



US00D876401S

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

(10) **Patent No.:** **US D876,401 S**  
(45) **Date of Patent:** **\*\* Feb. 25, 2020**

(54) **HORN ANTENNA**

**DESCRIPTION**

(71) Applicant: **Wistron NeWeb Corp.**, Hsinchu (TW)

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**I-Ching Lan**, Hsinchu (TW)

(73) Assignee: **WISTRON NEWEB CORP.**, Hsinchu (TW)

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

(21) Appl. No.: **29/626,744**

(22) Filed: **Nov. 20, 2017**

(51) **LOC (12) Cl.** ..... **14-03**

(52) **U.S. Cl.**  
USPC ..... **D14/230**

(58) **Field of Classification Search**

USPC ..... D14/230-238, 138, 172, 188, 203.1,  
D14/203.3, 203.6, 204, 216, 221, 238.1,  
D14/240, 242, 299, 314, 343, 356, 358,  
D14/496, 509; D13/107, 108  
CPC ..... H01Q 1/007; H01Q 1/084; H01Q 1/12;  
H01Q 1/22; H01Q 1/38; H01Q 1/42;  
H01Q 7/00; H01Q 9/40; H01Q 9/285;  
H01Q 9/065; H01Q 9/44; H01Q 9/265;  
H01Q 19/10; H01Q 19/106; H01Q 19/12;  
H01Q

(Continued)

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D320,602 S \* 10/1991 Wells ..... D14/238  
D357,020 S \* 4/1995 Raymond ..... D14/230

(Continued)

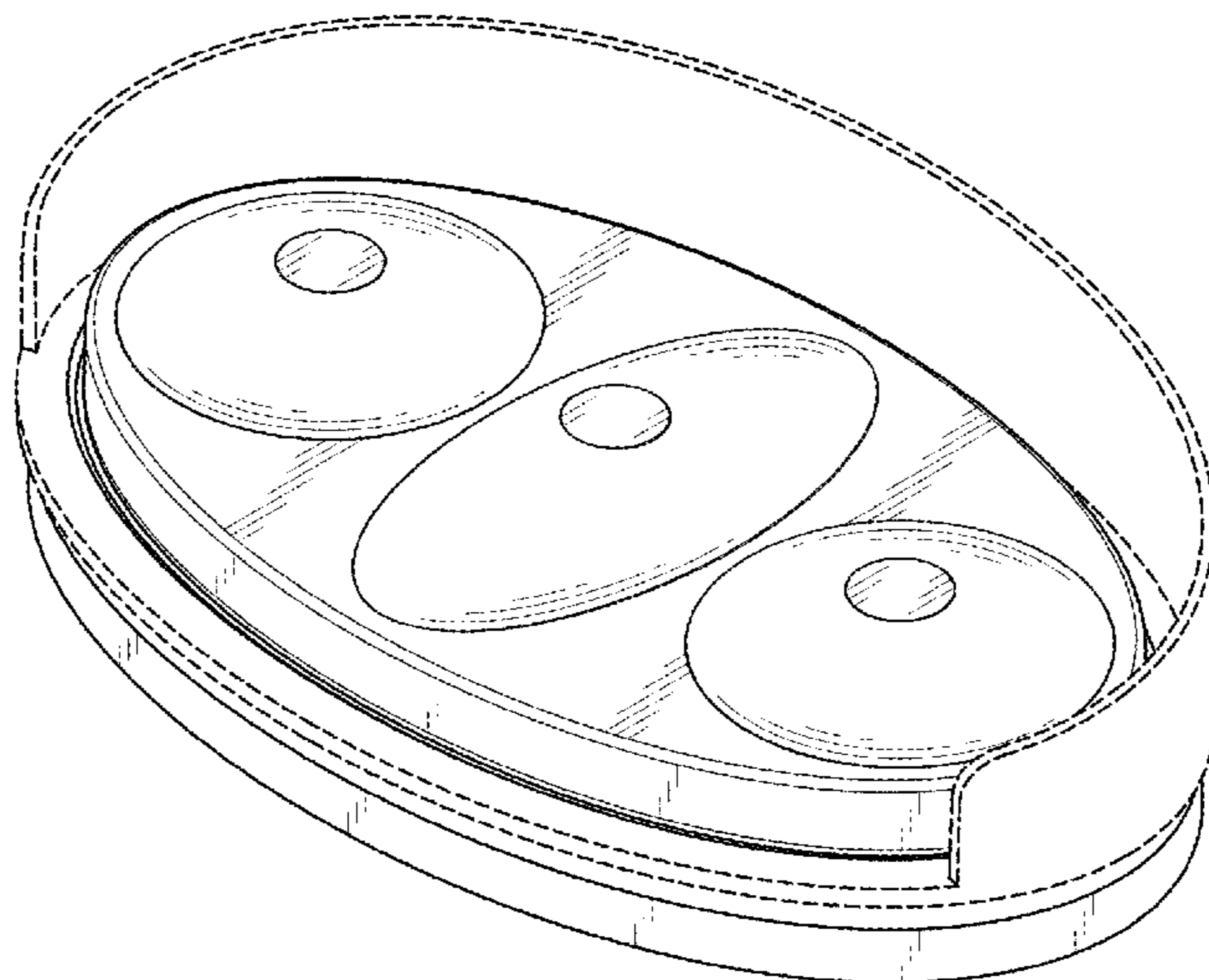
*Primary Examiner* — Jeffrey D Asch  
*Assistant Examiner* — Rebekah A Caruso

(57) **CLAIM**

The ornamental design for a horn antenna, as shown and described.

FIG. 1 is a top perspective view of a first embodiment of a horn antenna, in accordance with our new design;  
FIG. 2 is a front view thereof;  
FIG. 3 is a rear view thereof;  
FIG. 4 is a left view thereof;  
FIG. 5 is a right view thereof;  
FIG. 6 is a top plan view thereof;  
FIG. 7 is a bottom plan view thereof;  
FIG. 8 is a bottom perspective view thereof;  
FIG. 9 is a top perspective view of a second embodiment of a horn antenna, in accordance with our new design;  
FIG. 10 is a front view thereof;  
FIG. 11 is a rear view thereof;  
FIG. 12 is a left view thereof;  
FIG. 13 is a right view thereof;  
FIG. 14 is a top plan view thereof;  
FIG. 15 is a bottom plan view thereof;  
FIG. 16 is a bottom perspective view thereof;  
FIG. 17 is a top perspective view of a third embodiment of a horn antenna, in accordance with our new design;  
FIG. 18 is a front view thereof;  
FIG. 19 is a rear view thereof;  
FIG. 20 is a left view thereof;  
FIG. 21 is a right view thereof;  
FIG. 22 is a top plan view thereof;  
FIG. 23 is a bottom plan view thereof;  
FIG. 24 is a bottom perspective view thereof;  
FIG. 25 is a top perspective view of a fourth embodiment of a horn antenna, in accordance with our new design;  
FIG. 26 is a front view thereof;  
FIG. 27 is a rear view thereof;  
FIG. 28 is a left view thereof;  
FIG. 29 is a right view thereof;  
FIG. 30 is a top plan view thereof;  
FIG. 31 is a bottom plan view thereof; and,  
FIG. 32 is a bottom perspective view thereof.  
The broken lines in the drawings depict parts of the horn antenna only and form no part of the claimed design.

**1 Claim, 20 Drawing Sheets**



(58) **Field of Classification Search**

CPC ..... 19/13; H01Q 19/15; H01Q 19/30; H01Q  
 21/28; H01Q 21/06; H01Q 21/062; H01Q  
 21/293; H01Q 23/00; H01Q 13/0241;  
 H01Q 13/025; G05D 1/02; G05D 1/0234  
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D401,245	S *	11/1998	Benn	.....	D14/238
D401,592	S *	11/1998	Nishimura	.....	D14/230
D422,999	S *	4/2000	Overton	.....	D14/137
D435,251	S *	12/2000	Overton	.....	D14/230
D470,482	S *	2/2003	Ikeda	.....	D14/230
D489,713	S *	5/2004	Yusa	.....	D14/230
D501,467	S *	2/2005	Wang	.....	D14/235
D501,468	S *	2/2005	Wang	.....	D14/235
D598,905	S *	8/2009	Cook	.....	D14/236
D624,132	S *	9/2010	Cheng	.....	D21/451
7,876,282	B2 *	1/2011	Keilman	.....	H01Q 7/00 128/899
D659,681	S *	5/2012	Suzuki	.....	D14/221
D803,817	S *	11/2017	Schulz	.....	D14/230
D827,622	S *	9/2018	Baiz	.....	D14/238
2019/0157750	A1 *	5/2019	Chen	.....	H01Q 1/42

