



US00D849195S

(12) **United States Design Patent** (10) **Patent No.:** **US D849,195 S**
Matsushita (45) **Date of Patent:** **** May 21, 2019**

(54) **AUTOMATIC DRAIN VALVE**

FOREIGN PATENT DOCUMENTS

(71) Applicant: **SMC CORPORATION**, Tokyo (JP)

JP D1442696 S 6/2012
JP D1442697 S 6/2012

(72) Inventor: **Kazuhiro Matsushita**, Moriya (JP)

Primary Examiner — Cynthia Ramirez

(73) Assignee: **SMC CORPORATION**, Tokyo (JP)

Assistant Examiner — Gino Colan

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

(74) *Attorney, Agent, or Firm* — Birch, Stewart, Kolasch & Birch, LLP

(21) Appl. No.: **29/589,748**

(22) Filed: **Jan. 4, 2017**

(57) **CLAIM**

(30) **Foreign Application Priority Data**

The ornamental design for an automatic drain valve, as shown.

Jul. 15, 2016 (CN) 2016 3 0326059

(51) **LOC (11) Cl.** **23-01**

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

(58) **Field of Classification Search**
USPC D23/233, 235; 137/204, 203, 195, 519,
137/607, 187
CPC F16T 1/00; B01D 45/08
See application file for complete search history.

DESCRIPTION

(56) **References Cited**

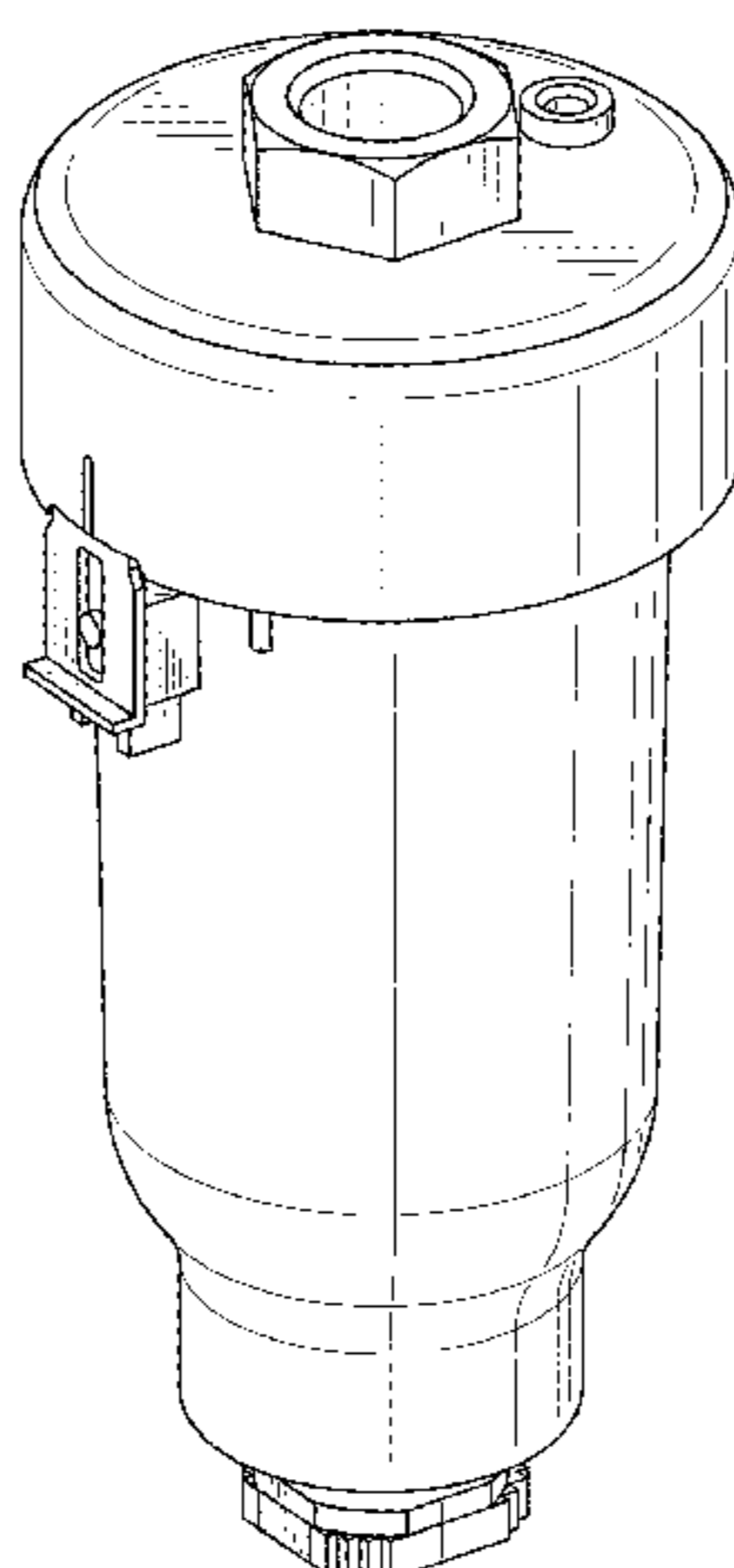
U.S. PATENT DOCUMENTS

1,343,382 A * 6/1920 Armstrong F01B 25/00
137/607
1,734,028 A * 11/1929 Brice F04B 39/14
137/204
2,619,106 A * 11/1952 Wilkerson F16T 1/14
137/204
2,744,534 A * 5/1956 Wilson, Jr. B01D 45/08
137/195
3,101,091 A * 8/1963 Schultz F16T 1/14
137/204
3,675,673 A * 7/1972 Nilges F16T 1/00
137/187
4,079,744 A * 3/1978 Franson B60T 17/004
137/203
4,082,107 A * 4/1978 Hoffman F16T 1/20
137/195

FIG. 1 is a front, top and right side perspective view of an automatic drain valve showing a first embodiment of my new design;
 FIG. 2 is a rear, bottom and left side perspective view thereof;
 FIG. 3 is a front view thereof;
 FIG. 4 is a rear view thereof;
 FIG. 5 is a top plan view thereof;
 FIG. 6 is a bottom plan view thereof;
 FIG. 7 is a left side view thereof;
 FIG. 8 is a right side view thereof;
 FIG. 9 is a front, top and right side perspective view of an automatic drain valve showing a second embodiment of my new design;
 FIG. 10 is a rear, bottom and left side perspective view of FIG. 9;
 FIG. 11 is a front view of FIG. 9;
 FIG. 12 is a rear view of FIG. 9;
 FIG. 13 is a top plan view of FIG. 9;
 FIG. 14 is a bottom plan view of FIG. 9;
 FIG. 15 is a left side view of FIG. 9; and,
 FIG. 16 is a right side view of FIG. 9.

