



US00D736260S

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

(10) **Patent No.:** **US D736,260 S**

(45) **Date of Patent:** **** Aug. 11, 2015**

(54) **COMPOSITE DIFFERENTIAL PISTON**

(75) Inventors: **Kelly A. Williams**, South Lyon, MI (US); **Javed A. Mapkar**, Farmington Hills, MI (US); **Gregory L. Heatwole**, Marshall, MI (US); **Daniel S. Frazier**, Kalamazoo, MI (US)

(73) Assignee: **Eaton Corporation**, Cleveland, OH (US)

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

(21) Appl. No.: **29/426,321**

(22) Filed: **Jul. 3, 2012**

(51) **LOC (10) Cl.** **15-01**

(52) **U.S. Cl.**
USPC **D15/5**

(58) **Field of Classification Search**
USPC D15/1-6, 148, 149, 199; 192/85.02, 192/103 F, 85, 88, 70, 11; D12/160, 159; 475/226, 150, 151, 152, 153, 154, 249, 475/248, 231; 180/305
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,057,158	A *	10/1936	Moffitt	.....	92/76
3,490,312	A *	1/1970	Dehart et al.	.....	475/88
4,214,507	A	7/1980	Hock et al.		
6,059,680	A *	5/2000	Yoshioka	.....	475/88
6,109,615	A *	8/2000	Gildea et al.	.....	277/349
6,238,315	B1 *	5/2001	Morse et al.	.....	475/88
6,332,522	B1 *	12/2001	Morse et al.	.....	192/85.02
6,918,851	B2	7/2005	Ziech et al.		
7,063,198	B2 *	6/2006	Fratta et al.	.....	192/85.02
7,290,562	B2	11/2007	Kane		
7,318,509	B2 *	1/2008	Barlage	.....	192/54.3
7,341,136	B2 *	3/2008	Park	.....	192/85.02
7,749,124	B2 *	7/2010	Nakajima	.....	475/221

8,083,041	B2 *	12/2011	Capito et al.	.....	192/13 R
8,459,137	B1 *	6/2013	McCoy et al.	.....	74/473.29
8,763,777	B2 *	7/2014	Burns et al.	.....	192/85.02
2001/0041637	A1 *	11/2001	Leeper	.....	475/85
2005/0261101	A1 *	11/2005	Yoshioka	.....	475/231
2007/0045078	A1 *	3/2007	Park	.....	192/85 AA
2007/0289442	A1	12/2007	Waller et al.		
2008/0004151	A1 *	1/2008	Nakajima	.....	475/233
2008/0023918	A1	1/2008	Strasser et al.		
2008/0045371	A1 *	2/2008	Donofrio et al.	.....	475/230
2009/0193966	A1	8/2009	Phlegm et al.		
2010/0210391	A1 *	8/2010	Dinger	.....	475/149
2013/0239932	A1 *	9/2013	Jessberger et al.	.....	123/572
2014/0011619	A1 *	1/2014	Pohl et al.	.....	475/149

FOREIGN PATENT DOCUMENTS

JP	5256364	10/1993
JP	5272639	10/1993

(Continued)

Primary Examiner — T. Chase Nelson

Assistant Examiner — Ania Aman

(74) *Attorney, Agent, or Firm* — Dierker & Associates, P.C.

(57) **CLAIM**

The ornamental design for a composite differential piston, as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of a composite differential piston showing my new design;

FIG. 2 is a partial cutaway, front perspective view of FIG. 1 taken along the line 2-2 in FIG. 1;

FIG. 3 is a rear perspective view of FIG. 1;