\* cited by examiner

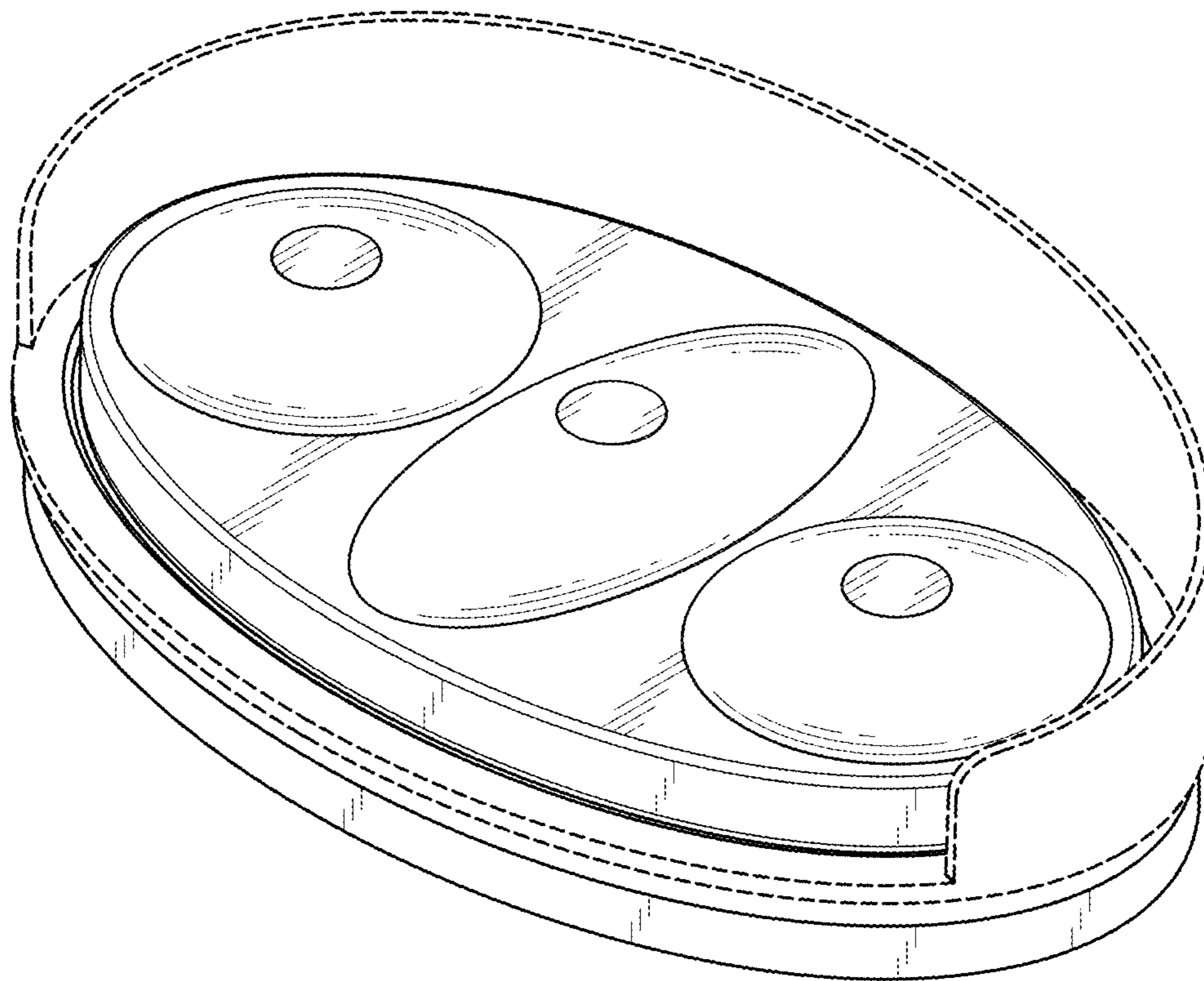


FIG. 1

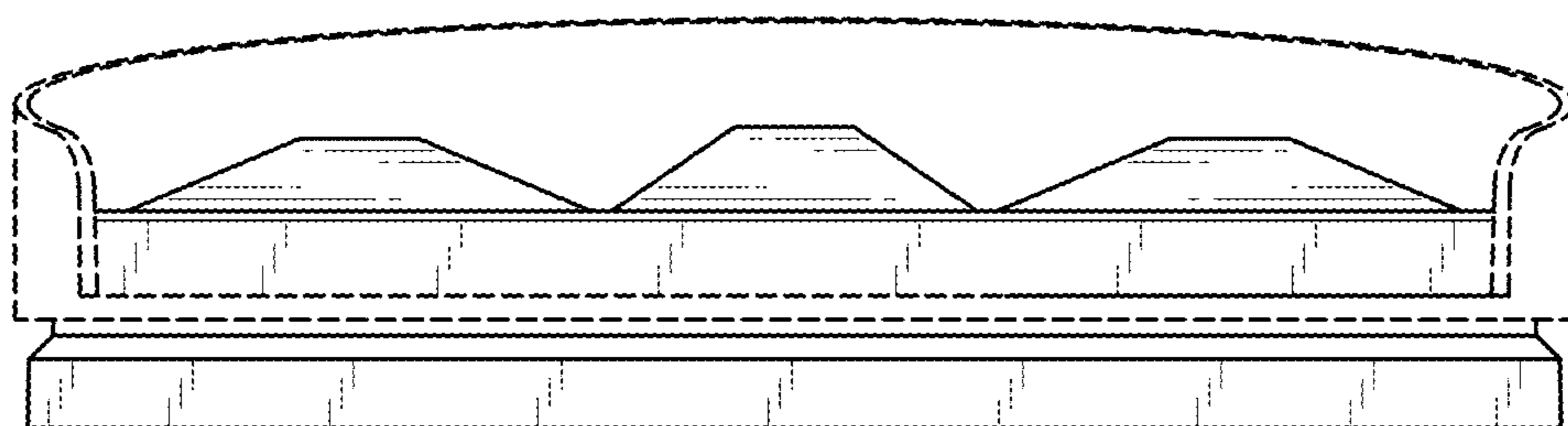


FIG. 2

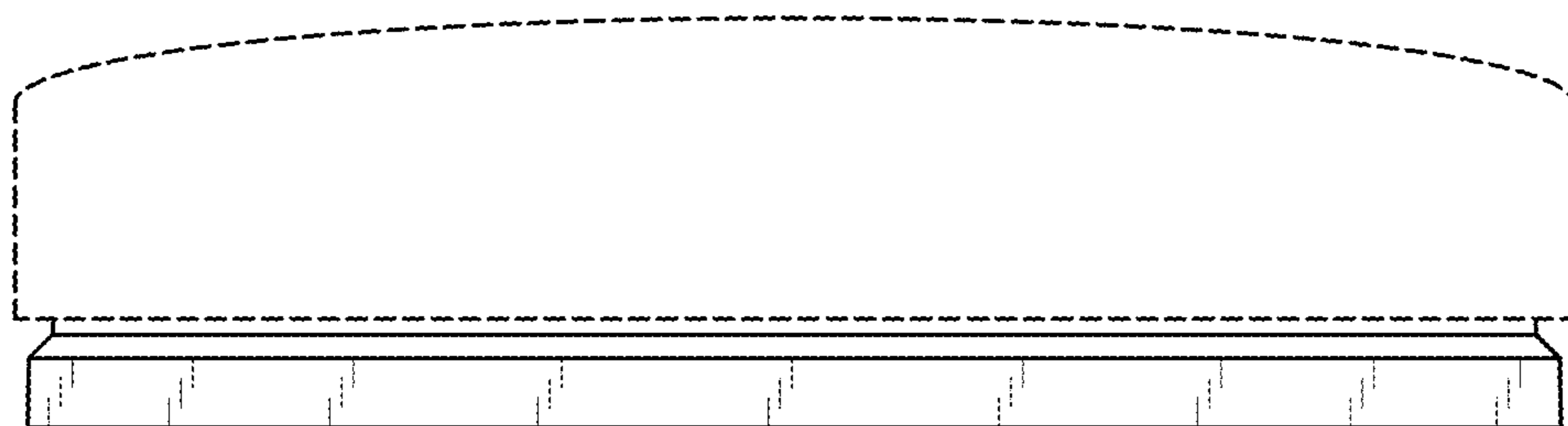


FIG. 3

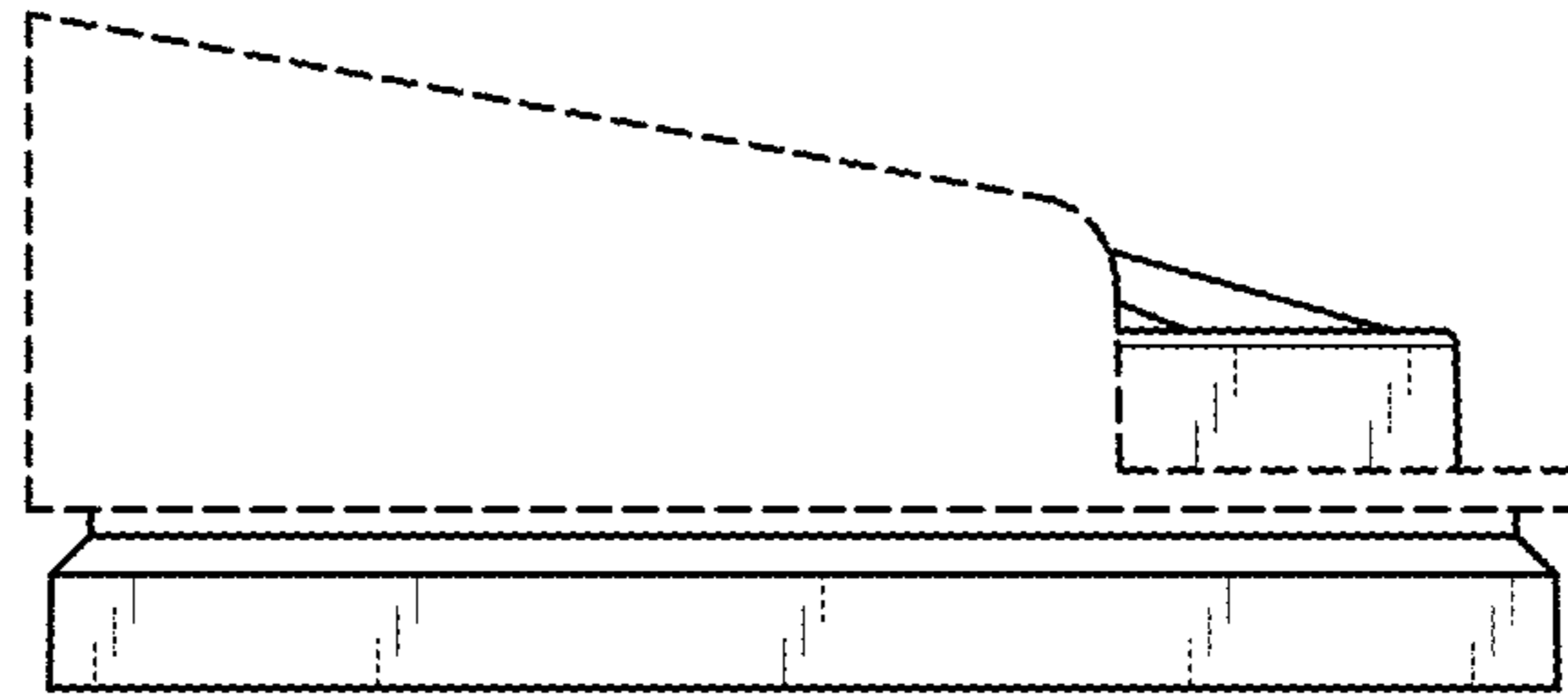


FIG. 4