(Continued)

1 Claim, 16 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D659,814 S 5/2012 Yamase et al.
D659,815 S 5/2012 Yamase et al.
D696,749 S * 12/2013 Oike D23/233

* cited by examiner

FIG. 1

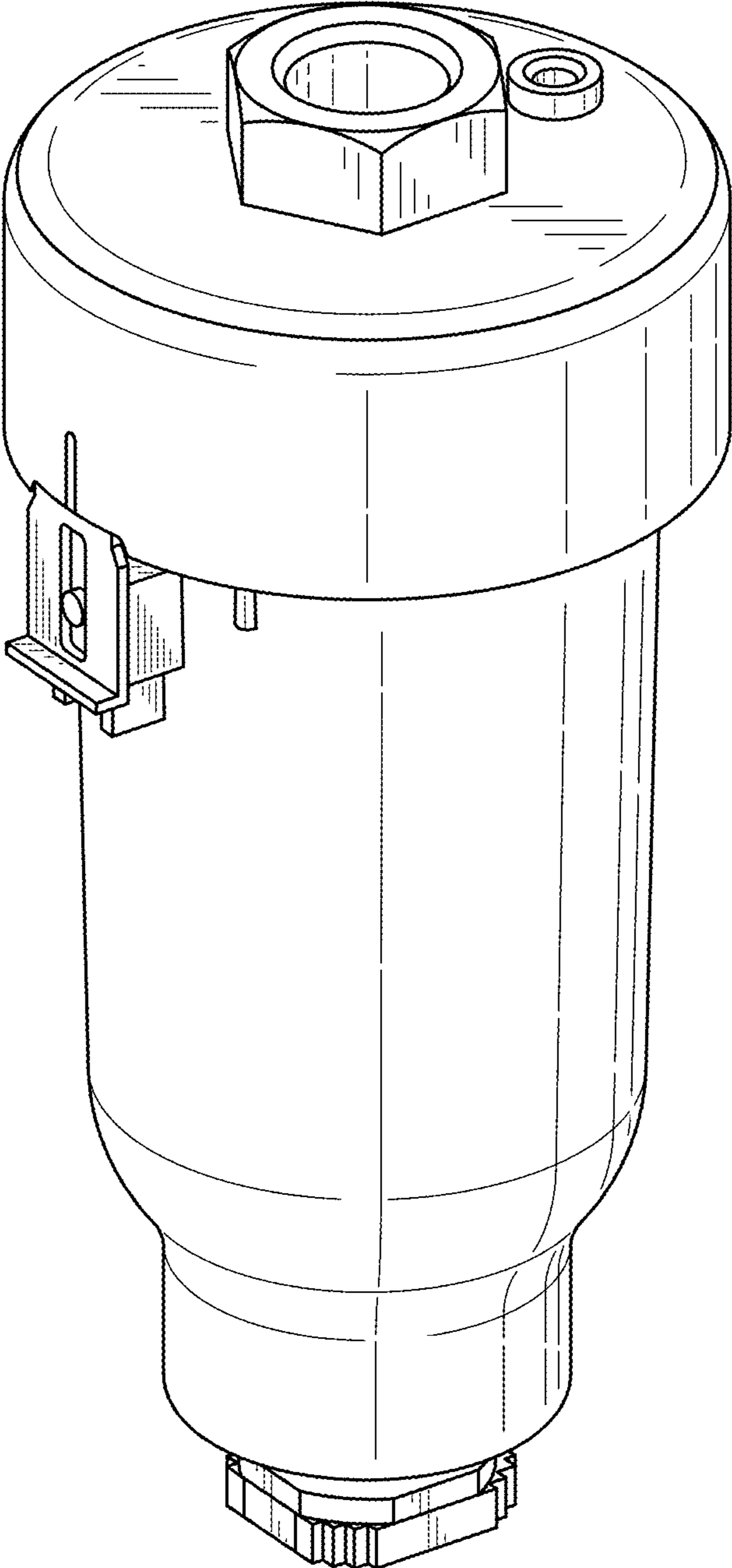


FIG. 2

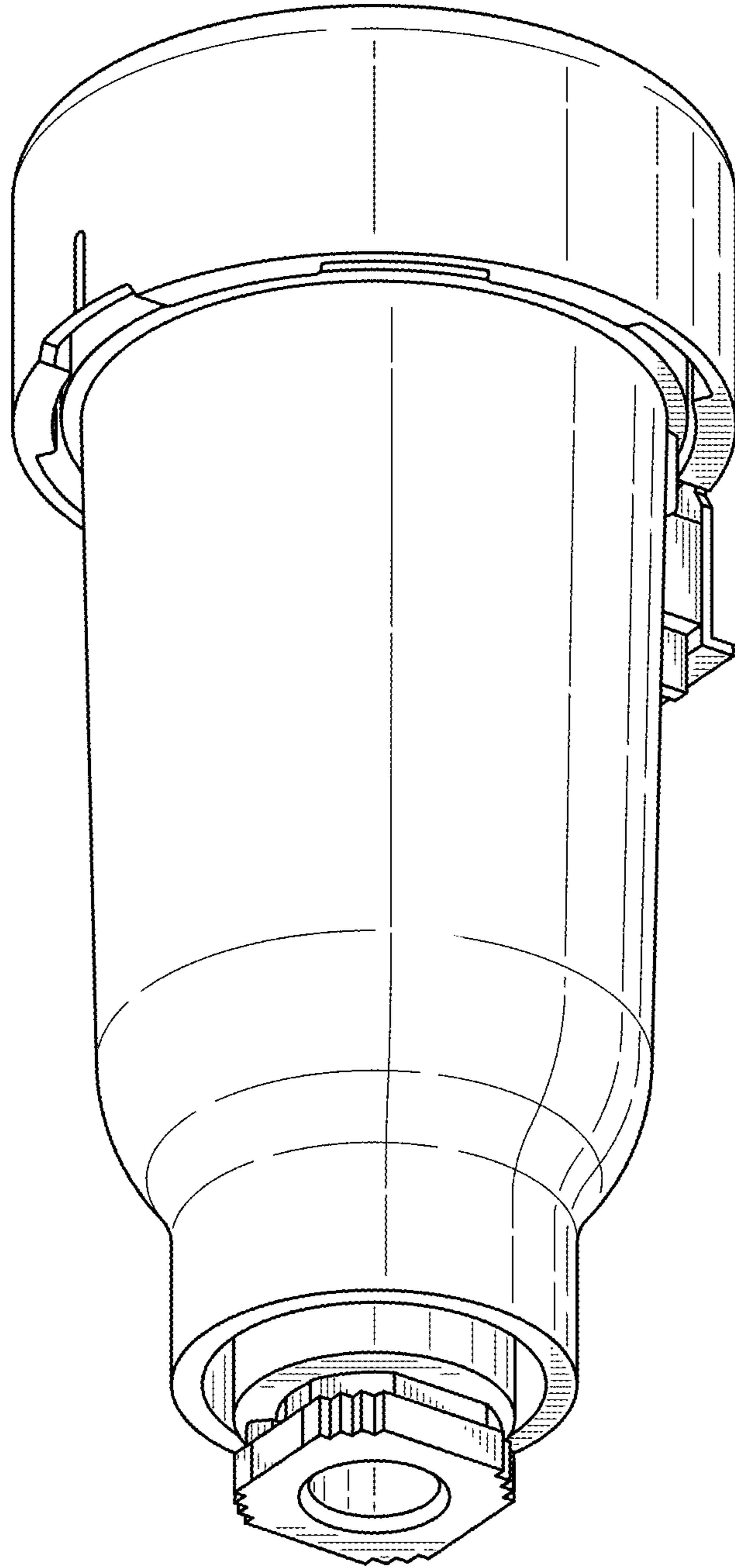


