



US00D854659S

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

(10) **Patent No.:** **US D854,659 S**

(45) **Date of Patent:** **** Jul. 23, 2019**

(54) **REGULATOR**

DESCRIPTION

- (71) Applicant: **SMC CORPORATION**, Tokyo (JP)
- (72) Inventors: **Shuichi Sakamoto**, Tsukubamirai (JP);
Hiroaki Ishihara, Tsukubamirai (JP);
Hisaei Shimane, Tsukubamirai (JP);
Mizuna Iida, Tsukubamirai (JP)
- (73) Assignee: **SMC CORPORATION**, Tokyo (JP)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/639,584**
- (22) Filed: **Mar. 7, 2018**
- (30) **Foreign Application Priority Data**

Sep. 8, 2017 (CN) 2017 3 0423955

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

(52) **U.S. Cl.**
USPC **D23/235**

(58) **Field of Classification Search**
USPC D23/233-269; D10/83, 85; 91/394, 395,
91/407, 408; 92/15-17, 28, 51, 52, 68;
137/505.34, 505, 505.42, 549, 557
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D410,525 S * 6/1999 Uehara D23/235
D416,310 S * 11/1999 Uehara D23/235
(Continued)

FOREIGN PATENT DOCUMENTS

JP 1005967 S 3/1998
JP 1061594 S 2/2000
(Continued)

Primary Examiner — Cynthia Ramirez

Assistant Examiner — Gino Colan

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

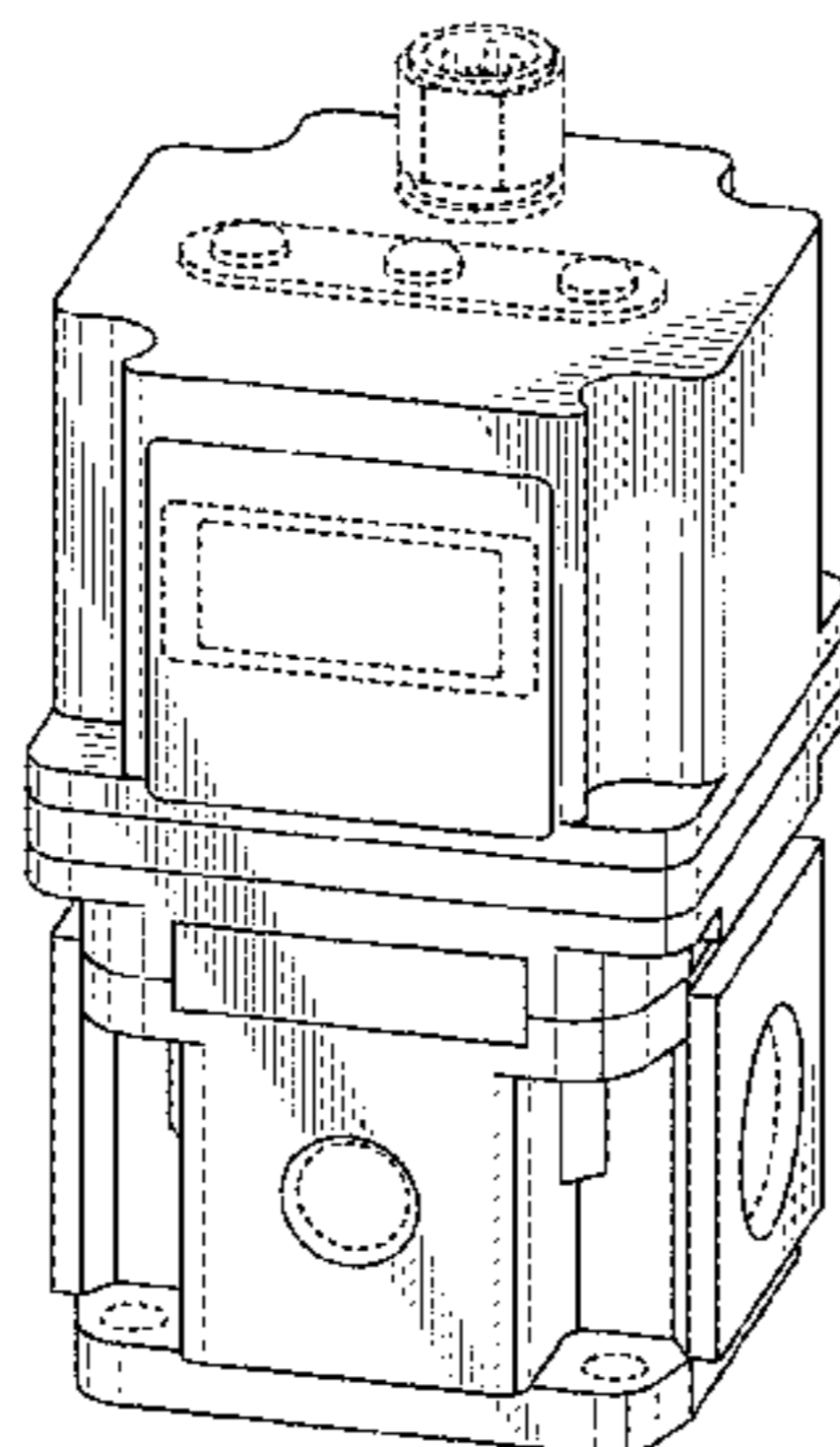
(57) **CLAIM**

The ornamental design for a regulator, as shown and described.

FIG. 1 is a front, top and right side perspective view of a regulator showing a first embodiment of our 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 a regulator showing a second embodiment of our 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; FIG. 16 is a right side view of FIG. 9; FIG. 17 is a front, top and right side perspective view of a regulator showing a third embodiment of our new design; FIG. 18 is a rear, bottom and left side perspective view of FIG. 17; FIG. 19 is a front view of FIG. 17; FIG. 20 is a rear view of FIG. 17; FIG. 21 is a top plan view of FIG. 17; FIG. 22 is a bottom plan view of FIG. 17; FIG. 23 is a left side view of FIG. 17; FIG. 24 is a right side view of FIG. 17; FIG. 25 is a front, top and right side perspective view of a regulator showing a fourth embodiment of our new design; FIG. 26 is a rear, bottom and left side perspective view of FIG. 25; FIG. 27 is a front view of FIG. 25; FIG. 28 is a rear view of FIG. 25; FIG. 29 is a top plan view of FIG. 25; FIG. 30 is a bottom plan view of FIG. 25; FIG. 31 is a left side view of FIG. 25; and, FIG. 32 is a right side view of FIG. 25.

The broken lines shown in the figures are included for the purpose of illustrating portions of the regulator and form no part of the claimed design.

1 Claim, 32 Drawing Sheets



(58) **Field of Classification Search**

CPC F16K 17/00; F16K 1/123; F16K 47/04;
F16K 47/08

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D633,986	S	*	3/2011	Ito	.....	D23/233
D640,153	S	*	6/2011	Okitsu	.....	D10/85
D640,154	S	*	6/2011	Okitsu	.....	D10/85
D644,298	S	*	8/2011	Okitsu	.....	D23/235
D644,299	S	*	8/2011	Okitsu	.....	D23/235
D717,404	S	*	11/2014	Bailey	.....	D23/249
D737,934	S	*	9/2015	Sakamoto	.....	D23/235
2007/0039651	A1	*	2/2007	De Leeuw	.....	B05B 12/087 137/505.34

