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

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(54) **CLUTCH UNIT FOR SEAT LIFTER**  
(71) Applicant: **NTN CORPORATION**, Osaka (JP)  
(72) Inventors: **Kyohei Sasanuma**, Shizuoka (JP);  
**Yumiko Mineno**, Shizuoka (JP)  
(73) Assignee: **NTN CORPORATION**, Osaka (JP)  
(\*\*) Term: **15 Years**

D409,862 S \* 5/1999 Glaser ..... D6/716.7  
6,131,997 A \* 10/2000 Cao ..... A47C 3/34  
297/344.19  
6,655,518 B2 \* 12/2003 Hirschmann ..... F16D 13/757  
192/110 R  
6,745,884 B2 \* 6/2004 Hick ..... F16D 13/71  
192/113.24  
6,902,048 B1 \* 6/2005 Chung ..... F16D 19/00  
192/48.2  
D550,990 S \* 9/2007 Donati ..... D6/716.7  
D553,885 S \* 10/2007 Matern ..... D6/716.7

(Continued)

(21) Appl. No.: **29/556,080**

*Primary Examiner* — Mimoso De

(22) Filed: **Feb. 26, 2016**

(74) *Attorney, Agent, or Firm* — Wenderoth, Lind & Ponack, L.L.P.

(30) **Foreign Application Priority Data**

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(51) **LOC (11) Cl.** ..... **06-01**

(52) **U.S. Cl.**  
USPC ..... **D6/716.7**

(58) **Field of Classification Search**  
USPC ..... D6/334-336, 356, 364, 365, 366, 367,  
D6/376, 716, 716.1, 716.4, 717  
CPC .... A47C 3/18; A47C 3/20; A47C 3/32; A47C  
3/34; A47C 3/36; A47C 7/402; A47C  
7/00; A47C 7/004; A47C 1/06; F16D  
13/71; F16D 23/00; F16D 13/757; F16D  
19/00

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

281,242 A \* 7/1883 Crowell ..... F16D 13/71  
192/111.1  
2,248,764 A \* 7/1941 Krenzke ..... F16D 13/71  
192/66.3  
2,296,212 A \* 9/1942 Kluglein ..... A47C 1/06  
297/327  
D212,689 S \* 11/1968 Doerner ..... D6/716.7  
5,002,171 A \* 3/1991 Tarlton, Sr. .... F16D 13/757  
192/110 R

(57) **CLAIM**

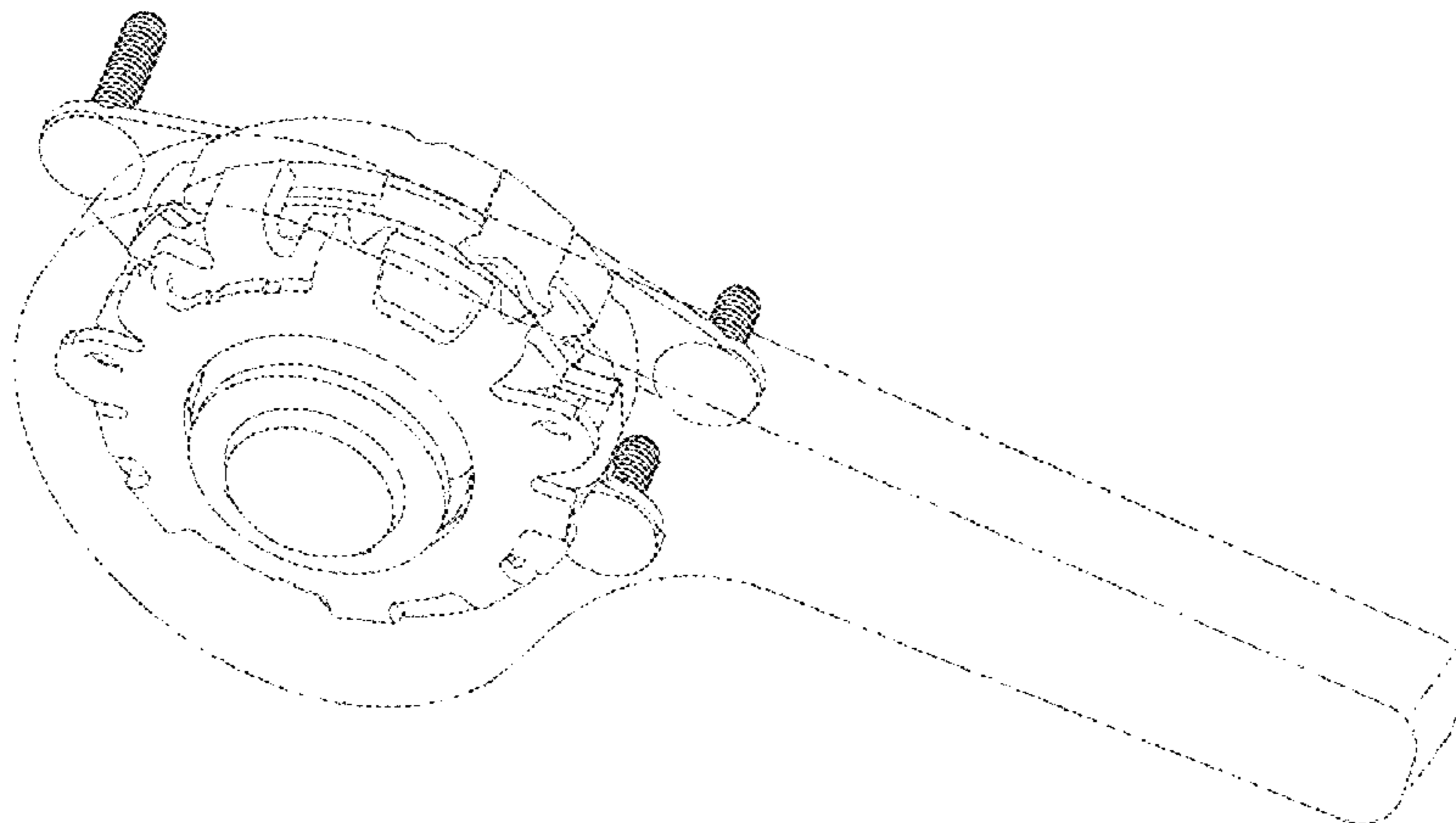
The ornamental design for a clutch unit for seat lifter, as shown and described.

**DESCRIPTION**

FIG. 1 is a front view of the design;  
FIG. 2 is a rear view of the design;  
FIG. 3 is a top plan view of the design;  
FIG. 4 is a bottom plan view of the design;  
FIG. 5 is a right side view of the design;  
FIG. 6 is a left side view of the design;  
FIG. 7 is a perspective view of the design;  
FIG. 8 is a reference rear view of the design;  
FIG. 9 is a reference cross sectional view of the design along lines A-B-C in FIG. 8;  
FIG. 10 is a reference right side view showing Example 1 of attachment onto a seat part;  
FIG. 11 is a reference right side view showing Example 2 of attachment onto a seat part;  
FIG. 12 is a reference drawing showing a state in which a lever for a seat lifter is coupled; and,  
FIG. 13 is a reference drawing of a seat showing a lever for a seat lifter.

