



US00D746410S

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

(10) **Patent No.:** **US D746,410 S**  
(45) **Date of Patent:** **\*\* Dec. 29, 2015**

(54) **EXPANSION VALVE**

(71) Applicant: **TGK CO., LTD.**, Tokyo (JP)  
(72) Inventors: **Takeshi Kaneko**, Tokyo (JP); **Takanao Kumakura**, Tokyo (JP); **Yuta Chinen**, Tokyo (JP)

(73) Assignee: **TGK Co., Ltd.**, Tokyo (JP)

(\*\*) Term: **14 Years**

(21) Appl. No.: **29/502,480**

(22) Filed: **Sep. 16, 2014**

(30) **Foreign Application Priority Data**

Mar. 19, 2014 (JP) ..... JP2014-005844

(51) **LOC (10) Cl.** ..... **23-01**

(52) **U.S. Cl.**  
USPC ..... **D23/233**

(58) **Field of Classification Search**  
USPC ..... D23/233-269  
CPC ..... F16K 15/18; F16K 15/026; F16K 15/044;  
F16K 11/0655; F16K 11/065; F16K 11/074;  
F16K 11/10; F16K 31/0613; F16K 3/246;  
B60T 17/04

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D683,815 S \* 6/2013 Kobayashi et al. .... D23/233  
D689,594 S \* 9/2013 Kumakura ..... D23/233  
D722,135 S \* 2/2015 Kumakura ..... D23/233

**FOREIGN PATENT DOCUMENTS**

|    |         |        |
|----|---------|--------|
| JP | 1213883 | 6/2004 |
| JP | 1213884 | 6/2004 |
| JP | 1214177 | 6/2004 |
| JP | 1214178 | 6/2004 |
| JP | 1323298 | 2/2008 |
| JP | 1323300 | 2/2008 |
| JP | 1337517 | 7/2008 |
| JP | 1358213 | 4/2009 |

**OTHER PUBLICATIONS**

U.S. Appl. No. 29/480,192, filed Dec. 20, 2013, Kumakura.

