



US00D872771S

(12) **United States Design Patent** (10) **Patent No.:** **US D872,771 S**  
**Mish et al.** (45) **Date of Patent:** **\*\* Jan. 14, 2020**

(54) **RECIPROCATING GAS COMPRESSOR VALVE**

**DESCRIPTION**

- (71) Applicant: **Delaware Capital Formation, Inc.**,  
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- (72) Inventors: **Stephen A. Mish**, Wellington, FL (US);  
**Swapnil S. Khaire**, Knoxville, TN (US)
- (73) Assignee: **Delaware Capital Formation, Inc.**,  
Wilmington, DE (US)
- (\*\*) Term: **15 Years**
- (21) Appl. No.: **29/654,447**
- (22) Filed: **Jun. 25, 2018**

**Related U.S. Application Data**

- (63) Continuation of application No. 29/543,535, filed on  
Oct. 26, 2015, now Pat. No. Des. 824,426.
- (51) **LOC (12) Cl.** ..... **15-02**
- (52) **U.S. Cl.**  
USPC ..... **D15/9**
- (58) **Field of Classification Search**  
USPC ..... D15/5, 9, 9.1, 9.2, 9.3; 137/327, 329.04,  
137/516.23, 512.1, 516.11; 123/188.5,  
(Continued)

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*Primary Examiner* — Gino Colan

(74) *Attorney, Agent, or Firm* — Nielsen IP Law LLC

(57) **CLAIM**

The ornamental design for a reciprocating gas compressor valve, as shown and descred.

FIG. 1 is an overall perspective view of a reciprocating gas compressor valve showing our new design;  
 FIG. 2 is an overall exploded perspective view of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 3 is an overall top view of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 4 is an overall bottom view of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 5 is an overall side view of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 6 is a cross-sectional view of the reciprocating gas compressor valve of FIG. 1, taken from line 6-6 in FIG. 3;  
 FIG. 7 is a top view of the seat of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 8 is a side view thereof;  
 FIG. 9 is a bottom view thereof;  
 FIG. 10 is a top perspective view of the cartridge of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 11 is a bottom perspective view thereof;  
 FIG. 12 is a top view thereof;  
 FIG. 13 is a bottom view thereof;  
 FIG. 14 is a side elevational view thereof;  
 FIG. 15 is a top perspective view of the sealing element of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 16 is a bottom perspective view thereof;  
 FIG. 17 is a top view thereof;  
 FIG. 18 is a bottom view thereof;  
 FIG. 19 is a side elevational view thereof;  
 FIG. 20 is a top perspective view of the cup of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 21 is a bottom perspective view thereof;  
 FIG. 22 is a top view thereof;  
 FIG. 23 is a bottom view thereof;  
 FIG. 24 is a side elevational view thereof;  
 FIG. 25 is a top perspective view of the cup assembly of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 26 is a bottom perspective view thereof;  
 FIG. 27 is a top view thereof;  
 FIG. 28 is a bottom view thereof;  
 FIG. 29 is a side elevational view thereof;

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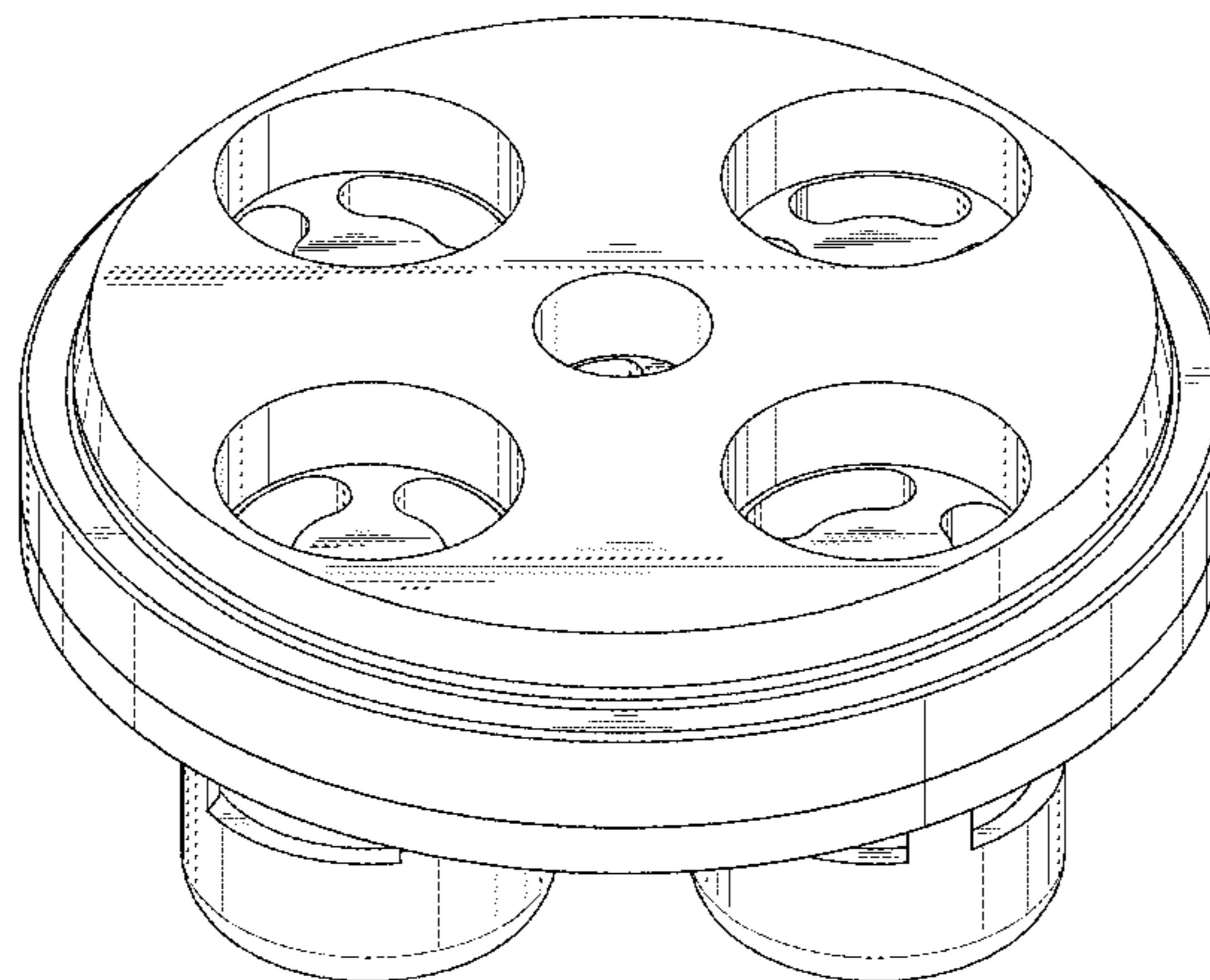


FIG. 30 is a top perspective view of the center cartridge of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 31 is a bottom perspective view thereof;  
 FIG. 32 is a top view thereof;  
 FIG. 33 is a bottom view thereof;  
 FIG. 34 is a side elevational view thereof;  
 FIG. 35 is a top perspective view of a center sealing element of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 36 is a bottom perspective view thereof;  
 FIG. 37 is a top view thereof;  
 FIG. 38 is a bottom view thereof;  
 FIG. 39 is a side elevational view thereof;  
 FIG. 40 is a top perspective view of the center cup of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 41 is a bottom perspective view thereof;  
 FIG. 42 is a top view thereof;  
 FIG. 43 is a bottom view thereof;  
 FIG. 44 is a side elevational view thereof;  
 FIG. 45 is a top perspective view of the center cup assembly of the reciprocating gas compressor valve of FIG. 1;  
 FIG. 46 is a bottom perspective view thereof;  
 FIG. 47 is a top view thereof;  
 FIG. 48 is a bottom view thereof;  
 FIG. 49 is a side elevational view thereof;  
 FIG. 50 is a top view and bottom view of the plate of the reciprocating gas compressor valve of FIG. 1; and,  
 FIG. 51 is a side view thereof.

The broken lines in the drawings are included for the purpose of illustrating portions of the reciprocating gas compressor valve and form no part of the claimed design.

**1 Claim, 17 Drawing Sheets**

(58) **Field of Classification Search**

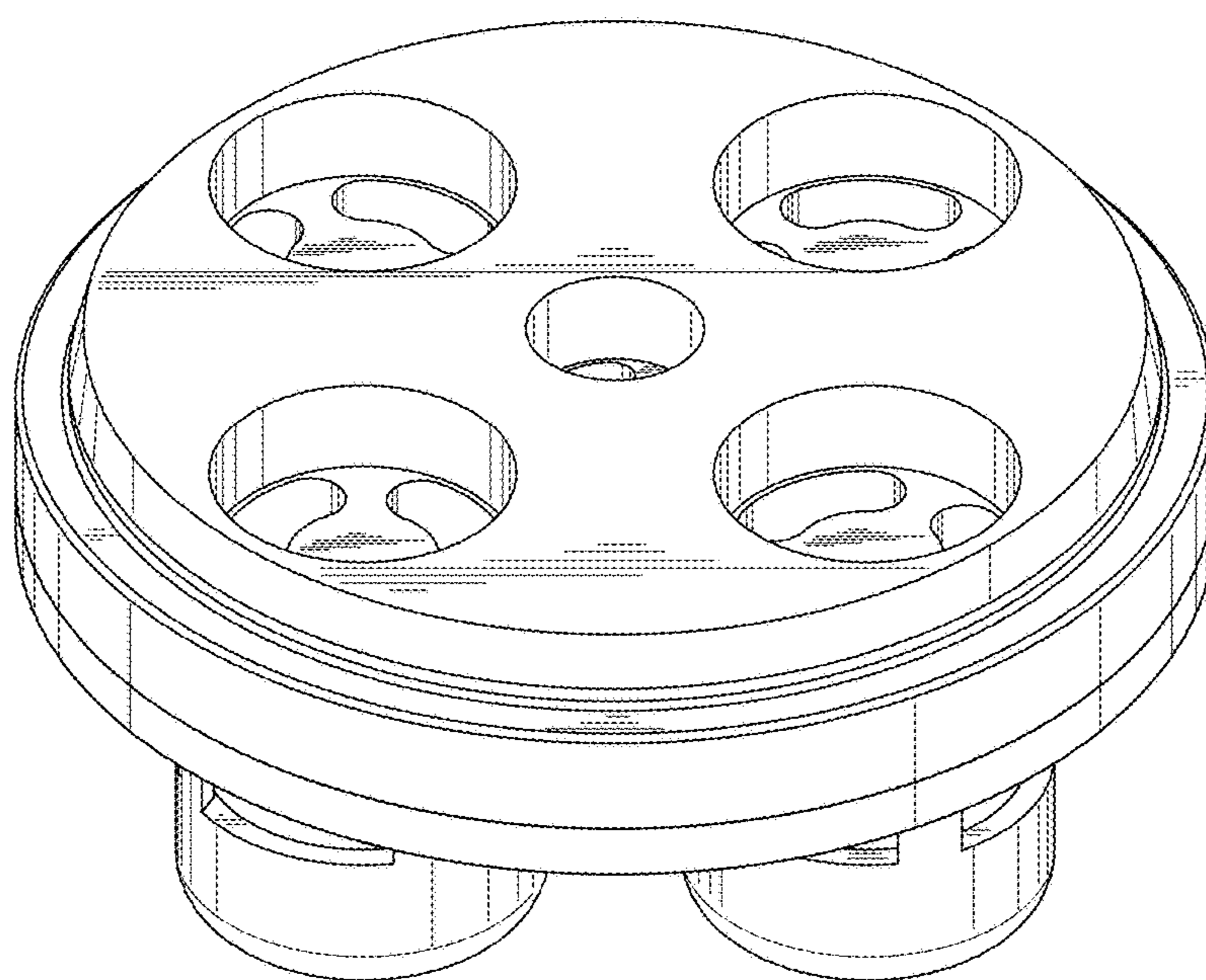
USPC ..... 123/190.14, 196 M, 445, 200, 90.17,  
 123/193.4; 417/273, 411, 564;  
 29/888.012, 890.124, 890.126; 92/187,  
 92/208  
 CPC ..... F04B 39/1033; F04B 39/1053  
 See application file for complete search history.

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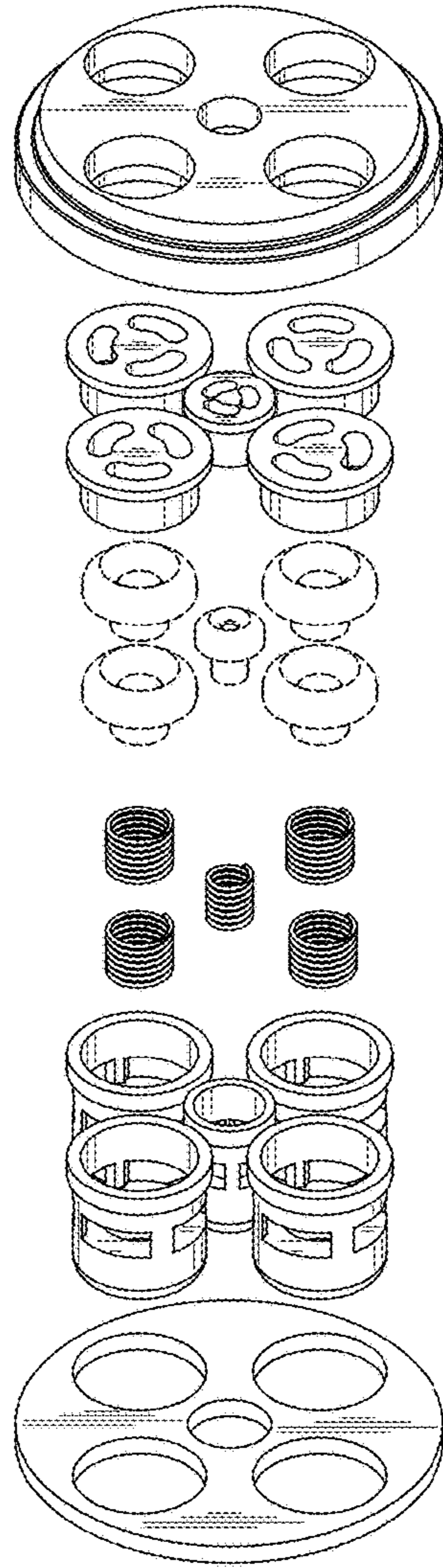
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D816,122	S *	4/2018	Mish	.....	D15/9
D816,719	S *	5/2018	Mish	.....	D15/9
D824,426	S *	7/2018	Mish	.....	D15/9
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**FIG.1**



