



US00D789432S

(12) **United States Design Patent** (10) **Patent No.:** **US D789,432 S**
Tokuda (45) **Date of Patent:** **** Jun. 13, 2017**

(54) **ROTARY ACTUATOR**

(71) Applicant: **SMC CORPORATION**, Chiyoda-ku
(JP)

(72) Inventor: **Shinji Tokuda**, Moriya (JP)

(73) Assignee: **SMC CORPORATION**, Chiyoda-ku
(JP)

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

(21) Appl. No.: **29/558,321**

(22) Filed: **Mar. 16, 2016**

(30) **Foreign Application Priority Data**

Oct. 9, 2015 (JP) 2015-022316

(51) **LOC (10) Cl.** **15-09**

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

(58) **Field of Classification Search**
USPC D15/143, 148, 199; D13/158, 160;
310/10, 15, 20, 37, 38, 40 R, 80, 114,
310/300

CPC F15B 15/00; F15B 15/065; F15B 15/12;
H02K 7/00; H02K 5/24; H02K 19/06;
H02K 26/00; H02K 33/00; H02K 33/16;
H02K 37/00

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,520,331 A * 5/1985 Steidel H01F 7/145
310/156.32
4,999,531 A * 3/1991 Mavadia H02K 26/00
310/23
6,170,797 B1 * 1/2001 Kimura F15B 15/066
251/58
7,256,519 B2 * 8/2007 Ito F04B 35/045
310/12.27

7,436,094 B2 * 10/2008 Zhao H02K 7/00
310/154.22
D638,454 S * 5/2011 Torii D15/143
D639,321 S * 6/2011 Torii D15/143
7,973,445 B2 * 7/2011 Bischel H02K 19/06
310/162
D673,196 S * 12/2012 von Hafen D15/148
2007/0204707 A1 * 9/2007 Maffei F15B 15/065
74/25
2010/0064885 A1 * 3/2010 Werkhoven F15B 15/262
92/121
2014/0117788 A1 * 5/2014 Takahashi H02K 33/16
310/38
2015/0270764 A1 * 9/2015 Motoyanagi H02K 33/12
310/38
2016/0020668 A1 * 1/2016 Ishikawa H02K 5/24
310/38

(Continued)

Primary Examiner — Selina Sikder

(74) *Attorney, Agent, or Firm* — Oblon, McClelland,
Maier & Neustadt, L.L.P.

