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(12) **United States Design Patent** (10) **Patent No.:** **US D907,205 S**  
**Esarey et al.** (45) **Date of Patent:** **\*\* Jan. 5, 2021**

(54) **POWER OPERATED ROTARY EXCISION TOOL**

(56) **References Cited**

U.S. PATENT DOCUMENTS

- (71) Applicant: **EXSURCO MEDICAL, INC.**,  
Wakeman, OH (US)
- (72) Inventors: **Bernard J. Esarey**, Lorain, OH (US);  
**Christopher Binsack**, Bellevue, OH (US)
- (73) Assignee: **Exsurco Medical, Inc.**, Birmingham,  
OH (US)
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324,435 A	8/1885	Underwood
941,829 A	11/1909	Walder et al.
1,220,345 A	3/1917	Koster
1,374,988 A	4/1921	Cooper
1,379,153 A	5/1921	Young
1,476,345 A	9/1922	McGee
2,123,712 A	7/1938	Clark
2,263,431 A	11/1941	White
2,266,888 A	12/1941	McCurdy et al.
2,540,462 A	2/1951	Smith
2,582,511 A	1/1952	Stryker
2,730,100 A	1/1956	Hood
2,730,102 A	1/1956	Hood
2,827,657 A	3/1958	Bettcher
3,126,889 A	3/1964	Blumenfeld
3,197,808 A	8/1965	Mears
RE25,947 E	12/1965	Bettcher
3,269,010 A	8/1966	Bettcher
3,461,557 A	8/1969	Behring
3,670,734 A	6/1972	Hardy, Jr.
3,688,403 A	9/1972	Bettcher
4,082,232 A	4/1978	Brewer
4,142,291 A	3/1979	Bettcher
4,166,317 A	9/1979	Bettcher
4,170,063 A	10/1979	Bettcher
4,178,683 A	12/1979	Bettcher
4,198,750 A	4/1980	Bettcher
4,236,531 A	12/1980	McCullough
4,267,759 A	5/1981	Sullivan et al.
4,326,361 A	4/1982	McGill
4,363,170 A	12/1982	McCullough
4,439,924 A	4/1984	Bettcher
4,448,101 A	5/1984	Templeton
4,492,027 A	1/1985	Bettcher
4,494,311 A	1/1985	McCullough
4,509,261 A	4/1985	Bettcher
4,516,323 A	5/1985	Bettcher et al.
4,575,937 A	3/1986	McCullough
4,575,938 A	3/1986	McCullough
4,590,676 A	5/1986	Bettcher
4,609,227 A	9/1986	Wild et al.
4,637,140 A	1/1987	Bettcher
4,829,860 A	5/1989	VanderPol
4,854,046 A	8/1989	Decker et al.
4,858,321 A	8/1989	McCullough
4,909,640 A	3/1990	Nakanishi
5,099,721 A	3/1992	Decker et al.
5,163,288 A	11/1992	Doley
5,230,154 A	7/1993	Decker et al.

**Related U.S. Application Data**

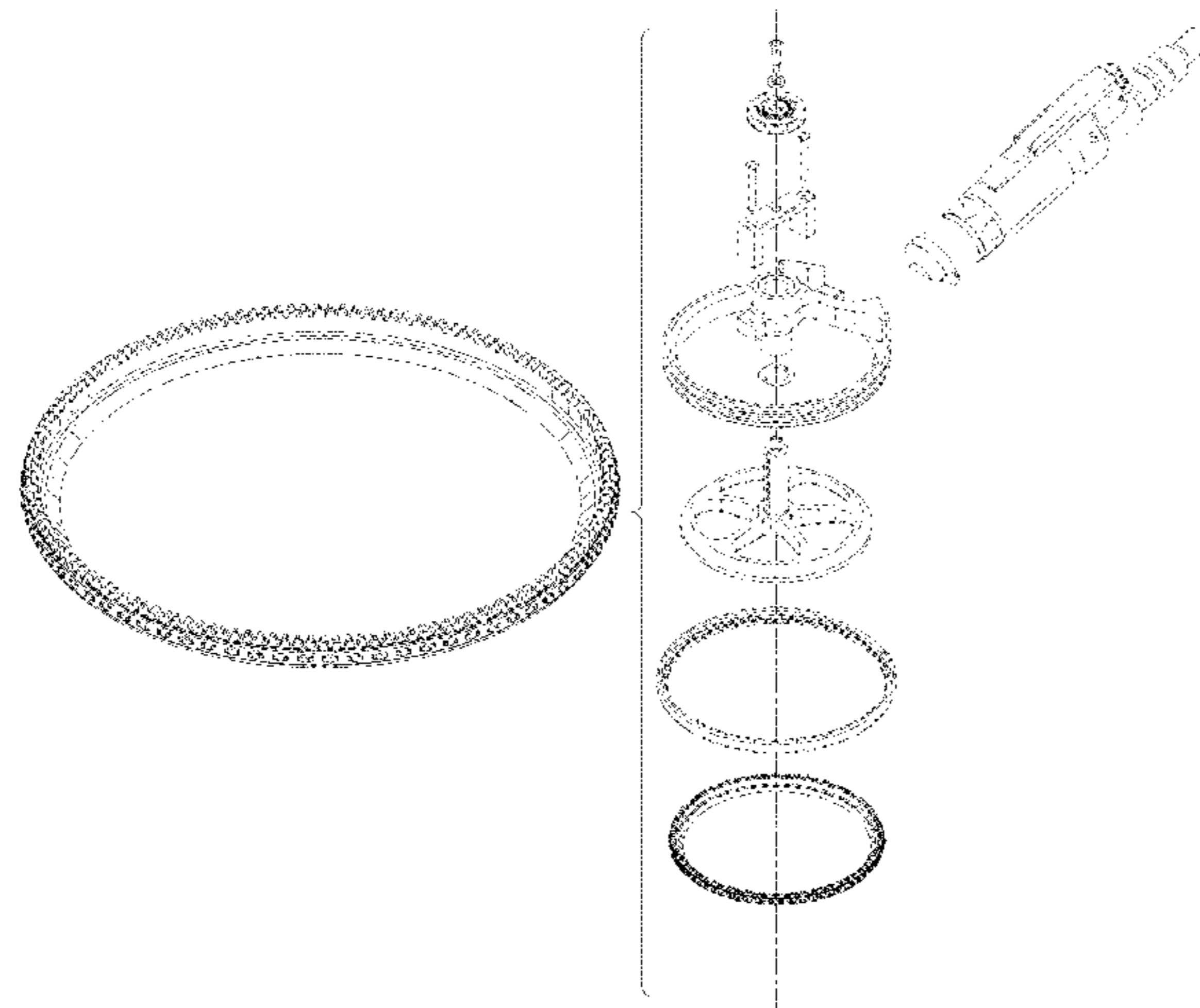
(63) Continuation of application No. 15/823,528, filed on Nov. 27, 2017, now Pat. No. 10,537,356, which is a continuation-in-part of application No. 14/741,012, filed on Jun. 15, 2015, now abandoned, which is a continuation-in-part of application No. 14/725,303, filed on May 29, 2015, now Pat. No. 10,022,146, which is a continuation of application No. 13/842,224, filed on Mar. 15, 2013, now Pat. No. 10,039,567, which is a continuation-in-part of application No. 13/606,836, filed on Sep. 7, 2012, now Pat. No. 9,592,076.

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(52) **U.S. Cl.**  
USPC ..... **D24/146**

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CPC ..... A61B 17/322; A61B 2017/00526; A61B 2090/033; A61B 2017/00398; A61B 2090/062; A61B 90/06; A61B 2017/00544; A61B 2090/061; B23B 2220/12; B23B 2200/202; B23P 15/28; B23P 15/406; A22B 5/16

See application file for complete search history.



