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

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(54) **OPTICAL LENS**

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

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

(51) **LOC (14) Cl.** **16-01**

(52) **U.S. Cl.**
USPC **D16/219**

(58) **Field of Classification Search**
USPC D16/206, 211, 217, 218–219, 220; D10/46, 104.1, 114.6; D14/195, 228, 506
CPC G03B 7/20; G03B 13/00; G03B 13/06; G03B 17/00; G03B 17/56; G03B 2217/00
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D571,036	S *	6/2008	Rashidi	D26/118
D600,729	S *	9/2009	Takishima	D16/135
D689,649	S *	9/2013	Popper	D26/124
D725,818	S *	3/2015	Yao	D26/118
D746,509	S *	12/2015	Yu	D26/120
D750,315	S *	2/2016	Yao	D26/118
D751,246	S *	3/2016	Yao	D26/118
D771,172	S *	11/2016	Huang	D16/134
D841,077	S *	2/2019	Kip	D16/242
D869,061	S *	12/2019	Altamura	D26/118
D879,181	S *	3/2020	Lu	D16/219

FOREIGN PATENT DOCUMENTS

CN	306451884	*	4/2021
CN	307570579	*	9/2022
TW	161546-0001	*	7/2014

OTHER PUBLICATIONS

"Uxcell Clear High Power LED Lens Reflector Collimator 5 Degree 20mm 10pcs" from Amazon.com, first available May 29, 2015 from the internet <https://www.amazon.com/uxcell-Clear-Reflector-Collimator-Degree/dp/B00YGBKA40/> (Year: 2015).*

(Continued)

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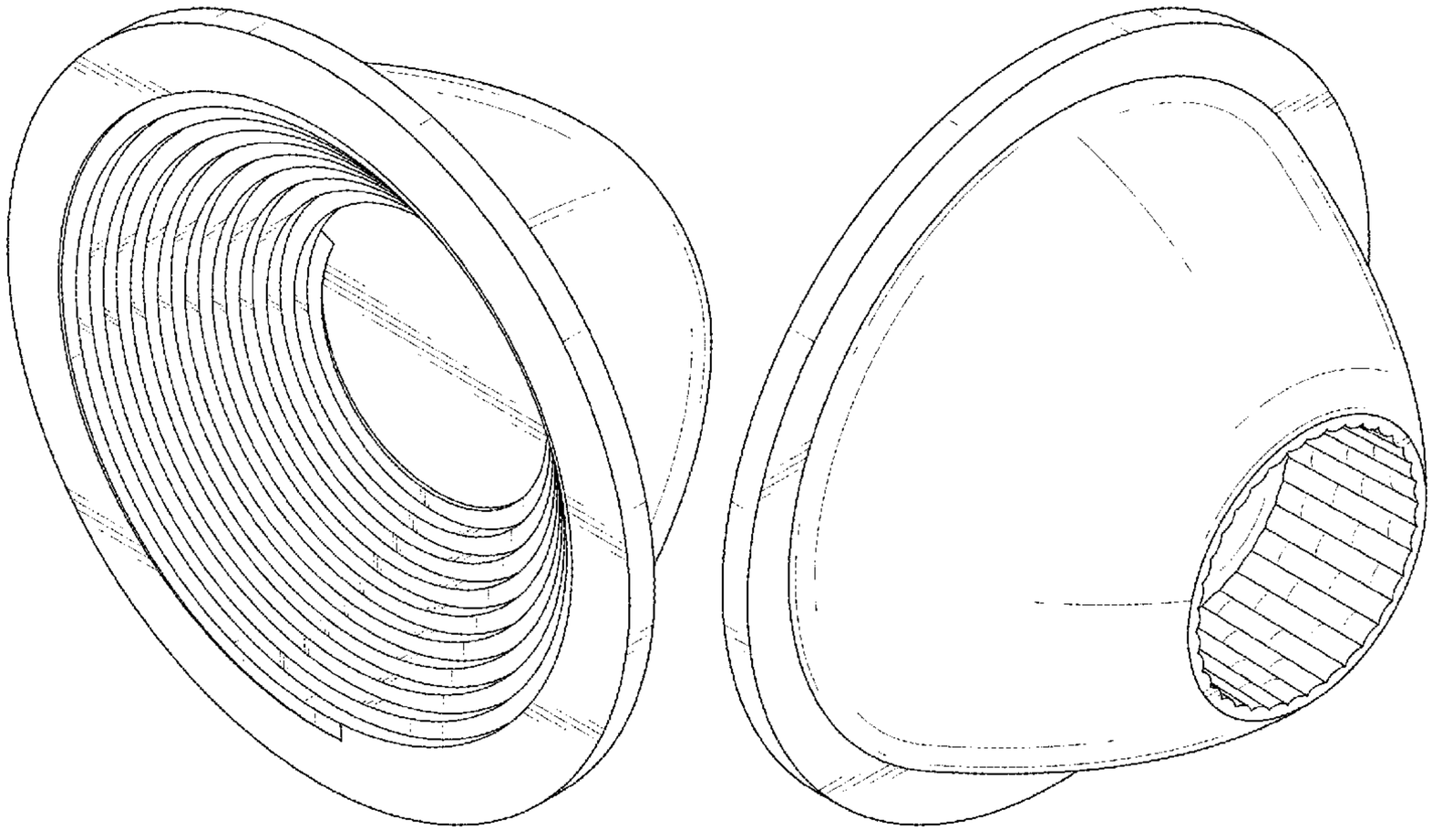
(57) **CLAIM**