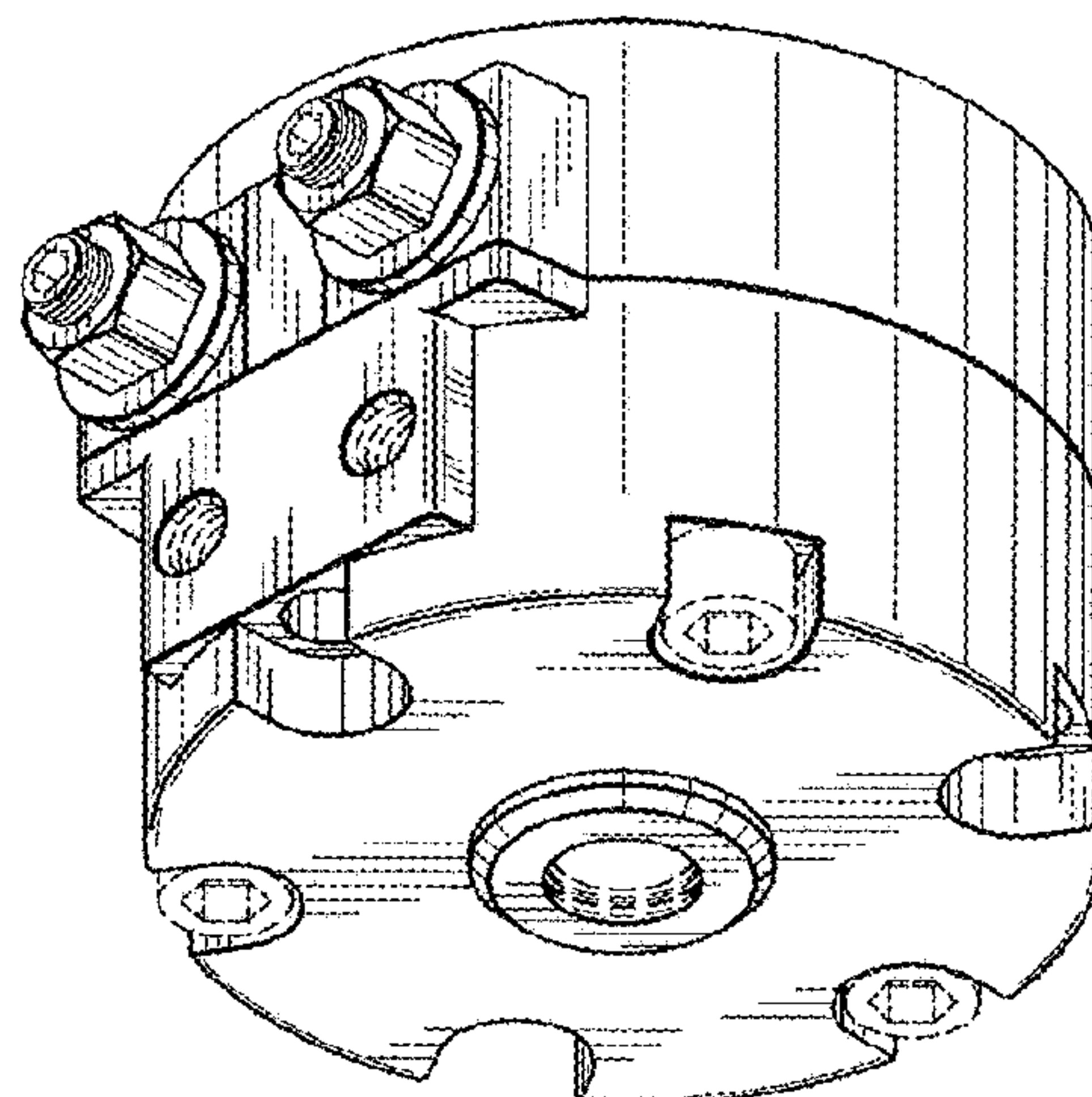
