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

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(54) **POSITION SENSOR**

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(73) Assignee: **Balluff GmbH**, Neuhausen (DE)

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

(21) Appl. No.: **29/145,462**

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(30) **Foreign Application Priority Data**

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(51) **LOC (7) Cl.** ..... **10-05**

(52) **U.S. Cl.** ..... **D10/104**

(58) **Field of Search** ..... D10/104, 106,  
D10/111, 114, 121; 340/906, 907, 908,  
908.1, 909, 910, 911, 915

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D438,479 S \* 3/2001 Goetz et al. .... D10/104  
D446,142 S \* 8/2001 Shafizan-Rad et al. .... D10/104

**OTHER PUBLICATIONS**

Balluff GmbH, brochure entitled "Micropulse Transducer BTL—Position sensing—with extreme precision", undated, prior to Jul. 2001..

Althen GmbH, "Produkt Übersicht", pages dated Apr. 1997 through Apr. 1998.

DS-Europe SRL, Italy, "Magnetostrictive transducers of Displacement and Level—Series PMS", publication date unknown, prior to Jul. 2001.

Gefran, brochure entitled "Absolut Kontaktlose Wegaufnehmer", Jan. 2000.

Gefran, brochure entitled "Wegaufnehmer, Drehgeber", May, 2001.

Gefran, brochure entitled "Wegaufnehmer, Drehgeber", Sep. 1998.

Gefran, brochure entitled Absolut Kontaktlose Wegaufnehmer, Oct. 1999.

MTS Sensors Group, "Temposonics Produktübersicht—Die magnetostruktiven Positionssensoren", Apr. 2001.

Santest Co., Ltd., brochure entitled "Model GY Series—Magnetostrictive Displacement Transducer", publication date unknown, prior to Jul. 2001.

www.santest.co.jp, Hot Products, GYKM series, publication date unknown, prior to Jul. 2001.

TR-Electronic GmbH, "Produkt Übersicht", 2001.

(List continued on next page.)

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(57) **CLAIM**

The ornamental design for a position sensor, as shown and described.

**DESCRIPTION**

FIG. 1 is a front and right side perspective view showing the design with broken lines depicting an example connector environment related to the design;

FIG. 2 is a front view of the design;

FIG. 3 is a top view of the design with broken lines depicting an example connector environment related to the design;

