

US00D936018S

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

(10) **Patent No.:** **US D936,018 S**

(45) **Date of Patent:** **\*\* Nov. 16, 2021**

(54) **FLOATING SOCKET CONNECTOR**

(71) Applicant: **Molex, LLC**, Lisle, IL (US)

(72) Inventors: **Chiu-Ming Lu**, Lisle, IL (US); **Ronald C. Hodge**, Lisle, IL (US); **Pierre Perez**, Aurora, IL (US)

(73) Assignee: **Molex, LLC**, Lisle, IL (US)

(\*\*) Term: **15 Years**

(21) Appl. No.: **29/753,461**

(22) Filed: **Sep. 30, 2020**

**Related U.S. Application Data**

(63) Continuation of application No. 16/330,767, filed on Mar. 6, 2019, now Pat. No. 10,892,576.

(51) **LOC (13) Cl.** ..... **13-03**

(52) **U.S. Cl.**  
USPC ..... **D13/133; D13/146**

(58) **Field of Classification Search**  
USPC ..... D13/110, 112, 118, 123, 133, 146-149, D13/154, 173, 184, 199; D9/434, 435, D9/453, 772, 779, 780; D3/203.2  
CPC ..... H01R 12/91; H01R 13/00; H01R 13/18; H01R 13/187; H01R 13/13/627; H01R 13/631; H01R 25/16; H01R 25/162; H01R 12/71; H01R 13/24; H01R 13/502; H01R 13/62

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D287,456 S 12/1986 Kobos  
D332,557 S 1/1993 Blake et al.  
D359,685 S \* 6/1995 Luch ..... D9/438  
5,516,303 A 5/1996 Yohn et al.  
D391,757 S \* 3/1998 Johnson ..... D3/203.2  
5,769,552 A 6/1998 Kelley et al.

5,769,652 A 6/1998 Wider  
6,488,136 B2 12/2002 Chang  
6,715,382 B1 \* 4/2004 Hsien ..... B25B 13/463  
81/60

(Continued)

**FOREIGN PATENT DOCUMENTS**

CN 101752728 A 6/2010  
CN 202977789 U 6/2010

(Continued)

**OTHER PUBLICATIONS**

Molex 6.0mm Coeur CST High Current Connector System and Application Tools, dated Oct. 15, 2018, [online], [site visited Jul. 6, 2021]. Available from Internet, URL: [https://www.molex.com/pdm\\_docs/as/2043130006-AS-000.pdf](https://www.molex.com/pdm_docs/as/2043130006-AS-000.pdf) (Year: 2018).\*

(Continued)

*Primary Examiner* — Shawn T Gingrich

(74) *Attorney, Agent, or Firm* — Banner & Witcoff, Ltd.

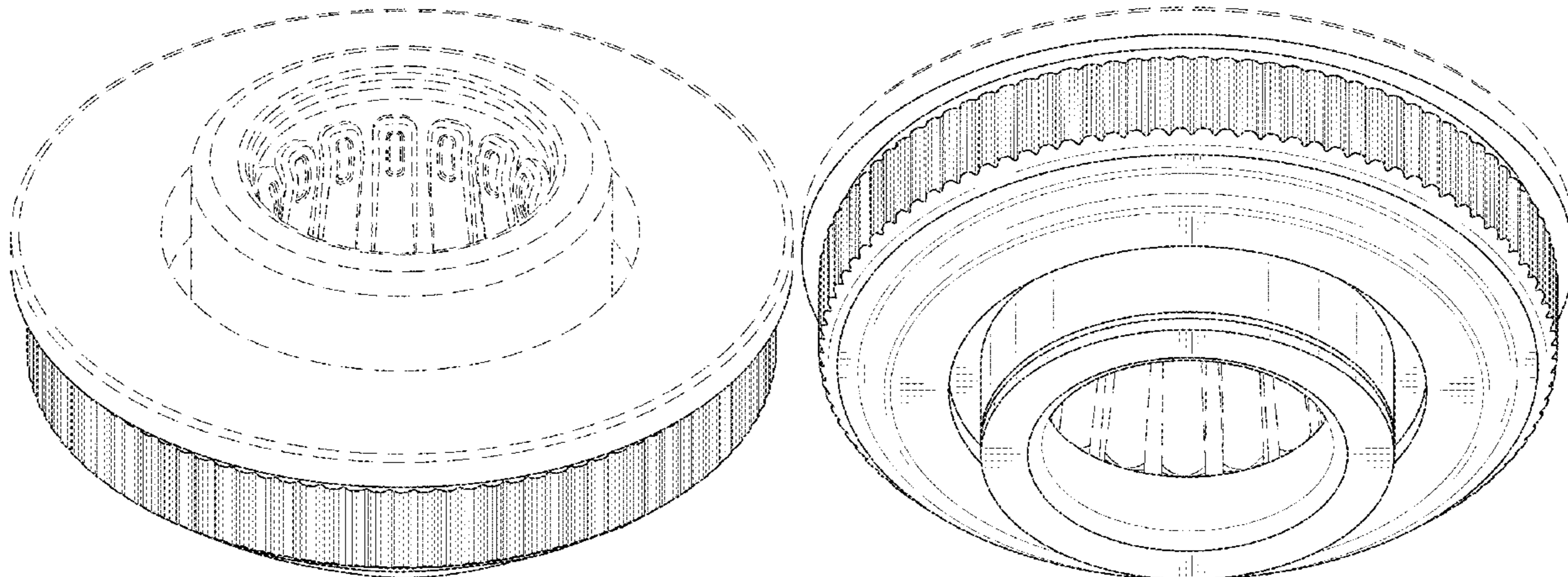
(57) **CLAIM**

The ornamental design for a floating socket connector, as shown and described.