**FIG.2**

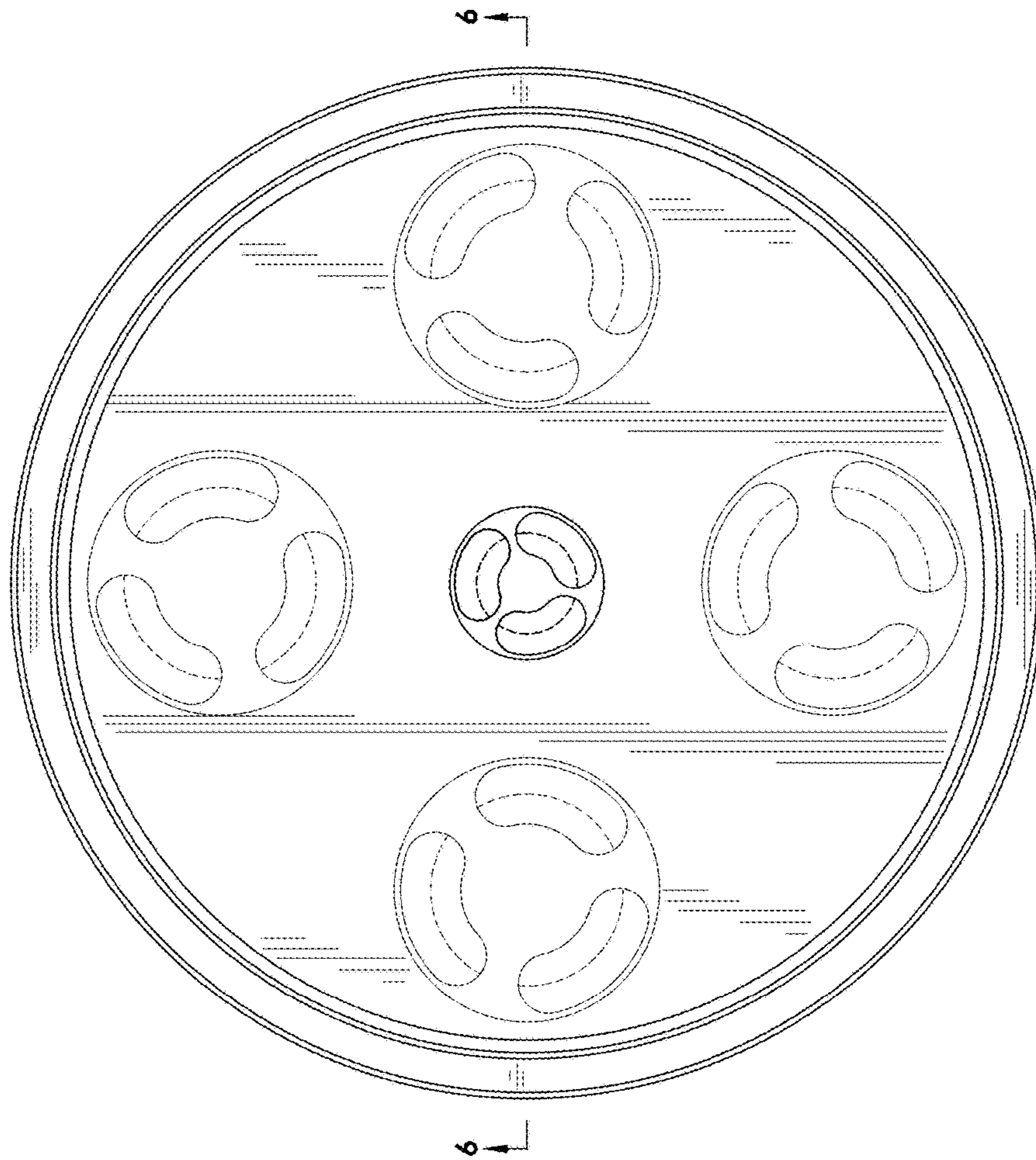
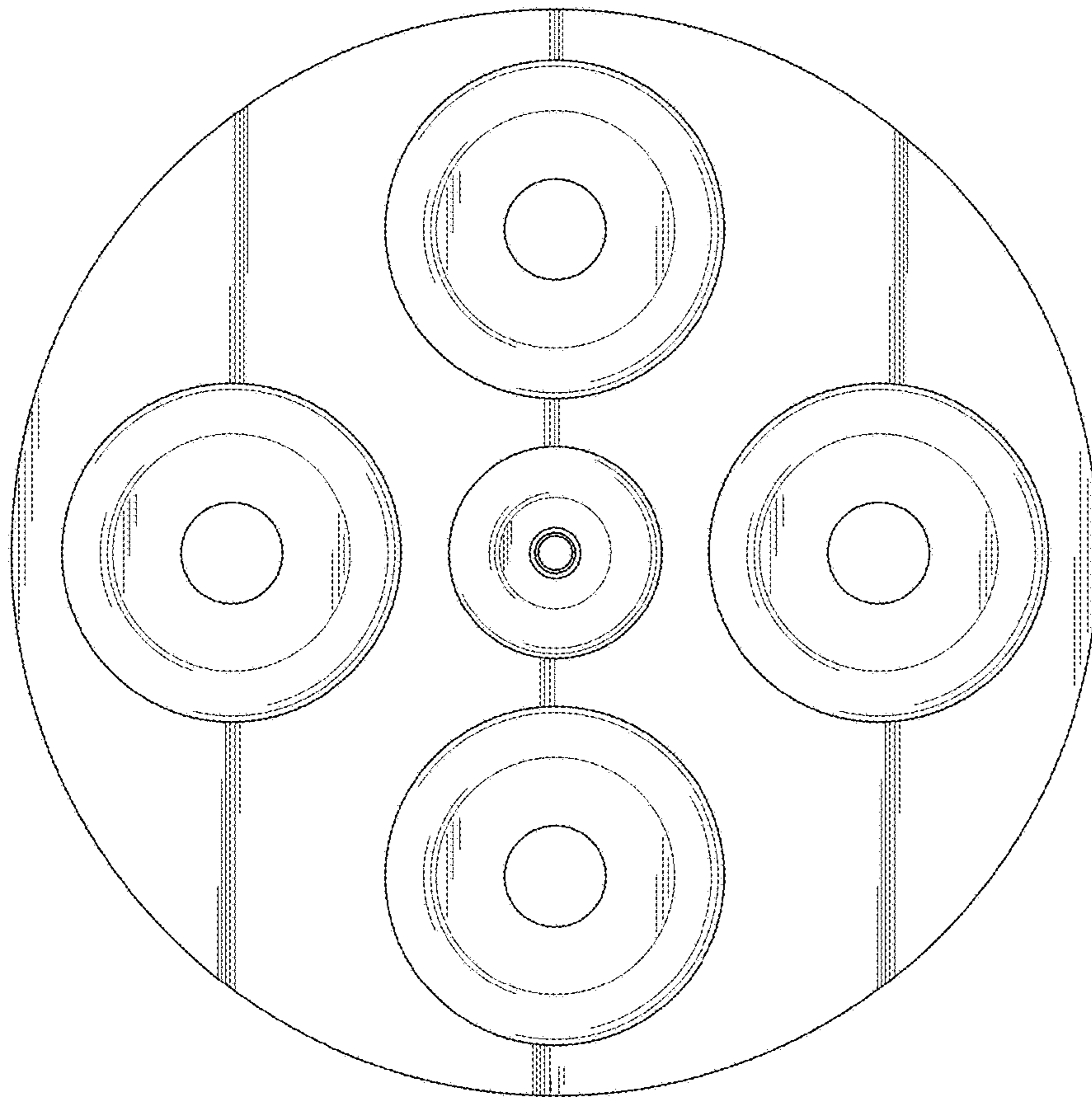
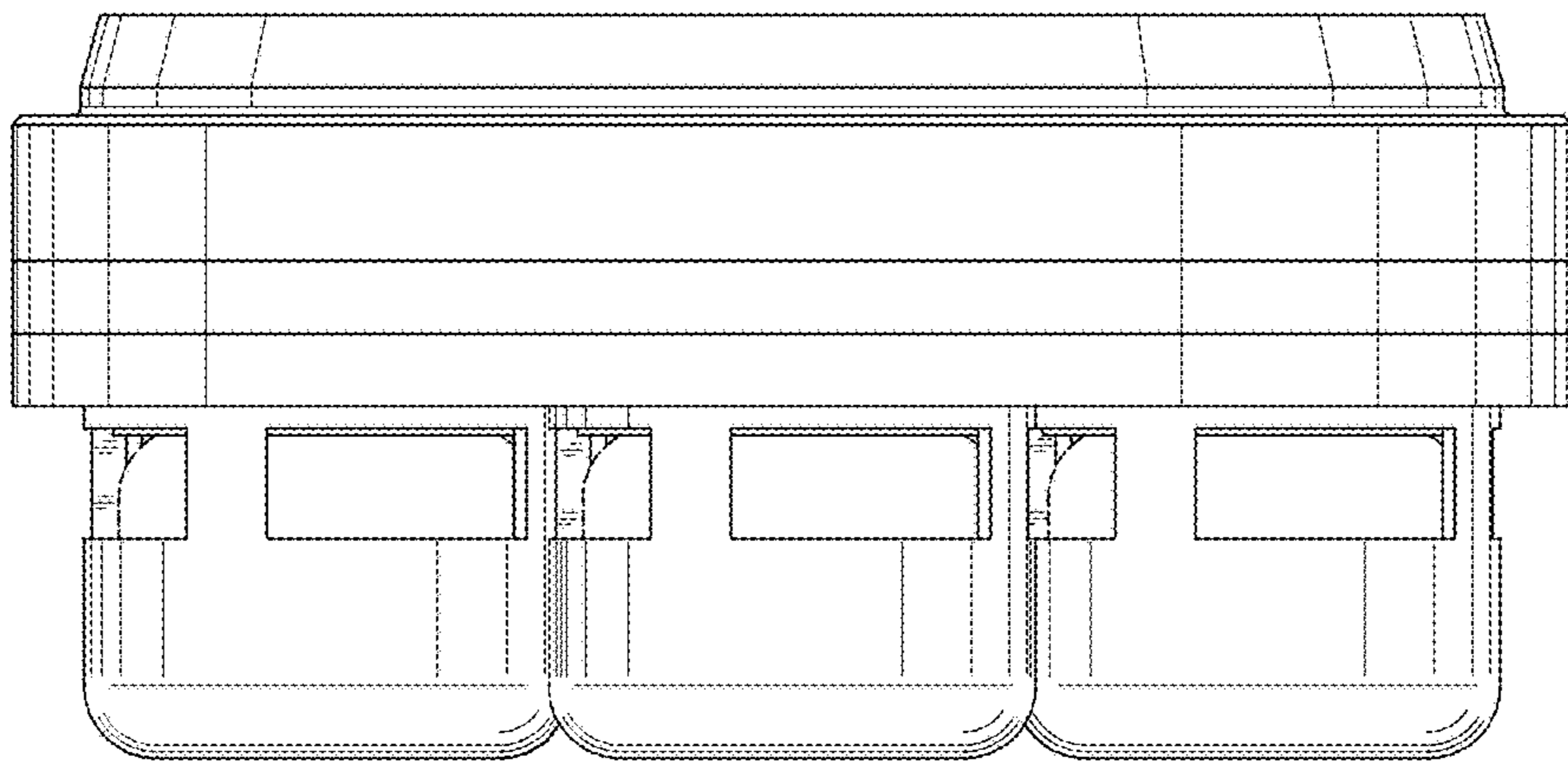