5,331,877 A 7/1994 Ishii  
 5,419,610 A 5/1995 Lew  
 5,419,619 A 5/1995 Lew  
 5,522,142 A 6/1996 Whited  
 5,529,532 A 6/1996 Desrosiers  
 5,632,090 A 5/1997 Smith  
 5,664,332 A 9/1997 Whited et al.  
 5,692,307 A 12/1997 Whited et al.  
 5,761,817 A 6/1998 Whited et al.  
 5,940,972 A 8/1999 Baris et al.  
 5,971,413 A 10/1999 Kassouf  
 6,070,945 A 6/2000 Ritchey et al.  
 6,327,783 B1 12/2001 Ming  
 6,354,949 B1 3/2002 Baris et al.  
 6,460,254 B1 10/2002 Mori et al.  
 6,604,288 B2 8/2003 Whited et al.  
 6,615,494 B2 9/2003 Long et al.  
 6,665,943 B1 12/2003 Sloane et al.  
 6,694,649 B2 2/2004 Whited et al.  
 6,751,872 B1 6/2004 Whited et al.  
 6,769,184 B1 8/2004 Whited  
 6,857,191 B2 2/2005 Whited  
 6,880,249 B2 4/2005 Long et al.  
 6,978,548 B2 12/2005 Whited et al.  
 7,000,325 B2 2/2006 Whited  
 8,002,779 B2 8/2011 Barker et al.  
 8,037,611 B2 10/2011 Leveen  
 D664,654 S \* 7/2012 Cuschieri ..... D24/135  
 8,608,755 B2 12/2013 Mahaffey et al.  
 8,661,692 B2 3/2014 Whited et al.  
 8,739,416 B2 6/2014 Mascari et al.  
 8,752,299 B2 6/2014 Rosu et al.  
 8,756,819 B2 6/2014 Whited et al.  
 8,806,761 B2 8/2014 Whited et al.  
 8,814,881 B2 8/2014 Boles et al.  
 8,926,632 B2 1/2015 Mahaffey et al.  
 9,186,171 B2 11/2015 Esarey et al.  
 D745,153 S \* 12/2015 Dowdell ..... D24/108  
 D782,076 S \* 3/2017 Teufel ..... D25/146  
 D782,678 S \* 3/2017 Chong ..... D24/146  
 9,592,076 B2 3/2017 Esarey et al.  
 9,833,919 B2 \* 12/2017 Mascari ..... B26B 25/002  
 D819,817 S \* 6/2018 Weston ..... D24/146  
 10,022,146 B2 7/2018 Esarey et al.  
 10,039,567 B2 8/2018 Esarey et al.  
 10,040,211 B2 \* 8/2018 Whited ..... A22B 5/165  
 10,124,500 B2 \* 11/2018 Whited ..... B26B 25/00  
 2002/0096027 A1 7/2002 Whited et al.  
 2003/0070301 A1 4/2003 Herrmann et al.  
 2003/0084576 A1 5/2003 Whited  
 2003/0131482 A1 7/2003 Long et al.  
 2003/0196333 A1 10/2003 Whited  
 2004/0187316 A1 9/2004 Whited et al.  
 2004/0211067 A1 10/2004 Whited et al.  
 2005/0126015 A1 6/2005 Whited  
 2005/0178009 A1 8/2005 Whited  
 2005/0211067 A1 9/2005 Bee, Jr. et al.  
 2005/0217119 A1 10/2005 Rapp  
 2006/0037200 A1 2/2006 Rosu et al.  
 2006/0137193 A1 6/2006 Whited  
 2007/0283573 A1 12/2007 Levsen  
 2007/0283574 A1 12/2007 Levsen  
 2008/0022537 A1 1/2008 Clarke et al.  
 2008/0098805 A1 5/2008 Whited et al.  
 2008/0168667 A1 7/2008 Spinato  
 2008/0183109 A1 7/2008 Babaev  
 2009/0138027 A1 5/2009 Lucas et al.  
 2009/0157095 A1 6/2009 Barker et al.  
 2009/0227192 A1 9/2009 Luthi et al.  
 2010/0101097 A1 4/2010 Thien  
 2010/0228094 A1 \* 9/2010 Ortiz ..... A61B 17/3423  
 600/205  
 2011/0185580 A1 8/2011 Whited  
 2011/0247220 A1 10/2011 Whited et al.  
 2012/0138125 A1 6/2012 Hammermann et al.  
 2013/0025134 A1 1/2013 Mascari et al.  
 2013/0025139 A1 1/2013 Whited et al.  
 2013/0174424 A1 7/2013 Whited et al.  
 2014/0074118 A1 3/2014 Esarey et al.

2014/0074119 A1 3/2014 Esarey et al.  
 2014/0074120 A1 3/2014 Esarey et al.  
 2014/0236180 A1 8/2014 Shafirstein et al.  
 2016/0067096 A1 \* 3/2016 Weston ..... A61F 9/013  
 606/166  
 2016/0106451 A1 \* 4/2016 Esarey ..... A61B 17/322  
 606/132  
 2016/0345996 A1 \* 12/2016 Esarey ..... A61B 17/322  
 2018/0078275 A1 \* 3/2018 Esarey ..... A61B 17/322

FOREIGN PATENT DOCUMENTS

EP	0190827	8/1986
FR	1216947	4/1960
GB	1515047	6/1978
WO	WO 1991/17715	11/1991
WO	WO 2004/022290	3/2004
WO	WO 2007/034438	3/2007
WO	WO 2015/195666	12/2015
WO	WO 2016/196206	12/2016

OTHER PUBLICATIONS

Amalgatome SD <https://exsurco.com/product/amalgatome-sd-skin-grafting-wound-debridement/> Date Unknown.\*  
 Oct. 3, 2011 Decision and Opinion of the United States Court of Appeals for the Federal Circuit (Appeal No. 2011-1038-1046) regarding the case styled *Bettcher industries, Inc. v. Bunzl USA, Inc. and Bunzl Processor Distribution, LLC*, Case No. 3:08 CV 2423, U.S. District Court for the Northern District of Ohio, Judge Zouhary. The Decision and Opinion relates to U.S. Pat. No. 7,00,325, owned by a related company of the assignee of the present application, (47 pages).  
 Ameer, et al., "Evolution of Instruments for Harvest of the Skin Grafts," *Indian Journal of Plastic Surgery* Jan.-Apr. 2013, 46(1); pp. 28-35.  
 PCT international Search Report and Written Opinion dated Jul. 29, 2016 for PCT/US2016/034370, International filed May 26, 2016. PCT International Application No. PCT/US2016/034370 corresponds to U.S. Appl. No. 14/725,303, filed May 29, 2015, issued as U.S. Pat. No. 10,022,146 on Jul. 17, 2018, (10 pages).  
 PCT International Search Report and Written Opinion dated Feb. 22, 2018 for PCT International Application No. PCT/US2017/063418, International filed Nov. 28, 2017. PCT/US2017/063418 corresponds to U.S. Appl. No. 15/823,528 filed Nov. 27, 2017. (12 pages).  
 Catalog entitled "Ball Bearing Cages", Publication No. WLK 100 E, Publication Date—Sep. 2004, Published by International Customized Bearings. (34 pages).  
 Operators Manual for Integra Model C Air Dermatome Manufactured by Integra LifeSciences Corporation, Copyright 2009, Cincinnati, OH (82 pages).  
 Instruction Manual for Zimmer™ Air Dermatome, Manufactured by Zimmer Surgical, Inc., Dover, OH, Copyright 1992 (127 pages).  
 Operators Manual, Integra TM, Model SB Dermatome, Manufactured by Integra LifeScience Corporation, Plainsboro, New Jersey, Copyright 2005 (6 pages).  
 Informational Brochure for Humecca Dermatome Blades, Manufactured by Humecca BV, Enschede, The Netherlands, publication date Oct. 2008 (1 page).  
 Image of Super Gyros Knife-Metal, manufactured by Optimal Automatics, Inc., Chicago, IL. Advertisement [online]. Retrieved from the Internet: URL:<http://www.autodoner.com/autodoner/products/gyro-knife/super-gyros-knife-metal.aspx>. (3 pages).  
 14 Photographs of Super Gyros Knife, Model P, Manufactured by Optimal Automatics, Inc., Chicago, IL. (6 pages).  
 3 Photographs of Power Operated Gyros Knife, Manufacturer, Unknown. (3 pages).  
 Image of Super Gyros Knife-Plastic, manufactured by Optimal Automatics, Inc., Chicago, IL. Advertisement [online]. Retrieved from the Internet: URL:<http://www.autodoner.com/autodoner/products/gyro-knife/super-gyros-knife-plastic.aspx>. (4 pages).

International Search Report dated Dec. 12, 2013 and Written Opinion of the International Searching Authority dated Dec, 12, 2013 for PCT International Application No. PCT/US2013/058142, filed Sep. 5, 2013. PCT/US2013/058142 corresponds to U.S. Appl. No. 13/842,224, filed Mar. 15, 2013, issued as U.S. Pat. No. 10,039,567, on Aug. 7, 2018, (9 pages).

\* cited by examiner

*Primary Examiner* — Samantha Q Lawrence  
(74) *Attorney, Agent, or Firm* — Tarolli, Sundheim,  
Covell & Tummino, LLP; John A. Yirga, Esq.