**DESCRIPTION**

FIG. 1 is a top perspective view of a floating socket connector showing our new design;  
FIG. 2 is a bottom perspective view thereof;  
FIG. 3 is a front view thereof;  
FIG. 4 is a rear view thereof;  
FIG. 5 is a right side view thereof;  
FIG. 6 is a left side view thereof;  
FIG. 7 is a top view thereof; and,  
FIG. 8 is a bottom view thereof.  
The broken lines depicting the remainder of the floating socket connector form no part of the claimed design.

**1 Claim, 8 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

D491,428 S 6/2004 Barnett et al.  
 D498,775 S 11/2004 Hu  
 D498,776 S 11/2004 Hu  
 D498,777 S 11/2004 Hu  
 D498,778 S 11/2004 Hu  
 D534,802 S \* 1/2007 German ..... D9/453  
 D550,049 S 9/2007 Peng  
 D550,050 S 9/2007 Peng  
 D551,924 S 10/2007 Mu  
 D558,006 S 12/2007 Mu  
 D582,275 S \* 12/2008 Reed ..... D9/453  
 D633,762 S 3/2011 Zhou et al.  
 D636,265 S \* 4/2011 Gartner ..... D9/453  
 D685,505 S \* 7/2013 Yamamoto ..... D26/2  
 D723,370 S \* 3/2015 Medlin ..... D9/453  
 D739,695 S 9/2015 Chang  
 D743,223 S 11/2015 Chang  
 D749,384 S 2/2016 Chang  
 9,484,650 B2 11/2016 Shinder-Lemer et al.  
 D867,298 S \* 11/2019 Joniak ..... D13/146  
 D868,000 S \* 11/2019 Joniak ..... D13/146  
 D869,000 S \* 12/2019 Sonneman ..... D26/113  
 D877,702 S \* 3/2020 Joniak ..... D13/146  
 D885,904 S \* 6/2020 Kim ..... D9/453  
 D922,199 S \* 6/2021 Kim ..... D9/453  
 2001/0054531 A1 \* 12/2001 Chang ..... B25B 13/463  
 192/46  
 2010/0099290 A1 4/2010 Gastineau  
 2010/0124835 A1 5/2010 Johnson  
 2010/0186228 A1 7/2010 Montena  
 2010/0261361 A1 10/2010 Kasparian et al.  
 2013/0109228 A1 5/2013 Sykes et al.  
 2013/0161069 A1 \* 6/2013 Erdle ..... H01R 4/30  
 174/135  
 2014/0029900 A1 1/2014 Logan, Jr. et al.  
 2014/0227900 A1 \* 8/2014 Zitsch ..... H01R 13/62  
 439/359

2016/0141784 A1 5/2016 Hashiguchi  
 2016/0332783 A1 \* 11/2016 Kim ..... B65D 41/3428  
 2017/0338606 A1 \* 11/2017 Copper ..... H01R 43/20  
 2018/0208333 A1 \* 7/2018 Cesari ..... H01R 13/04  
 2019/0267735 A1 \* 8/2019 Lu ..... H01R 13/187  
 2020/0358234 A1 \* 11/2020 Liu ..... H01R 13/5205

FOREIGN PATENT DOCUMENTS

CN 203574201 U 4/2014  
 CN 104022376 A 9/2014  
 CN 104332736 A 2/2015  
 CN 204216296 U 3/2015  
 JP S51-103267 A 9/1976  
 JP H03-118572 U 12/1991  
 JP H08-31488 A 2/1996  
 JP 2000-182696 A 6/2000  
 JP 2011-204607 A 10/2011  
 JP 2016-096022 A 5/2016  
 KR 2014-0112506 A 9/2014  
 WO 2015/080946 A1 6/2015  
 WO 2018/093981 A1 5/2018

OTHER PUBLICATIONS

High-current interconnect system eases PCB connections, dated Oct. 6, 2018, [online], [site visited Jul. 6, 2021]. Available from Internet, URL: <https://www.electronicproducts.com/high-current-interconnect-system-eases-pcb-connections/#> (Year: 2018).  
 International Search Report and Written Opinion received for PCT application No. PCT/US2017/061910, dated Mar. 15, 2018, 9 pages.  
 International Preliminary Report on Patentability received for PCT Application No. PCT/US2017/061910, dated May 31, 2019, 8 pages.  
 Notification of Reasons for refusal received for JP application No. 2019-515860, dated Mar. 24, 2020, 15 pages. (8 pages of English translation and 7 pages of official copy).

