



US00D920251S

(12) **United States Design Patent** (10) **Patent No.:** **US D920,251 S**  
**Elison et al.** (45) **Date of Patent:** **\*\* May 25, 2021**

(54) **BATTERY MODULE CONNECTOR BARREL**

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(73) Assignee: **CPS Technology Holdings LLC**, New York, NY (US)

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

(21) Appl. No.: **29/683,626**

(22) Filed: **Mar. 14, 2019**

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 14/850,728, filed on Sep. 10, 2015, now Pat. No. 10,249,916.

(51) **LOC (13) Cl.** ..... **13-02**

(52) **U.S. Cl.**  
USPC ..... **D13/133; D13/119**

(58) **Field of Classification Search**  
USPC ..... D13/103, 107, 119, 120, 133, 146, 147, D13/153, 154, 155, 156, 184  
CPC .... H01R 13/02; H01R 13/436; H01R 13/502; H01R 13/504; H01R 13/506; H01R 13/62; H01R 13/64; H01R 13/641; H01M 2/207; H01M 2/1022; H01M 2/1072  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D256,356 S 8/1980 Lazerson  
D319,813 S 9/1991 Kozono  
5,127,848 A 7/1992 Taguchi  
D335,647 S 5/1993 Hood  
5,378,552 A 1/1995 Dixon, Jr.  
5,681,178 A 10/1997 Kunkle

D389,457 S 1/1998 Beranek  
6,312,277 B1 11/2001 Holub  
6,372,377 B1 4/2002 Ovshinsky et al.  
6,376,122 B1 4/2002 Cheeseman  
D475,014 S 5/2003 Kano  
D544,843 S \* 6/2007 Sugita ..... D13/133  
(Continued)

**FOREIGN PATENT DOCUMENTS**

CN 103081214 A 2/2012  
CN 103534835 A 1/2014  
(Continued)

**OTHER PUBLICATIONS**

PCT/US2016/017918 Search Report and Written Opinion dated May 3, 2016.

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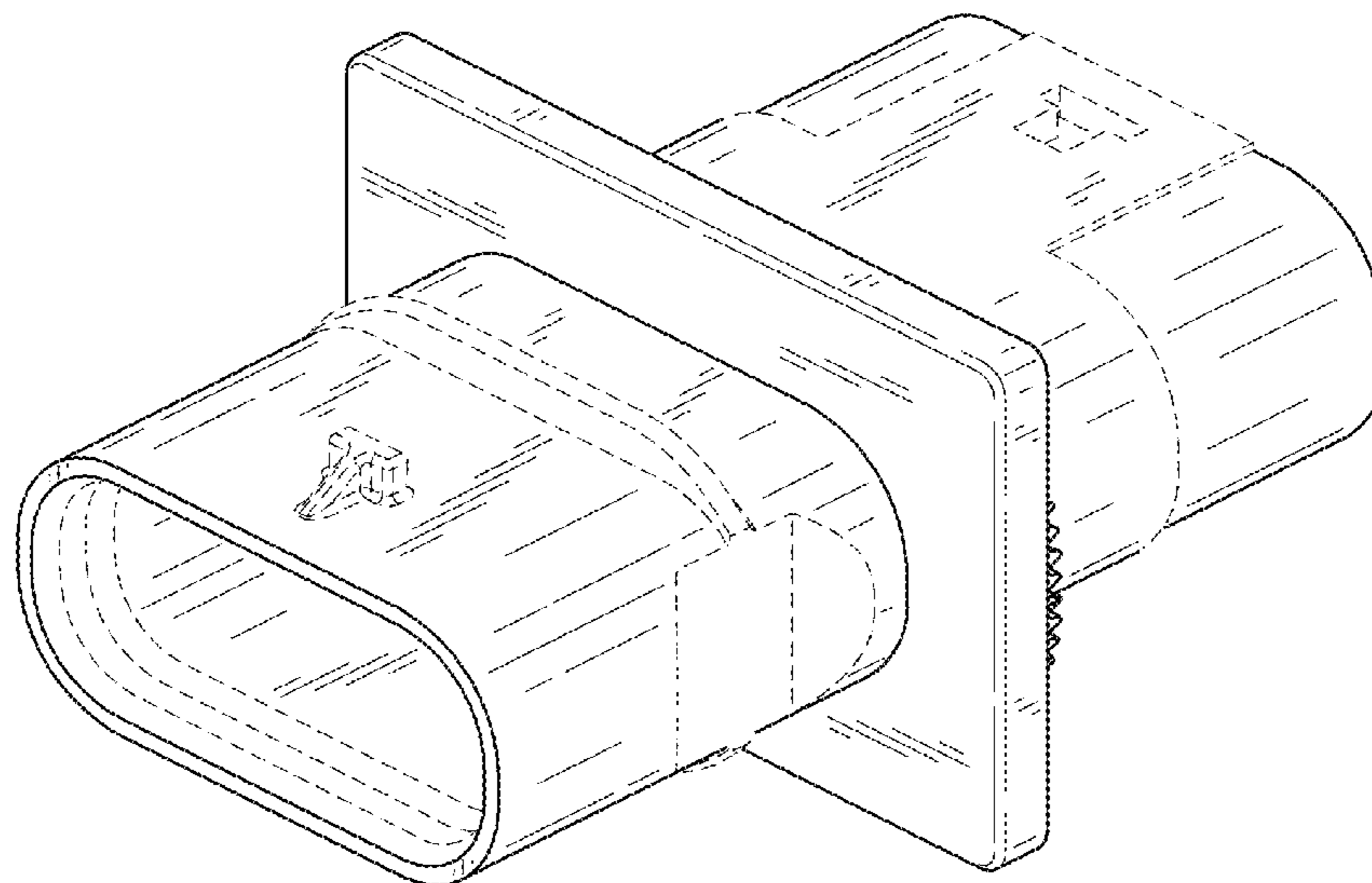
(57) **CLAIM**

