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(12) **United States Design Patent** (10) **Patent No.:** **US D491,965 S**  
**Raab et al.** (45) **Date of Patent:** **\*\* Jun. 22, 2004**

(54) **PORTABLE COORDINATE MEASUREMENT MACHINE**

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(57) **CLAIM**

The ornamental design for a portable coordinate measurement machine, as shown.

(73) Assignee: **Faro Technologies, Inc.**, Lake Mary, FL (US)

**DESCRIPTION**

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

(21) Appl. No.: **29/175,961**

(22) Filed: **Feb. 13, 2003**

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 29/166,332, filed on Aug. 26, 2002, now Pat. No. Des. 479,544, which is a continuation-in-part of application No. 29/155,790, filed on Feb. 14, 2002, now Pat. No. Des. 472,824.

FIG. 1 is a front perspective view of our new portable coordinate measurement machine;  
FIG. 2 is a front view thereof;  
FIG. 3 is a rear view thereof;  
FIG. 4 is a right side view thereof with the left side view being a mirror image thereof;  
FIG. 5 is a top view thereof;  
FIG. 6 is a bottom view thereof;  
FIG. 7 is a front perspective view of a second embodiment of our new portable coordinate measurement machine;  
FIG. 8 is a front view thereof;  
FIG. 9 is a rear view thereof;  
FIG. 10 is a right side view thereof with the left side view being a mirror image thereof;  
FIG. 11 is a top view thereof;  
FIG. 12 is a bottom view thereof;  
FIG. 13 is a front perspective view of a third embodiment of our new portable coordinate measurement machine;  
FIG. 14 is a front view thereof;  
FIG. 15 is a rear view thereof;  
FIG. 16 is a right side view thereof with the left side view being a mirror image thereof;  
FIG. 17 is a top view thereof;  
FIG. 18 is a bottom view thereof;  
FIG. 19 is a front perspective view of a fourth embodiment of our new portable coordinate measurement machine;  
FIG. 20 is a front view thereof;  
FIG. 21 is a rear view thereof;  
FIG. 22 is a right side view thereof with the left side view being a mirror image thereof;  
FIG. 23 is a top view thereof; and,  
FIG. 24 is a bottom view thereof.

(51) **LOC (7) Cl.** ..... **15-99**  
(52) **U.S. Cl.** ..... **D15/199**  
(58) **Field of Search** ..... D15/199; 74/409.02;  
33/503-506, 556-561; 702/150

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

4,593,470 A 6/1986 Davies ..... 33/1  
4,676,002 A 6/1987 Slocum ..... 33/1  
4,937,759 A 6/1990 Vold ..... 364/513

(List continued on next page.)

**FOREIGN PATENT DOCUMENTS**

DE 42 31 040 A1 3/1994  
DE 101 12 977 C1 2/2002  
EP 0 155 084 A1 9/1985

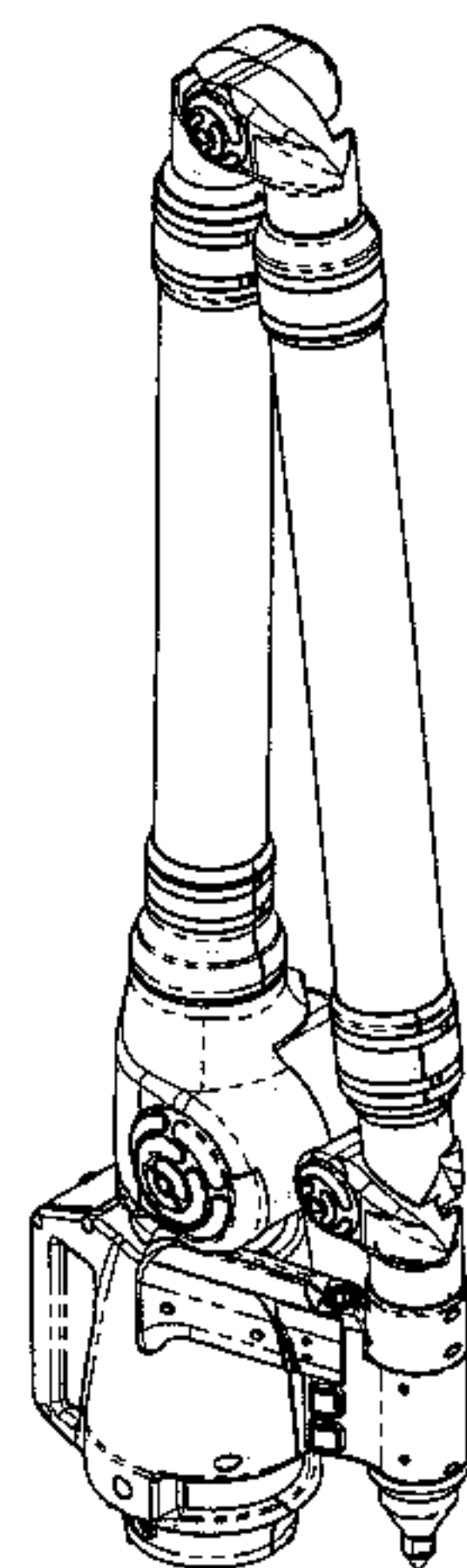
(List continued on next page.)

**OTHER PUBLICATIONS**

<http://scanworks.perceptron.com/products>.  
<http://scanworks.perceptron.com>.  
[www.romer.com](http://www.romer.com)—1000i Series System Package

(List continued on next page.)

**1 Claim, 24 Drawing Sheets**



U.S. PATENT DOCUMENTS

5,050,608 A 9/1991 Watanabe et al. .... 128/653  
 5,086,401 A 2/1992 Glassman et al. .... 395/94  
 5,189,797 A 3/1993 Granger ..... 33/1  
 D344,279 S 2/1994 Koyama et al. .... D15/199  
 5,412,880 A 5/1995 Raab ..... 33/503  
 D377,932 S 2/1997 Schena et al. .... D14/114  
 5,611,147 A 3/1997 Raab ..... 33/503  
 5,724,264 A 3/1998 Rosenberg et al. .... 364/559  
 5,768,792 A 6/1998 Raab ..... 33/503  
 5,807,449 A 9/1998 Hooker et al. .... 156/64  
 5,829,148 A 11/1998 Eaton ..... 33/503  
 D410,477 S 6/1999 Nihei et al. .... D15/199  
 5,978,748 A 11/1999 Raab ..... 702/150  
 D423,534 S 4/2000 Raab et al. .... D15/199  
 6,131,299 A 10/2000 Raab et al. .... 33/503  
 6,151,789 A 11/2000 Raab et al. .... 33/503

FOREIGN PATENT DOCUMENTS

FR 86 06186 4/1986  
 FR 2 634 379 7/1988  
 GB 2 264 601 A 1/1993  
 GB 2 264 602 A 1/1993

JP 5606783 5/1981  
 JP 57073602 5/1982  
 JP 2168303 6/1990  
 JP 2212085 8/1990  
 WO WO 94/15173 7/1994  
 WO WO 98/08050 2/1998  
 WO WO 01/63202 A1 2/2001

OTHER PUBLICATIONS

www.romer.com—3000i Specifications.  
 www.romer.com—Seventh Axis Linear Rail.  
 www.romer.fr.  
 Takehis Komino, “Three Dimensional Coordinate Measuring System,” Vectoron, Model VSC-07, VSC-14, vol. 30, No. 12, pp. 52-59.  
<http://www.kreon3d.com>.  
<http://www.3dscanners.com/1999/htm>—pp. 1, 4 & 8.  
<http://www.optimet.com/Sensors.htm>.  
 Portable 6 Axes Measuring System, Type AMPG, ZETT MESS Technik GmbH, D 53757 Sankt Augustin.  
 Portable 6 Axes Measuring System, Type AMPG, ZETT MESS Technik, GmbH, D53757 Sankt Augustin.