(57) **CLAIM**

The ornamental design for an annular blade, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective assembly view of an annular blade positioned within a power operated rotary excision tool in accordance with our ornamental design;  
FIG. 2 is a first upper perspective view thereof;  
FIG. 3 is a second upper perspective view thereof;  
FIG. 4 is a first lower perspective view thereof;  
FIG. 5 is a second lower perspective view thereof;  
FIG. 6 is a top plan view thereof;  
FIG. 7 is a bottom plan view thereof;  
FIG. 8 is a first front elevation view thereof, illustrating a first sixty-degree portion of three-hundred and sixty degrees of the annular blade;

FIG. 9 is a second front elevation view thereof, illustrating a second sixty-degree portion of three-hundred and sixty degrees of the annular blade;

FIG. 10 is a third front elevation view thereof, illustrating a third sixty-degree portion of three-hundred and sixty degrees of the annular blade;

FIG. 11 is a second front elevation view thereof, illustrating a fourth sixty-degree portion of three-hundred and sixty degrees of the annular blade;

FIG. 12 is an elevated section view of FIG. 6 along section lines 12-12;

FIG. 13 is a magnified view of a portion of FIG. 12 encircled dash-dot lines 13;

FIG. 14 is a magnified view of a portion of FIG. 12 encircled dash-dot lines 14;

FIG. 15 is an elevated section view of FIG. 6 along section lines 15-15;

FIG. 16 is a magnified view of a portion of FIG. 15 encircled dash-dot lines 16;

FIG. 17 is a magnified view of a portion of FIG. 15 encircled dash-dot lines 17; and,

FIG. 18 is an exploded assembly view of FIG. 1.

In the drawings, the broken lines depict environmental subject matter only and form no part of the claimed design. The dashed-dot lines illustrate a portion of a figure that is magnified in a subsequent figure and form no part of the claimed design. The dashed-dot-dot lines illustrate boundary lines and form no part of the claimed design. The dashed-dashed-dot lines illustrate section lines and form no part of the claimed design.