\* cited by examiner

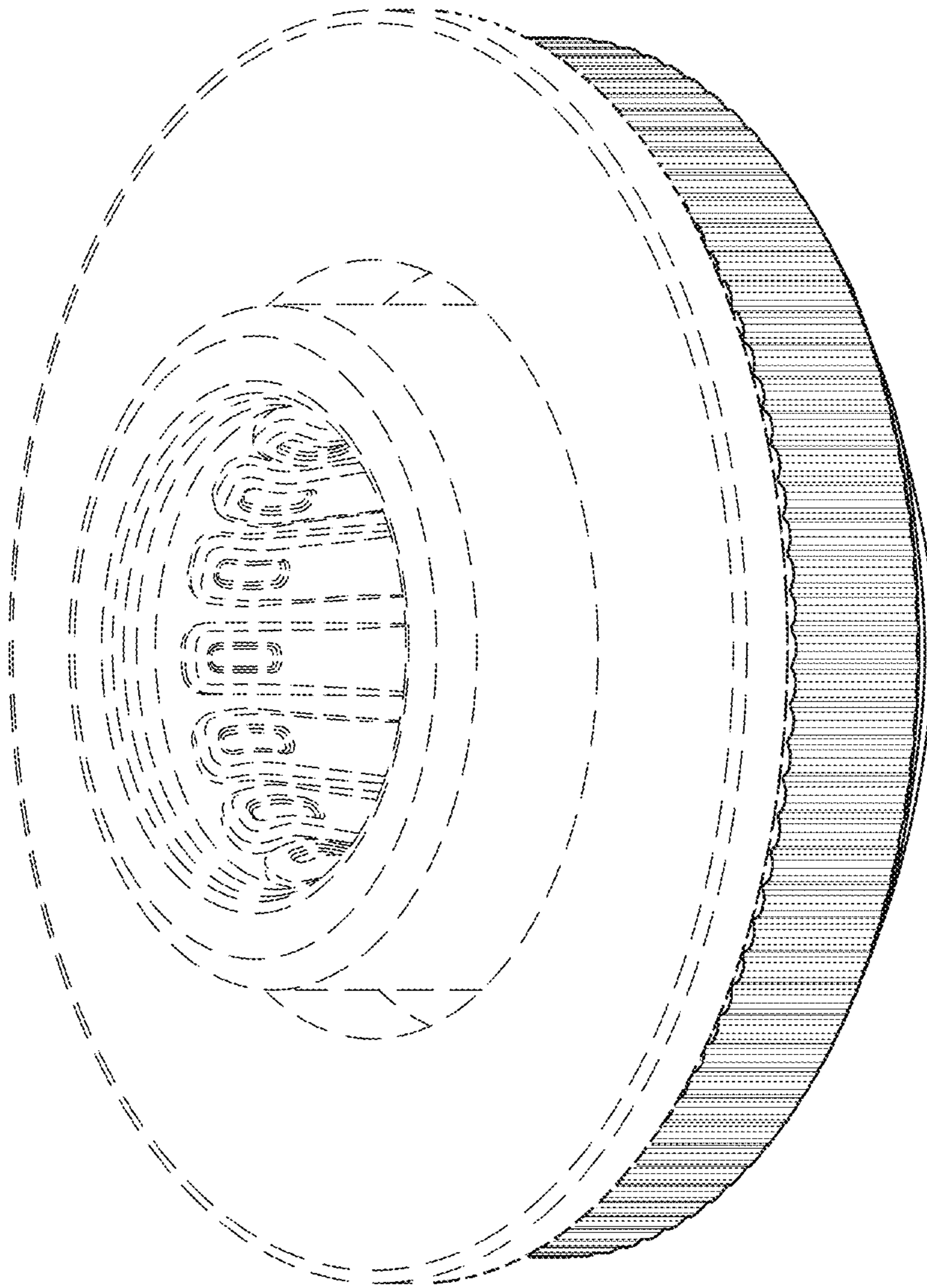


FIG. 1

