



US00D831156S

(12) **United States Design Patent**  
**Campbell**

(10) **Patent No.:** **US D831,156 S**

(45) **Date of Patent:** **\*\* \*Oct. 16, 2018**

(54) **FILTER CARTRIDGE**

(71) Applicant: **Spaceflex International LLC**,  
Riverside, CA (US)

(72) Inventor: **Christopher M. Campbell**, Riverside,  
CA (US)

(73) Assignee: **SPACEFLEX INTERNATIONAL  
LLC**, Rancho Cucamonga, CA (US)

(\*) Notice: This patent is subject to a terminal dis-  
claimer.

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

(21) Appl. No.: **29/599,826**

(22) Filed: **Apr. 6, 2017**

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

(52) **U.S. Cl.**  
USPC ..... **D23/209**

(58) **Field of Classification Search**  
USPC ..... D23/207, 209; 210/232, 282, 493.2  
CPC .... B01D 35/30; B01D 35/153; B01D 29/111;  
C02F 1/003; B29C 47/682  
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- D322,836 S \* 12/1991 Petrucci ..... D23/209
- D472,299 S \* 3/2003 Fritze ..... B01D 35/30  
D23/209
- D494,654 S \* 8/2004 Macaulay ..... D23/209
- D541,371 S \* 4/2007 McKay ..... D23/209
- D547,821 S \* 7/2007 Kennedy ..... D23/207
- D599,880 S \* 9/2009 Rampen ..... D23/209
- D654,565 S \* 2/2012 Kruckenberg ..... D23/209
- D655,378 S \* 3/2012 Kruckenberg ..... D23/209
- 8,474,631 B2 \* 7/2013 Kocksch ..... B01D 29/21  
210/450
- D731,616 S \* 6/2015 Zou ..... D23/209

- D760,868 S \* 7/2016 Lu ..... D23/209
- D764,021 S \* 8/2016 Lu ..... D23/209
- D770,011 S \* 10/2016 Nelson ..... D23/209

(Continued)

*Primary Examiner* — Robin V Webster

(74) *Attorney, Agent, or Firm* — Vista IP Law Group LLP

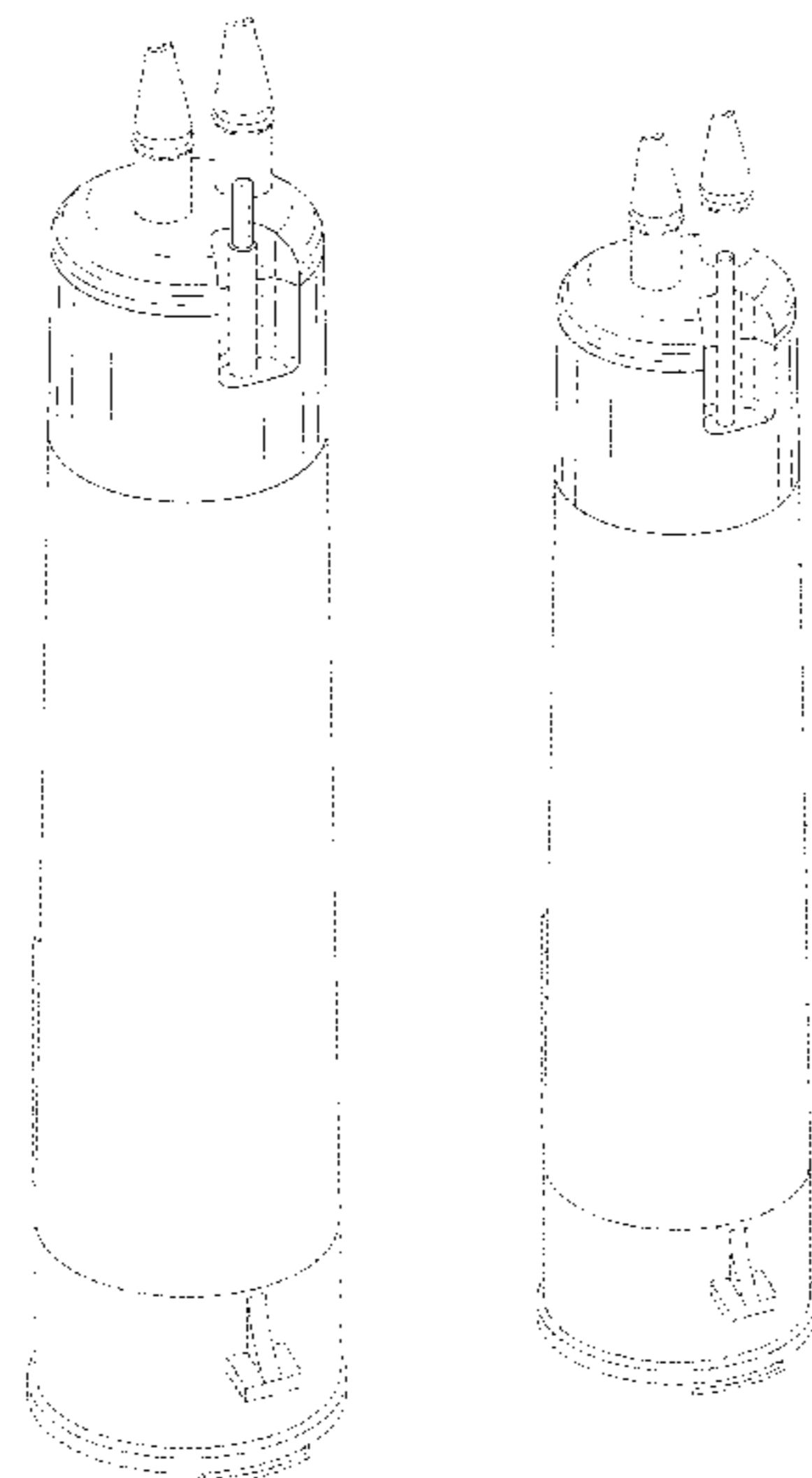
(57) **CLAIM**

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

**DESCRIPTION**

FIG. 1 is a front and top perspective view of a filter cartridge embodying the new design, according to a first embodiment; FIG. 2 is a rear and top 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 front and bottom, perspective view thereof; FIG. 10 is a rear and bottom perspective view thereof. FIG. 11 is a front and top perspective view of a filter cartridge embodying the new design, according to a second embodiment; FIG. 12 is a rear and top perspective view thereof; FIG. 13 is a front elevational view thereof; FIG. 14 is a rear elevational view thereof; FIG. 15 is a left side elevational view thereof; FIG. 16 is a right side elevational view thereof; FIG. 17 is a top plan view thereof; FIG. 18 is a bottom plan view thereof; FIG. 19 is a front and bottom, perspective view thereof; and, FIG. 20 is a rear and bottom perspective view thereof. The broken lines are for the purpose of illustrating portions of the filter cartridge, and form no part of the claimed design.