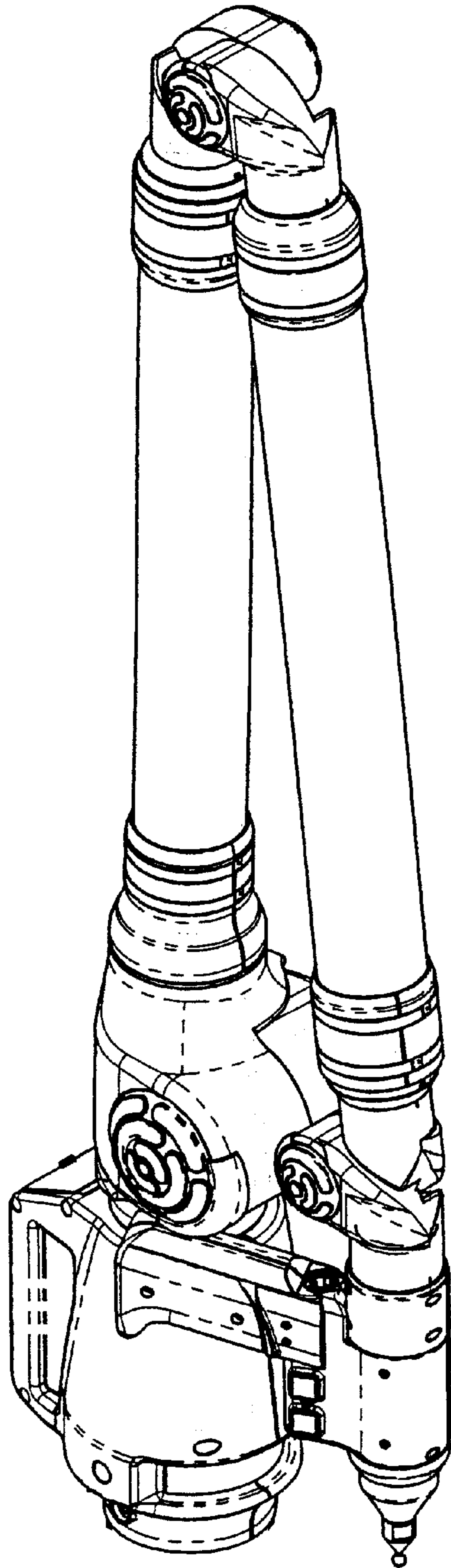


FIG. 1

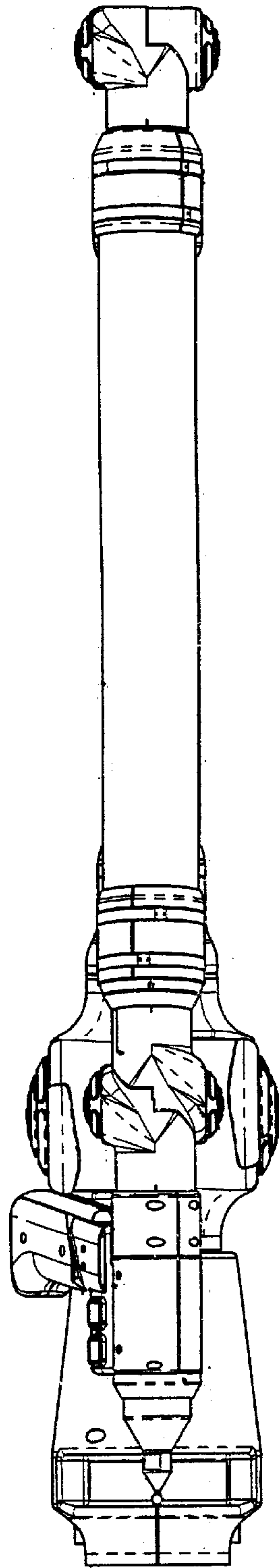


FIG. 2

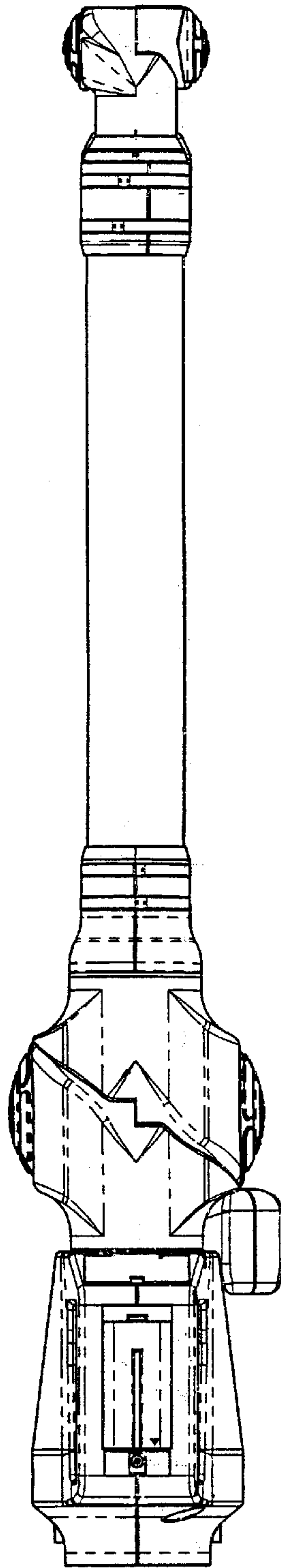


FIG. 3



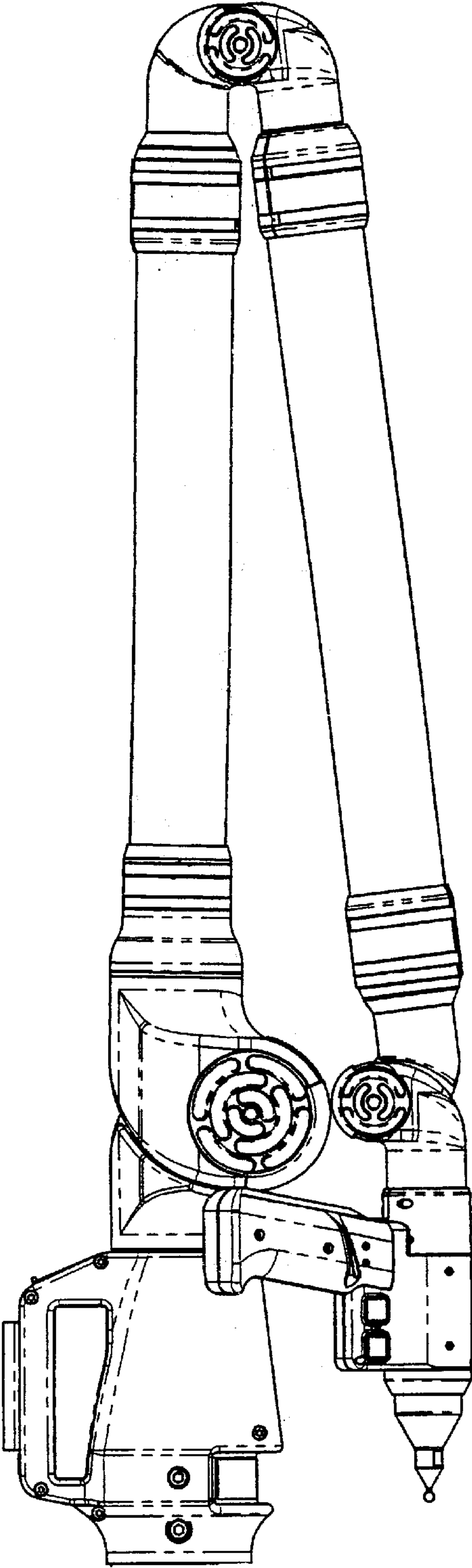


