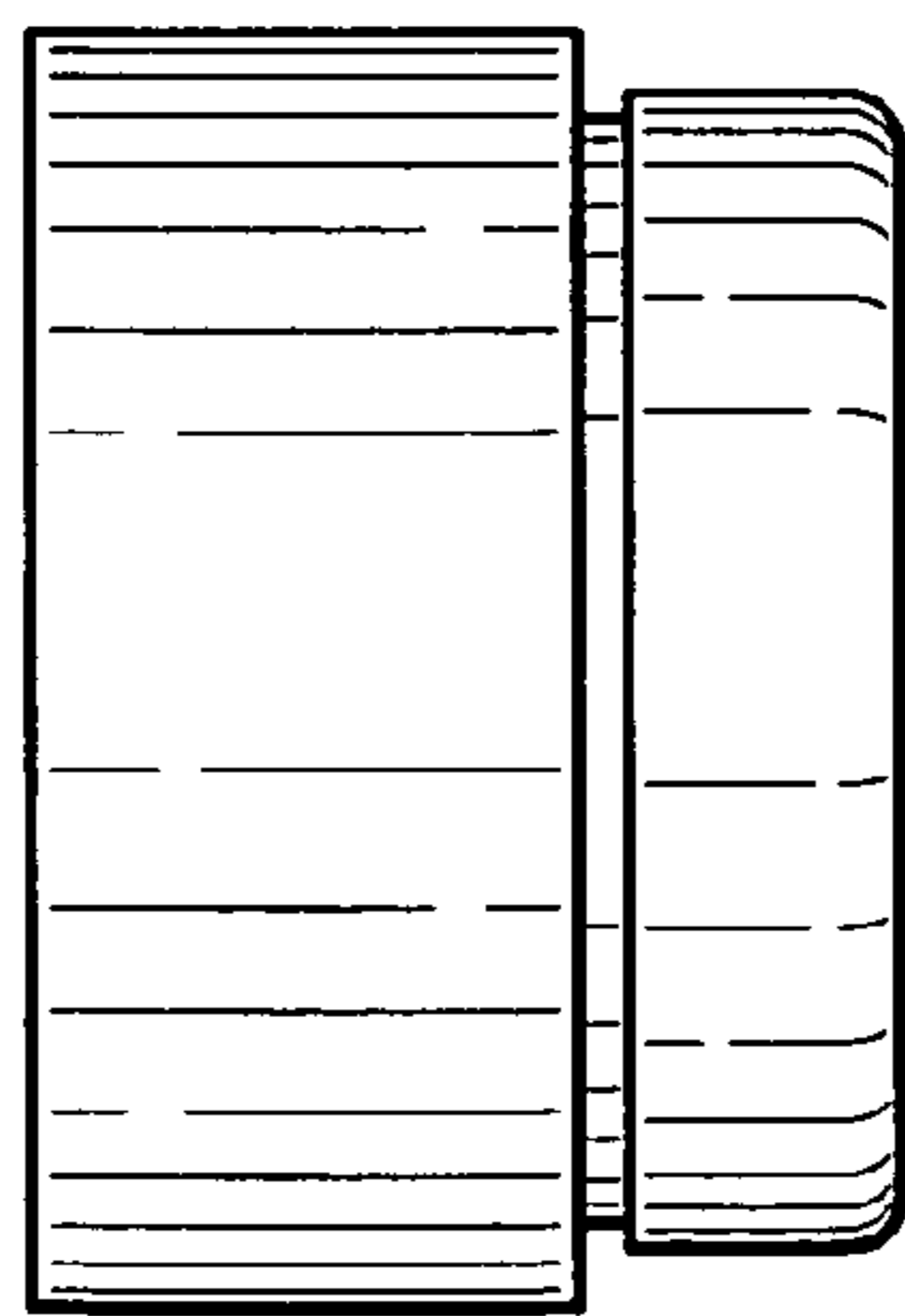


FIG. 5

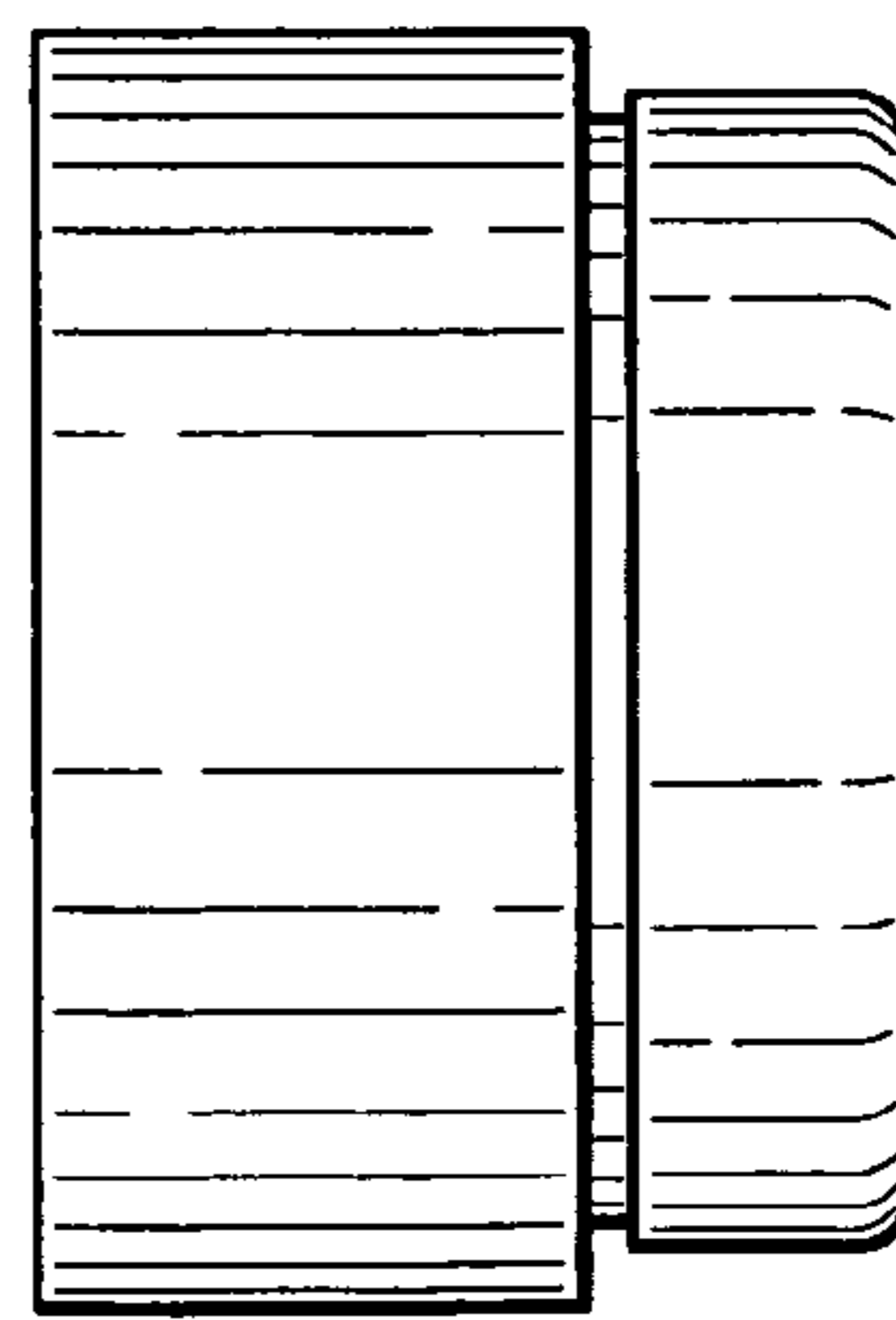


