



US00D784801S

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

(10) **Patent No.:** **US D784,801 S**  
(45) **Date of Patent:** **\*\* Apr. 25, 2017**

(54) **BALL JOINT**  
(71) Applicant: **THK CO., LTD.**, Tokyo (JP)  
(72) Inventors: **Tetsuhiro Nishide**, Tokyo (JP); **Takuya Horie**, Tokyo (JP); **Satoshi Kashiwagura**, Tokyo (JP)  
(73) Assignee: **THK CO., LTD.**, Tokyo (JP)

3,965,554 A \* 6/1976 Amos ..... B23K 20/129  
156/73.5  
D262,603 S \* 1/1982 Brolin ..... D8/400  
D271,744 S \* 12/1983 Omata ..... D8/400  
D271,745 S \* 12/1983 Omata ..... D8/400  
5,951,195 A 9/1999 Ruholl  
D561,575 S \* 2/2008 Nishide ..... D8/400  
(Continued)

(\*\*) Term: **15 Years**  
(21) Appl. No.: **29/545,093**

**FOREIGN PATENT DOCUMENTS**

JP 54-027658 A 3/1979  
JP 61-168322 U 10/1986  
JP 2004-278666 A 10/2004

(22) Filed: **Nov. 10, 2015**

**OTHER PUBLICATIONS**

(30) **Foreign Application Priority Data**

International Search Report dated May 31, 2016, issued in counterpart International Application No. PCT/JP2016/001101. (3 pages).

May 11, 2015 (JP) ..... 2015-096541  
Sep. 30, 2015 (JP) ..... 2015-193184  
Oct. 2, 2015 (JP) ..... 2015-021758  
Oct. 2, 2015 (JP) ..... 2015-021759

(Continued)

(51) **LOC (10) Cl.** ..... **08-09**  
(52) **U.S. Cl.**

*Primary Examiner* — Prabhakar Deshmukh  
(74) *Attorney, Agent, or Firm* — Westerman, Hattori, Daniels & Adrian, LLP

USPC ..... **D8/400**  
(58) **Field of Classification Search**  
USPC ..... D8/400, 499, 14, 349; D15/138, 142,  
D15/143; 403/90, 93, 108, 122–126, 149,  
403/151–153  
CPC ..... F16C 11/00; F16C 11/06; F16C 11/0633;  
F16C 13/00; B60G 2204/416; B60G  
2204/42; B60G 2204/4404; Y10T  
29/49664; Y10T 29/49694; Y10T  
403/32737

(57) **CLAIM**

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

See application file for complete search history.

