



US00D396098S

United States Patent [19]
Gillingham et al.

[11] **Patent Number: Des. 396,098**
[45] **Date of Patent: **Jul. 14, 1998**

[54] **CONICAL FILTER**

[75] **Inventors: Gary R. Gillingham**, Prior Lake;
Wayne M. Wagner; Joseph C. Tokar,
both of Apple Valley; **Daniel T. Risch;**
Jim C. Rothman, both of Burnsville;
Steven A. Carter, Eagan, all of Minn.

[73] **Assignee: Donaldson Company, Inc.**,
Minneapolis, Minn.

[**] **Term: 14 Years**

[21] **Appl. No.: 64,621**

[22] **Filed: Jan. 7, 1997**

Related U.S. Application Data

[63] **Continuation-in-part of Ser. No. 53,683**, Apr. 26, 1996.

[51] **LOC (6) Cl. 23-04**

[52] **U.S. Cl. D23/365**

[58] **Field of Search D23/365; 210/439.**
210/484, 493.4; 55/498

[56] **References Cited**

U.S. PATENT DOCUMENTS

D. 342,990	1/1994	Jaroszczyk .
1,639,133	8/1927	Greene .
2,552,615	5/1951	Baltzer .
2,558,185	6/1951	Leisen .
3,112,184	11/1963	Hollenbach .
3,738,088	6/1973	Colosimo .
3,807,150	4/1974	Maracle .
4,039,457	8/1977	Schacht et al. .
4,157,902	6/1979	Tokar .
4,199,387	4/1980	Hladik .
4,430,223	2/1984	Miyakawa et al. .

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

703823 2/1954 United Kingdom .

Primary Examiner—Lisa Lichtenstein
Attorney, Agent, or Firm—Merchant, Gould, Smith, Edell,
Welter & Schmidt

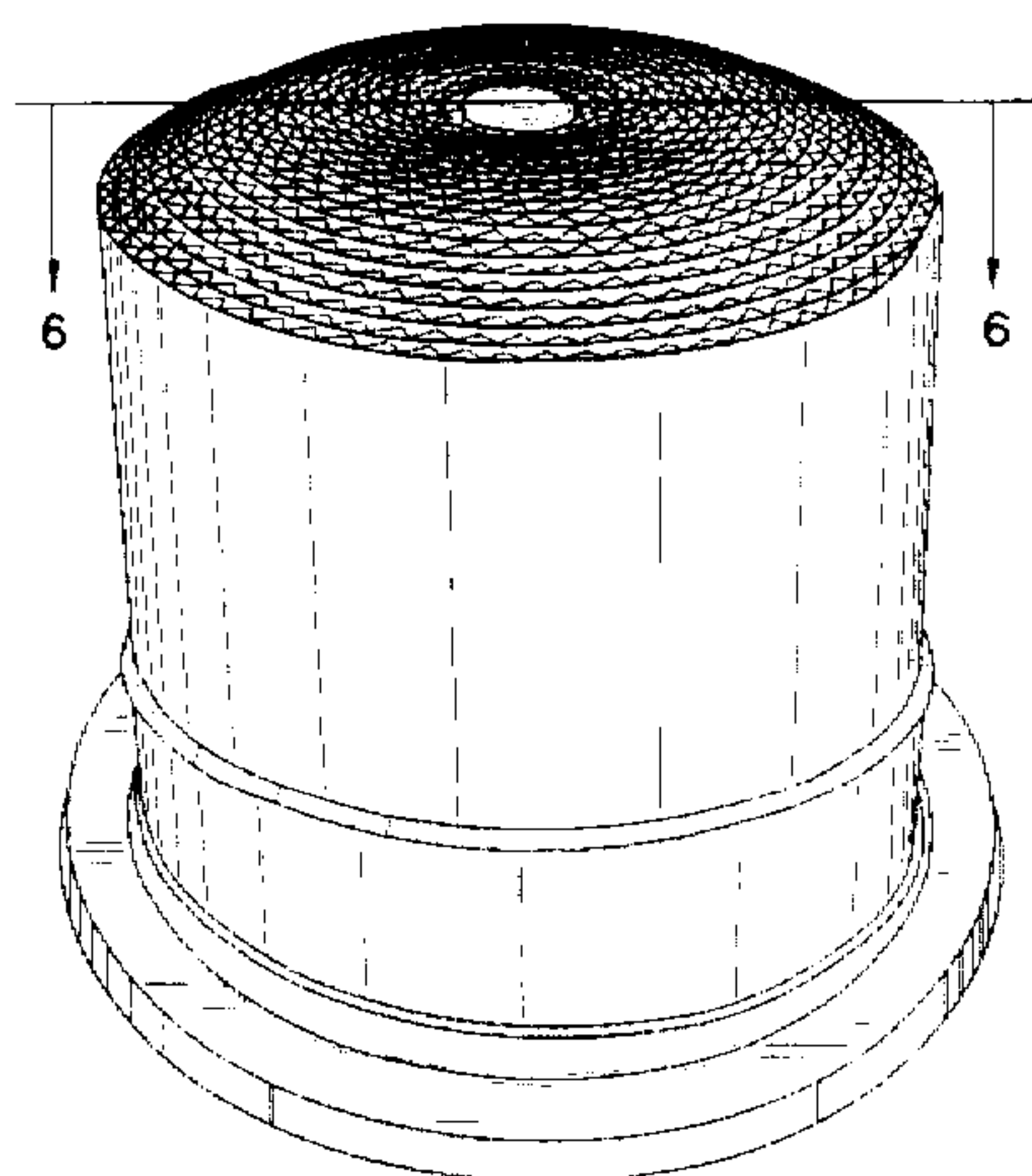
[57] **CLAIM**

The ornamental design for a conical filter, as shown and described.

DESCRIPTION

FIG. 1 shows a perspective view of a conical filter, showing our new design;
 FIG. 2 shows a bottom perspective view of the filter device shown in FIG. 1;
 FIG. 3 shows a side elevational view of the filter device shown in FIG. 1;
 FIG. 4 shows a top plan view of the filter device shown in FIG. 1;
 FIG. 5 shows a bottom plan view of the filter device shown in FIG. 1;
 FIG. 6 shows a cross-sectional view thereof taken along line 6—6 in FIG. 1;
 FIG. 7 shows a perspective view of a conical filter showing a second embodiment of our new design;
 FIG. 8 shows a bottom perspective view of the filter device shown in FIG. 7;
 FIG. 9 shows a side elevational view of the filter device shown in FIG. 7;
 FIG. 10 shows a top plan view of the filter device shown in FIG. 7;
 FIG. 11 shows a bottom plan view of the filter device shown in FIG. 7;
 FIG. 12 shows a cross-sectional view thereof, taken along line 12—12 in FIG. 7;
 FIG. 13 shows a perspective view of a conical filter showing a third embodiment of our new design;
 FIG. 14 shows a bottom perspective view of the filter device shown in FIG. 13;
 FIG. 15 shows a side elevational view of the filter device shown in FIG. 13;
 FIG. 16 shows a top plan view of the filter device shown in FIG. 13;
 FIG. 17 shows a bottom plan view of the filter device shown in FIG. 13; and,
 FIG. 18 shows a cross-sectional view thereof, taken along line 18—18 in FIG. 13.
 The sole difference between the three embodiments resides in the appearance of the size of the diameter.

1 Claim, 18 Drawing Sheets



U.S. PATENT DOCUMENTS

4,439,321	3/1984	Taki et al. .	5,106,397	4/1992	Jaroszczyk et al. .
4,498,989	2/1985	Miyakawa et al. 210/493.4	5,125,940	6/1992	Stanhope et al. .
4,589,983	5/1986	Wydevan .	5,320,657	6/1994	Adams .
4,782,912	11/1988	Wandless .	5,322,537	6/1994	Nakamura et al. 55/498
4,925,561	5/1990	Ishii et al. .	5,458,666	10/1995	Miyakata .
4,936,413	6/1990	Lee .	5,522,909	6/1996	Haggard .
			5,549,722	8/1996	Zemaitis et al. .
			5,549,724	8/1996	Mochida .