FIG. 6

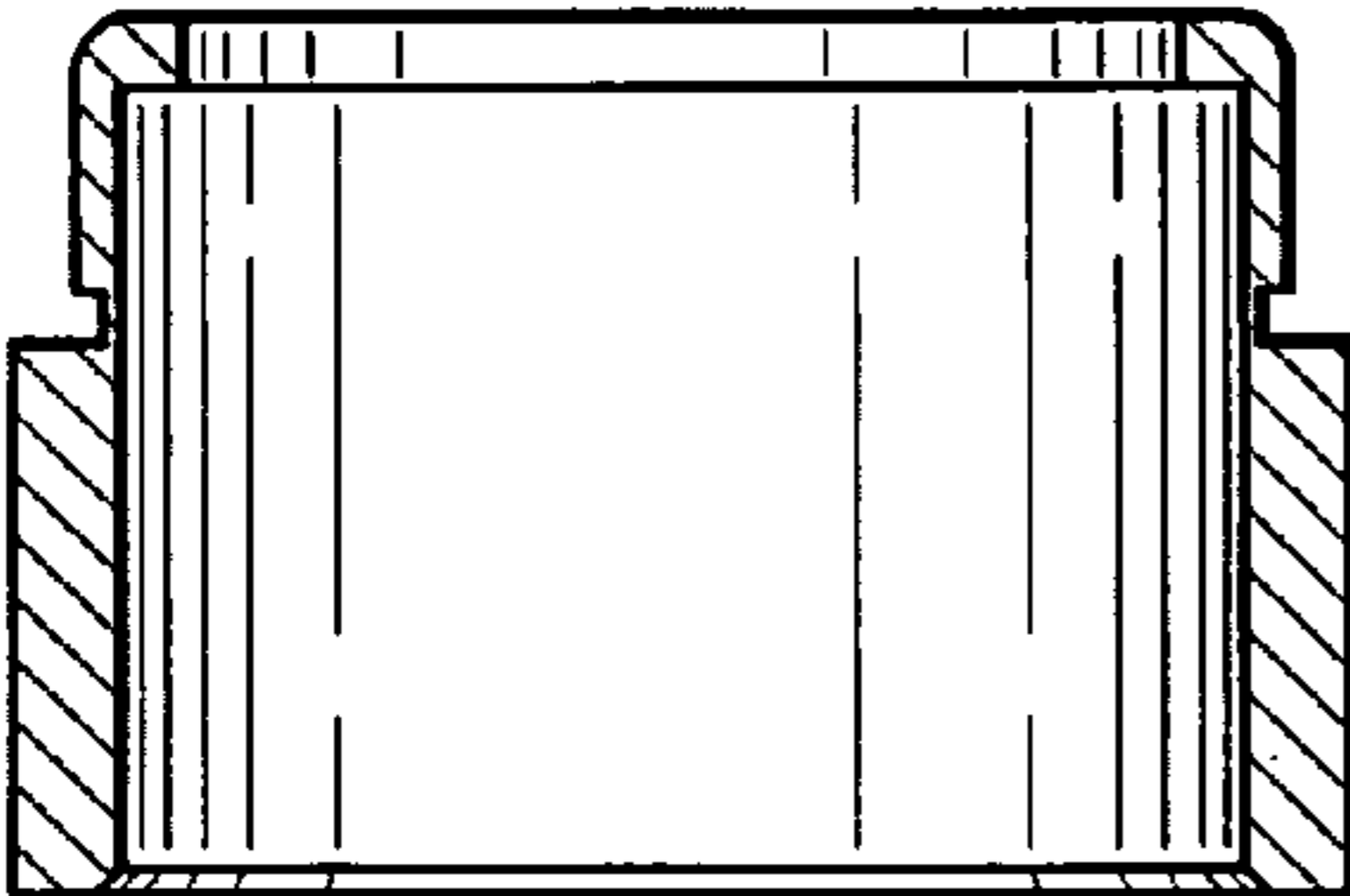


FIG. 7

