



US00D615574S

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

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(54) **MANIPULATOR**

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

(21) Appl. No.: **29/350,643**

(22) Filed: **Nov. 20, 2009**

(30) **Foreign Application Priority Data**

Sep. 15, 2009 (CN) 2009 3 0316089

(51) **LOC (9) Cl.** **15-99**

(52) **U.S. Cl.** **D15/199**

(58) **Field of Classification Search** D15/199;
74/490.01, 490.02, 490.03, 490.05; 219/124.34,
219/639; 318/560; 700/99, 150
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 4,076,131 A * 2/1978 Dahlstrom et al. 414/730
- D268,033 S * 2/1983 Stackhouse D15/199
- D269,681 S * 7/1983 Morser et al. D15/199
- D279,571 S * 7/1985 Arai et al. D15/199
- D279,572 S * 7/1985 Yasuoka et al. D15/199
- D287,368 S * 12/1986 Shibayama et al. D15/199
- D293,324 S * 12/1987 Gotou et al. D15/199
- D334,581 S * 4/1993 Yoshikawa et al. D15/199
- D545,334 S * 6/2007 Kraft D15/199
- D548,759 S * 8/2007 Kraft D15/199

2005/0092122 A1* 5/2005 Markert et al. 74/490.01
2008/0271561 A1* 11/2008 Ohara et al. 74/490.01

* cited by examiner

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(57) **CLAIM**

The ornamental design for a manipulator, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a first configuration of a manipulator showing my design;

FIG. 2 is a front elevational view thereof;

FIG. 3 is a rear elevational view thereof;

FIG. 4 is a left side elevational view thereof;

FIG. 5 is a right side elevational view thereof;

FIG. 6 is a top plan view thereof;

FIG. 7 is a bottom plan view thereof;

FIG. 8 shows a second configuration of the manipulator in FIG. 1;

FIG. 9 shows a third configuration of the manipulator in FIG. 1;

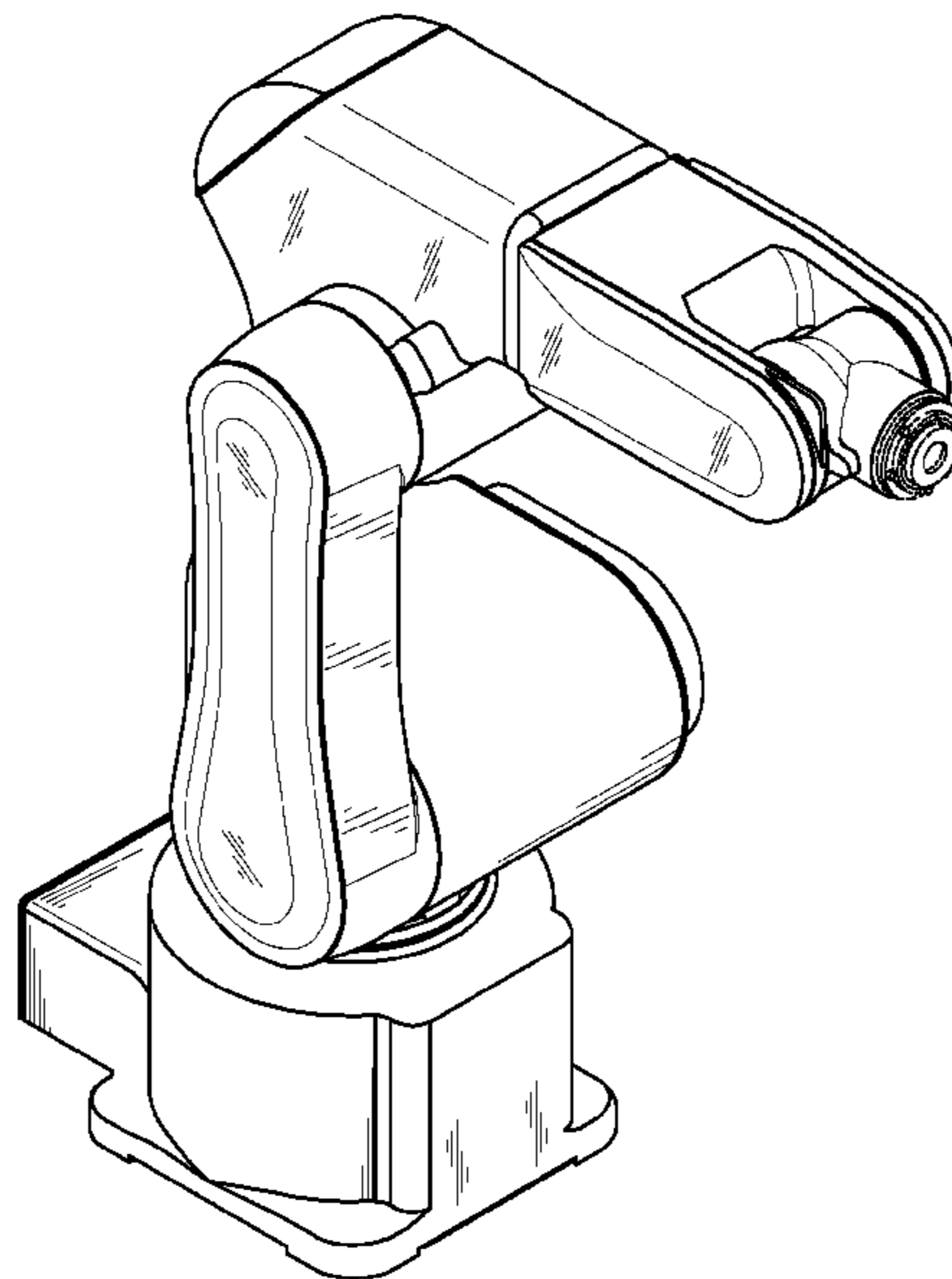
FIG. 10 shows a fourth configuration of the manipulator in FIG. 1;

FIG. 11 shows a fifth configuration of the manipulator in FIG. 1; and,

FIG. 12 shows a sixth configuration of the manipulator in FIG. 1.

The broken lines in the drawings depict unclaimed environmental subject matter.

