

US00D820387S

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

(10) **Patent No.:** **US D820,387 S**
(45) **Date of Patent:** **** Jun. 12, 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)

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

(21) Appl. No.: **29/599,821**

(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
(Continued)

(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

(Continued)

Primary Examiner — Robin V Webster

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

(57) **CLAIM**

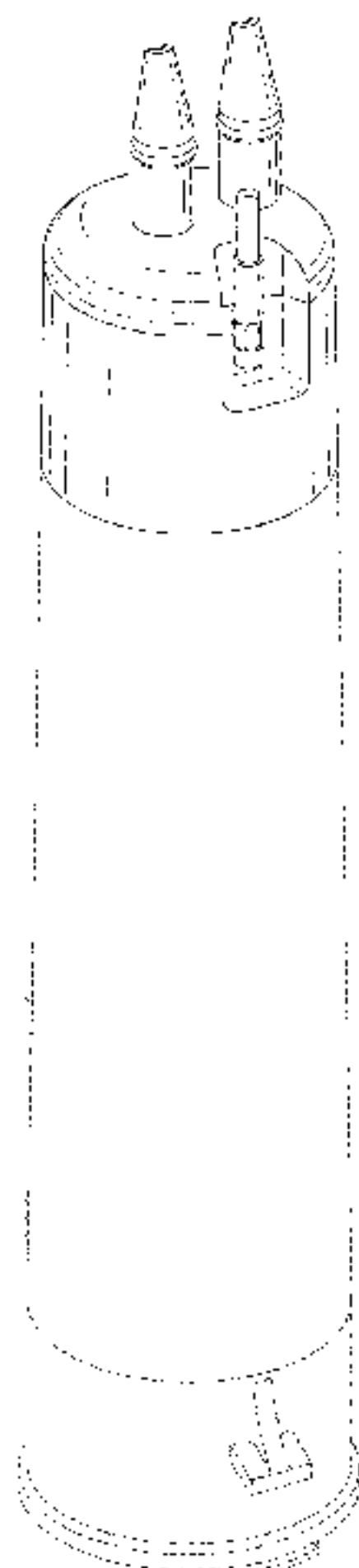
The ornamental design for a filter cartridge, as shown and described.

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; FIG. 20 is a rear and bottom perspective view thereof. FIG. 21 is a front and top perspective view of a filter cartridge embodying the new design, according to a third embodiment; FIG. 22 is a rear and top perspective view thereof; FIG. 23 is a front elevational view thereof; FIG. 24 is a rear elevational view thereof; FIG. 25 is a left side elevational view thereof; FIG. 26 is a right side elevational view thereof; FIG. 27 is a top plan view thereof; FIG. 28 is a bottom plan view thereof; FIG. 29 is a front and bottom, perspective view thereof; FIG. 30 is a rear and bottom perspective view thereof. FIG. 31 is a front and top perspective view of a filter cartridge embodying the new design, according to a fourth embodiment; FIG. 32 is a rear and top perspective view thereof; FIG. 33 is a front elevational view thereof; FIG. 34 is a rear elevational view thereof; FIG. 35 is a left side elevational view thereof; FIG. 36 is a right side elevational view thereof; FIG. 37 is a top plan view thereof; FIG. 38 is a bottom plan view thereof; FIG. 39 is a front and bottom, perspective view thereof; and, FIG. 40 is a rear and bottom perspective view thereof.

(Continued)



The broken lines are for the purpose of illustrating portions of the filter cartridge, and form no part of the claimed design.

1 Claim, 20 Drawing Sheets

(58) Field of Classification Search

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

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
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