FIG. 3

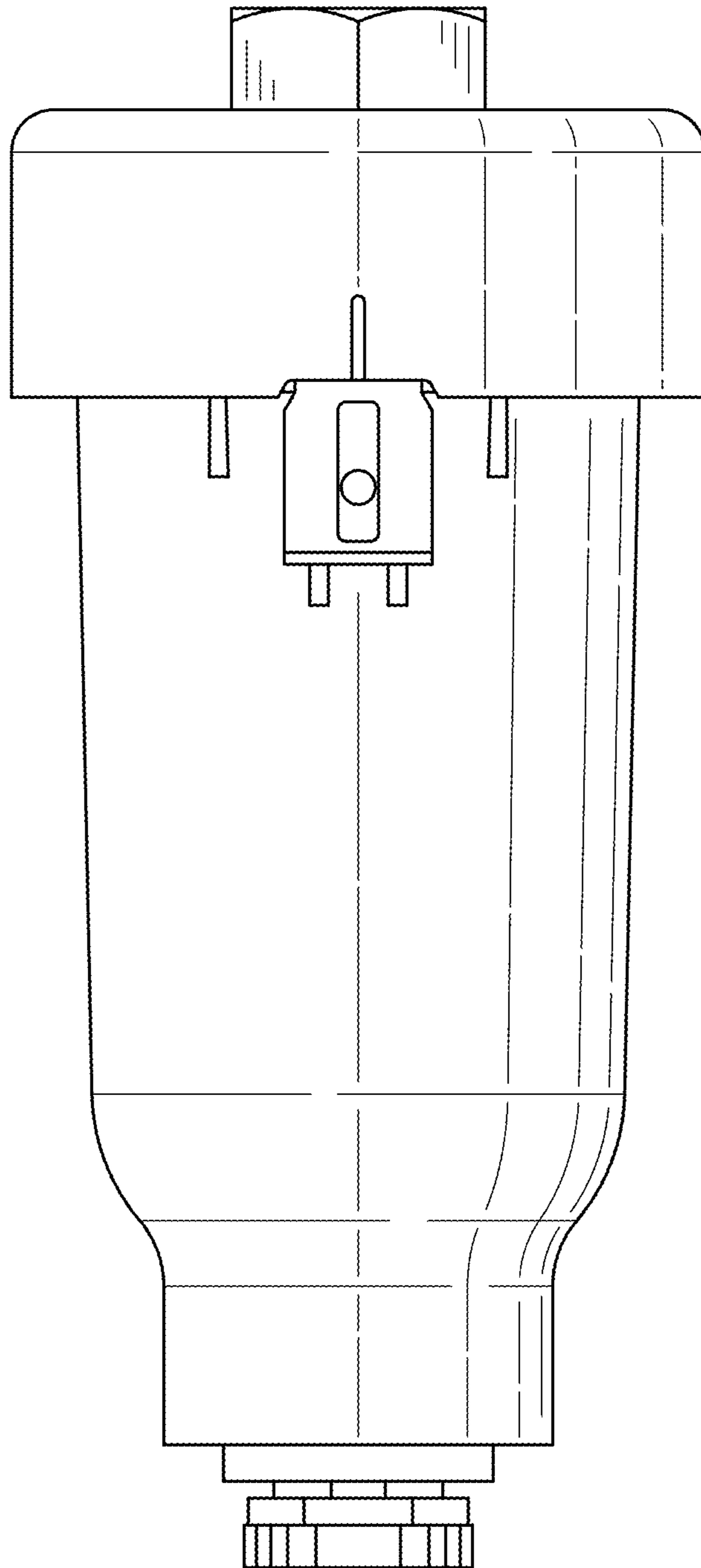


FIG. 4

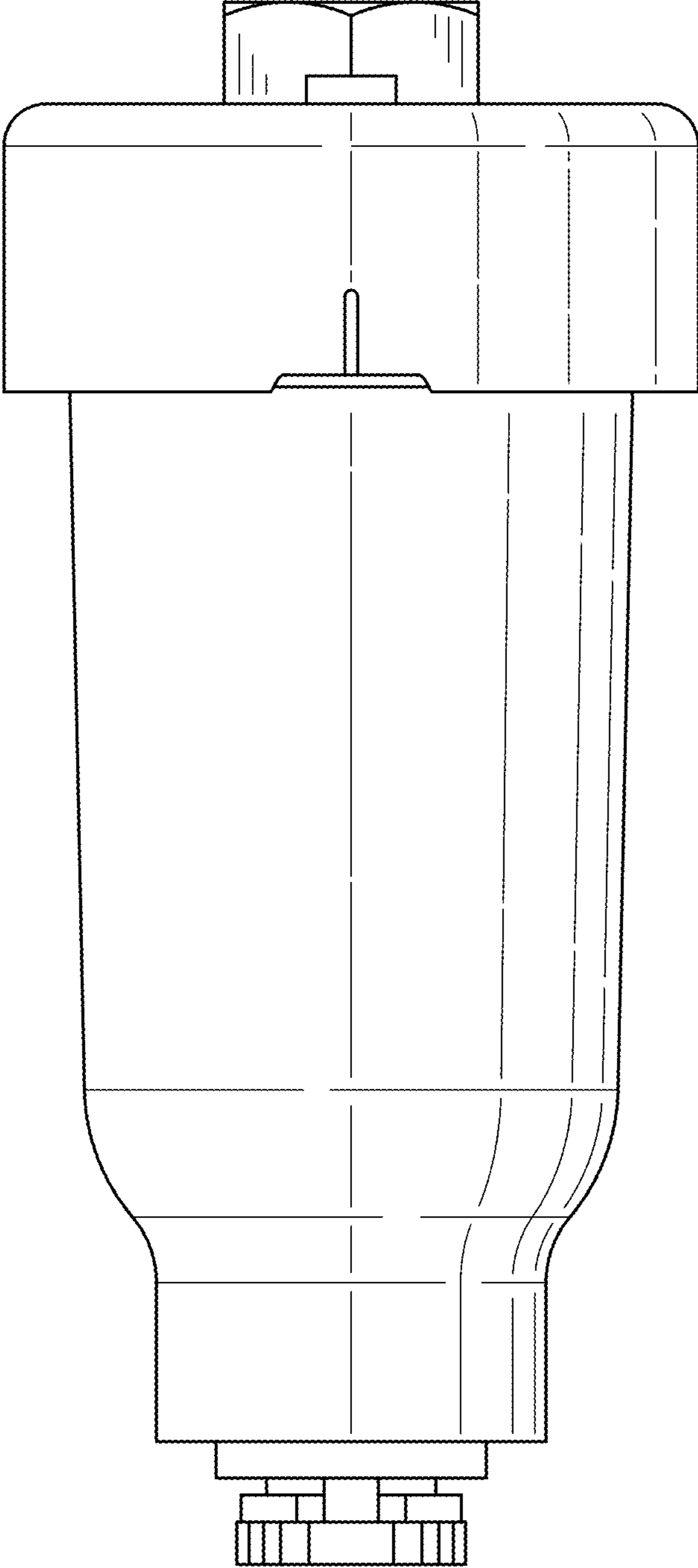


FIG. 5