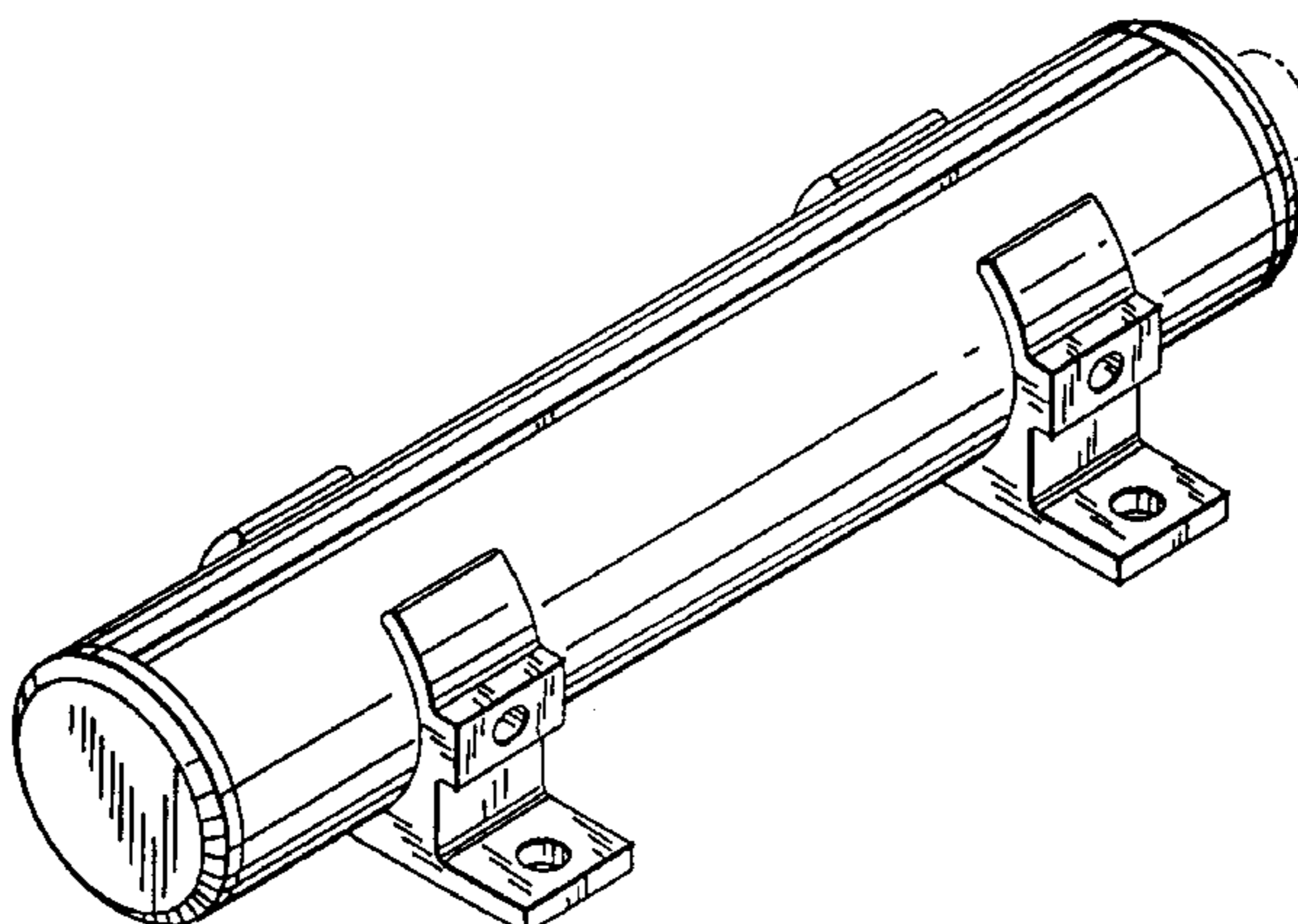
FIG. 4 is a left side view of the design with broken lines depicting an example connector environment related to the design;

FIG. 5 is a right side view of the design with broken lines depicting an example connector environment related to the design;

FIG. 6 is a rear view of the design with broken lines depicting an example connector environment related to the design; and,

FIG. 7 is a bottom view of the design with broken lines depicting an example connector environment related to the design.

**1 Claim, 3 Drawing Sheets**



OTHER PUBLICATIONS

TWK-Elektronik GmbH, brochure entitled Analoge und Digitale Messwertaufnehmer zum Erfassen und Messen von Winkeln, Wegen, Längen, Positionen, pages dated Aug. 1993 through Jan. 2000.

Ametek Patriot Sensors, brochure entitled Series 955S Gemco Smart Brick Linear Displacement Transducer, Oct. 2000.

Ametek Patriot Sensors, brochure entitled Series 952 Gemco Blue OX LDT with Quadrature Output, publication date unknown, prior to Jul. 2001.

J. Pattee, *Technical Brief*, "A New Method of Interfacing Magnetostrictive Linear Transducers," Ametek Patriot Sensors, Clawson, Michigan, publication date unknown, prior to Jul. 2001.

