



US00D915487S

(12) **United States Design Patent** (10) **Patent No.:** **US D915,487 S**
Sell (45) **Date of Patent:** **** Apr. 6, 2021**

(54) **ROBOTIC ARM**

(71) Applicant: **Universal Robots A/S**, Odense S. (DK)

(72) Inventor: **Lasse Eg Sell**, Tommerup (DK)

(73) Assignee: **UNIVERSAL ROBOTS A/S**, Odense S (DK)

(**) Term: **15 Years**

(21) Appl. No.: **29/722,491**

(22) Filed: **Jan. 30, 2020**

(30) **Foreign Application Priority Data**

Sep. 7, 2019 (EM) 006841169

(51) **LOC (13) Cl.** **15-99**

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

(58) **Field of Classification Search**
USPC D15/122, 199; D21/578-583; D32/21;
D34/34

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,476,266 A * 11/1969 Devol G05B 19/0405
414/730
4,273,506 A * 6/1981 Thomson B25J 9/046
294/106

(Continued)

OTHER PUBLICATIONS

Universal Robots UR5/CB3 User Manual. Universal Robots A/S.
Odense, SØ. (Oct. 2014). V. 3.0, (pp. 1-99). 173 pages.

(Continued)

Primary Examiner — Patricia A Palasik

(74) *Attorney, Agent, or Firm* — Burns & Levinson LLP

(57) **CLAIM**

The ornamental design for a robotic arm, as shown and described.

DESCRIPTION

FIG. 1 is a front view of a robotic arm having its components arranged in a first configuration.

FIG. 2 is a right side view of the robotic arm having its components arranged in the first configuration.

FIG. 3 is a left side of the robotic arm having its components arranged in the first configuration.

FIG. 4 is a back view of the robotic arm having its components arranged in the first configuration.

FIG. 5 is a front perspective view of the robotic arm having its components arranged in the first configuration.

FIG. 6 is a back perspective view of the robotic arm having its components arranged in the first configuration.

FIG. 7 is a top view of the robotic arm having its components arranged in the first configuration.

FIG. 8 is a front perspective view of the robotic arm having its components arranged in a second configuration.

FIG. 9 is a back perspective view of the robotic arm having its components arranged in the second configuration.

FIG. 10 is a front side view of the robotic arm having its components arranged in the second configuration.

FIG. 11 is a back side view of the robotic arm having its components arranged in the second configuration.

FIG. 12 is a top view of the robotic arm having its components arranged in the second configuration.

FIG. 13 is a right side view of the robotic arm having its components arranged in the second configuration.

FIG. 14 is a left side view of the robotic arm having its components arranged in the second configuration.

FIG. 15 is a front perspective view of the robotic arm having its components arranged in a third configuration.

FIG. 16 is a back perspective view of the robotic arm having its components arranged in the third configuration.

FIG. 17 is a left side view of the robotic arm having its components arranged in the third configuration.

FIG. 18 is a right side view of the robotic arm having its components arranged in the third configuration.

(Continued)

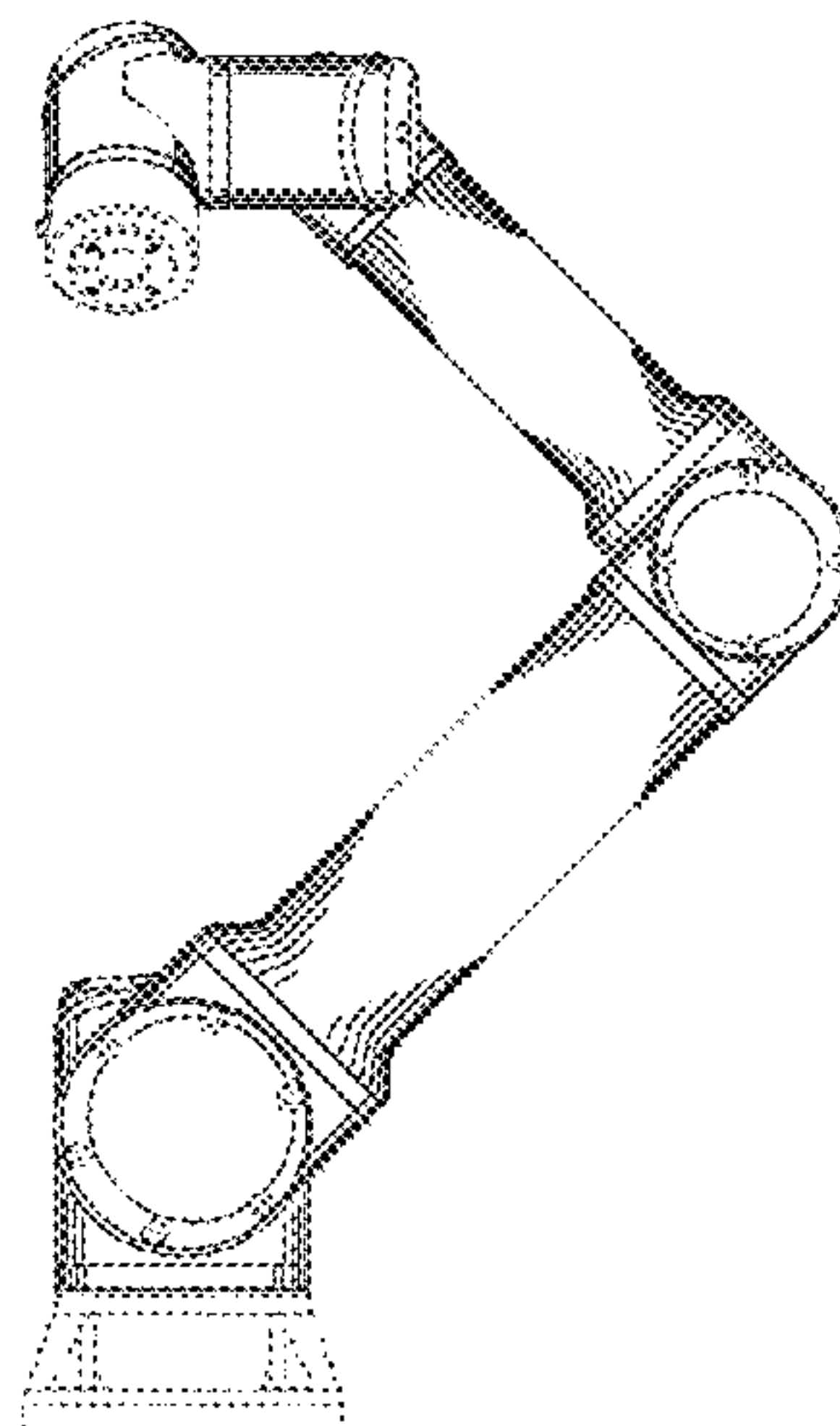


FIG. 19 is a back view of the robotic arm having its components arranged in the third configuration.
 FIG. 20 is a front view of the robotic arm having its components arranged in the third configuration.
 FIG. 21 is a top view of the robotic arm having its components arranged in the third configuration.
 FIG. 22 is a left perspective view of the robotic arm having its components arranged in a fourth configuration.
 FIG. 23 is a right perspective view of the robotic arm having its components arranged in the fourth configuration.
 FIG. 24 is a front side view of the robotic arm having its components arranged in the fourth configuration.
 FIG. 25 is a back side view of the robotic arm having its components arranged in the fourth configuration.
 FIG. 26 is a left side view of the robotic arm having its components arranged in the fourth configuration.
 FIG. 27 is a right side view of the robotic arm having its components arranged in the fourth configuration; and,
 FIG. 28 is a top view of the robotic arm having its components arranged in the fourth configuration.
 The broken or dotted lines in the figures depict portions of the robotic arm and form no part of the claimed design.

1 Claim, 28 Drawing Sheets

(58) **Field of Classification Search**

CPC B25J 9/046; B25J 9/042; B25J 9/06; H01L 21/67766

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D274,182	S *	6/1984	Kato	.....	D15/122
D279,571	S *	7/1985	Arai	.....	D15/122
D279,572	S *	7/1985	Yasuoka	.....	D15/122
4,693,663	A *	9/1987	Brenholt	.....	B25J 9/047 414/735

D293,449	S *	12/1987	Kaufmann	.....	D15/122
4,766,775	A *	8/1988	Hodge	.....	B25J 9/08 74/490.01
D298,834	S *	12/1988	Jones	.....	D15/122
D423,534	S *	4/2000	Raab	.....	D15/199
D610,926	S *	3/2010	Gerent	.....	D10/63
D643,319	S *	8/2011	Ferrari	.....	D10/63
D692,041	S *	10/2013	Selic	.....	D15/199
8,614,559	B2	12/2013	Kassow et al.		
D716,357	S *	10/2014	Gombert	.....	D15/199
9,248,573	B2	2/2016	Søe-knudsen et al.		
D776,178	S *	1/2017	Ries	.....	D15/199
D782,553	S *	3/2017	Goto	.....	D15/199
D802,041	S *	11/2017	He	.....	D15/199
9,833,897	B2	12/2017	Søe-knudsen et al.		
D830,439	S *	10/2018	Park	.....	D15/199
D837,294	S *	1/2019	Ciniello	.....	D19/59
D837,853	S *	1/2019	Deng	.....	D15/199
D841,065	S *	2/2019	Hontani	.....	D15/199
D841,712	S *	2/2019	Hontani	.....	D15/199
10,399,232	B2	9/2019	Oestergaard et al.		
10,399,616	B2 *	9/2019	Ellerman	.....	A63H 33/26
D865,828	S *	11/2019	Bogart	.....	D15/199
D873,878	S *	1/2020	Vazquez	.....	D15/199
D874,530	S *	2/2020	Haddadin	.....	D15/199
2013/0079928	A1	3/2013	Søe-knudsen et al.		
2013/0231778	A1	9/2013	Østergaard et al.		
2013/0255426	A1	10/2013	Kassow et al.		
2015/0224640	A1 *	8/2015	Vu	.....	B25J 5/007 700/259
2016/0136805	A1	5/2016	Søe-knudsen et al.		
2016/0327383	A1 *	11/2016	Becker	.....	G01B 11/005
2017/0057095	A1	3/2017	Oestergaard et al.		
2018/0178380	A1	6/2018	Oestergaard et al.		
2019/0086907	A1	3/2019	Oestergaard et al.		
2020/0171658	A1	6/2020	Kielsholm Thomsen et al.		

