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Saulou et al.

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(54) **FRAC PLUG SLIP**
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5,819,846 A * 10/1998 Bolt, Jr. E21B 33/134
166/123
7,475,736 B2 * 1/2009 Lehr E21B 33/1204
166/120
7,735,549 B1 * 6/2010 Nish E21B 33/1293
166/134
8,066,065 B2 * 11/2011 Buckner E21B 33/1204
166/118
D673,182 S * 12/2012 Frazier D15/21
D694,281 S * 11/2013 Frazier D15/21
8,596,347 B2 * 12/2013 Valencia E21B 33/1204
166/134
8,678,081 B1 * 3/2014 Nish E21B 33/1294
166/135
D703,698 S * 4/2014 Frazier D15/21
D705,821 S * 5/2014 Frazier D15/21
8,770,276 B1 * 7/2014 Nish E21B 33/1291
166/118

(Continued)

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(52) **U.S. Cl.**
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(58) **Field of Classification Search**
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See application file for complete search history.

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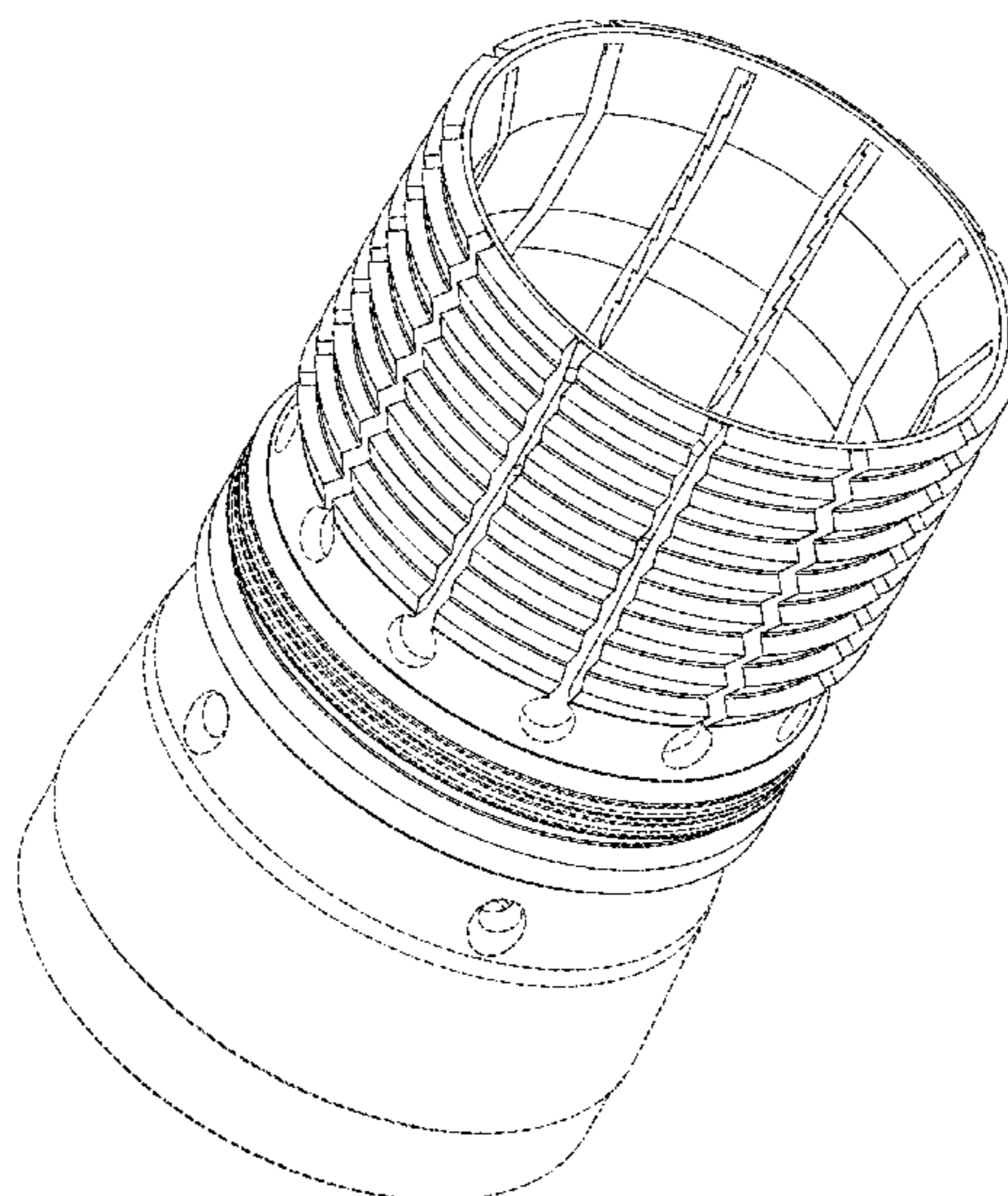
(56) **References Cited**
U.S. PATENT DOCUMENTS
2,204,659 A * 6/1940 Burt E21B 33/129
166/217
3,530,934 A * 9/1970 Kisling E21B 33/129
166/134
3,687,196 A * 8/1972 Mullins E21B 23/01
166/217
4,440,223 A * 4/1984 Akkerman E21B 33/1295
166/134