**1 Claim, 10 Drawing Sheets**



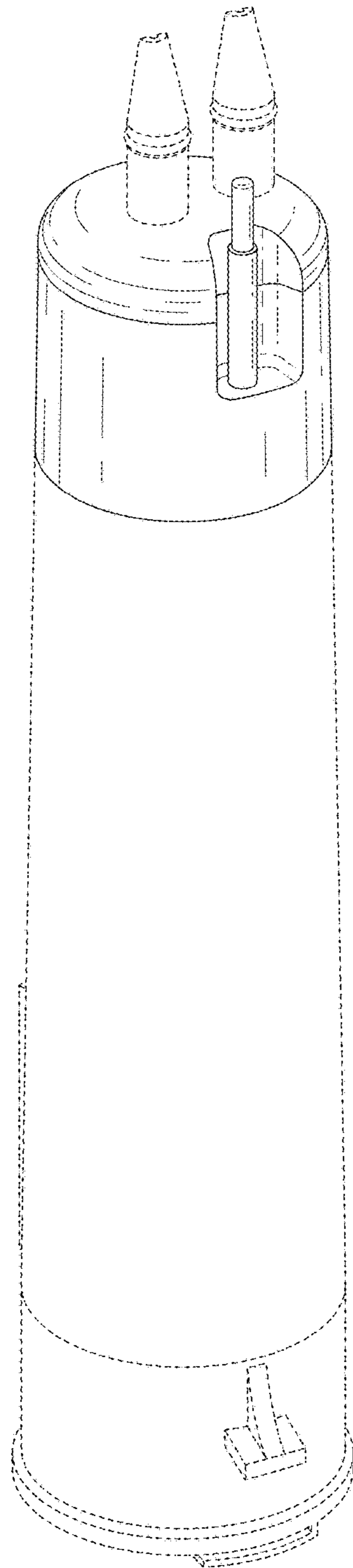
(56)

**References Cited**

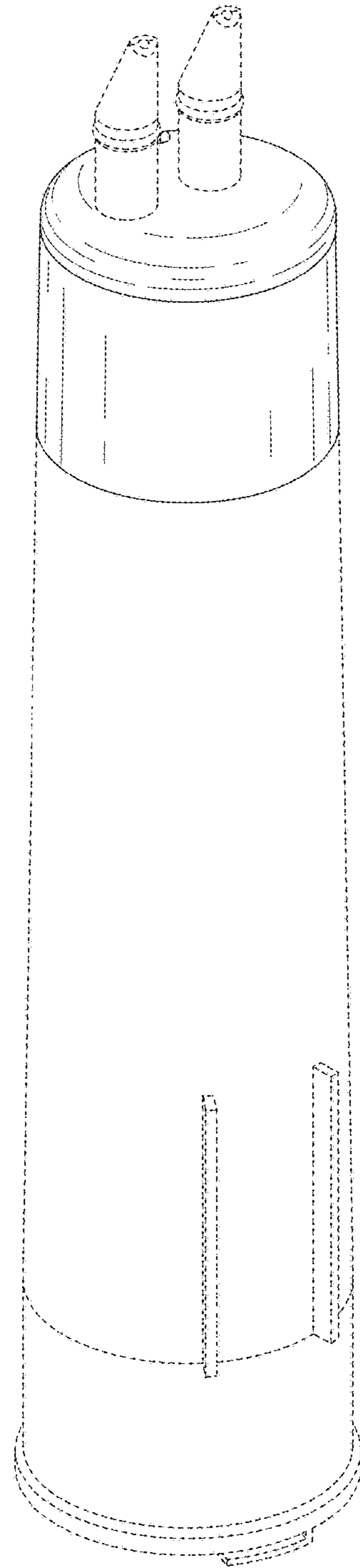
U.S. PATENT DOCUMENTS

D773,608 S *	12/2016	Nelson	.....	D23/209
D774,623 S *	12/2016	Lu	.....	D23/209
D788,879 S *	6/2017	Zou	.....	D23/209
D792,943 S *	7/2017	Zou	.....	D23/209
D794,749 S *	8/2017	Zou	.....	D23/209
D794,750 S *	8/2017	Zou	.....	B01D 29/21 D23/209
D794,751 S *	8/2017	Zou	.....	D23/209
D795,995 S *	8/2017	Zou	.....	B01D 35/30 D23/209
9,868,081 B1 *	1/2018	Zhang	.....	B01D 35/153

