

US00D546735S

(12) **United States Design Patent** (10) **Patent No.:** **US D546,735 S**  
**Hahne et al.** (45) **Date of Patent:** **\*\* Jul. 17, 2007**

(54) **BALL-AND-SOCKET JOINT FOR TOW BAR**

6,764,092 B1 7/2004 Greaves  
7,032,919 B1 \* 4/2006 Hahne et al. .... 280/493  
2007/0007740 A1 \* 1/2007 Downs et al. .... 280/93.511

(75) Inventors: **Merton Hahne**, Coleridge, NE (US);  
**Mark Penlerick**, Wayne, NE (US);  
**Anthony Crippen**, Pender, NE (US)

\* cited by examiner

(73) Assignee: **Automatic Equipment Manufacturing Company**, Pender, NE (US)

*Primary Examiner*—Doris Clark

*Assistant Examiner*—Michael A. Pratt

(74) *Attorney, Agent, or Firm*—Donald R. Schoonover

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

(57) **CLAIM**

(21) Appl. No.: **29/251,066**

We claim the ornamental design for a ball-and-socket joint for tow bar, as shown and described.

(22) Filed: **Jan. 5, 2006**

**DESCRIPTION**

(51) **LOC (8) Cl.** ..... **12-16**

(52) **U.S. Cl.** ..... **D12/162**

(58) **Field of Classification Search** ..... D12/106,  
D12/115, 116, 161, 162, 199; 280/402, 403,  
280/404, 405.1, 405.2, 407, 407.1, 416.2,  
280/455.1, 491.5, 186, 433, 434, 438 R,  
280/137.503, 511, 86.756, 93.511; 182/1,  
182/23, 26, 33.3, 33.4, 33.5, 54, 89, 511,  
182/512, 482

FIG. 1 is a top, side and rear perspective view of a ball-and-socket joint for tow bar showing our new design;

FIG. 2 is a top, side and front perspective view thereof;

FIG. 3 is a top plan view thereof;

FIG. 4 is a side elevational view thereof, the elevational view of the opposing being a mirror image thereof;

FIG. 5 is a bottom plan view thereof;

FIG. 6 is a front elevational view thereof;

FIG. 7 is a rear elevational view thereof;

FIG. 8 is an exploded top, side and front perspective view thereof; and,

FIG. 9 is a reduced side elevational view showing the ball-and-socket joint for tow bar in use; the broken lines depict environmental structure for illustrative purposes only and form no part of the claimed design.

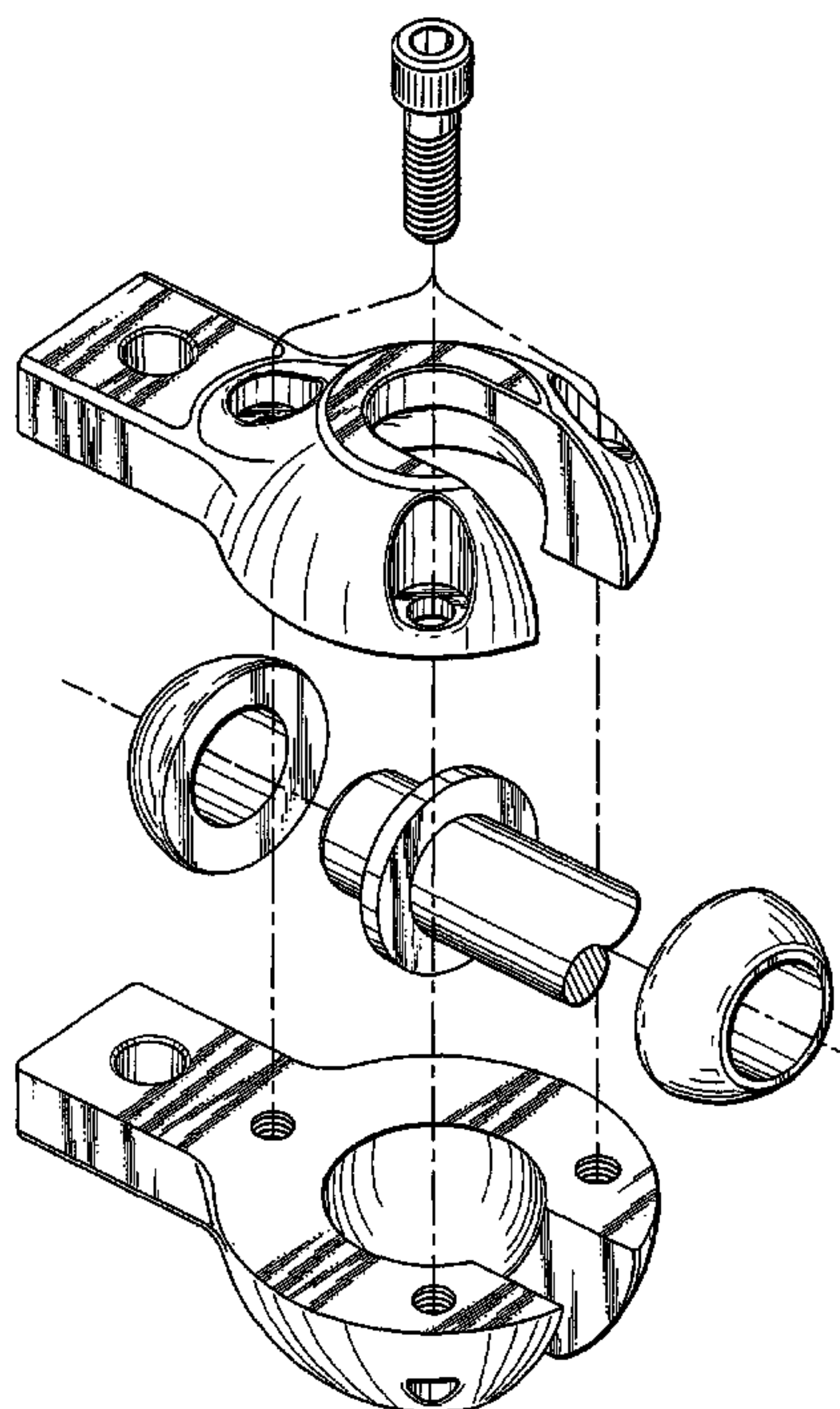
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