OTHER PUBLICATIONS

Universal Robots UR5e User Manual. Universal Robots A/S. Odense, SØ. (May 2018). V. 5.0.2, (U.S. Version), (pp. 1-119). 205 pages.
 Universal Robots UR10/CB3 User Manual. Universal Robots A/S. Odense, SØ. (Jan. 2015). V. 3.1, (pp. 1-105). 179 pages.

* cited by examiner

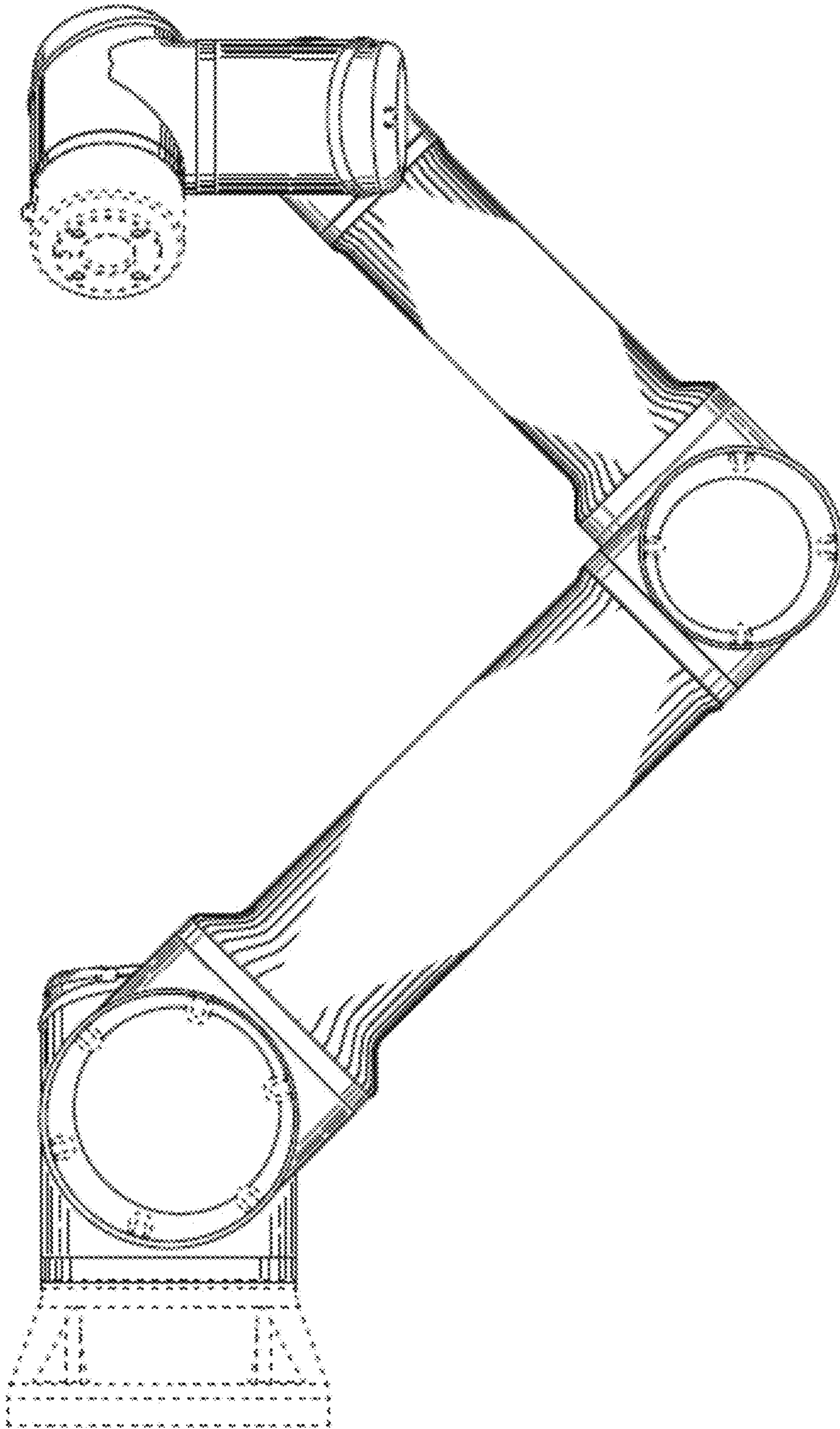


FIG. 1

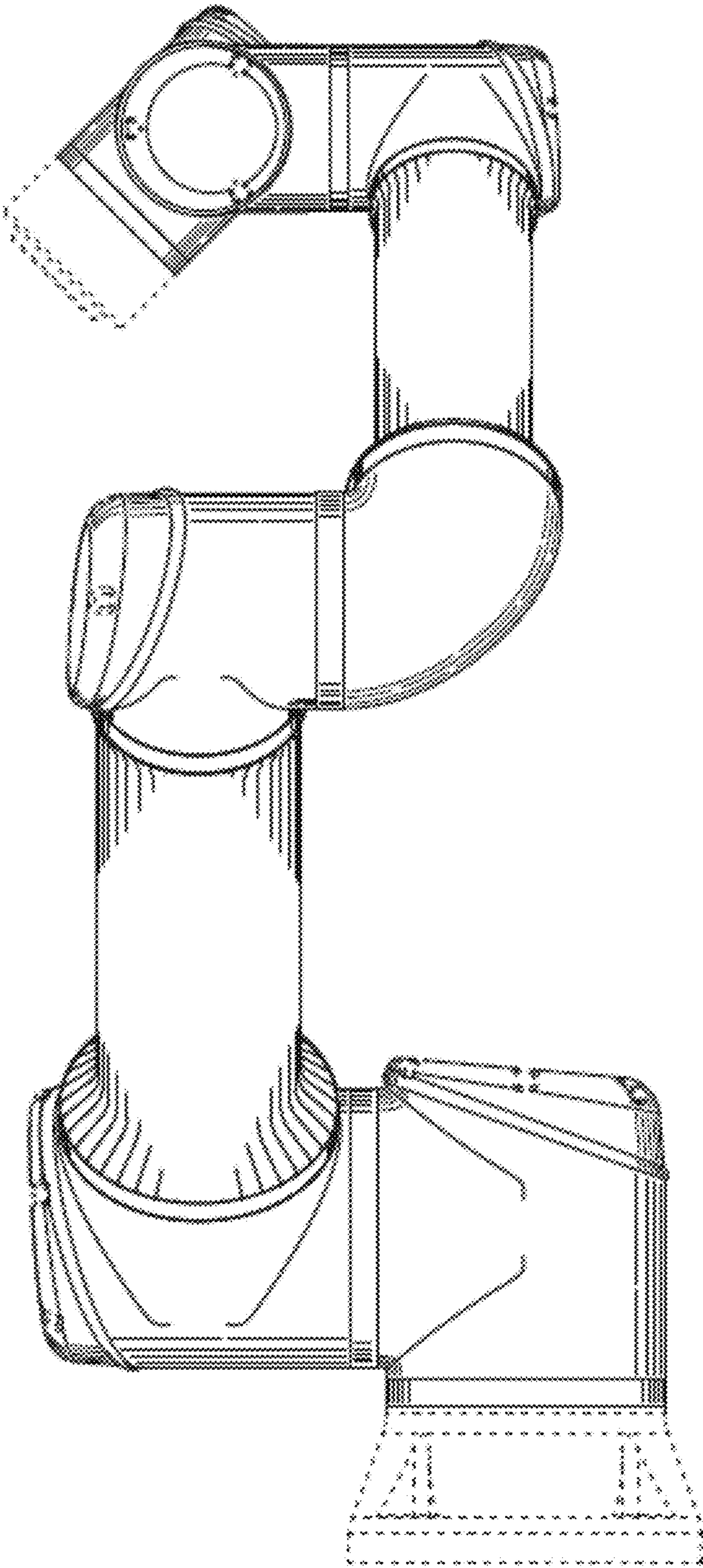


