



US00D880692S

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

(10) **Patent No.:** **US D880,692 S**
(45) **Date of Patent:** **** Apr. 7, 2020**

- (54) **MEDICINE MIXING DEVICE**
- (71) Applicant: **KAKEN PHARMACEUTICAL CO., LTD.**, Tokyo (JP)
- (72) Inventors: **Noboru Momose**, Fujieda (JP); **Takuya Sugimoto**, Tokyo (JP); **Norio Watanabe**, Fujieda (JP); **Yasuhiko Sato**, Tokyo (JP); **Takuma Oba**, Fujieda (JP); **Katsuya Taguchi**, Tokyo (JP)
- (73) Assignee: **KAKEN PHARMACEUTICAL CO., LTD.**, Tokyo (JP)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/559,595**
- (22) Filed: **Mar. 30, 2016**
- (30) **Foreign Application Priority Data**

- Sep. 30, 2015 (JP) 2015-021448
- (51) **LOC (12) Cl.** **24-02**
- (52) **U.S. Cl.**
USPC **D24/130**
- (58) **Field of Classification Search**
USPC D24/135, 133, 137, 138, 171, 140, 141,
D24/145, 146, 147, 130, 131

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

- D338,957 S * 8/1993 de Faire D24/112
- 5,662,610 A * 9/1997 Sircom A61M 5/3243
604/110

(Continued)

FOREIGN PATENT DOCUMENTS

- DE 102004055298 A1 * 5/2006 A61M 5/2448
- JP 4785831 8/2006

(Continued)

OTHER PUBLICATIONS

Drug Development & Delivery. <URL: <http://www.drug-dev.com/Main/Back-Issues/ADVANCED-DELIVERY-DEVICES-The-Reconstitution-Revol-630.aspx>> Oct. 15, 2013. EZMix mixing platform.*

Primary Examiner — Susan Bennett Hattan
Assistant Examiner — Lauren D McVey
(74) *Attorney, Agent, or Firm* — Wolf, Greenfield & Sacks, P.C.

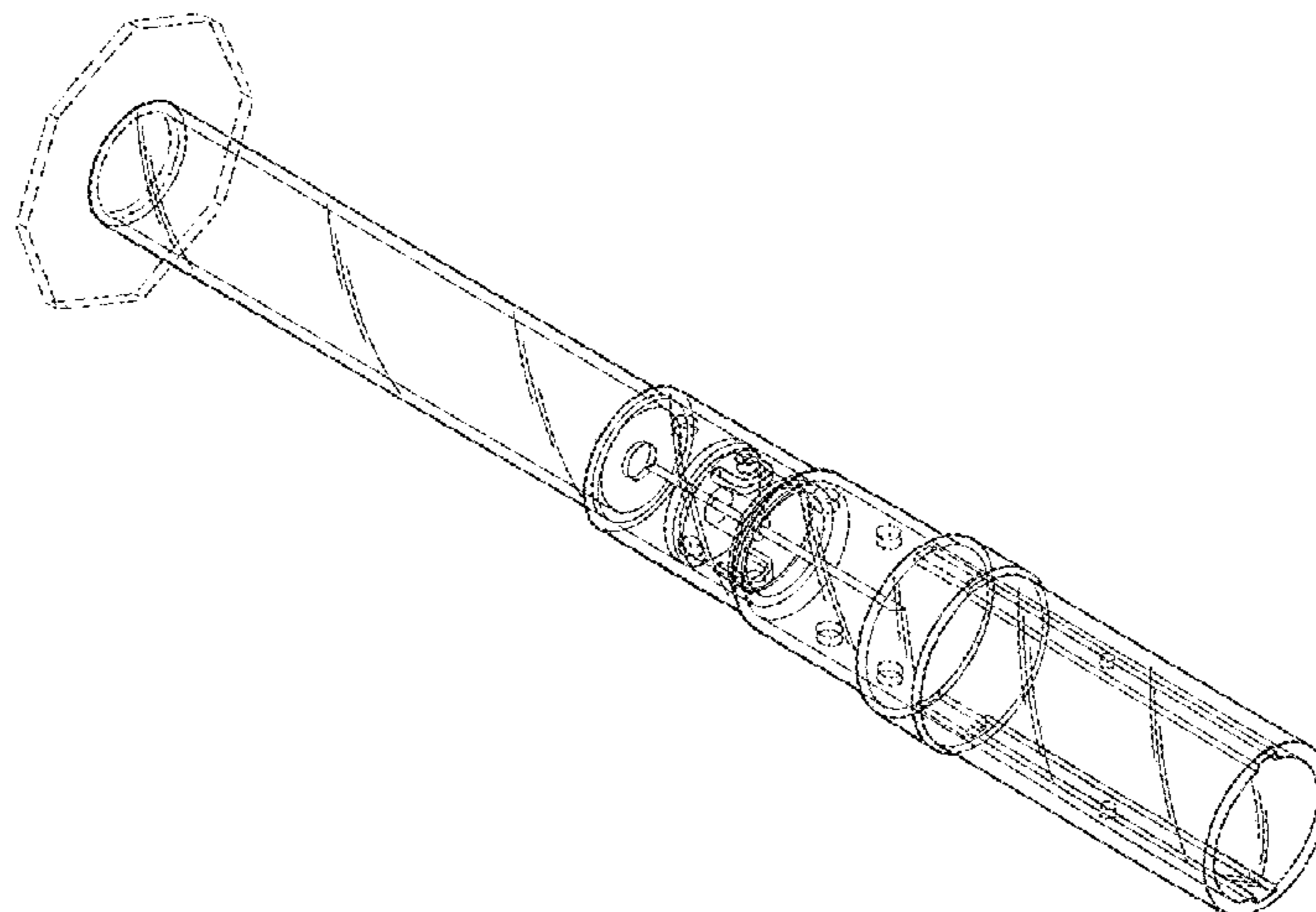
(57) **CLAIM**

The ornamental design for a medicine mixing device, as shown and described.

DESCRIPTION

FIG. 1 is a top, front, right side perspective view of a medicine mixing device showing our new design with additional environment;
 FIG. 2 is a front elevation view thereof;
 FIG. 3 is a rear elevation view thereof;
 FIG. 4 is a top plan view thereof;
 FIG. 5 is a bottom plan view thereof;
 FIG. 6 is a left side elevation view thereof;
 FIG. 7 is a right side elevation view thereof;
 FIG. 8 is an enlarged left side elevation view thereof;
 FIG. 9 is an enlarged right side elevation view thereof;
 FIG. 10 is a cross-sectional view thereof taken along line 10-10 of FIG. 7;
 FIG. 11 is a top, front, right side perspective view thereof, showing additional environment removed in order to show aspects of the design not otherwise apparent;
 FIG. 12 is a front elevation view of FIG. 11;
 FIG. 13 is a rear elevation view of FIG. 11;
 FIG. 14 is a top plan view of FIG. 11;
 FIG. 15 is a bottom plan view of FIG. 11;
 FIG. 16 is a left side elevation view of FIG. 11;
 FIG. 17 is a right side elevation view of FIG. 11;
 FIG. 18 is an enlarged left side elevation view of FIG. 11;
 and,
 FIG. 19 is an enlarged right side elevation view of FIG. 11.
 The dot-dash broken lines depict the bounds of the claimed design while all evenly spaced broken lines depict environmental structure. The broken lines form no part of the claimed design.