\* cited by examiner

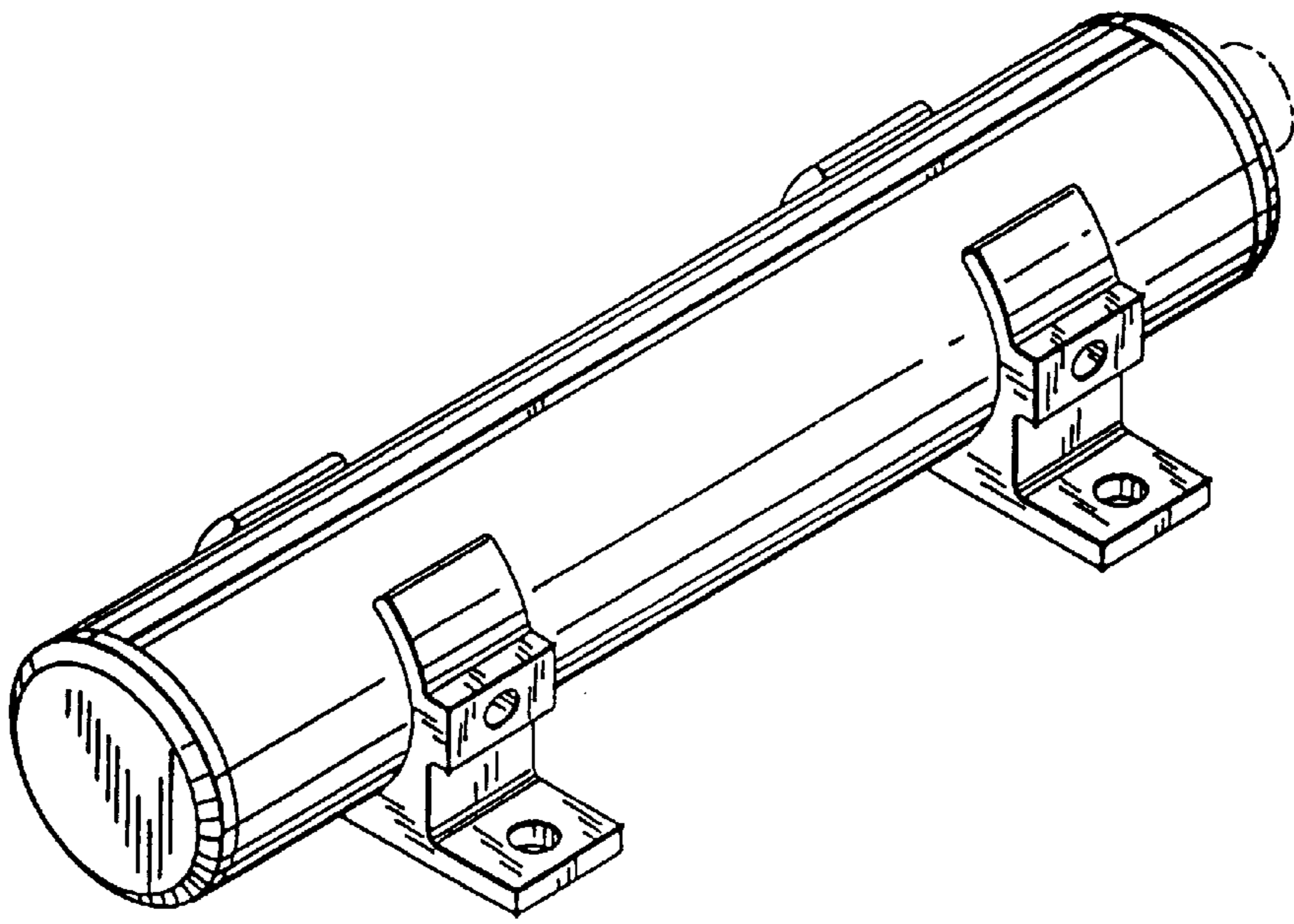


FIG. 1