The ornamental design for a battery module connector barrel, as shown and described herein.

**DESCRIPTION**

FIG. 1 is a front overhead perspective view of a connector barrel showing our new design;  
FIG. 2 is a back overhead perspective view thereof;  
FIG. 3 is a top plan view thereof;  
FIG. 4 is a bottom plan view thereof;  
FIG. 5 is a right side elevation view thereof;  
FIG. 6 is a left side elevation view thereof;  
FIG. 7 is a front elevation view thereof; and,  
FIG. 8 is a back election view thereof.  
The broken line showing of a battery module connector barrel is for the purpose of illustrating portions of the article and forms no part of the claimed design.

**1 Claim, 4 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

D588,990	S	3/2009	Kok	
D589,444	S	3/2009	Kok	
7,722,372	B2	5/2010	Matsumoto et al.	
7,879,485	B2	2/2011	Yoon et al.	
7,892,011	B2	2/2011	Beer	
8,038,450	B2	10/2011	Nakagawa	
8,147,280	B2	4/2012	Fernandez et al.	
8,221,165	B2	7/2012	DeWitte	
8,237,400	B2	8/2012	Gamboa et al.	
8,328,581	B2	12/2012	DeChazal	
D675,568	S	2/2013	Drew	
D678,203	S	3/2013	Corona	
8,679,666	B1	3/2014	Tsukamoto et al.	
8,808,031	B2	8/2014	Zhao	
9,150,107	B2	10/2015	Ferrel	
9,321,340	B2	4/2016	Maskew et al.	
D765,030	S *	8/2016	Tyler .....	D13/119
9,413,040	B2	8/2016	Murakami et al.	
D797,043	S *	9/2017	Akana .....	D13/103
D803,778	S	11/2017	Tononishi	
D817,278	S *	5/2018	Tyler .....	D13/119
10,249,916	B2 *	4/2019	Tyler .....	H01M 2/20
10,439,182	B2 *	10/2019	Elison .....	B60L 50/64
D867,993	S *	11/2019	DeKeuster .....	D13/119

10,543,795	B2 *	1/2020	DeKeuster .....	B60R 16/0215
				D13/133
D894,128	S *	8/2020	Somanathapura Ramanna .....	
				D13/133
10,819,073	B2 *	10/2020	Azad .....	B60R 16/03
2001/0018294	A1	8/2001	Kameyama	
2007/0087266	A1	4/2007	Bourke et al.	
2012/0308869	A1	12/2012	Obasih	
2014/0045026	A1	2/2014	Fritz	
2014/0062493	A1	3/2014	Farrell	
2014/0327444	A1	11/2014	Rollan et al.	
2015/0069829	A1	3/2015	Dulle et al.	
2015/0217707	A1	8/2015	Tanigaki	
2015/0243946	A1	8/2015	Ahn	
2016/0043448	A1	2/2016	Fritz	
2016/0107530	A1	4/2016	Roberts et al.	
2016/0133908	A1	5/2016	Zhao	
2016/0197384	A1	7/2016	DeKeuster	
2016/0226112	A1	8/2016	Maskew et al.	

