



US00D745815S

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

(10) **Patent No.:** **US D745,815 S**

(45) **Date of Patent:** **** *Dec. 22, 2015**

(54) **BALL SCREW**

(56) **References Cited**

(71) Applicants: **Kuroda Precision Industries Ltd.**,
Kawasaki-shi, Kanagawa (JP); **Y.M.**
Laboratory Co., Ltd., Kawasaki-shi,
Kanagawa (JP)

U.S. PATENT DOCUMENTS

5,943,919 A * 8/1999 Babinski 74/665 GD
6,835,114 B2 * 12/2004 Sjolander 454/342
7,510,466 B1 * 3/2009 Norman 451/450

(72) Inventors: **Toshiaki Ohno**, Kimitsu (JP);
Katsuhiko Sato, Sagamihara (JP)

FOREIGN PATENT DOCUMENTS

WO WO 2014083597 A1 * 11/2012 F16H 25/20

(73) Assignees: **Kuroda Precision Industries Ltd.**,
Kawasaki-shi, Kanagawa (JP); **Y.M.**
Laboratory Co., Ltd., Kawasaki-shi,
Kanagawa (JP)

* cited by examiner

Primary Examiner — Ian Simmons

Assistant Examiner — Harold Blackwell, II

(74) *Attorney, Agent, or Firm* — Marshall & Melhorn, LLC

(*) Notice: This patent is subject to a terminal disclaimer.

(57) **CLAIM**

The ornamental design for a ball screw, as shown and described.

(**) Term: **14 Years**

DESCRIPTION

(21) Appl. No.: **29/456,132**

FIG. 1 is a left perspective view of a ball screw;

FIG. 2 is a right perspective view thereof;

FIG. 3 is a front view thereof;

FIG. 4 is a back view thereof;

FIG. 5 is a left side view thereof;

FIG. 6 is a right side view thereof;

FIG. 7 is a top view thereof;

FIG. 8 is a bottom view thereof;

FIG. 9 is a cross-sectional view thereof taken along line X-X in FIG. 8; and,

FIG. 10 is a cross-sectional view thereof taken along line XI-XI in FIG. 8.

(22) Filed: **May 29, 2013**

The broken lines in the drawings illustrate portions of the ball screw which form no part of the claimed design.

