



US00D901564S

(12) **United States Design Patent** (10) **Patent No.:** **US D901,564 S**
Murata et al. (45) **Date of Patent:** **** Nov. 10, 2020**

(54) **GAS INLET ATTACHMENT FOR WAFER PROCESSING APPARATUS**

H01L 21/02263; H01L 21/31; H01L 21/205; H01L 21/0228; H01L 21/02164
See application file for complete search history.

(71) Applicant: **KOKUSAI ELECTRIC CORPORATION**, Tokyo (JP)

(56) **References Cited**

(72) Inventors: **Satoru Murata**, Toyama (JP); **Shinya Morita**, Toyama (JP)

U.S. PATENT DOCUMENTS

(73) Assignee: **KOKUSAI ELECTRIC CORPORATION**, Tokyo (JP)

D326,272	S	*	5/1992	Nakao	.....	D15/144.1
D326,273	S	*	5/1992	Nakao	.....	D15/144.1
D787,458	S	*	5/2017	Kim	.....	D13/182
D796,458	S	*	9/2017	Jang	.....	D13/182
10,364,493	B2	*	7/2019	Lee	.....	C23C 16/4412
2004/0217217	A1	*	11/2004	Han	.....	C23C 16/45574 239/589
2007/0131168	A1	*	6/2007	Gomi	.....	C23C 16/4557 118/715
2008/0092815	A1	*	4/2008	Chen	.....	C23C 16/45574 118/715
2010/0243166	A1	*	9/2010	Hayashi	.....	H01J 37/32568 156/345.34
2011/0098841	A1	*	4/2011	Tsuda	.....	C23C 16/45582 700/117

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

(21) Appl. No.: **29/699,539**

(22) Filed: **Jul. 26, 2019**

(30) **Foreign Application Priority Data**

Jan. 28, 2019 (JP) 2019-001458

(51) **LOC (12) Cl.** **15-09**

(52) **U.S. Cl.**
USPC **D15/144.1**

(58) **Field of Classification Search**
USPC D13/182, 184, 199, 122; D15/144,
D15/144.1, 144.2; D8/2, 382
CPC . C23C 16/00; C23C 16/455; C23C 16/45502;
C23C 16/45504; C23C 16/45506; C23C
16/45508; C23C 16/4551; C23C
16/45512; C23C 16/45514; C23C
16/45517; C23C 16/45563; C23C
16/4557; C23C 16/45576; C23C
16/45578; C23C 16/402; C23C 16/4584;
C23C 16/45587; C23C 16/45525; C23C
16/45544; C23C 16/46; C23C 16/45527;
C23C 16/4412; H01L 21/00; H01L 21/02;

(Continued)

Primary Examiner — Elizabeth J Oswecki
(74) *Attorney, Agent, or Firm* — Fitch, Even, Tabin & Flannery, LLP

(57) **CLAIM**

The ornamental design for a gas inlet attachment for wafer processing apparatus, as shown and described.

DESCRIPTION

FIG. 1 is a front, top and right side perspective view of a gas inlet attachment for wafer processing apparatus showing our new design;
FIG. 2 is a front elevational view thereof;
FIG. 3 is a rear elevational view thereof;
FIG. 4 is a right side elevational view thereof;
FIG. 5 is a left side elevational view thereof;
FIG. 6 is a top plan view thereof;
FIG. 7 is a bottom plan view thereof; and,

(Continued)