FOREIGN PATENT DOCUMENTS

JP	1093508	S	12/2000
JP	1099777	S	2/2001
JP	1520210	S	3/2015

* cited by examiner

FIG. 1

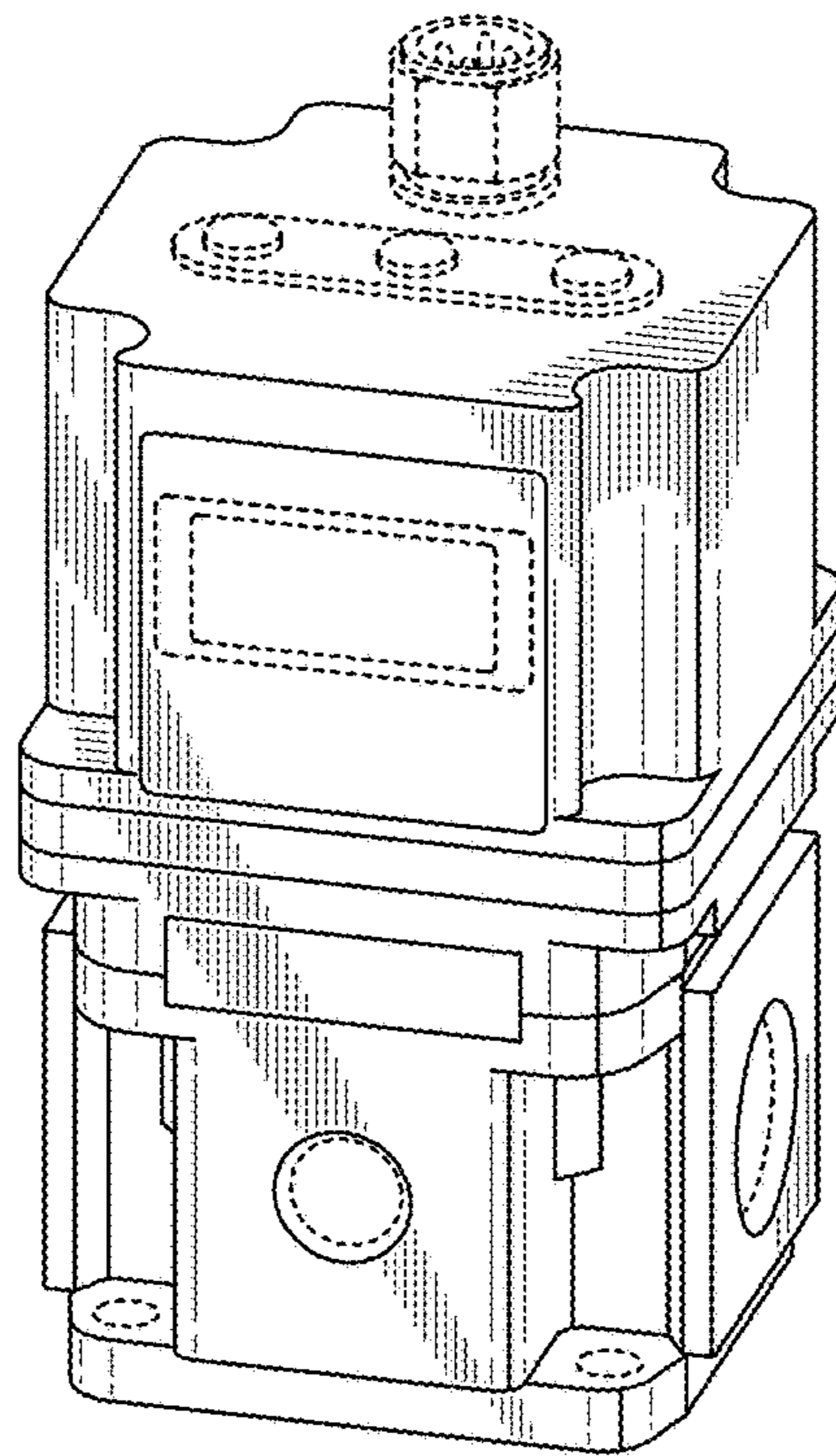


FIG. 2

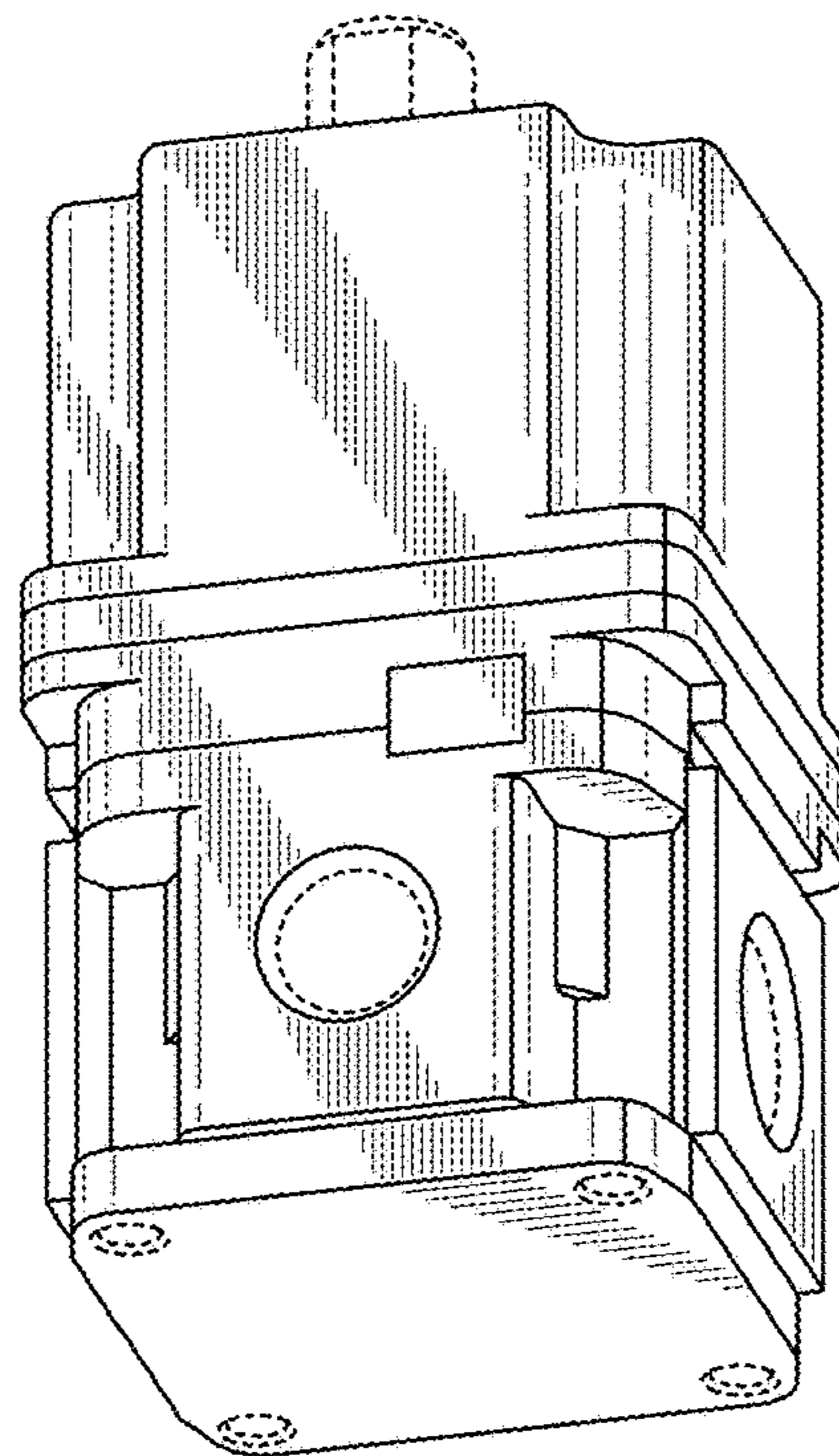


FIG. 3

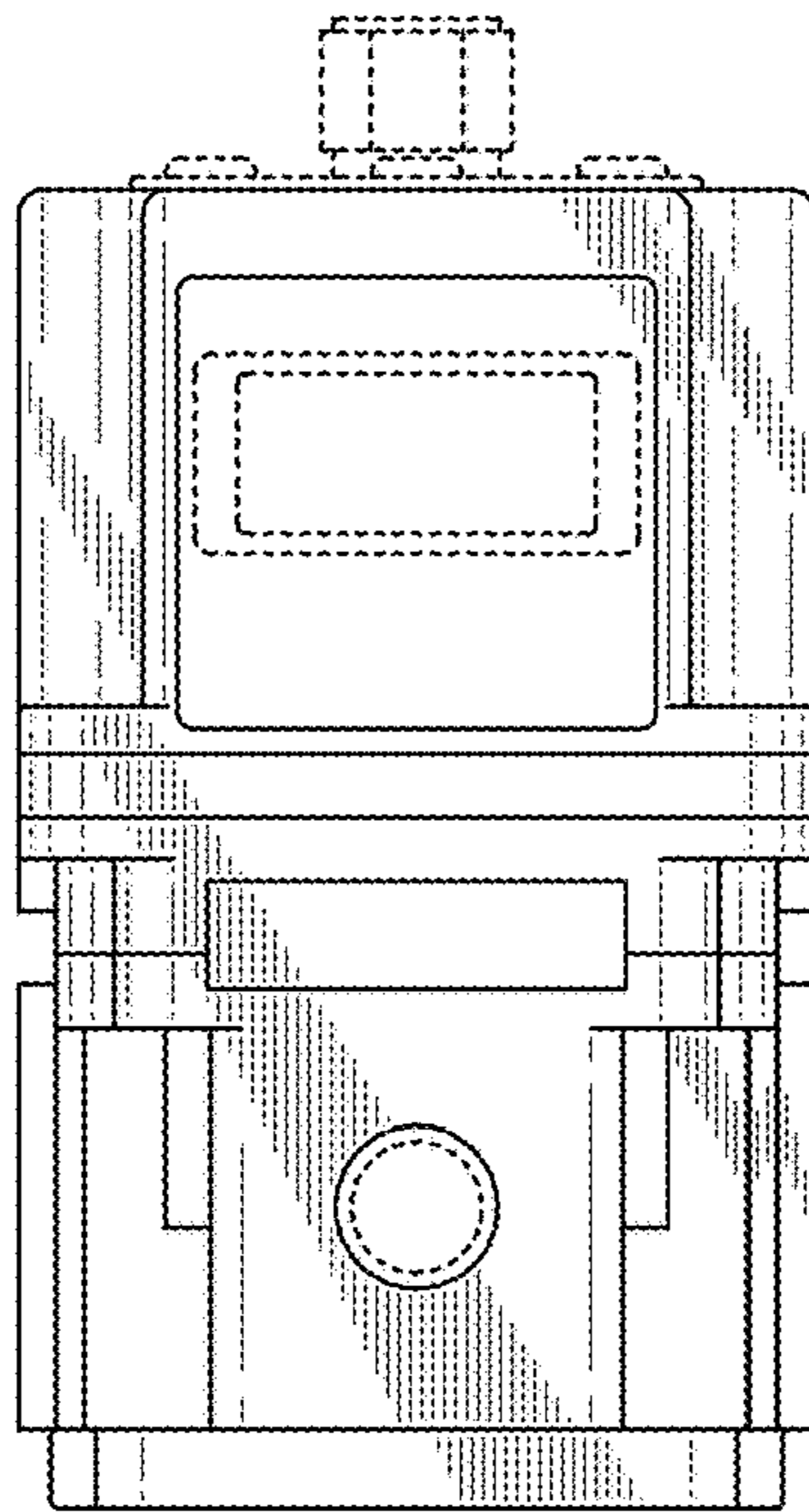