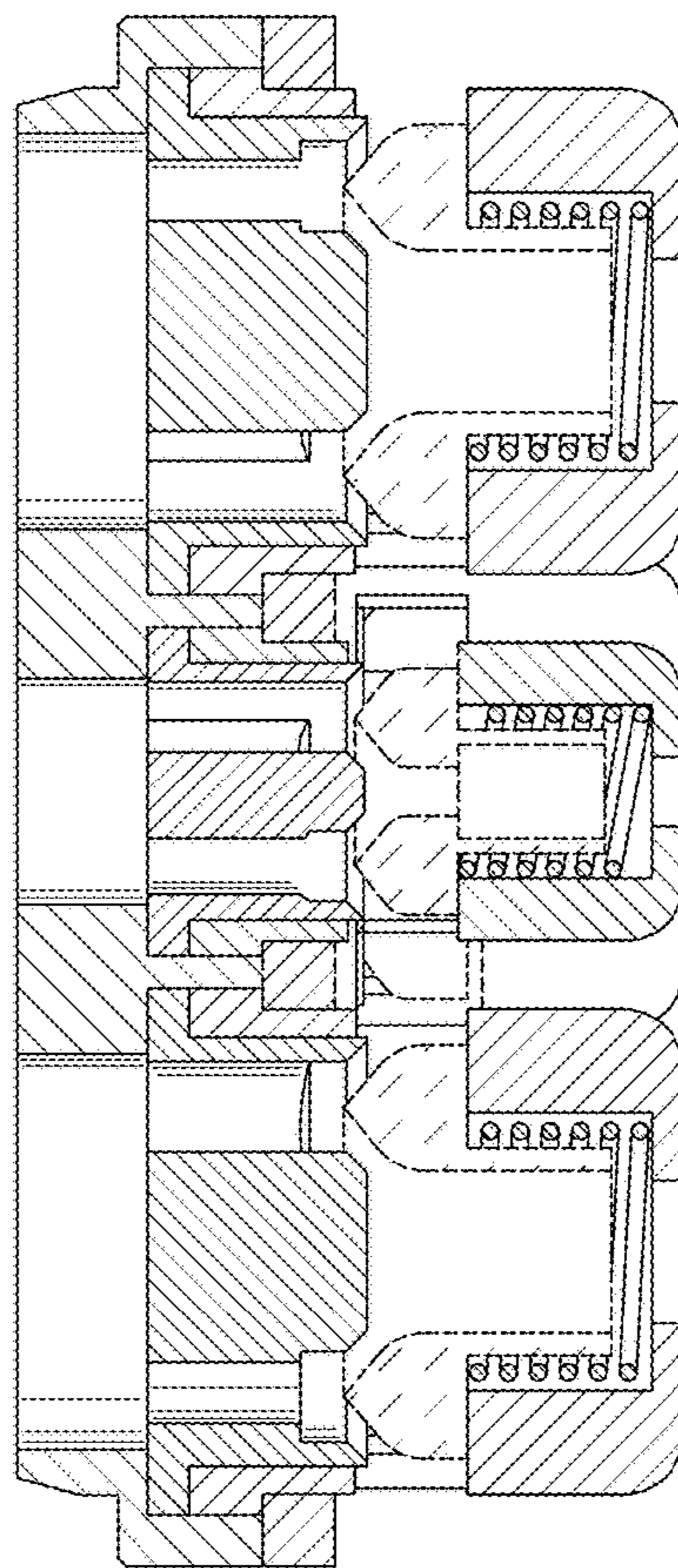
FIG. 3



**FIG.4**

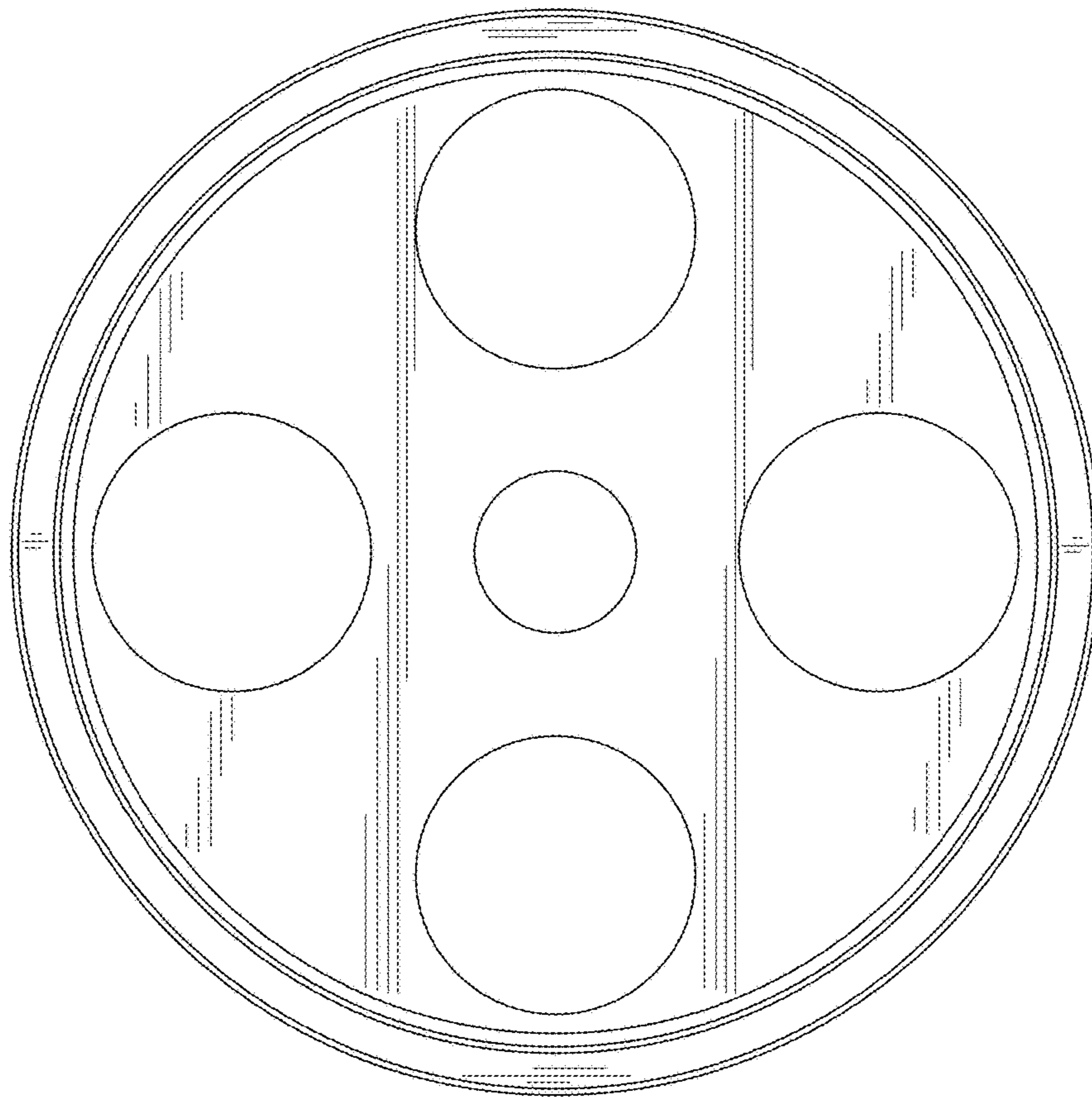


**FIG. 5**

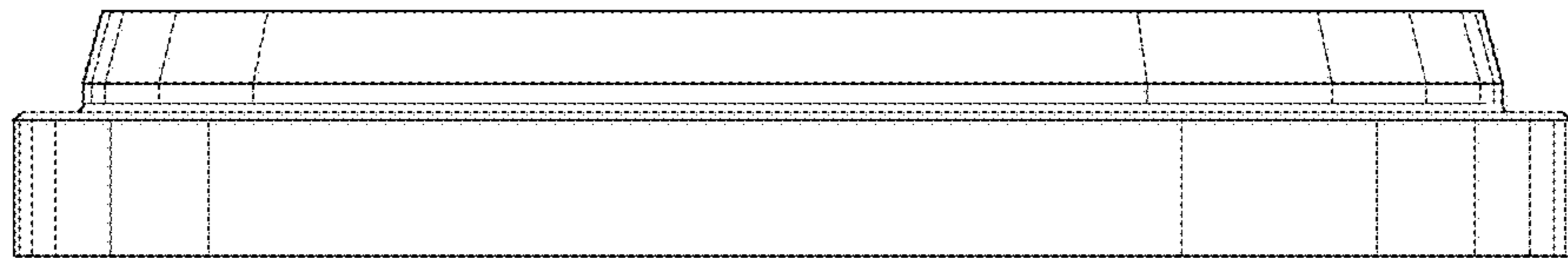


**FIG. 6**

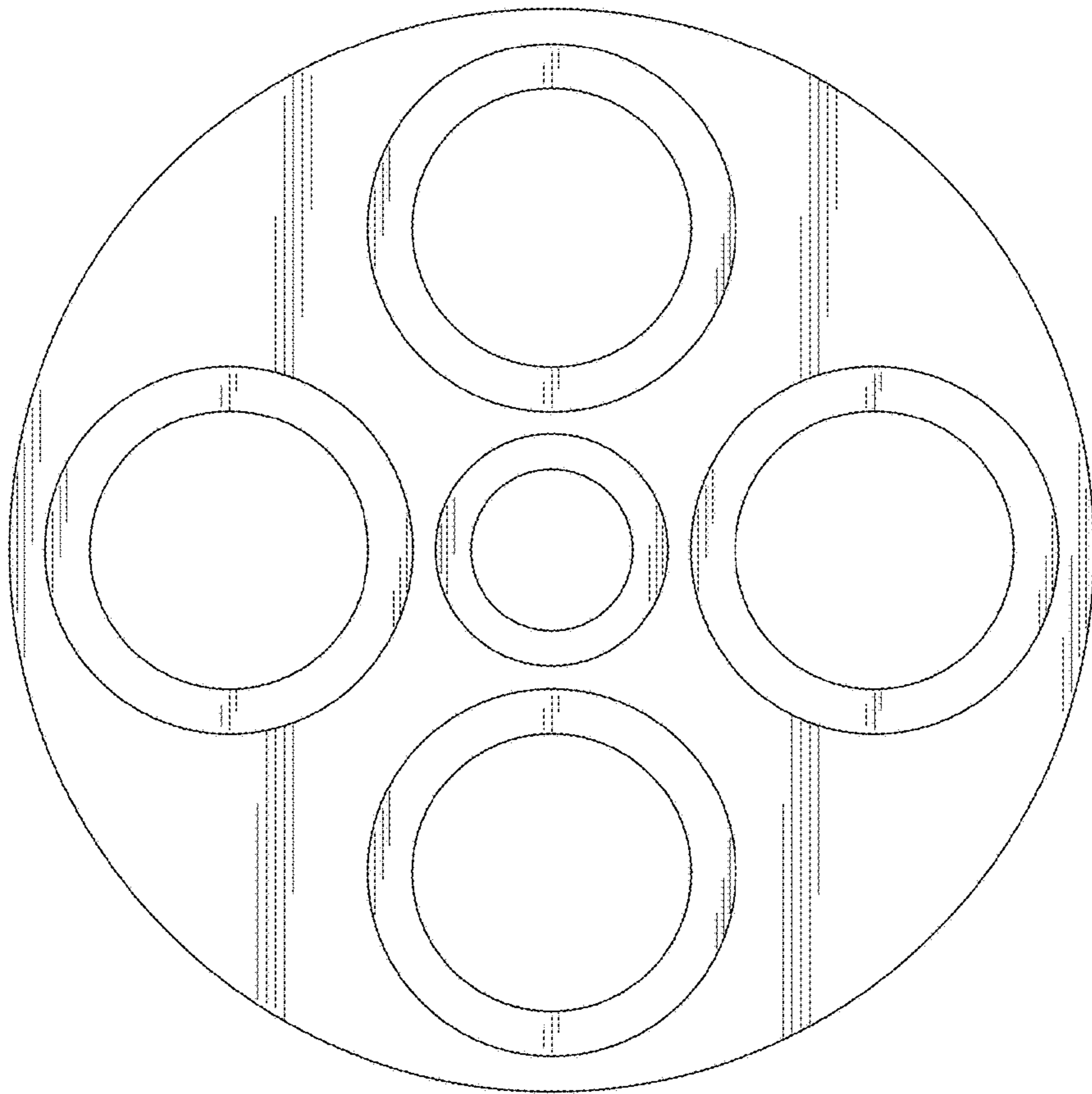




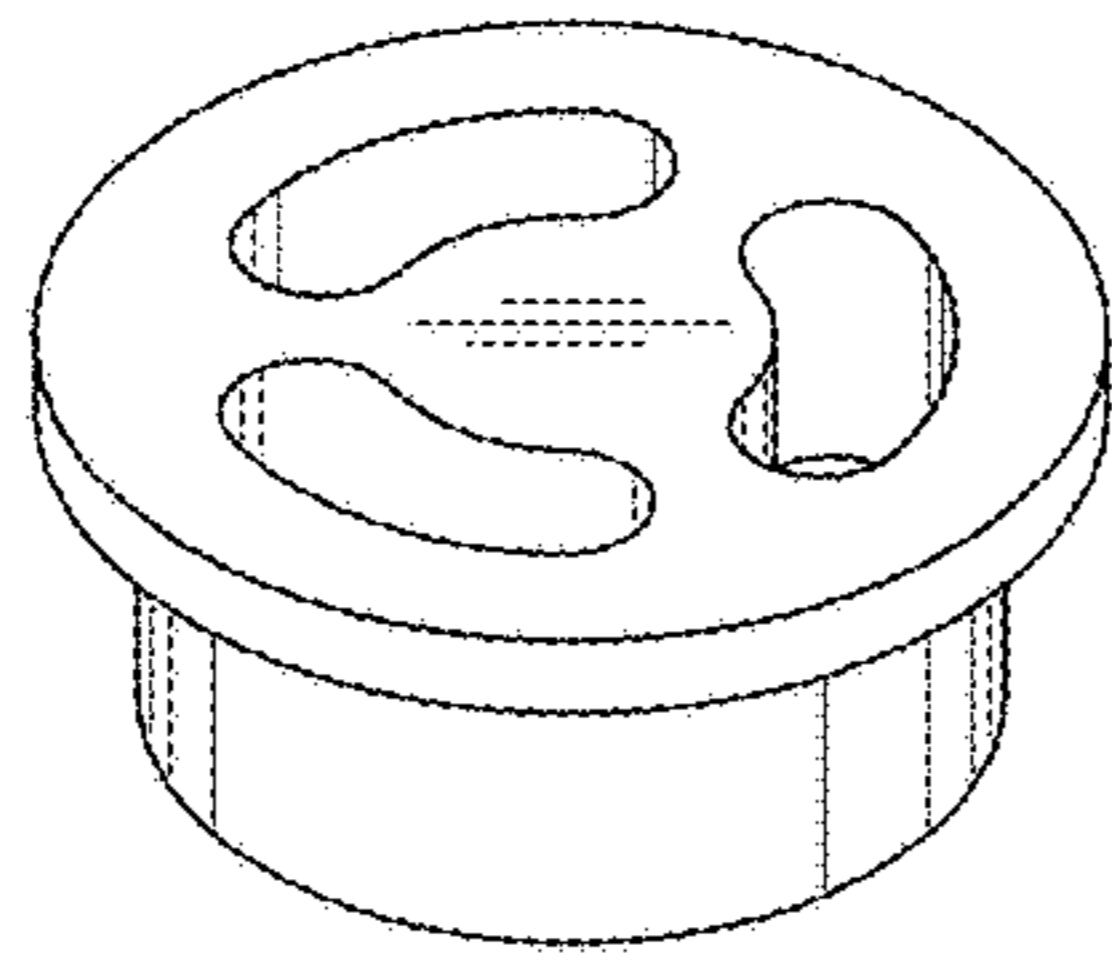
**FIG. 7**



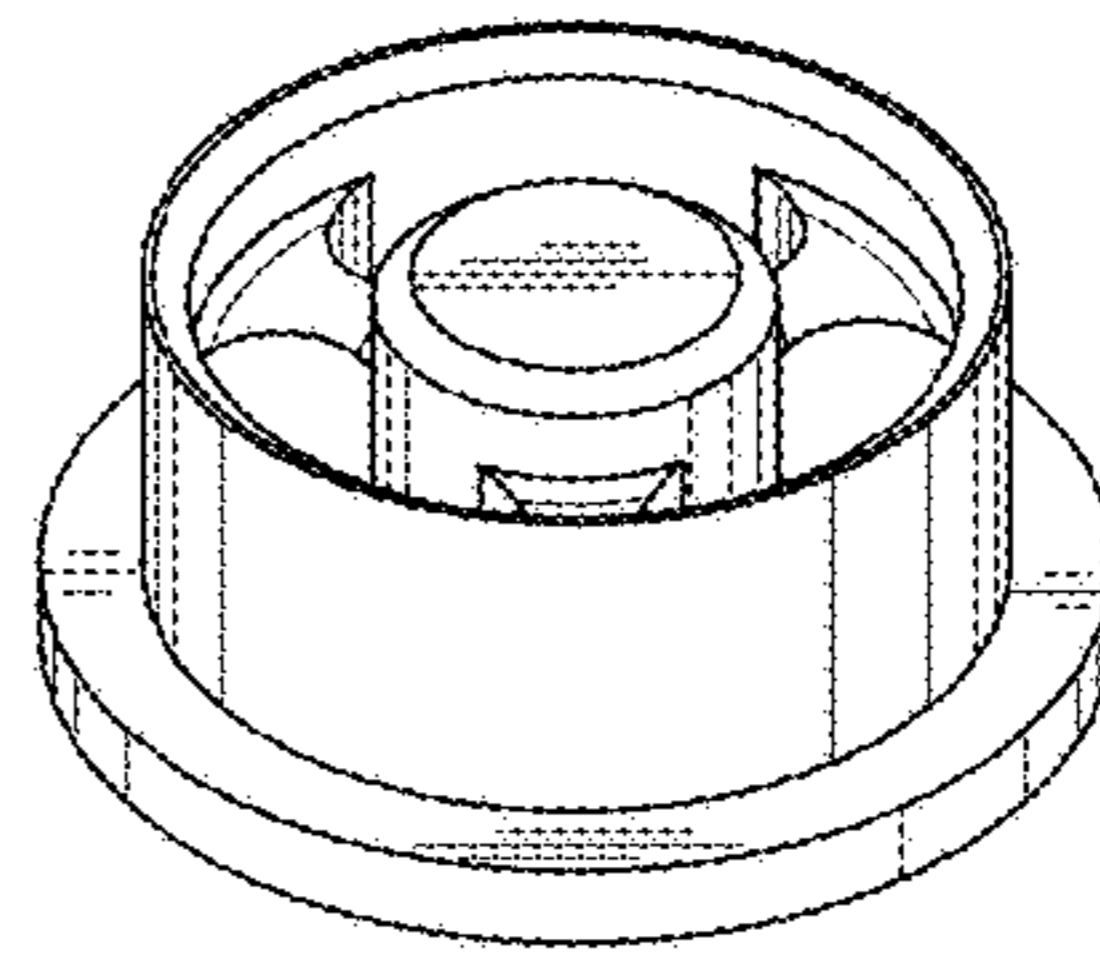
**FIG. 8**



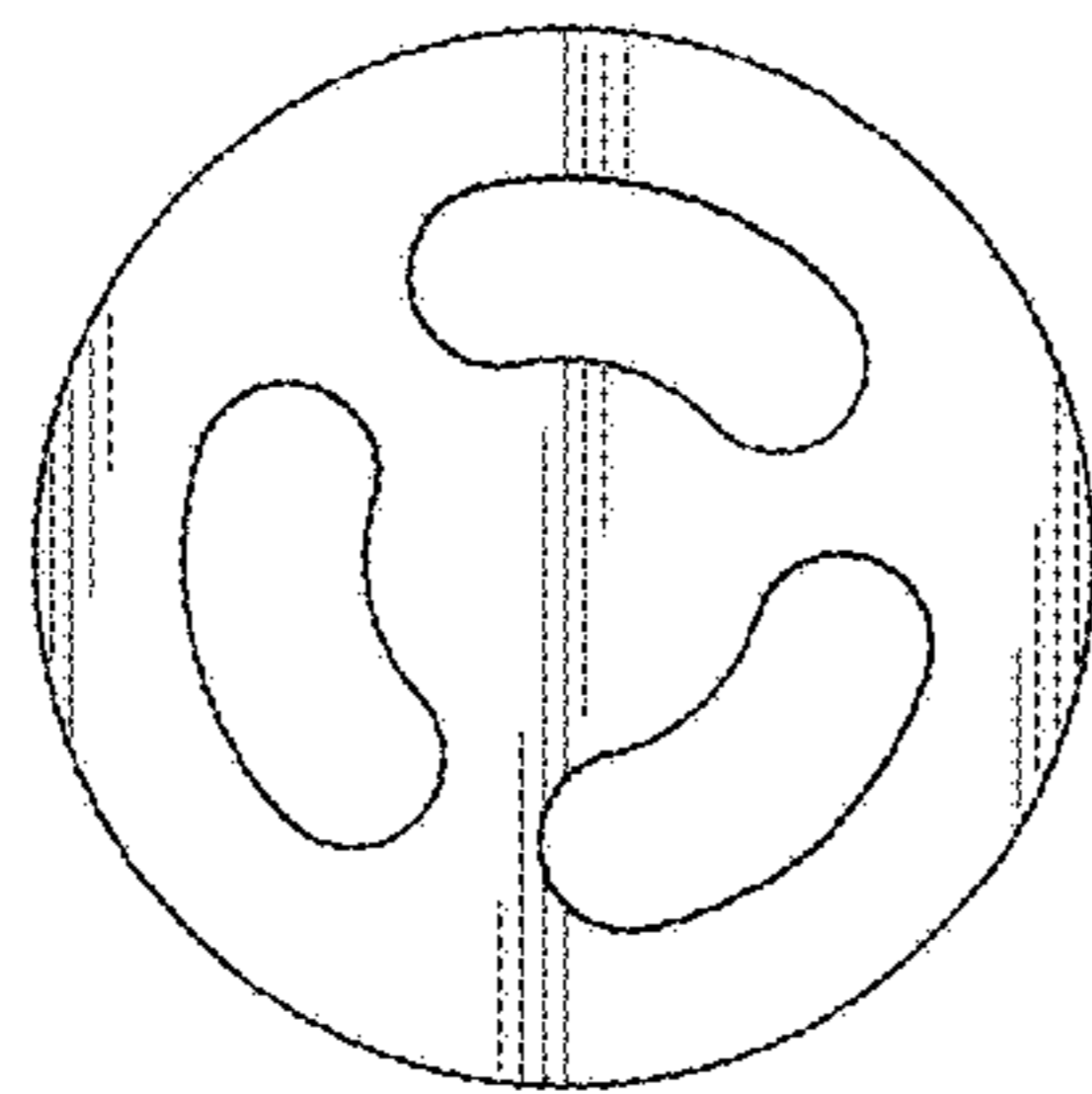
**FIG. 9**



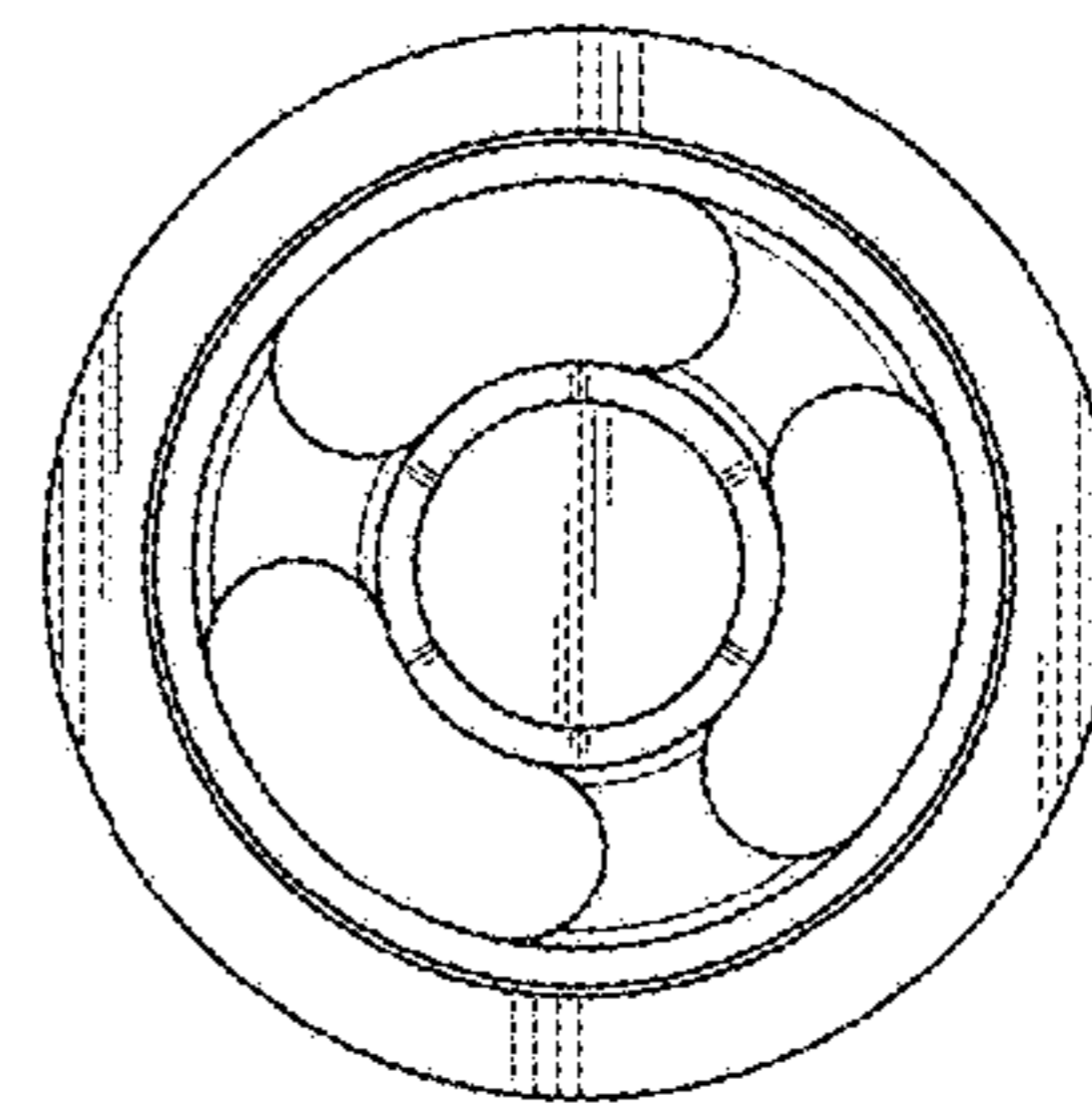