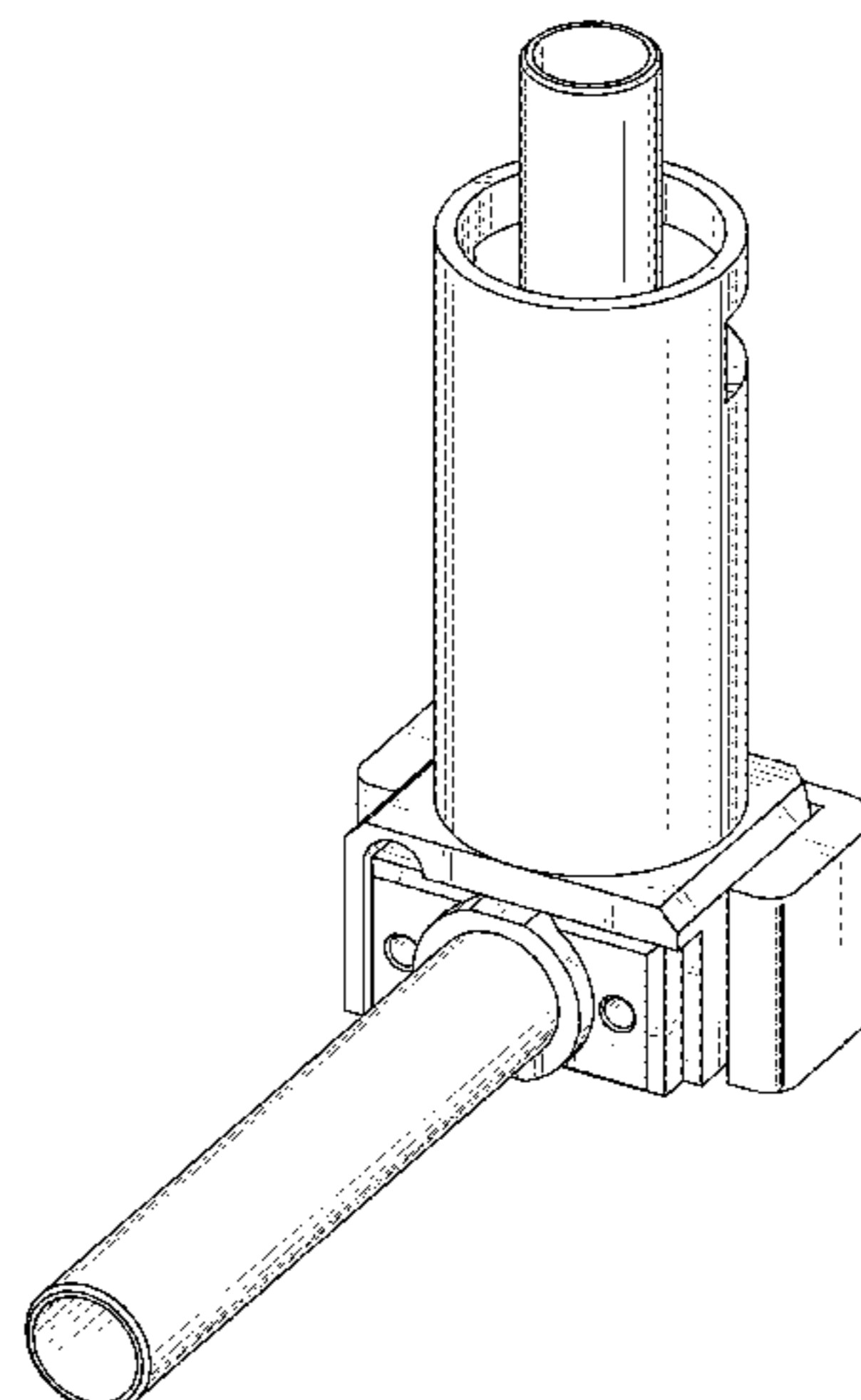


FIG. 8 is a cross sectional view taken along line 8-8 in FIG. 2.

1 Claim, 6 Drawing Sheets

(56) **References Cited**

U.S. PATENT DOCUMENTS

2015/0240359 A1* 8/2015 Jdira C23C 16/45512
438/778
2015/0348755 A1* 12/2015 Han H01J 37/3244
118/723 IR
2017/0051408 A1* 2/2017 Takagi C23C 16/45563
2018/0087152 A1 3/2018 Yoshida
2018/0087156 A1* 3/2018 Fukushima C23C 16/4583
2018/0135173 A1* 5/2018 Kim H01L 21/0262
2018/0135179 A1* 5/2018 Ikeuchi C23C 16/4583