FIG. 4

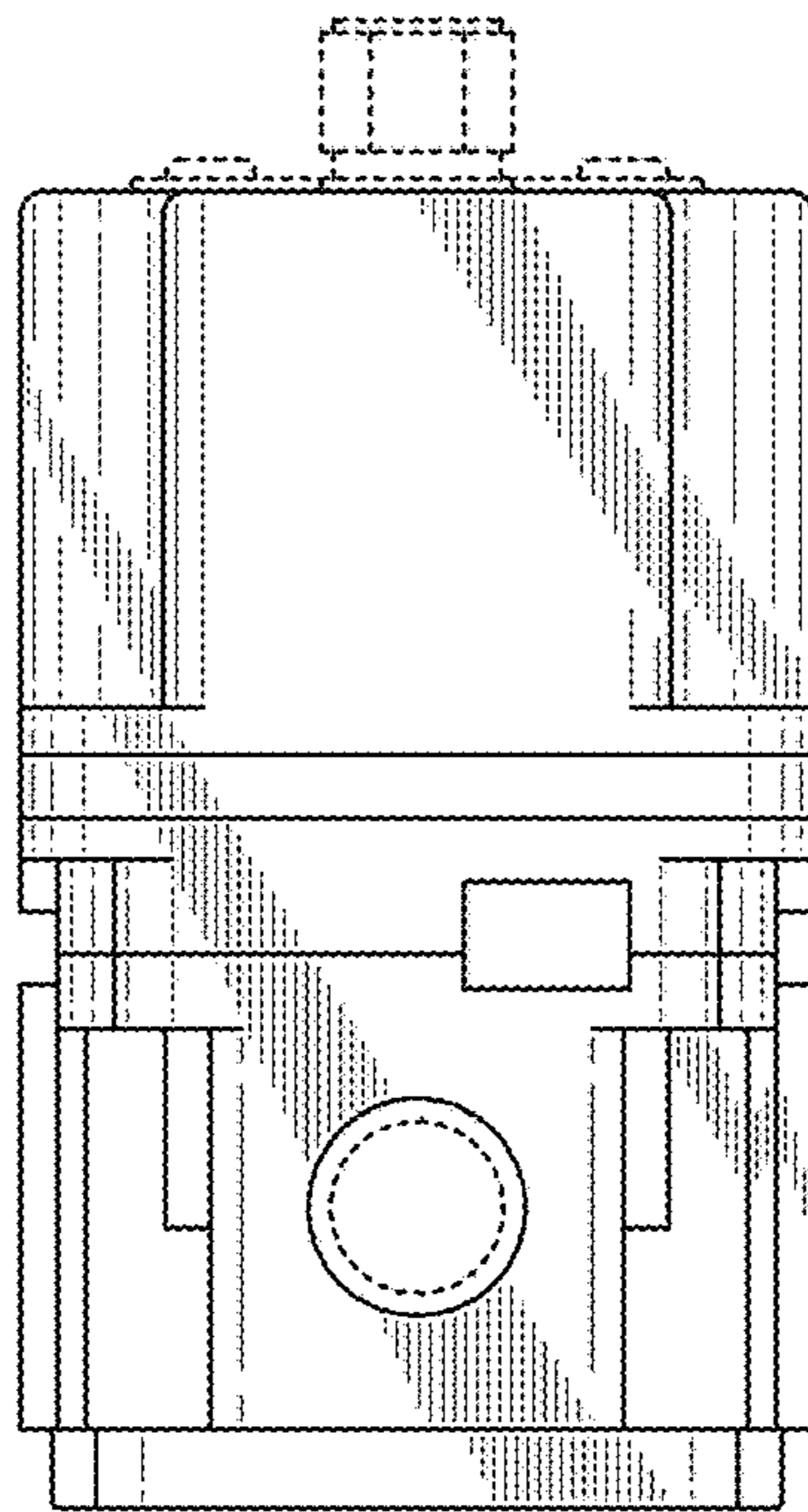


FIG. 5

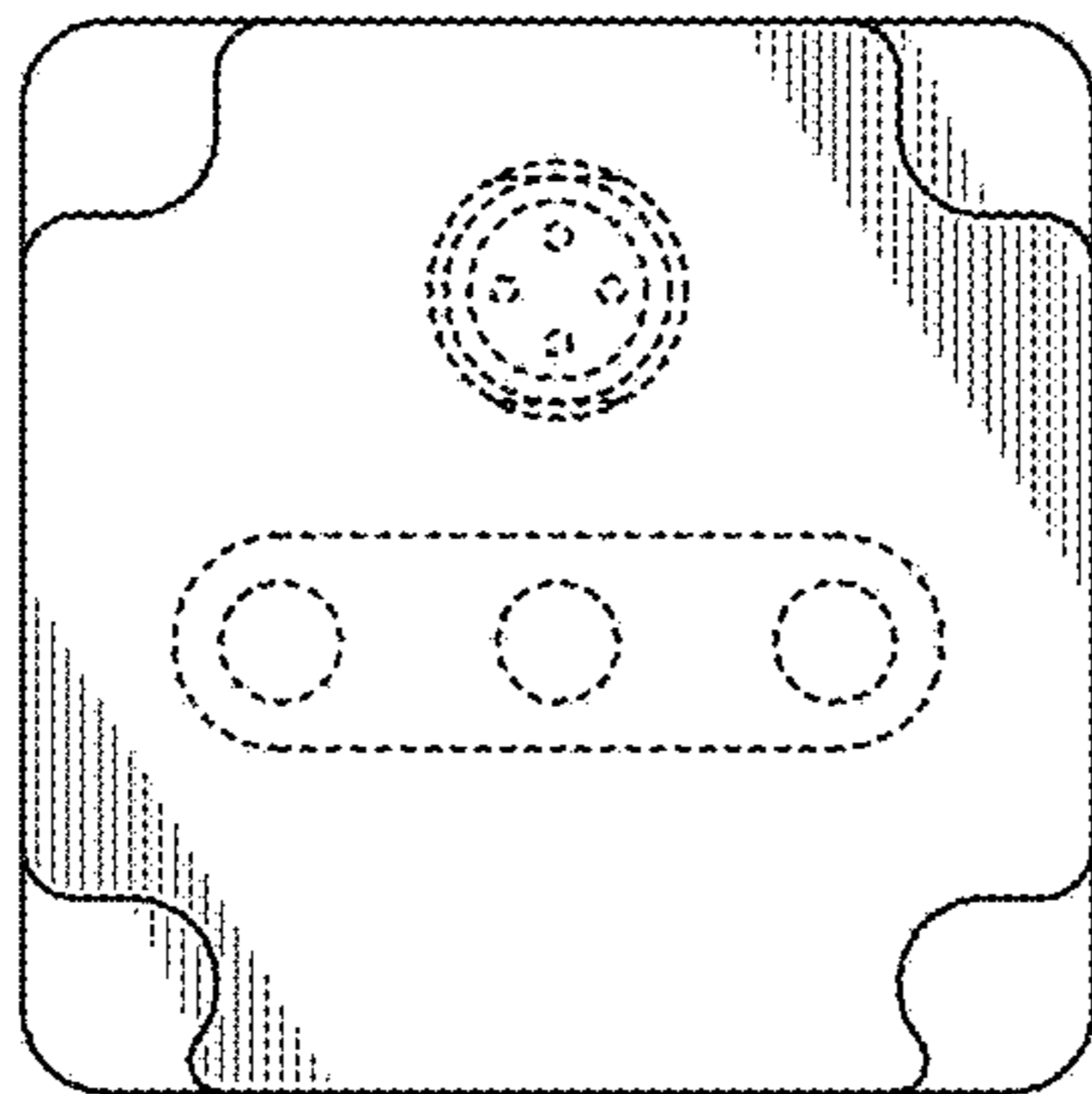


FIG. 6

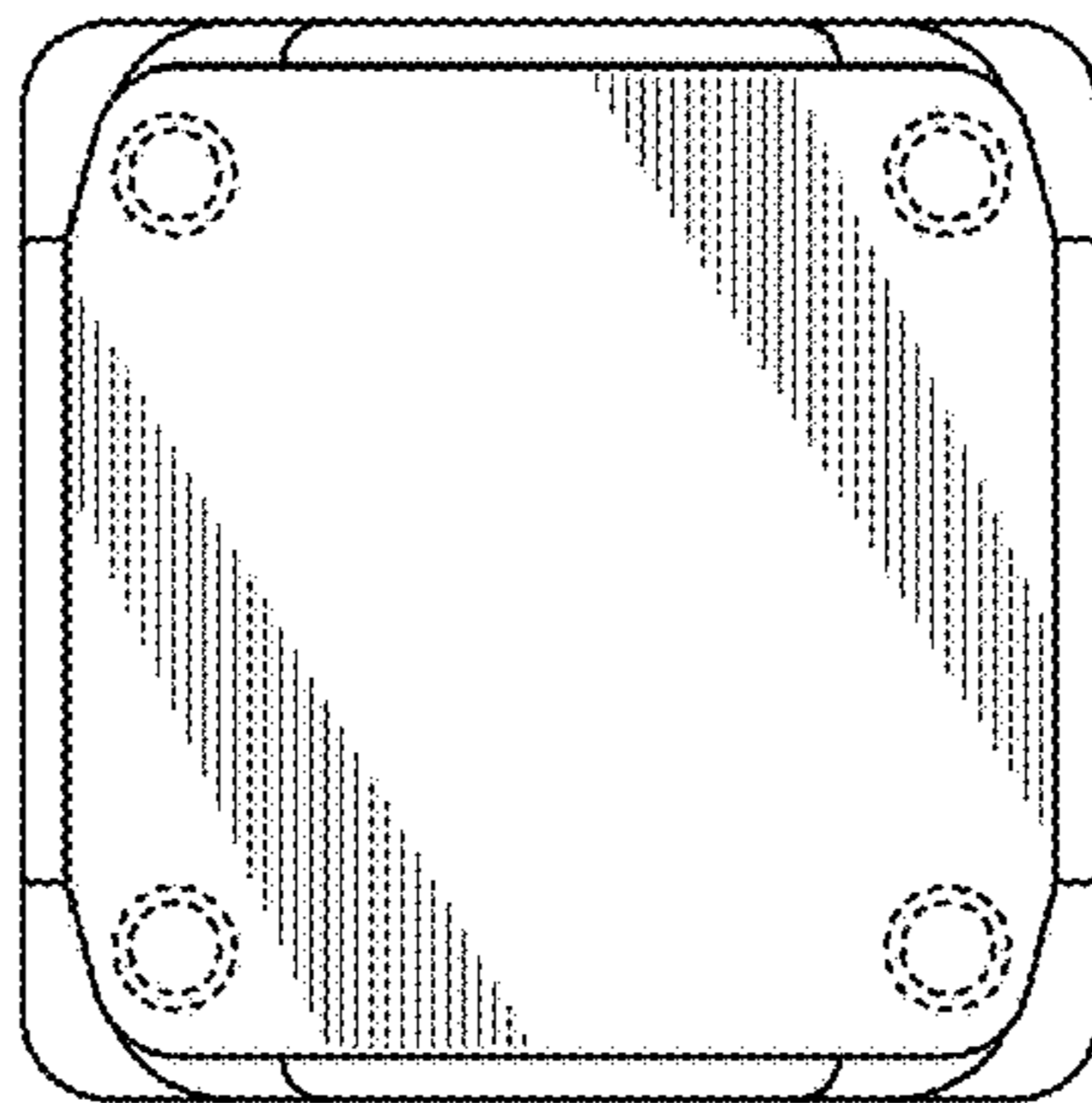


FIG. 7

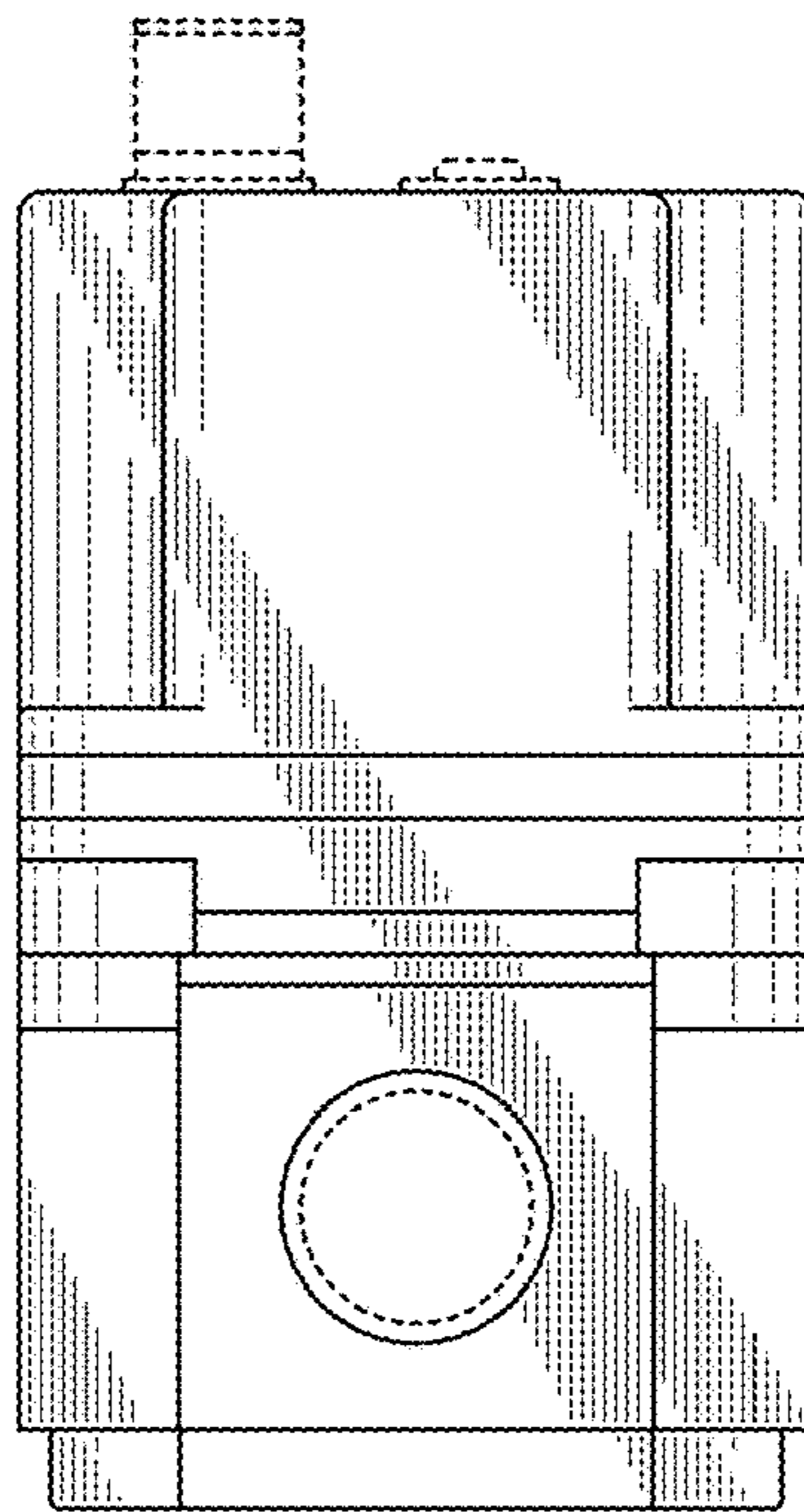


FIG. 8