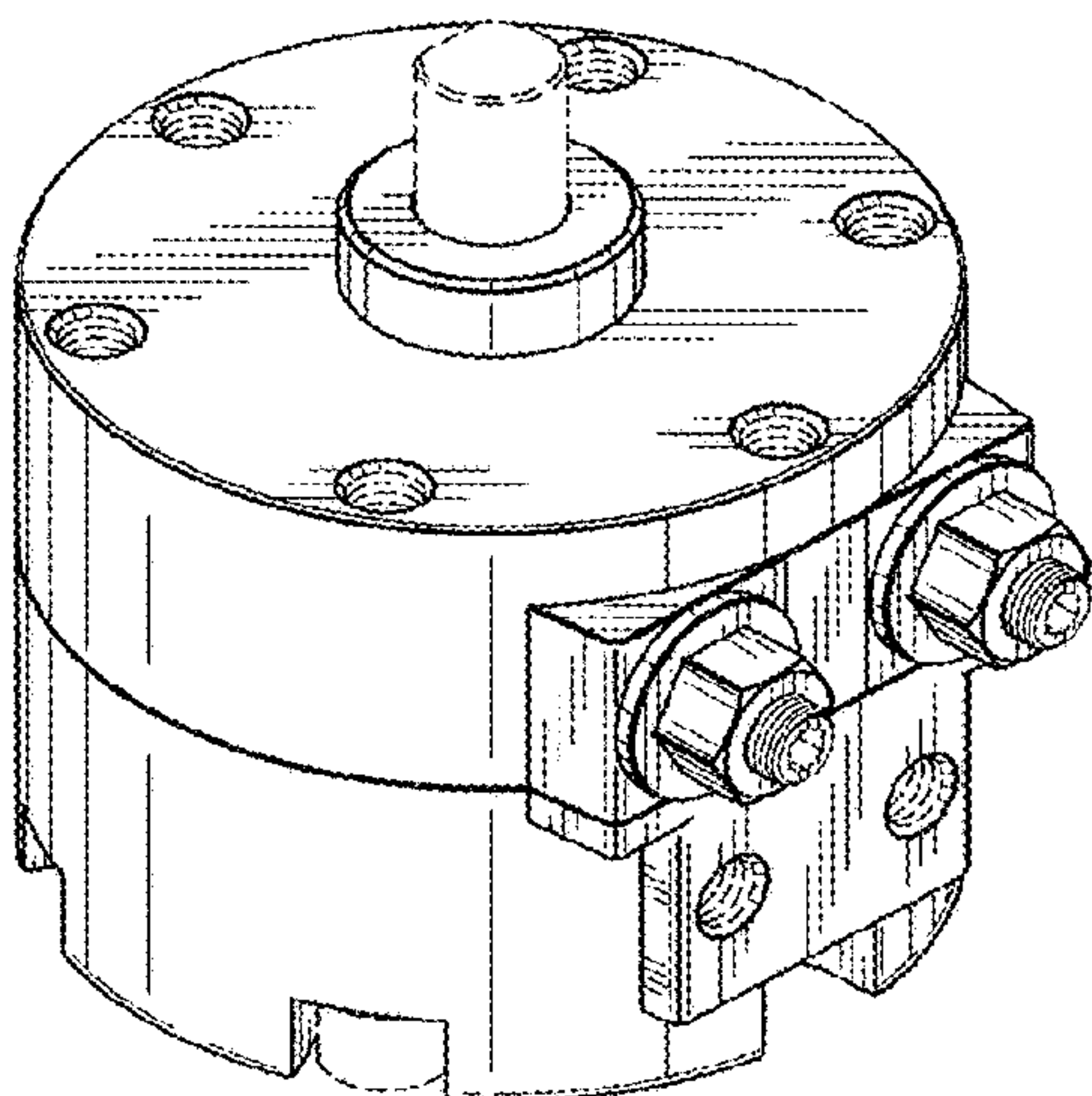
(57) **CLAIM**