1 Claim, 12 Drawing Sheets



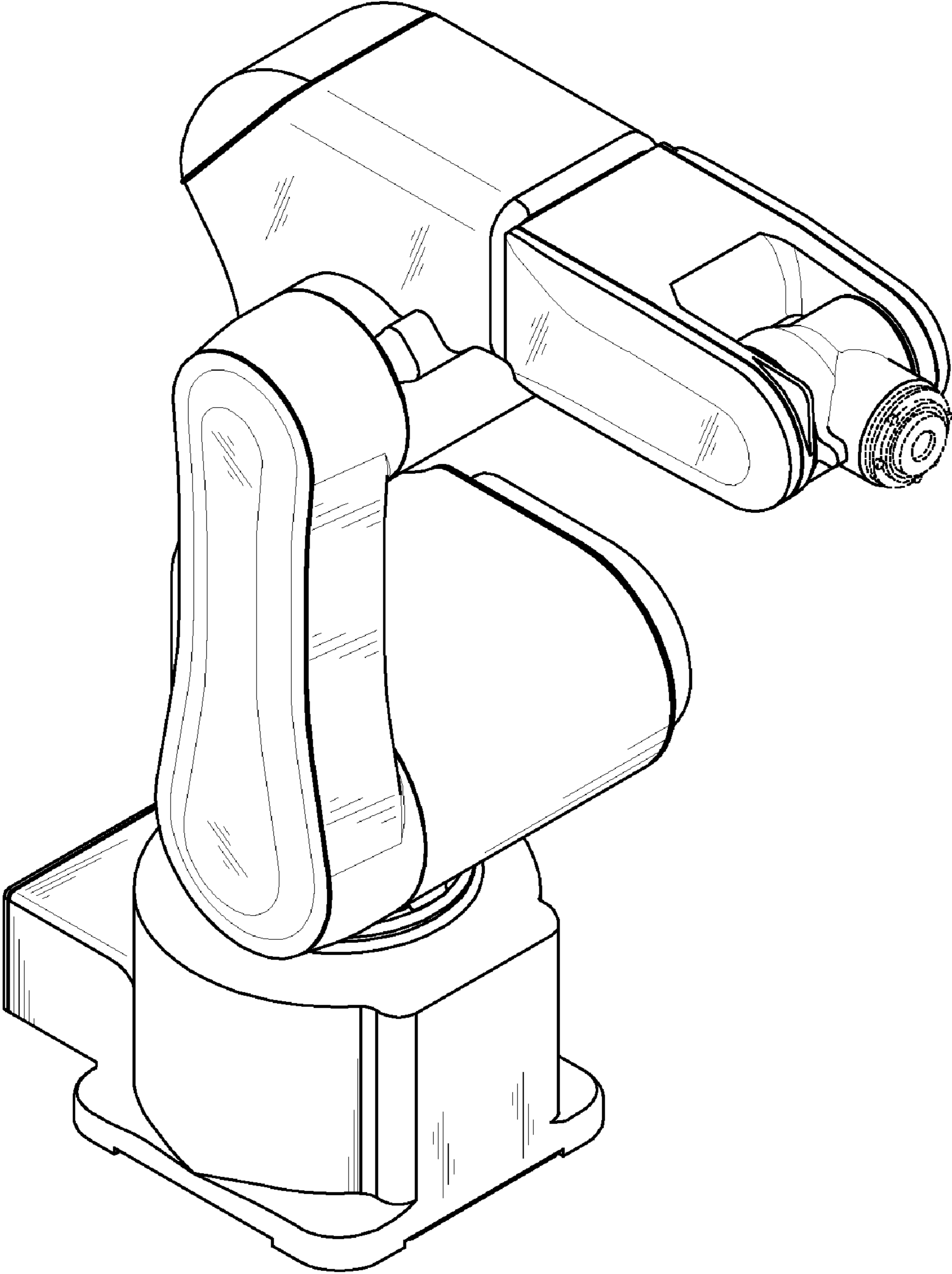


FIG. 1