\* cited by examiner

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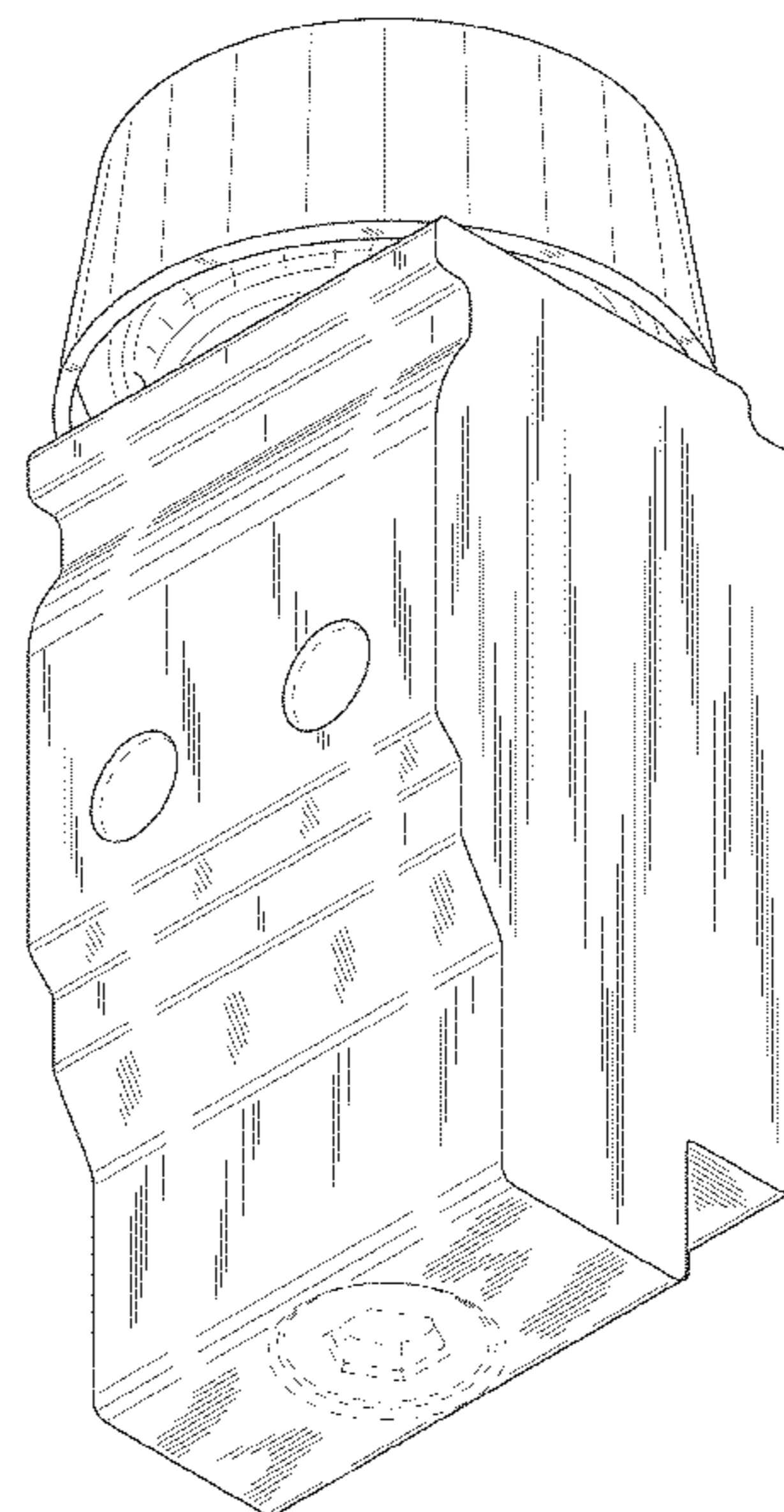
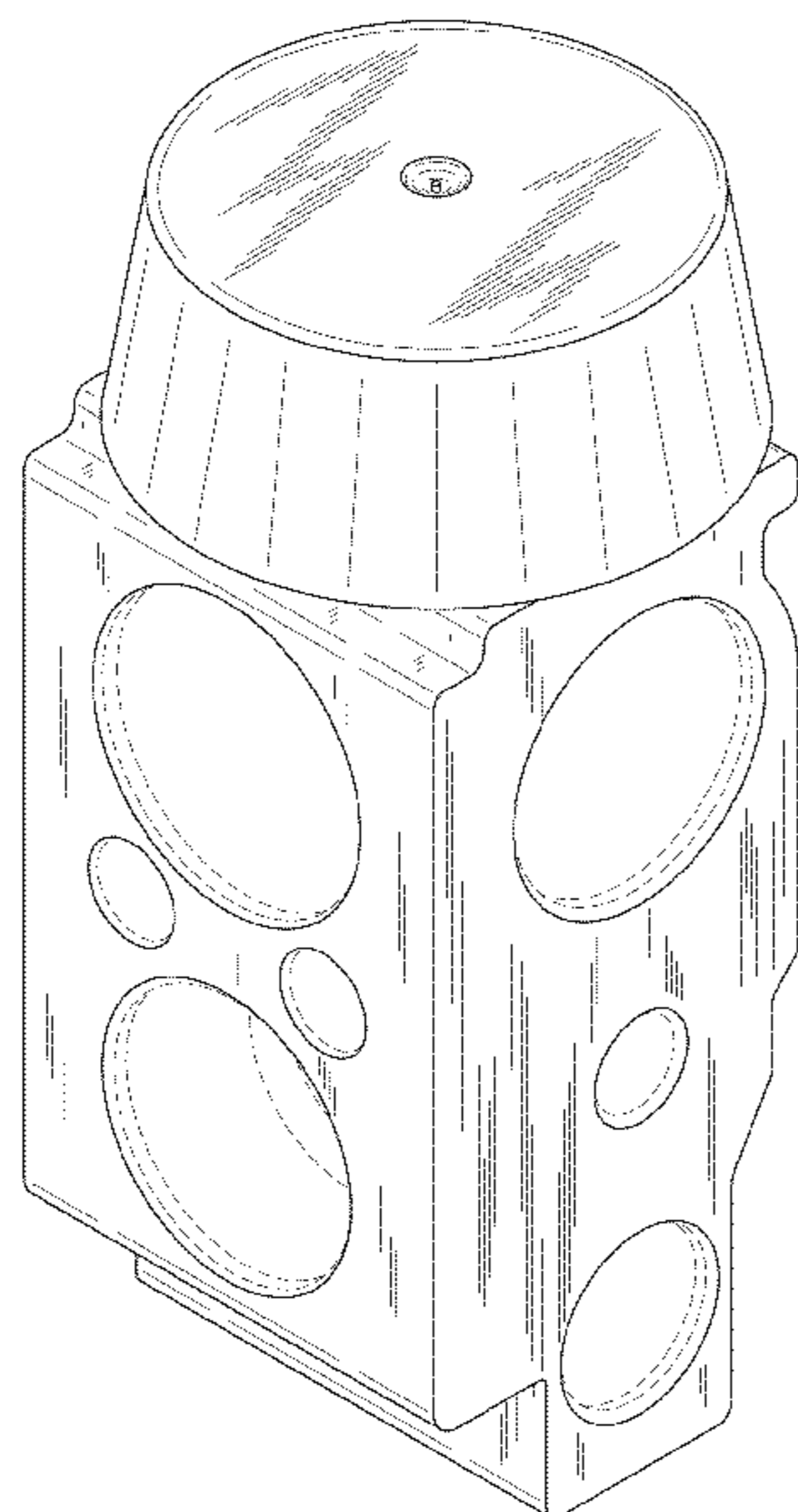
(57) **CLAIM**

The ornamental design for an expansion valve, as shown and described.

