



US00D330363S

**United States Patent** [19]  
**Inoi**

[11] **Patent Number: Des. 330,363**  
[45] **Date of Patent: \*\* Oct. 20, 1992**

[54] **PIEZOELECTRIC ACTUATOR**

[75] Inventor: **Takayuki Inoi**, Tokyo, Japan  
[73] Assignee: **NEC Corporation**, Tokyo, Japan  
[\*\*] Term: **14 Years**  
[21] Appl. No.: **579,451**  
[22] Filed: **Sep. 7, 1990**

[30] **Foreign Application Priority Data**

Mar. 28, 1990 [JP] Japan ..... 1-10364  
[52] **U.S. Cl.** ..... **D13/101; D13/174**  
[58] **Field of Search** ..... **D13/101, 158, 174;**  
**338/4, 42; 200/302.3, 302.1**

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

D. 109,572	5/1938	Van Vleck	.....	D13/158
D. 260,880	9/1981	Spoor	.....	D13/101
4,454,398	6/1984	Aschenbach et al.	.....	200/302.3
4,620,073	10/1986	Yokota et al.	.....	200/302.1 X
4,656,454	4/1987	Rosenberger	.....	338/4 X
4,836,028	6/1989	Voituriez	.....	338/4 X
5,031,462	7/1991	Lam	.....	338/4 X

**OTHER PUBLICATIONS**

Honeywell transducer on p. 56 of *Design News*, Dec. 13, 1989.  
Physik Instrumente (PI) GmbH & Co. Publication, entitled "Movement + Positioning", Issue 3 of May, 1987, Waldbronn, West Germany.