1 Claim, 15 Drawing Sheets



(58) **Field of Classification Search**

CPC A61M 5/3202; A61M 5/3204; A61M
5/3205; A61M 5/3206; A61M 5/3208;
A61M 5/3209

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,851,200 A * 12/1998 Higashikawa A61M 5/284
604/199
D445,176 S * 7/2001 Landers D24/108
D492,404 S * 6/2004 Prais D24/112
D546,946 S * 7/2007 Blake D24/129
D578,210 S * 10/2008 Muta D24/114
7,597,680 B2 10/2009 Watanabe et al.
D609,806 S * 2/2010 Uchida D24/130
9,993,632 B2 * 6/2018 Dudley A61M 39/0208
2004/0127846 A1 * 7/2004 Dunn A61J 1/2089
604/82
2006/0155257 A1 * 7/2006 Reynolds A61J 1/2096
604/414
2017/0281853 A1 * 10/2017 Luo A61M 5/002

FOREIGN PATENT DOCUMENTS

JP 2013198658 A * 10/2013 A61M 5/28
JP 2014028082 A * 2/2014 A61M 39/00
WO WO 2008067467 A2 * 6/2008 A61M 5/002

* cited by examiner

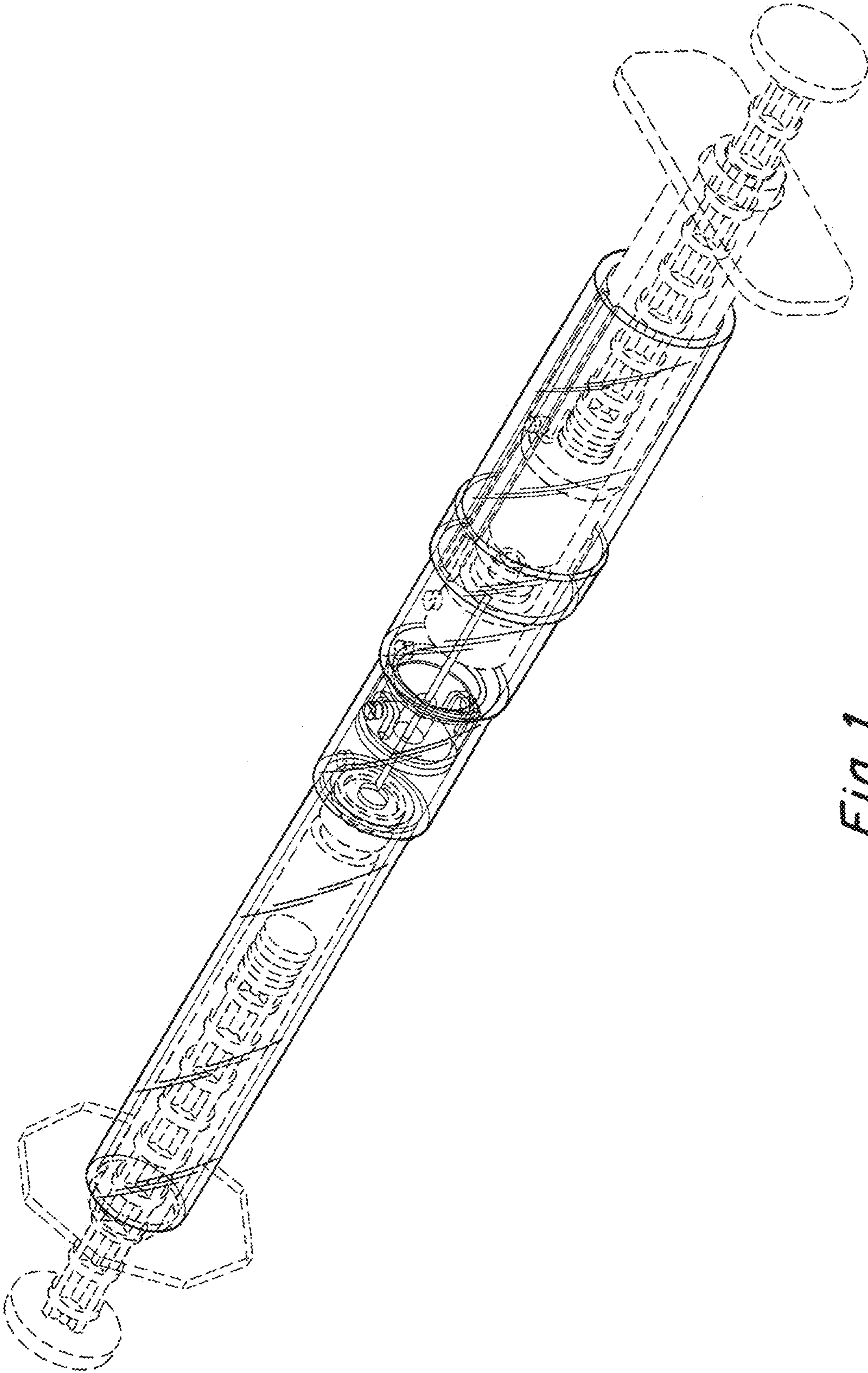


Fig. 1

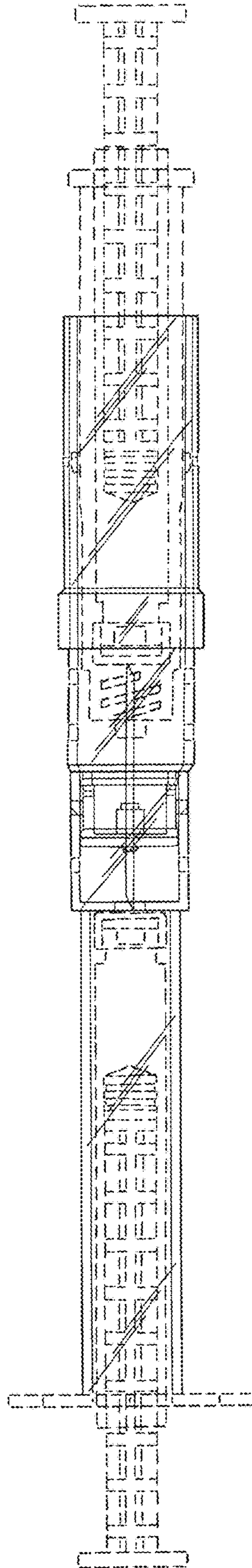


Fig. 2

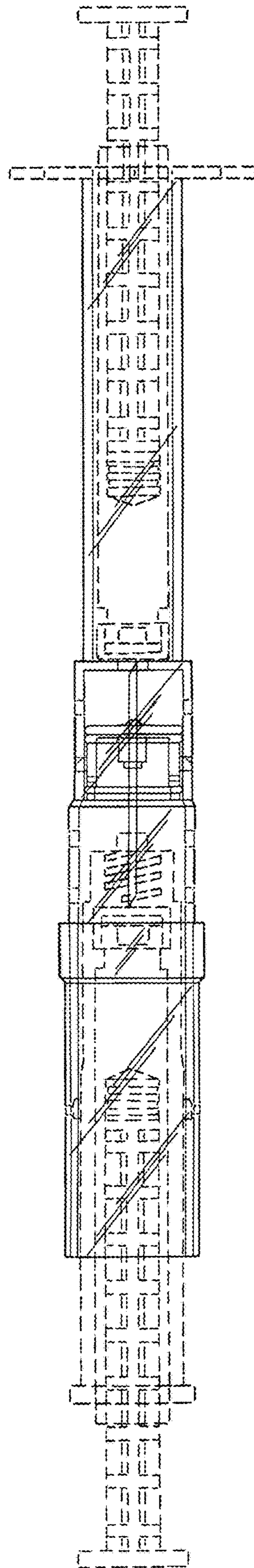


Fig. 3

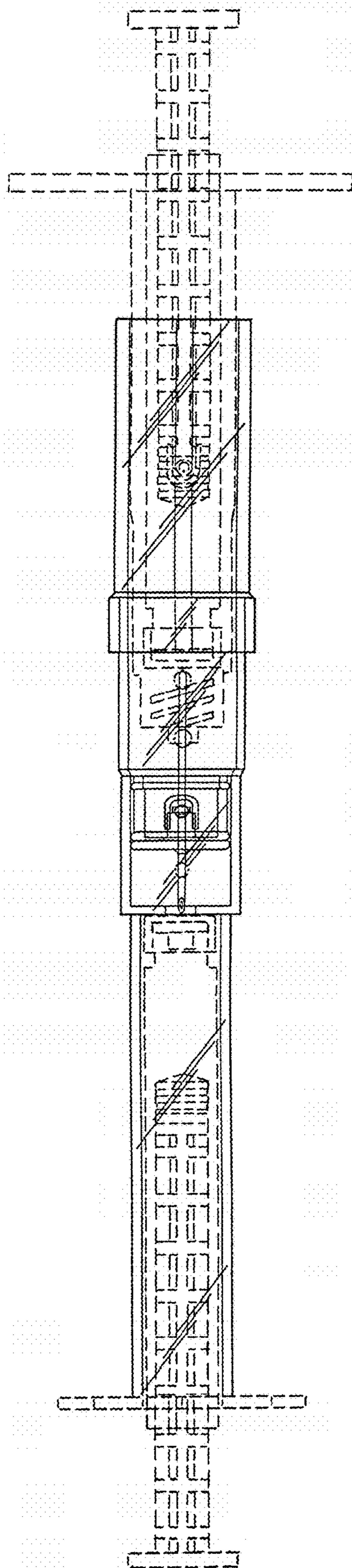


Fig. 4

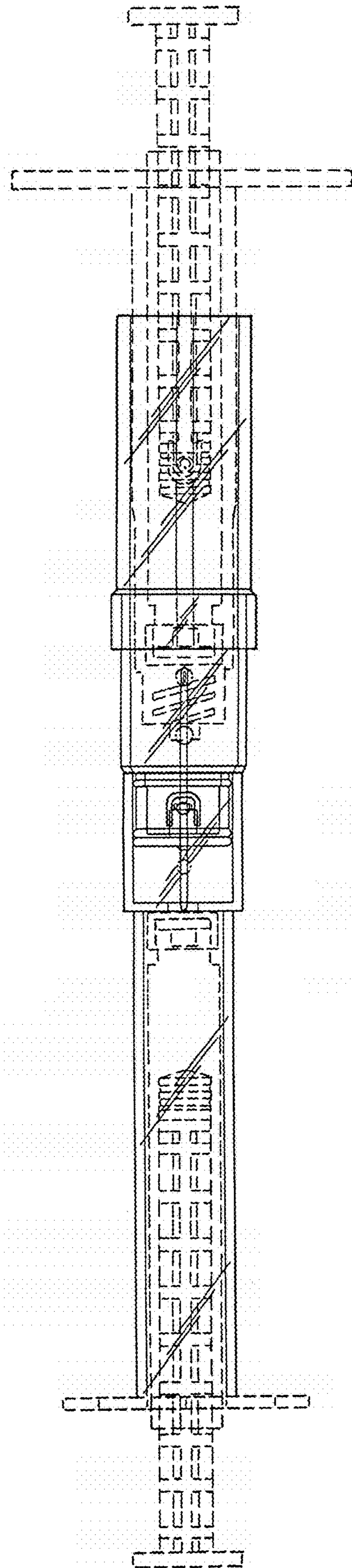
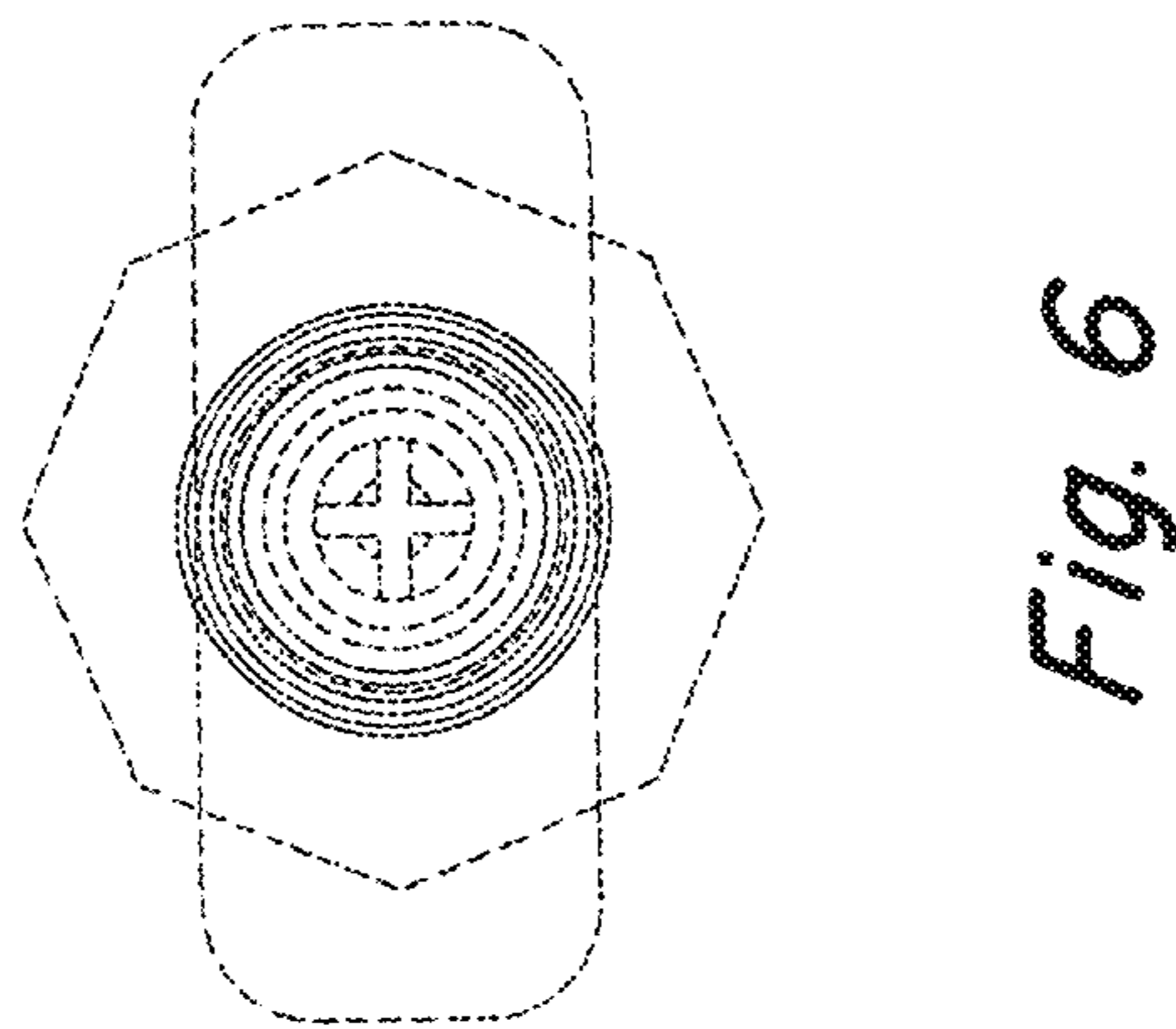
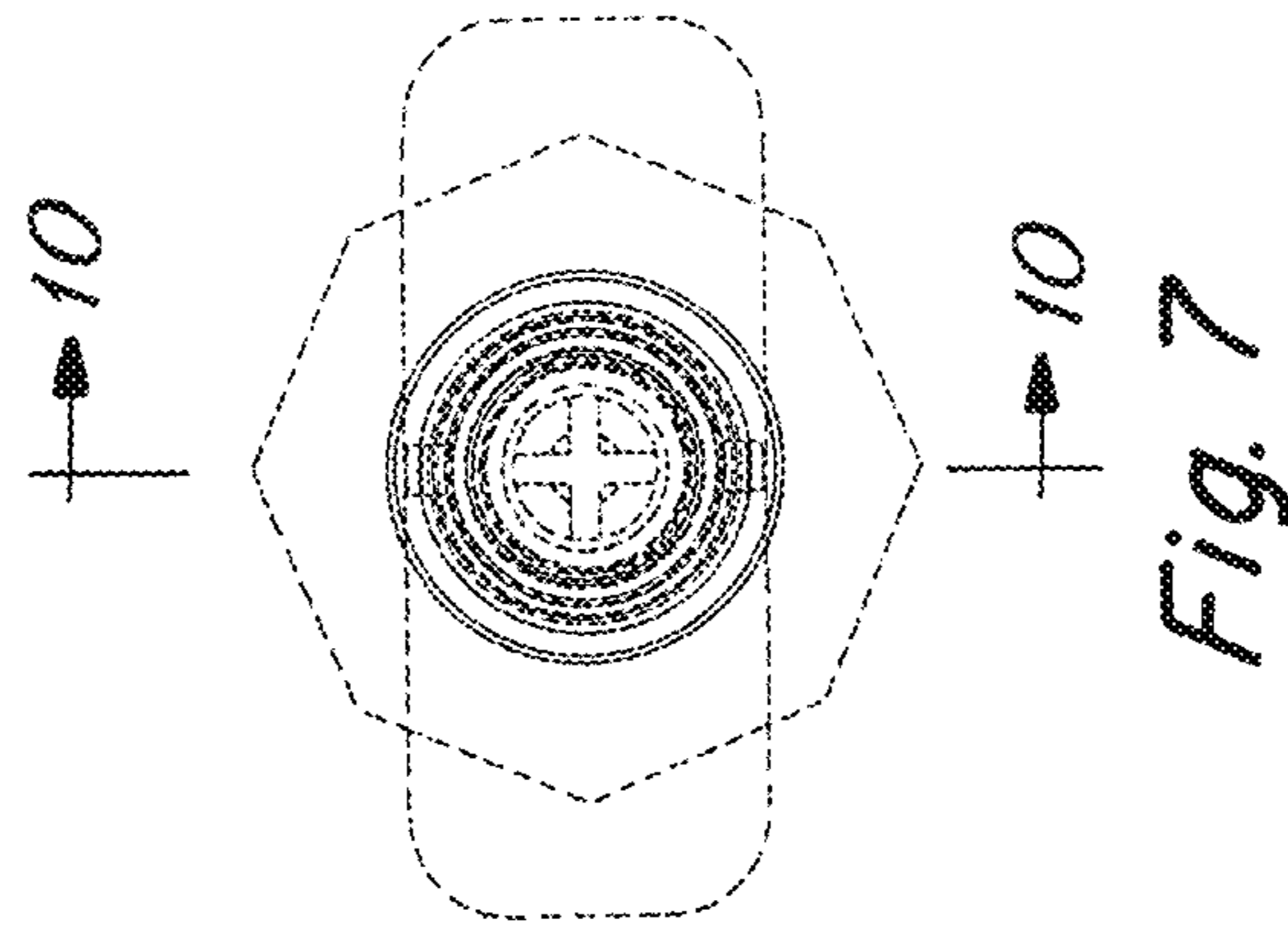