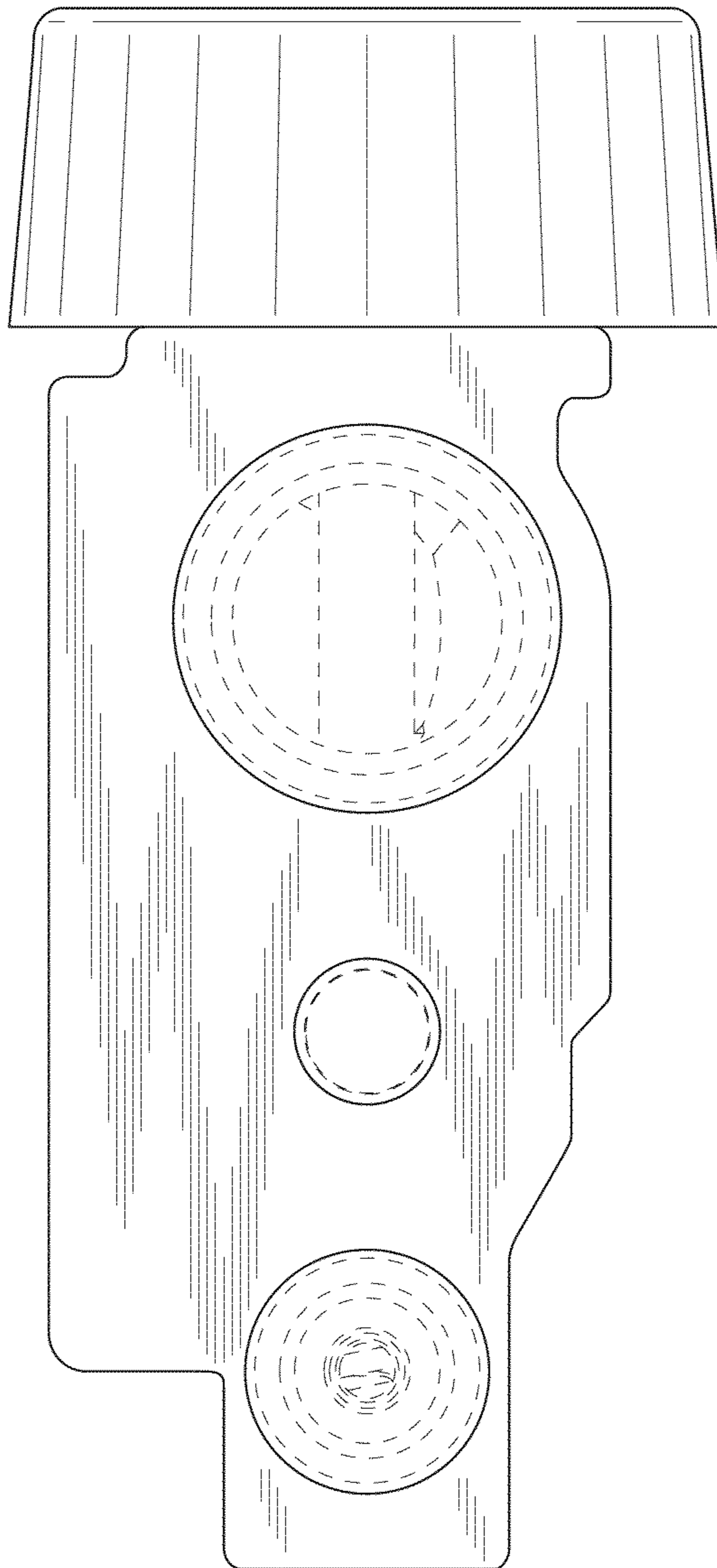
**DESCRIPTION**

FIG. 1 is a front view of an expansion valve showing our new design;  
FIG. 2 is a rear view thereof;  
FIG. 3 is a top view thereof;  
FIG. 4 is a bottom view thereof;  
FIG. 5 is a right side view thereof;  
FIG. 6 is a left side view thereof;  
FIG. 7 is a front perspective view thereof; and,  
FIG. 8 is a rear perspective view thereof.  
The broken lines are for the purpose of illustrating portions of the expansion valve and form no part of the claimed design.