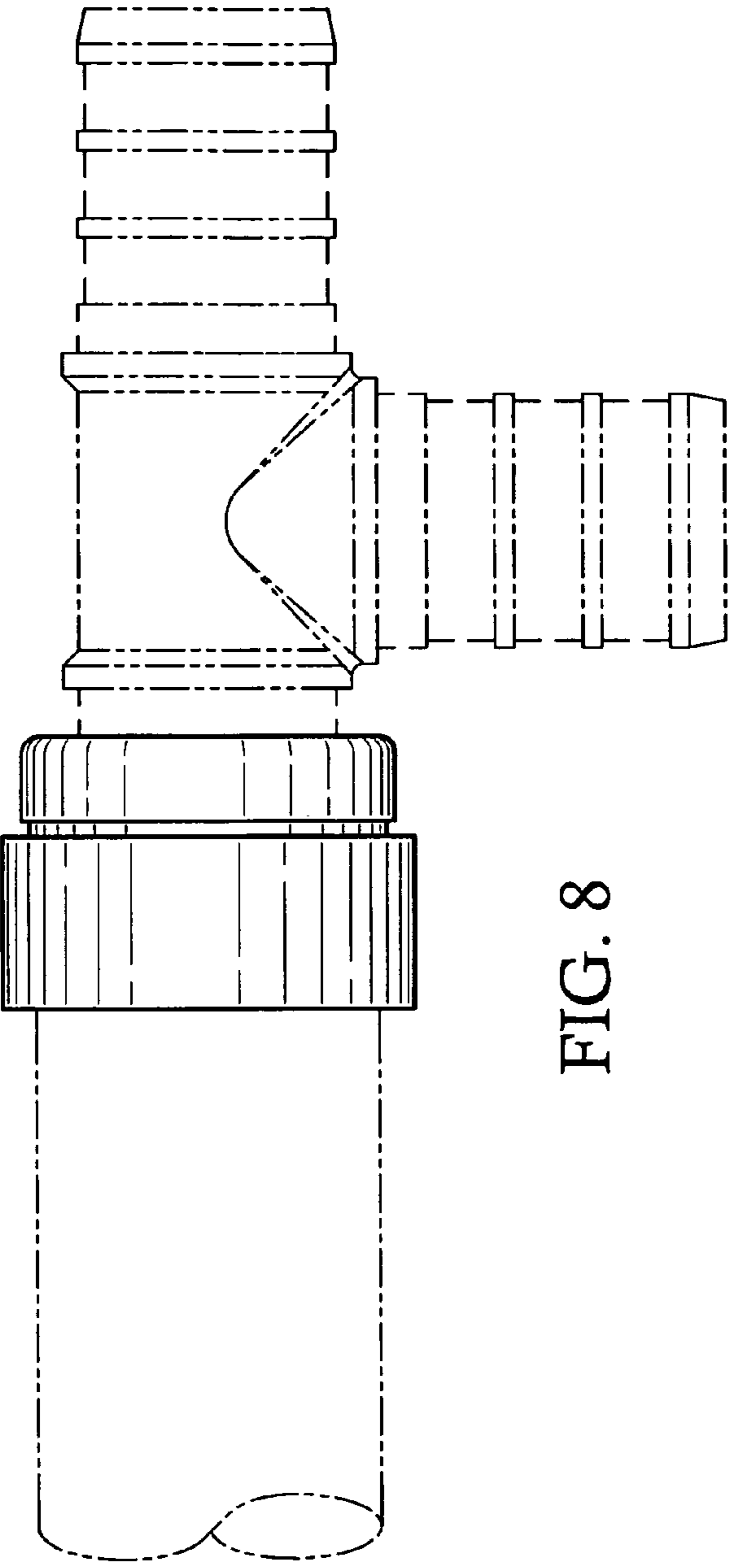


FIG. 8



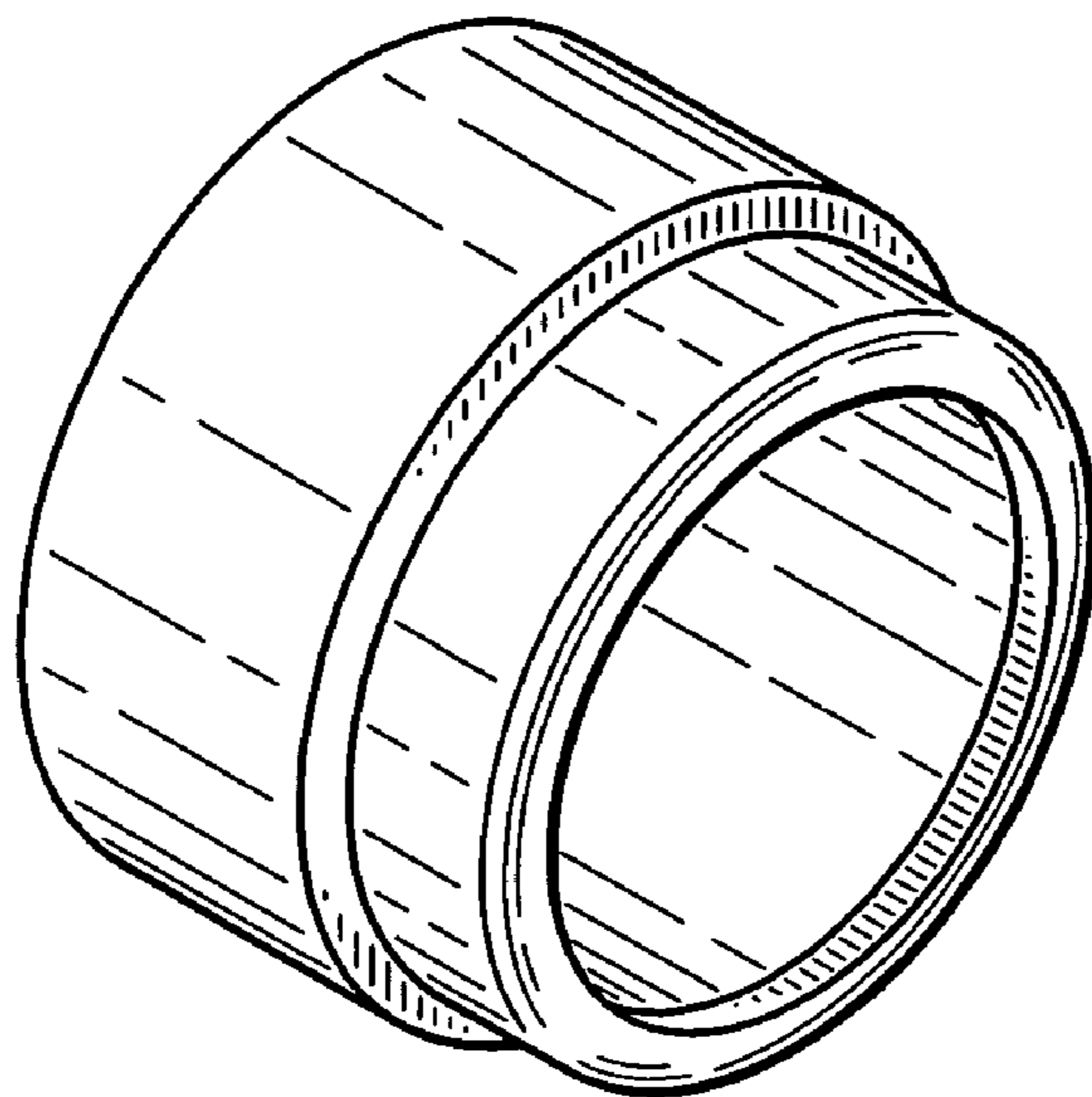