**DESCRIPTION**

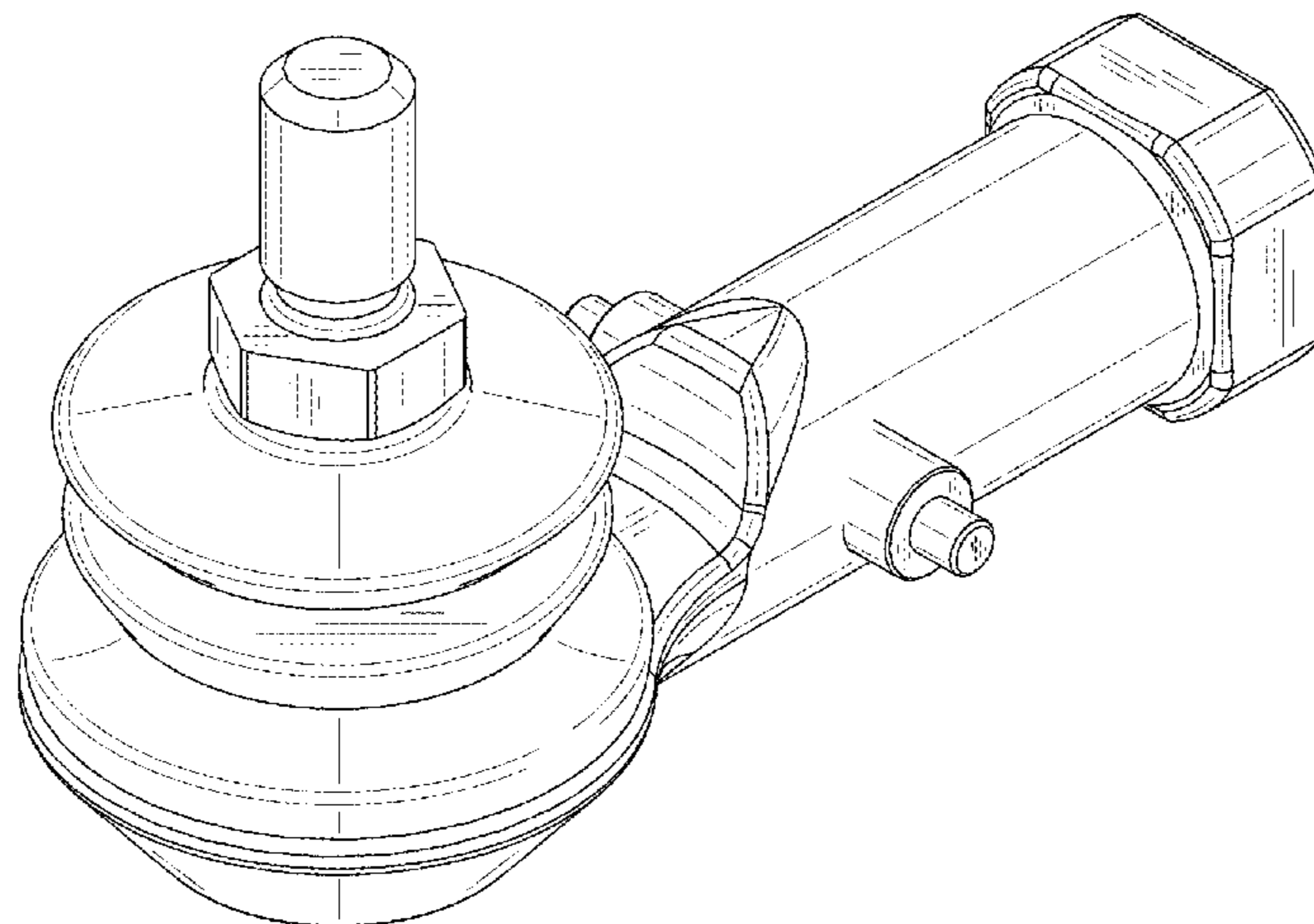
(56) **References Cited**

FIG. 1 is a front elevational view of a ball joint showing our new design.  
FIG. 2 is a rear elevational view thereof.  
FIG. 3 is a right side elevational view thereof.  
FIG. 4 is a left side elevational view thereof.  
FIG. 5 is a top plan view thereof.  
FIG. 6 is a bottom plan view thereof.  
FIG. 7 is a front, top, and right side perspective view thereof; and,  
FIG. 8 is a rear, top, and left side perspective view thereof.

**U.S. PATENT DOCUMENTS**

2,678,841 A \* 5/1954 Klages ..... F16C 11/0609  
403/128  
3,831,245 A 8/1974 Amos

**1 Claim, 8 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

D632,556 S \* 2/2011 Van Camp ..... D8/400  
9,175,720 B2 \* 11/2015 Adamczyk ..... F16C 11/0604  
9,328,749 B2 \* 5/2016 Brunneke ..... B60G 7/001  
9,382,742 B2 \* 7/2016 Wulbrandt ..... E05F 3/12  
9,393,850 B2 \* 7/2016 Kuroda ..... B60G 21/0551  
9,470,259 B2 \* 10/2016 Nordloh ..... B22D 19/12  
9,476,447 B2 \* 10/2016 Schmidt ..... F16C 11/0633

OTHER PUBLICATIONS

Office Action dated Aug. 9, 2016, issued in counterpart Japanese Patent Application No. 2015-096541. (3 pages).