(30) **Foreign Application Priority Data**

Nov. 30, 2012 (JP) 2012-029261

(51) **LOC (10) Cl.** **08-05**

(52) **U.S. Cl.**
USPC **D8/51**

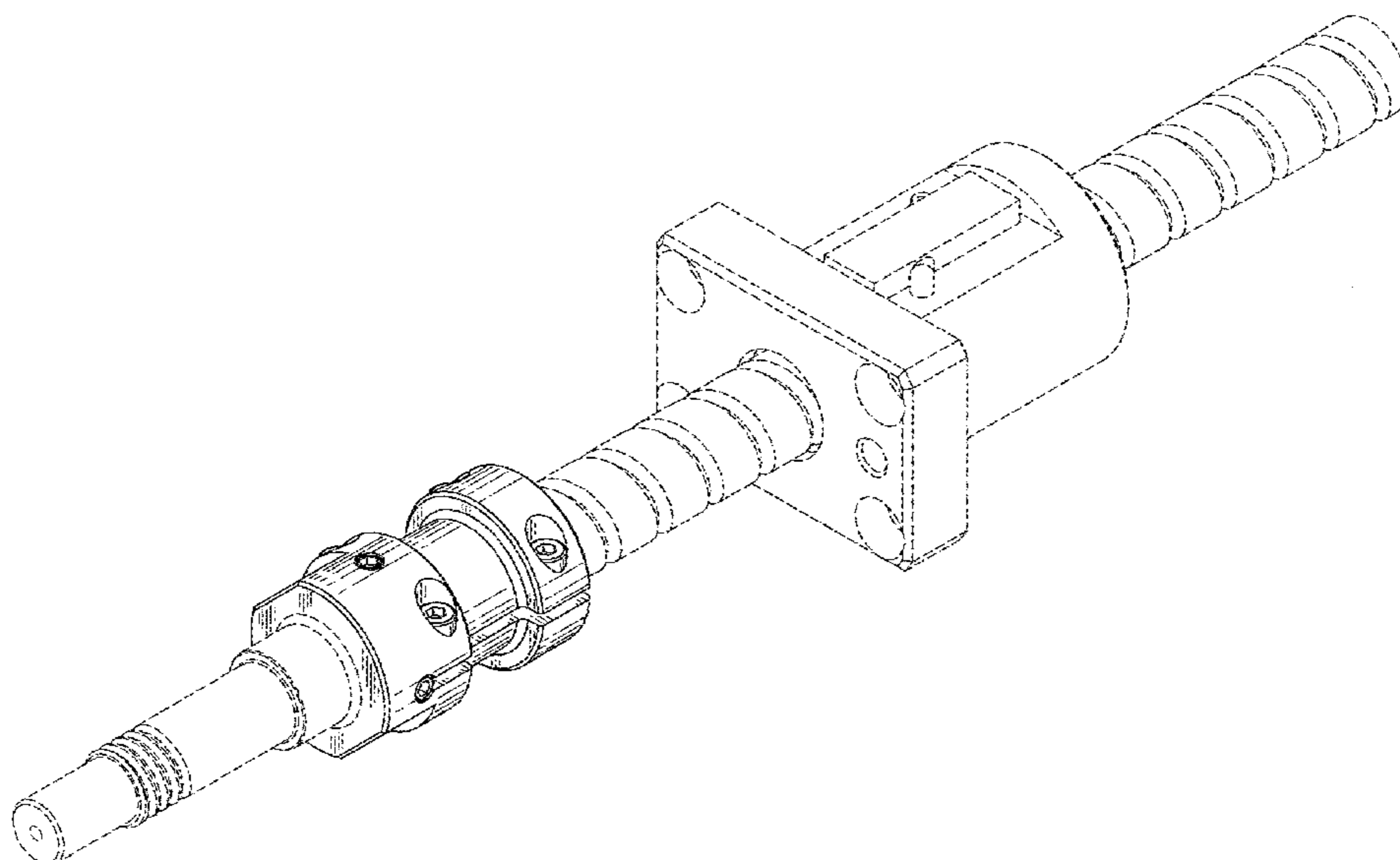
(58) **Field of Classification Search**

USPC D8/40, 44, 81, 86, 499, 51; 451/450,
451/177, 342, 359; 254/92, 101; 454/342

CPC F16H 25/20

See application file for complete search history.

