US00D936017S

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

(10) **Patent No.: US D936,017 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.: **29/753,451**

(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 1313/627; 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 (Year: 2018).*

(Continued)

Primary Examiner — Shawn T Gingrich
(74) *Attorney, Agent, or Firm* — Banner & Witcoff, Ltd.

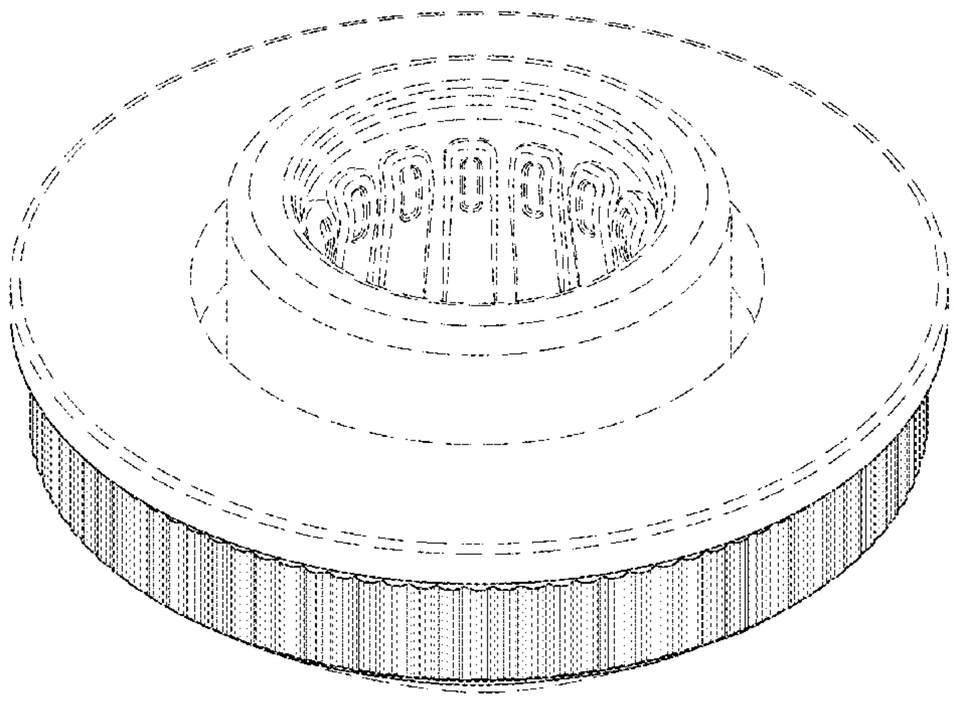
(57) **CLAIM**

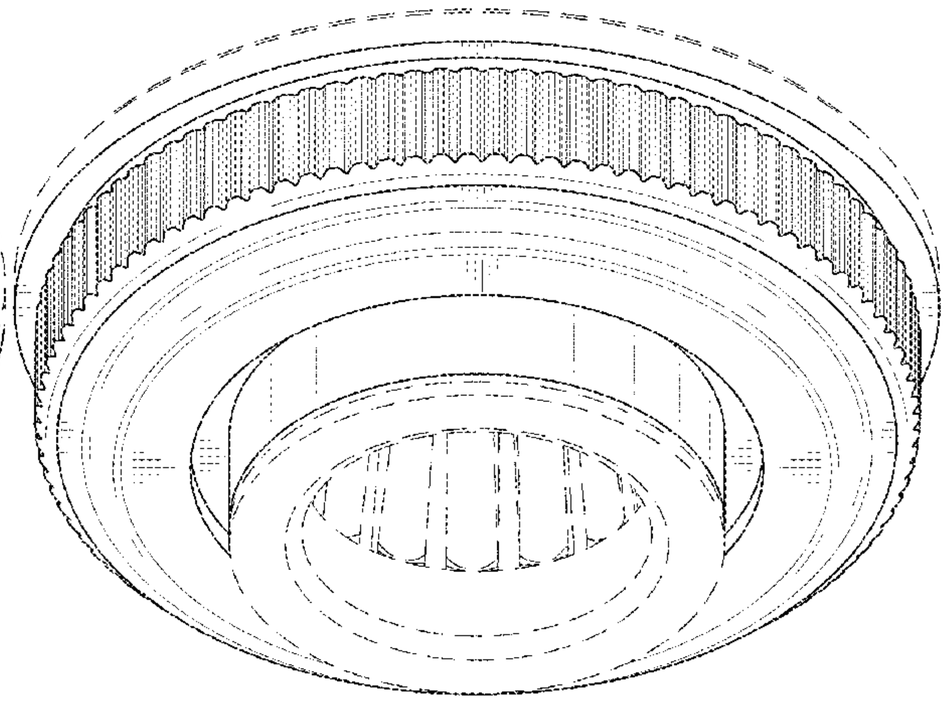
The ornamental design for a floating socket connector, as shown and described.