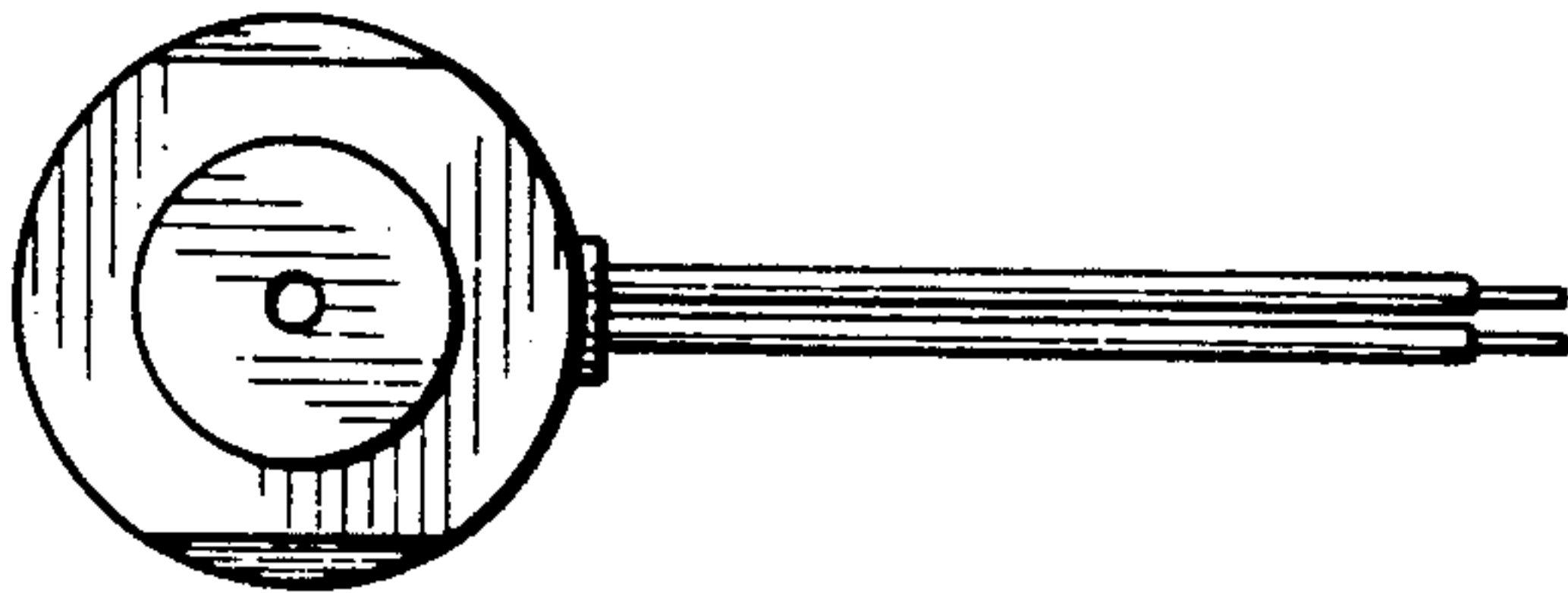
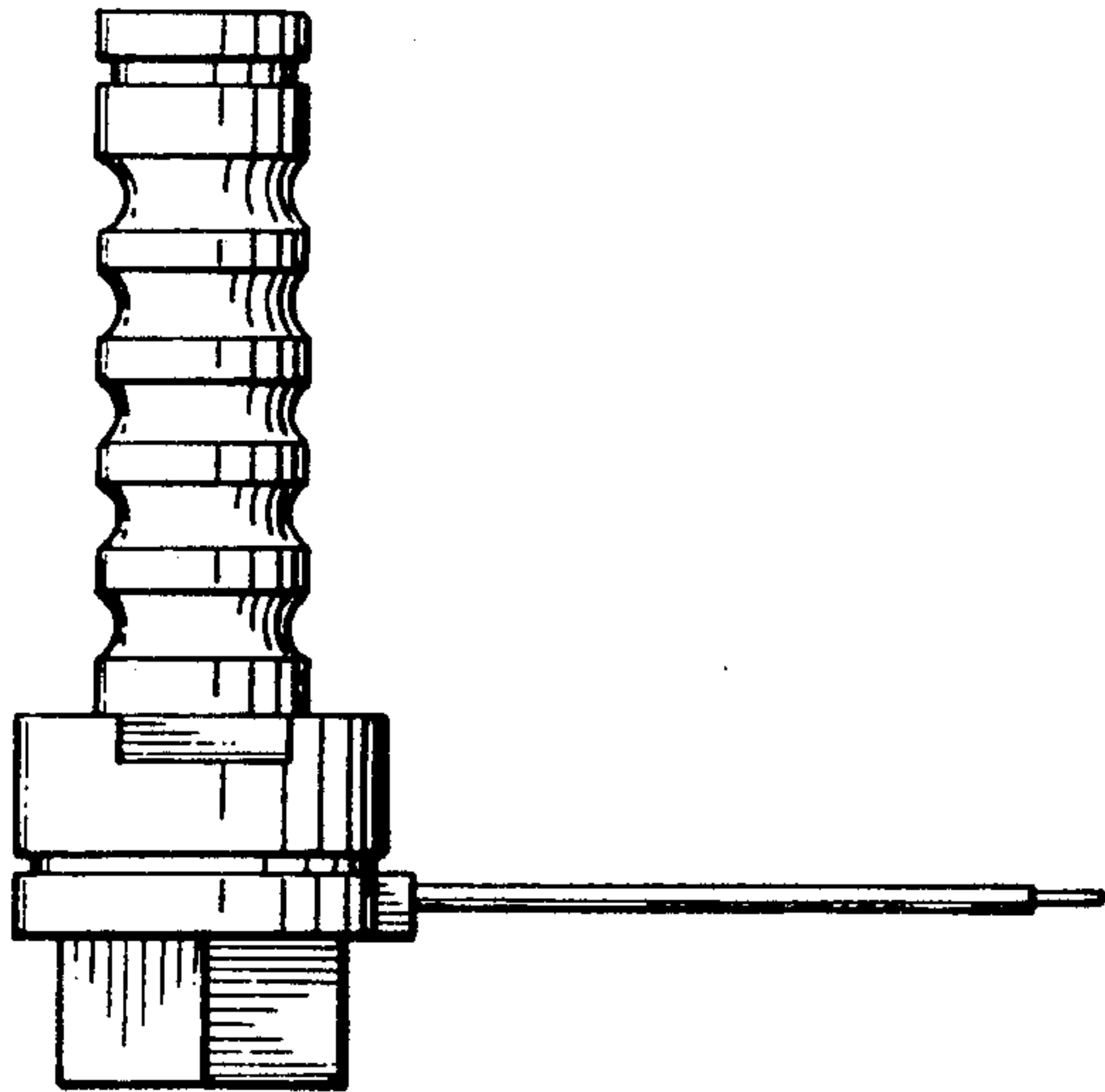
*Primary Examiner*—Wallace R. Burke  
*Assistant Examiner*—Joel Sincavage  
*Attorney, Agent, or Firm*—Sughrue, Mion, Zinn, Macpeak & Seas

[57] **CLAIM**

The ornamental design for a piezoelectric actuator, as shown and described.