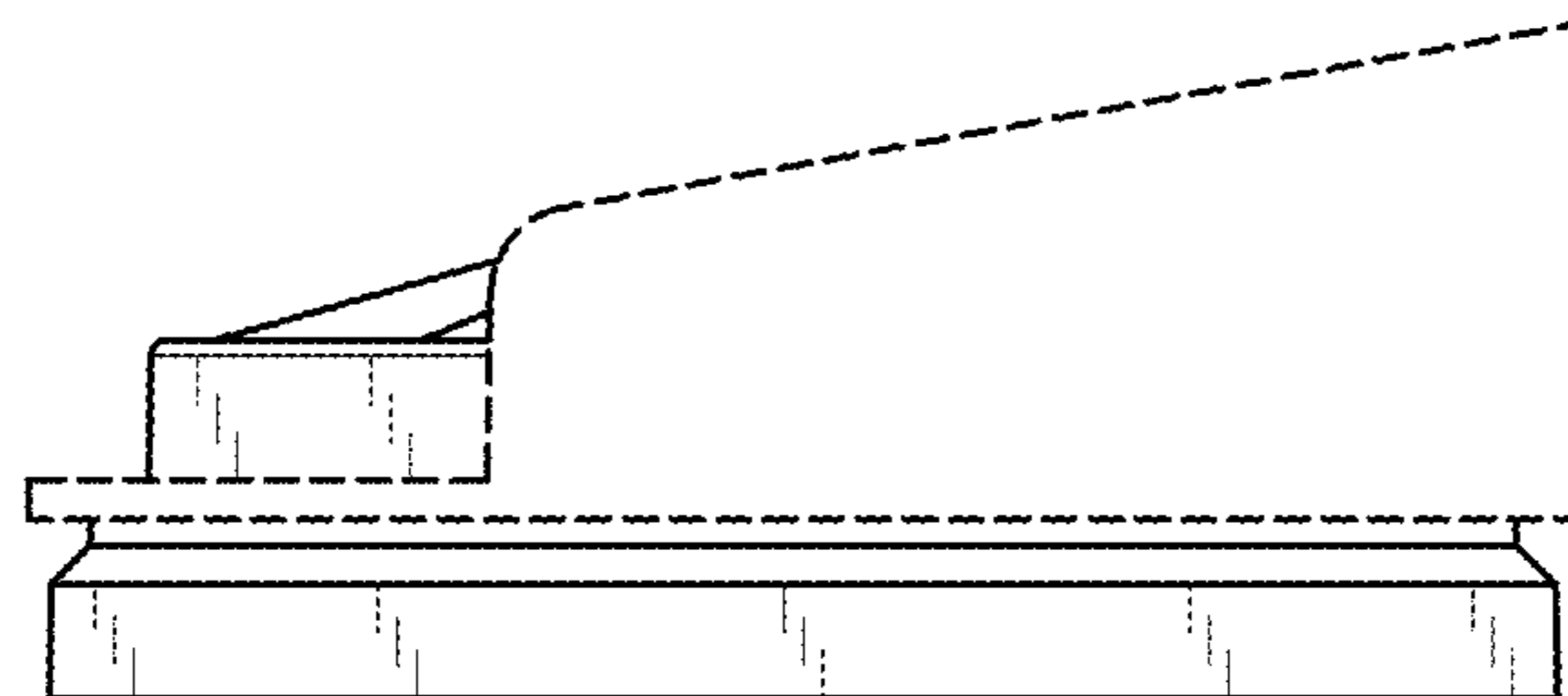


FIG. 5

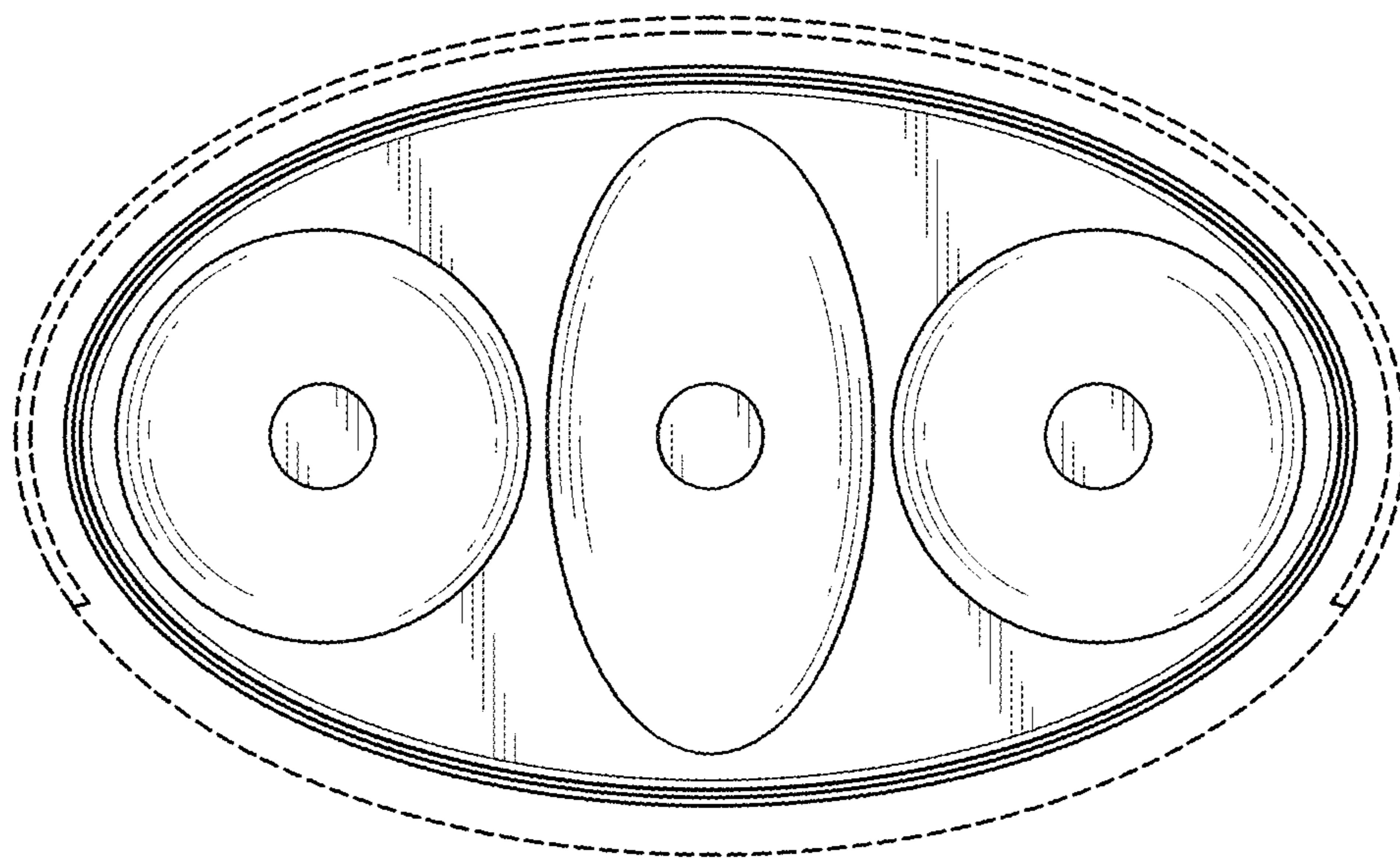


FIG. 6

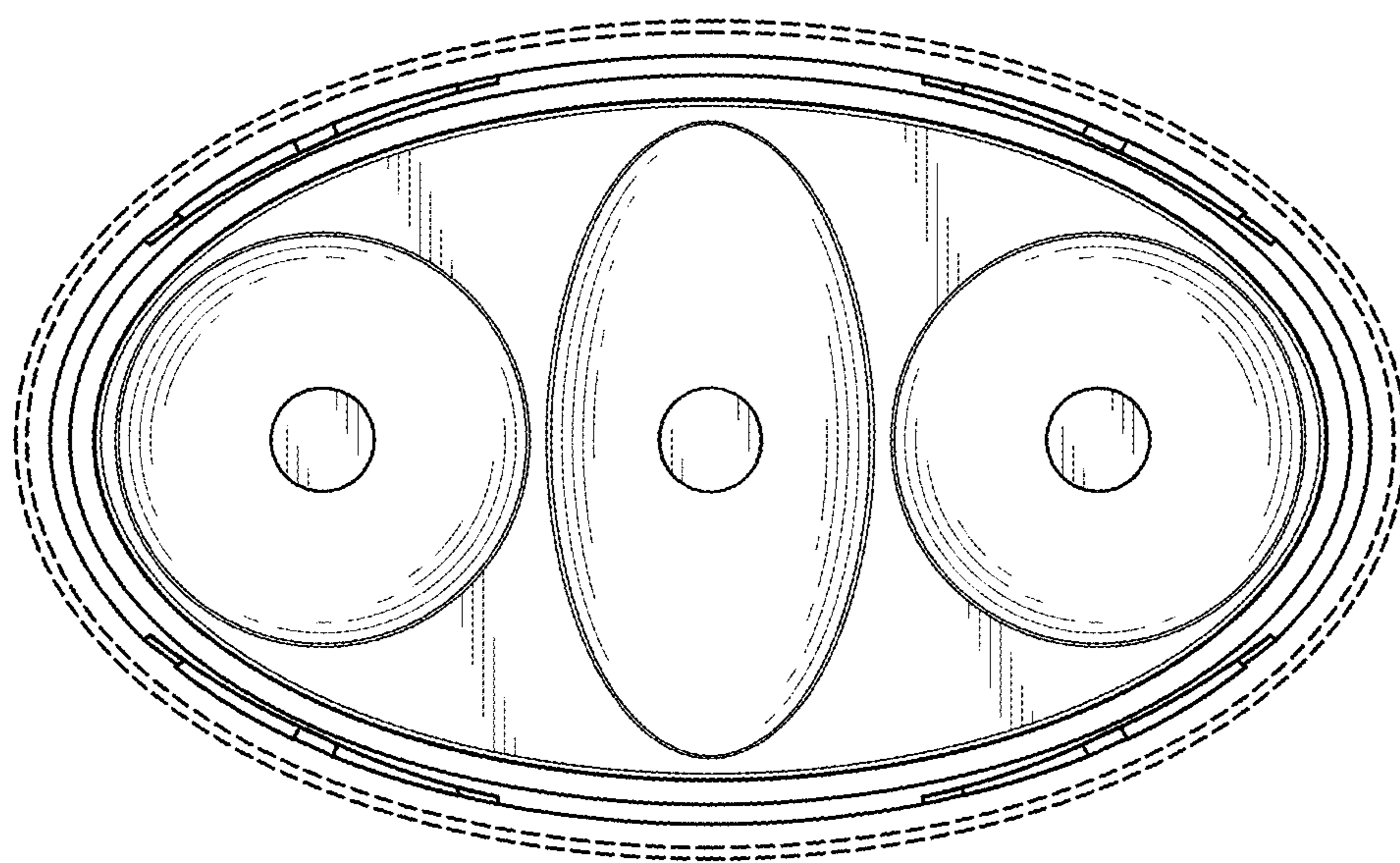


FIG. 7

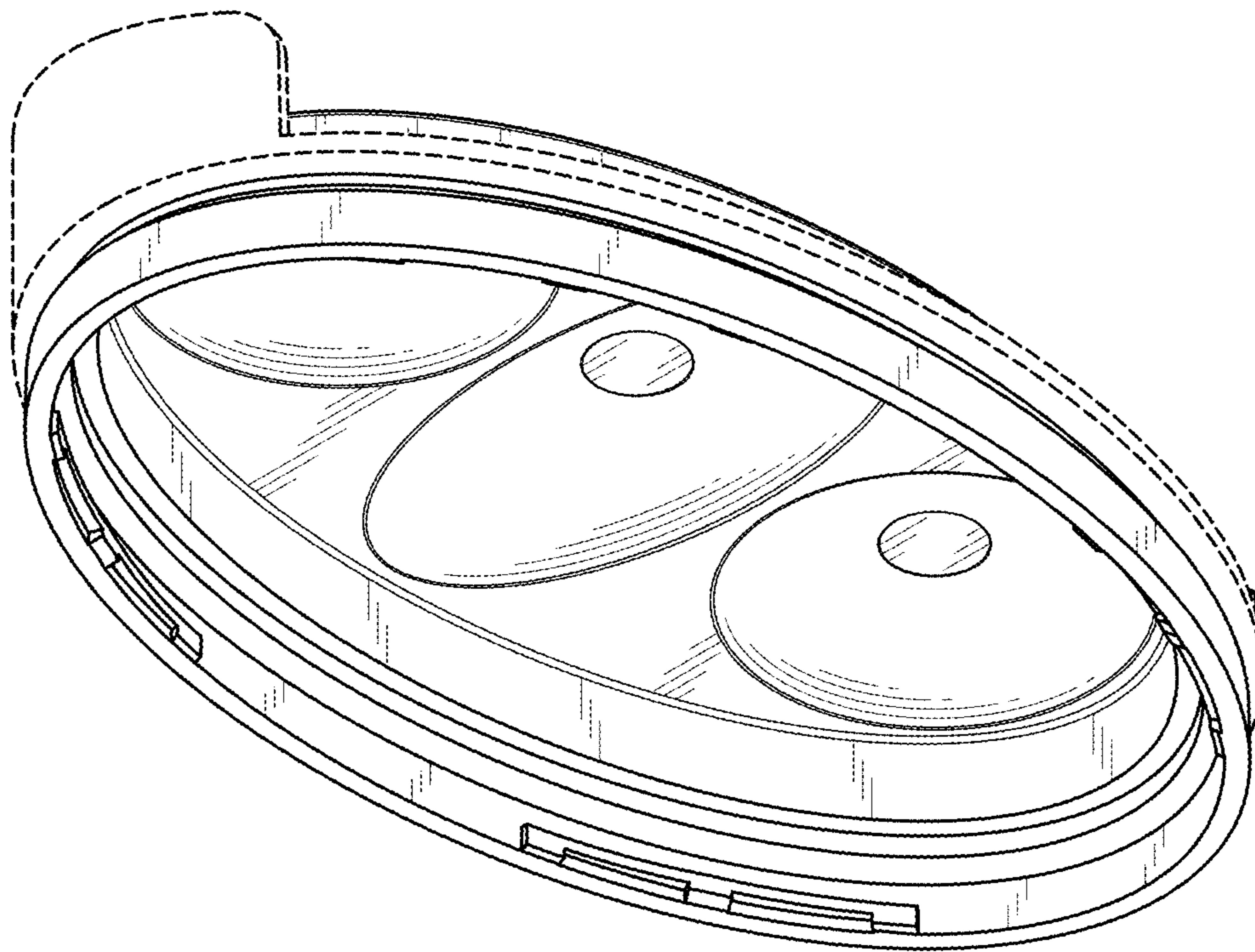


FIG. 8

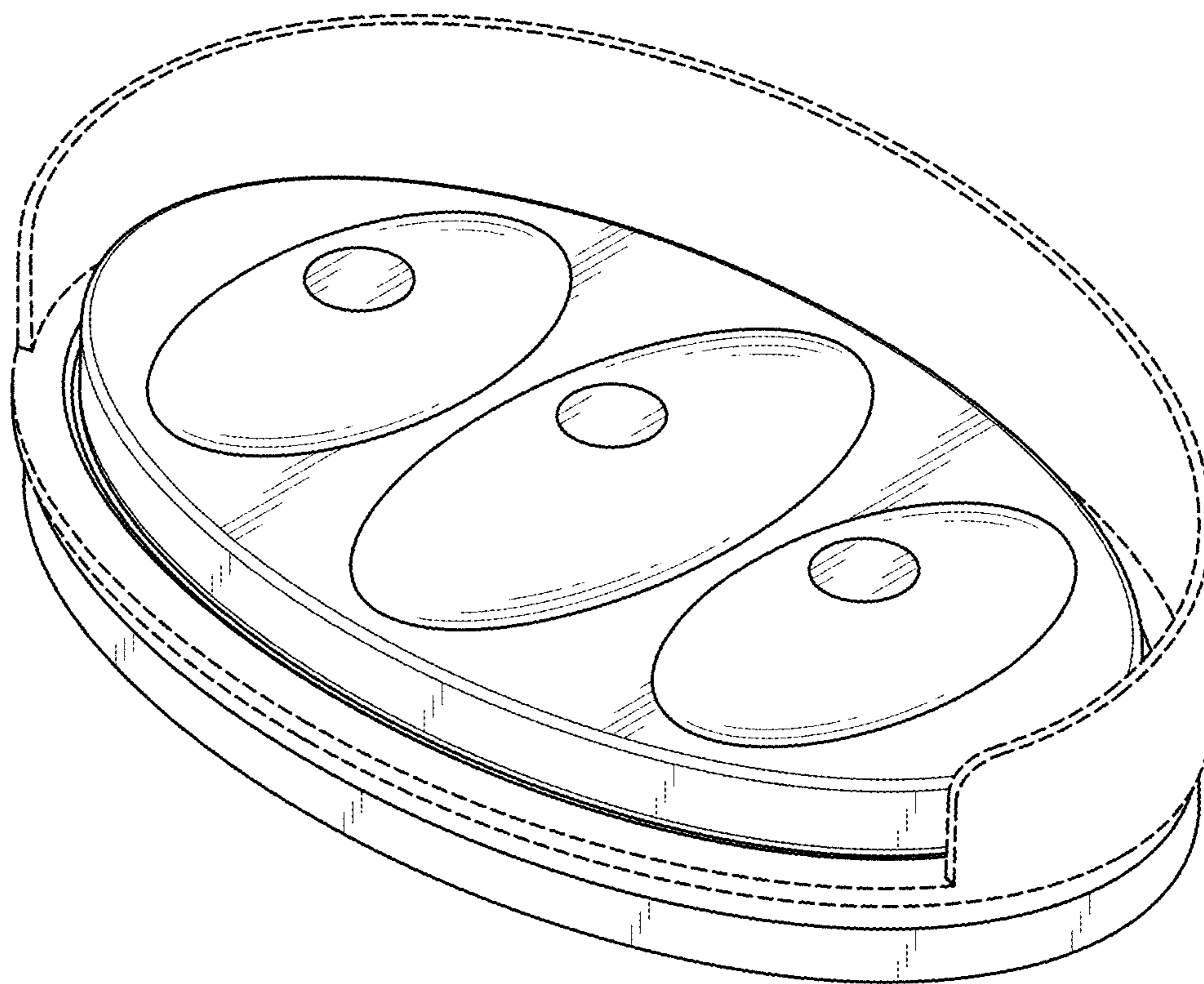


FIG. 9