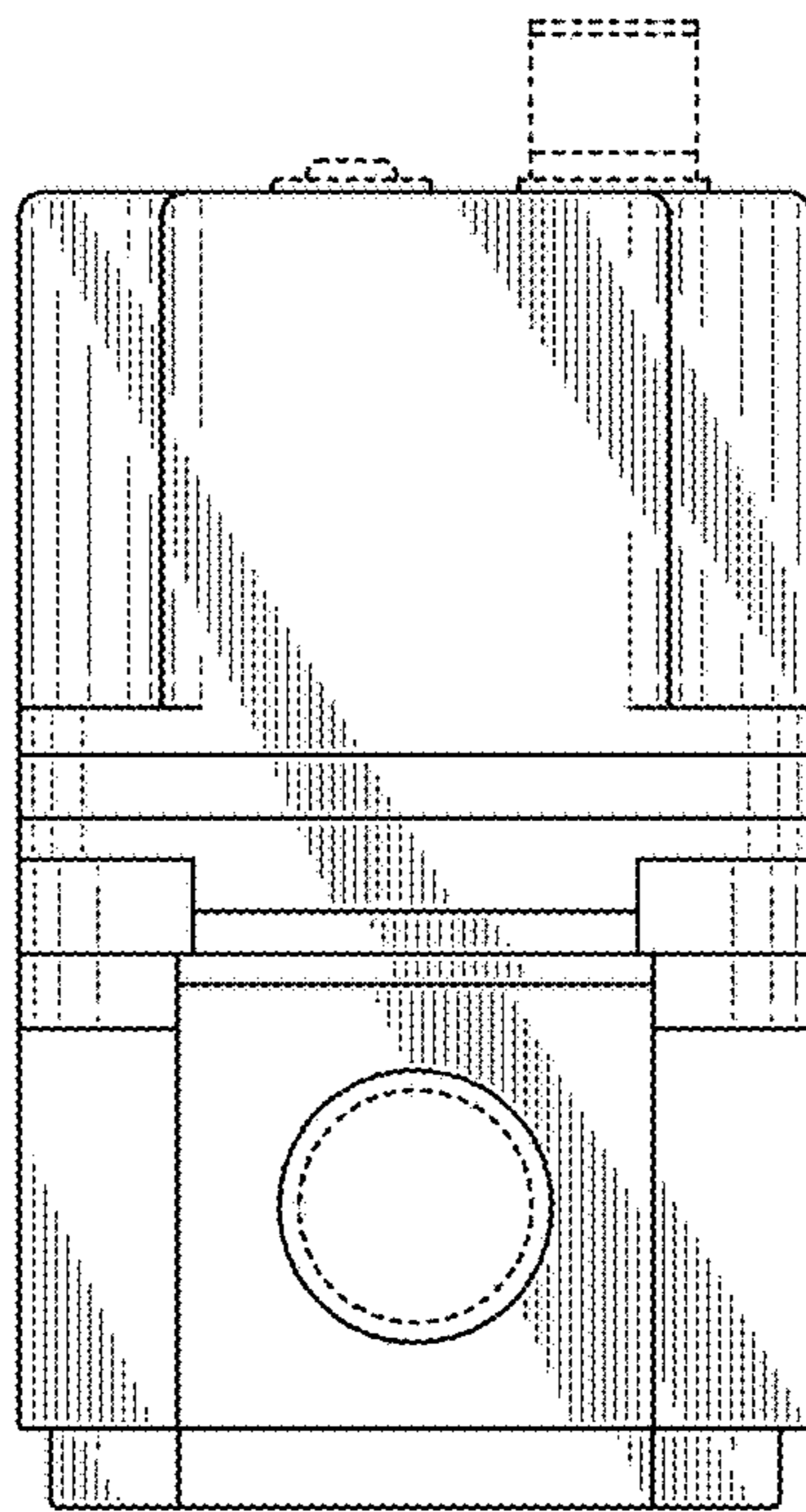


FIG. 9

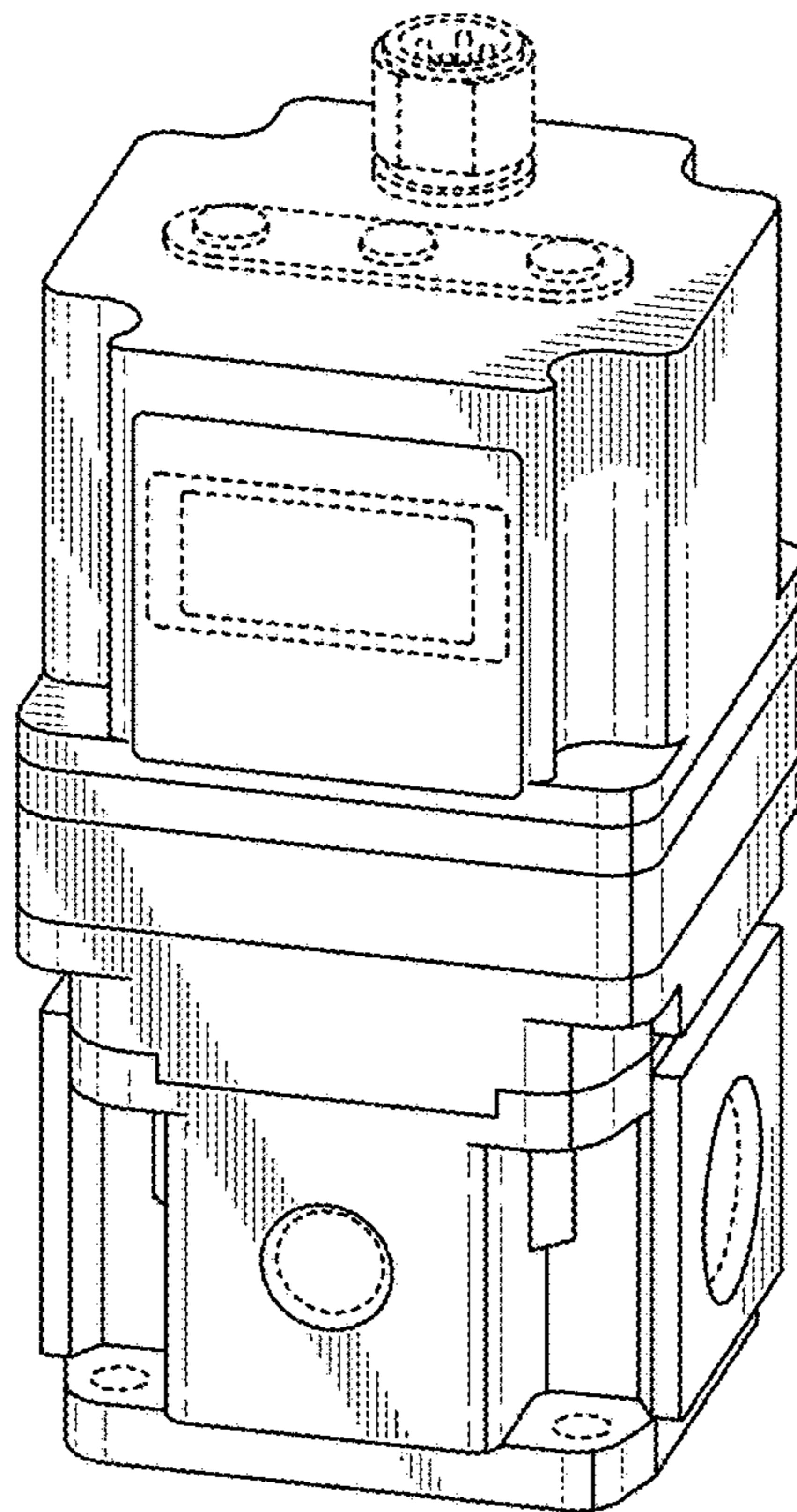


FIG. 10

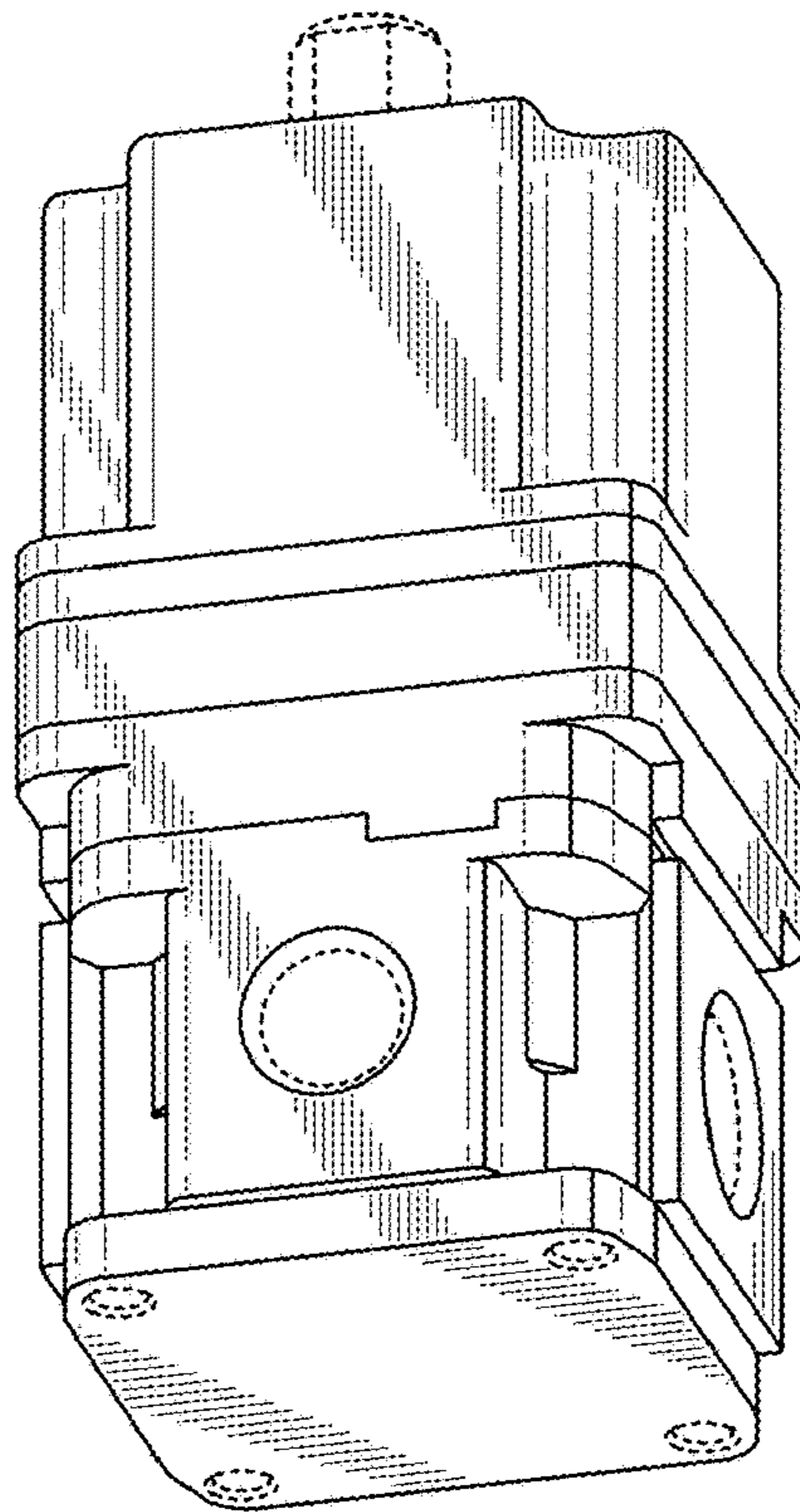


FIG. 11

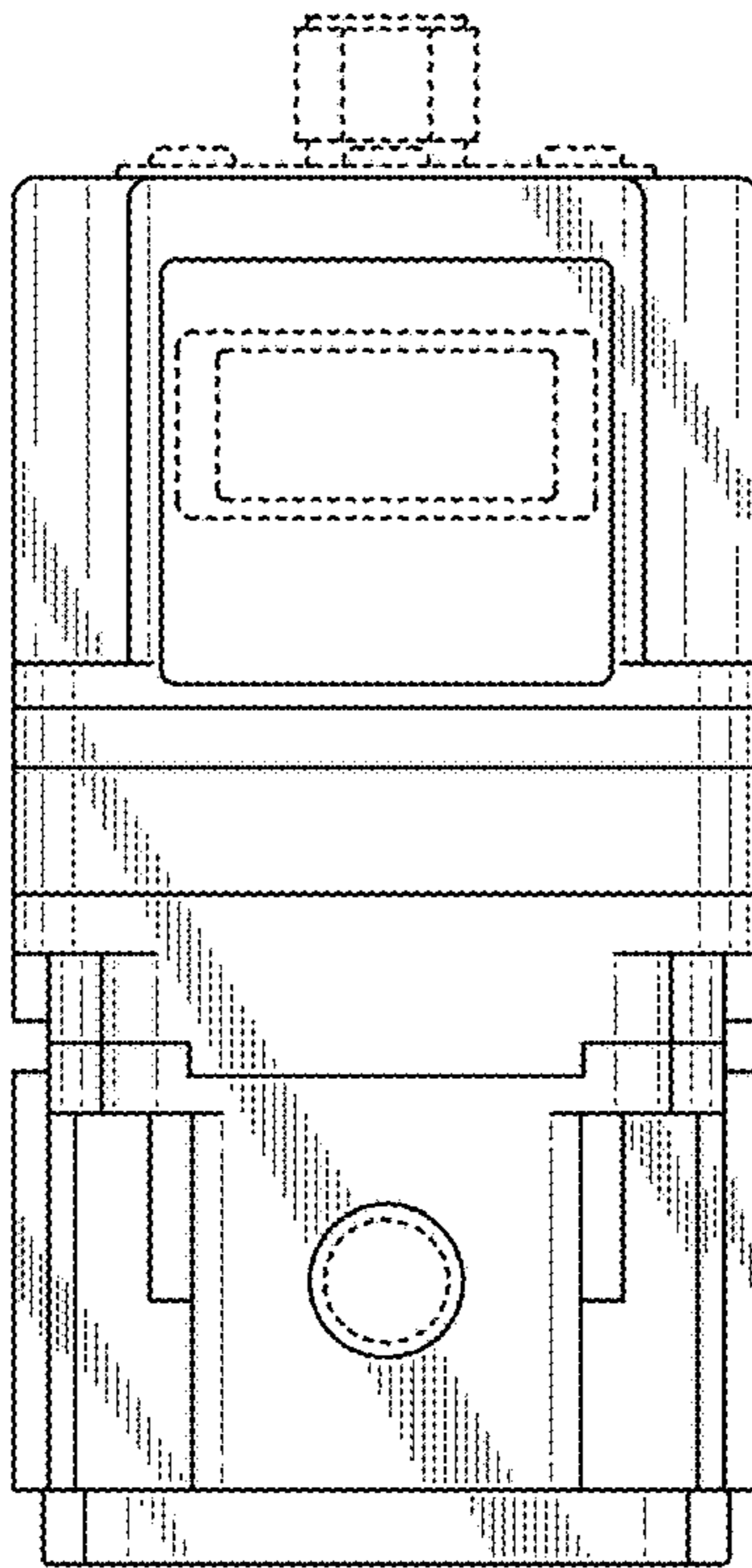


FIG. 12

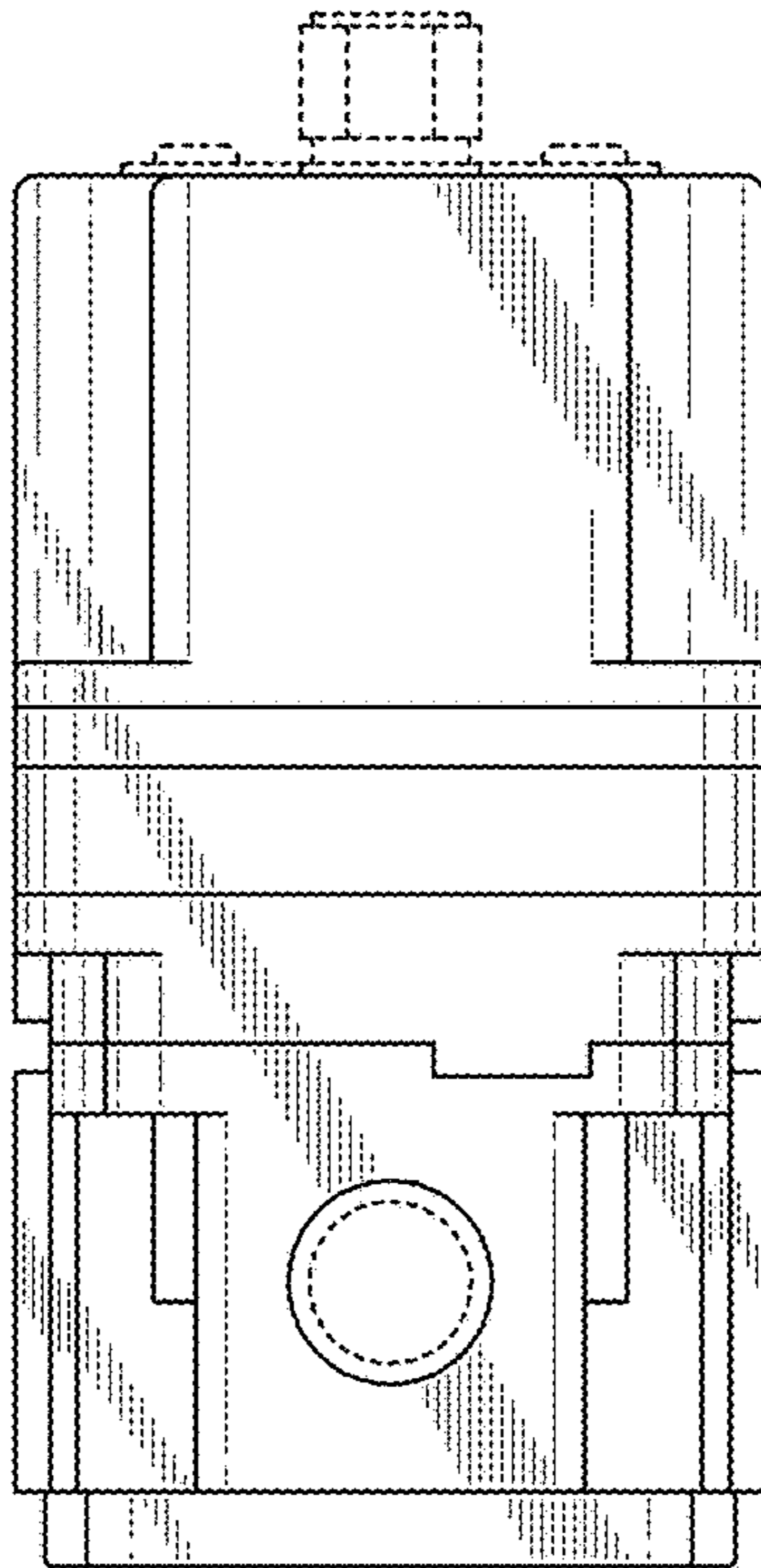


FIG. 13