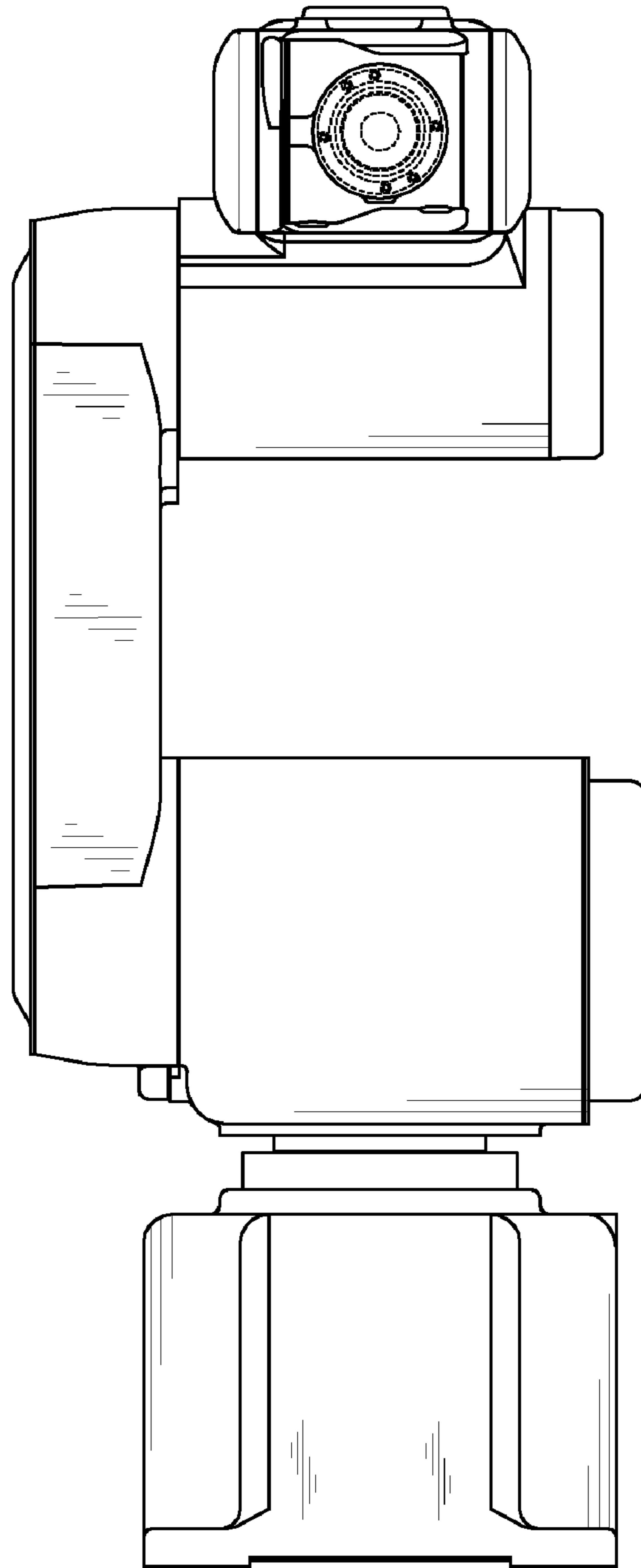


FIG. 2

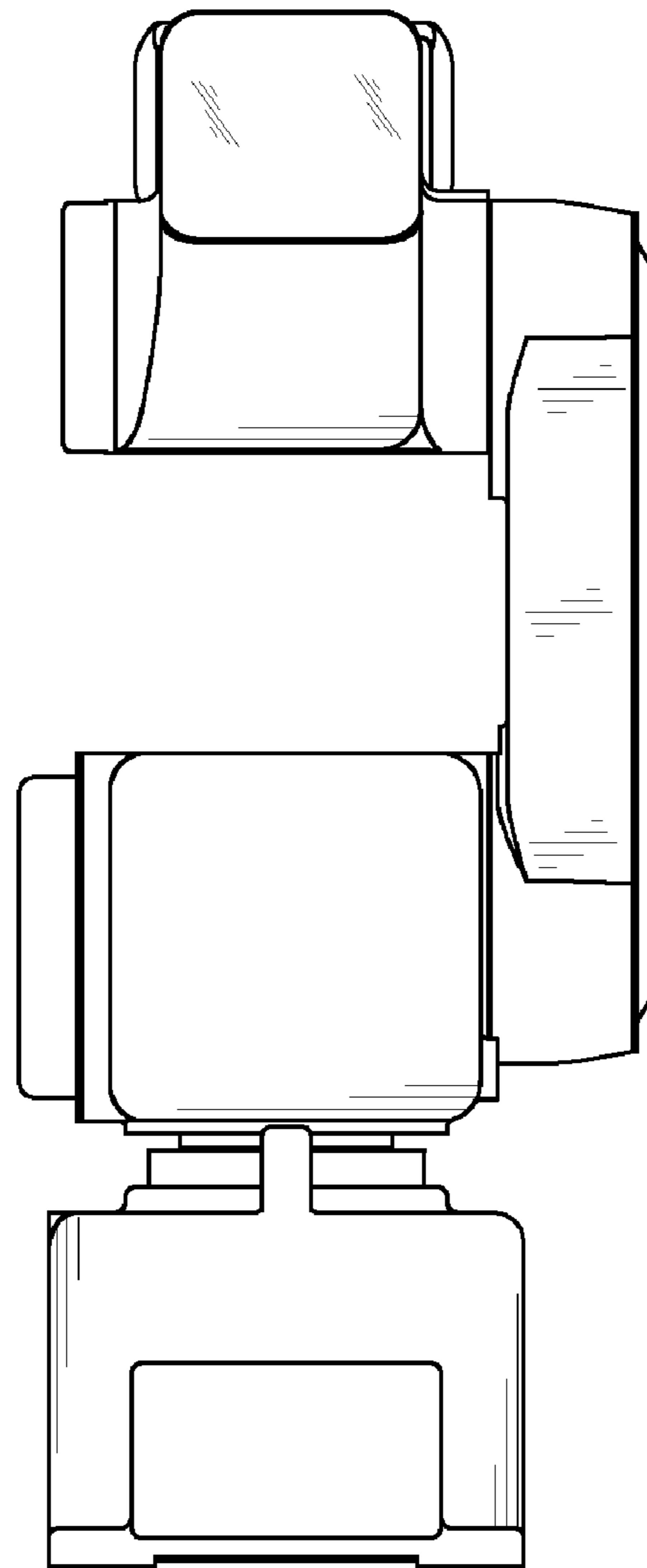


FIG. 3

