



US00D404039S

# United States Patent [19]

[11] Patent Number: Des. 404,039

Yamamoto et al.

[45] Date of Patent: \*\*Jan. 12, 1999

## [54] CYLINDER WITH A POSITION DETECTOR

## DESCRIPTION

[75] Inventors: **Hitoshi Yamamoto; Masayuki Orihara; Kenji Fukushima**, all of Yawara-mura, Japan

FIG. 1 is a front elevational view of a first embodiment of a cylinder with a position detector embodying the new design, a portion of a cable conduit being broken away for ease of illustration;

[73] Assignee: **SMC Corporation**, Japan

FIG. 2 is a rear elevational view of the first embodiment, a portion of a cable conduit being broken away for ease of illustration;

[\*\*] Term: **14 Years**

FIG. 3 is a right side elevational view of the first embodiment;

[21] Appl. No.: **77,313**

FIG. 4 is a left side elevational view of the first embodiment;

[22] Filed: **Sep. 30, 1997**

FIG. 5 is a top plan view of the first embodiment, a portion of a cable conduit being broken away for ease of illustration;

### [30] Foreign Application Priority Data

FIG. 6 is a bottom plan view of the first embodiment, a portion of a cable conduit being broken away for ease of illustration;

Apr. 30, 1997 [JP] Japan ..... 9-52848  
Apr. 30, 1997 [JP] Japan ..... 9-52849

FIG. 7 is a perspective view of the first embodiment, a portion of a cable conduit being broken away for ease of illustration;

[51] LOC (6) Cl. .... **15-01**

[52] U.S. Cl. .... **D15/5**

[58] Field of Search ..... D15/5, 143, 199;  
92/5 R, 88, 146, 161, 165 R; 277/DIG. 7;  
384/43, 49

FIG. 8 is a front elevational view of a second embodiment of a cylinder with a position detector embodying the new design, a portion of a cable conduit being broken away for ease of illustration;

## [56] References Cited

FIG. 9 is a rear elevational view of the second embodiment, a portion of a cable conduit being broken away for ease of illustration;

### U.S. PATENT DOCUMENTS

D. 329,434 9/1992 Toyoda et al. .... D15/5  
D. 367,863 3/1996 Shiino et al. .... D15/5  
5,275,088 1/1994 Takada et al. .... 92/88  
5,363,741 11/1994 Takada et al. .... 92/165 R X  
5,617,772 4/1997 Hosono et al. .... 92/165 R X

FIG. 10 is a right side elevational view of the second embodiment;

*Primary Examiner*—Ted Shooman  
*Assistant Examiner*—Nanda Bondade  
*Attorney, Agent, or Firm*—Baker & Botts, L.L.P.

FIG. 11 is a left side elevational view of the second embodiment;

## [57] CLAIM

FIG. 12 is a top plan view of the second embodiment, a portion of a cable conduit being broken away for ease of illustration;

The ornamental design for a cylinder with a position detector, as shown and described.

FIG. 13 is a bottom plan view of the second embodiment, a portion of a cable conduit being broken away for ease of illustration; and,

FIG. 14 is a perspective view of the second embodiment, a portion of a cable conduit being broken away for ease of illustration.