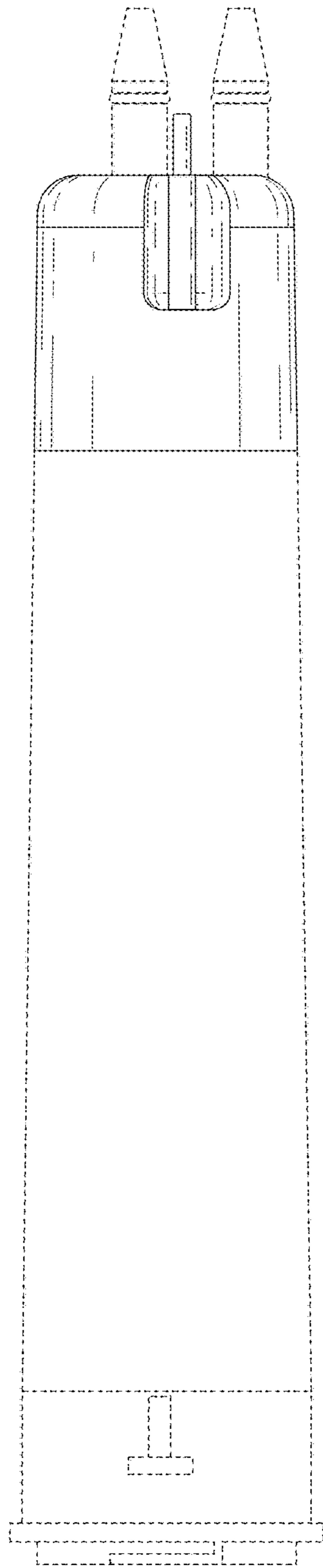
\* cited by examiner



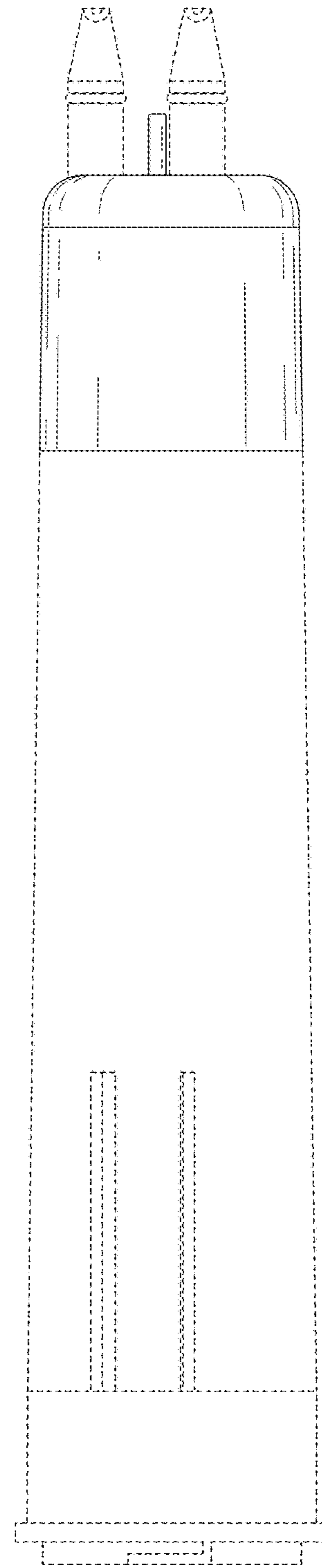
*Fig. 1*



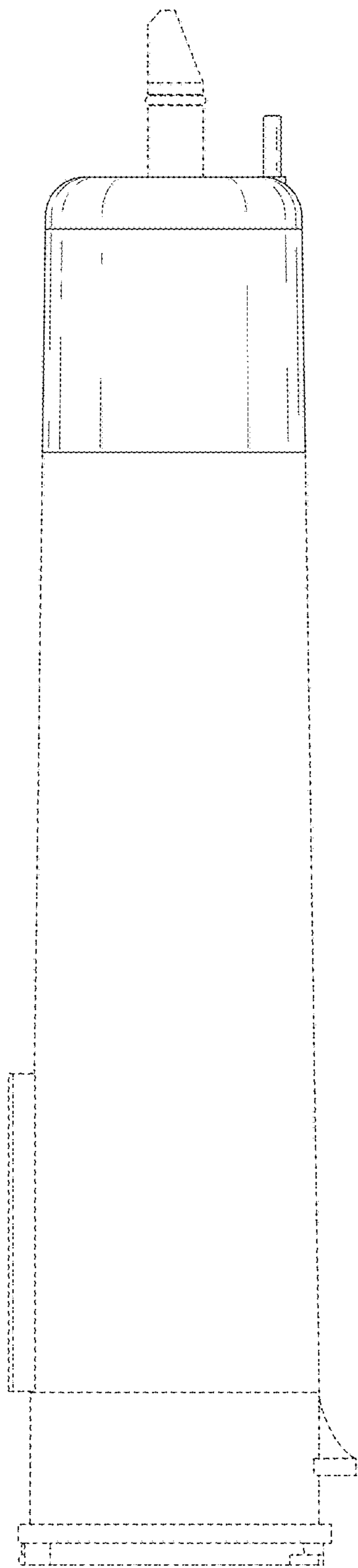
*Fig. 2*



