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

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(54) **REACTION TUBE**
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Tomoshi Taniyama, Toyama (JP)
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INC., Tokyo (JP)
(**) Term: **15 Years**

5,948,300 A * 9/1999 Gero C30B 25/14
118/725
D417,438 S * 12/1999 Matsushima D13/182
D423,463 S * 4/2000 Hanagata D13/182
D424,024 S * 5/2000 Hanagata D13/182
6,251,189 B1 * 6/2001 Odake C23C 16/44
118/715
D586,768 S * 2/2009 Inoue D13/182
(Continued)

(21) Appl. No.: **29/555,822**
(22) Filed: **Feb. 25, 2016**

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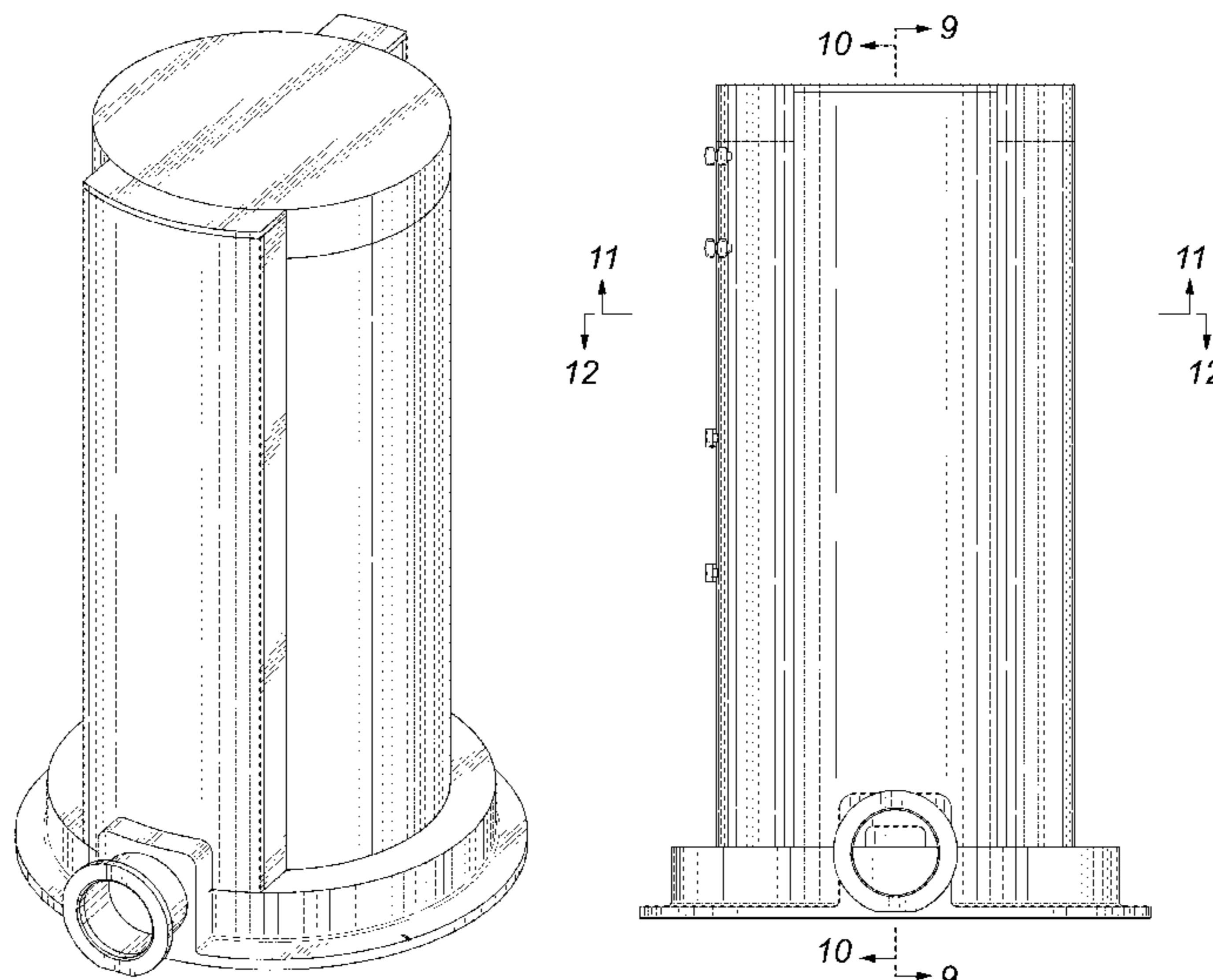
(30) **Foreign Application Priority Data**
Sep. 4, 2015 (JP) 2015-019682
(51) **LOC (10) Cl.** **13-03**
(52) **U.S. Cl.**
USPC **D13/182**
(58) **Field of Classification Search**
USPC D13/182
CPC H01L 21/67098; H01L 21/67103; H01L
21/67109; H01L 21/67115; C23C 16/455;
C23C 16/45502; C23C 16/45504; C23C
16/45506; C23C 16/45508; C23C
16/4551; C23C 16/4586; C23C 16/4587;
C23C 16/46; C23C 16/463; C23C 16/466
See application file for complete search history.

(57) **CLAIM**
The ornamental design for a reaction tube, as shown and
described.

(56) **References Cited**
U.S. PATENT DOCUMENTS
4,950,870 A * 8/1990 Mitsuhashi C30B 25/10
219/390
D405,062 S * 2/1999 Shimazu D13/182
D405,429 S * 2/1999 Hanagata D13/182
D405,431 S * 2/1999 Shimazu D13/182
D406,113 S * 2/1999 Hanagata D13/182

DESCRIPTION
FIG. 1 is a front, top, and right side perspective view of a
reaction tube showing our new design;
FIG. 2 is a rear, top and left said perspective view thereof;
FIG. 3 is a front elevational view thereof;
FIG. 4 is a rear elevational view thereof;
FIG. 5 is a left side elevational view thereof;
FIG. 6 is a right side elevational view thereof;
FIG. 7 is a top plan view thereof;
FIG. 8 is a bottom plan view thereof;
FIG. 9 is a cross sectional view take along line 9-9 in FIG.
3 thereof;
FIG. 10 is a cross sectional view take along line 10-10 in
FIG. 3 thereof;
FIG. 11 is a cross sectional view view taken along line 11-11
in FIG. 3 thereof;
FIG. 12 is a cross sectional view view taken along line 12-12
in FIG. 3 thereof;
FIG. 13 is a cross sectional view view taken along line 13-13
in FIG. 6; and,
FIG. 14 is a cross sectional view view taken along line 14-14
in FIG. 6.