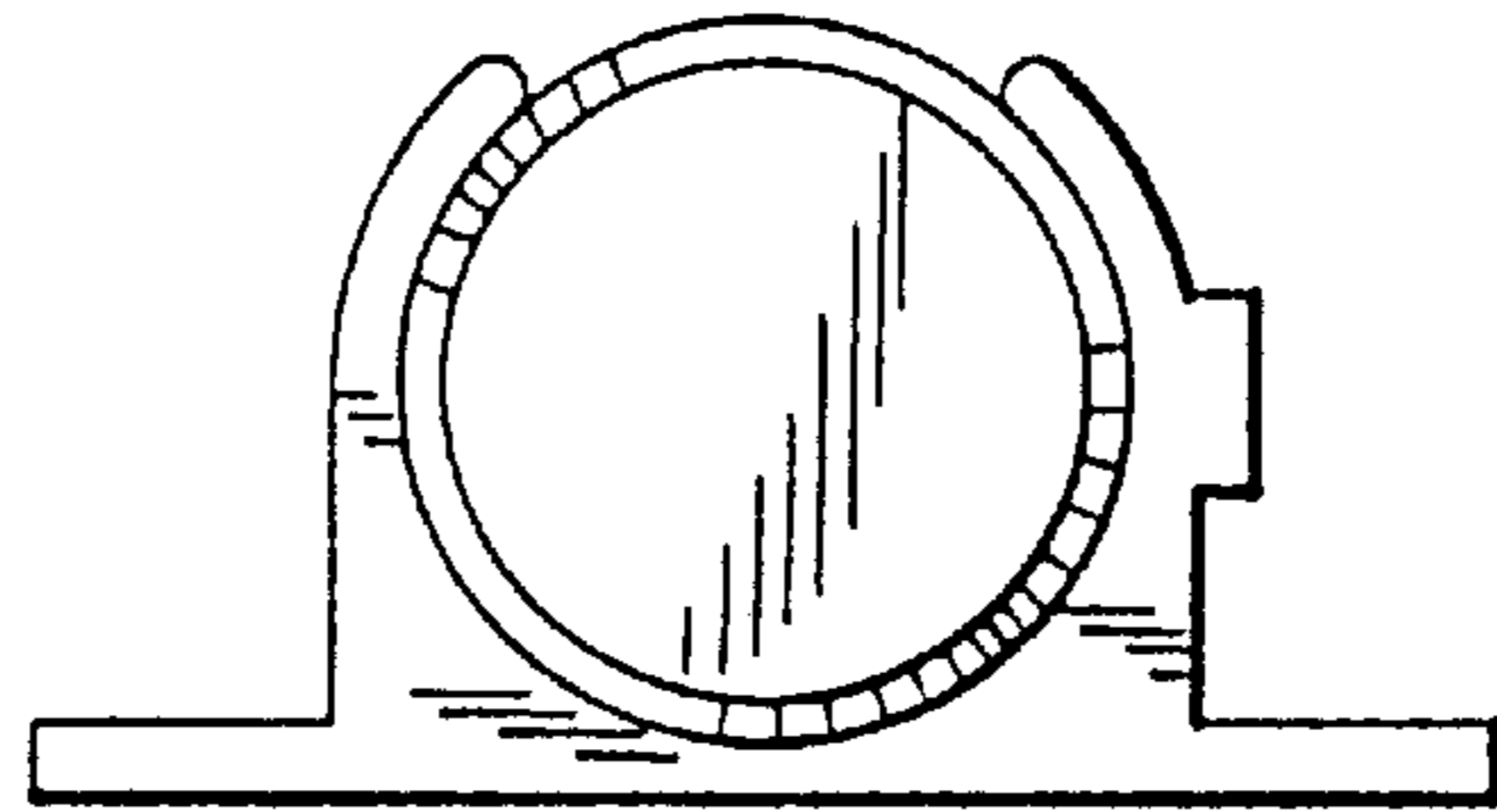


FIG. 2

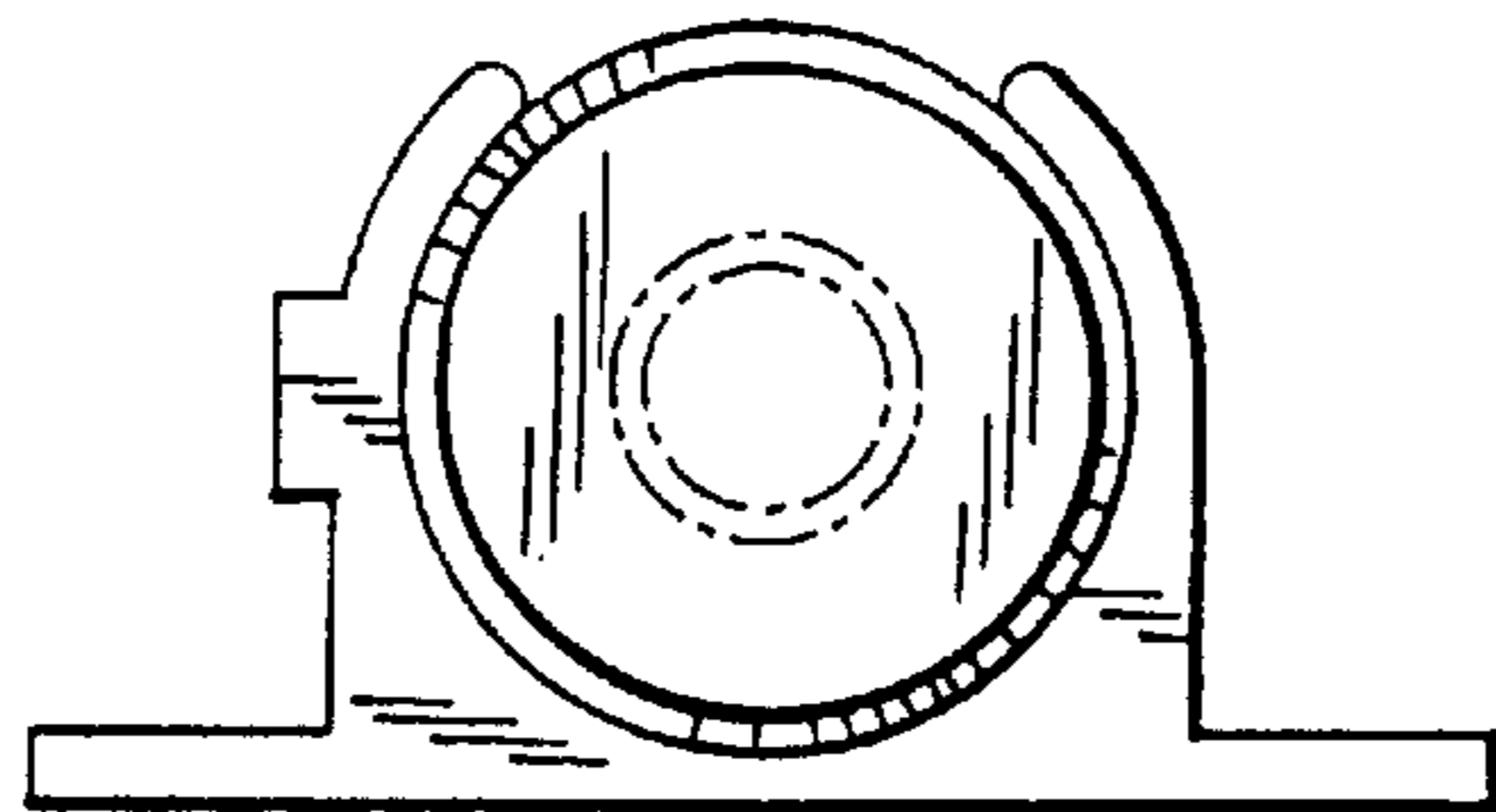