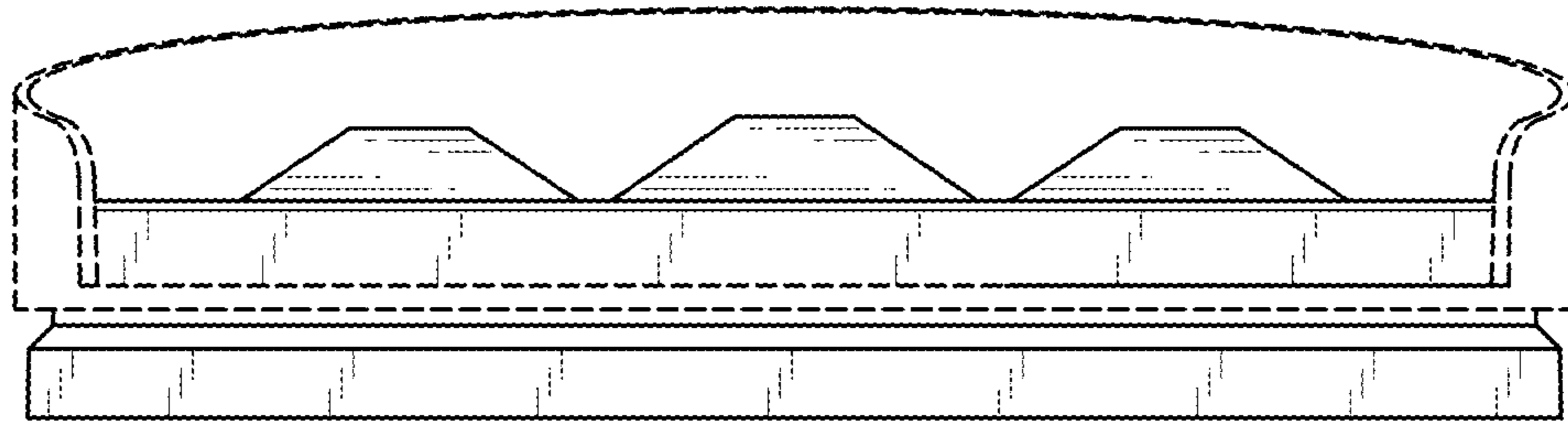


FIG. 10

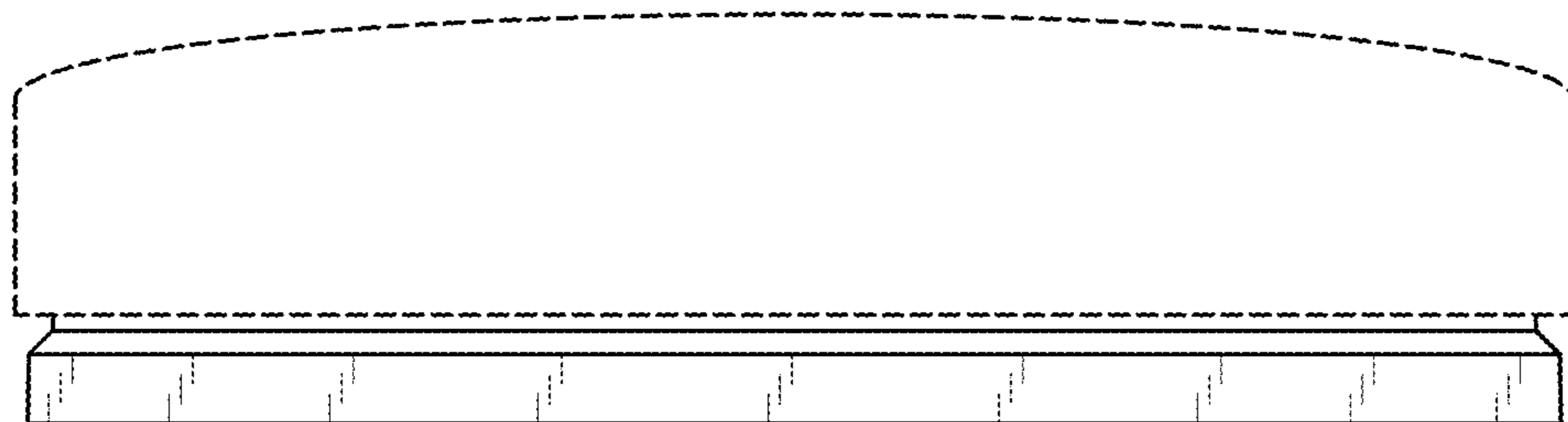


FIG. 11

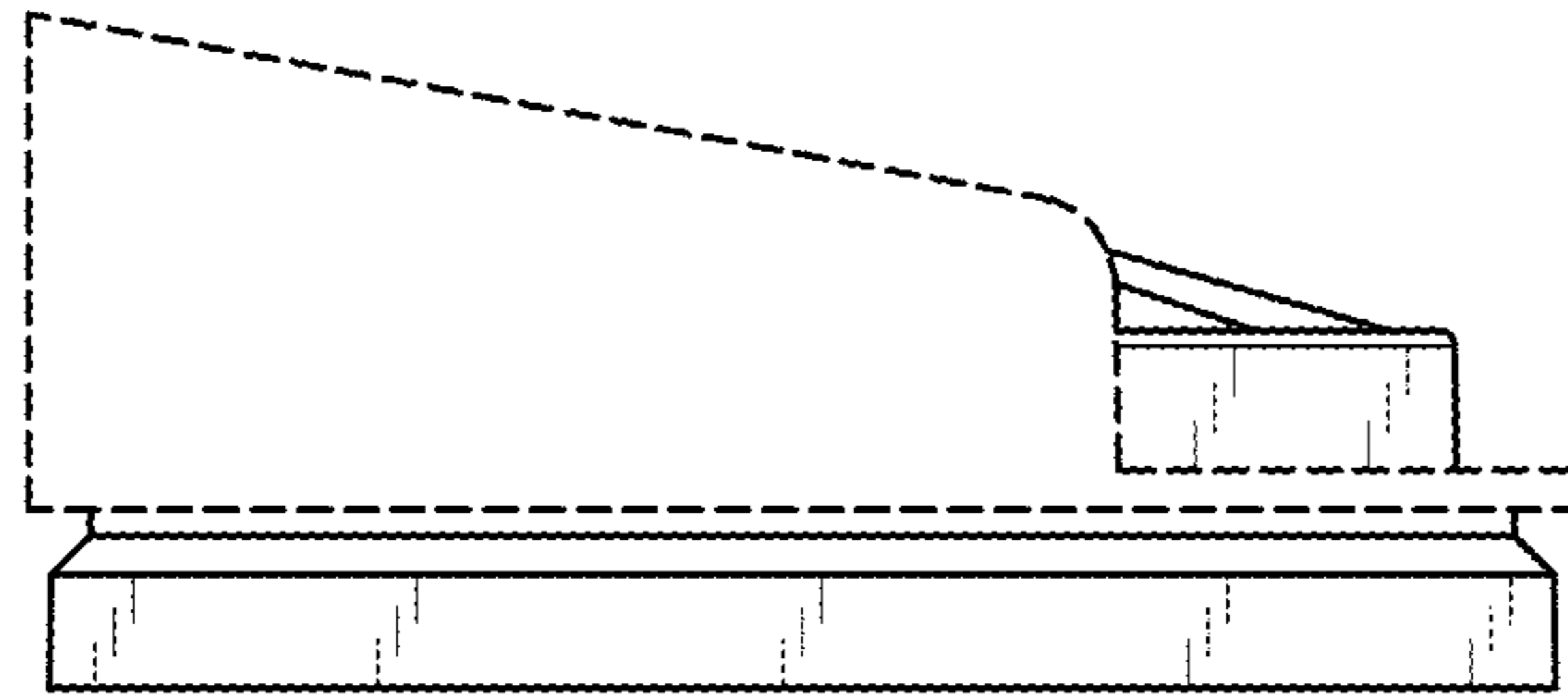


FIG. 12

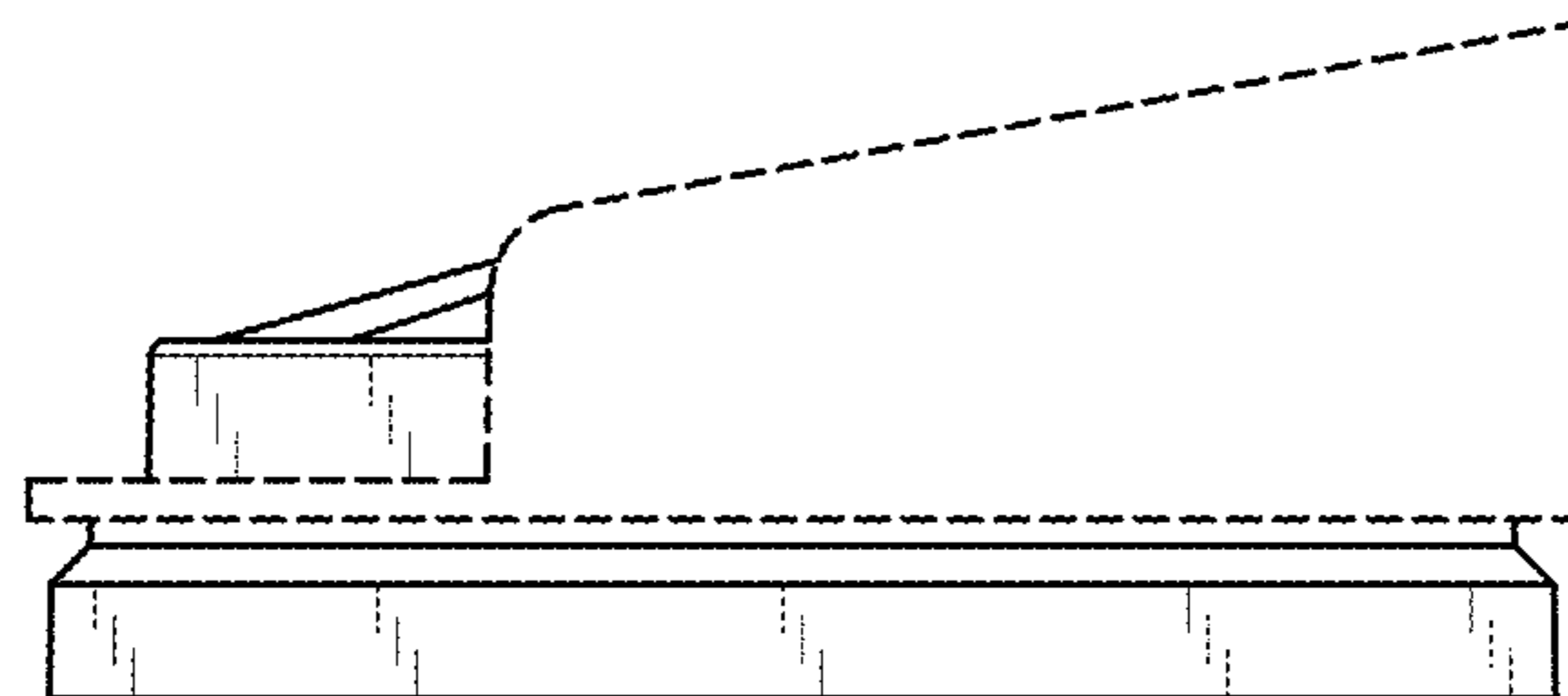


FIG. 13

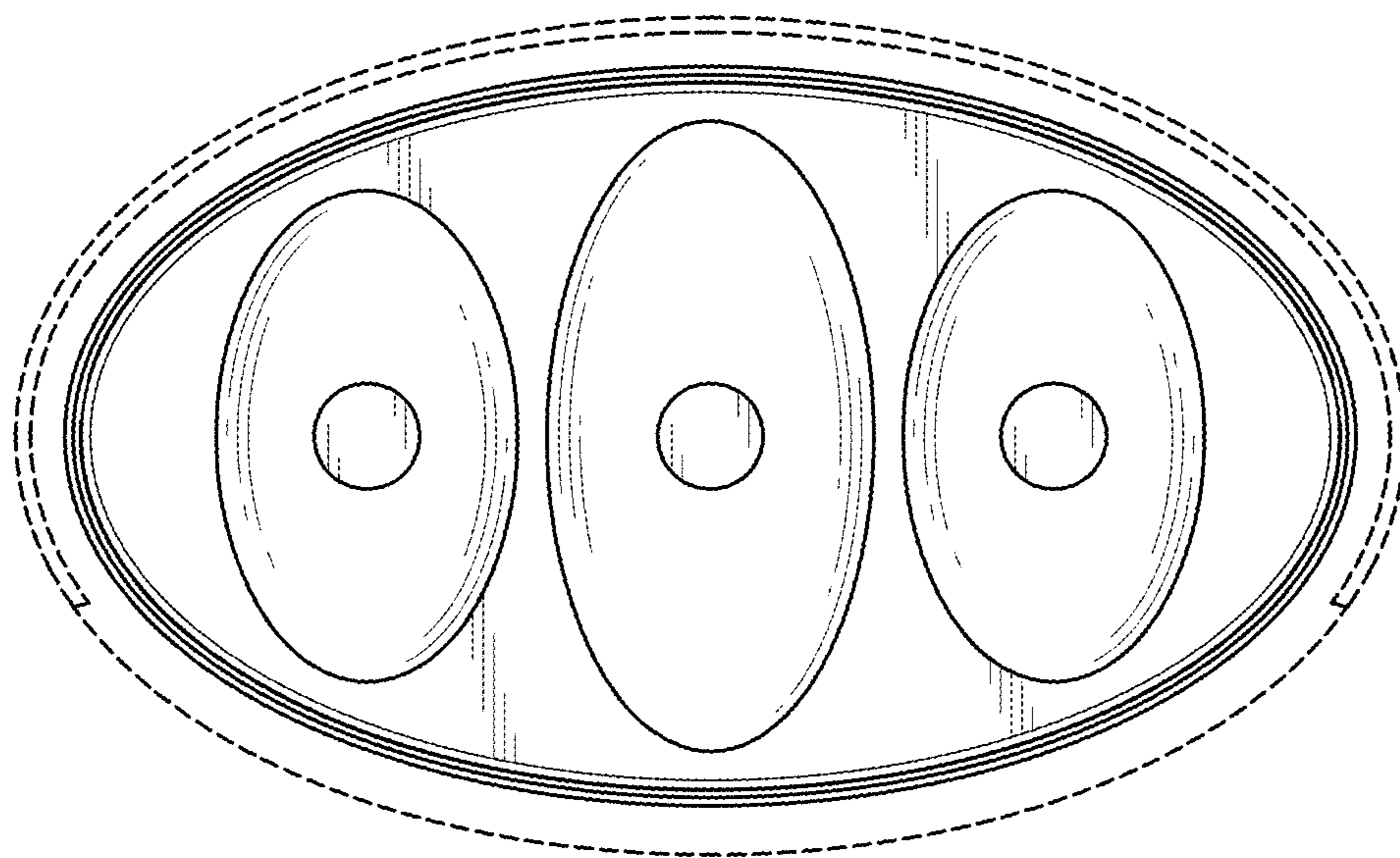