FOREIGN PATENT DOCUMENTS

EP	0921607	6/1999
EP	2355209	8/2011
WO	9831059	7/1998
WO	2012142284	A1 10/2012
WO	2013188680	12/2013

\* cited by examiner

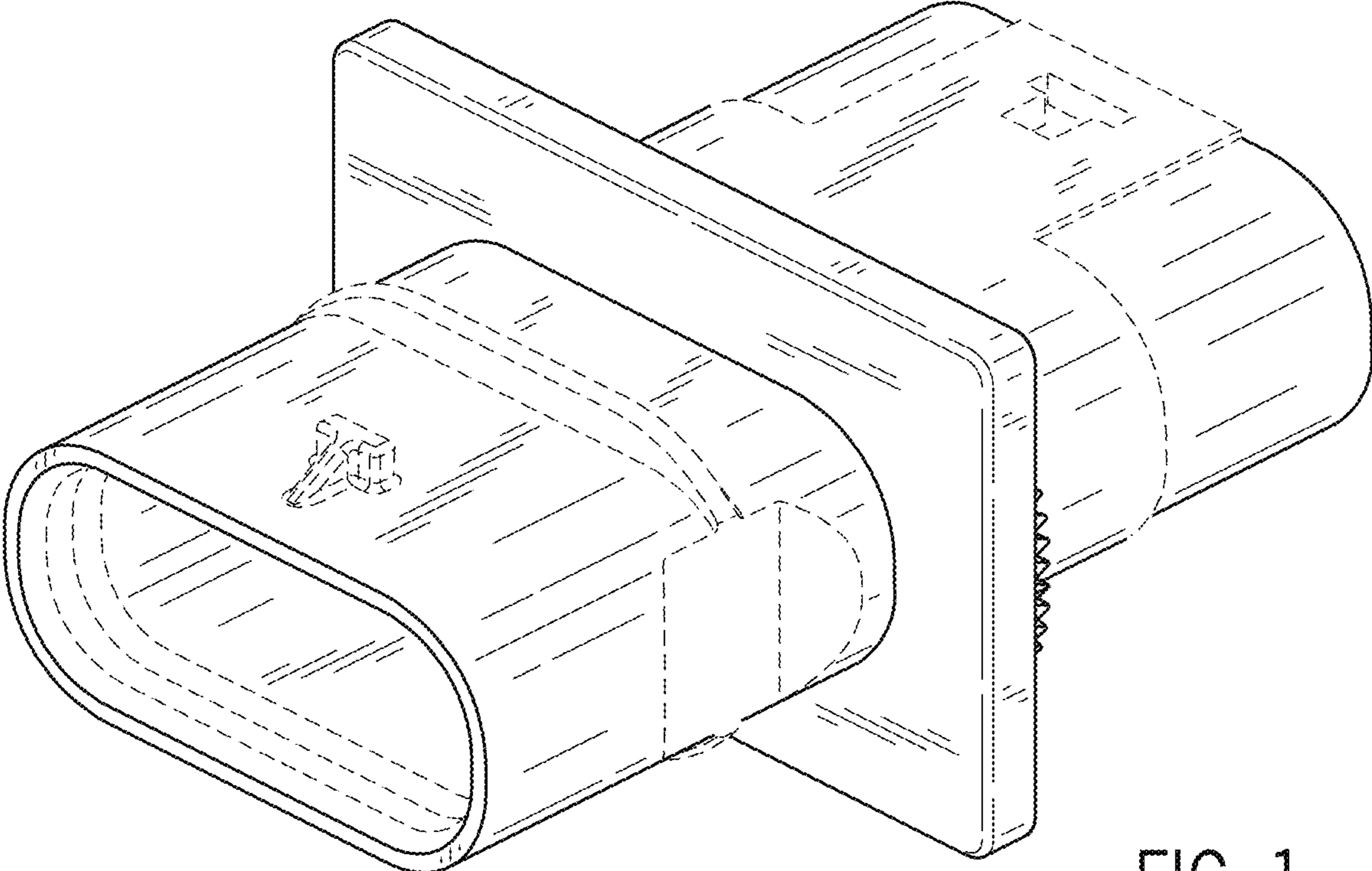