(57) **CLAIM**
The ornamental design for a frac plug slip, as shown.

DESCRIPTION

FIG. 1 is a perspective view of the frac plug slip showing our new design;
FIG. 2 is a side view thereof;
FIG. 3 is a top view thereof;
FIG. 4 is a bottom view thereof; and,
FIG. 5 is a perspective view of the frac plug slip from an opposite end.
The broken lines in the drawings within the slip portion shown in solid lines represent unclaimed boundaries of the design. The broken lines showing the remainder of the frac plug are for environmental purposes only and form no part of the claimed design.

1 Claim, 5 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

8,869,904 B2 *	10/2014	Jani	.....	E21B 33/134	166/117.5	2013/0048272 A1 *	2/2013	VanLue	.....	E21B 33/128	166/118
8,997,853 B2 *	4/2015	VanLue	.....	E21B 33/128	166/118	2013/0048313 A1 *	2/2013	VanLue	.....	E21B 33/128	166/387
9,074,439 B2 *	7/2015	VanLue	.....	E21B 33/128		2013/0048314 A1 *	2/2013	VanLue	.....	E21B 33/128	166/387
9,097,095 B2 *	8/2015	VanLue	.....	E21B 33/128		2015/0167424 A1 *	6/2015	Richards	.....	E21B 33/134	166/386
9,103,177 B2 *	8/2015	VanLue	.....	E21B 33/128		2015/0198008 A1 *	7/2015	Smith	.....	E21B 33/134	166/386
D762,737 S *	8/2016	Fitzhugh	.....	D15/21		2015/0354313 A1 *	12/2015	McClinton	.....	E21B 23/06	166/135
D763,324 S *	8/2016	Fitzhugh	.....	D15/21		2016/0145957 A1 *	5/2016	Davies	.....	E21B 23/01	166/382
9,725,982 B2 *	8/2017	VanLue	.....	E21B 33/129		2016/0160602 A1 *	6/2016	Ruffo	.....	E21B 33/1216	166/386
2008/0264627 A1 *	10/2008	Roberts	.....	E21B 23/01	166/118	2016/0290096 A1 *	10/2016	Tse	.....	E21B 33/129	
2011/0259610 A1 *	10/2011	Shkurti	.....	E21B 33/1204	166/386	2017/0101835 A1 *	4/2017	Webster	.....	E21B 23/01	
2012/0097384 A1 *	4/2012	Valencia	.....	E21B 33/1204	166/134	2017/0101836 A1 *	4/2017	Webster	.....	E21B 33/1293	
2012/0125631 A1 *	5/2012	Entchev	.....	E21B 33/12	166/376	2017/0234103 A1 *	8/2017	Frazier	.....	E21B 33/1291	166/138
2012/0292052 A1 *	11/2012	Xu	.....	E21B 33/134	166/386	2017/0234108 A1 *	8/2017	Xu	.....	E21B 34/12	166/373
2013/0014958 A1 *	1/2013	Jani	.....	E21B 33/134	166/386	2017/0260823 A1 *	9/2017	Roseman	.....	E21B 33/128	
2013/0048271 A1 *	2/2013	VanLue	.....	E21B 33/128	166/118	2017/0260824 A1 *	9/2017	Kellner	.....	E21B 33/1293	
						2017/0268310 A1 *	9/2017	Shkurti	.....	E21B 33/129	