FIG. 2

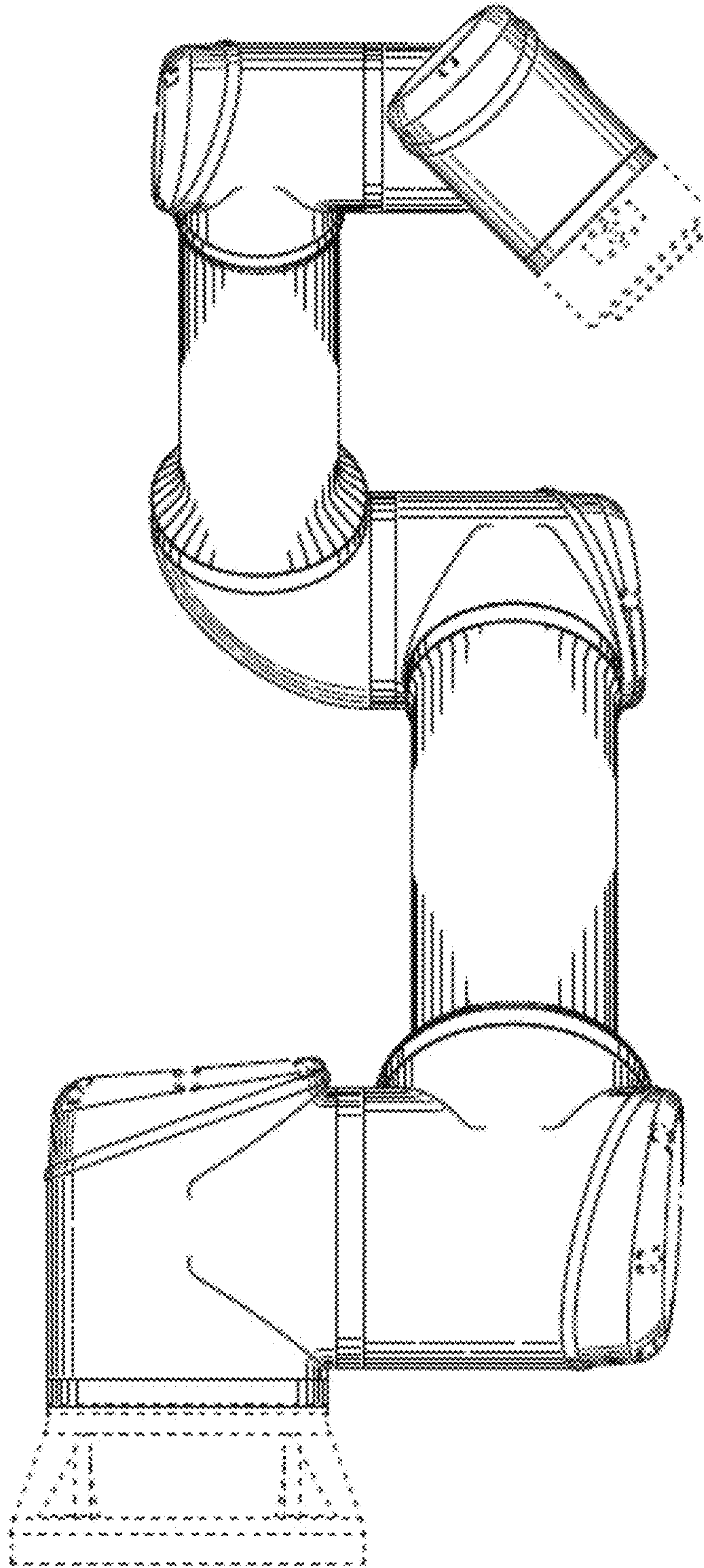


FIG. 3

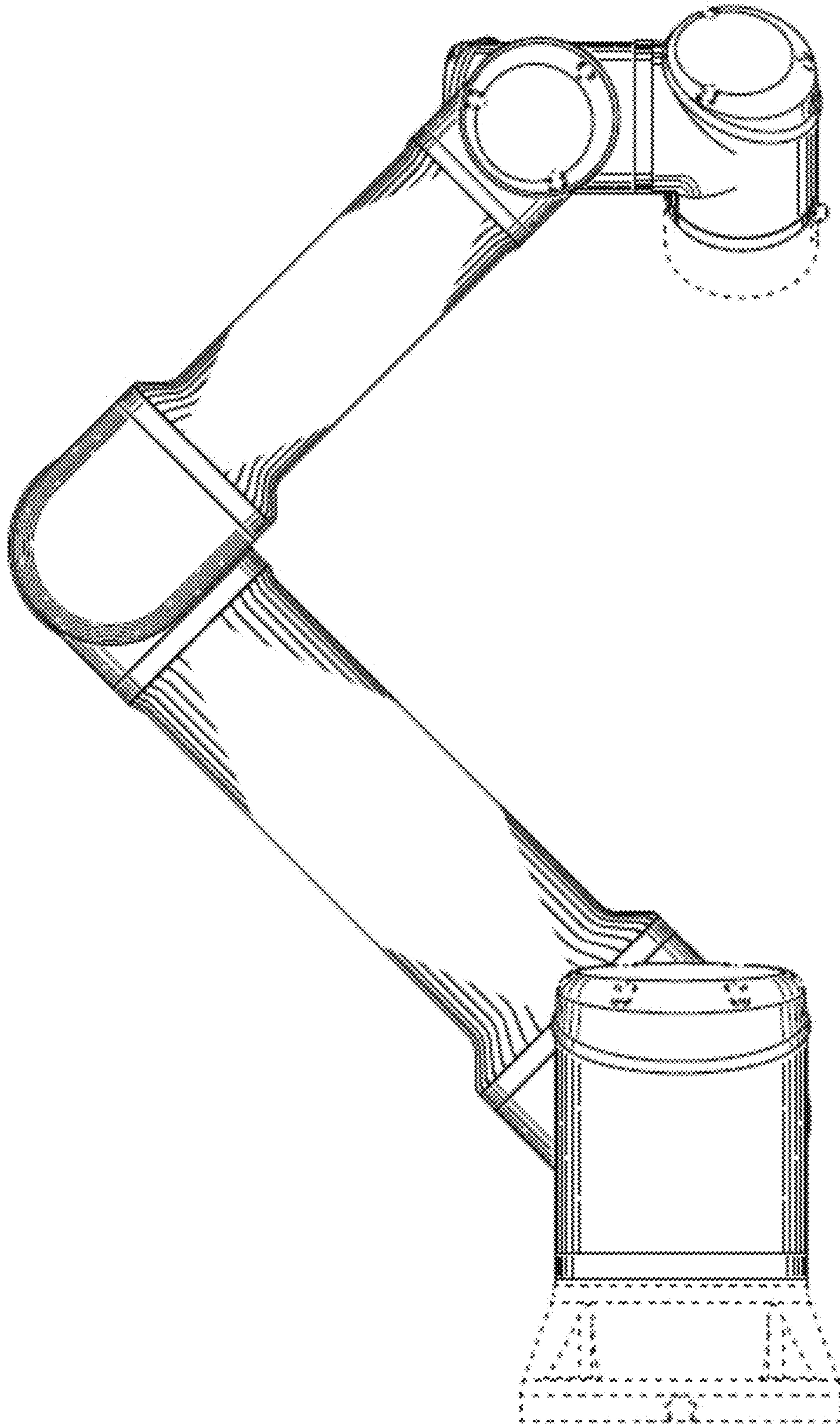


FIG. 4

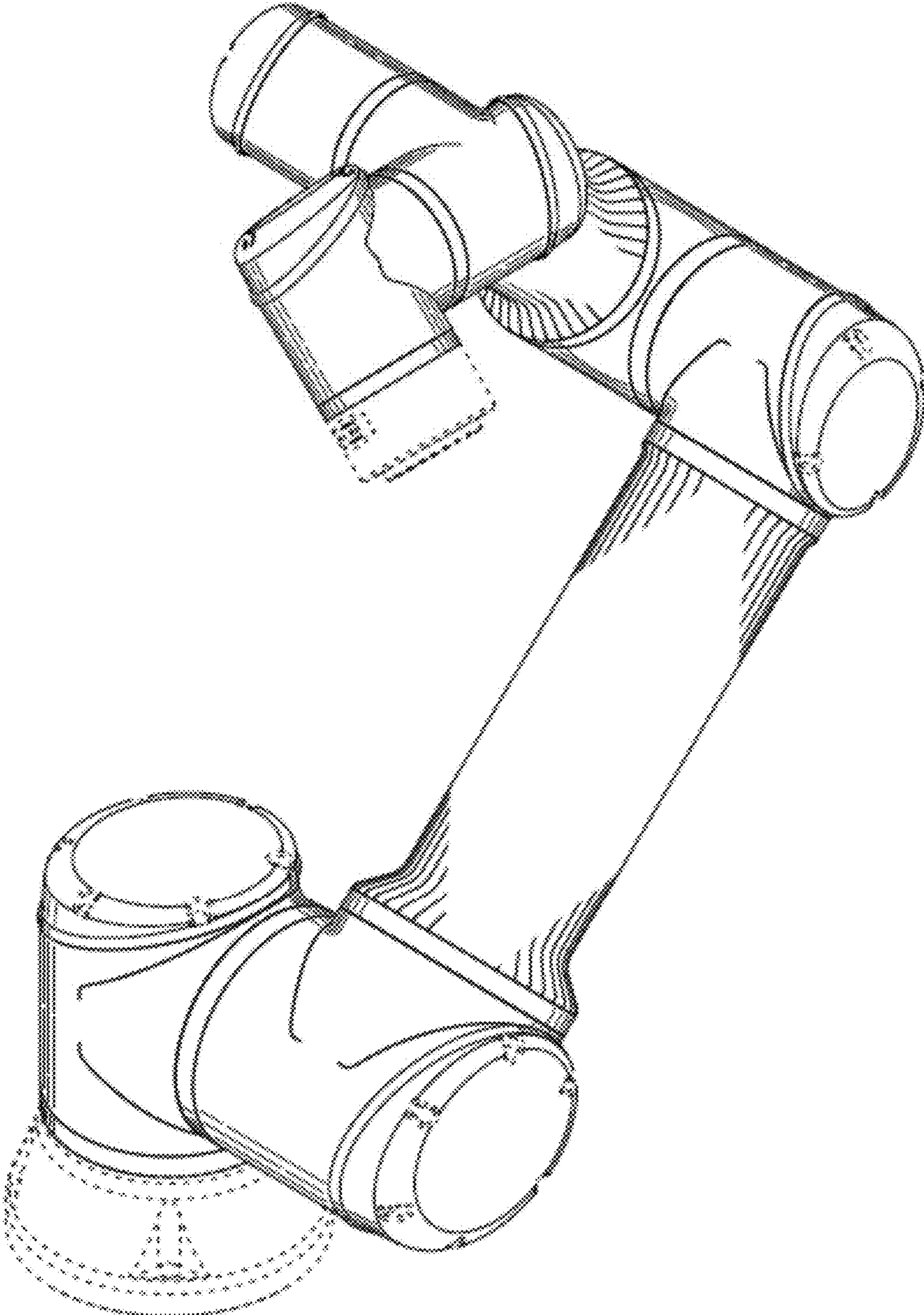


FIG. 5