* cited by examiner

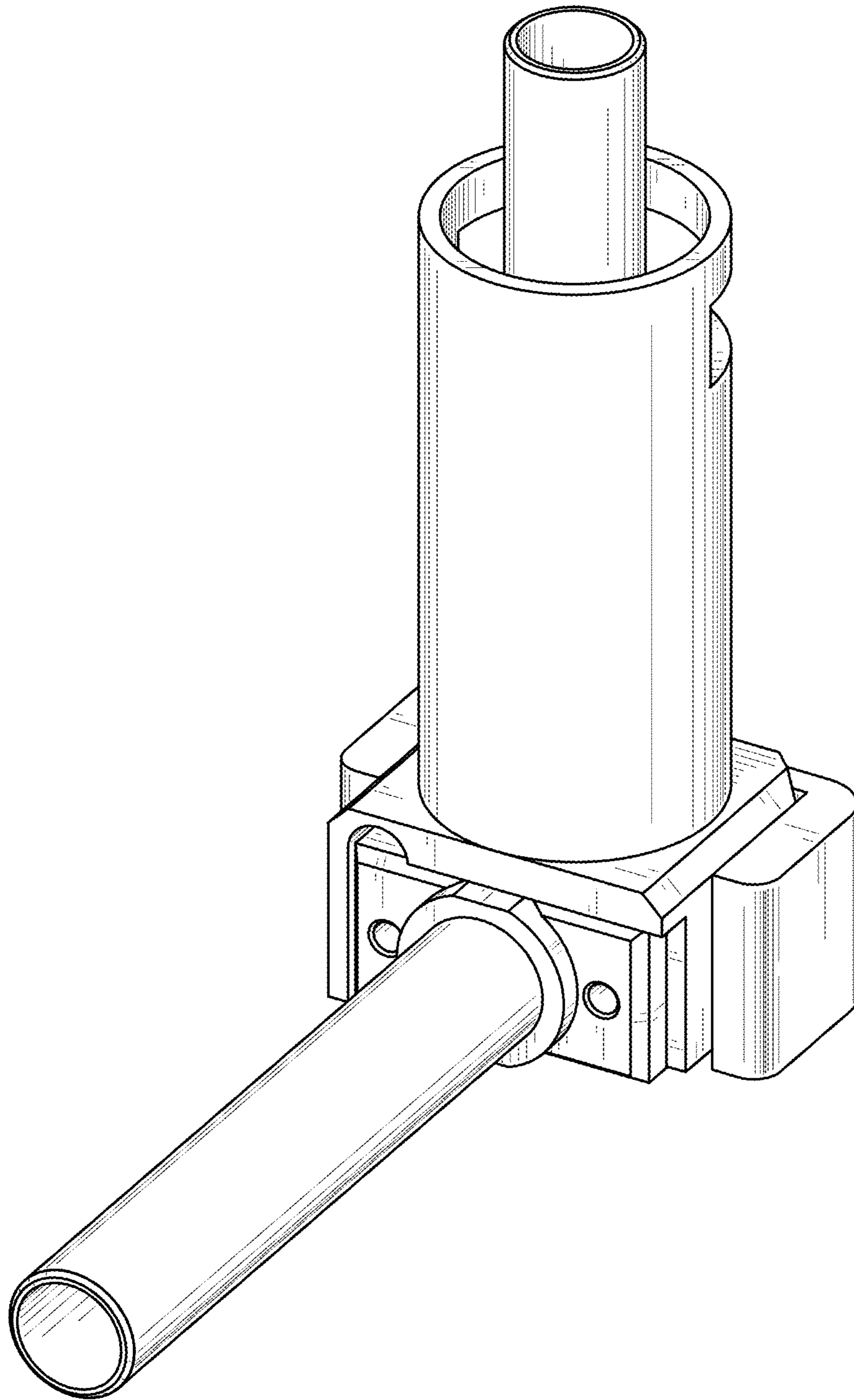
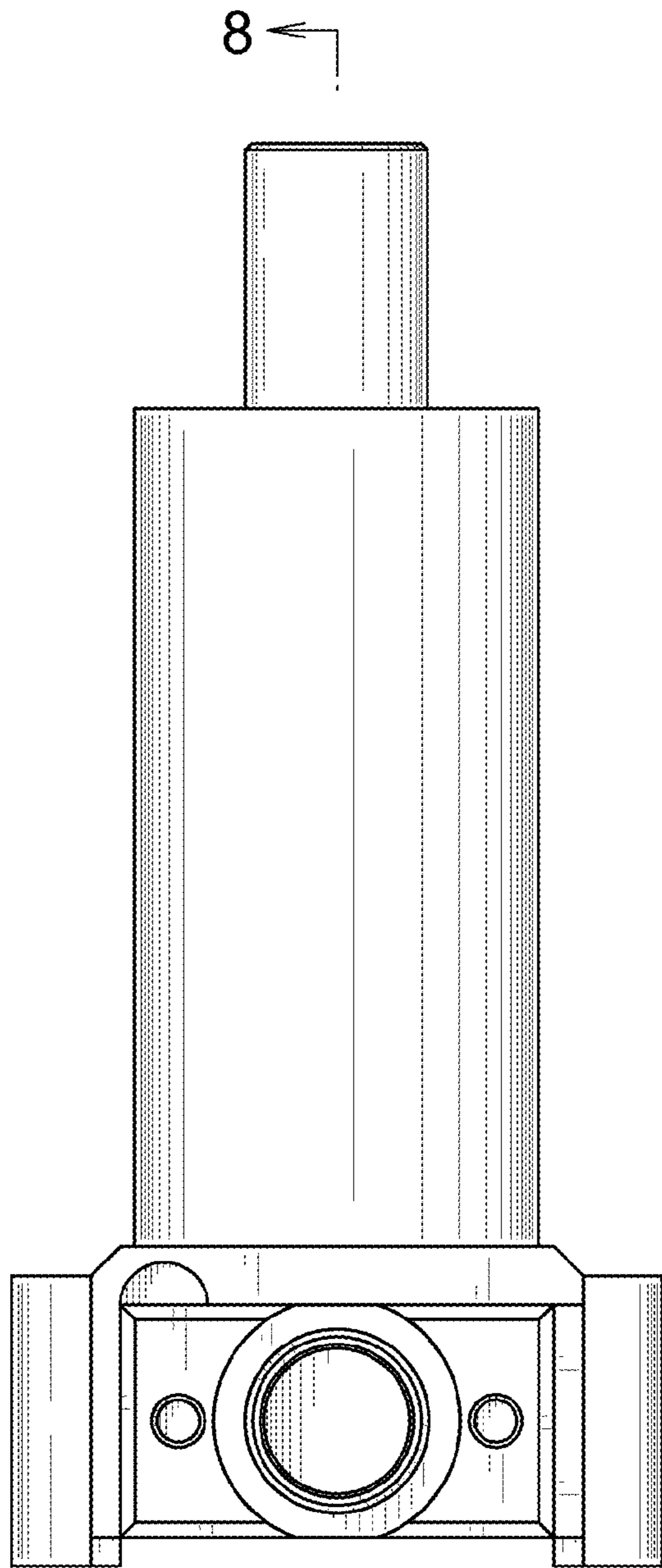