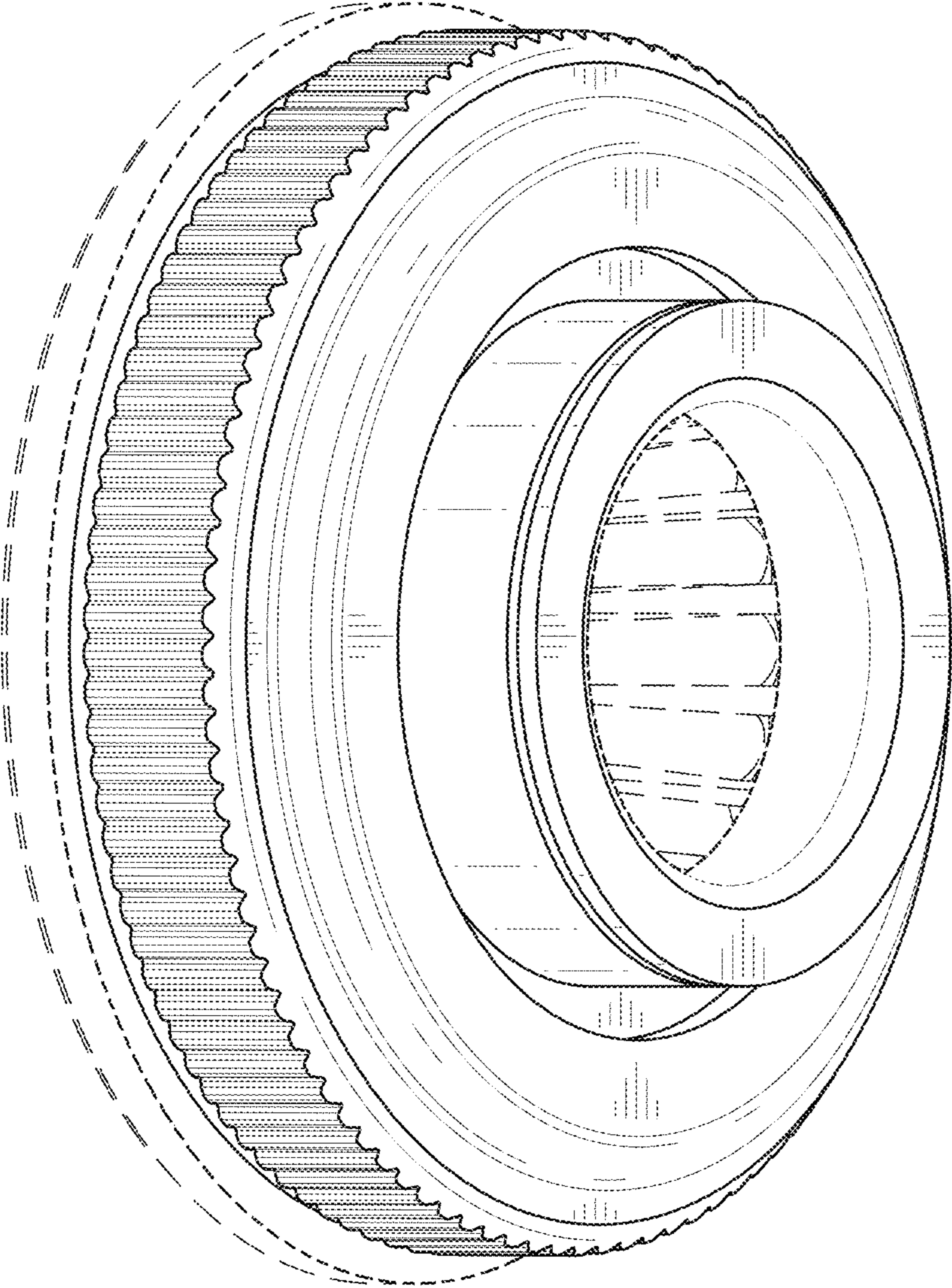


FIG. 2