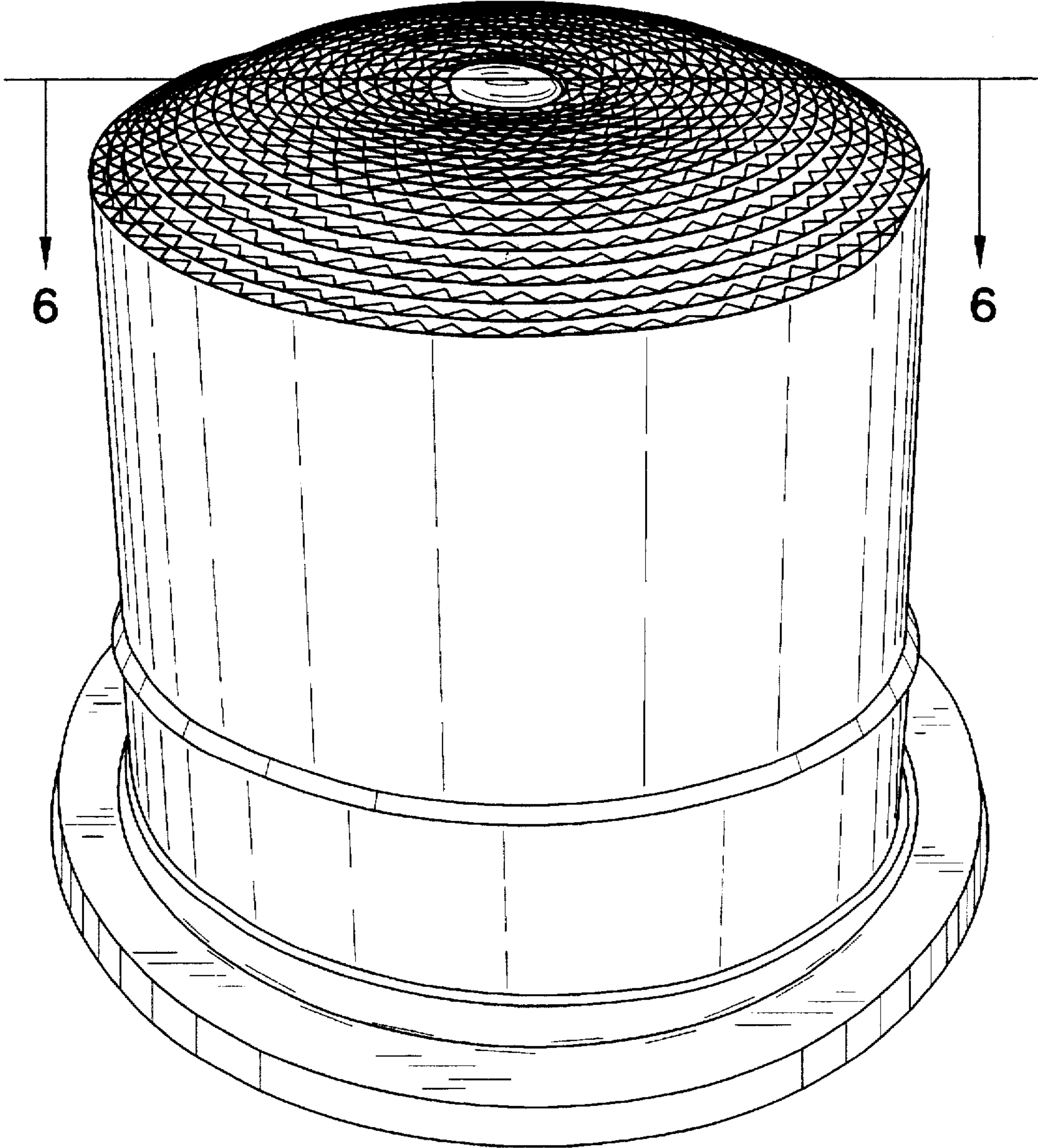


FIG. 1

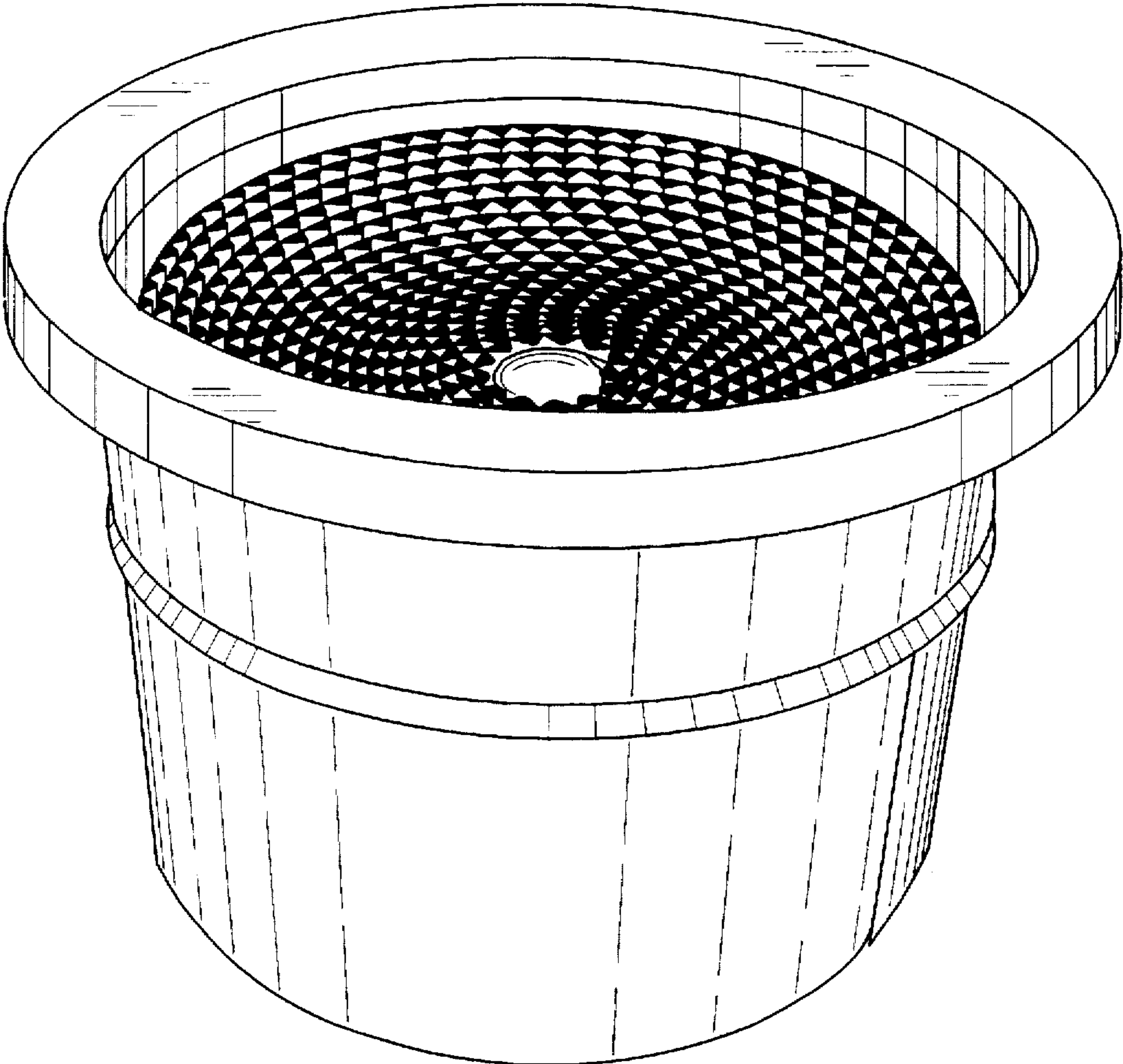


FIG. 2

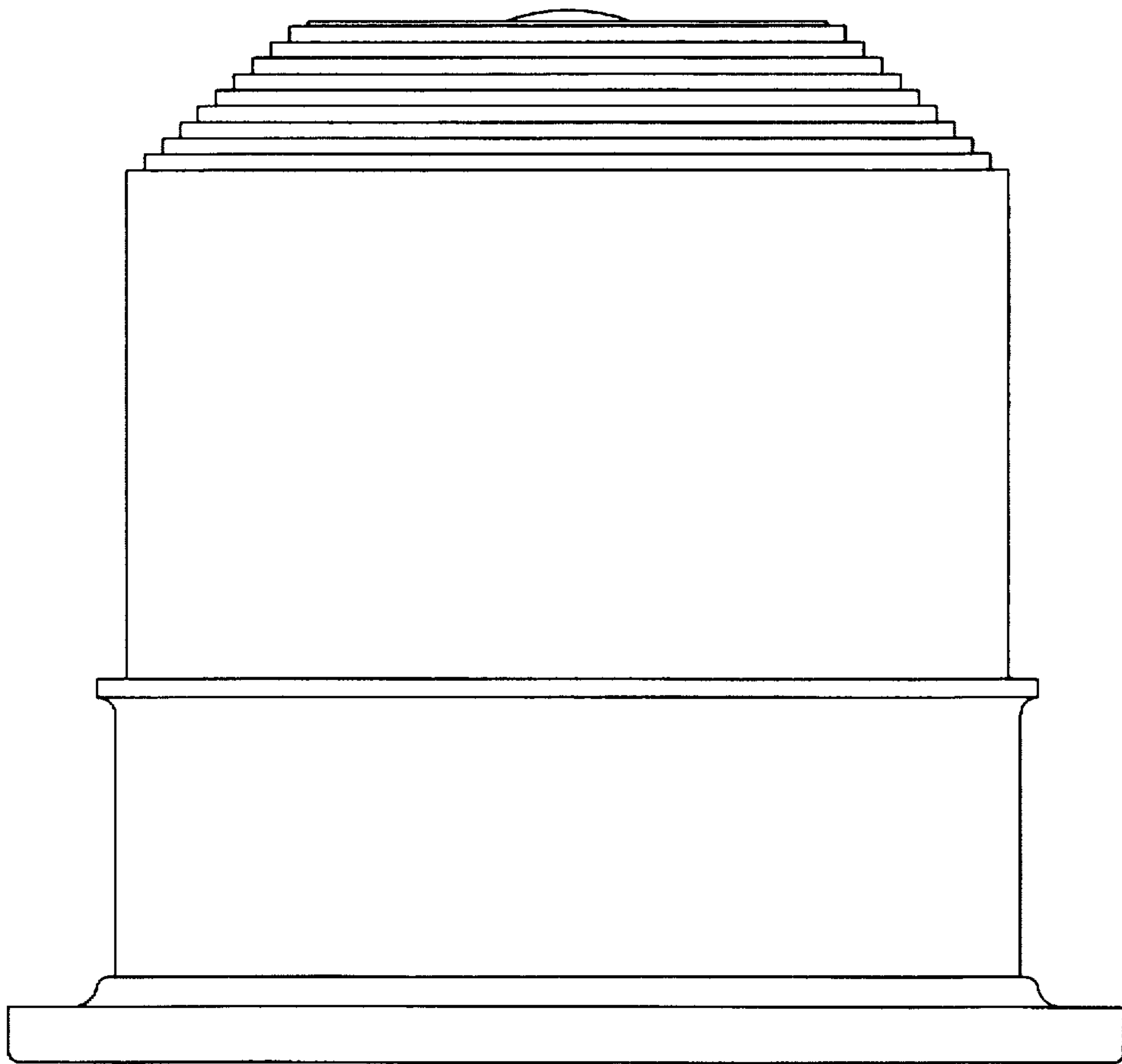