**1 Claim, 8 Drawing Sheets**

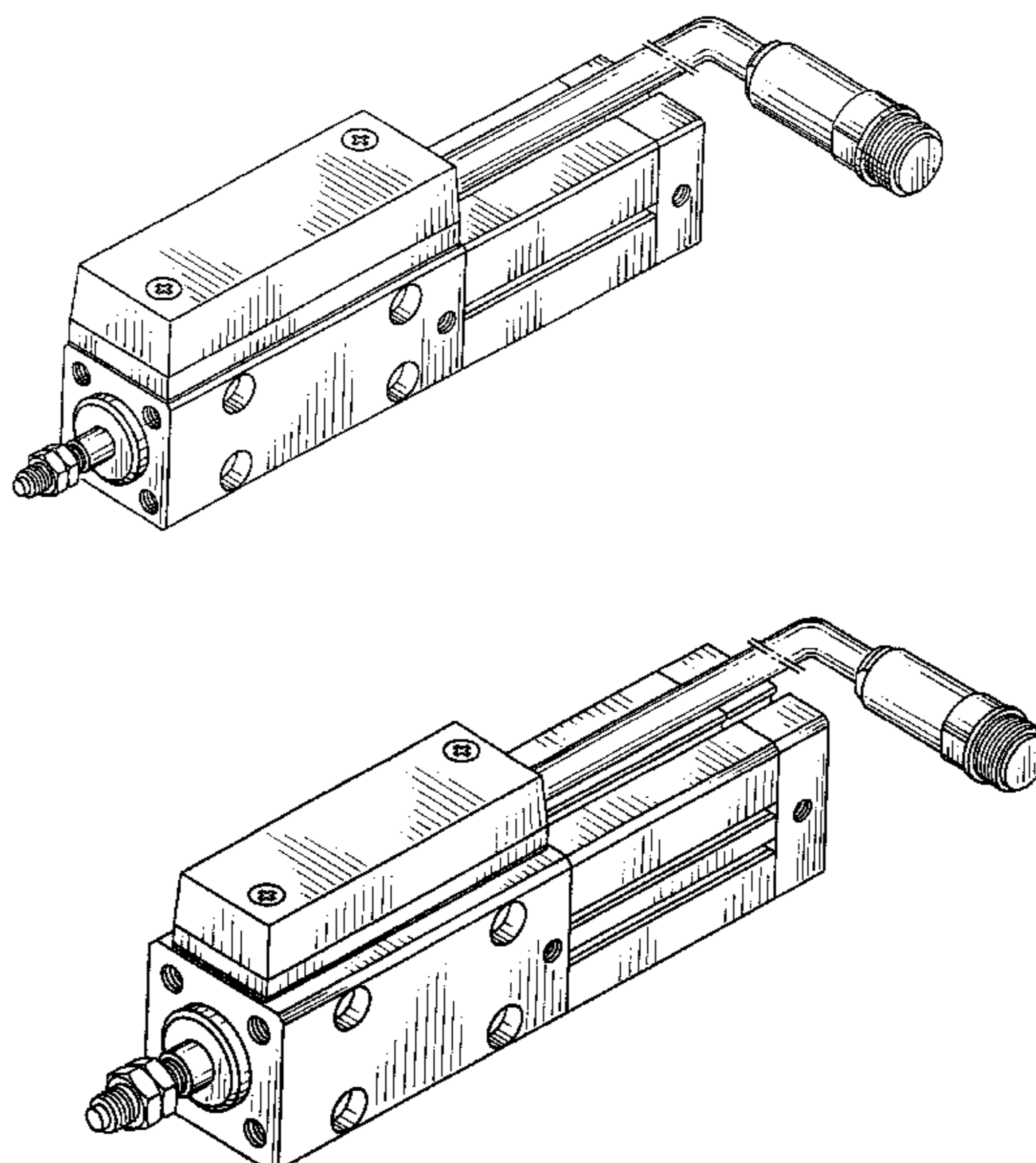


FIG.3

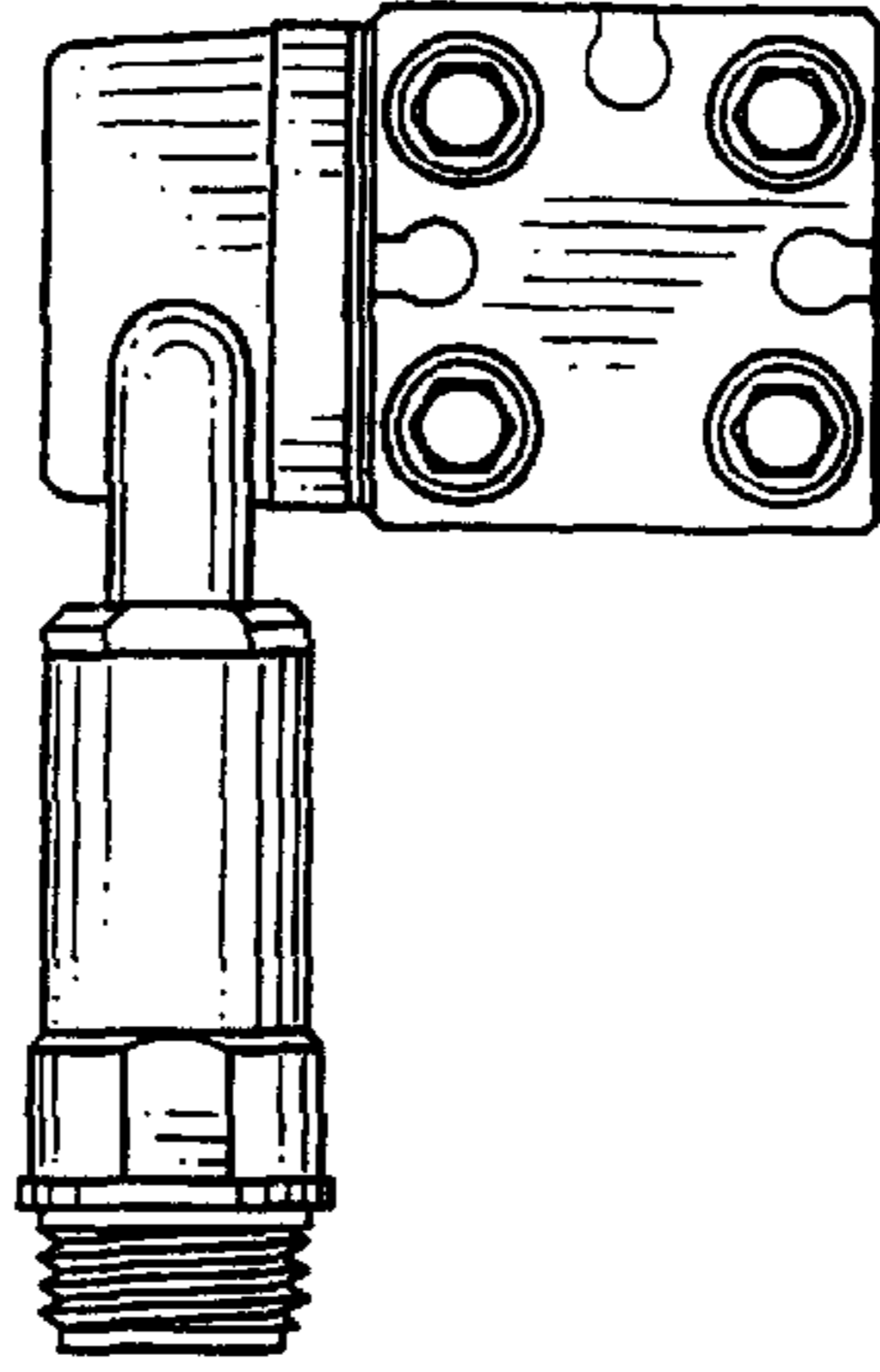