FIG. 9

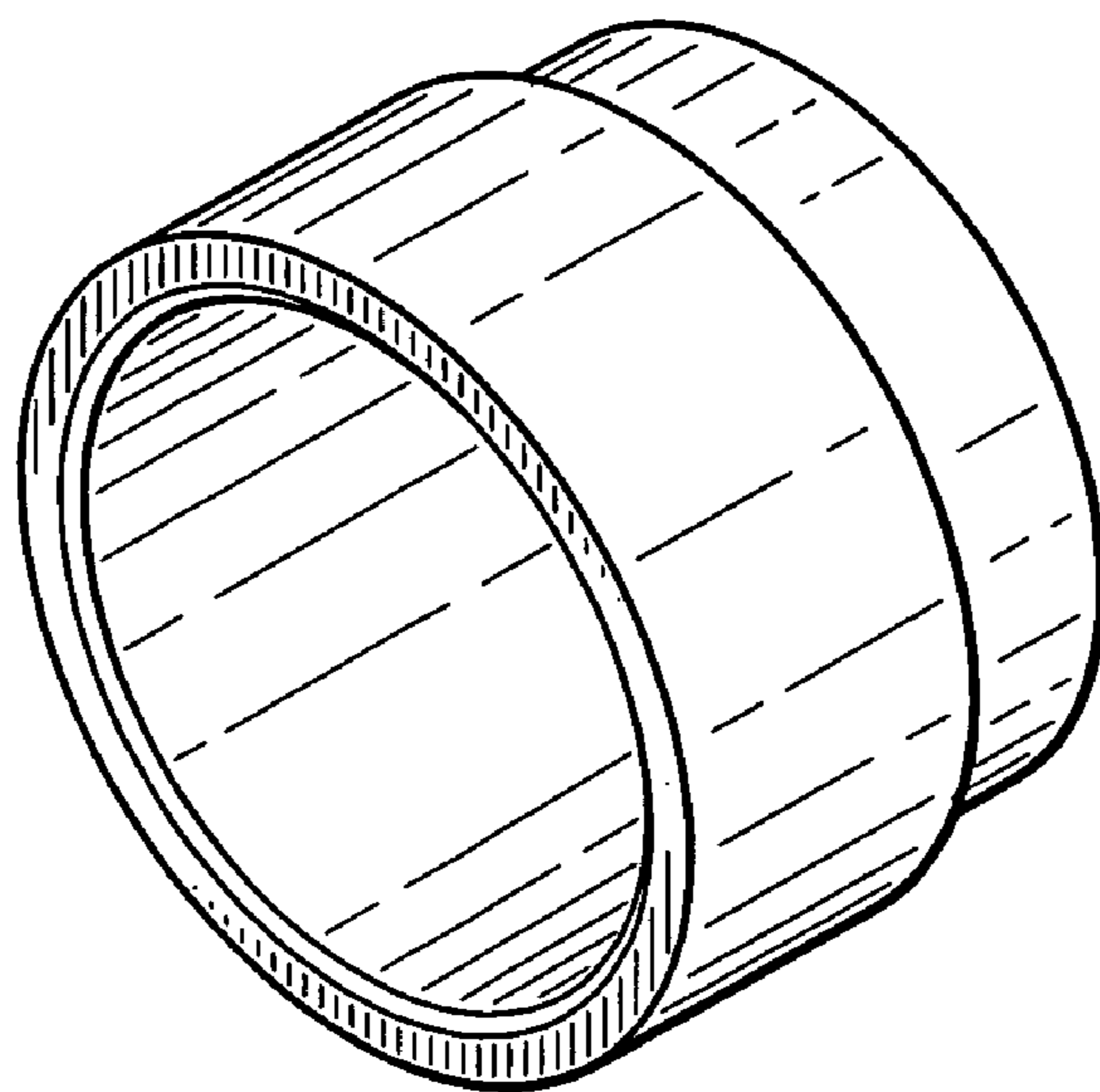


FIG. 10