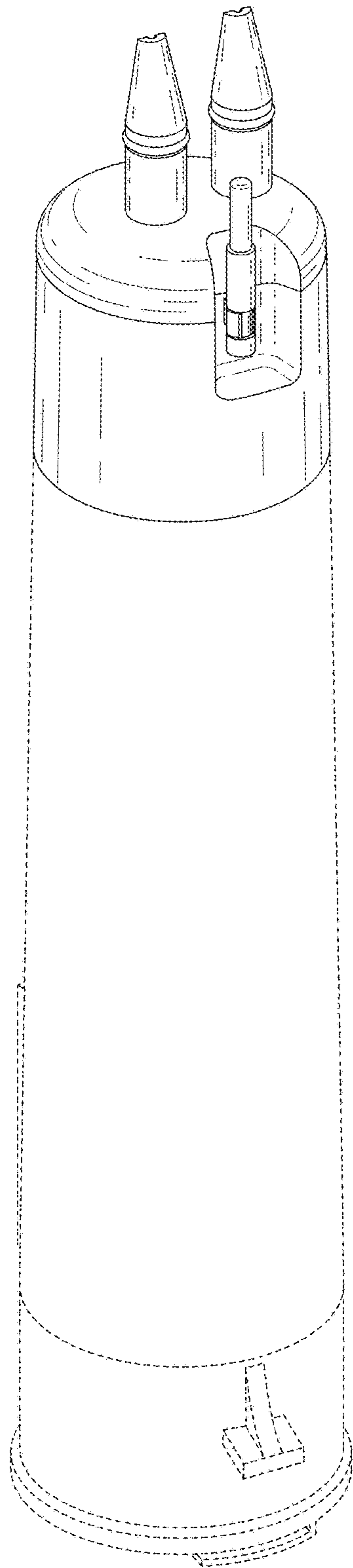


Fig. 1

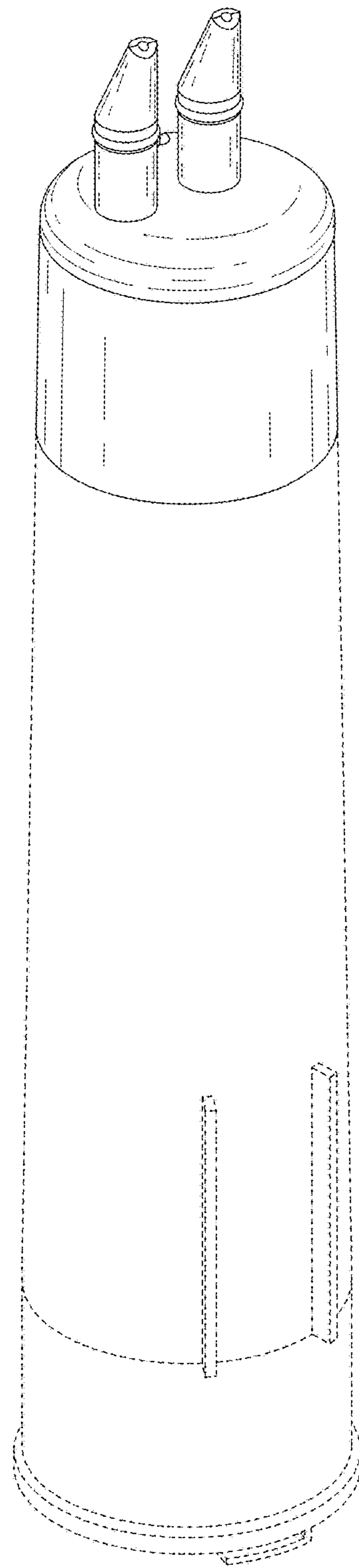


Fig. 2

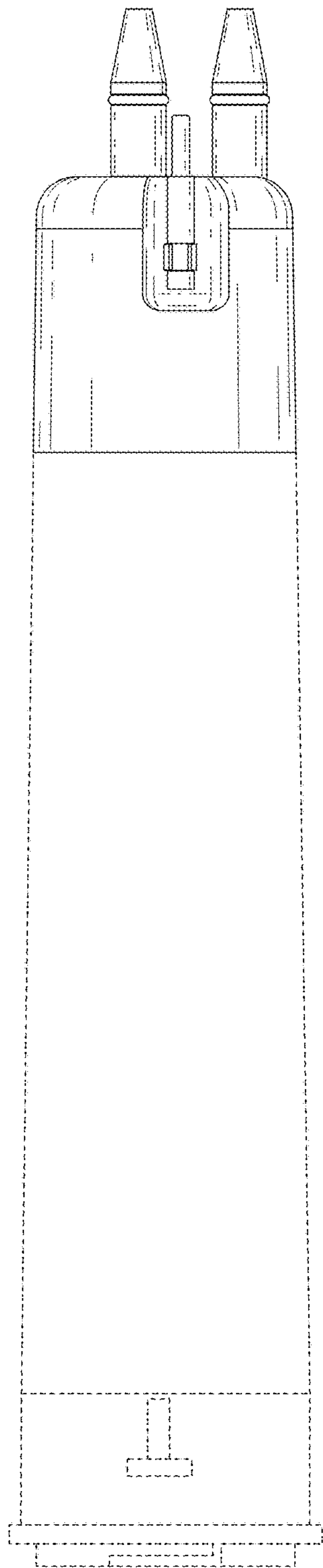


Fig. 3

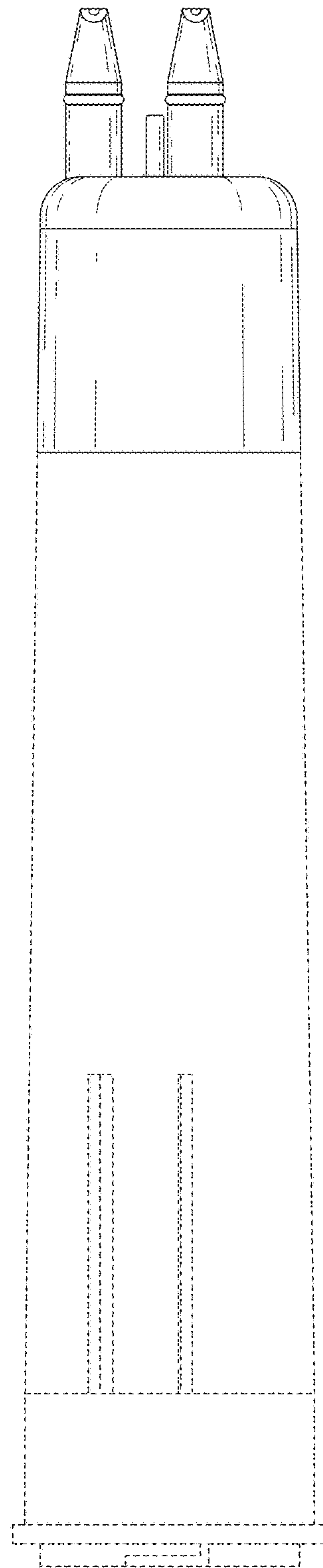
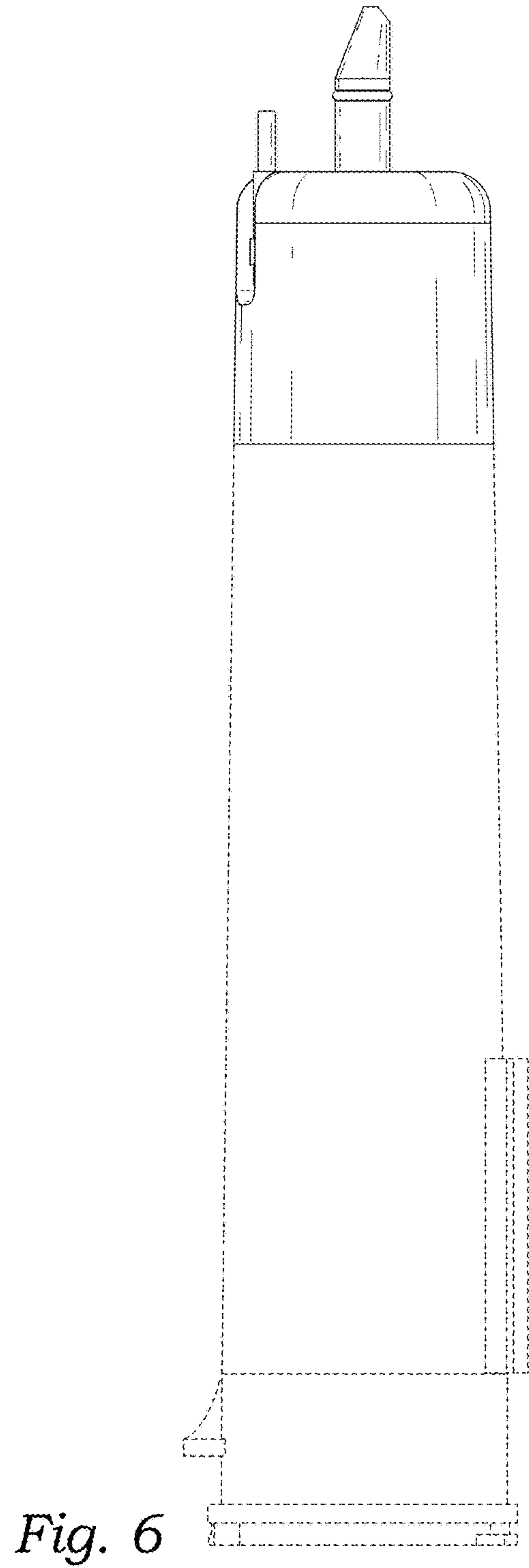
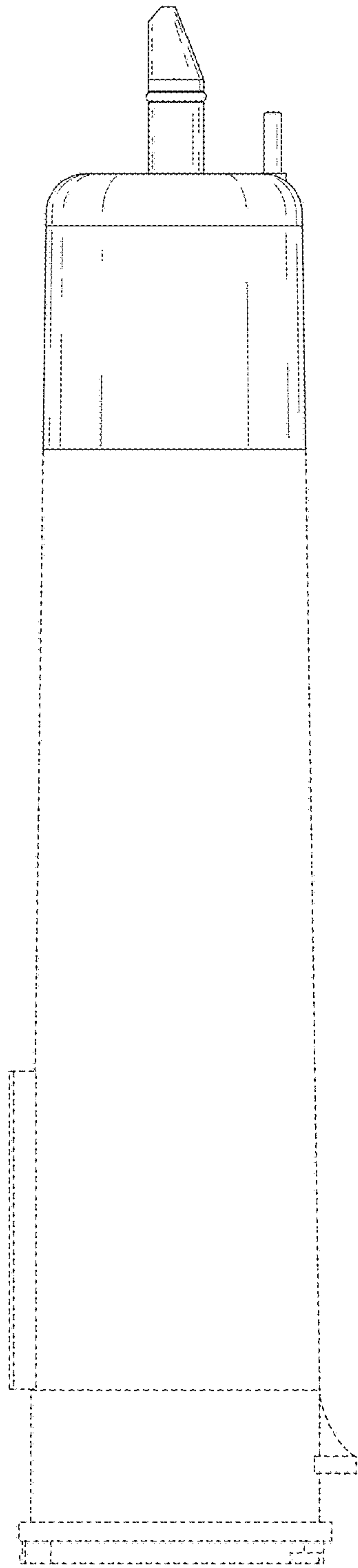