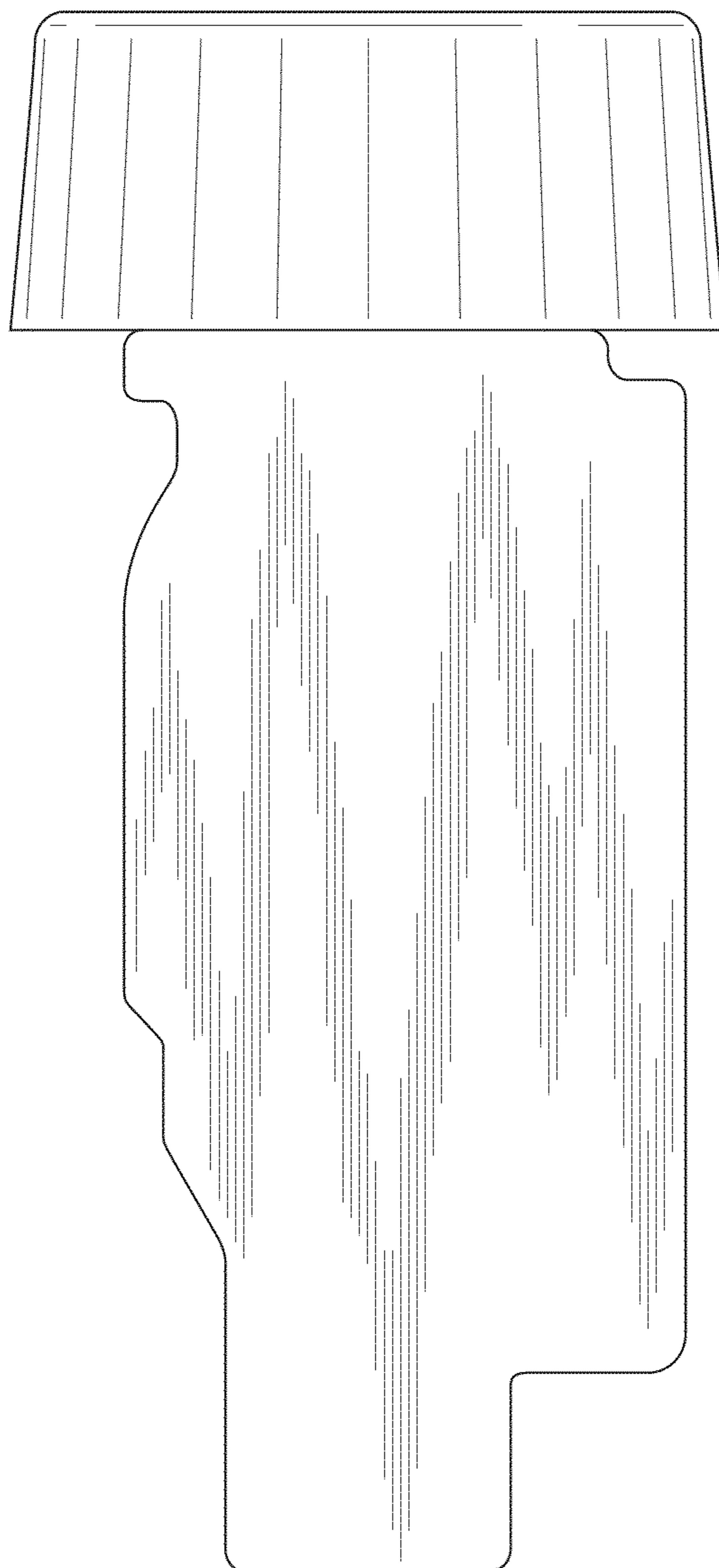
**1 Claim, 8 Drawing Sheets**