* cited by examiner

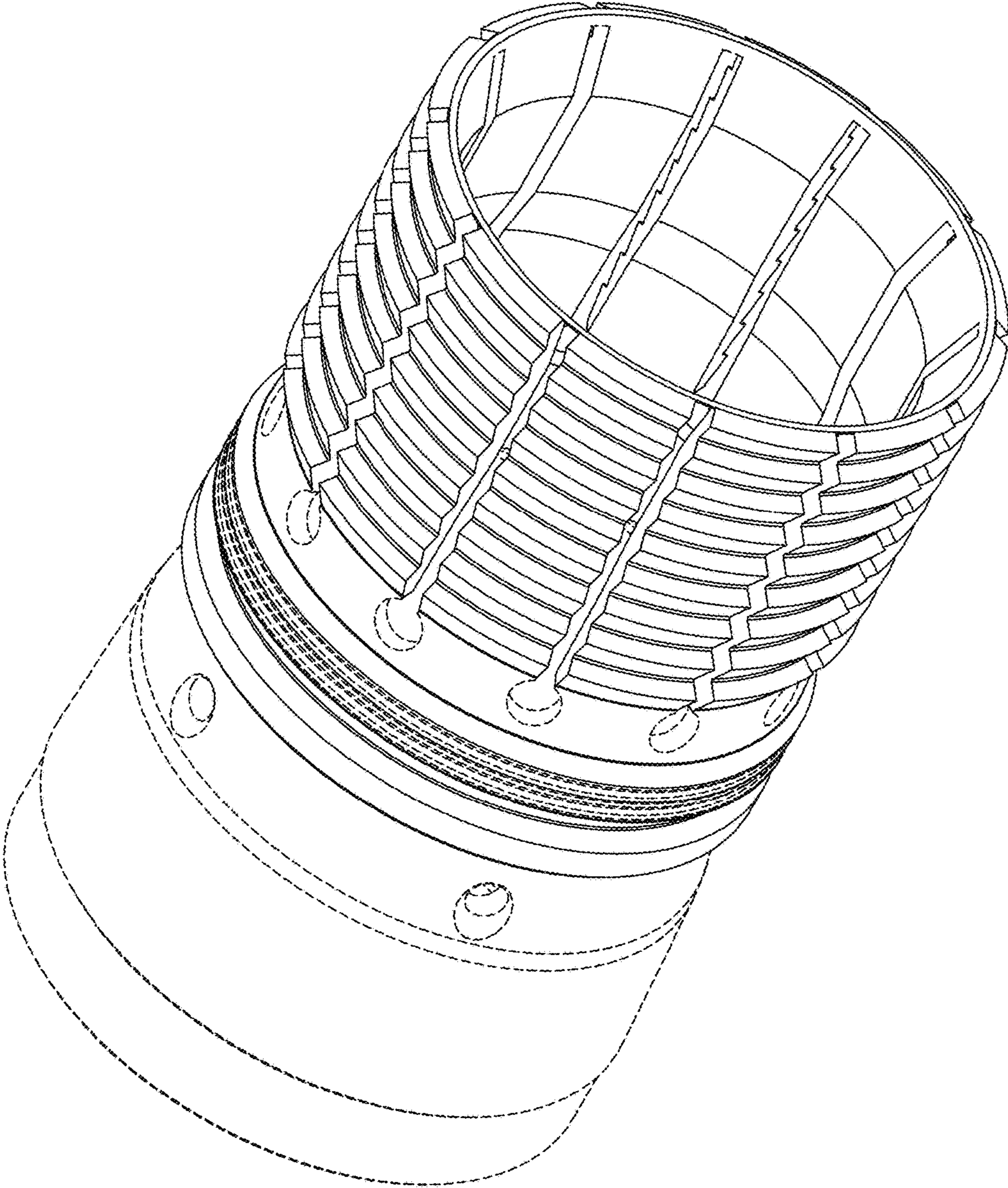