Fig. 4



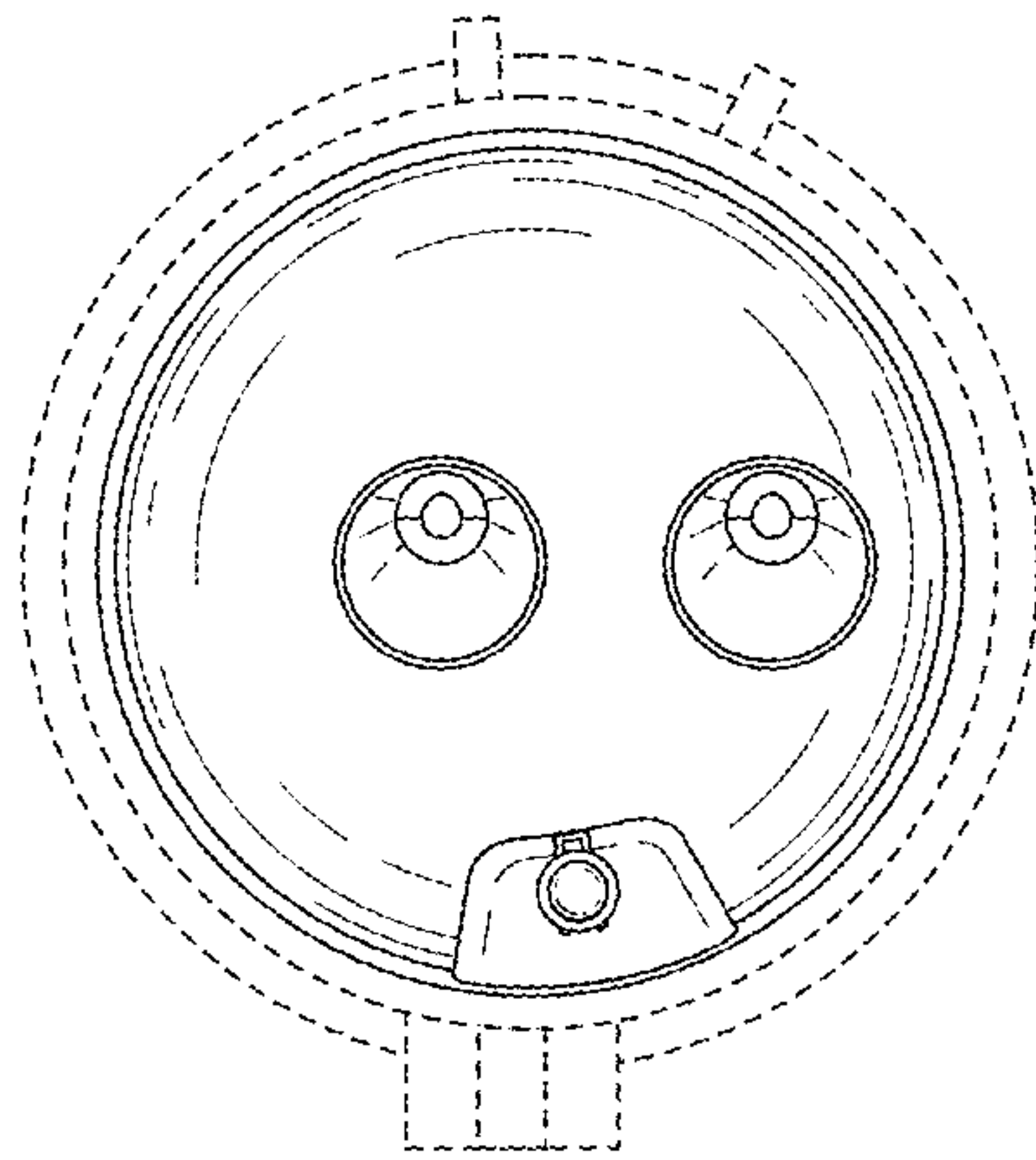


Fig. 7

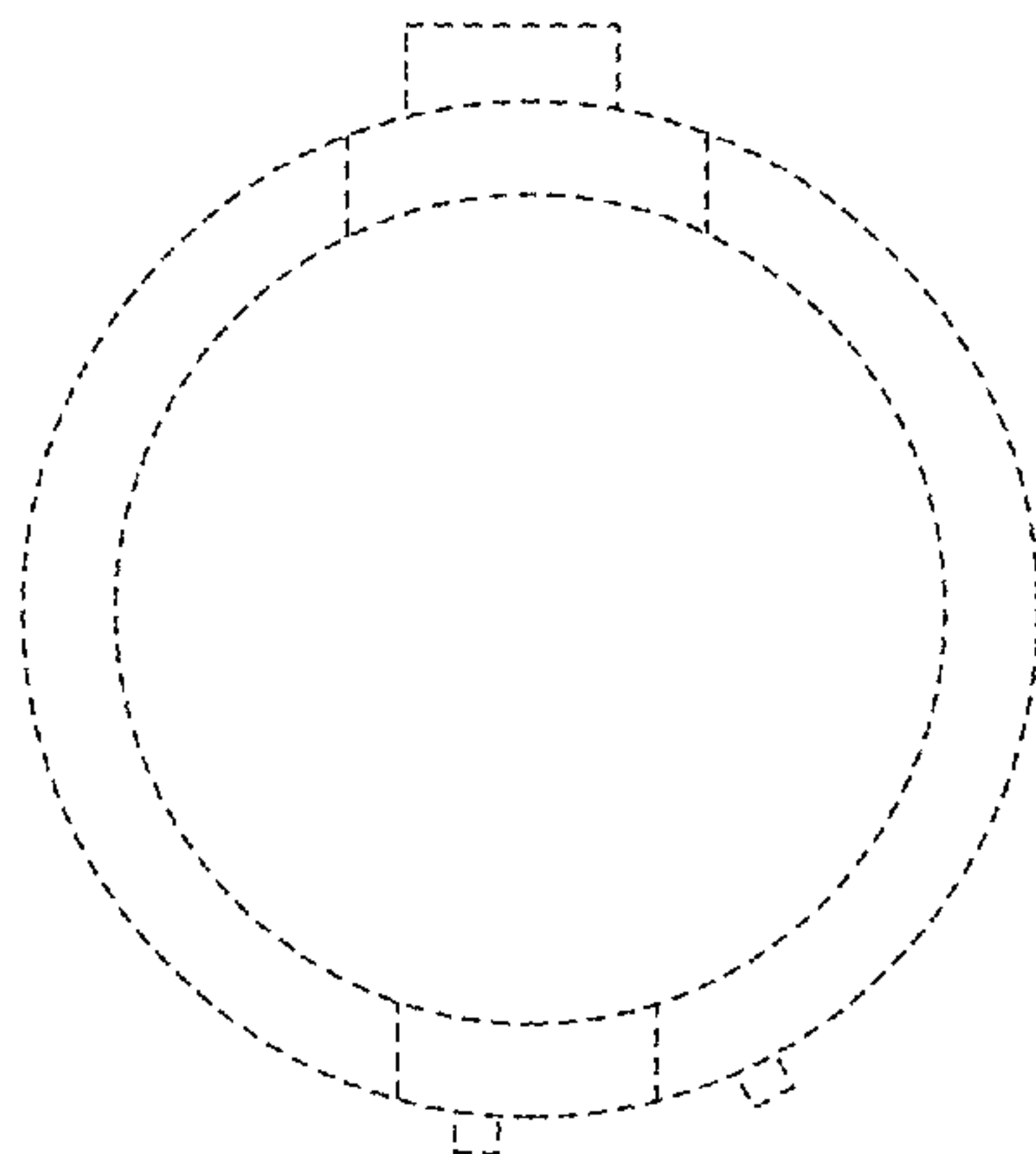


Fig. 8

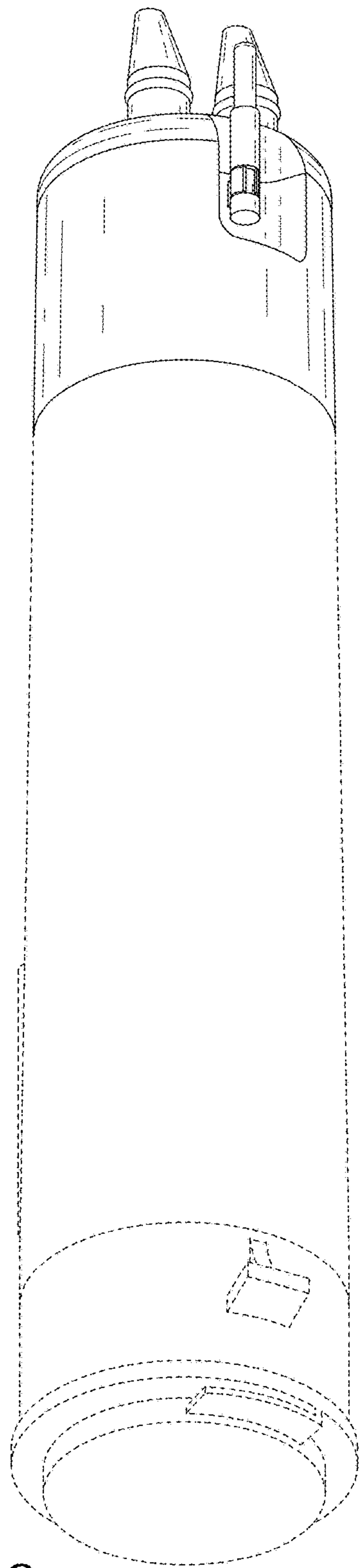


Fig. 9

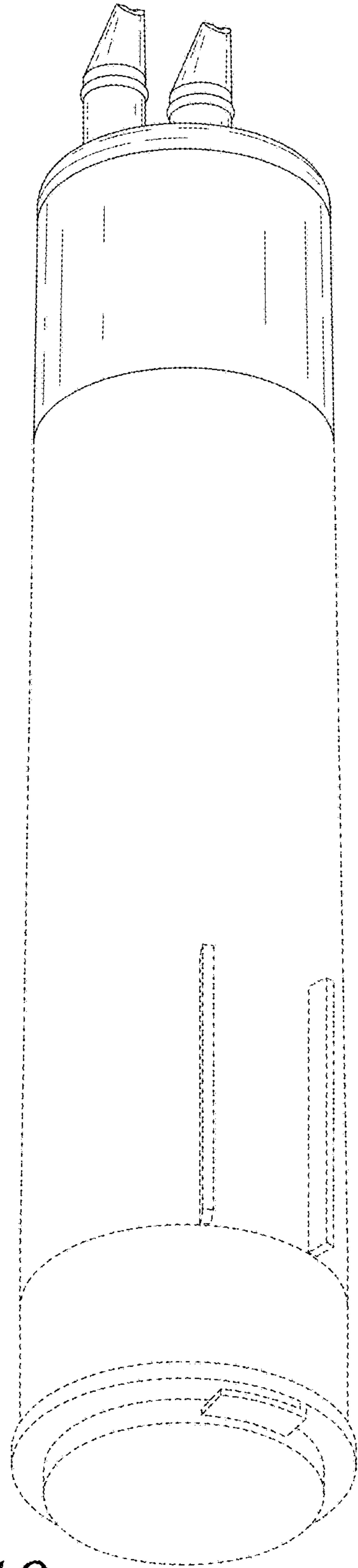


Fig. 10

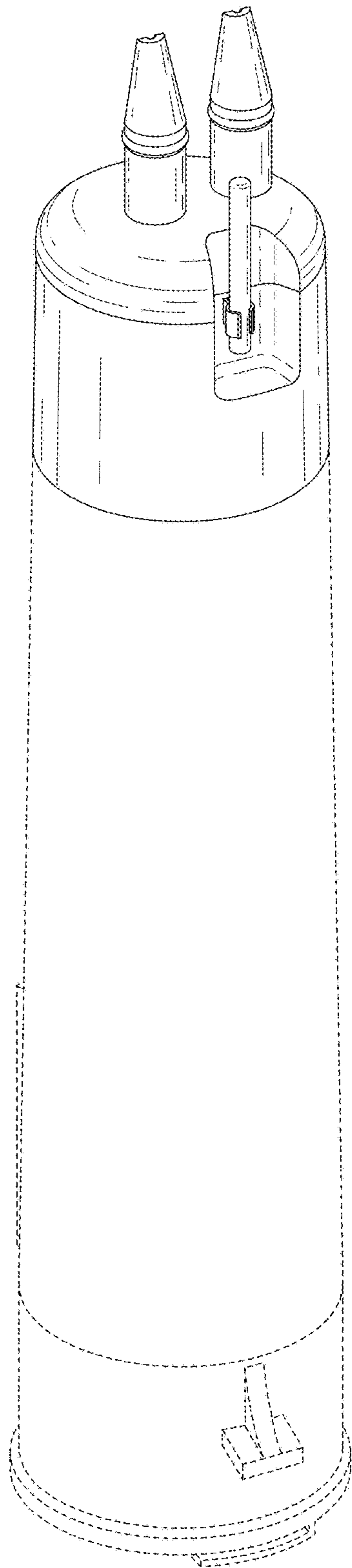


Fig. 11

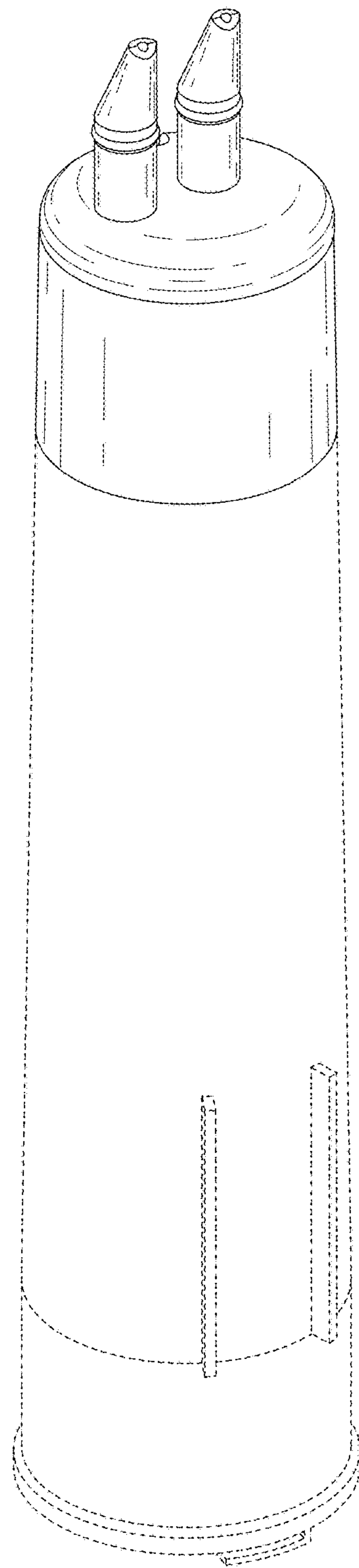