3,325,187 A \* 6/1967 Noakes ..... 280/493  
RE30,550 E \* 3/1981 Reise ..... 188/112 A  
4,527,925 A \* 7/1985 Bauer et al. .... 403/143  
5,195,605 A \* 3/1993 Wood ..... 180/254  
6,502,847 B1 1/2003 Greaves  
6,612,604 B2 9/2003 Greaves  
6,619,686 B1 \* 9/2003 Klar ..... 280/491.3

**1 Claim, 6 Drawing Sheets**



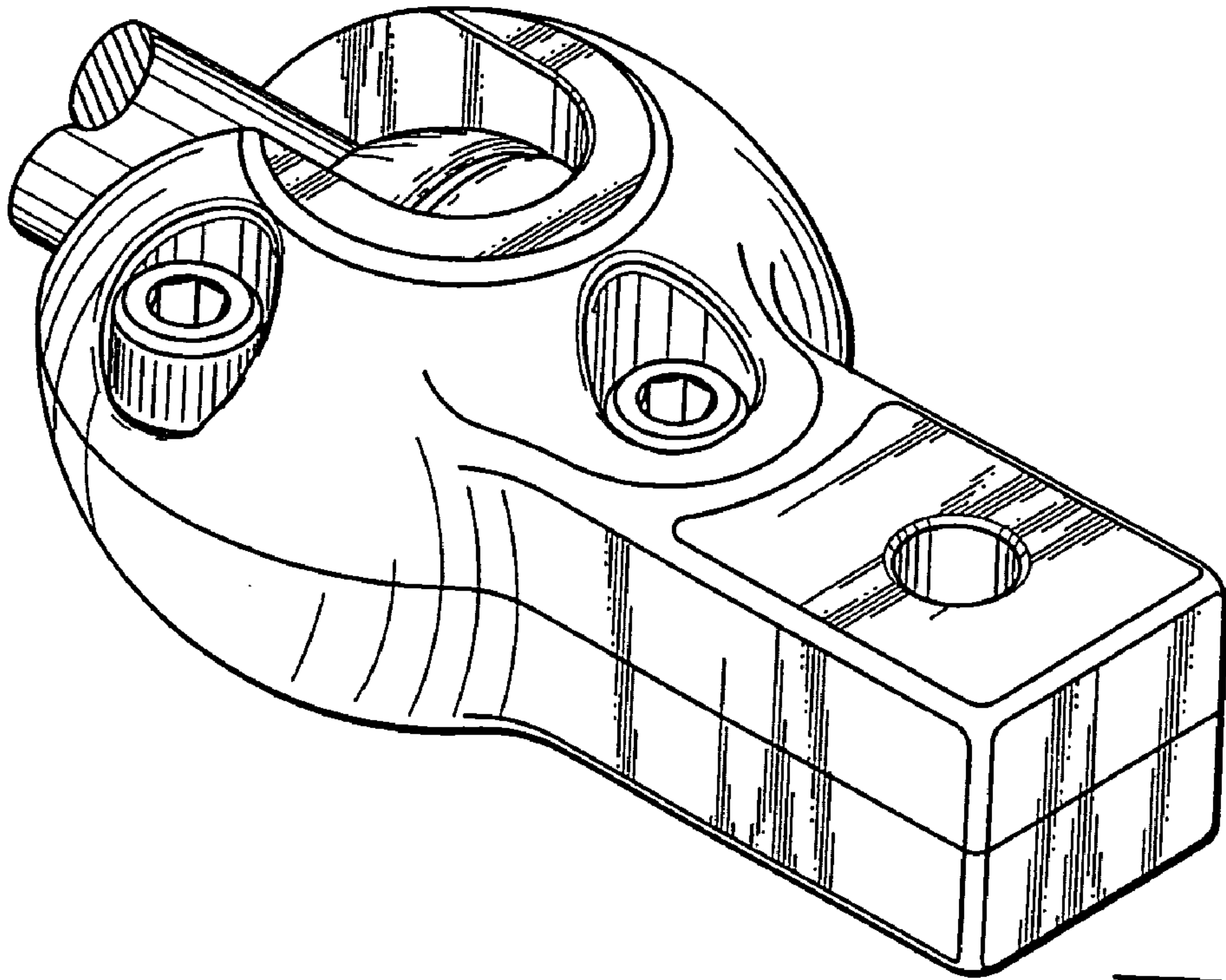


FIG. 1

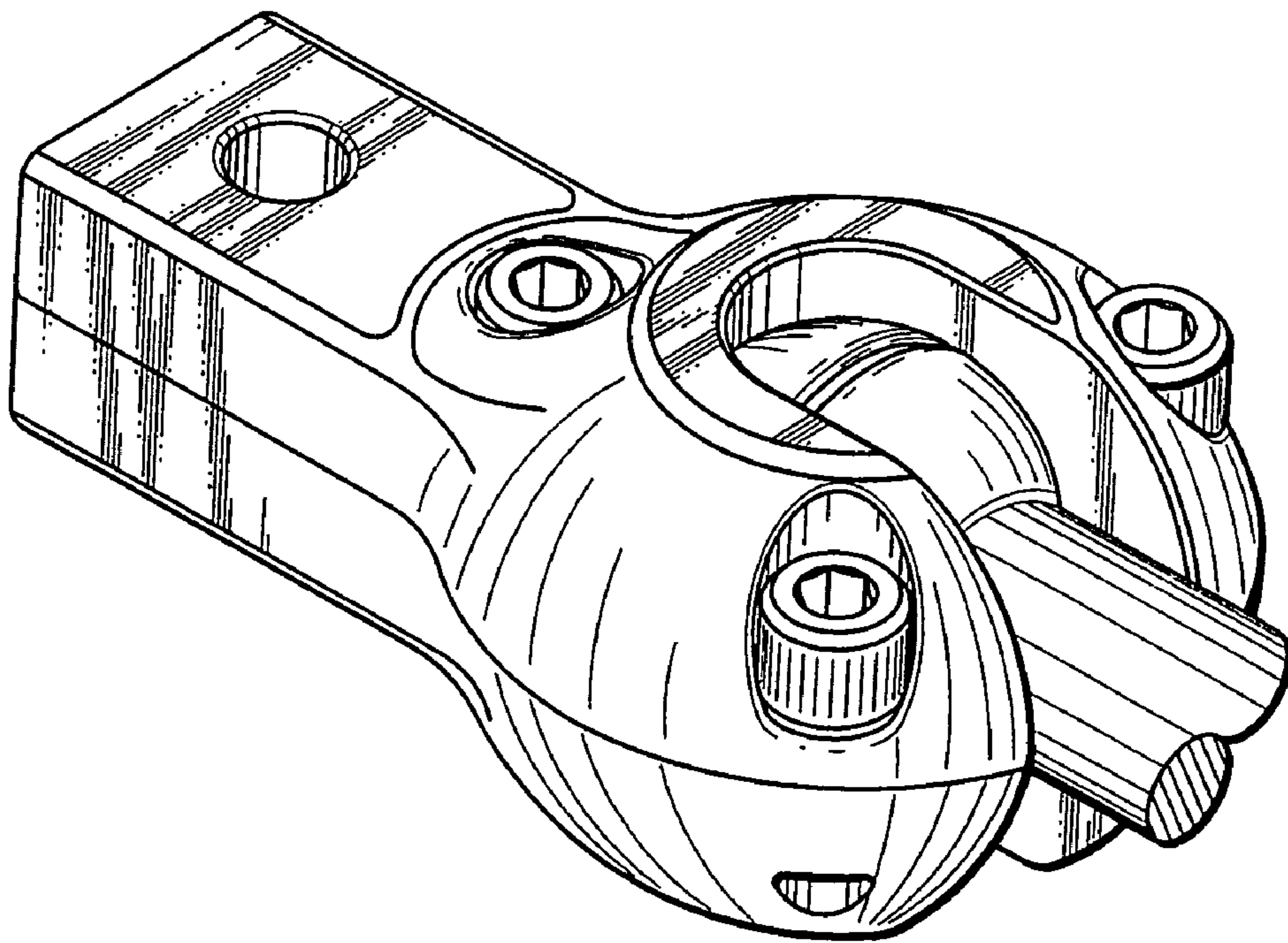


FIG. 2

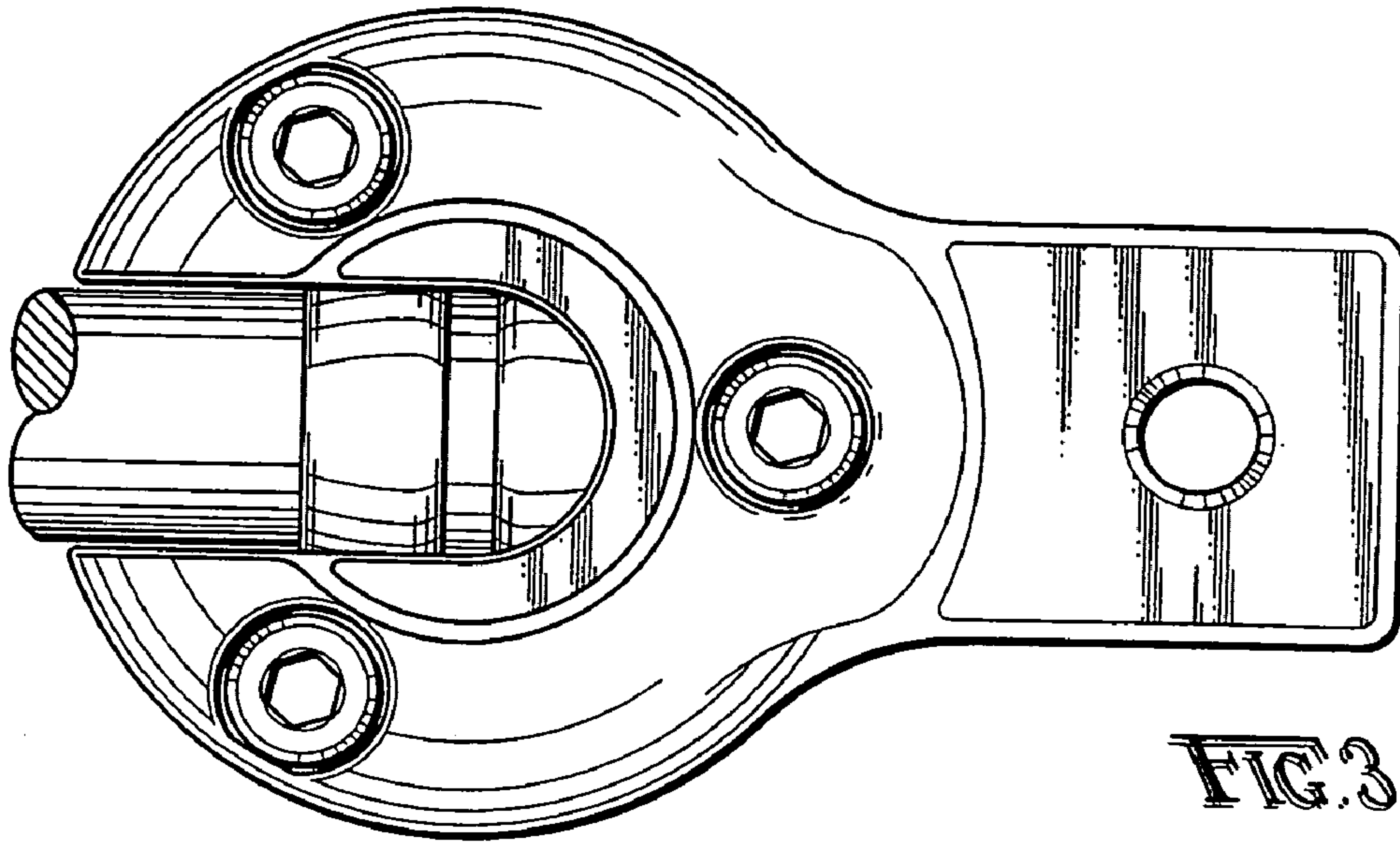