1 Claim, 10 Drawing Sheets



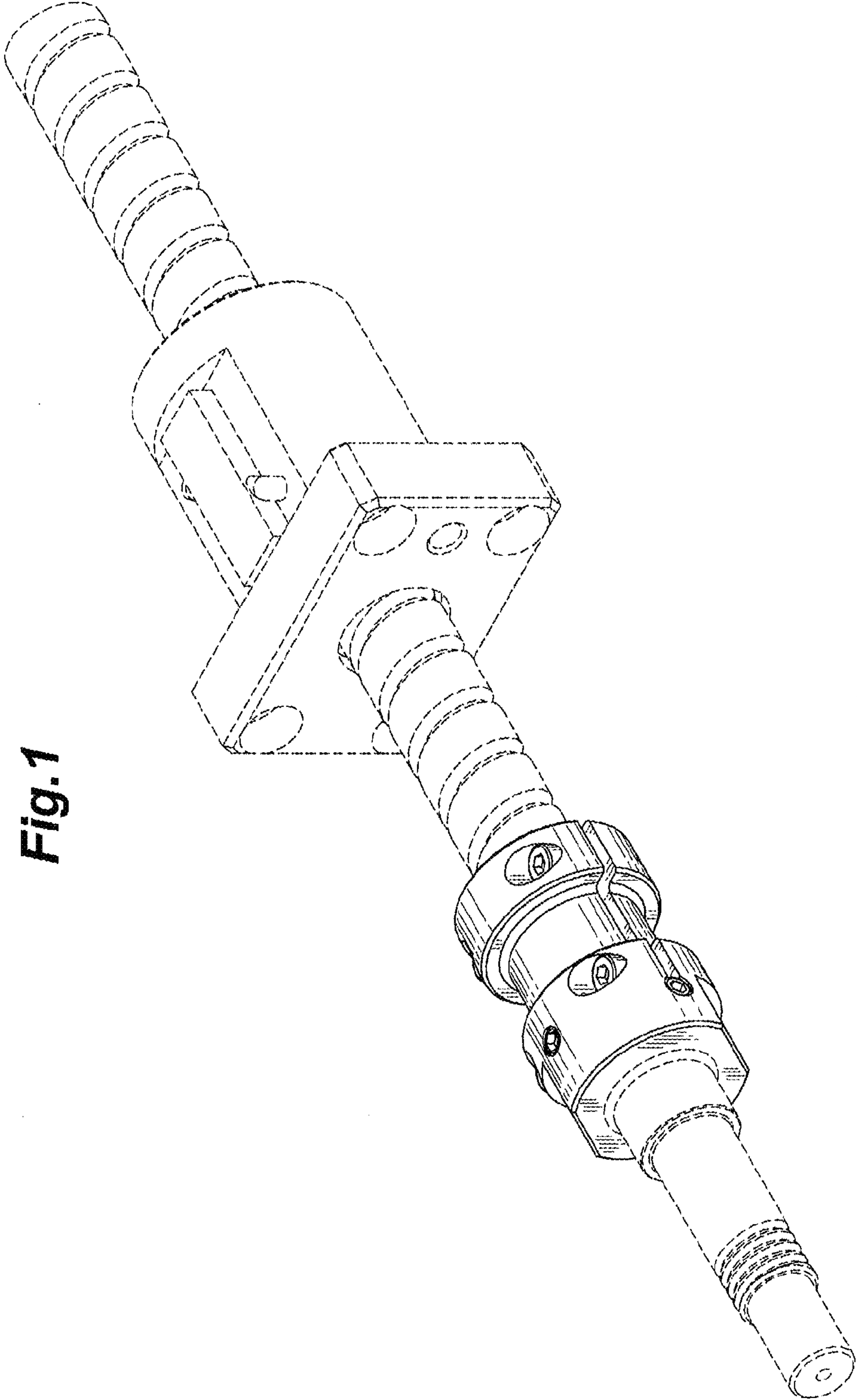


Fig. 1