The ornamental design for an optical lens, as shown and described.

DESCRIPTION

FIG. **1** is a perspective view of an optical lens showing our new design;
FIG. **2** is a front view thereof;
FIG. **3** is a rear view thereof;
FIG. **4** is a left side view thereof;
FIG. **5** is a right side view thereof;
FIG. **6** is a top view thereof;
FIG. **7** is a bottom view thereof;
FIG. **8** is second perspective view thereof; and,
FIG. **9** is a cross sectional view taken along line **9-9** in FIG. **2**.

1 Claim, 9 Drawing Sheets



(56) **References Cited**

OTHER PUBLICATIONS

"LZP Total Internal Reflection (TIR) Lenses" from Osram.us, first retrieved Jan. 23, 2023 from the internet <https://www.osram.us/ledengin/products/lenses/lzp.jsp> (Year: 2023).*

"Single Lenses for Power LEDs—Narrow Beam—Color Mixing" from Khatod.com, first retrieved Jan. 23, 2023 from the internet <https://www.khatod.com/en/product-3009/Single-Lenses-for-Power-LEDs---Narrow-Beam---Color-Mixing.html?lang=EN&ProdTypePrg=61&AserPrg=779> (Year: 2023).*

* cited by examiner

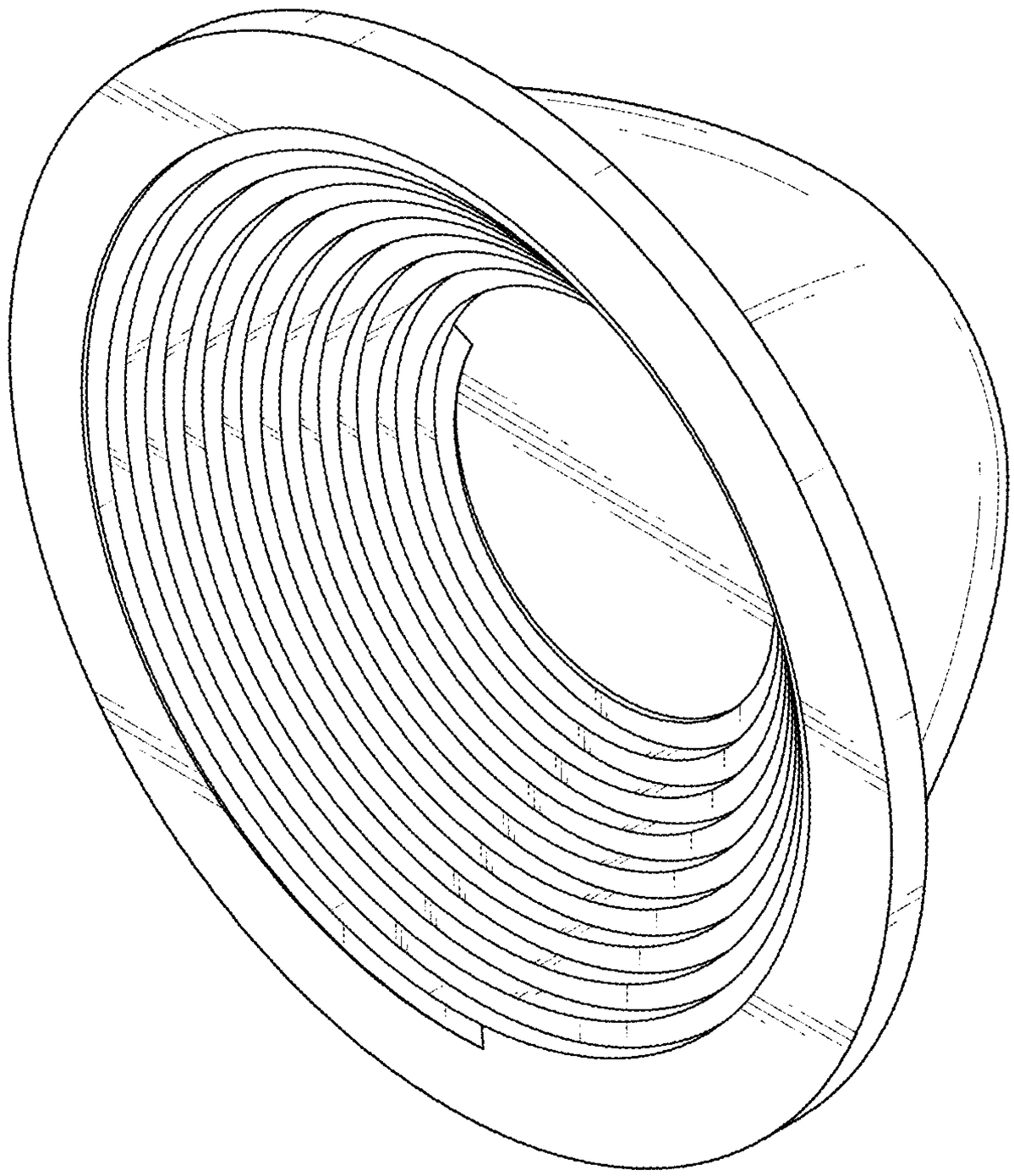


FIG.1

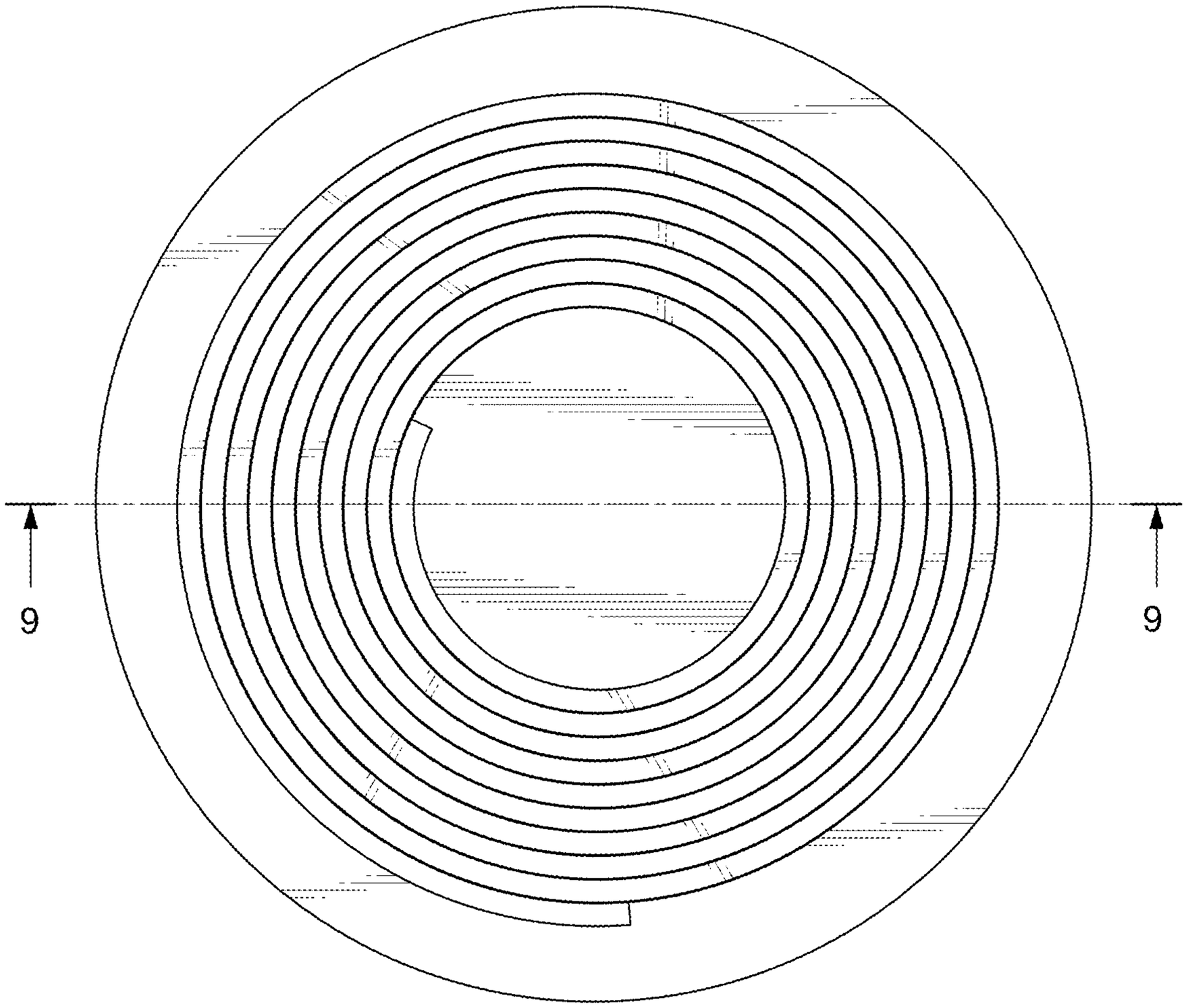


FIG.2

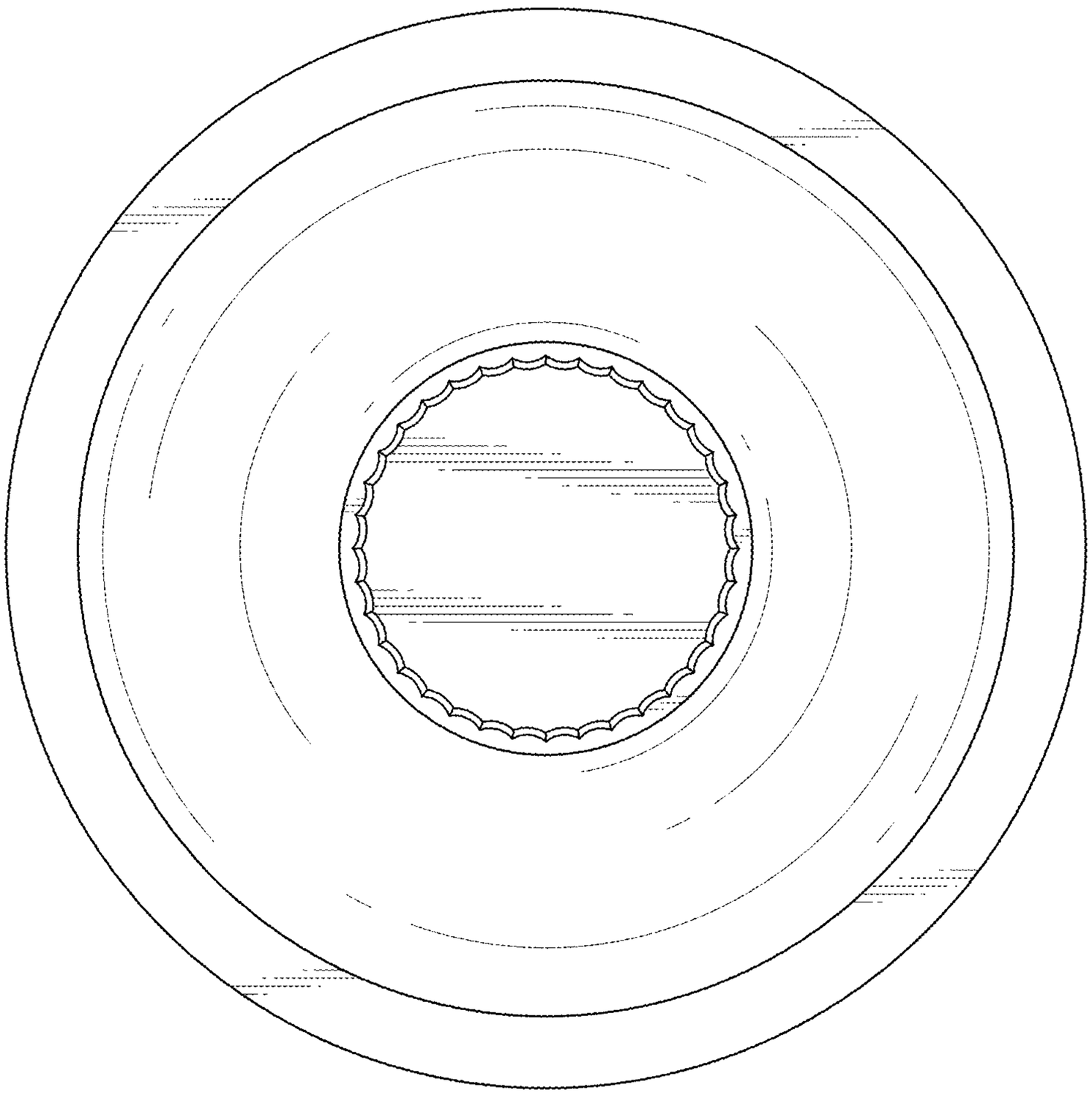


FIG.3

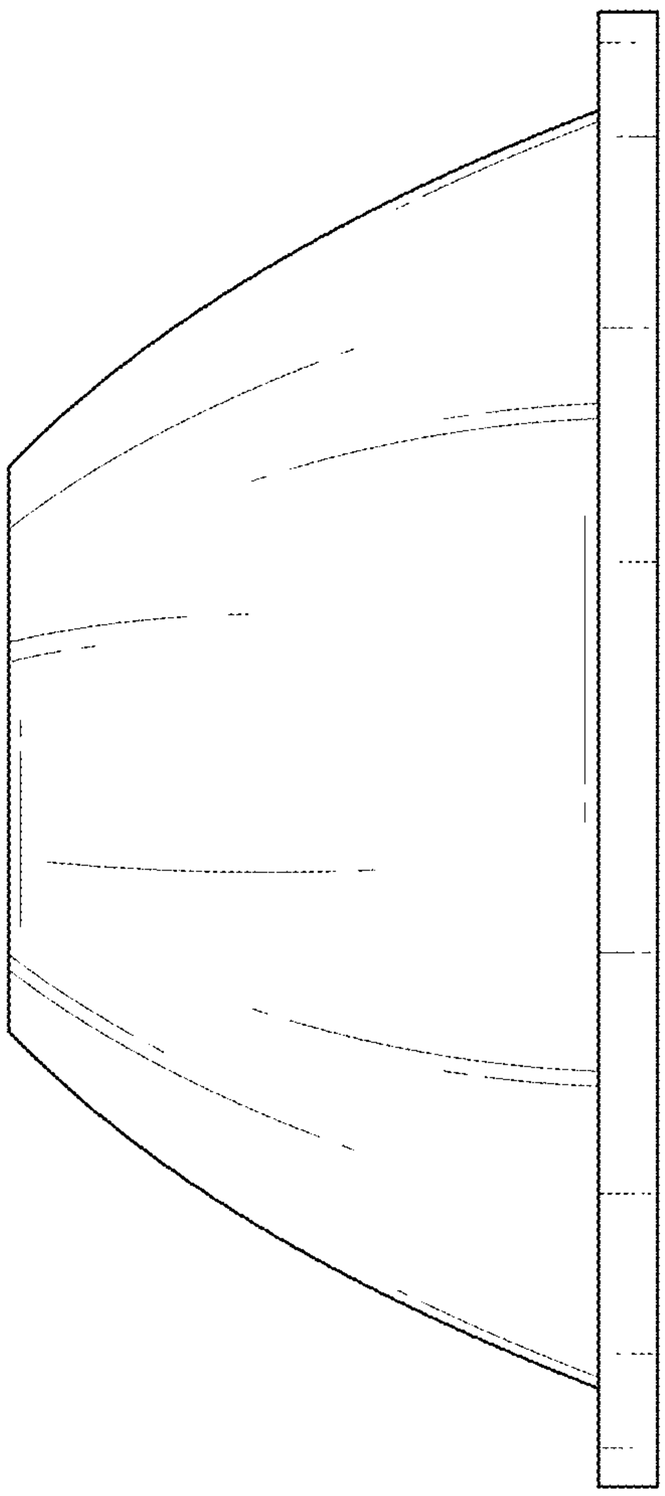


FIG.4

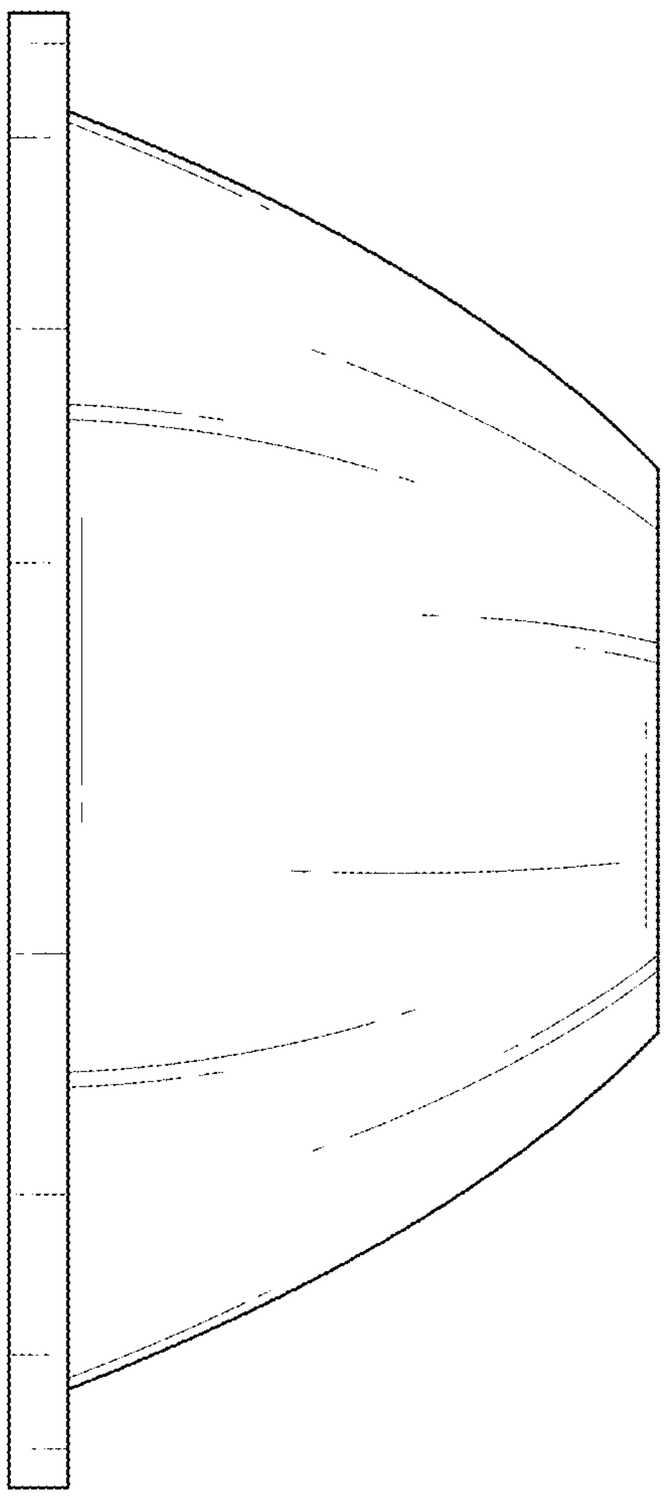