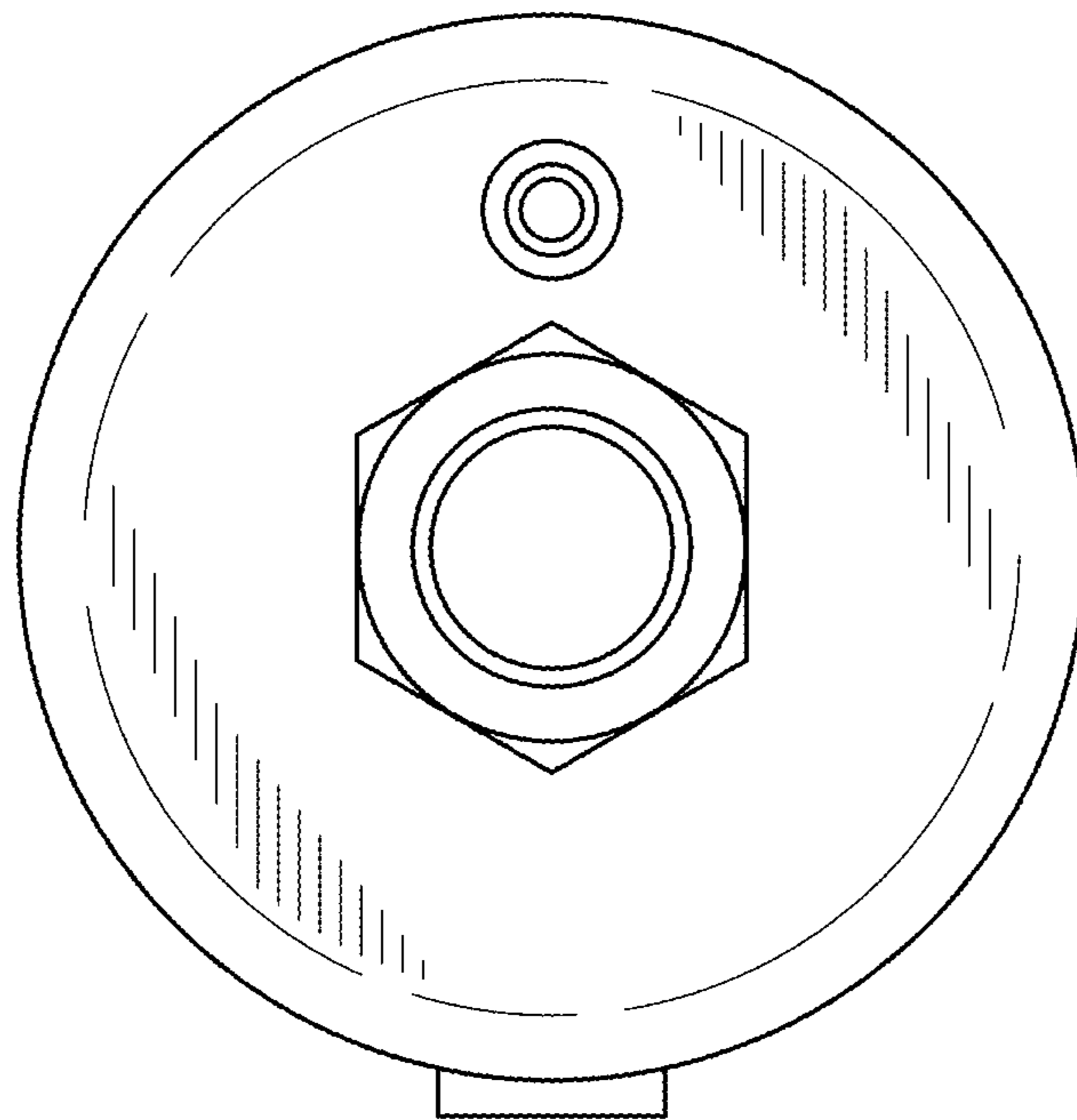


FIG. 6

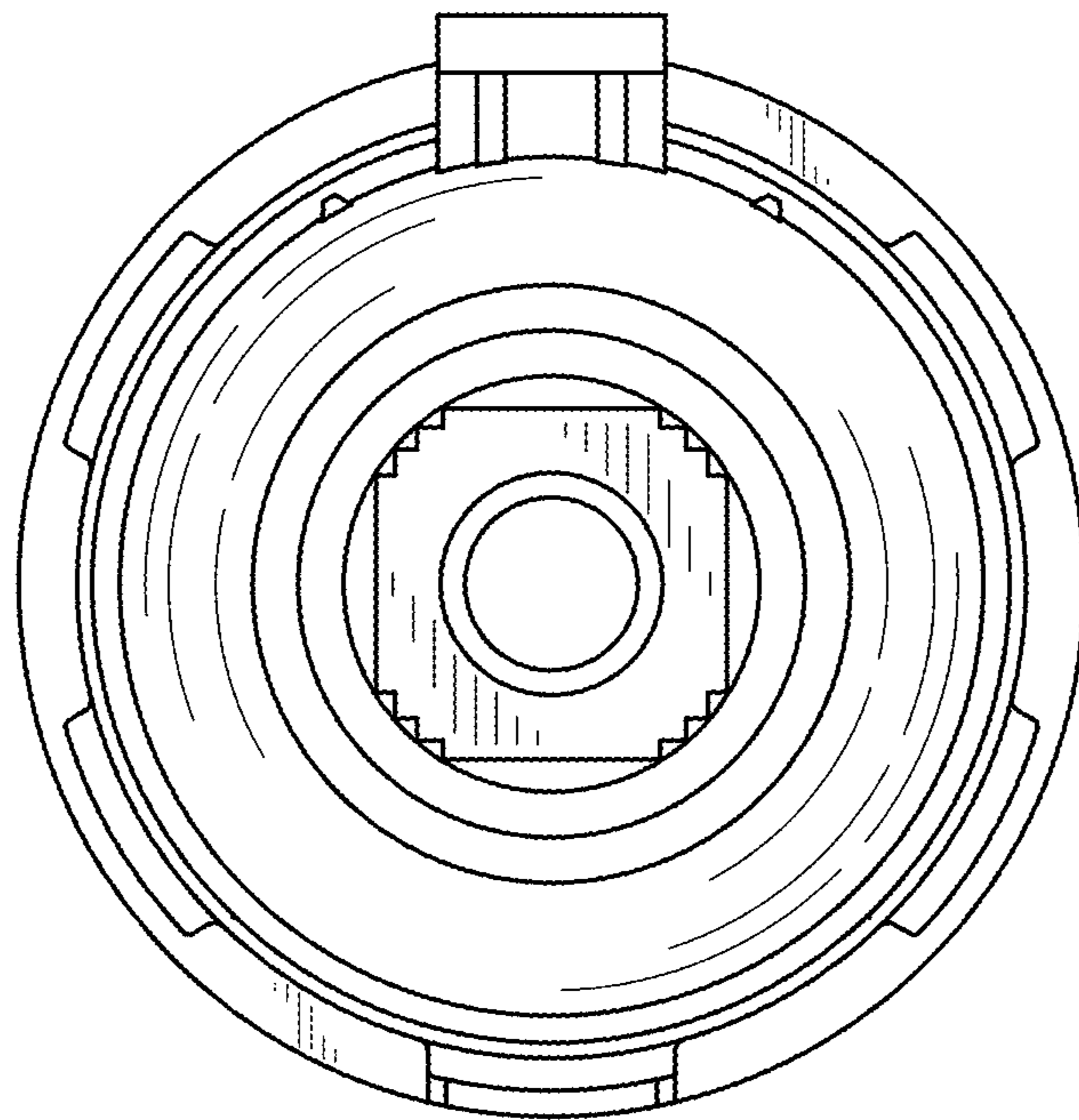


FIG. 7

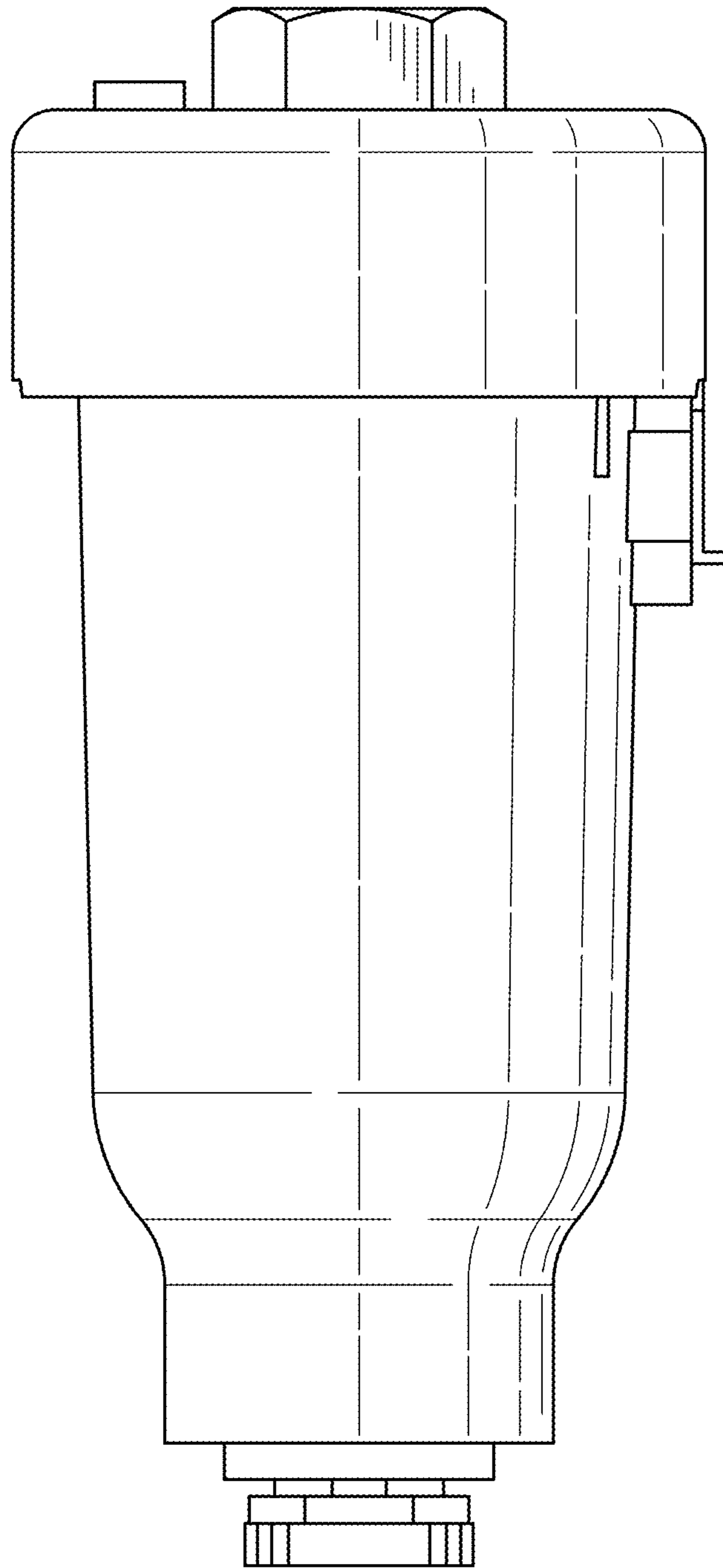