FIG. 1



8

FIG. 2

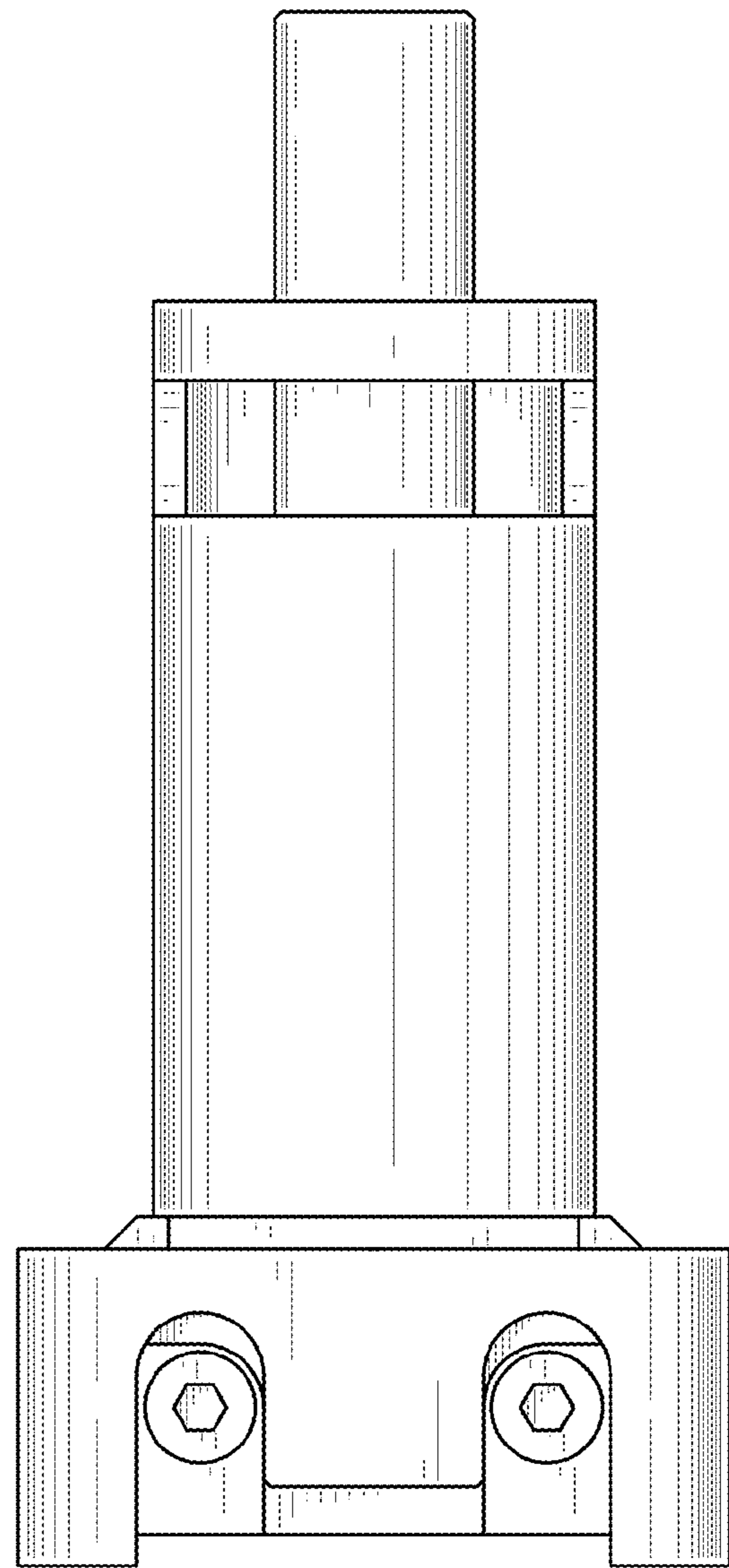