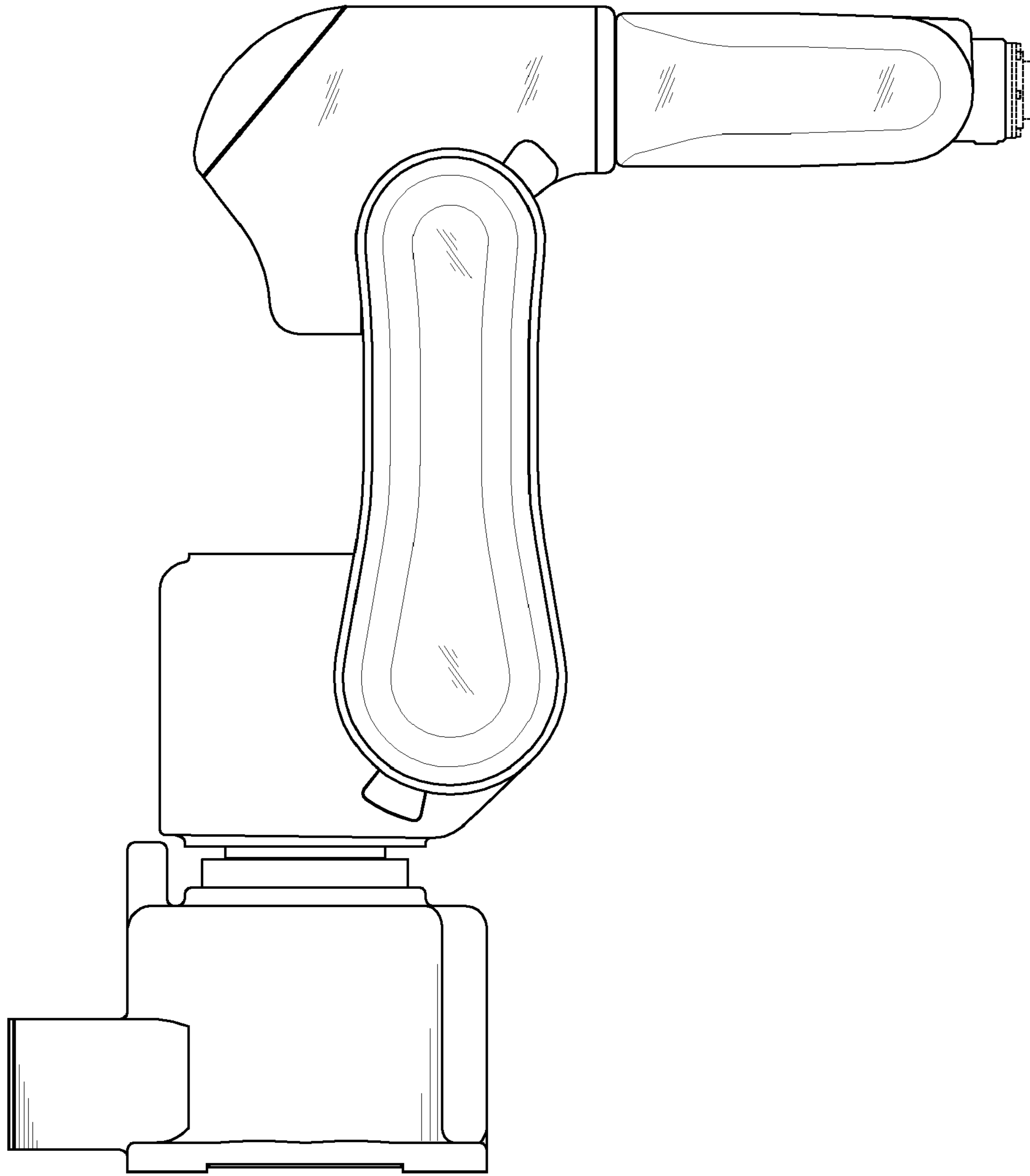


FIG. 4

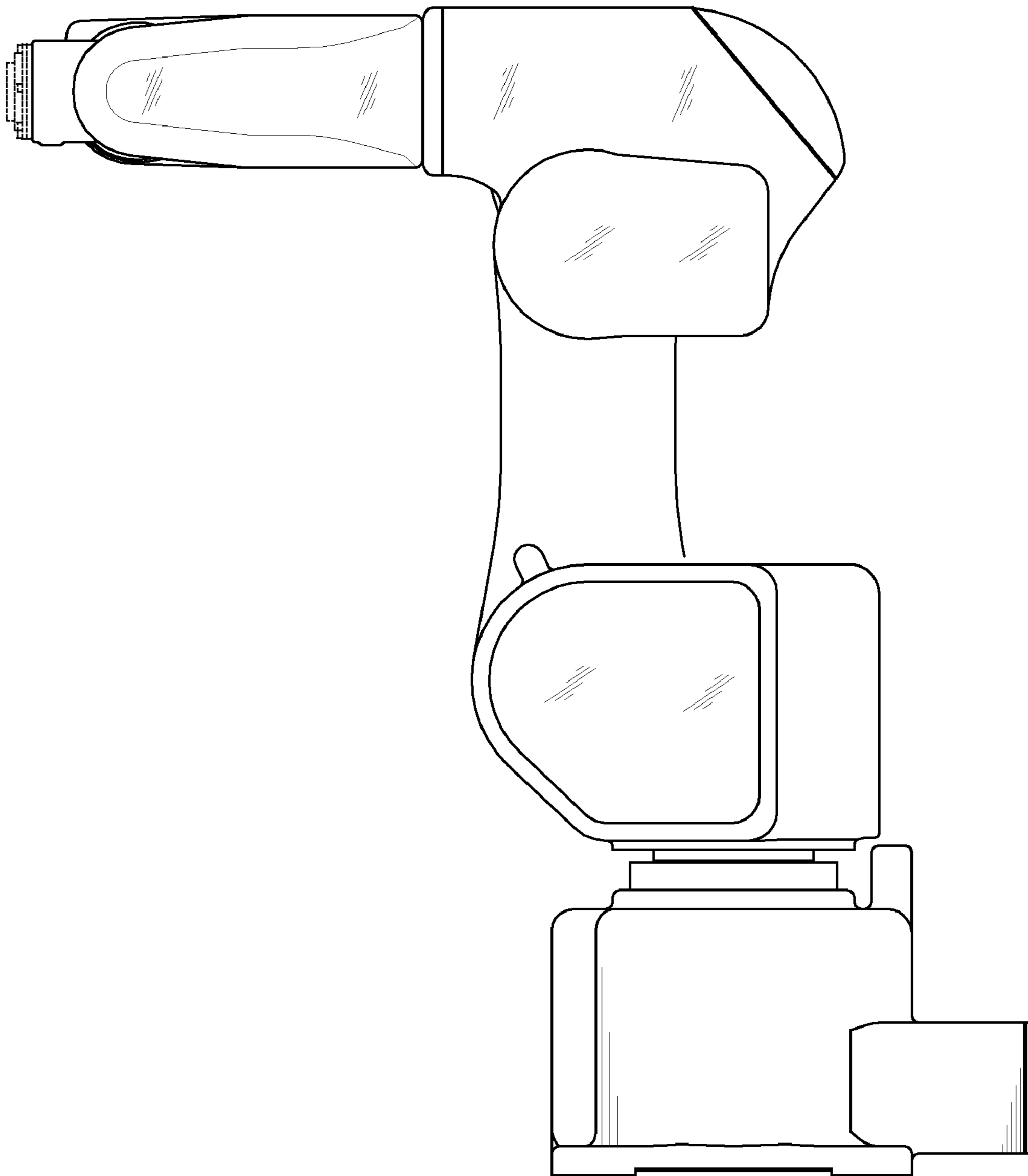