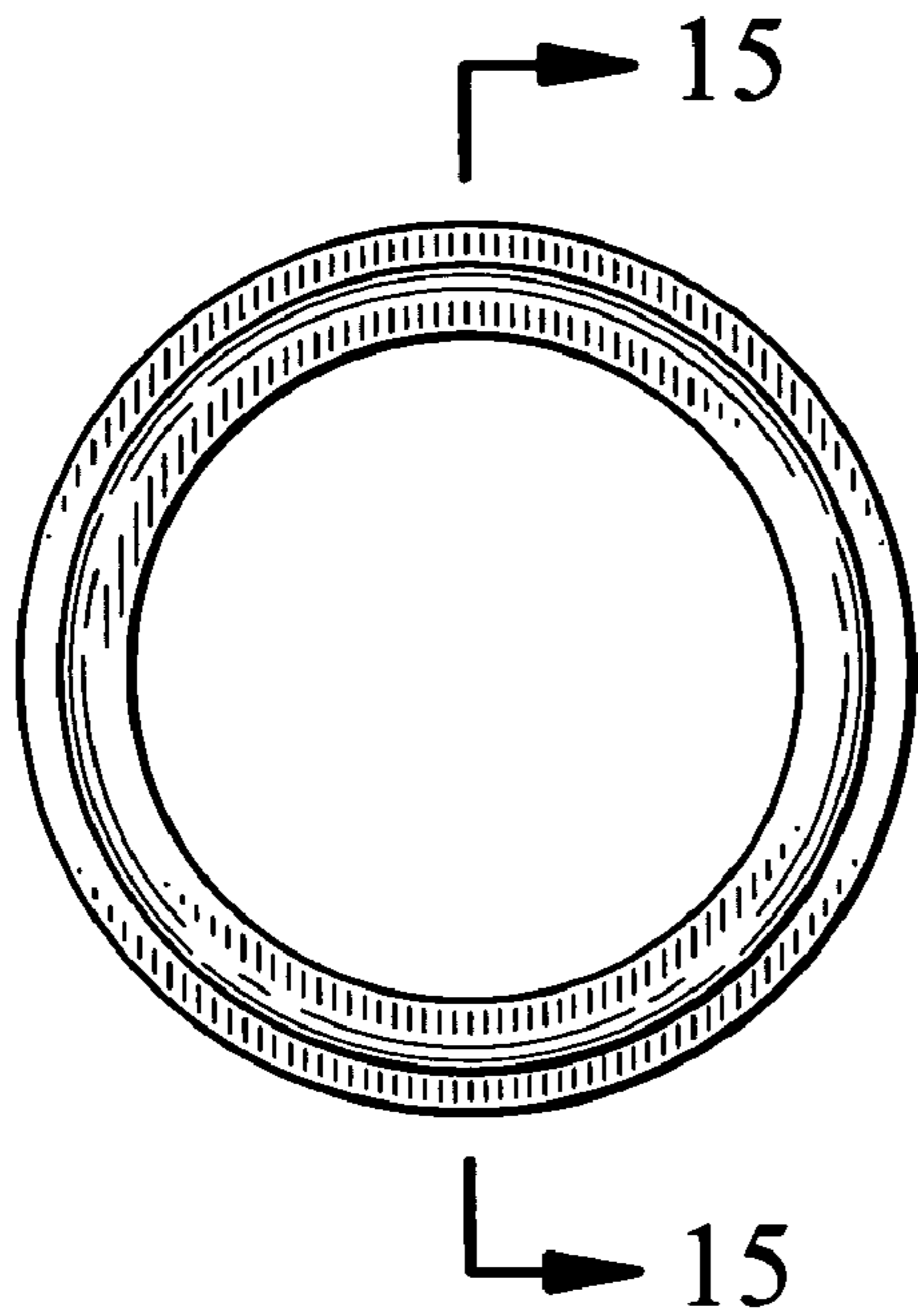


FIG. 11

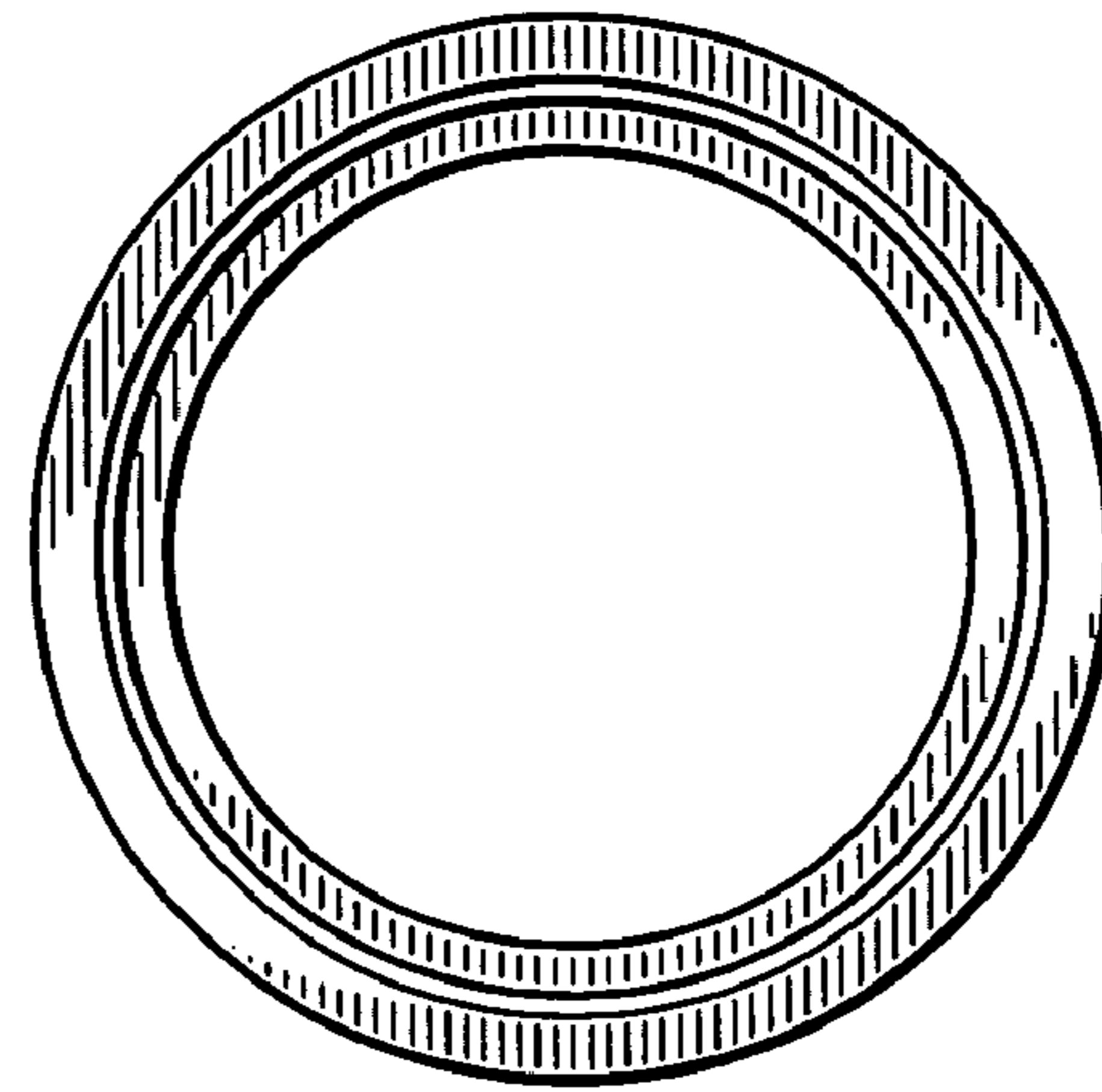