\* cited by examiner

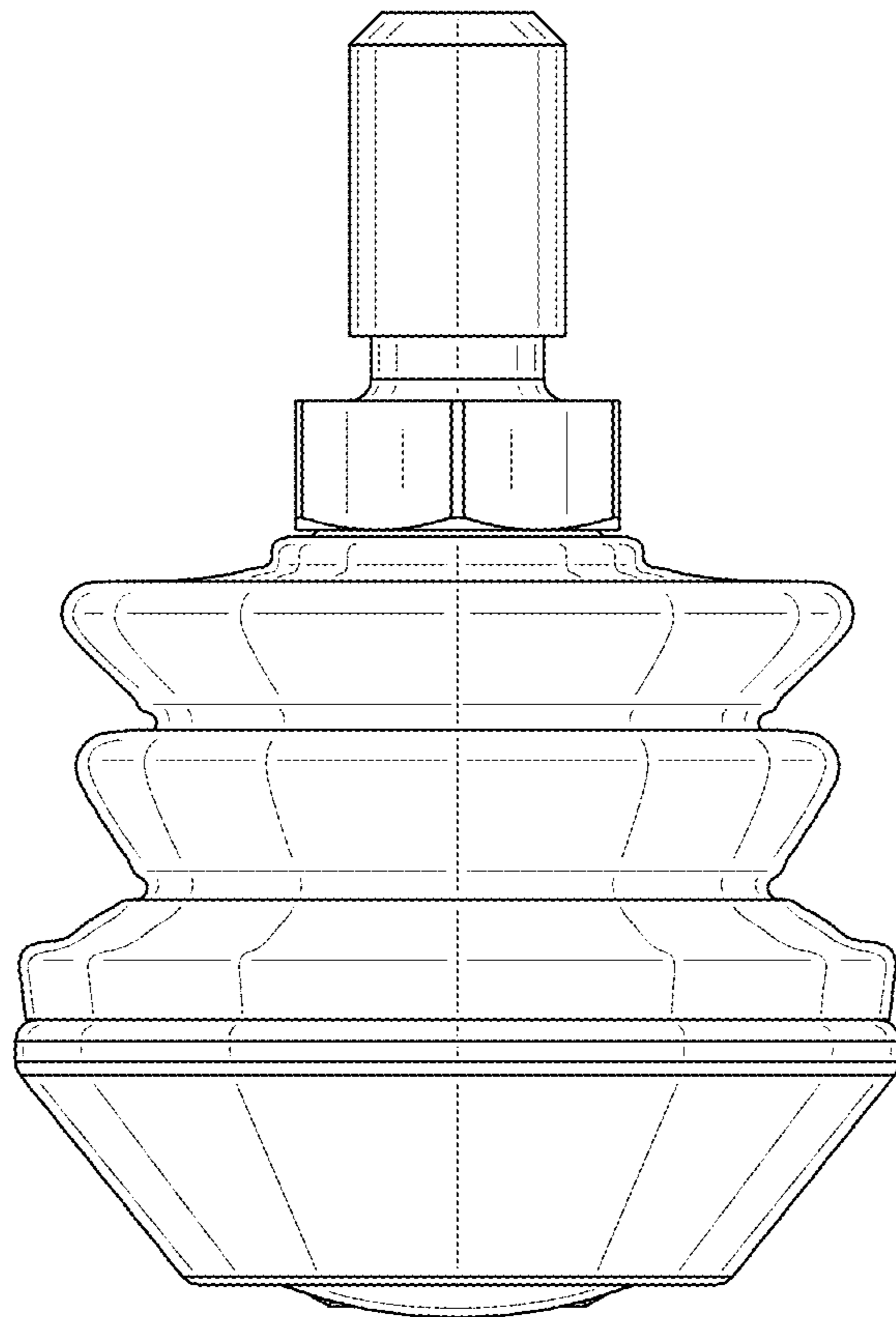


Fig. 1