FIG. 3

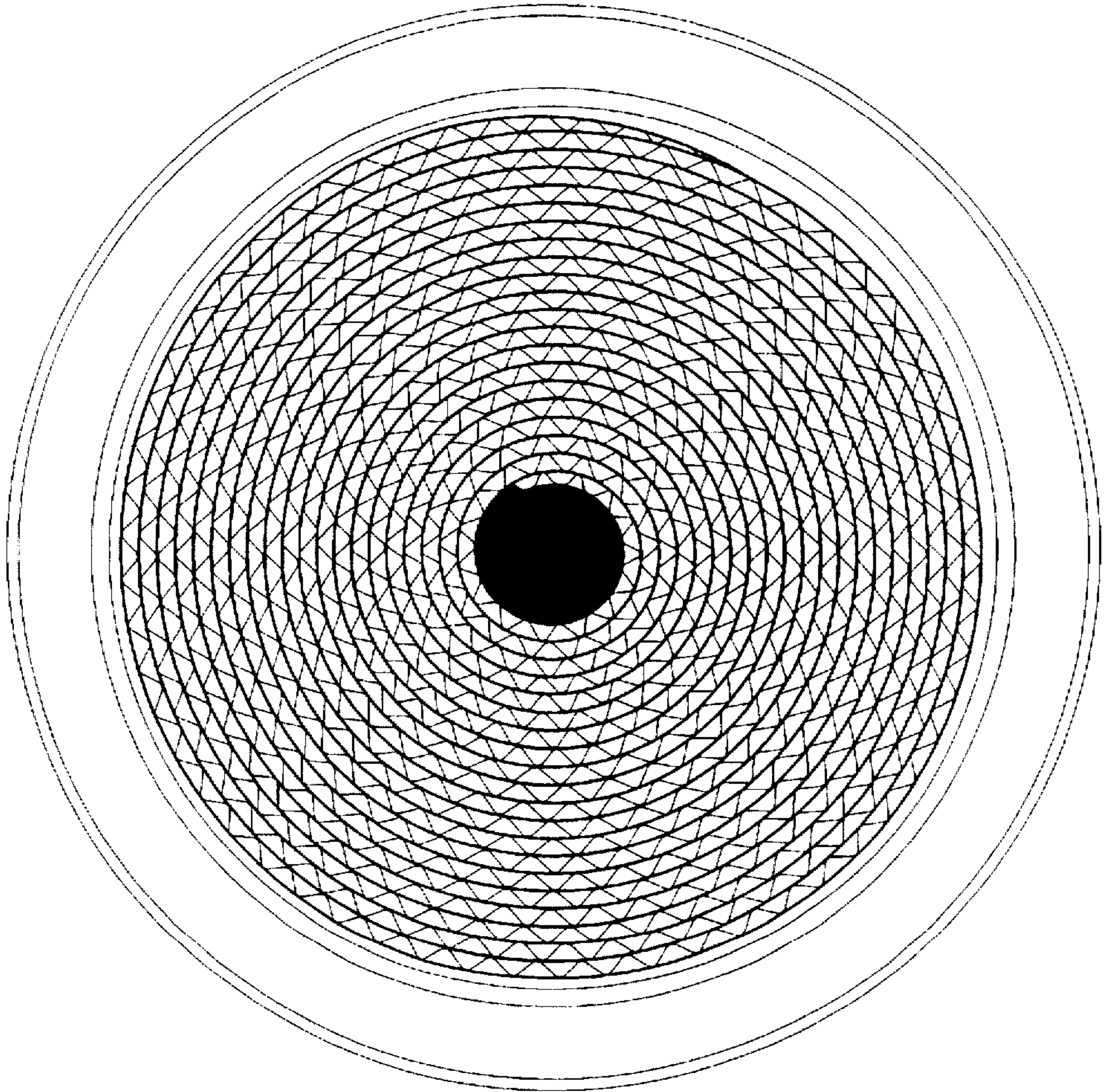


FIG. 4

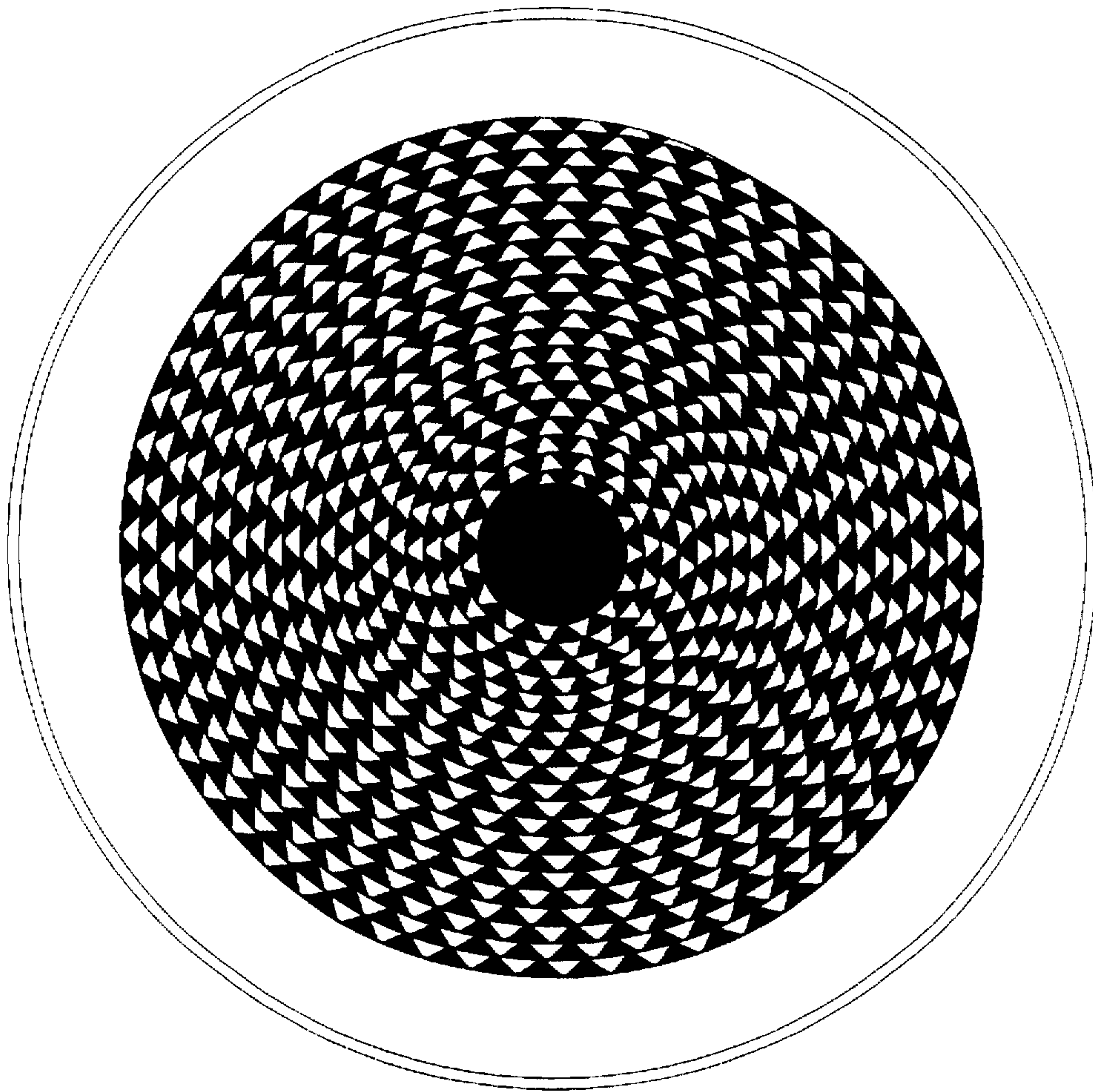


FIG. 5