FIG. 12

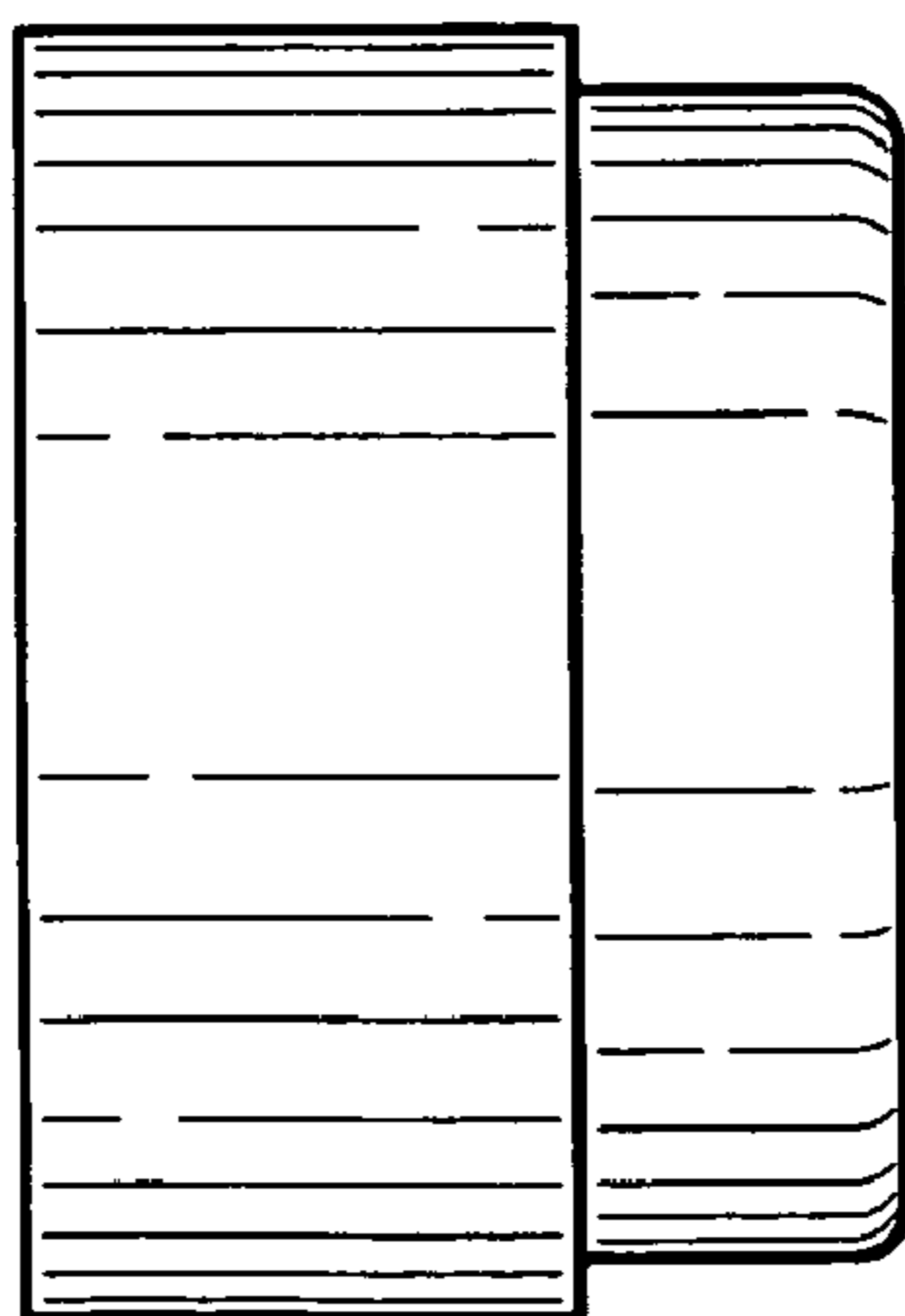


FIG. 13