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	Tuan Mu	
D558,006	S		12/2007	Tuan 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-Lerner 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

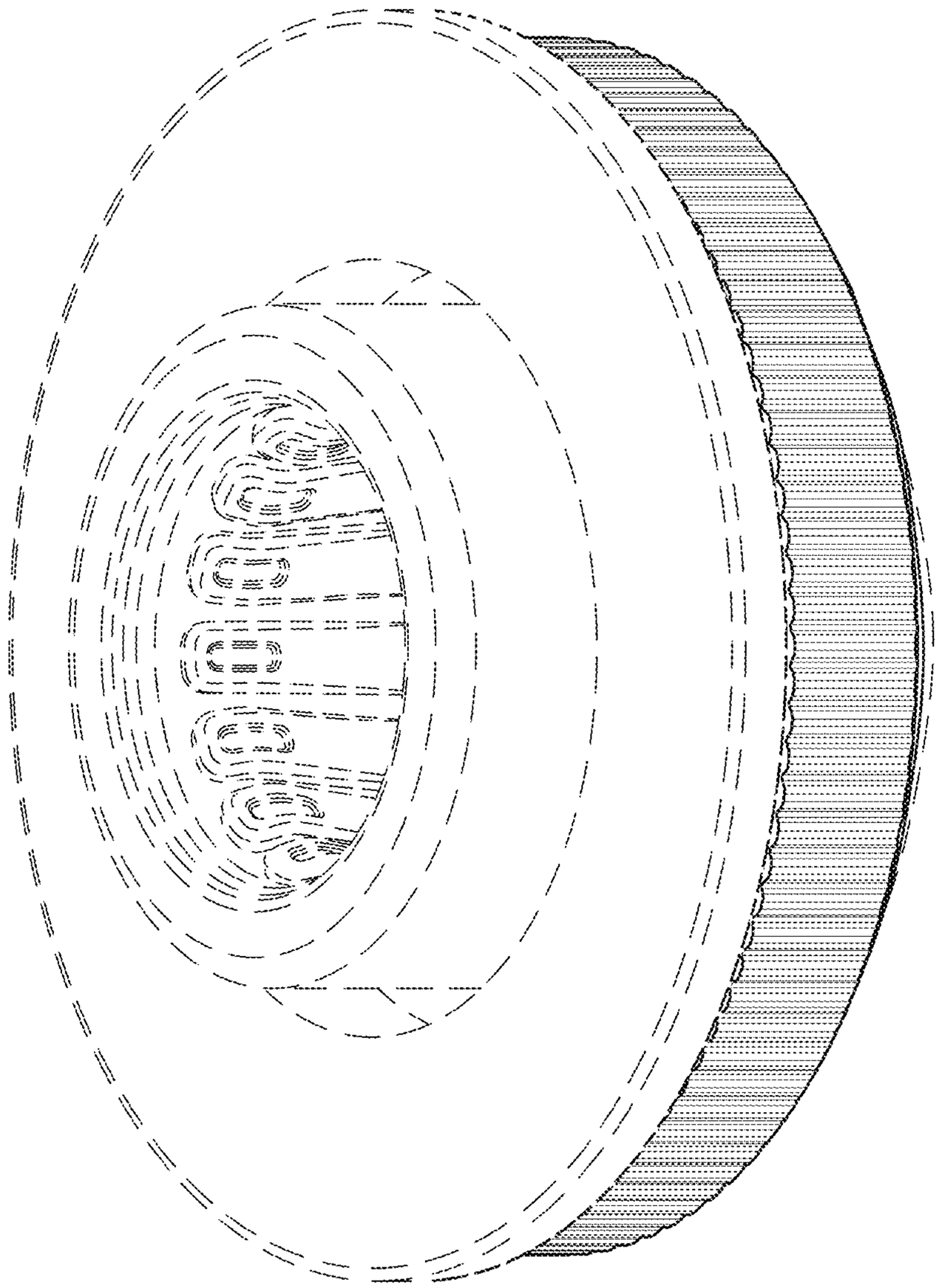


FIG. 1