FIG. 6

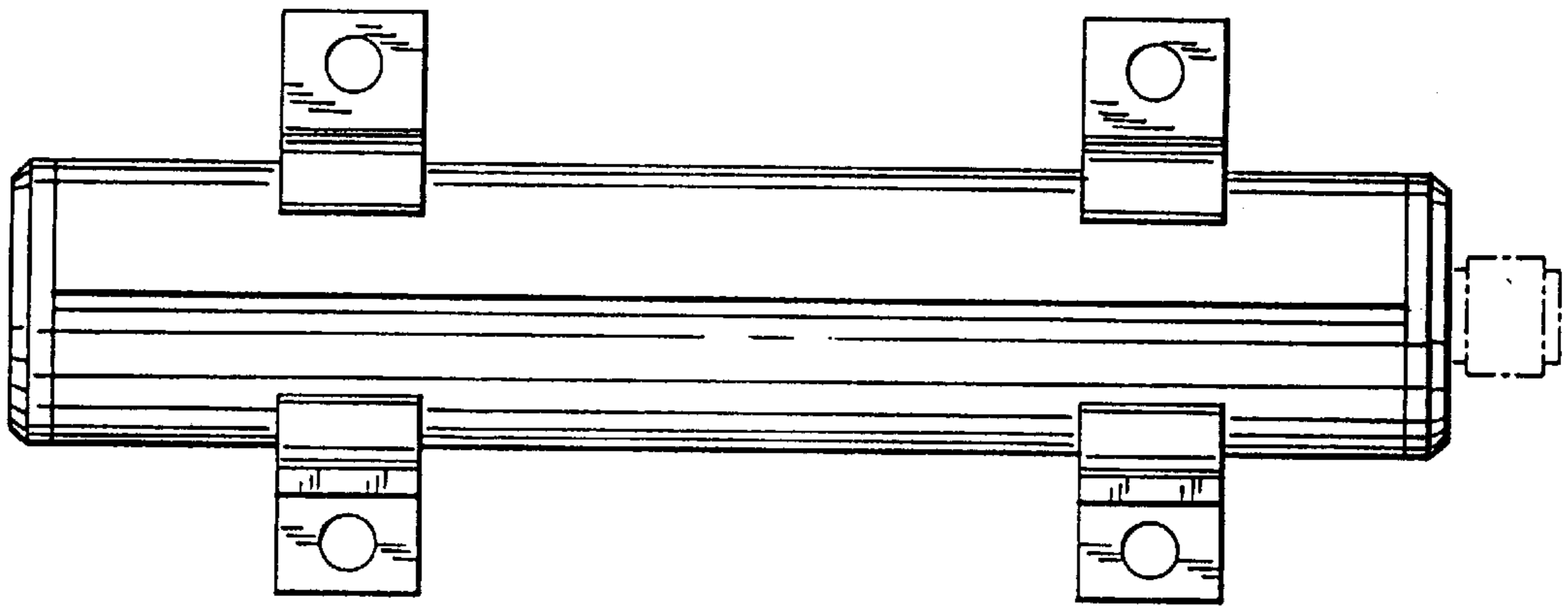


FIG. 3