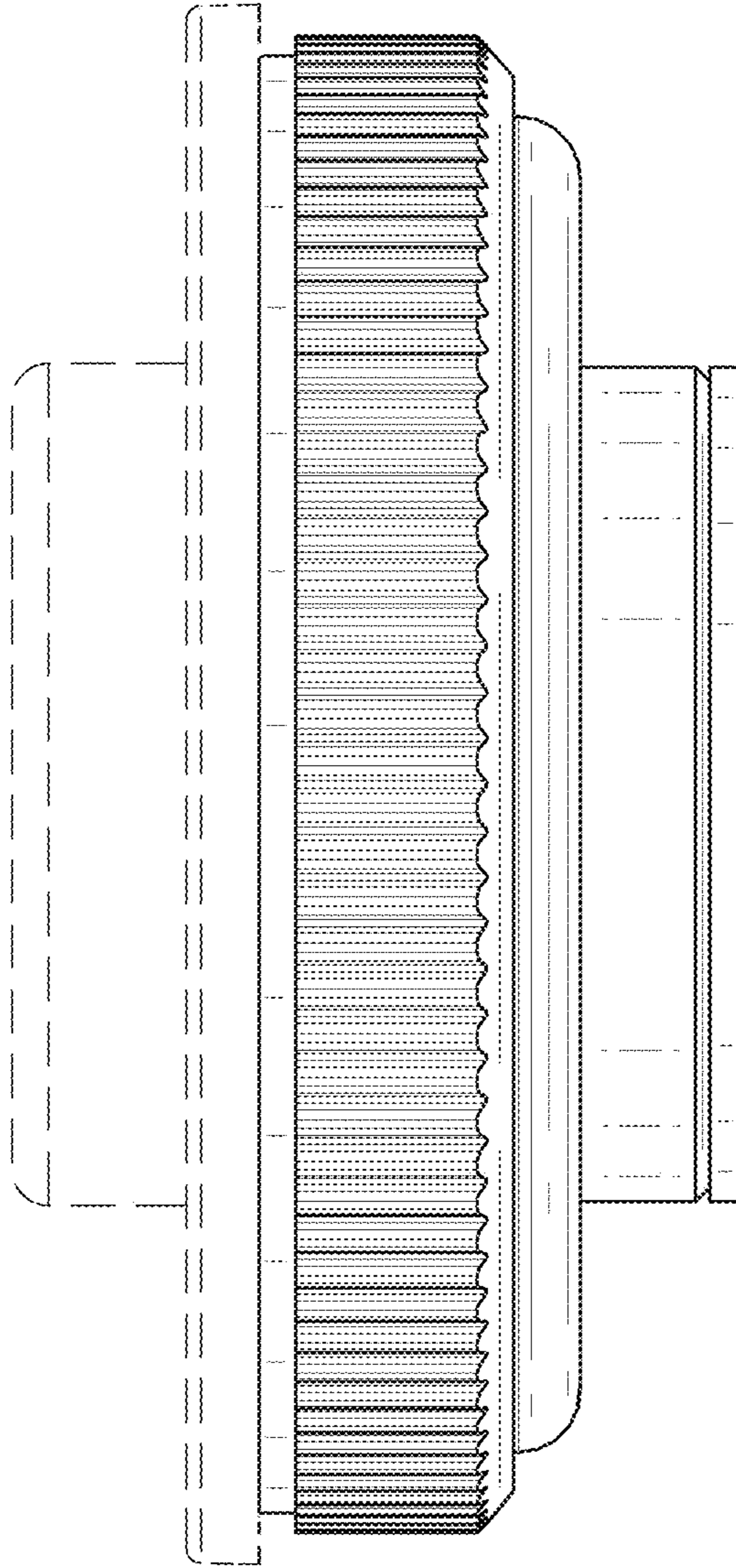


FIG. 3

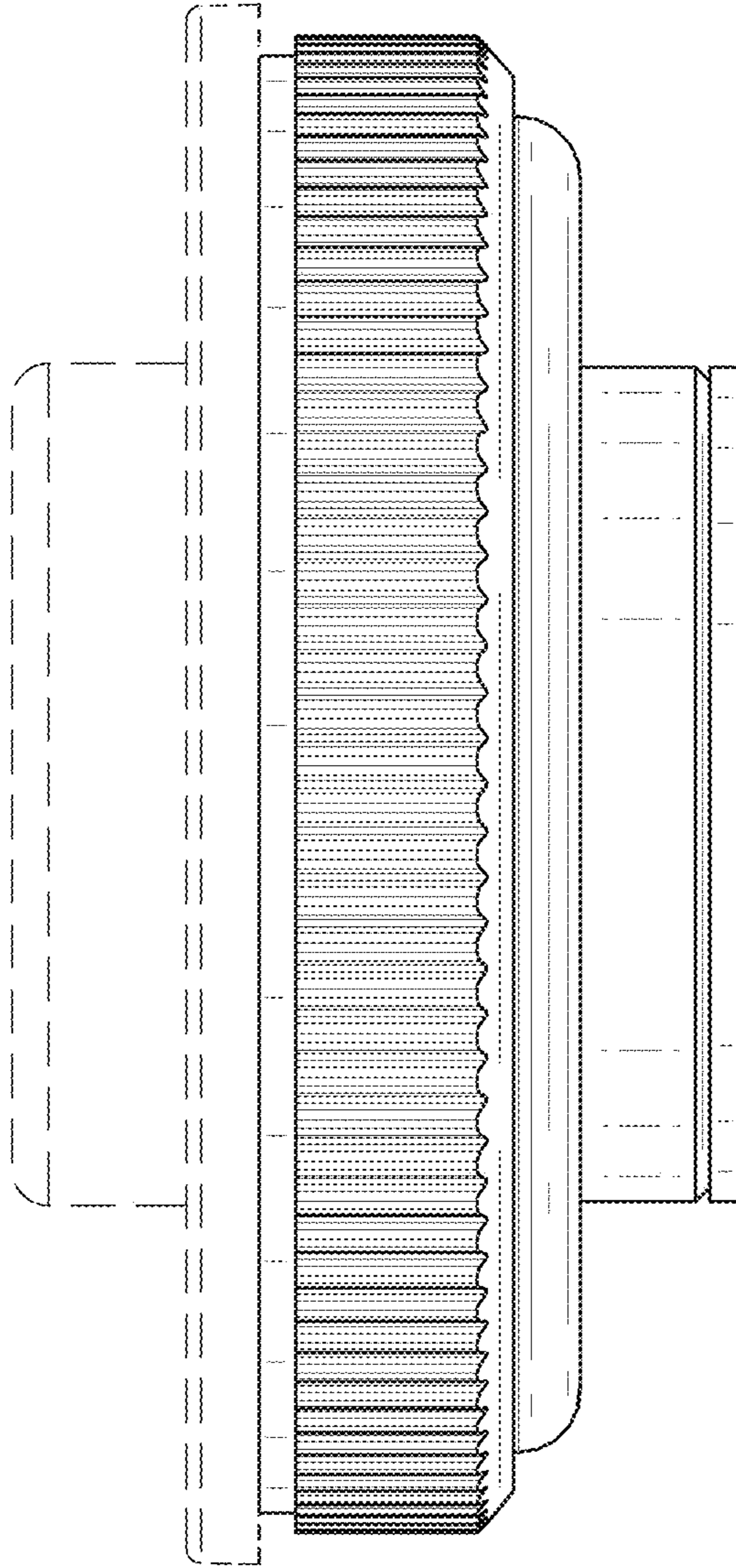