**FIG. 10**



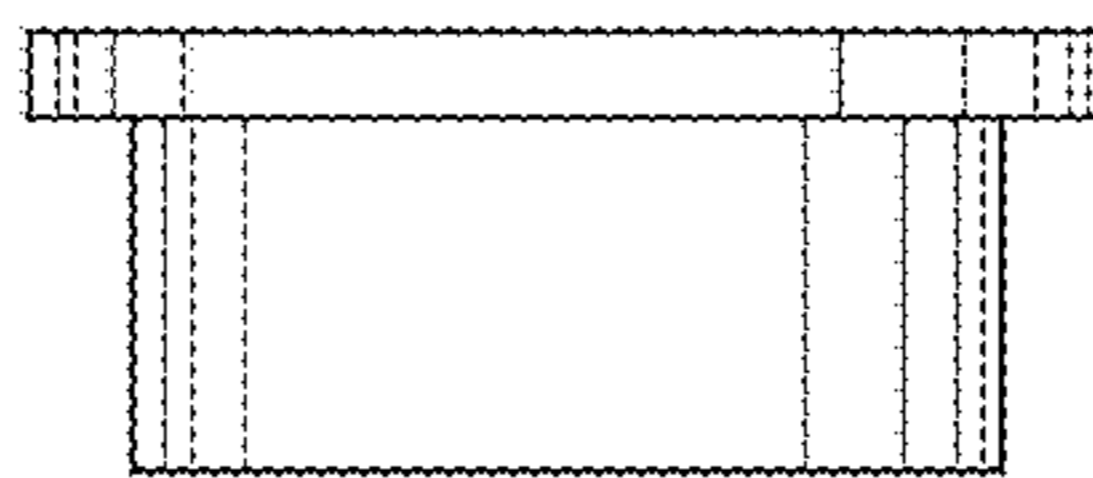
**FIG. 11**



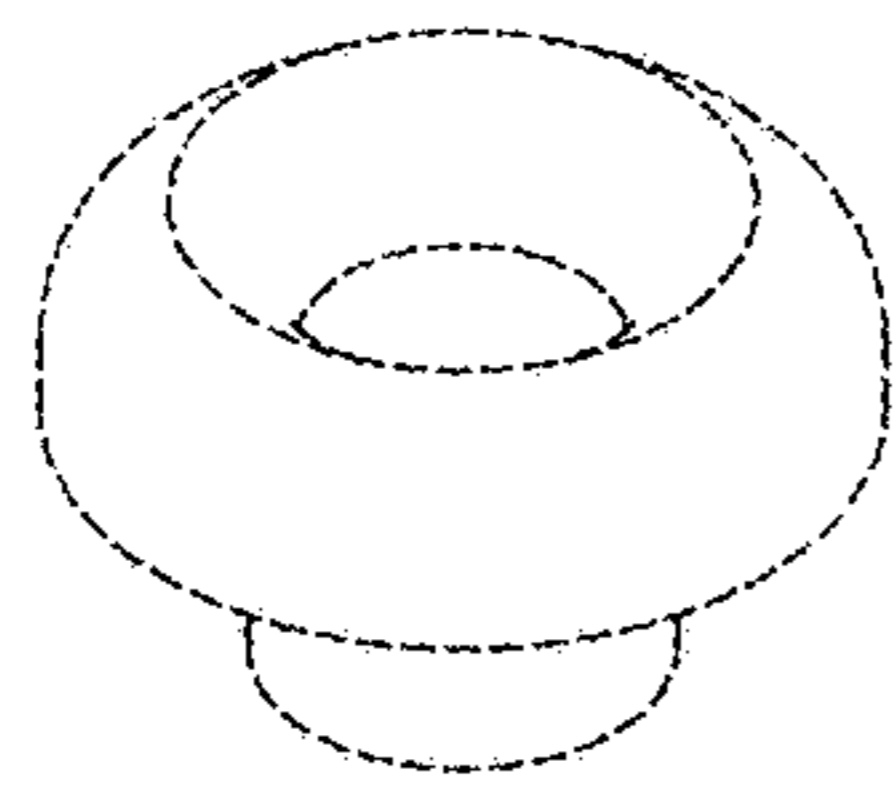
**FIG. 12**



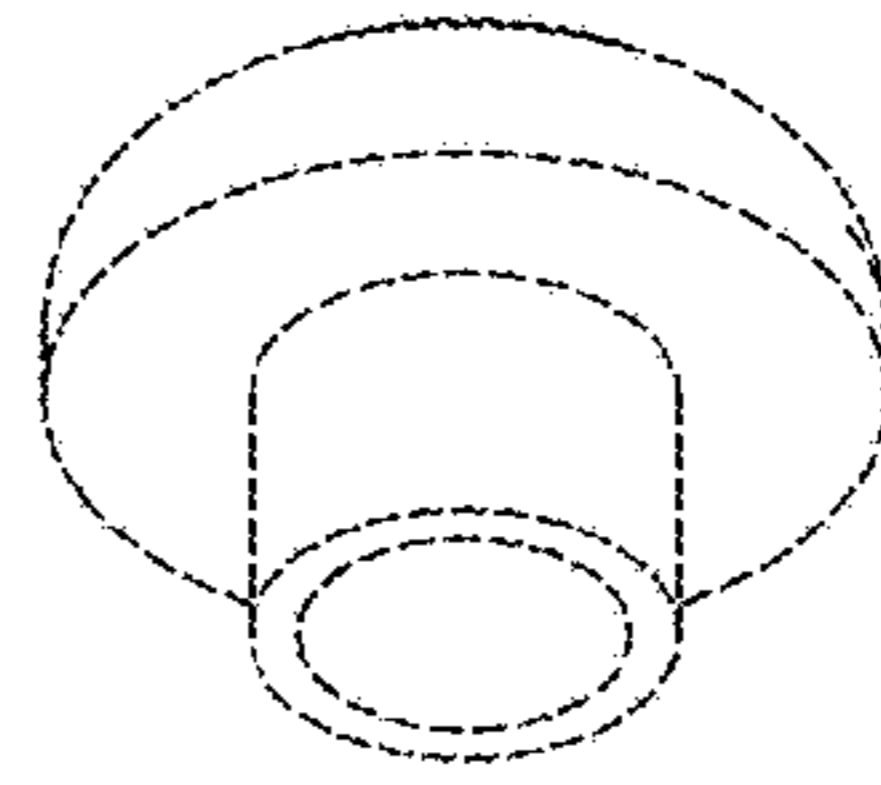
**FIG. 13**



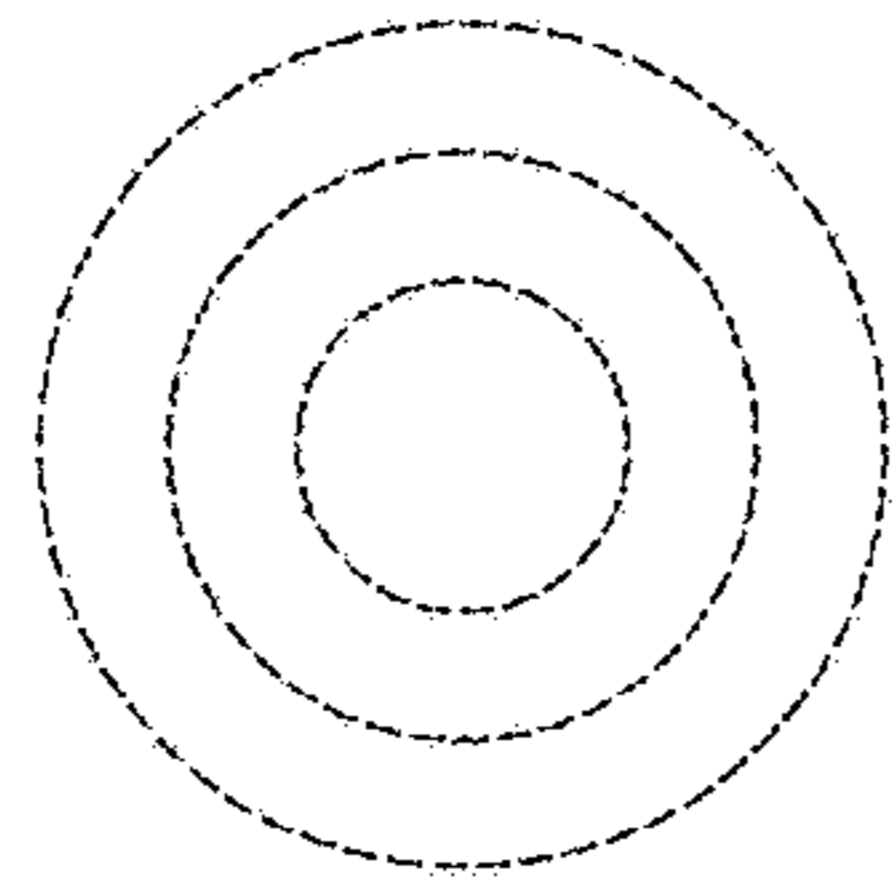
**FIG. 14**



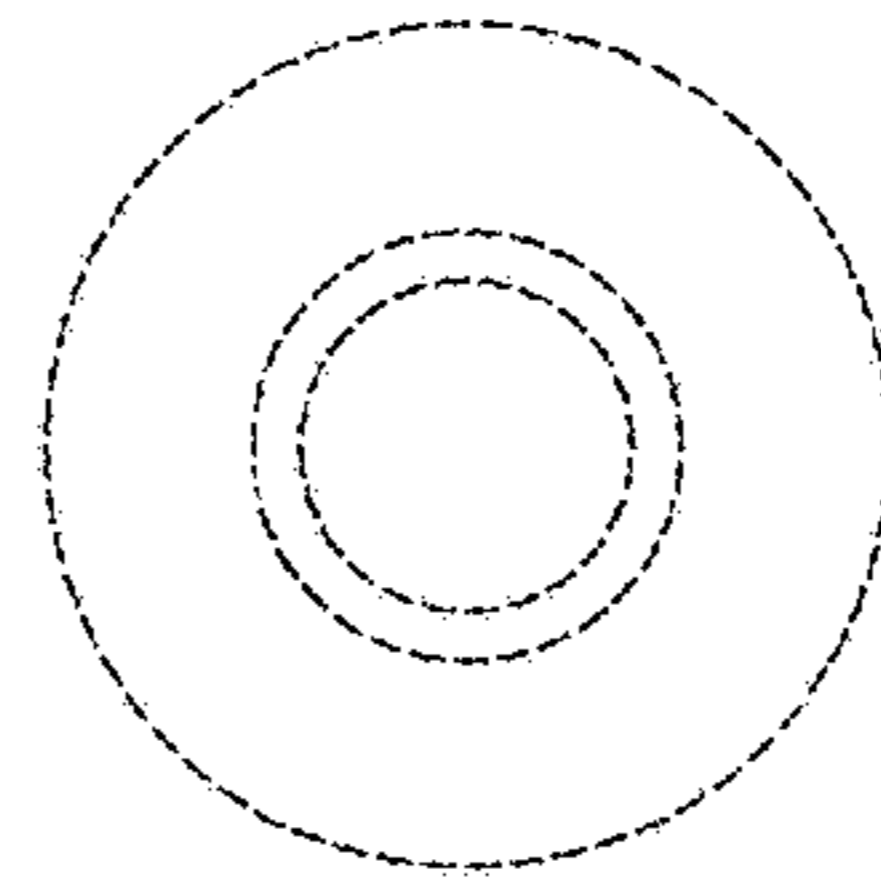
**FIG. 15**



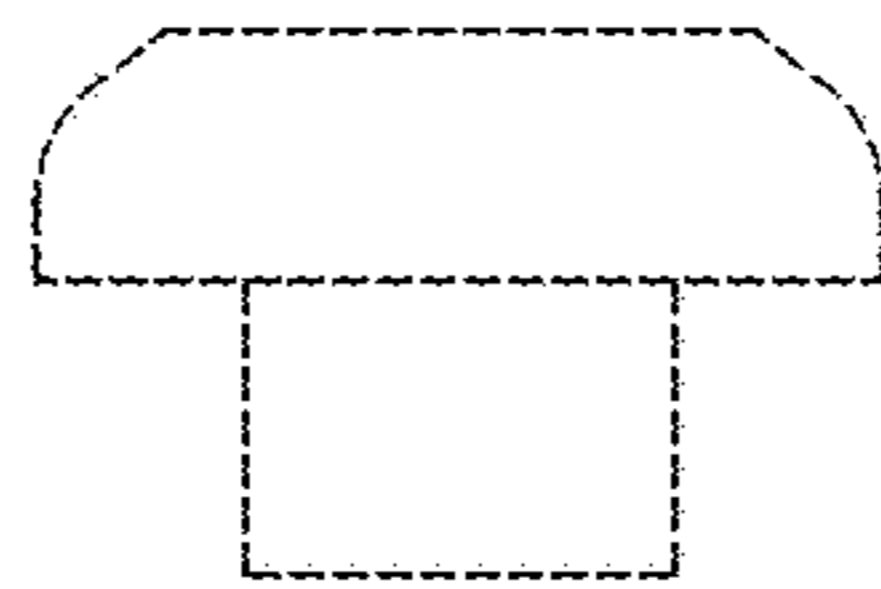
**FIG. 16**



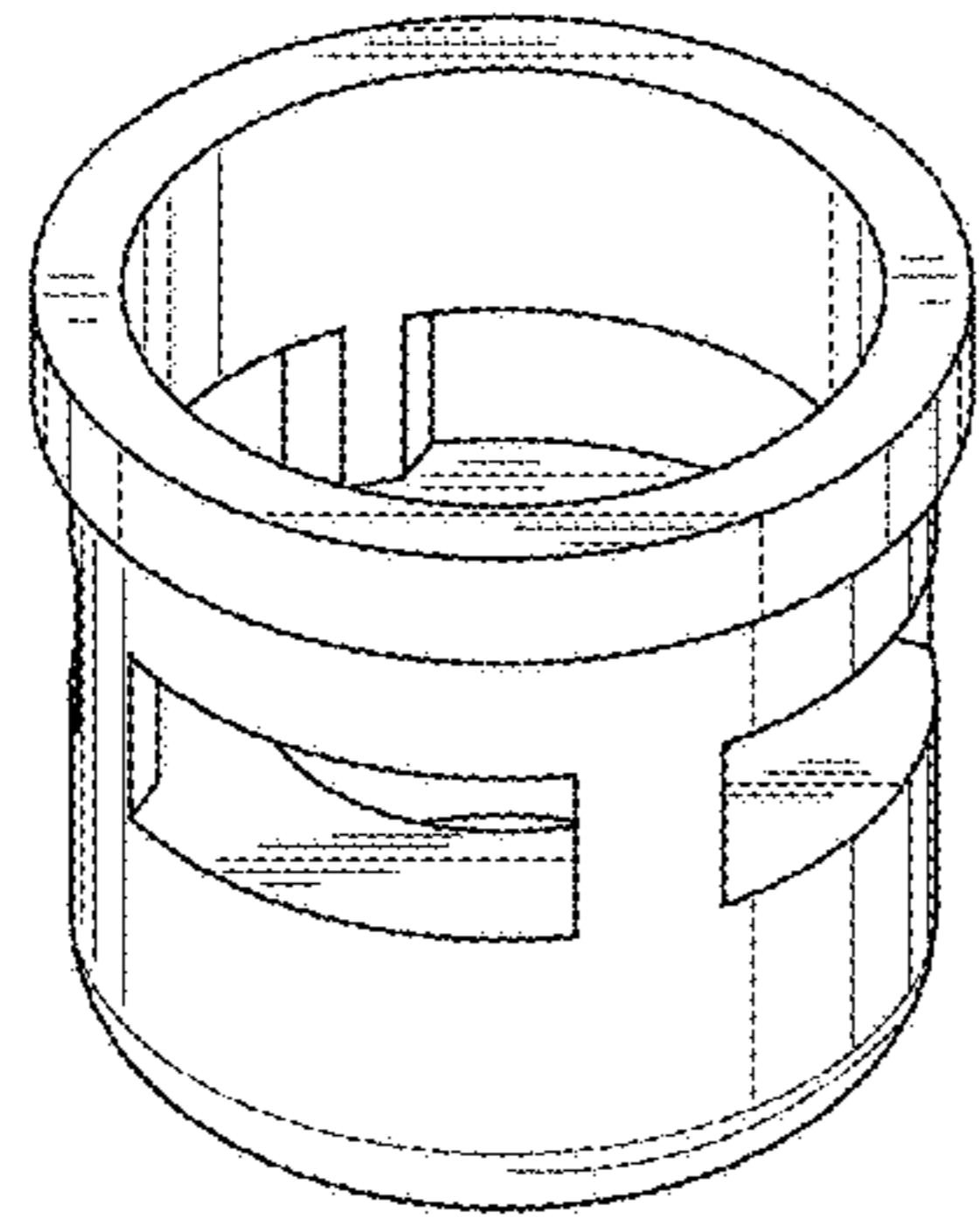
**FIG. 17**



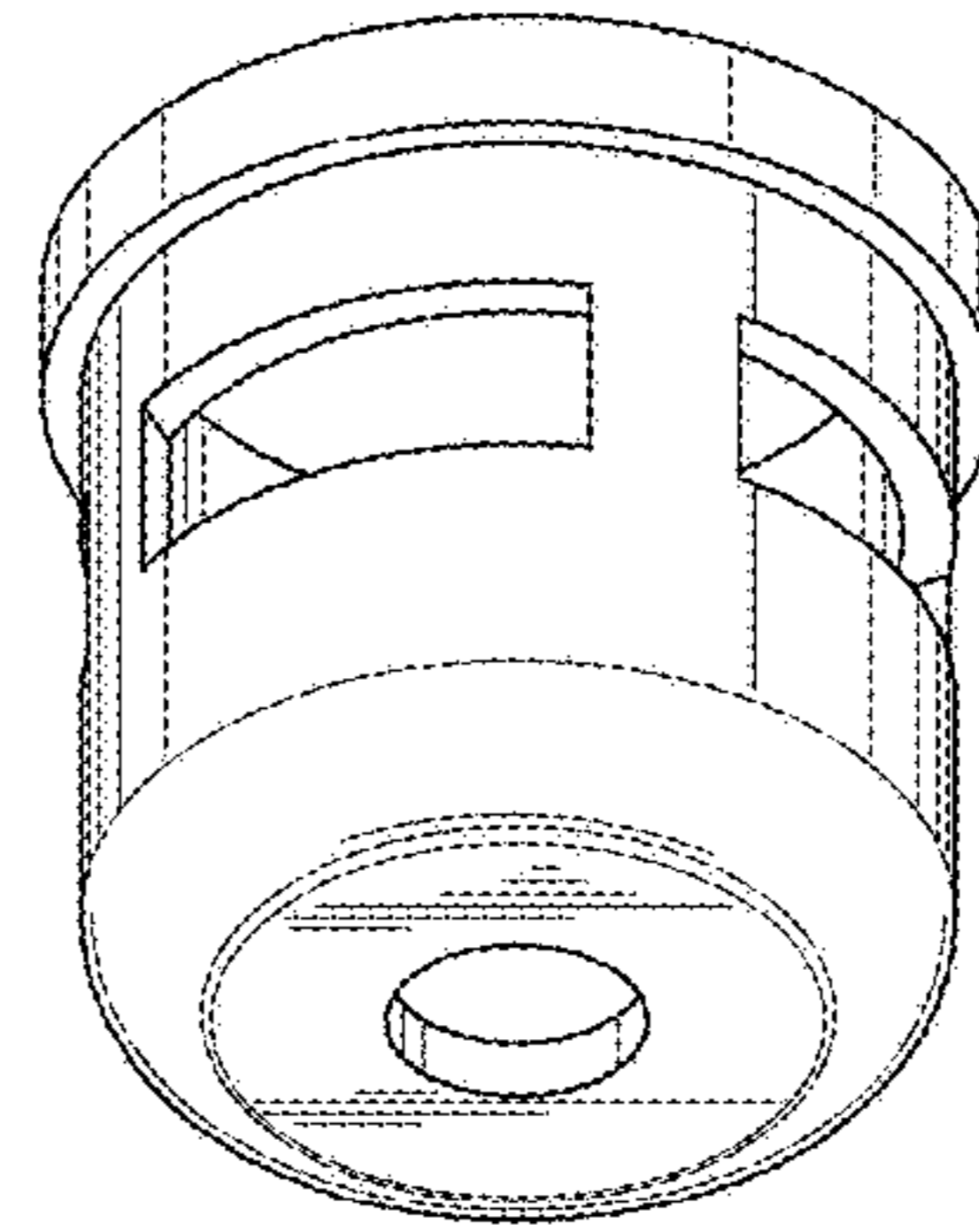