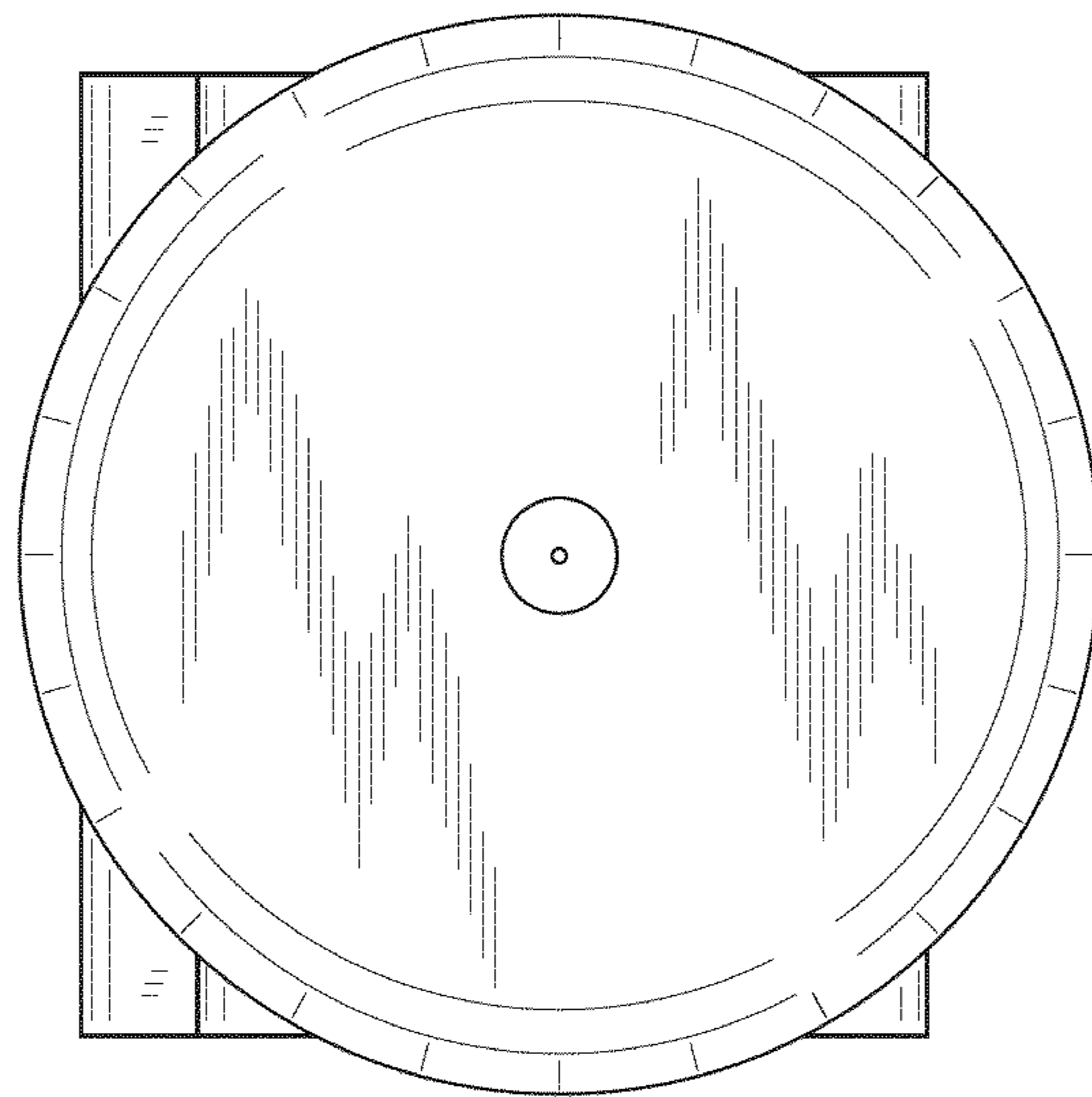
*FIG. 1*



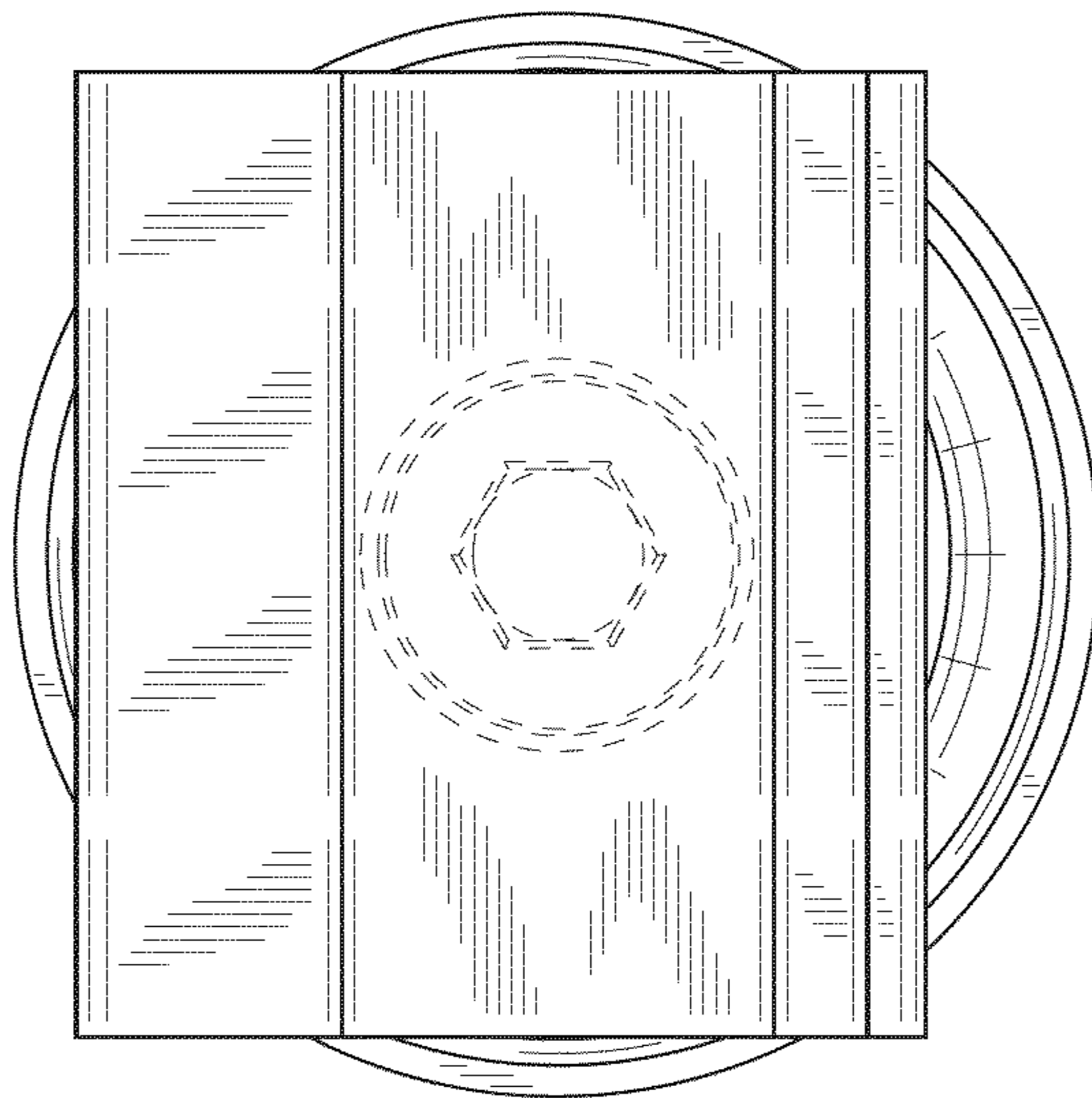