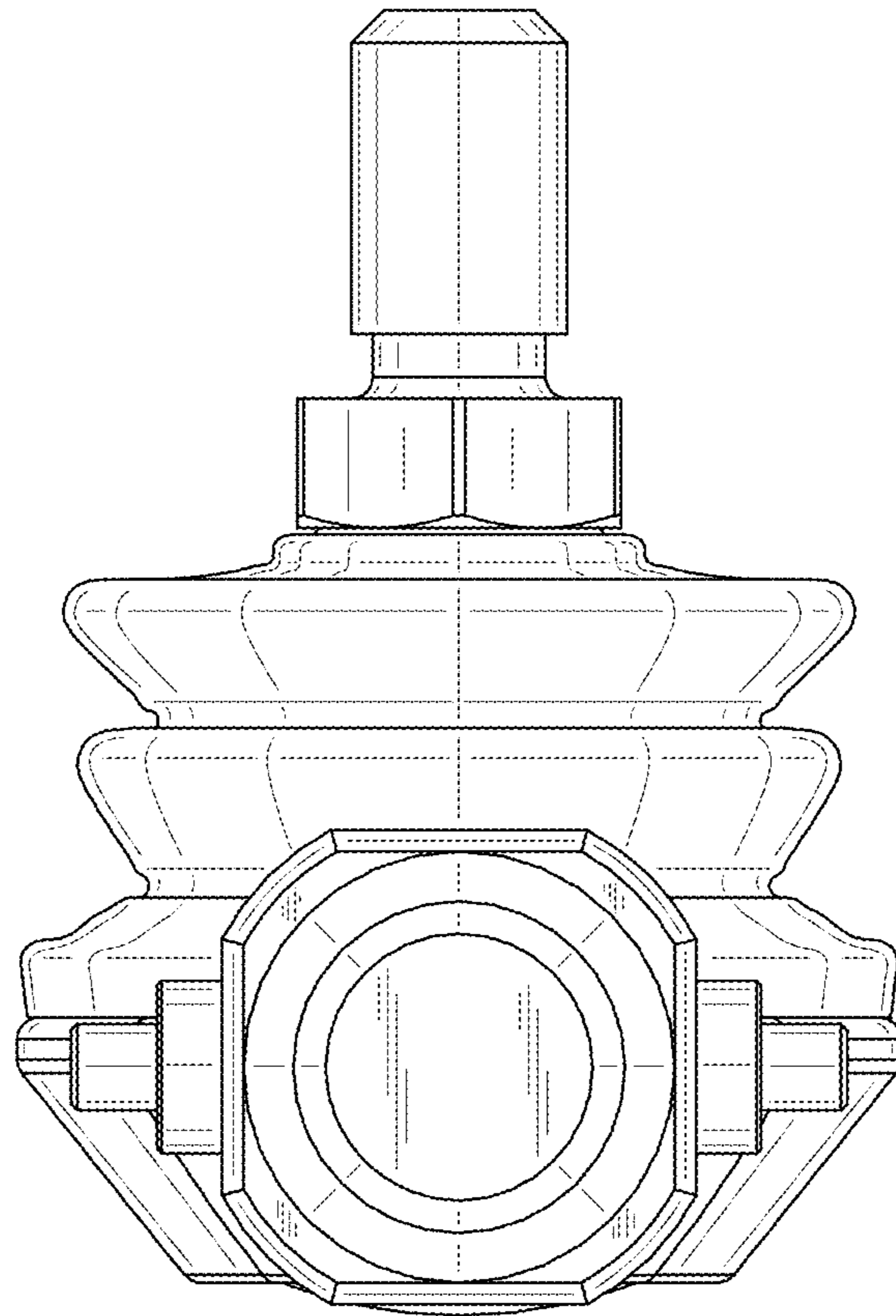


Fig. 2