FIG. 14

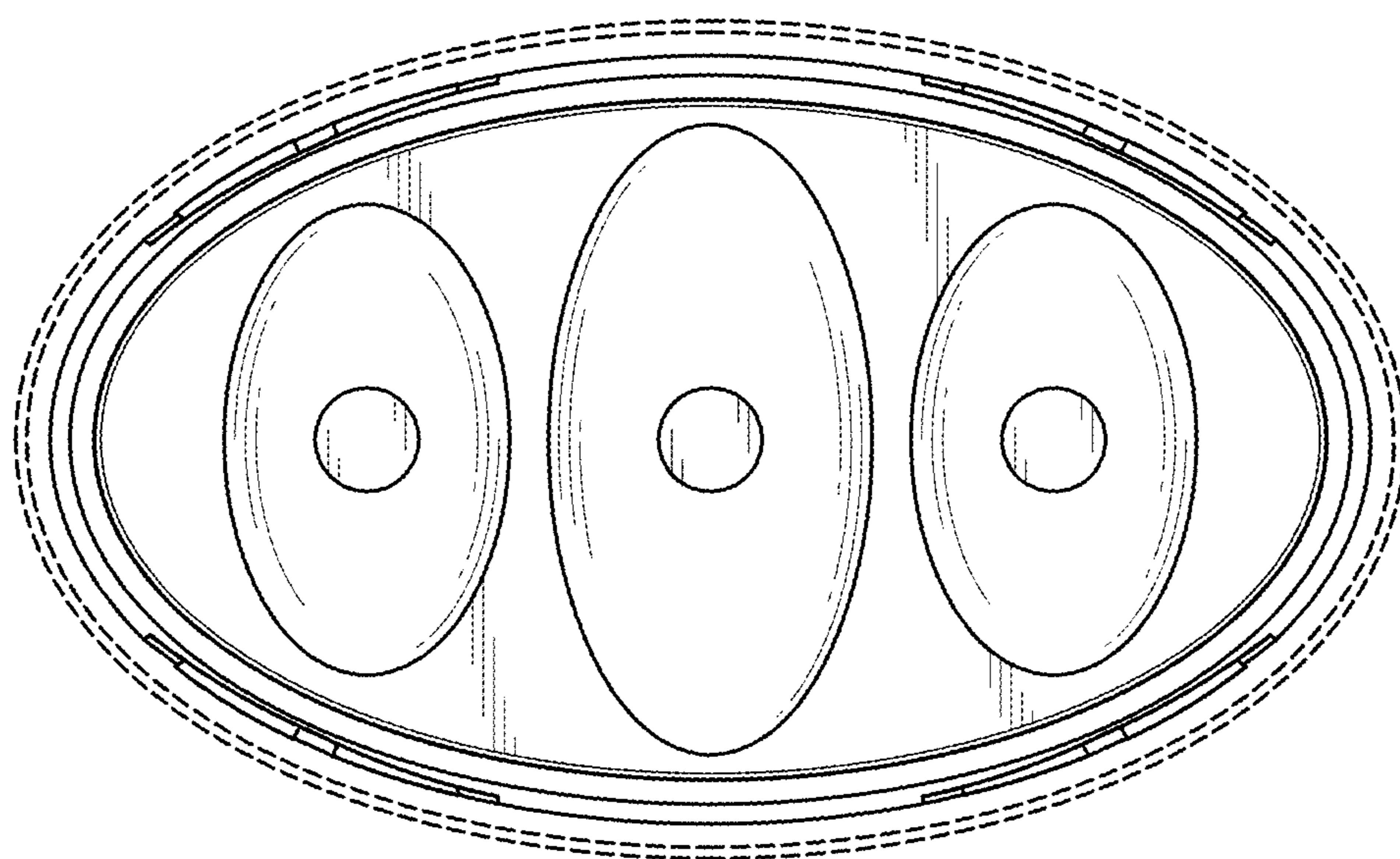


FIG. 15

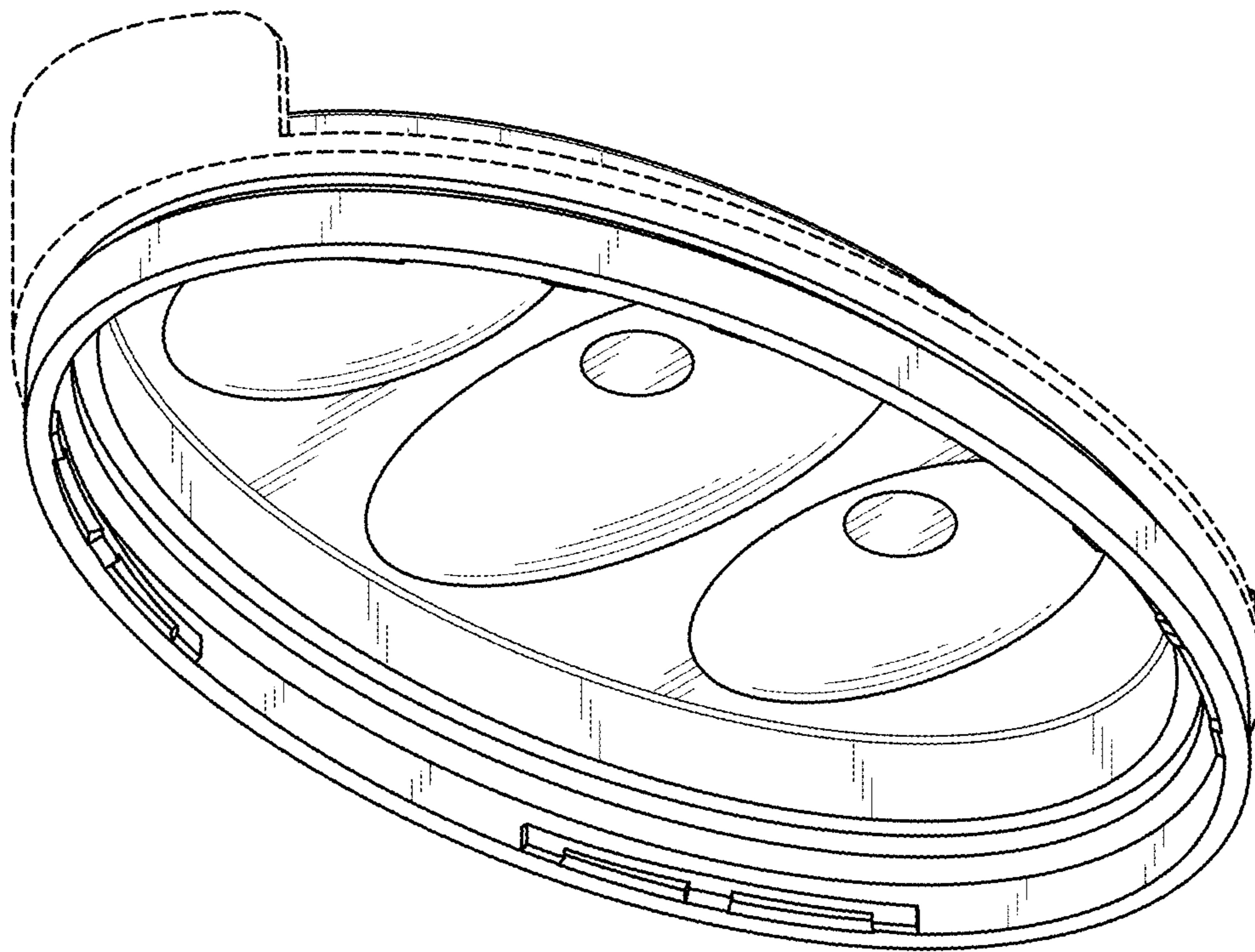


FIG. 16

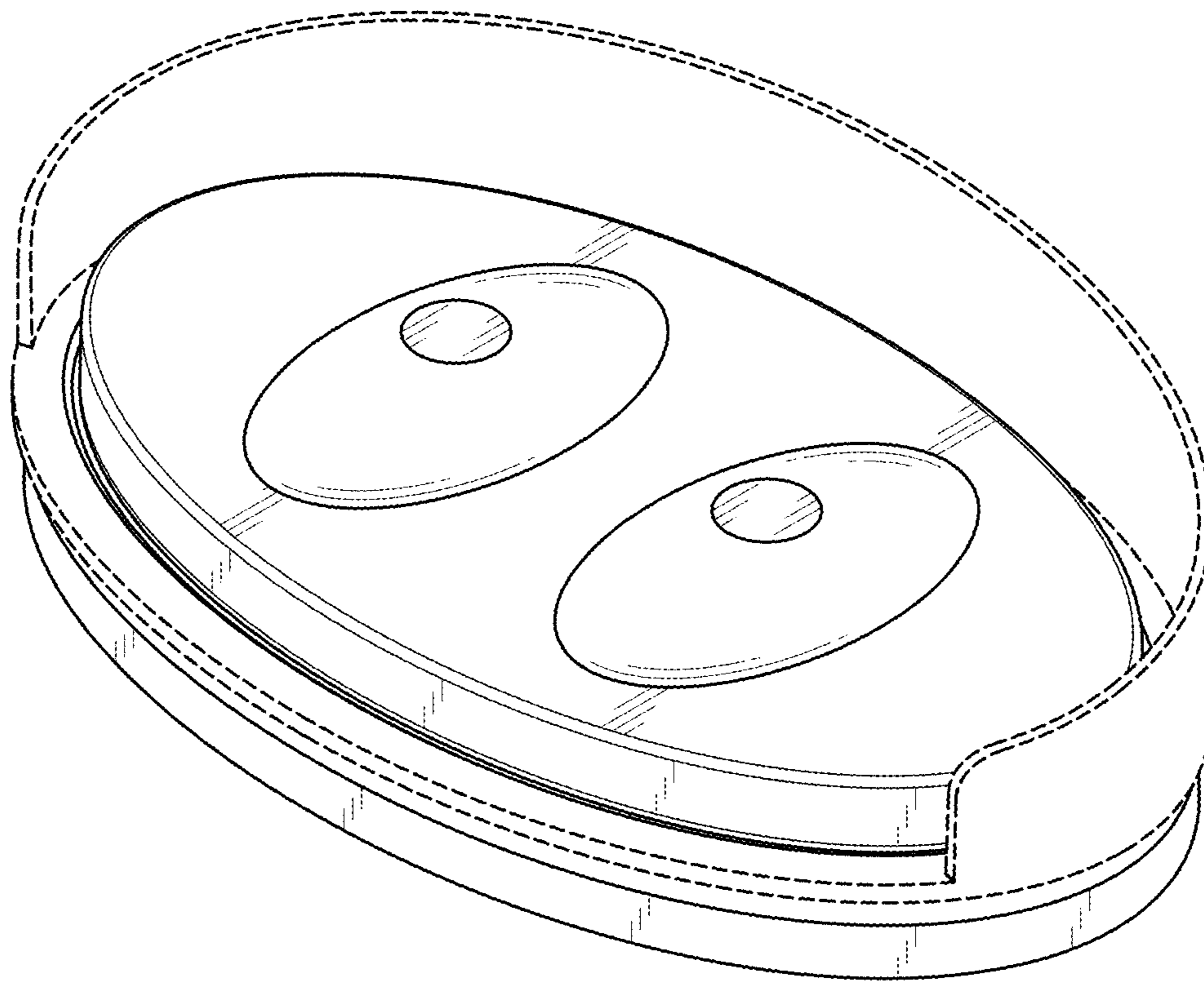


FIG. 17

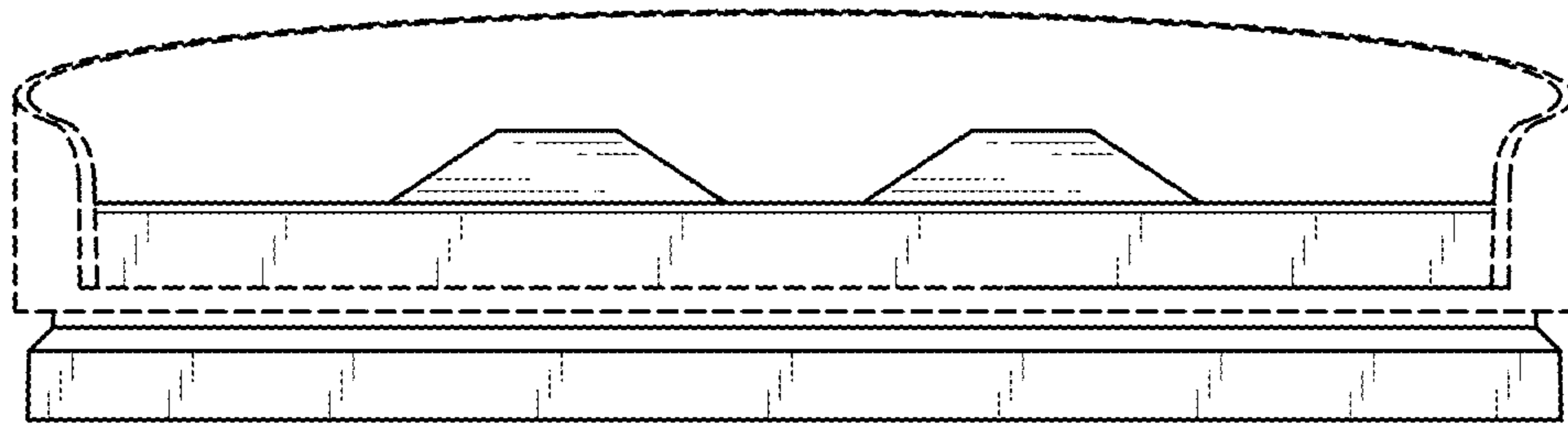


FIG. 18