FIG. 9

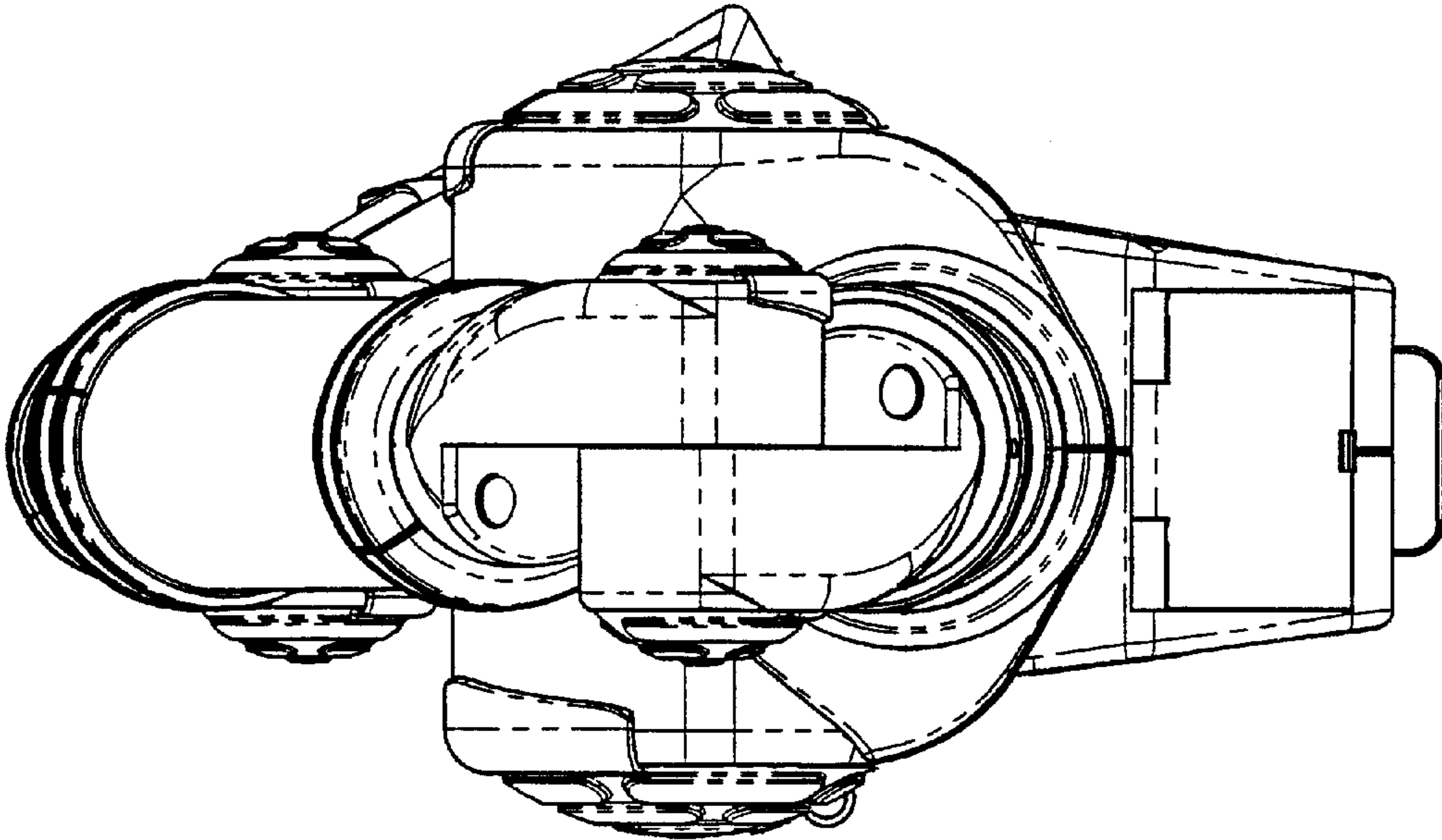


FIG. 5

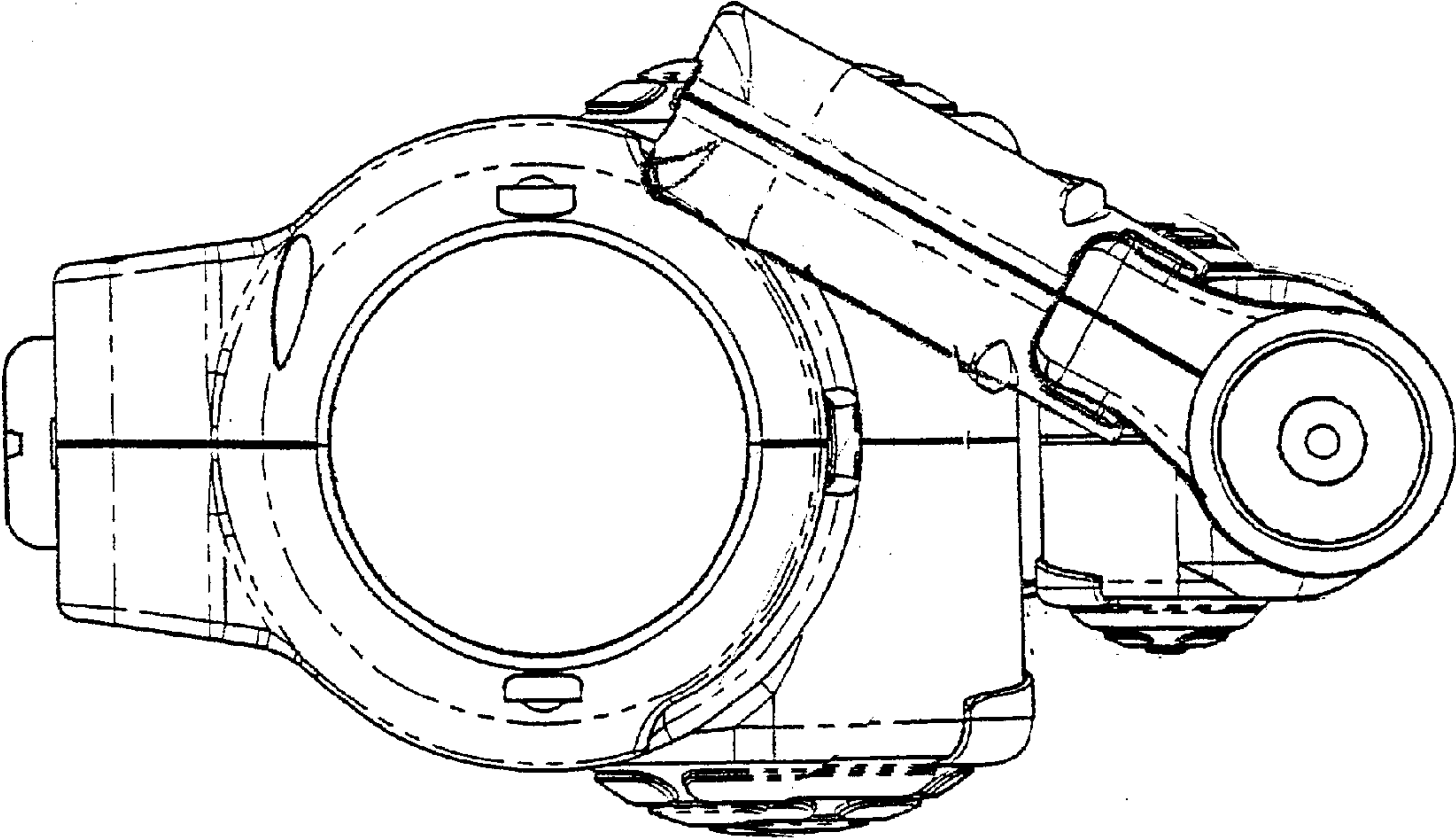


FIG. 6



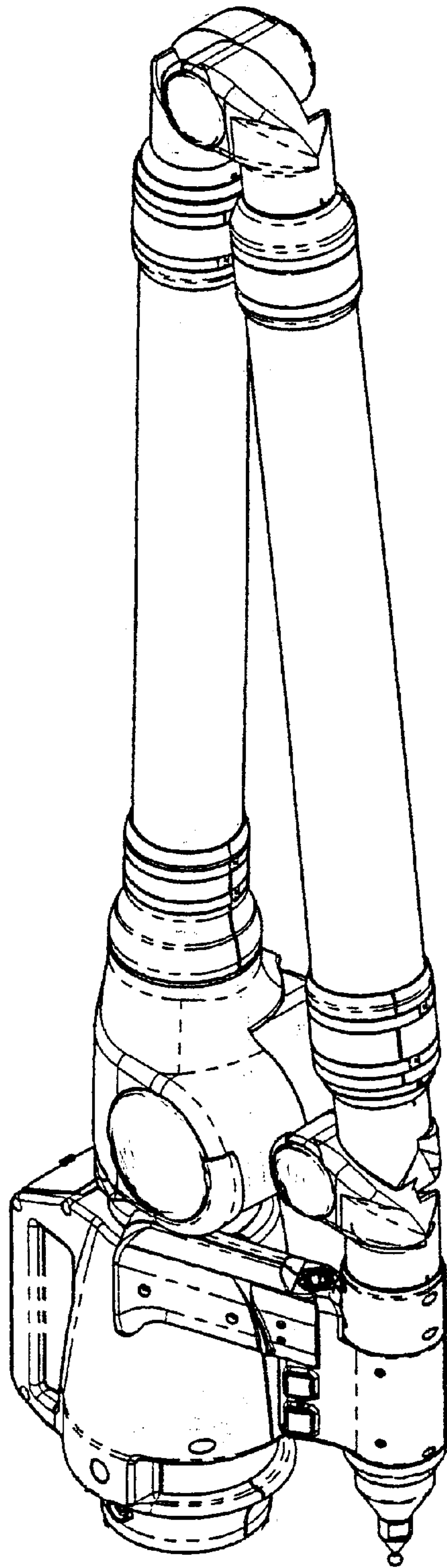