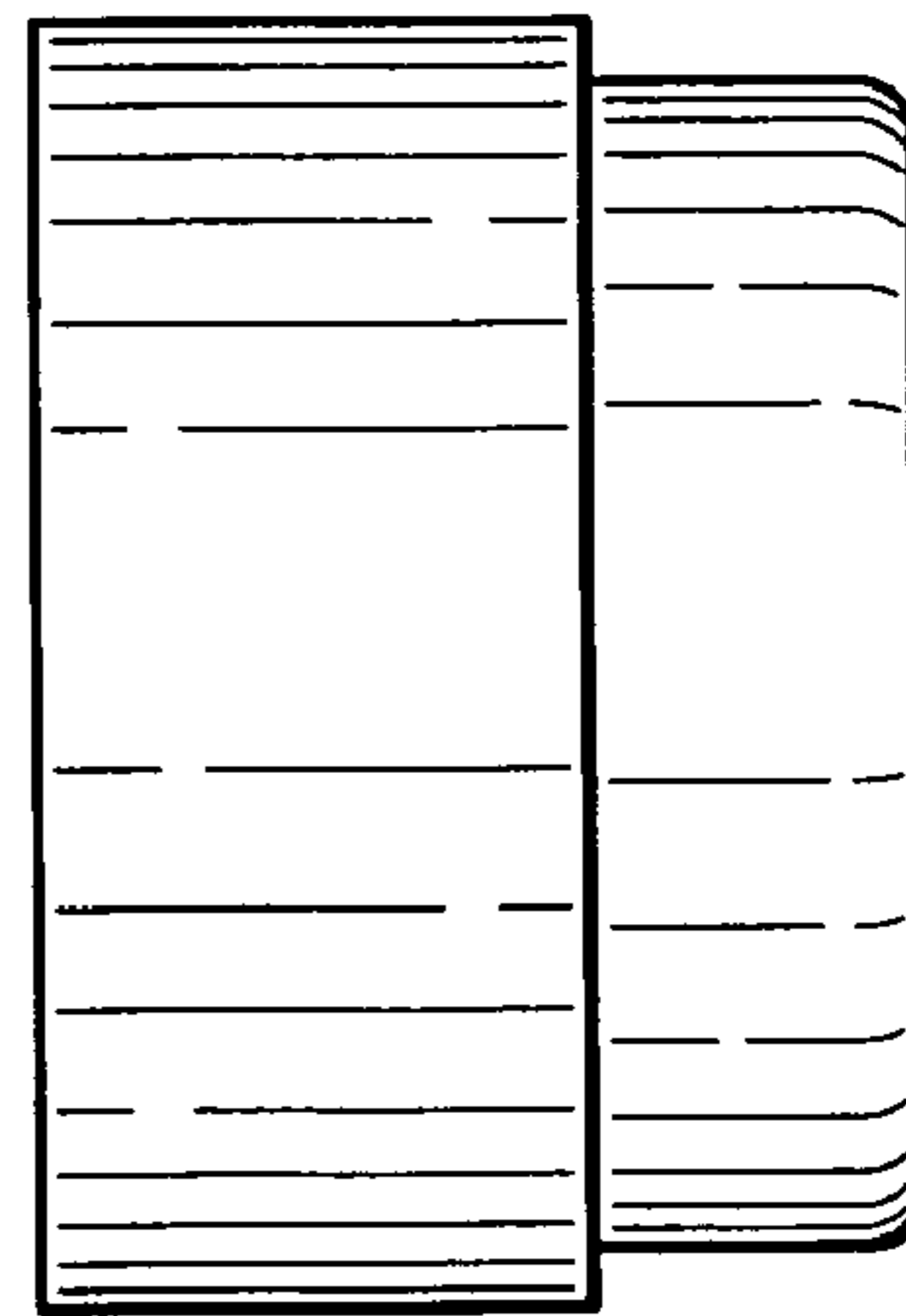


FIG. 14

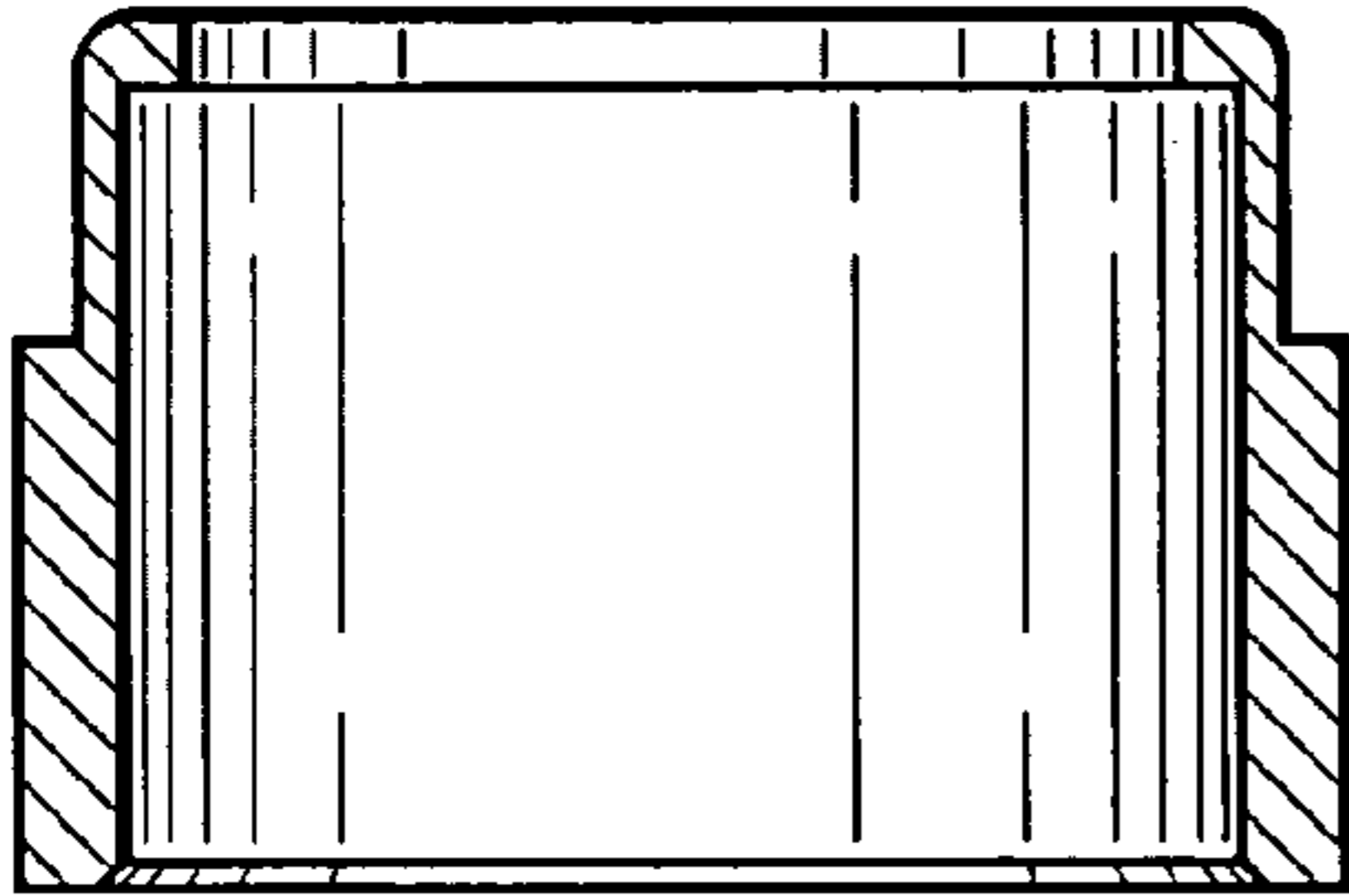