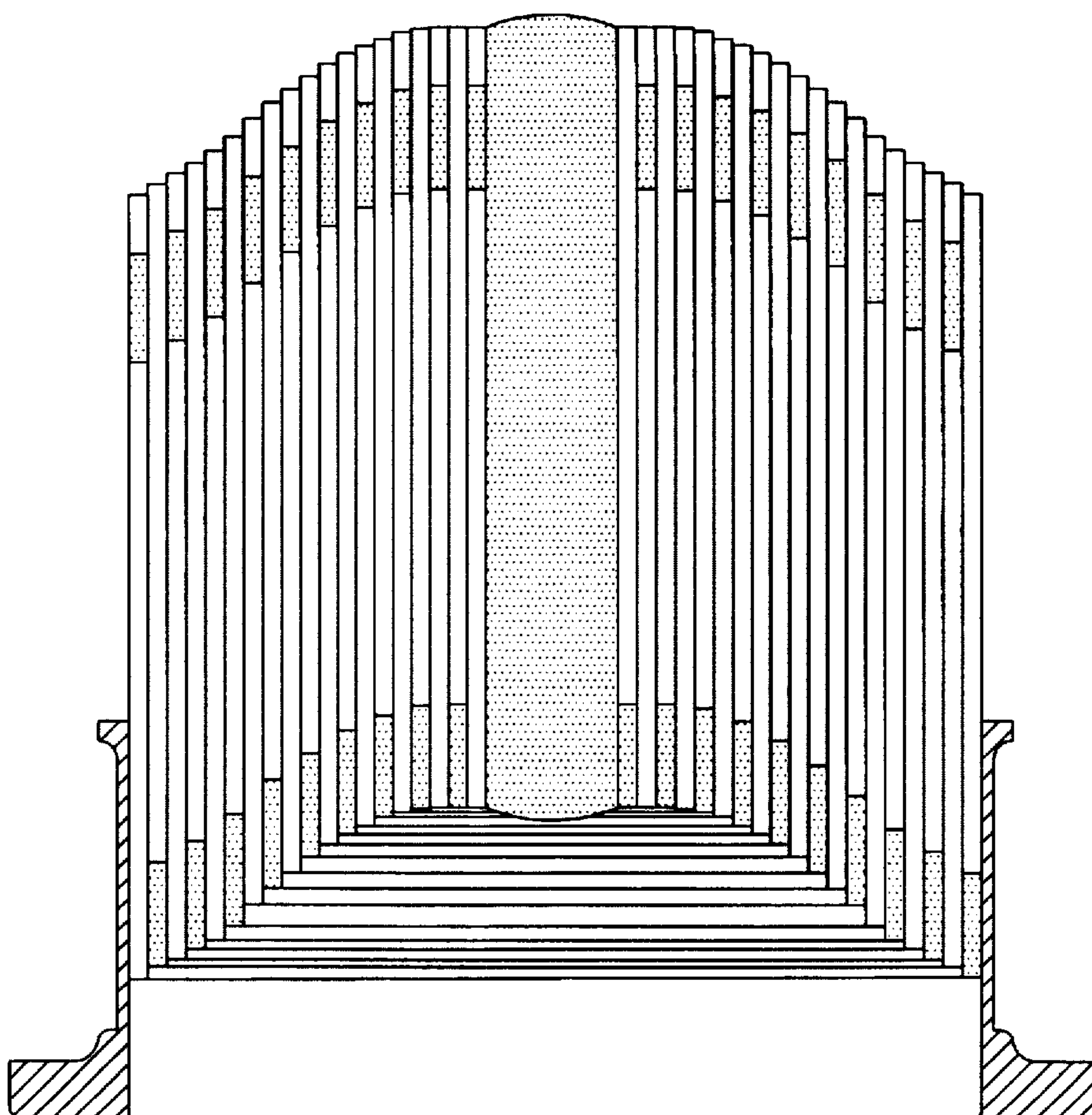


FIG. 6

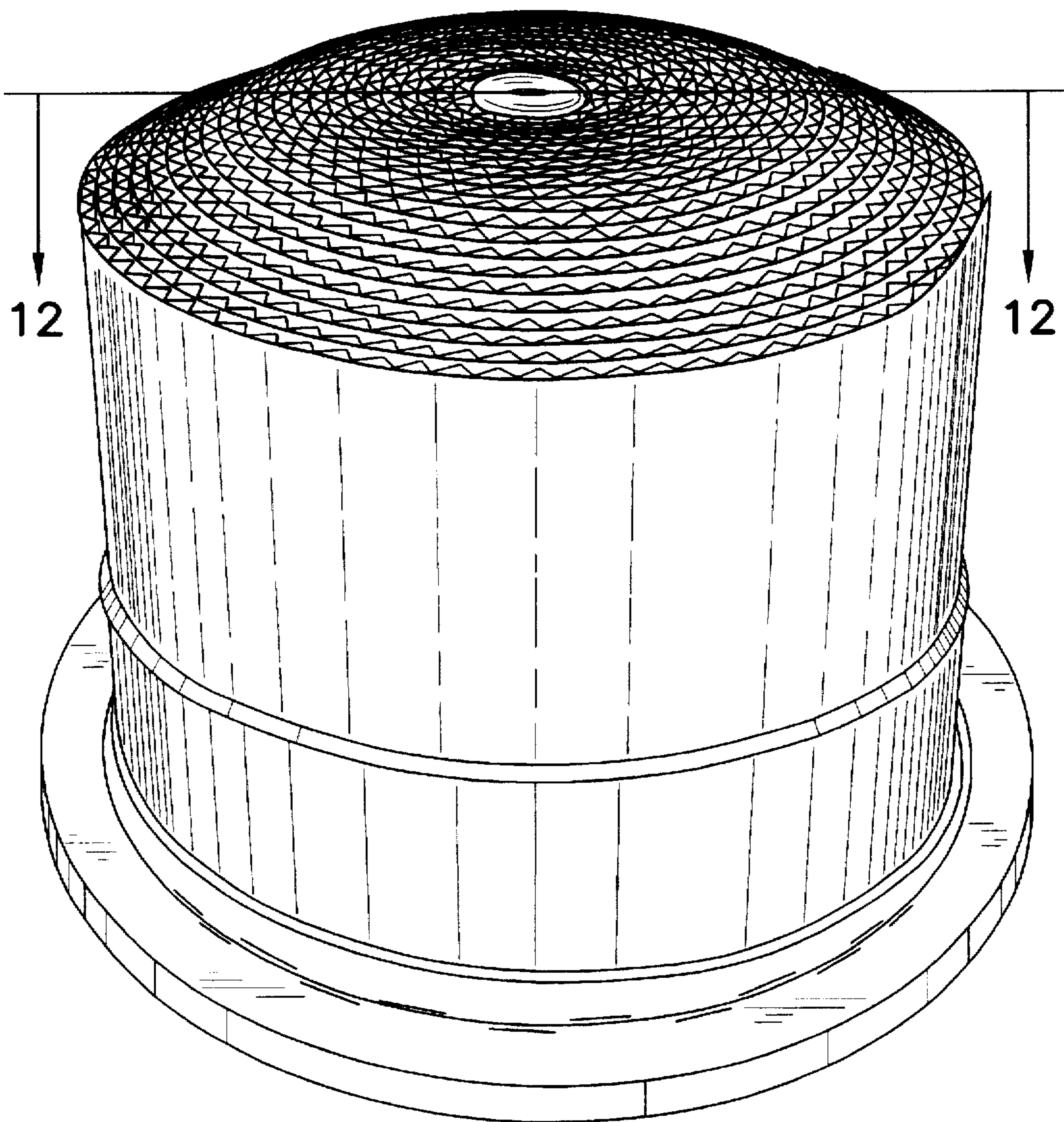


FIG. 7

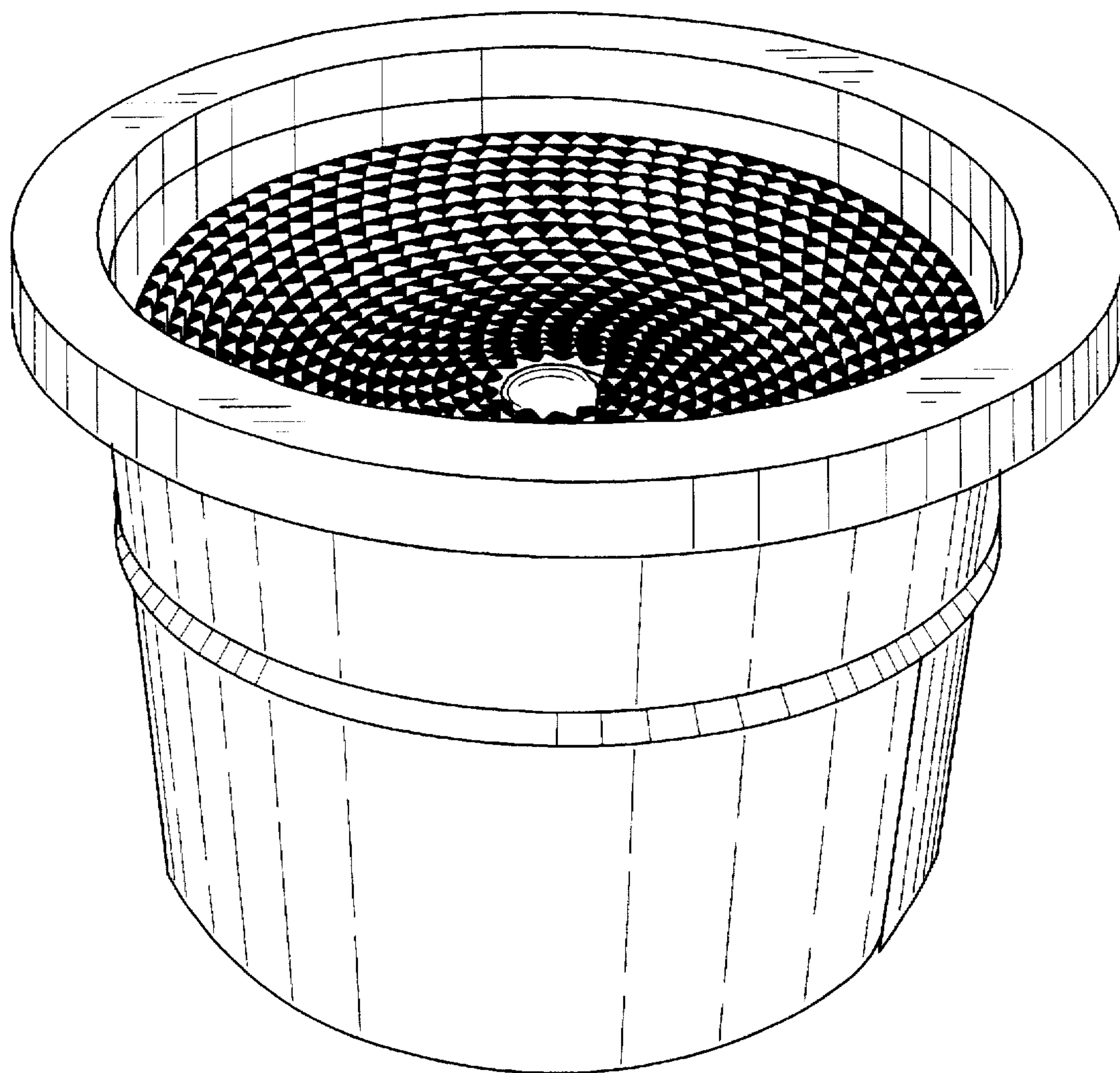