Fig.2

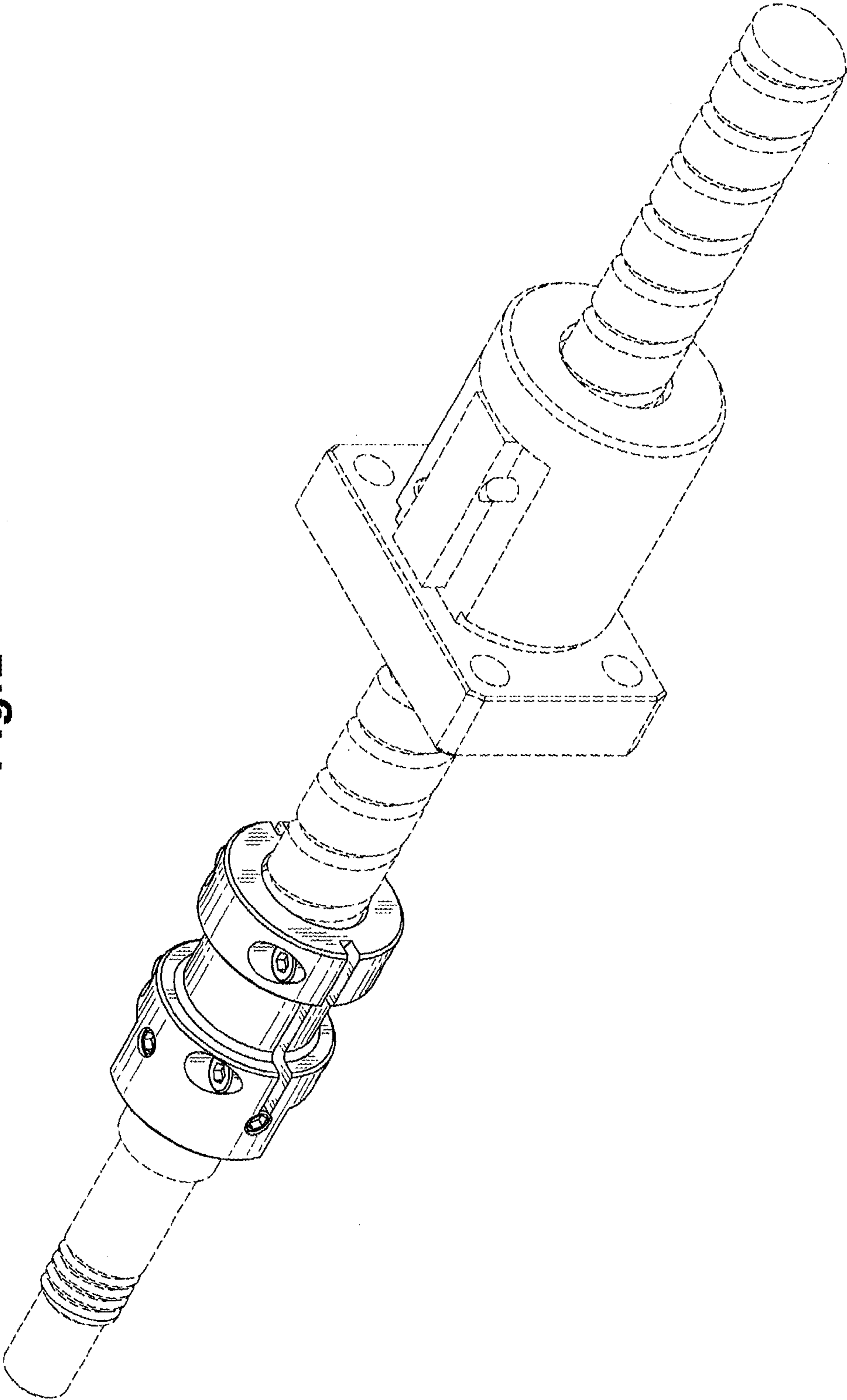


Fig. 3

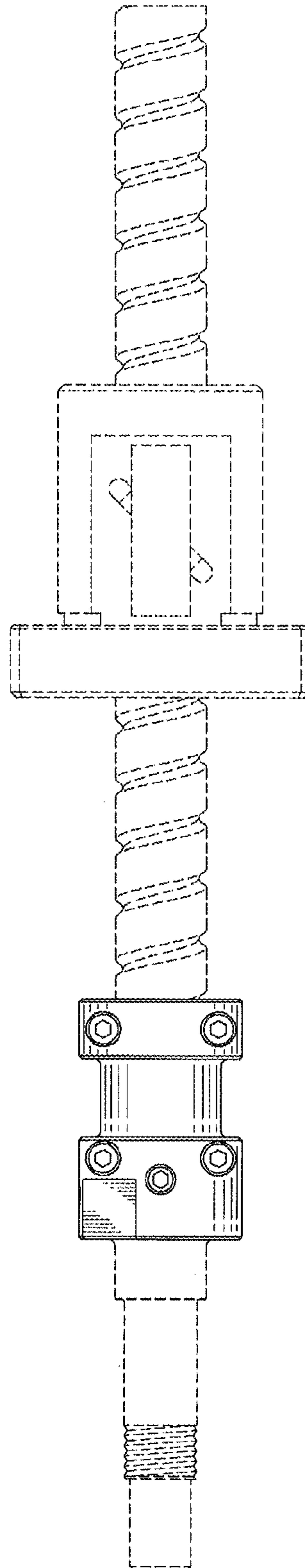