FIG. 4

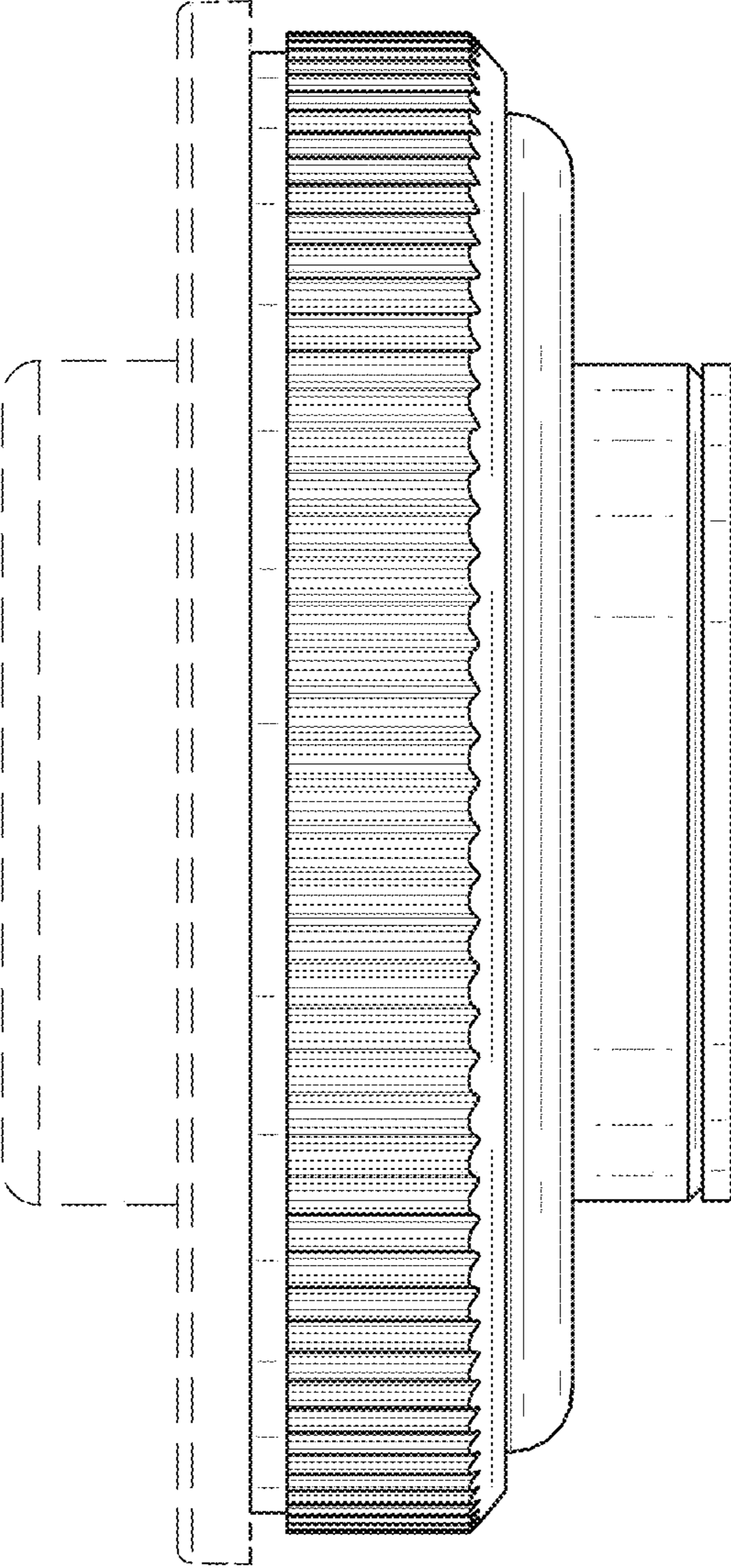


FIG. 5