FIG. 8

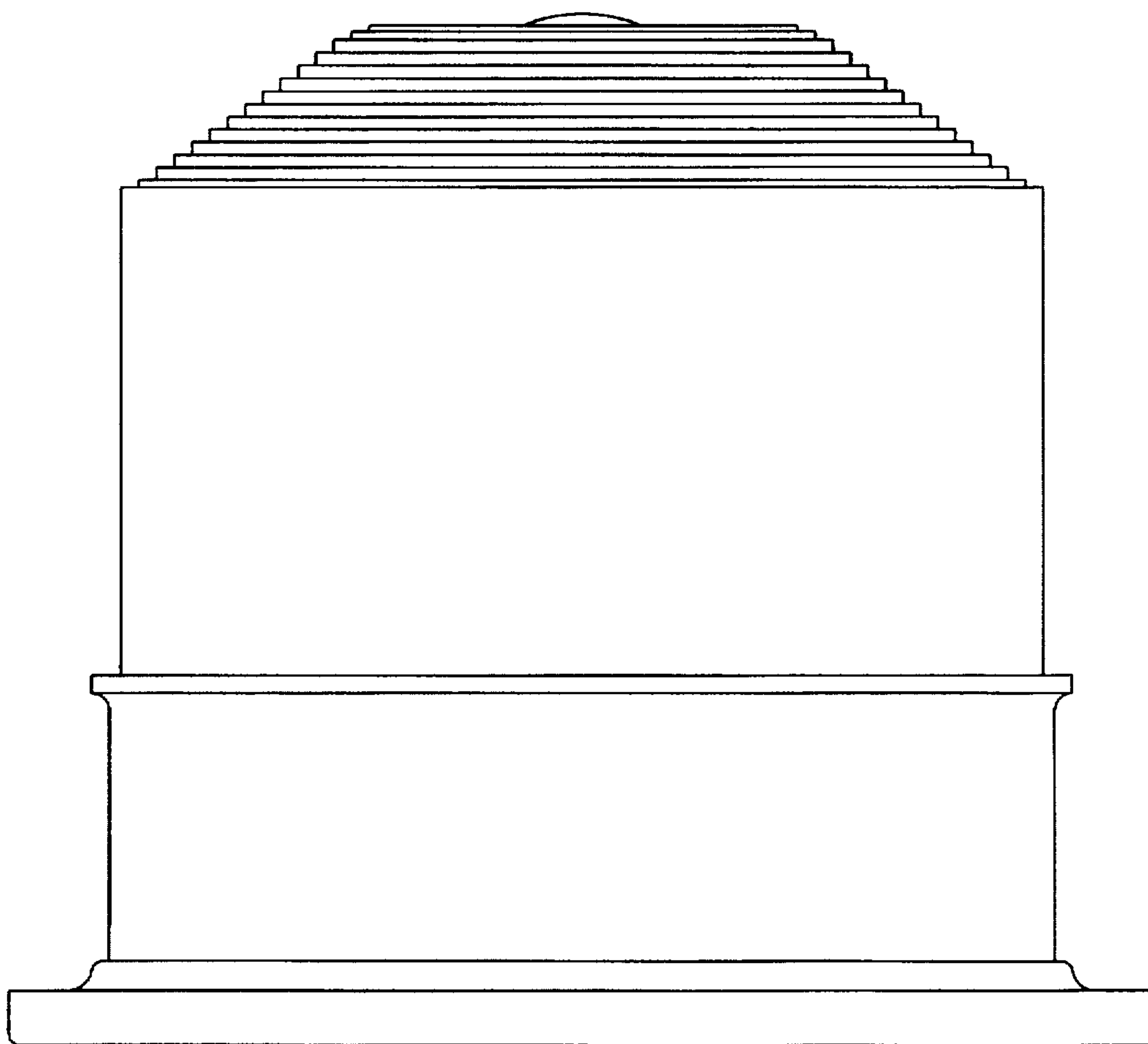


FIG. 9

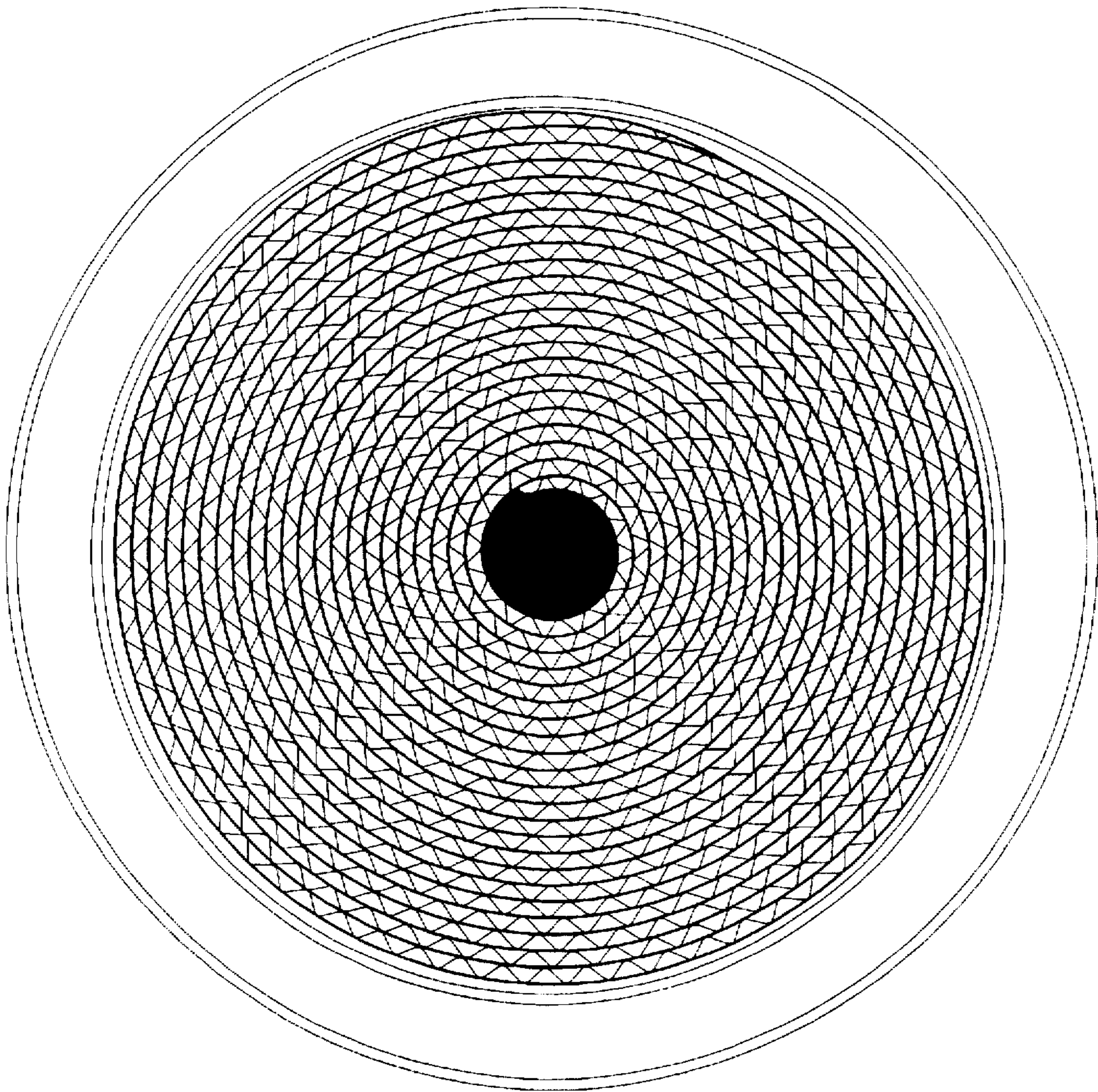


FIG. 10