**1 Claim, 9 Drawing Sheets**

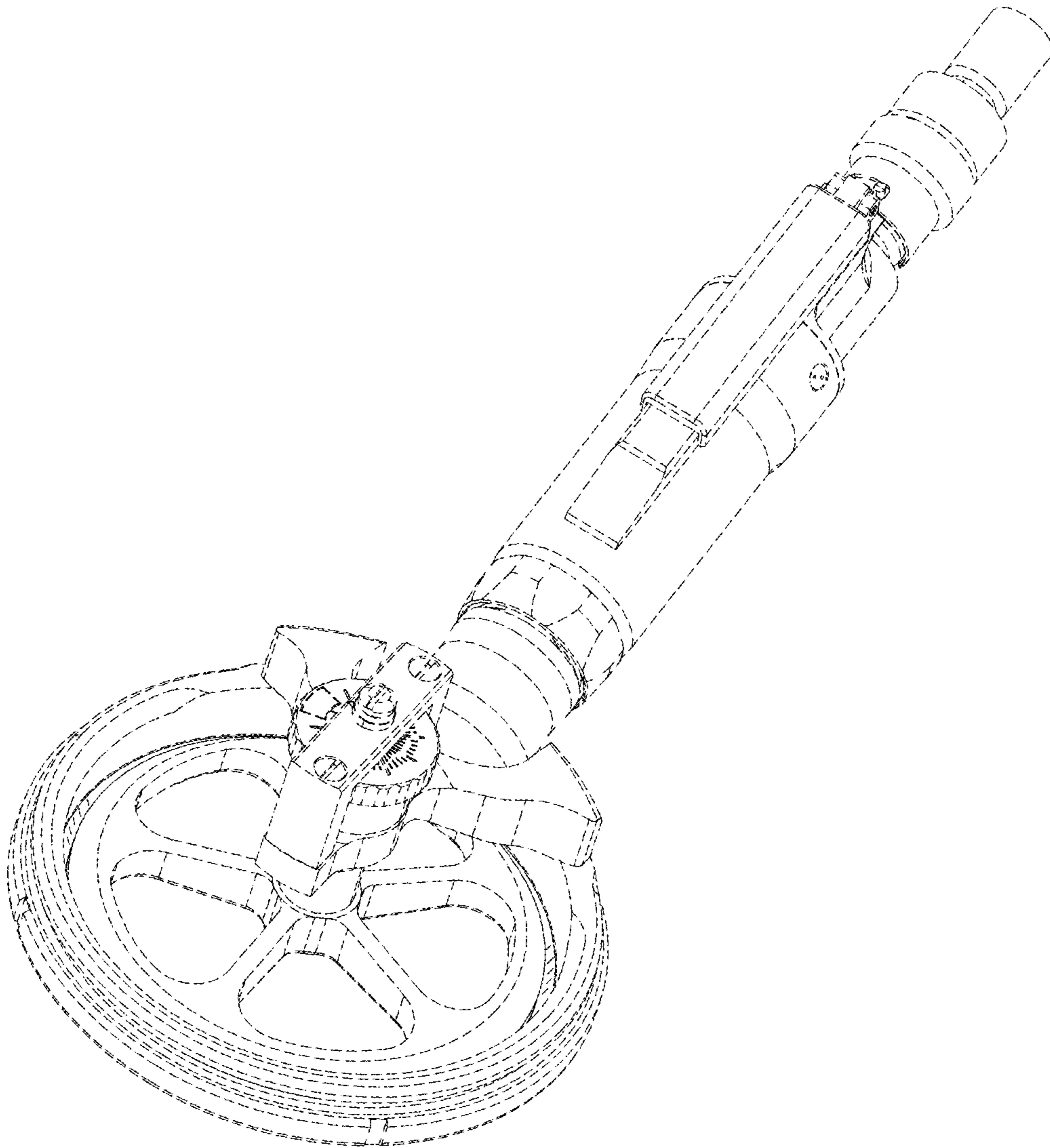


FIG. 1

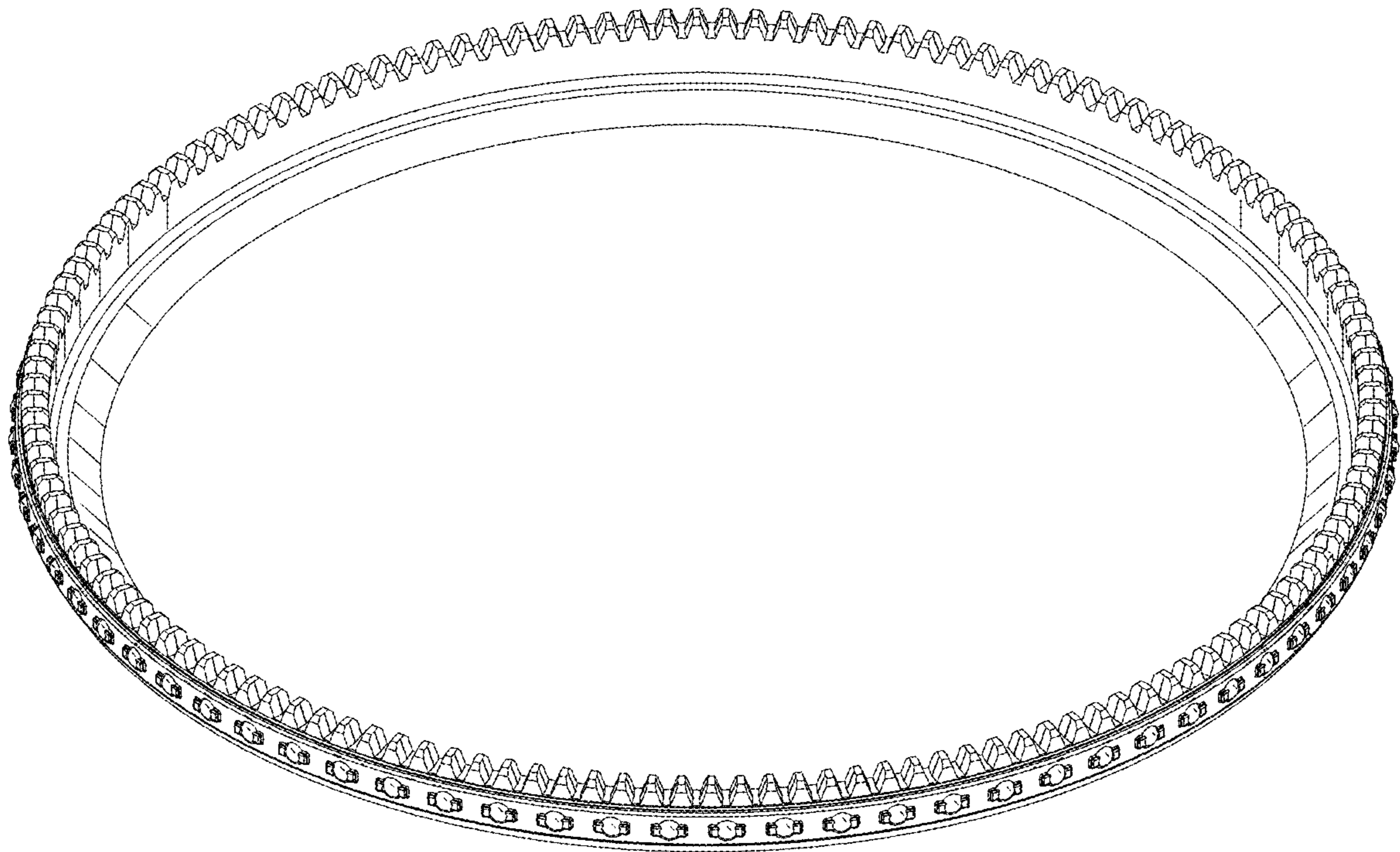


FIG. 2

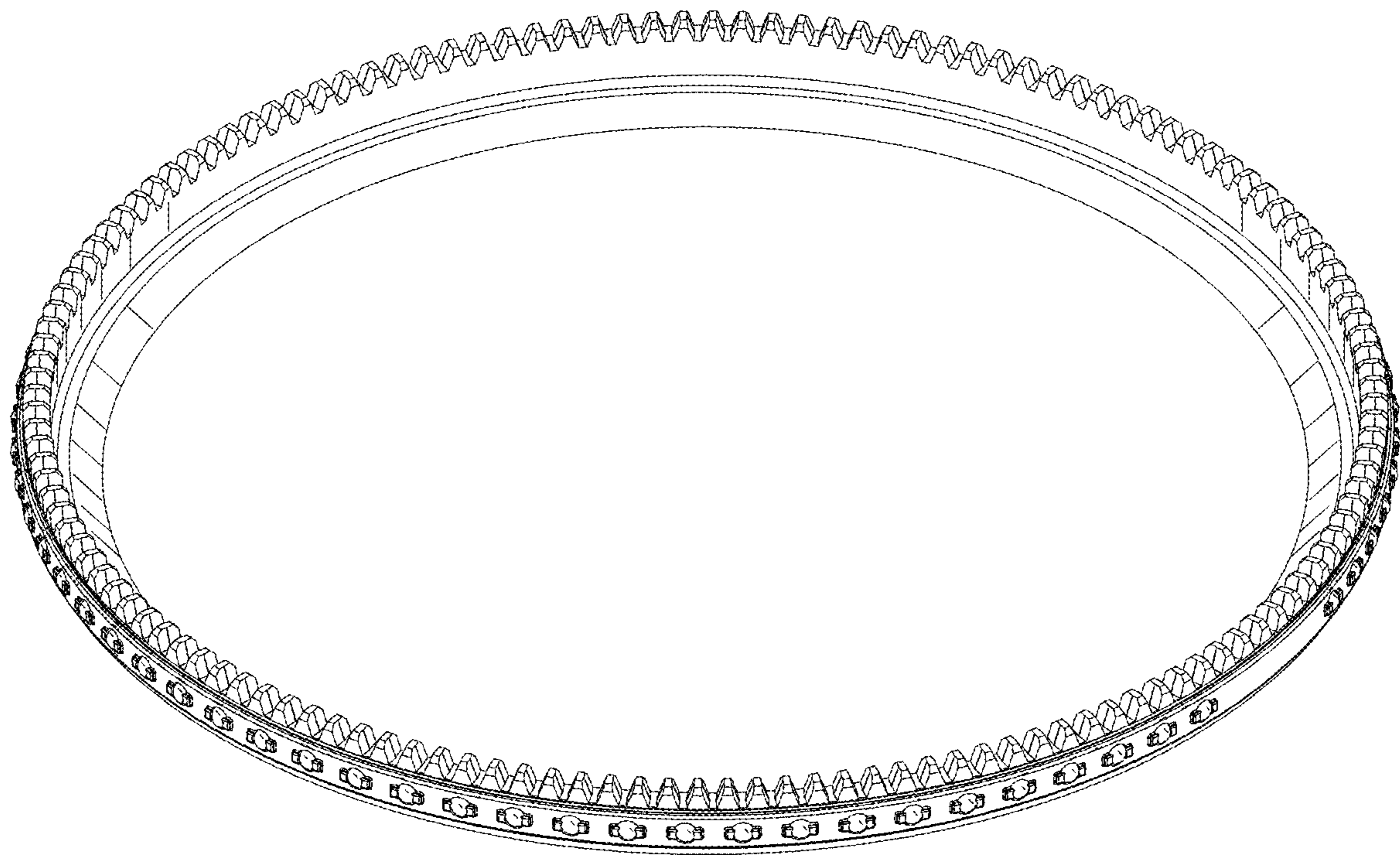


FIG. 3