FIG.1

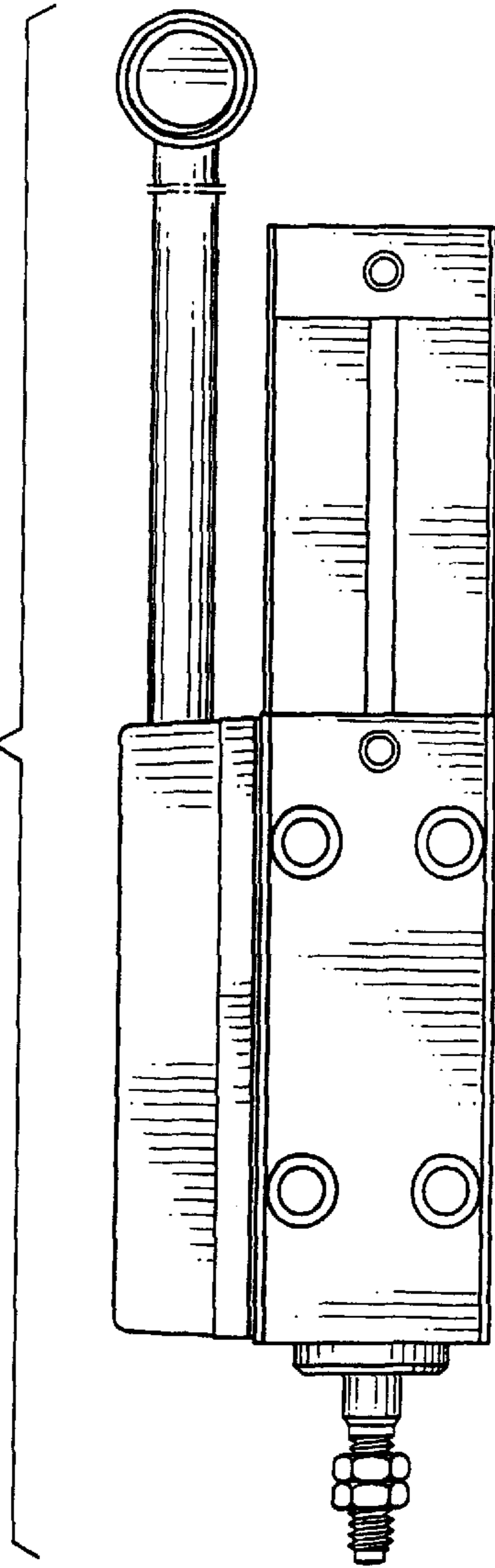


FIG.4

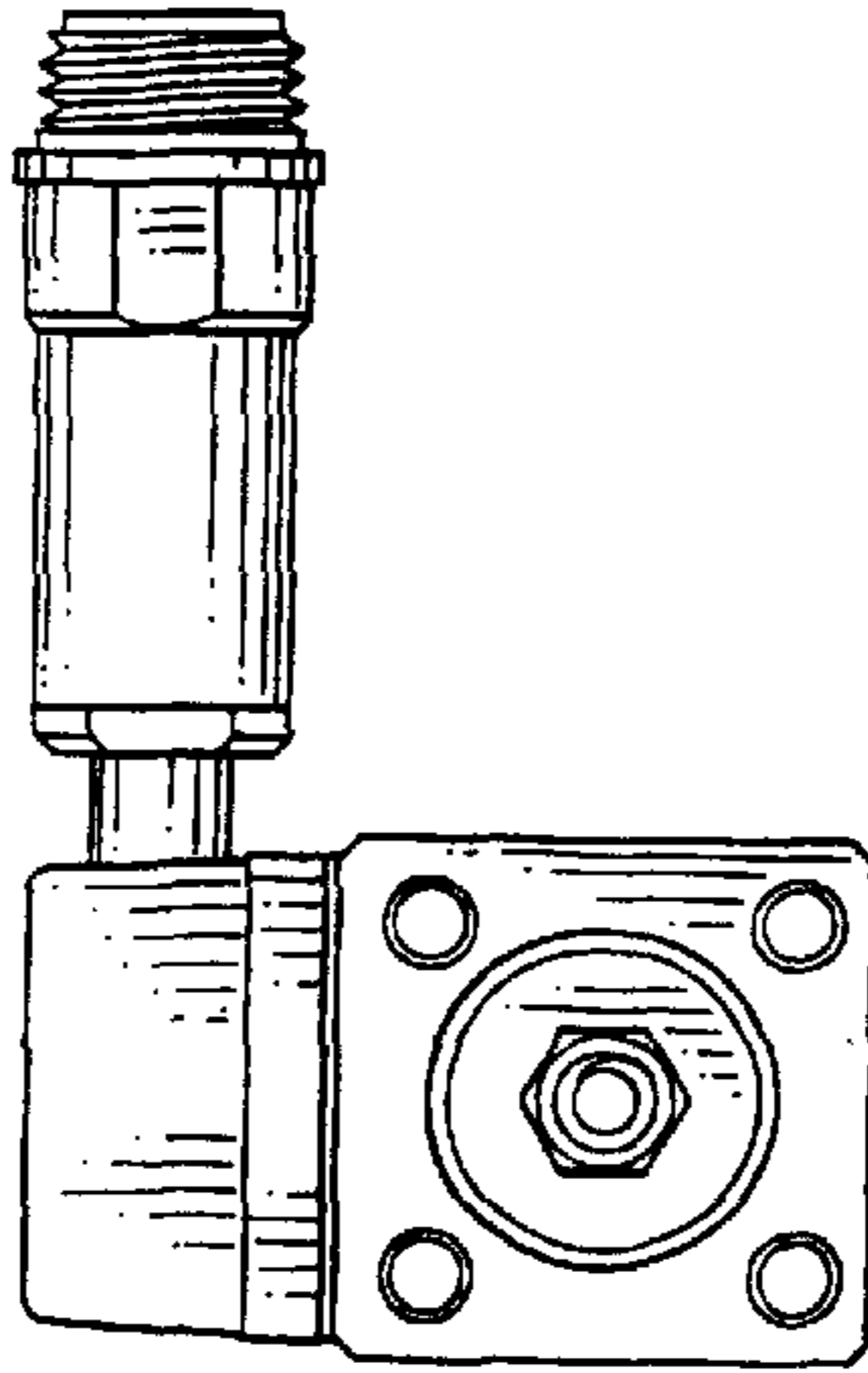


FIG.2