FIG.5

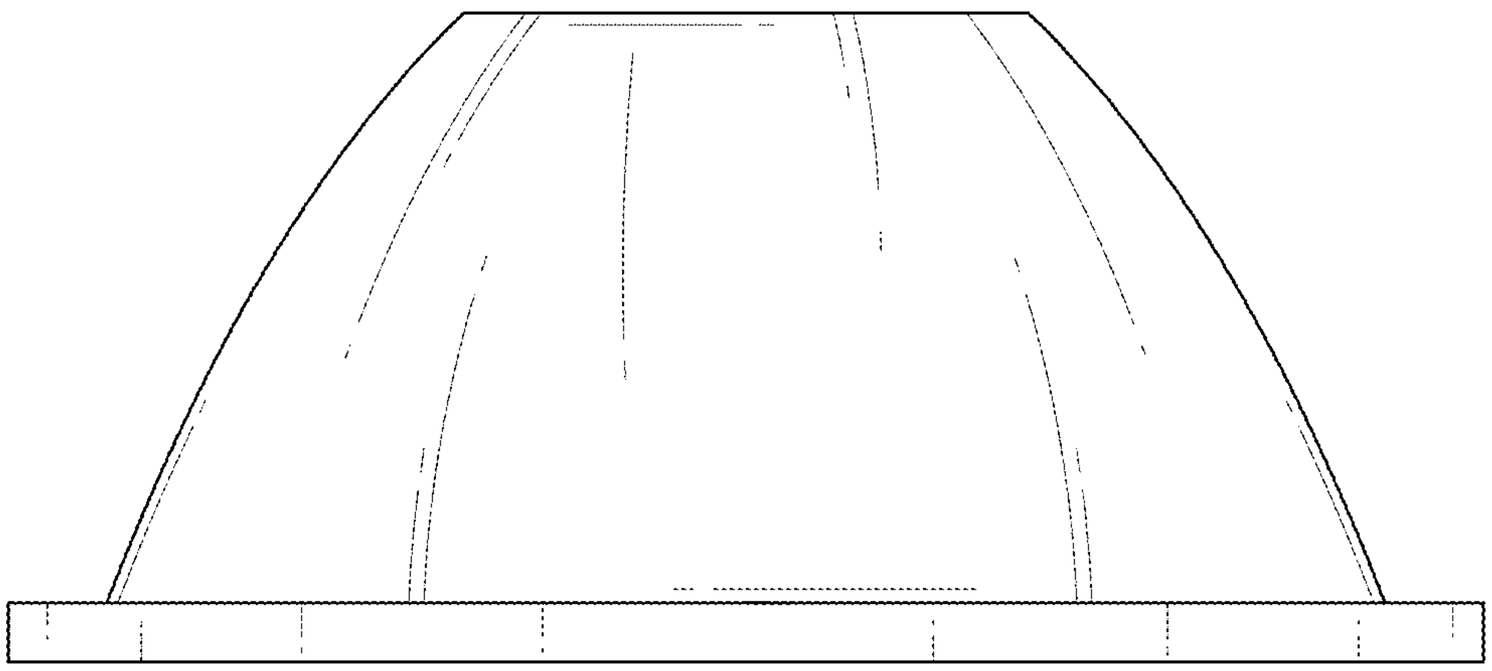


FIG.6

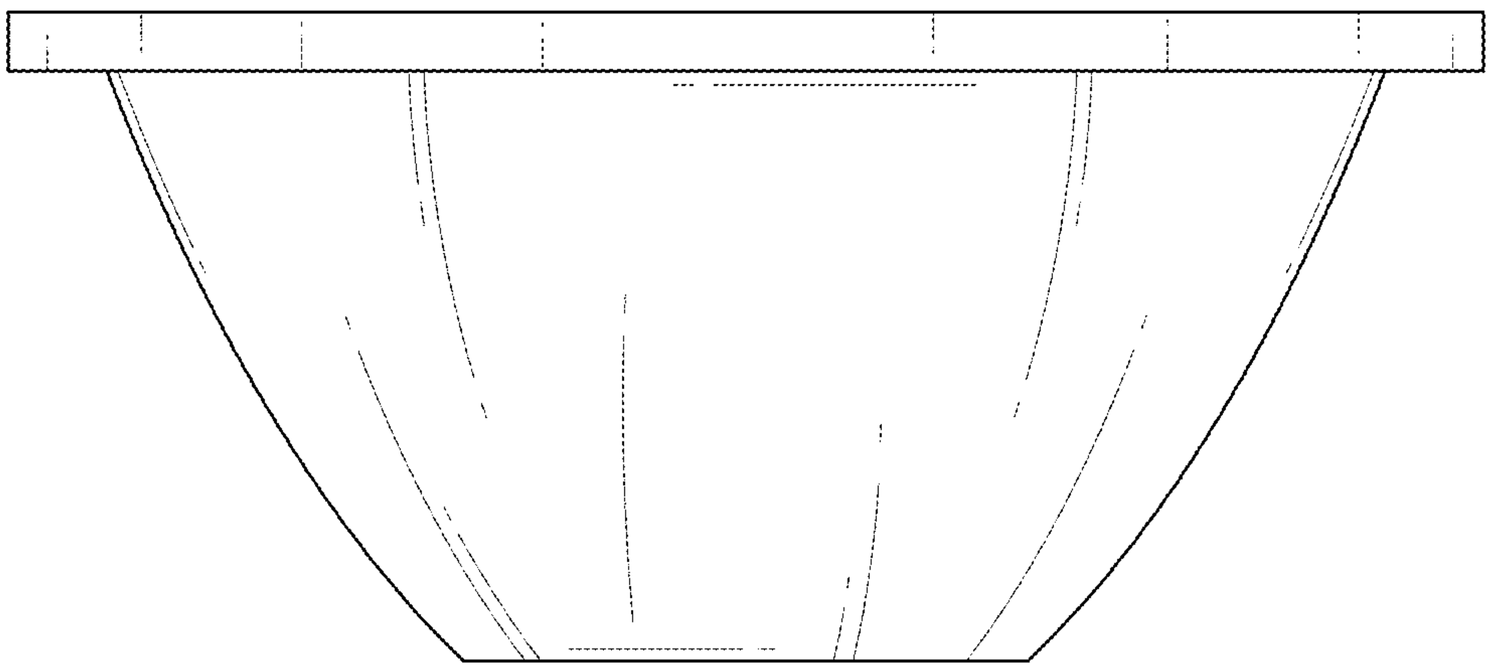


FIG.7

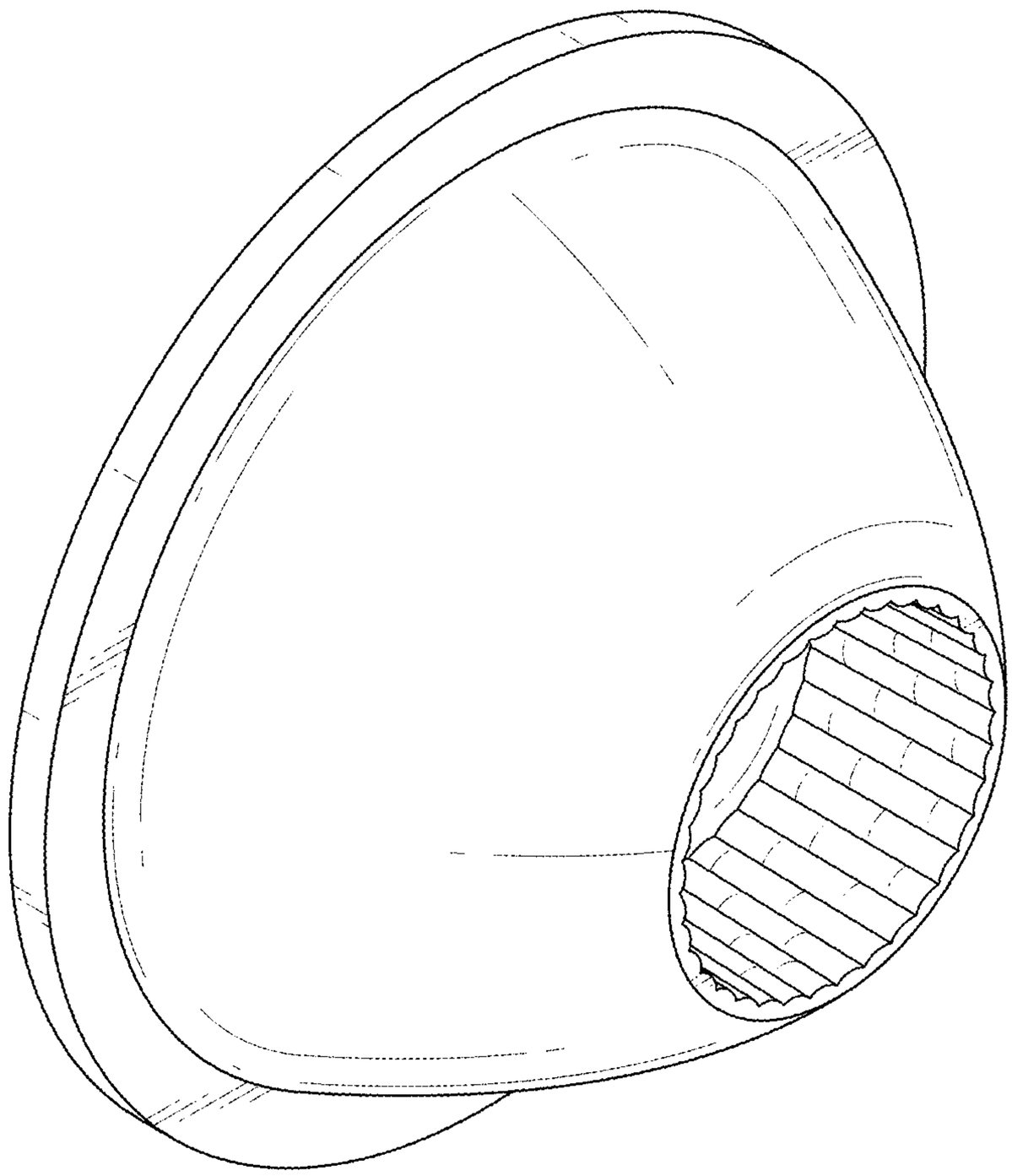


FIG.8

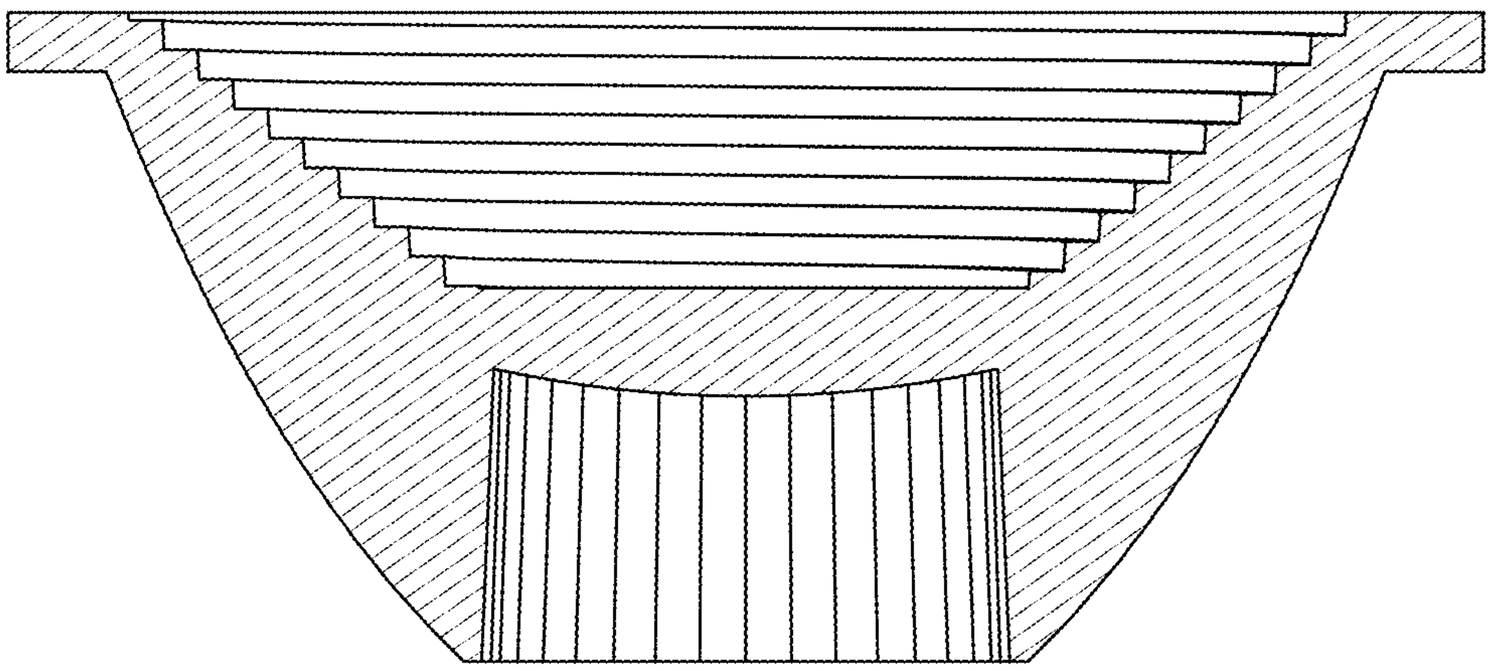


FIG.9