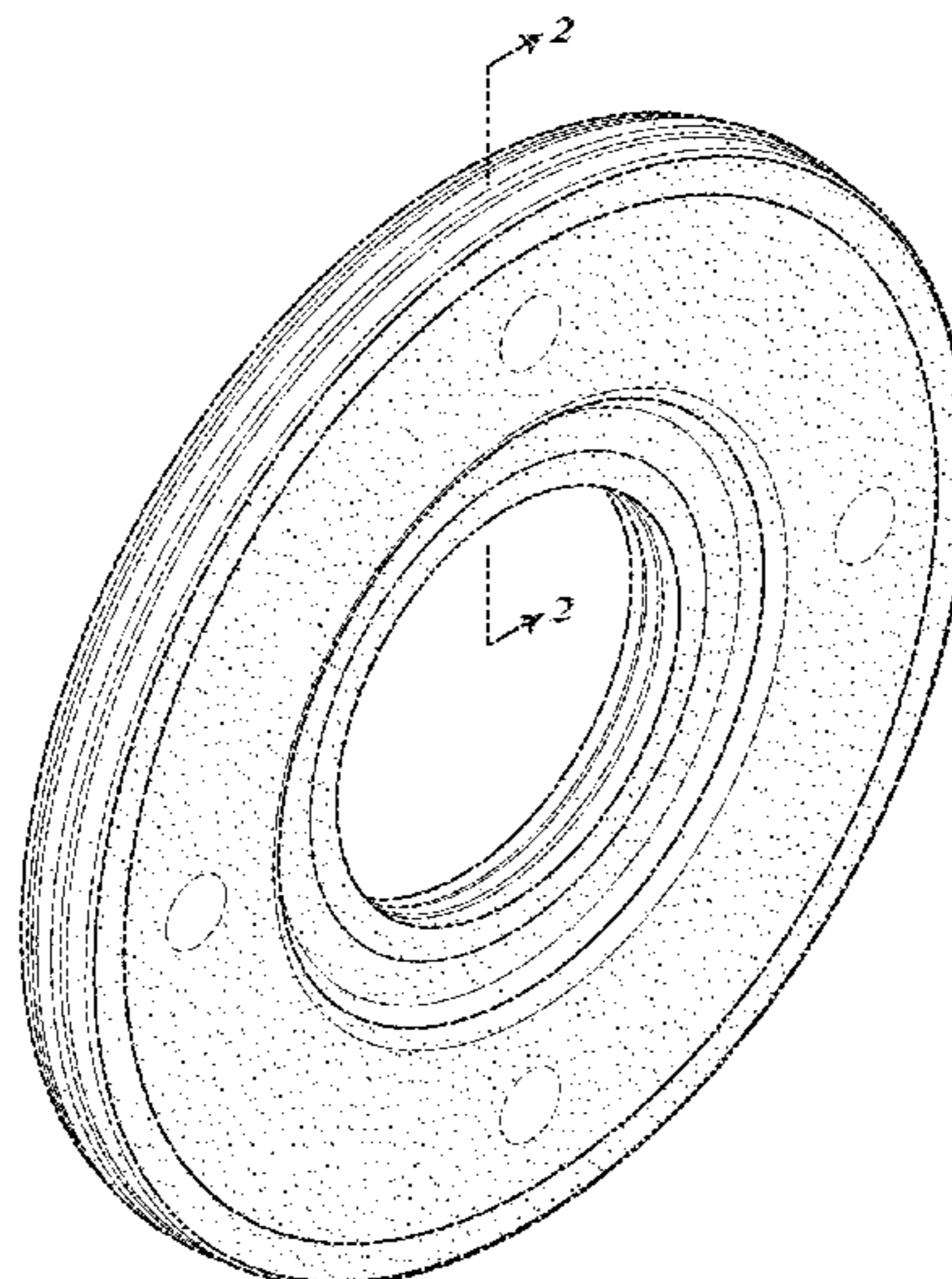
FIG. 4 is a front elevation view of FIG. 1;

FIG. 5 is a rear elevation view, rotated 180° of FIG. 1; and,

FIG. 6 is a right side elevation view of FIG. 1.

The broken lines shown in the drawings are for the purpose of illustrating portions of the article that form no part of the claimed design.