The broken lines form no part of the claimed design.

**1 Claim, 13 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

7,469,969 B2 \* 12/2008 Wiecek ..... A47C 7/00  
297/463.1  
8,047,351 B2 \* 11/2011 Chapman ..... F16D 13/757  
192/111.15  
8,820,505 B2 \* 9/2014 Hodge ..... F16D 13/757  
192/70.27  
9,089,217 B2 \* 7/2015 Archambault ..... A47C 3/18  
D769,660 S \* 10/2016 Bock ..... D6/716.7  
D779,256 S \* 2/2017 Alvarez ..... D6/716.7  
9,861,203 B2 \* 1/2018 Alvarez ..... A47C 7/402

\* cited by examiner

FIGURE 1

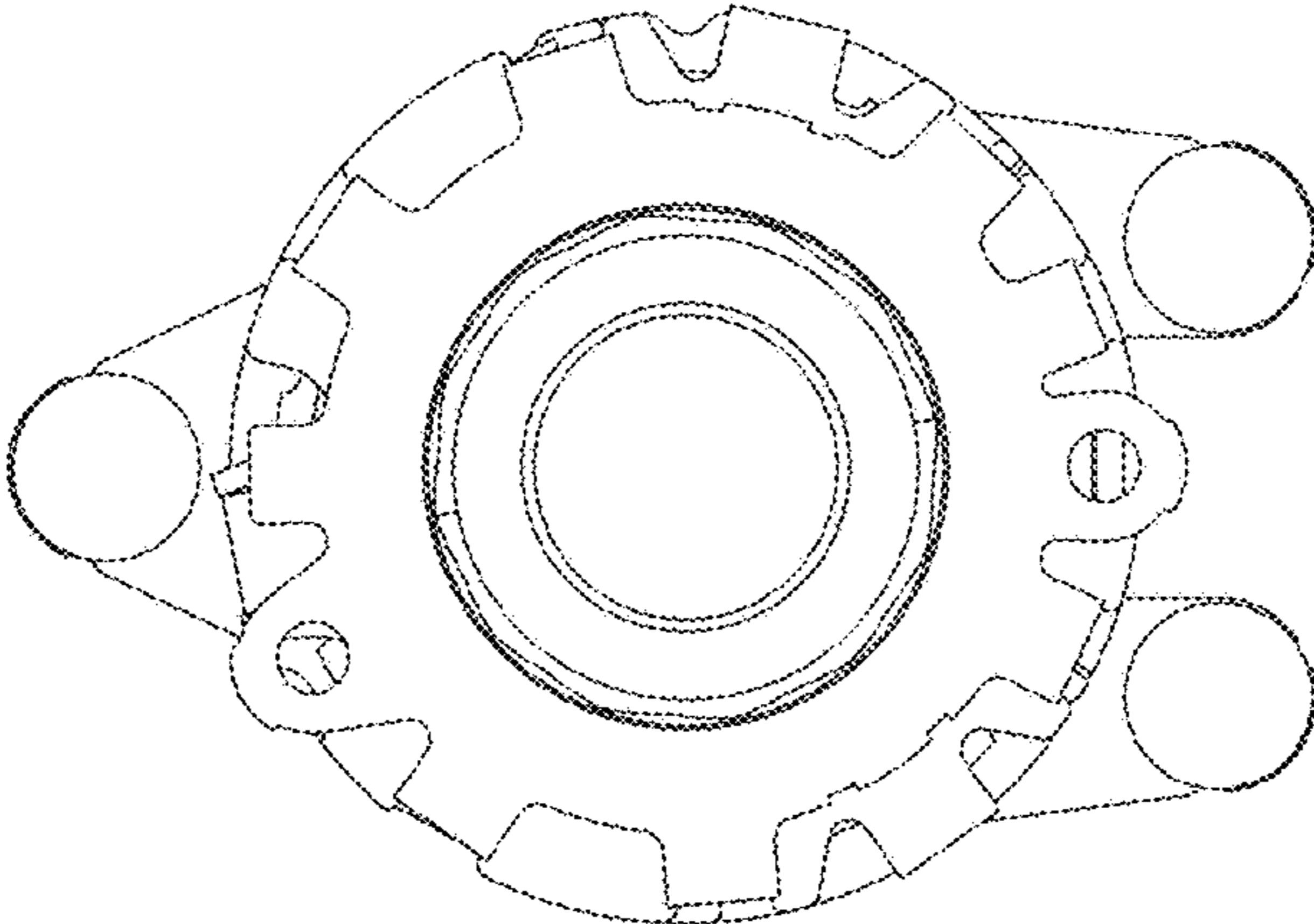


FIGURE 2

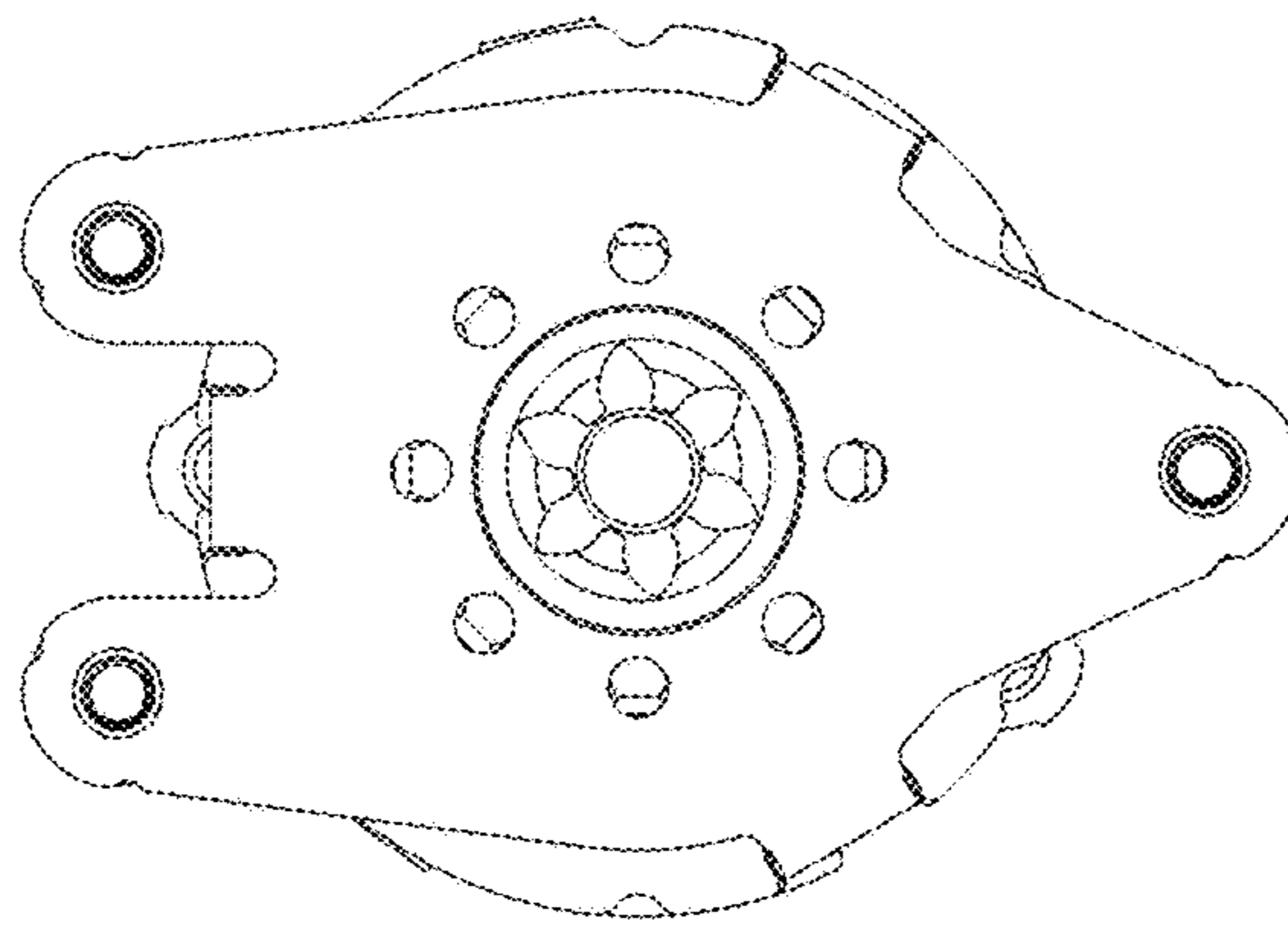


FIGURE 3

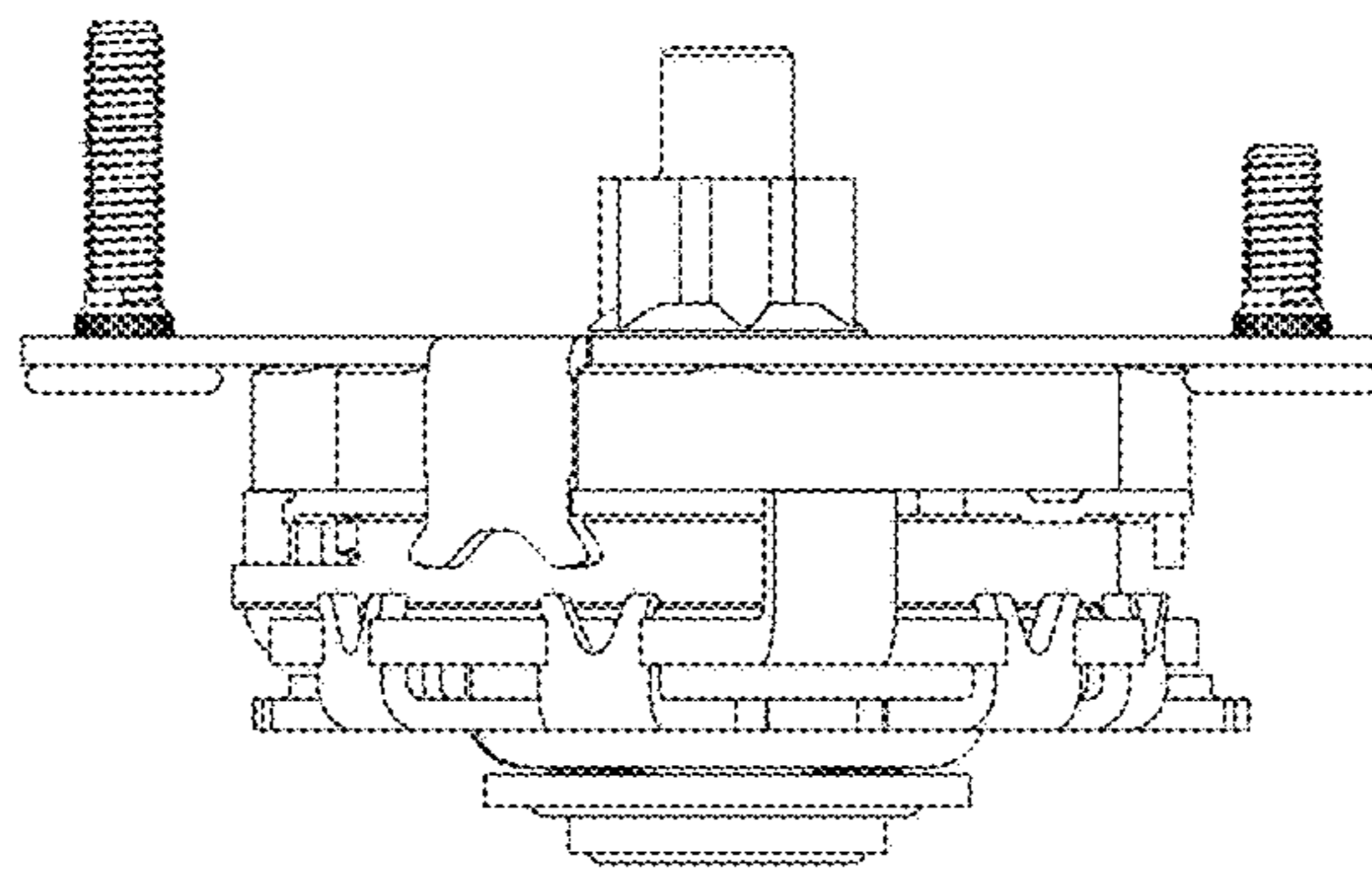