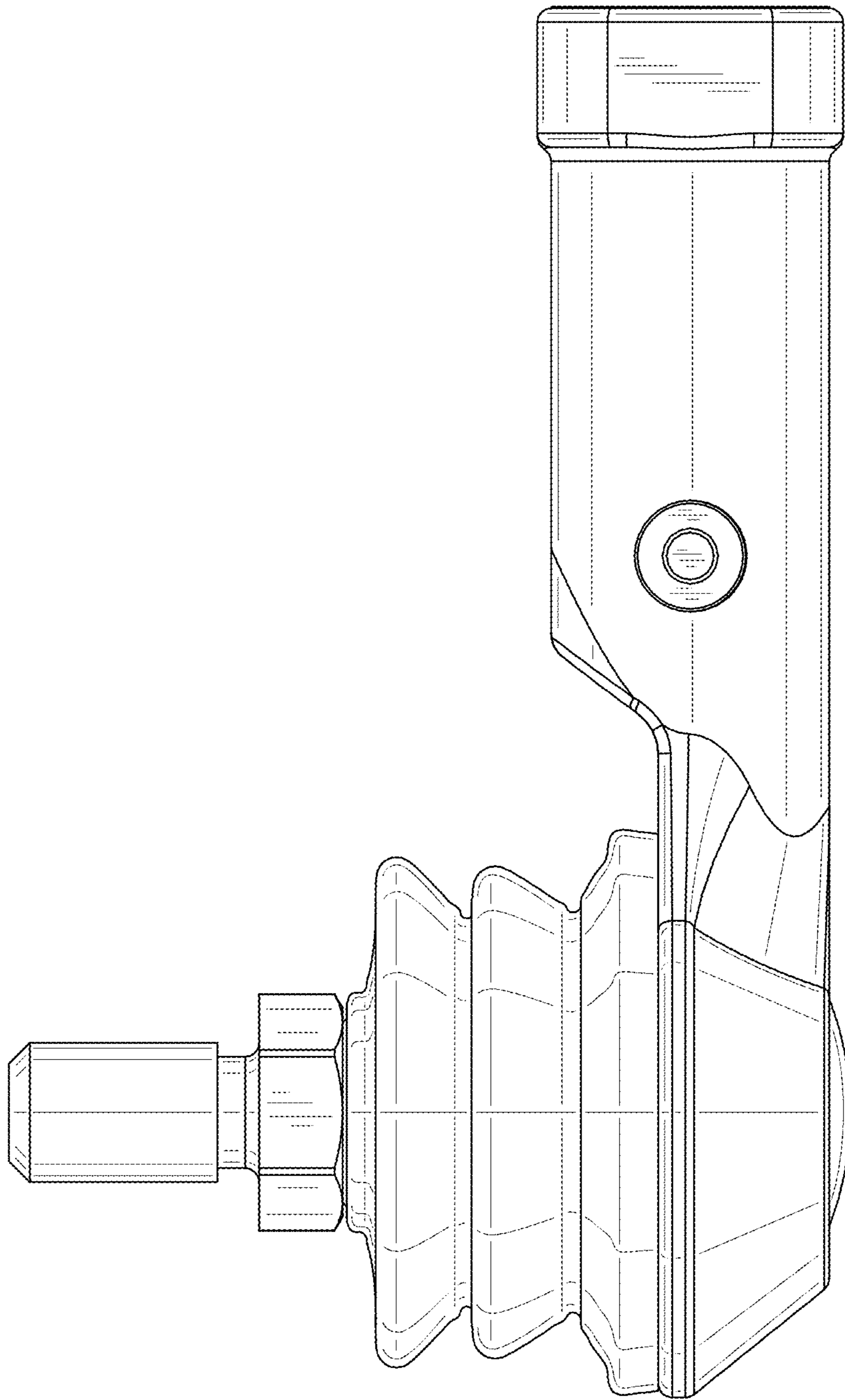


Fig. 3

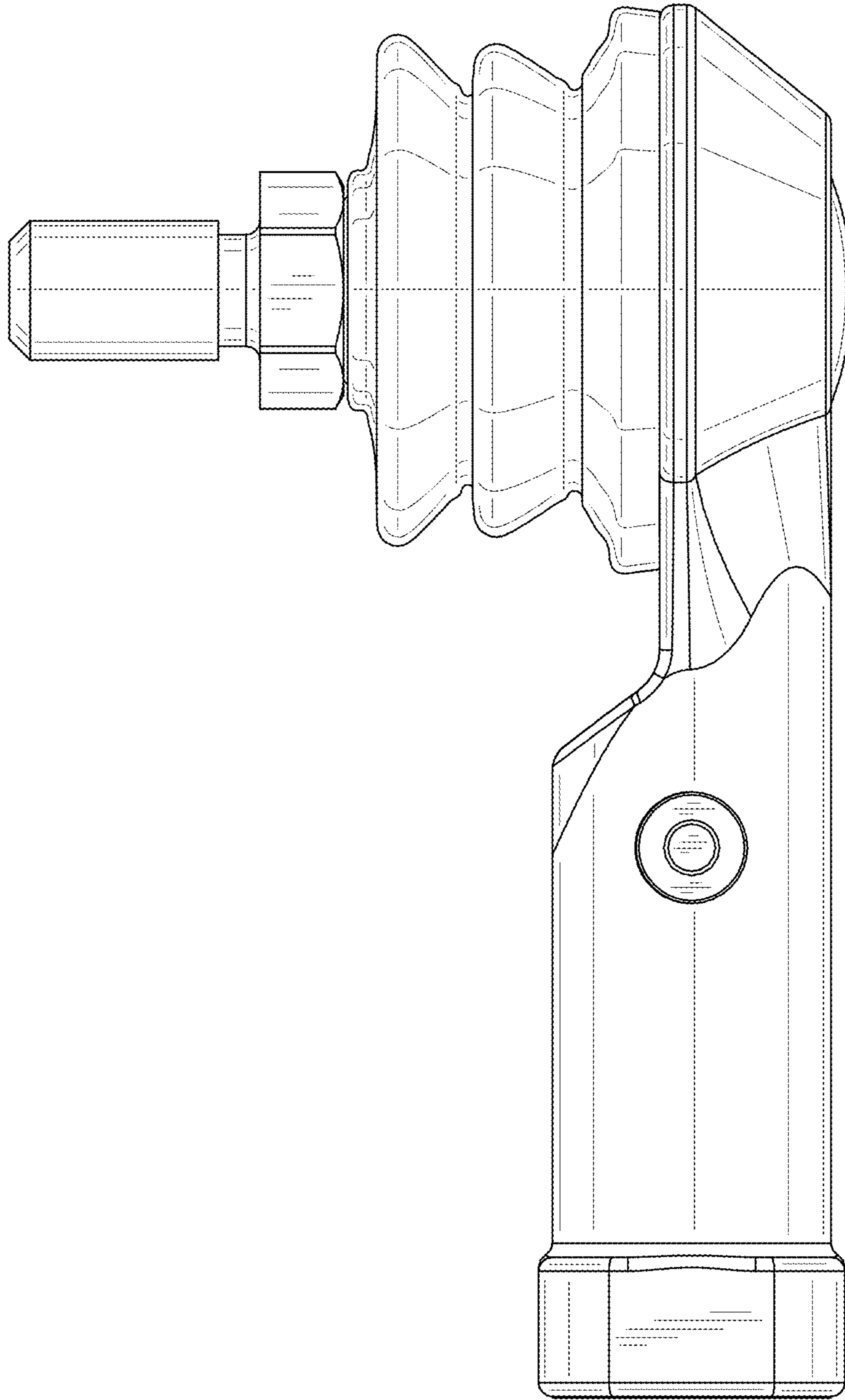