Fig.4

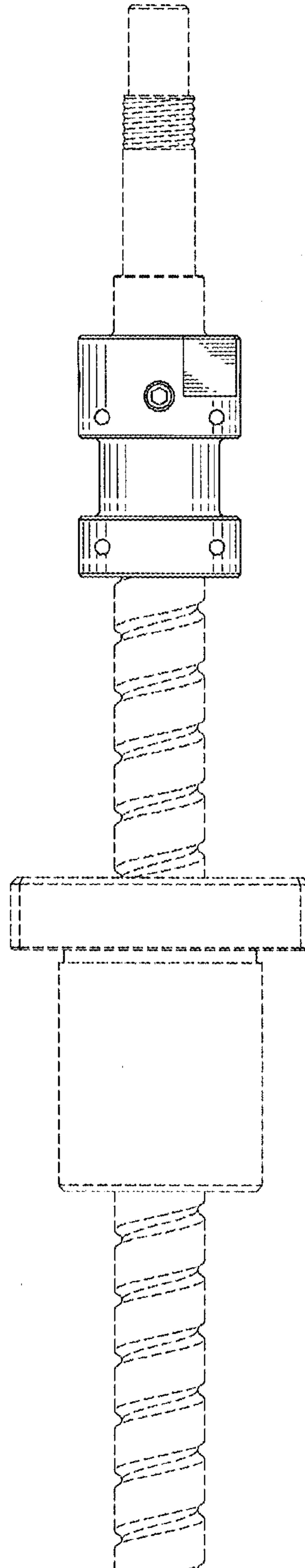


Fig.5