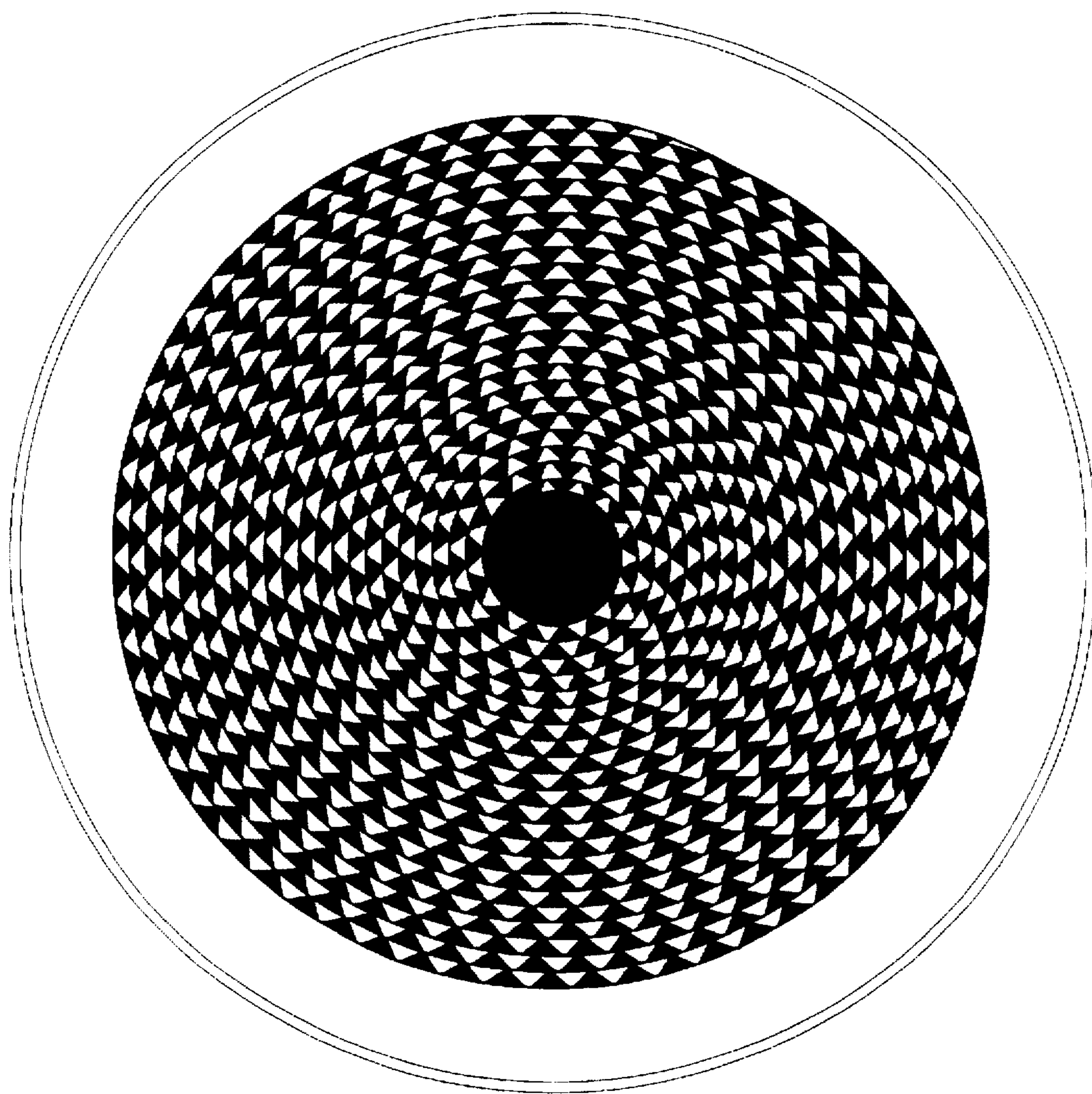


FIG. 11

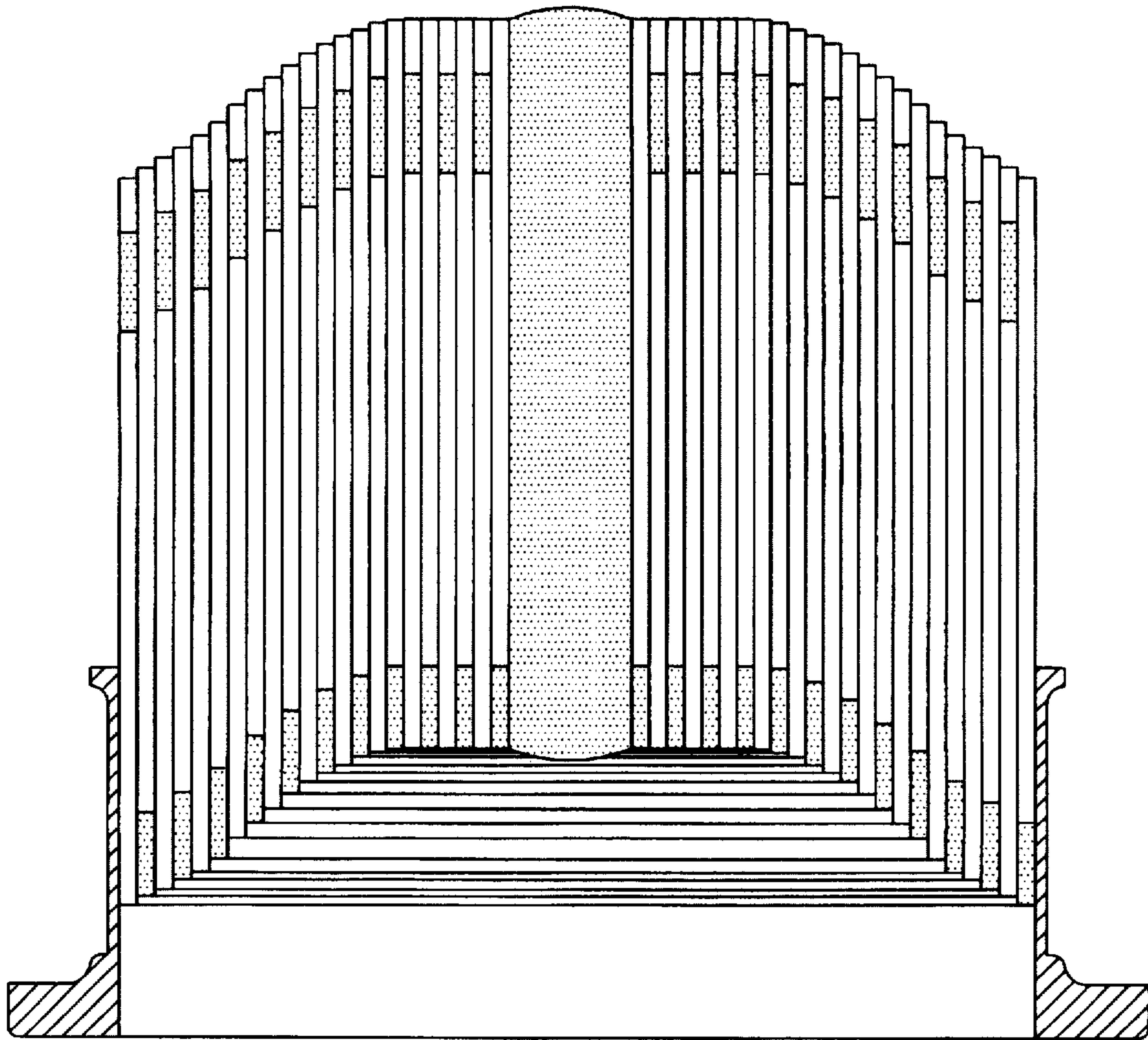


FIG. 12

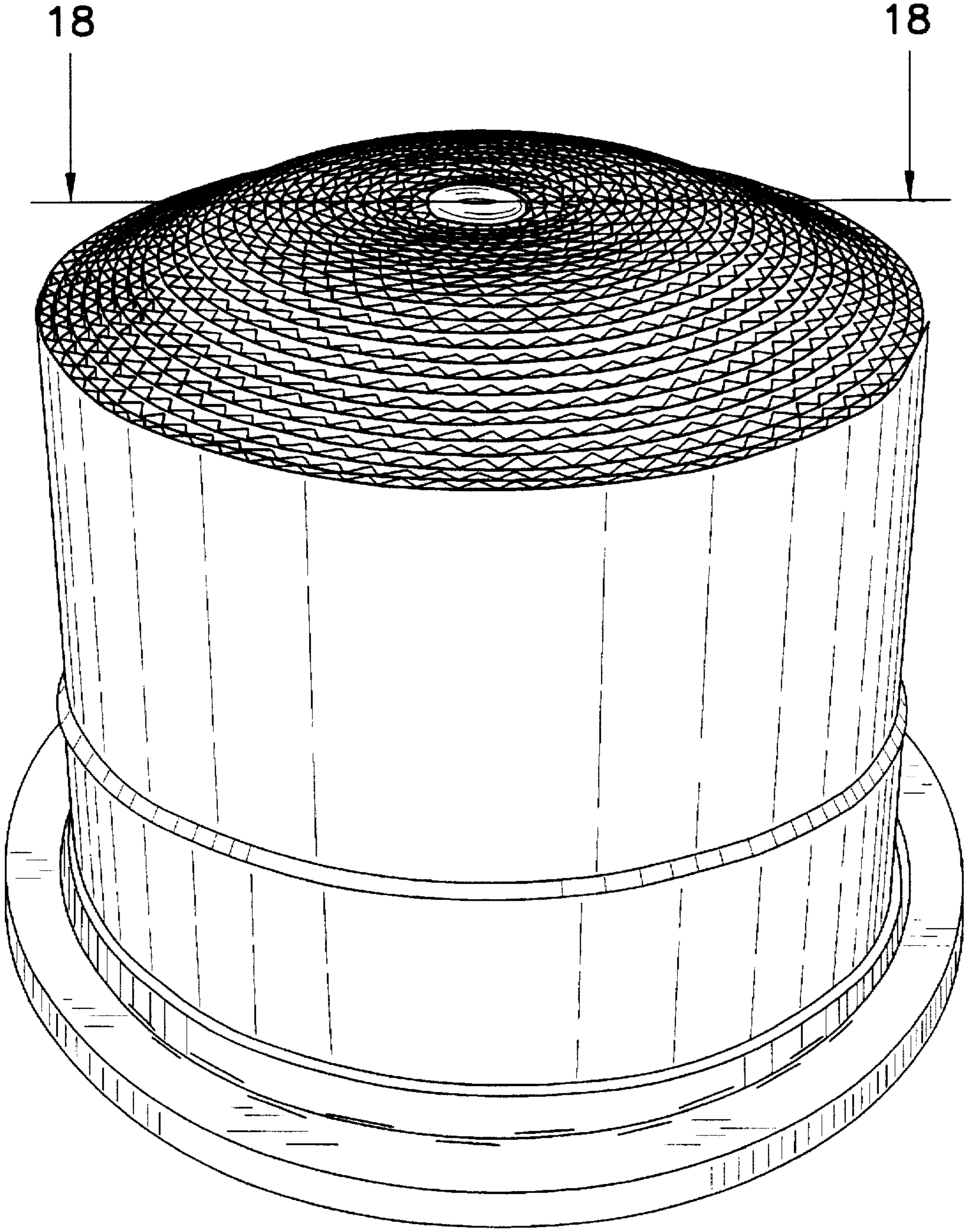