Fig. 5



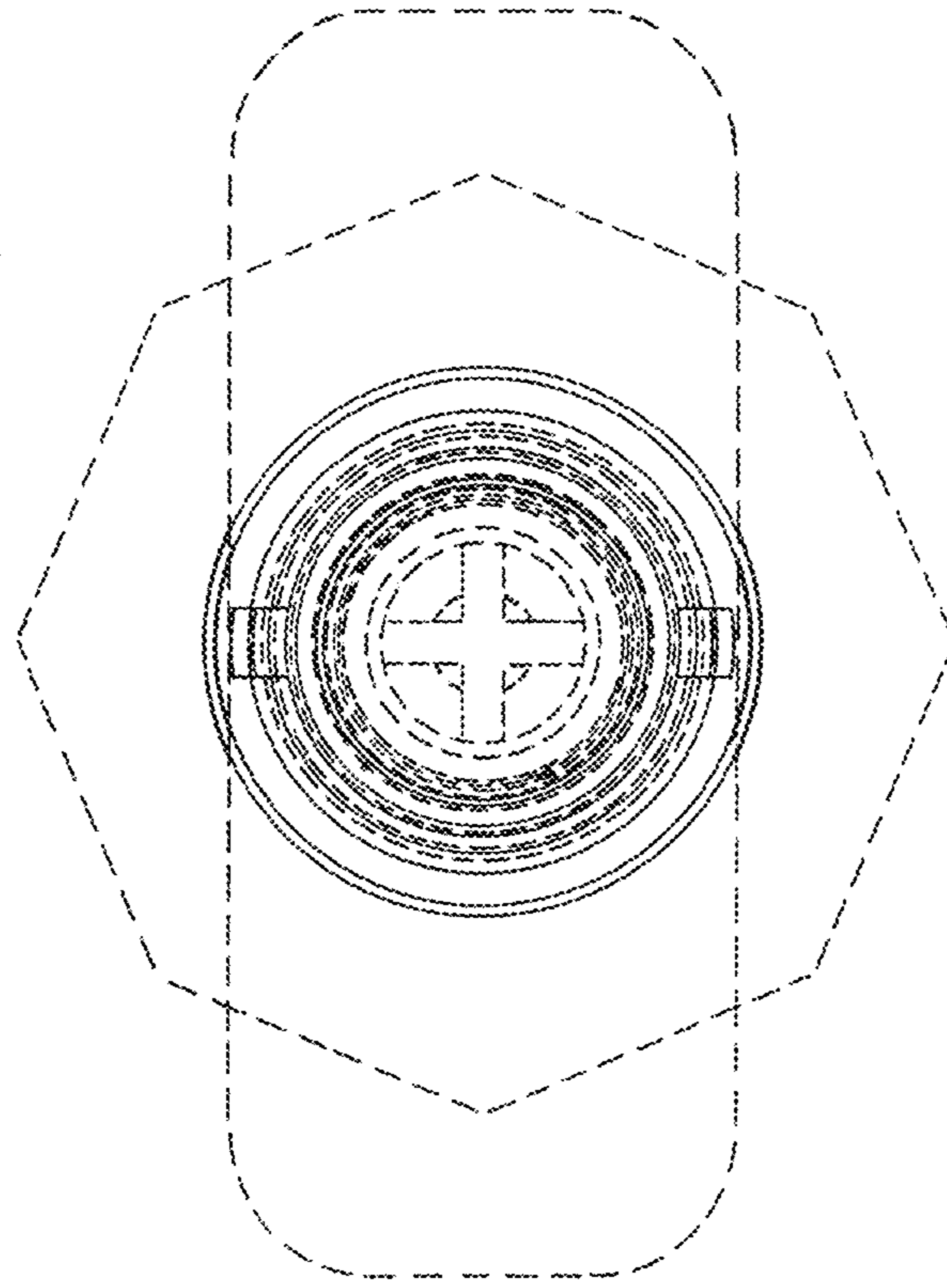


Fig. 9

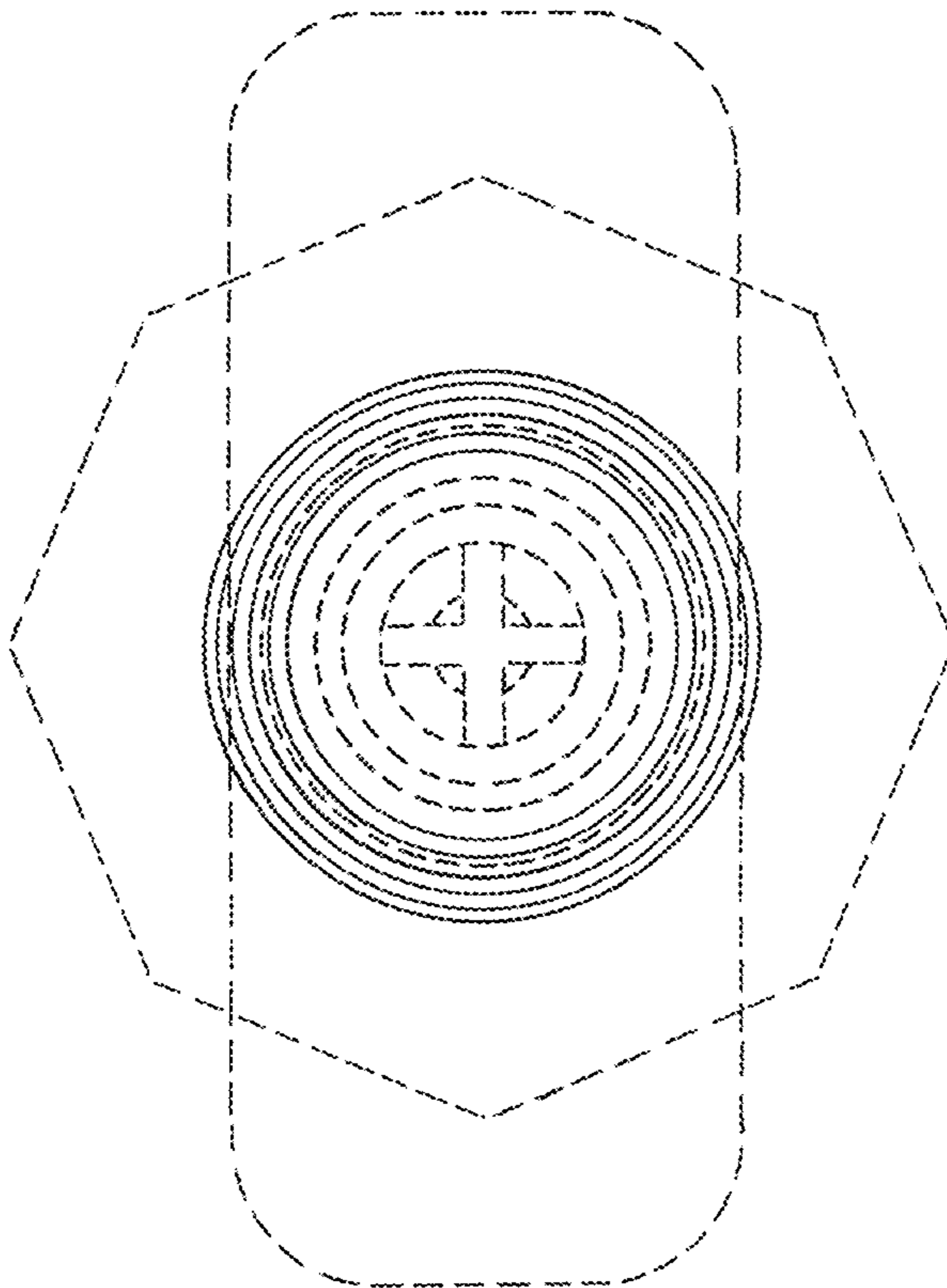


Fig. 8