FIG. 15

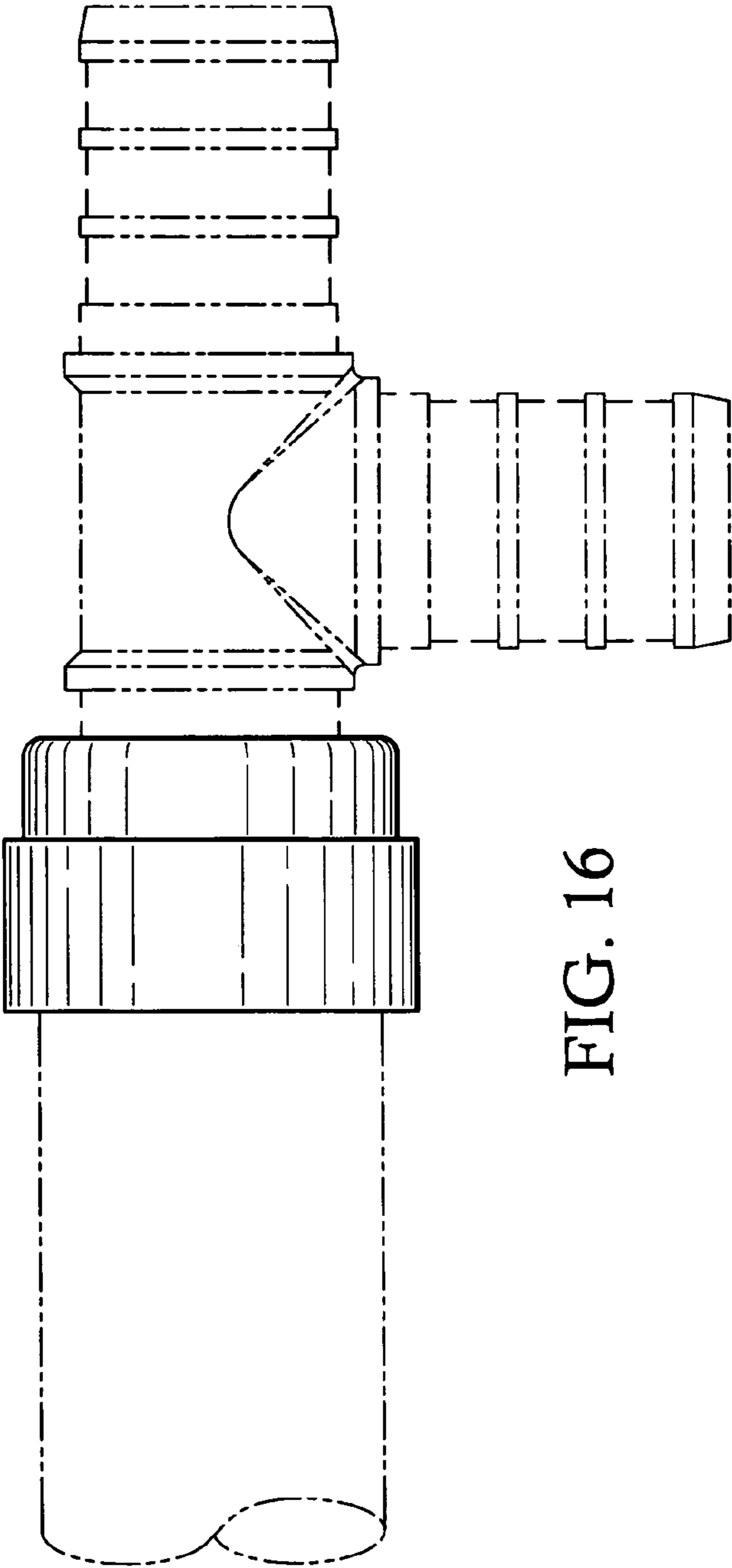


FIG. 16