FIG. 3

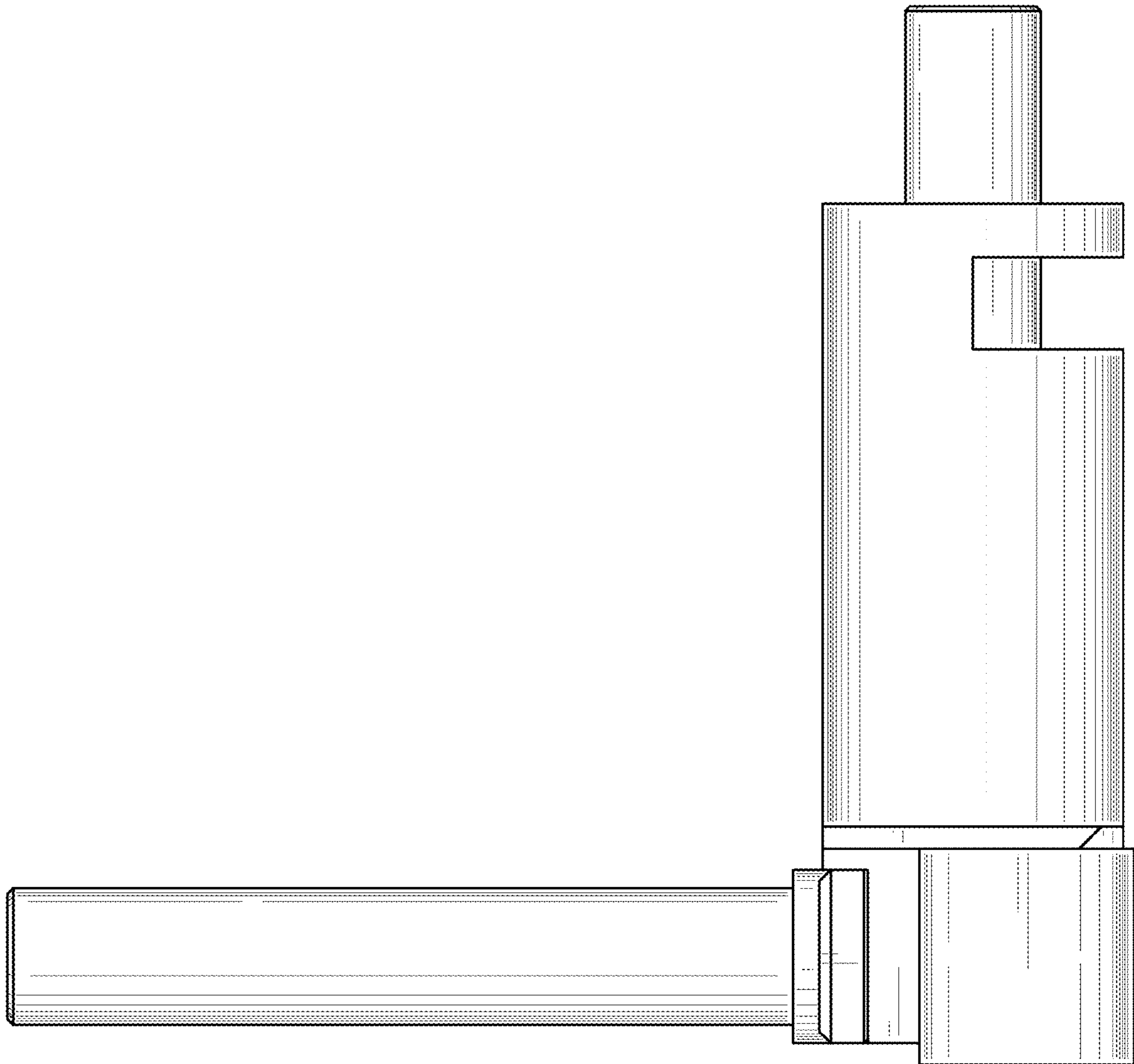


FIG. 4