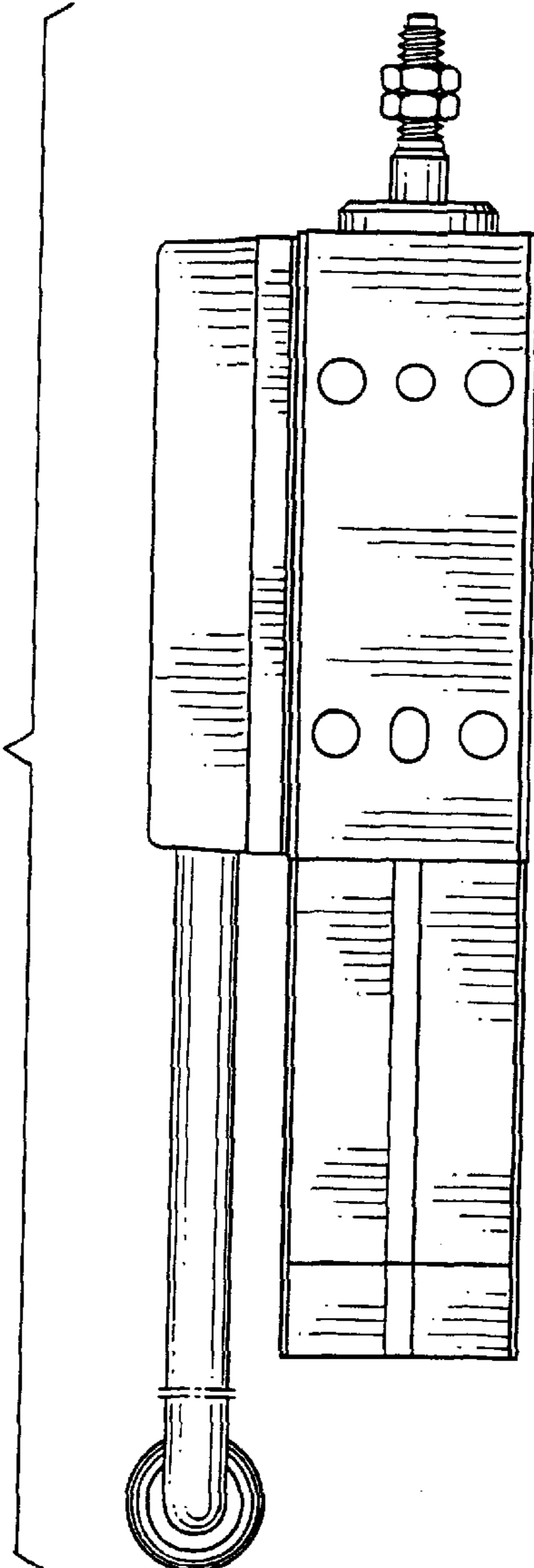


FIG.5

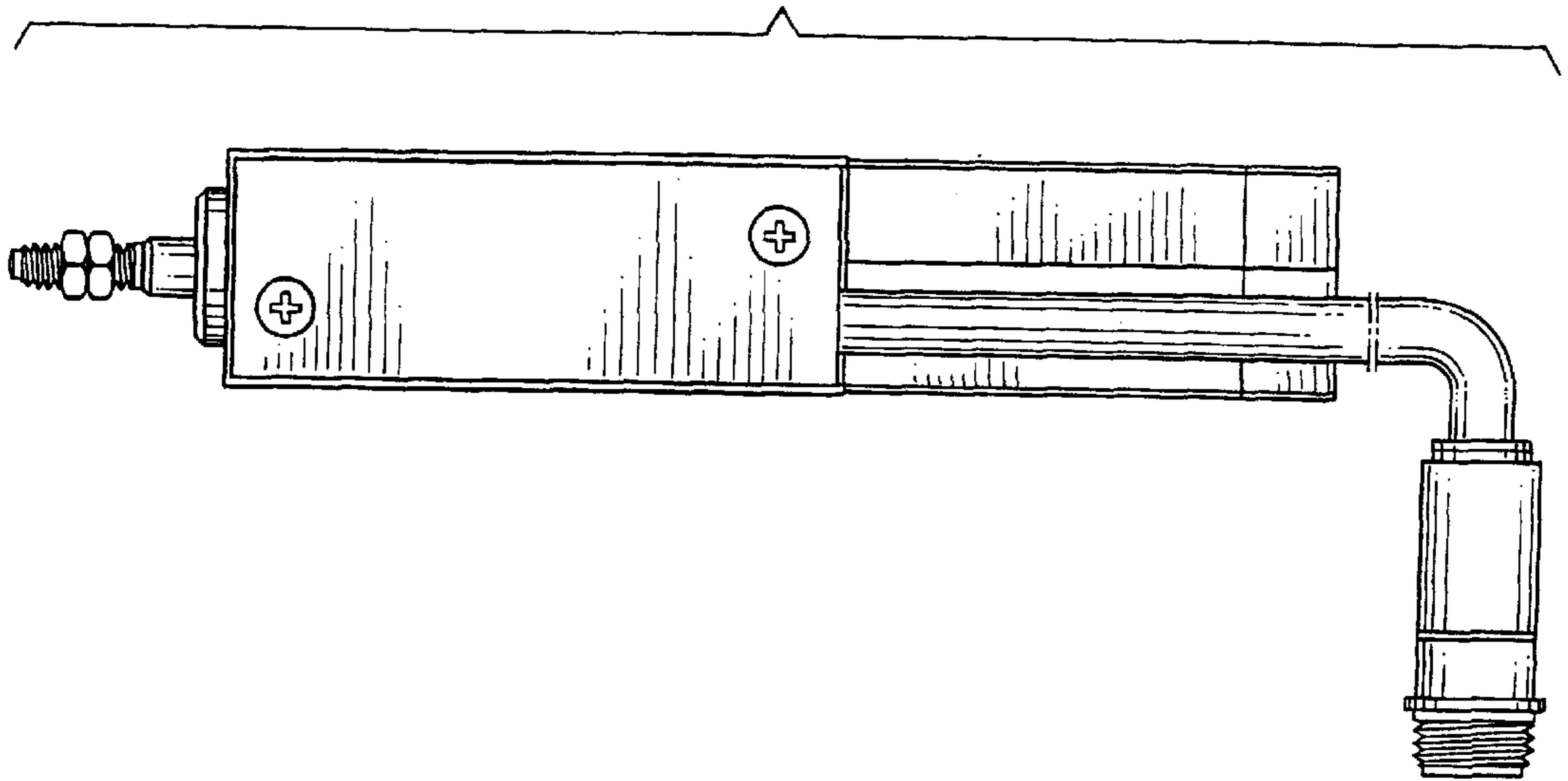
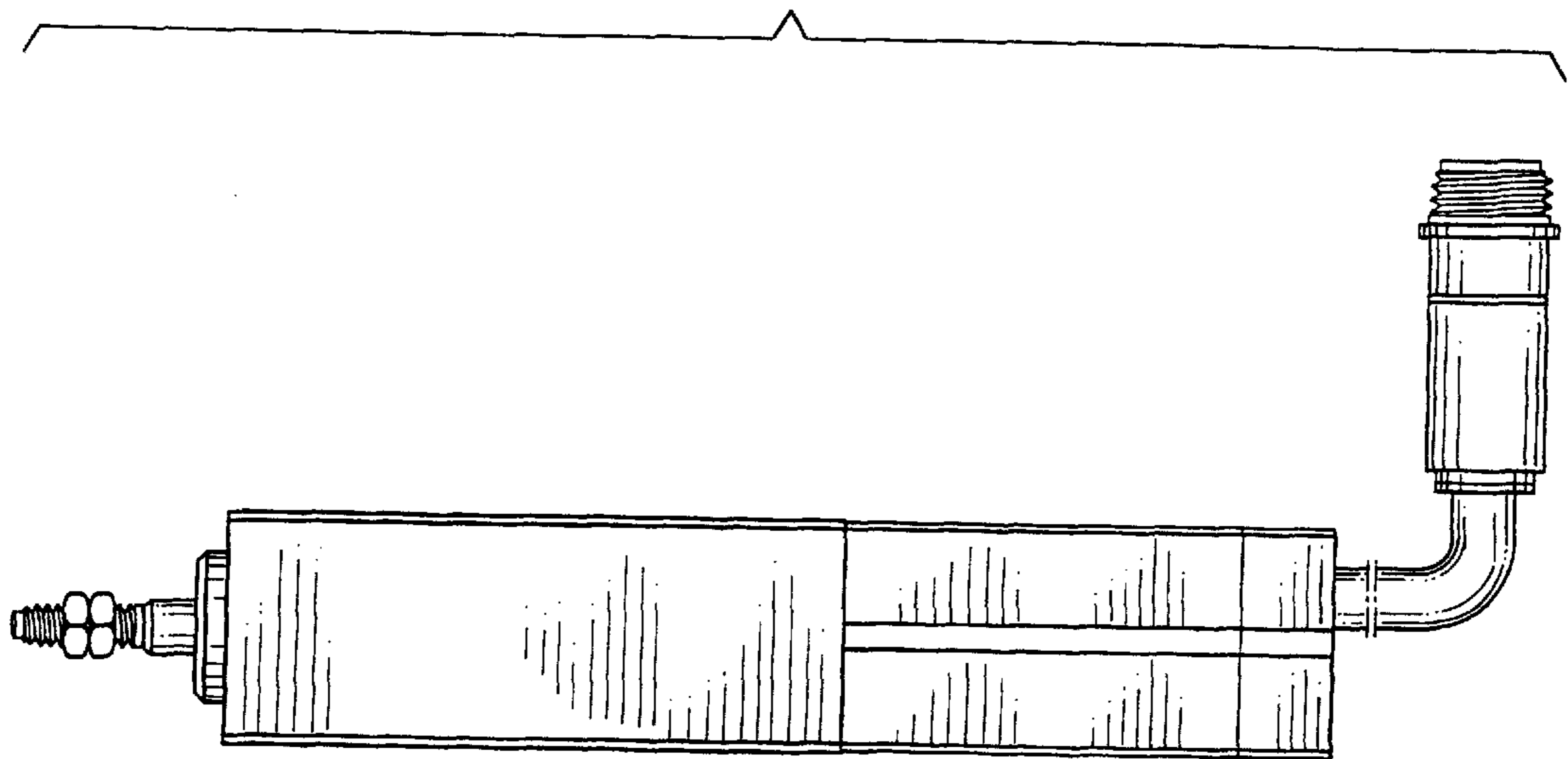