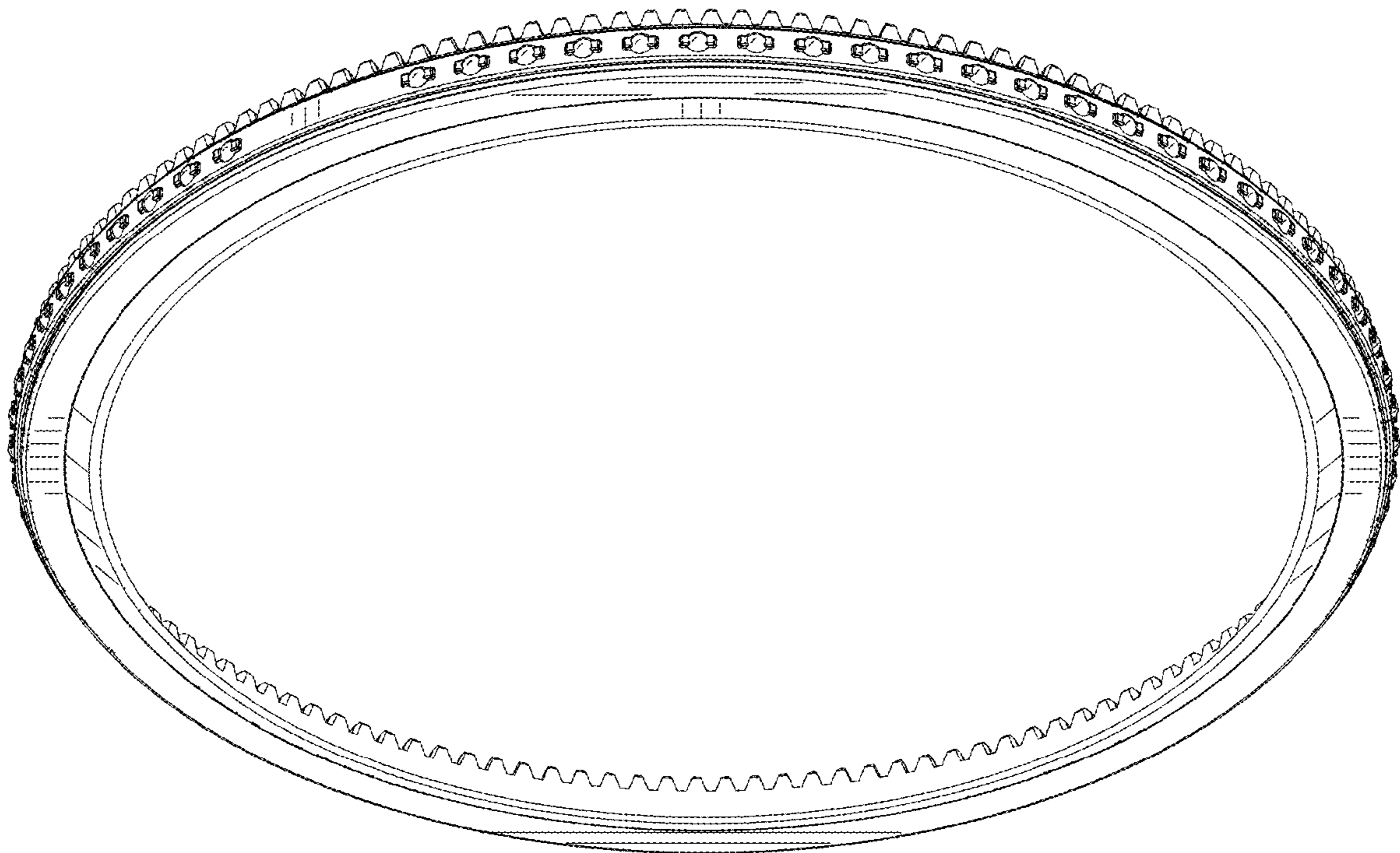


FIG. 4

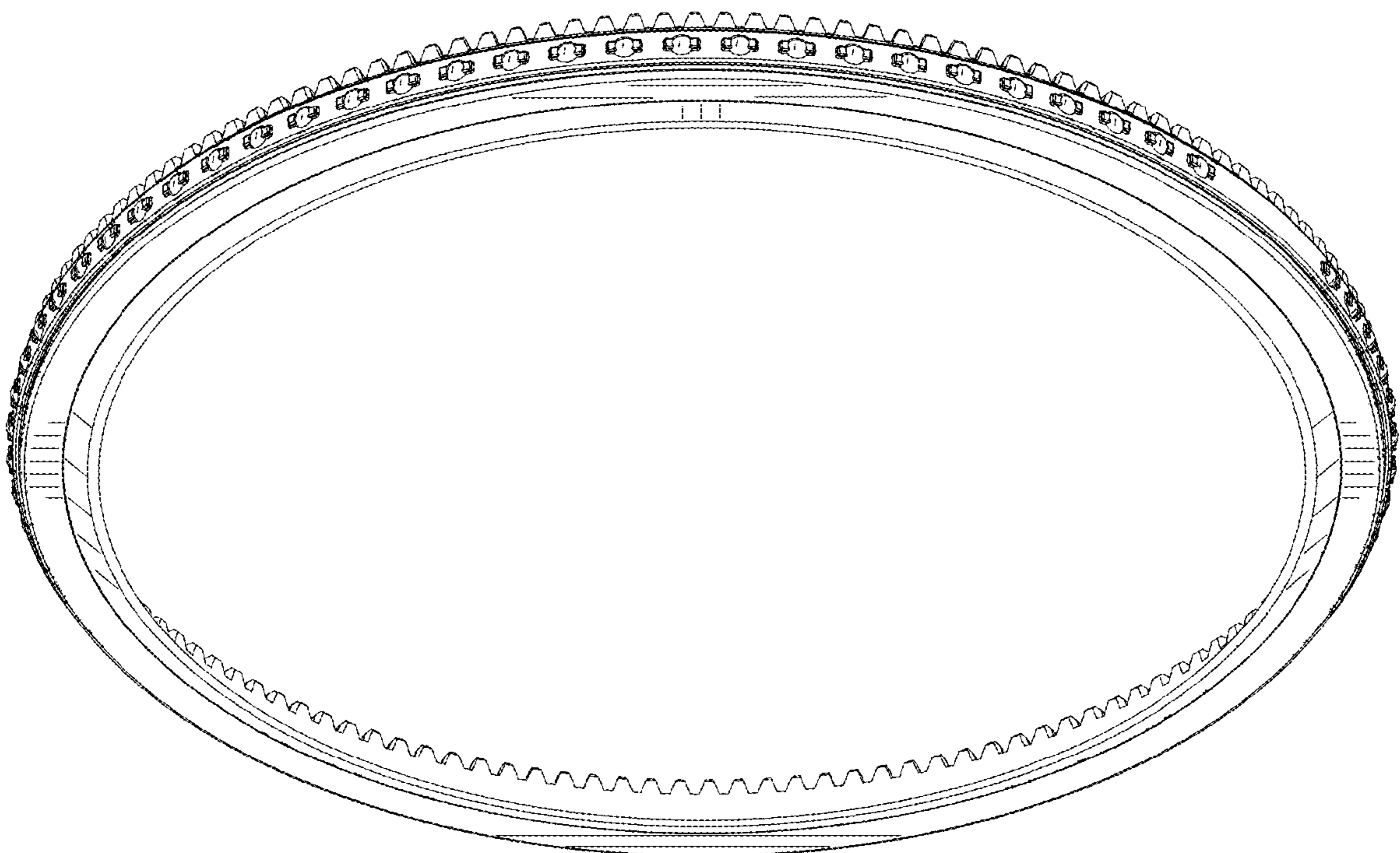


FIG. 5

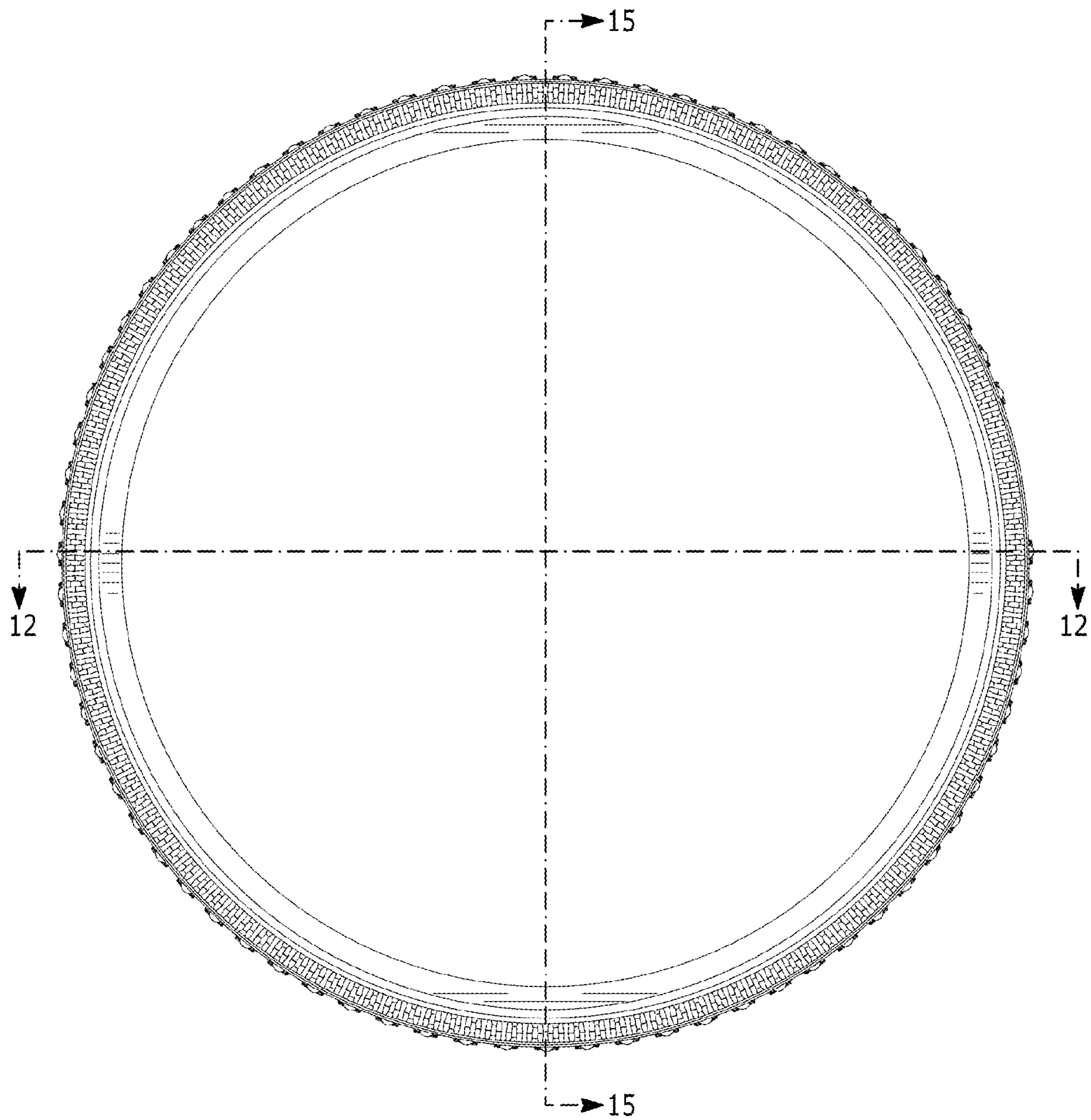


FIG. 6

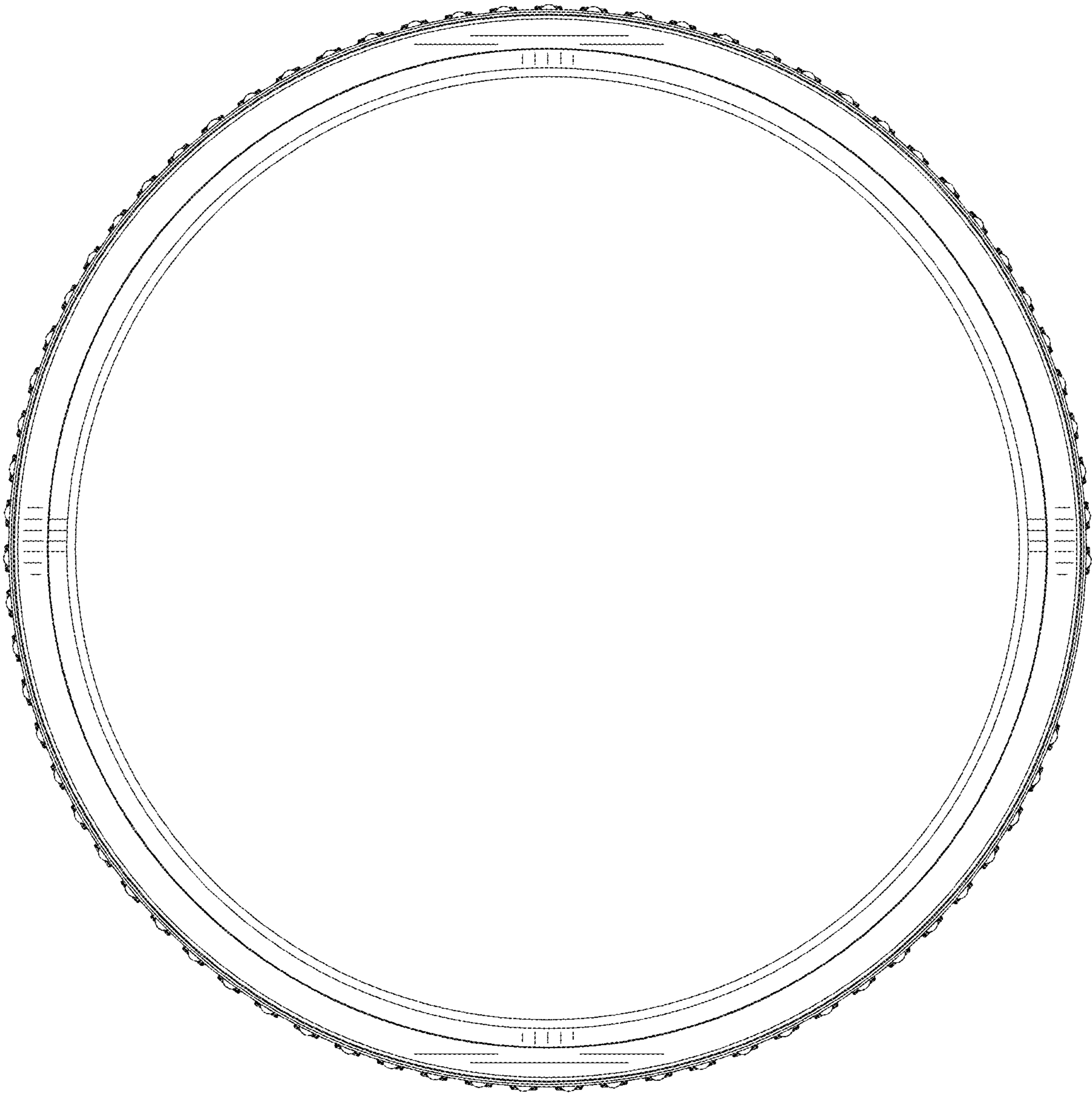


