

[54] BALL END MILL

[75] Inventors: Osamu Tsujimura, Kawasaki; Tatsuo Arai, Kitamoto; Masayuki Okawa, Kawasaki, all of Japan

[73] Assignee: Mitsubishi Kinzoku Kabushiki Kaisha, Tokyo, Japan

[**] Term: 14 Years

[21] Appl. No.: 181,152

[22] Filed: Apr. 13, 1988

[30] Foreign Application Priority Data

Oct. 15, 1987 [JP] Japan 62-42121

[52] U.S. Cl. D15/139; 407/40; 407/54

[58] Field of Search D15/138, 139, 140; 407/40, 42, 54; 408/239 A, 239 R, 187, 700, 713, 223, 224, 227, 229, 233, 199

[56]

References Cited

U.S. PATENT DOCUMENTS

4,252,480	2/1981	Mizuno et al.	408/223	X
4,265,574	5/1981	Eckle	407/54	X
4,527,930	7/1985	Harroun	407/42	X
4,564,321	1/1986	Kondo et al.	408/713	X
4,566,827	1/1986	Neumueller	407/42	X
4,585,375	4/1986	Erkfritz	407/113	X
4,588,331	5/1986	Yoshinori	407/42	X
4,618,296	10/1986	Allaire et al.	407/42	

Primary Examiner—Nelson C. Holtje
Assistant Examiner—Jeffrey Asch
Attorney, Agent, or Firm—Cushman, Darby & Cushman

[57]

CLAIM

The ornamental design for a ball end mill, as shown.