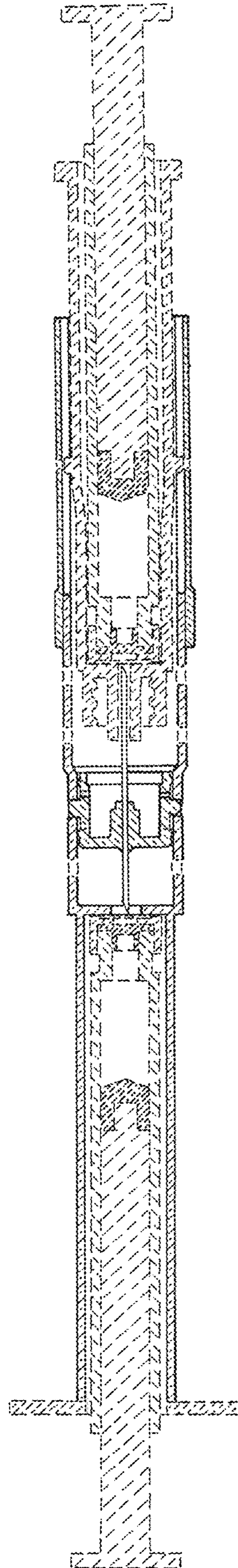


Fig. 10

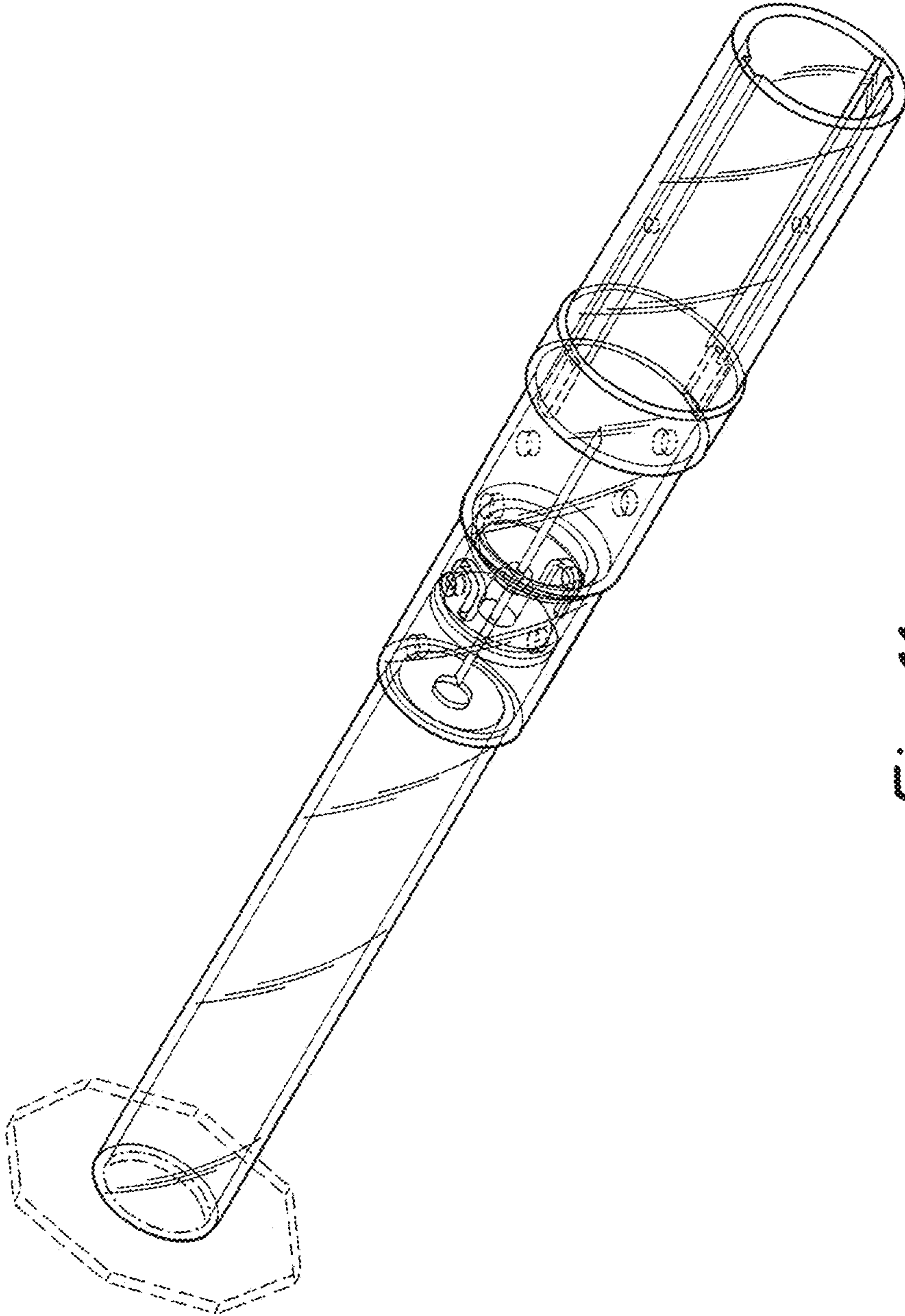


Fig. 11

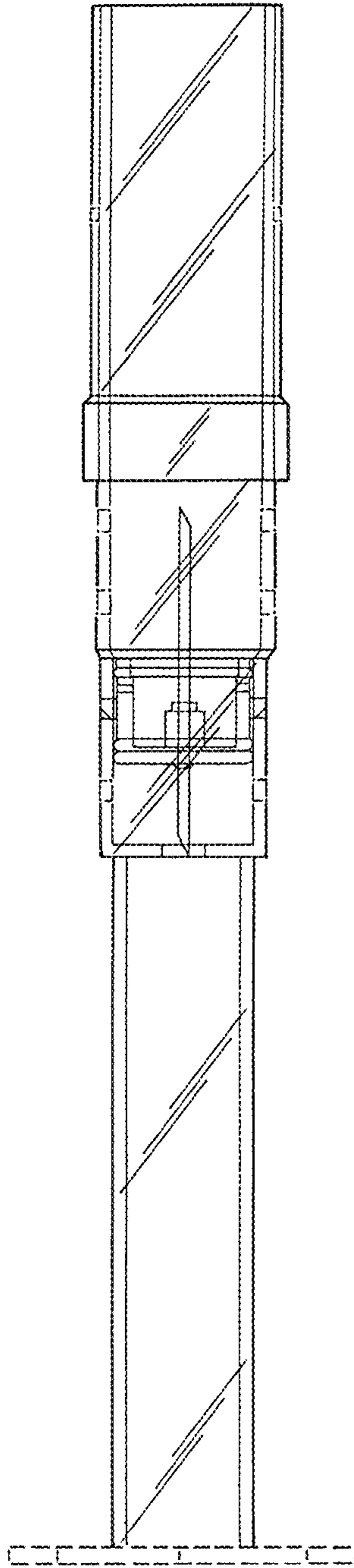