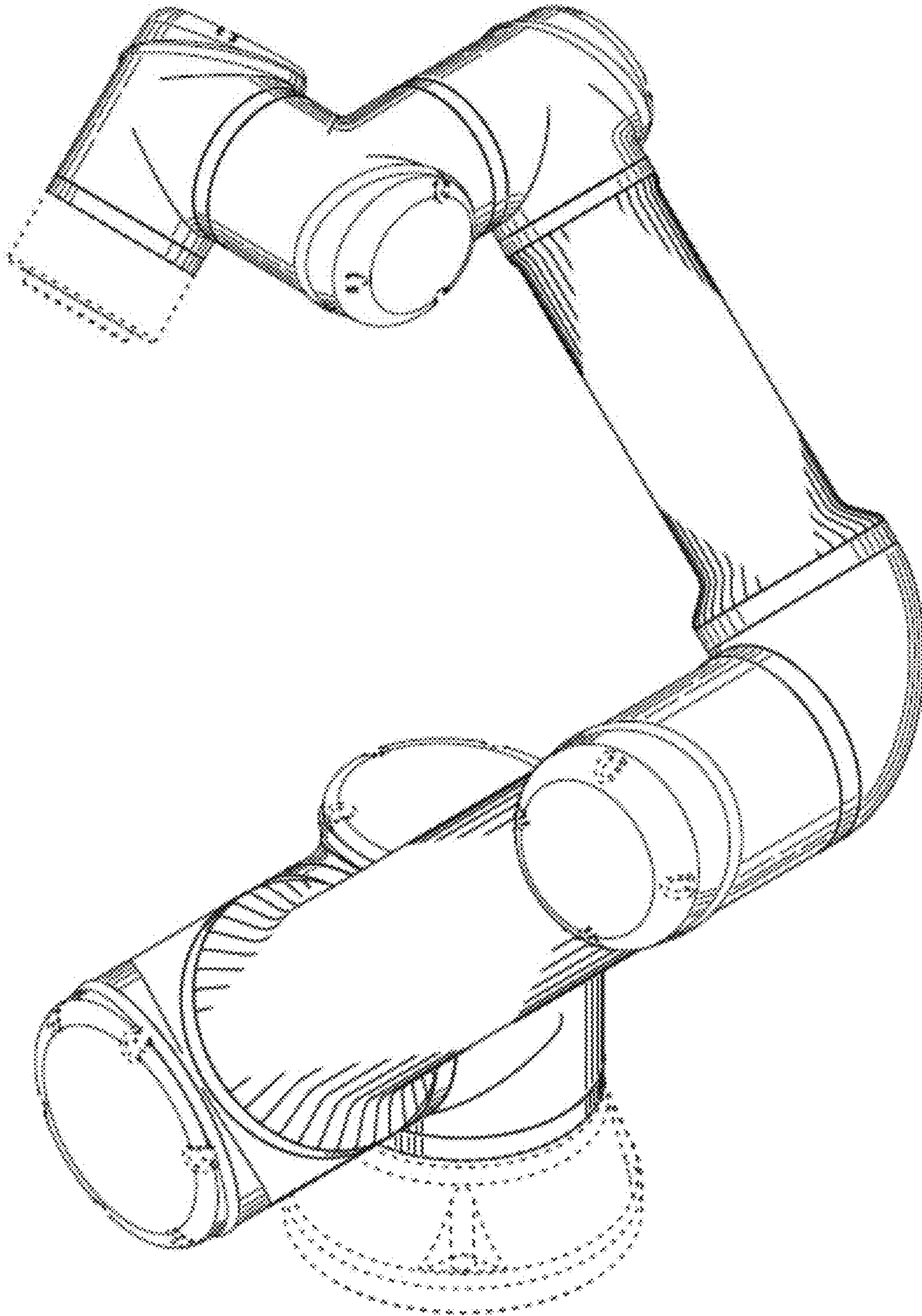


FIG. 6

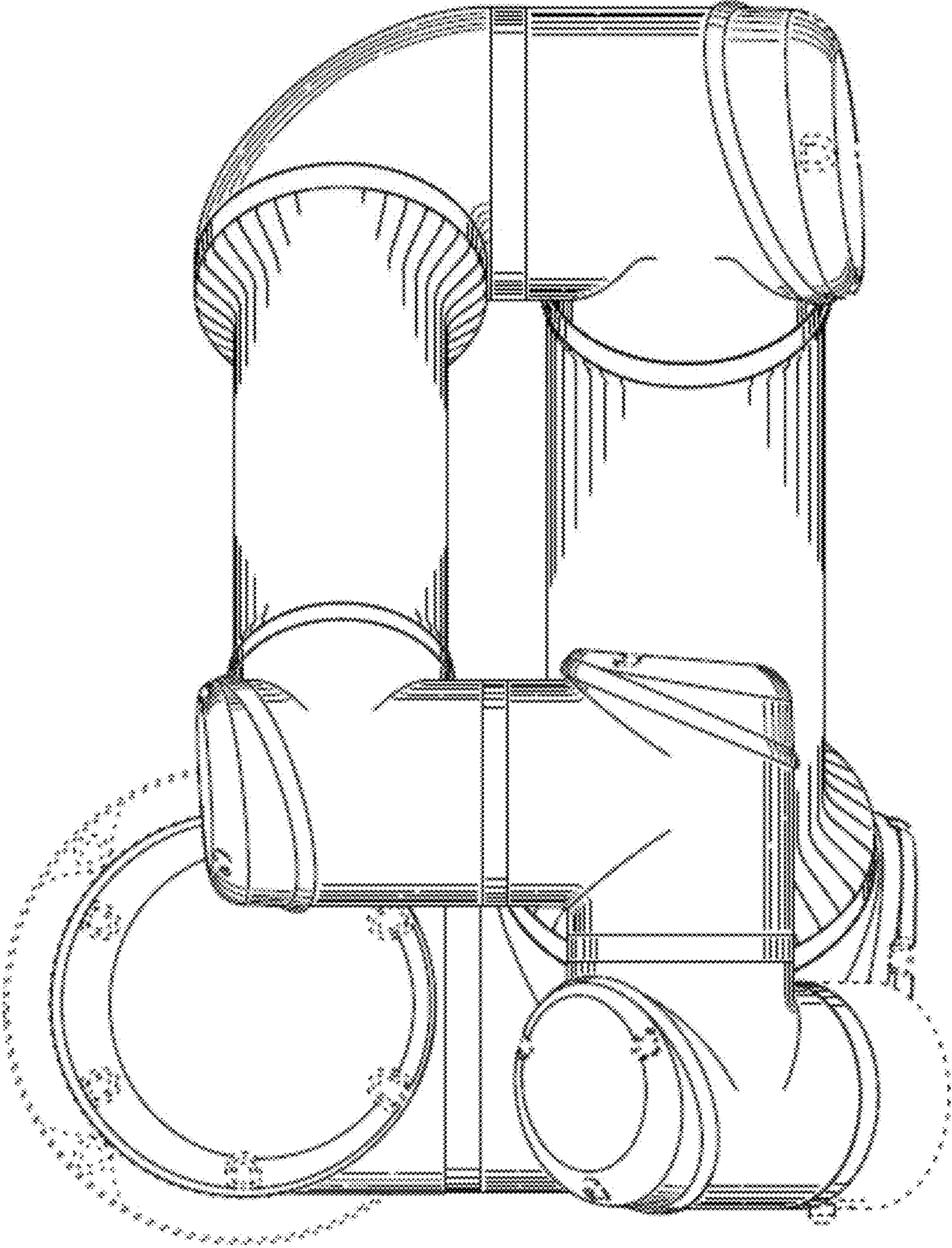


FIG. 7

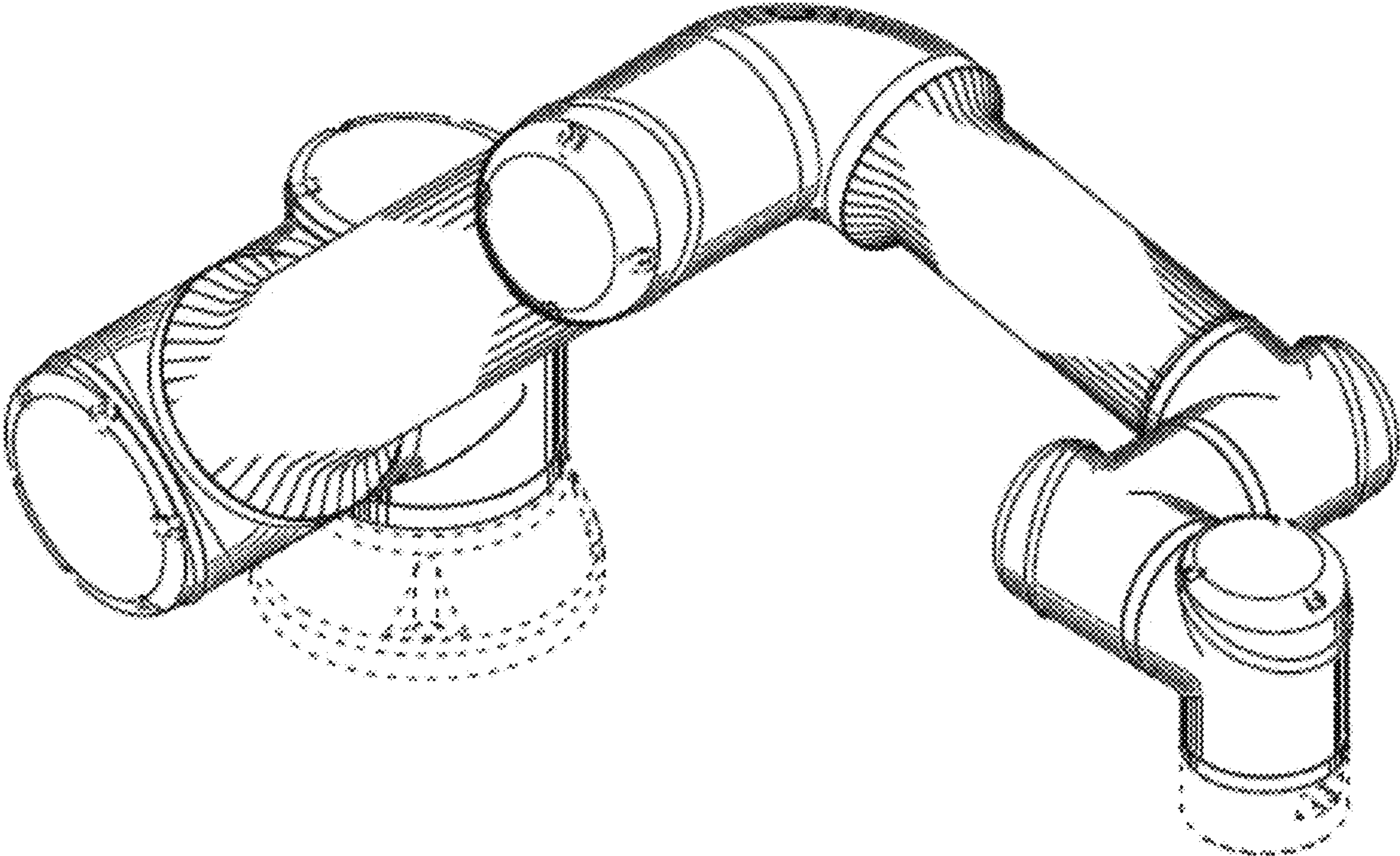


FIG. 8

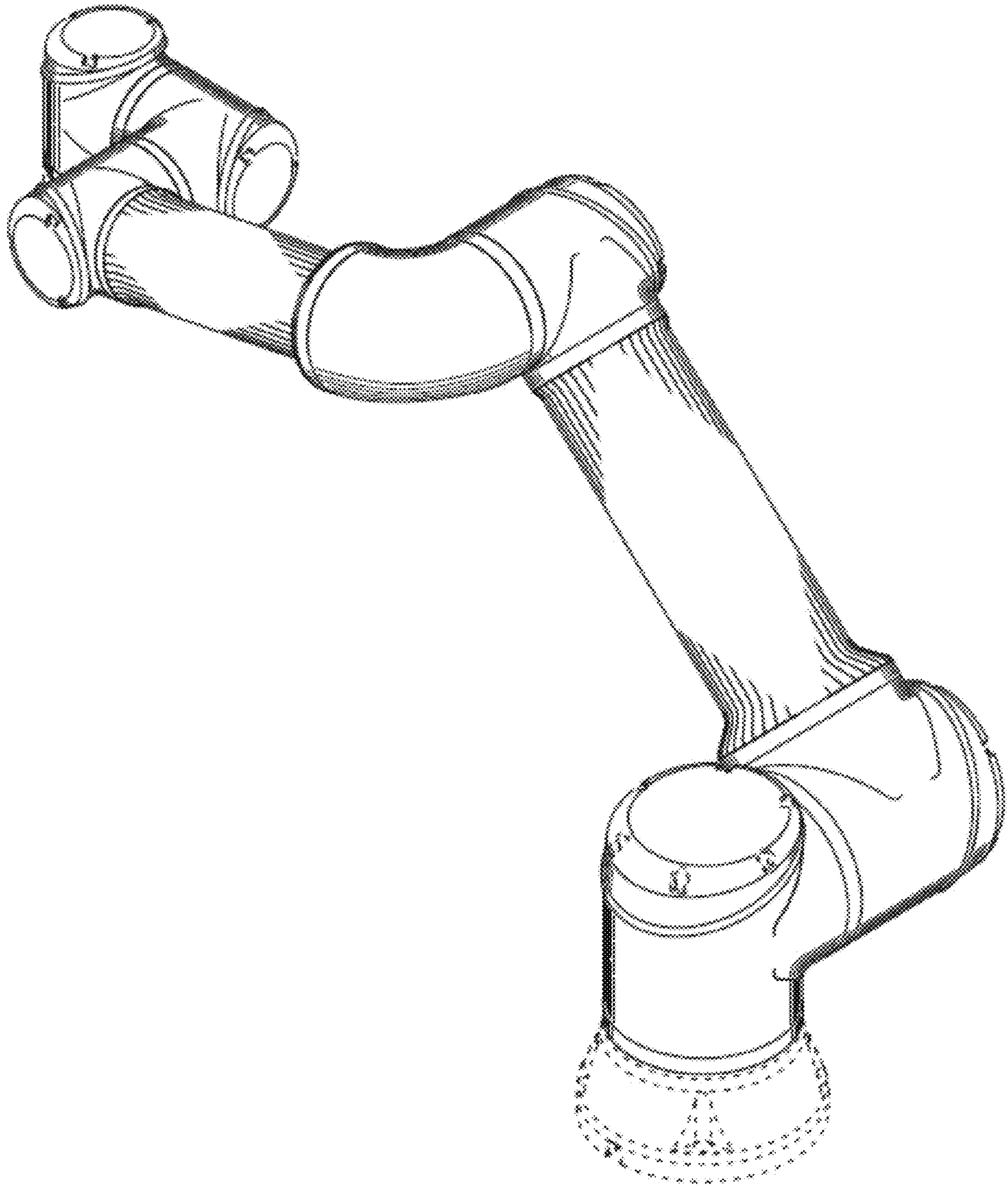


FIG. 9