FIG. 7

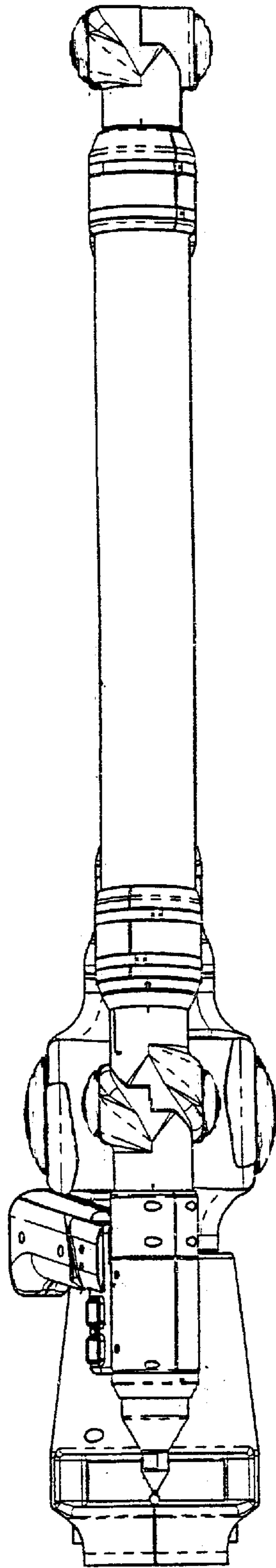


FIG. 8

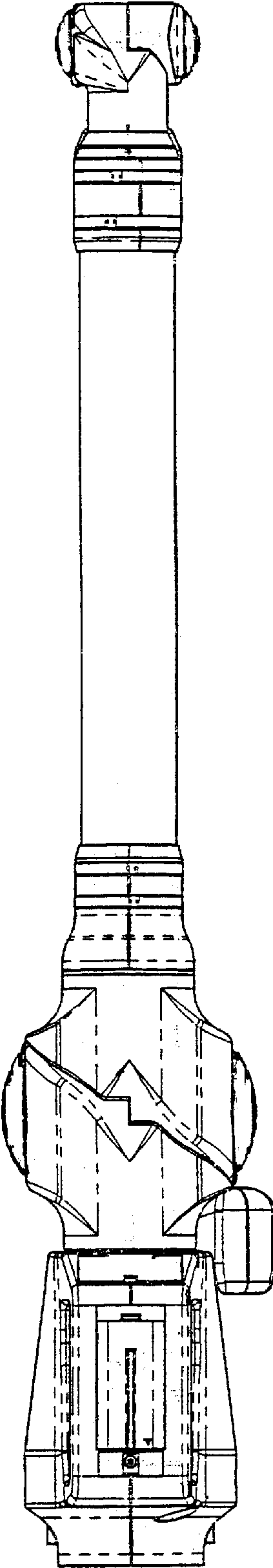


FIG. 9

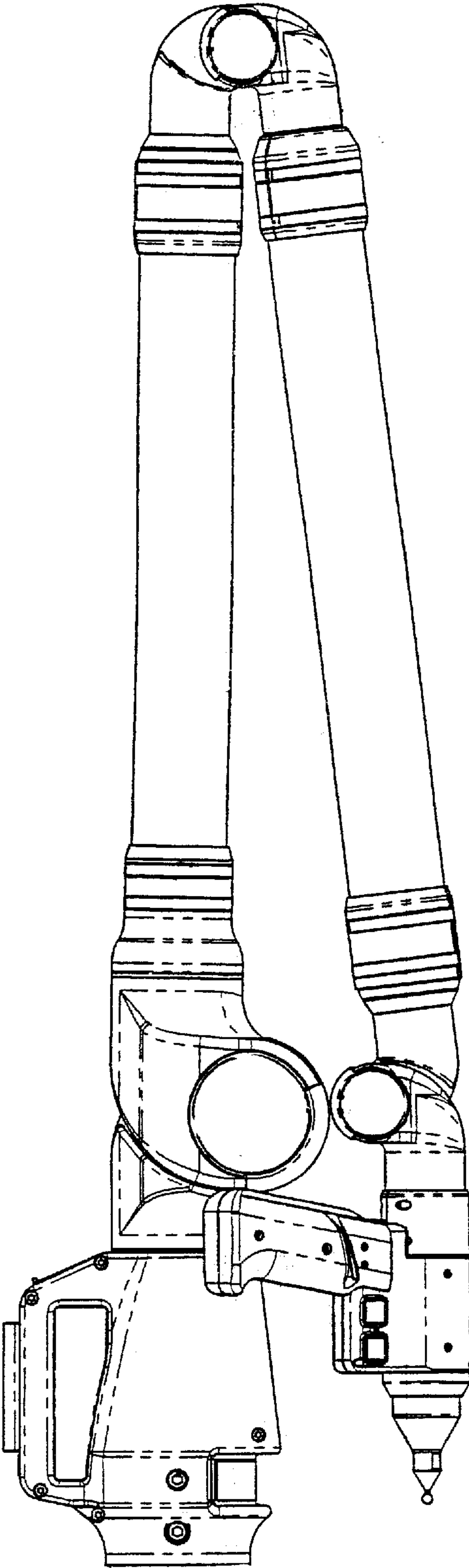


FIG. 10