FIG.6



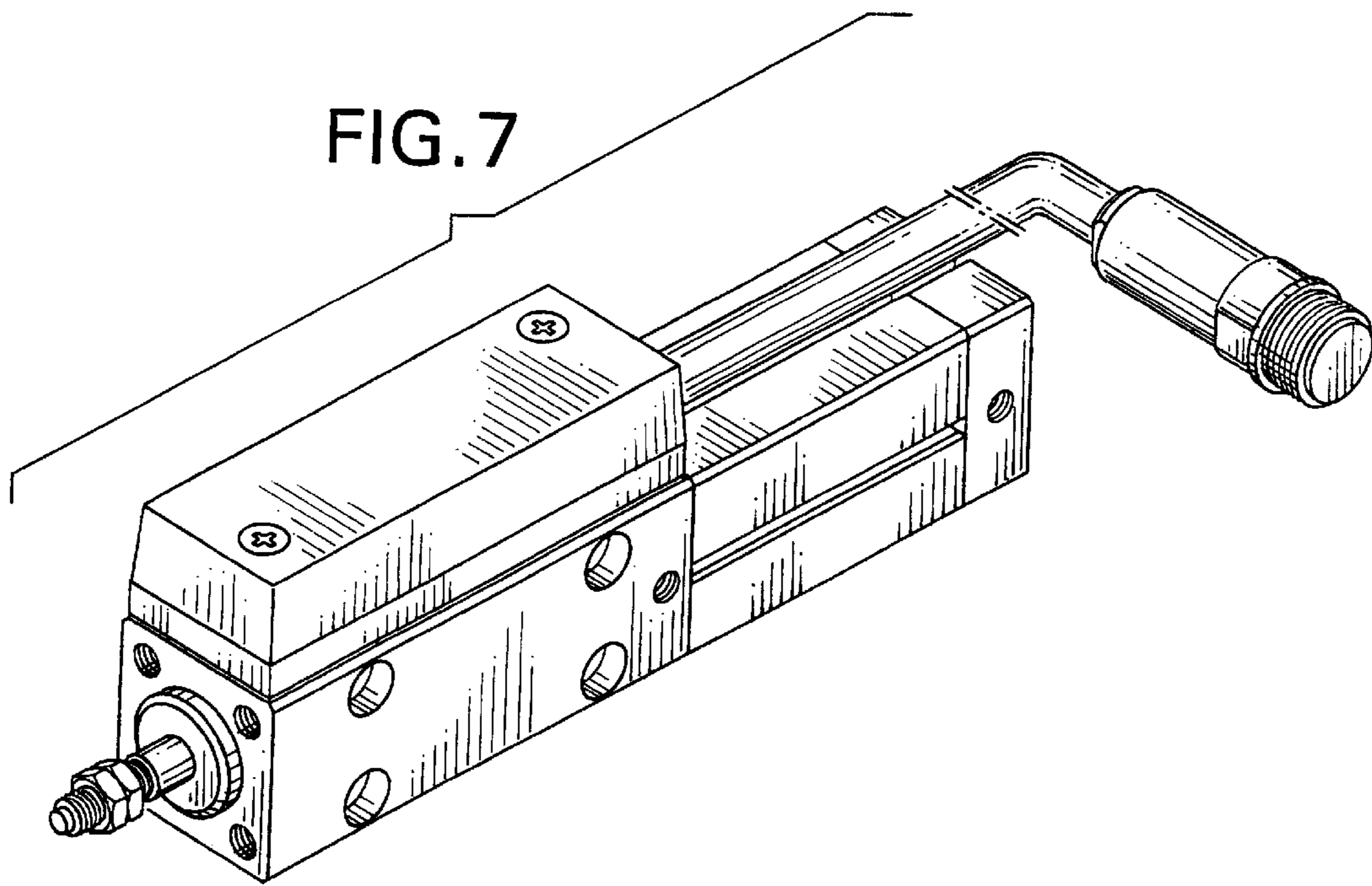


FIG. 10

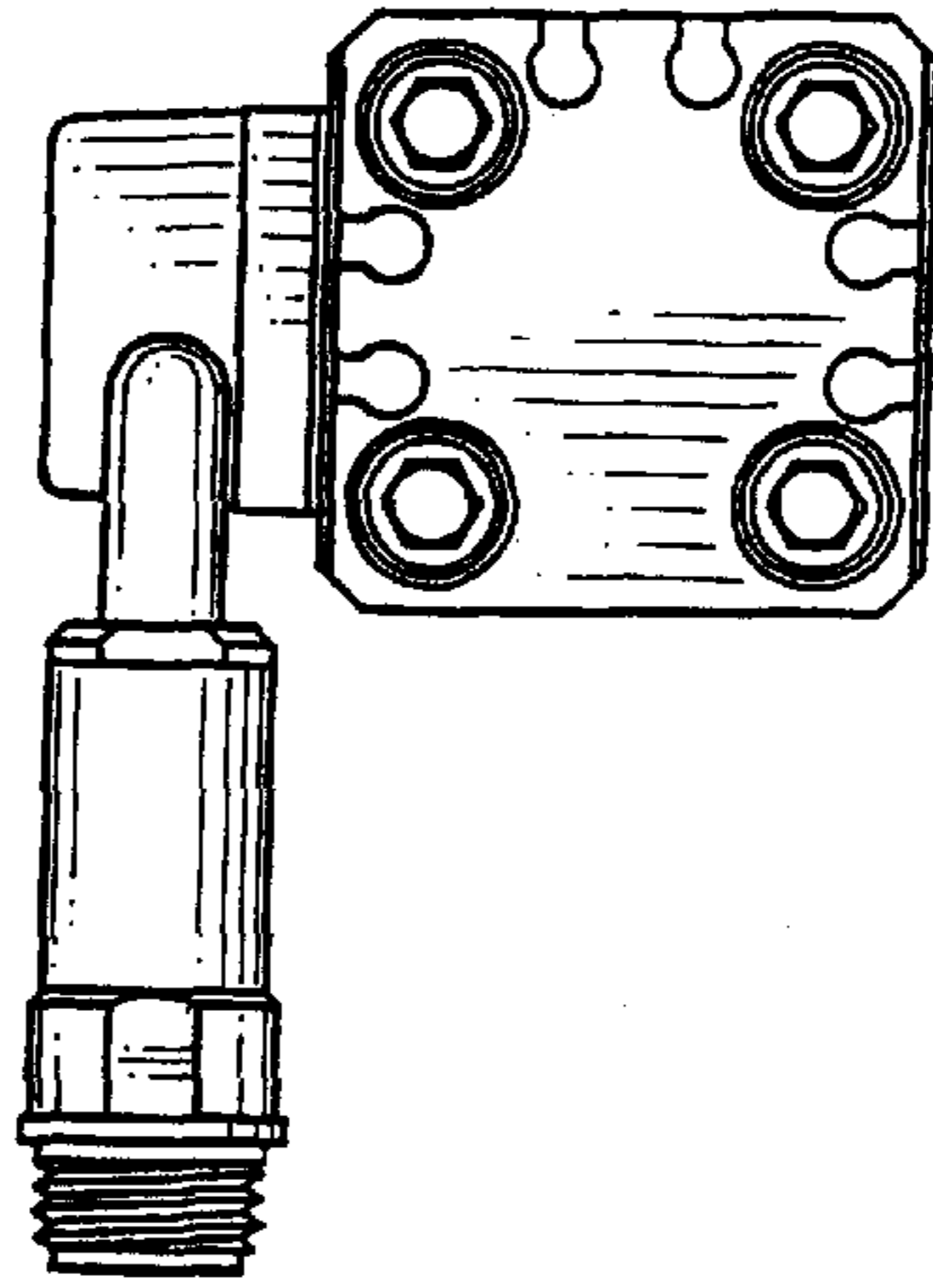