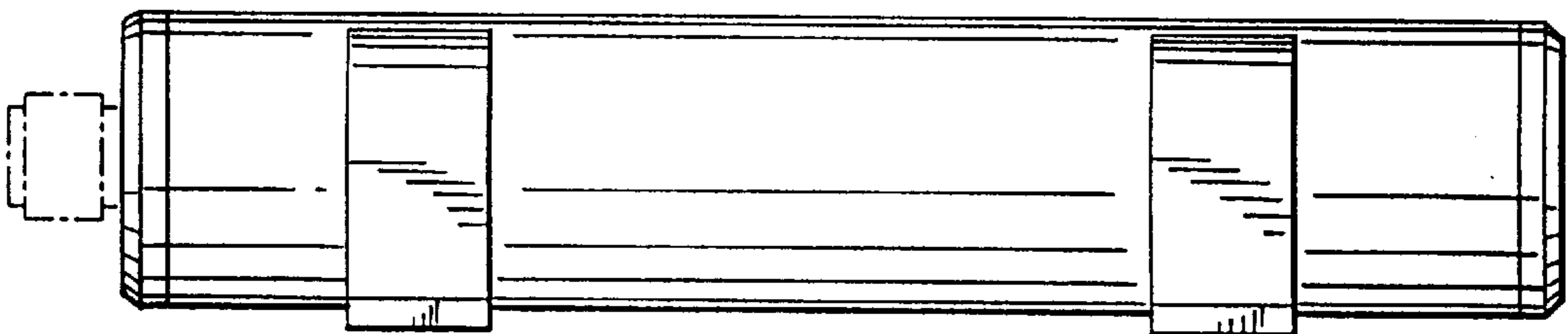


FIG. 4

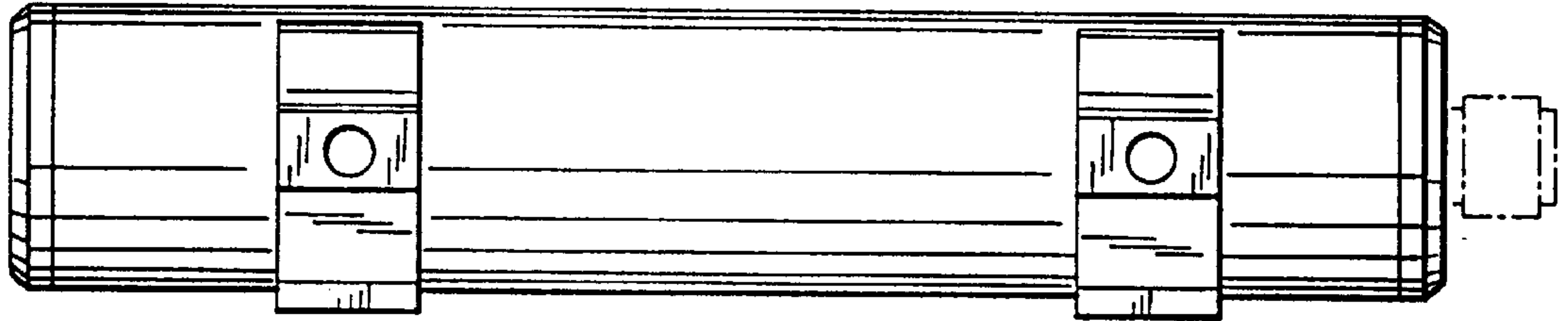