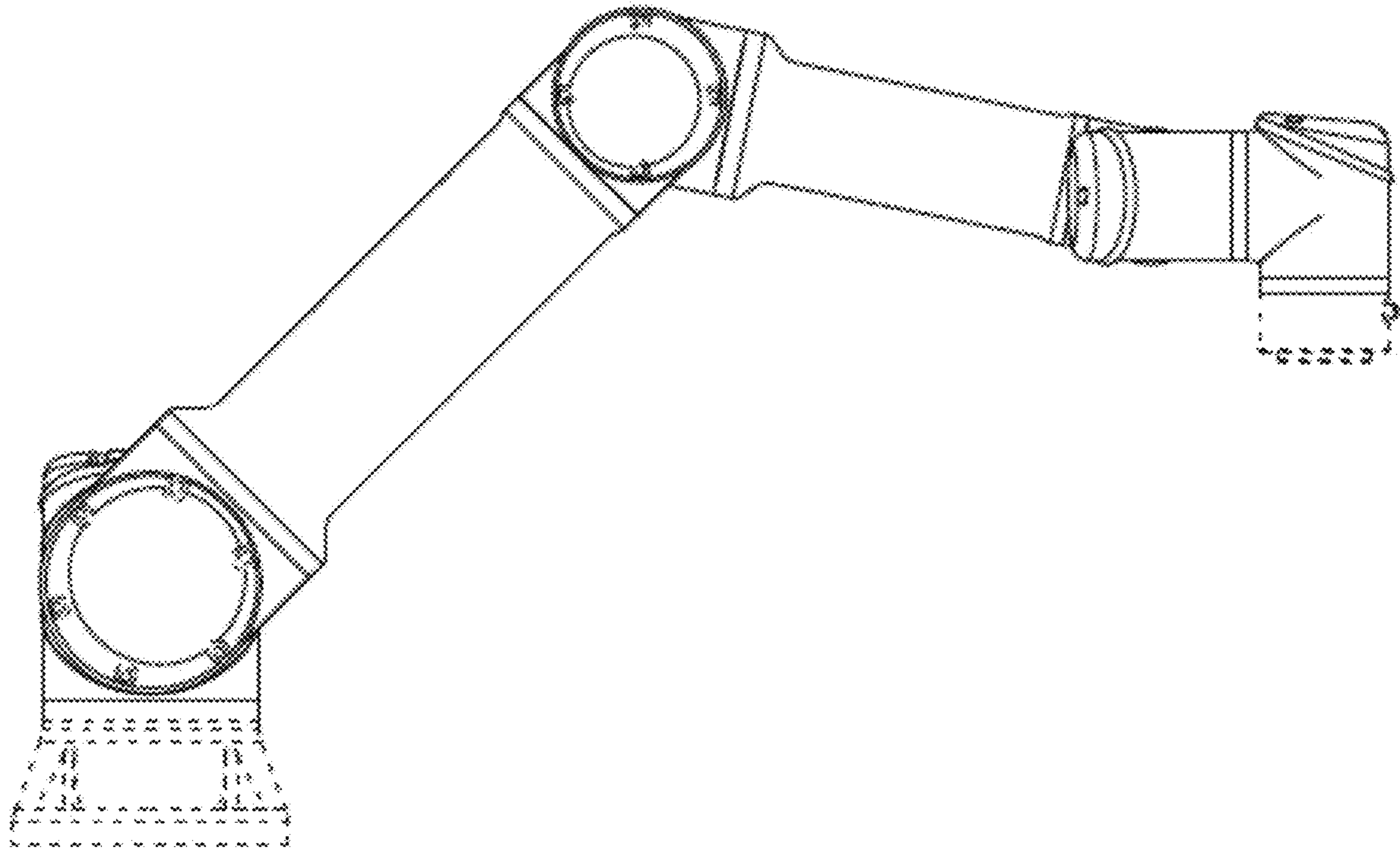


FIG. 10

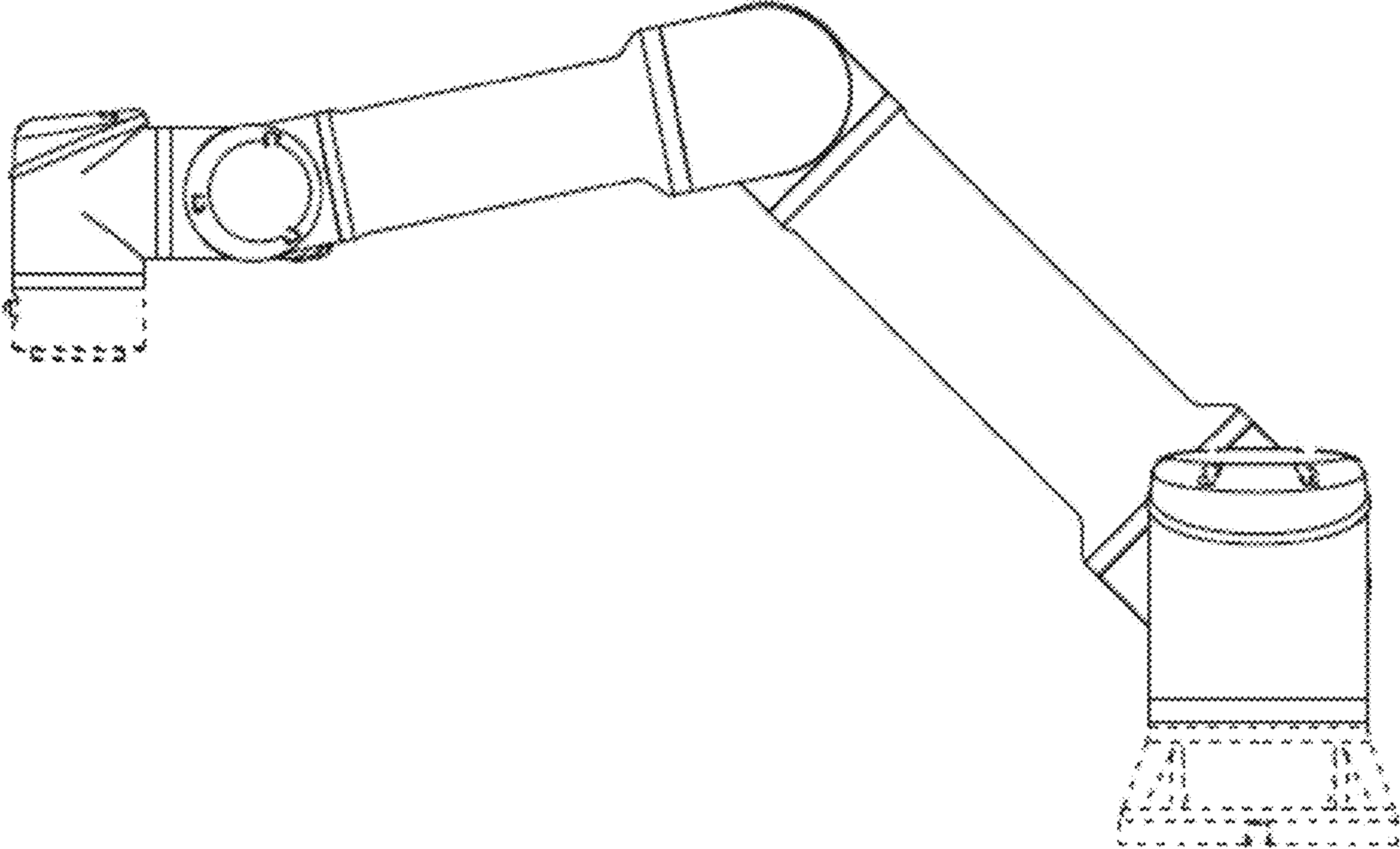


FIG. 11

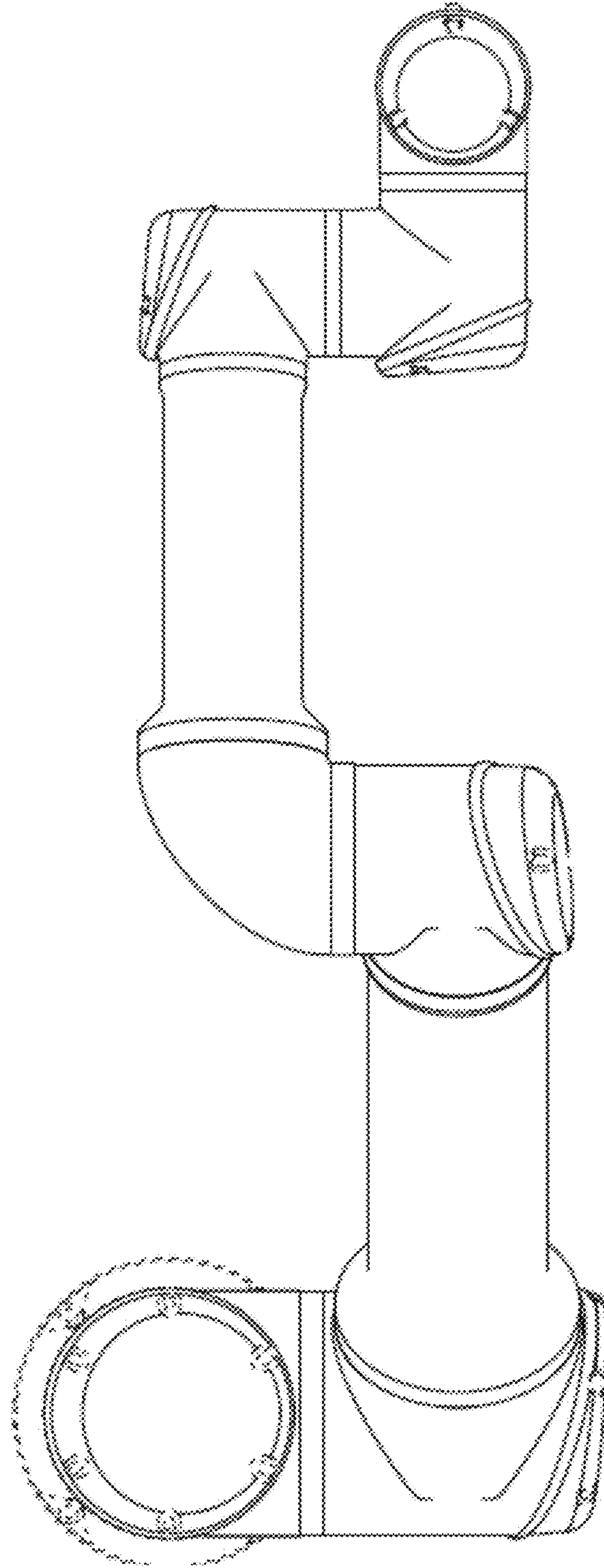


FIG. 12

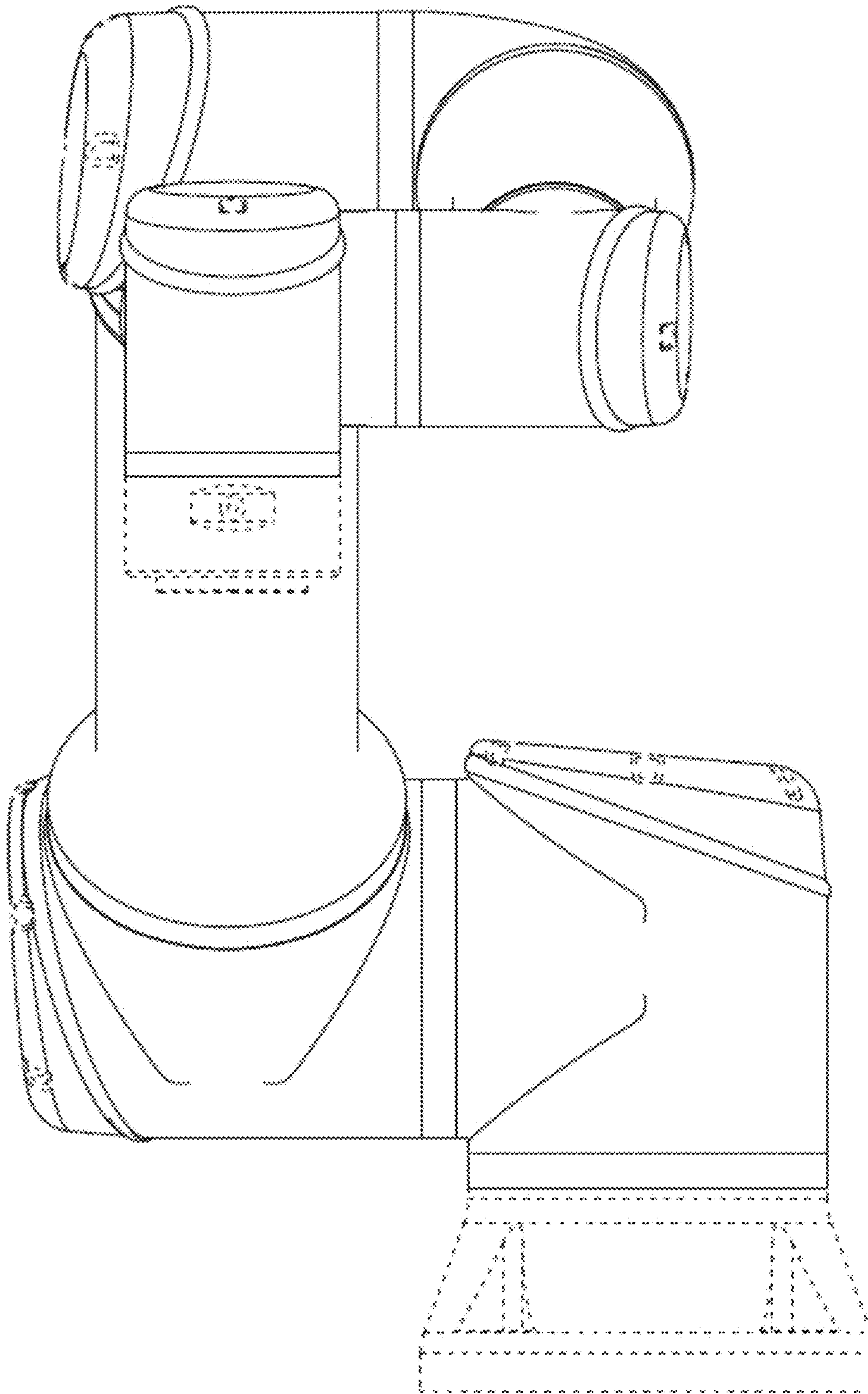