FIG. 3

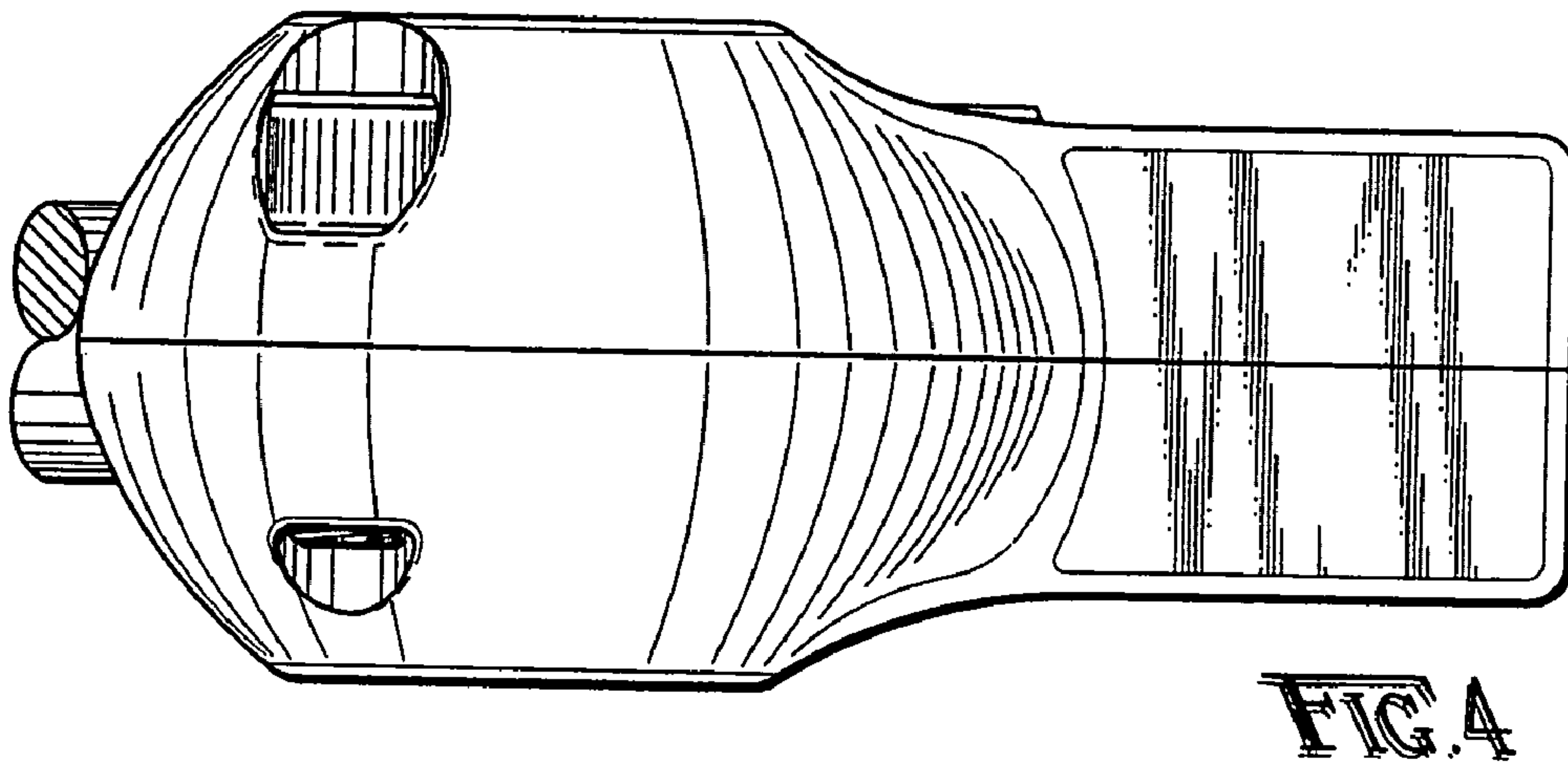


FIG. 4



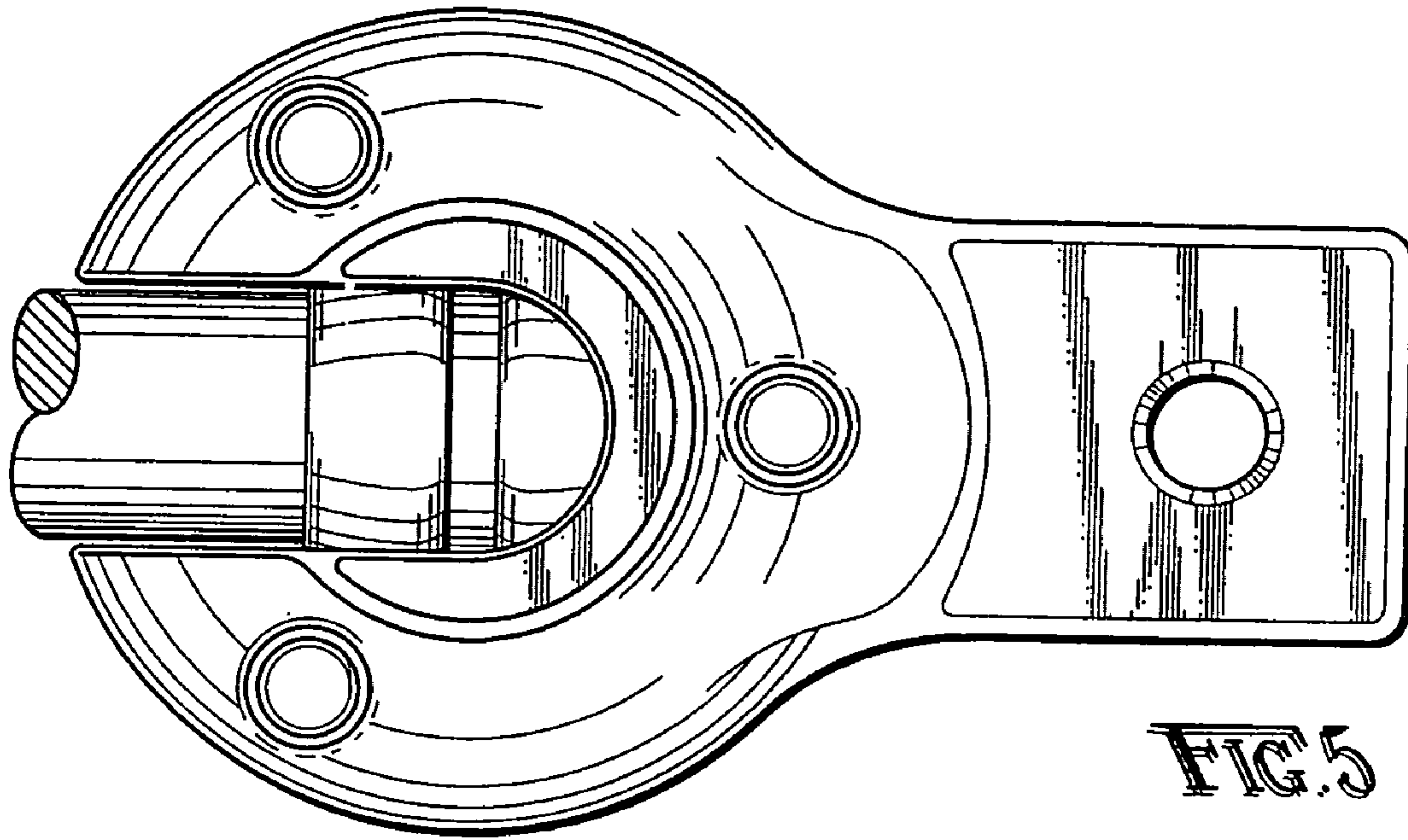