FIG. 5

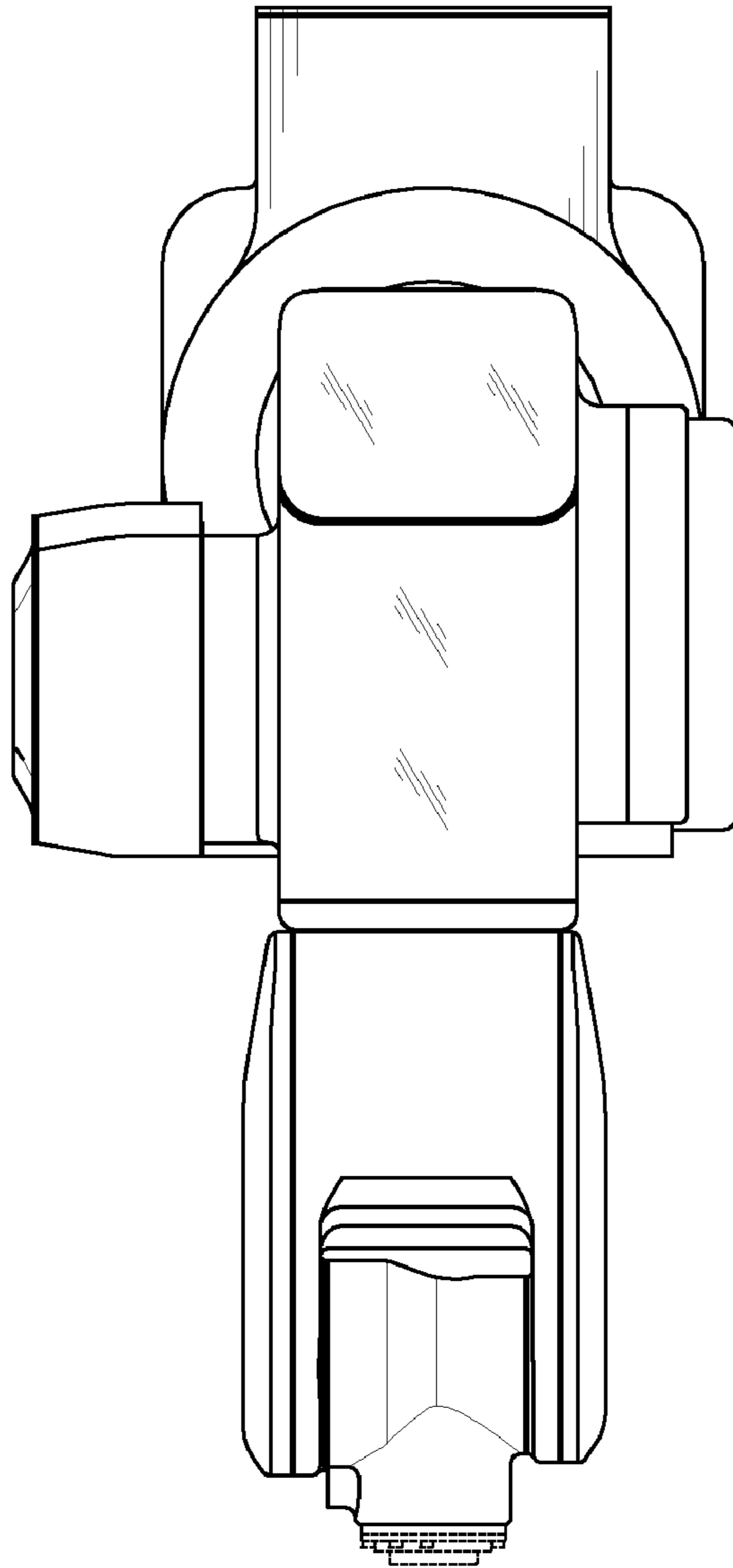


FIG. 6

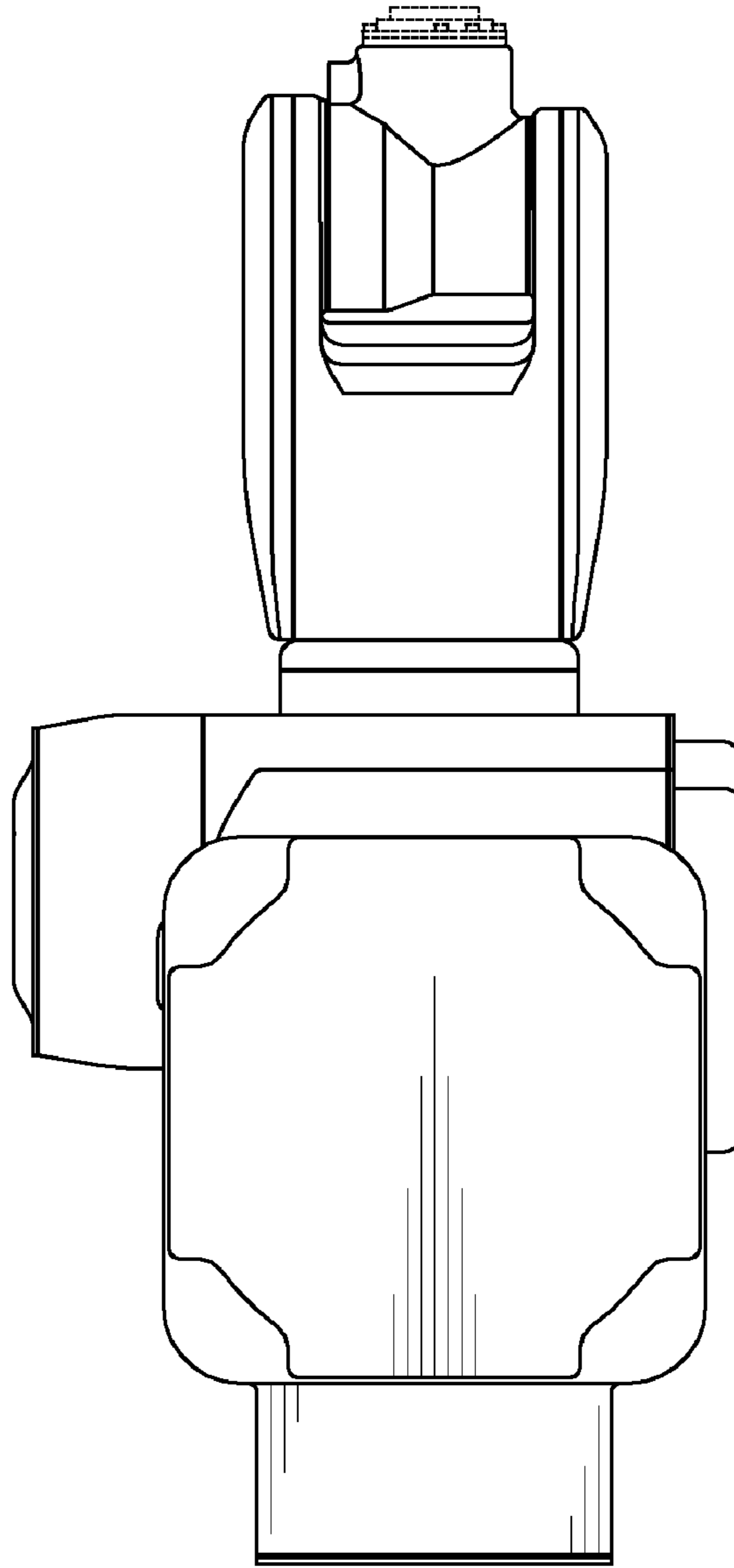


