



US00D810798S

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

(10) **Patent No.:** **US D810,798 S**
(45) **Date of Patent:** **** Feb. 20, 2018**

(54) **ROTARY ACTUATOR**

(71) Applicant: **SMC CORPORATION**, Tokyo (JP)
(72) Inventor: **Toshikazu Tabuchi**, Moriya (JP)
(73) Assignee: **SMC CORPORATION**, Tokyo (JP)
(**) Term: **15 Years**

(21) Appl. No.: **29/560,617**
(22) Filed: **Apr. 8, 2016**

(30) **Foreign Application Priority Data**

Oct. 9, 2015 (CN) 2015 3 0389522

(51) **LOC (11) Cl.** **15-09**

(52) **U.S. Cl.**
USPC **D15/148**

(58) **Field of Classification Search**
USPC D13/147, 148, 158; D15/5, 143, 148,
D15/199; D23/233

CPC F15B 11/076; F15B 11/0413; F15B 15/24;
F15B 15/065; F15B 15/149; F15B
15/1433; F16H 19/04

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D446,229 S *	8/2001	Kaneko	.....	D15/143
D479,542 S *	9/2003	Lannoch	.....	D15/148
D479,725 S *	9/2003	Lannoch	.....	D15/148
D494,659 S *	8/2004	Marinoni et al.	.....	D15/143
D578,147 S *	10/2008	Fukano et al.	.....	D15/143
D597,111 S *	7/2009	Takeuchi et al.	.....	D15/143
D597,112 S *	7/2009	Takeuchi et al.	.....	D15/143
D598,938 S *	8/2009	Mijno	.....	D15/148
D619,631 S *	7/2010	Otsuka	.....	D15/149

(Continued)

FOREIGN PATENT DOCUMENTS

JP 935699 S 9/1995
JP 1345971 S 12/2008

OTHER PUBLICATIONS

Japanese Office Action, dated Apr. 5, 2016, for Japanese Application No. 2015-022290, together with an English translation thereof.

(Continued)

Primary Examiner — Patricia A Palasik

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

(57) **CLAIM**

The ornamental design for a rotary actuator, as shown and described.

DESCRIPTION

FIG. 1 is a front, top and left side perspective view of a rotary actuator showing my new design;

FIG. 2 is a rear, bottom and right 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 left side perspective view of a rotary actuator showing a second embodiment of my new design;

FIG. 10 is a rear, bottom and right side perspective view thereof;

FIG. 11 is a front view thereof;

FIG. 12 is a rear view thereof;

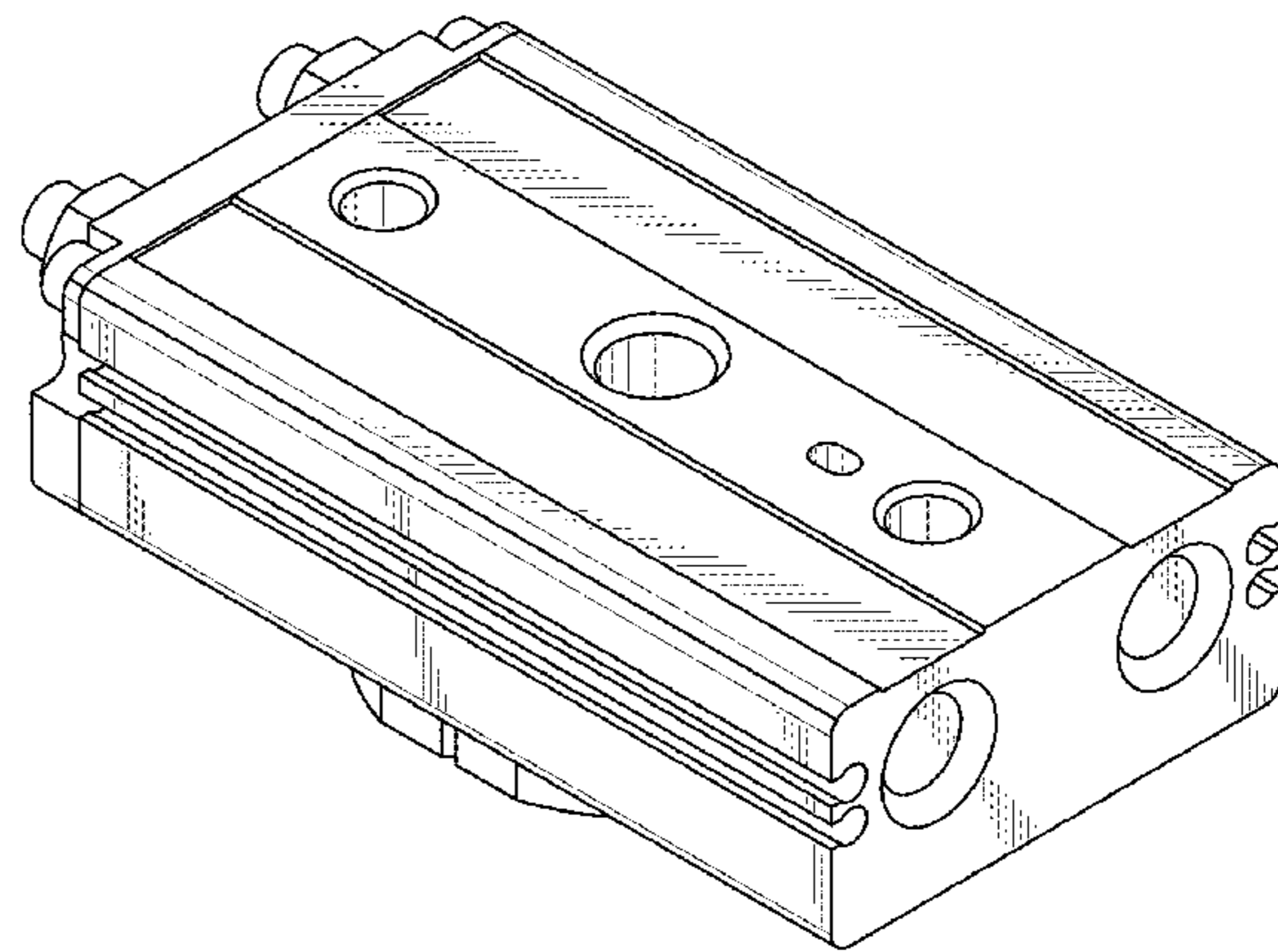
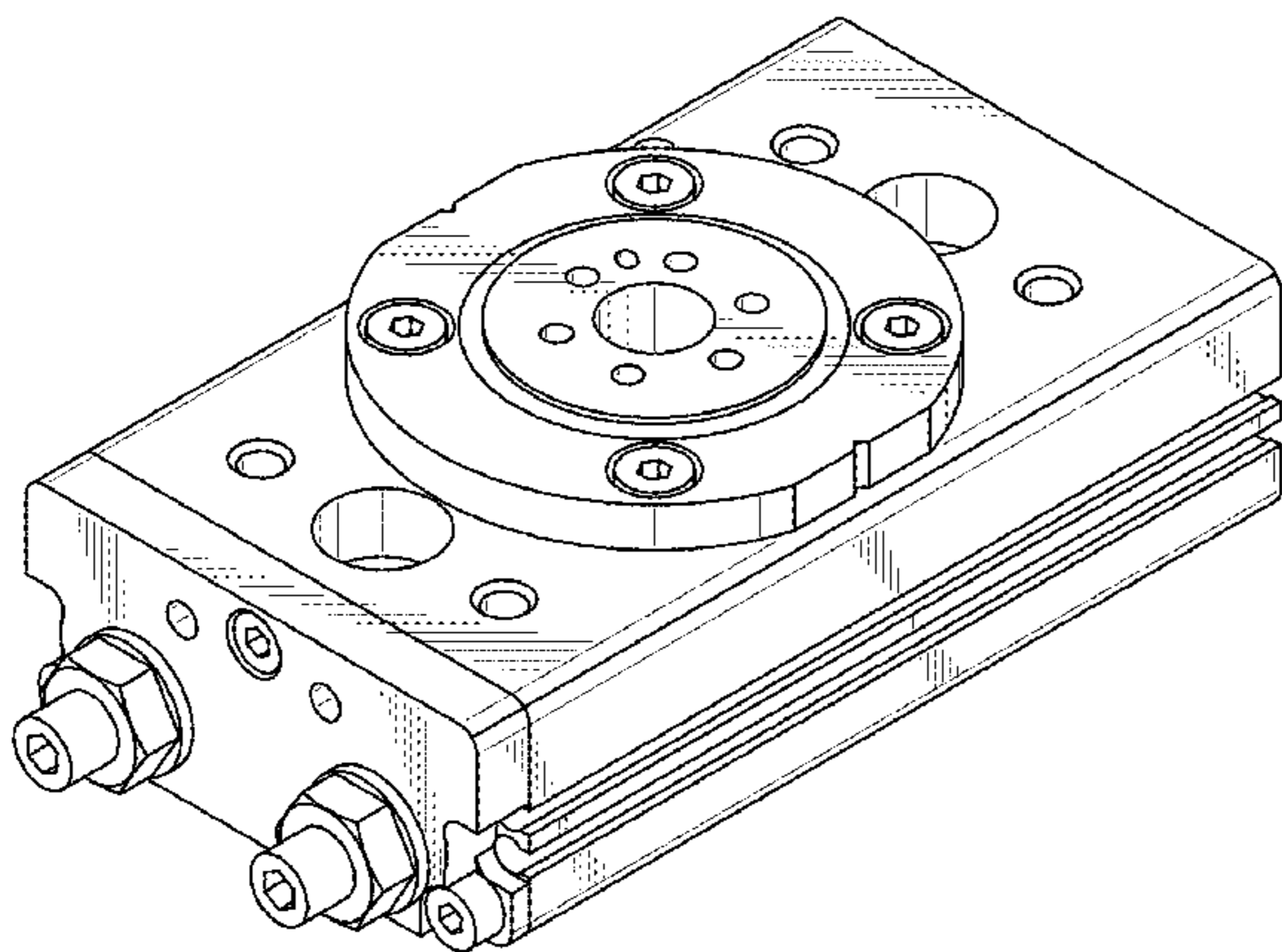
FIG. 13 is a top plan view thereof;