FIG. 5

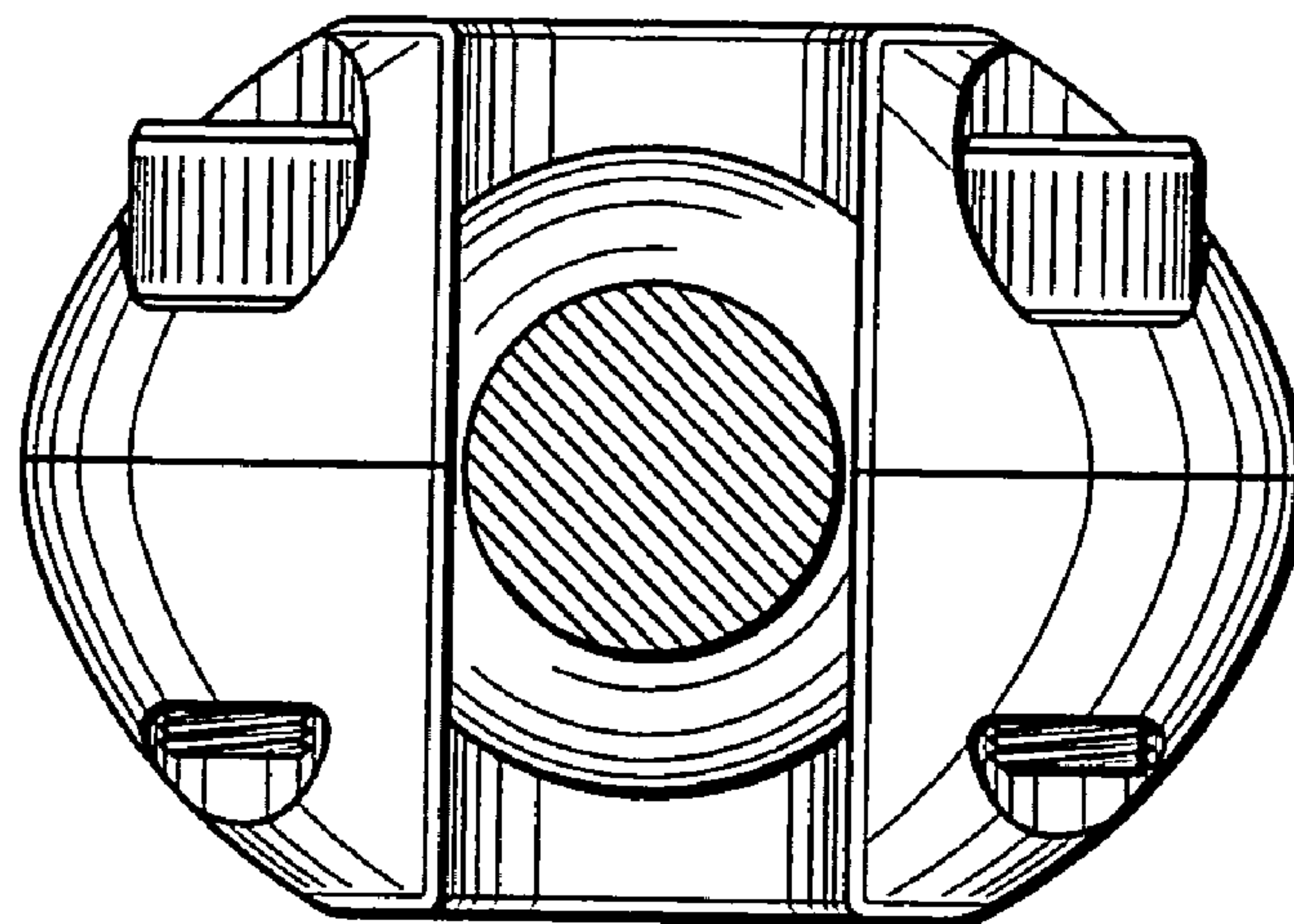


FIG. 6

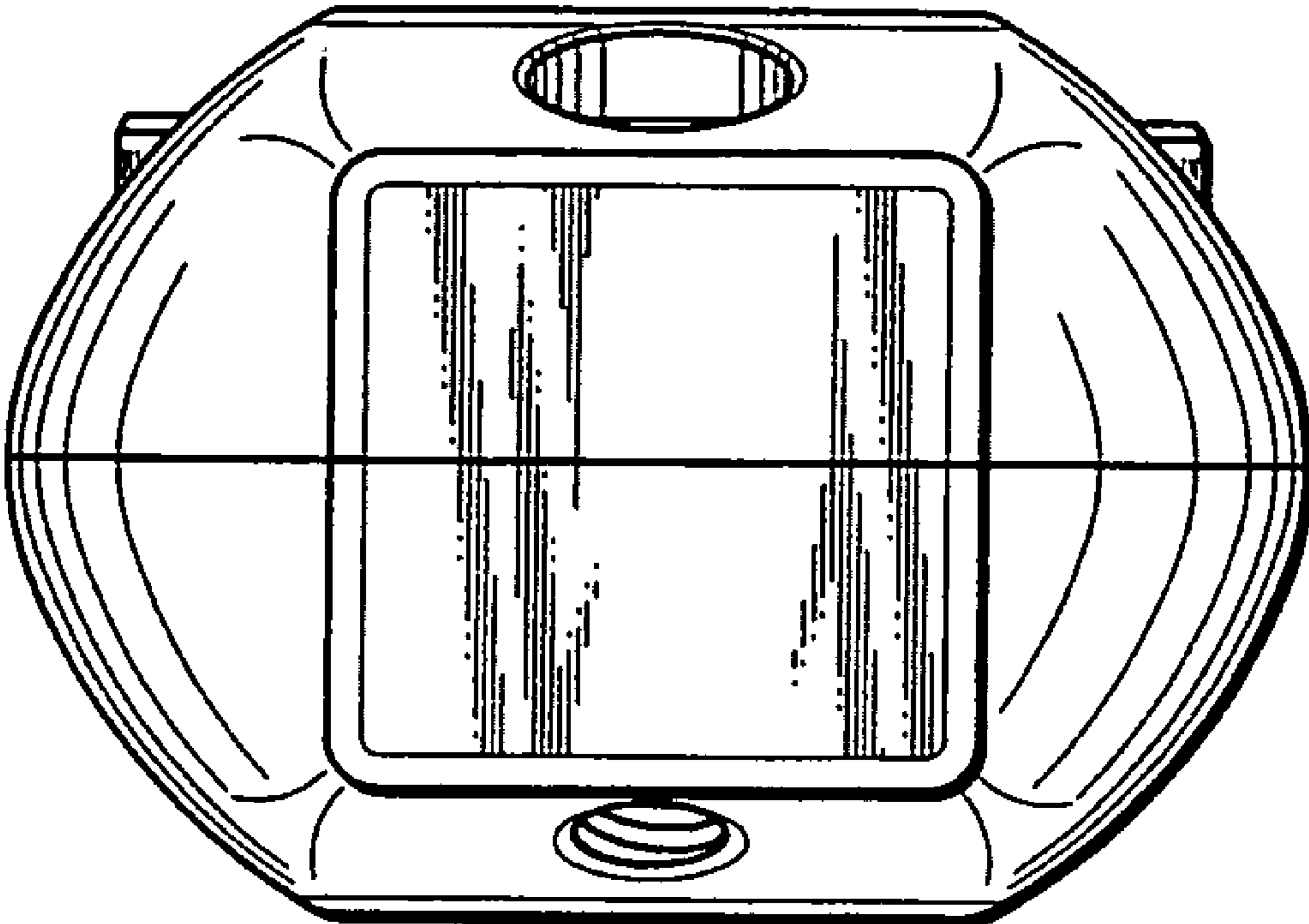