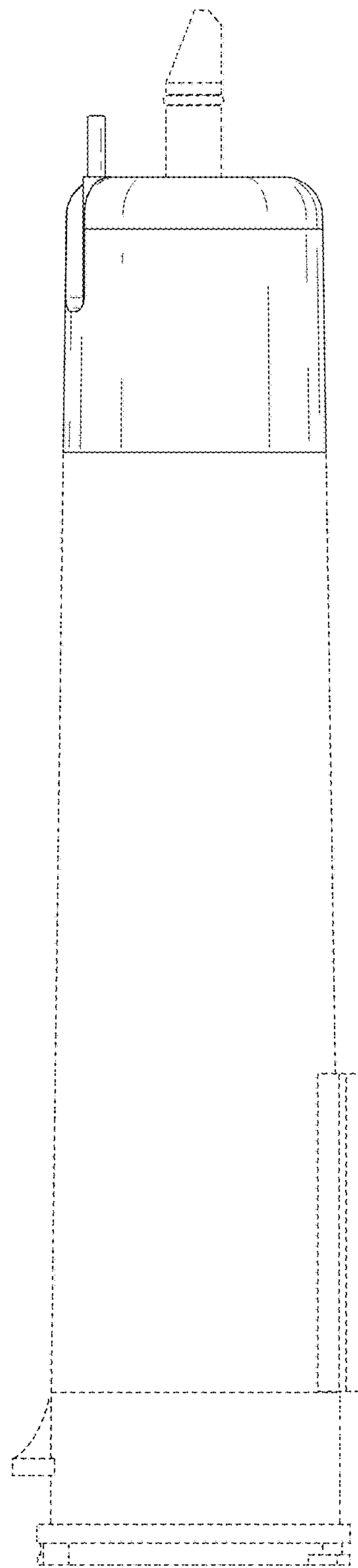
*Fig. 3*



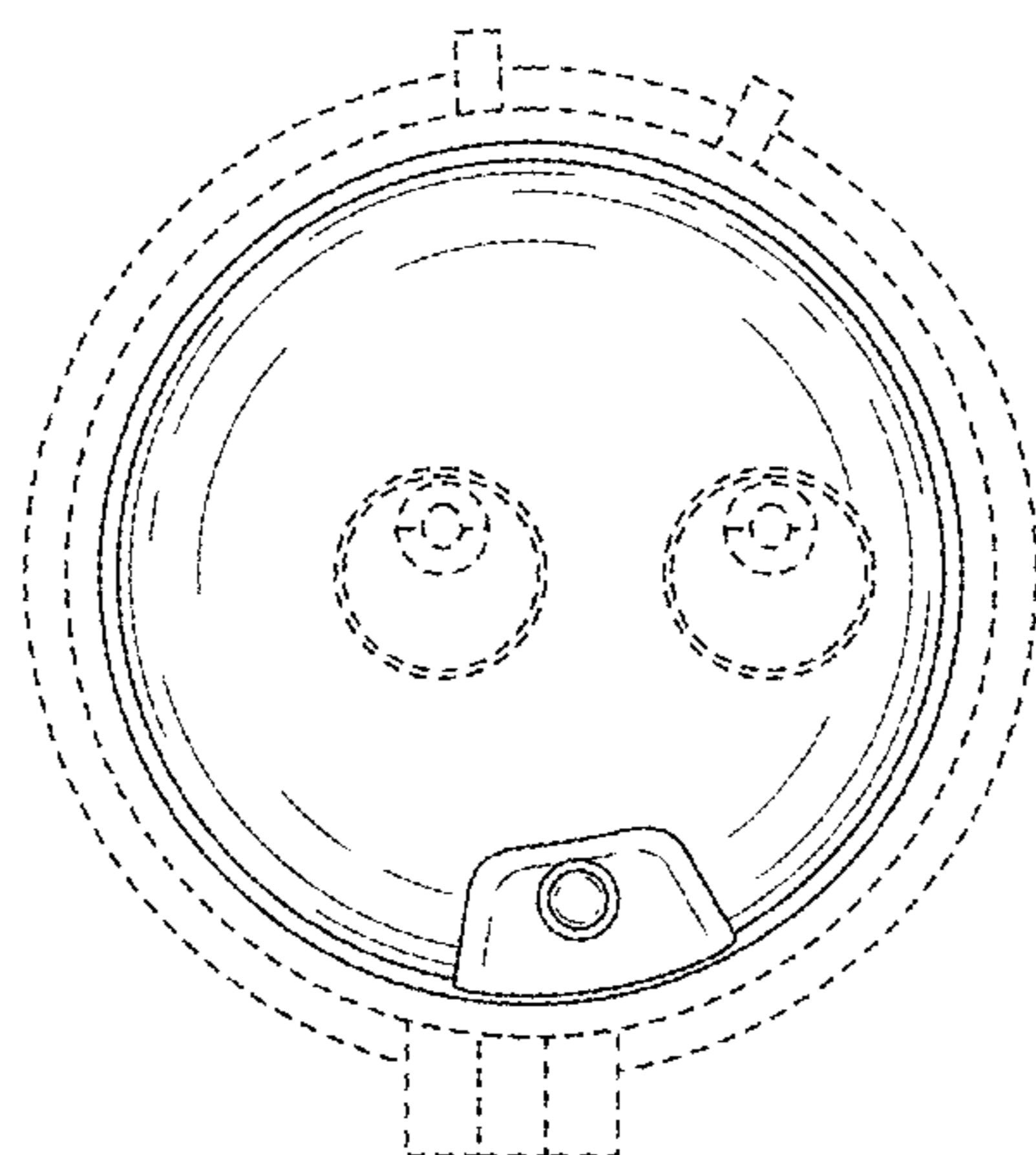
*Fig. 4*



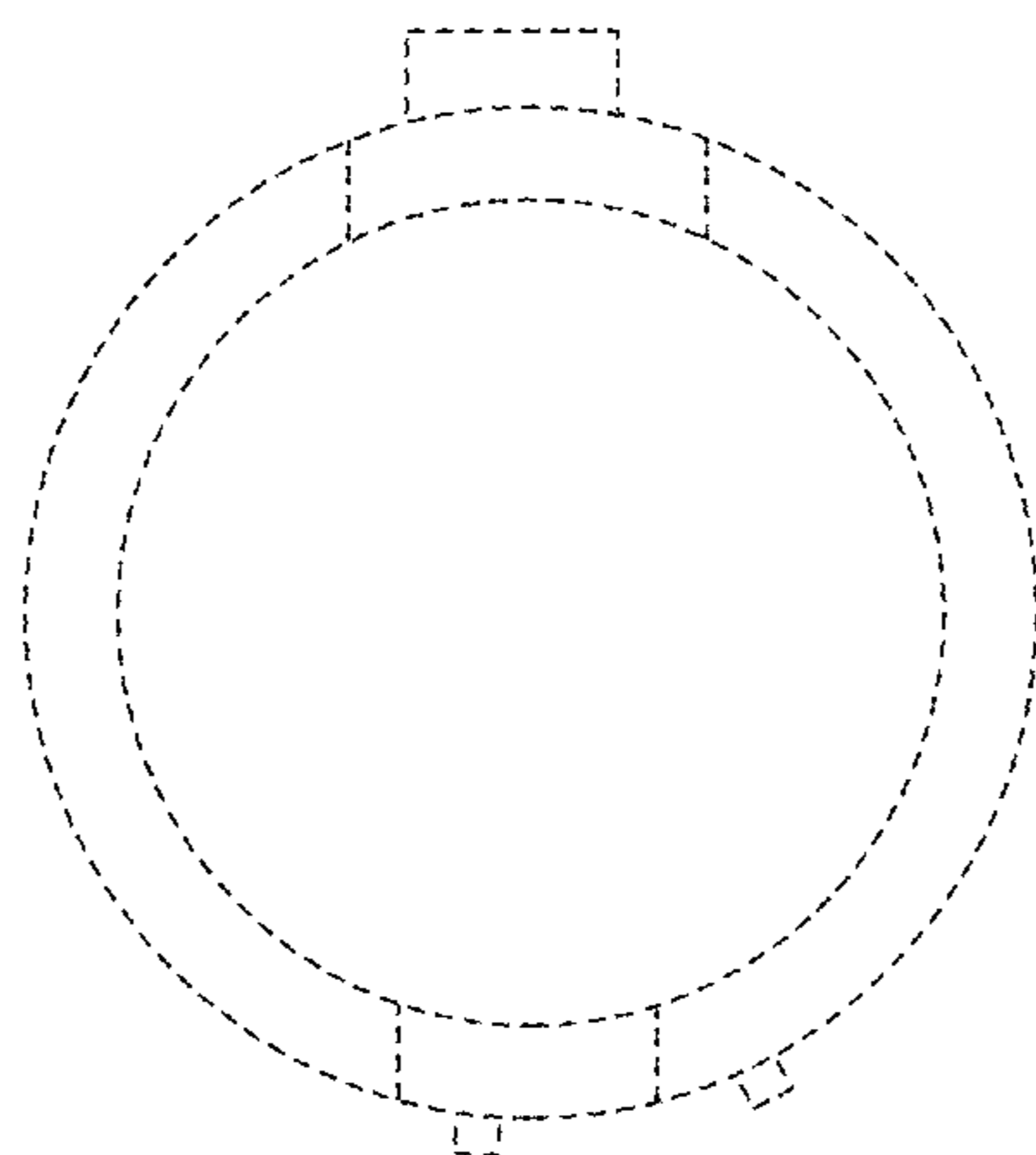
*Fig. 5*



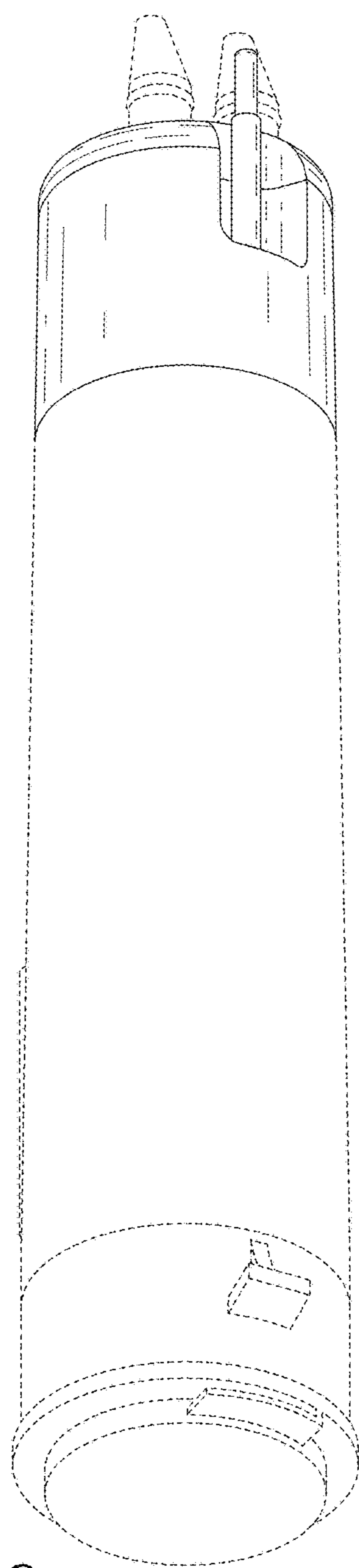
*Fig. 6*