FIG. 1

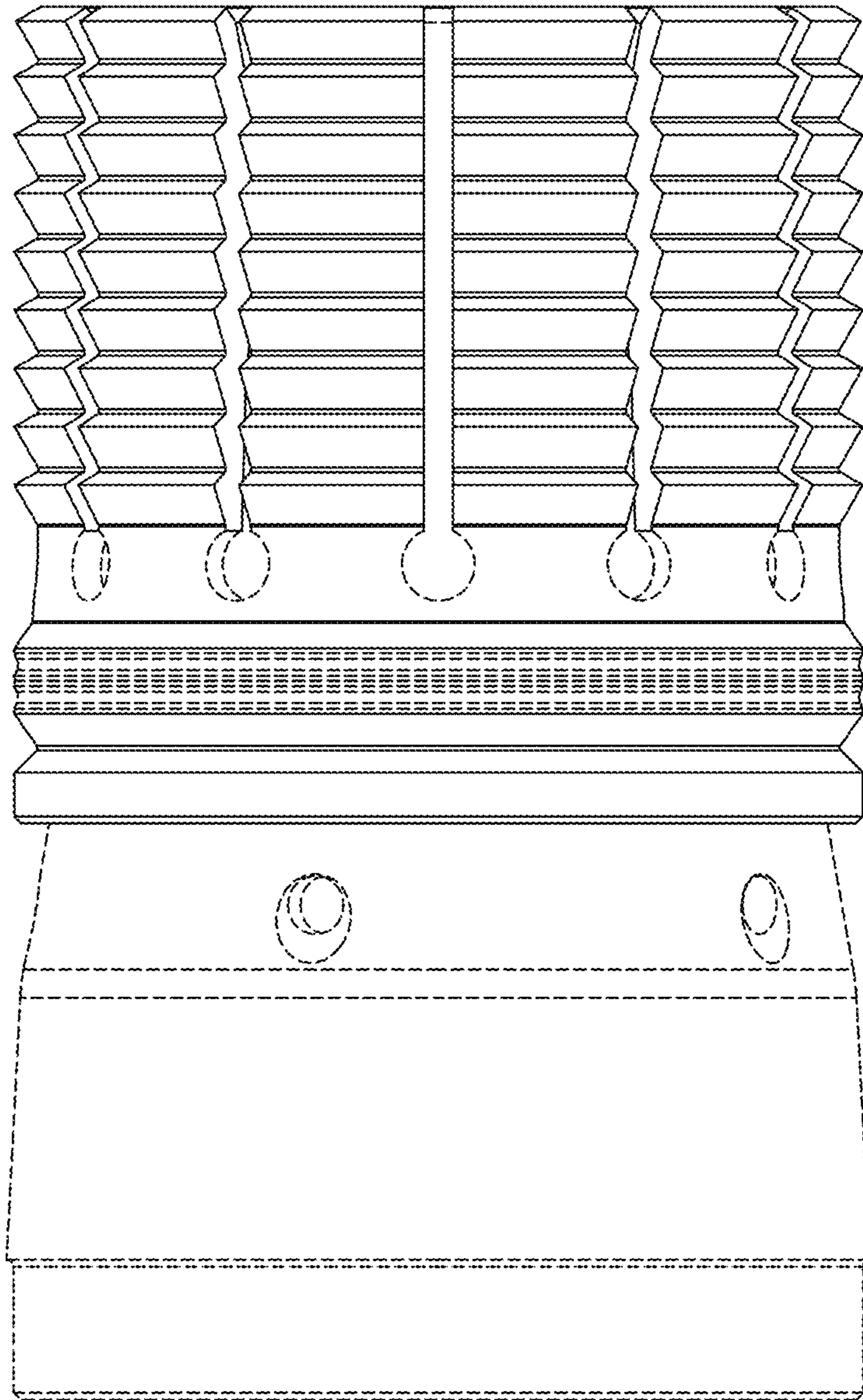