FIG. 13

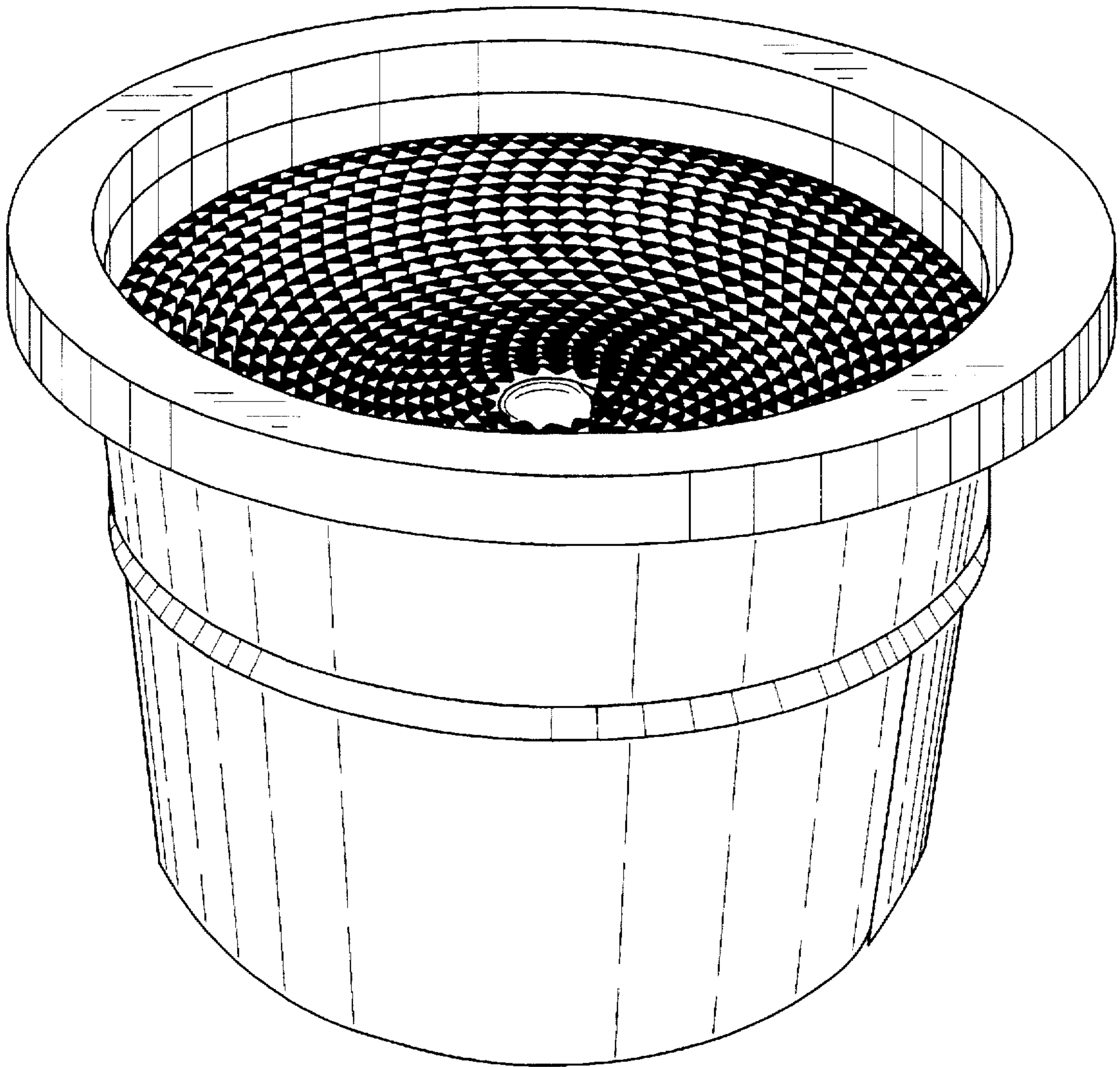


FIG. 14

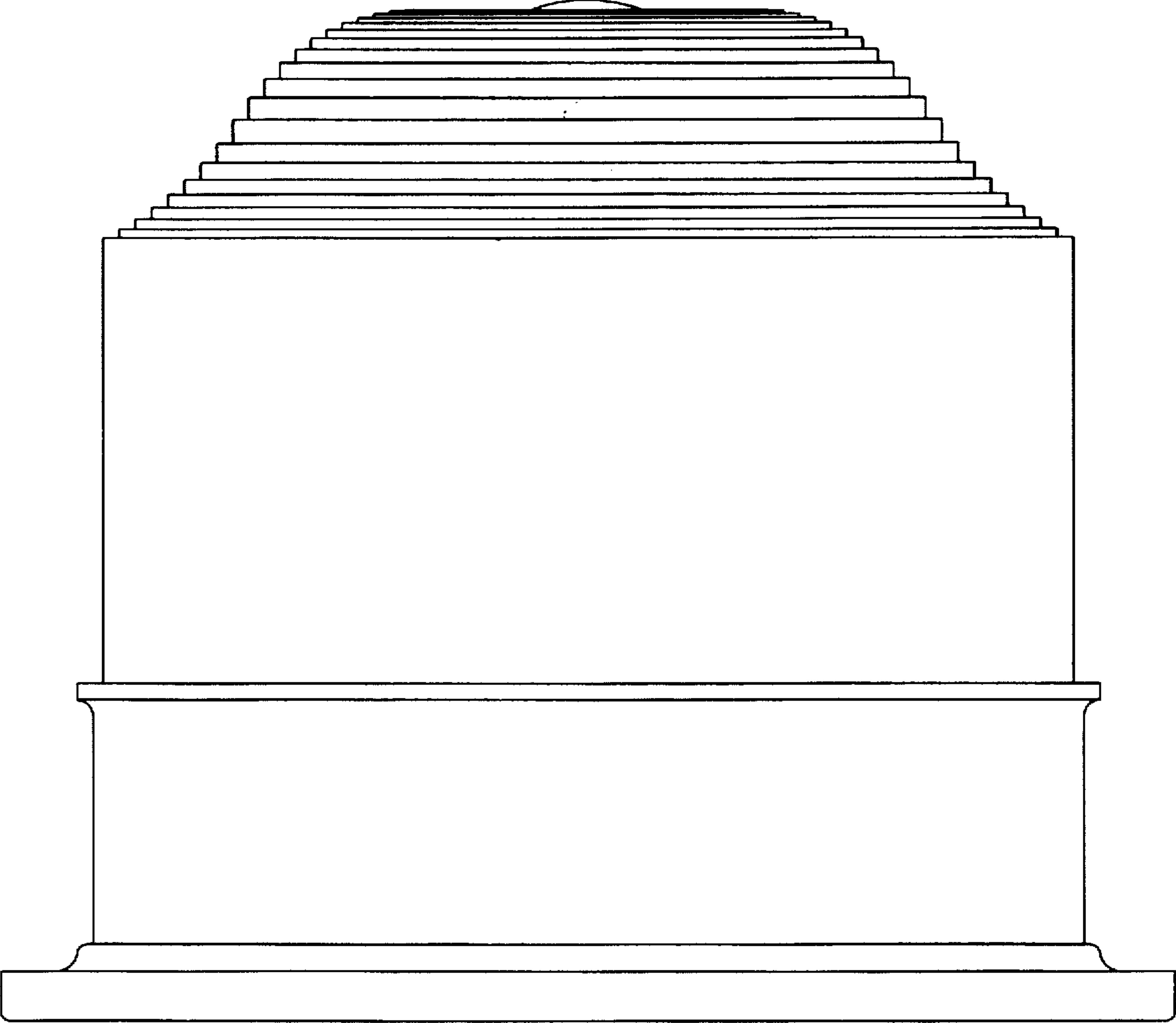


FIG. 15

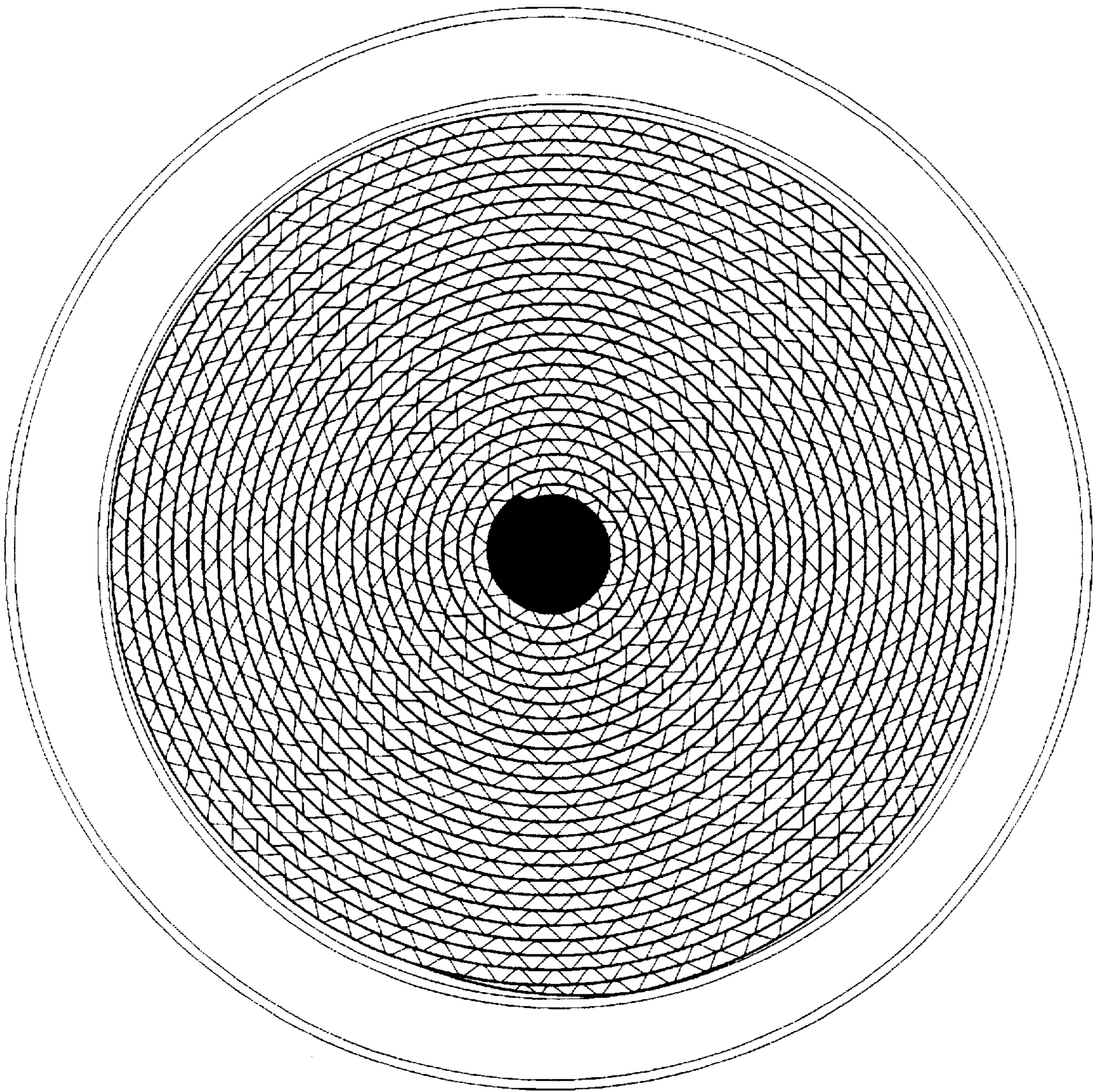