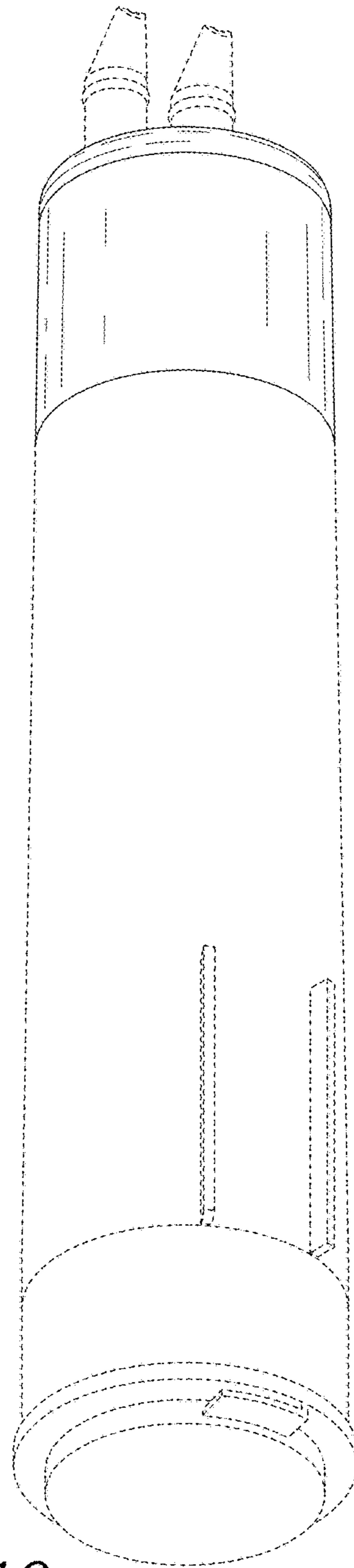
*Fig. 7*



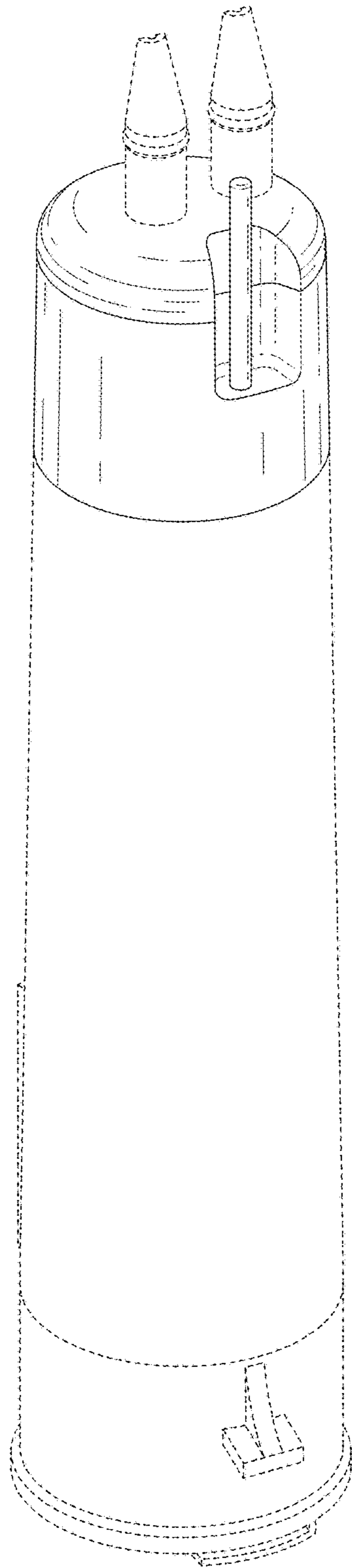
*Fig. 8*



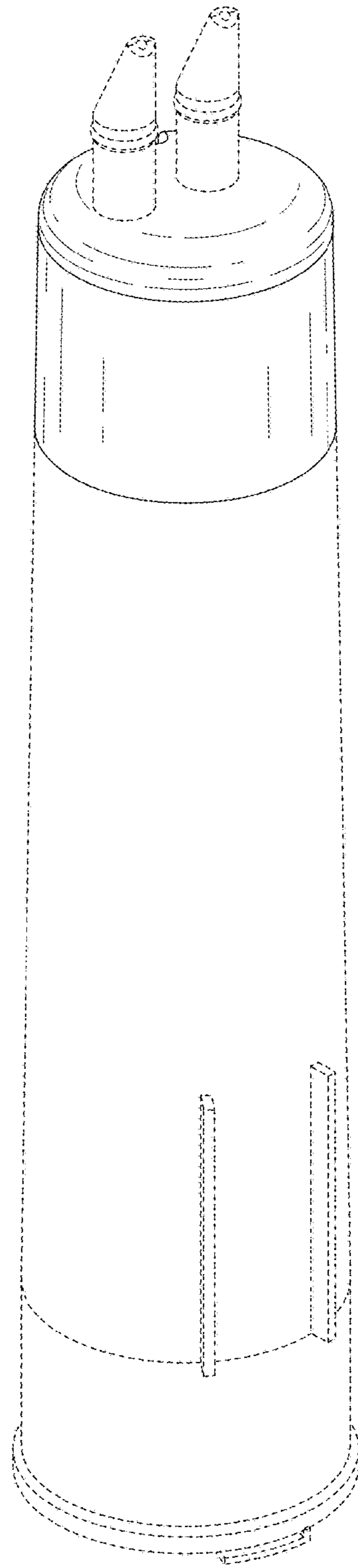
*Fig. 9*



*Fig. 10*



*Fig. 11*