FIG. 7





FIG. 8

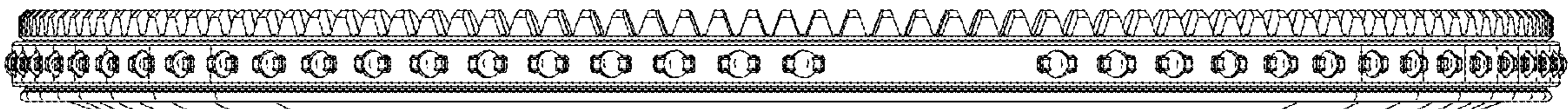


FIG. 9

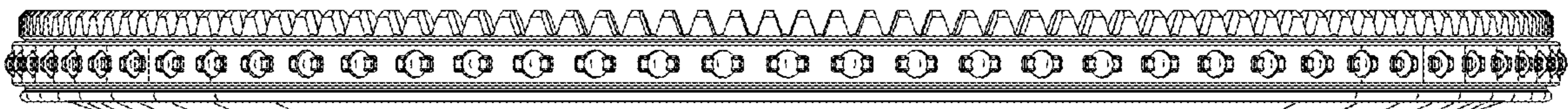


FIG. 10

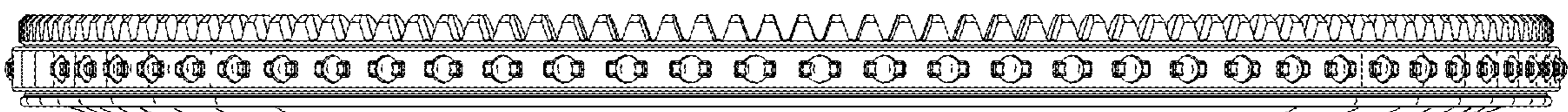