FIG. 1

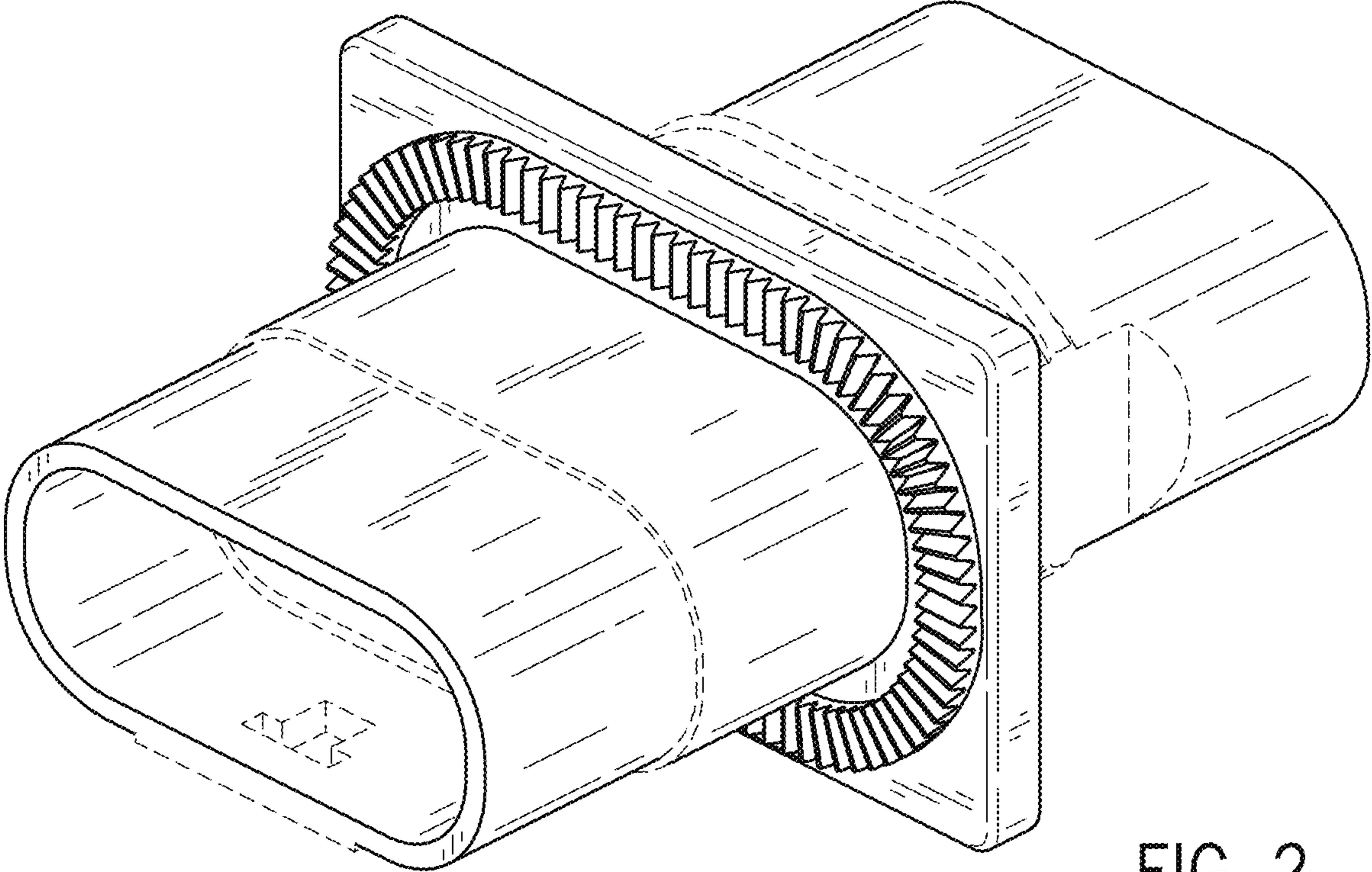


FIG. 2

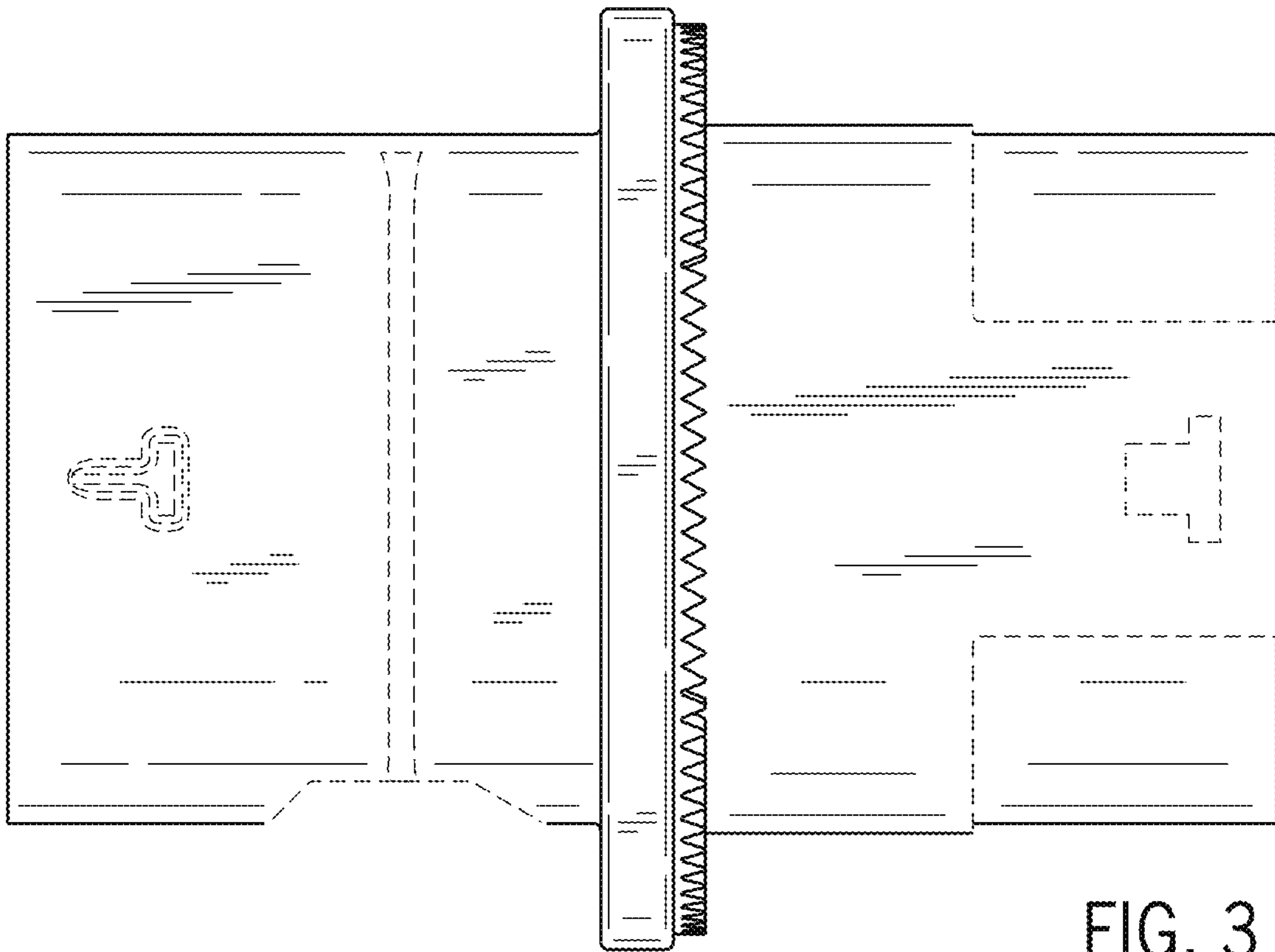


FIG. 3

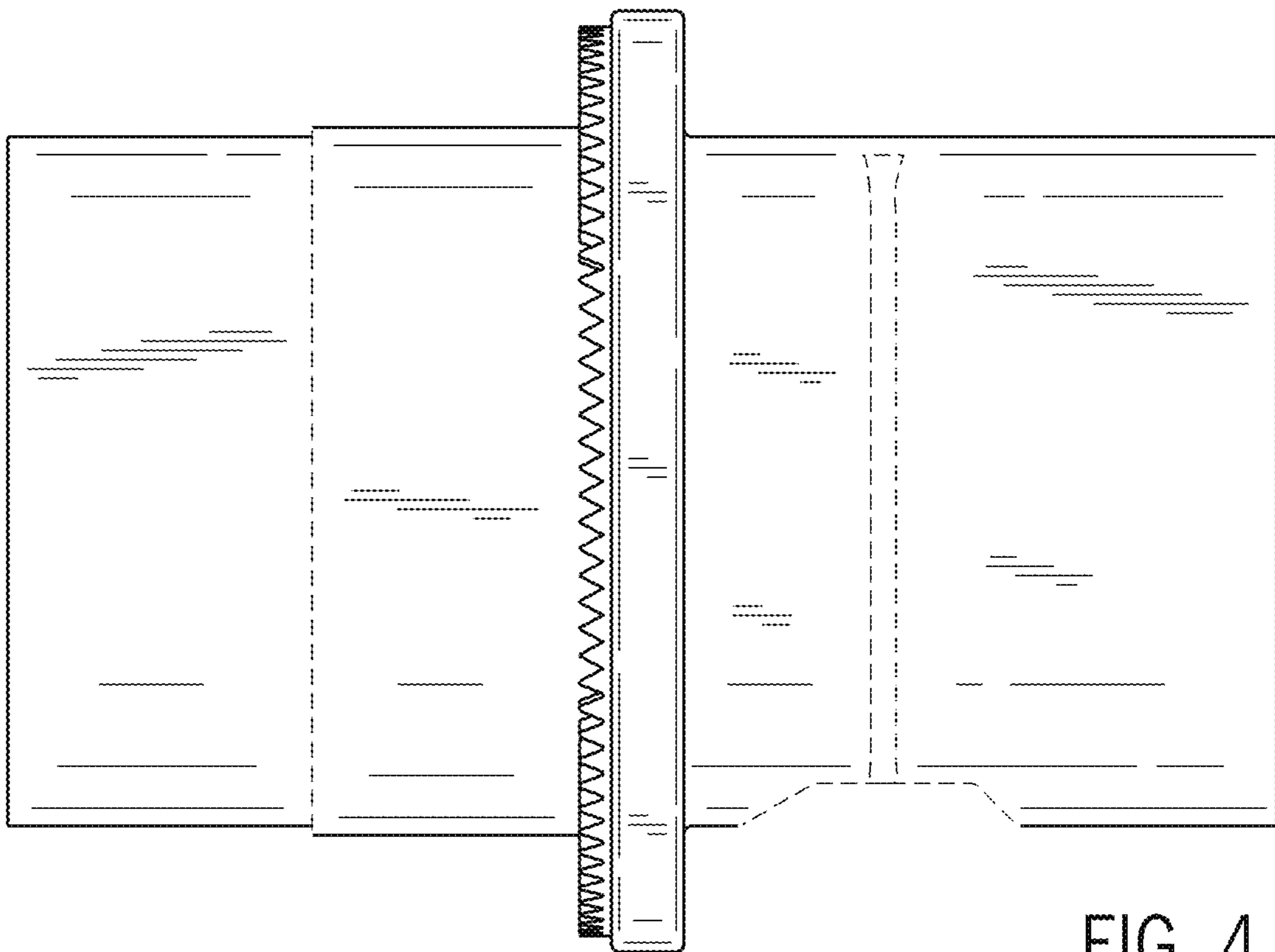


FIG. 4

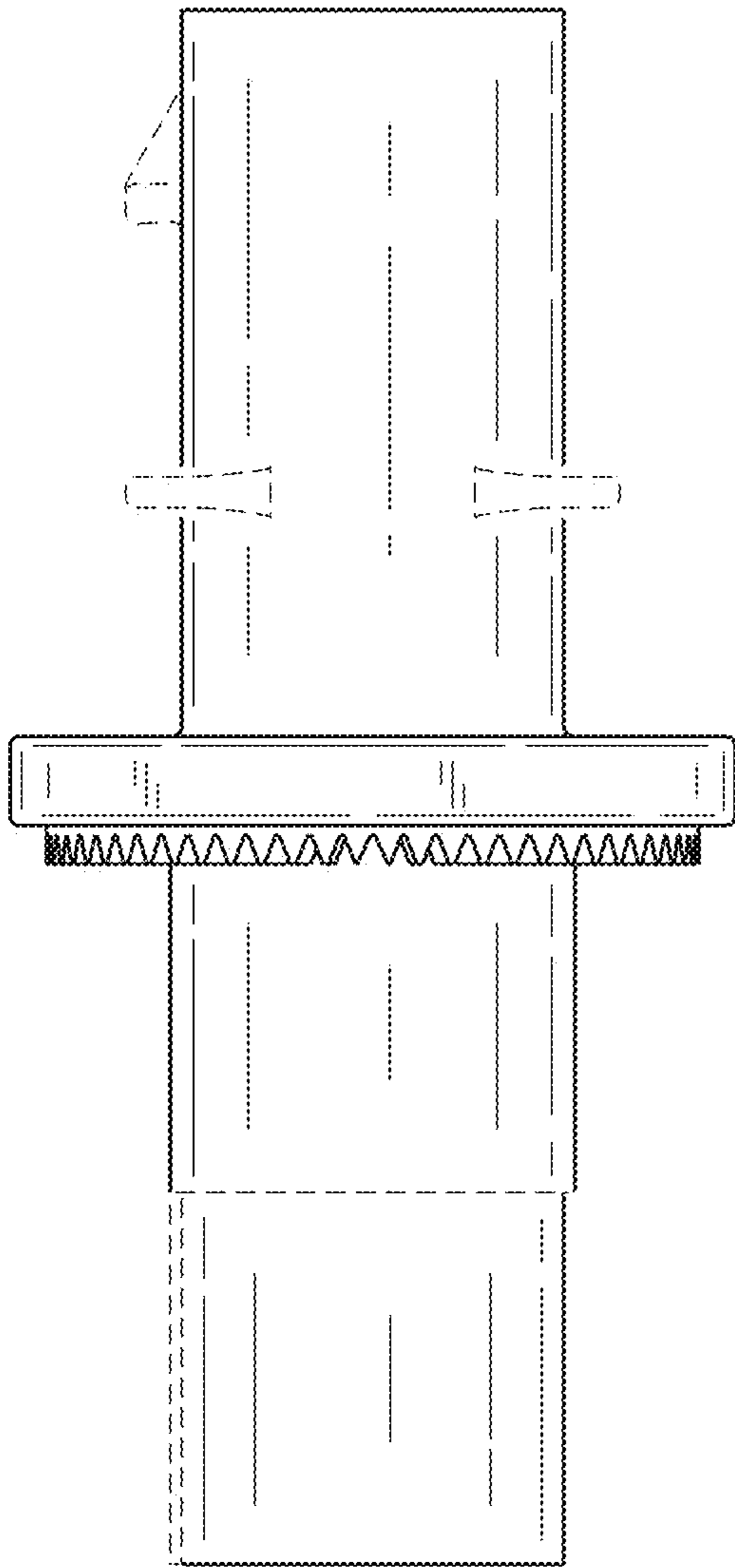