DESCRIPTION

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

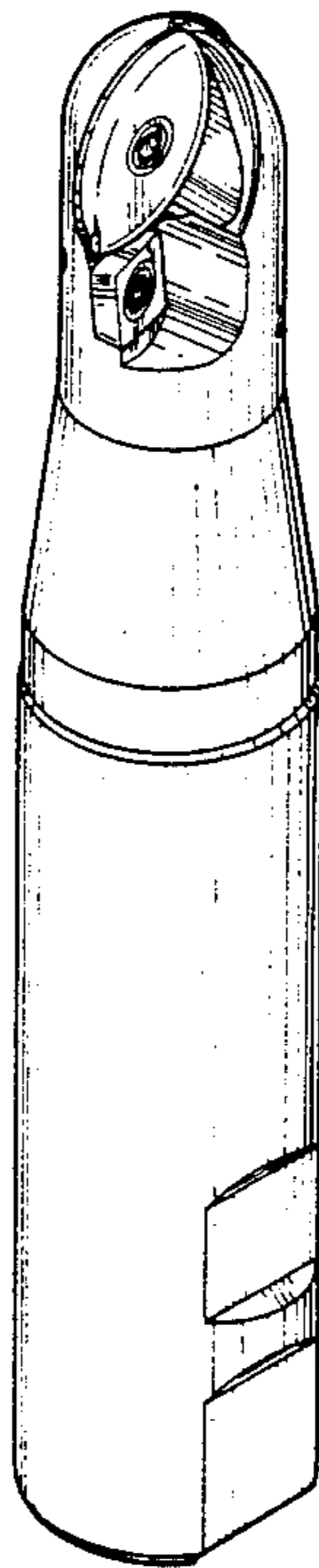


FIG. 1

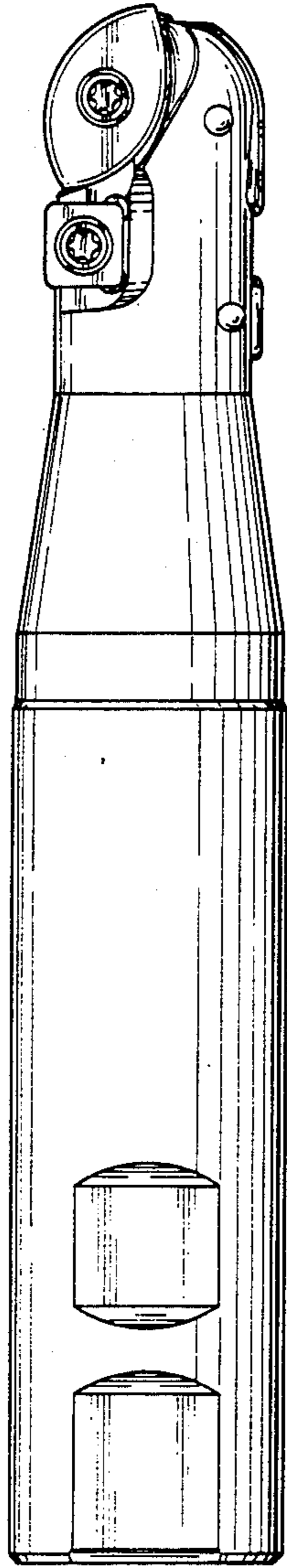


FIG. 2

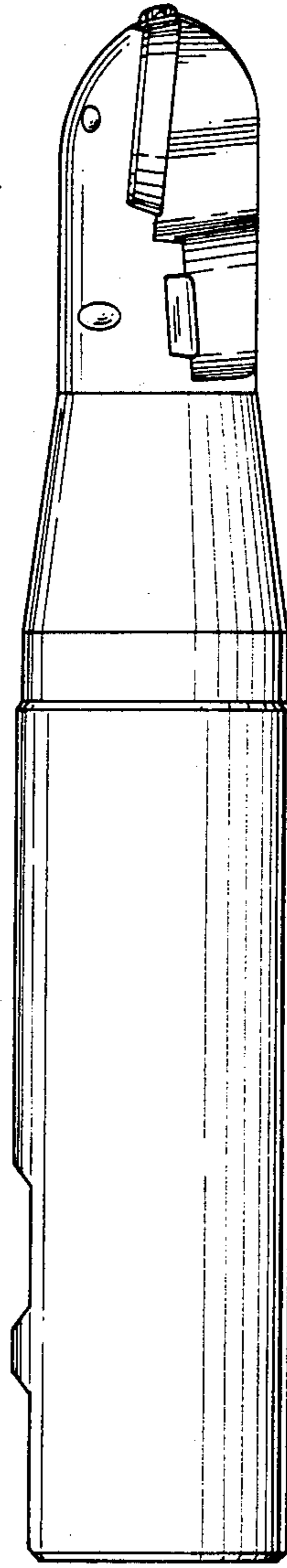