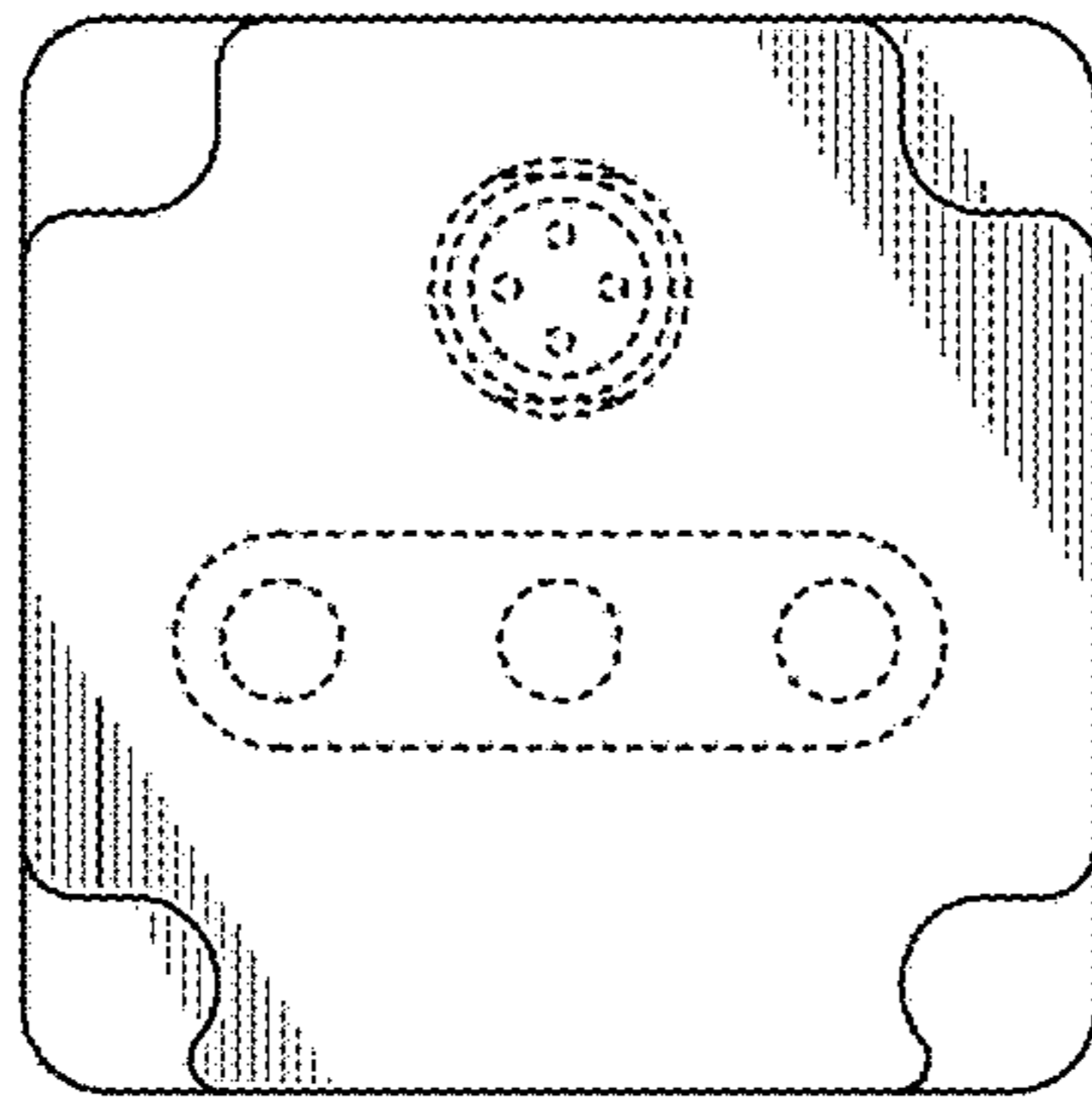


FIG. 14

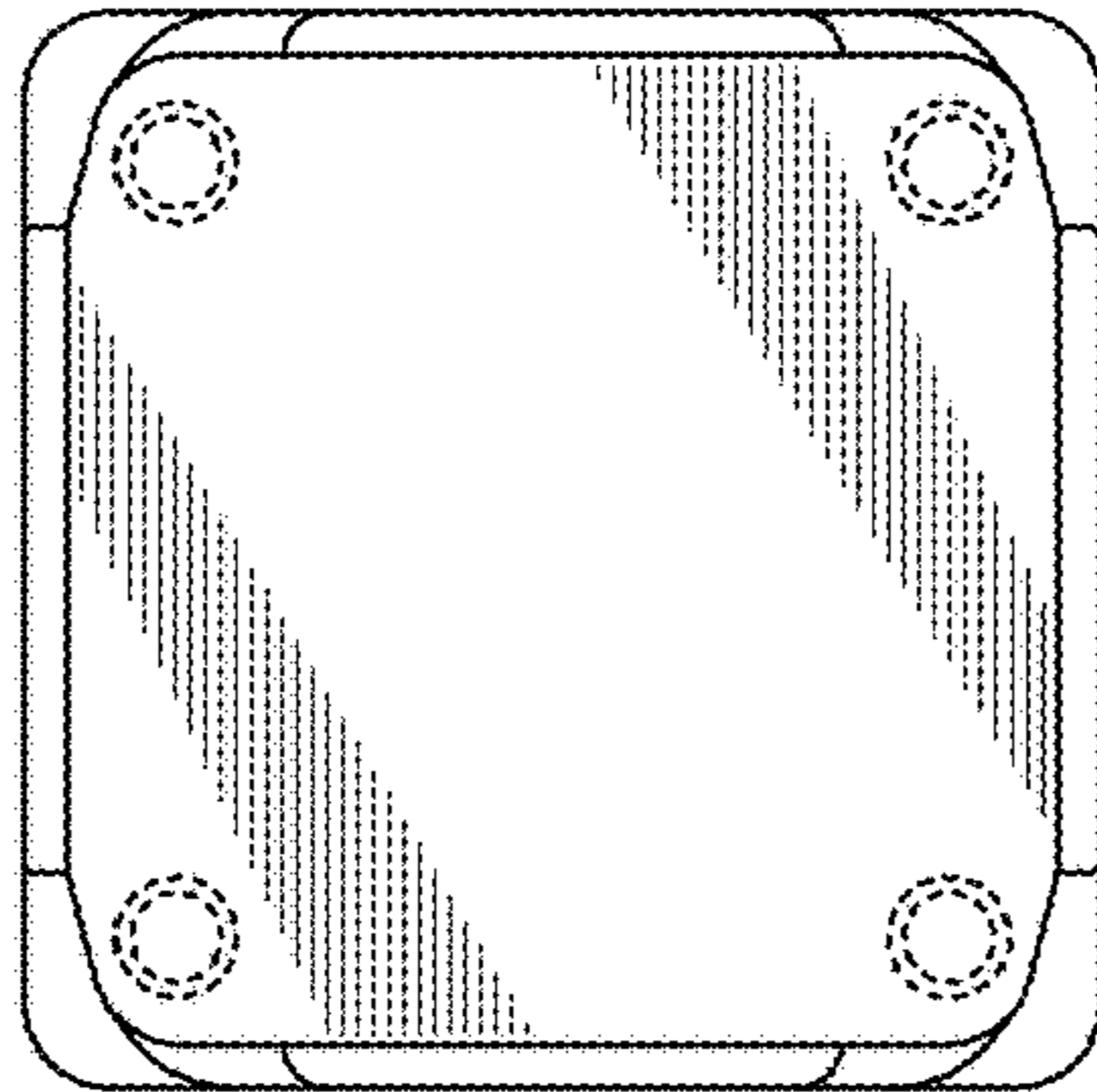


FIG. 15

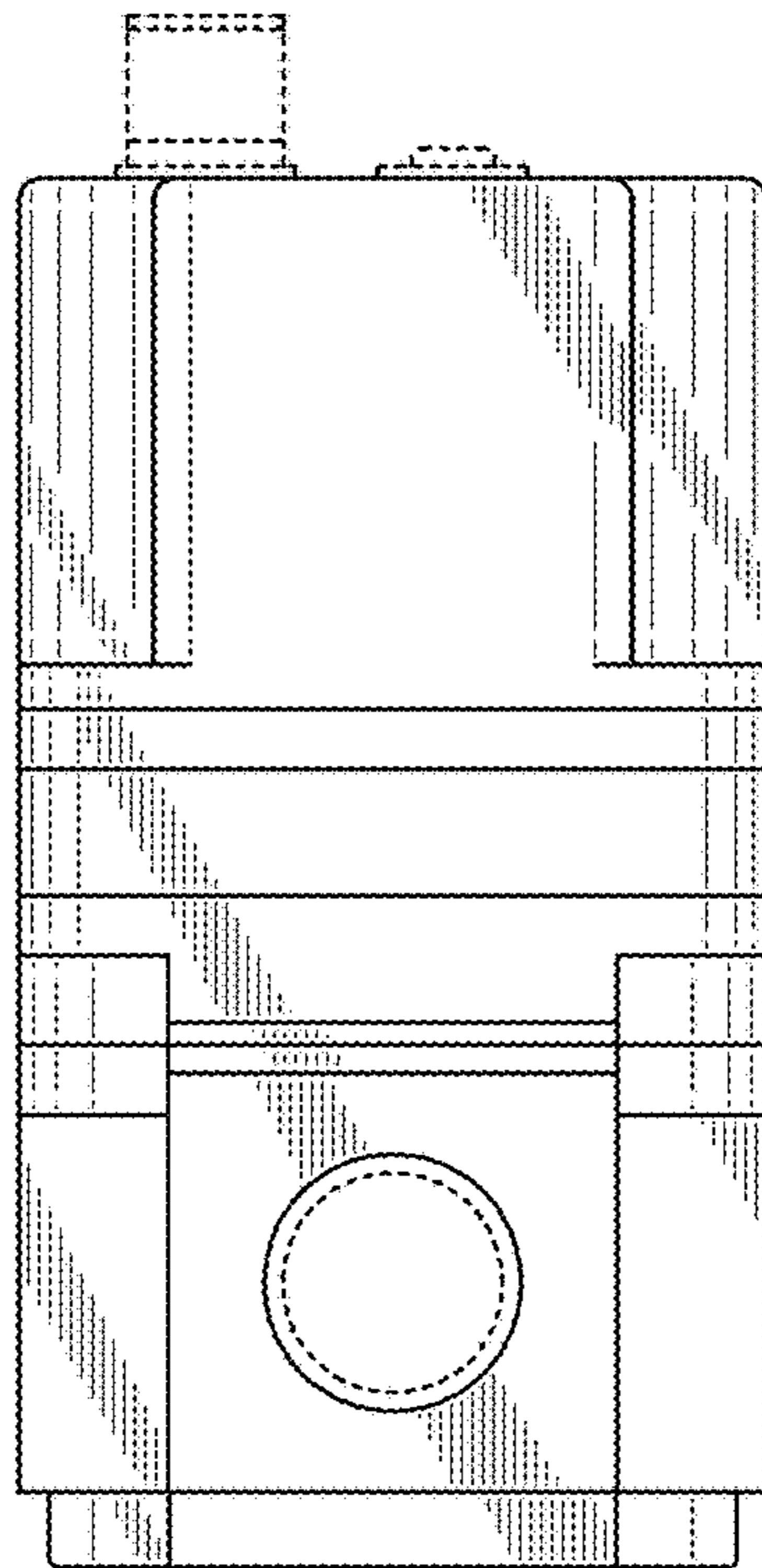


FIG. 16

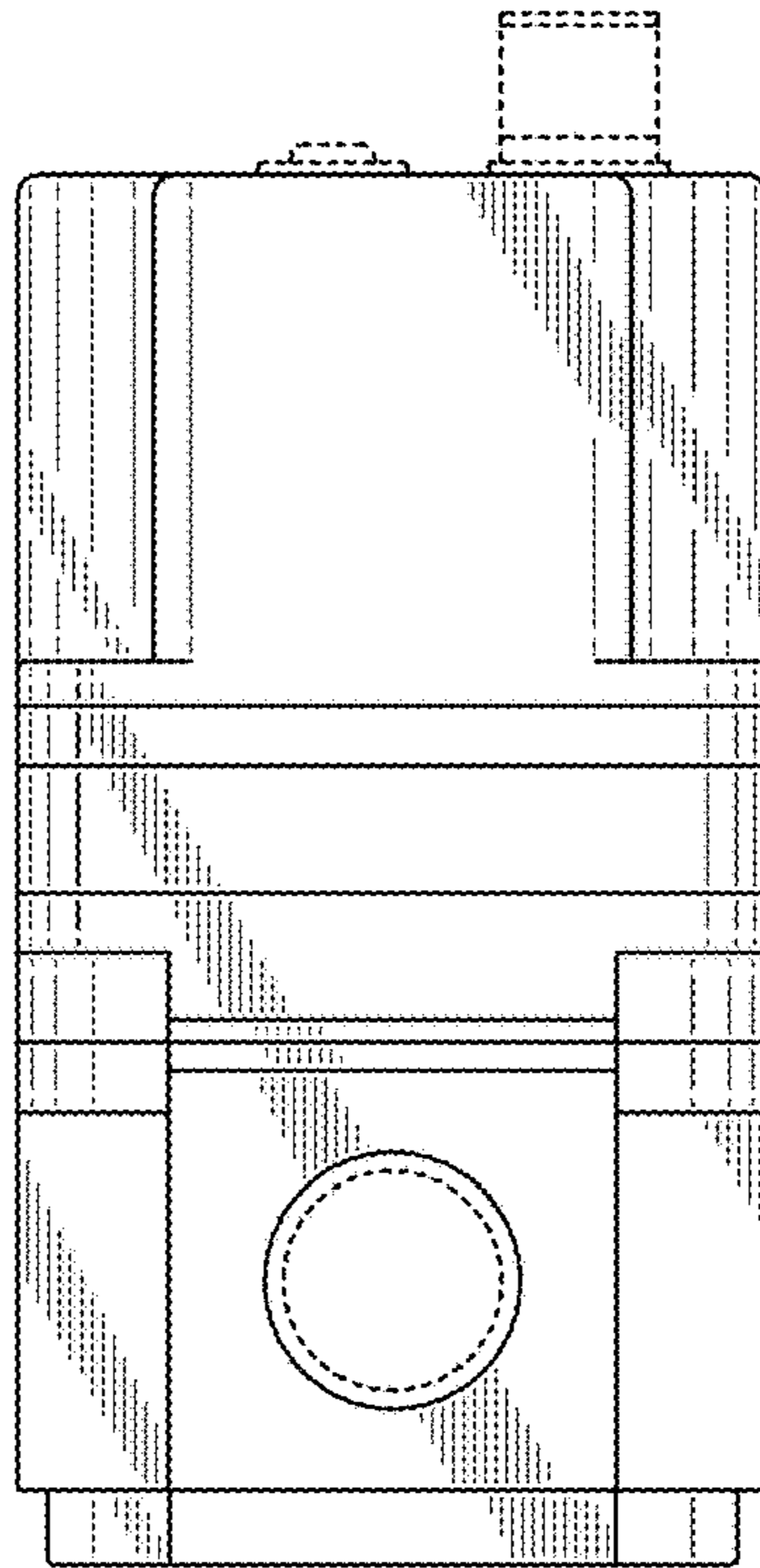


FIG. 17

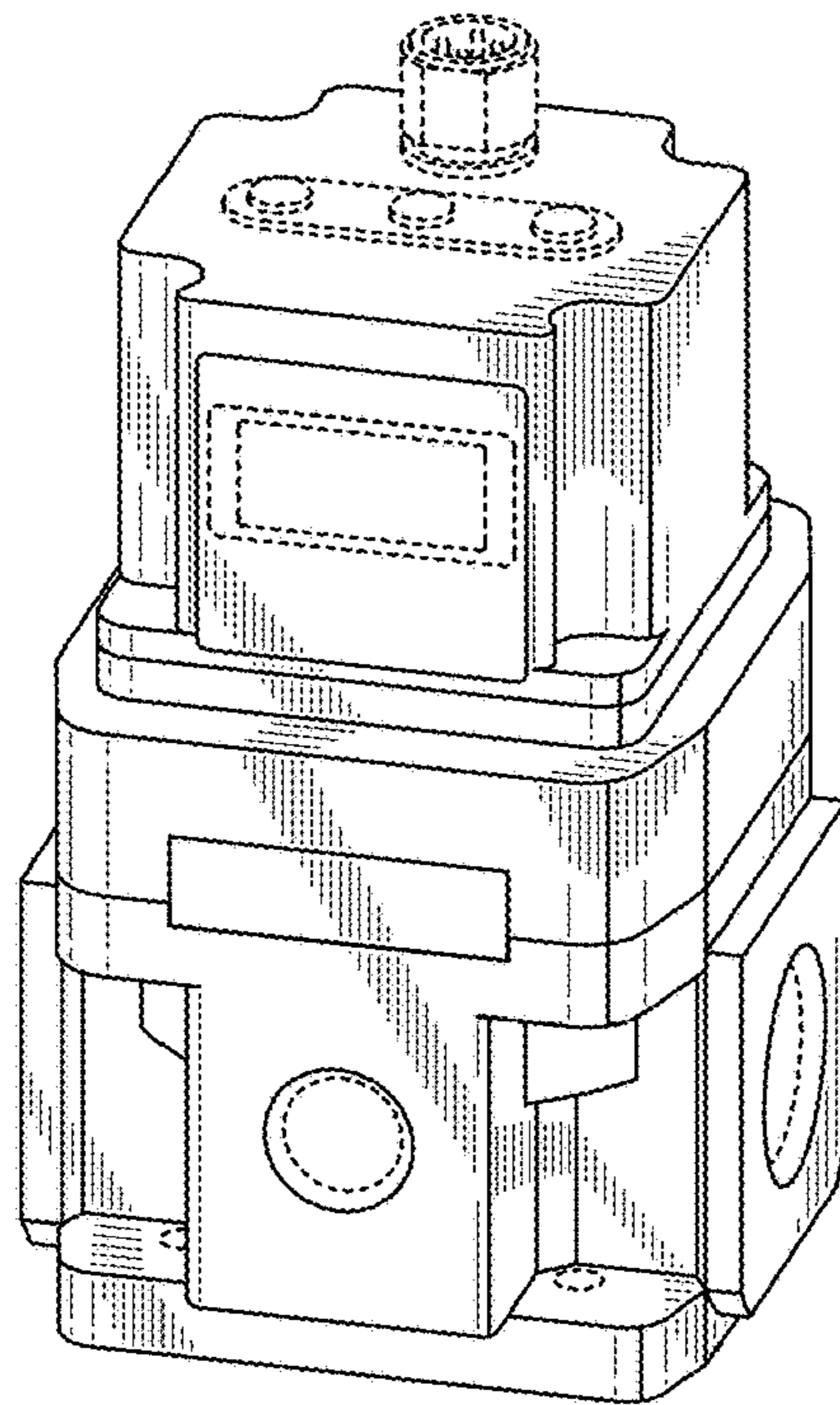