FIG. 8

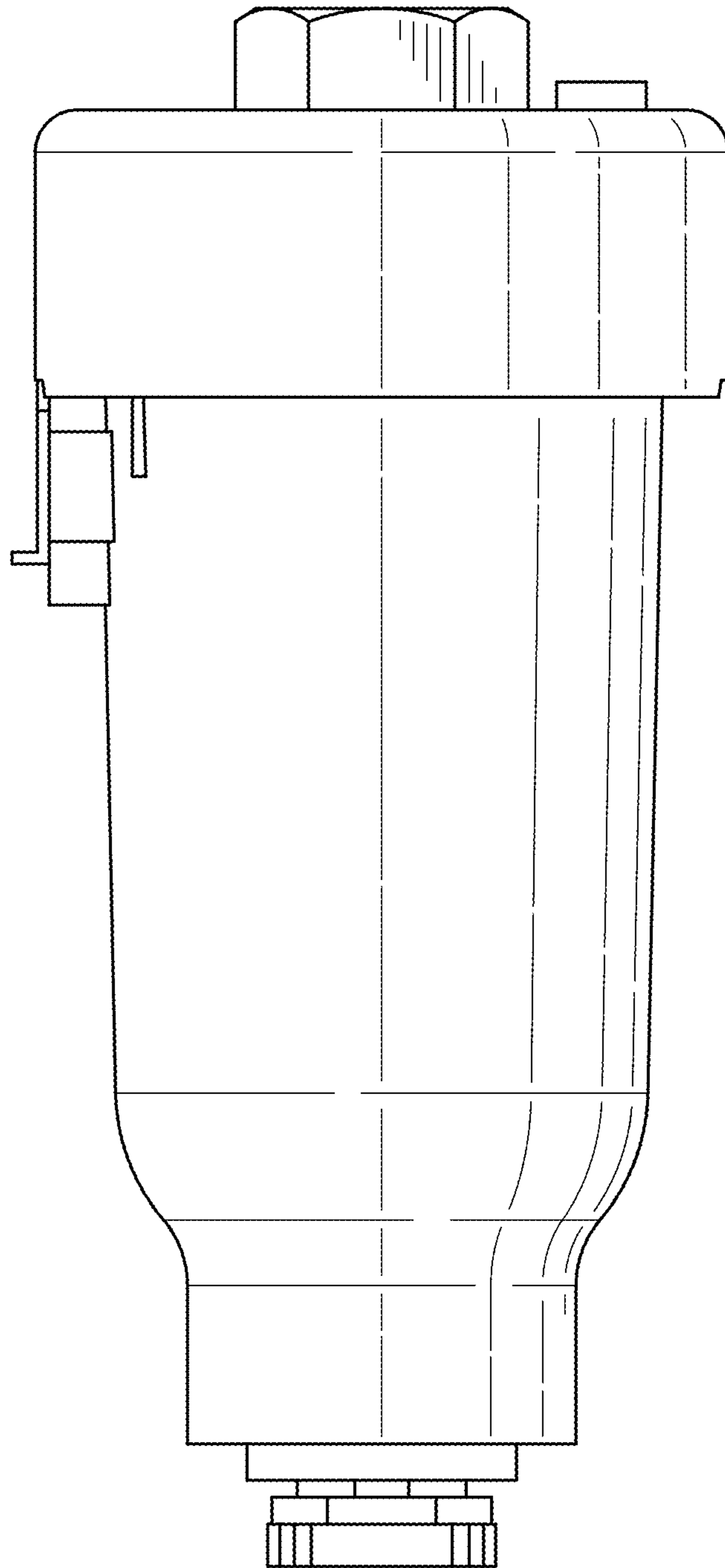


FIG. 9

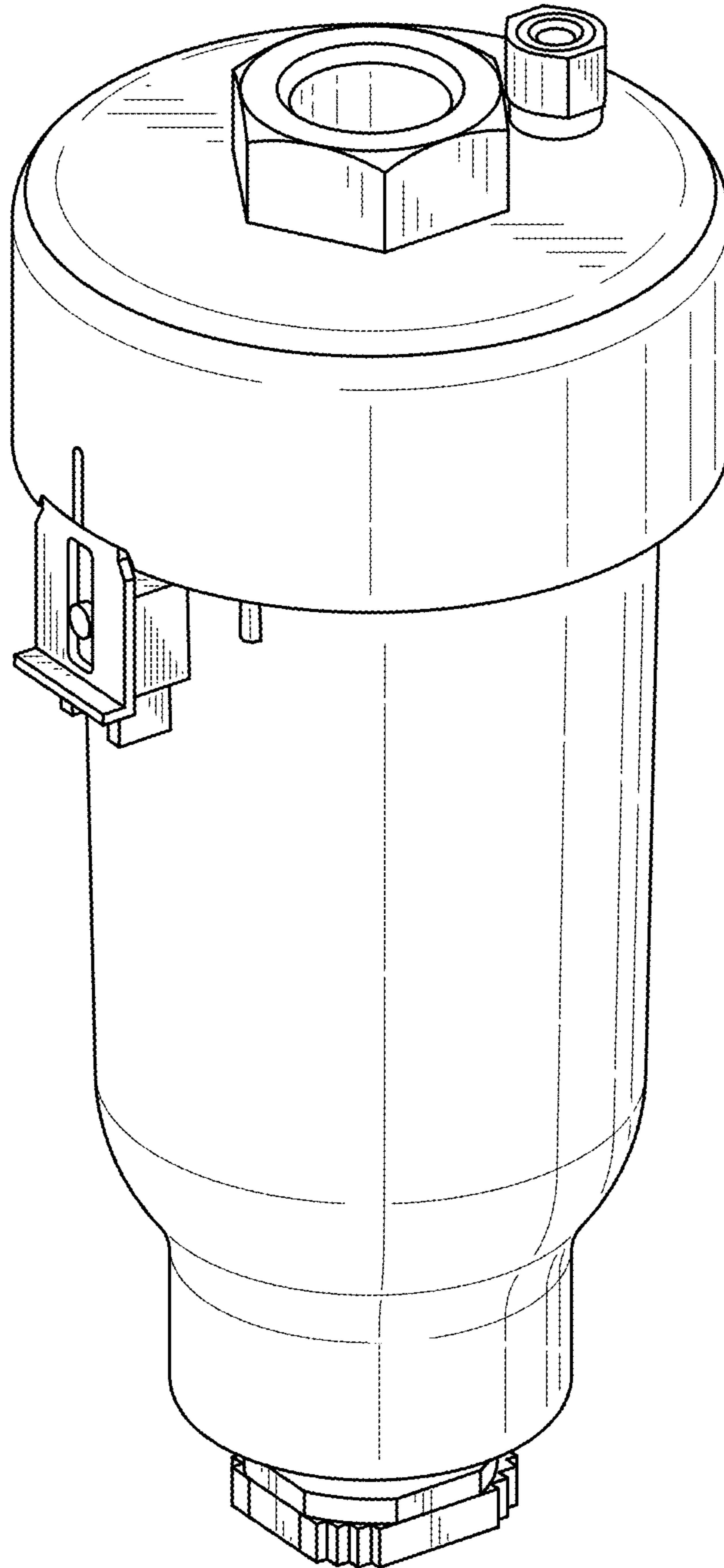


FIG. 10

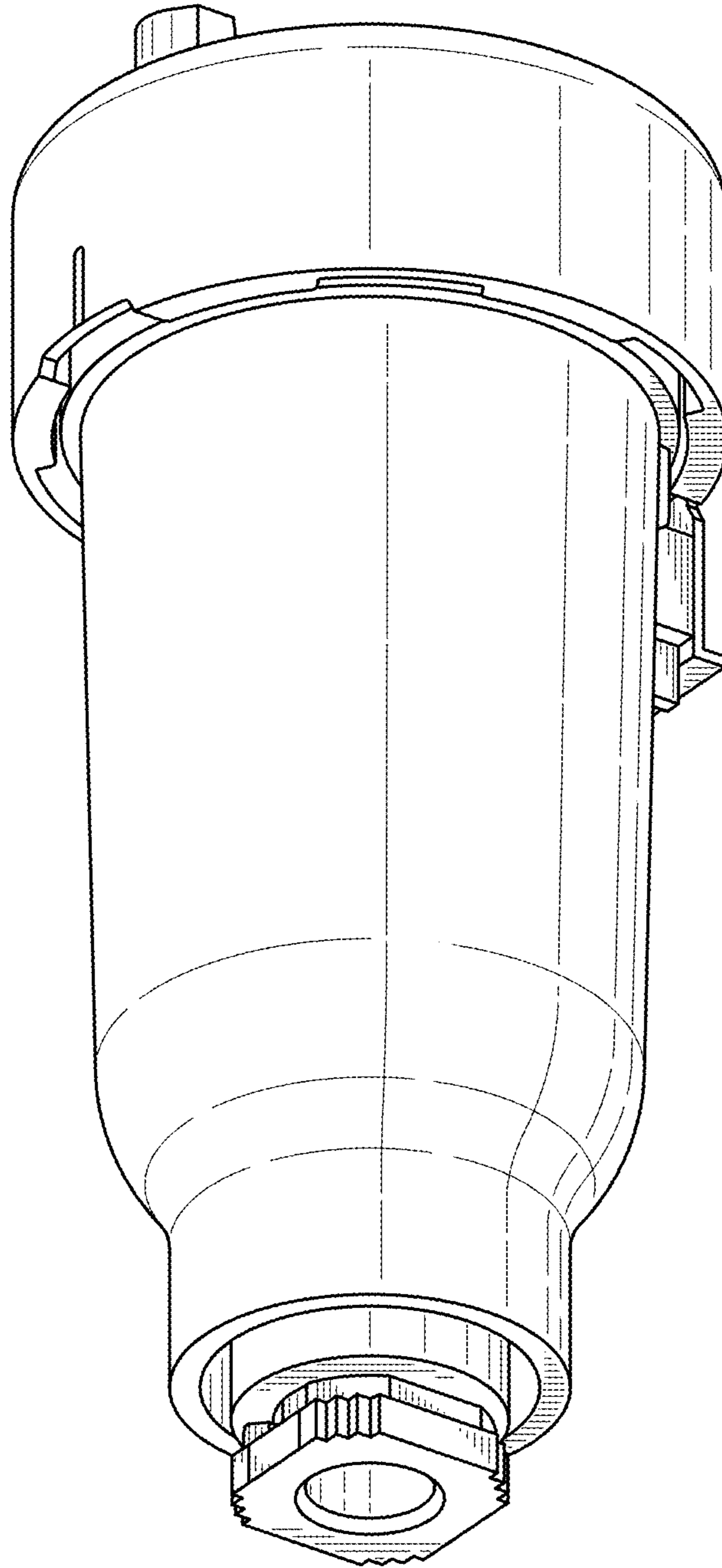