**FIG. 18**



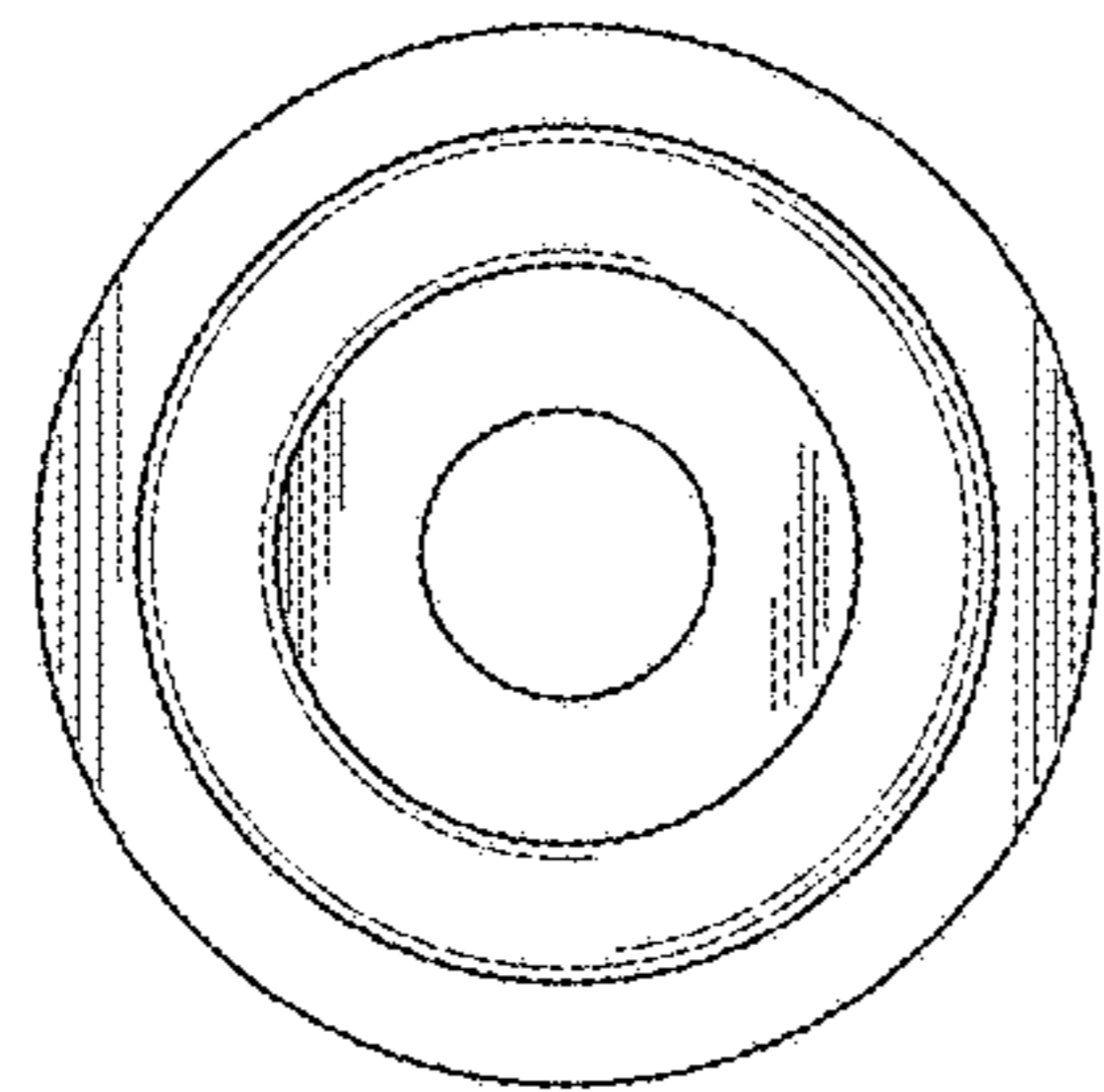
**FIG. 19**



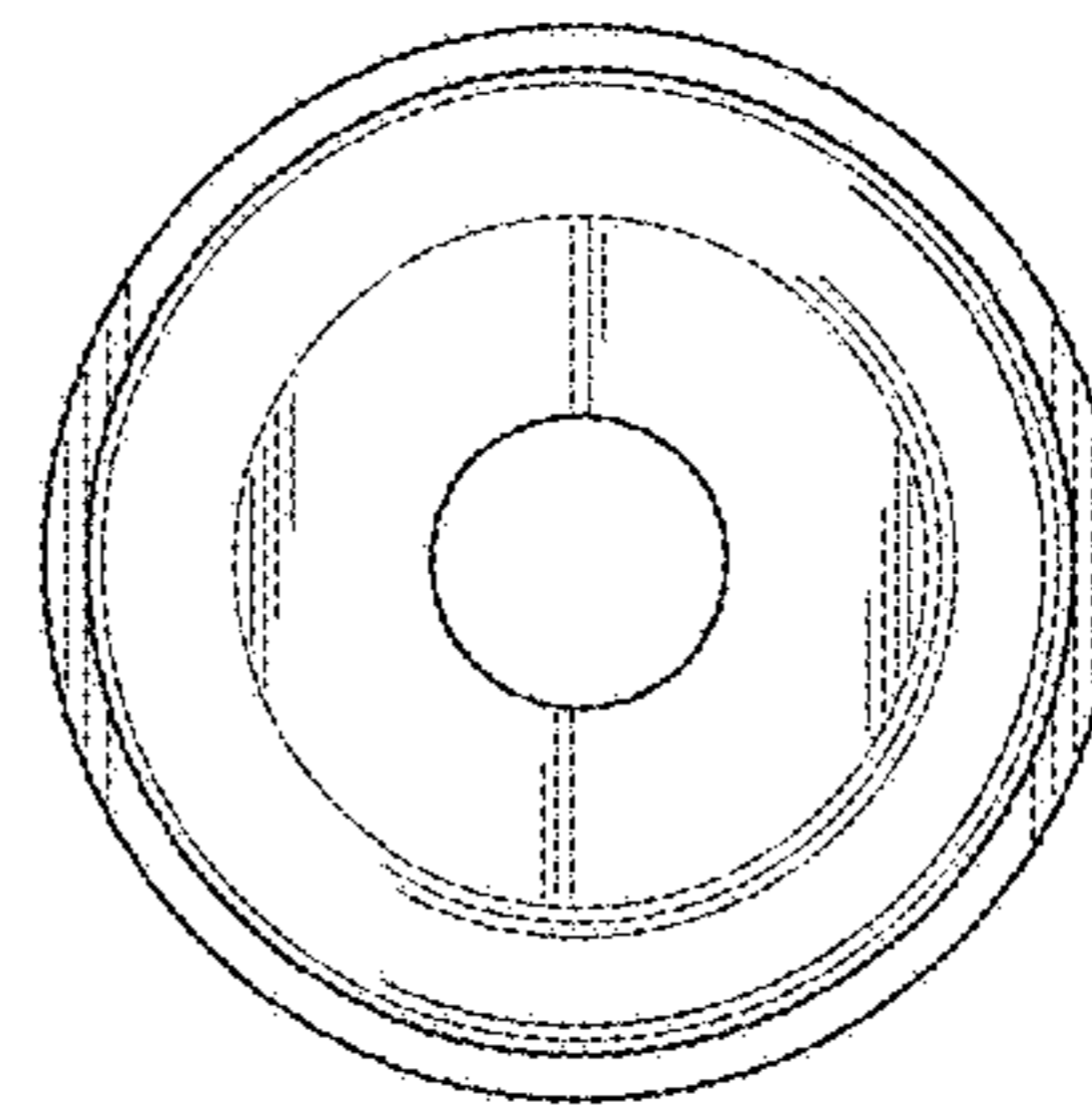
**FIG. 20**



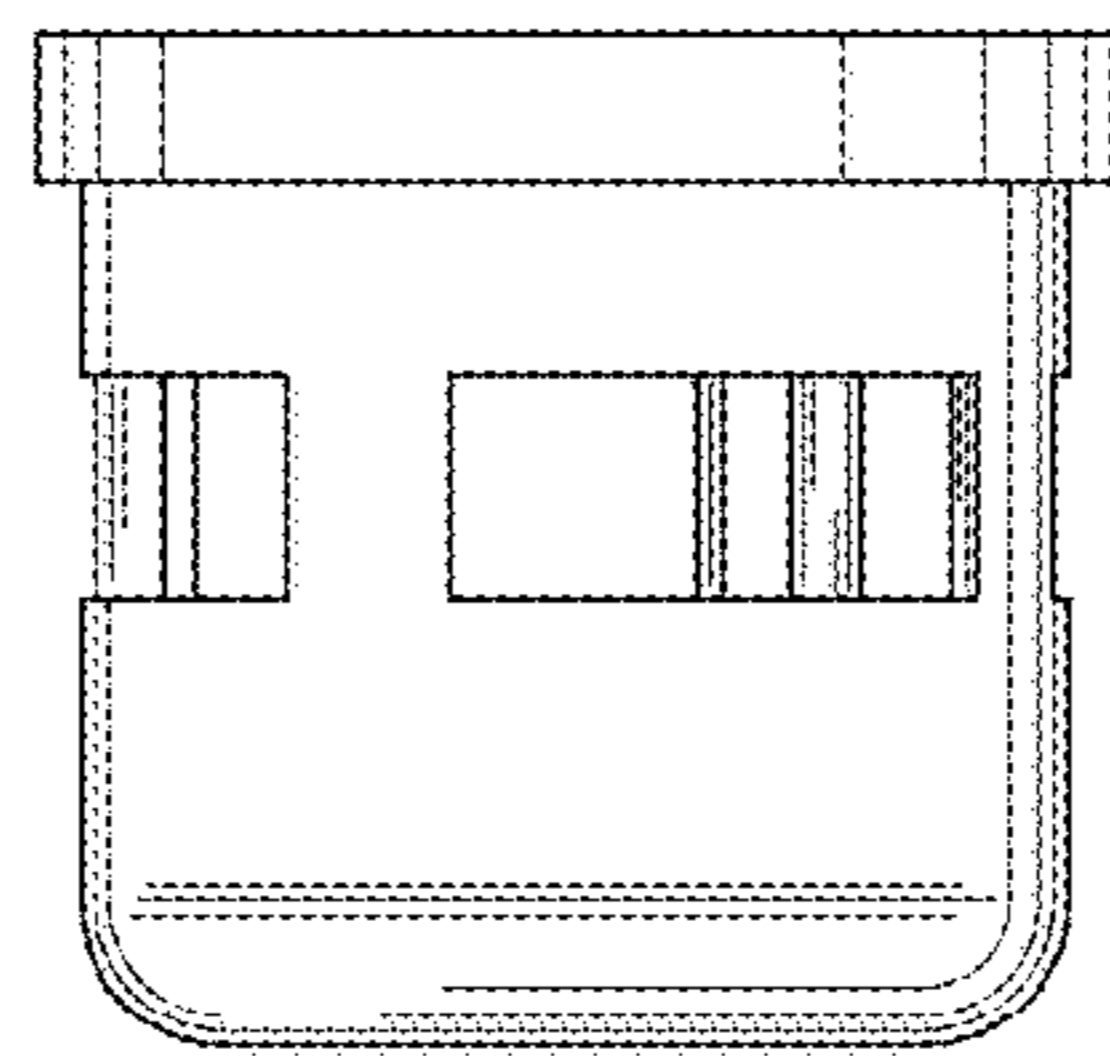
**FIG. 21**



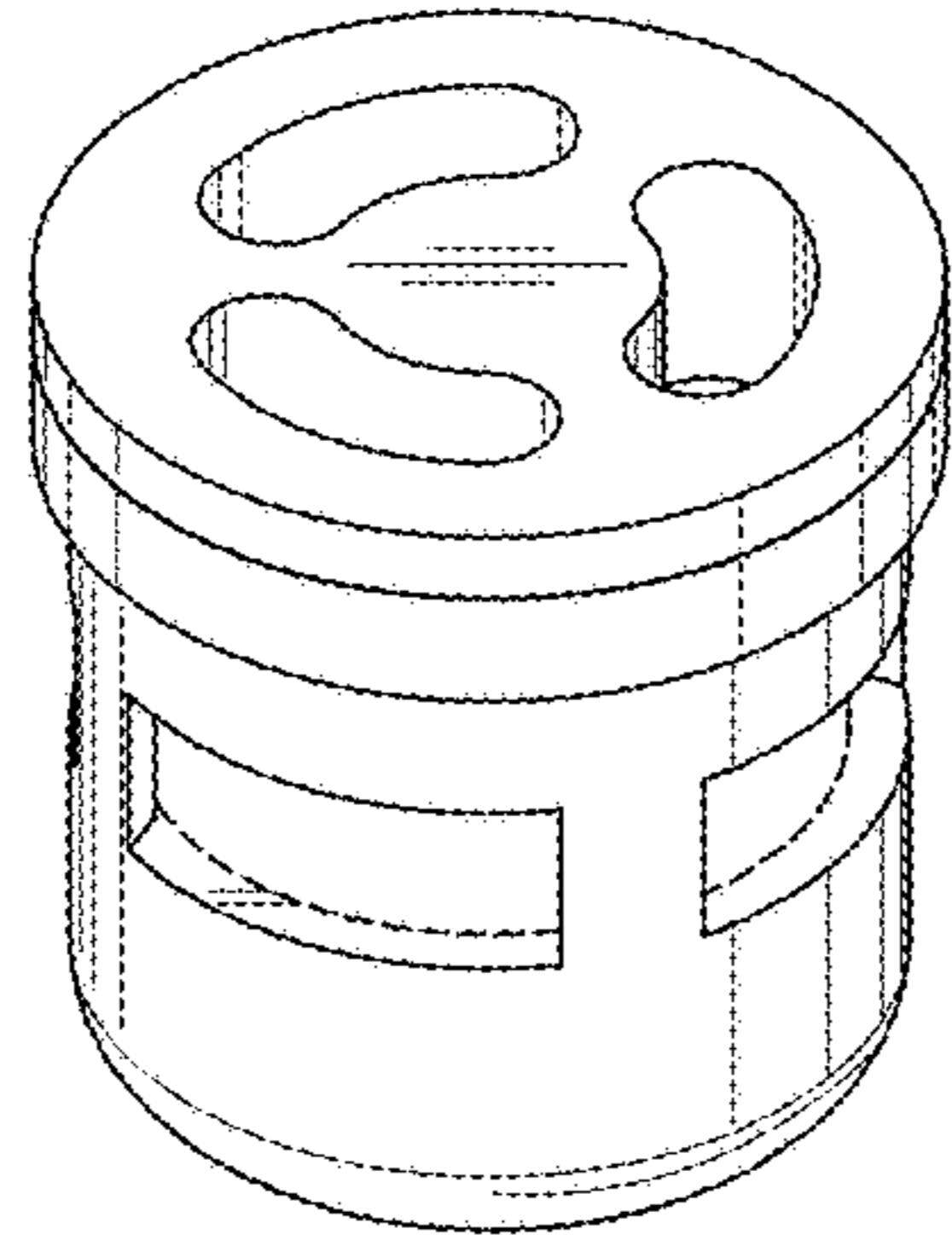
**FIG. 22**



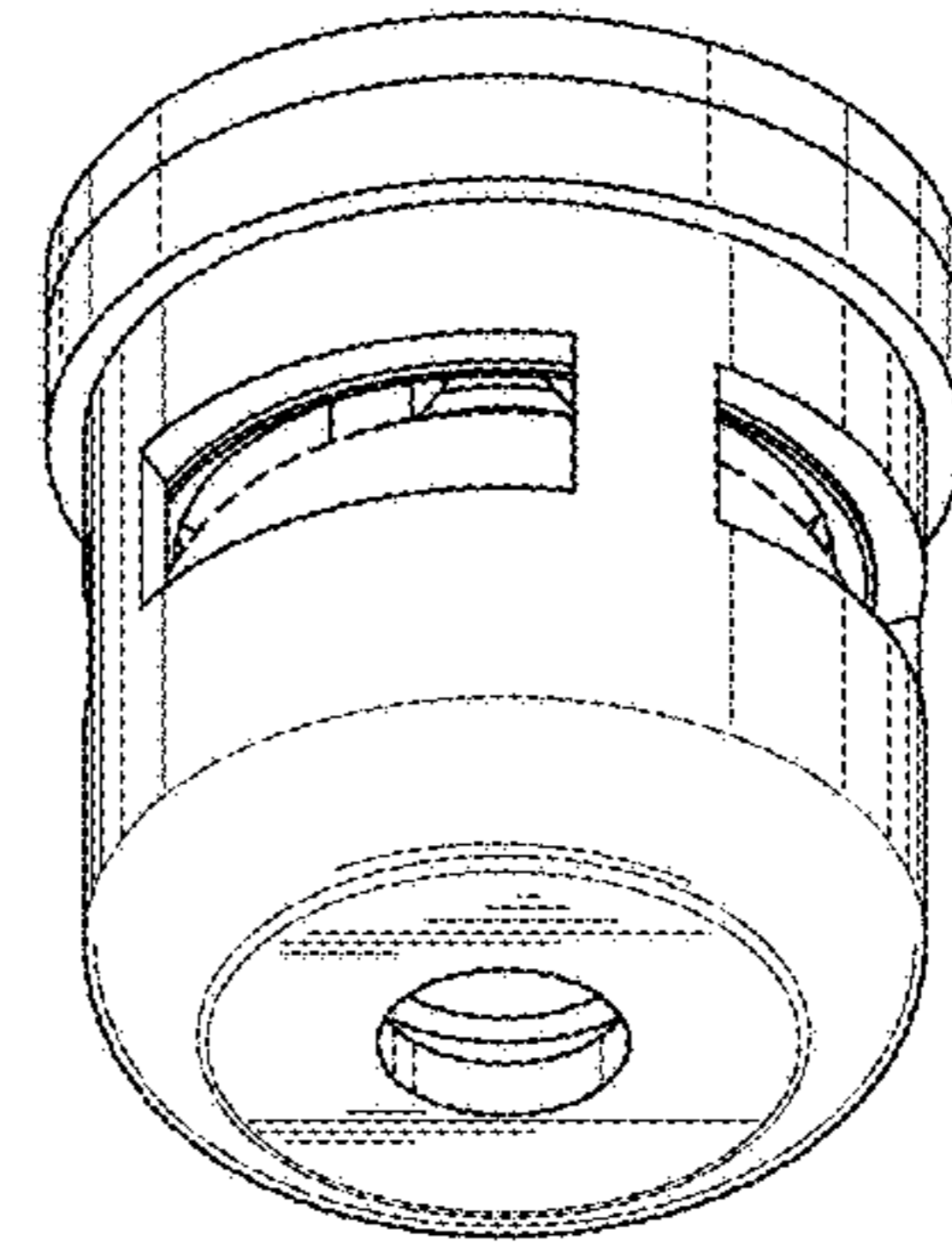
**FIG. 23**



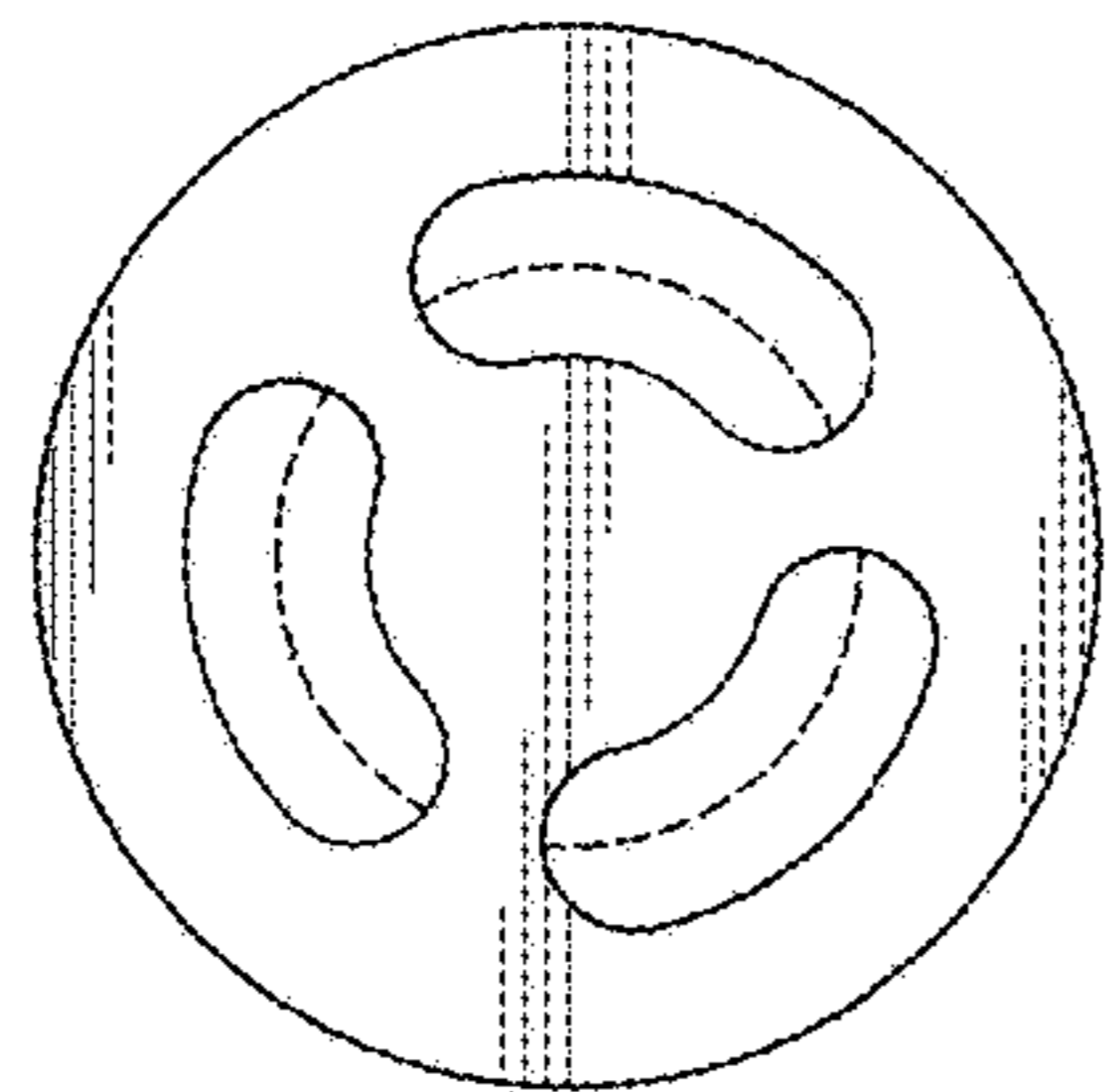
**FIG. 24**



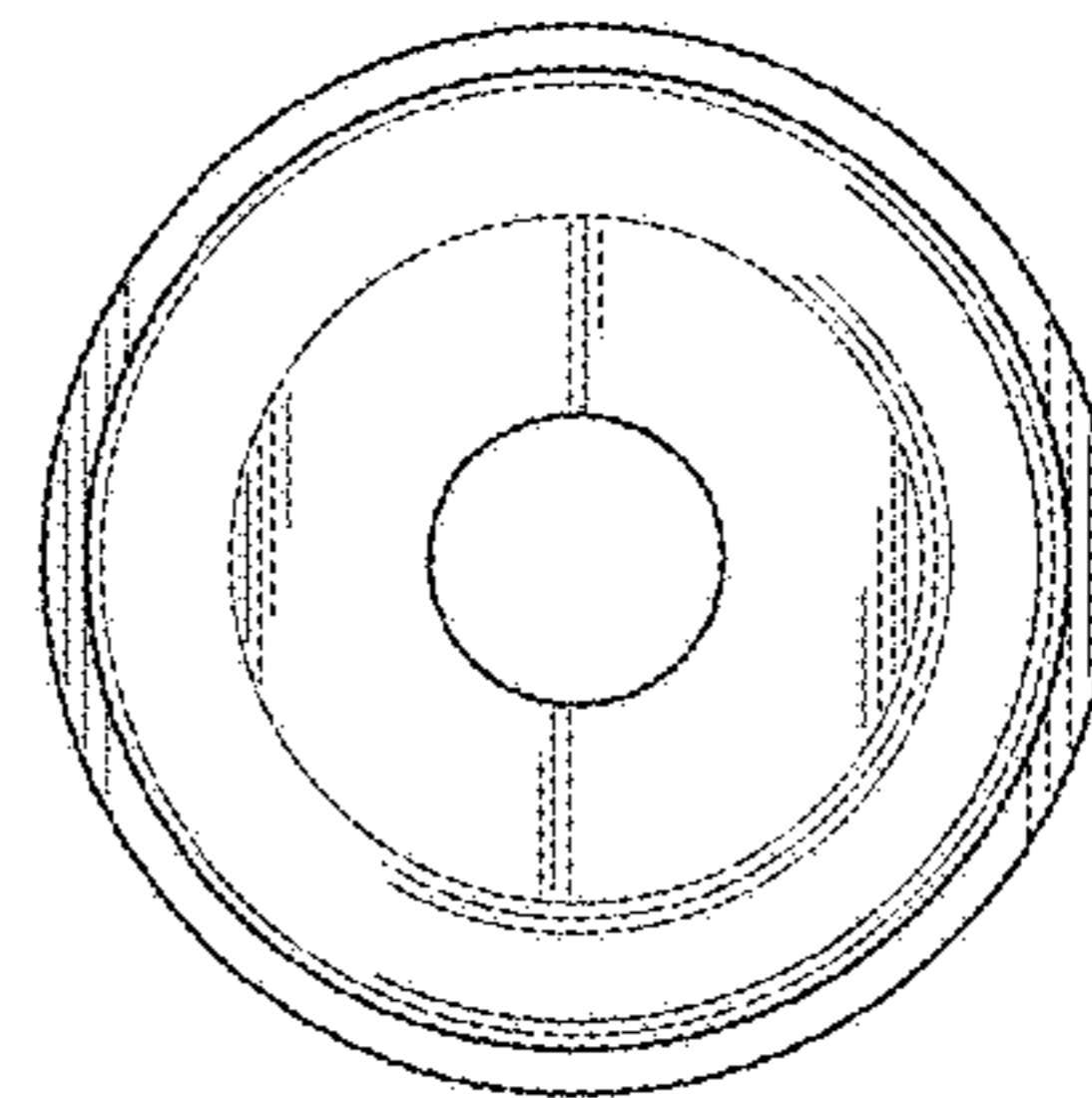