FIG. 14 is a bottom plan view thereof;

FIG. 15 is a left side view thereof; and,

FIG. 16 is a right side view thereof.

1 Claim, 16 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D628,219 S * 11/2010 Fukano et al. D15/143
D629,872 S * 12/2010 Marinoni et al. D23/249
D639,321 S * 6/2011 Torii et al. D15/143
2003/0041598 A1* 3/2003 Takeuchi et al. 60/591

OTHER PUBLICATIONS

Japanese Office Action, dated Apr. 5, 2016, for Japanese Application No. 2015-022291, together with an English translation thereof.
Japanese Office Action, dated Apr. 5, 2016, for Japanese Application No. 2015-022292, together with an English translation thereof.
Japanese Office Action, dated Apr. 5, 2016, for Japanese Application No. 2015-022293, together with an English translation thereof.
SMC Corporation, New Product Information SMC Shuttle, Rotary Actuator, Publicly Known Design No. HC0902508700, Oct. 31, 1997, 2 pages (together with English translation).

* cited by examiner

FIG. 1

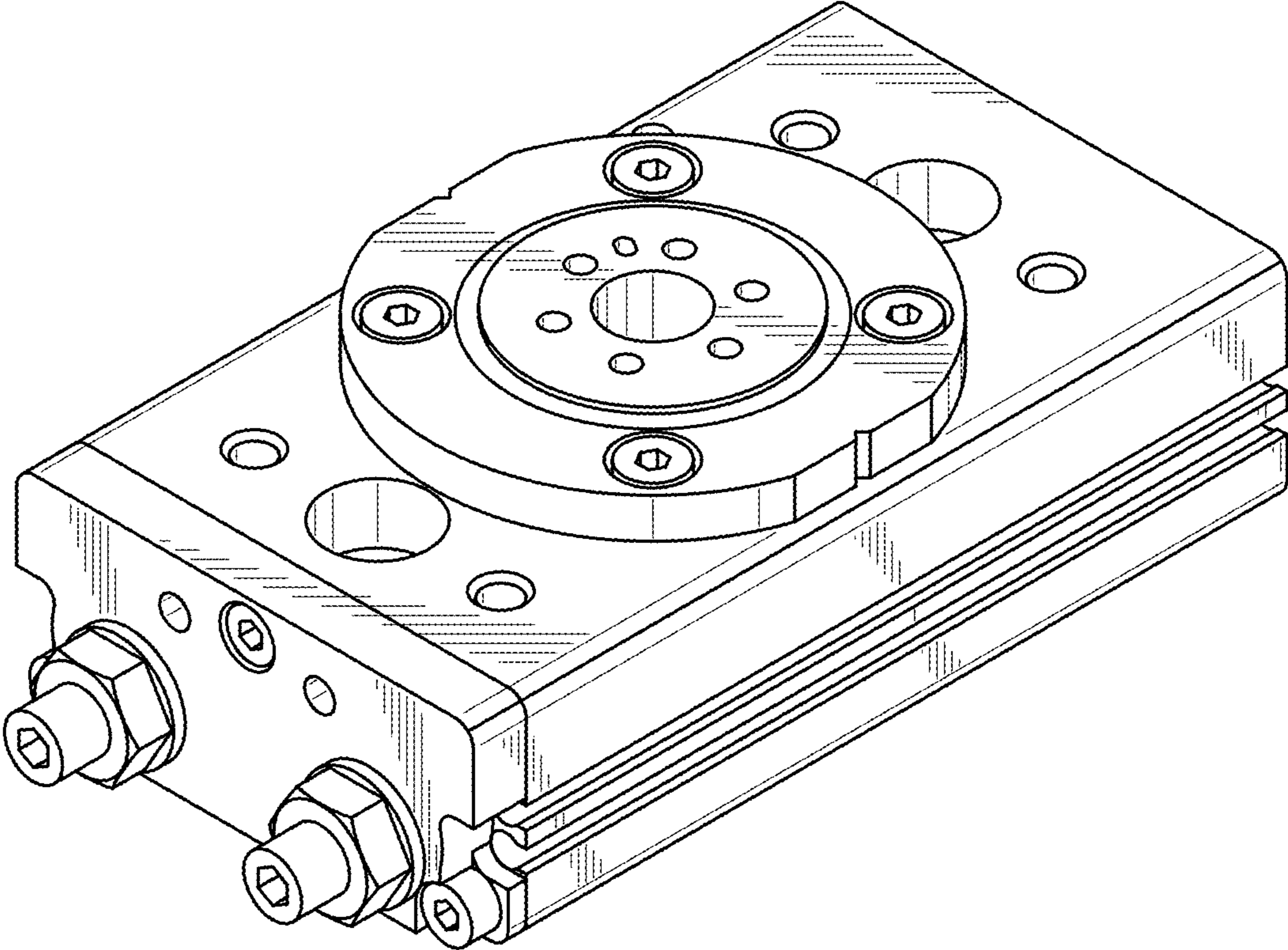


FIG. 2

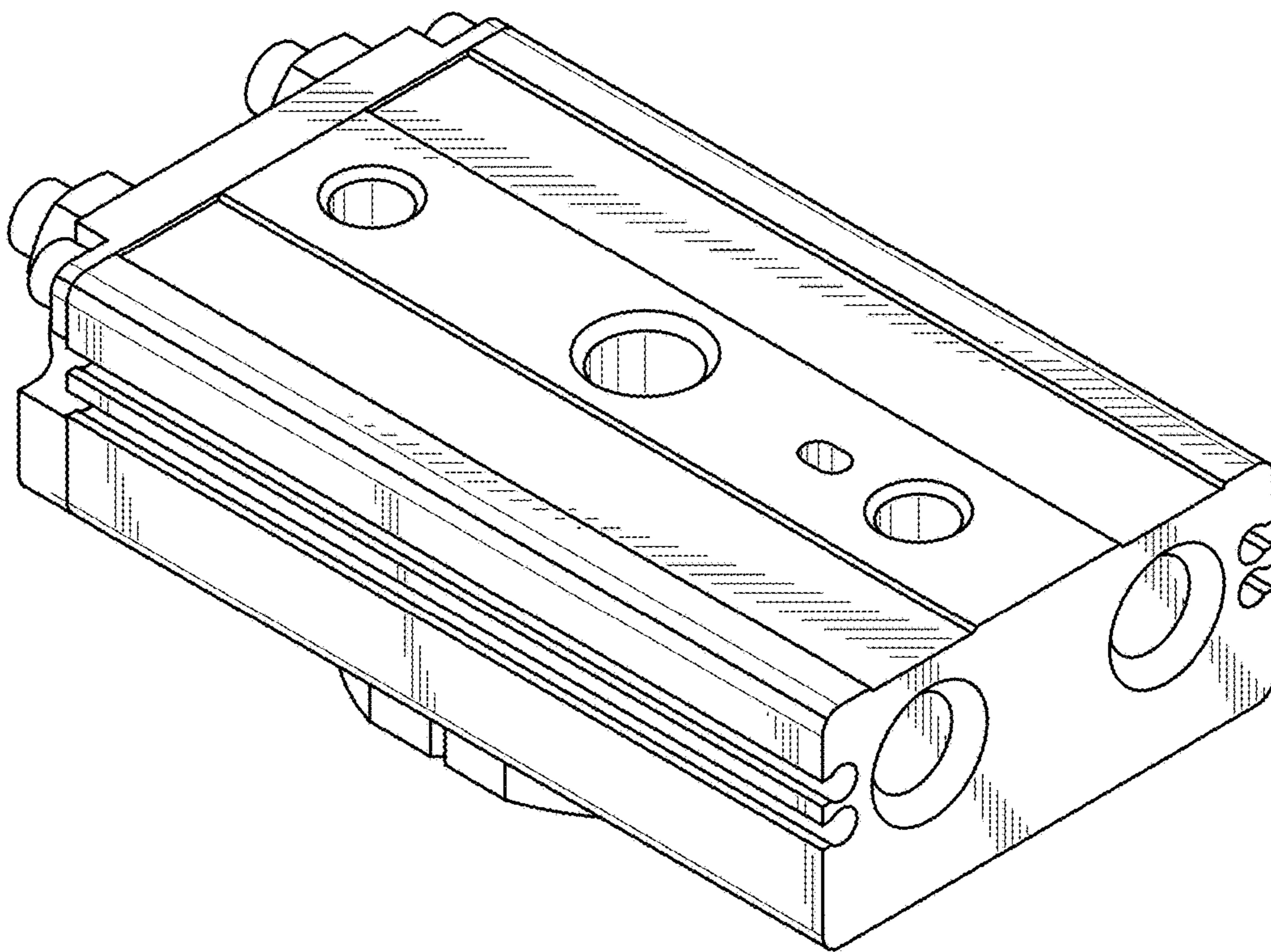


FIG. 3

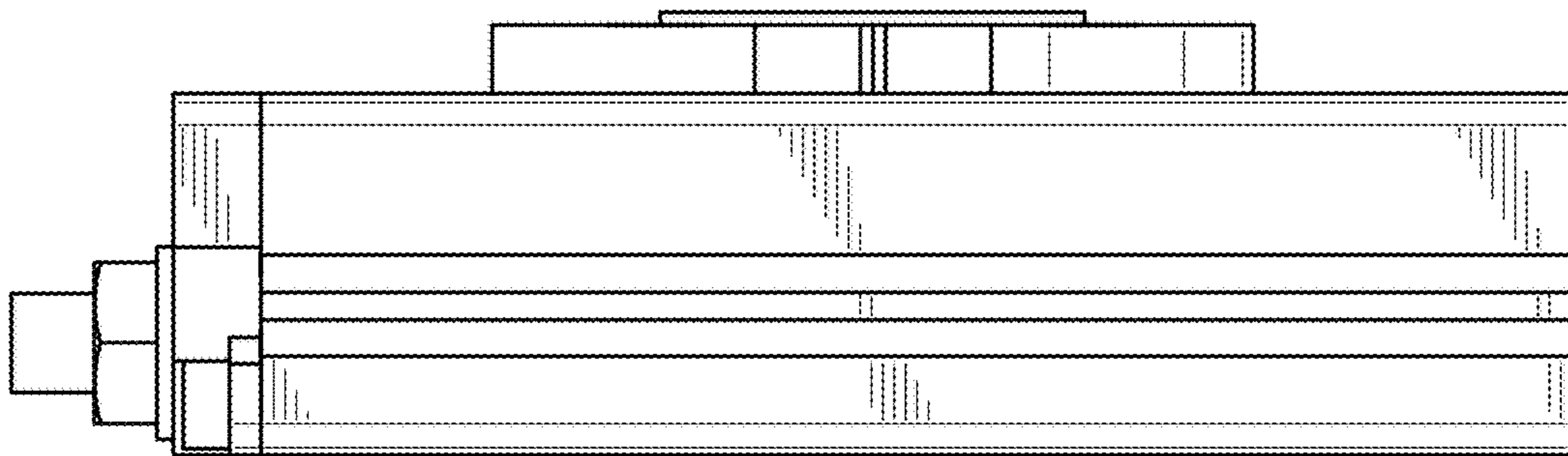


FIG. 4

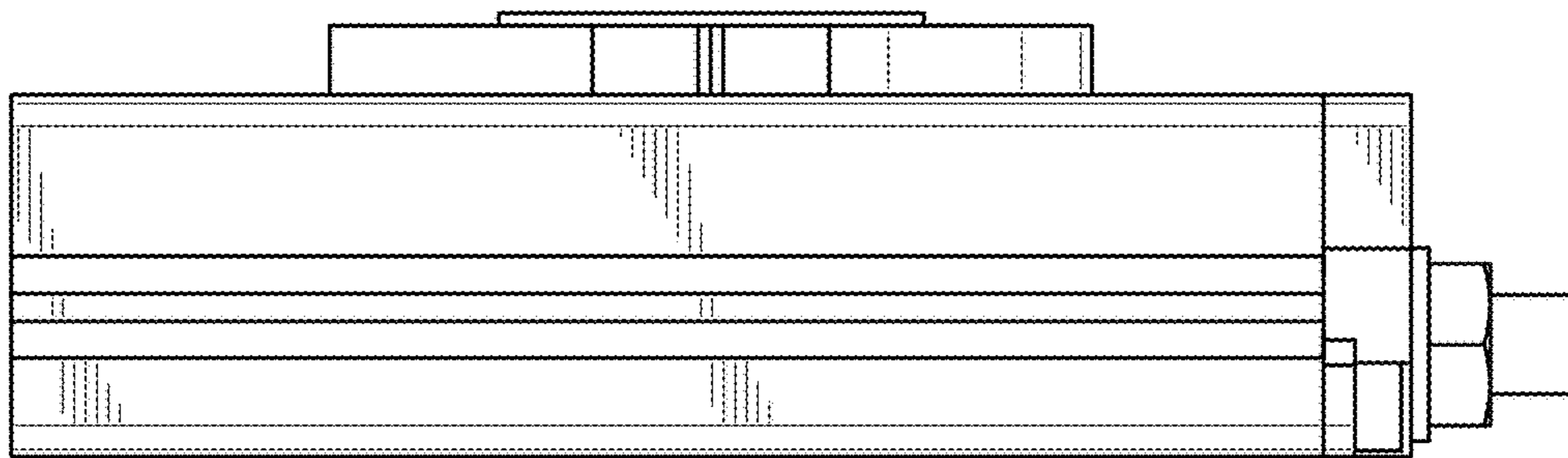


FIG. 5

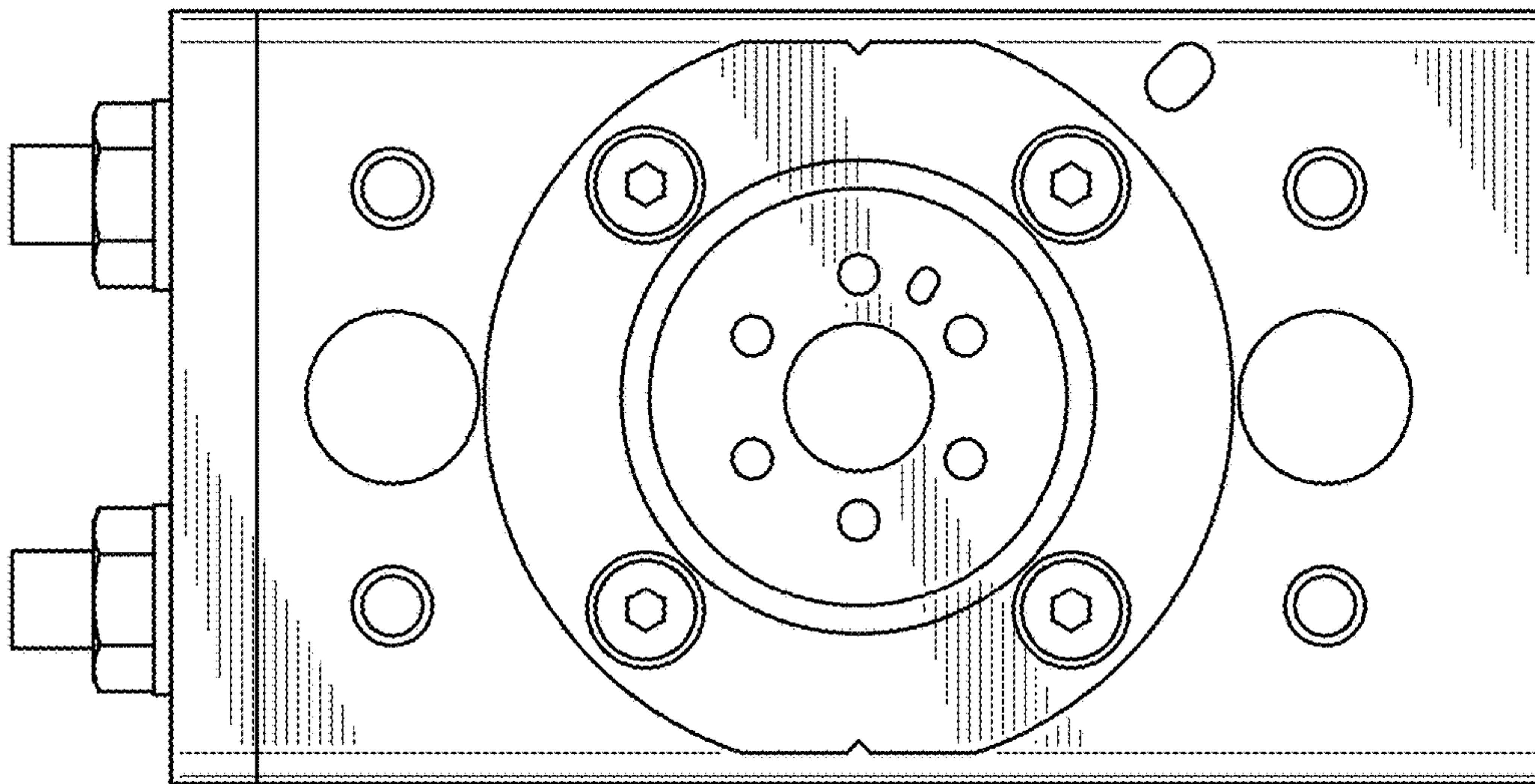


FIG. 6