FIGURE 4

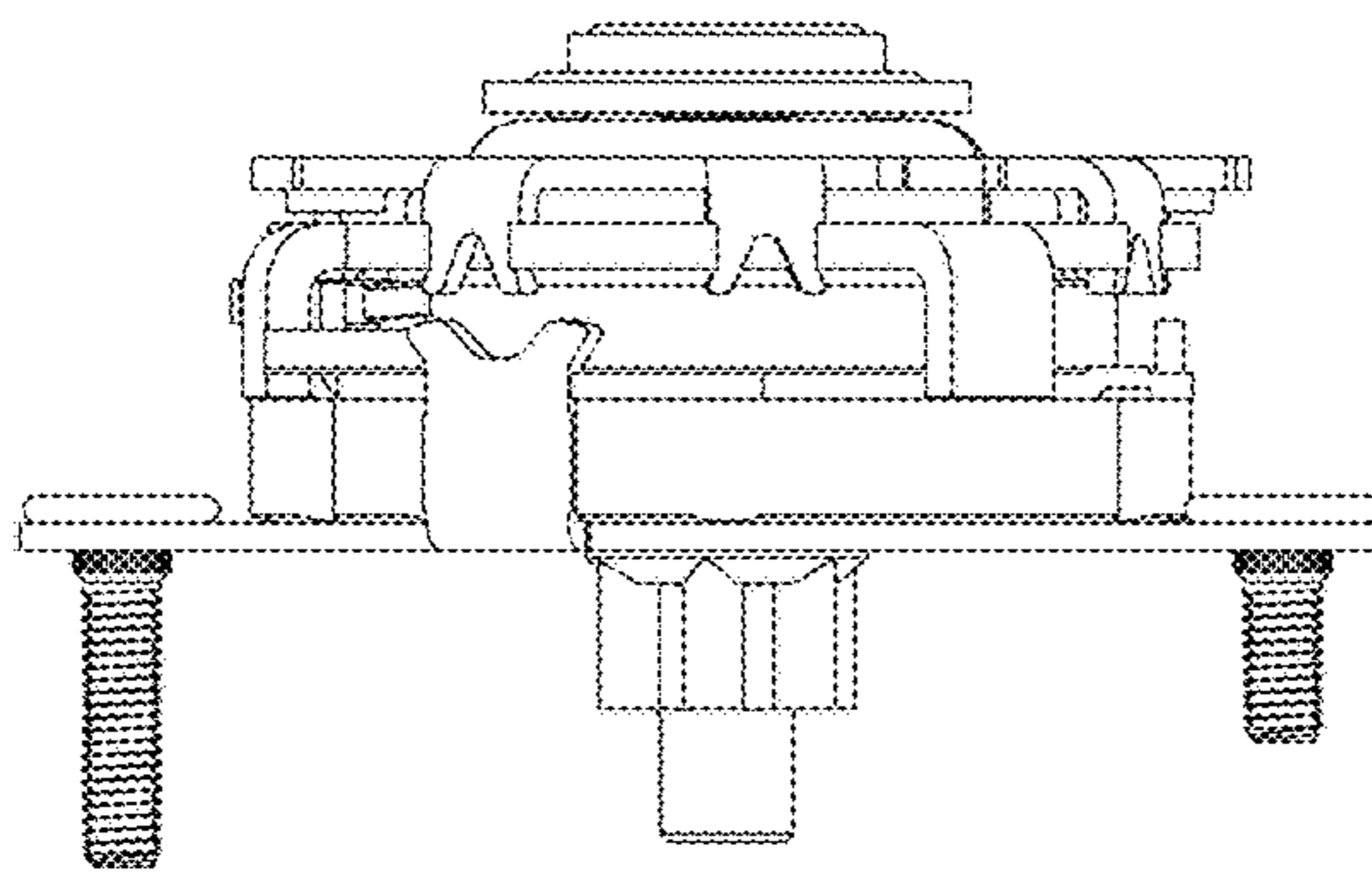


FIGURE 5

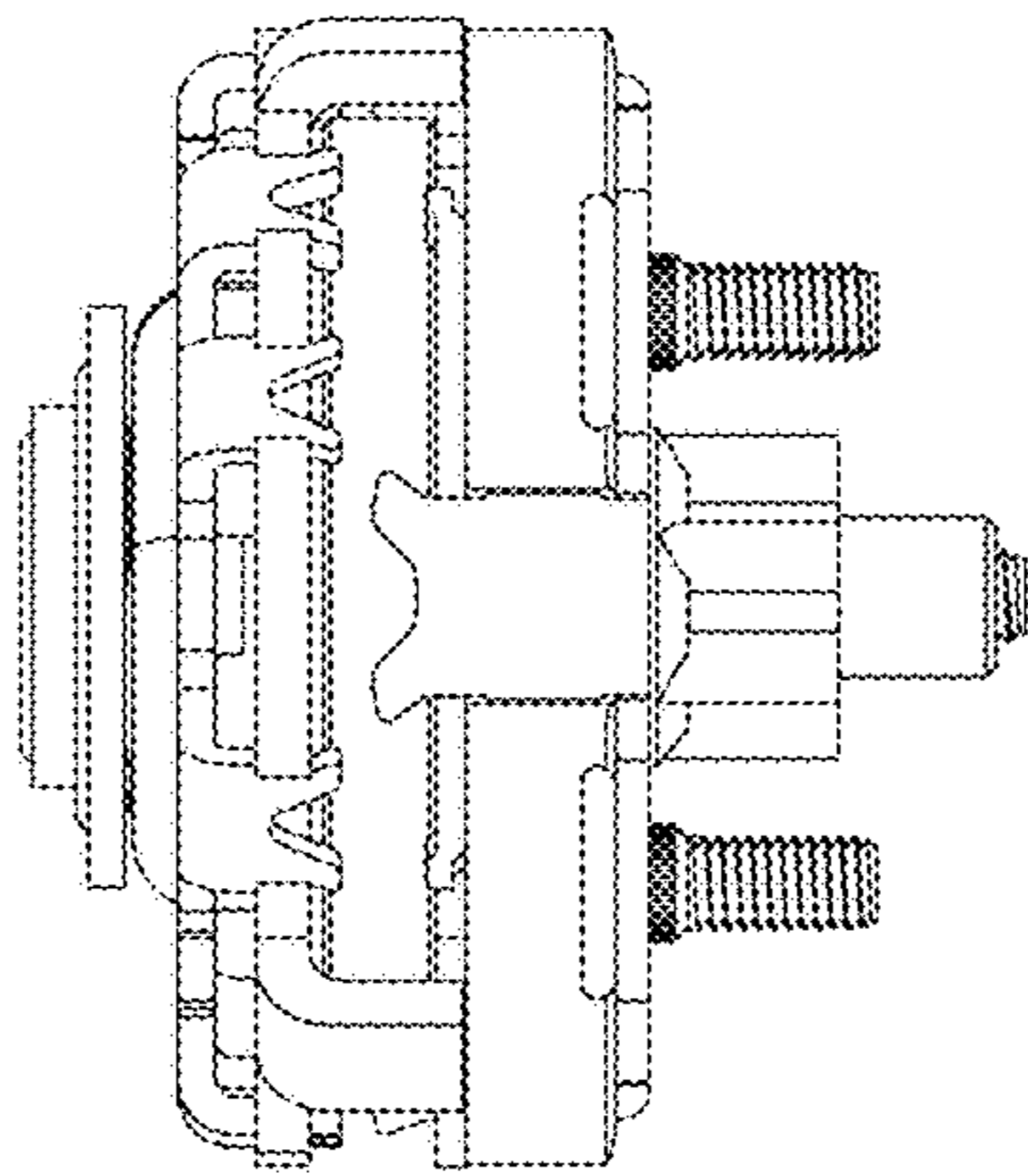


FIGURE 6

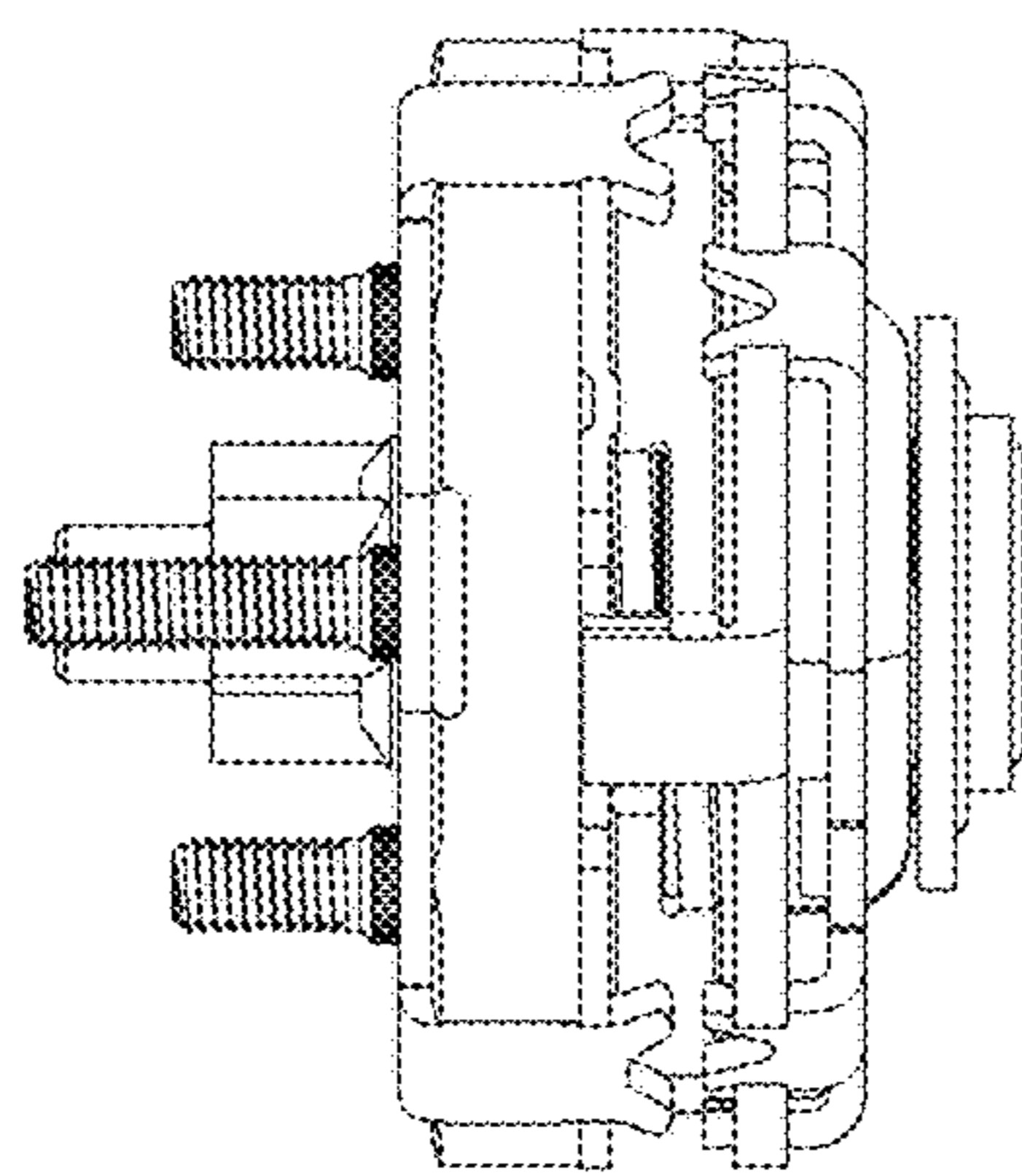