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;
FIG. 2 is a front, bottom, and right side perspective view thereof;
FIG. 3 is a front elevational view thereof;
FIG. 4 is a rear elevational view thereof;
FIG. 5 is a top plan view thereof;
FIG. 6 is a bottom plan view thereof;
FIG. 7 is a left side elevational view thereof; and,
FIG. 8 is a right side elevational view thereof.
The broken lines in the drawings illustrate subject matter that forms no part of the claimed design.

1 Claim, 3 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2016/0290371 A1 * 10/2016 Ryu F15B 15/12

* cited by examiner

Fig. 1

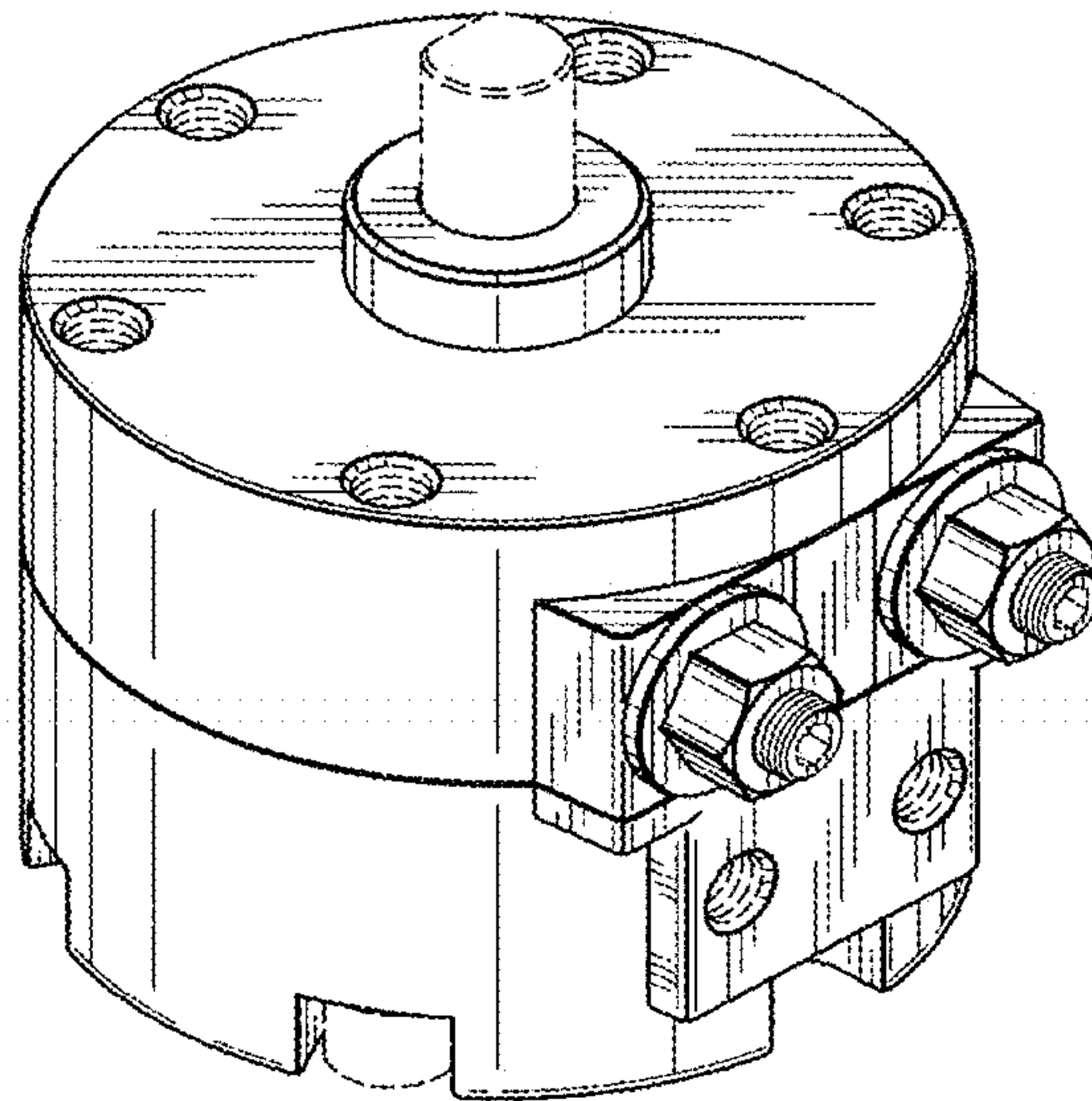