1 Claim, 6 Drawing Sheets



(56)

References Cited

WO WO 83/01284 4/1983
WO WO 2011/023747 3/2011

FOREIGN PATENT DOCUMENTS

JP

2007239972 9/2007

* cited by examiner

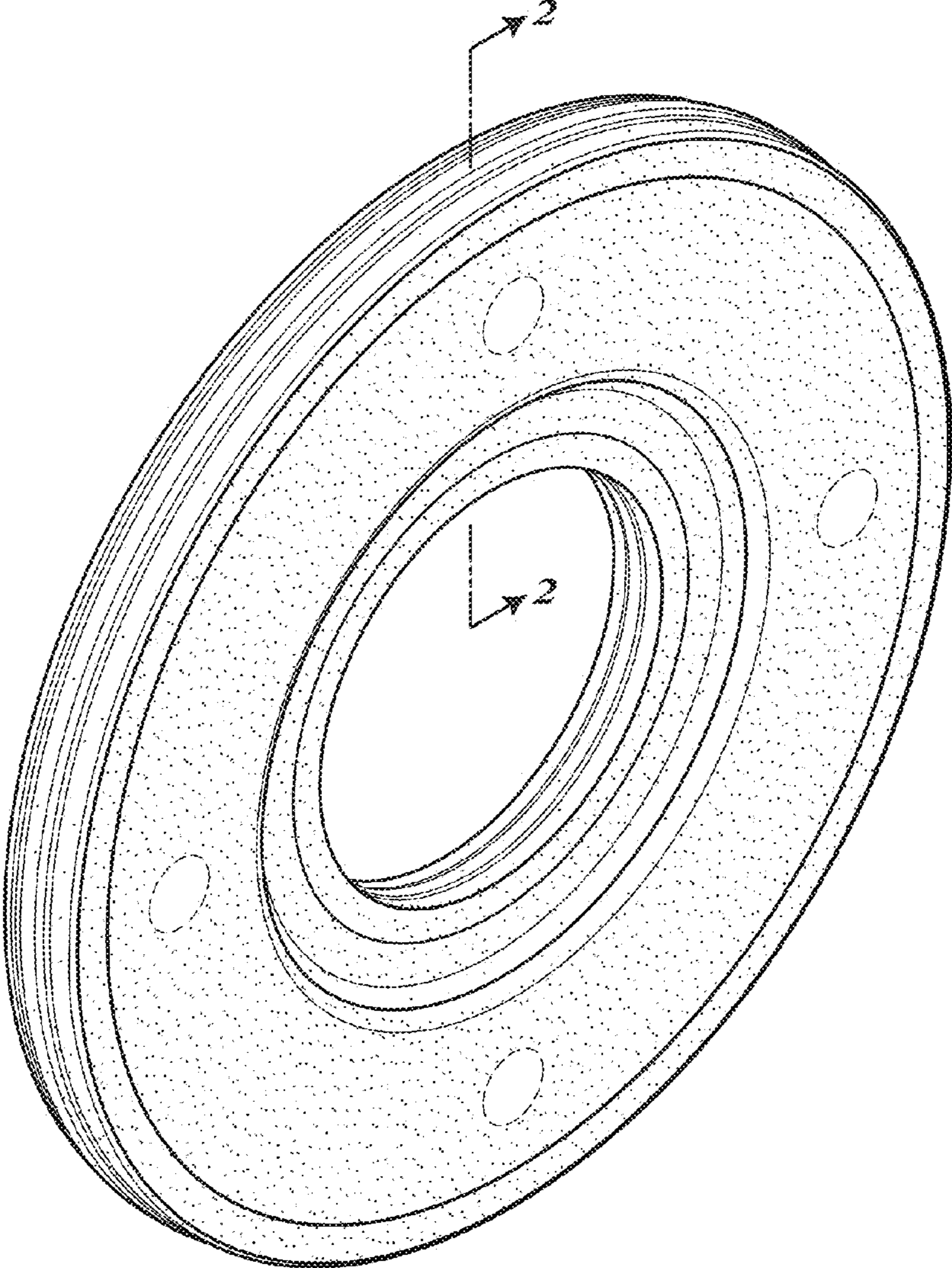


FIG. 1

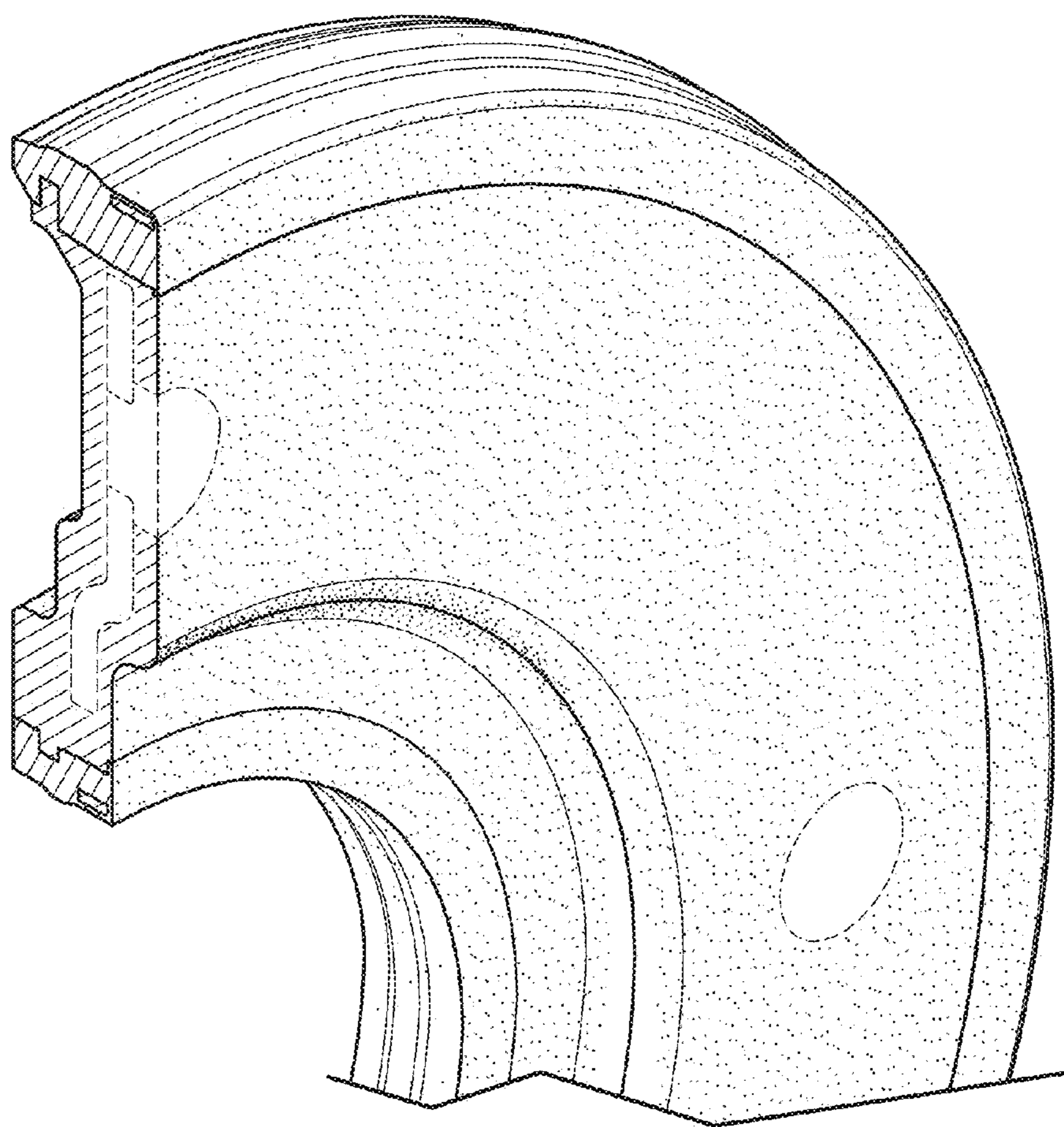


FIG. 2