Fig. 12

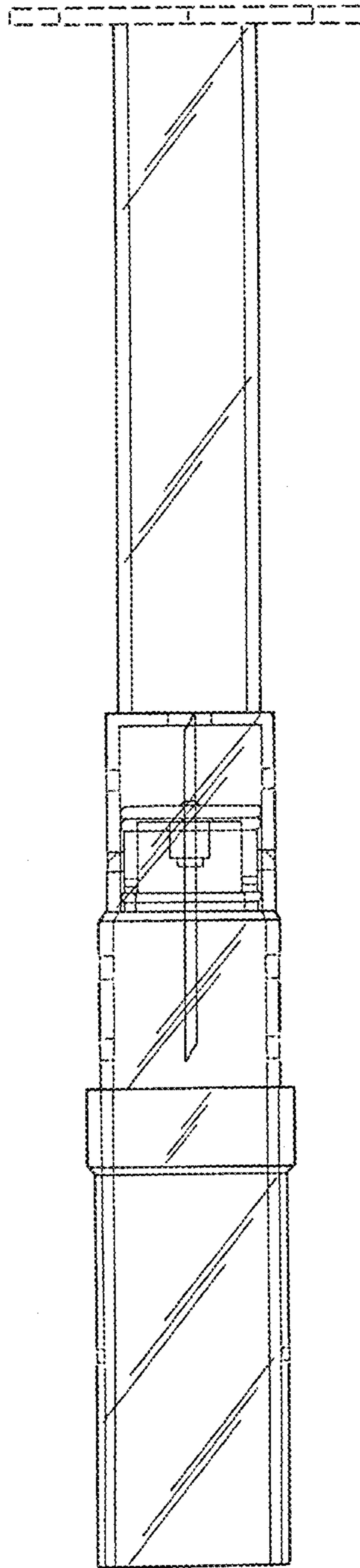


Fig. 13

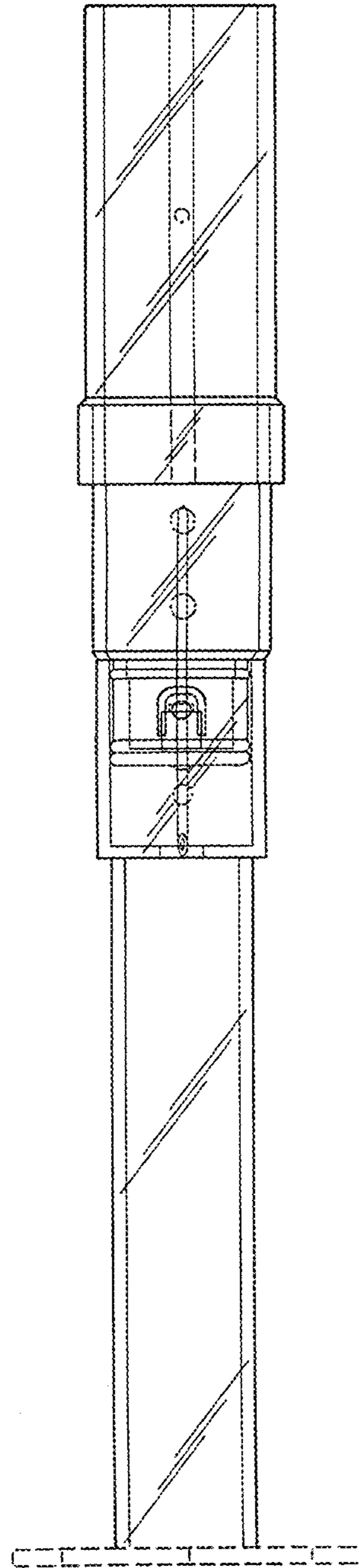


Fig. 14