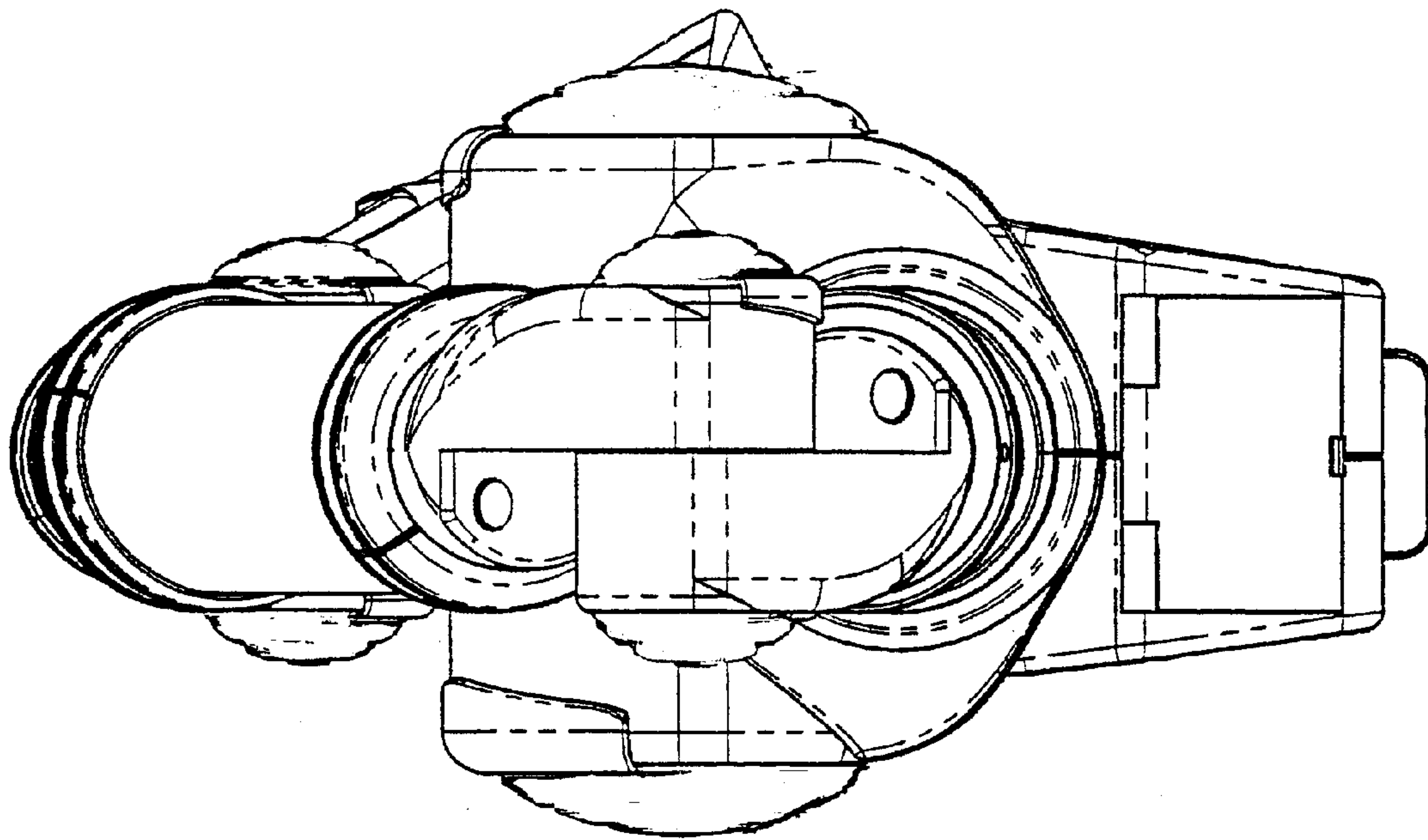


FIG. 11

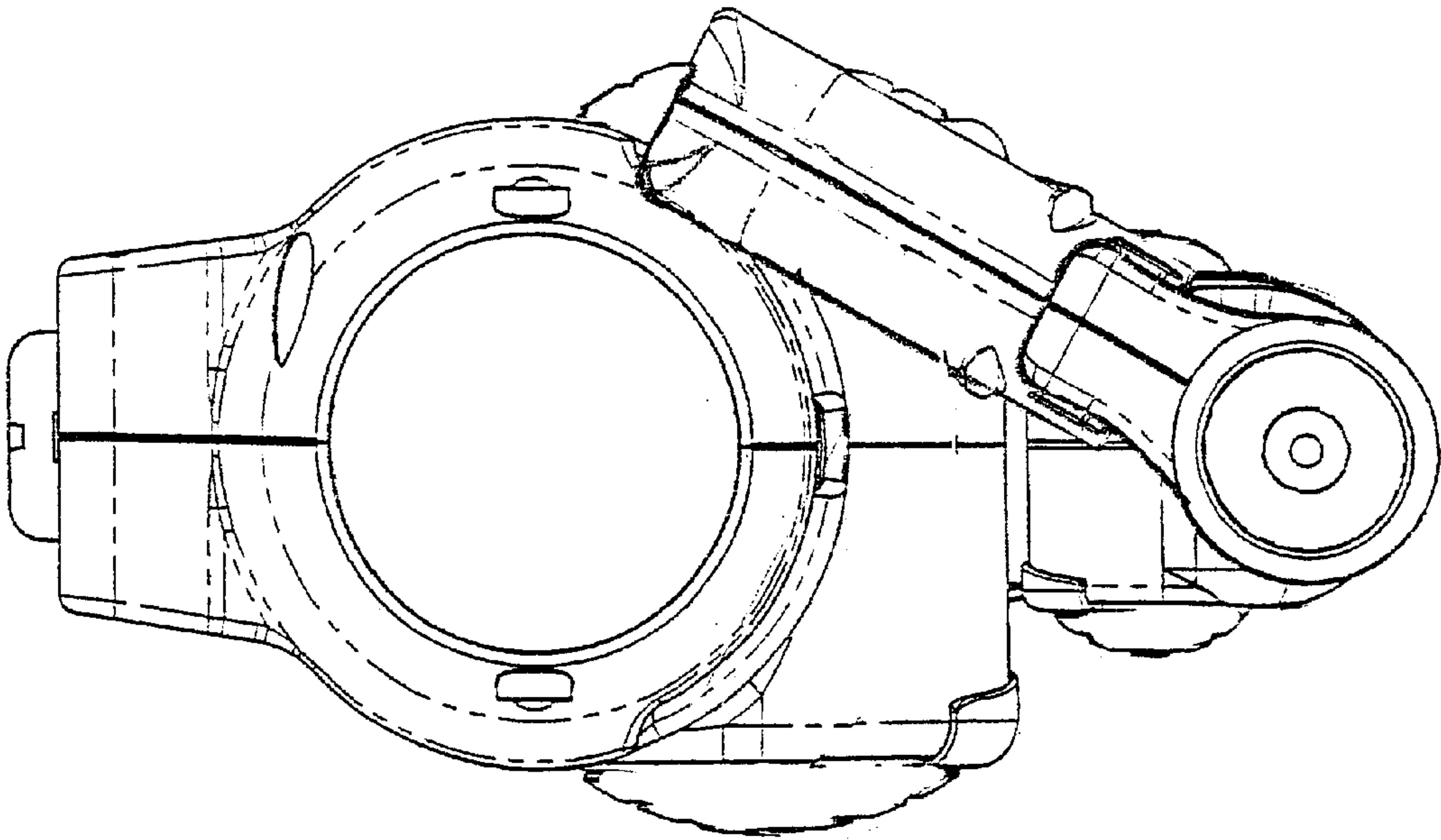


FIG. 12



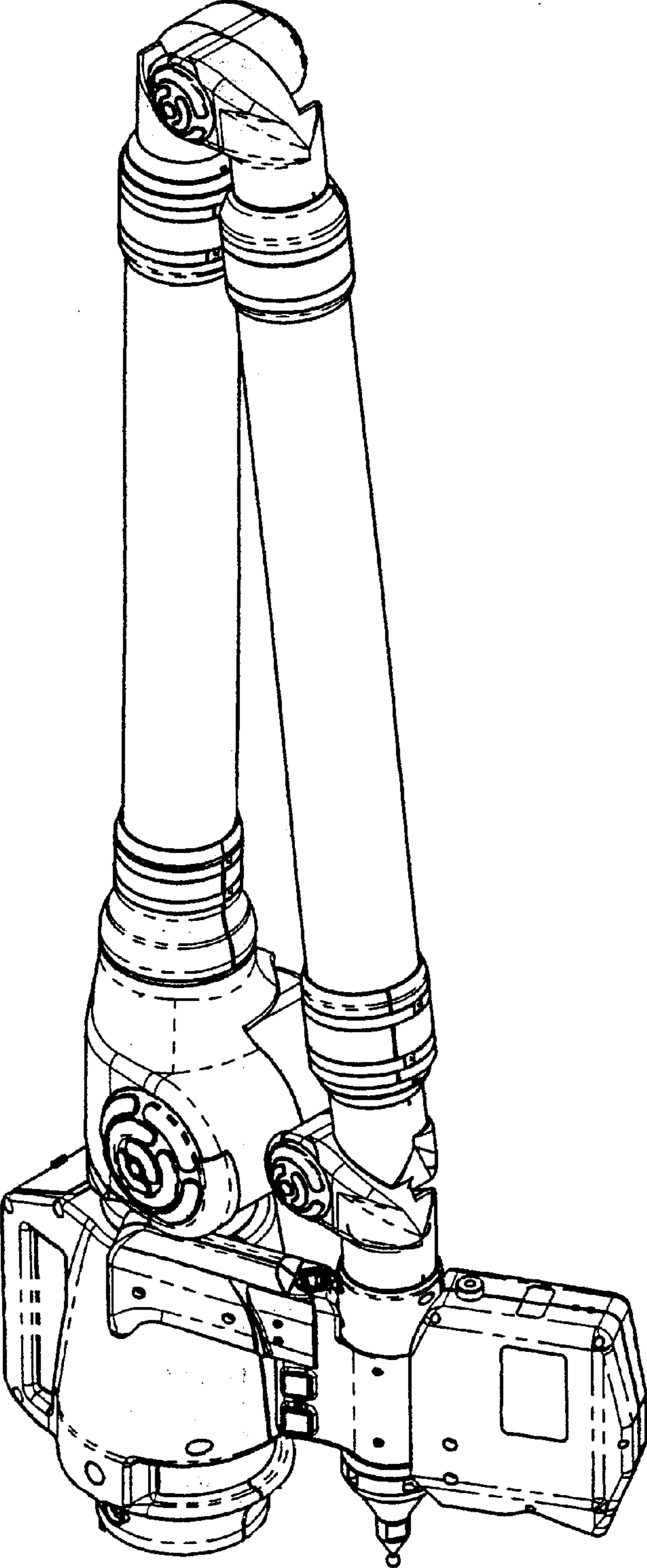


FIG. 13

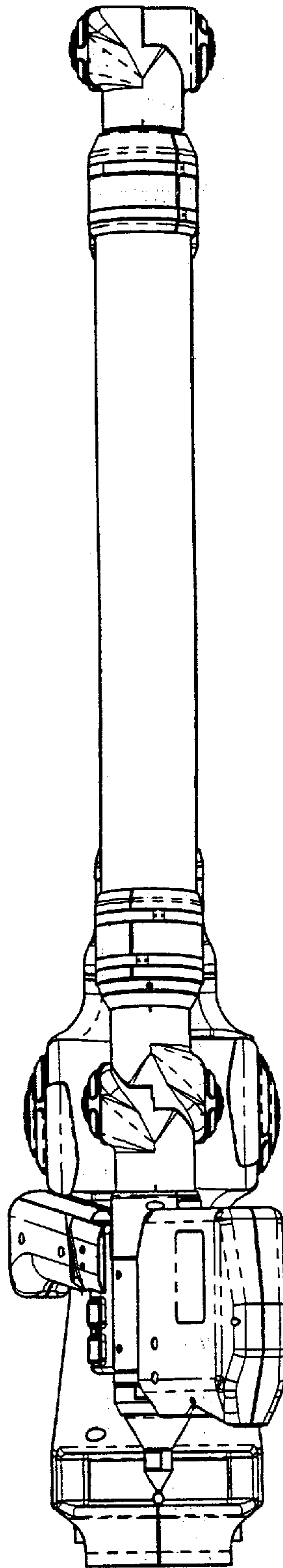