FIG. 11

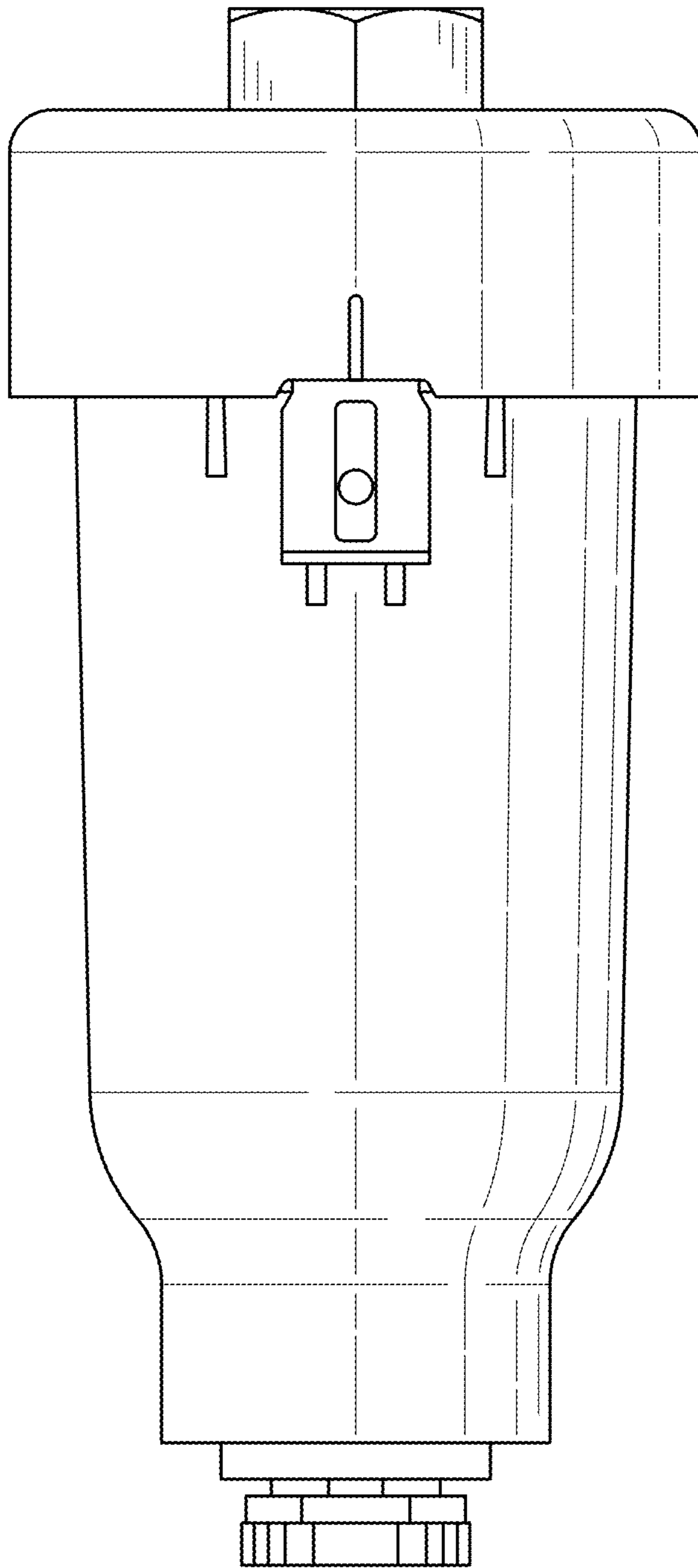


FIG. 12

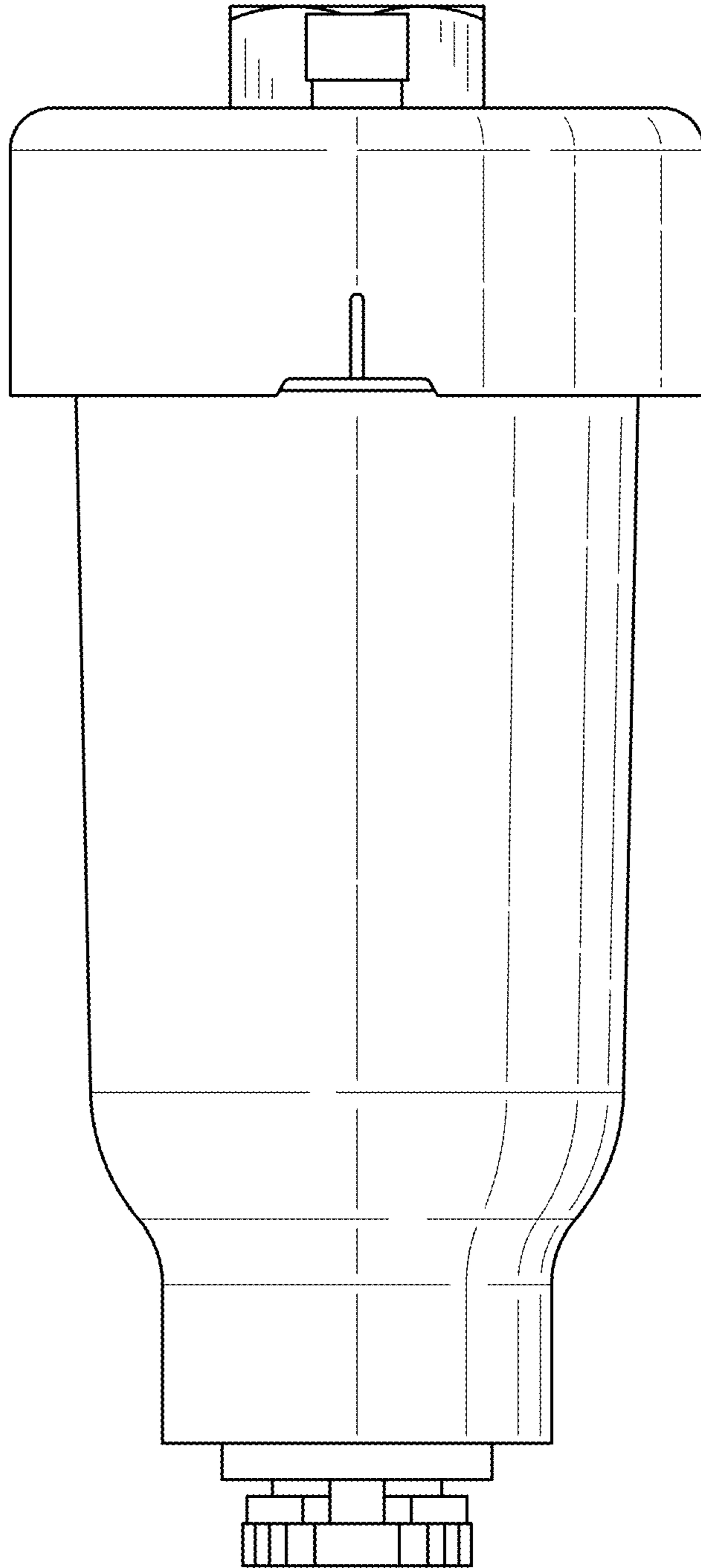


FIG. 13