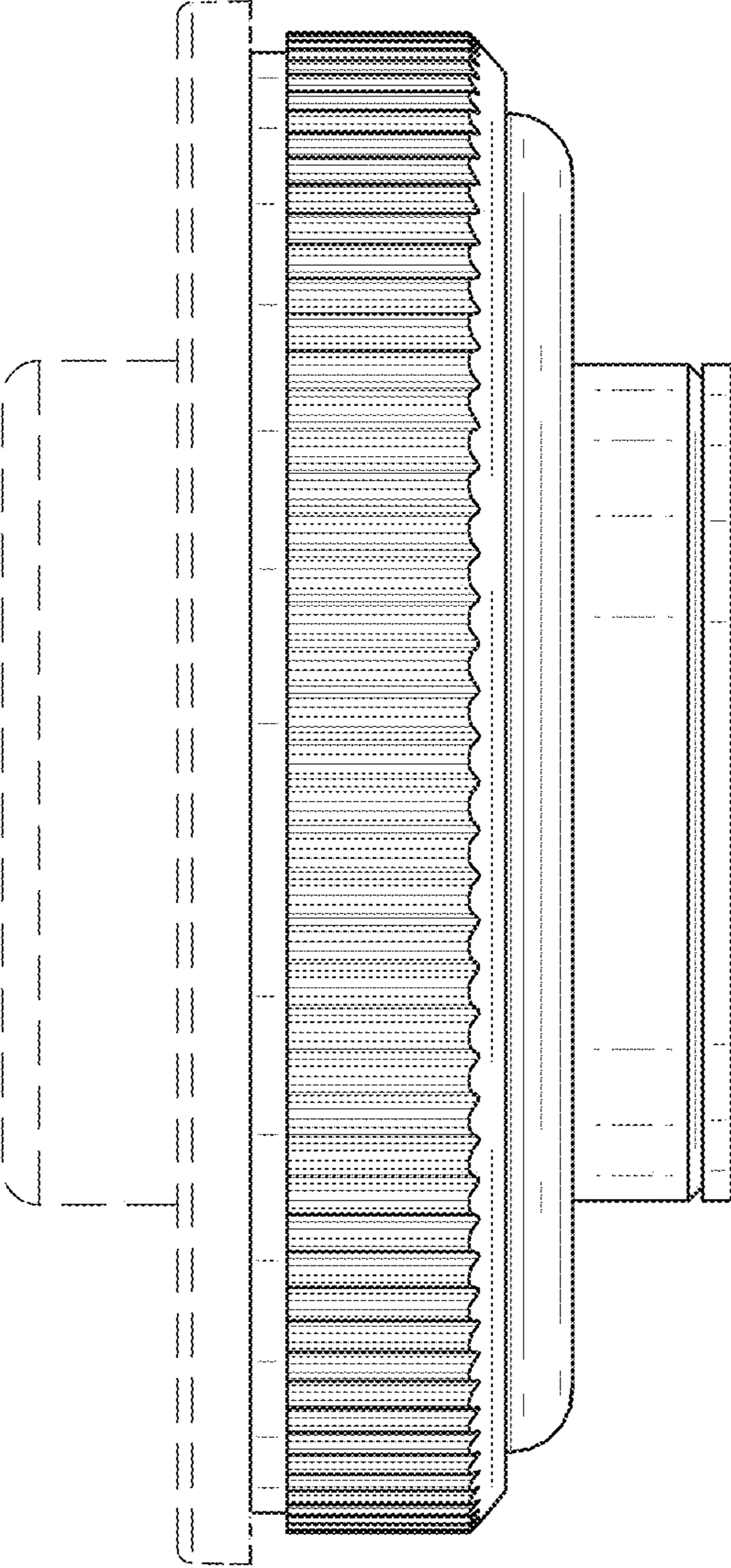


FIG. 6



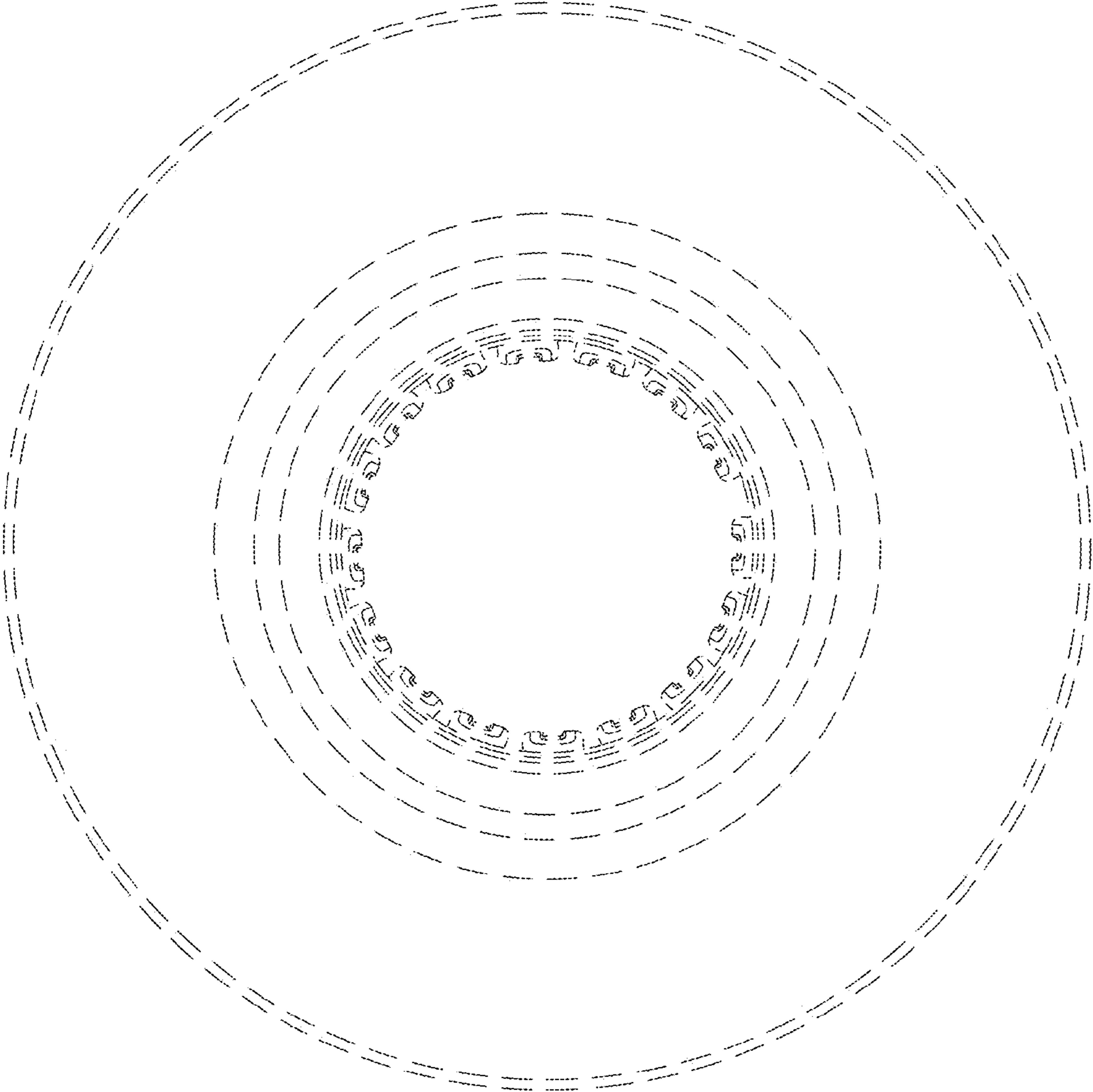