Fig. 12

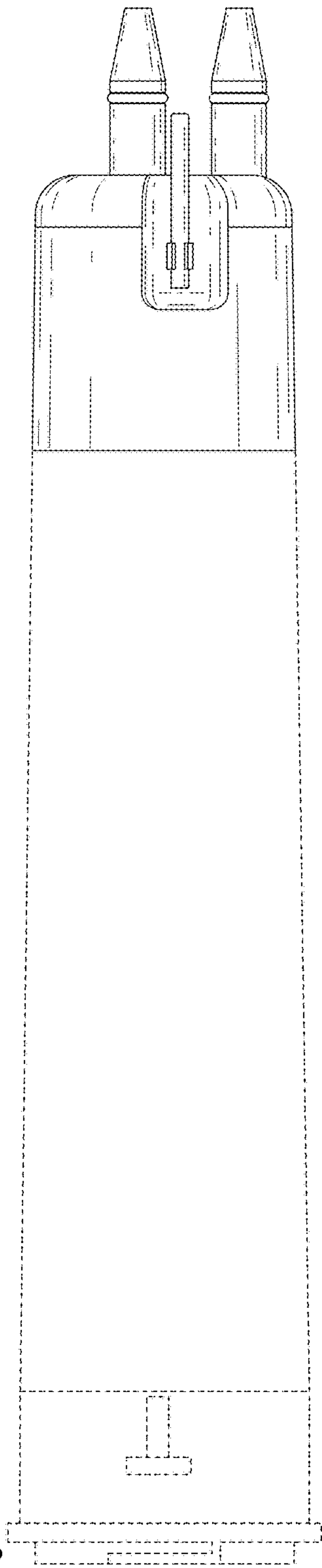


Fig. 13

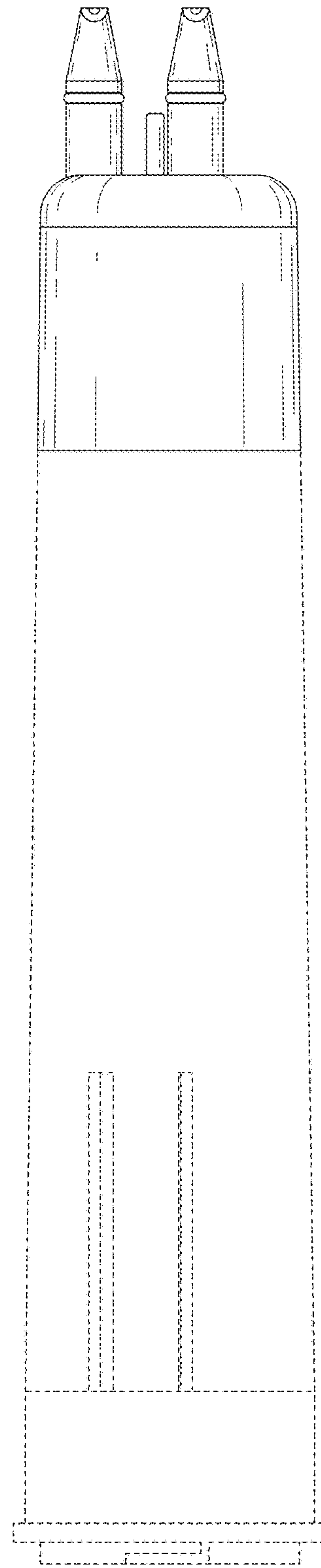


Fig. 14

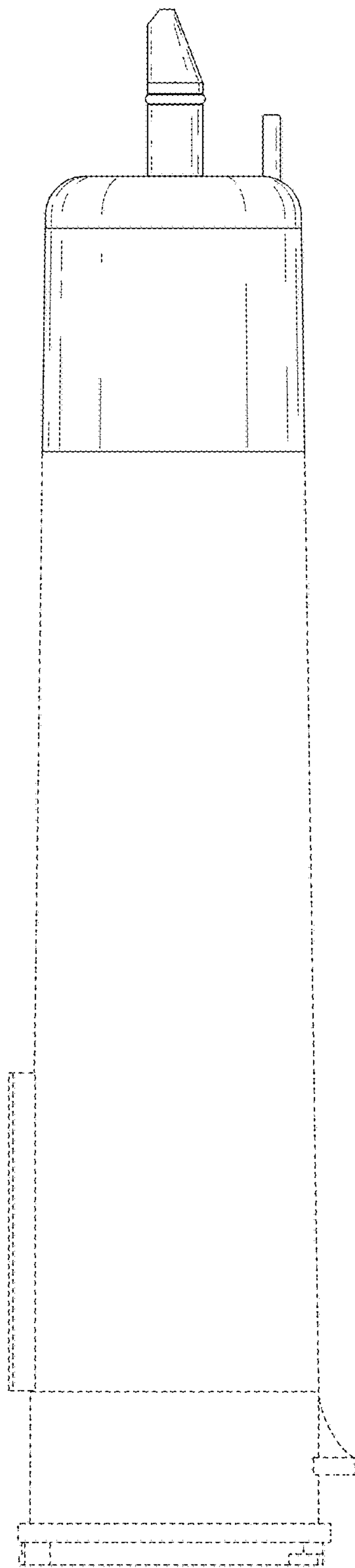


Fig. 15

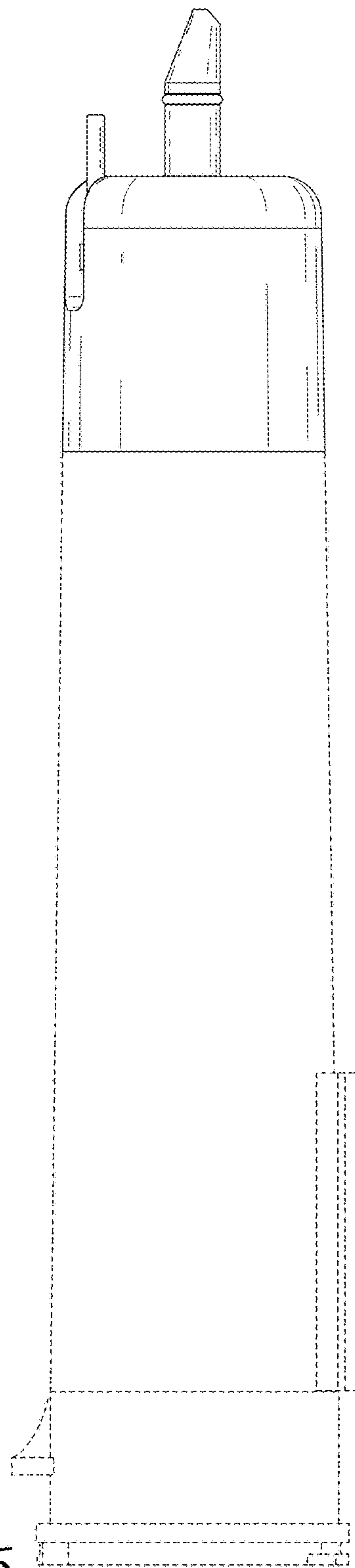


Fig. 16

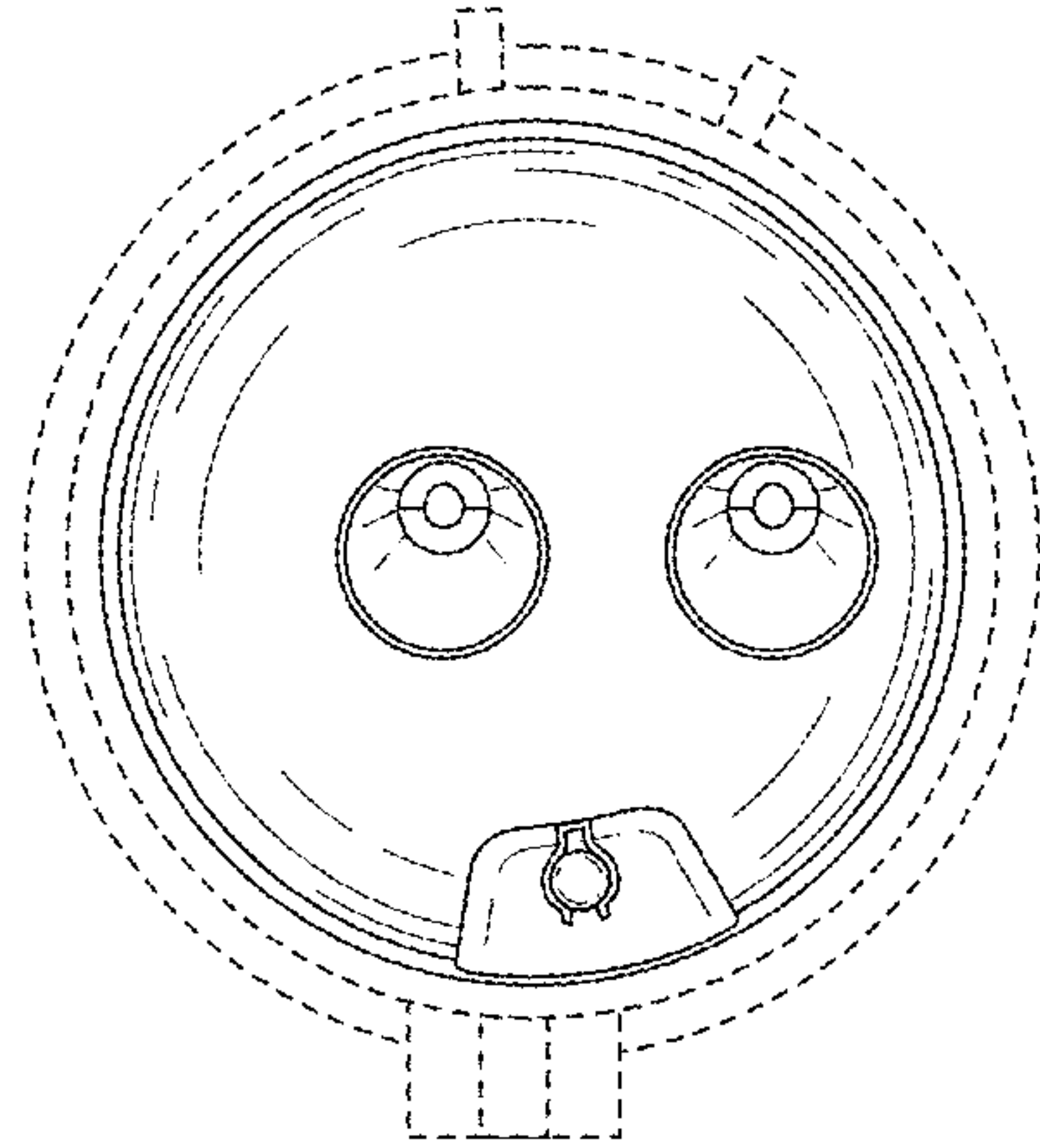


Fig. 17