1 Claim, 14 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D600,659 S * 9/2009 Matsuura D13/182
D610,559 S * 2/2010 Okada D13/182
D611,013 S * 3/2010 Takahashi D13/182
D618,638 S * 6/2010 Nakashima D13/182
D619,630 S * 7/2010 Kaneko D15/138
D711,843 S * 8/2014 Yamazaki D13/182
D719,114 S * 12/2014 Yamazaki D13/182
D720,707 S * 1/2015 Yamazaki D13/182
D725,053 S * 3/2015 Kaneko D13/182
D725,055 S * 3/2015 Yamazaki D13/182
D739,832 S * 9/2015 Yamazaki D13/182
D770,993 S * 11/2016 Yoshida D13/182
D772,824 S * 11/2016 Yoshida D13/182
2003/0221779 A1 * 12/2003 Okuda C23C 16/4405
156/345.26
2008/0083372 A1 * 4/2008 Inoue C23C 16/45578
118/725
2009/0194521 A1 * 8/2009 Kobayashi F27B 17/0025
219/520
2009/0250005 A1 * 10/2009 Kaneko H01L 21/67109
118/724

* cited by examiner

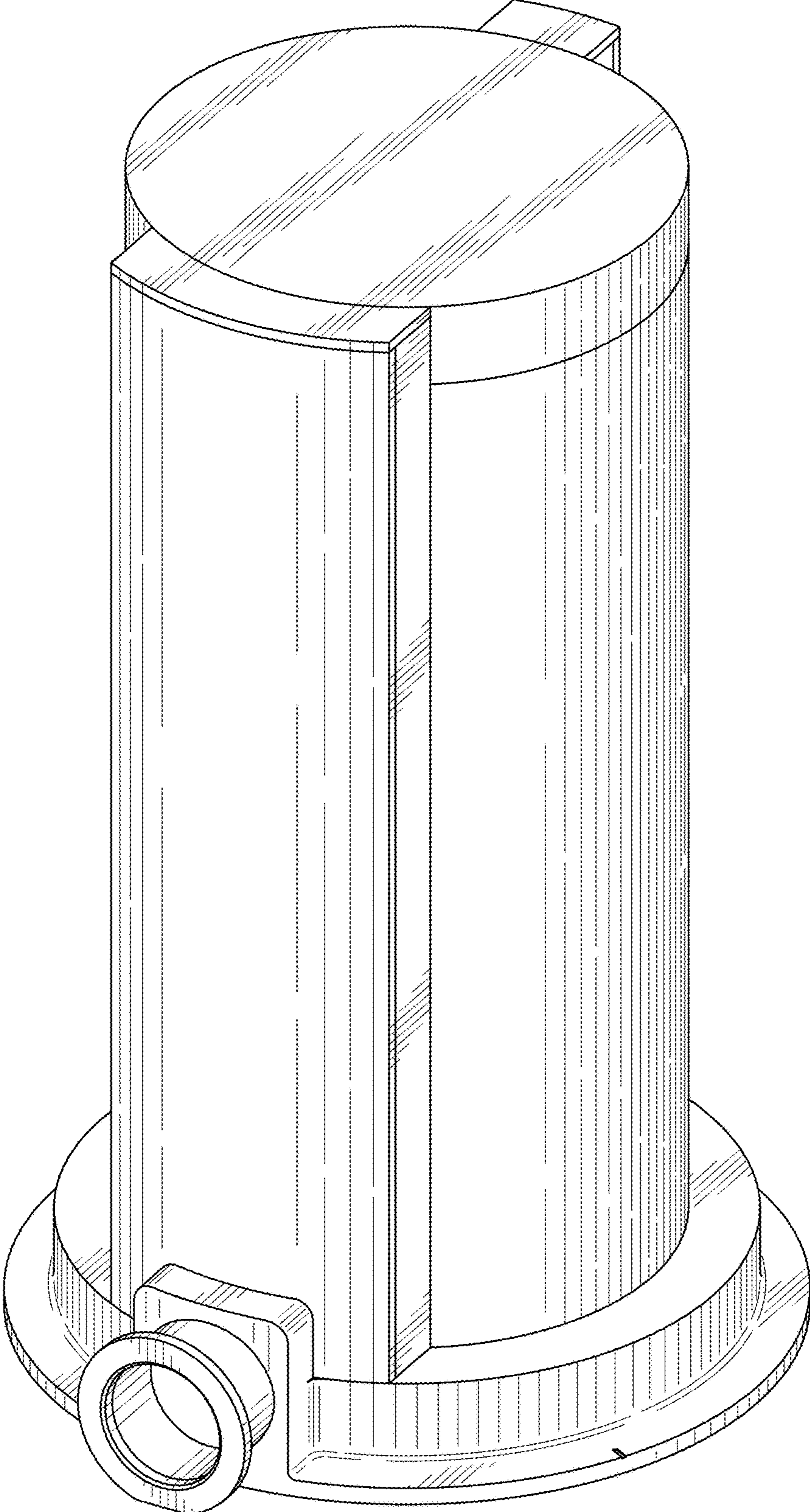


FIG. 1

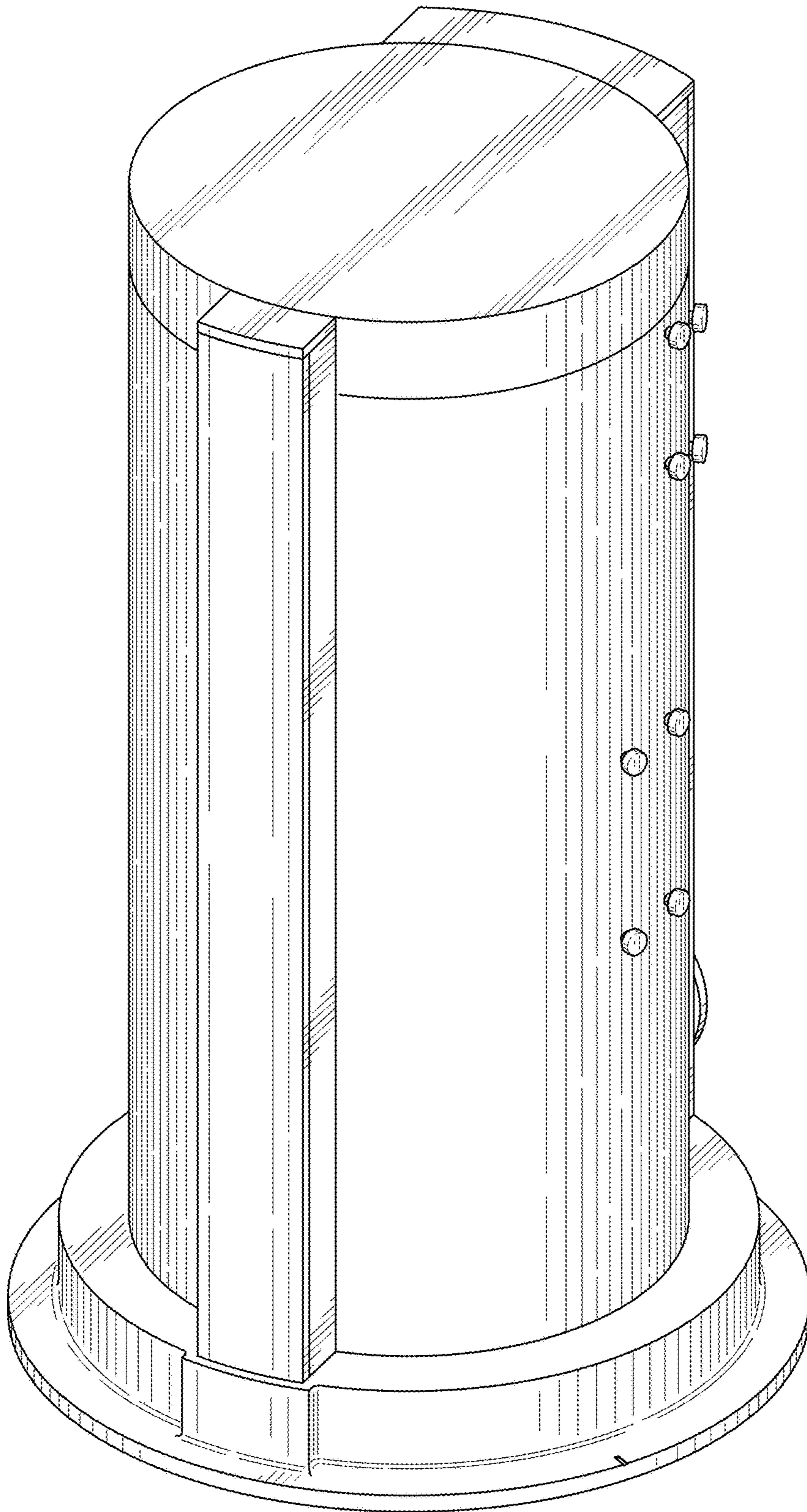