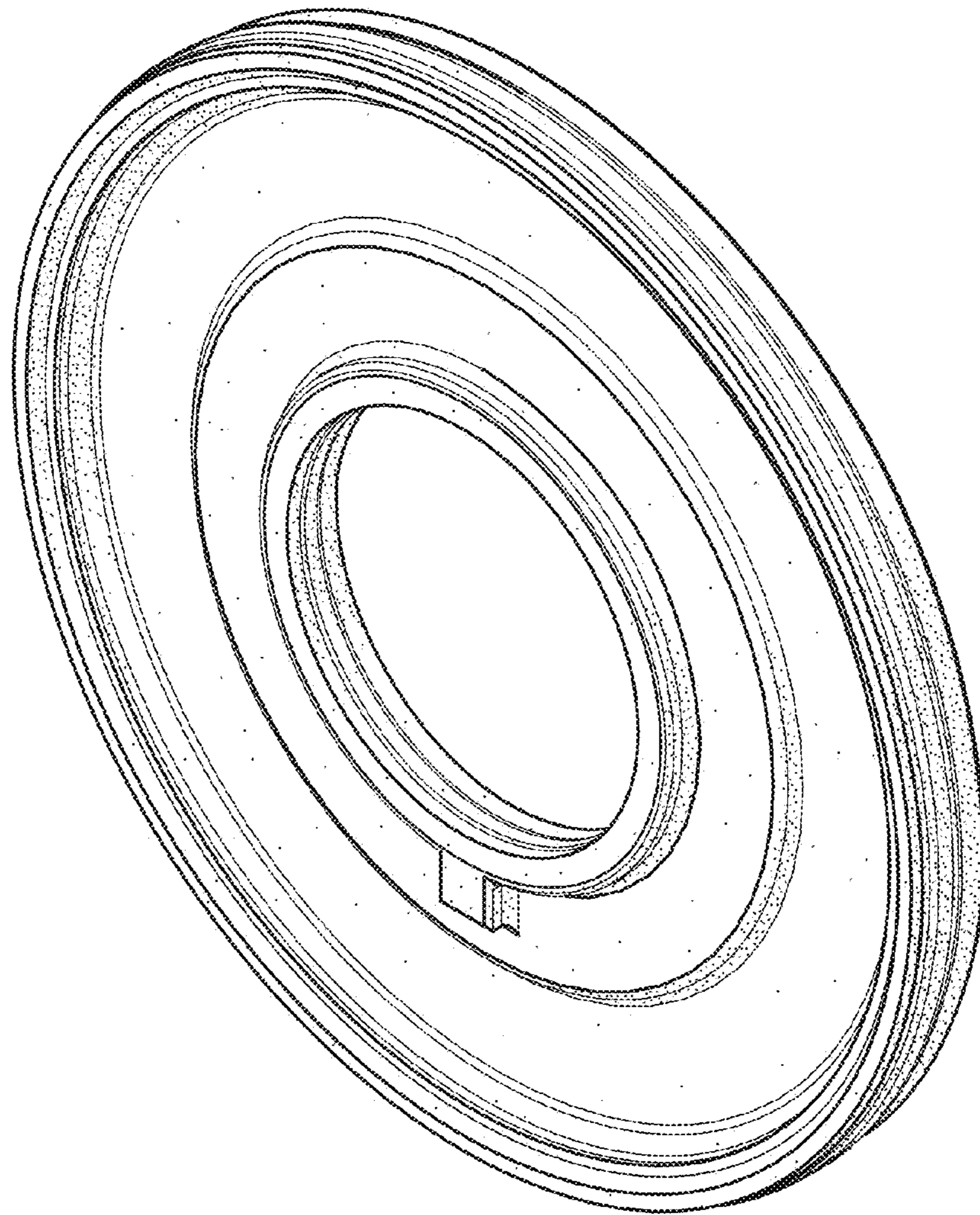


FIG.3

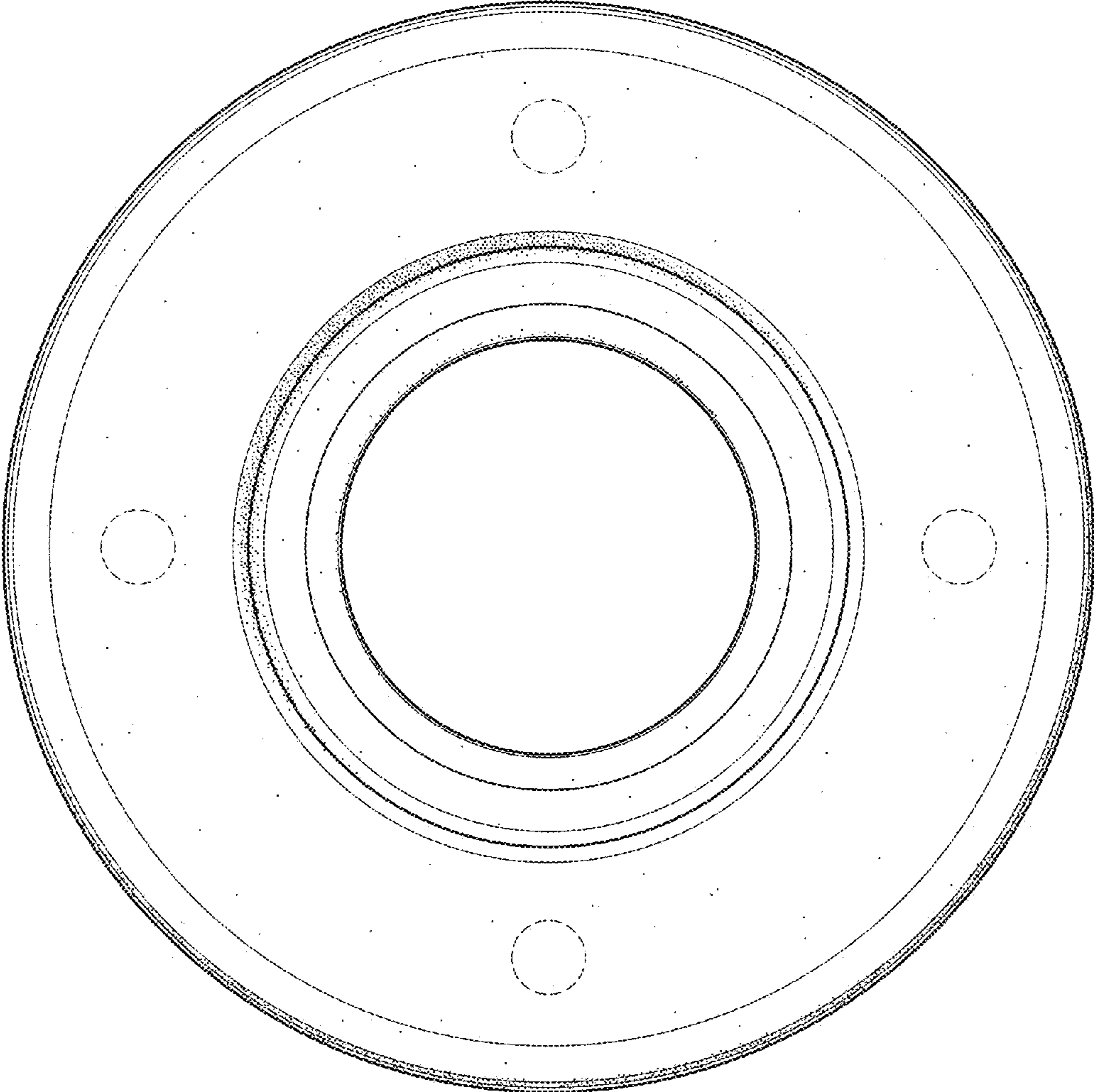


FIG. 4