FIG. 8

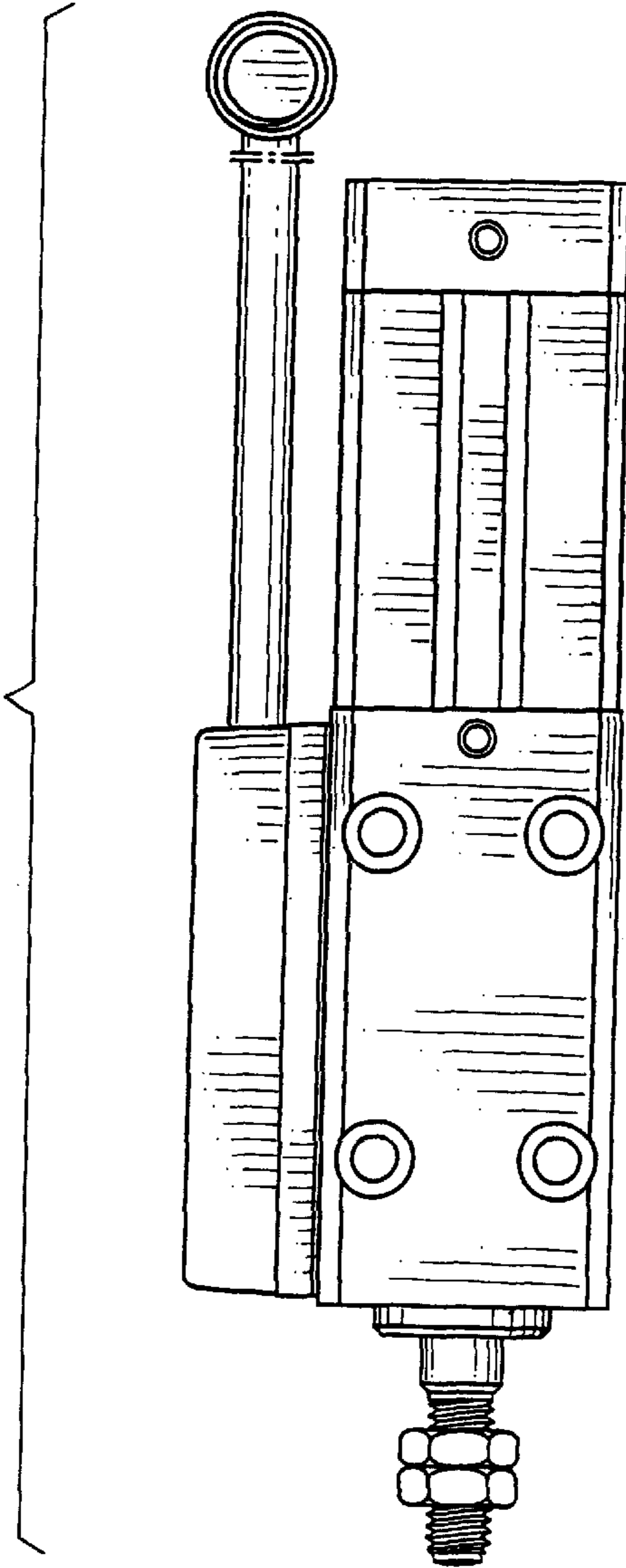


FIG. 11

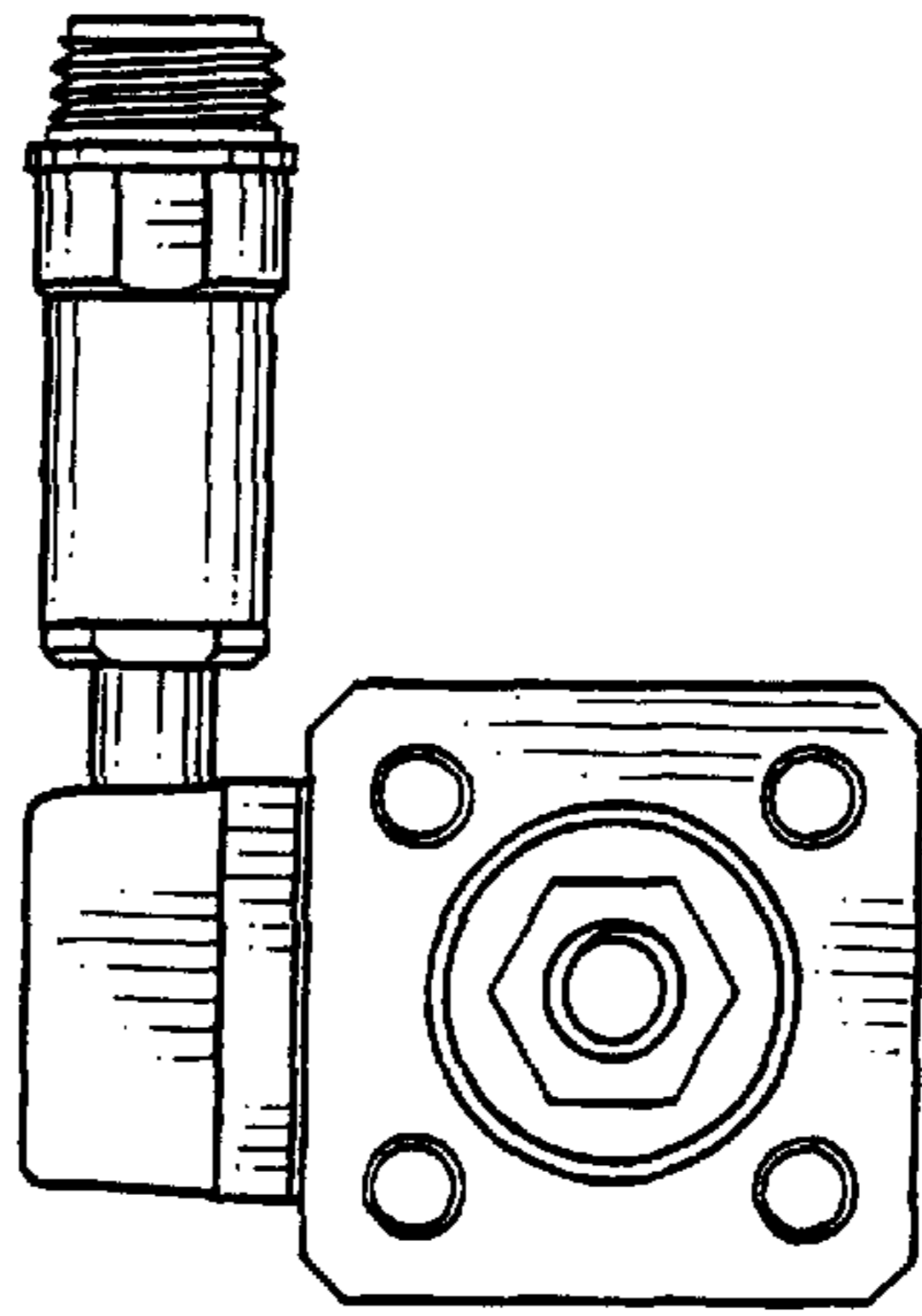