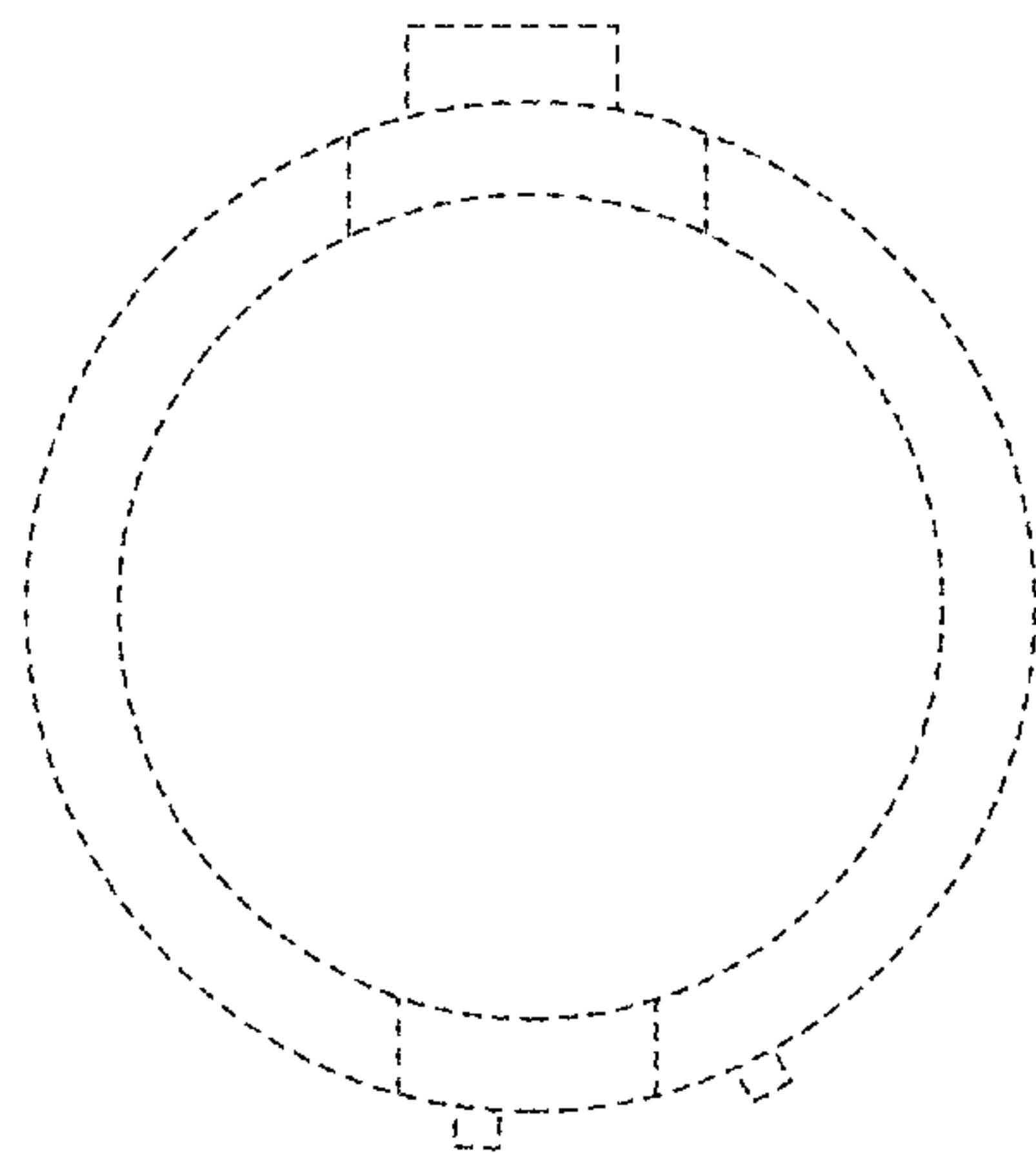


Fig. 18

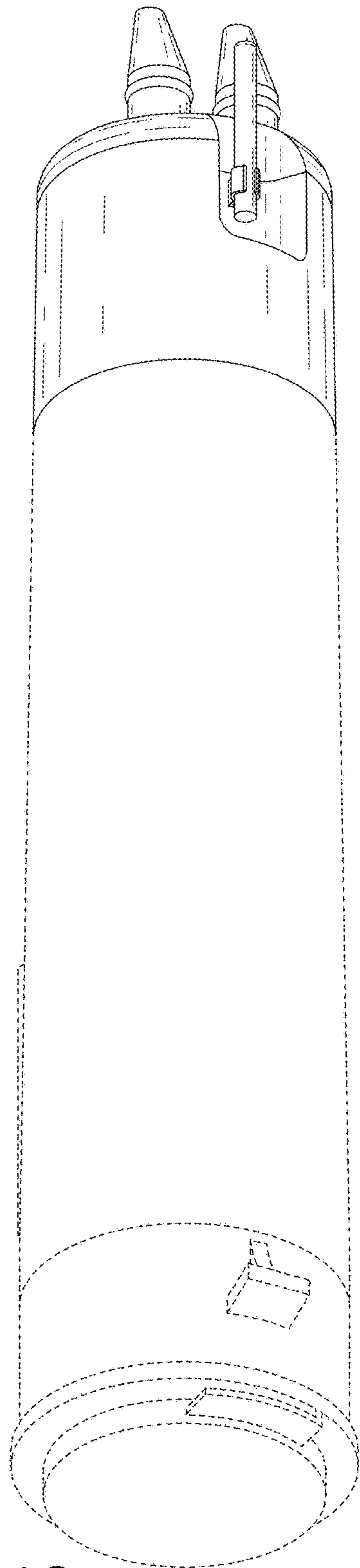


Fig. 19

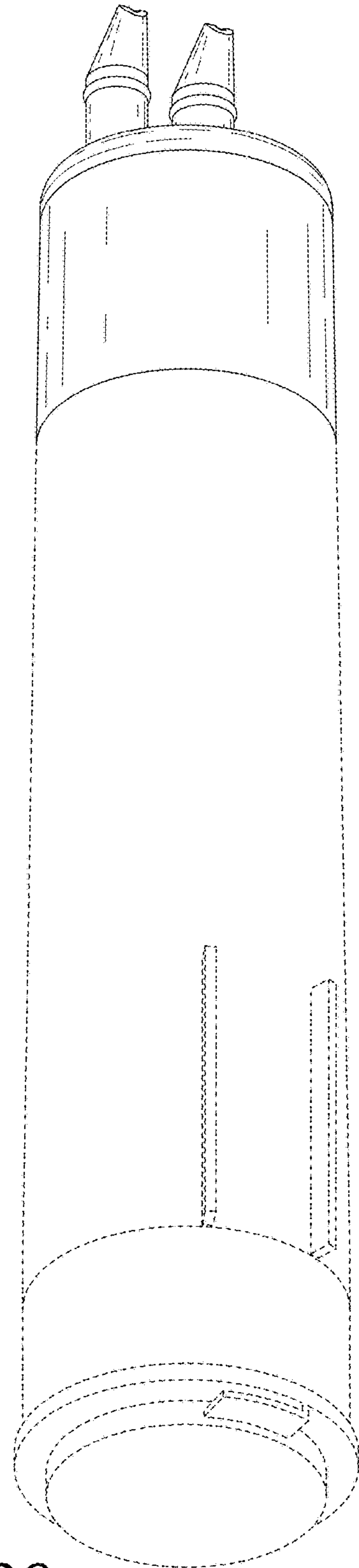


Fig. 20

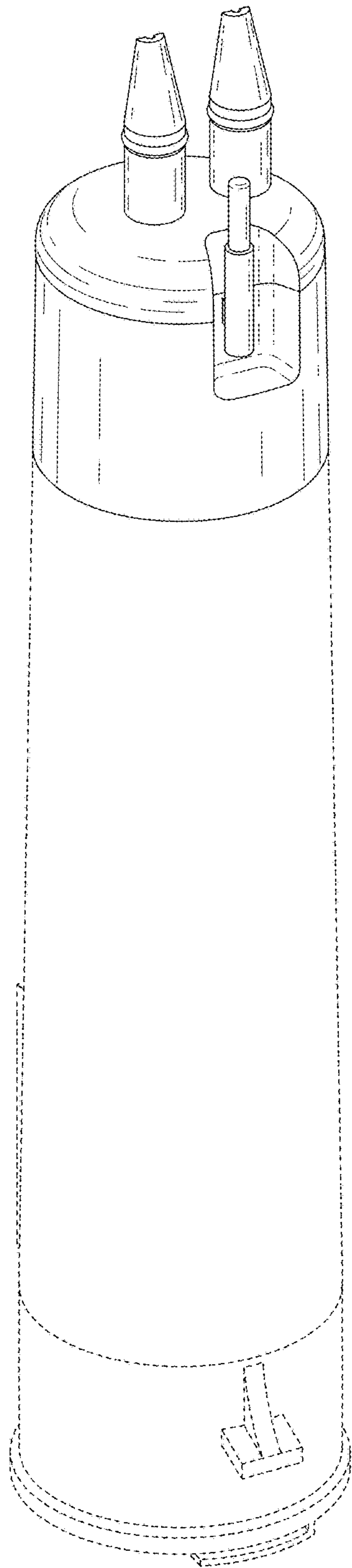


Fig. 21

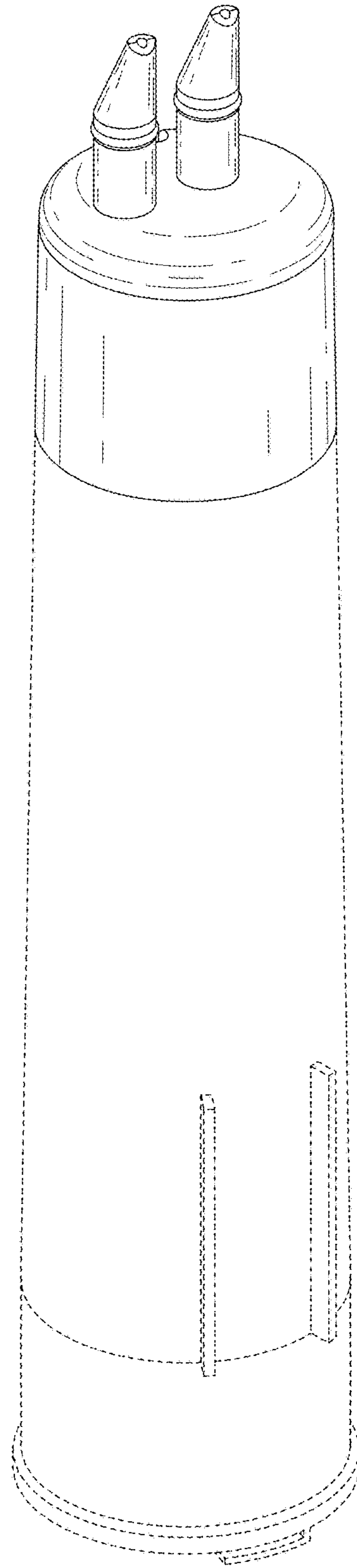


Fig. 22

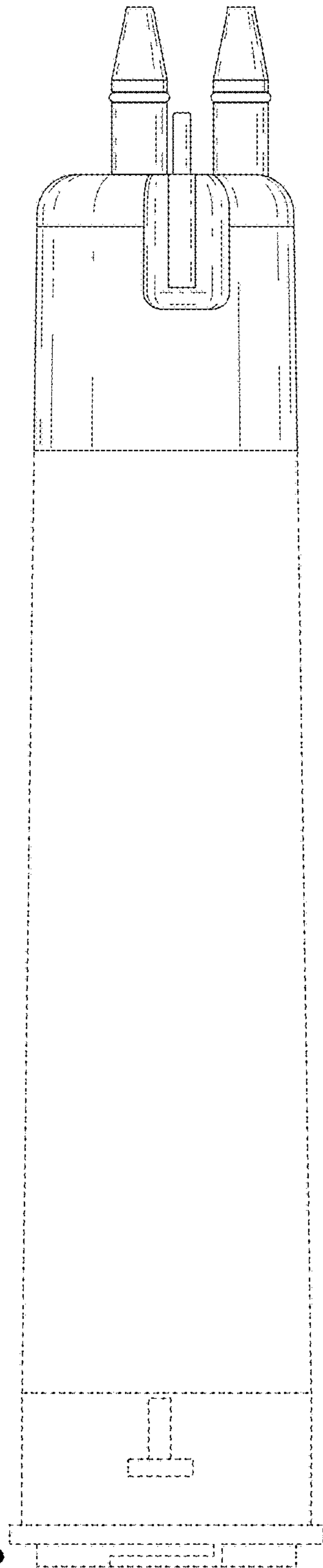