Fig. 4

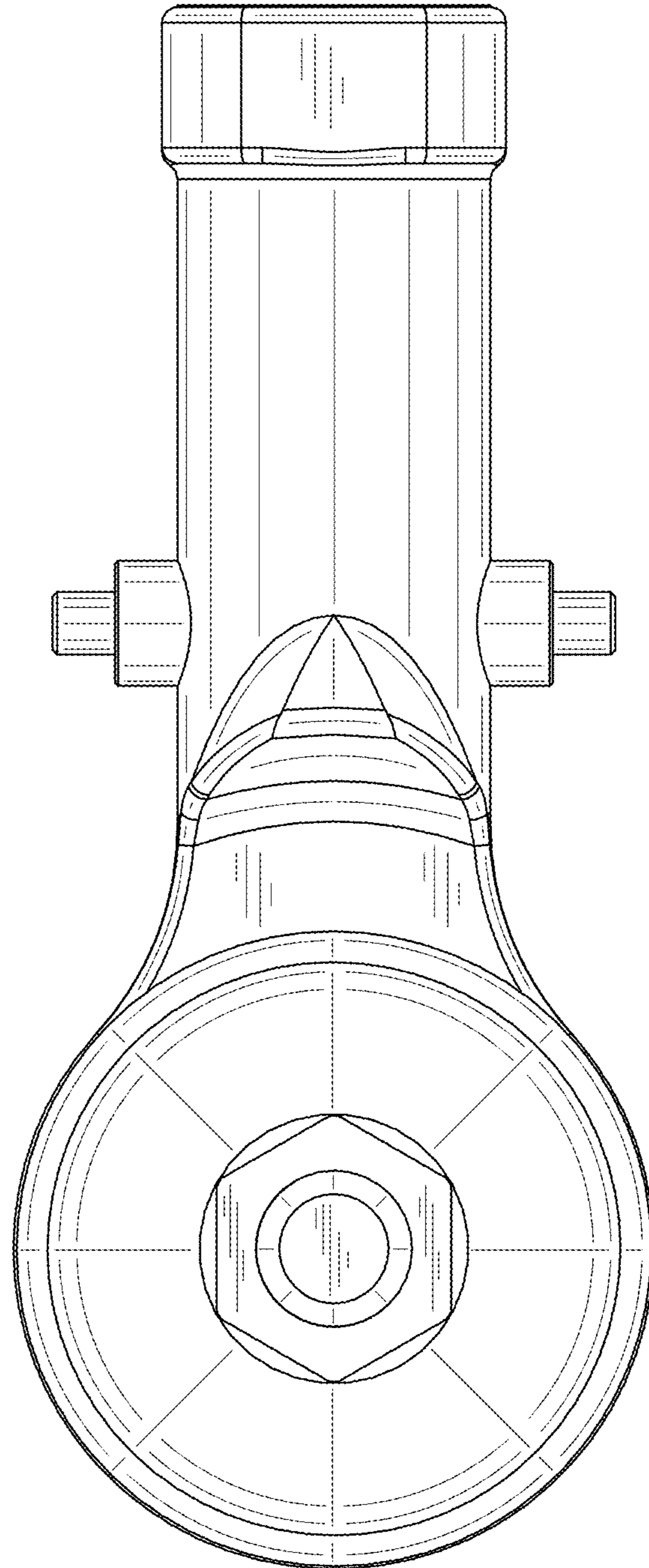


Fig. 5