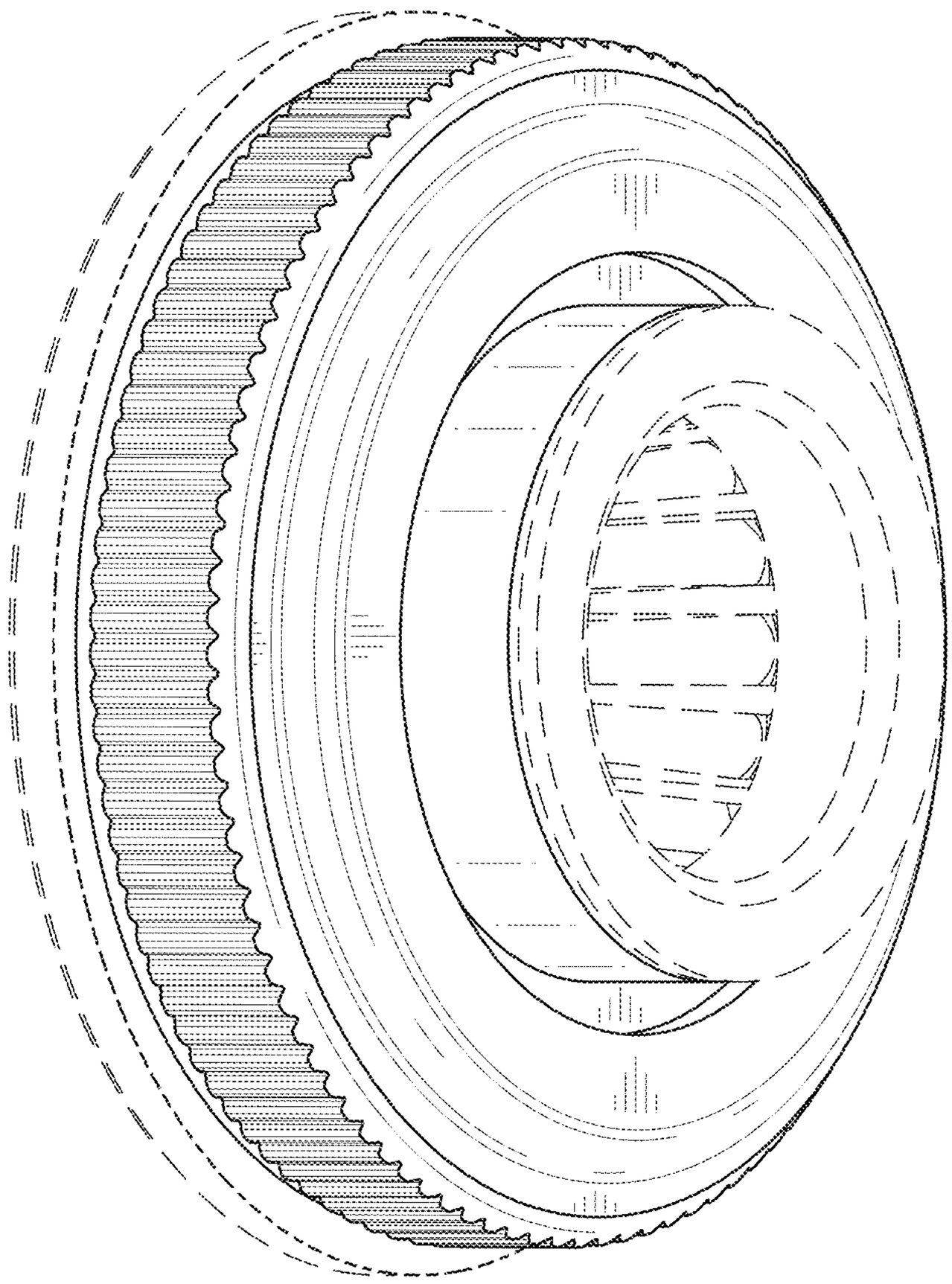


FIG. 2

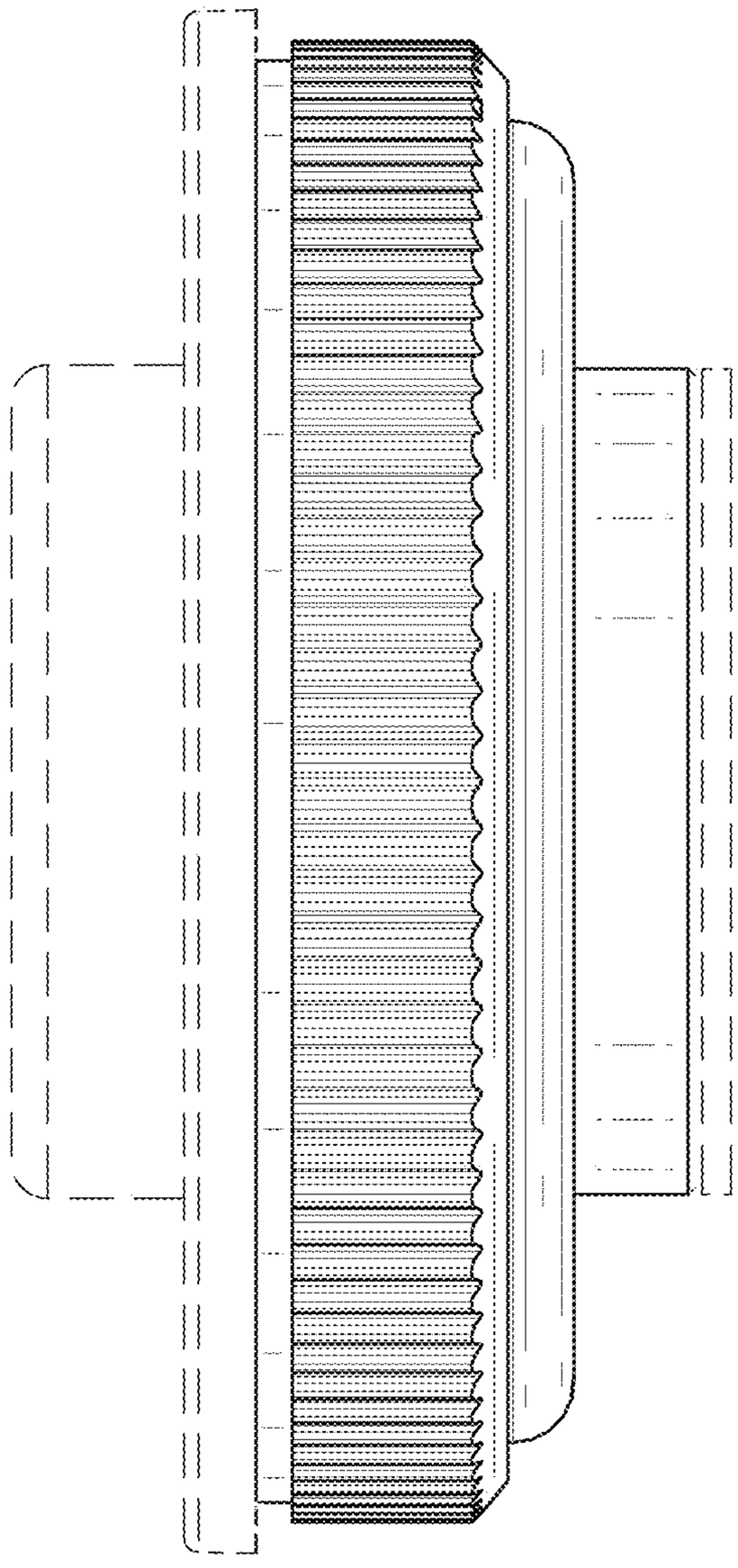