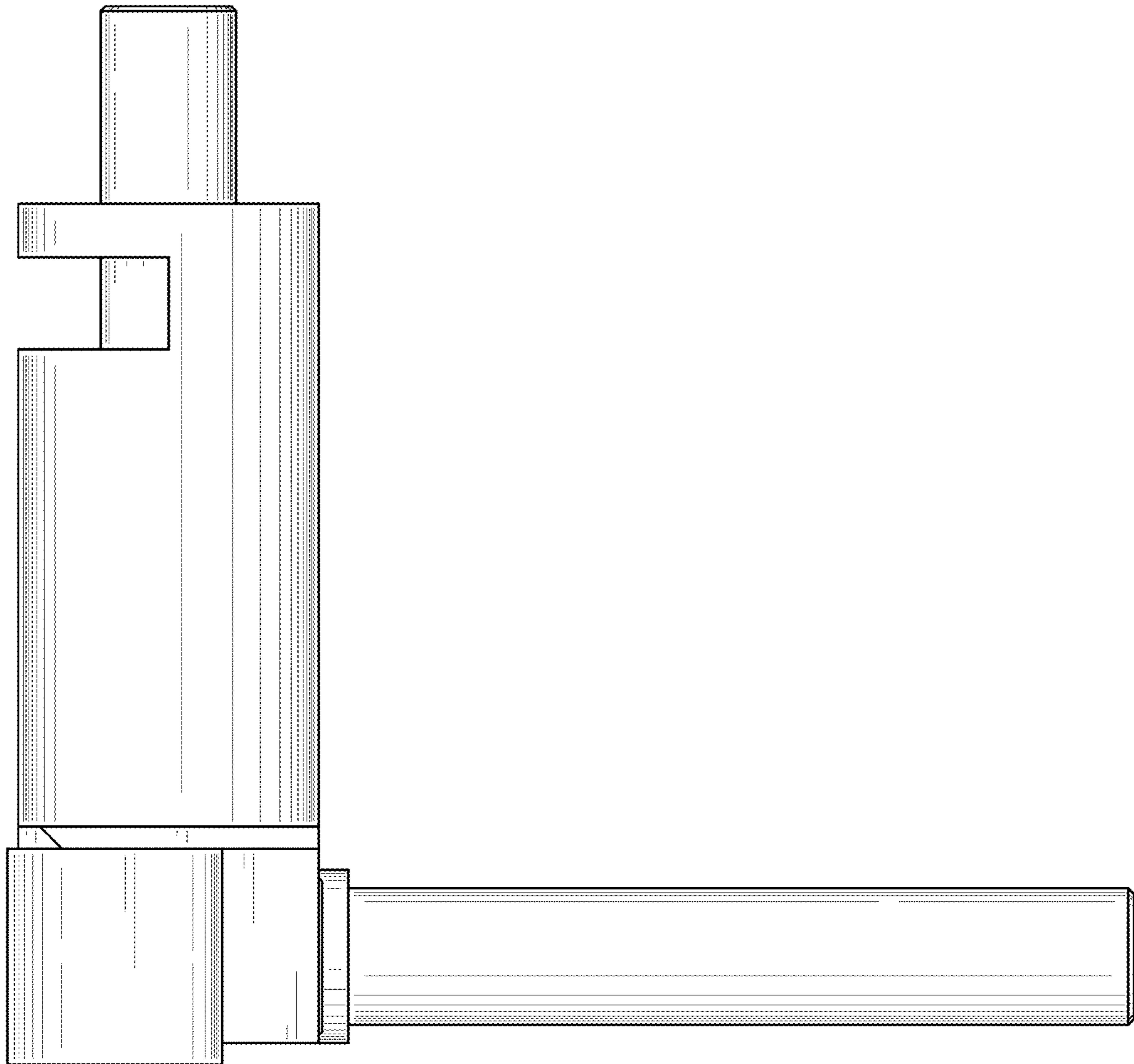


FIG. 5

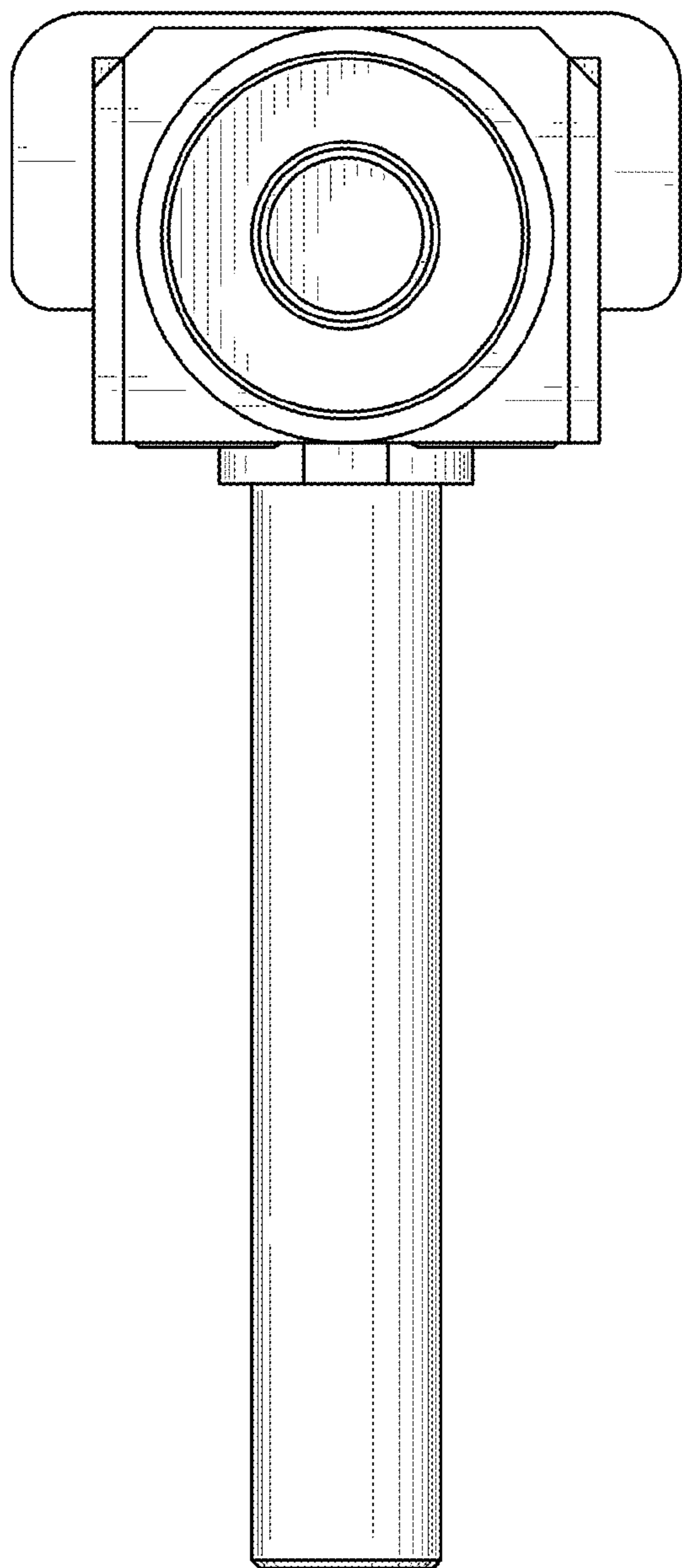