FIG. 5

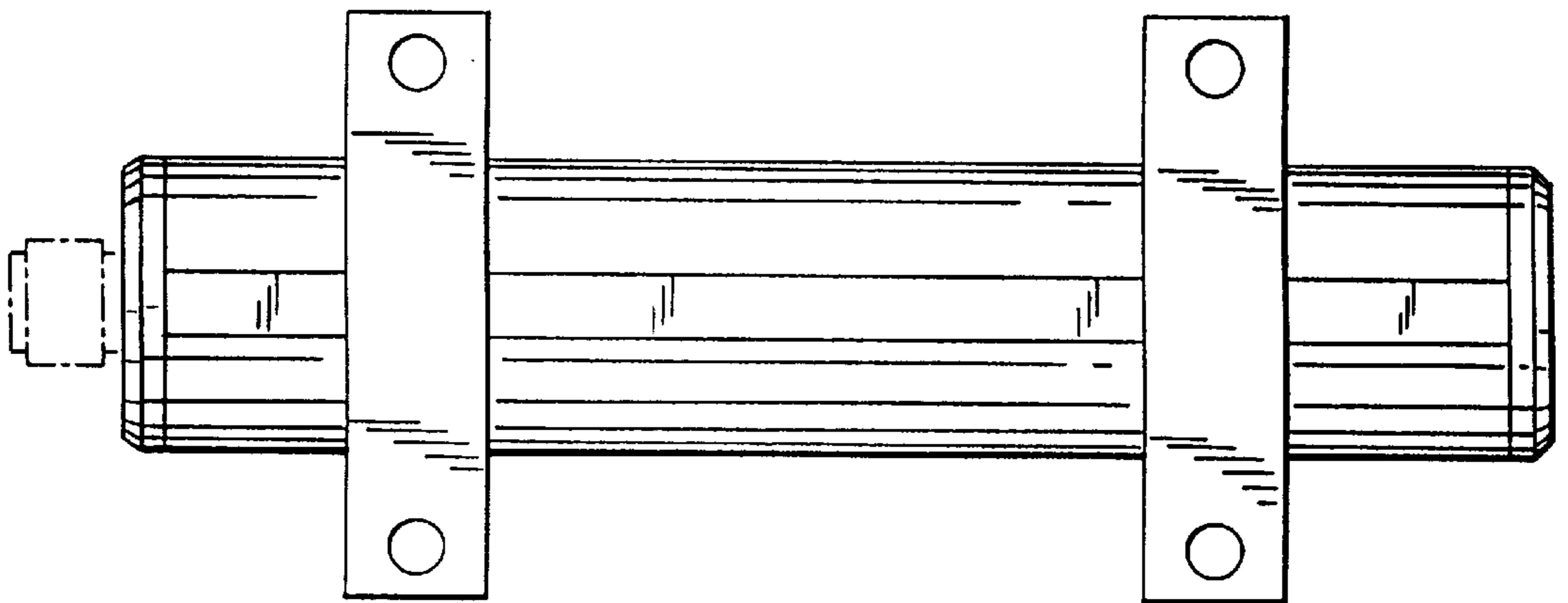


FIG. 7