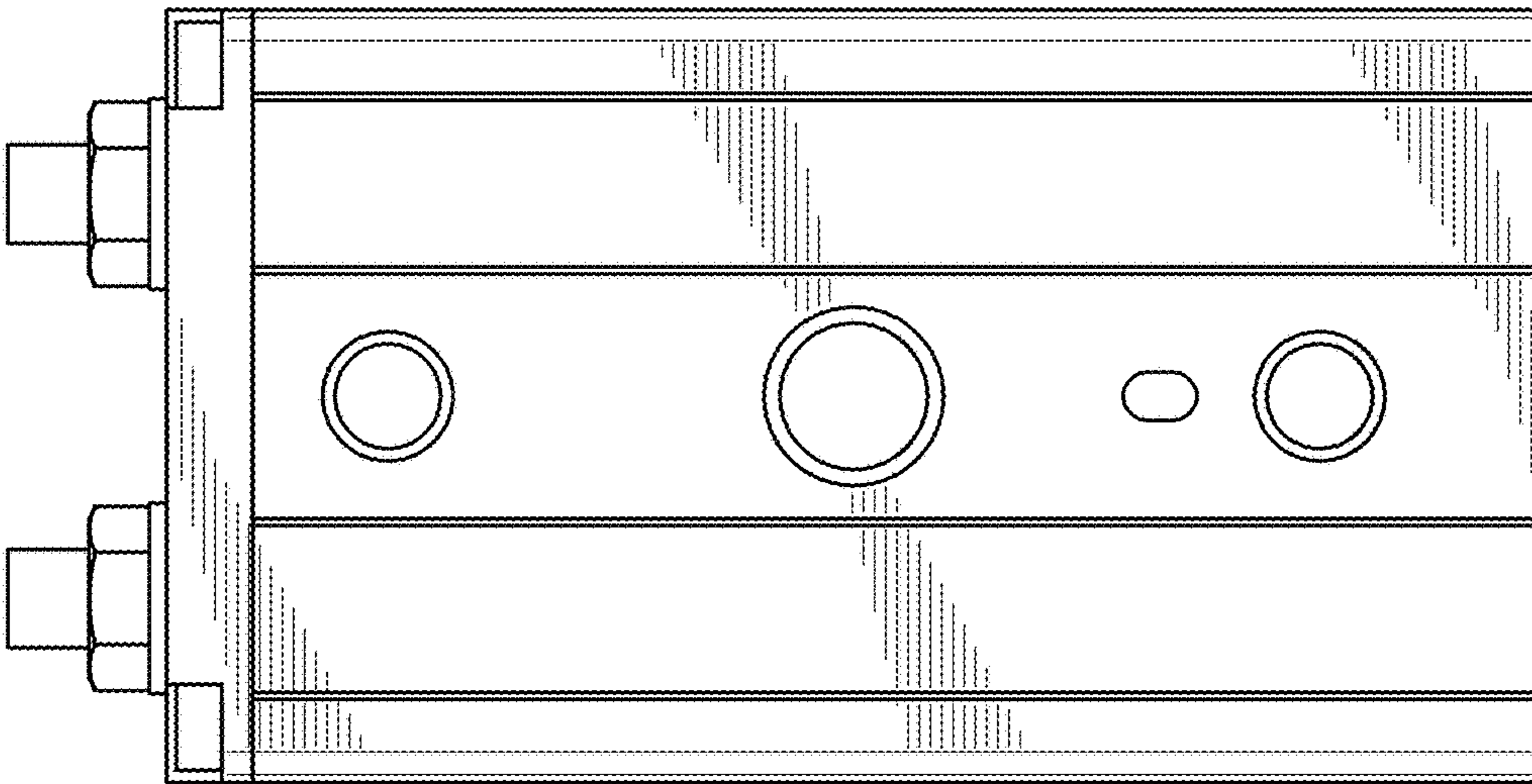


FIG. 7

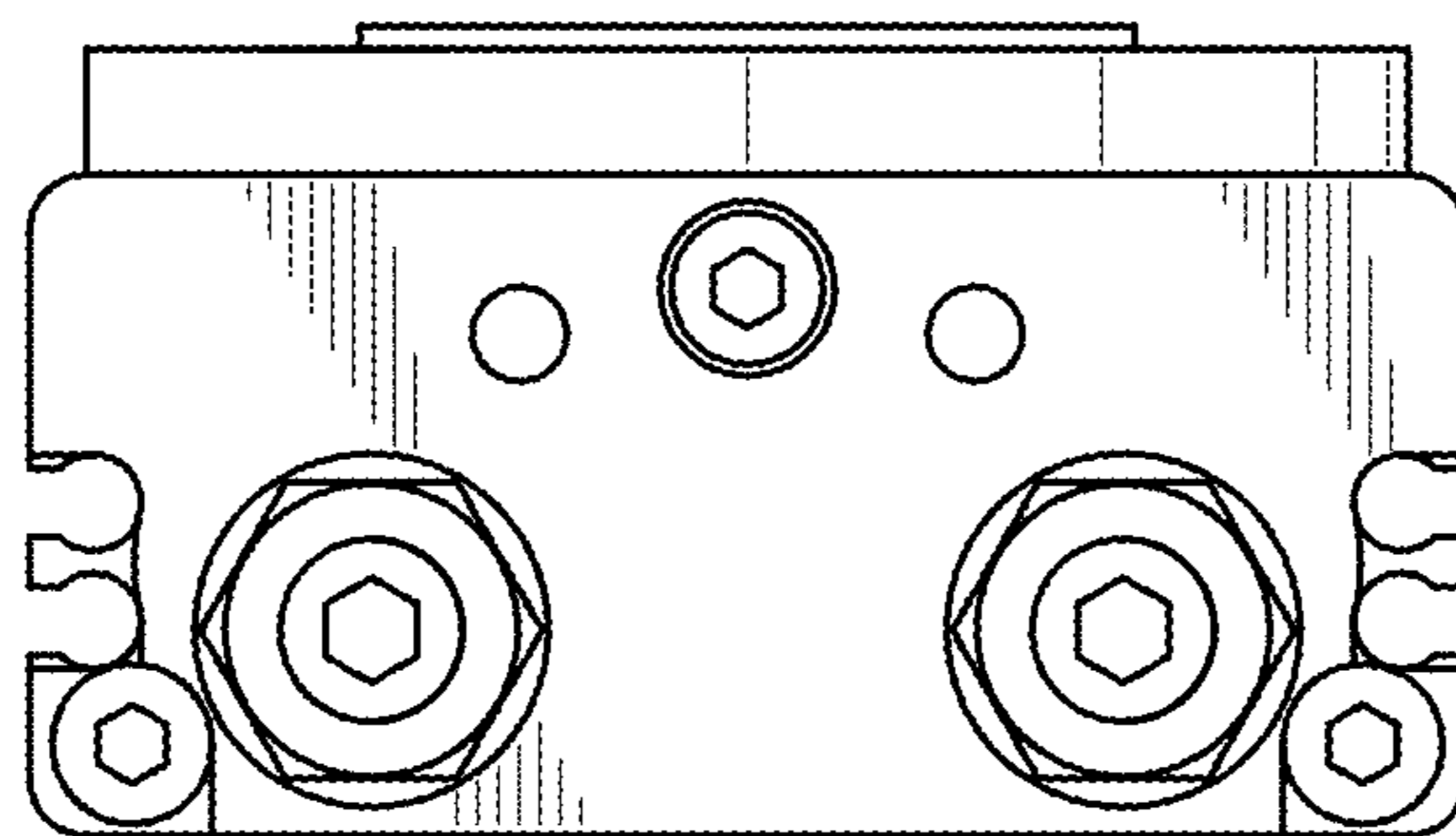


FIG. 8

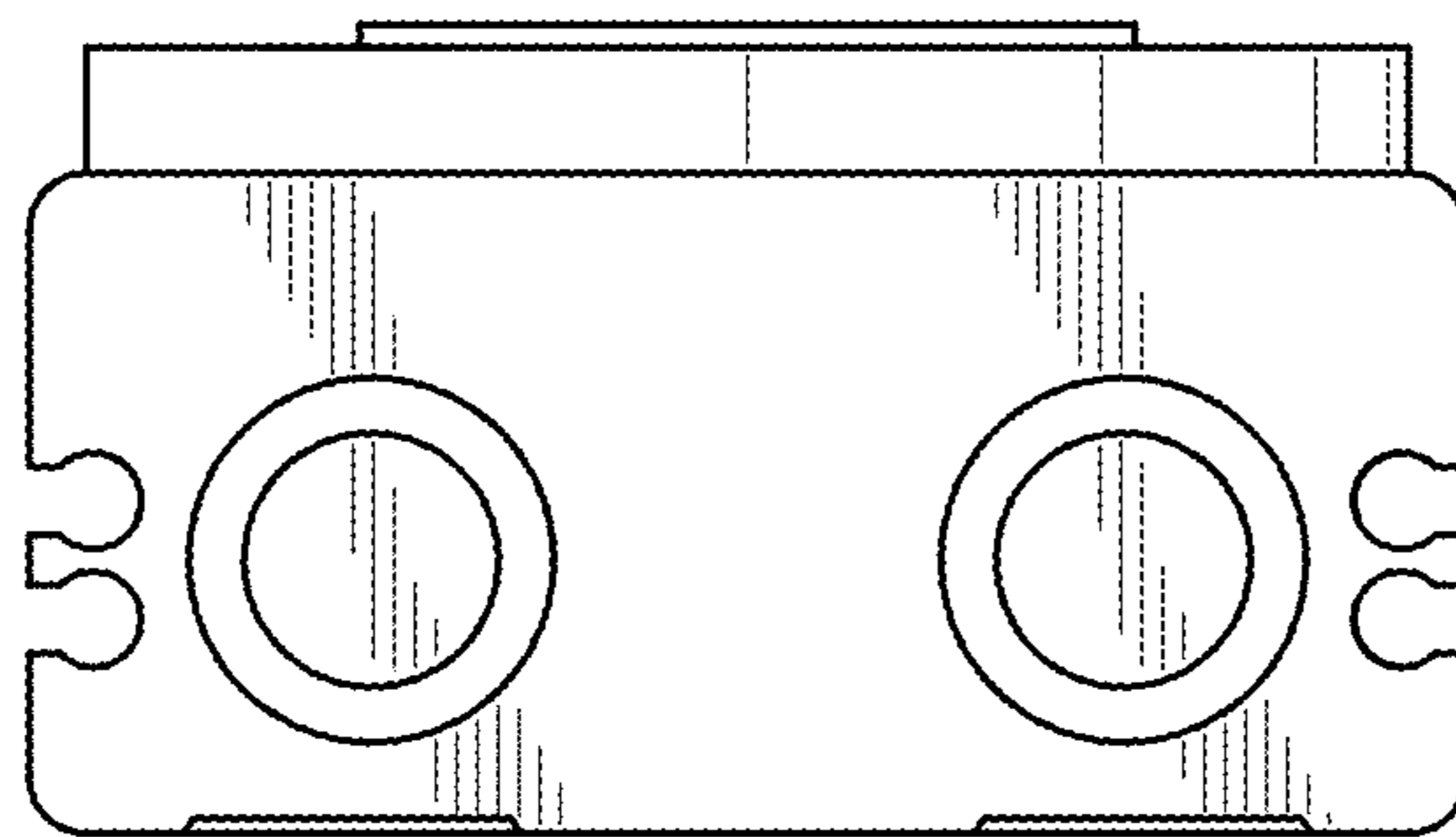


FIG. 9

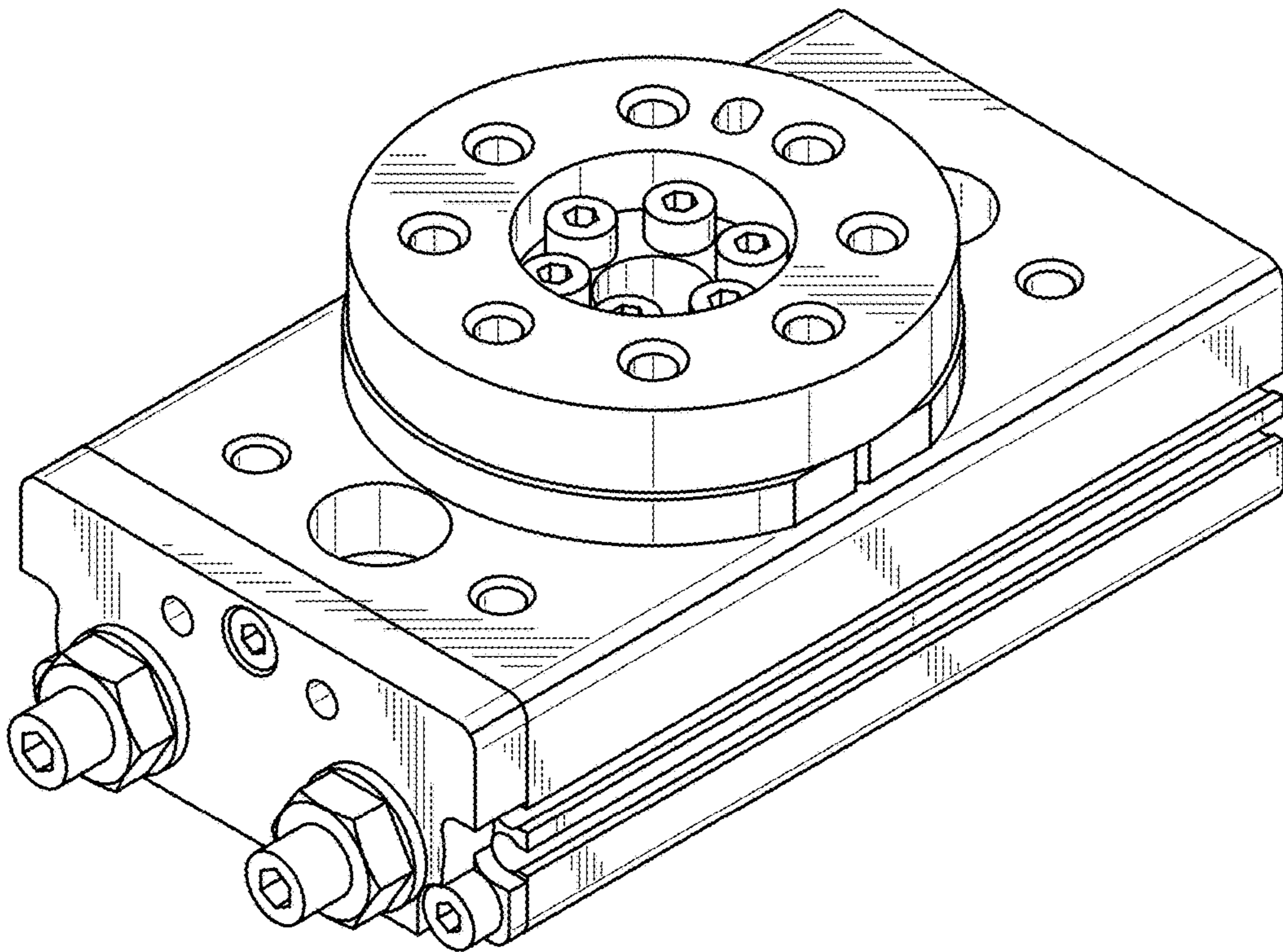


FIG. 10

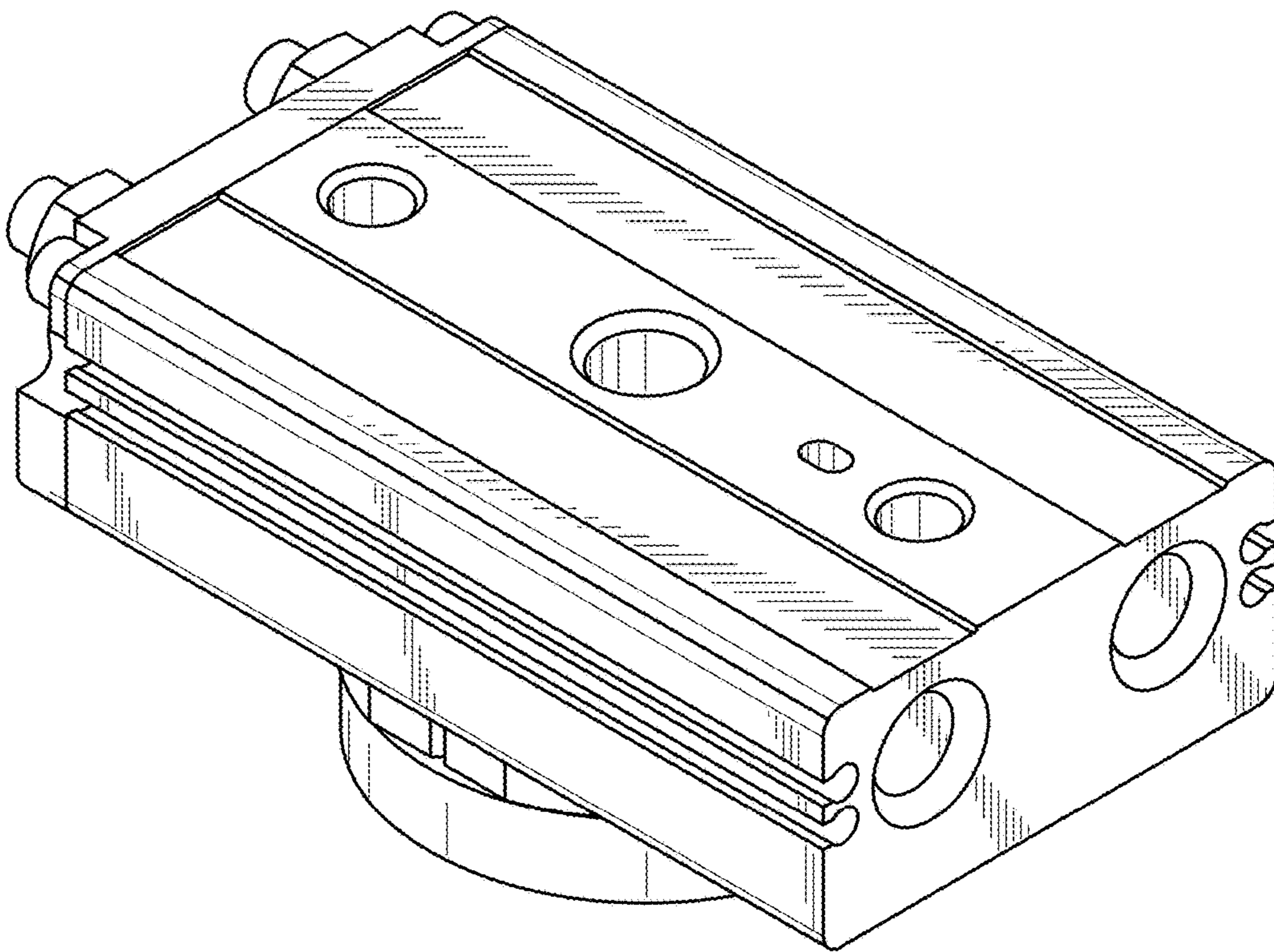


FIG. 11