*Fig. 12*



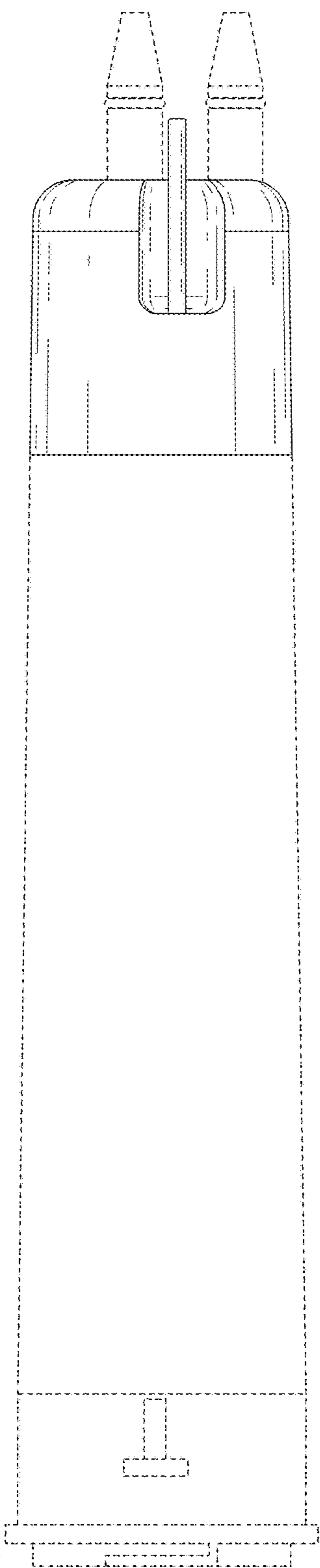


Fig. 13

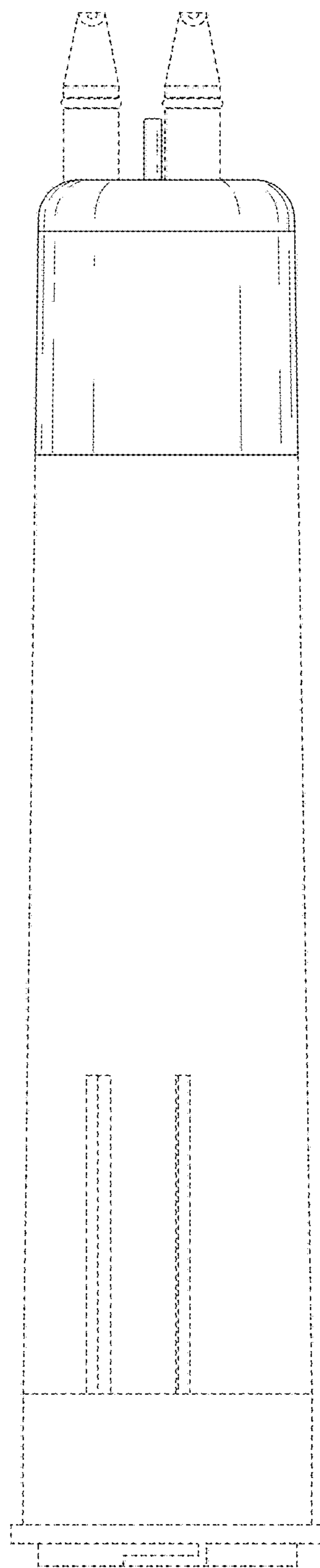
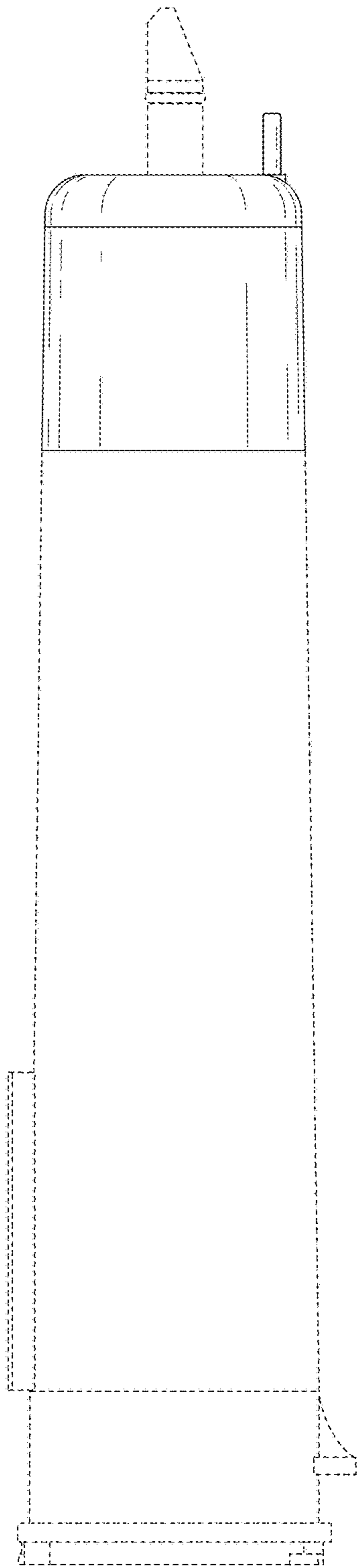
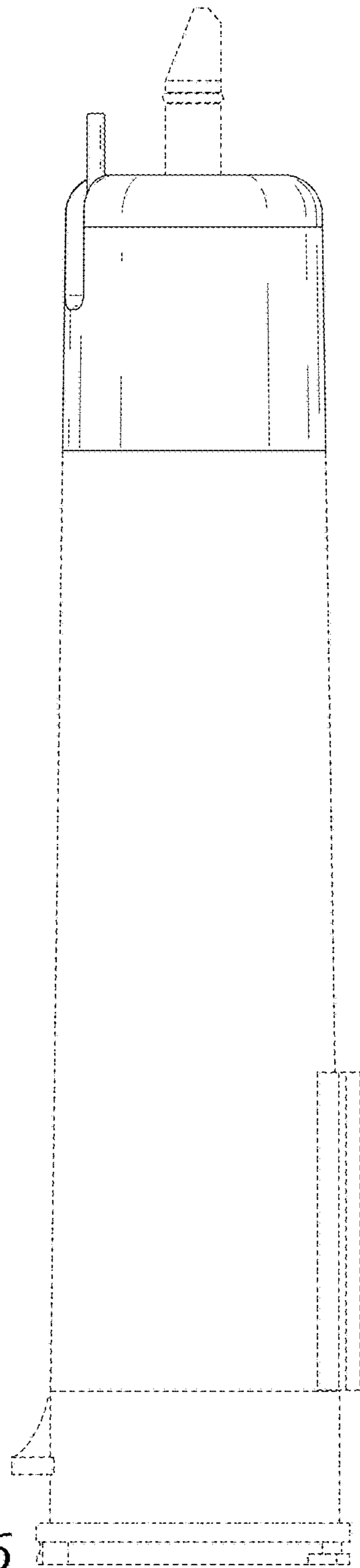