**DESCRIPTION**

FIG. 1 is a front elevational view of a piezoelectric actuator showing my new design, the rear elevational view being a mirror image thereof;  
FIG. 2 is a left side elevational view thereof;  
FIG. 3 is a right side elevational view thereof;  
FIG. 4 is a top plan view thereof; and,  
FIG. 5 is a bottom plan view thereof.



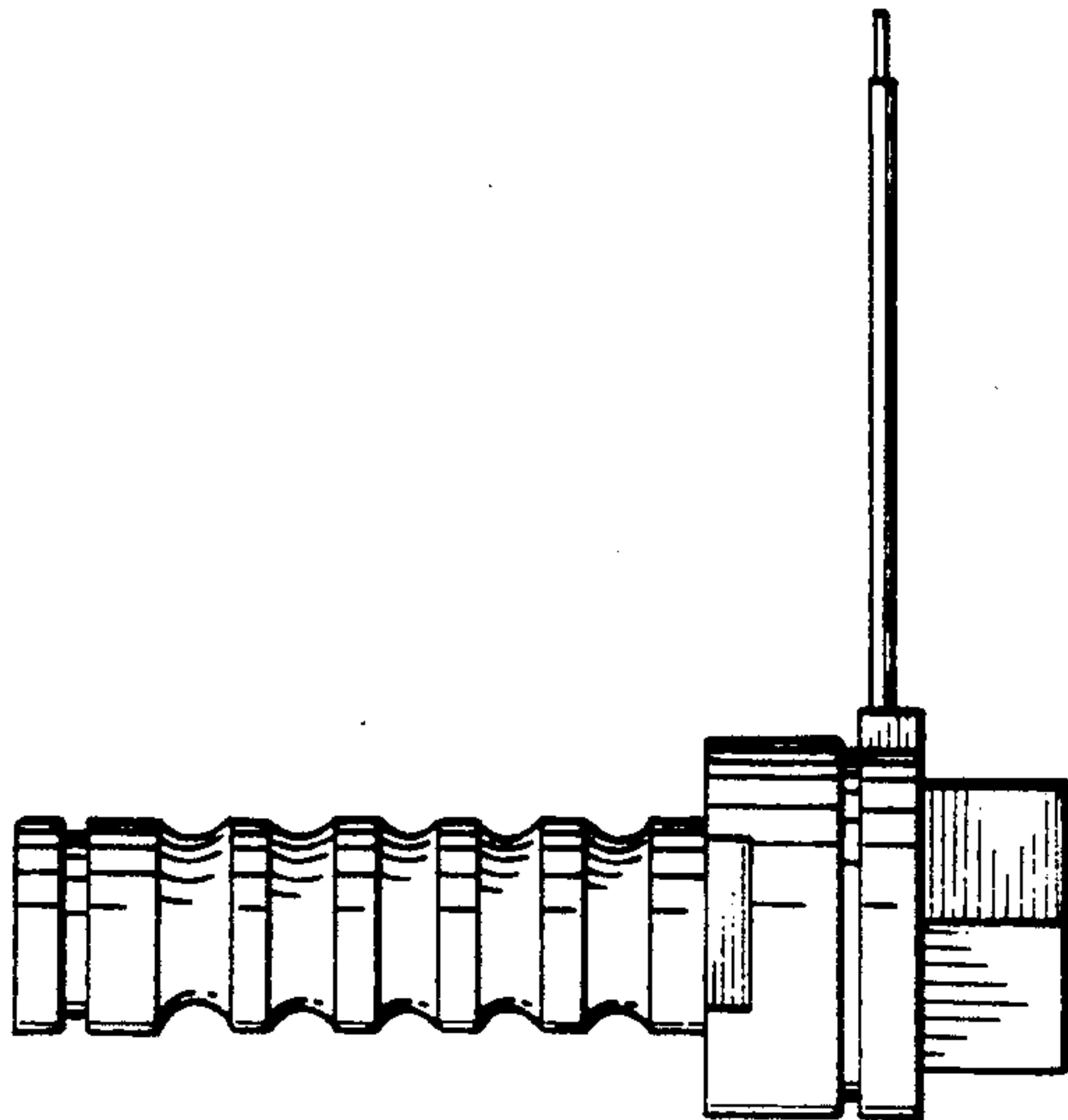


FIG. 1

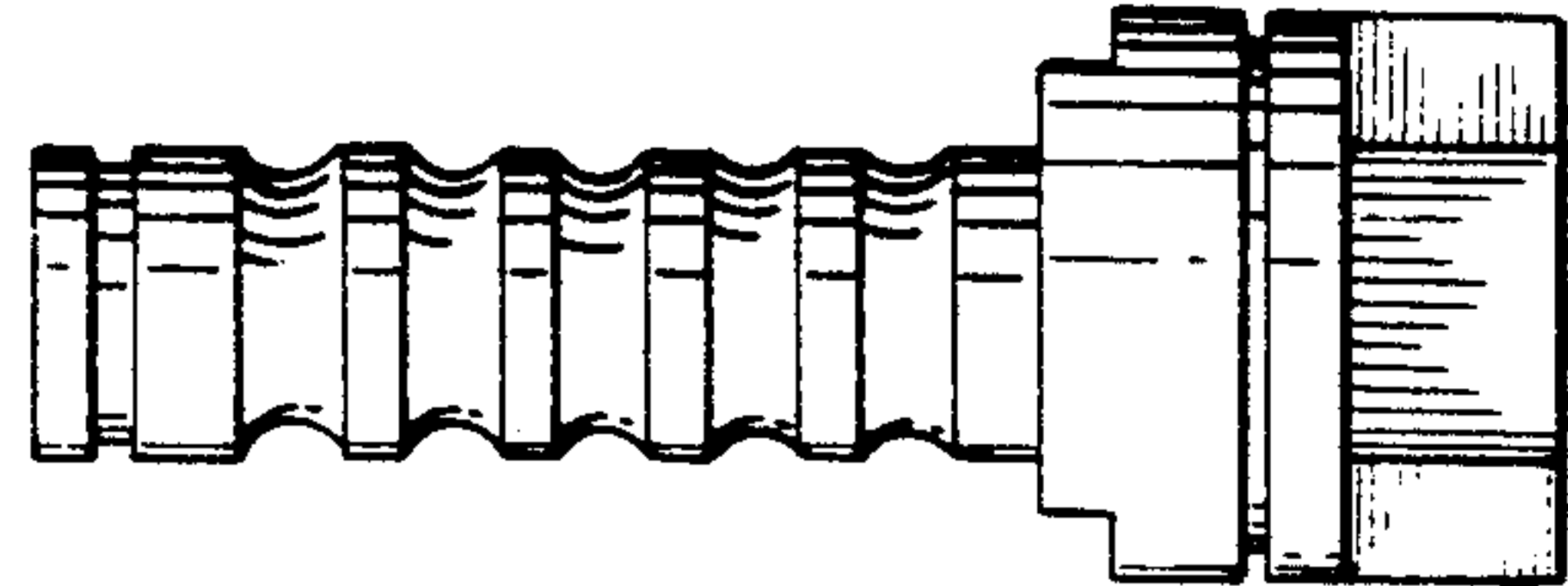


FIG. 2

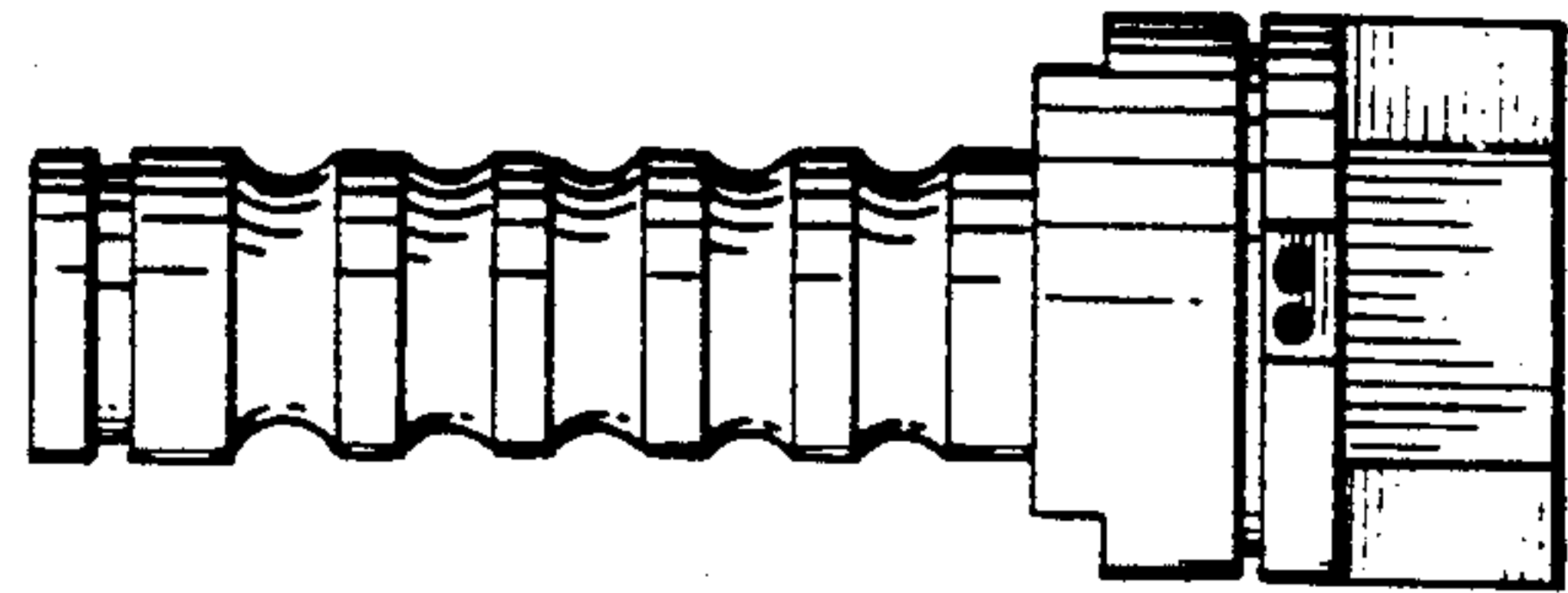


FIG. 3

FIG. 4

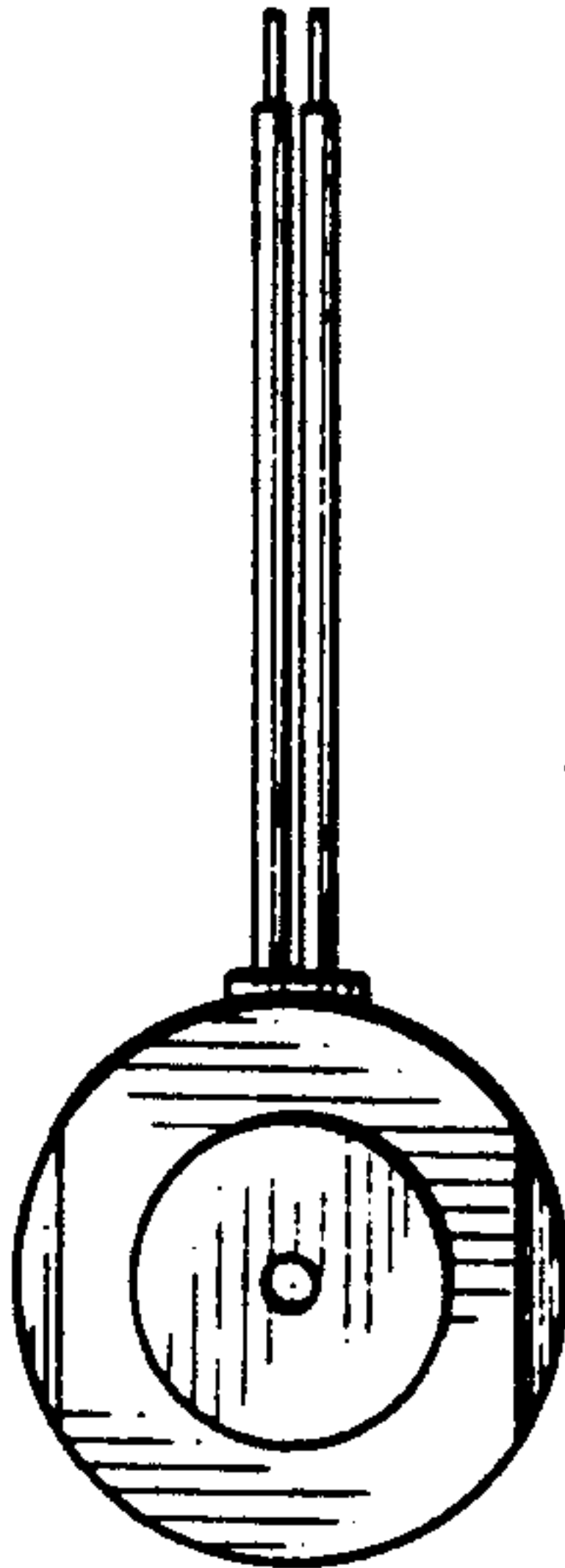