FIG. 7

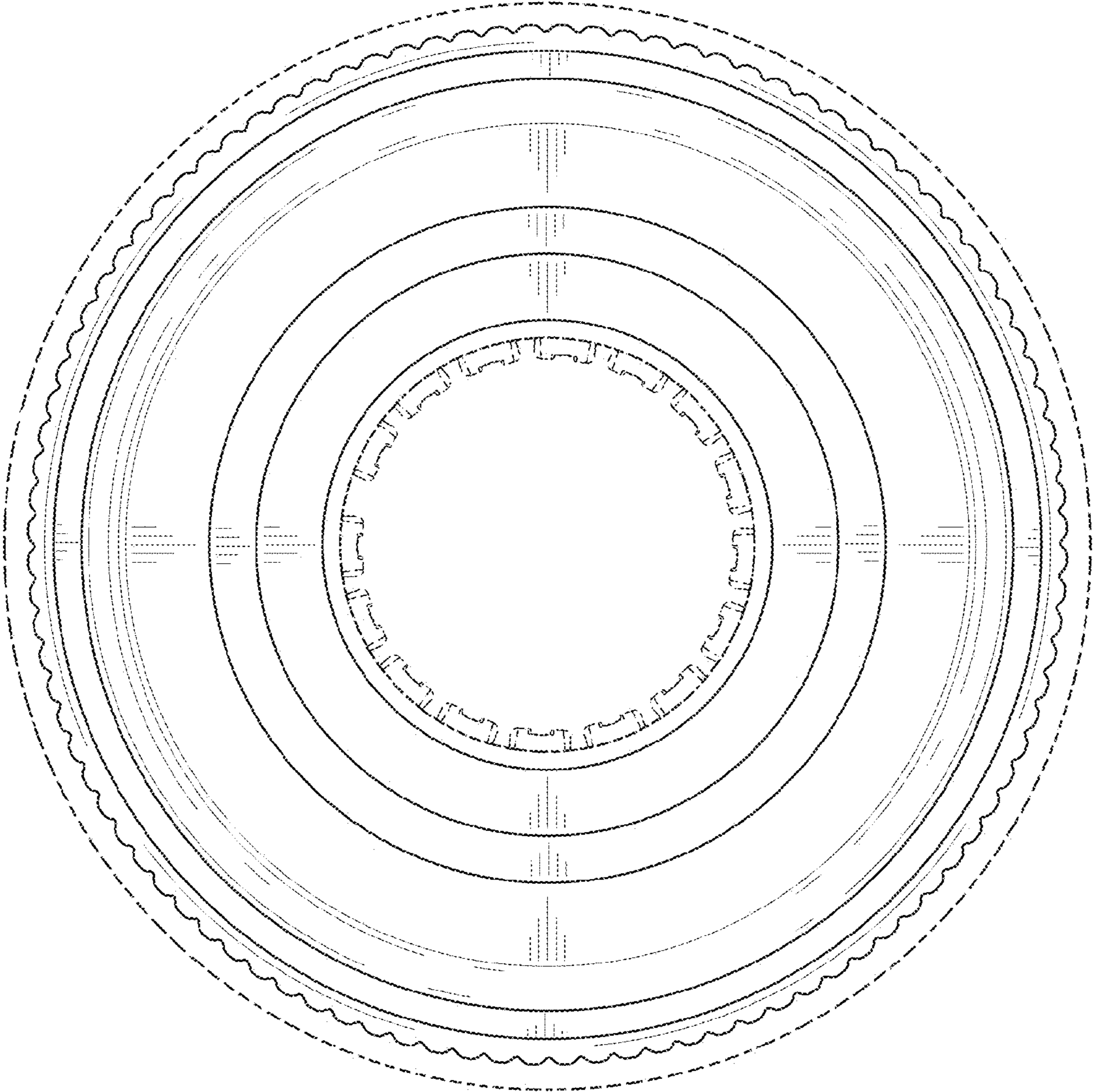


FIG. 8