*FIG. 2*



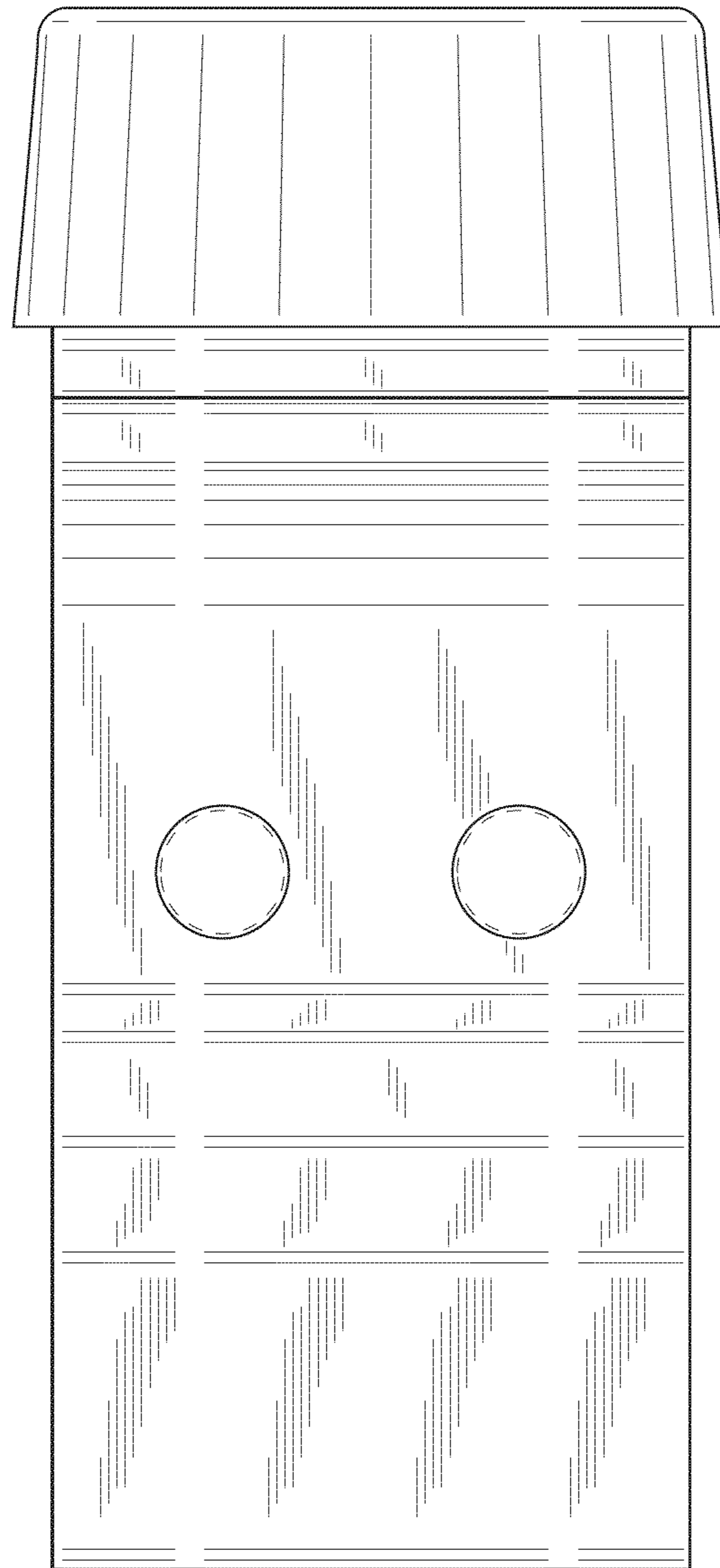