FIG. 2

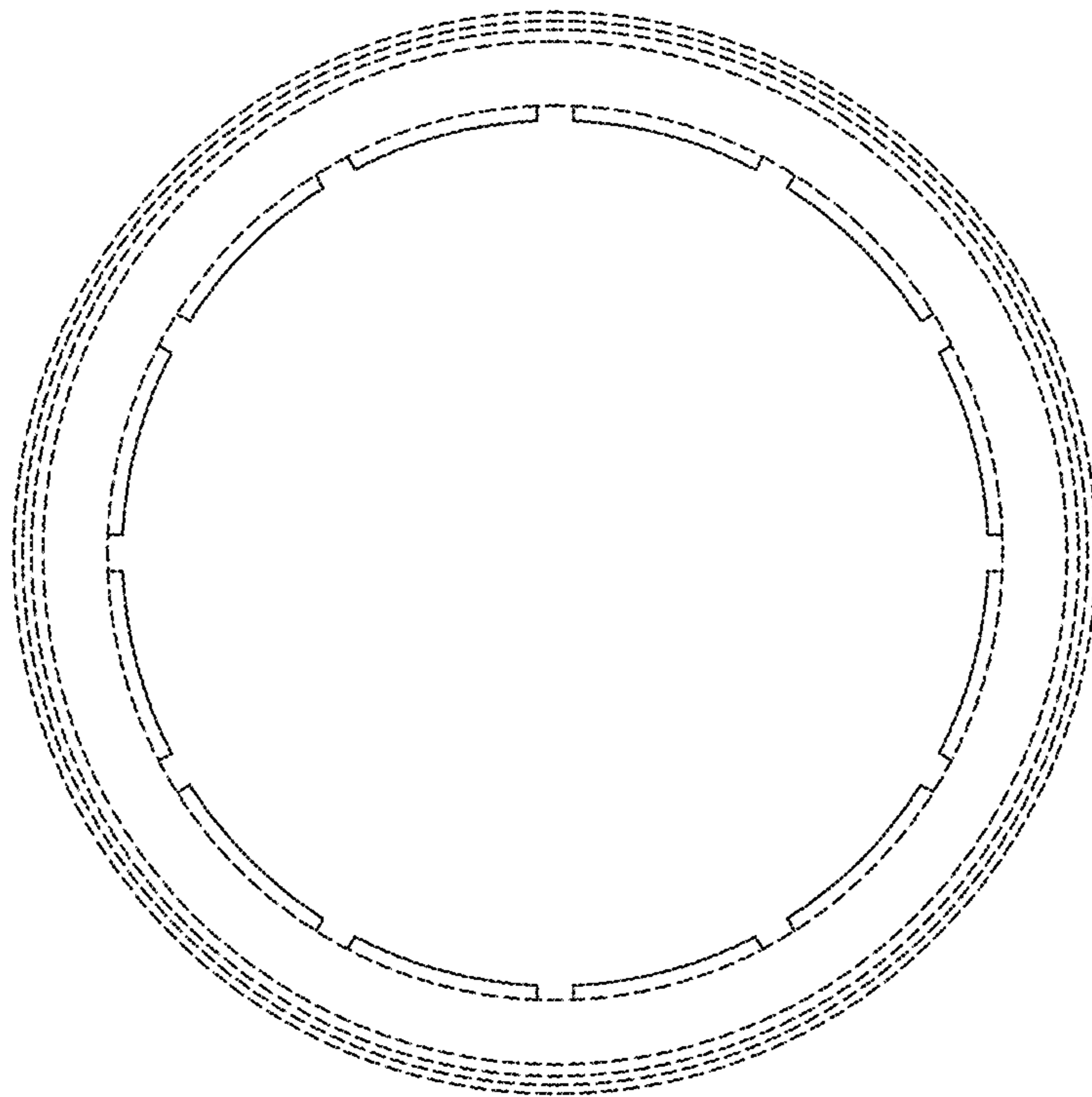