FIG. 5

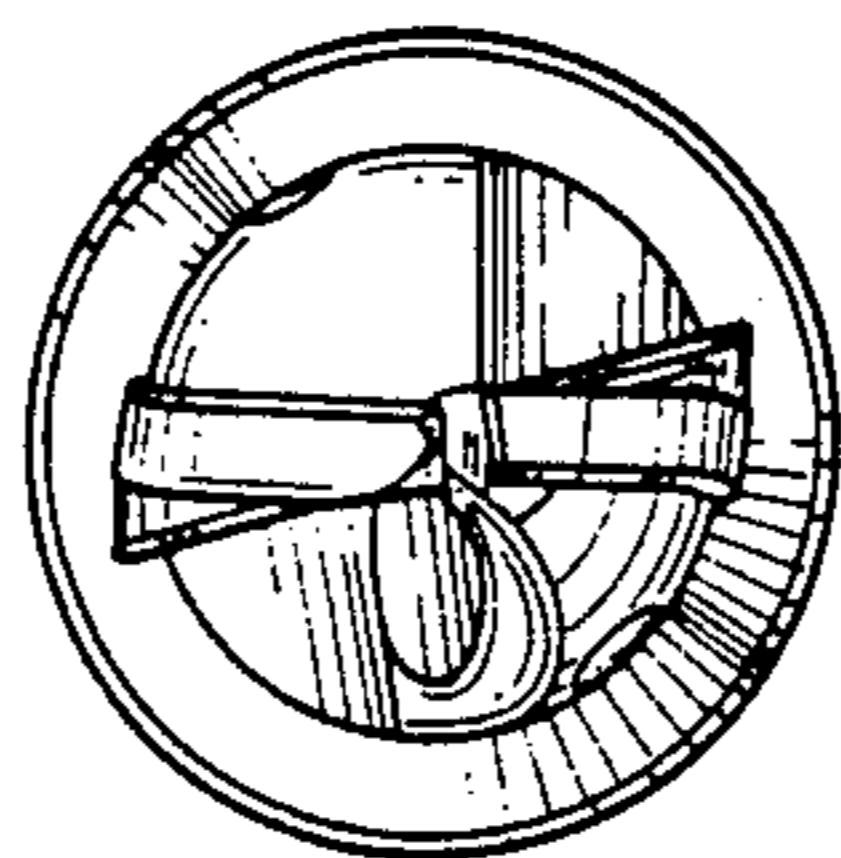


FIG. 6

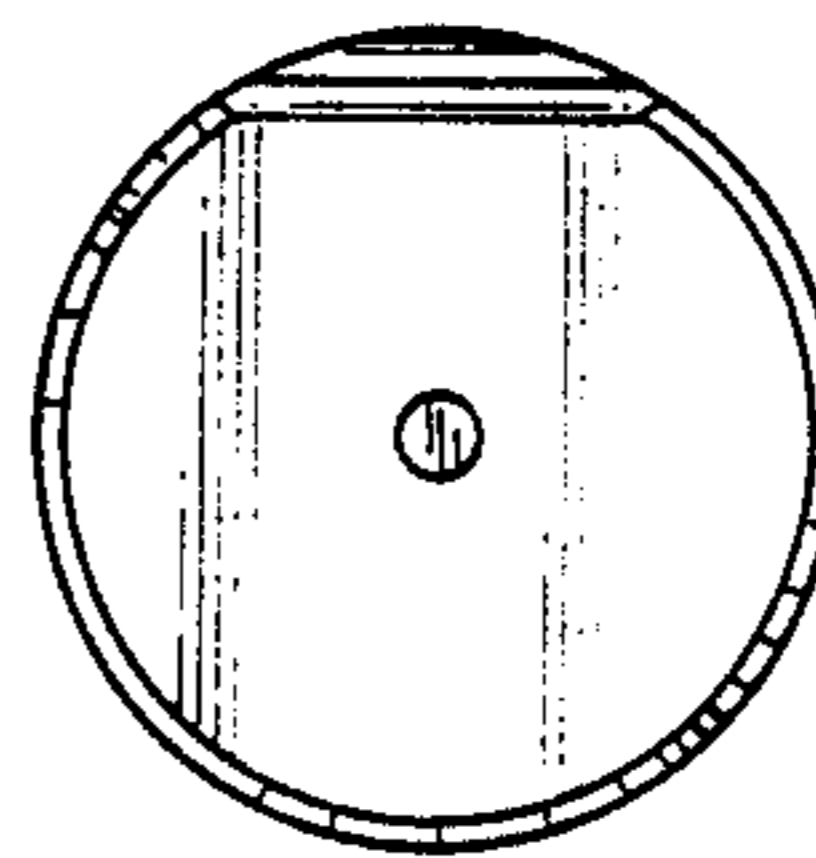


FIG. 3

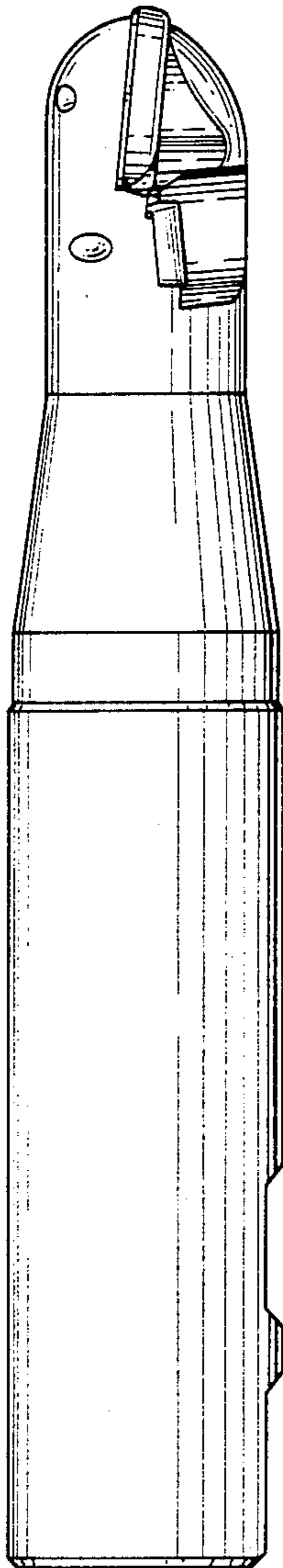


FIG. 4

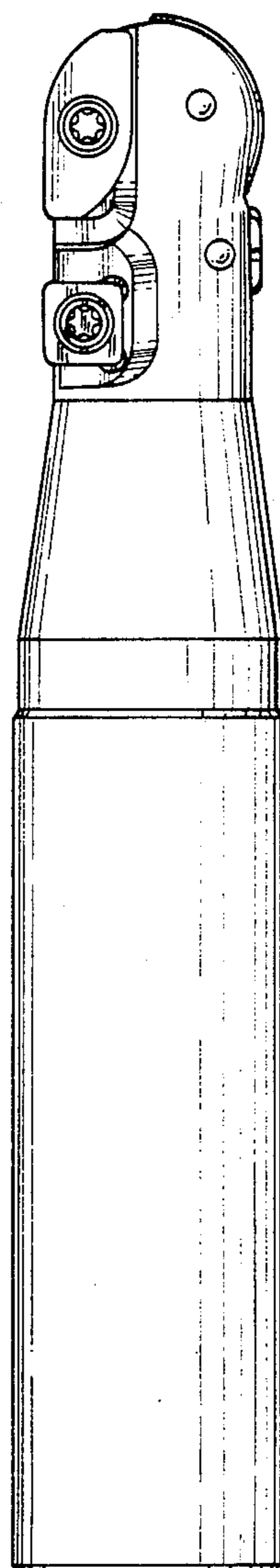


FIG. 7