FIGURE 7

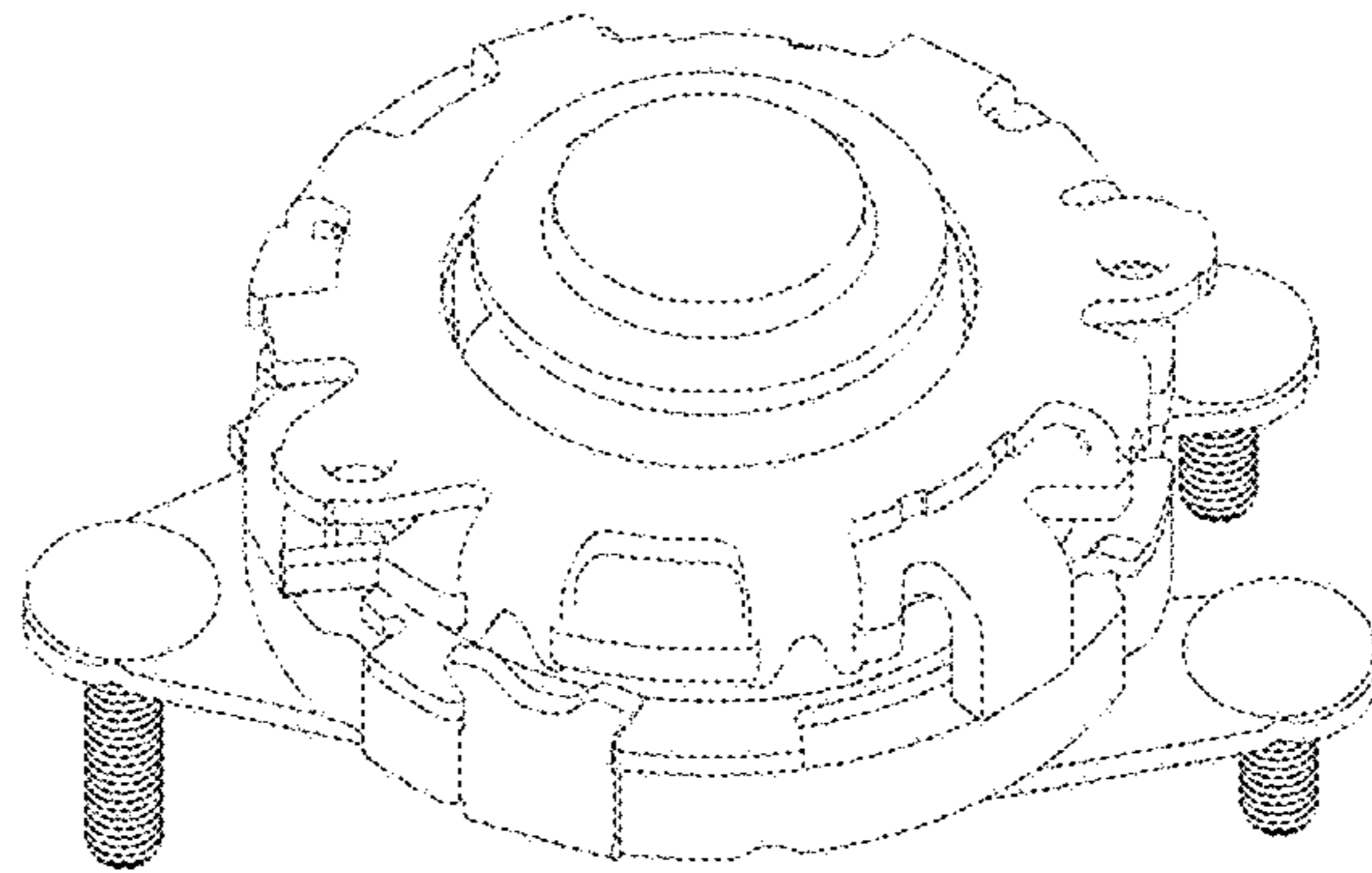


FIGURE 8

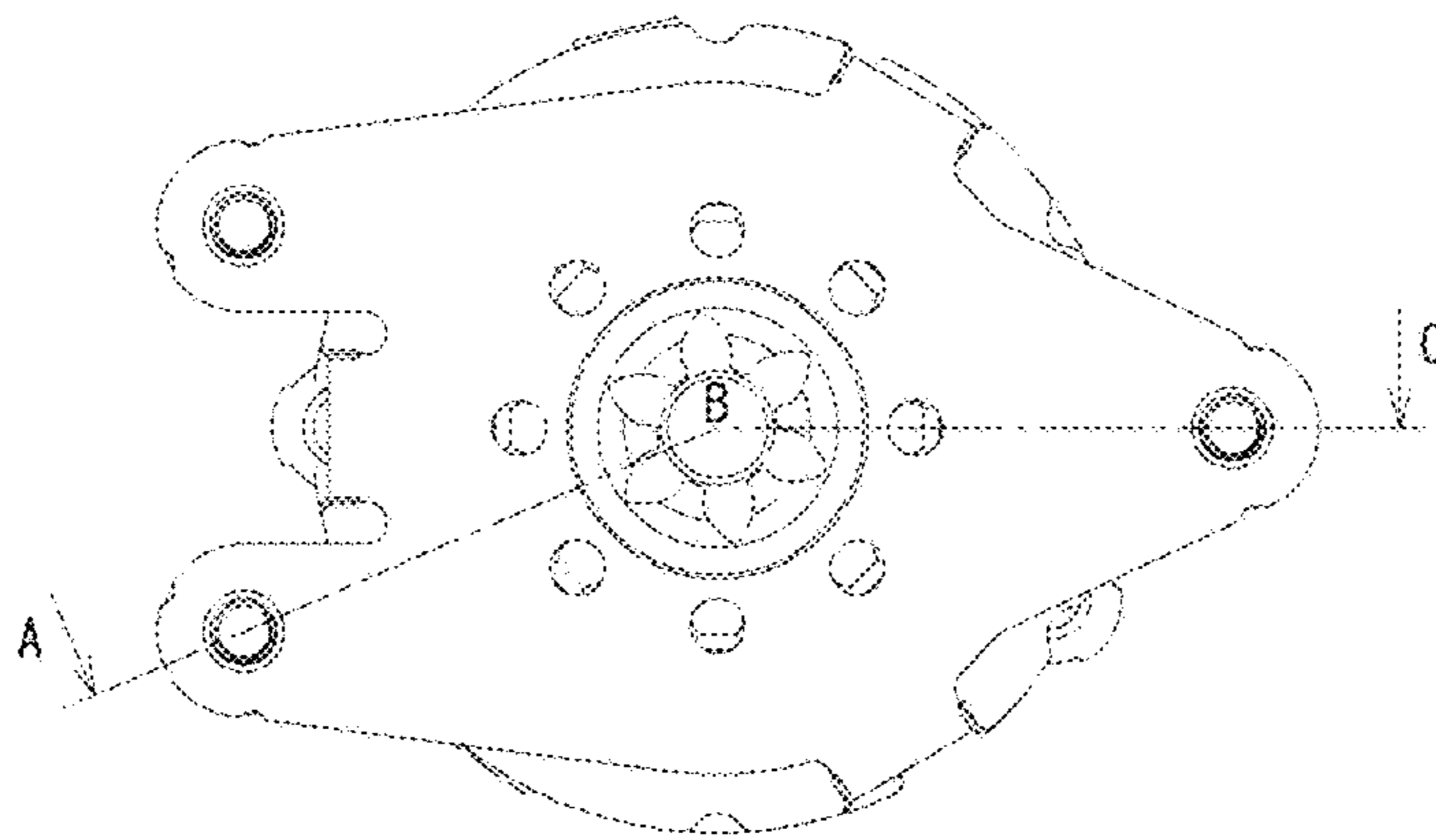


FIGURE 9

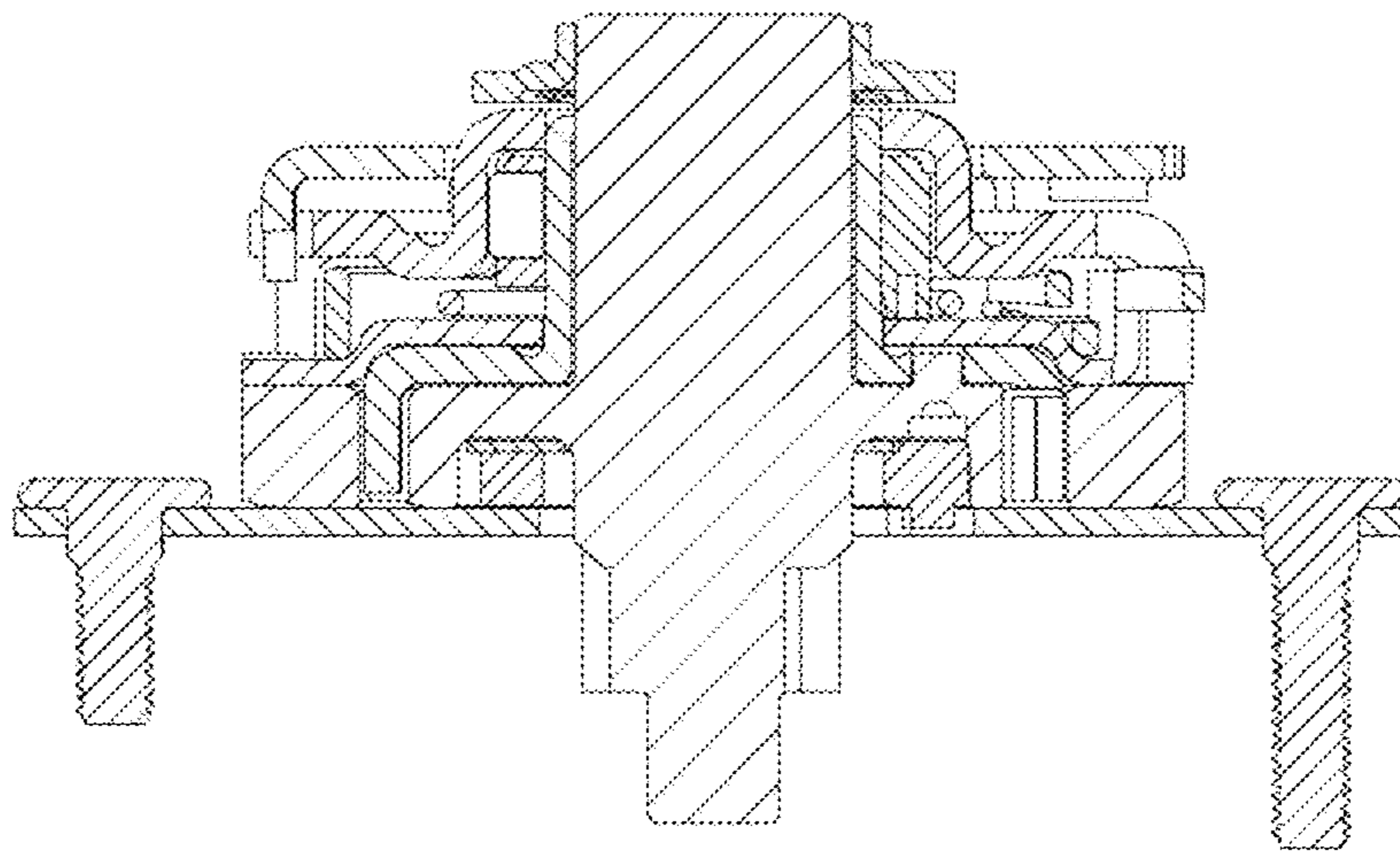