FIG. 6

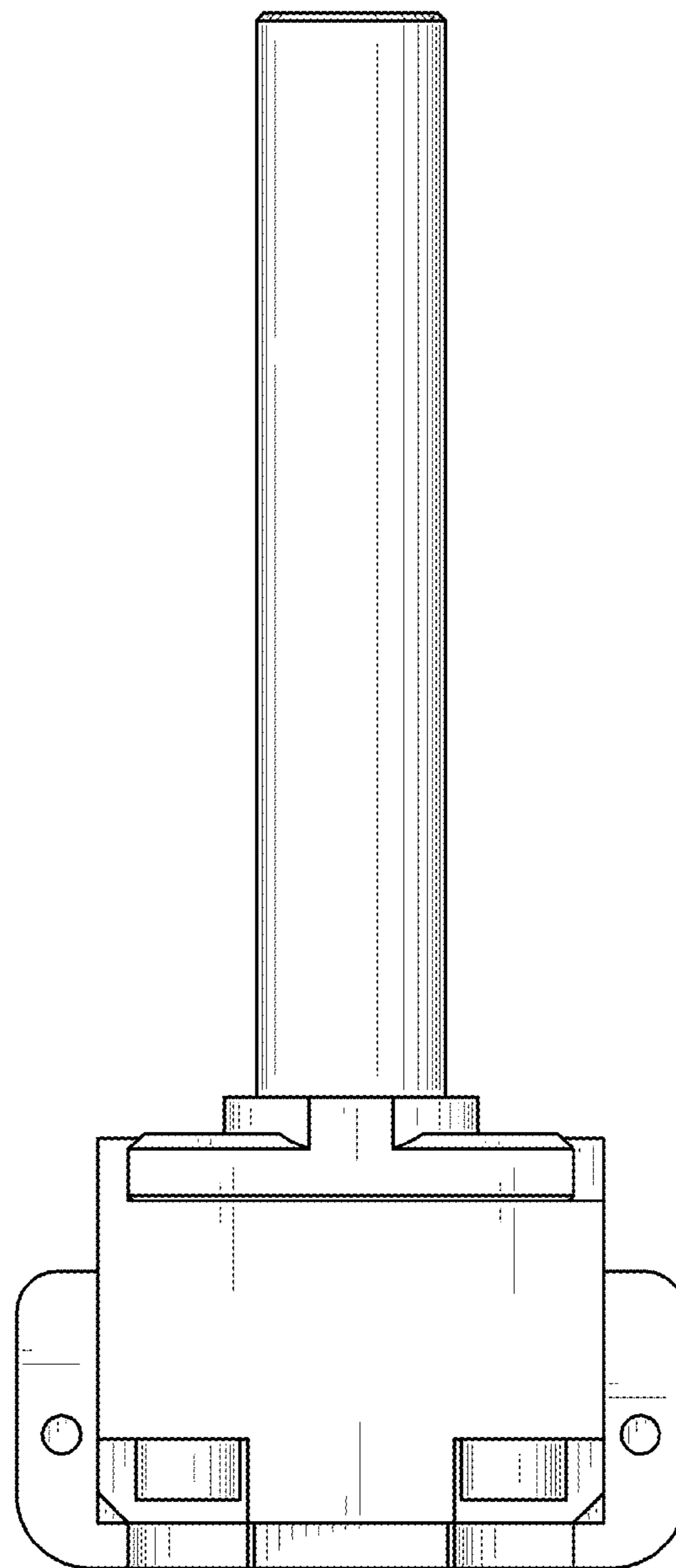