FIG. 13

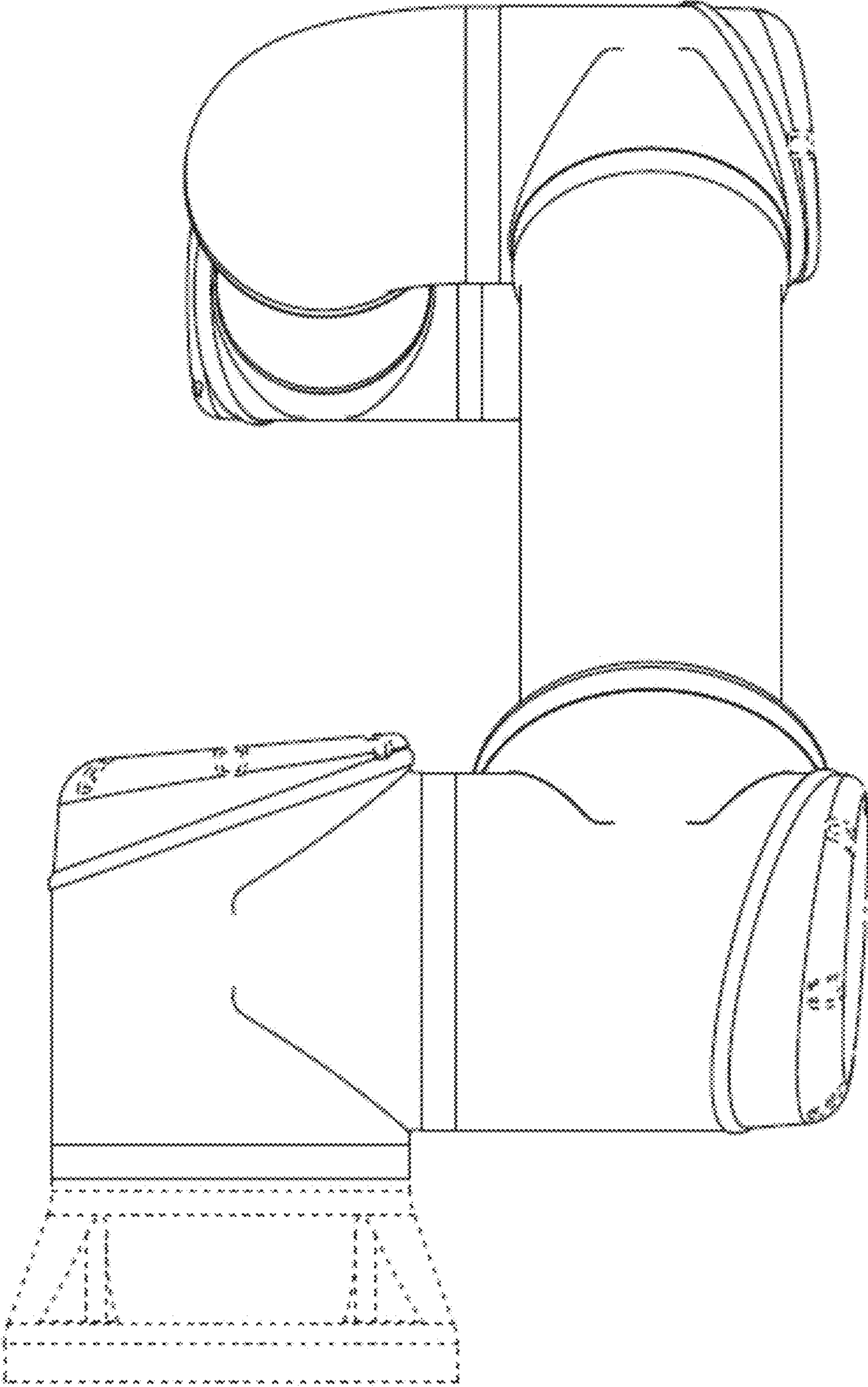


FIG. 14

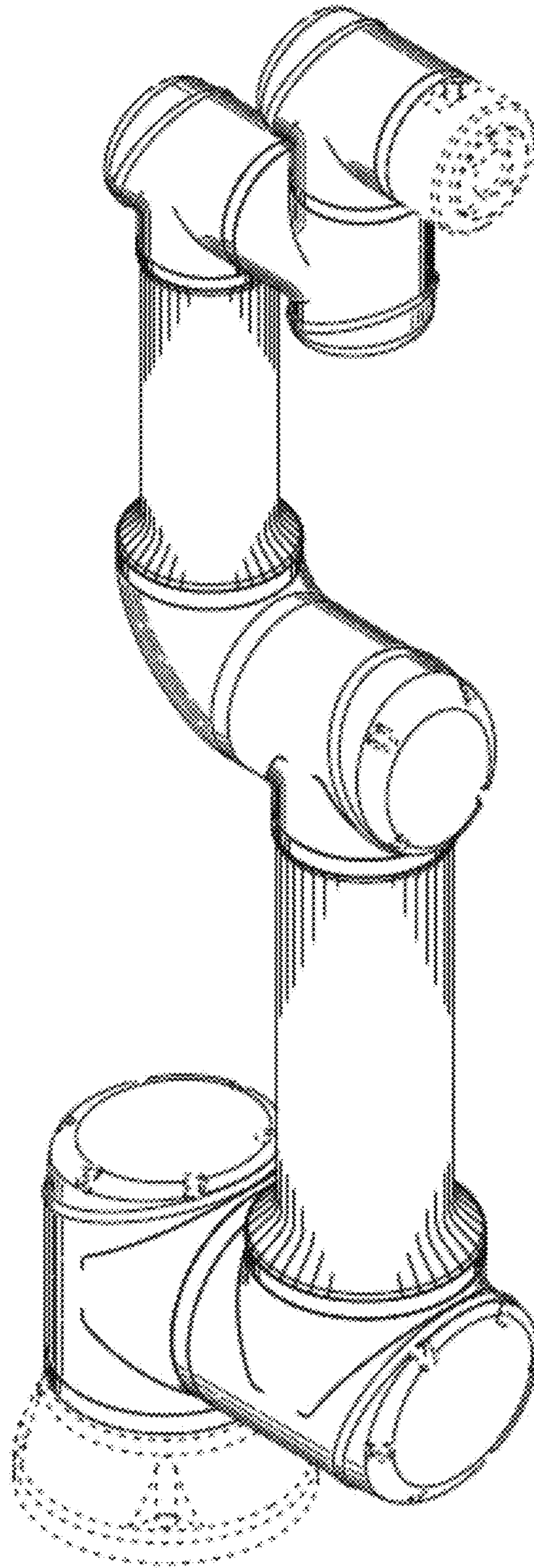


FIG. 15

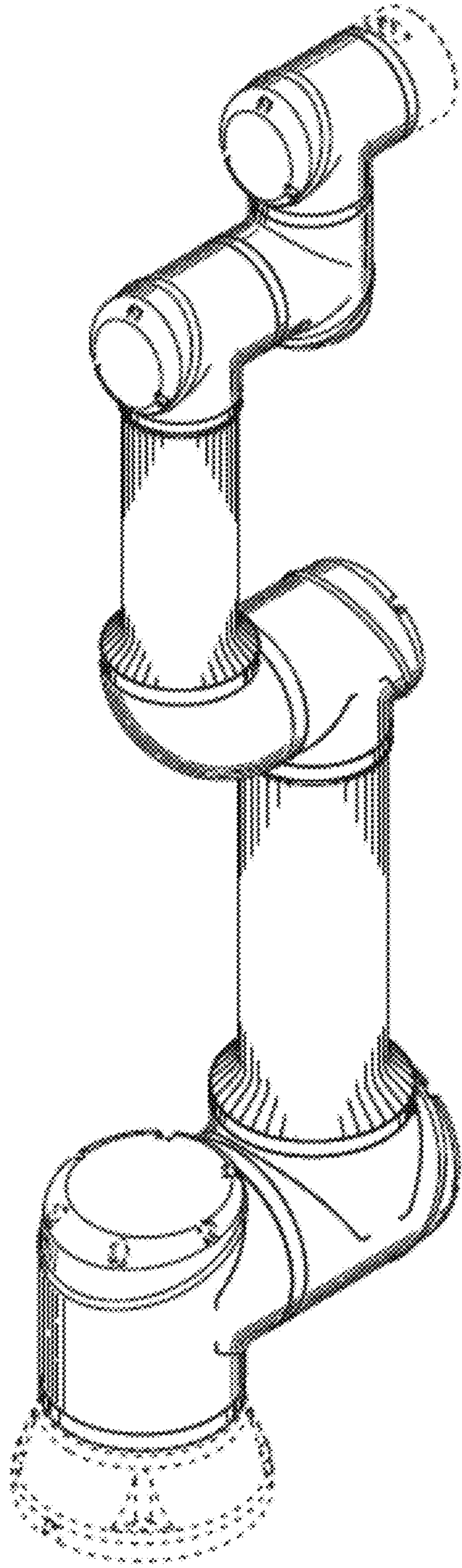


FIG. 16