FIG. 5

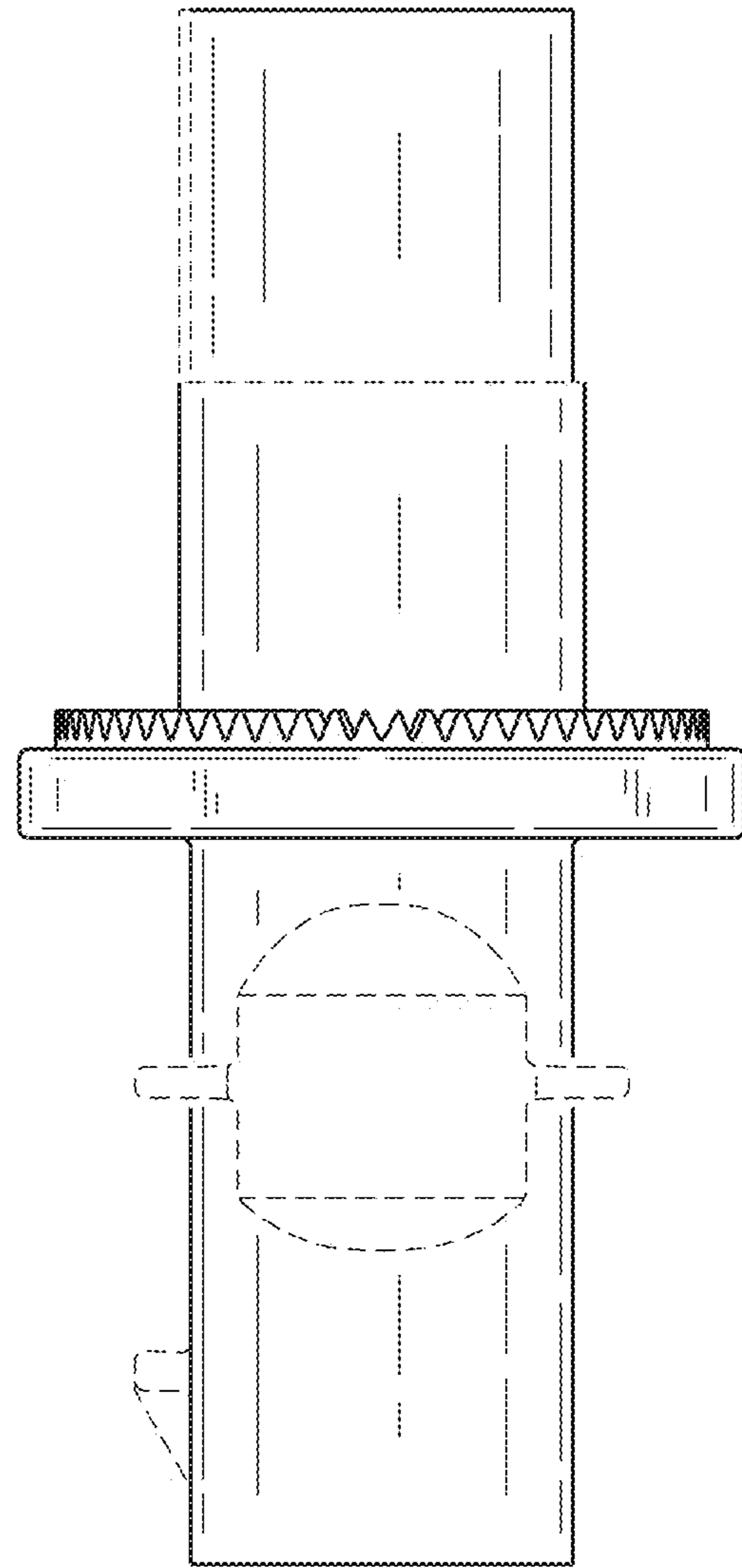


FIG. 6

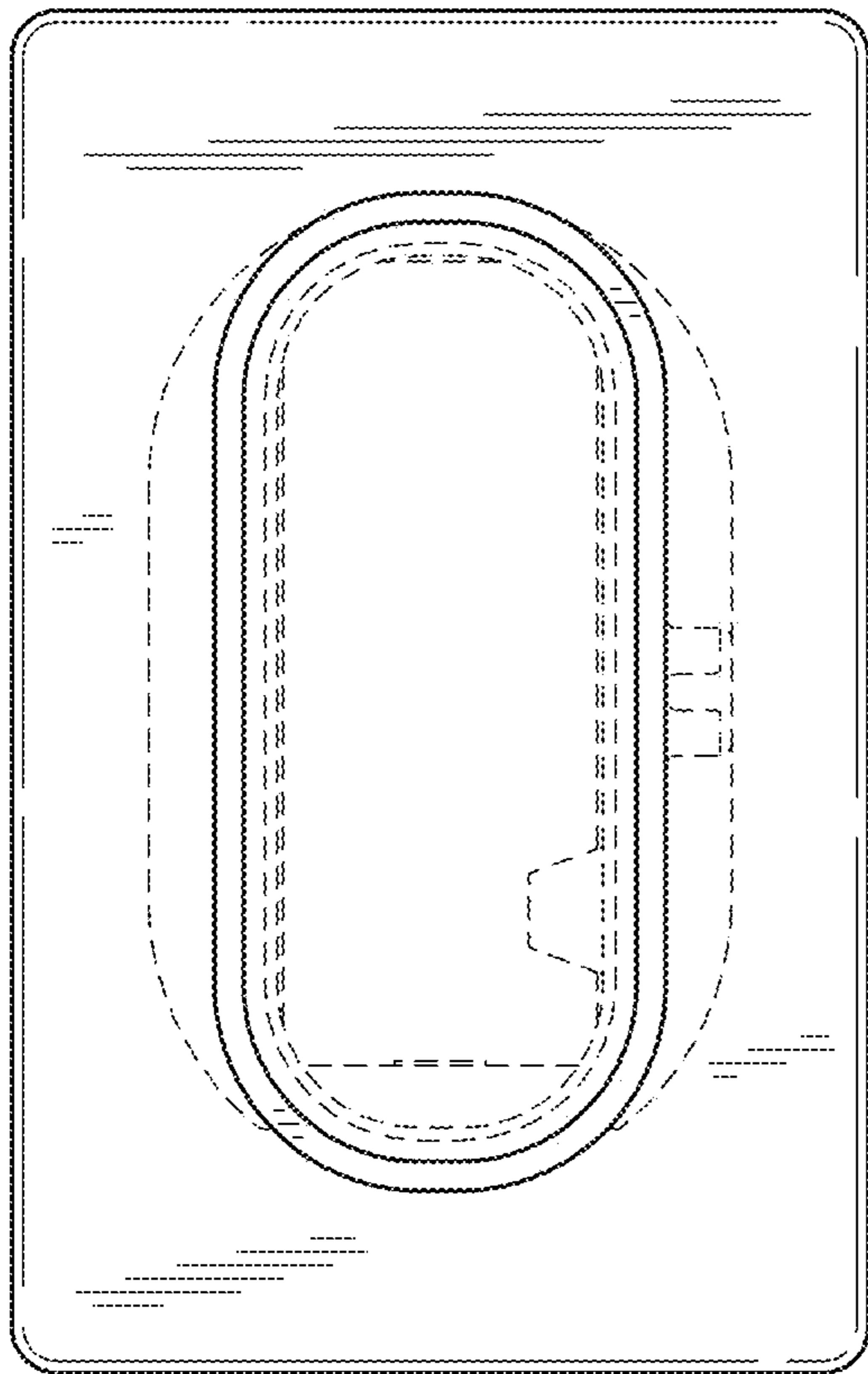


FIG. 7

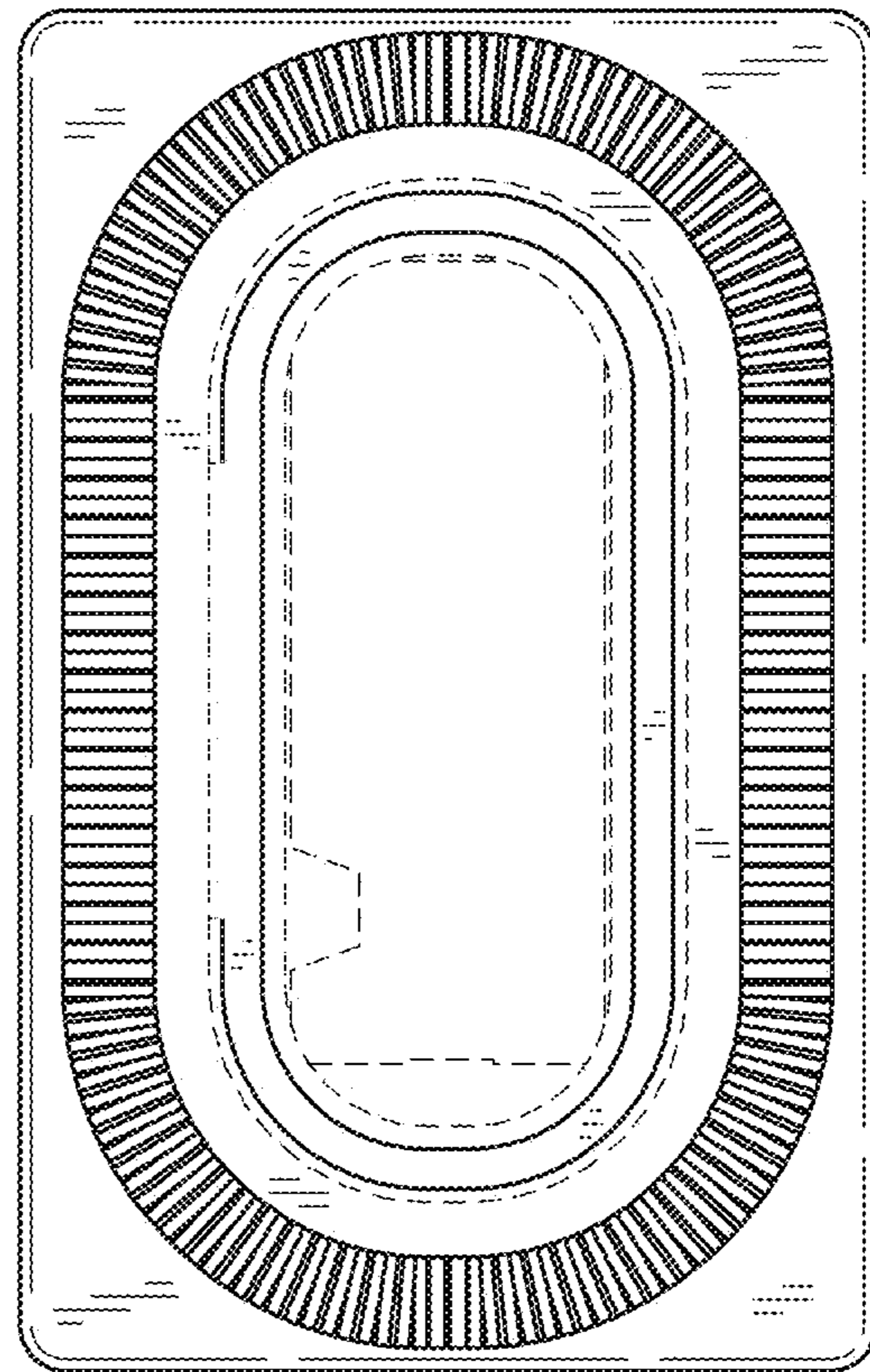


FIG. 8

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : D920,251 S  
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DATED : May 25, 2021  
INVENTOR(S) : Elison et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page

In Column 2, item (57) under "DESCRIPTION", Line 9, delete "back election" and insert -- back elevation --, therefor.

Signed and Sealed this  
Twenty-third Day of November, 2021



Drew Hirshfeld  
*Performing the Functions and Duties of the  
Under Secretary of Commerce for Intellectual Property and  
Director of the United States Patent and Trademark Office*