Fig. 2

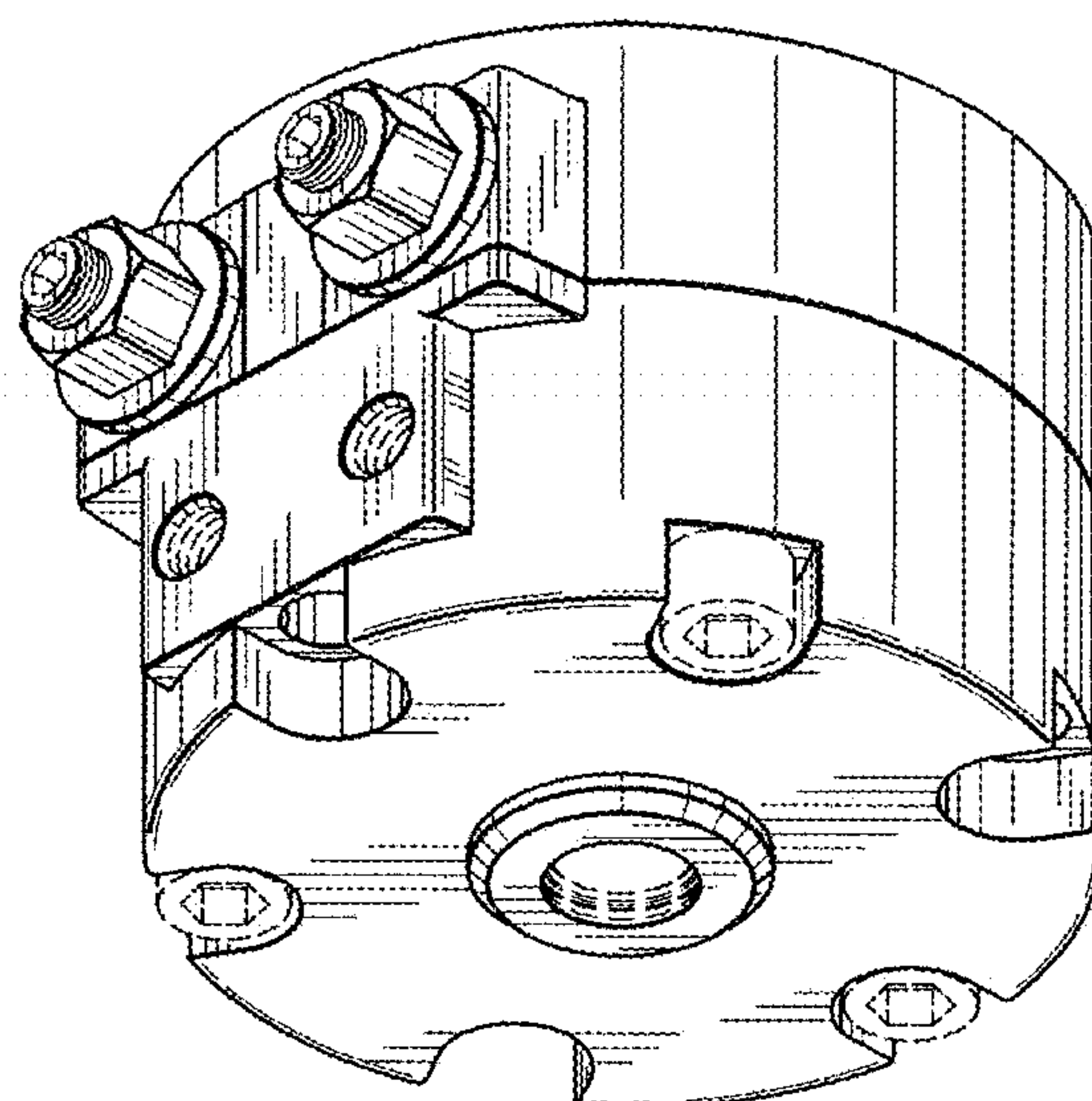


Fig. 3

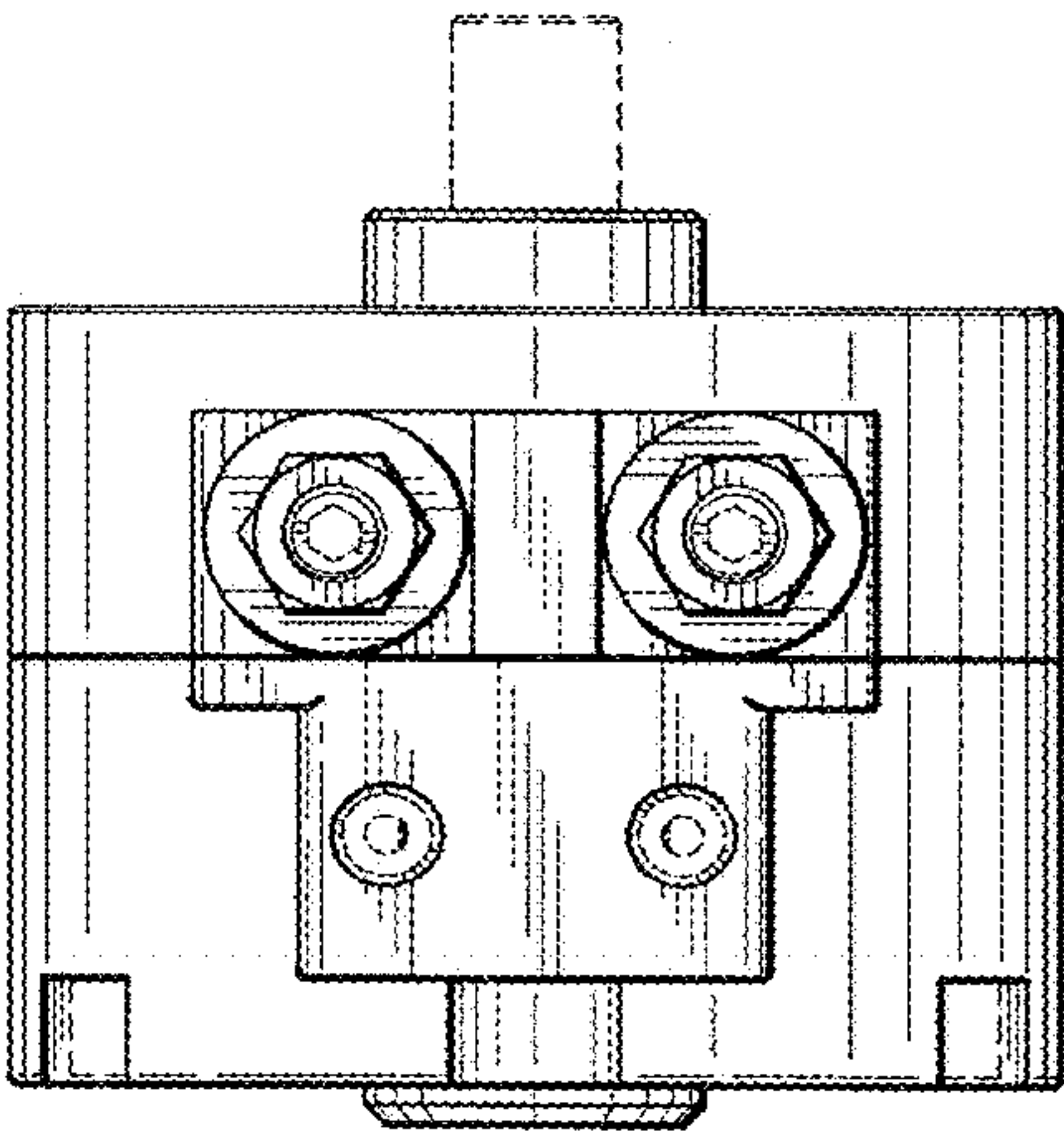


Fig. 4

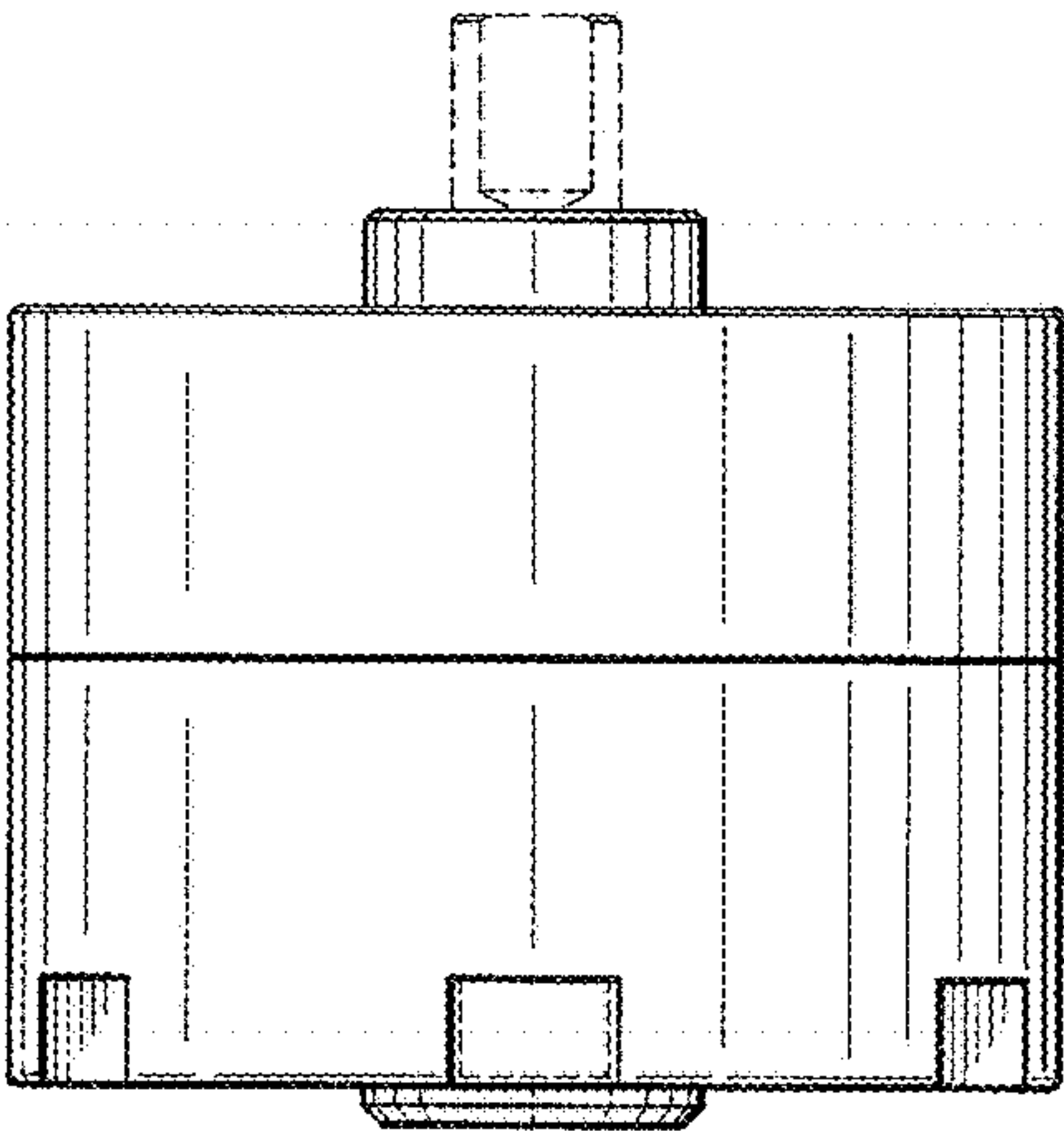


Fig. 5

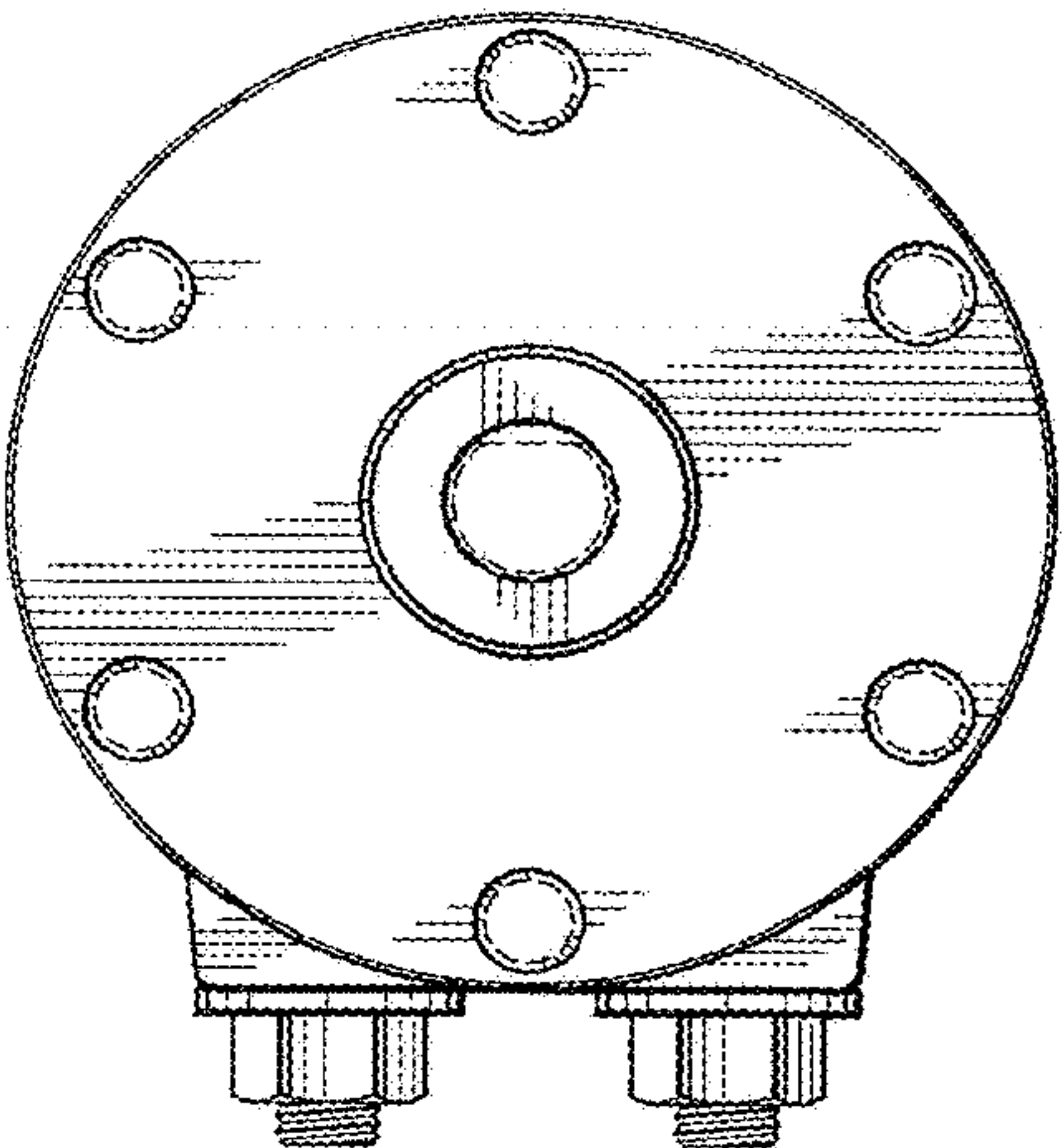


Fig 6.