FIG. 7

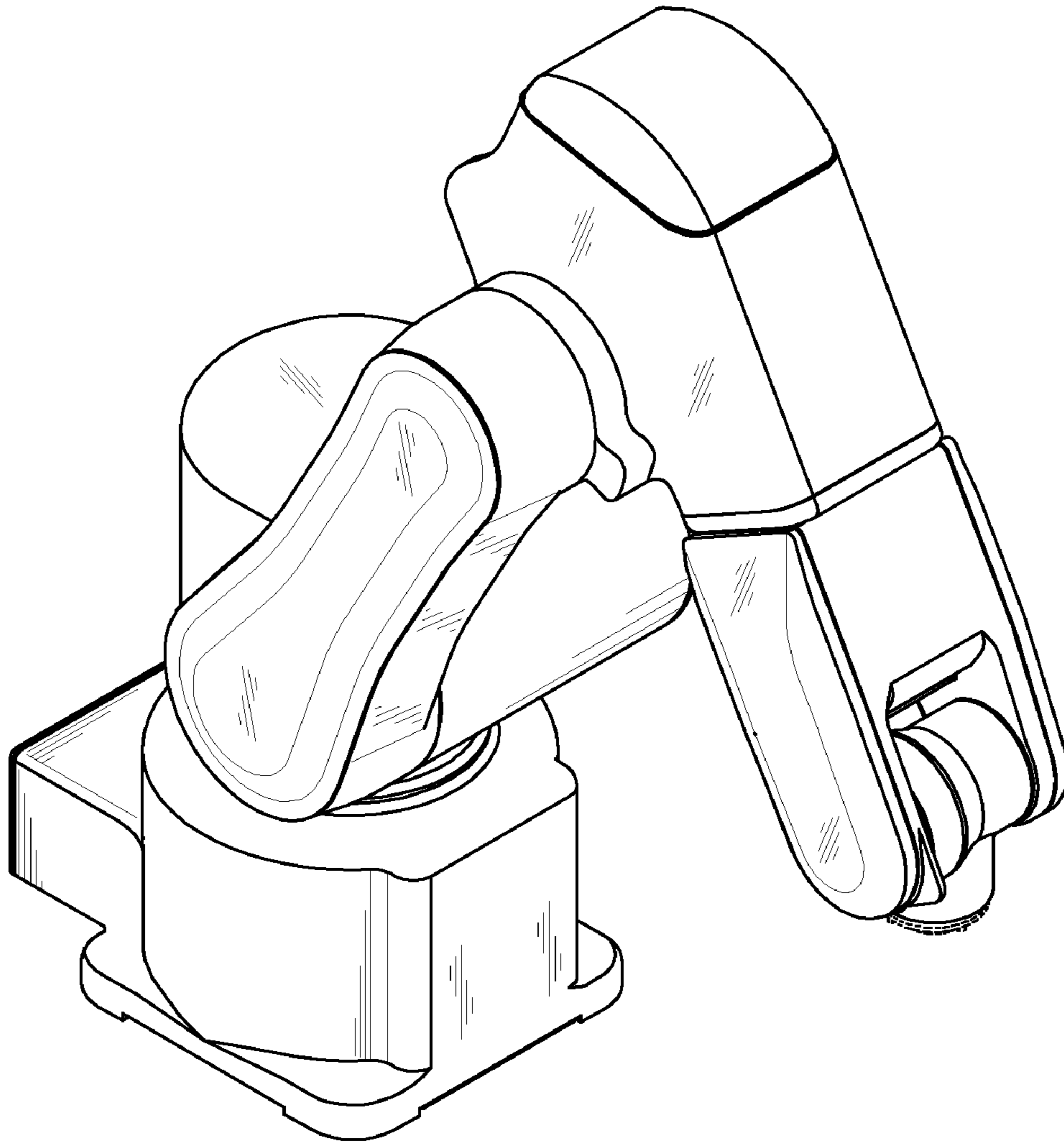


FIG. 8

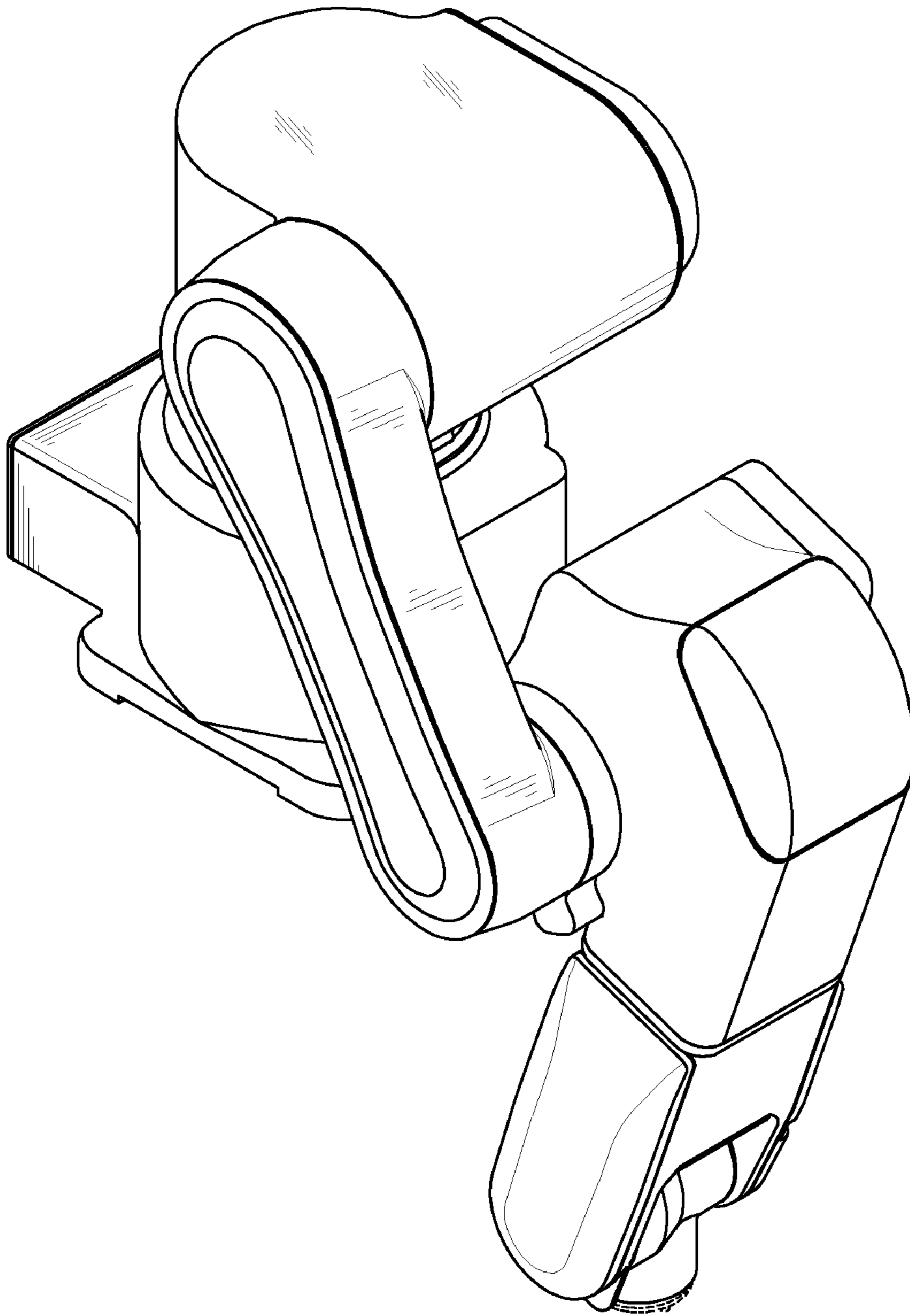