FIG. 3

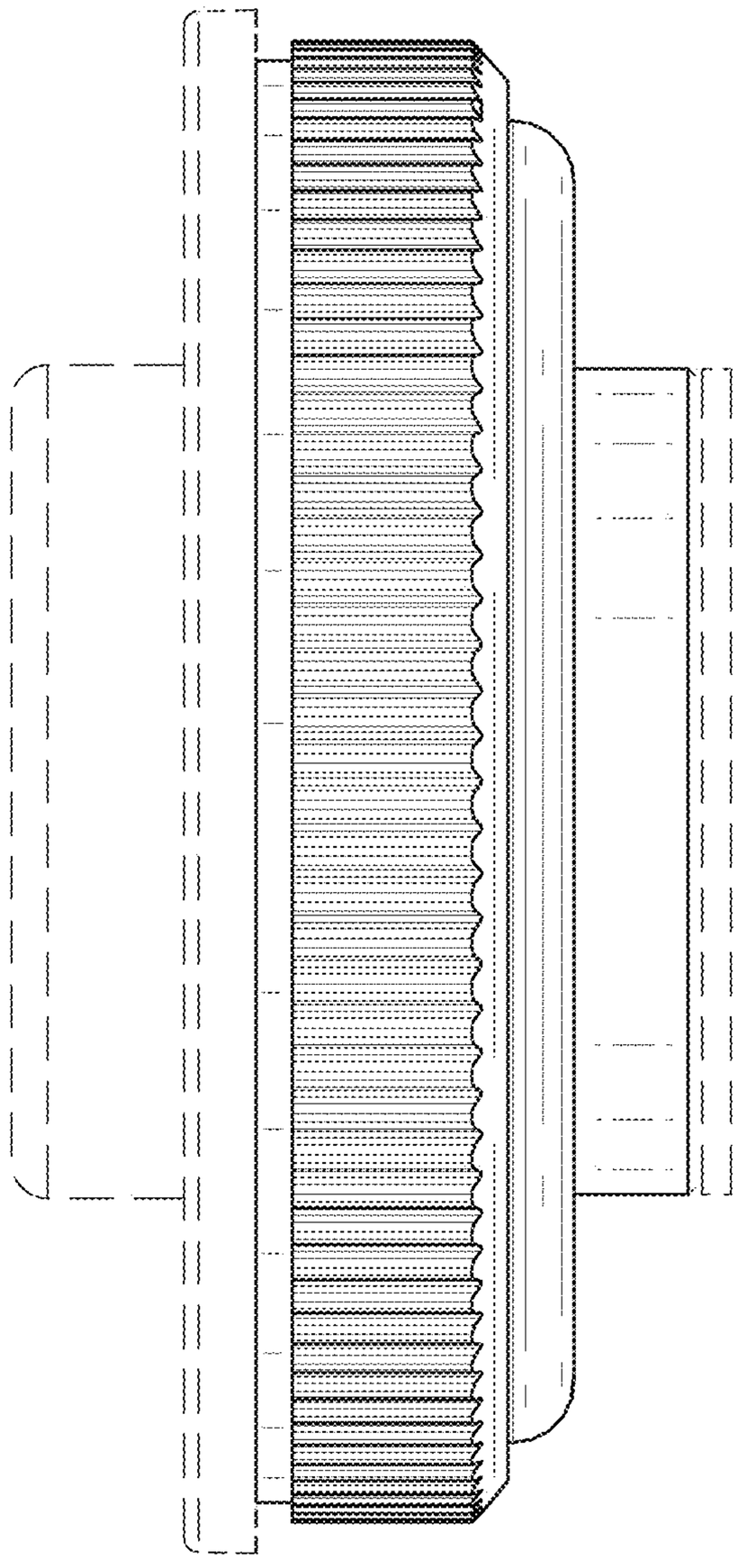


FIG. 4

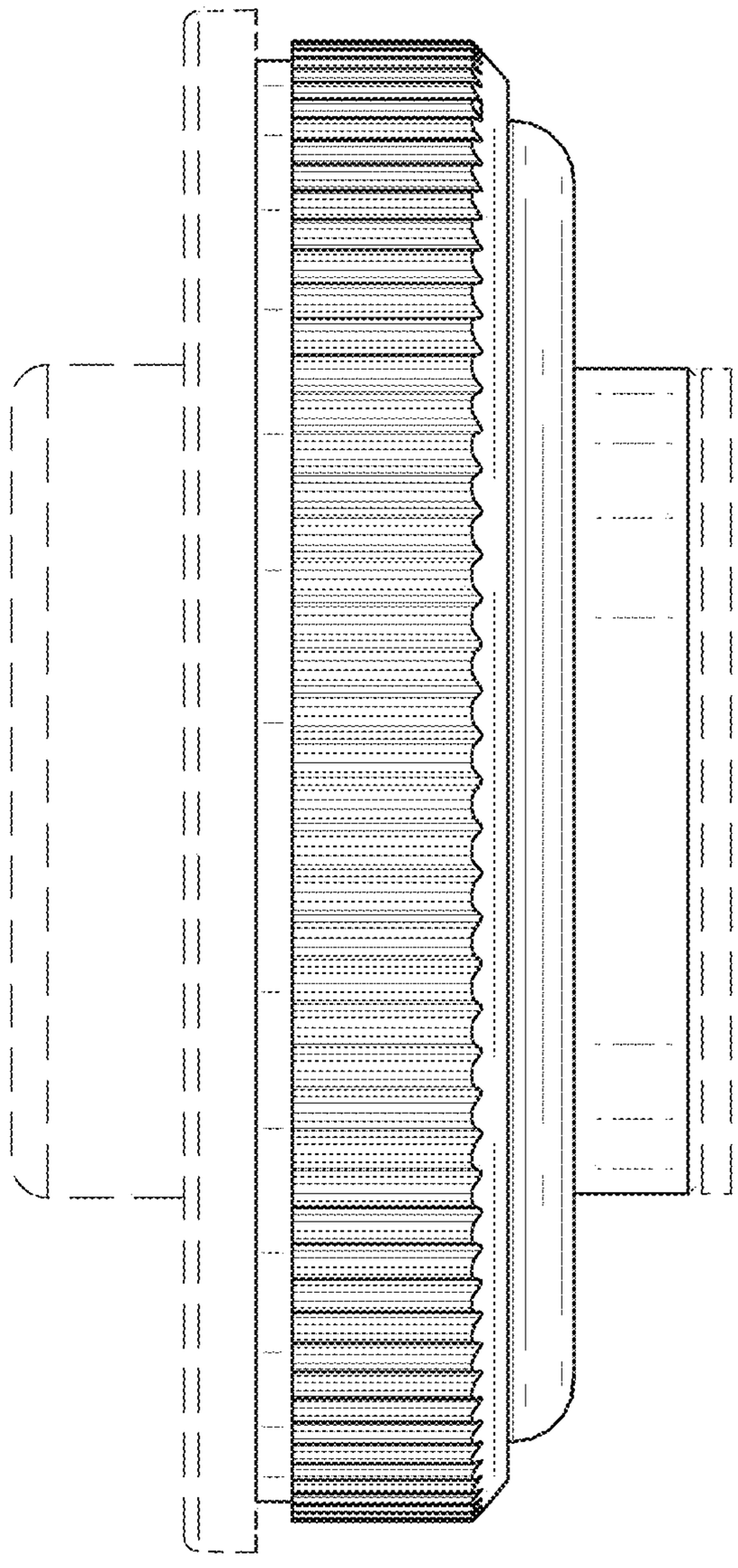