FIG. 2

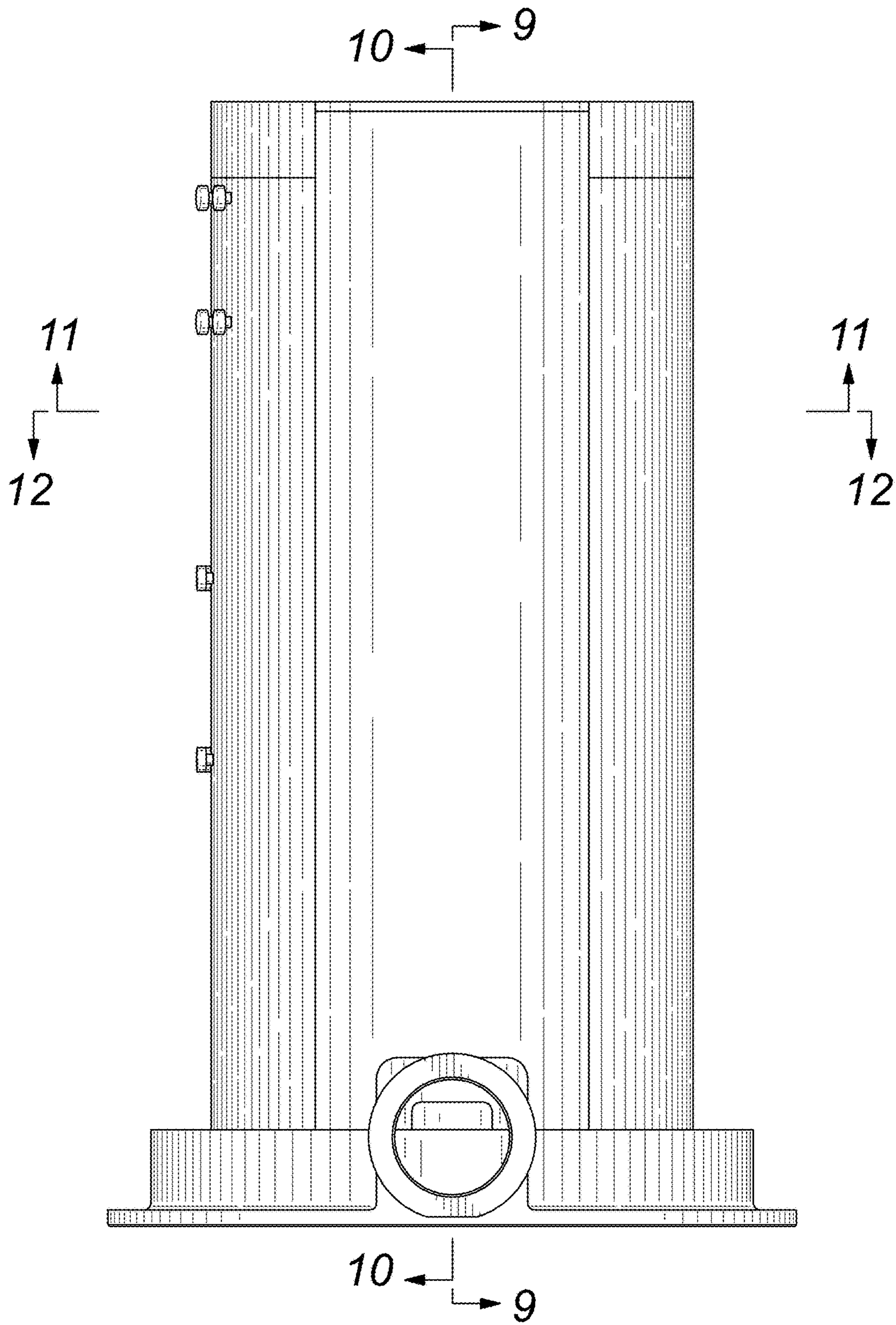


FIG. 3

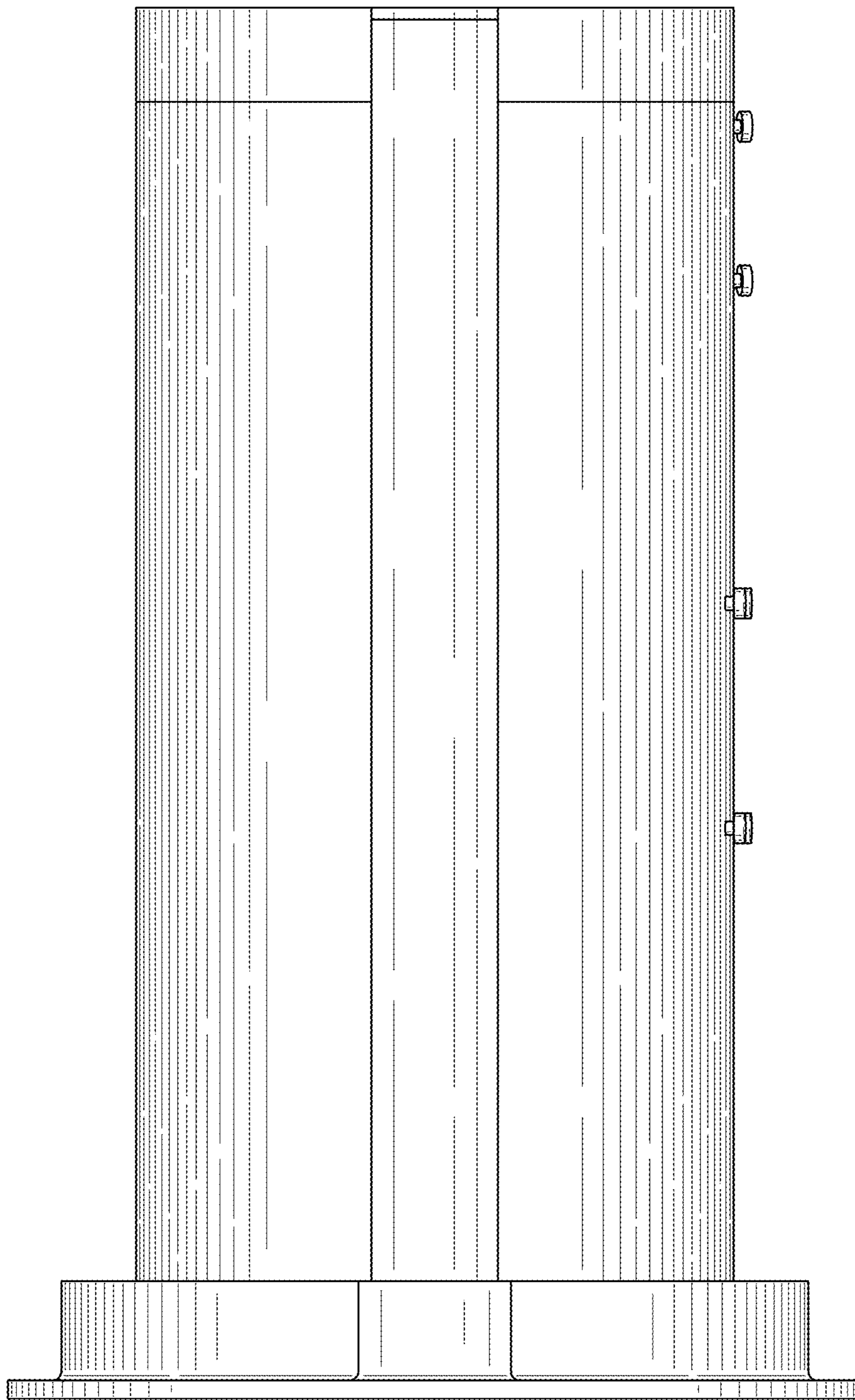


FIG. 4

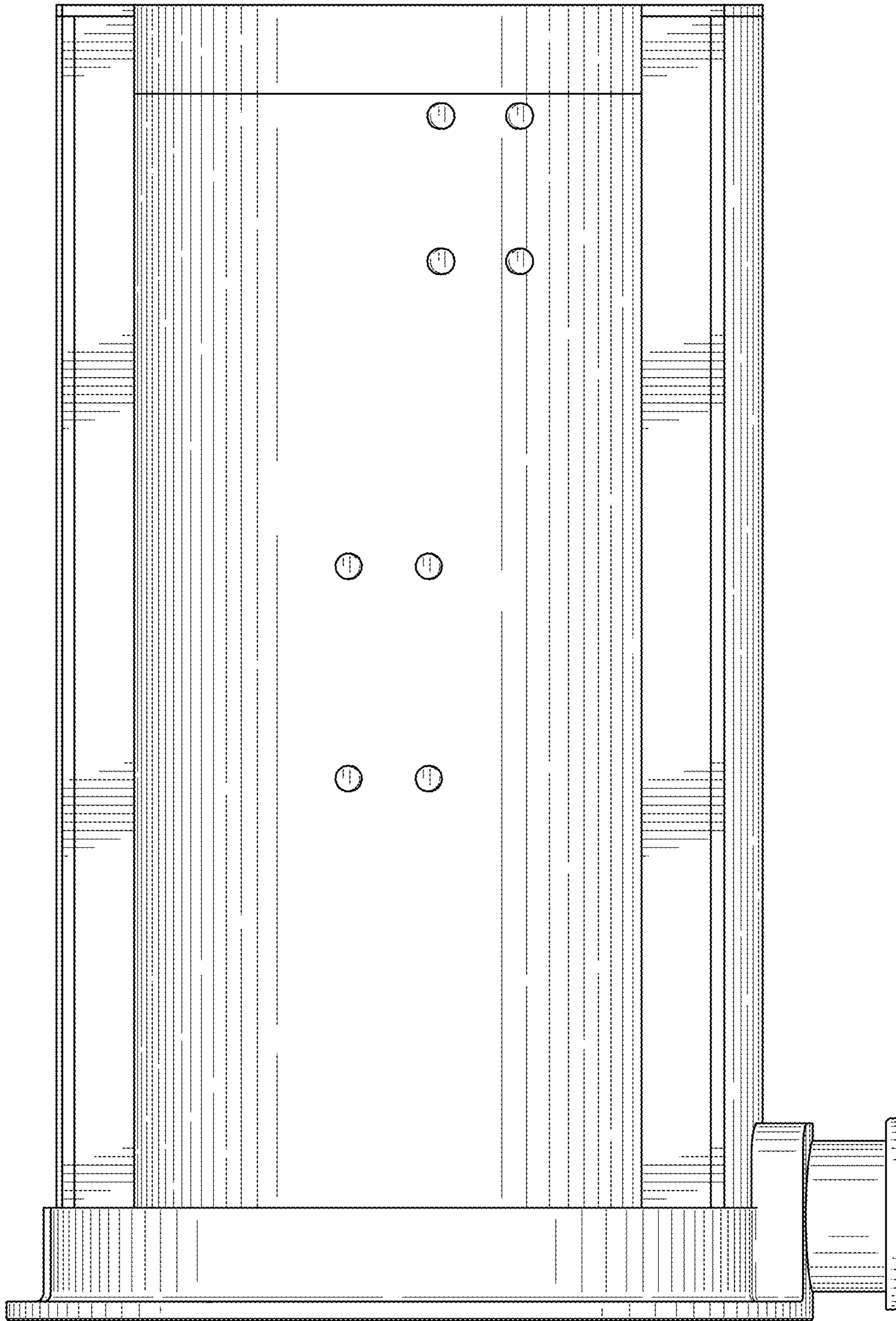


FIG. 5

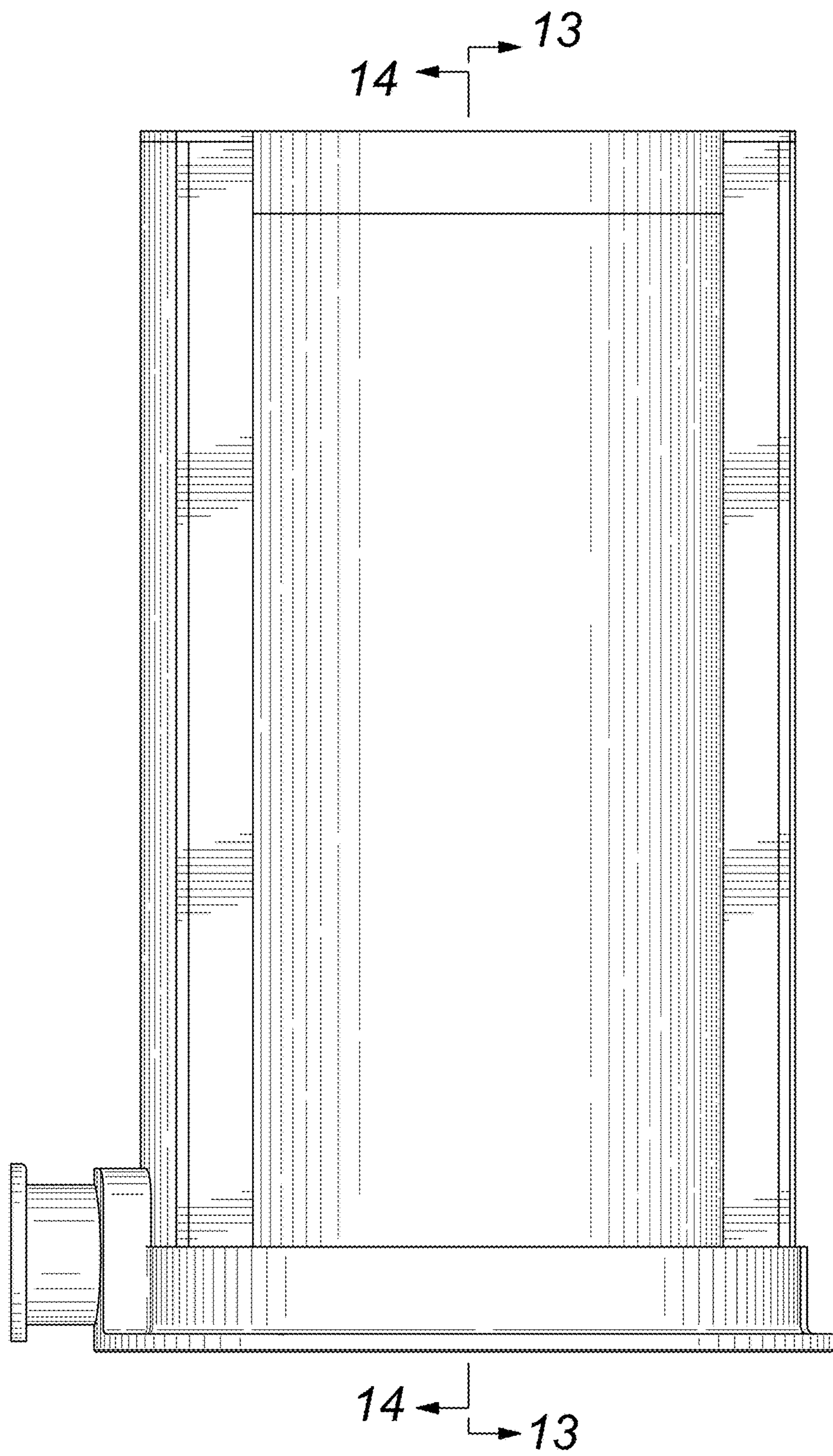