FIG. 11

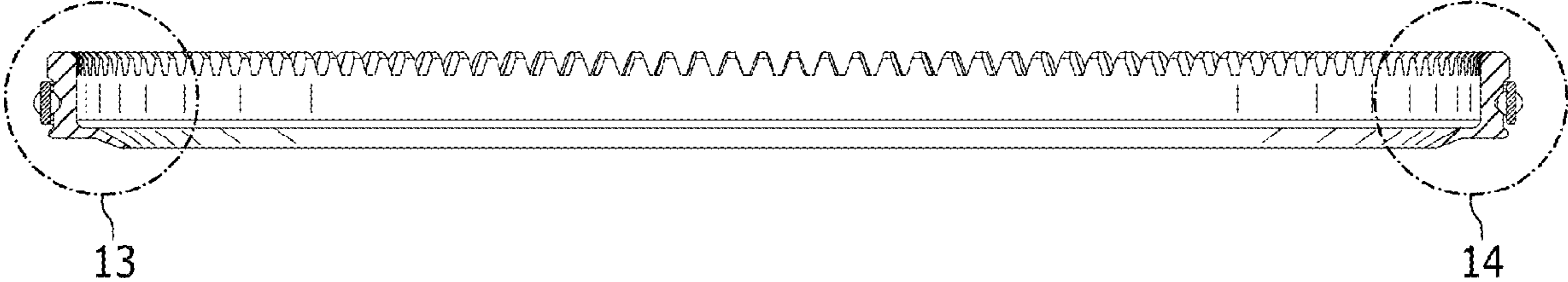


FIG. 12

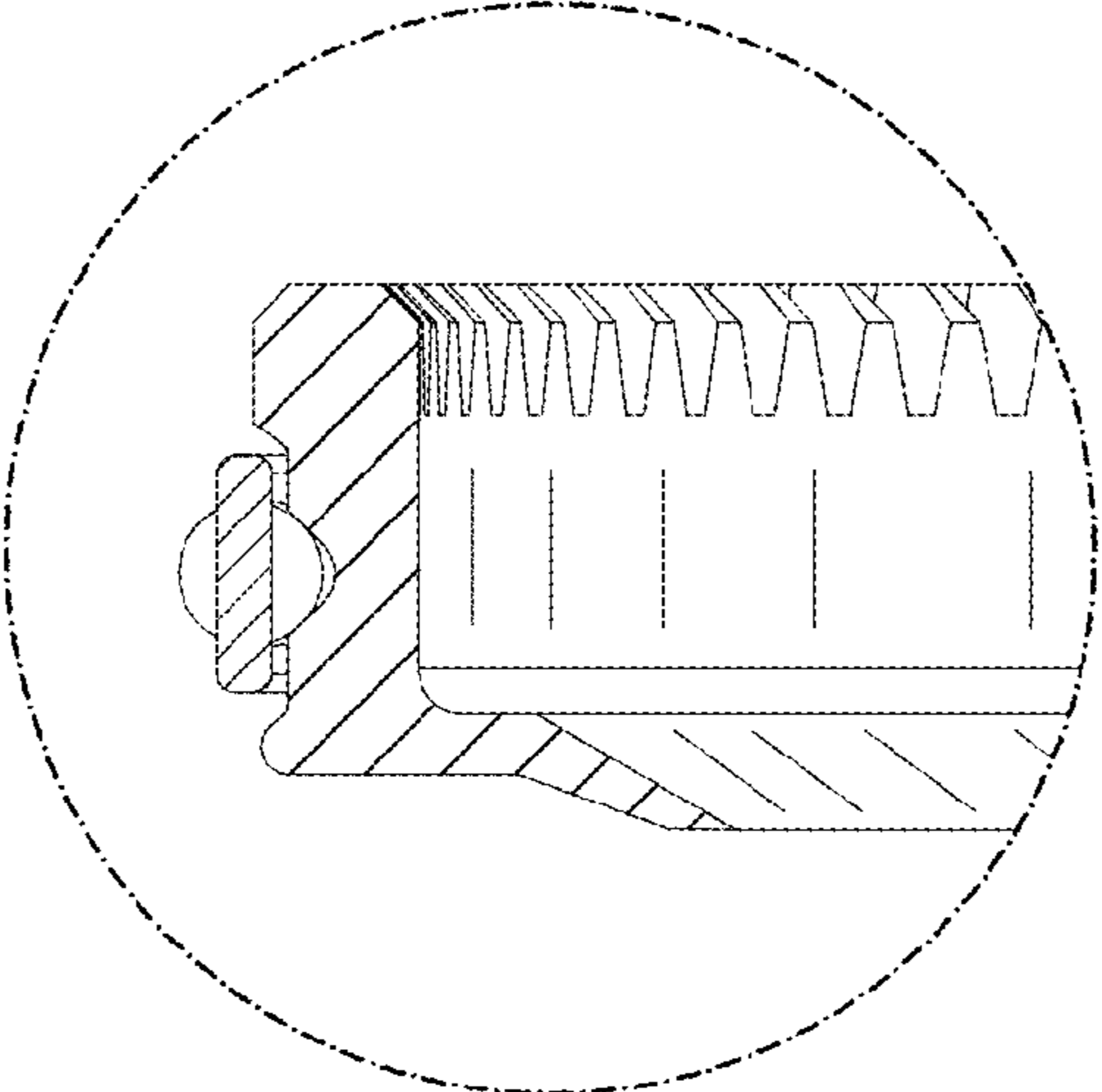


FIG. 13

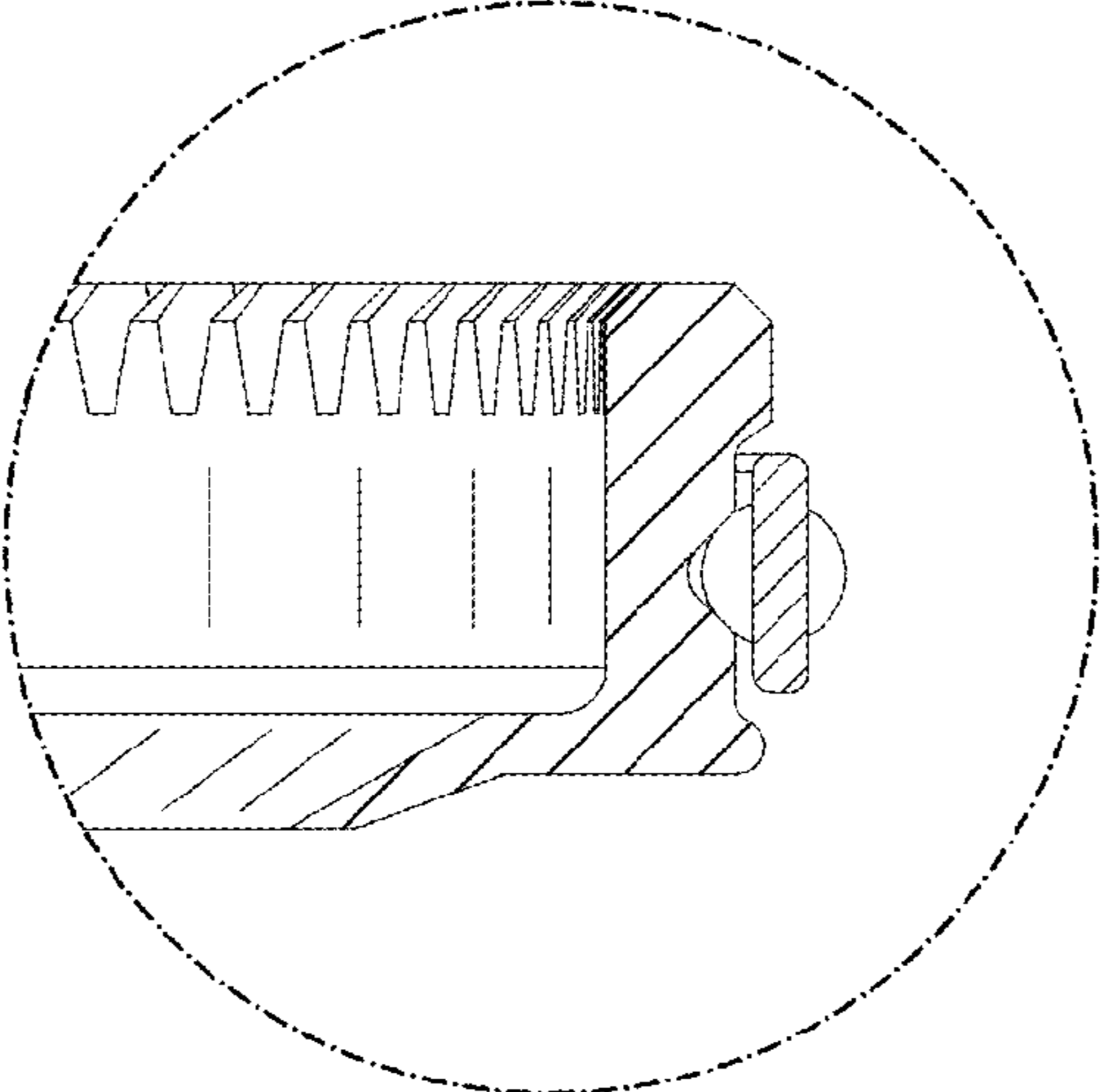


FIG. 14

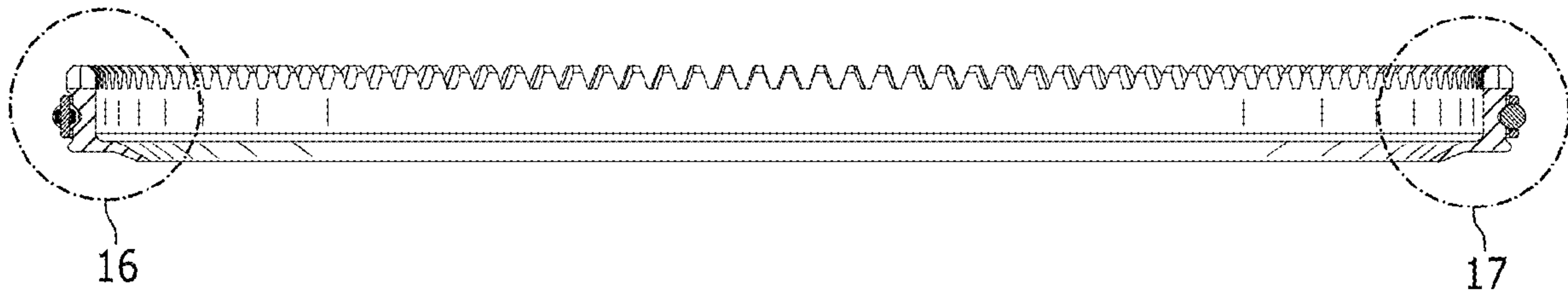