FIG. 18

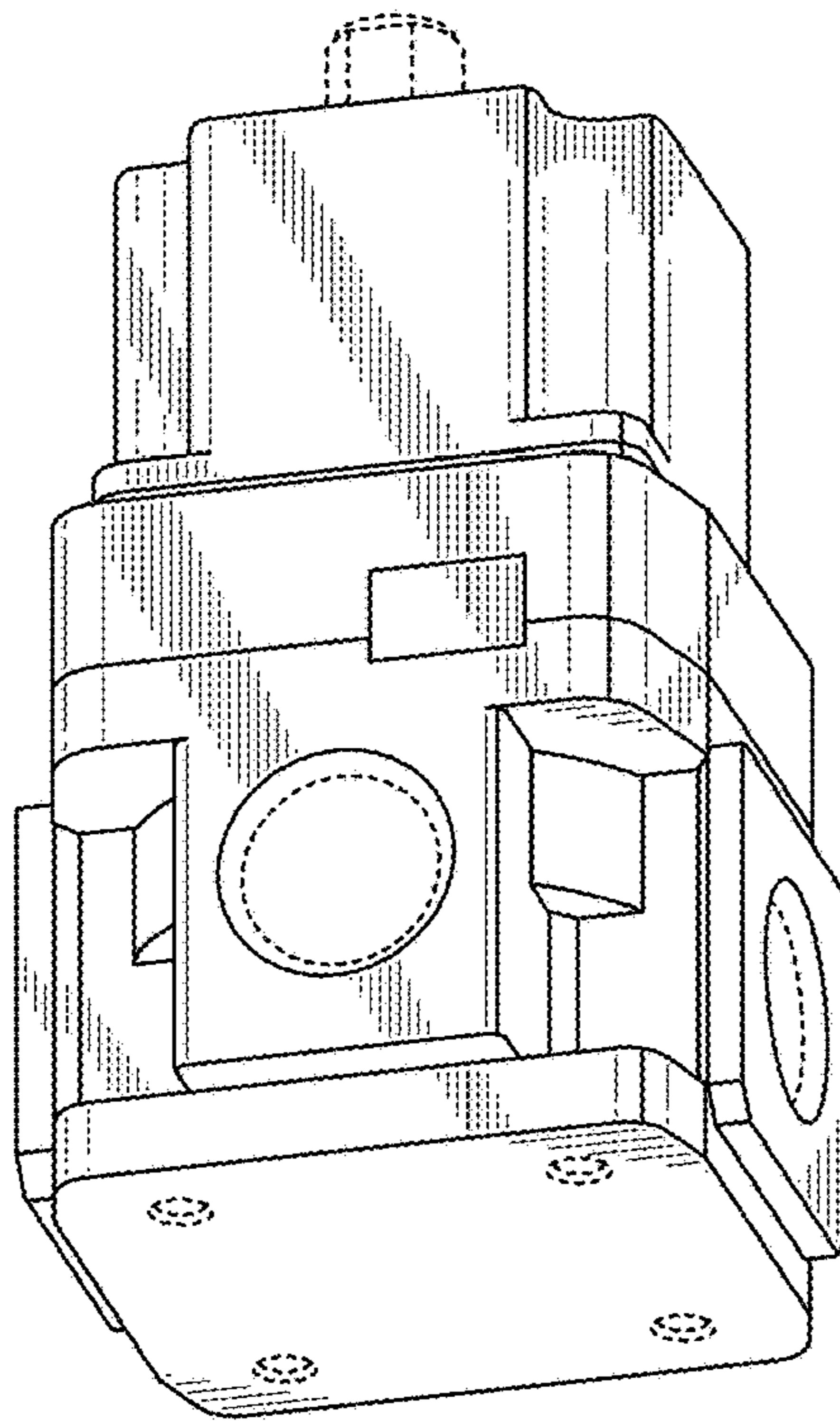


FIG. 19

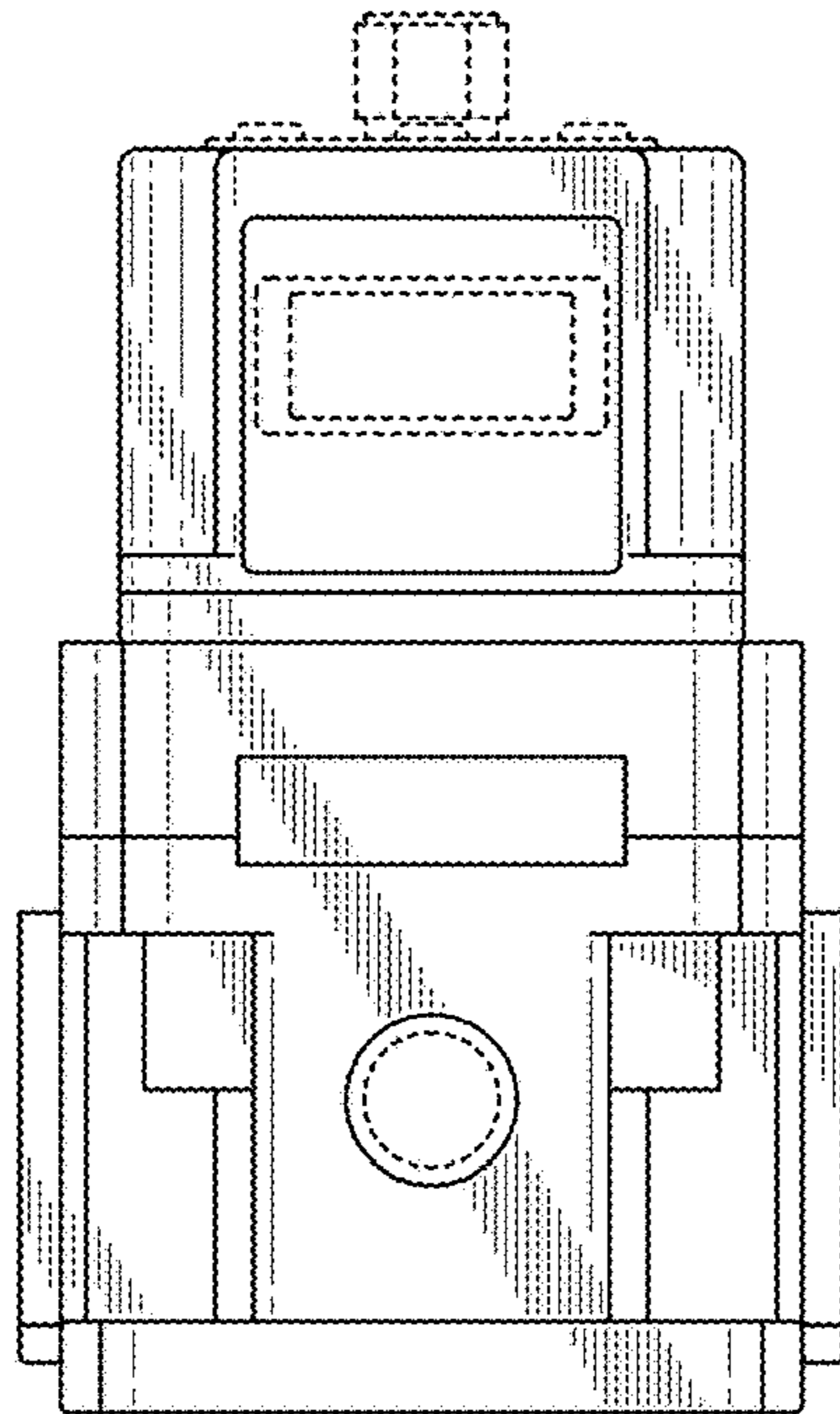


FIG. 20

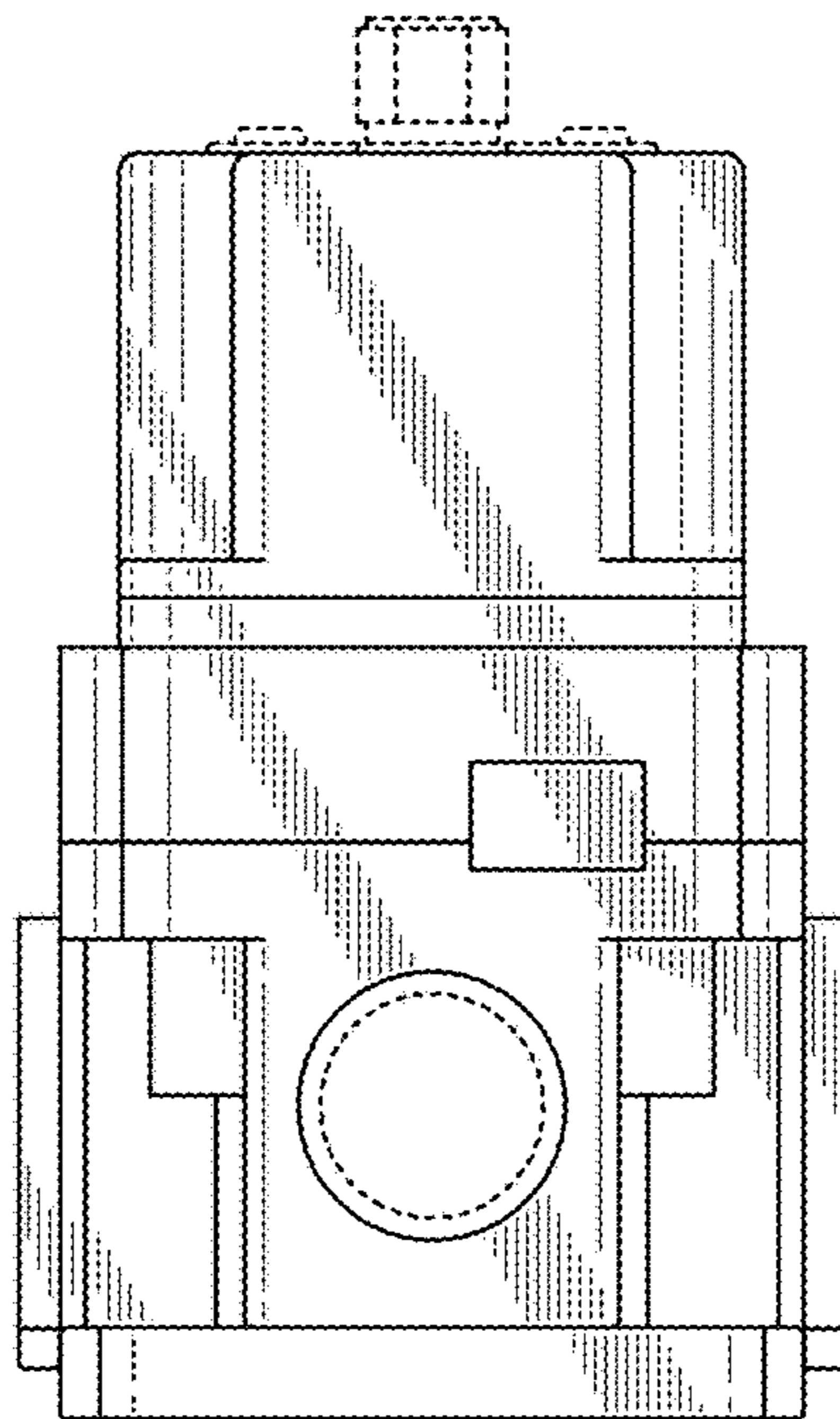


FIG. 21

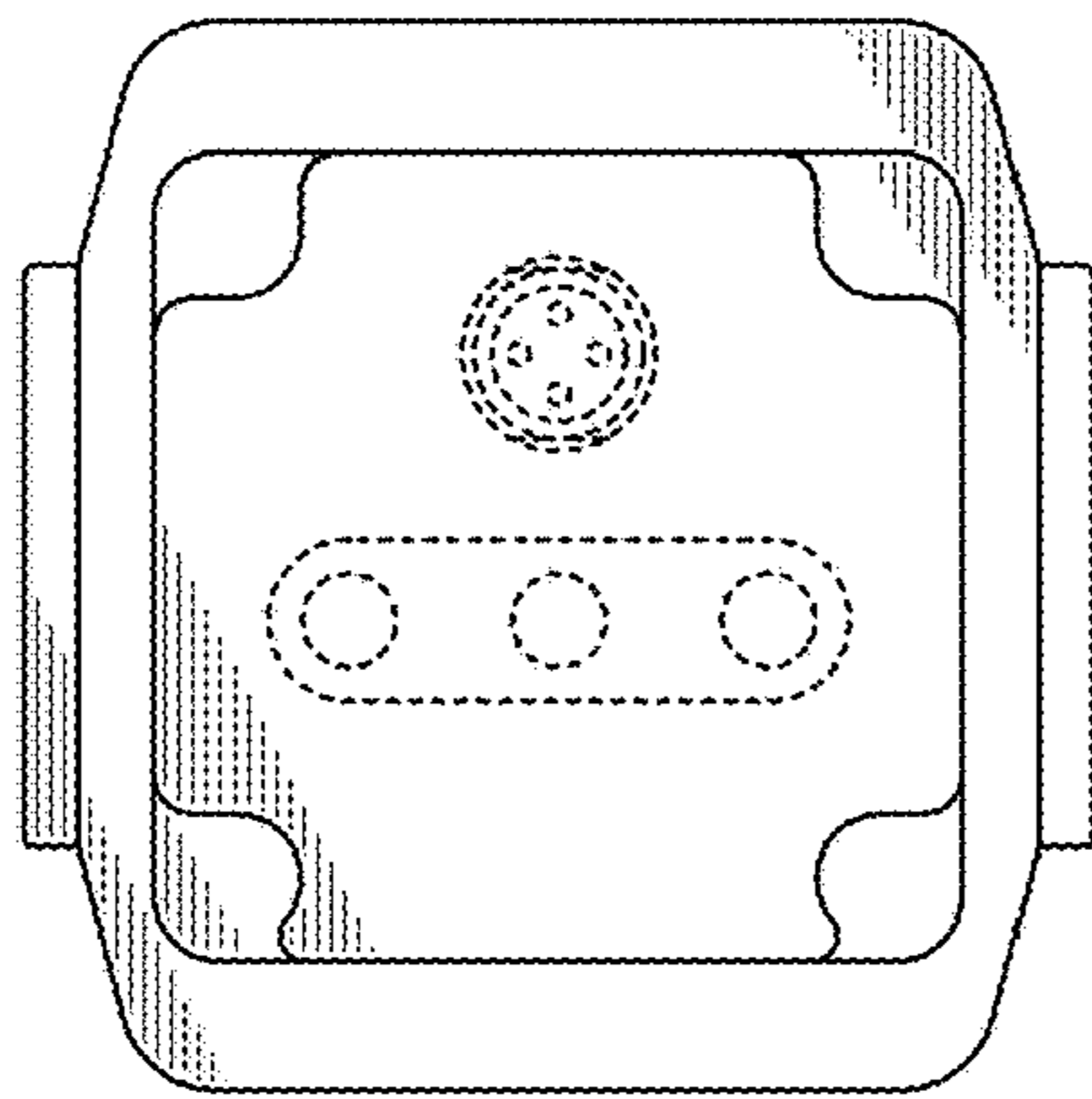


FIG. 22

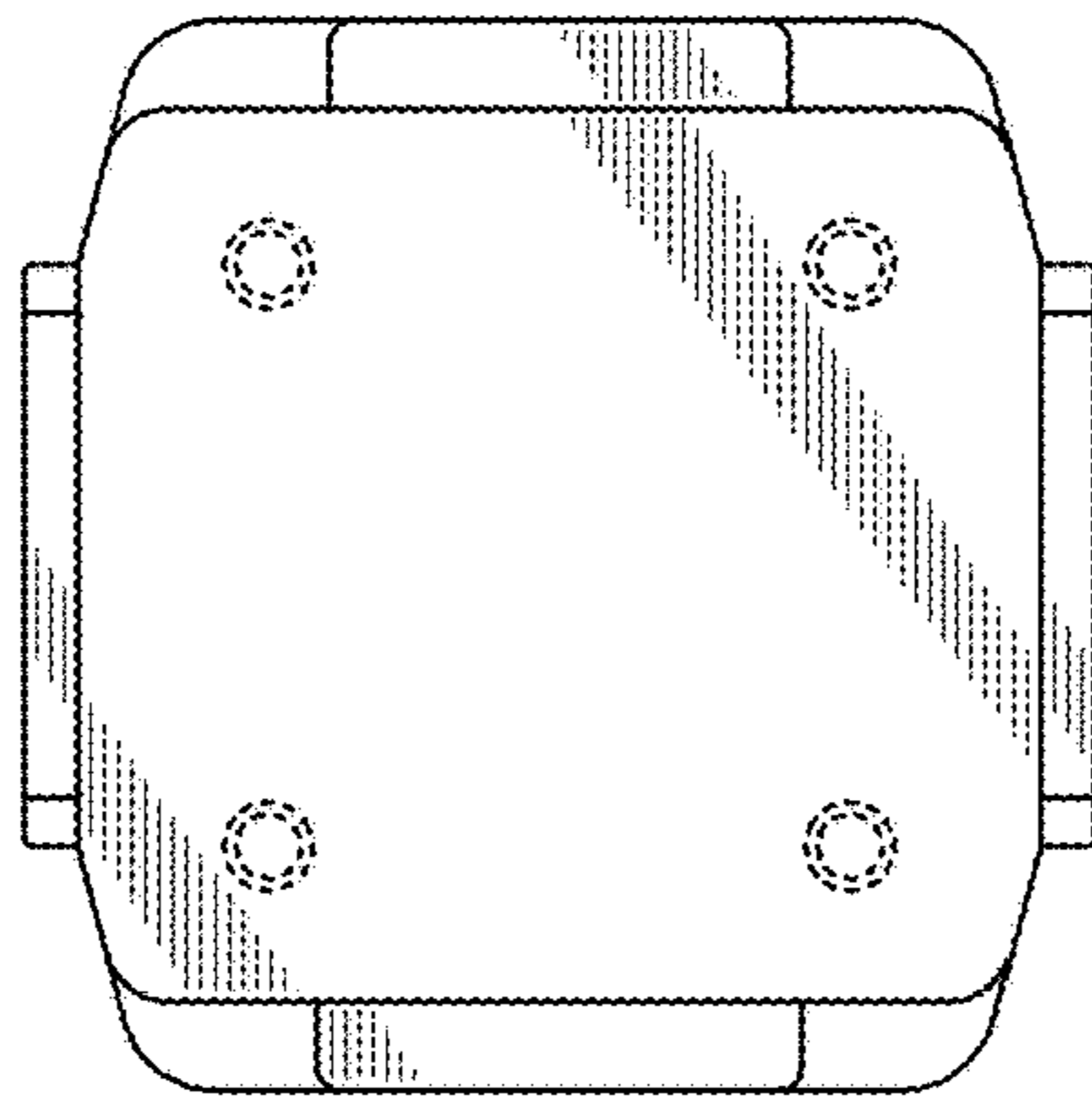