FIG. 3

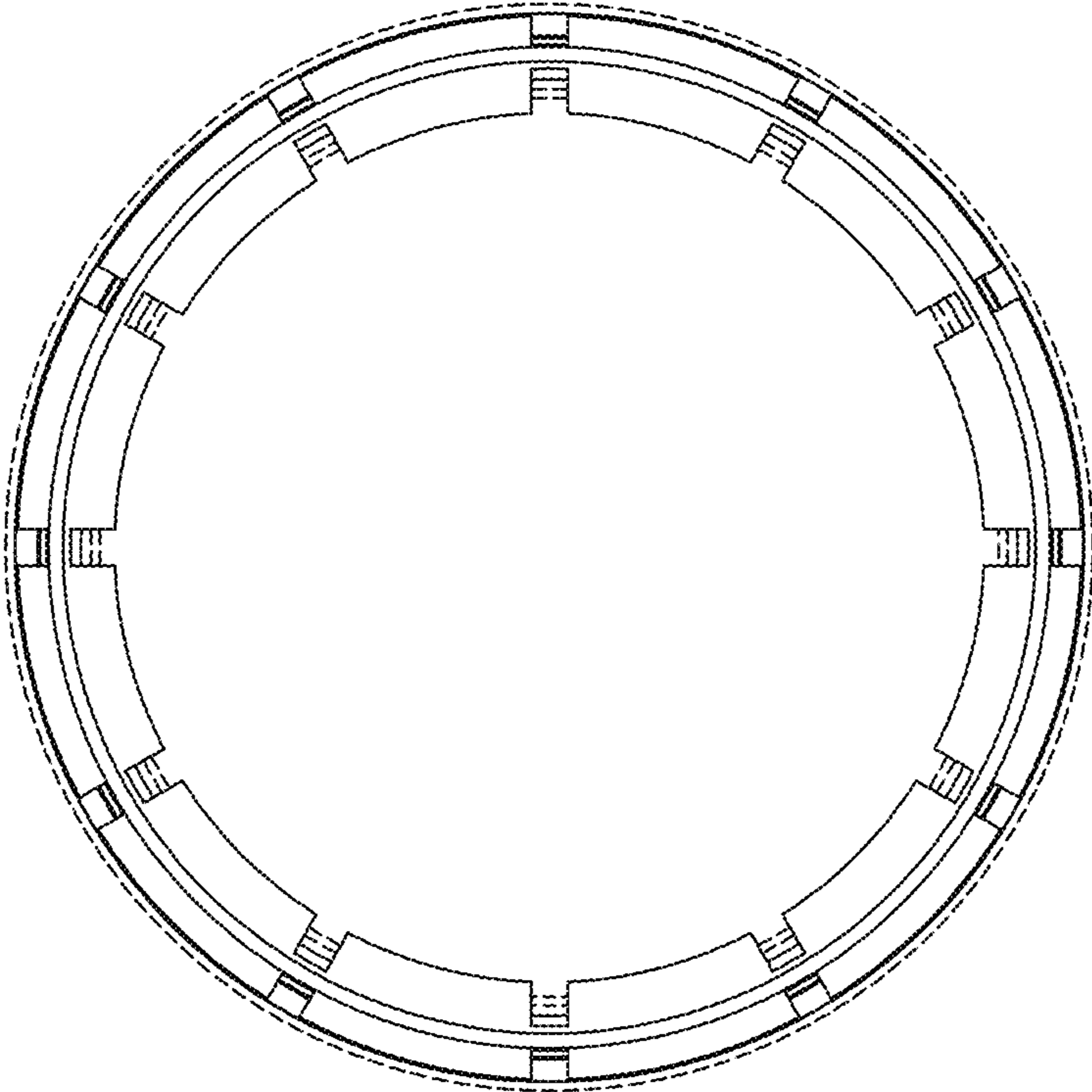