FIG. 9

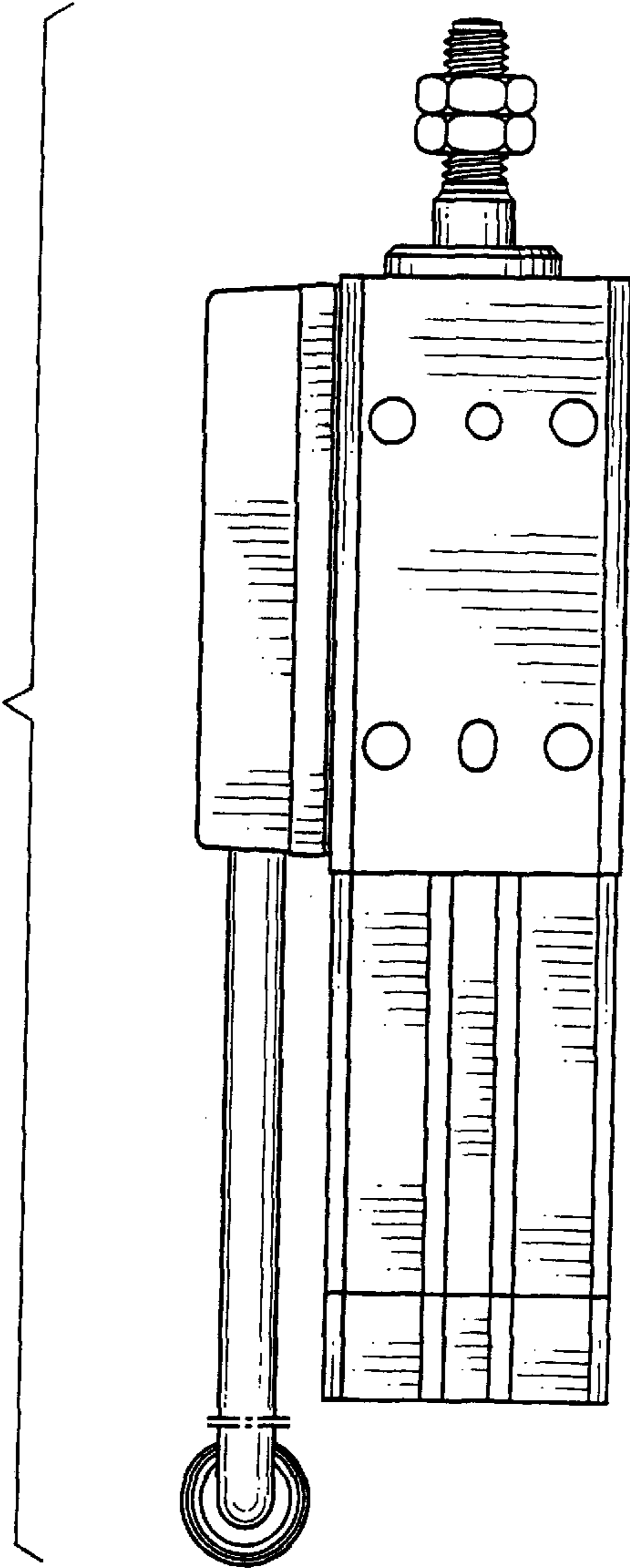


FIG. 12