FIG. 9

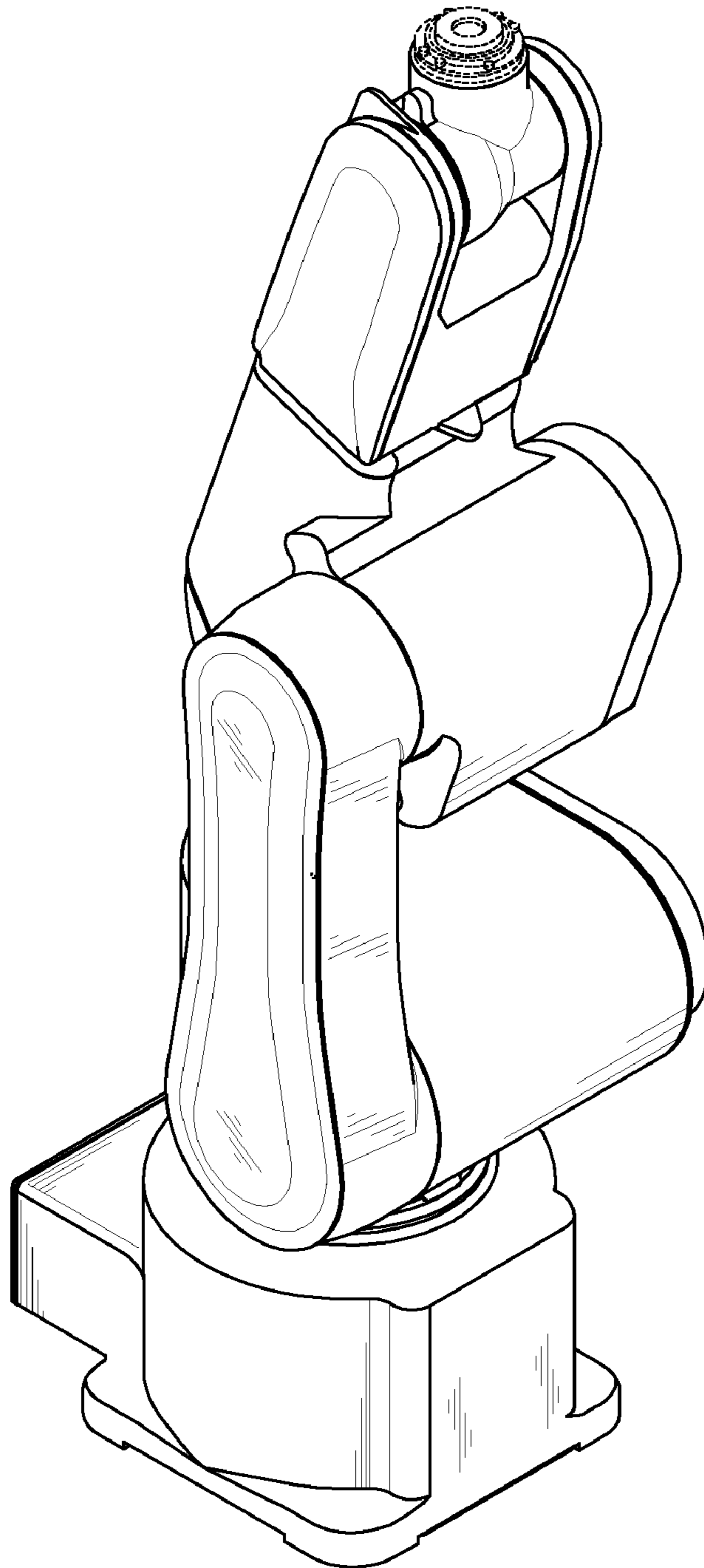


FIG. 10