*FIG. 3*



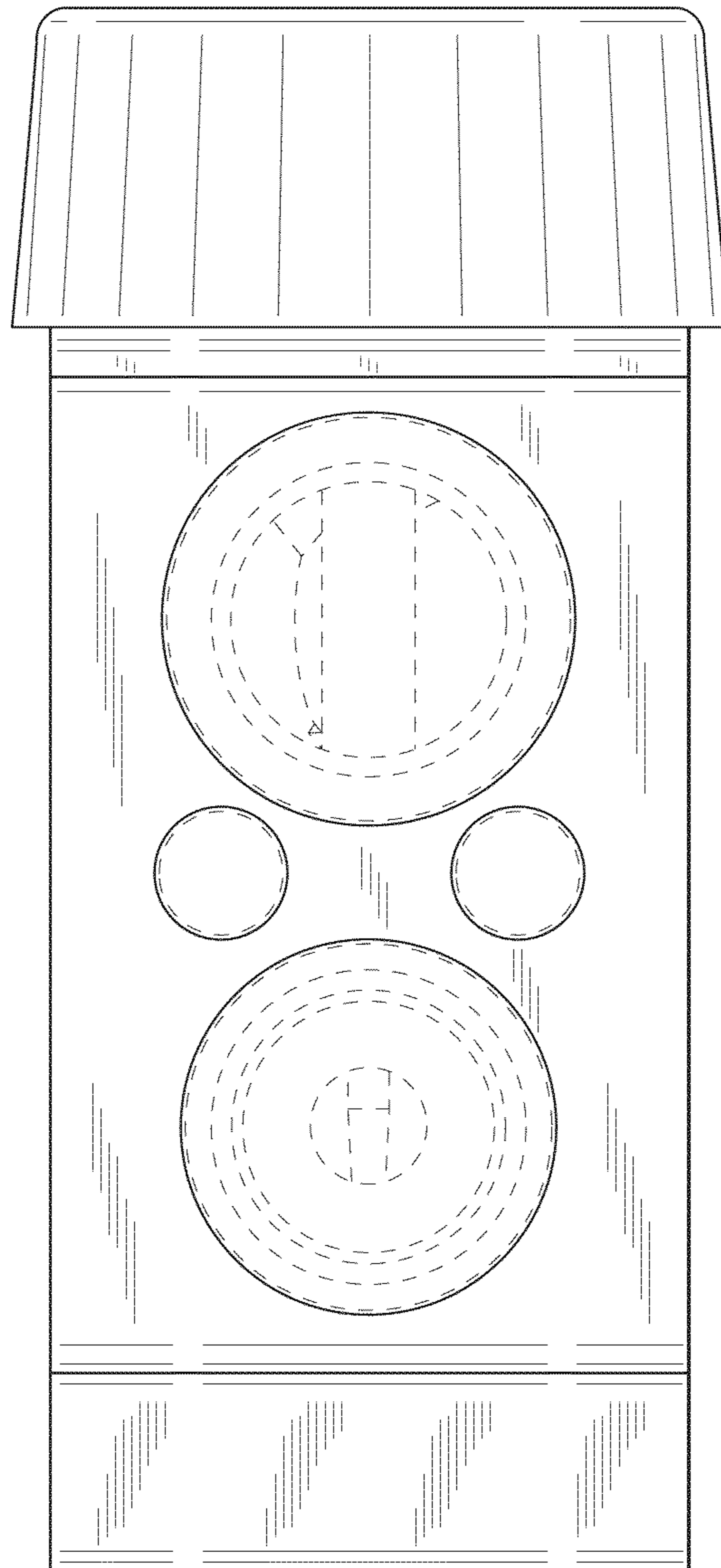
*FIG. 4*