FIG. 23

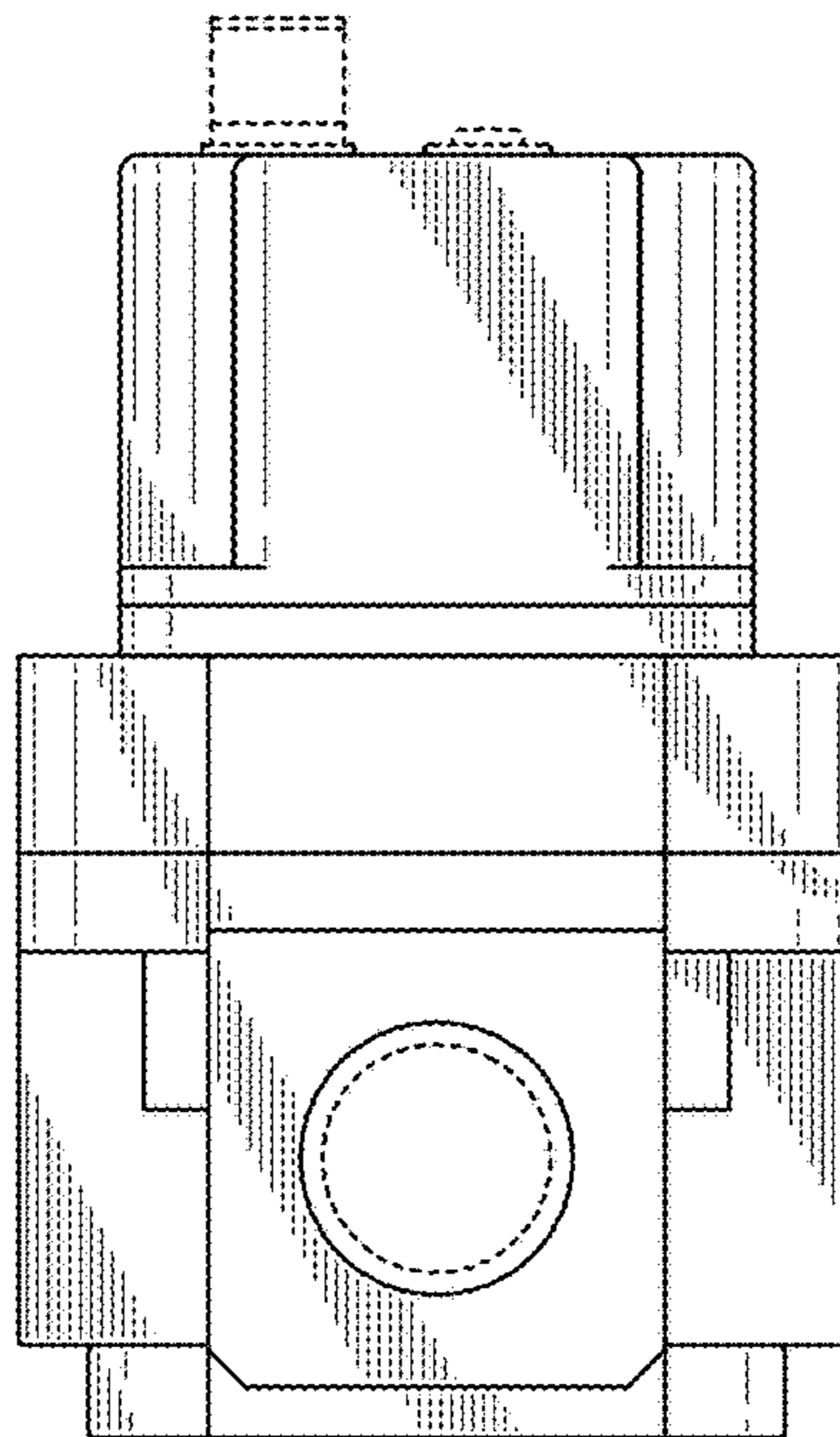


FIG. 24

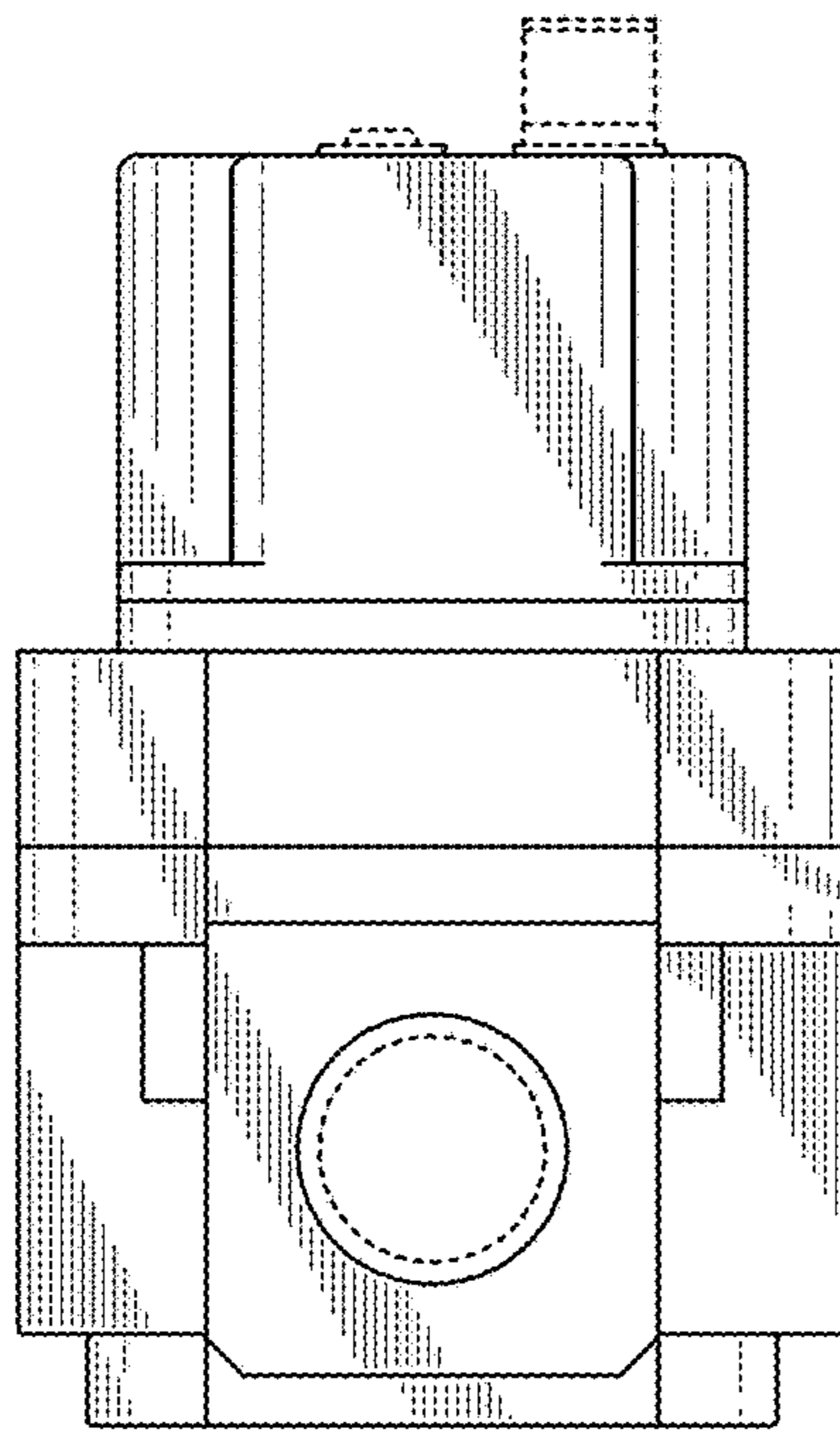


FIG. 25

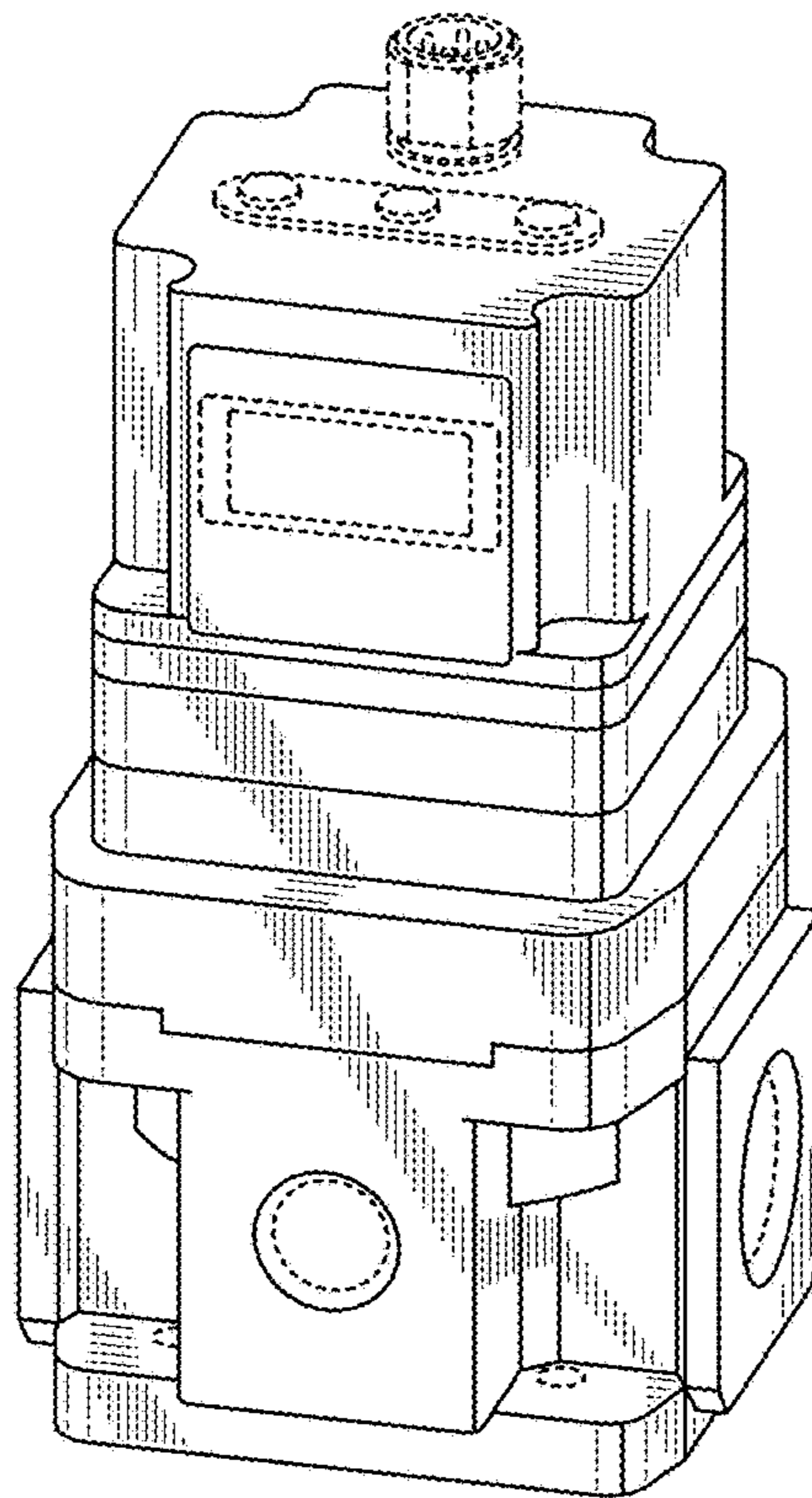


FIG. 26

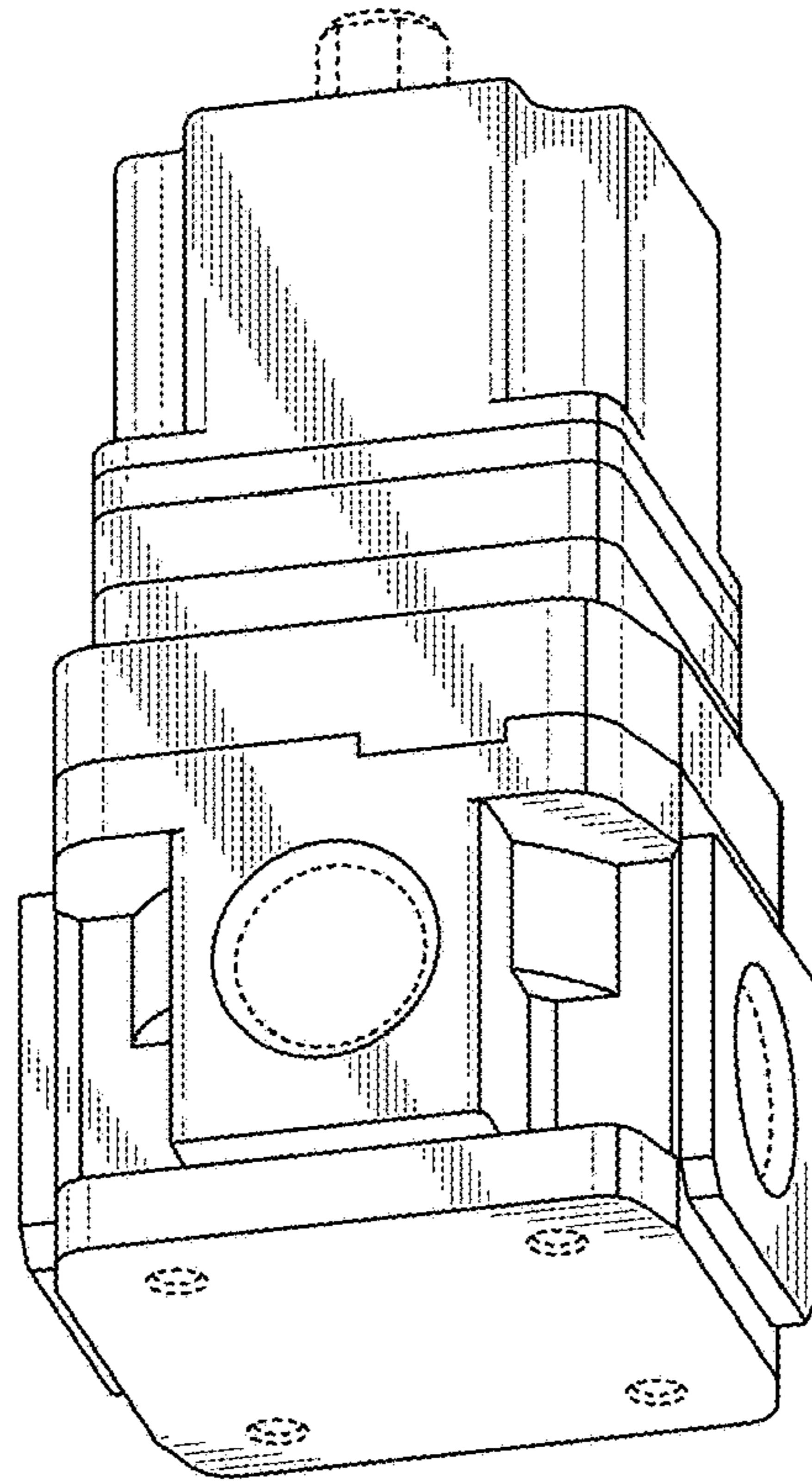


FIG. 27