Fig. 23

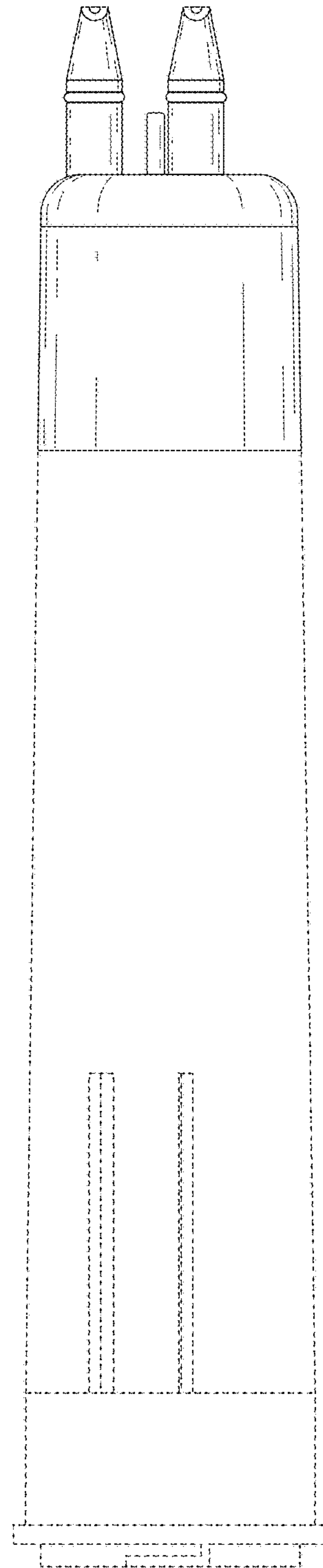


Fig. 24

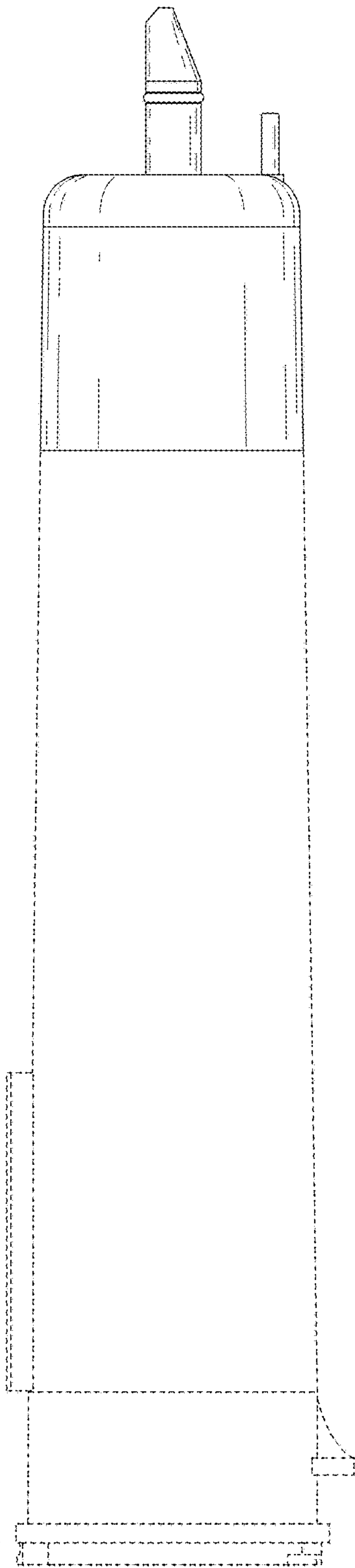


Fig. 25

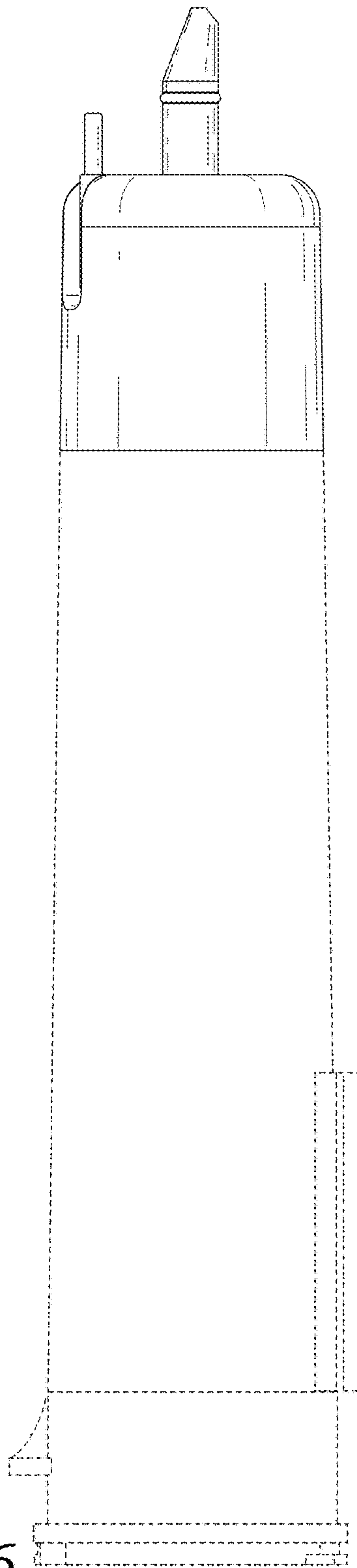


Fig. 26

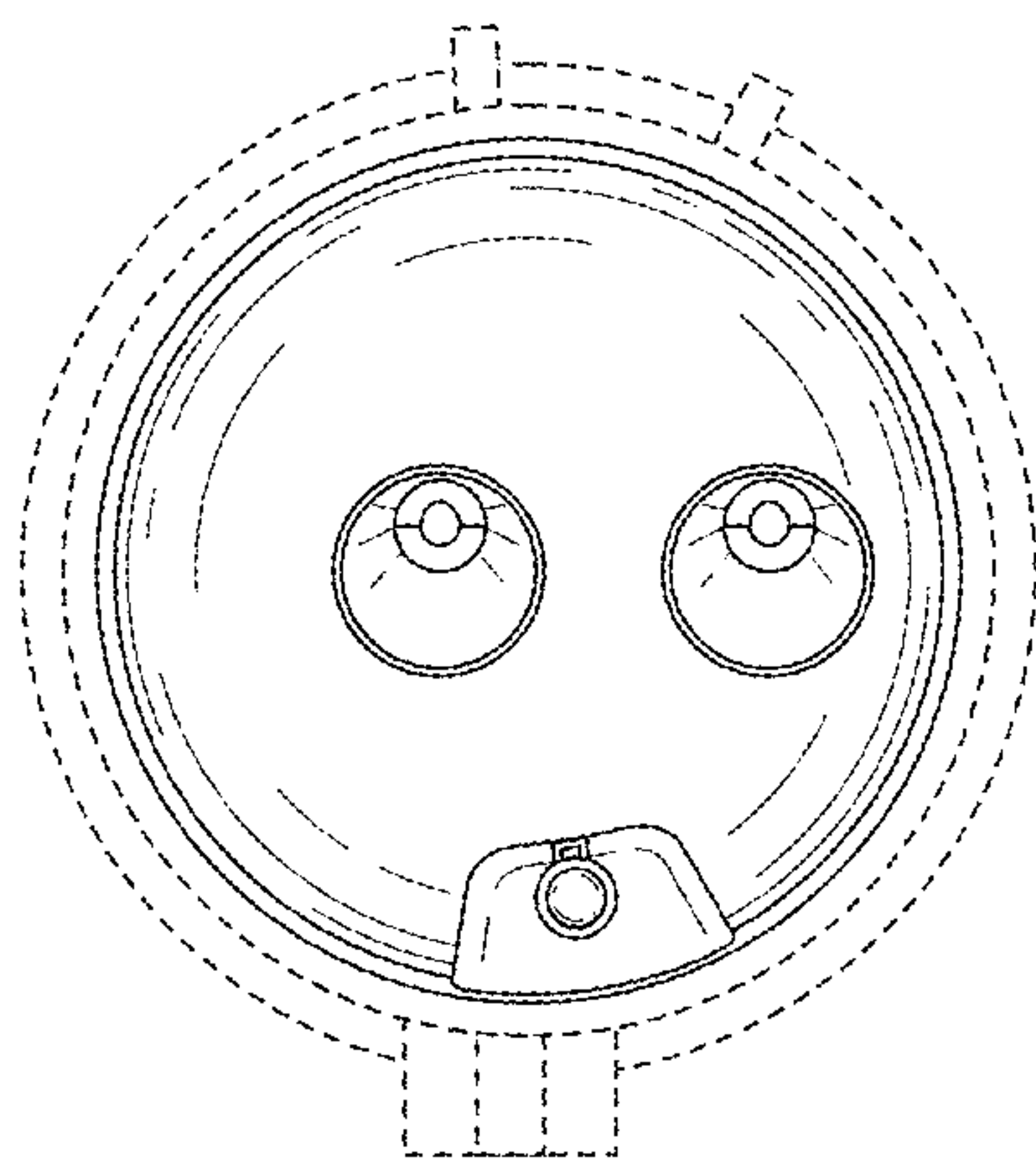


Fig. 27

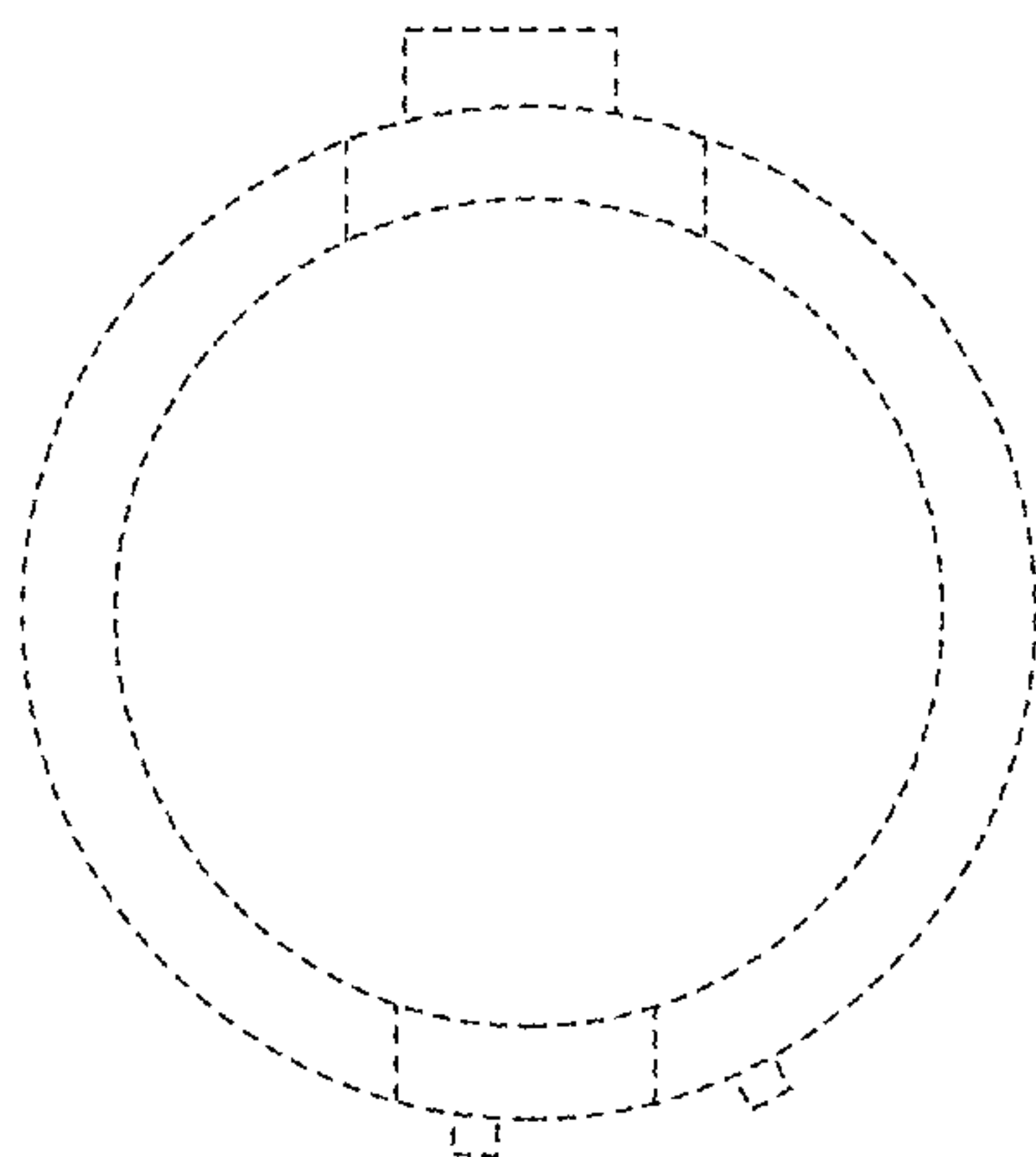


Fig. 28

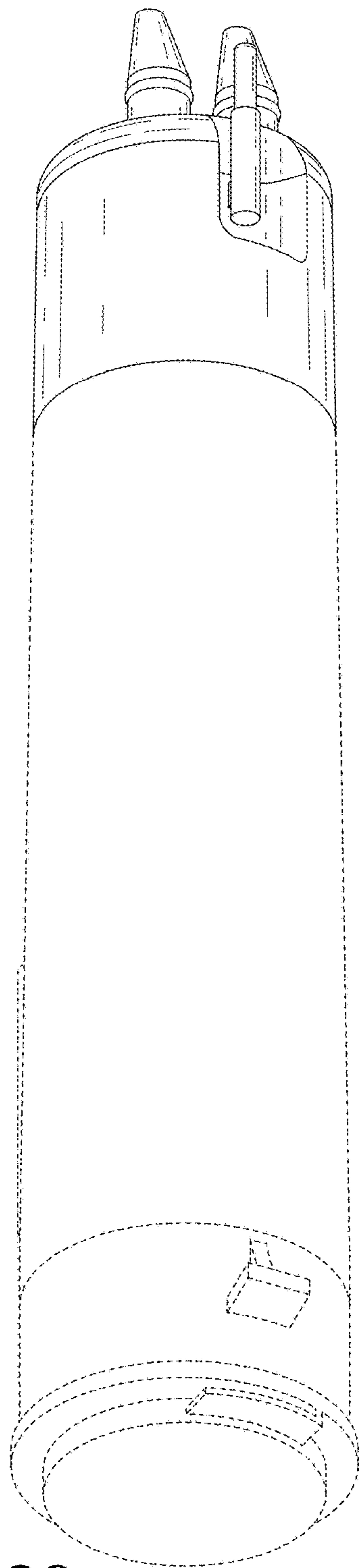