FIG. 4

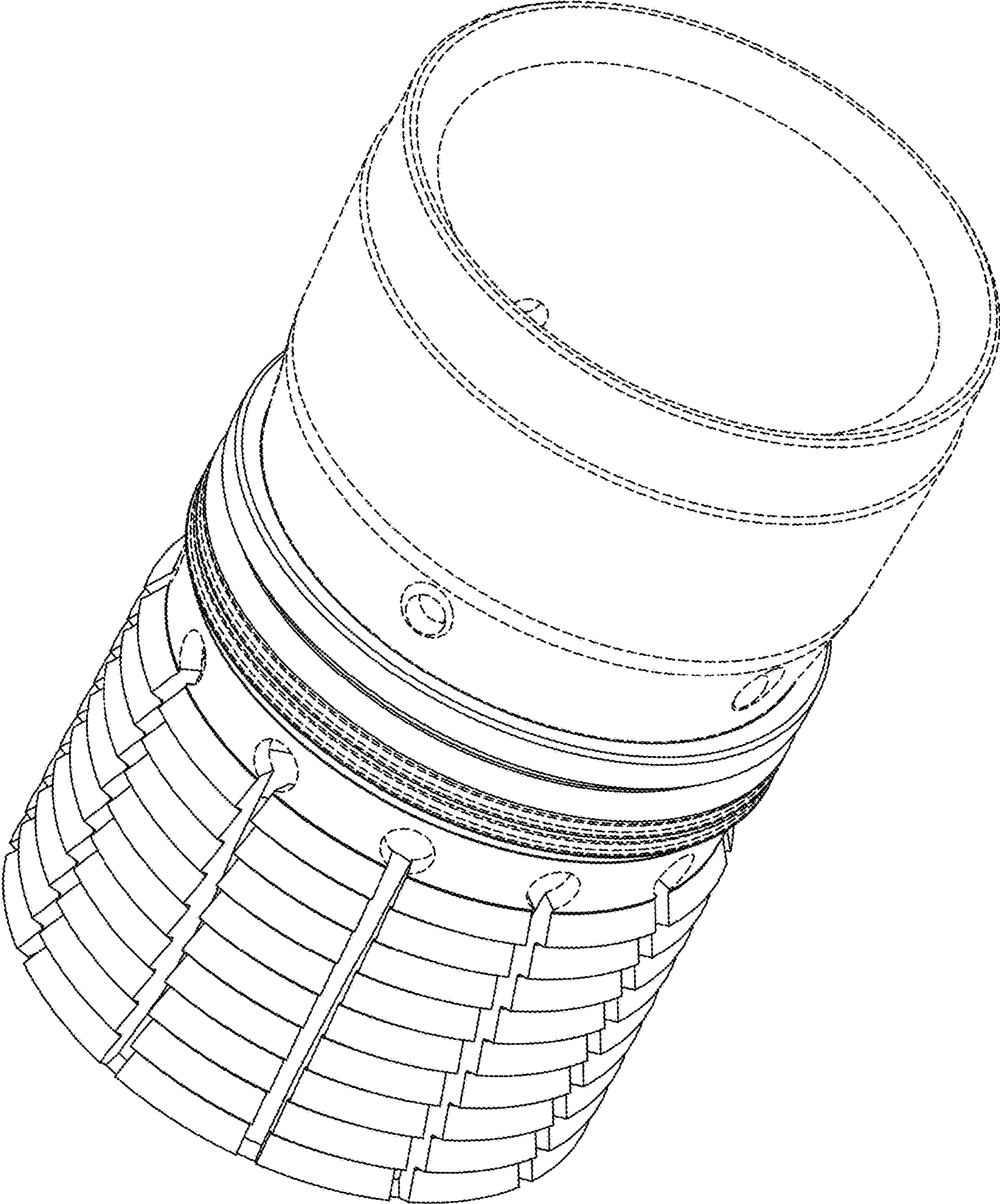


FIG. 5