FIG. 16

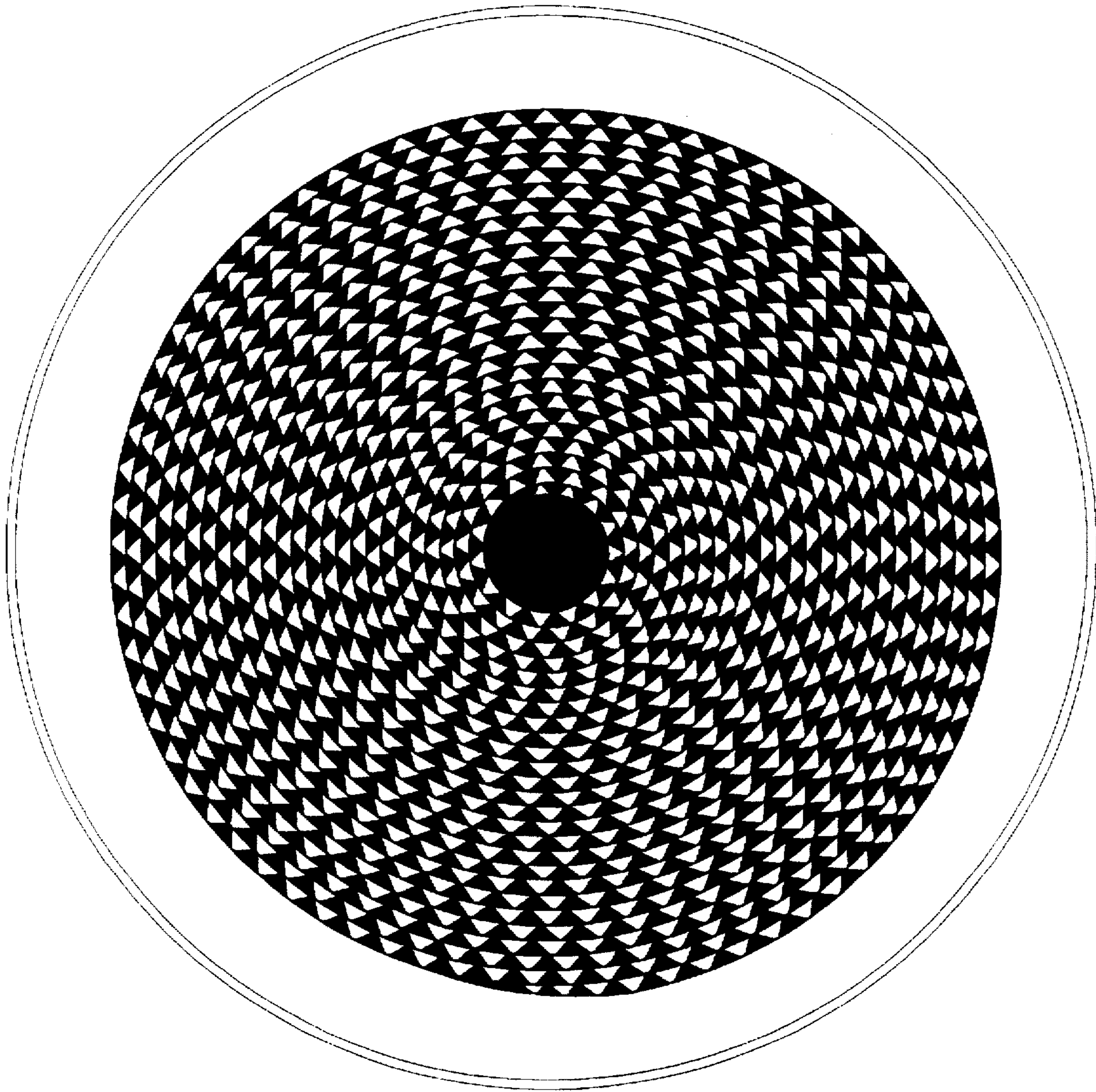


FIG. 17

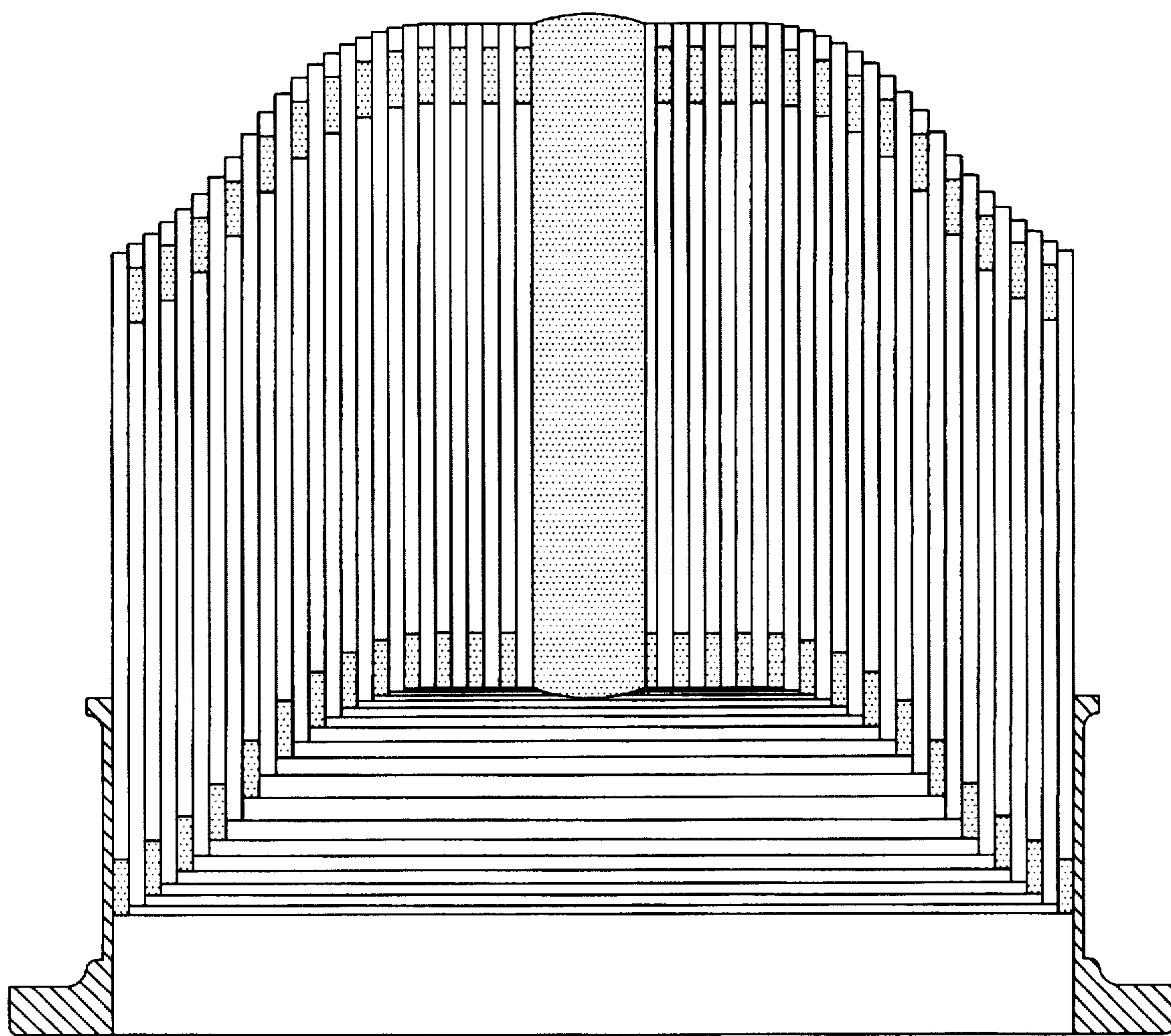


FIG. 18