FIG. 15

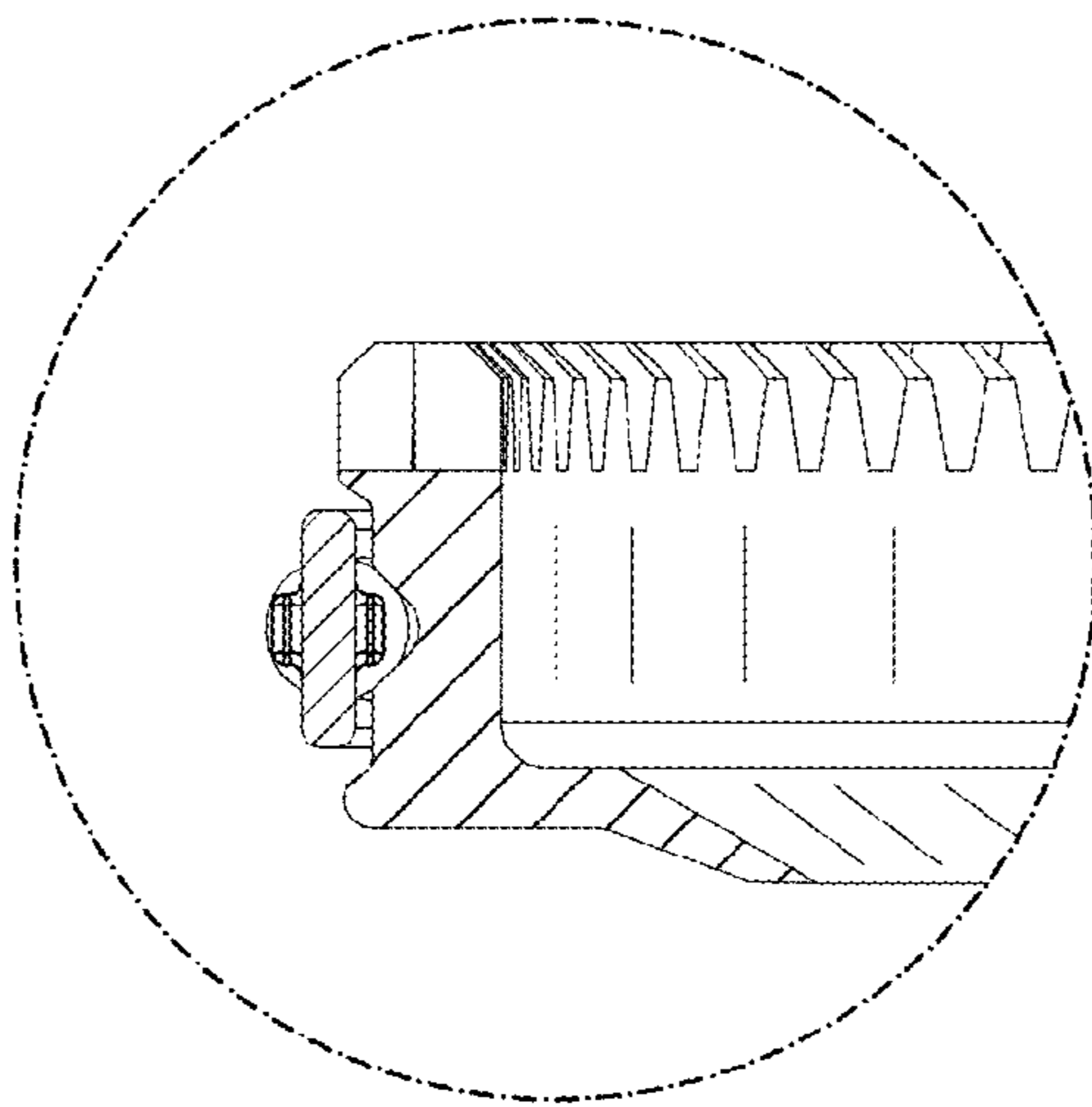


FIG. 16

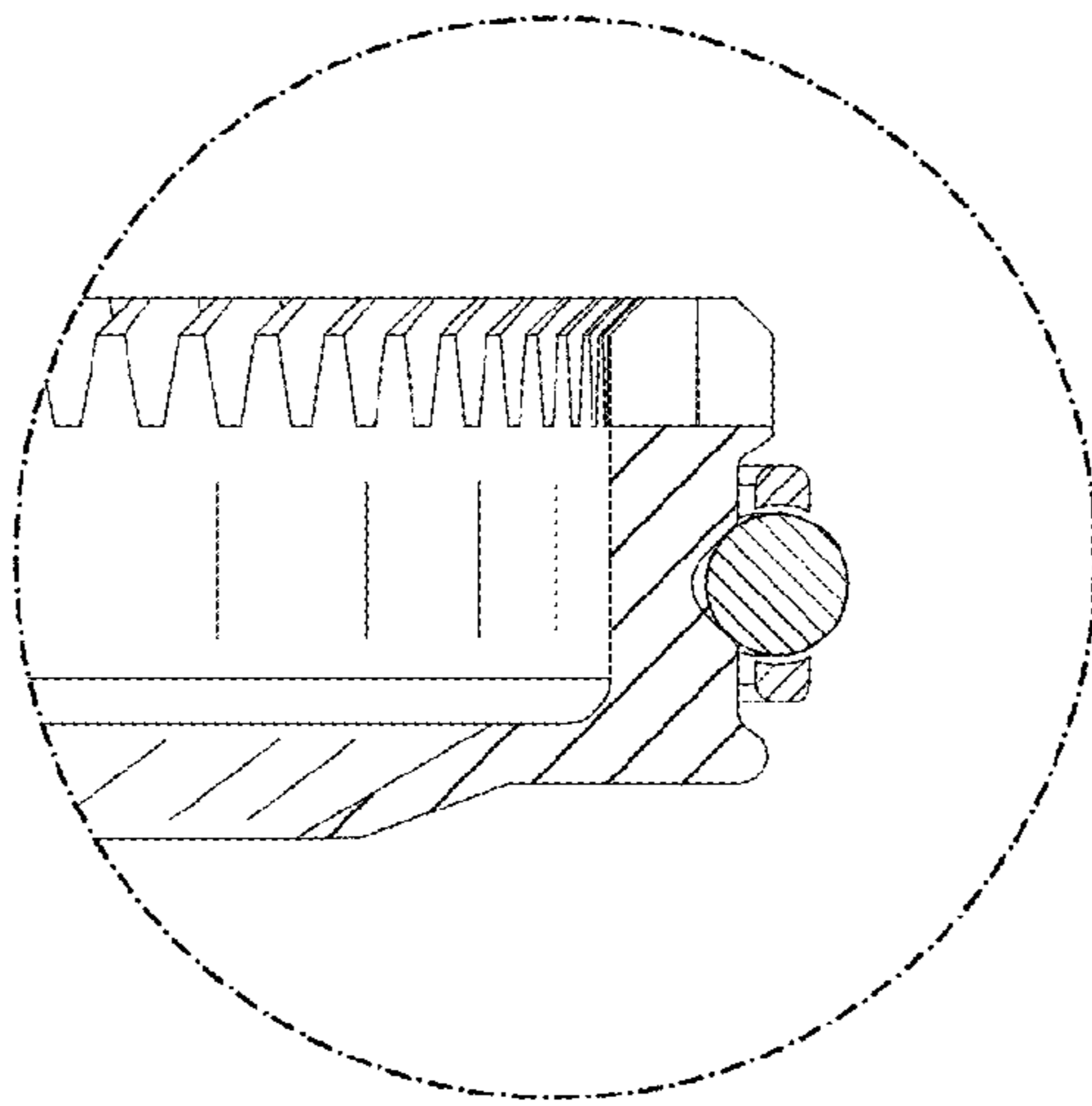


FIG. 17

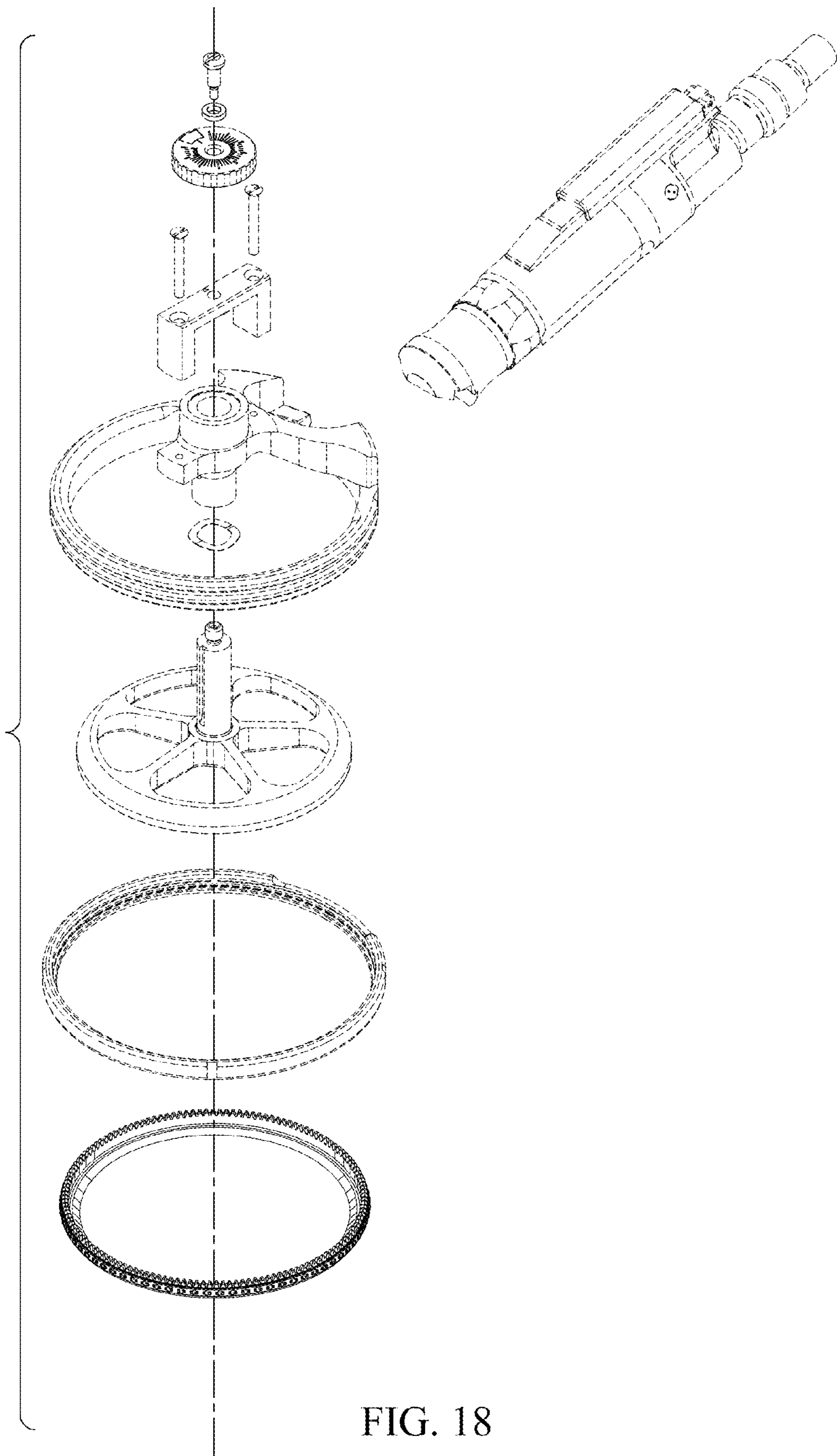


FIG. 18