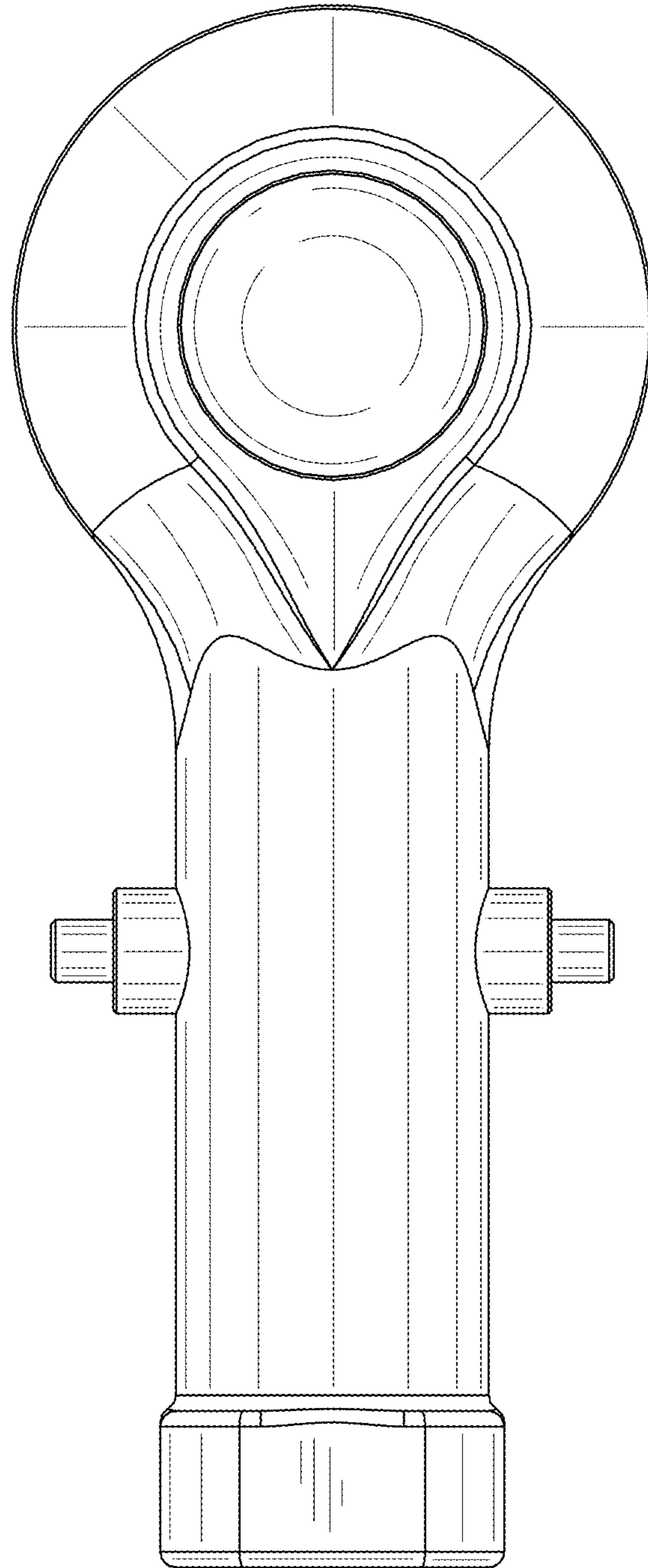


Fig. 6



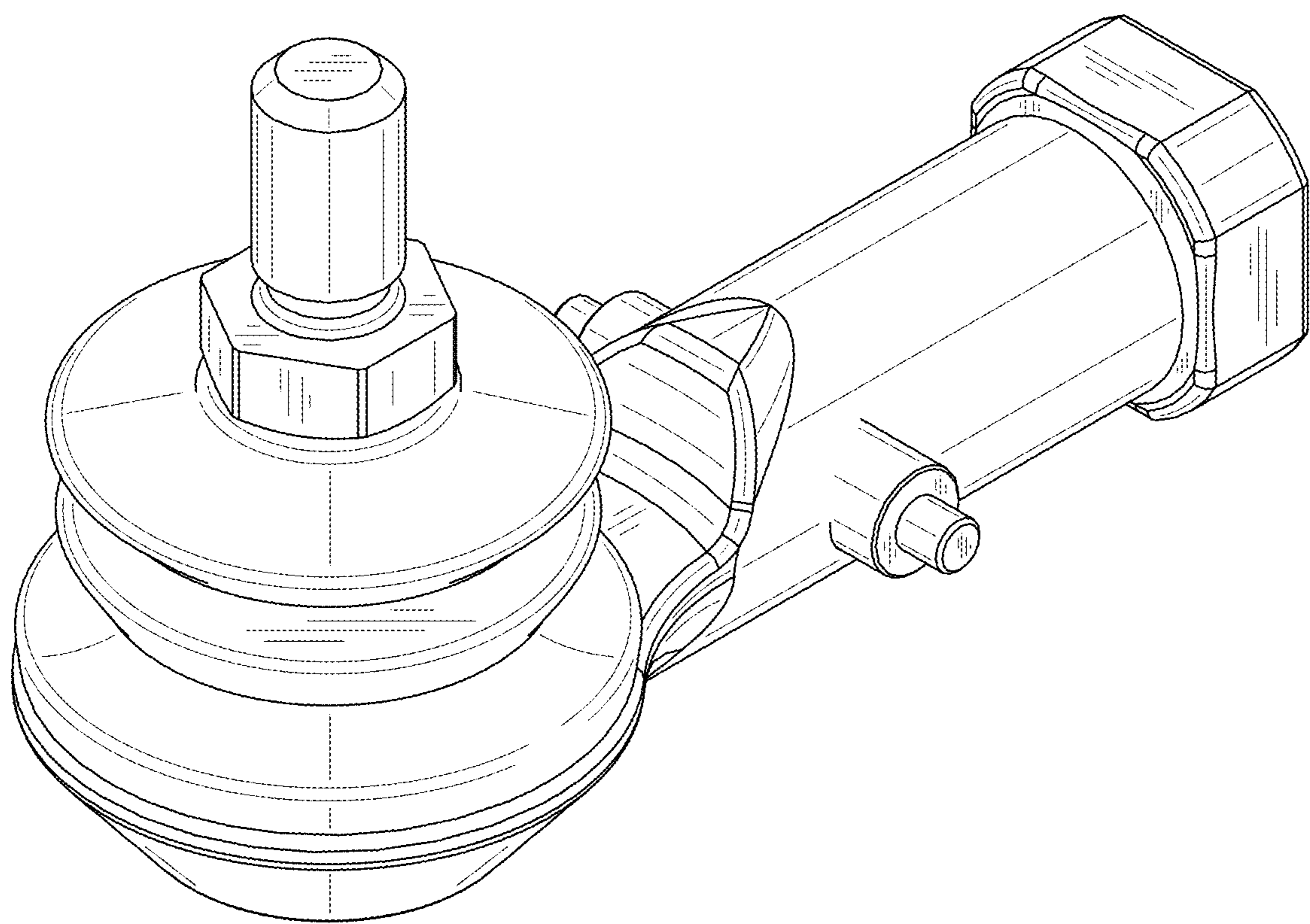