FIGURE 10

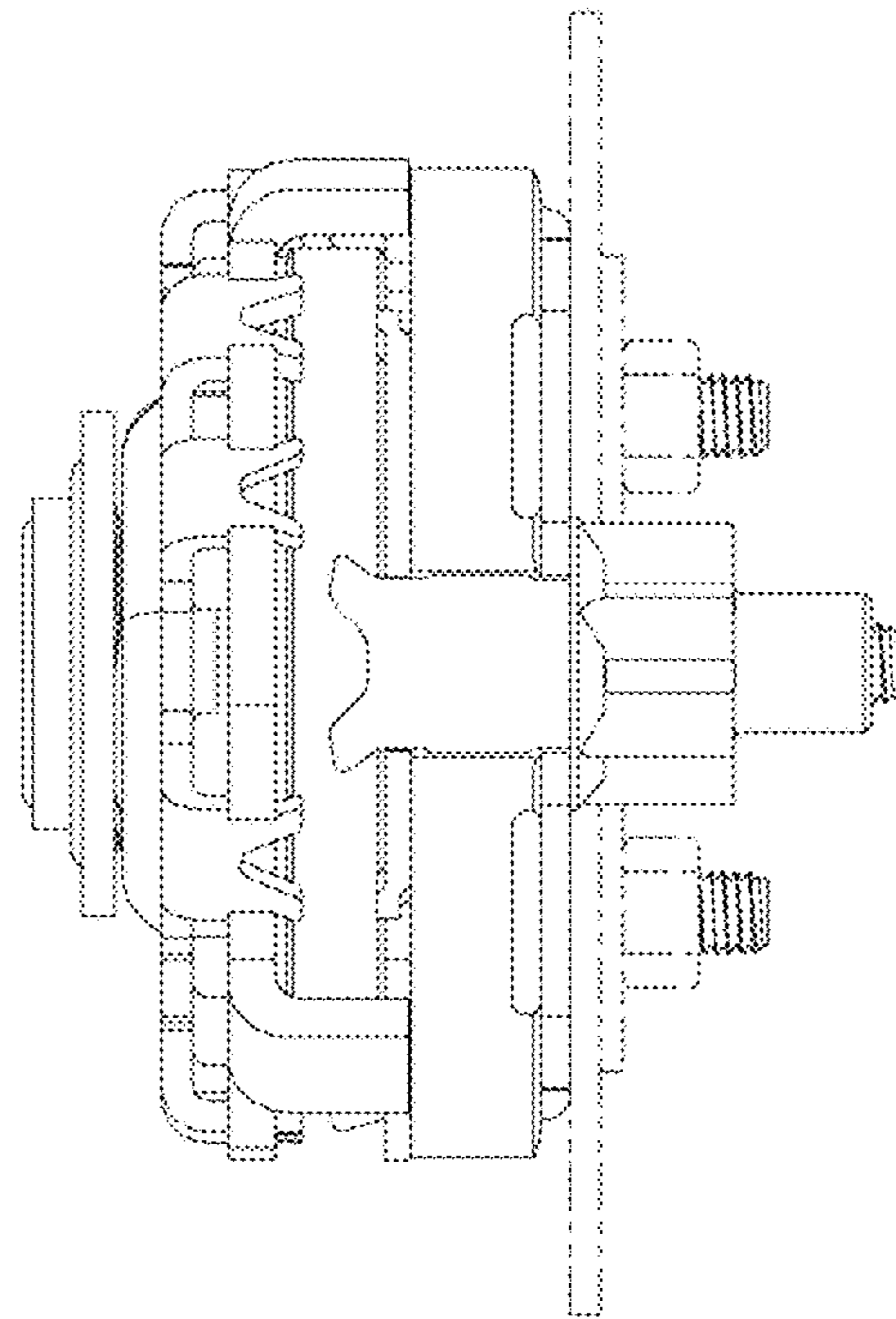


FIGURE 11

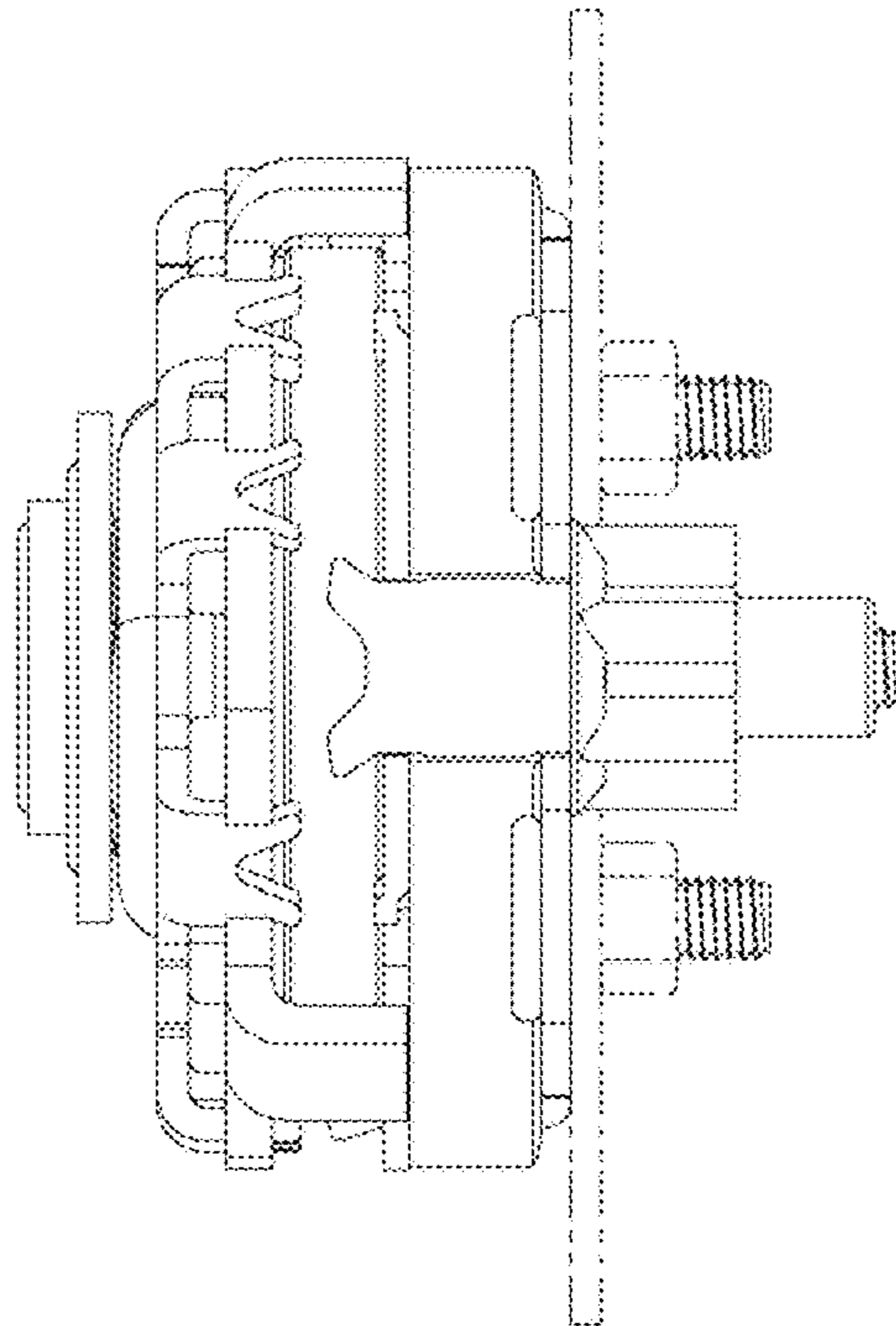


FIGURE 12

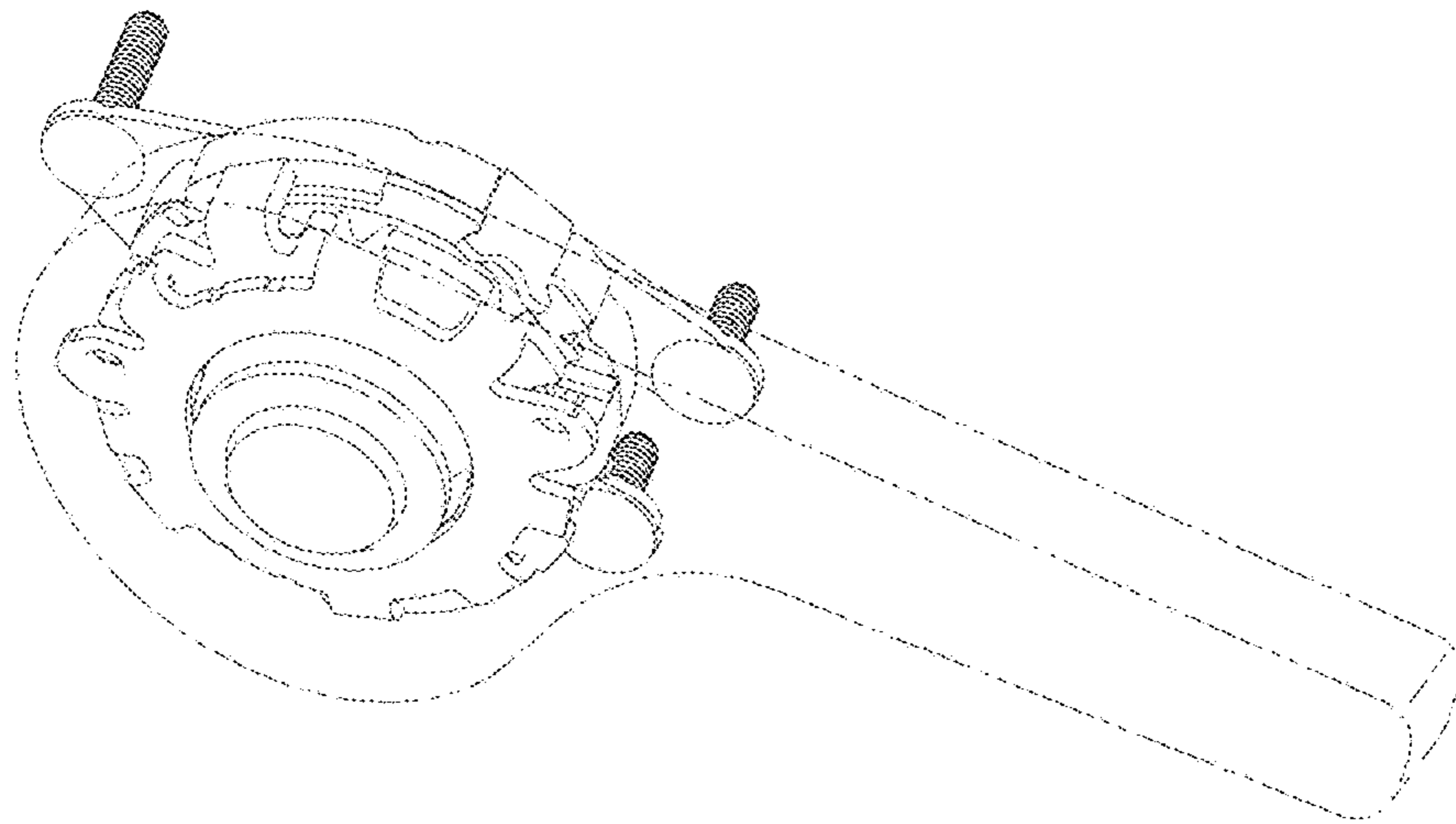


FIGURE 13