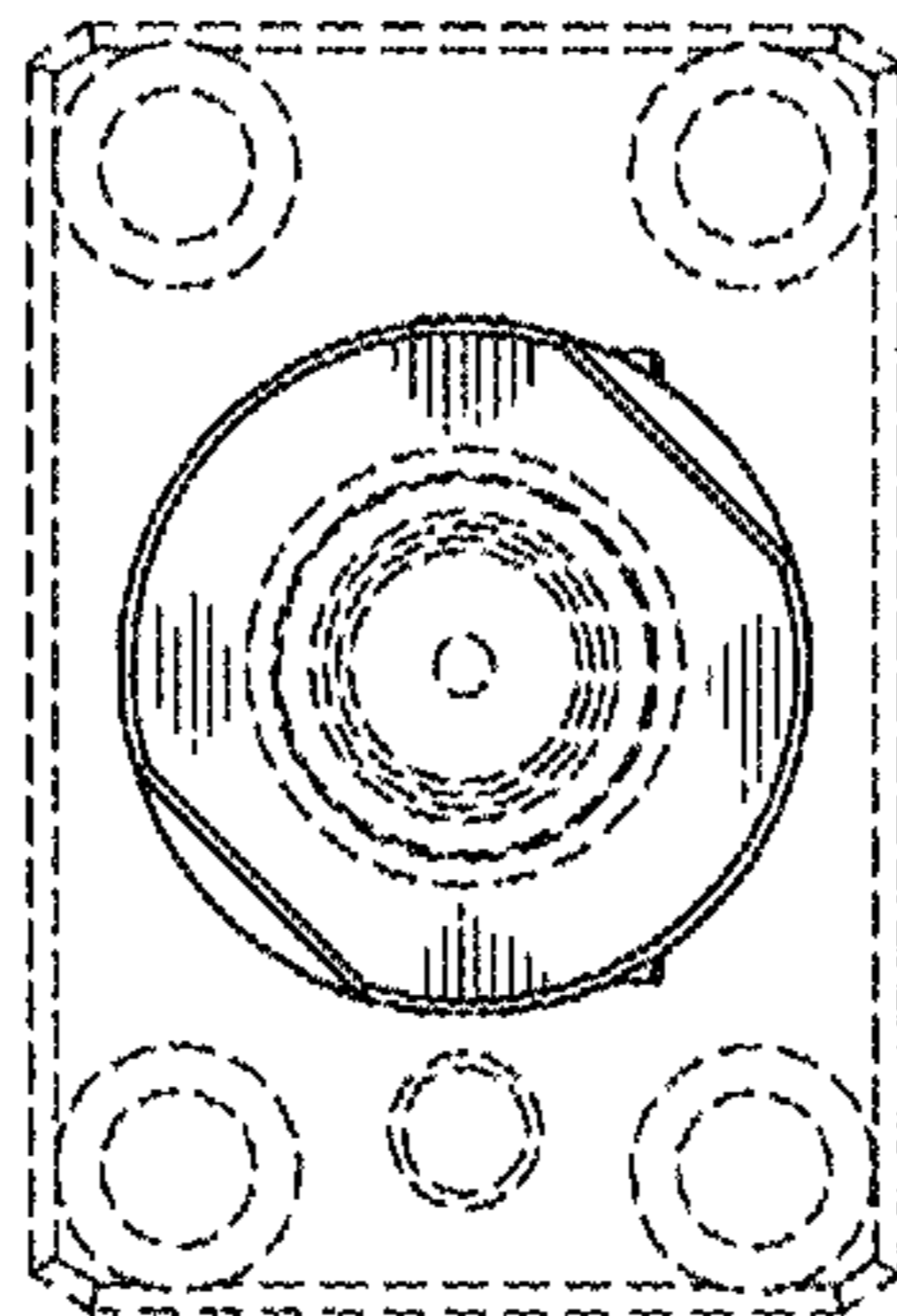


Fig.6

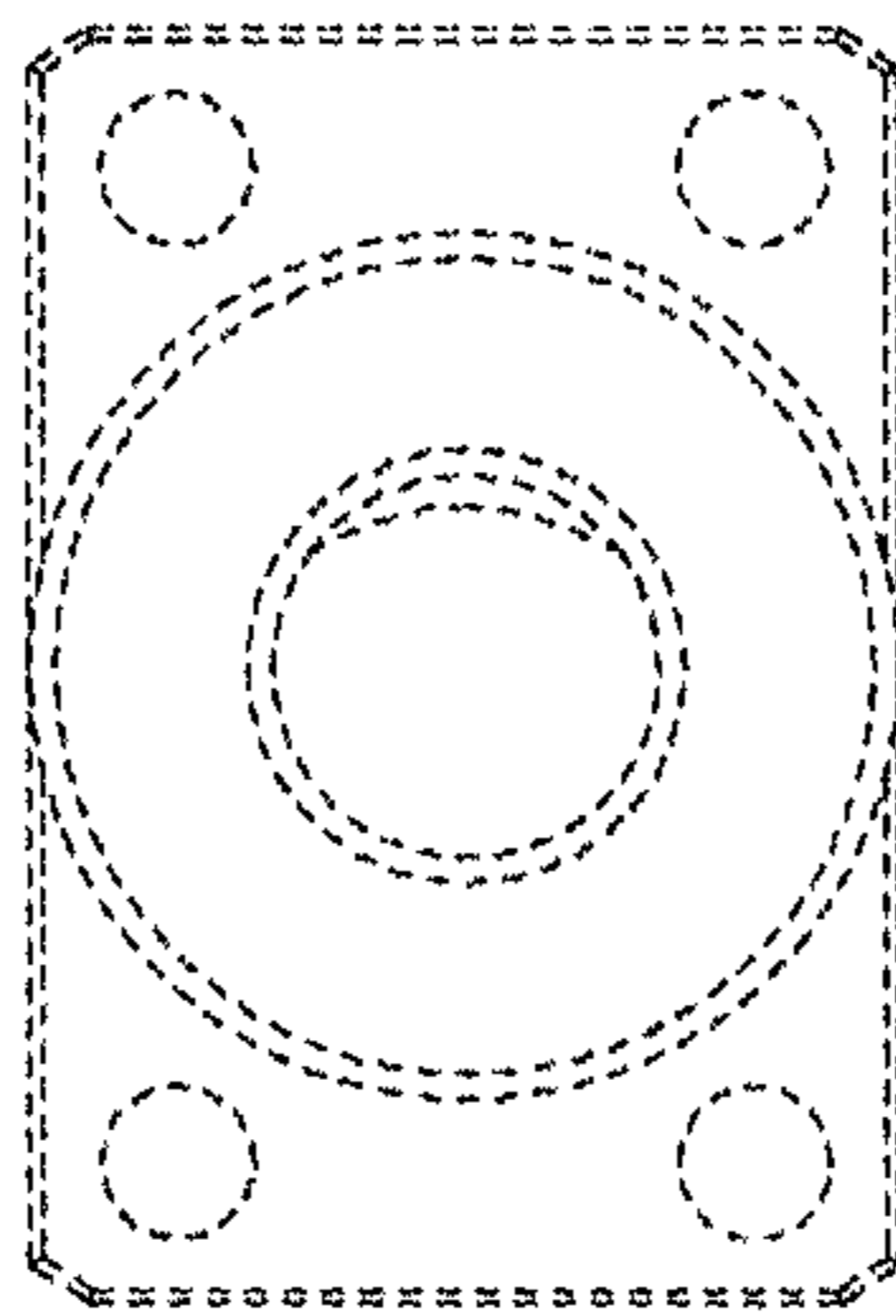