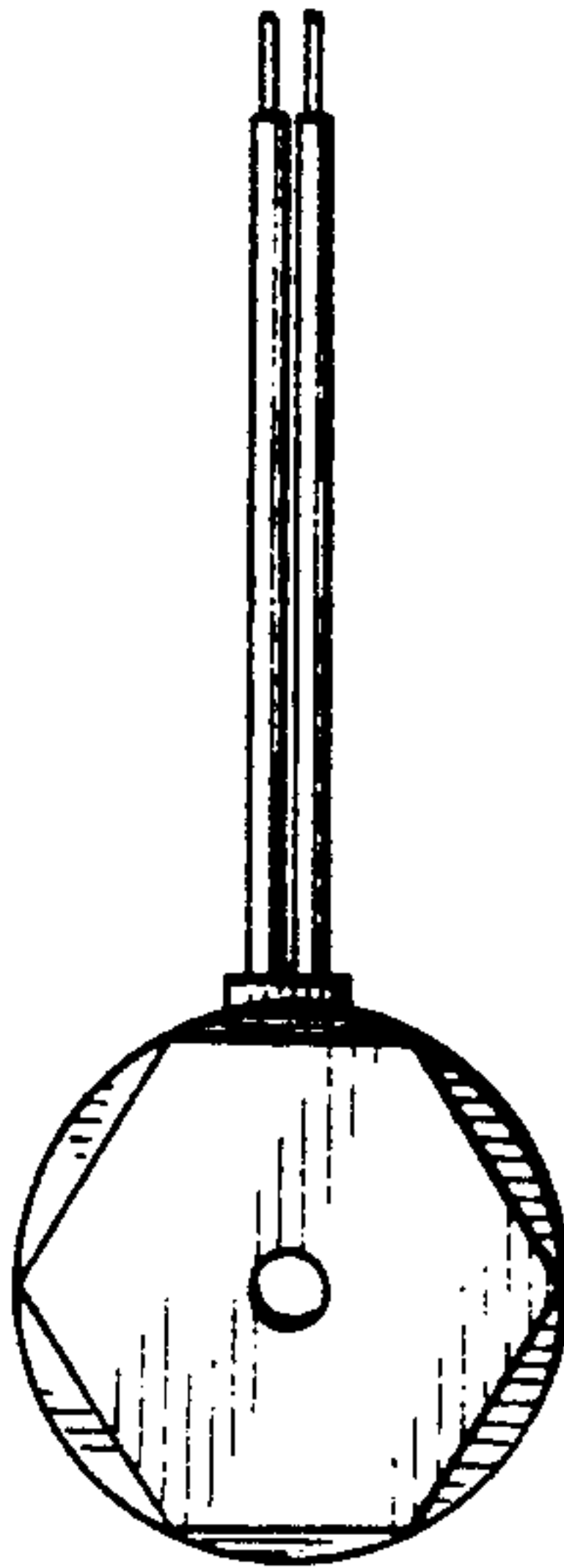


FIG. 5



UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

**PATENT NO.** : Des. 330,363  
**DATED** : October 20, 1992  
**INVENTOR(S)** : Takayuki INOI

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the title page, Item  
[30] In the Foreign Application Priority Data:

Delete "1-10364" and insert --2-10364--

Signed and Sealed this  
Twenty-eighth Day of December, 1993

Attest:



BRUCE LEHMAN

Attesting Officer

Commissioner of Patents and Trademarks