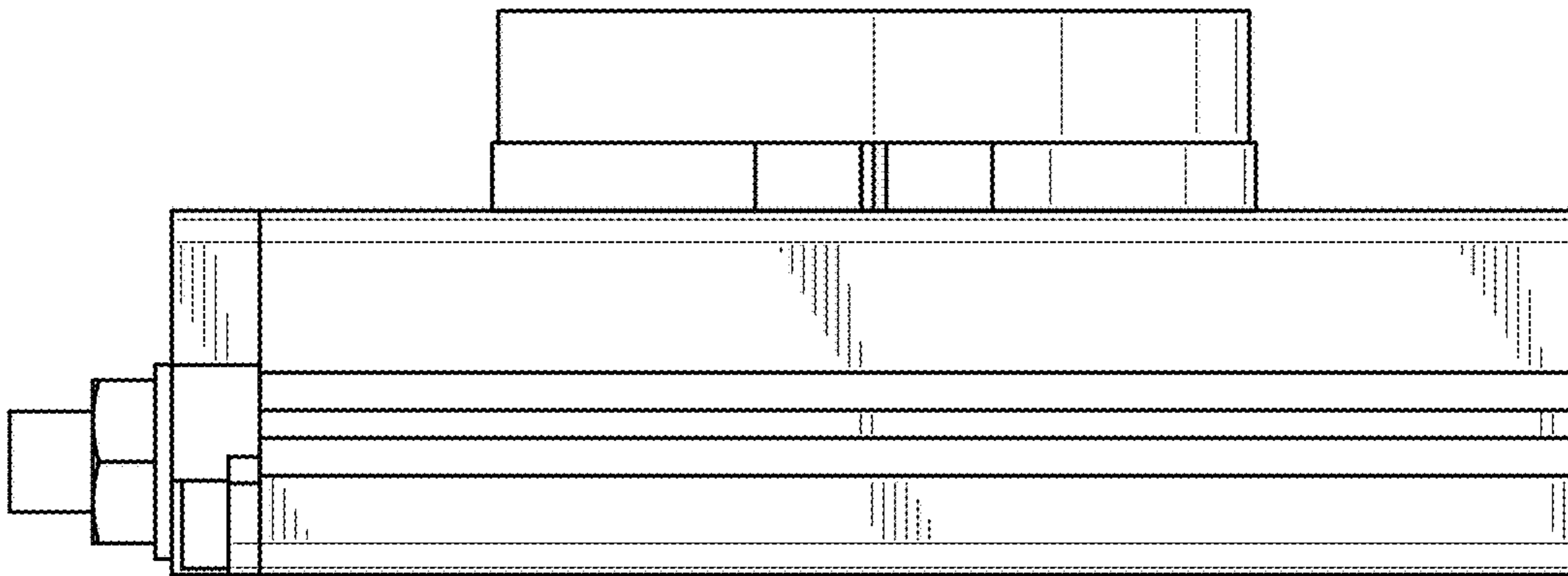


FIG. 12

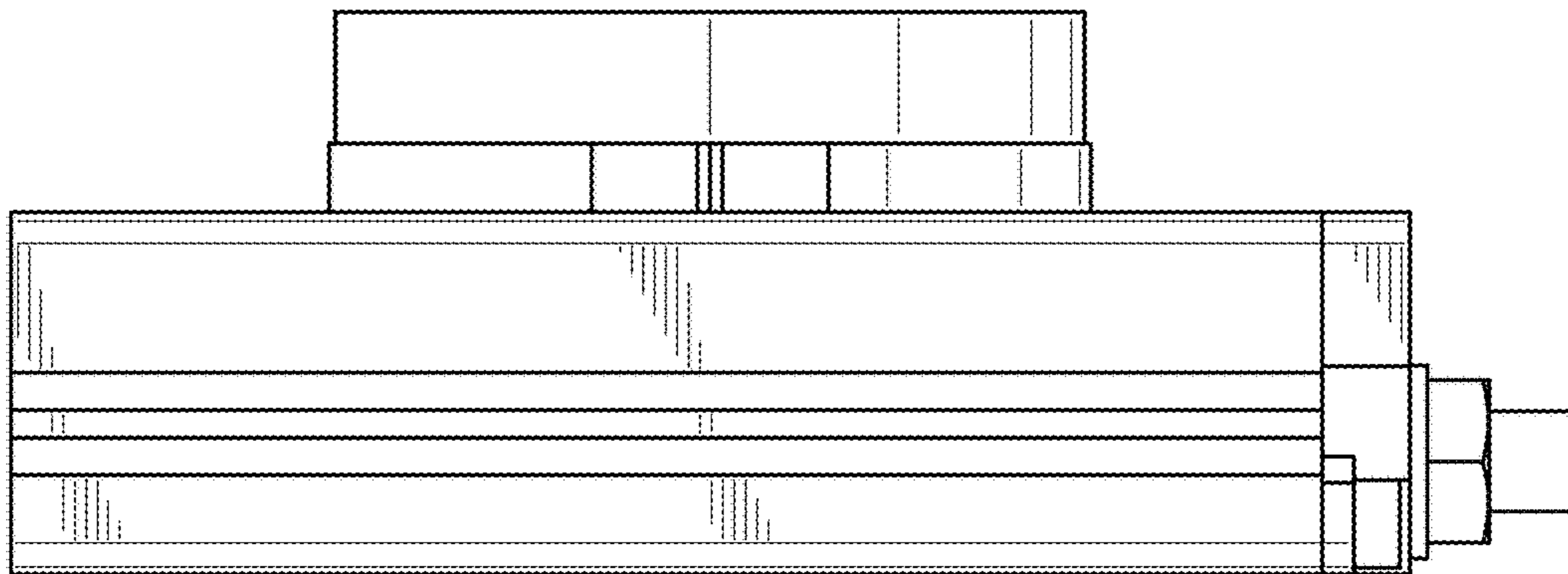


FIG. 13

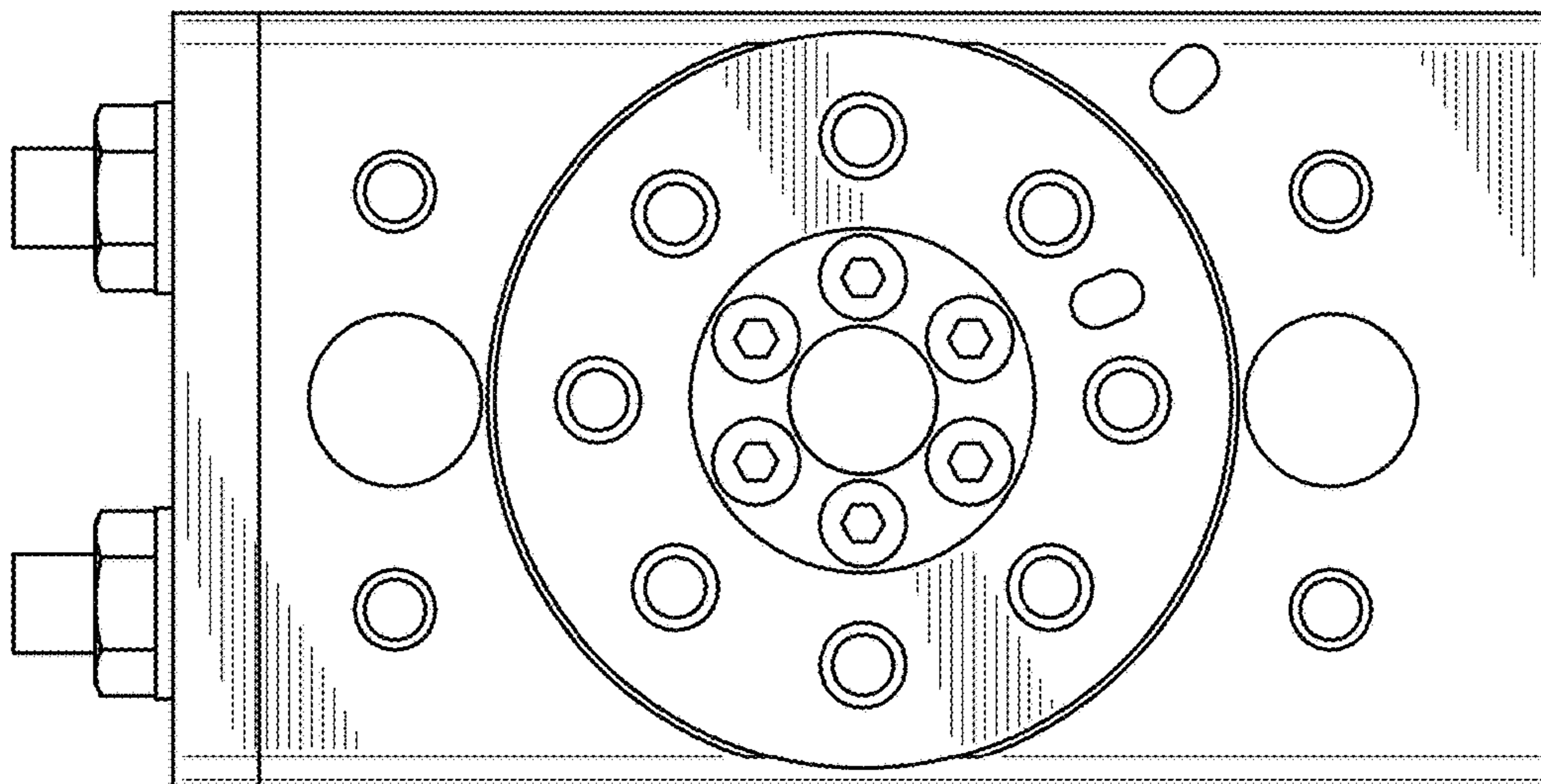


FIG. 14

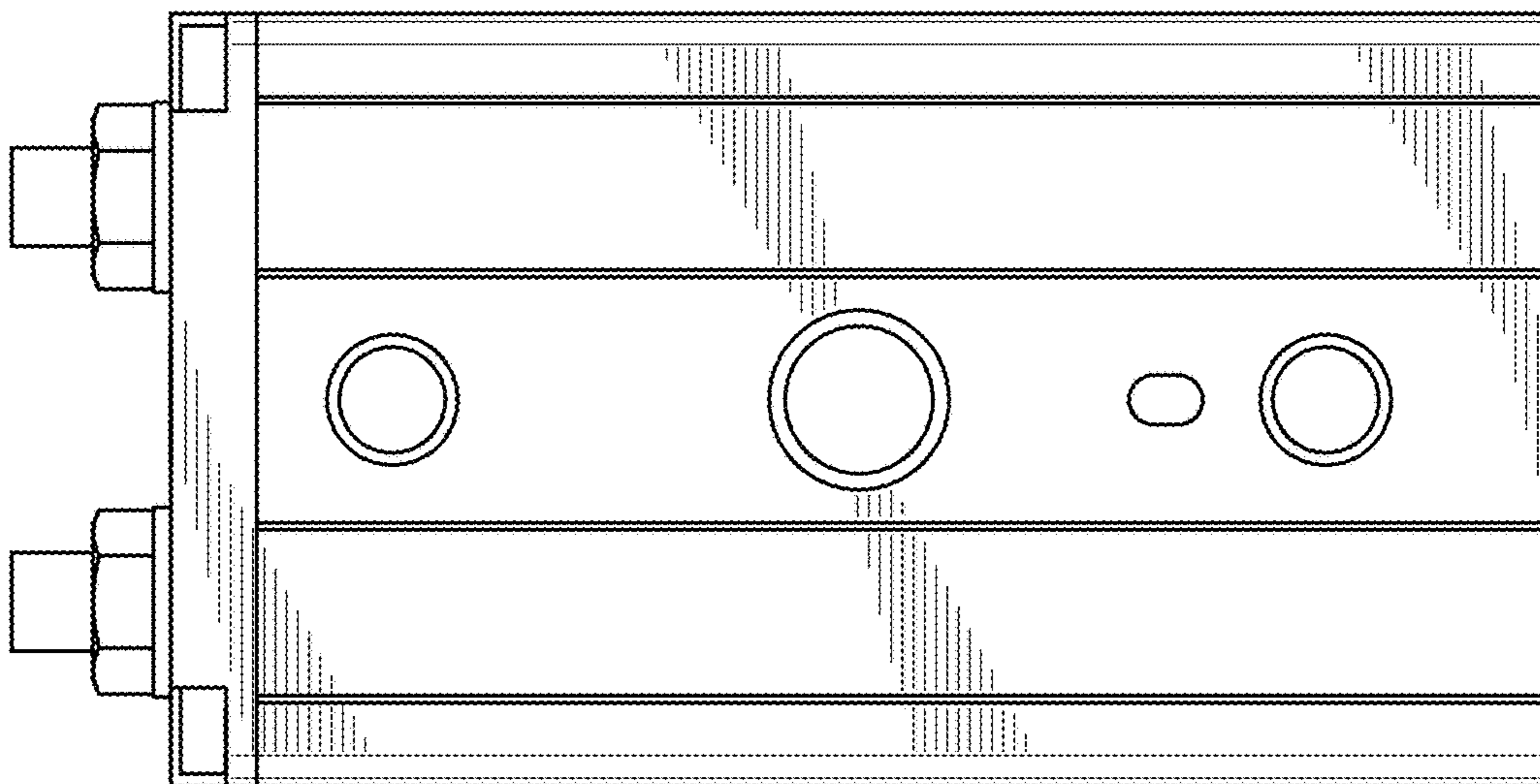


FIG. 15

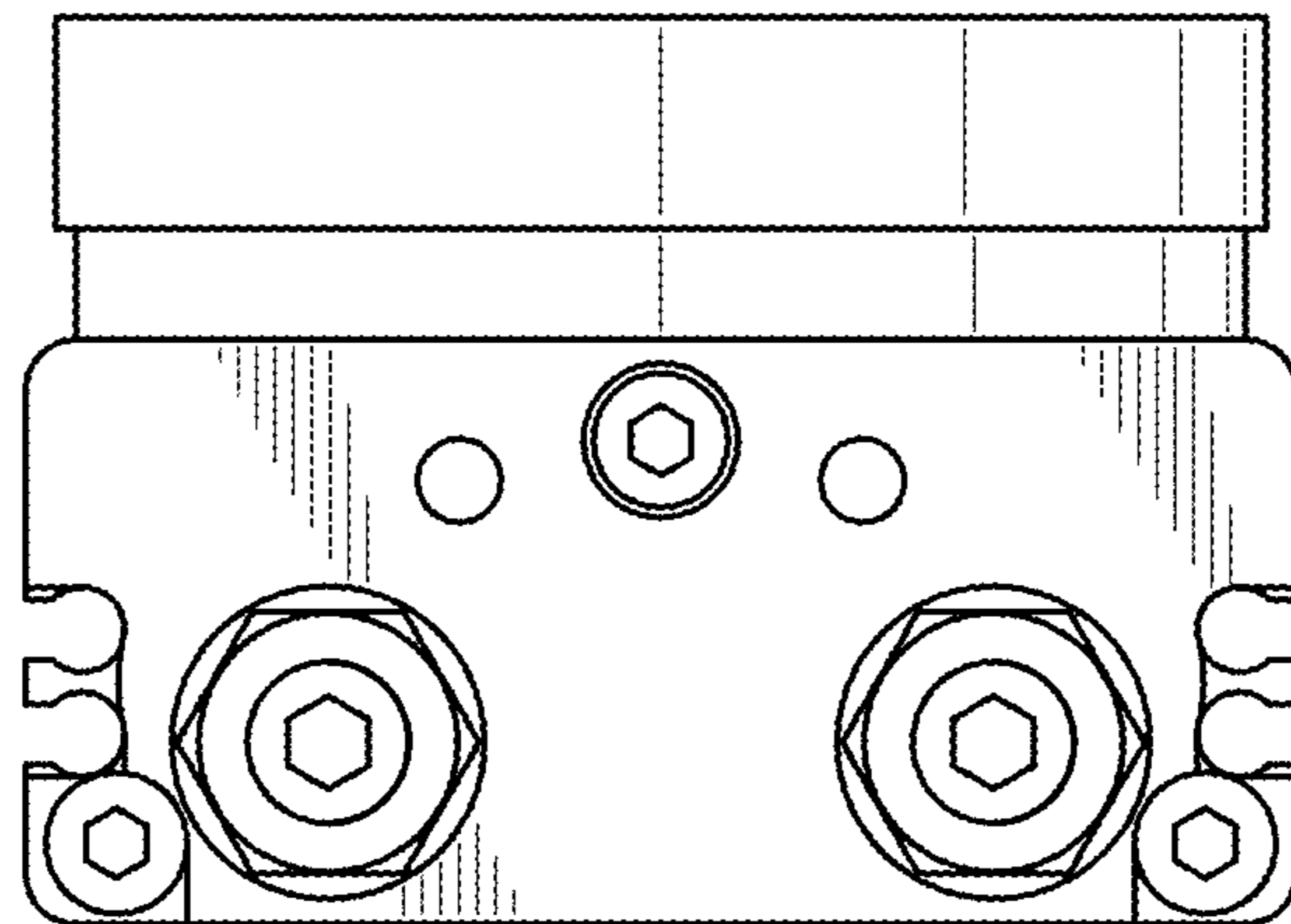


FIG. 16