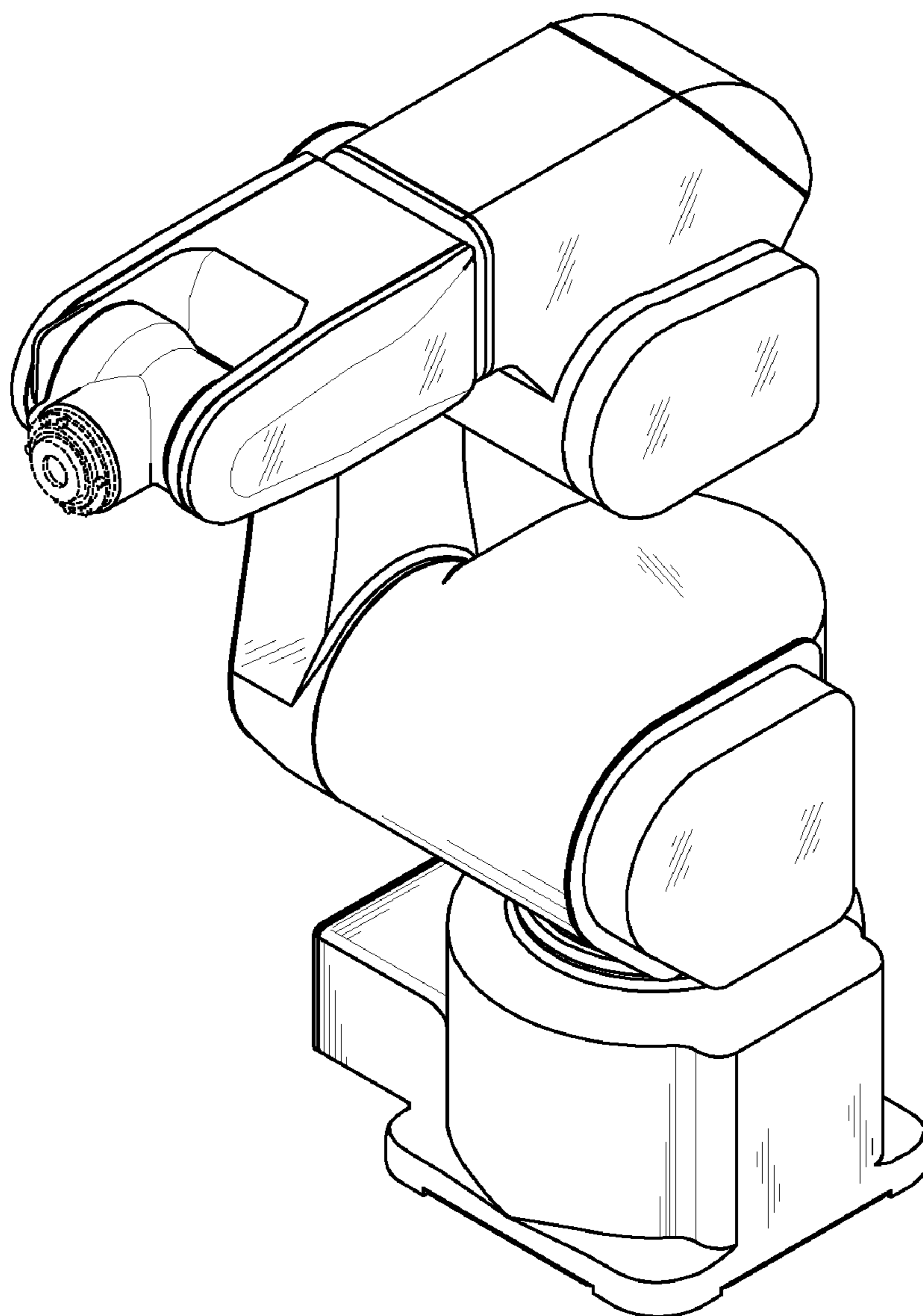


FIG. 11

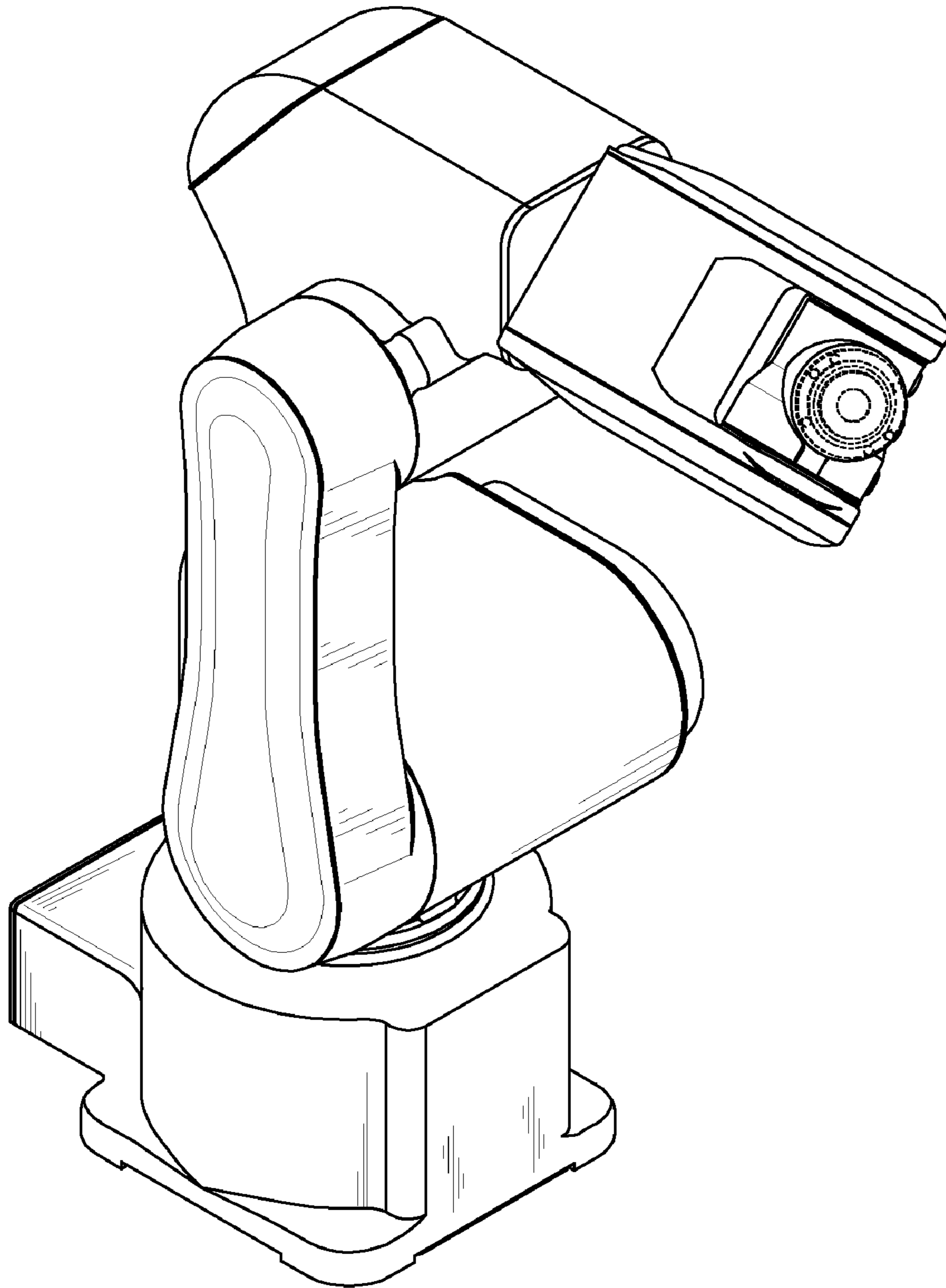


FIG. 12