Fig. 29

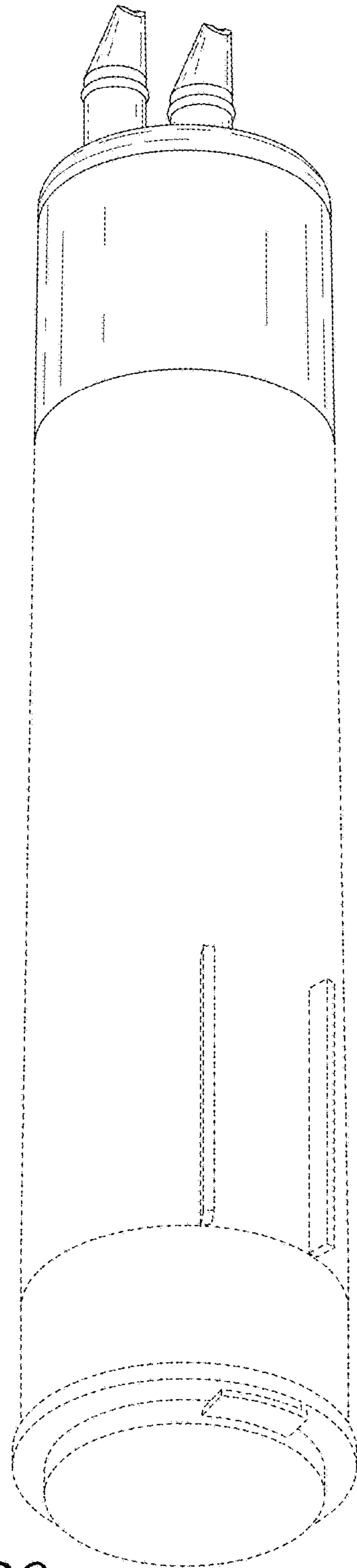


Fig. 30

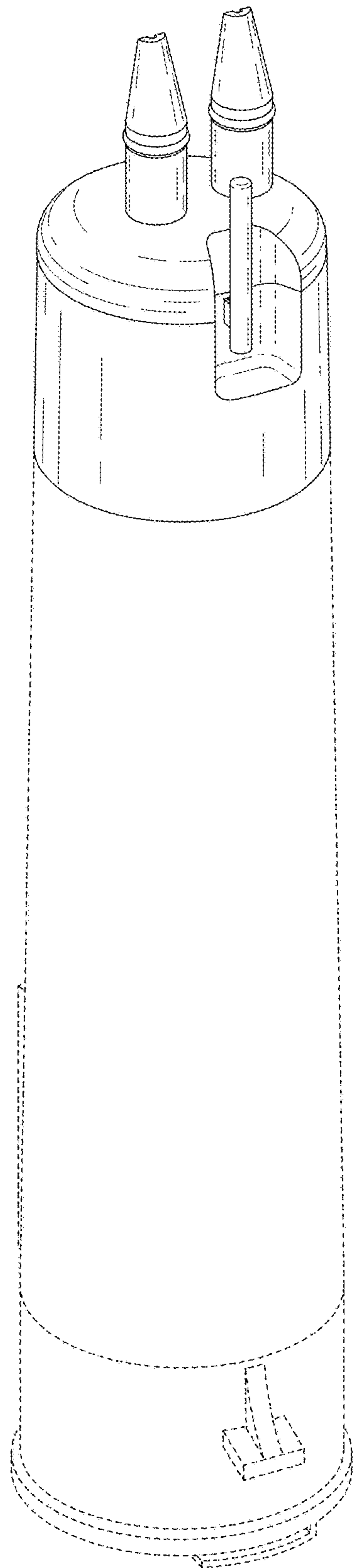


Fig. 31

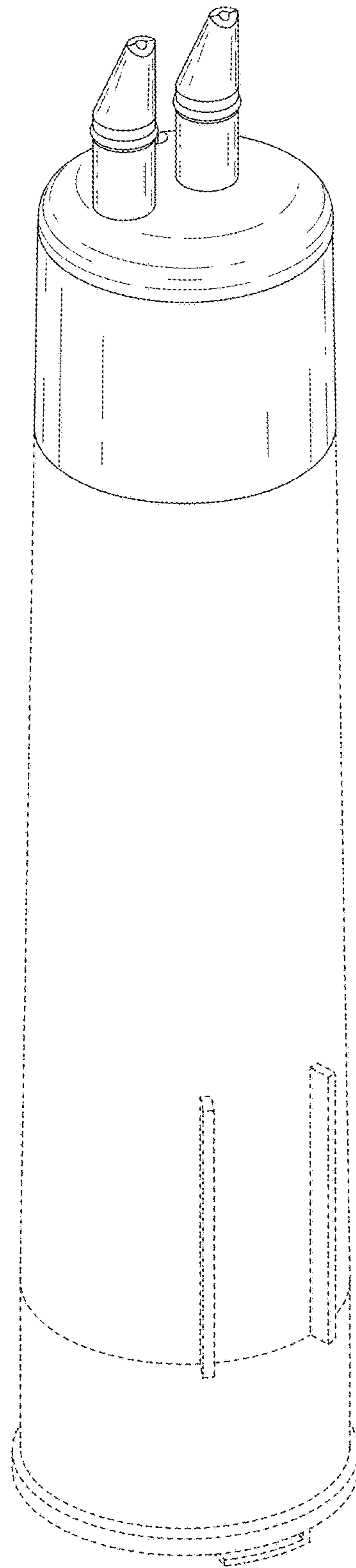


Fig. 32

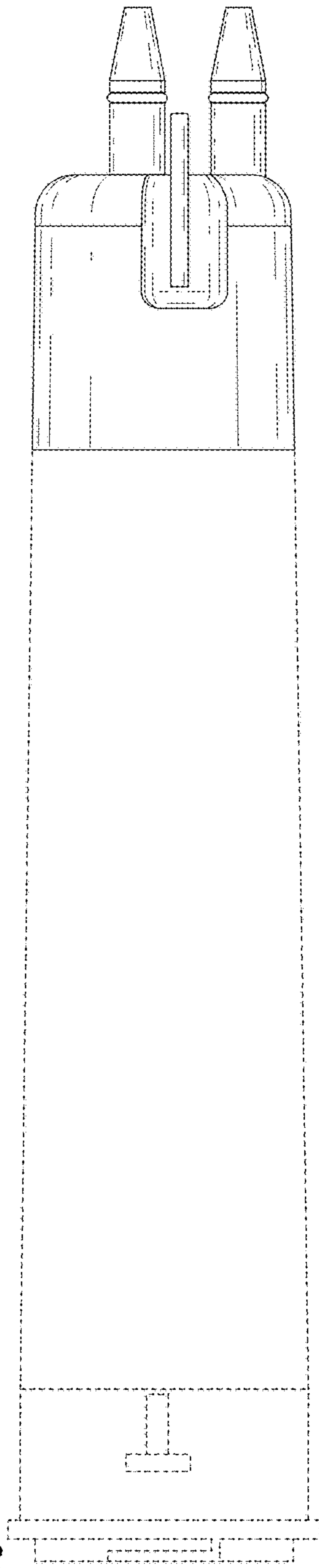


Fig. 33

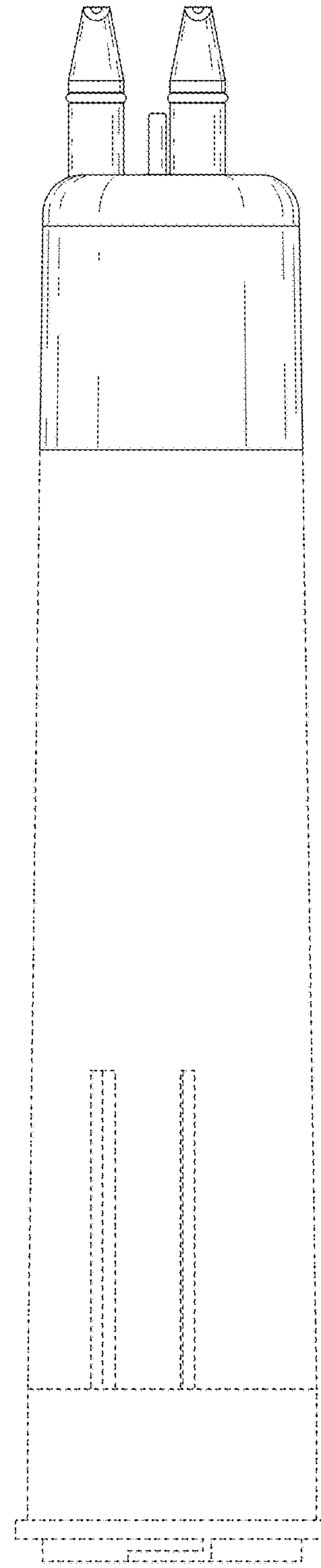


Fig. 34