FIG. 5

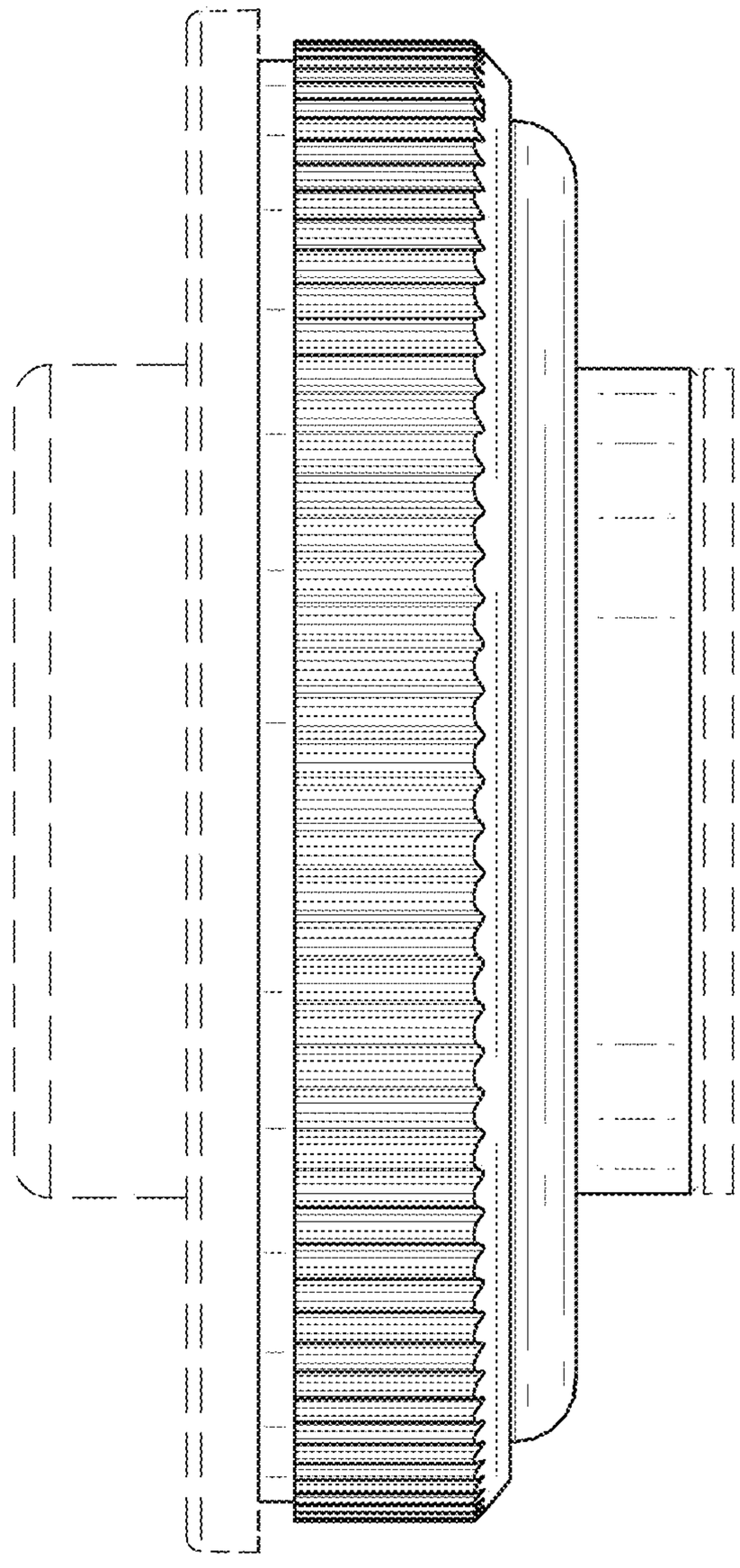


FIG. 6