**FIG. 25**



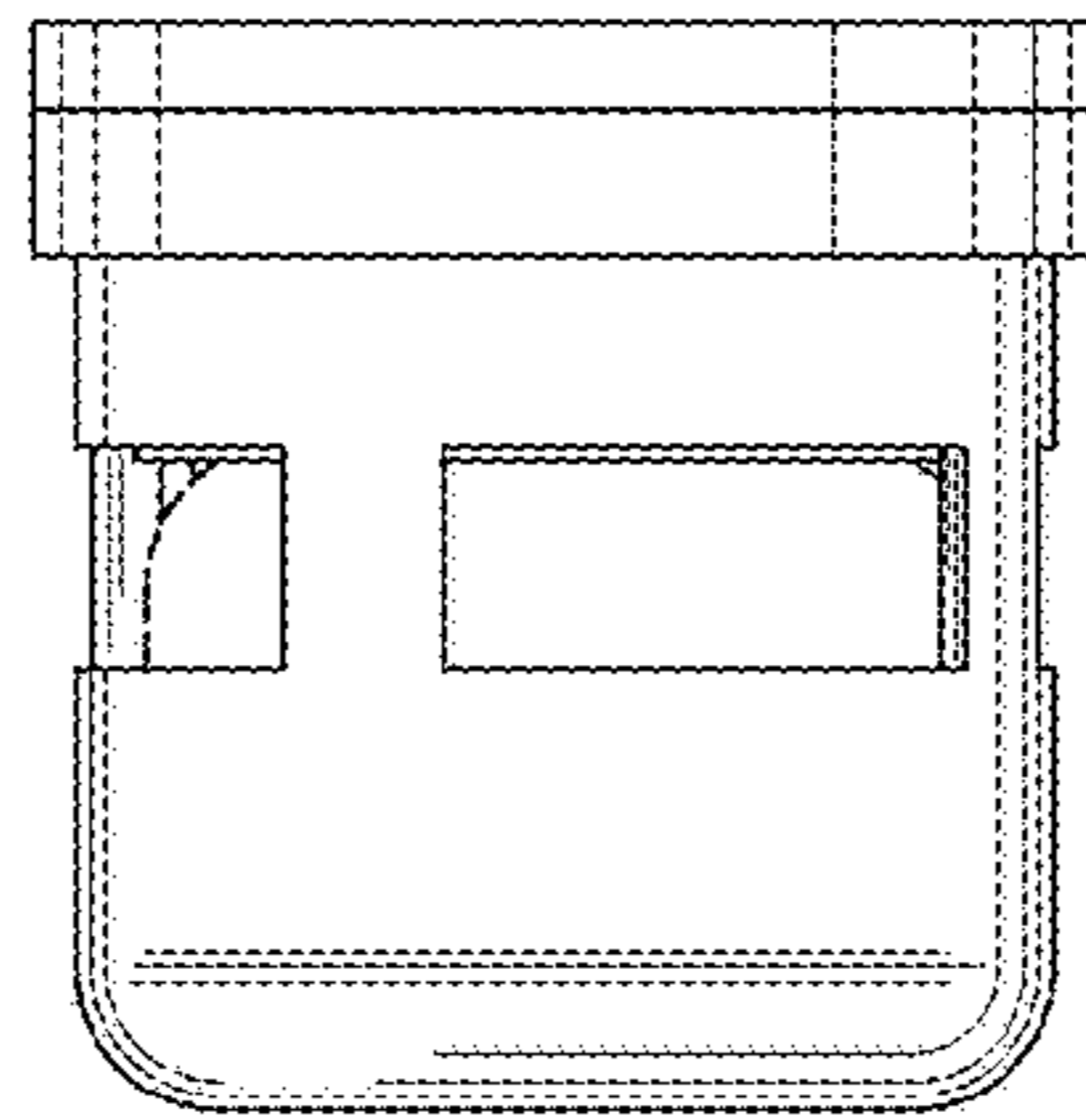
**FIG. 26**



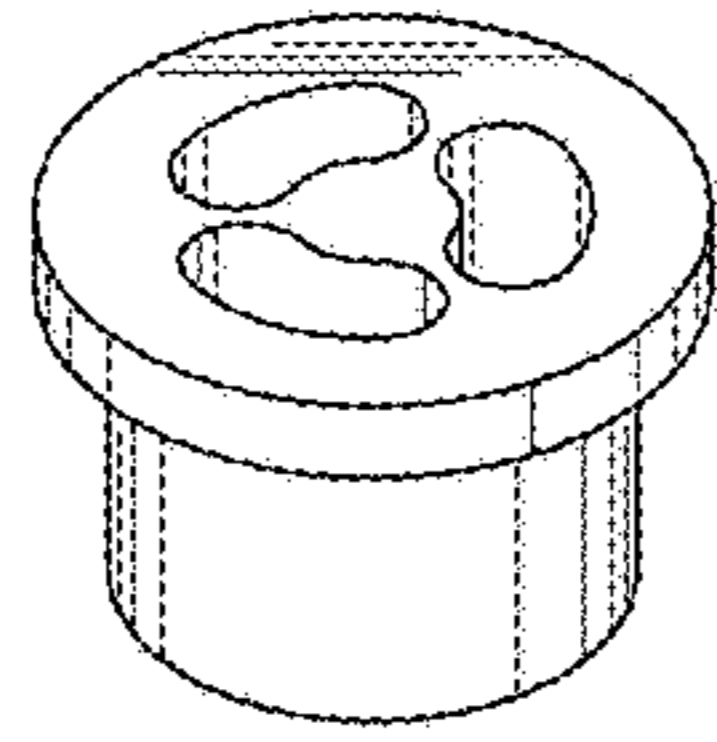
**FIG. 27**



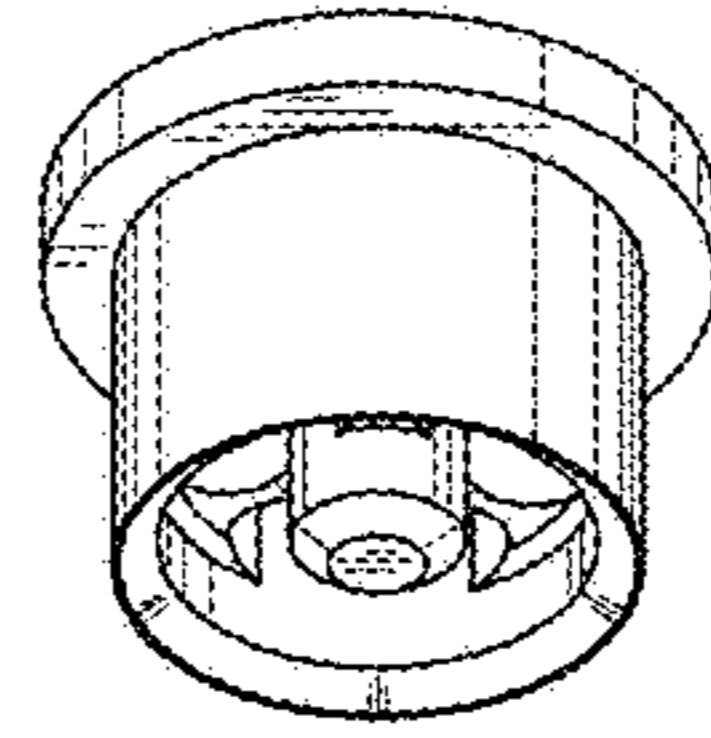
**FIG. 28**



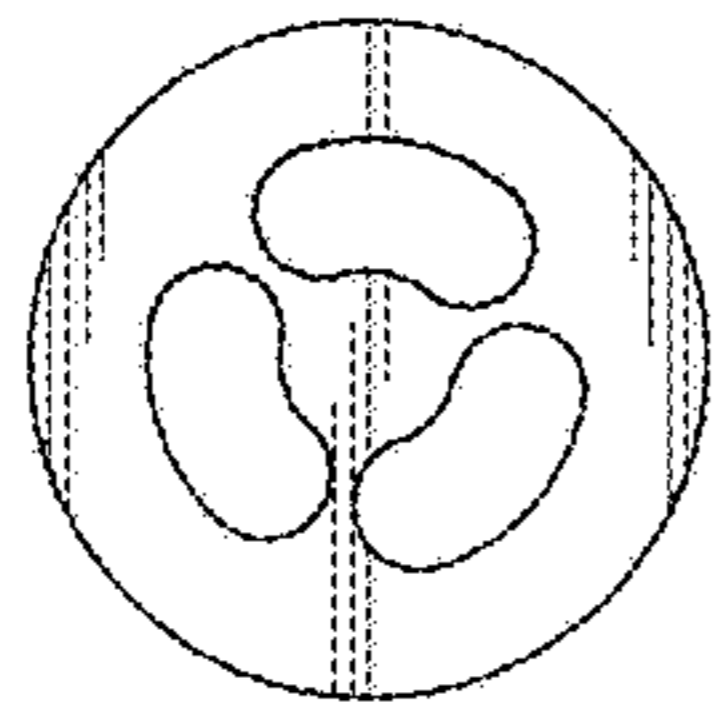
**FIG. 29**



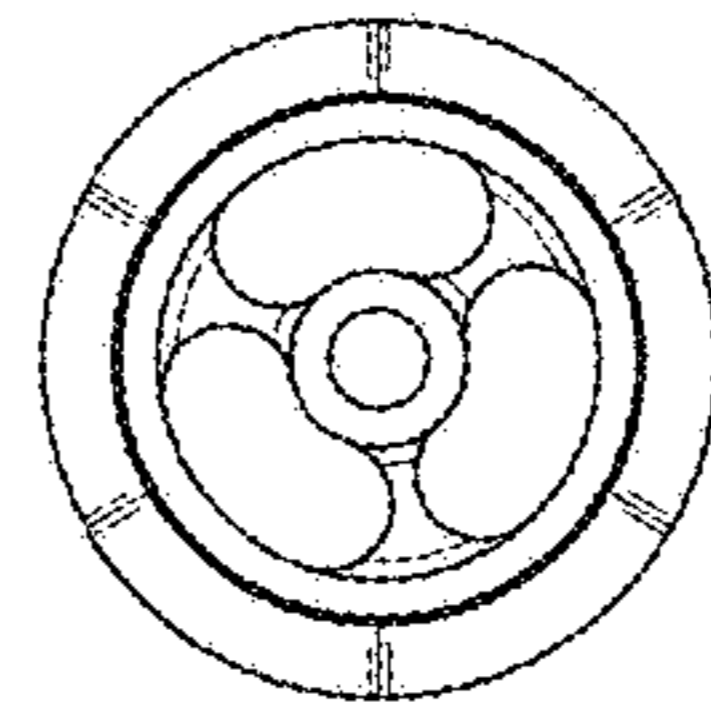
**FIG.30**



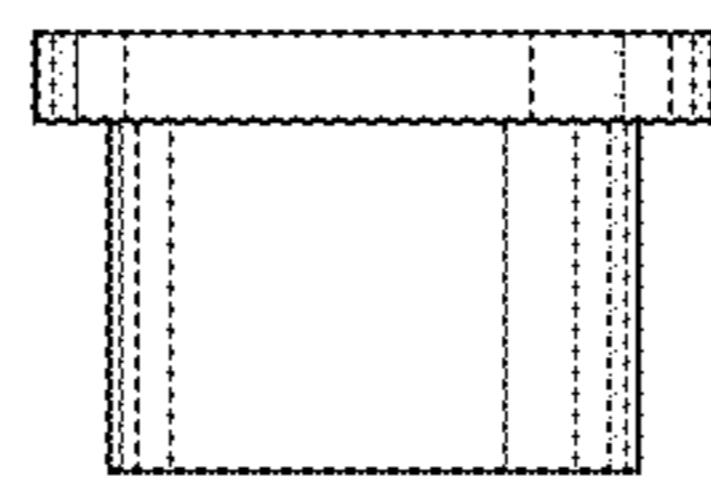
**FIG.31**



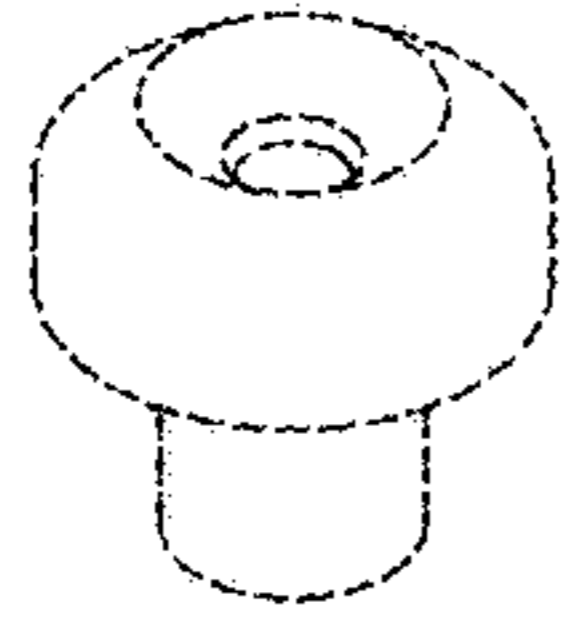
**FIG.32**



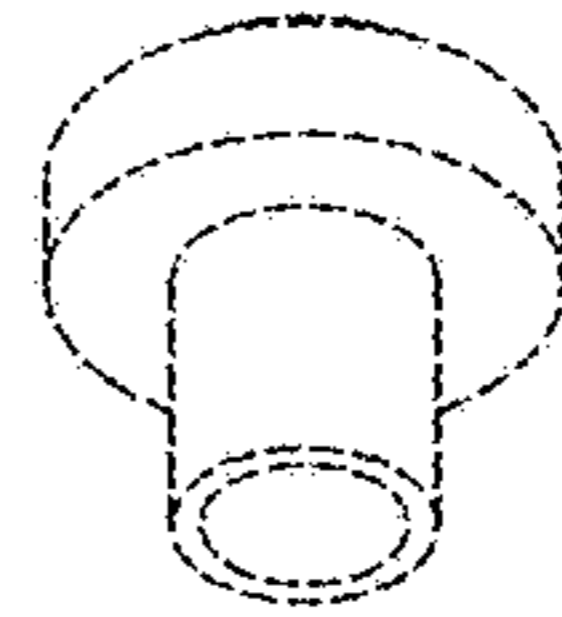