FIG. 7

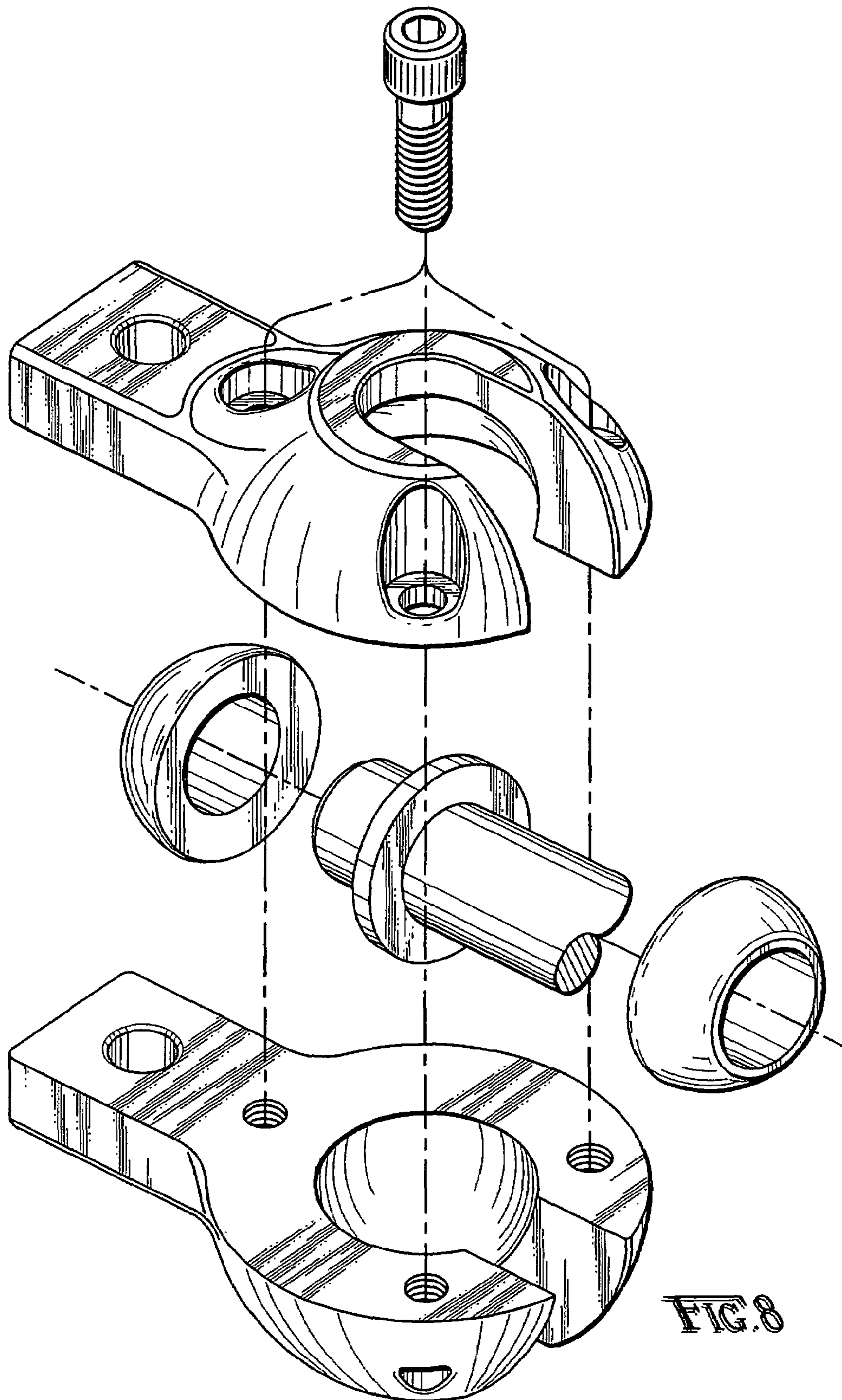


FIG. 8

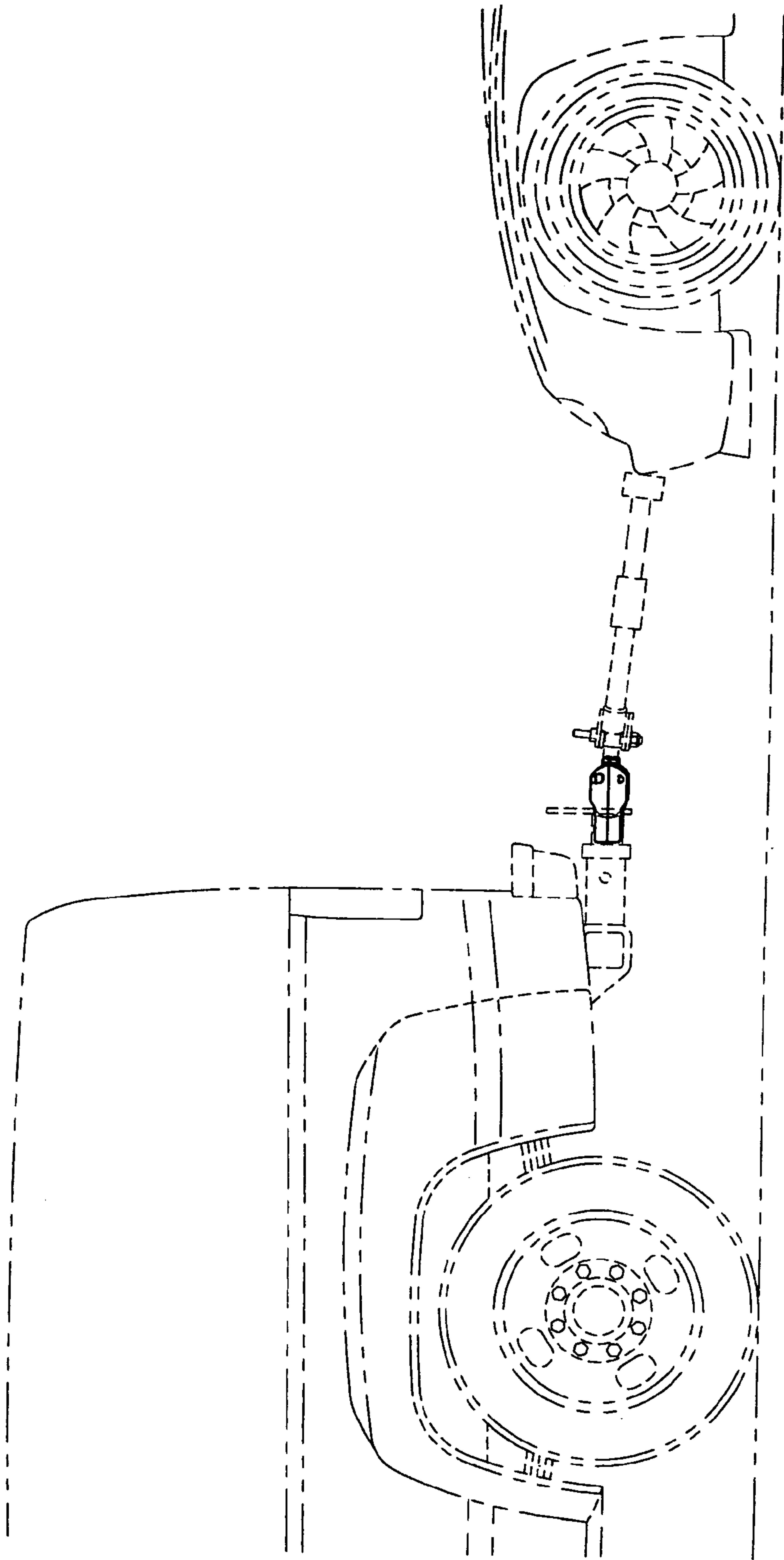


FIG. 9