FIG. 19

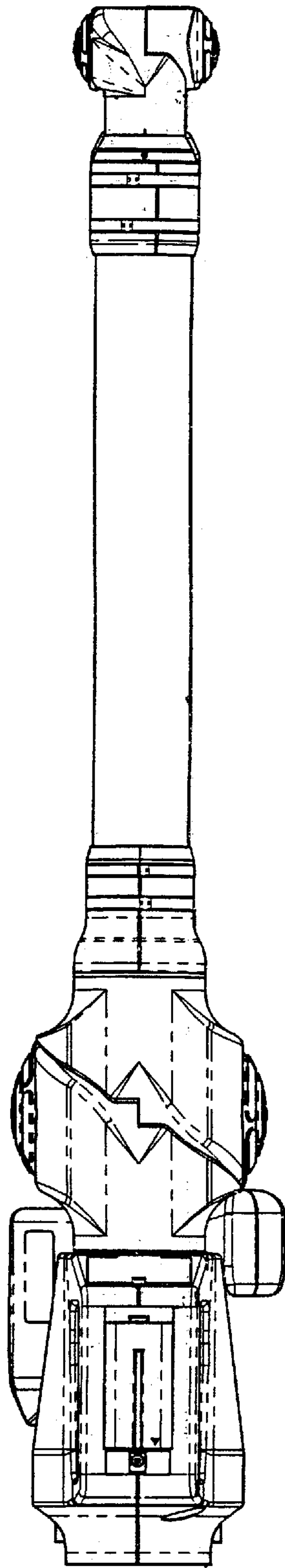


FIG. 15

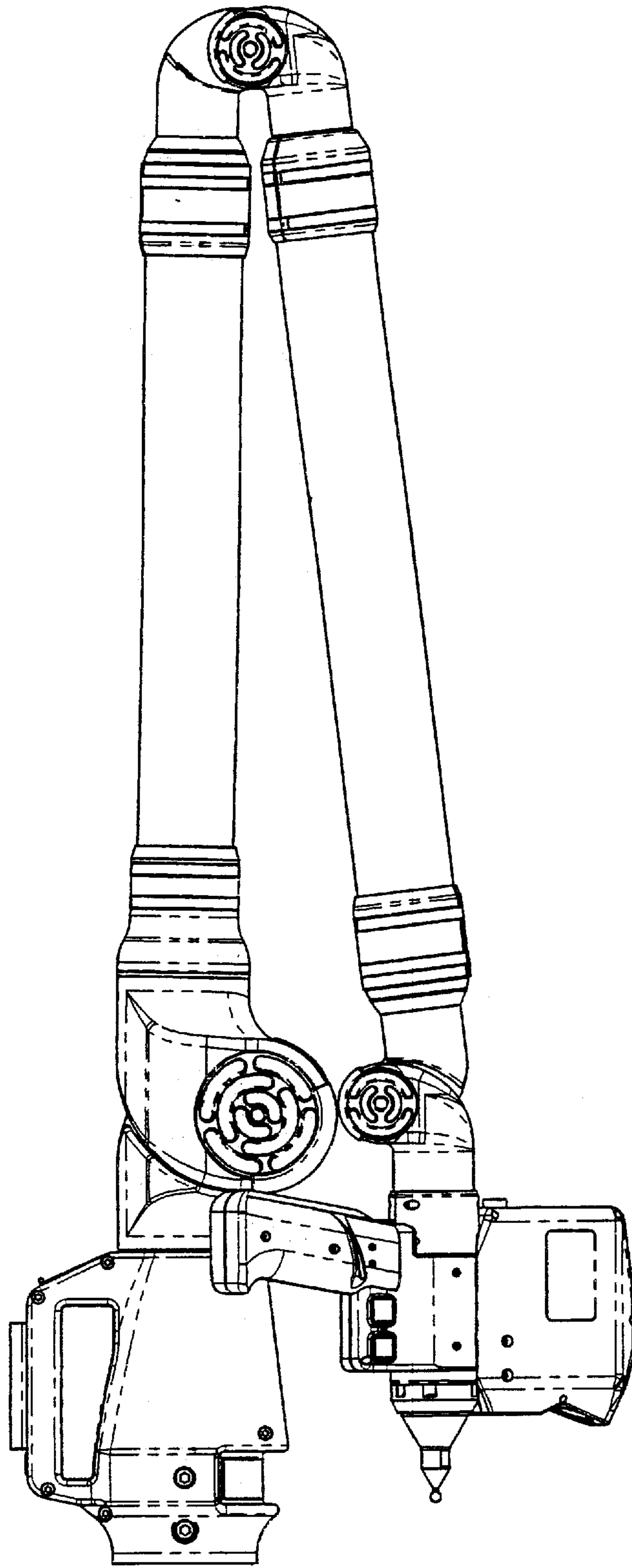


FIG. 16

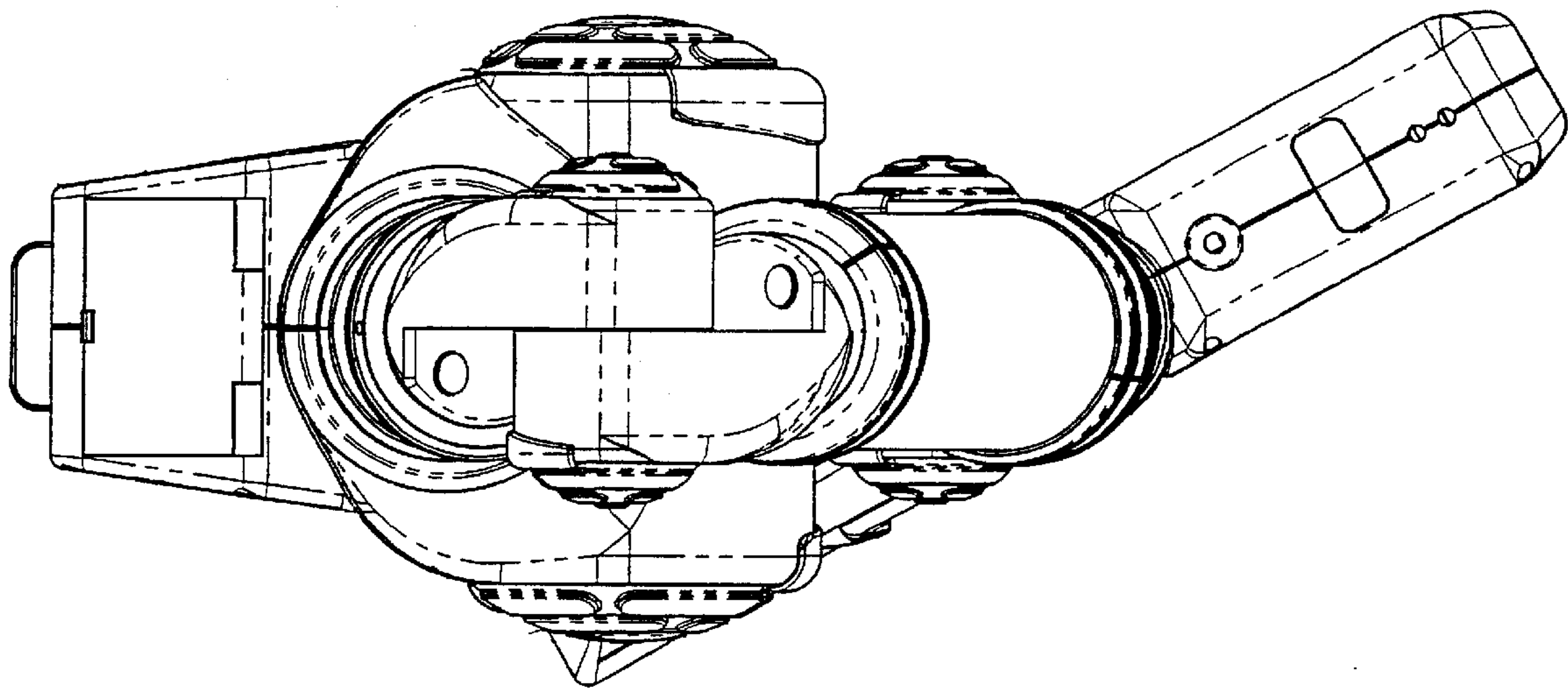


FIG. 17