**FIG.33**



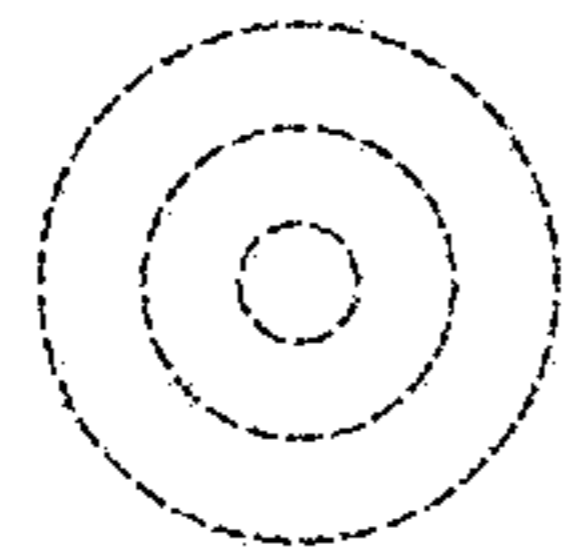
**FIG.34**



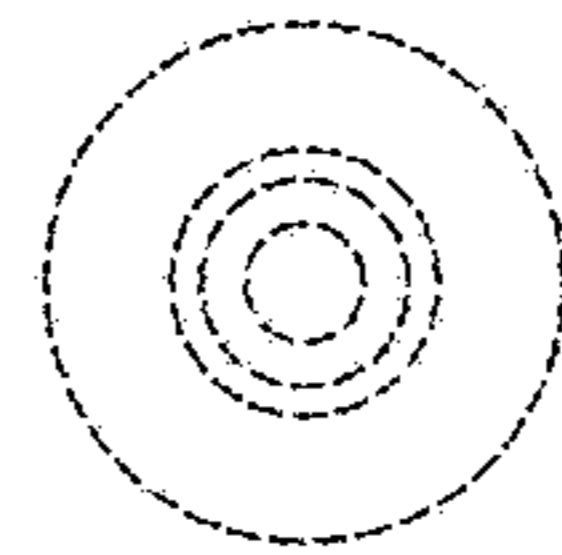
**FIG. 35**



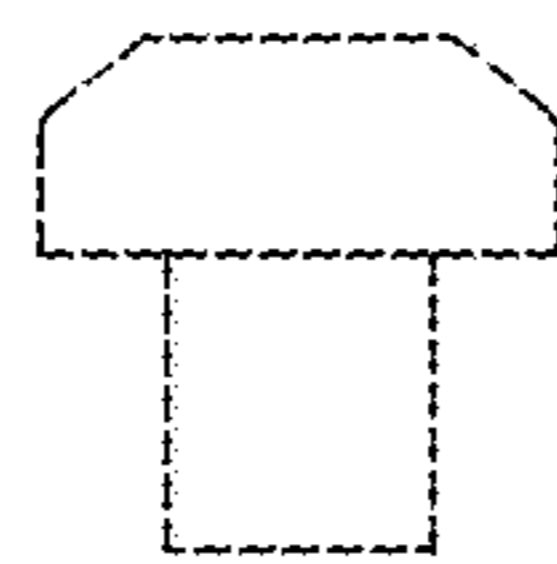
**FIG. 36**



**FIG. 37**

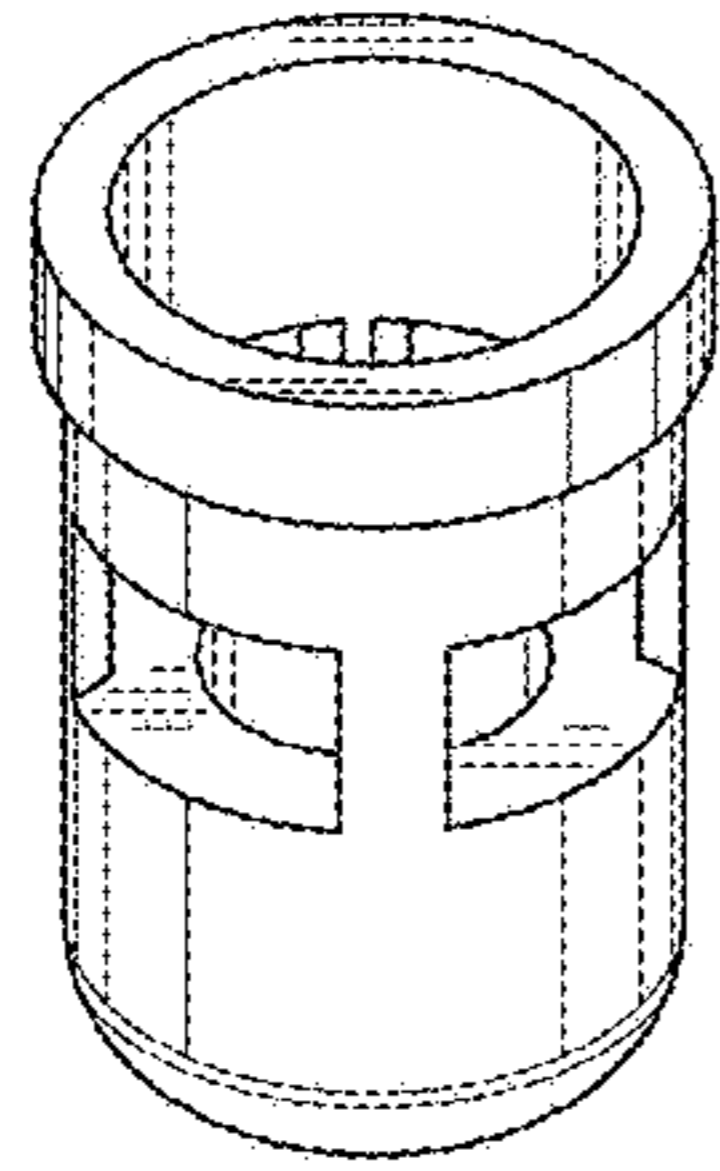


**FIG. 38**

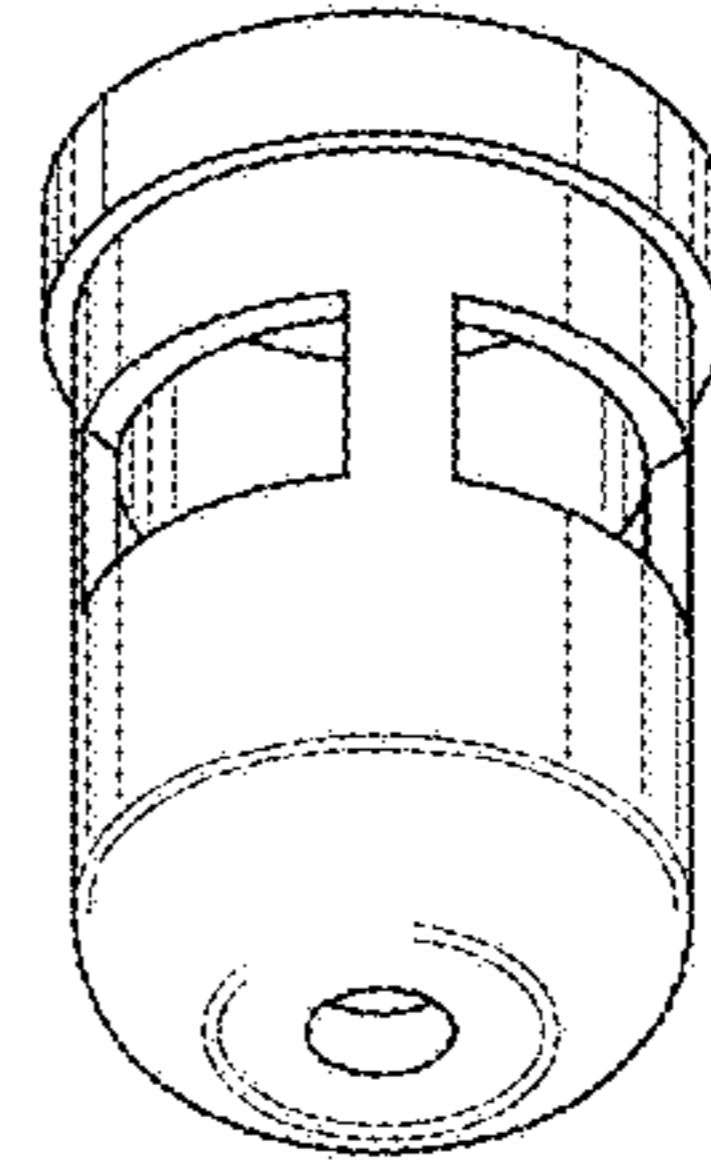


**FIG. 39**

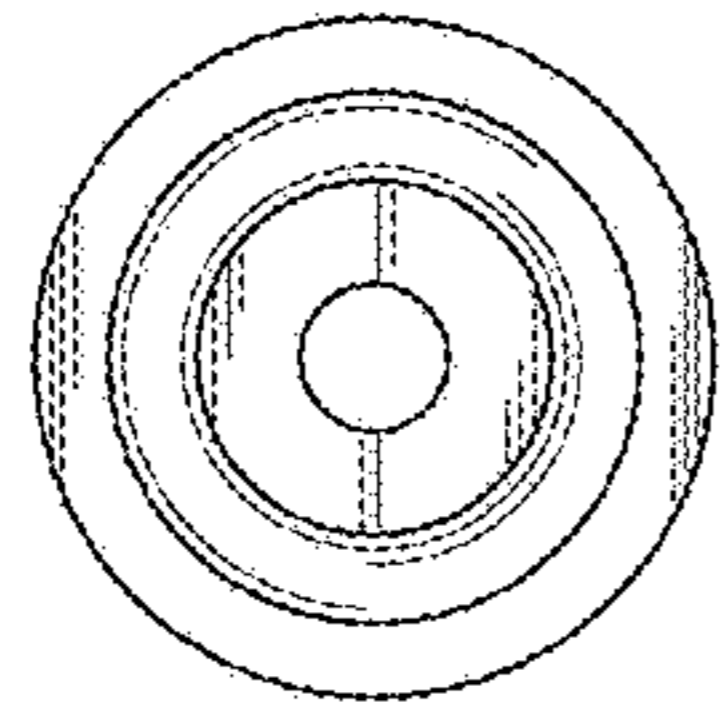




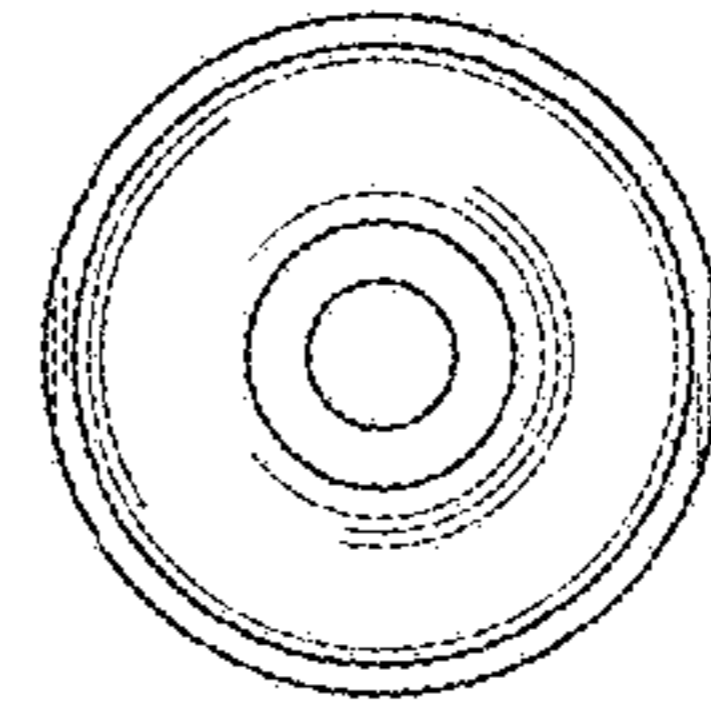
**FIG. 40**



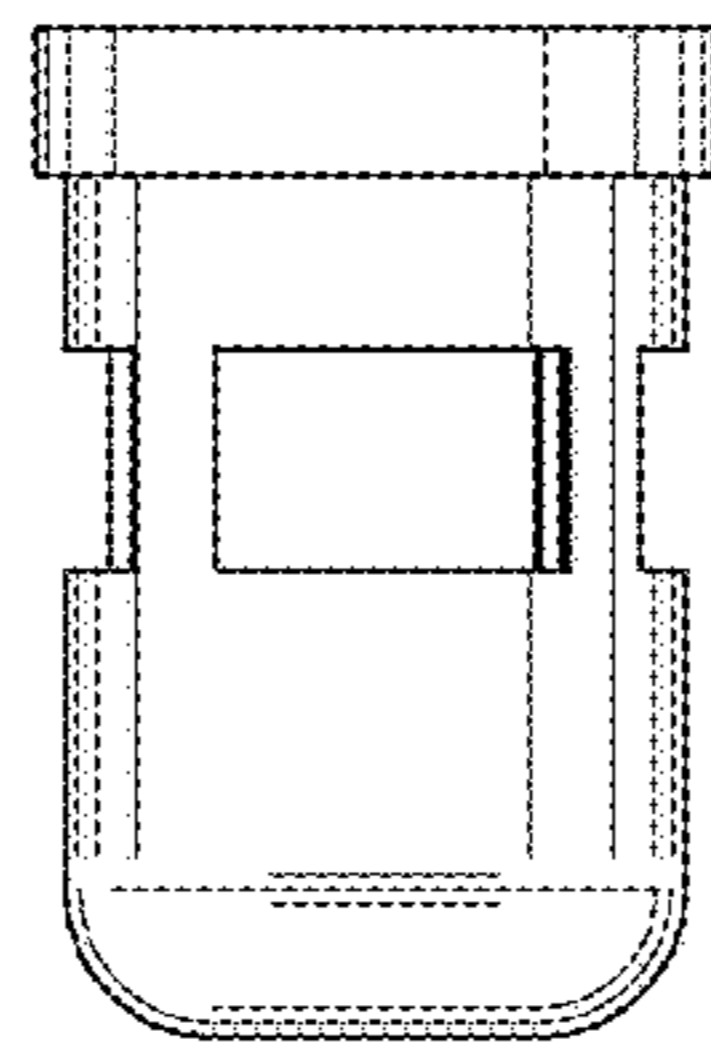