FIG. 7

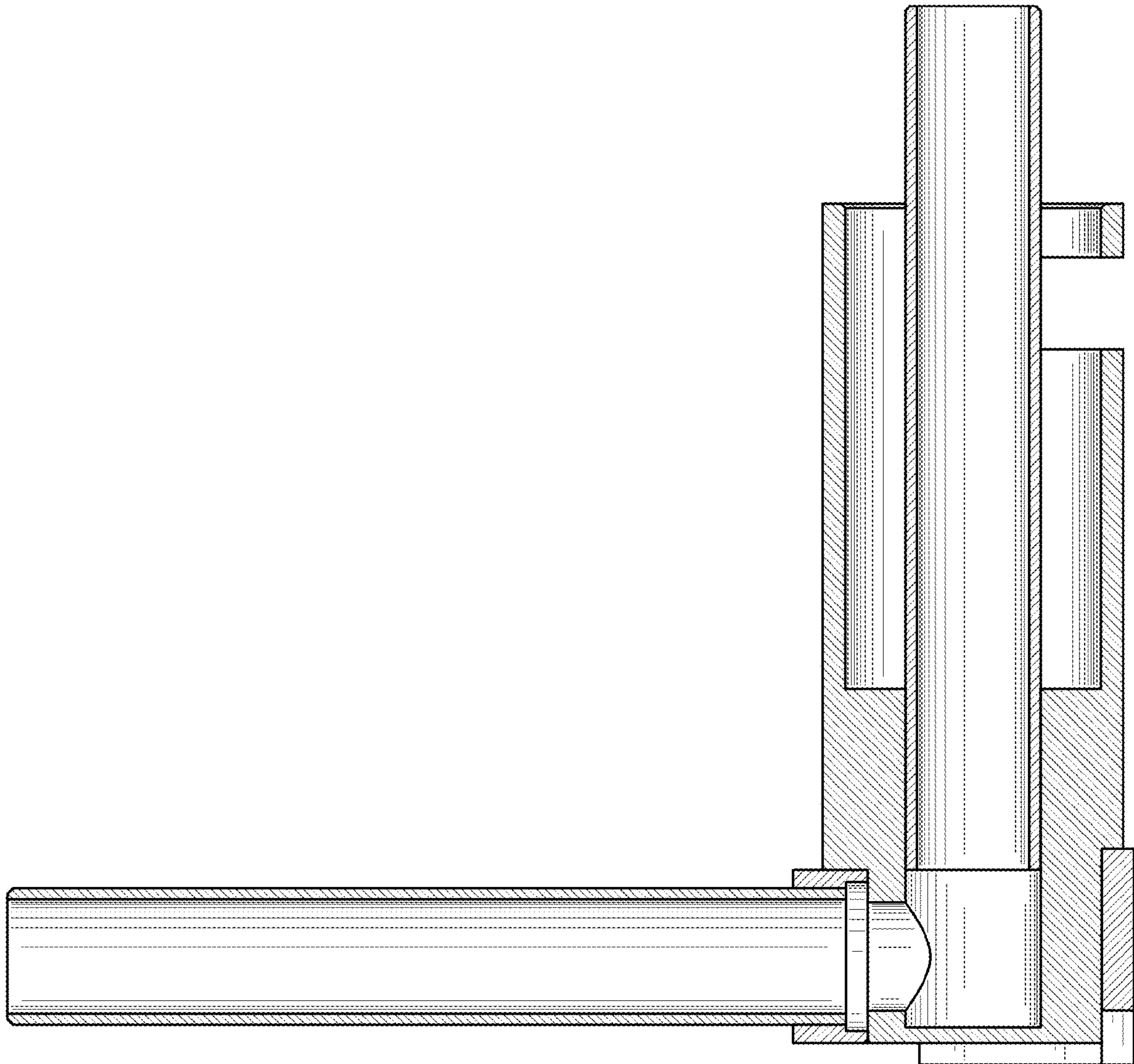


FIG. 8