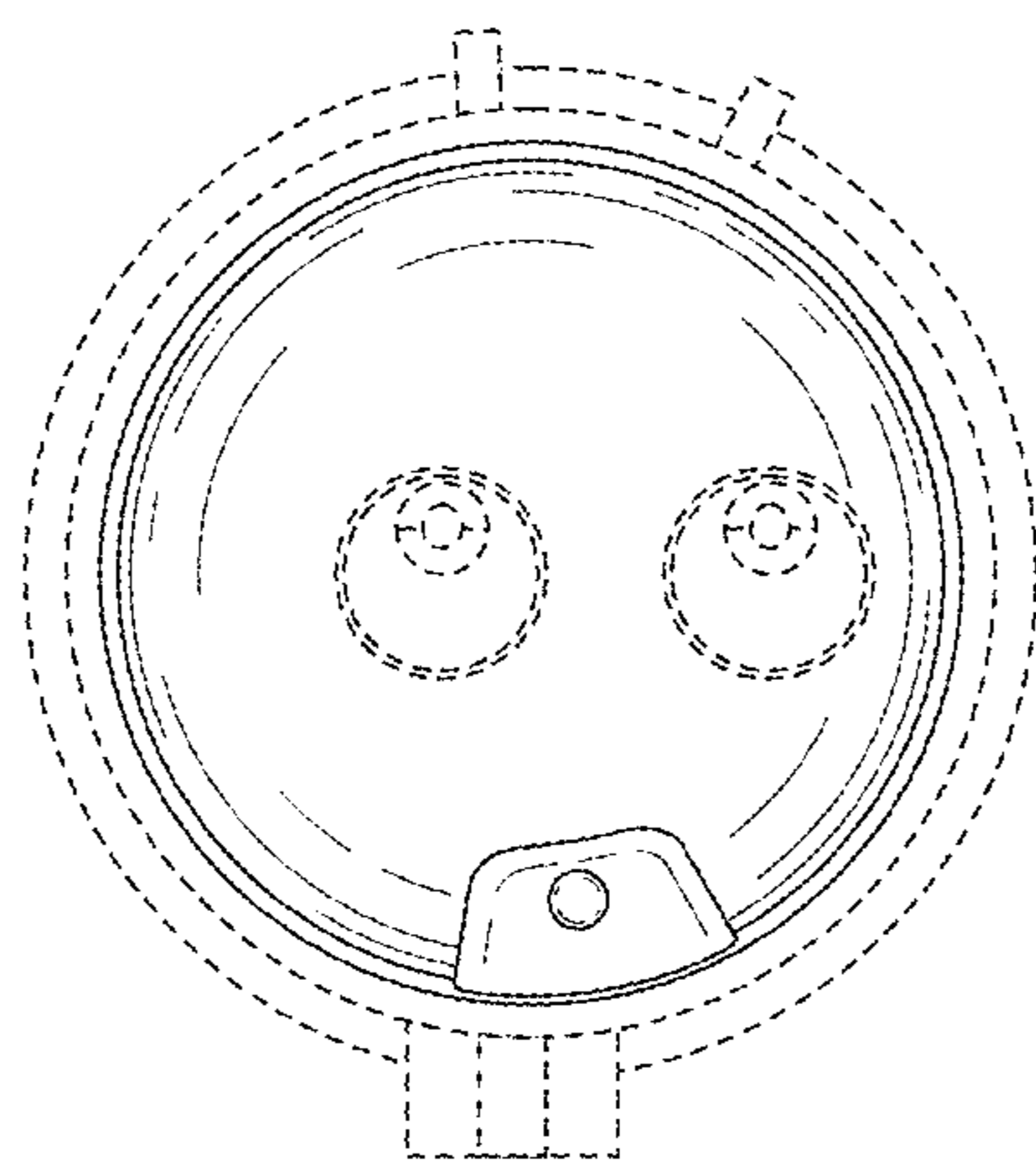
Fig. 14



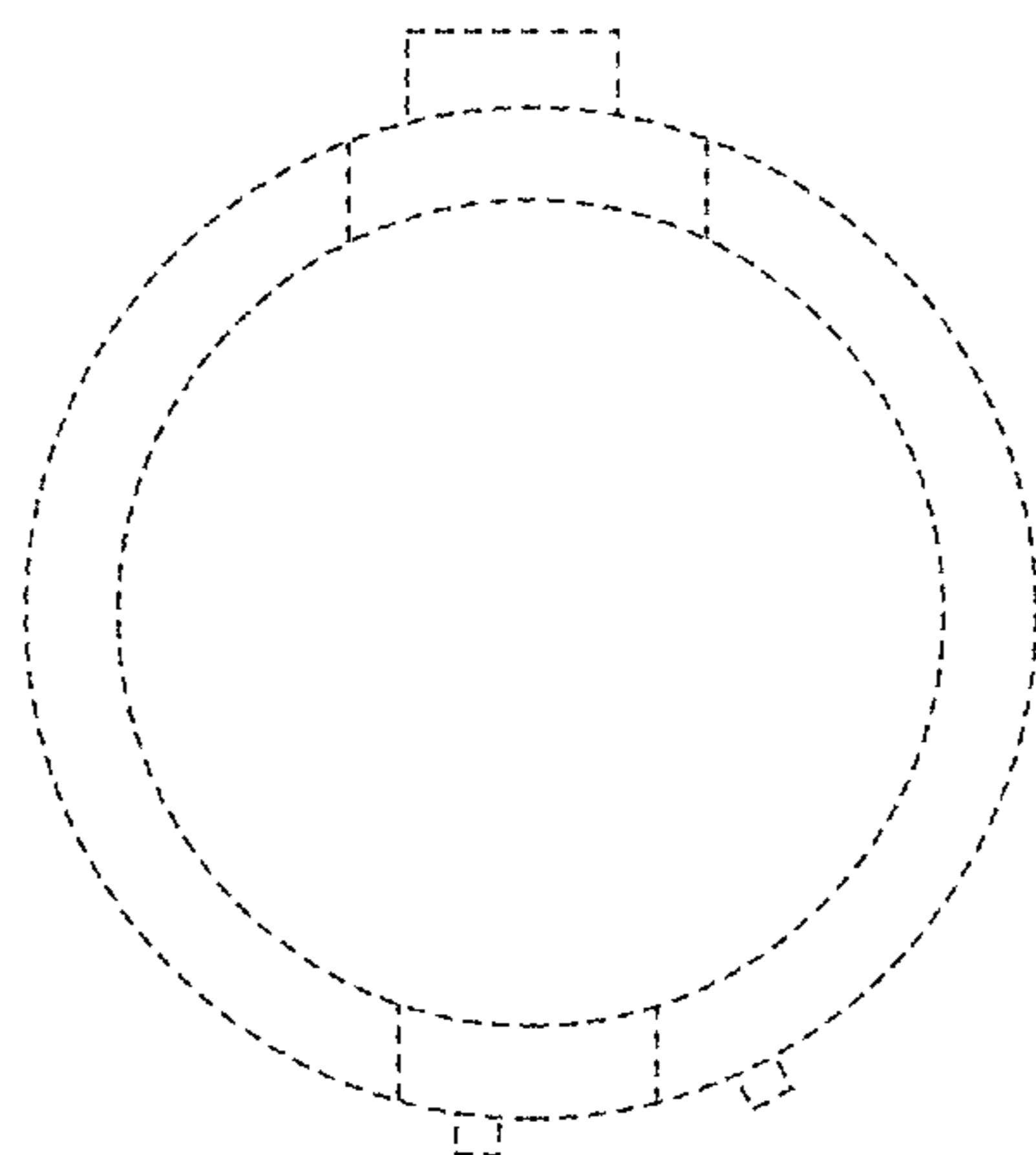
*Fig. 15*