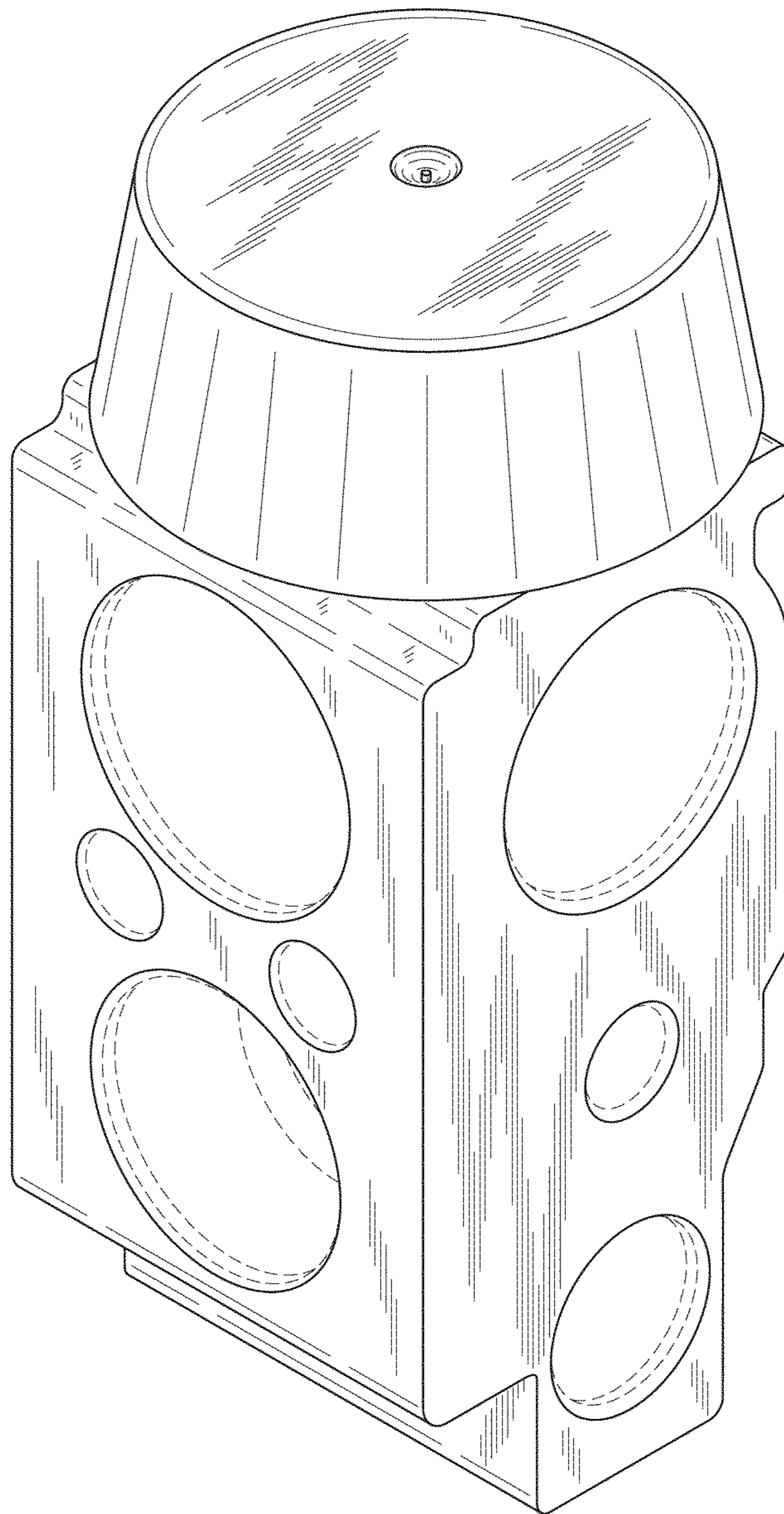
*FIG. 5*



*FIG. 6*



*FIG. 7*





*FIG. 8*