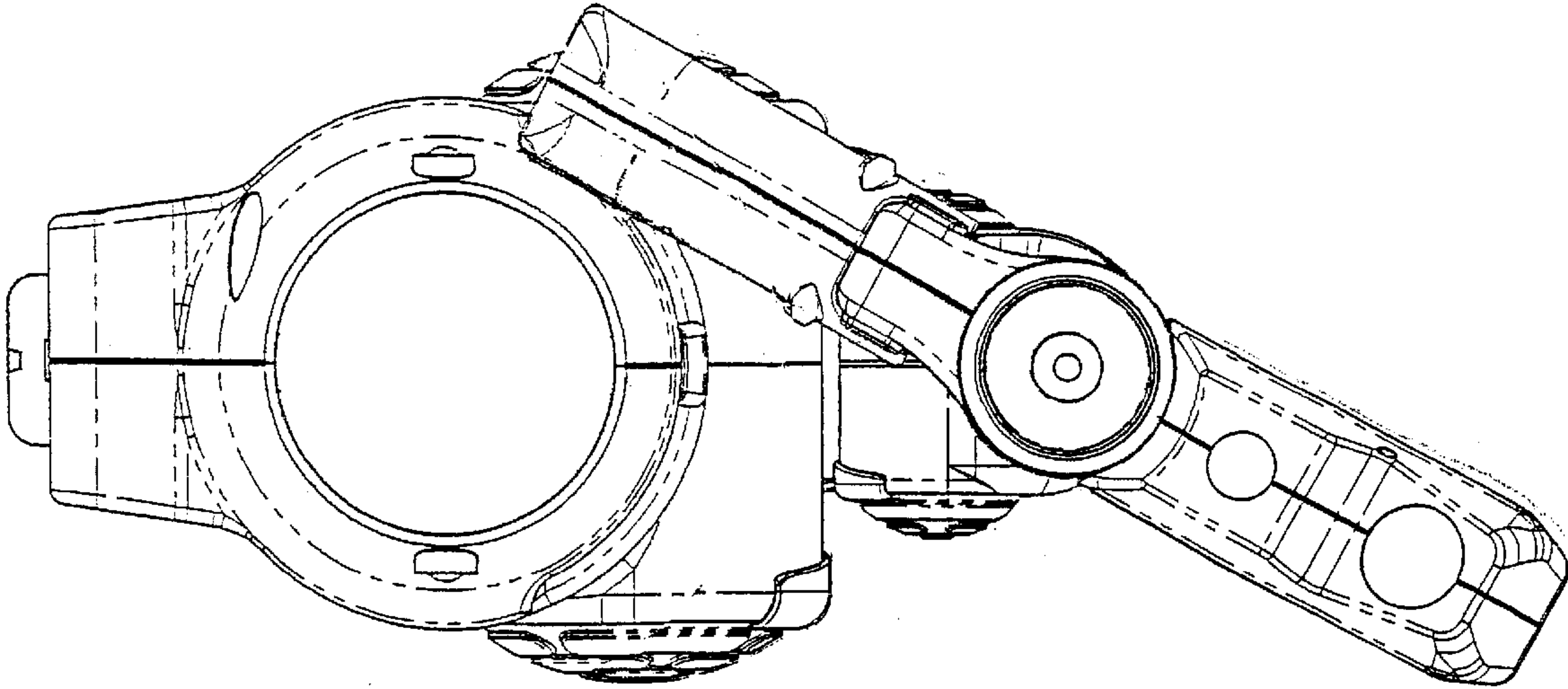


FIG. 18



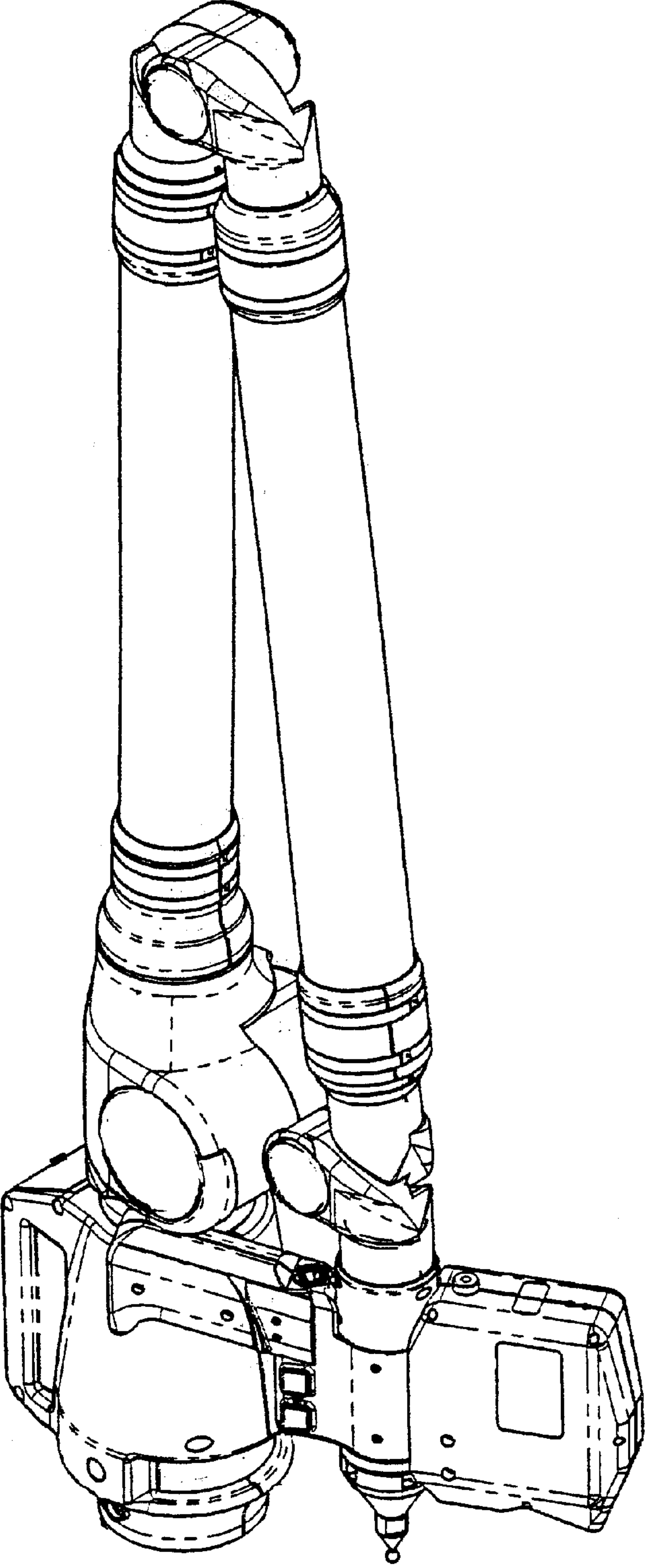


FIG. 19

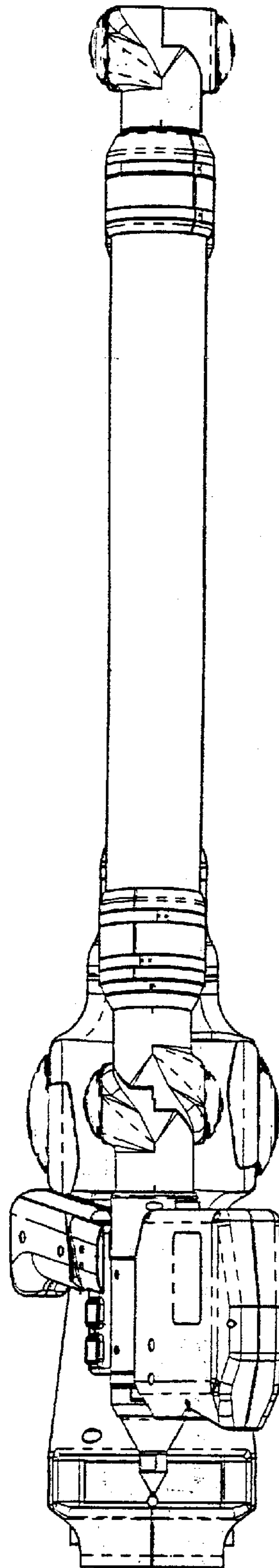


FIG. 20

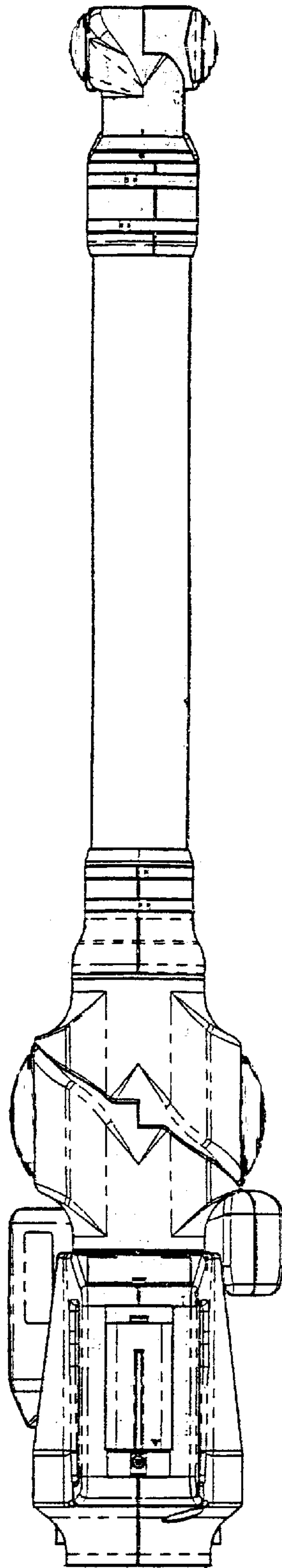