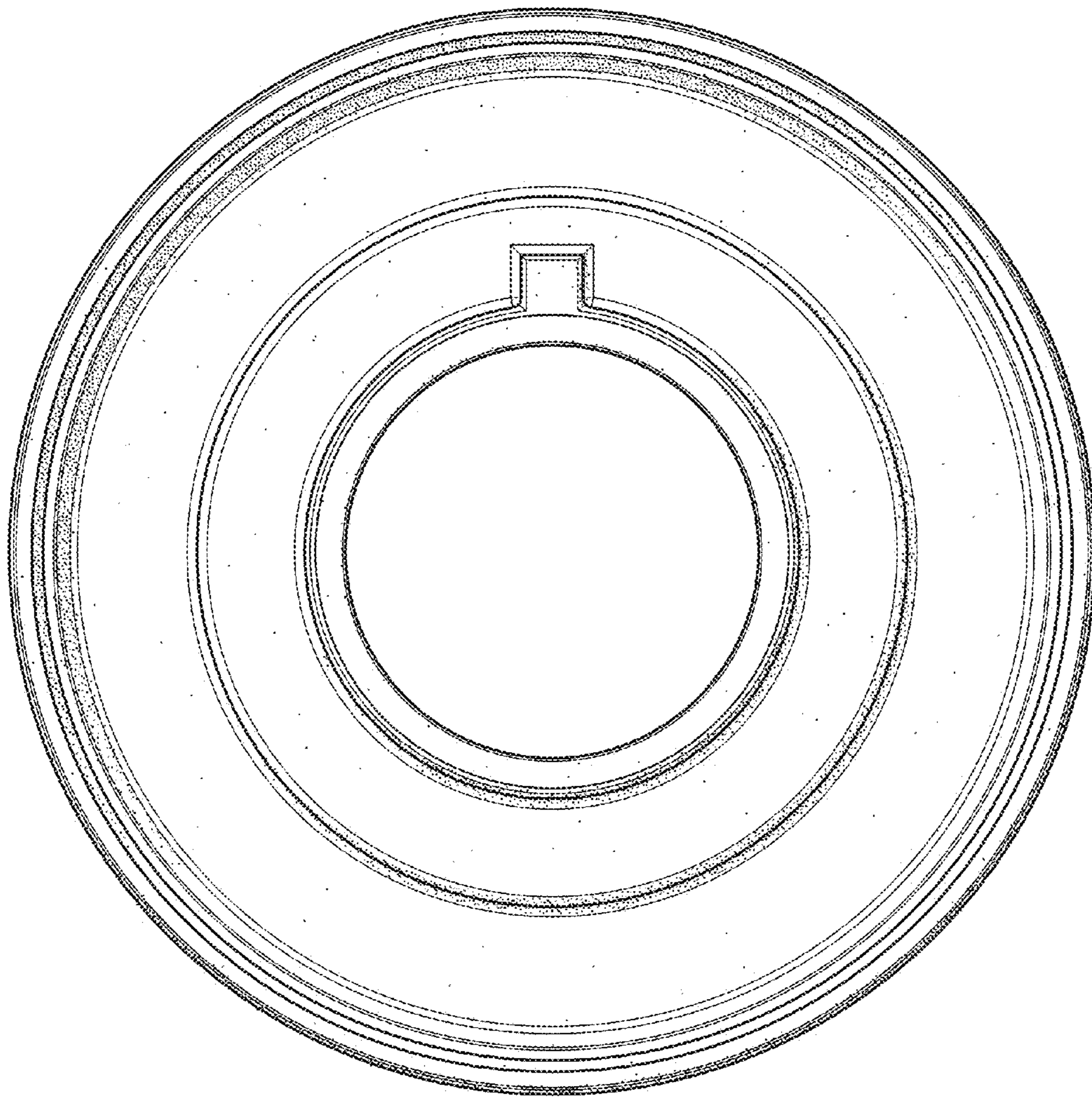


FIG. 5

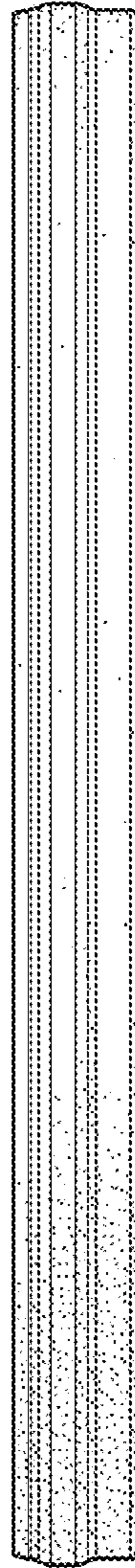


FIG. 6