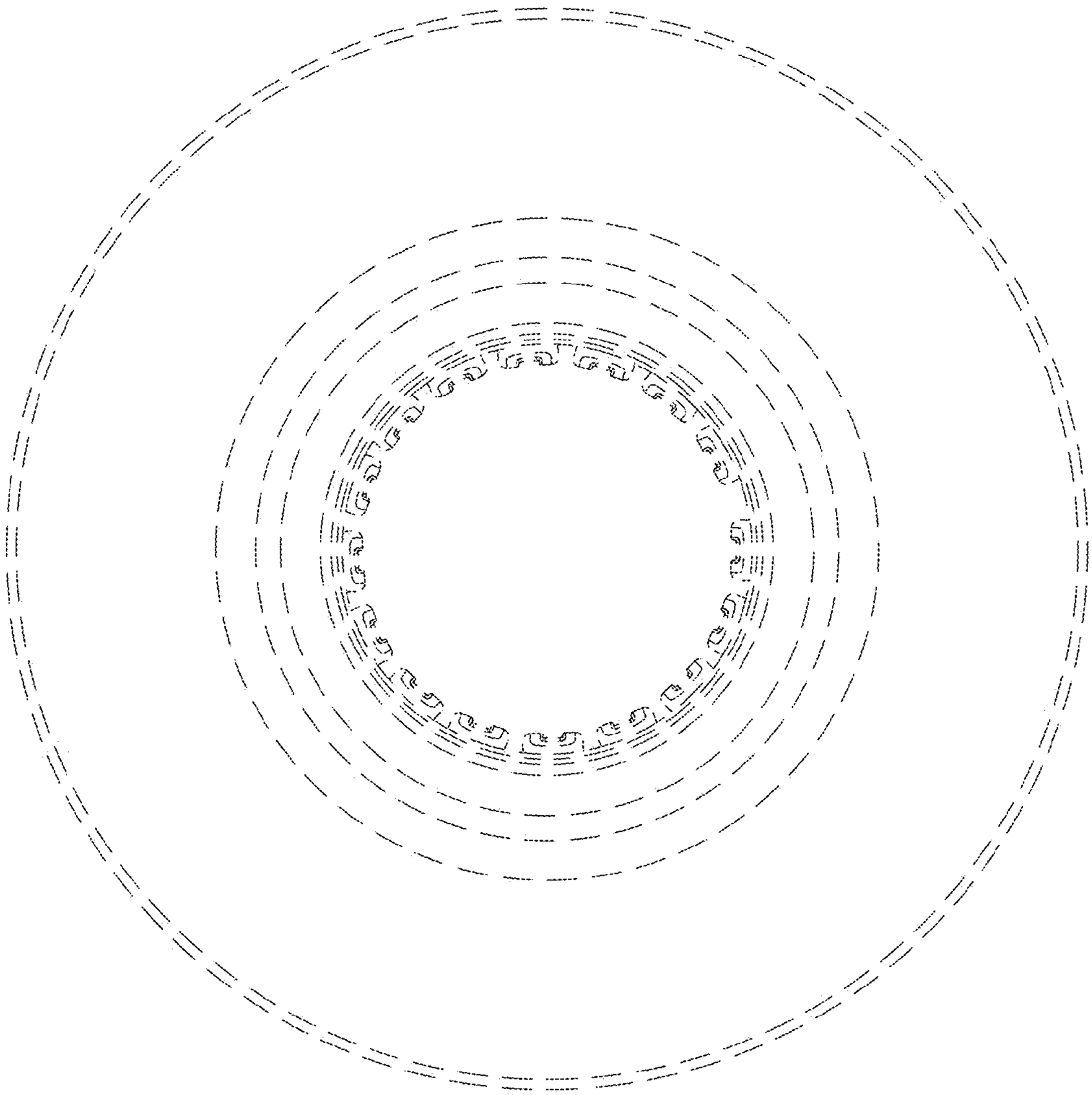


FIG. 7

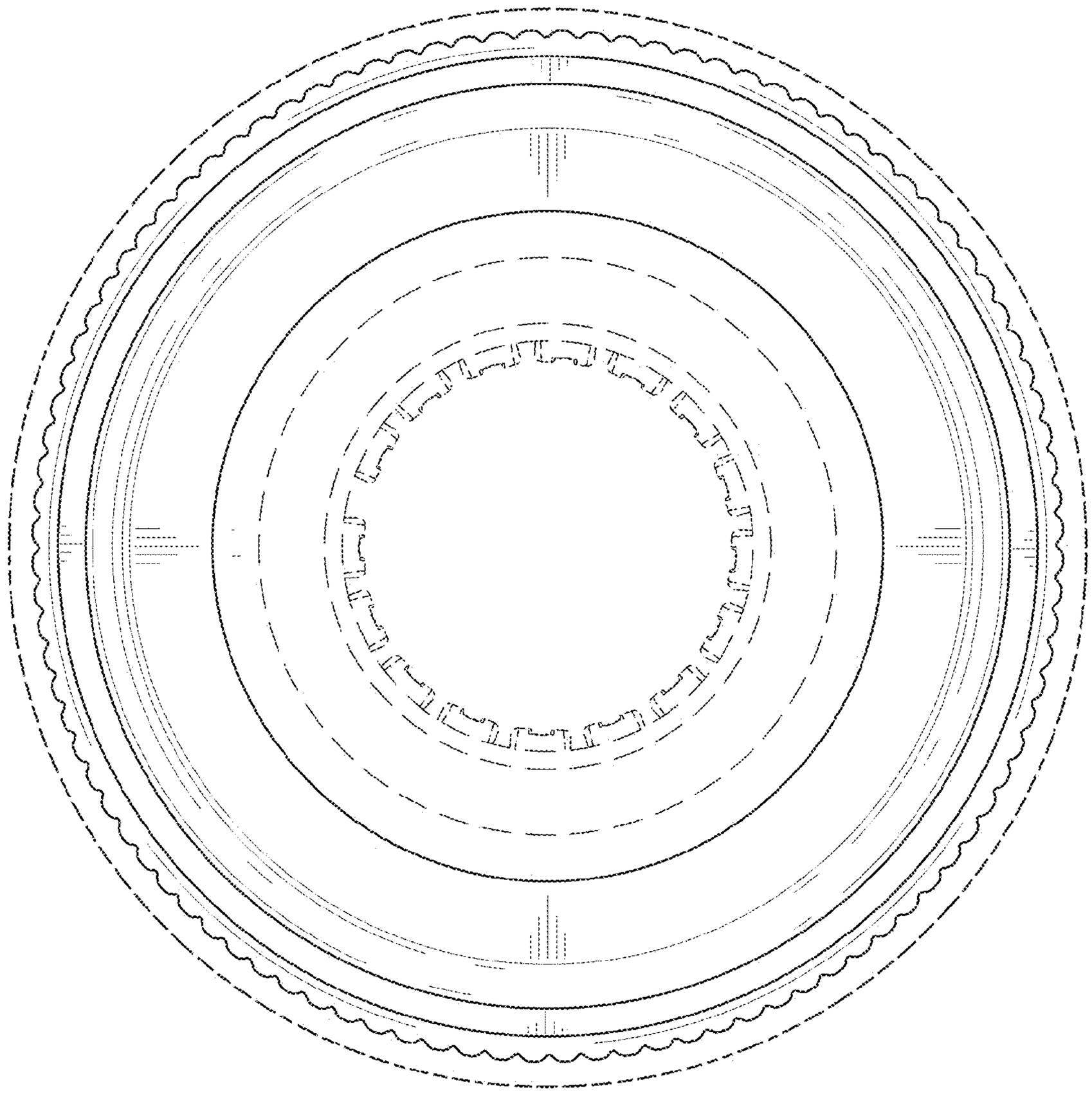


FIG. 8