FIG. 21

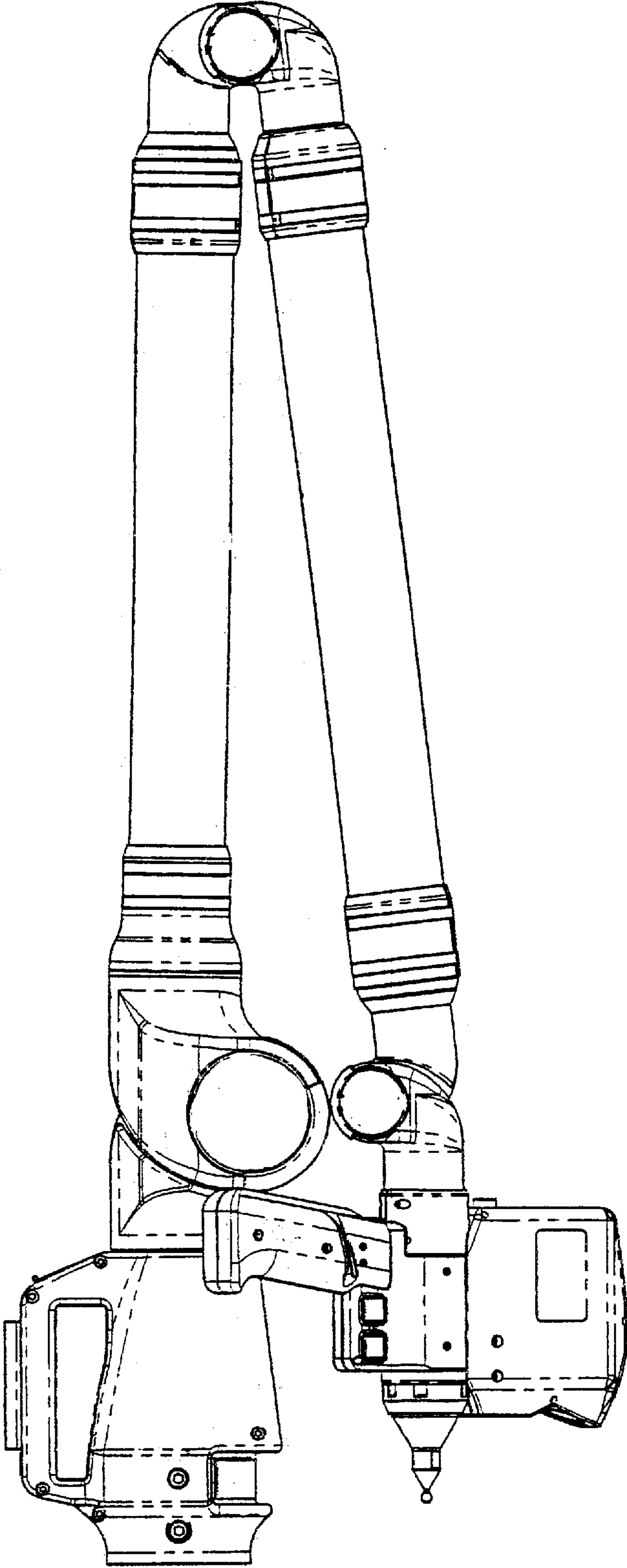


FIG. 22

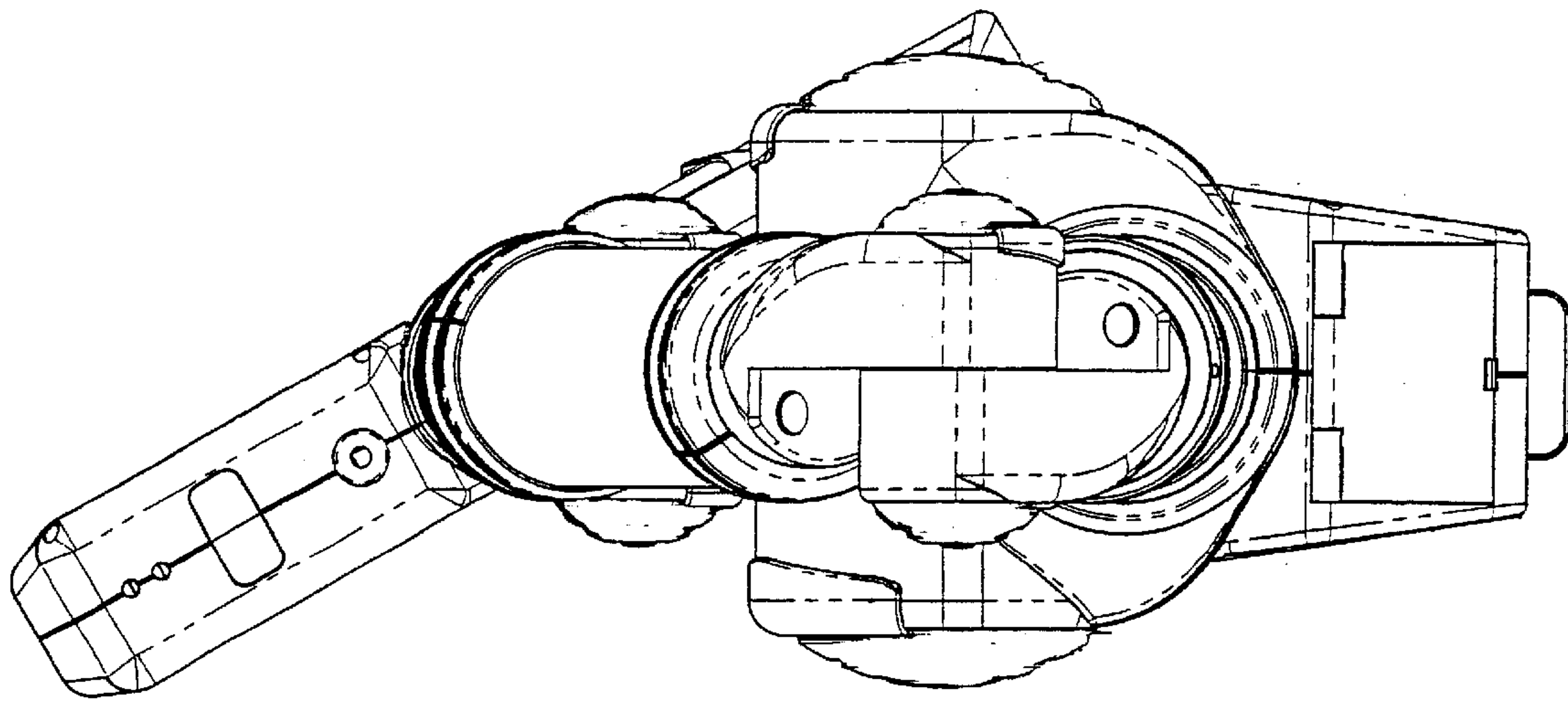


FIG. 23

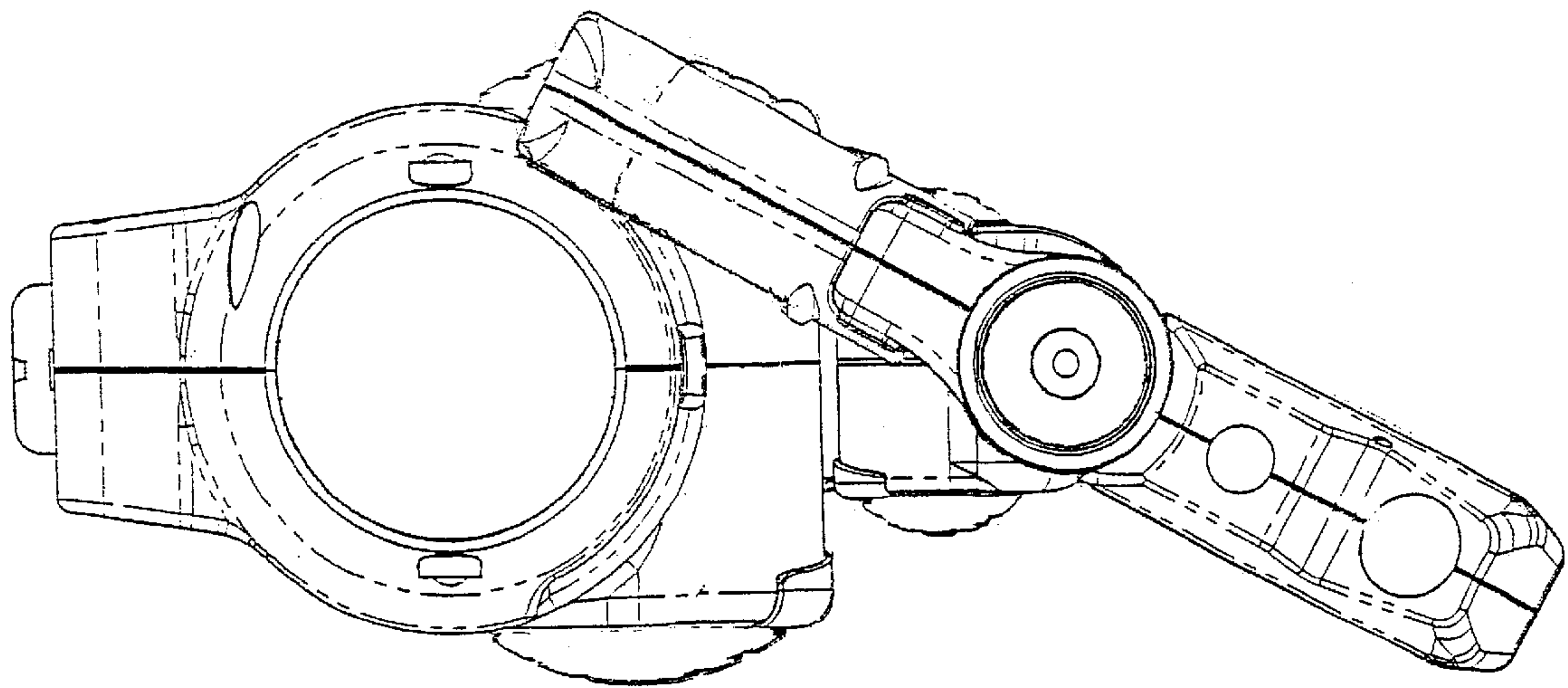


FIG. 29