Fig. 7

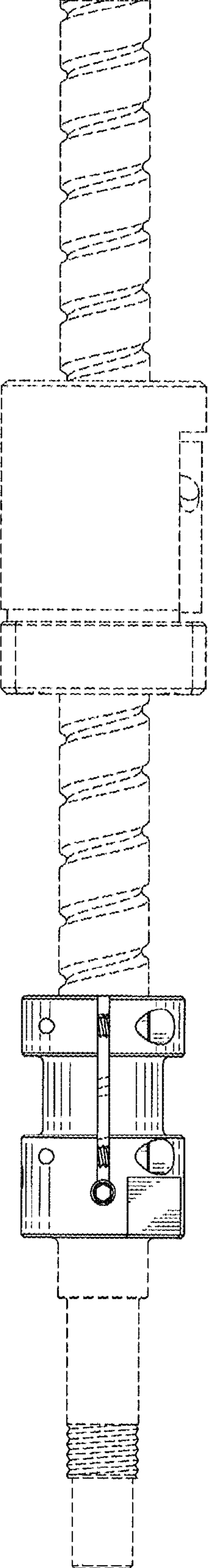


Fig. 8

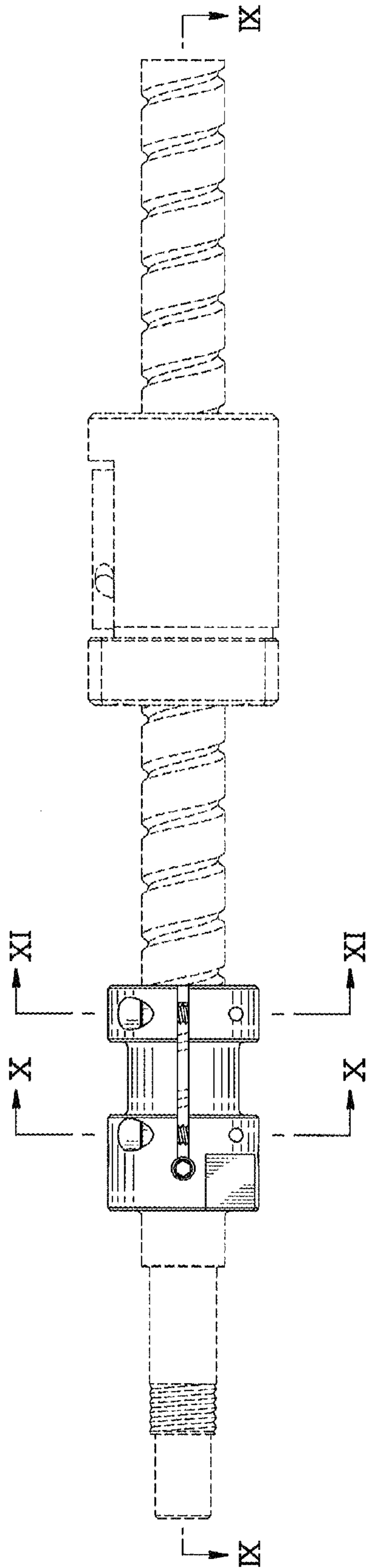