FIG. 6

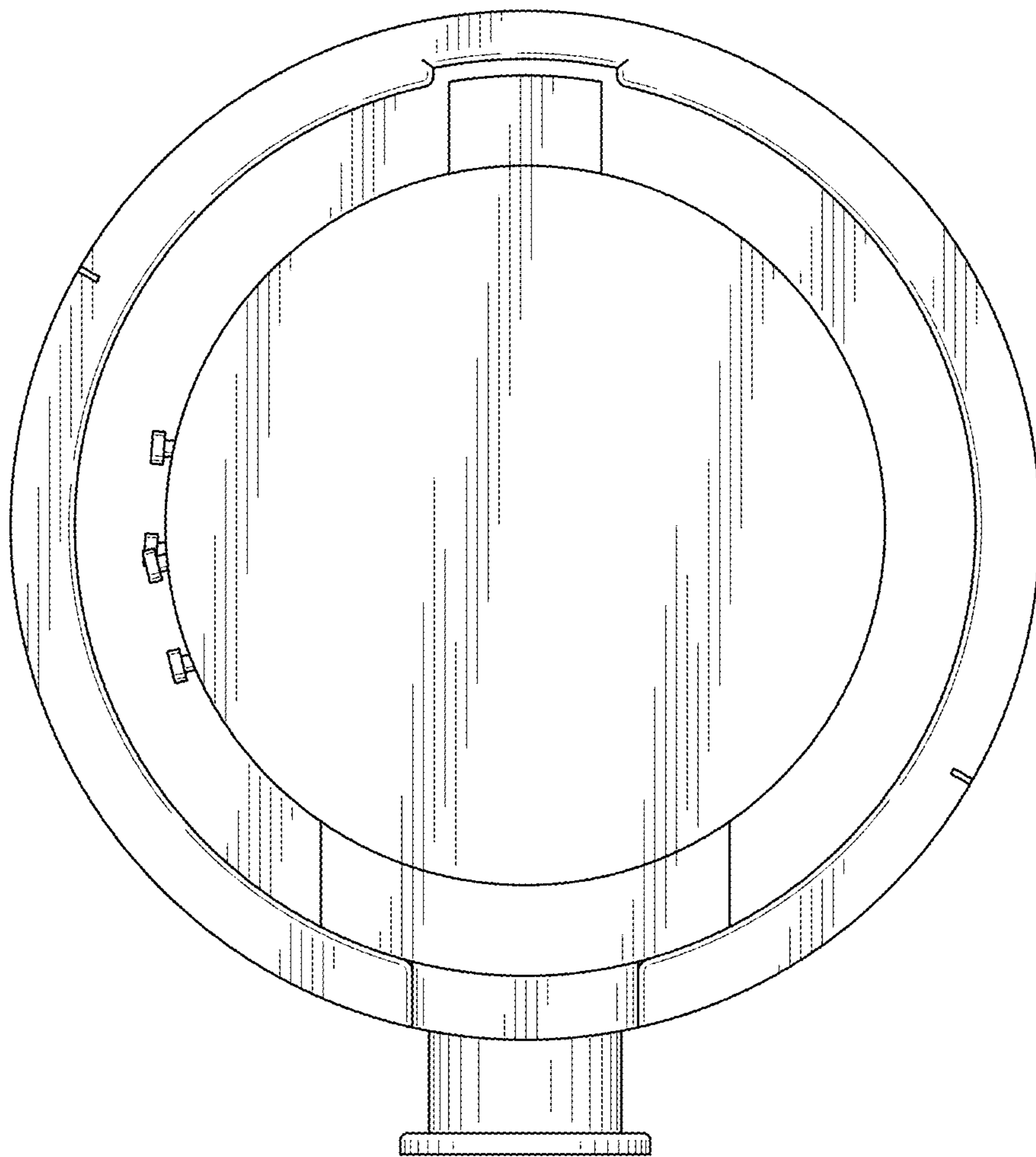


FIG. 7

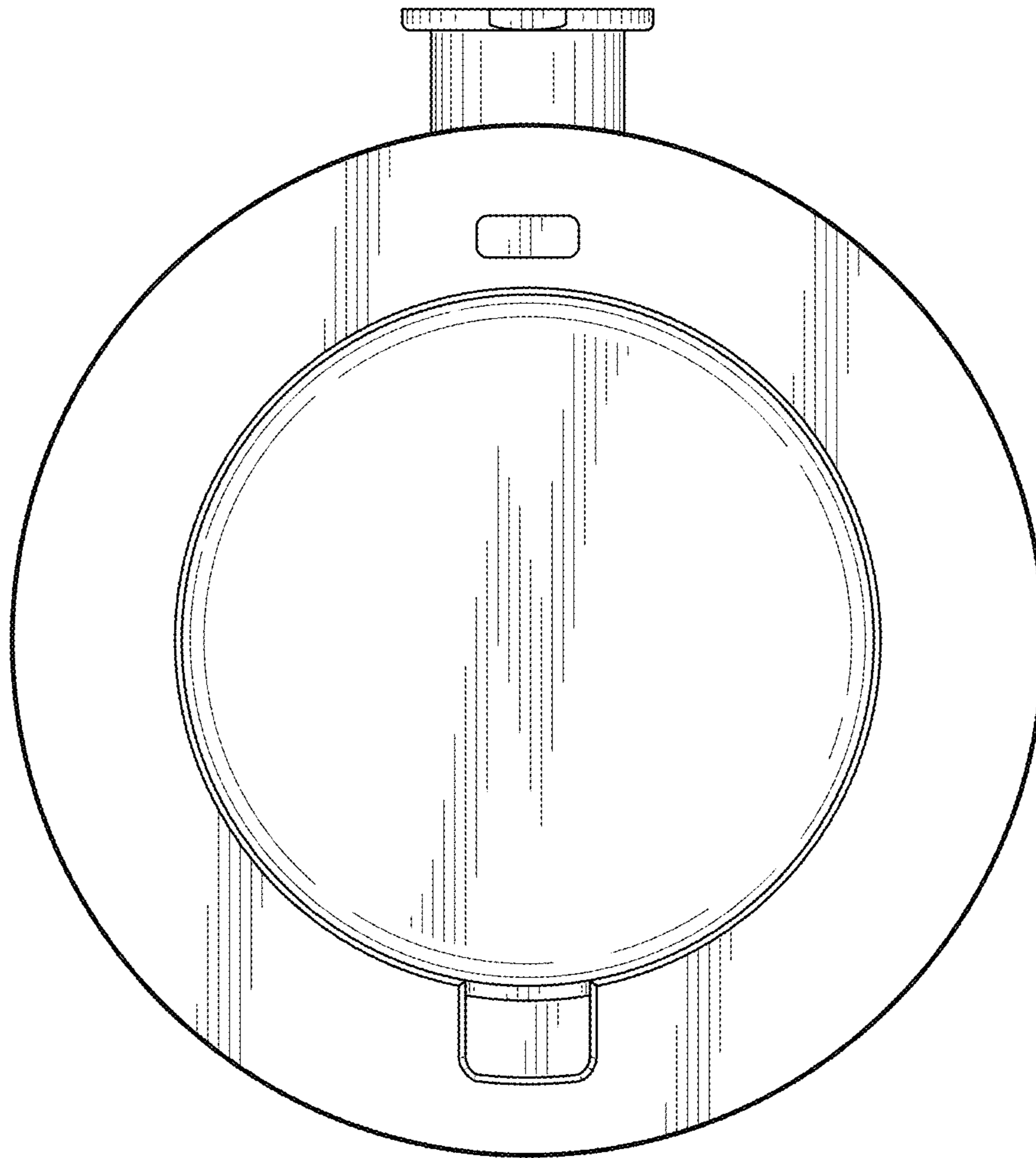


FIG. 8

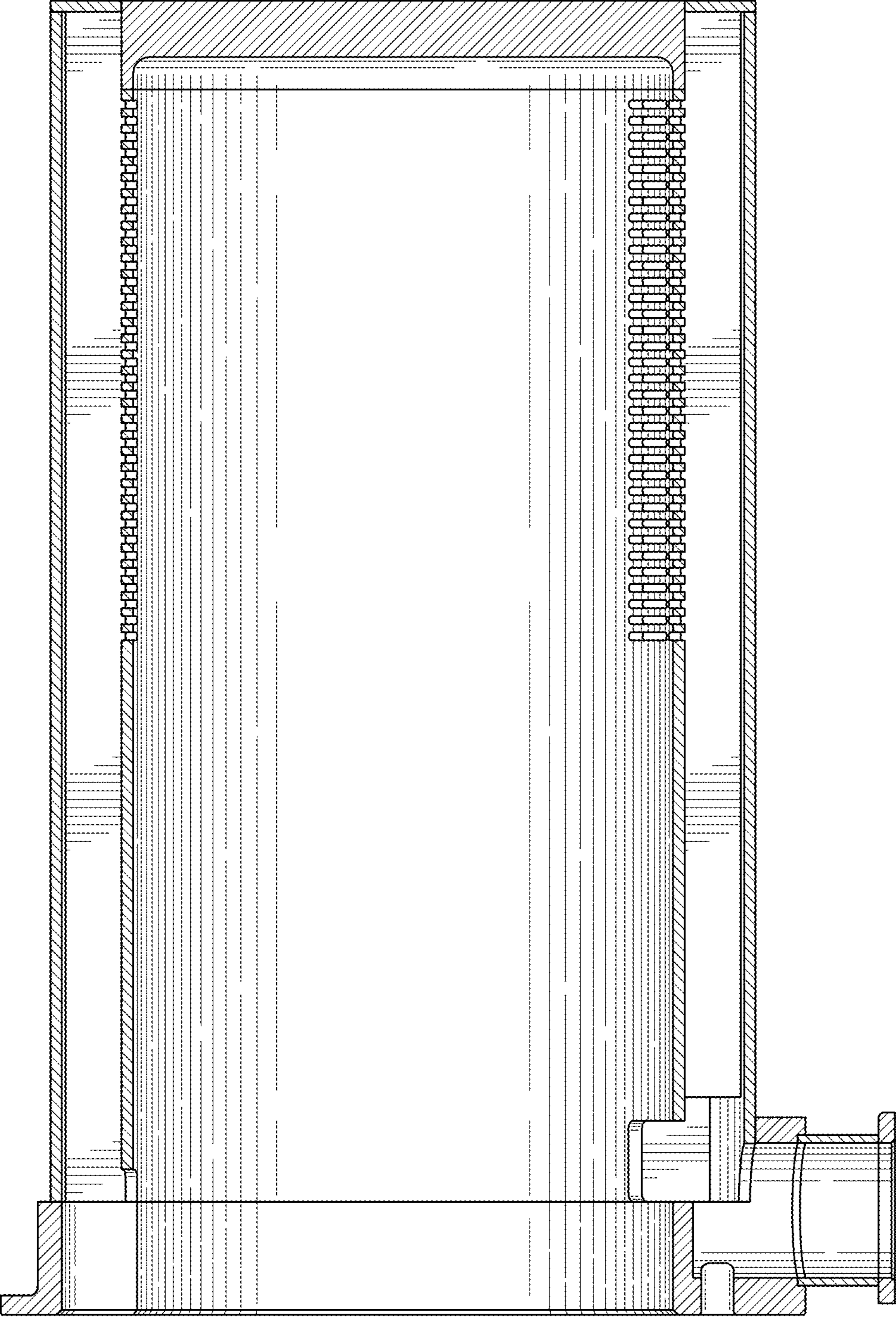


FIG. 9

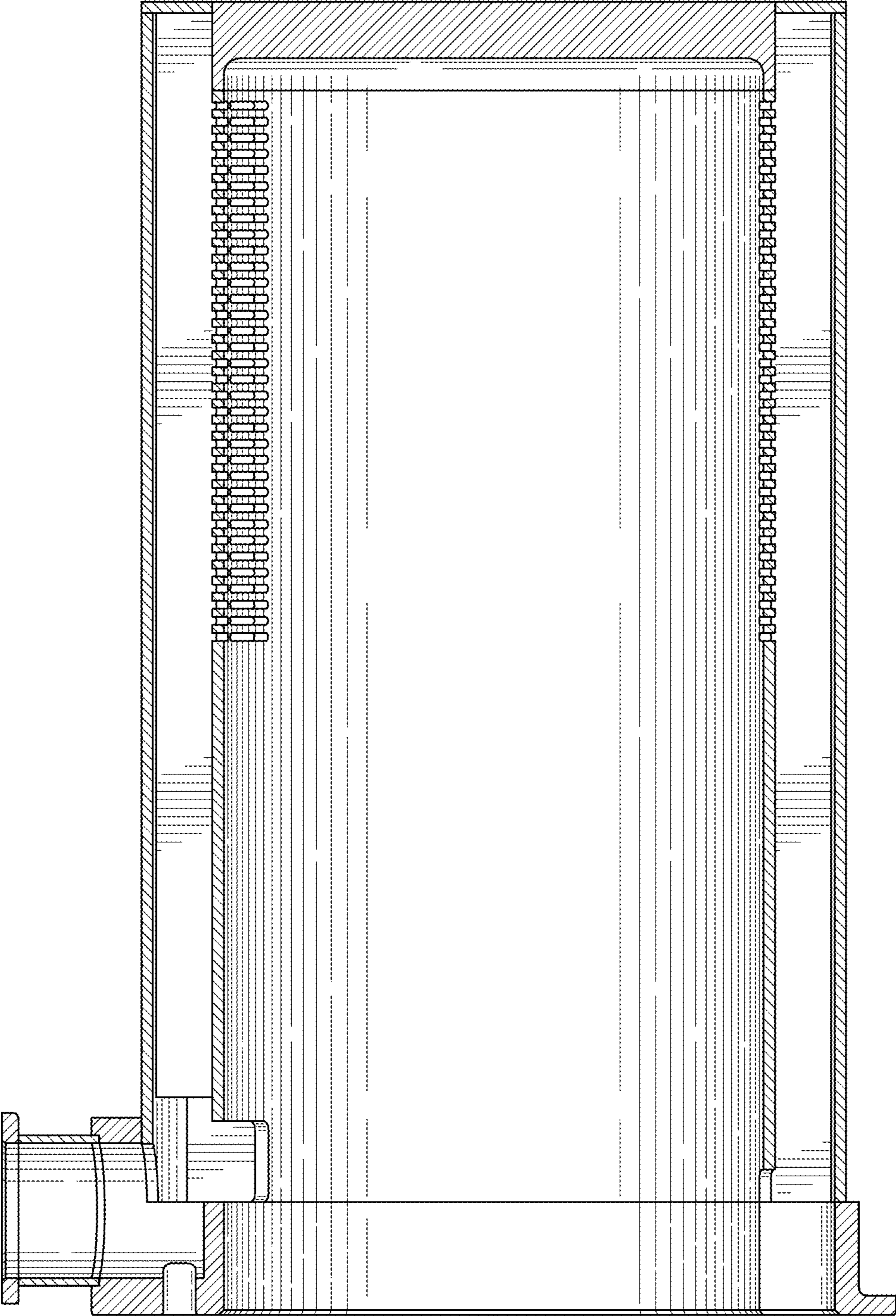