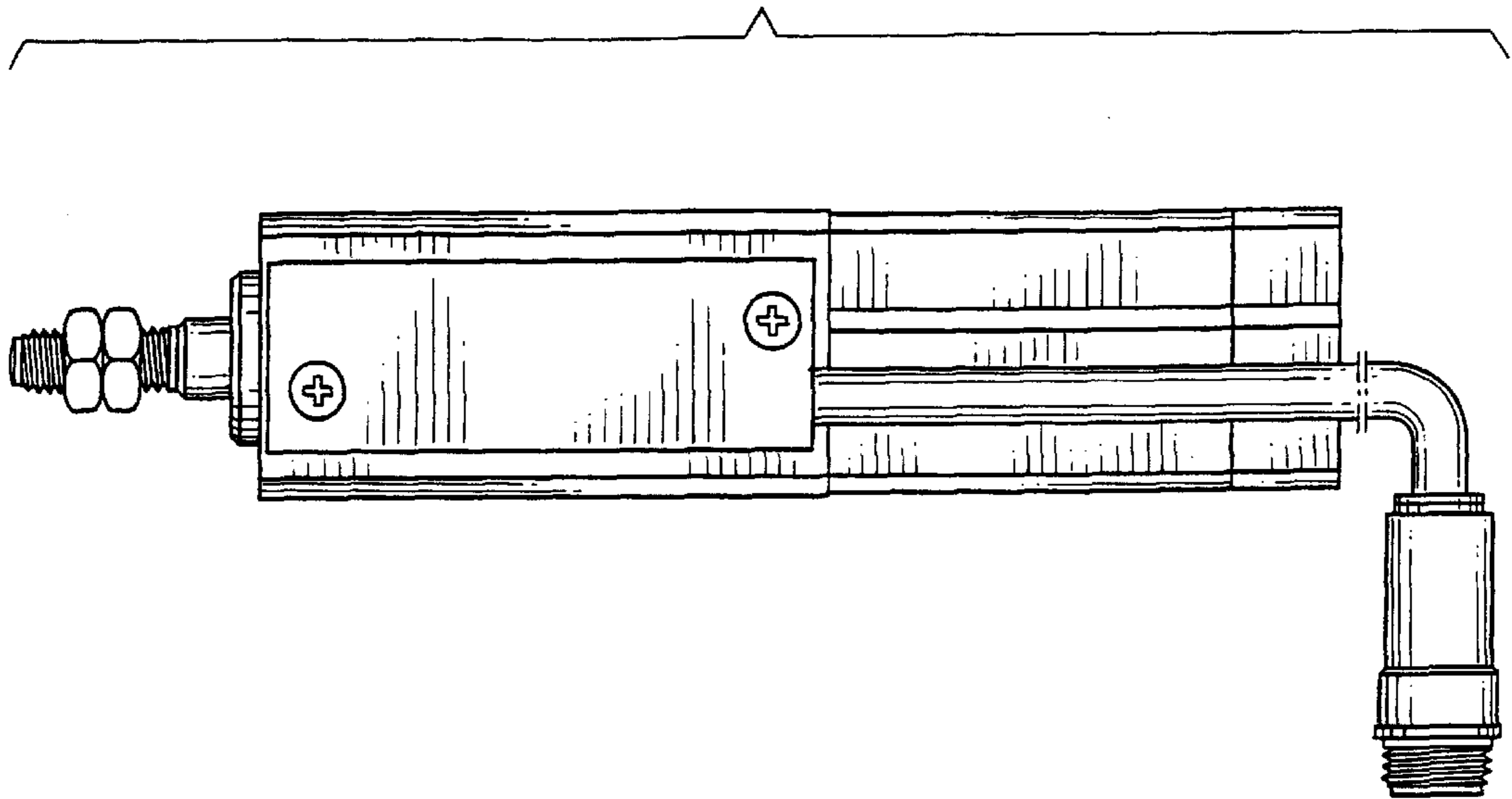


FIG. 13

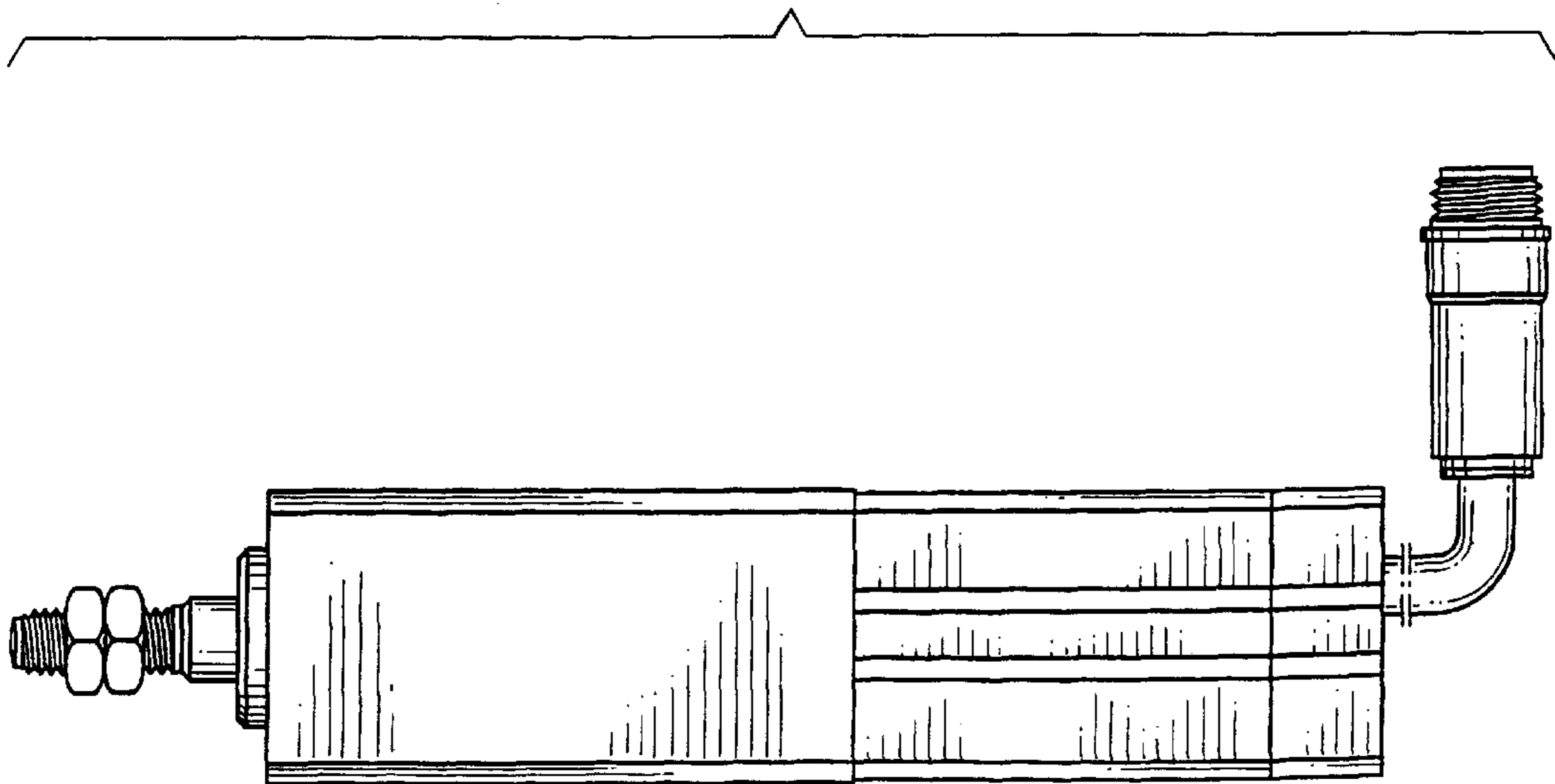




FIG. 14