**FIG. 41**



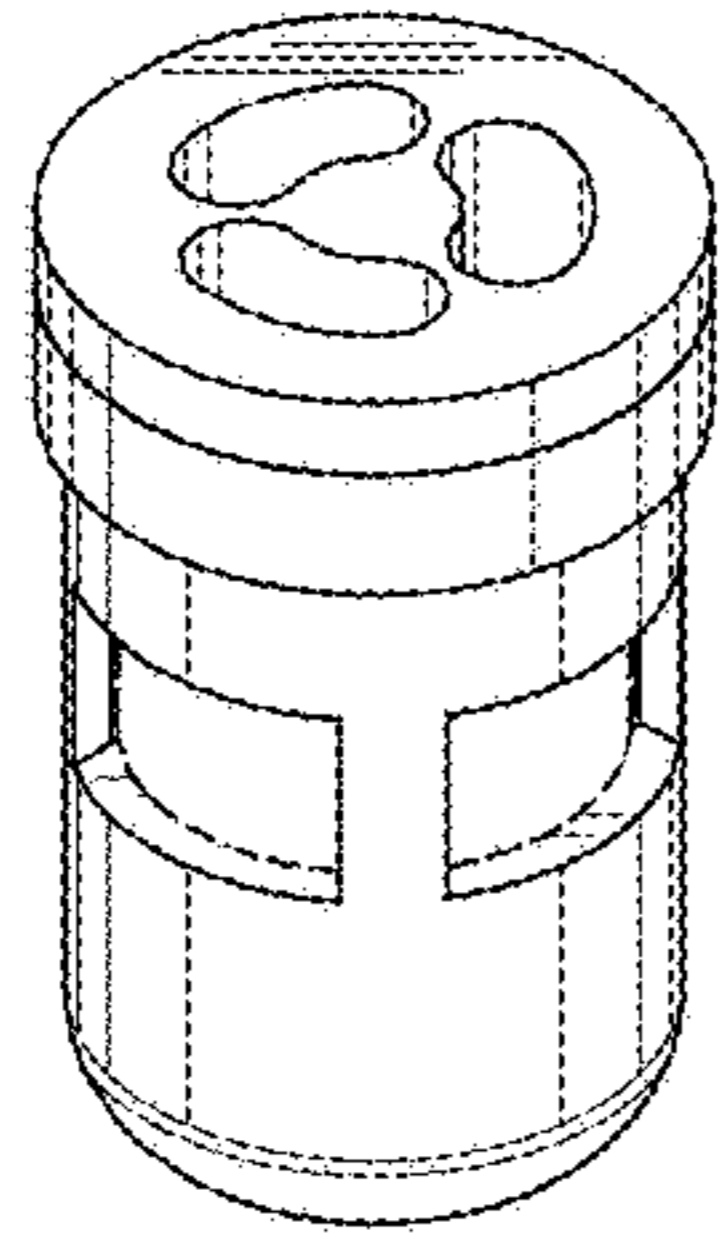
**FIG. 42**



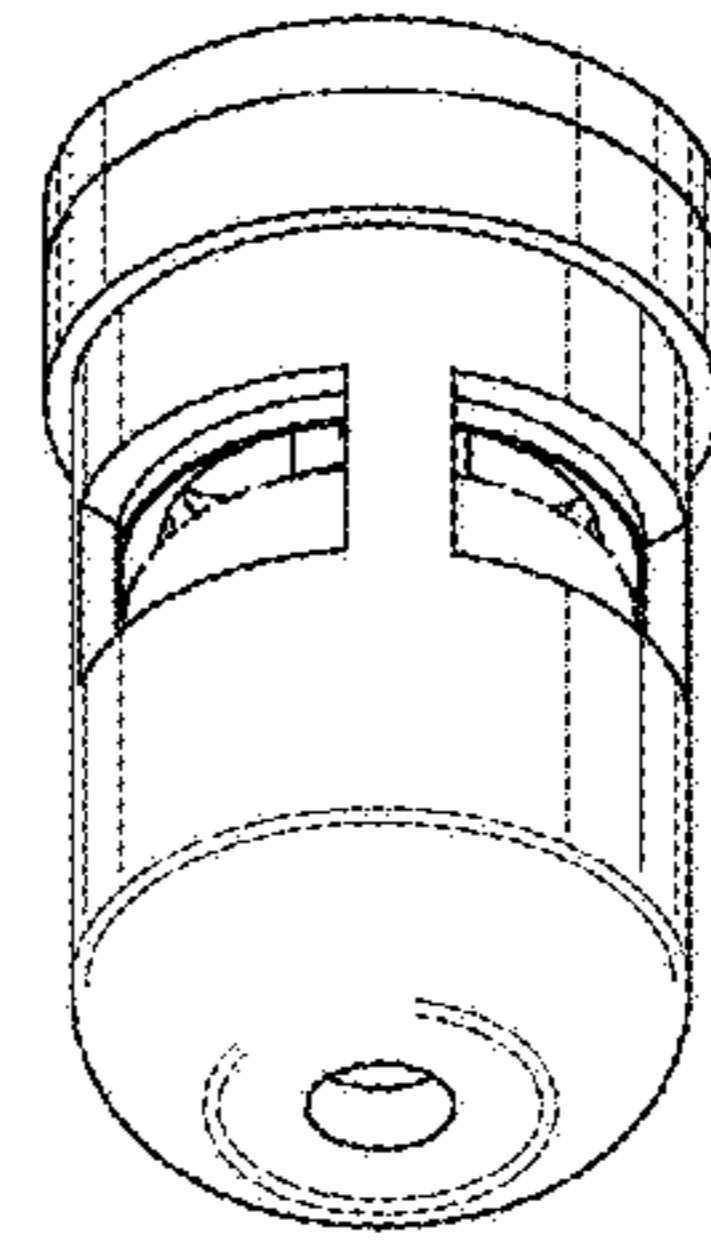
**FIG. 43**



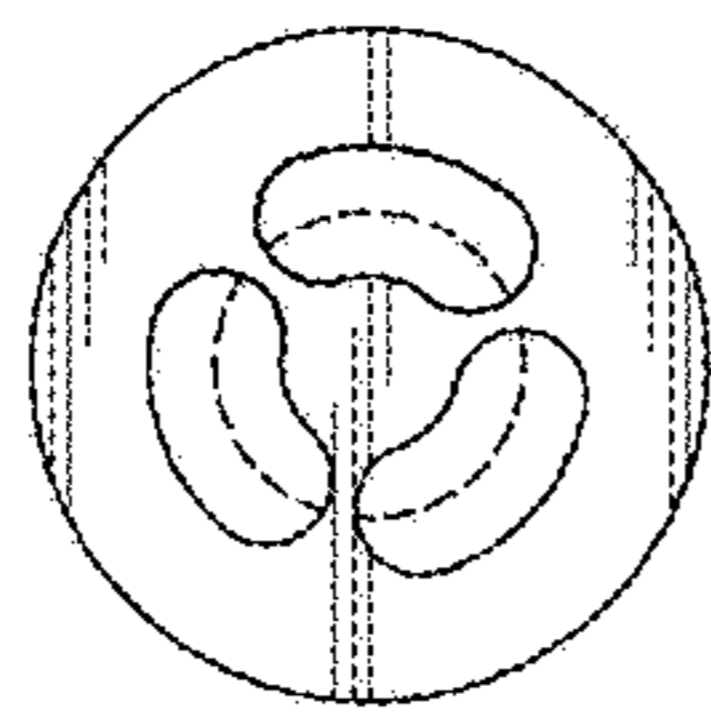
**FIG. 44**



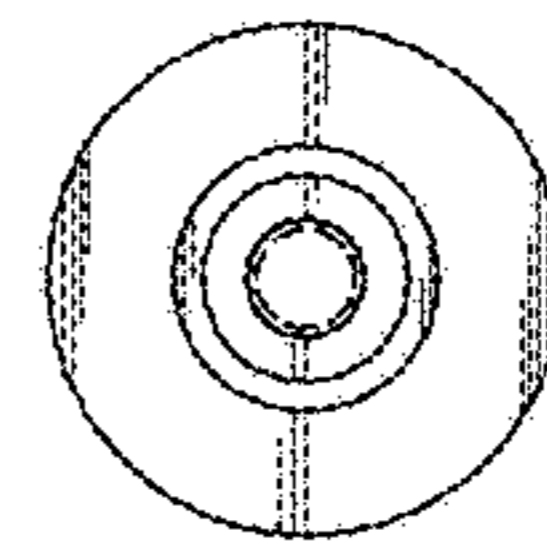
**FIG. 45**



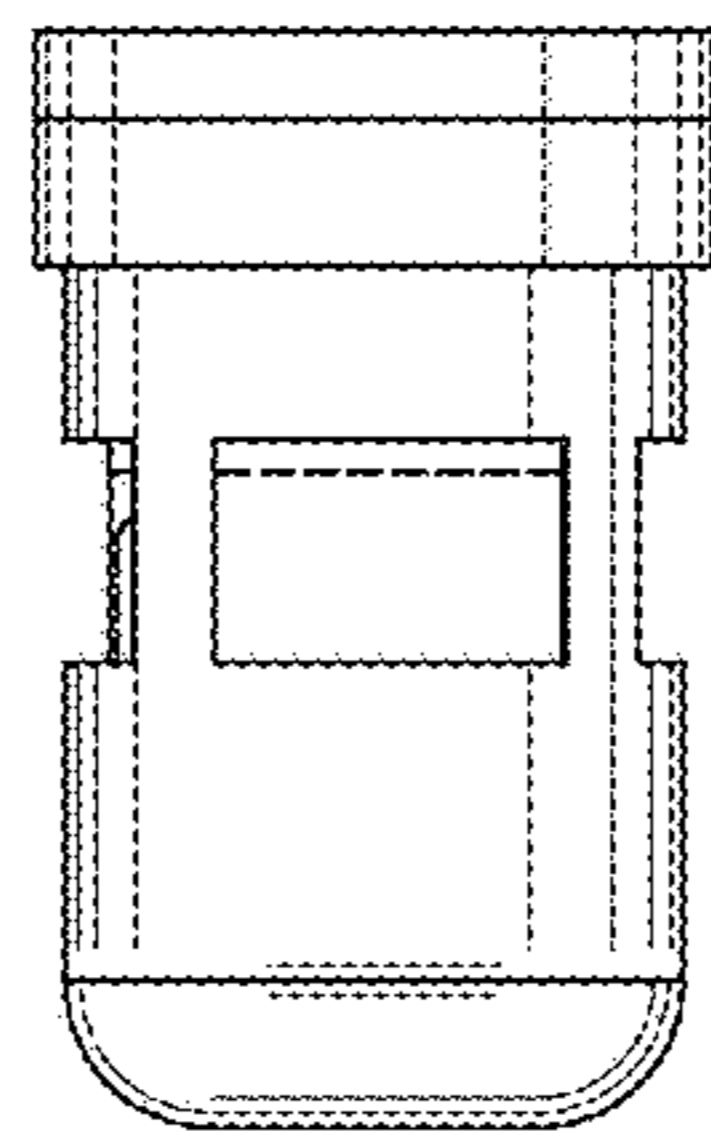
**FIG. 46**



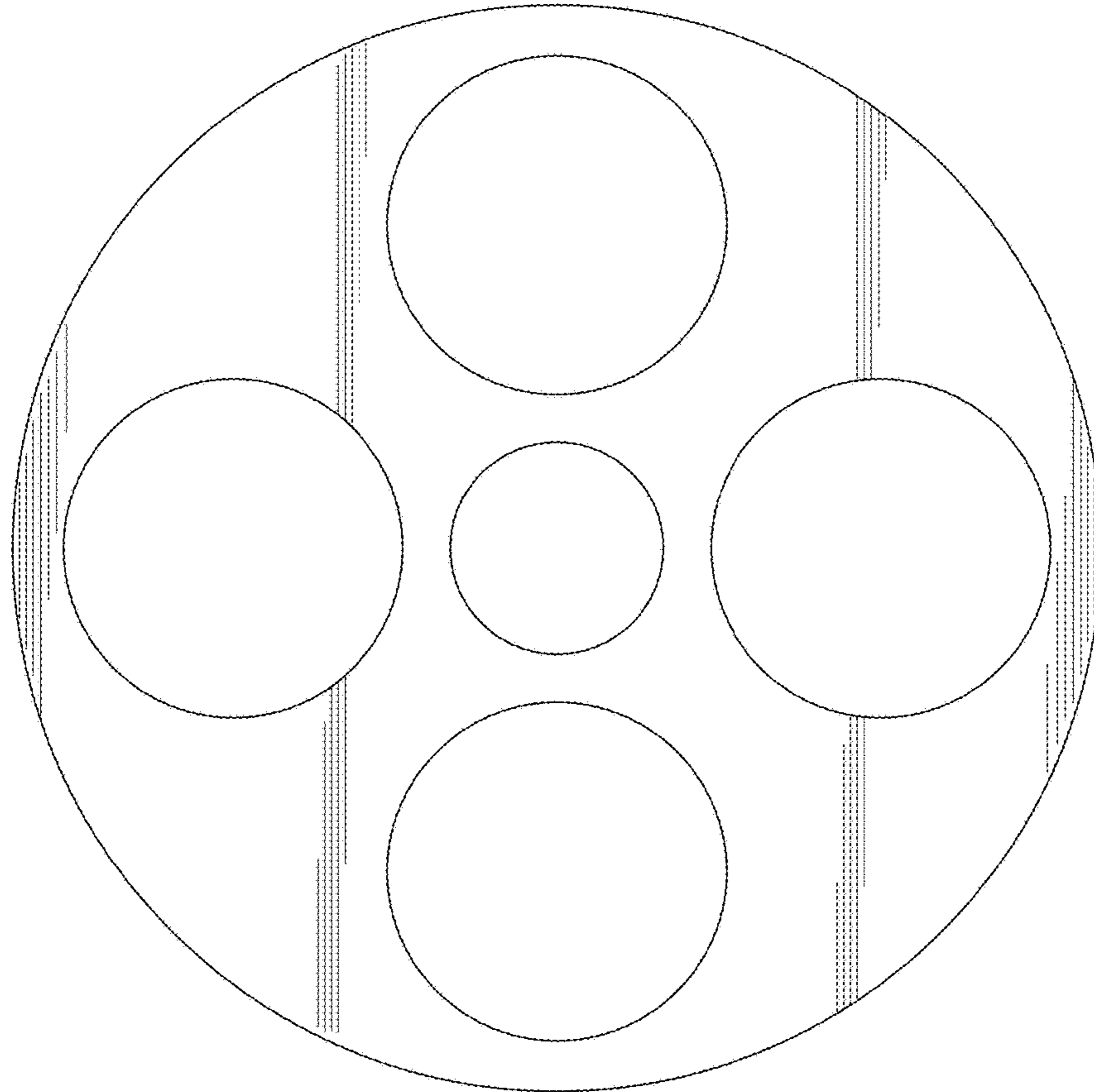
**FIG. 47**



**FIG. 48**



**FIG. 49**



**FIG.50**



**FIG.51**