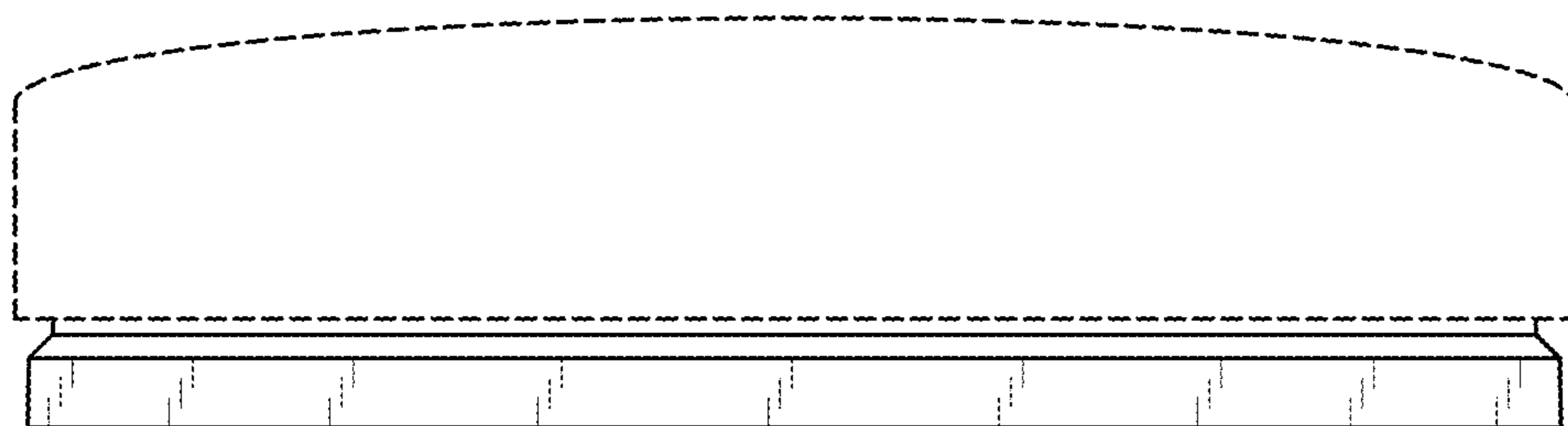


FIG. 19

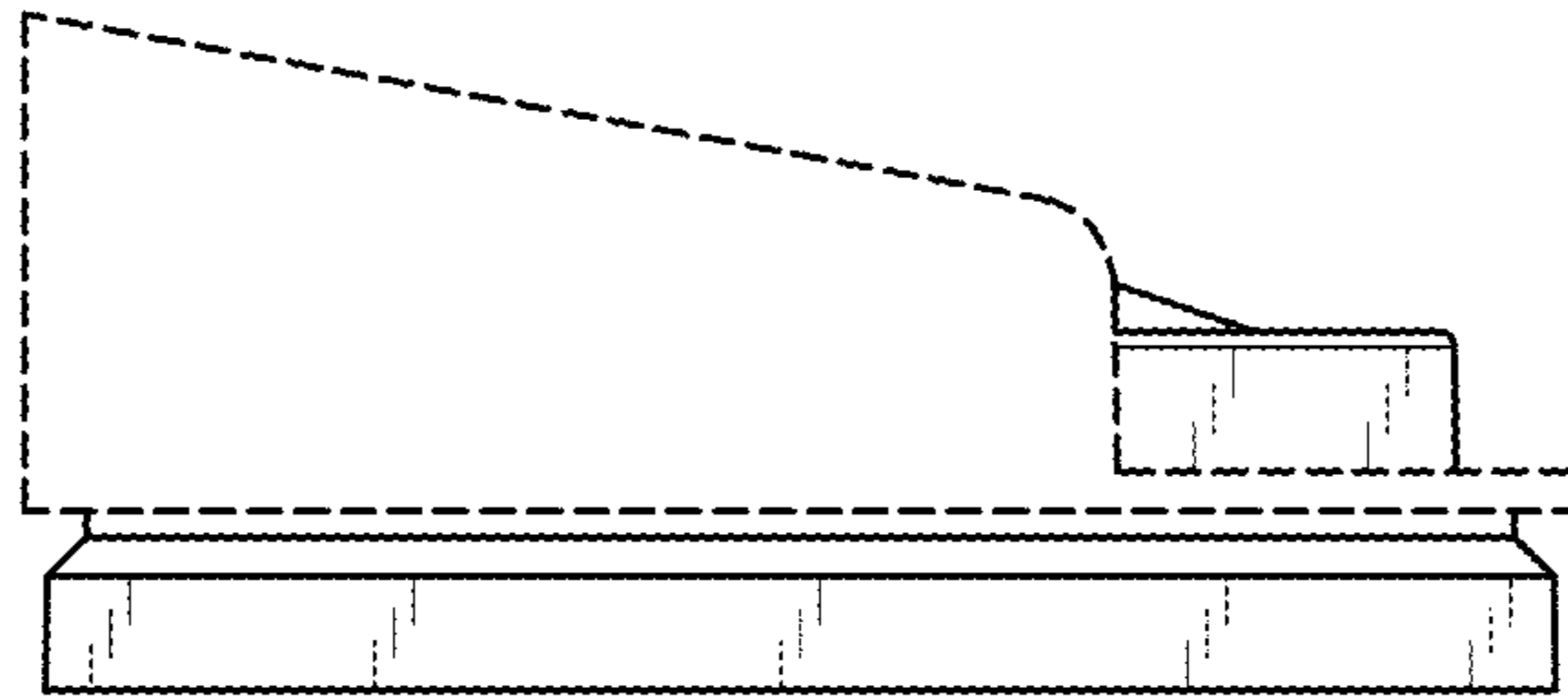


FIG. 20

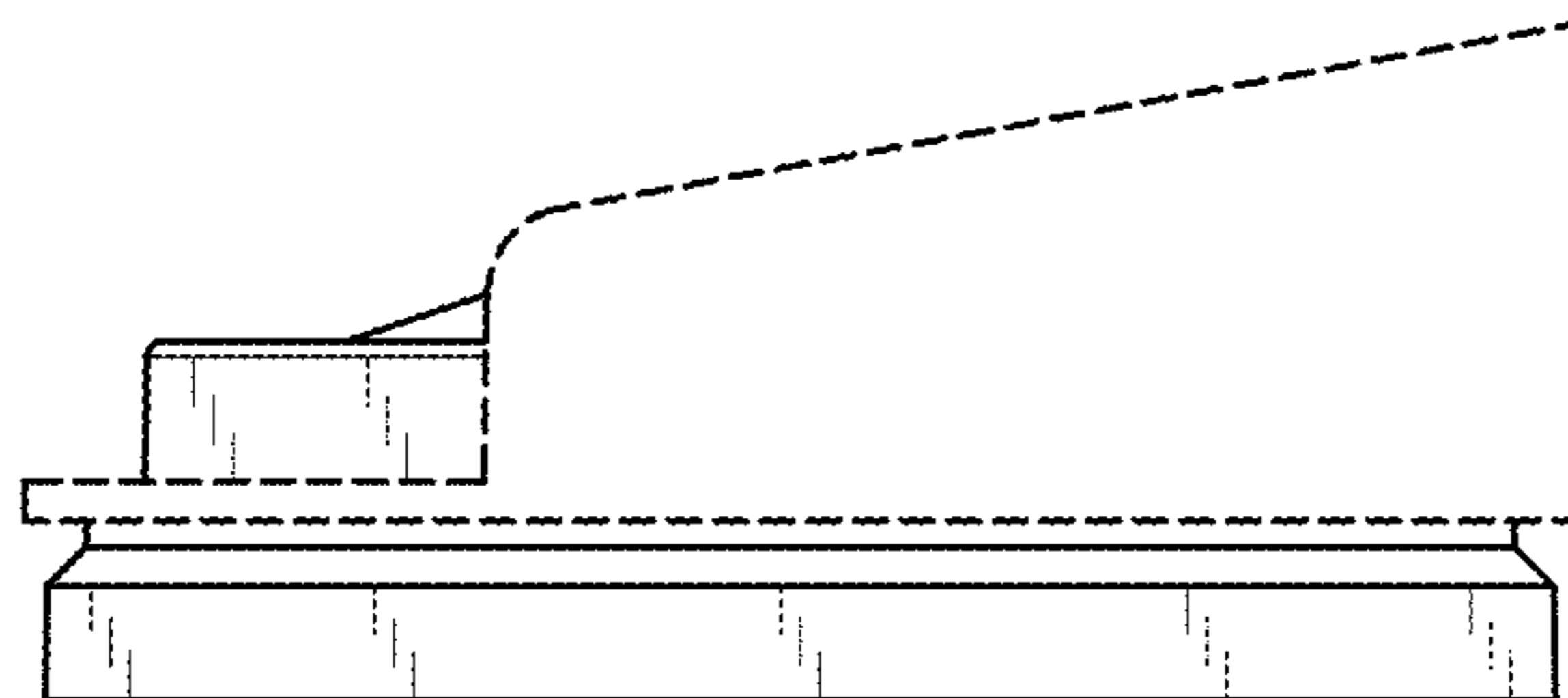


FIG. 21

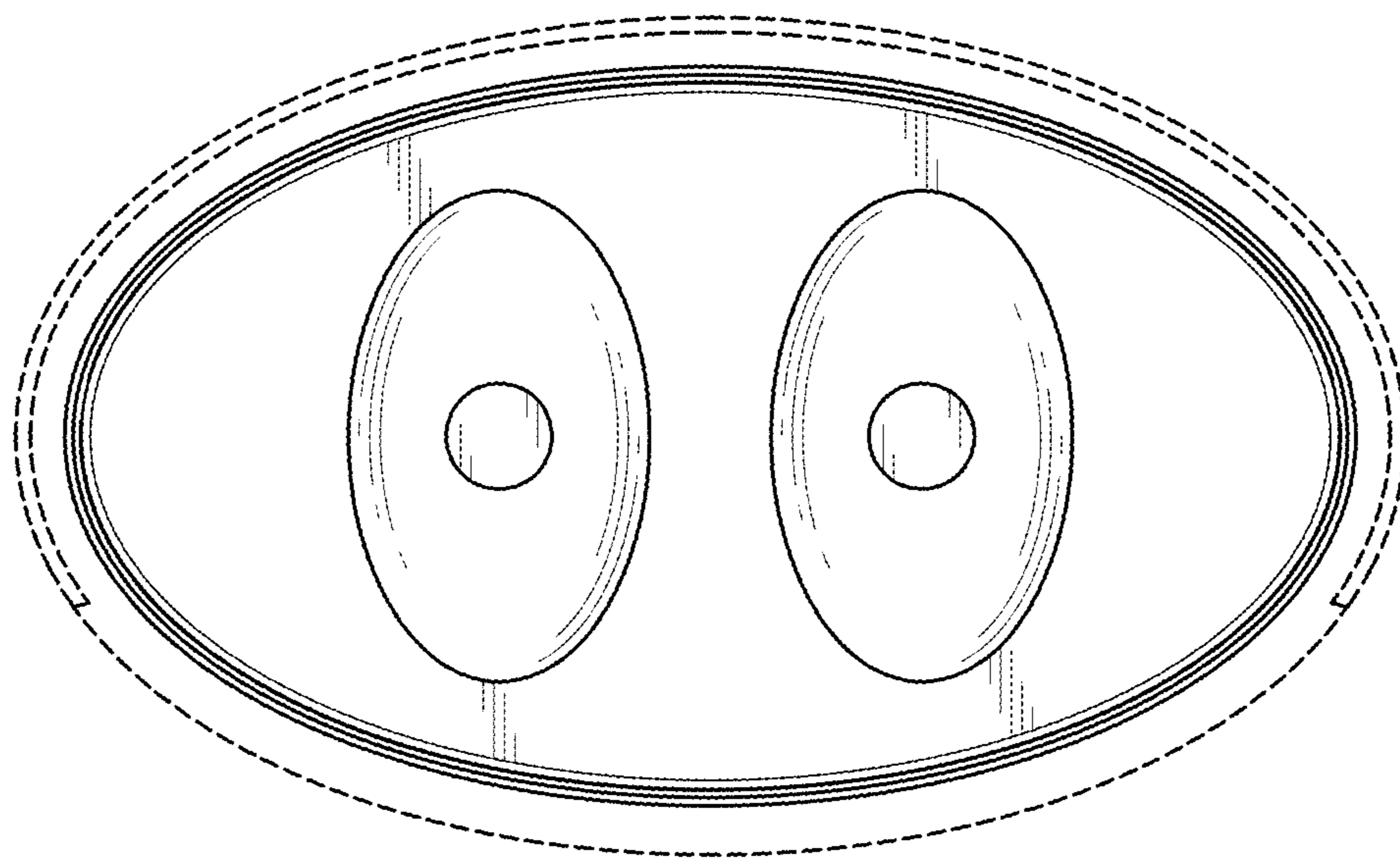


FIG. 22

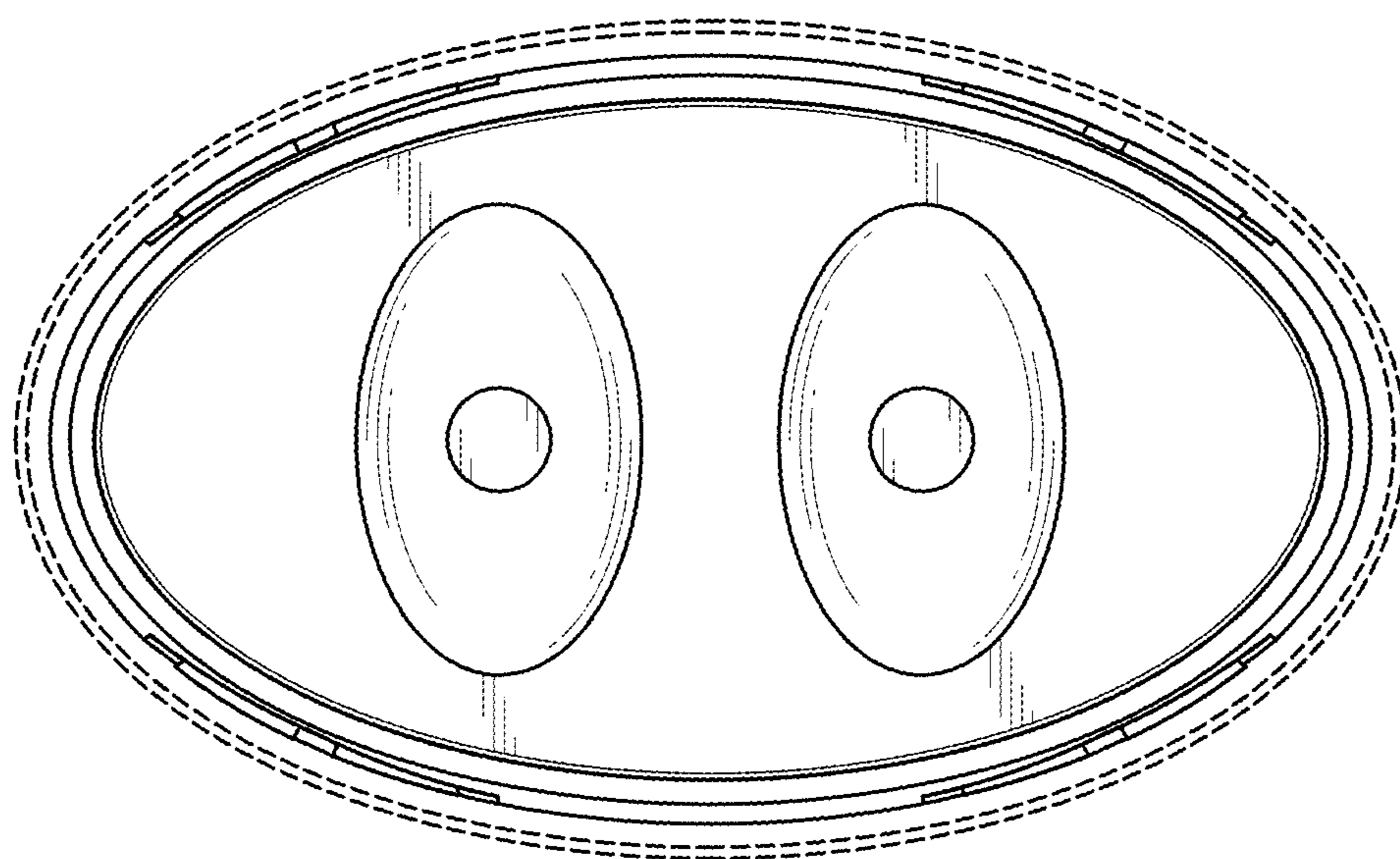