Fig. 7

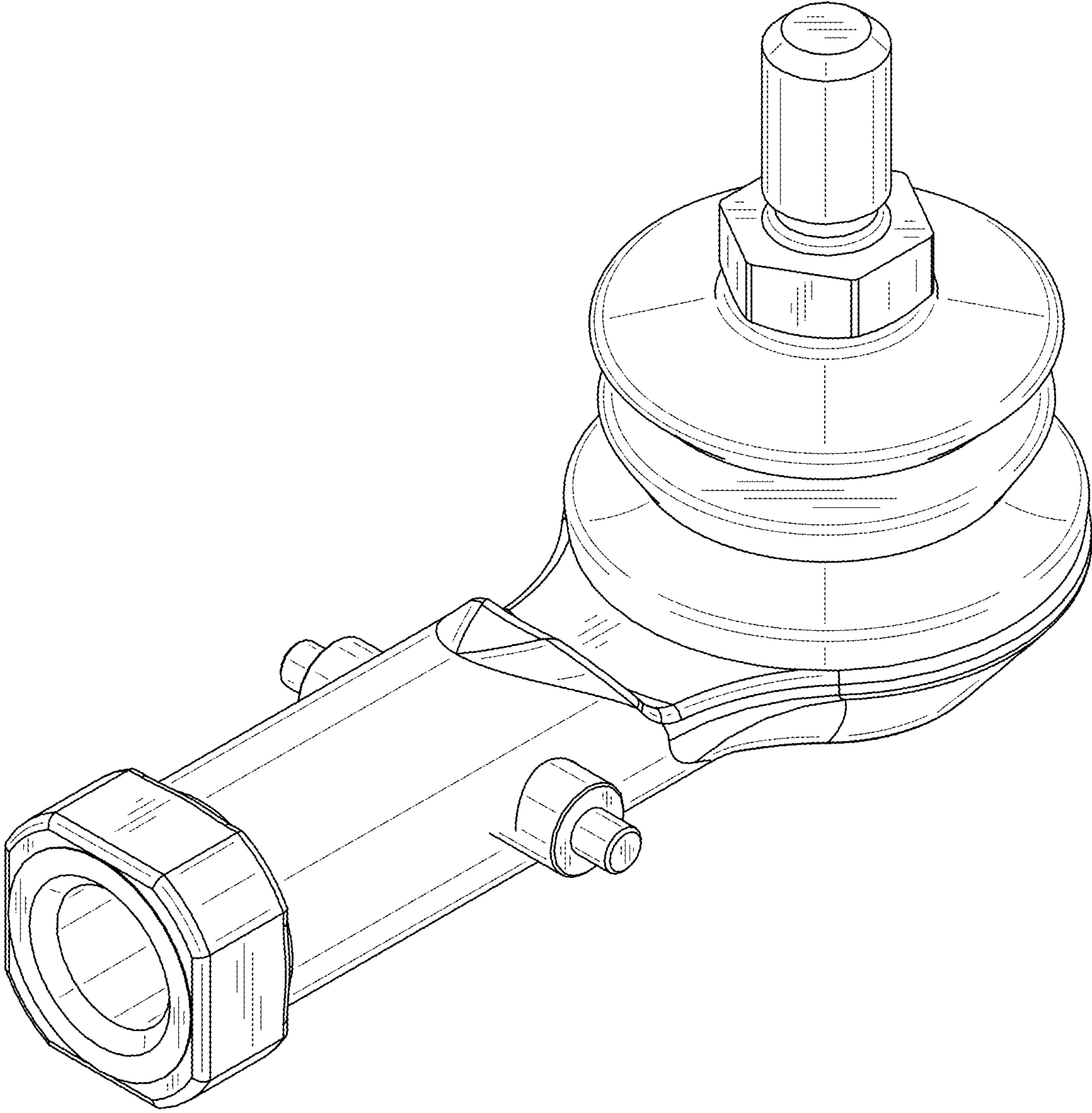


Fig. 8