Fig. 9

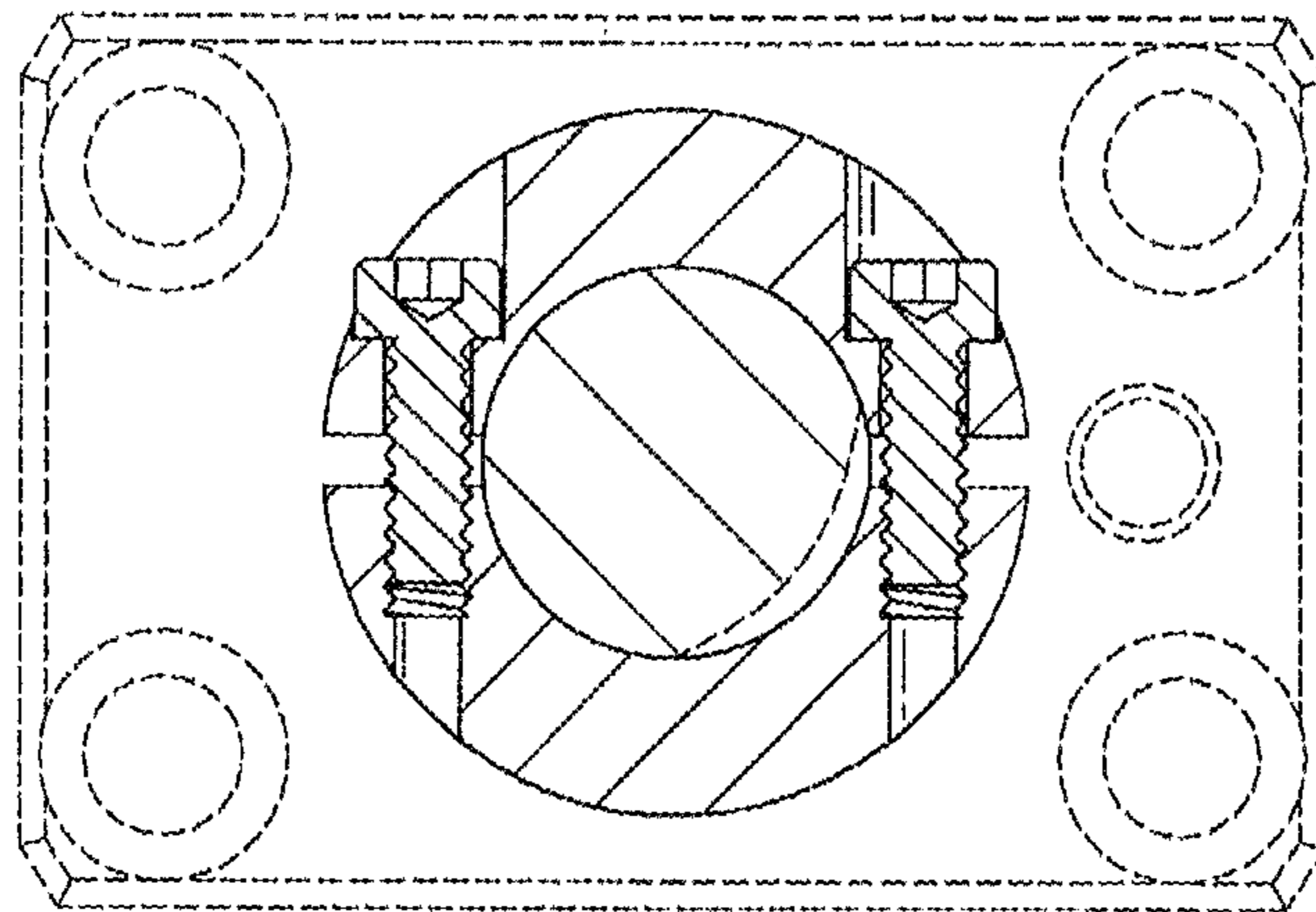


Fig. 10