FIG. 23



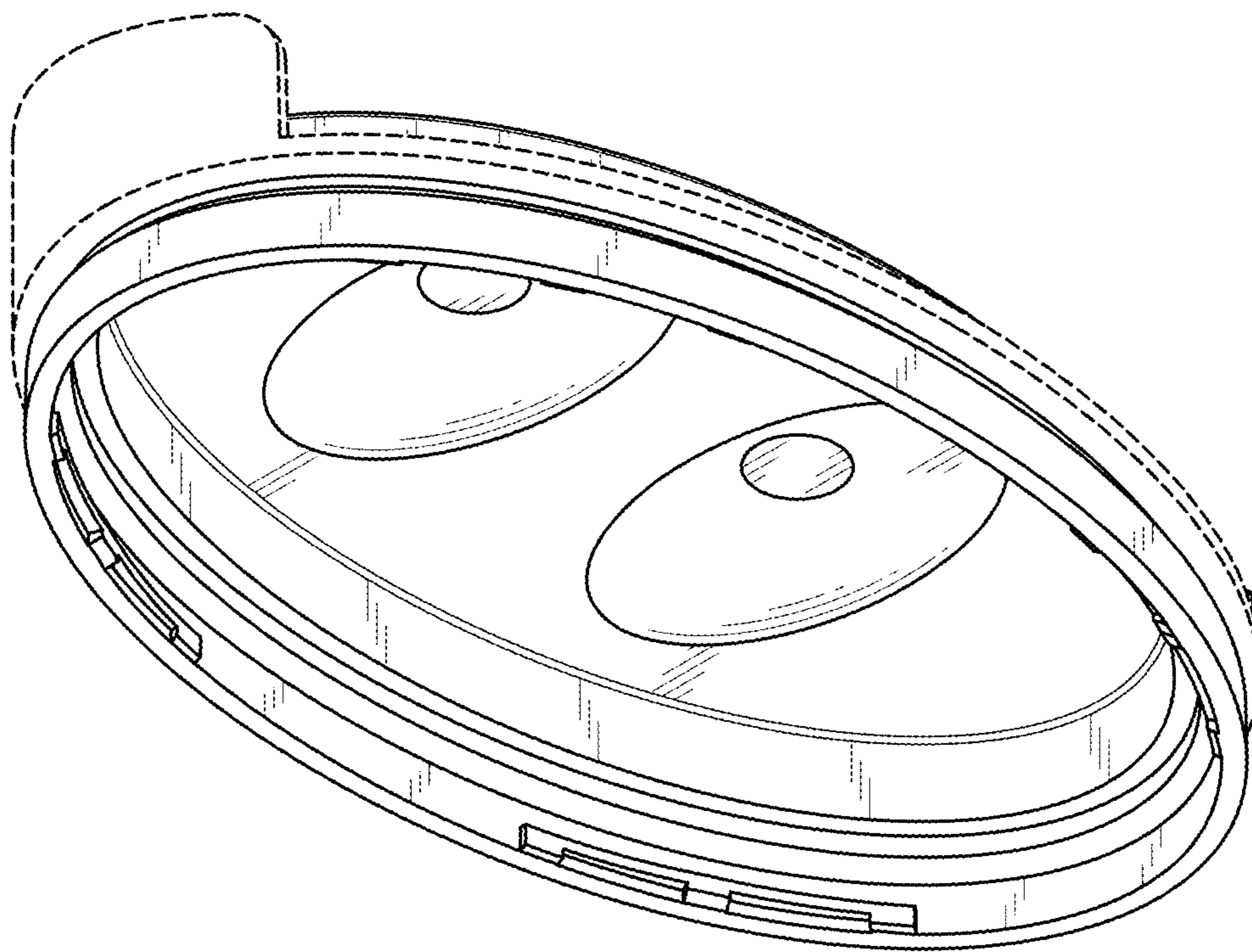


FIG. 24

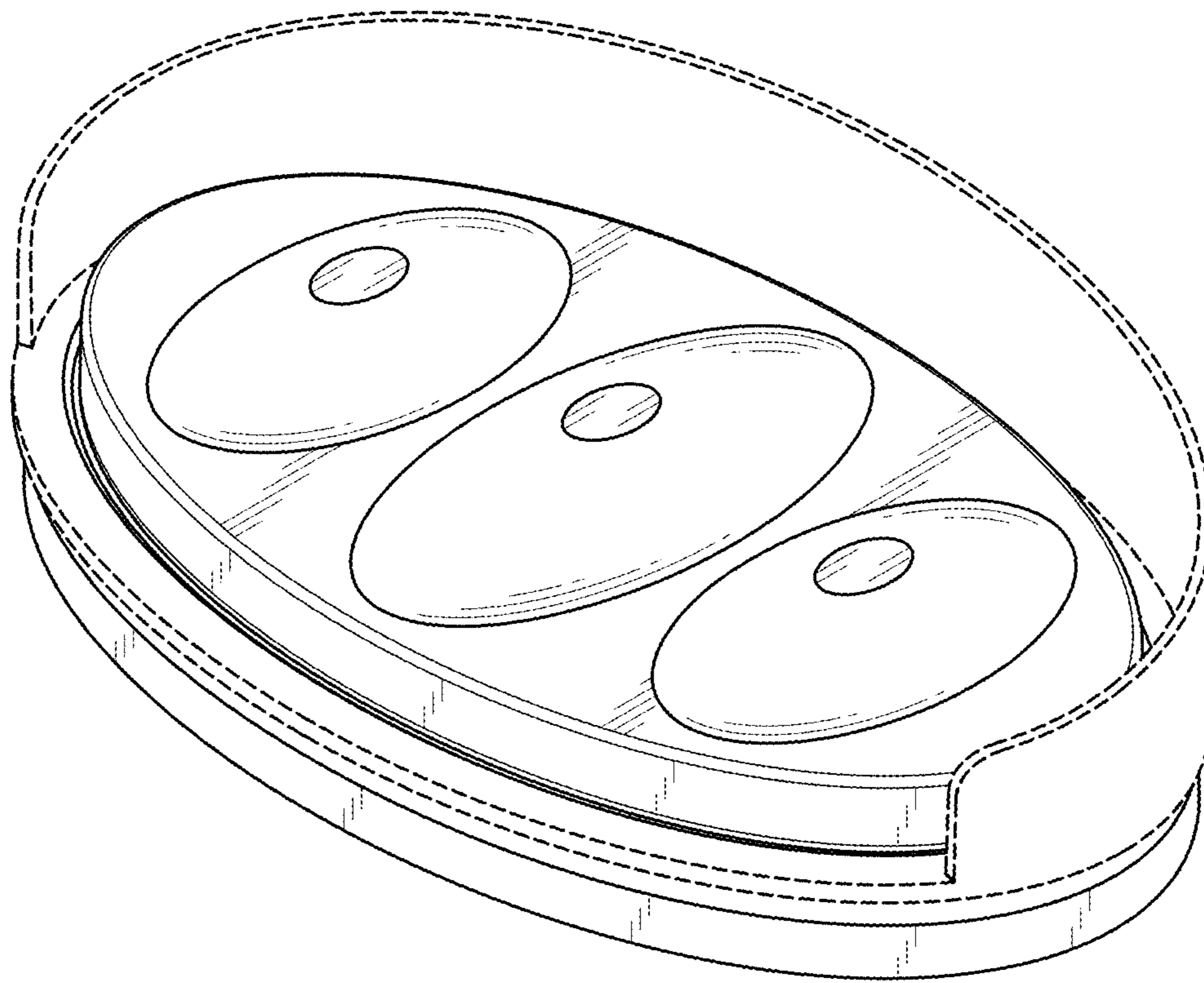


FIG. 25

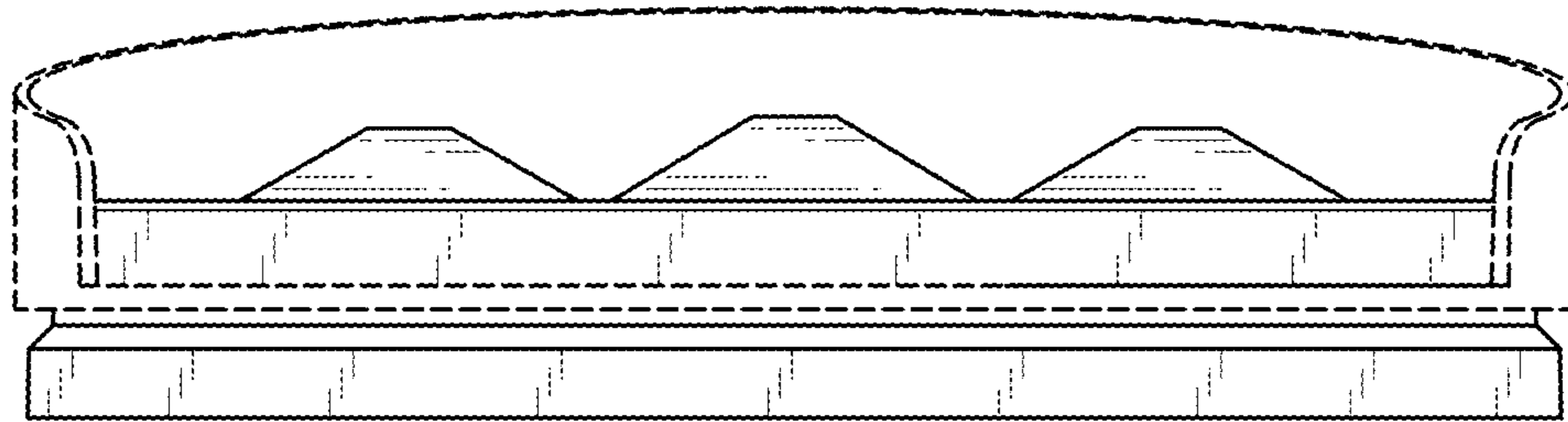


FIG. 26

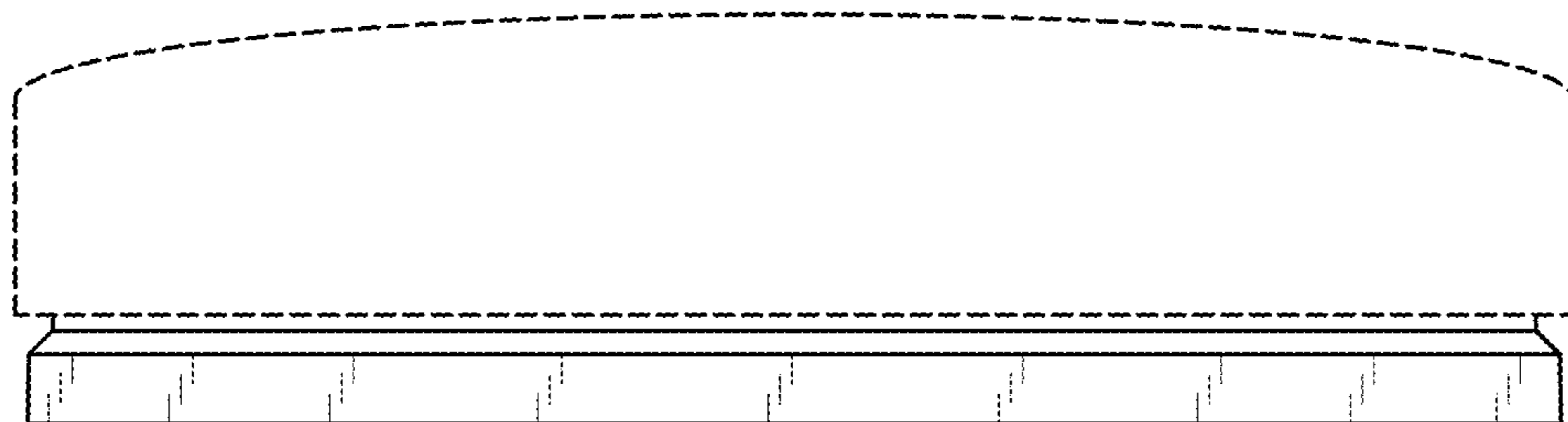


FIG. 27