FIG. 10

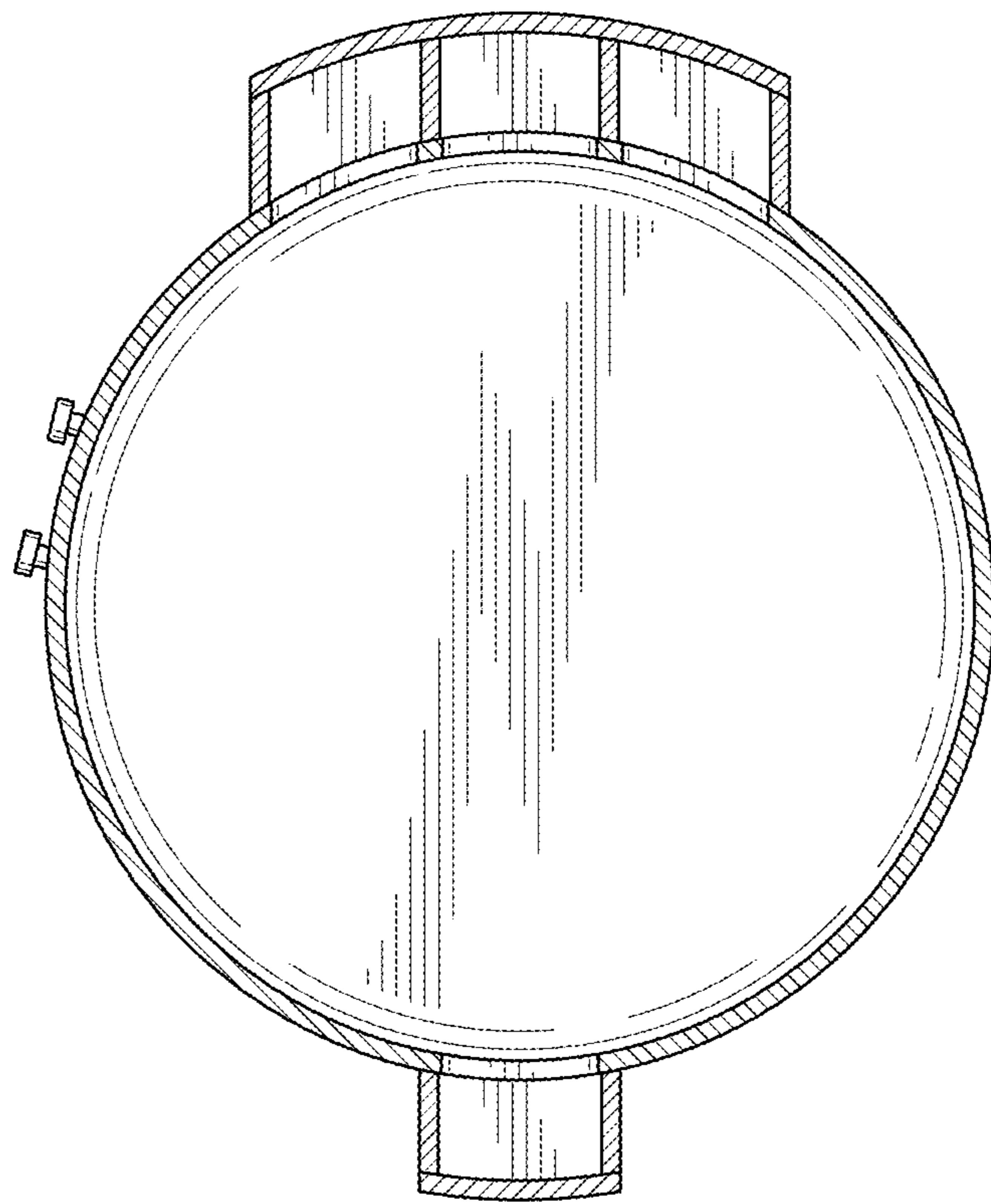


FIG. 11

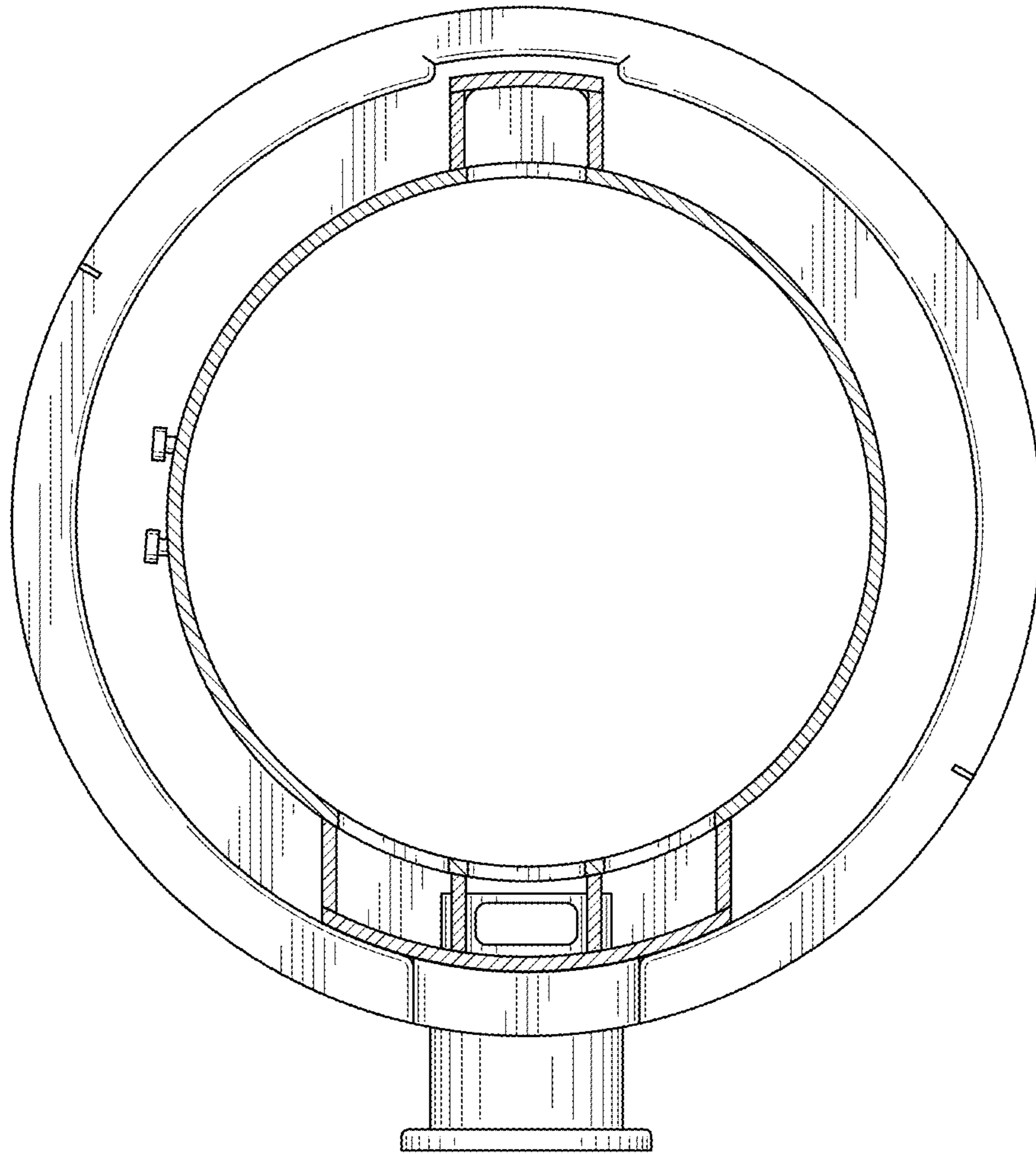


FIG. 12

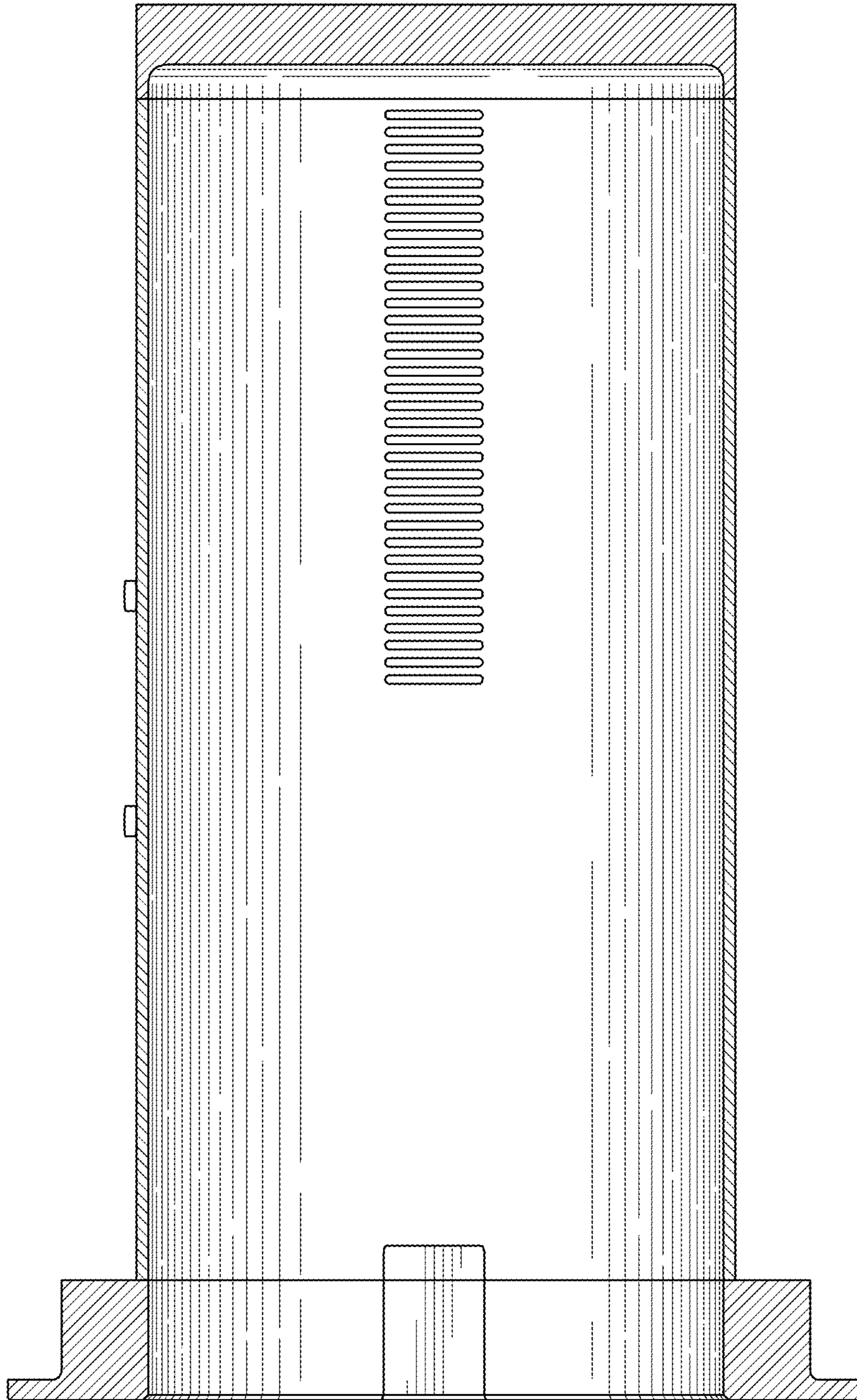


FIG. 13

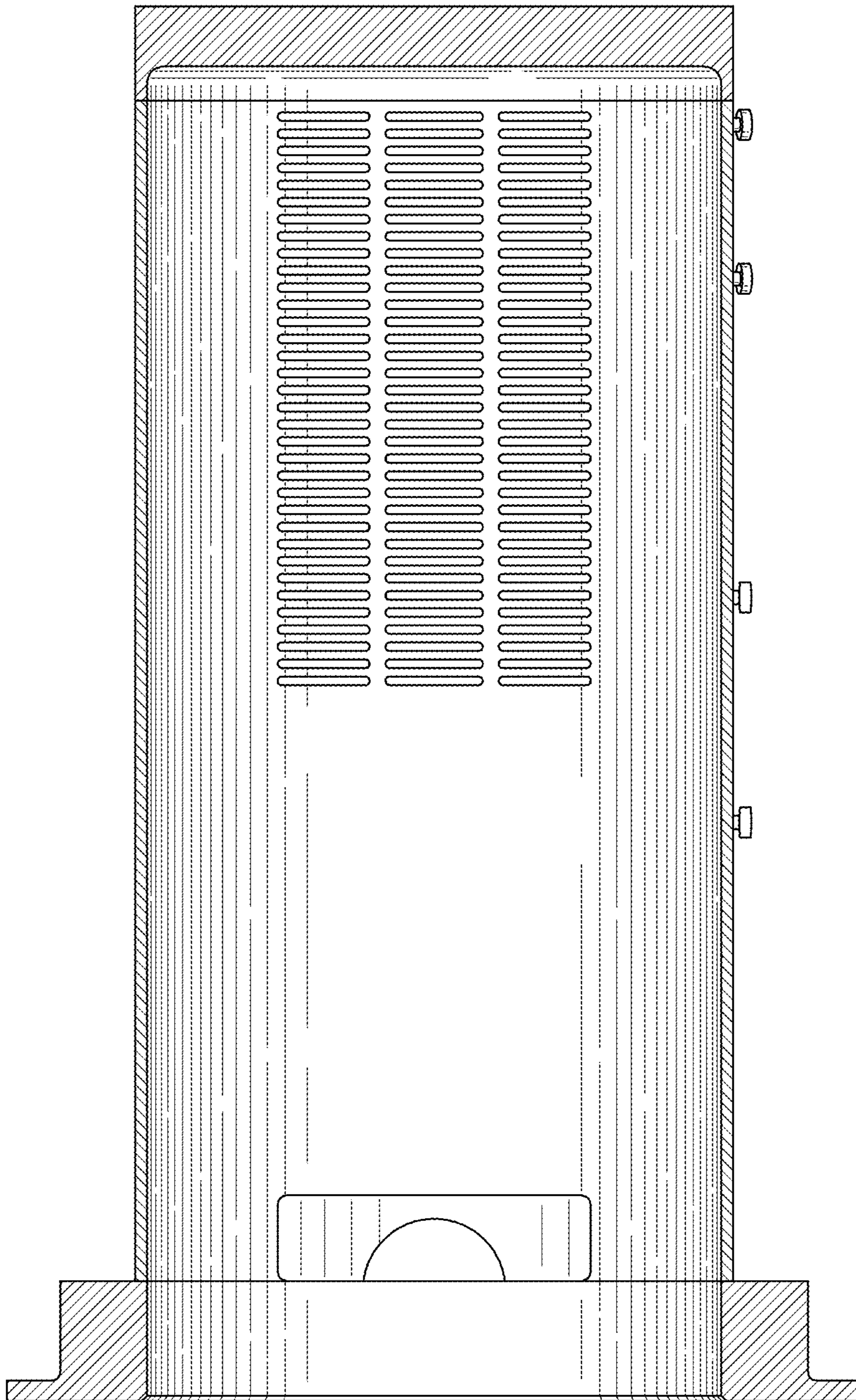


FIG. 14