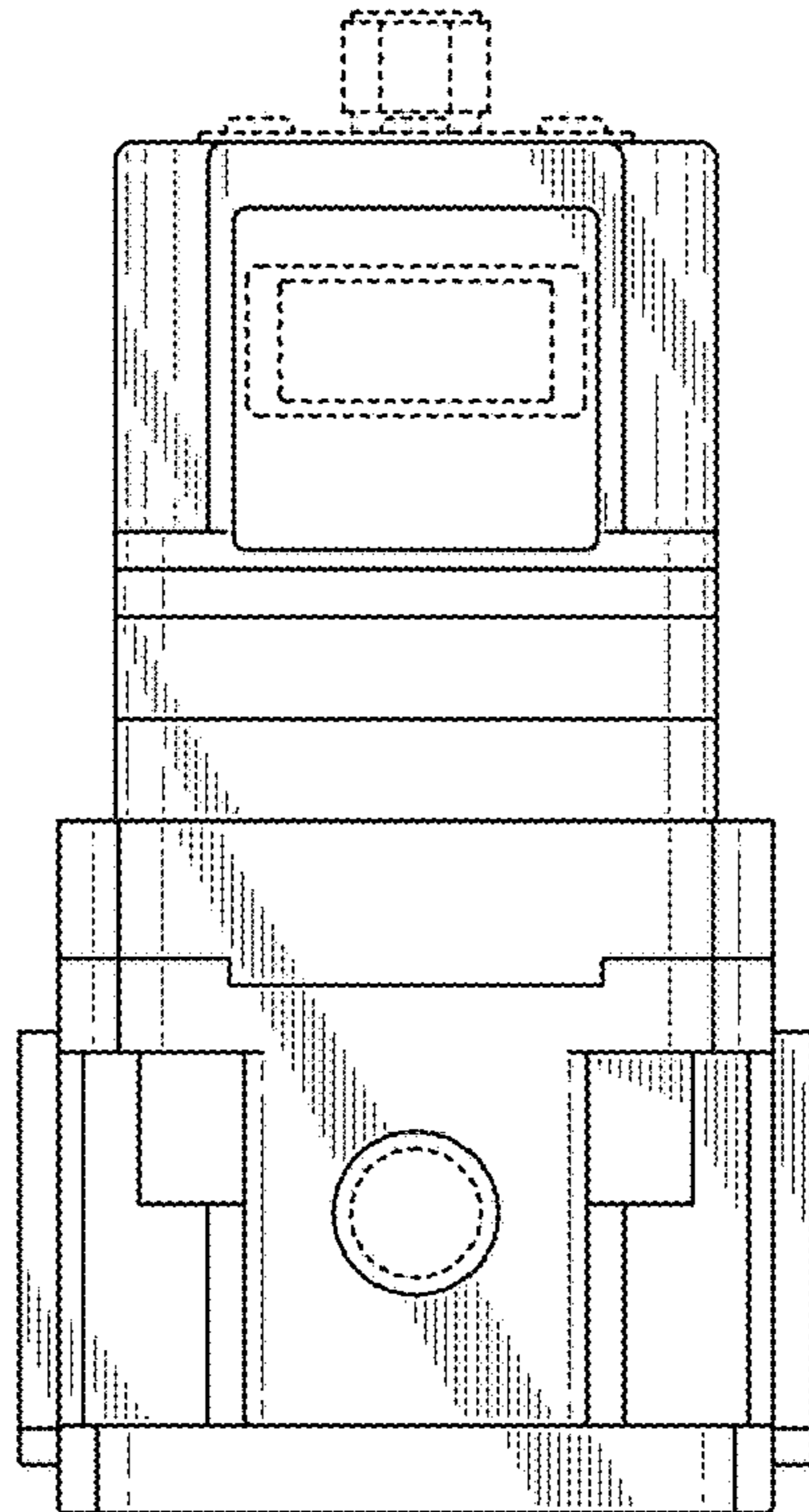


FIG. 28

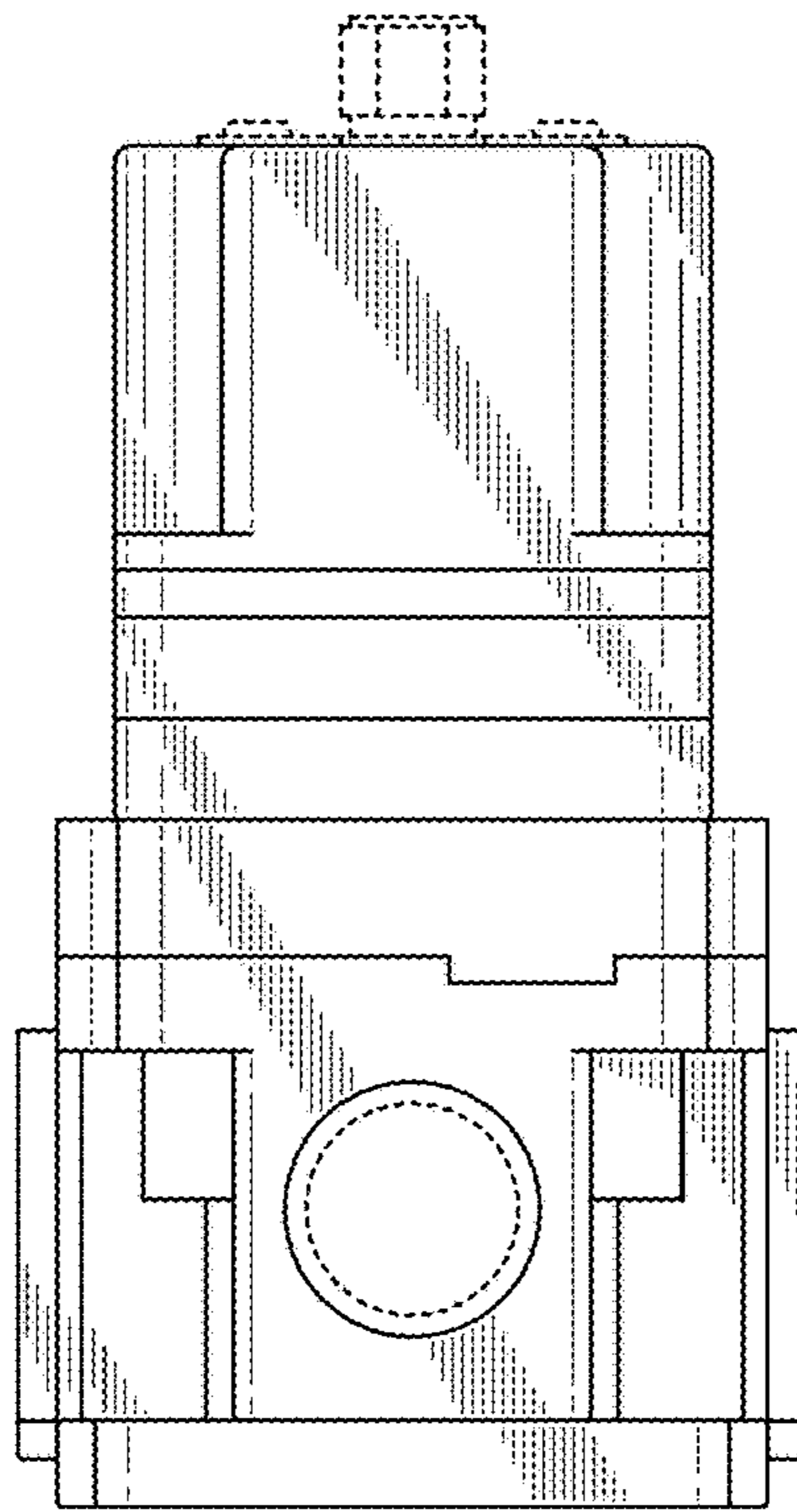


FIG. 29

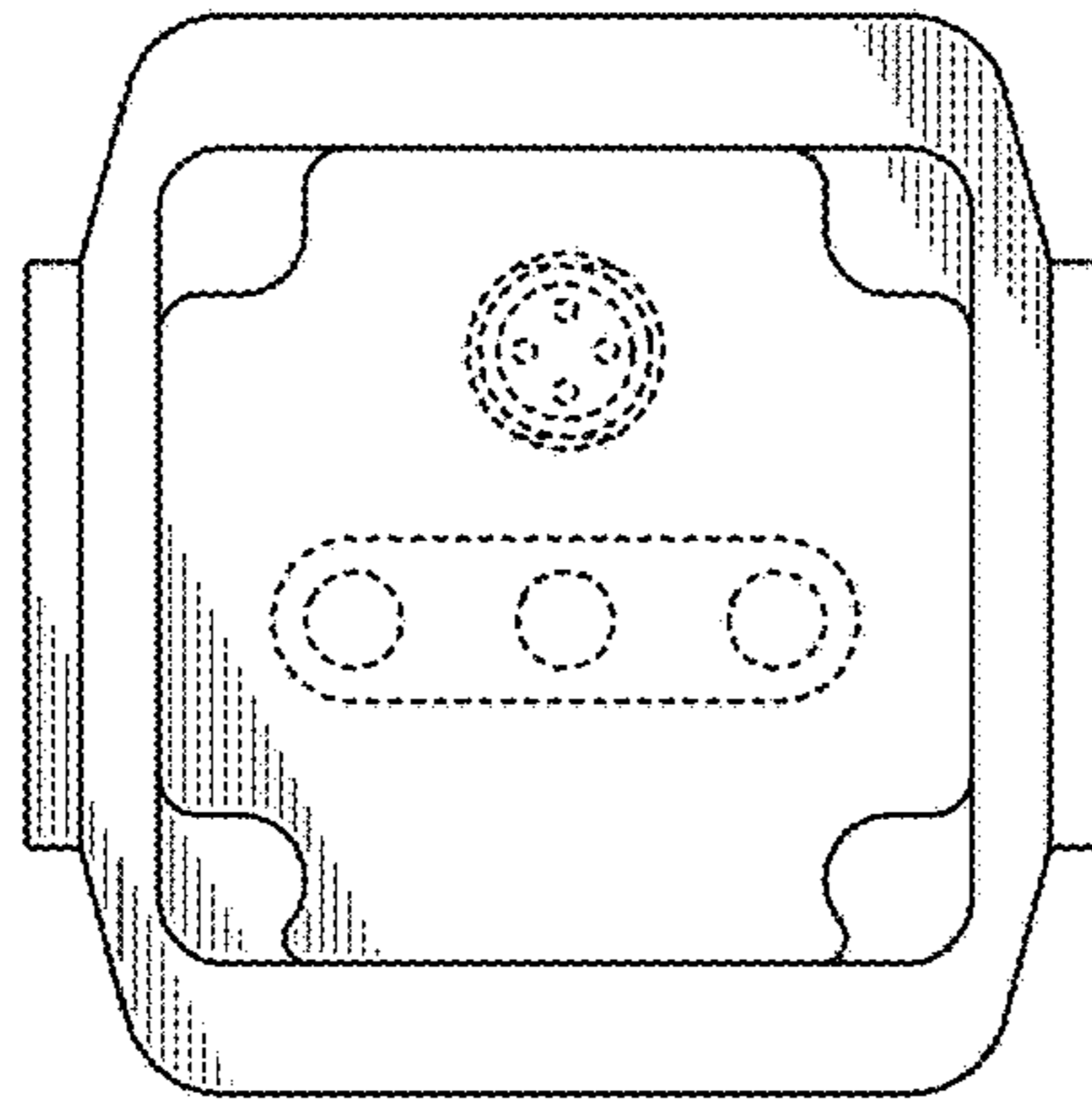


FIG. 30

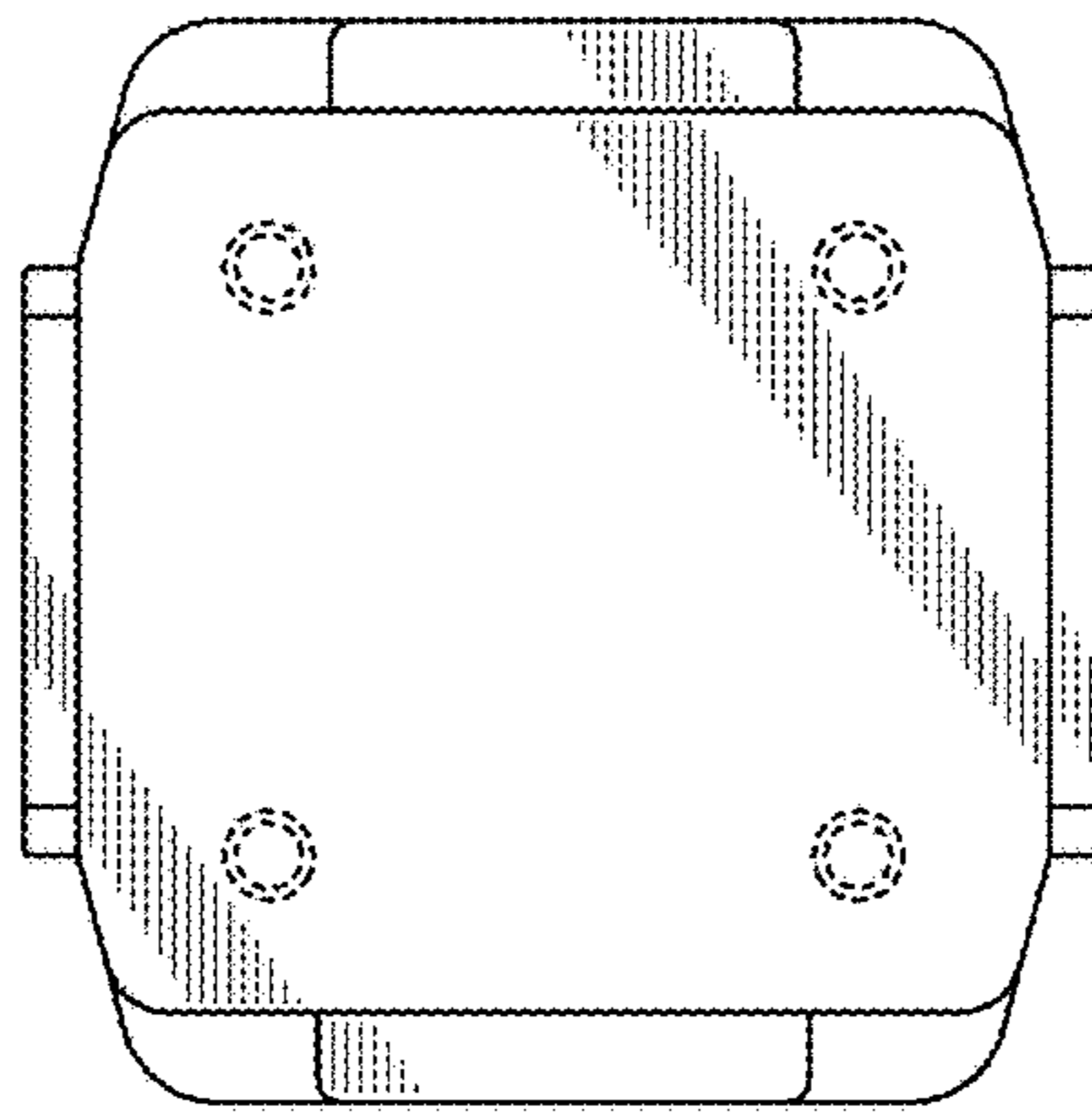


FIG. 31

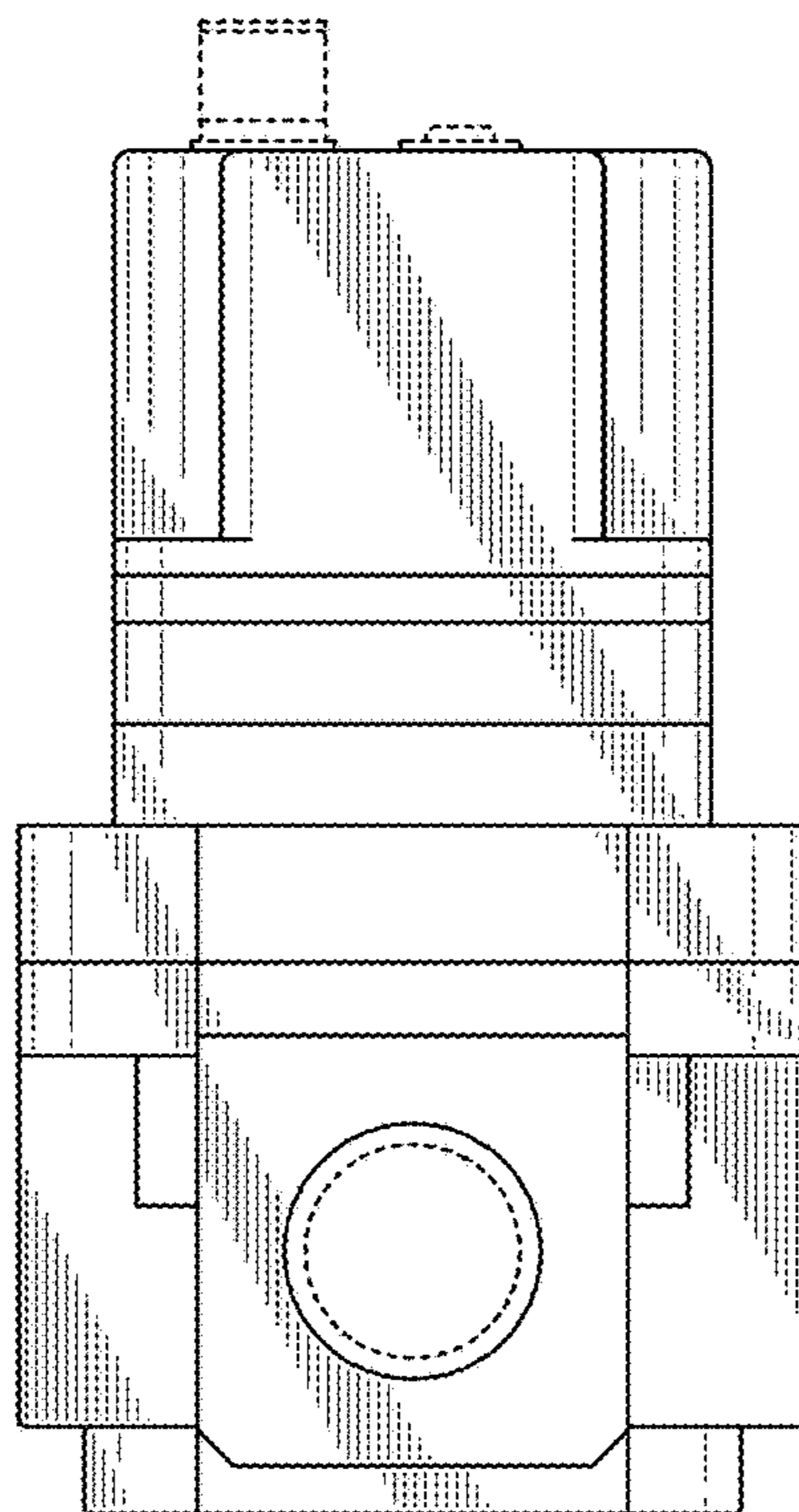


FIG. 32