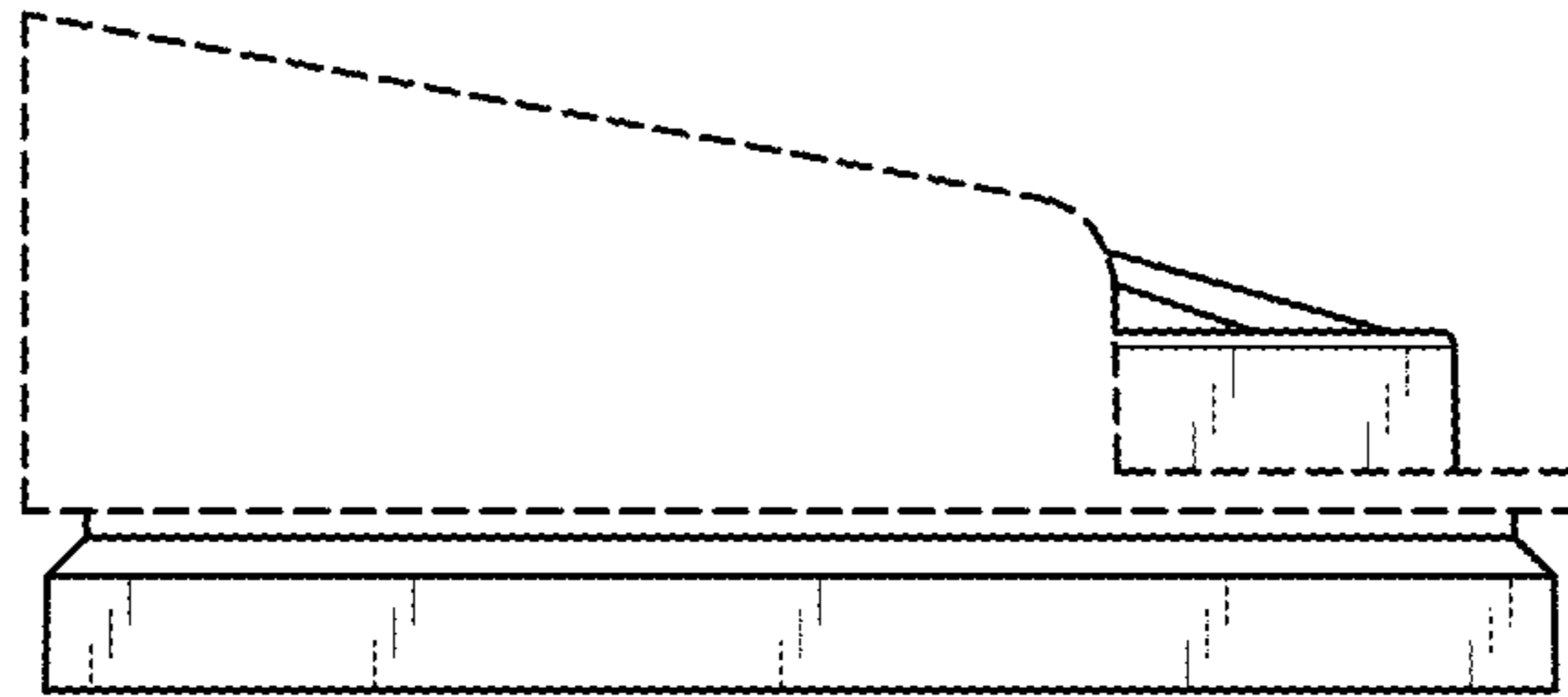


FIG. 28

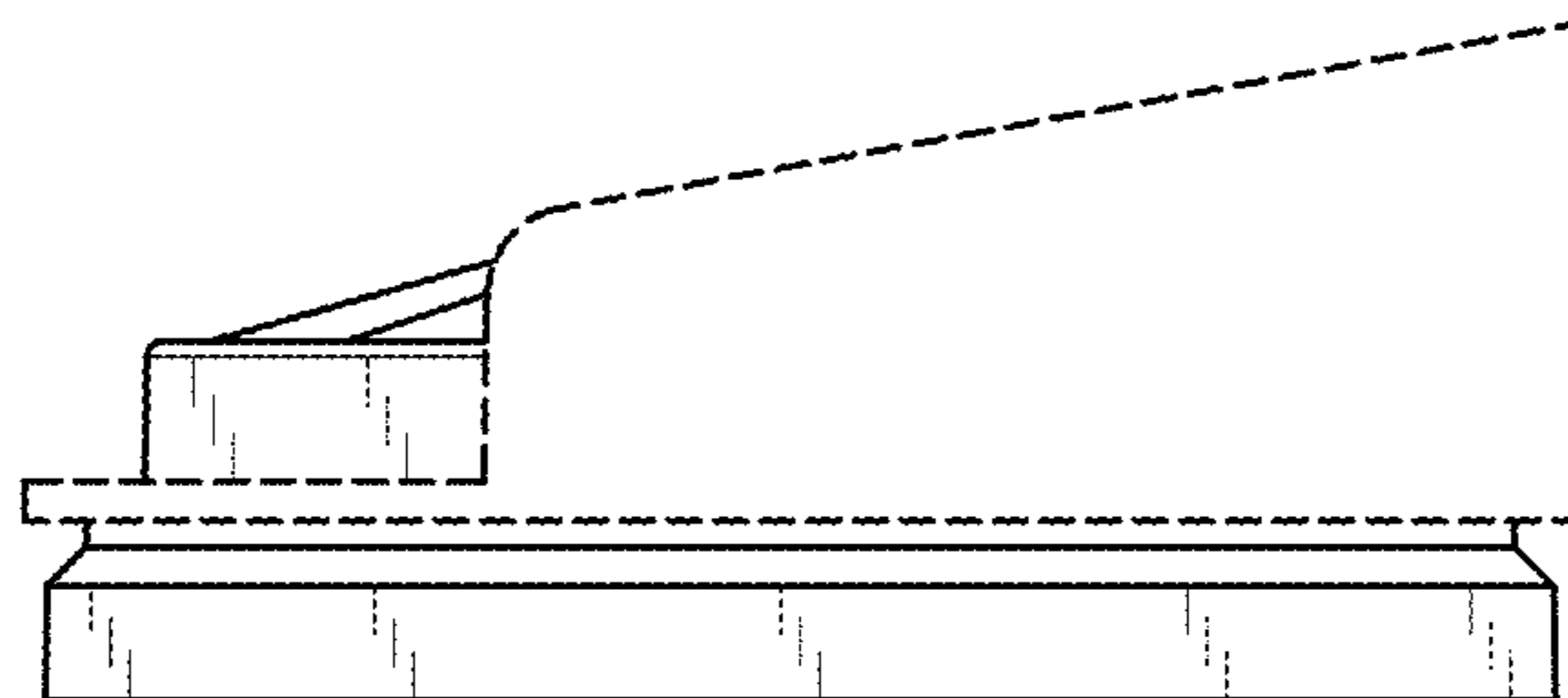


FIG. 29

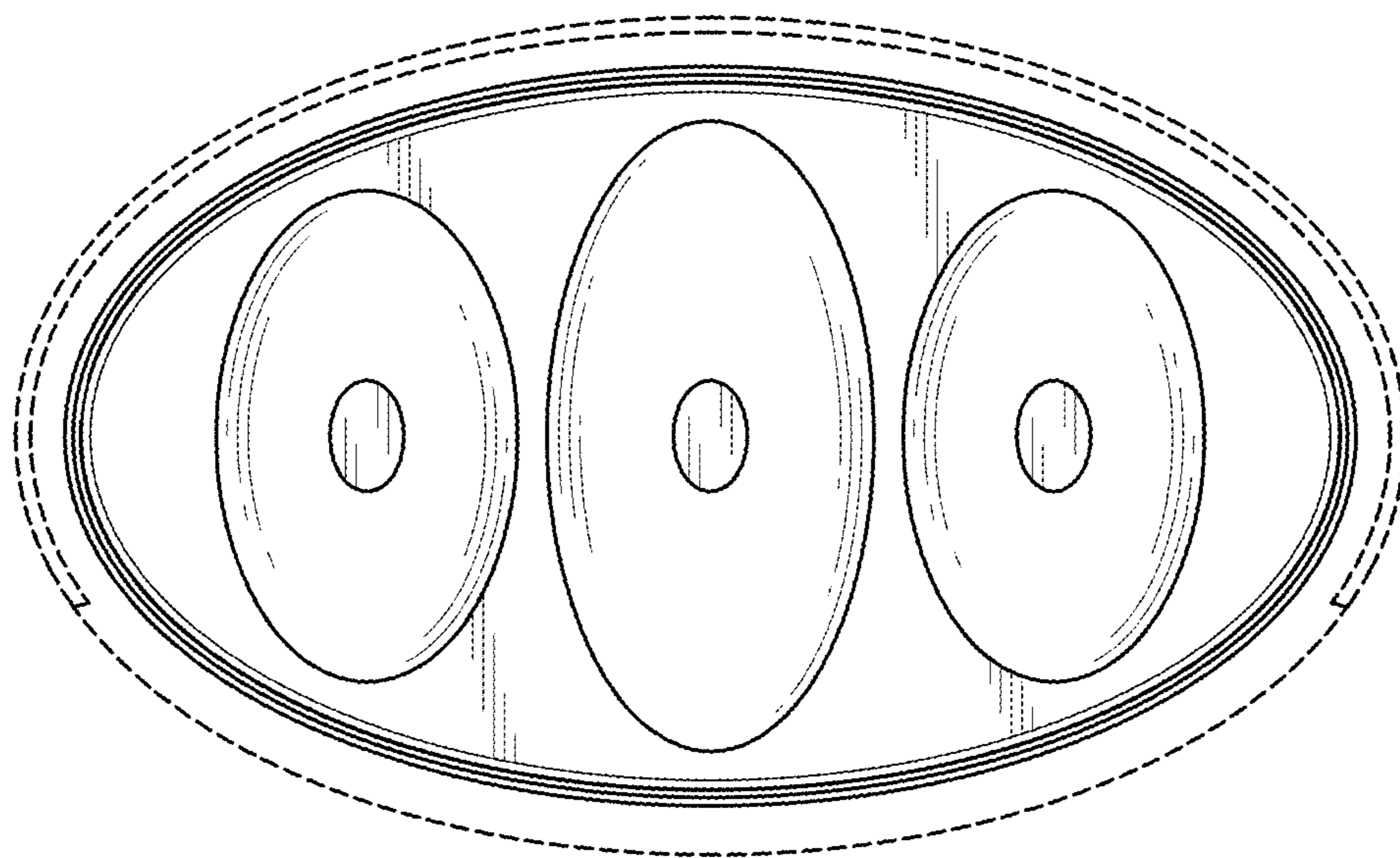


FIG. 30

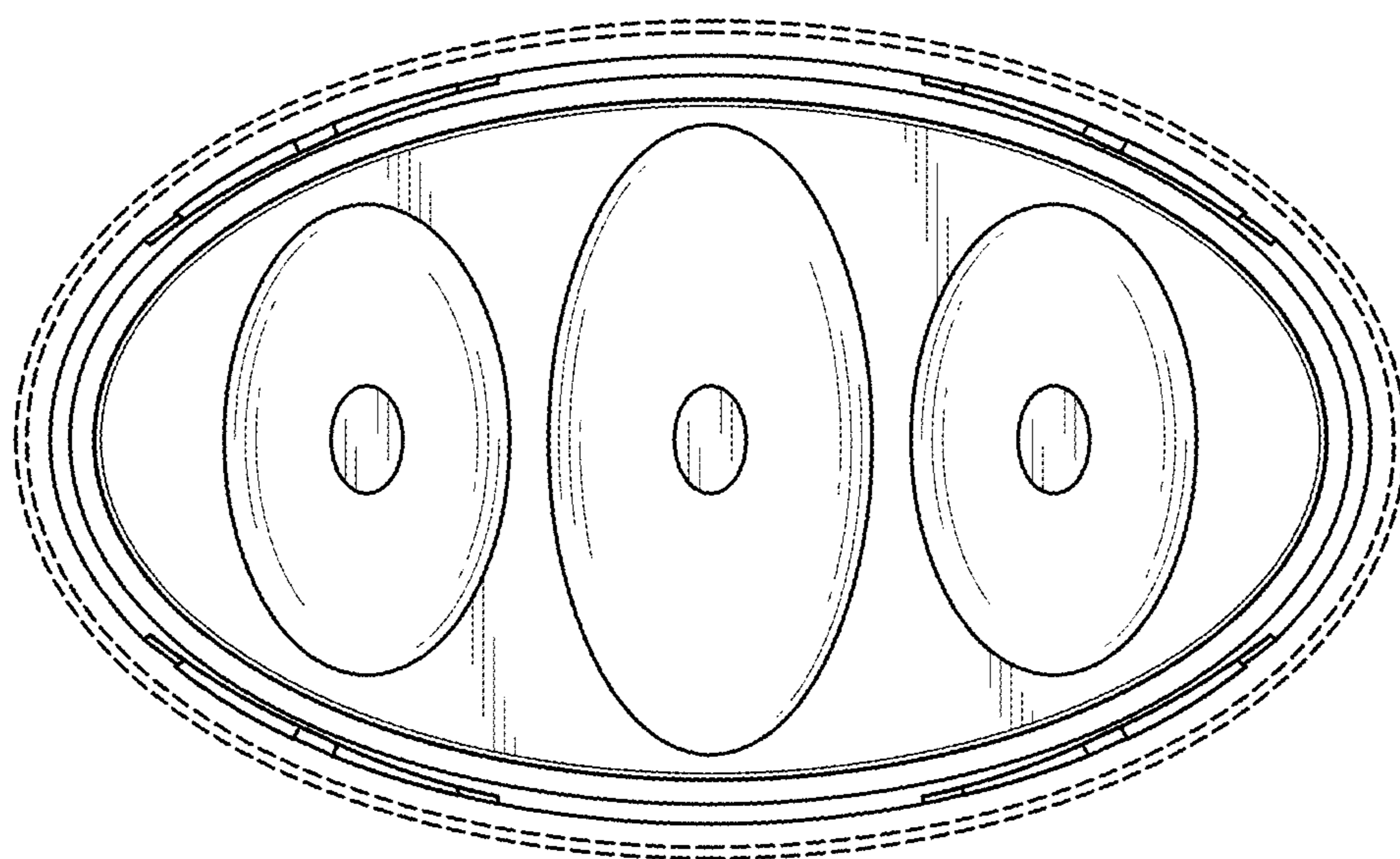


FIG. 31

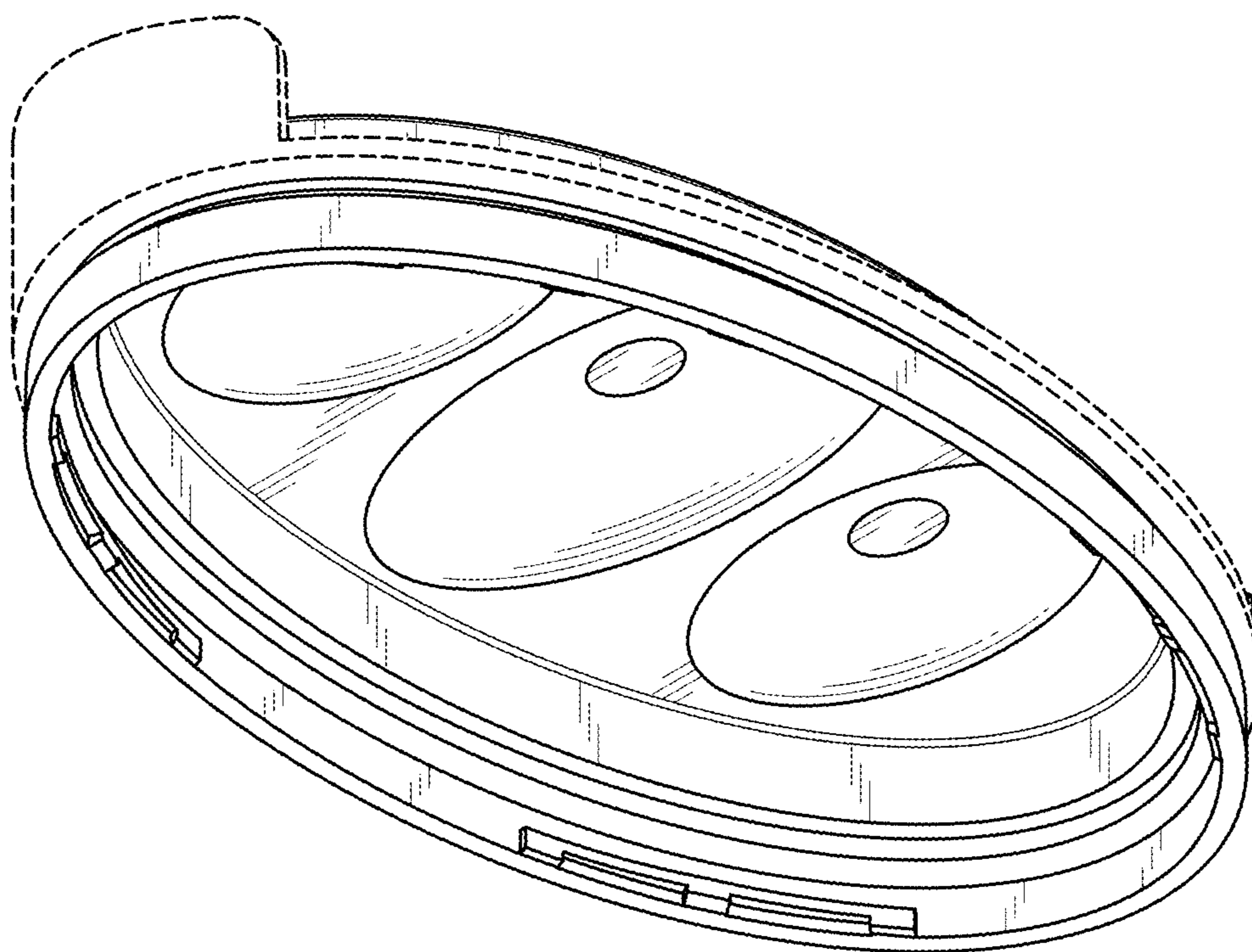


FIG. 32