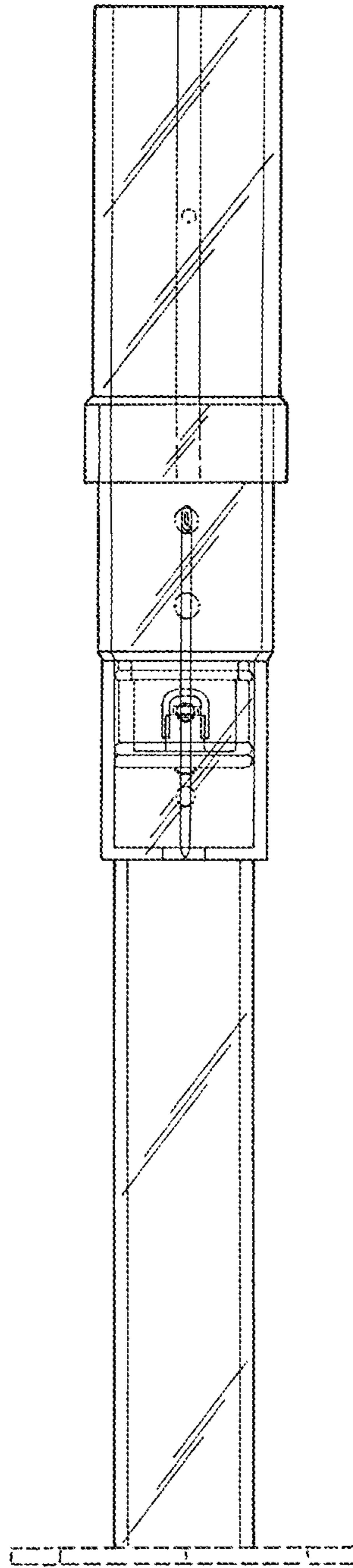


Fig. 15

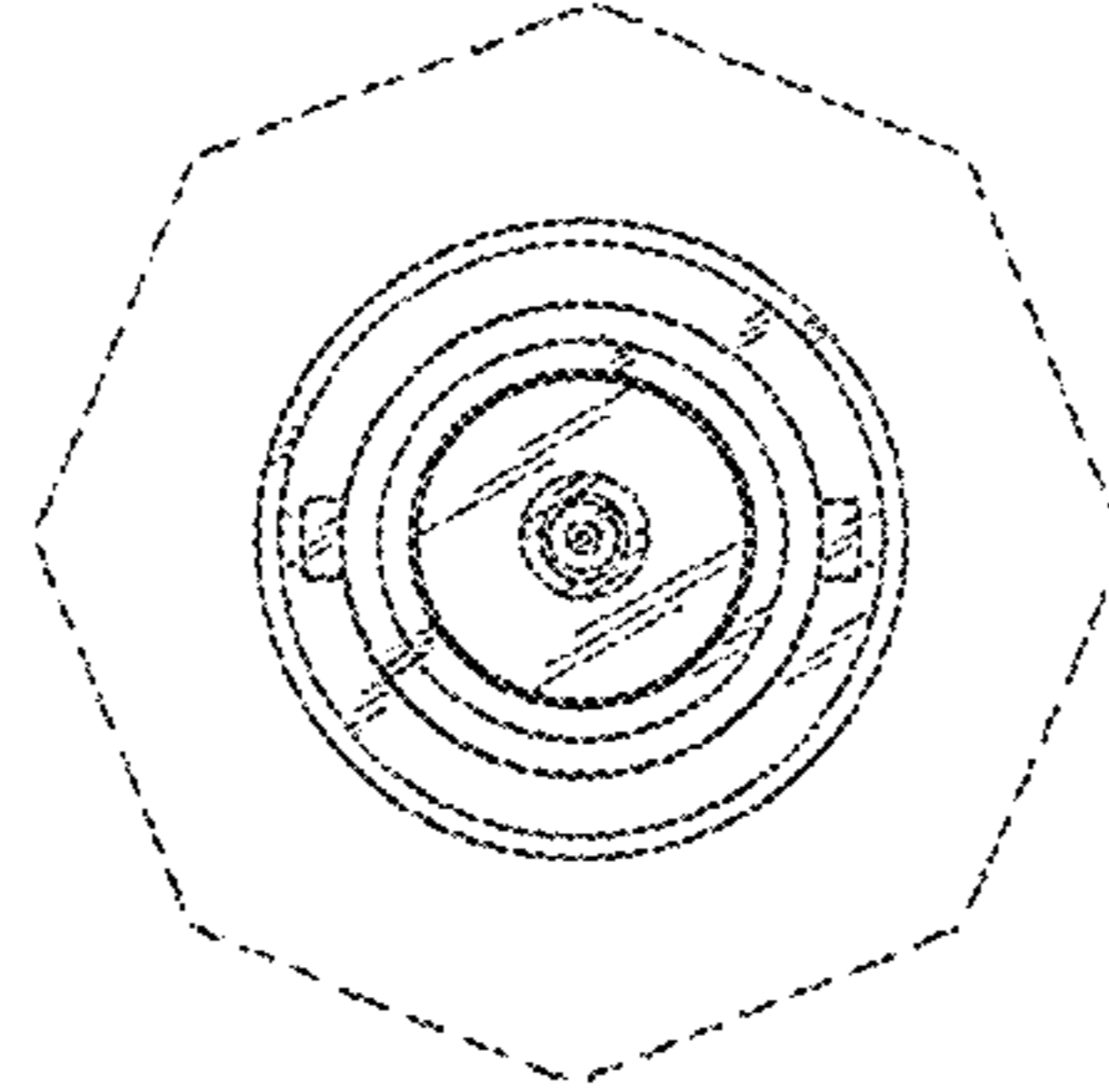


Fig. 17

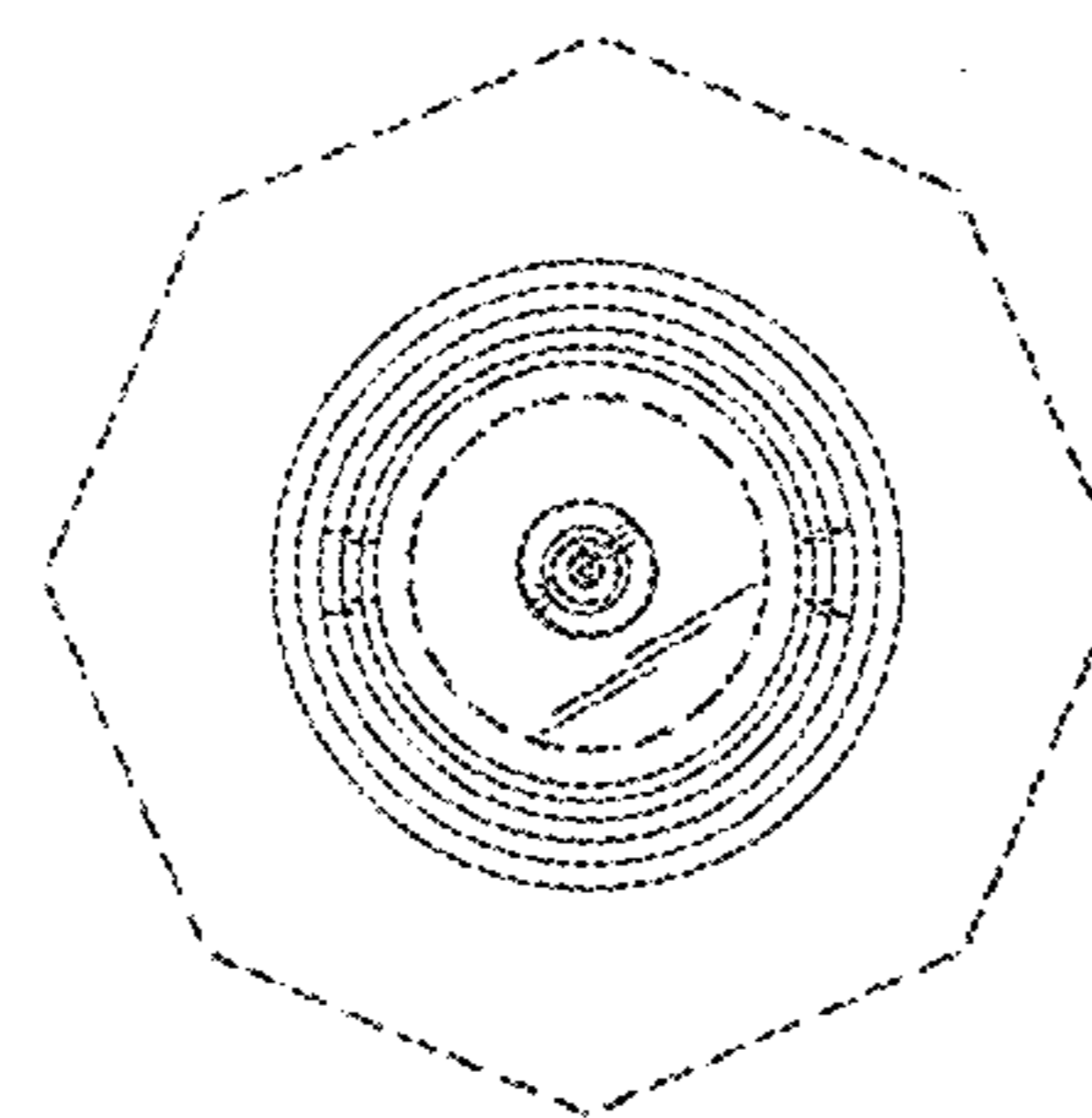