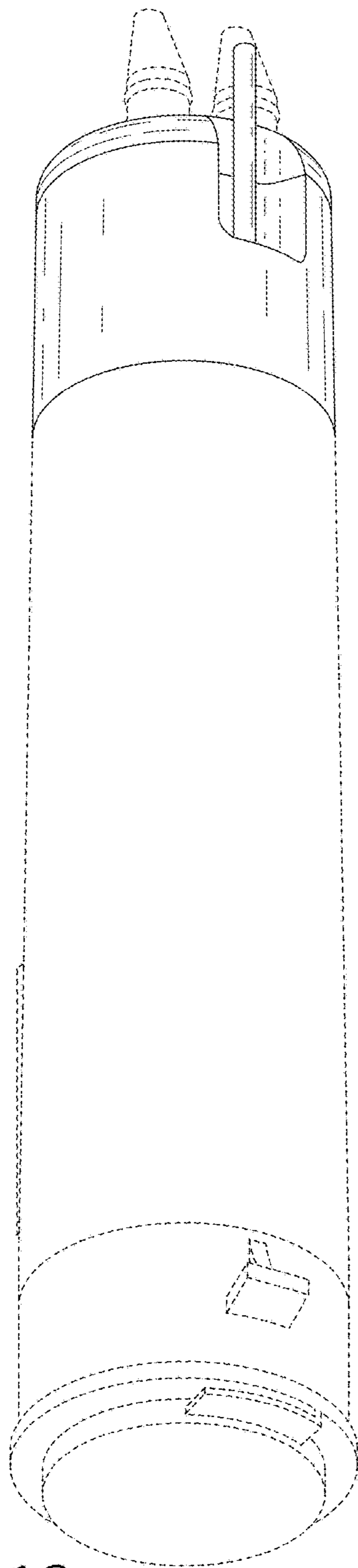
*Fig. 16*



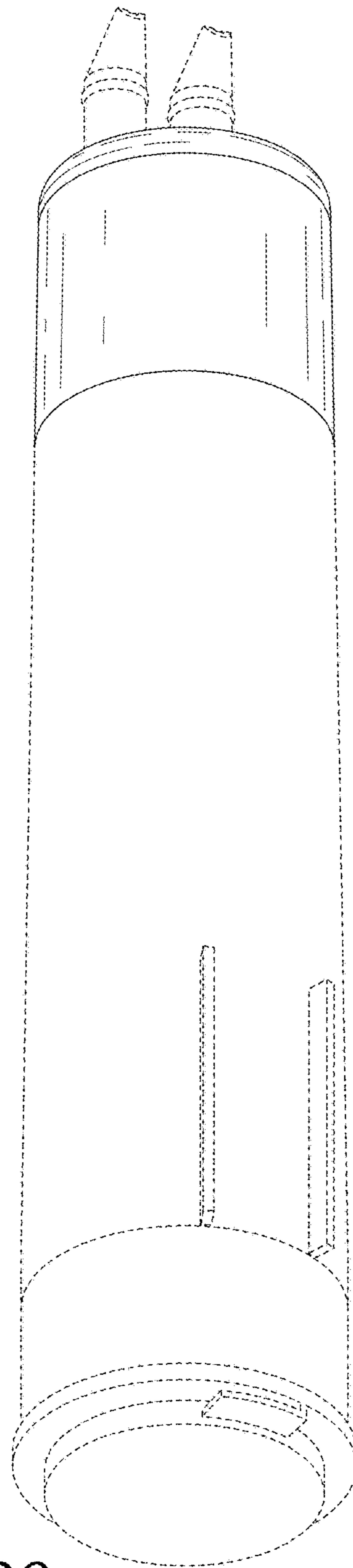
*Fig. 17*



*Fig. 18*



*Fig. 19*



*Fig. 20*