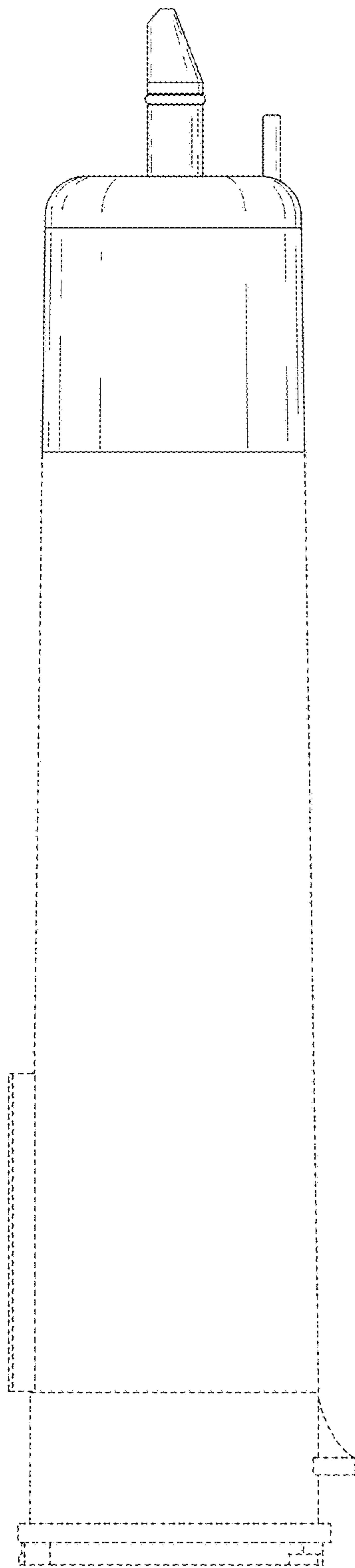


Fig. 35

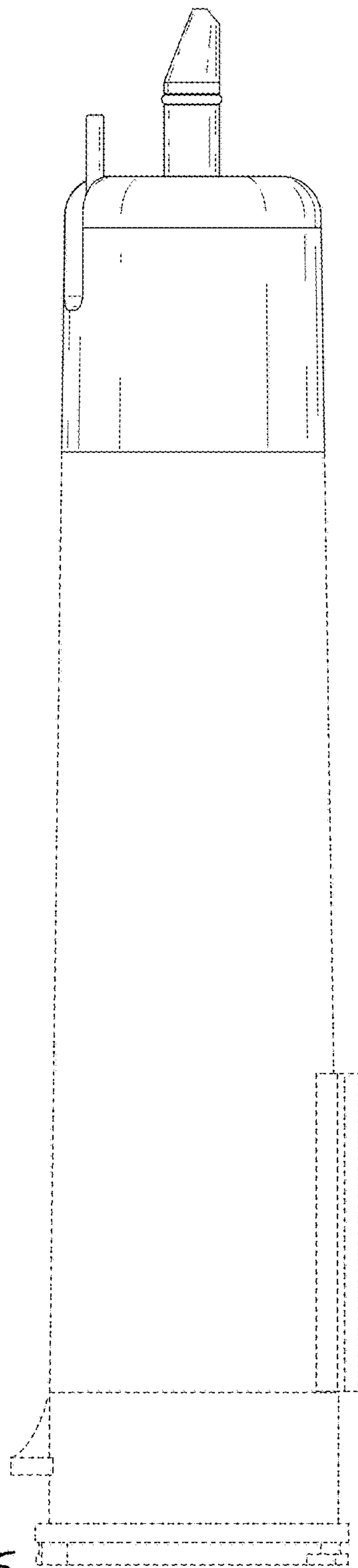


Fig. 36

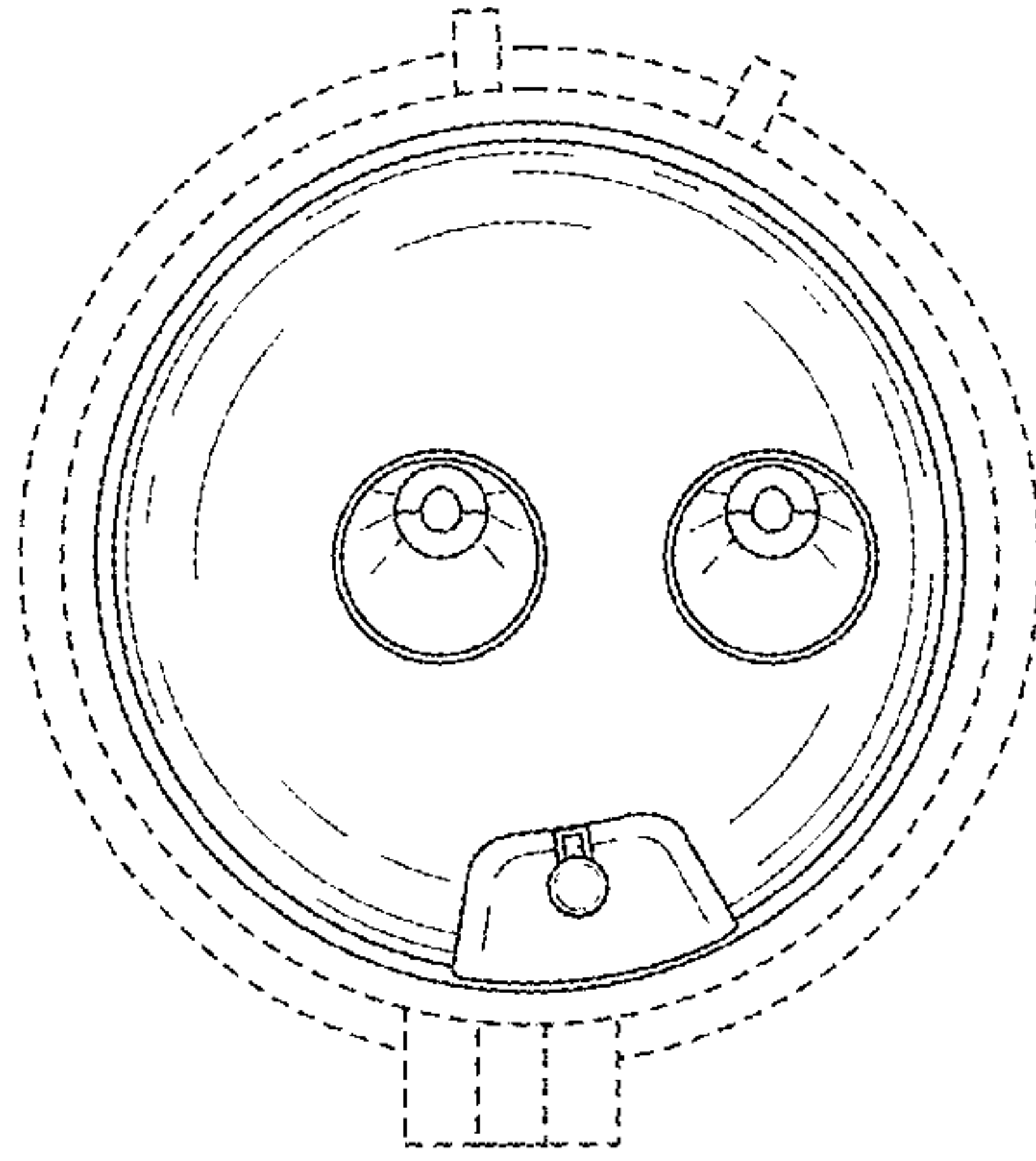


Fig. 37

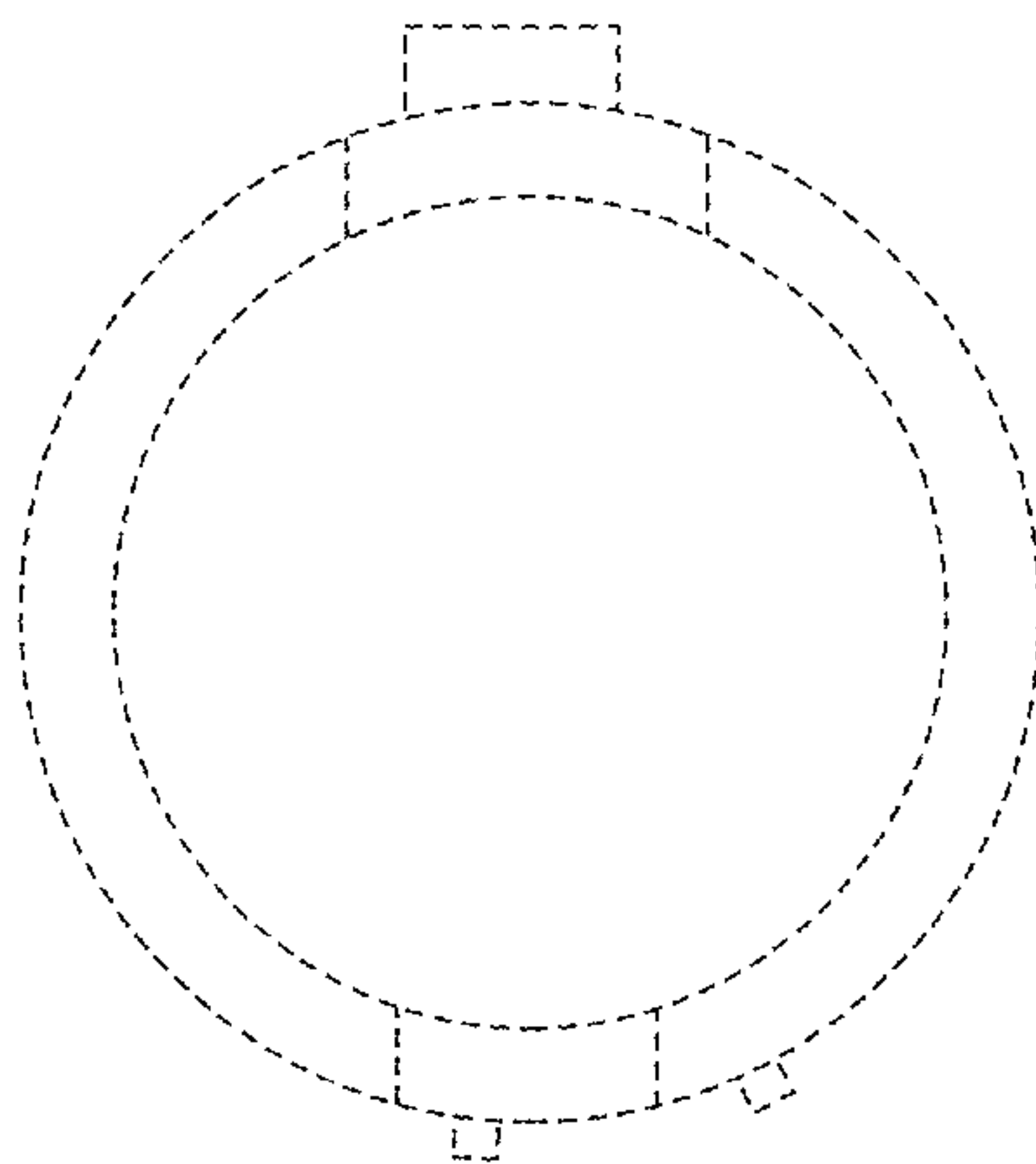


Fig. 38

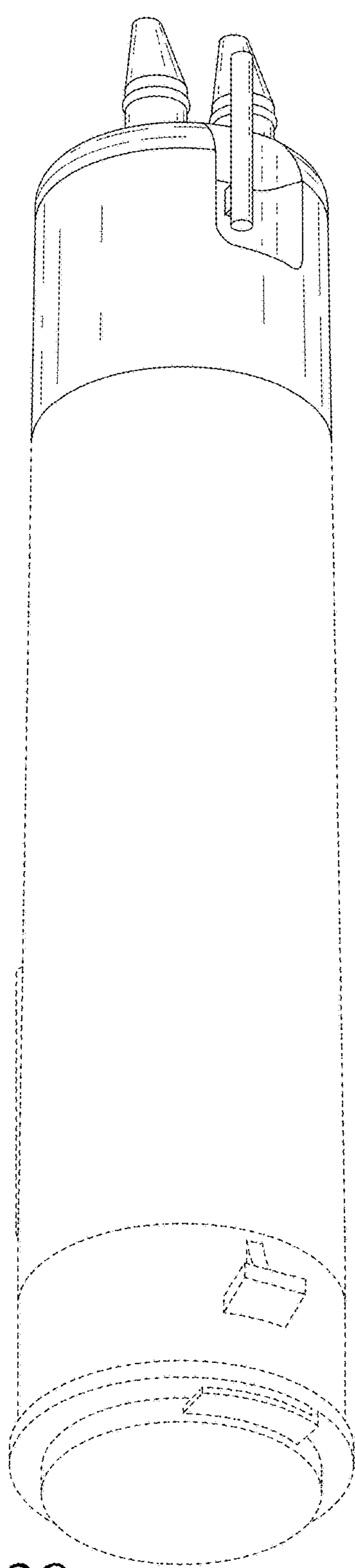


Fig. 39

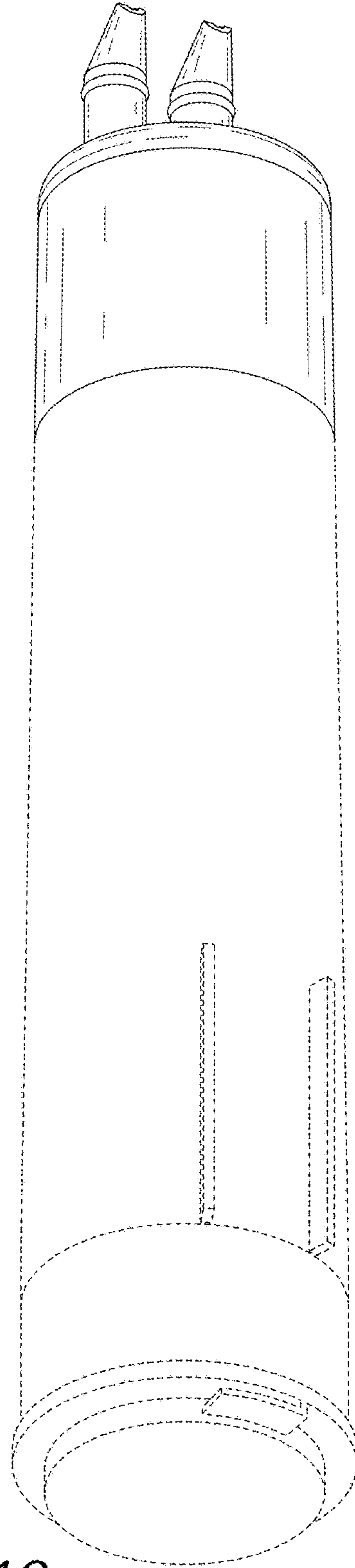


Fig. 40