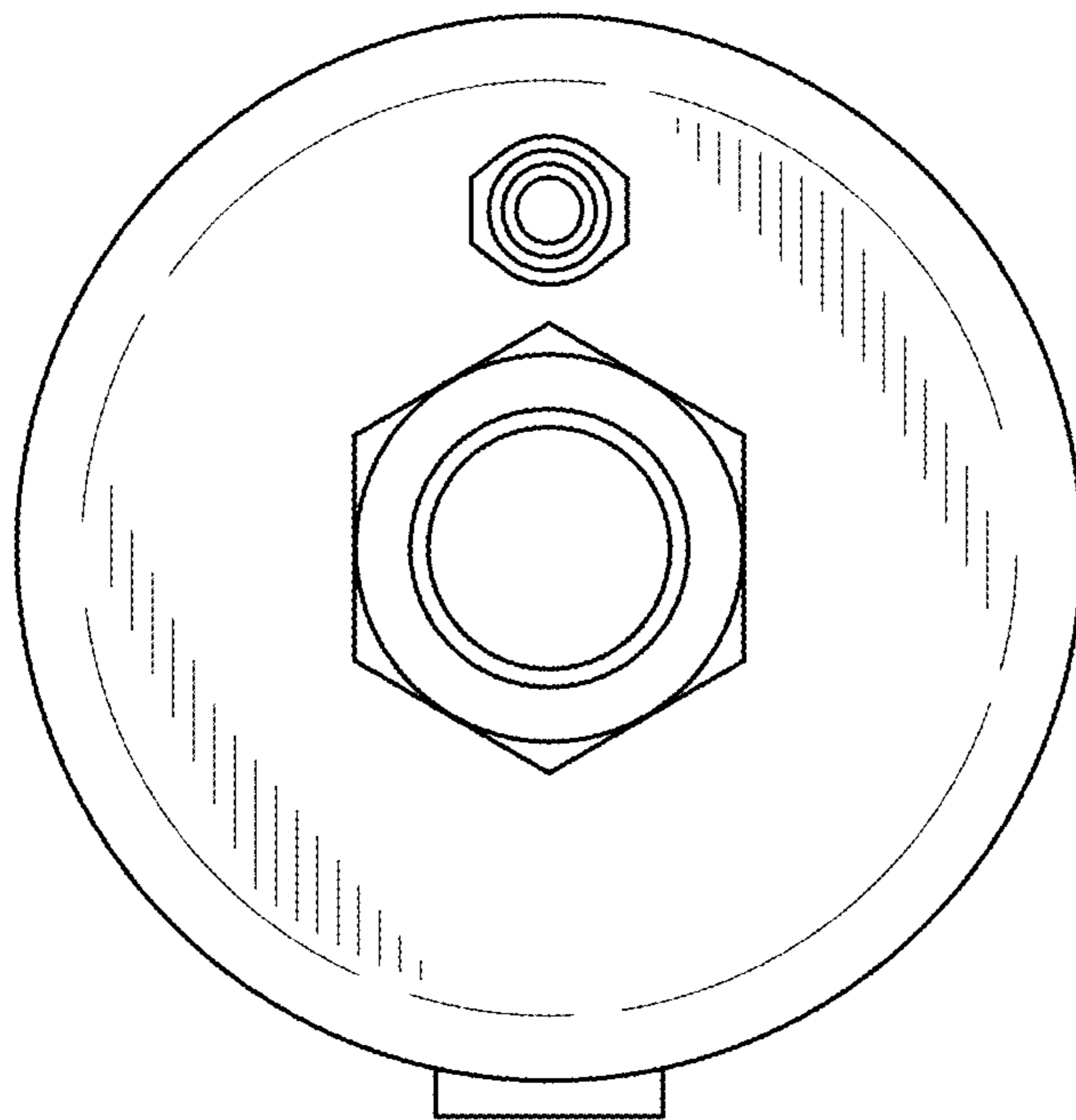


FIG. 14

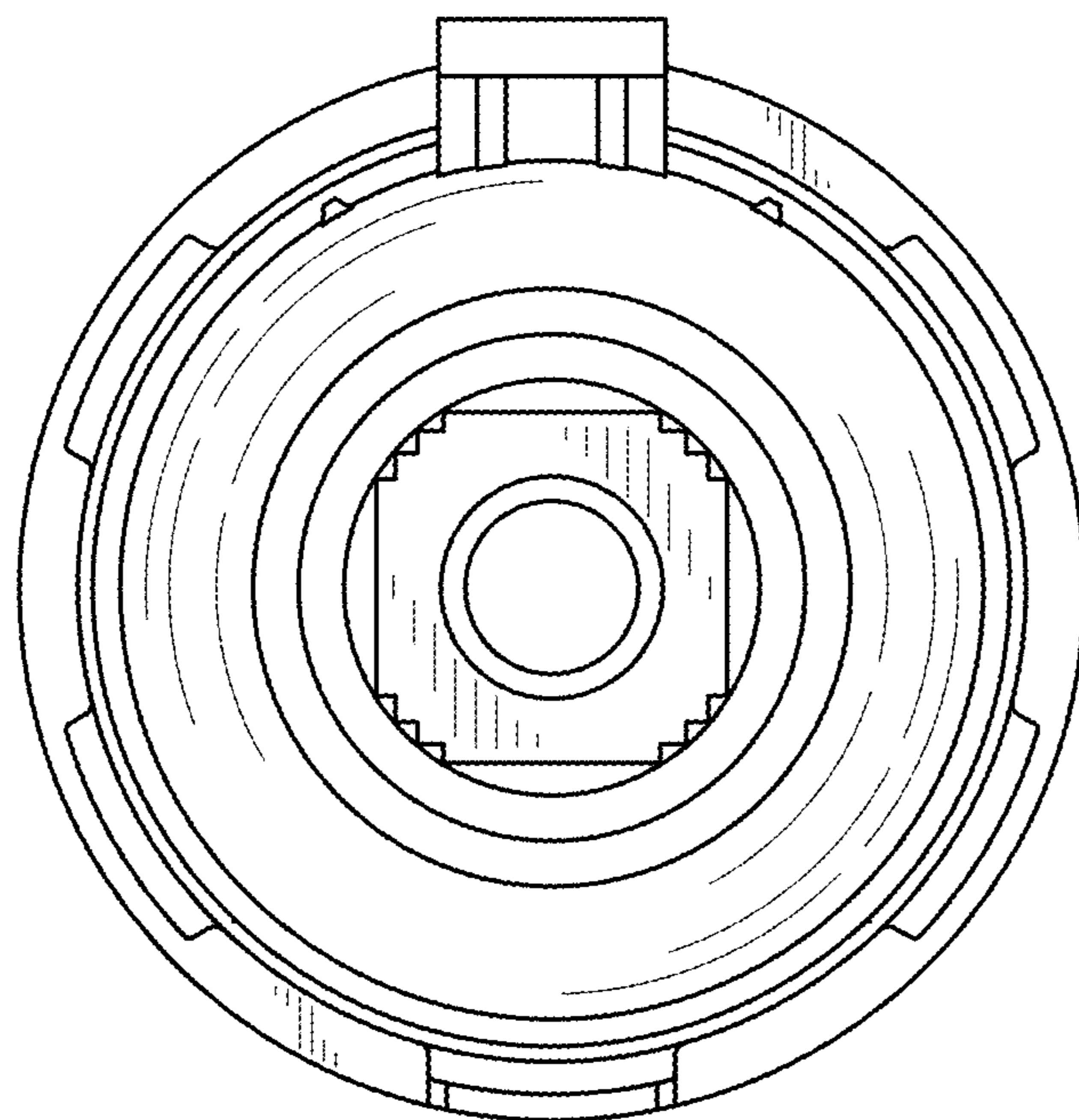


FIG. 15

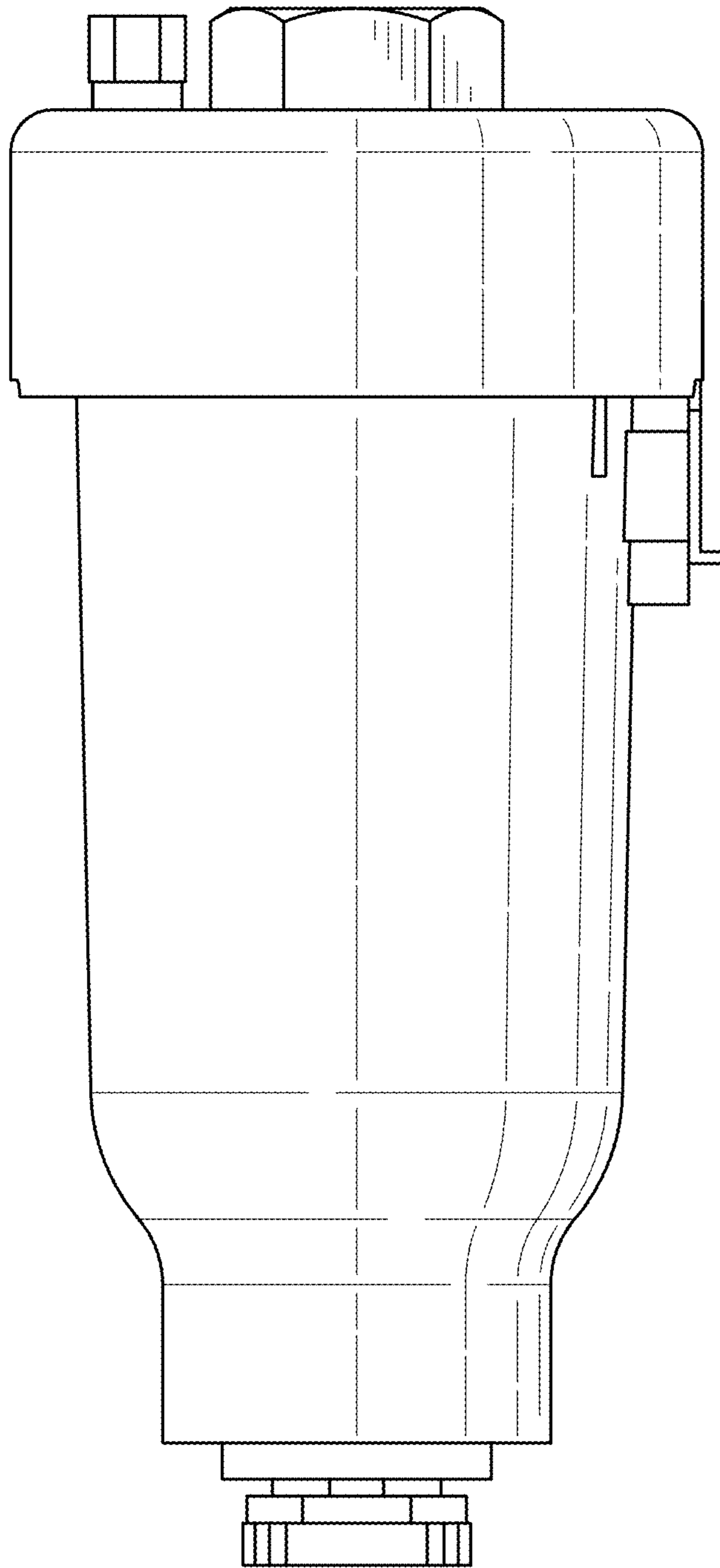


FIG. 16