Fig. 16

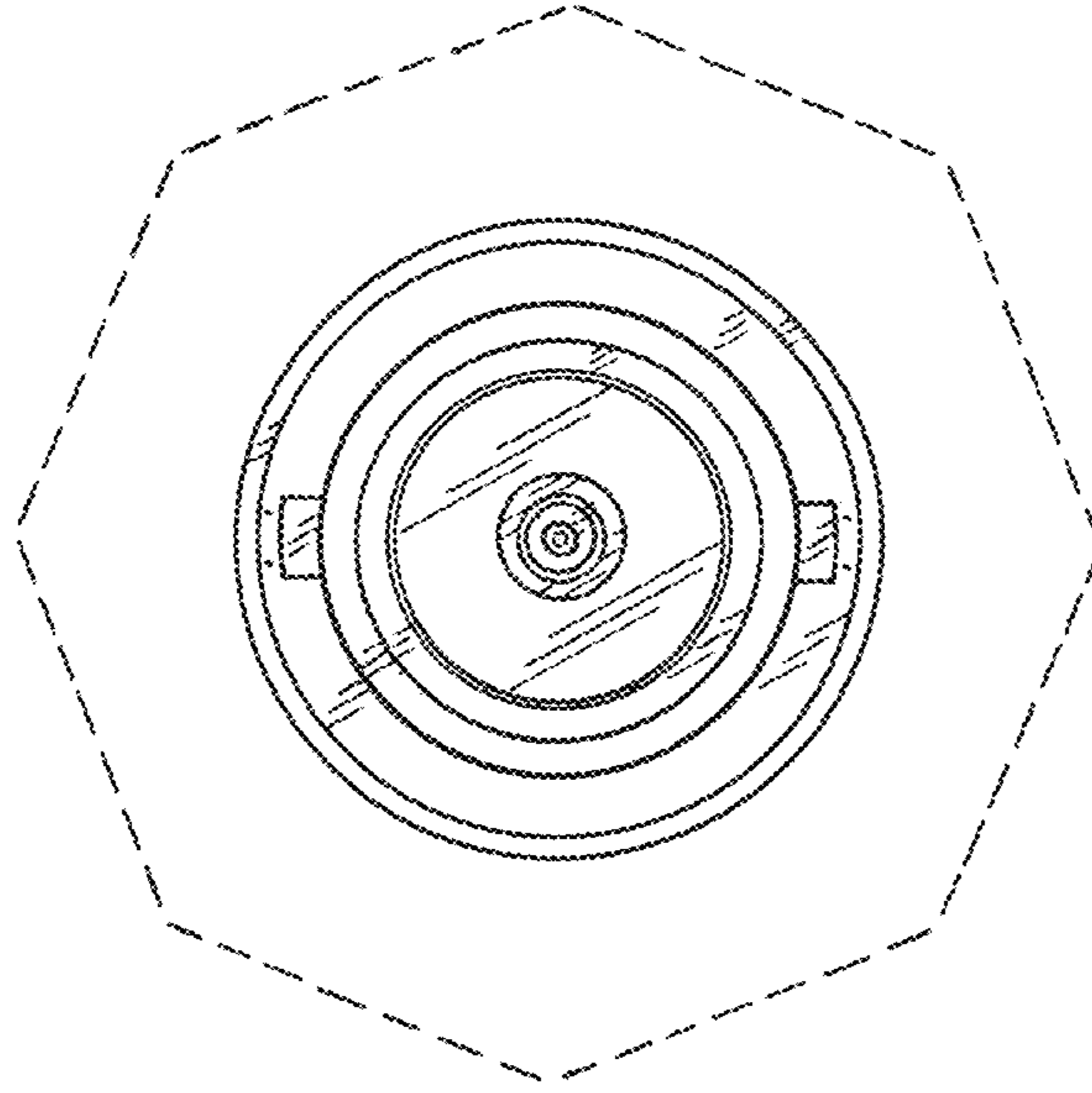


Fig. 19

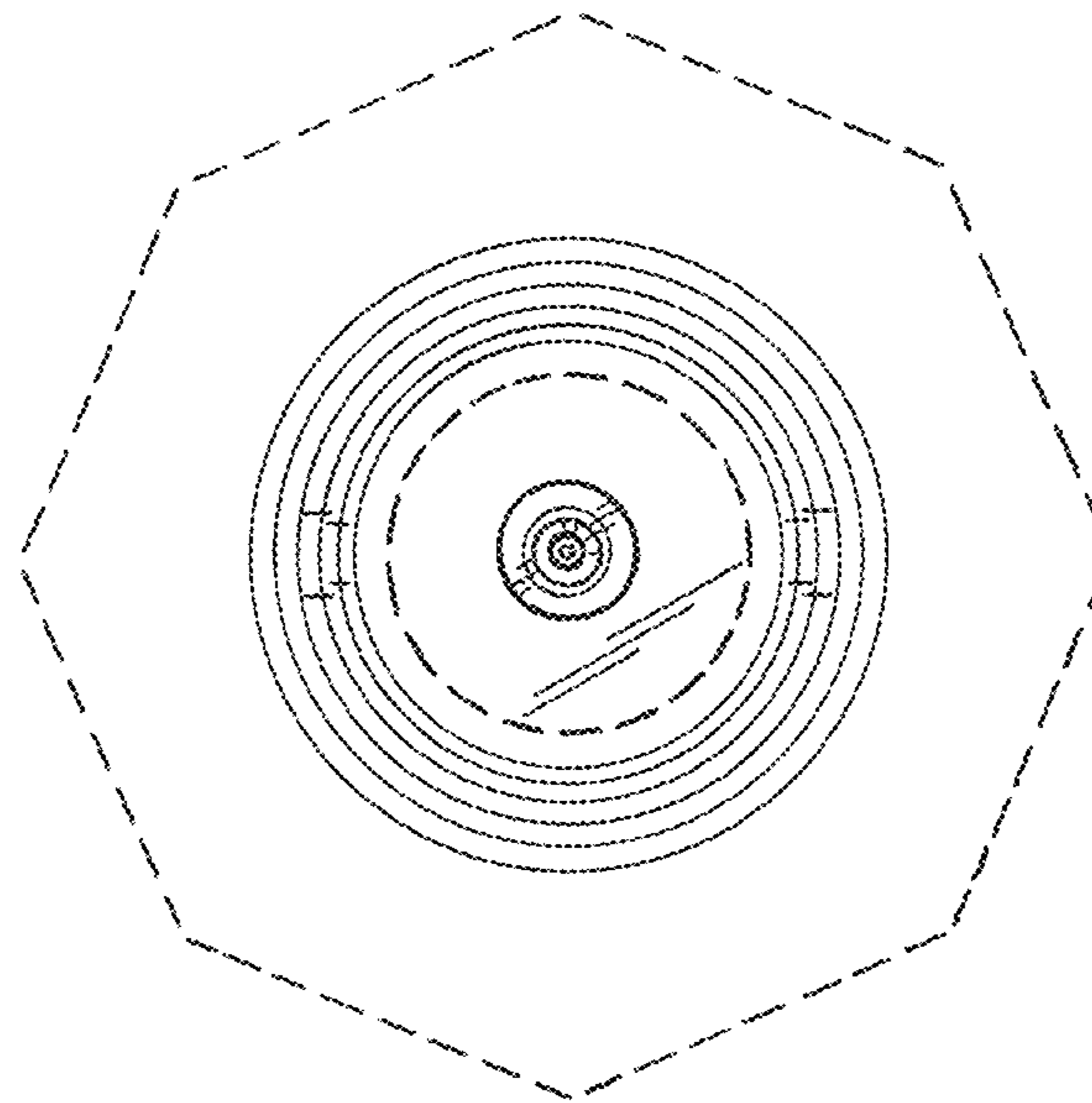


Fig. 18