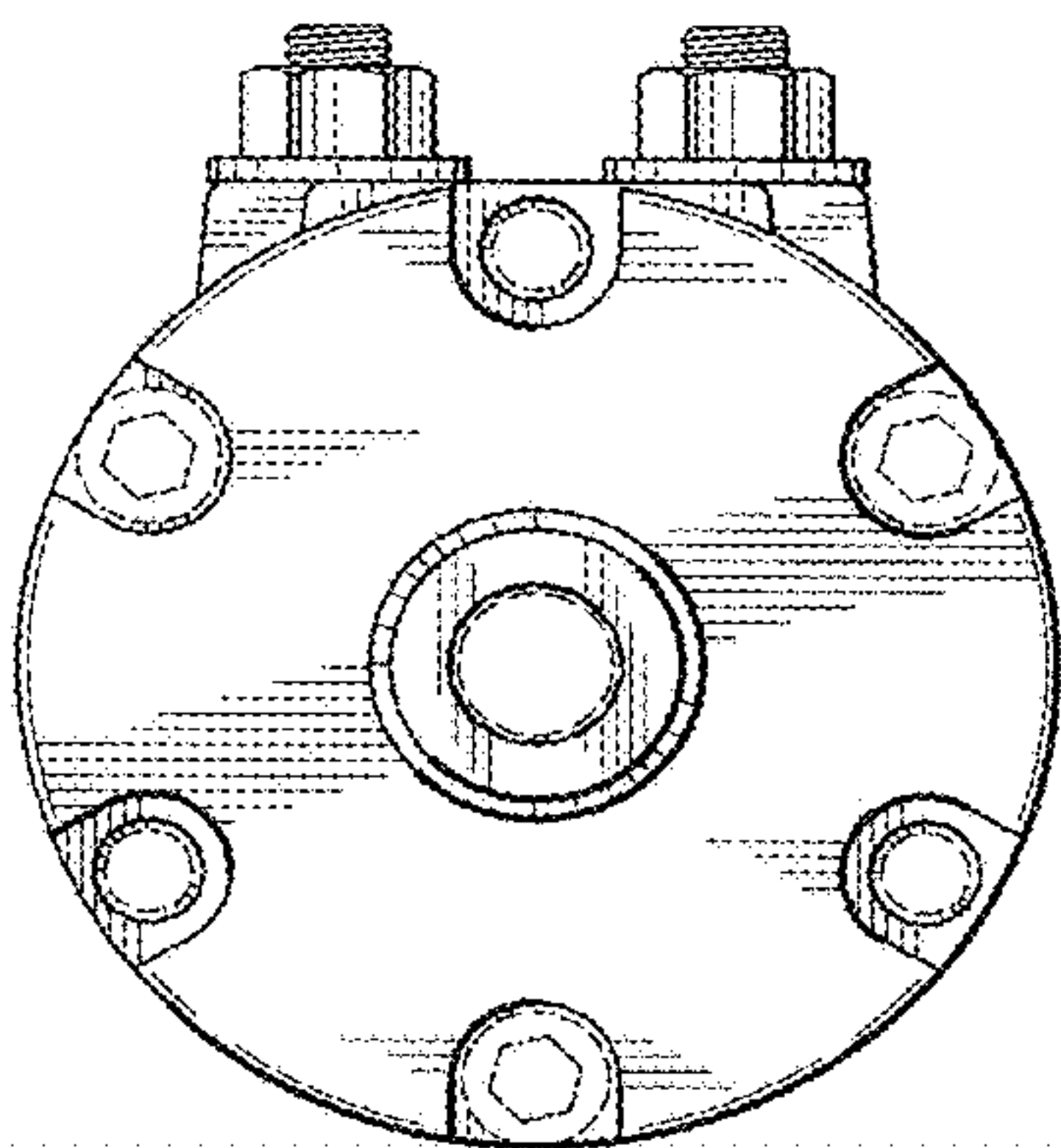


Fig. 7

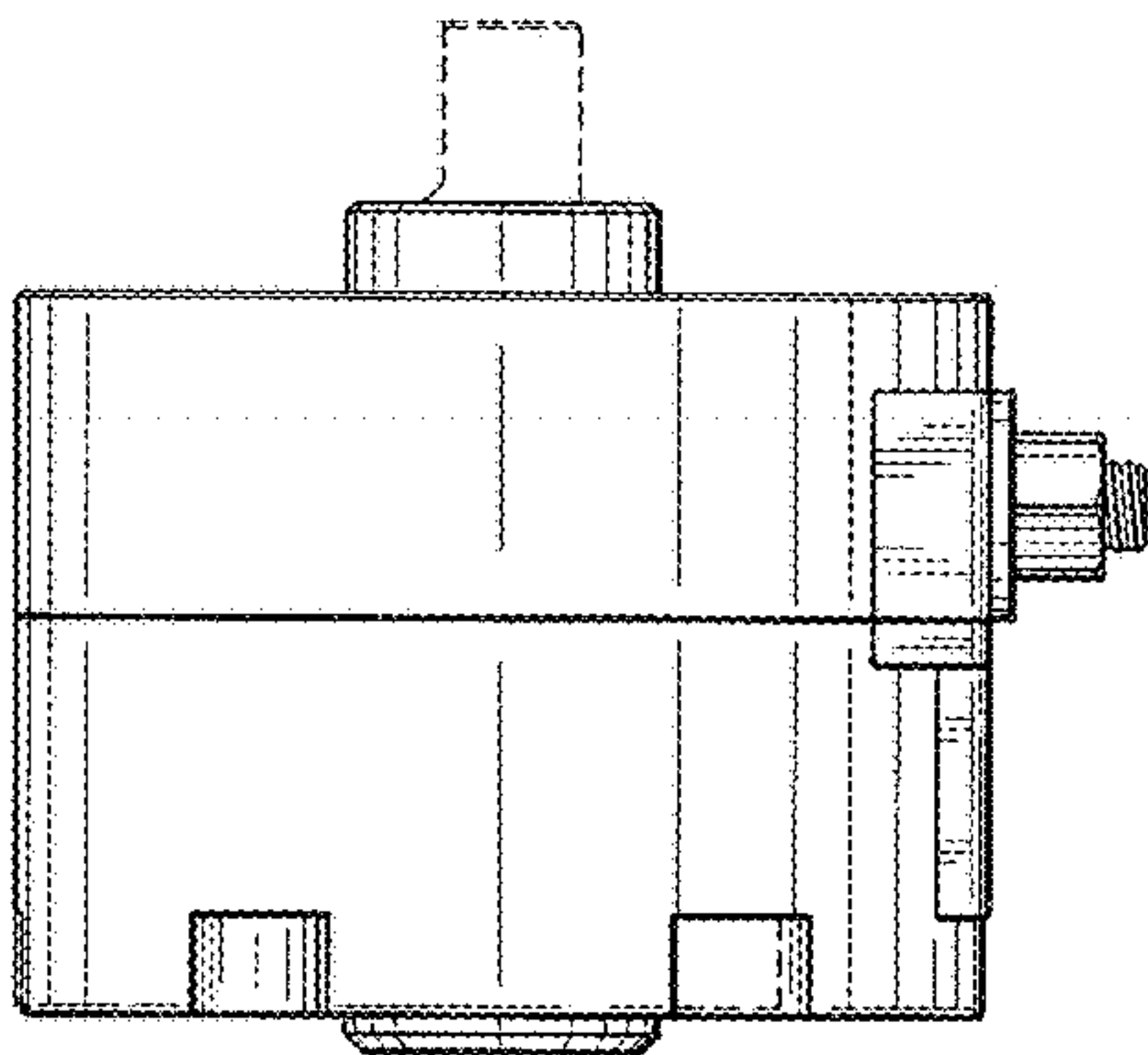


Fig. 8