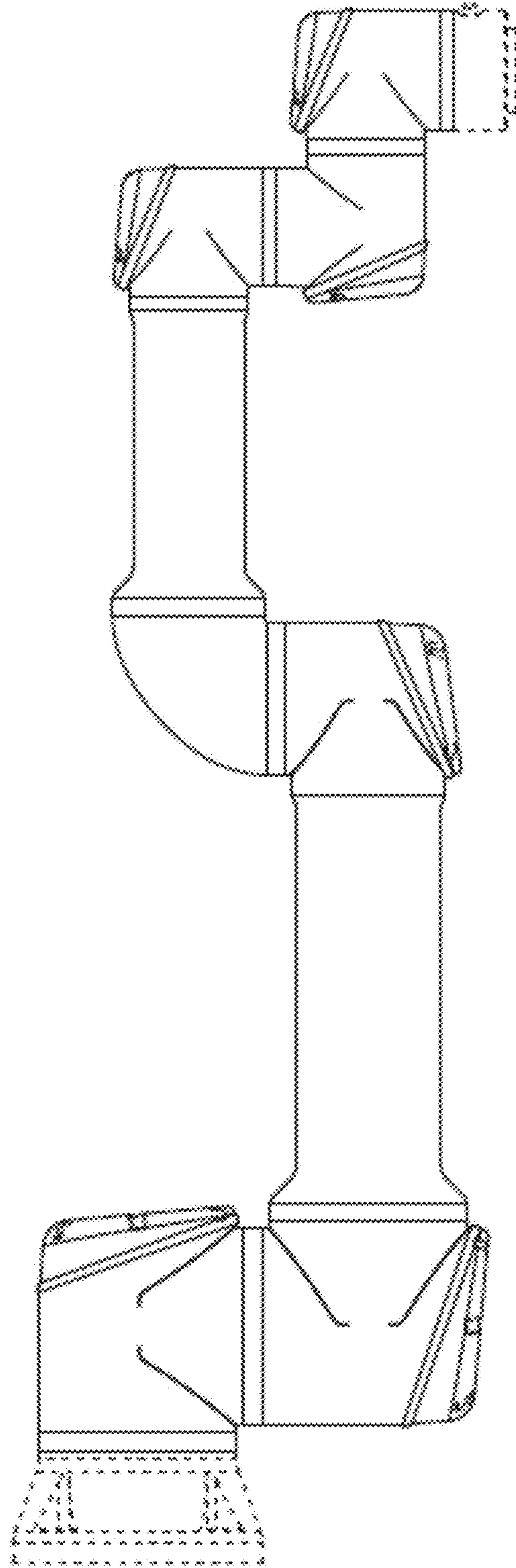


FIG. 17

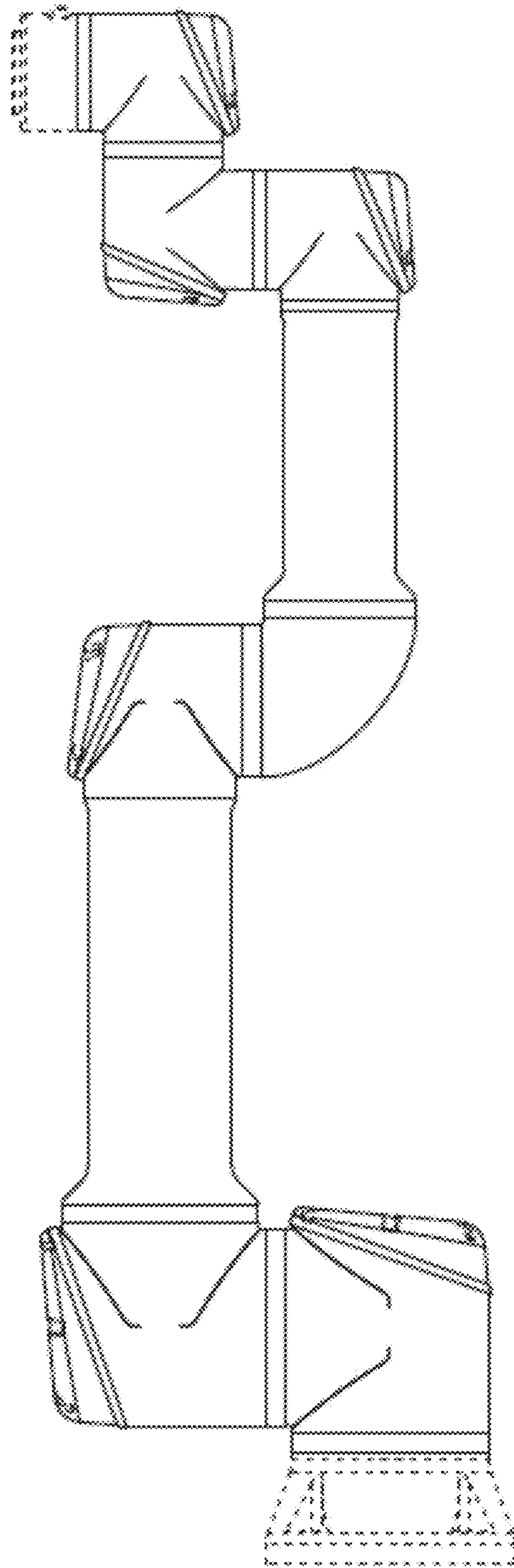


FIG. 18

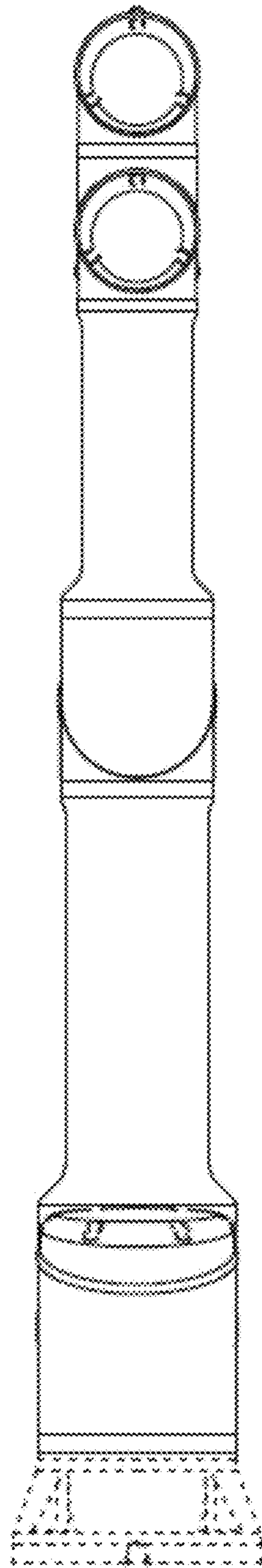


FIG. 19

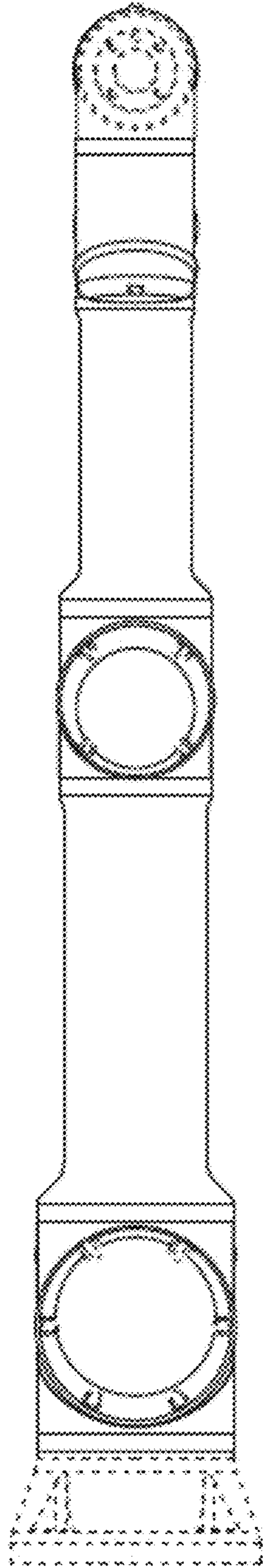


FIG. 20

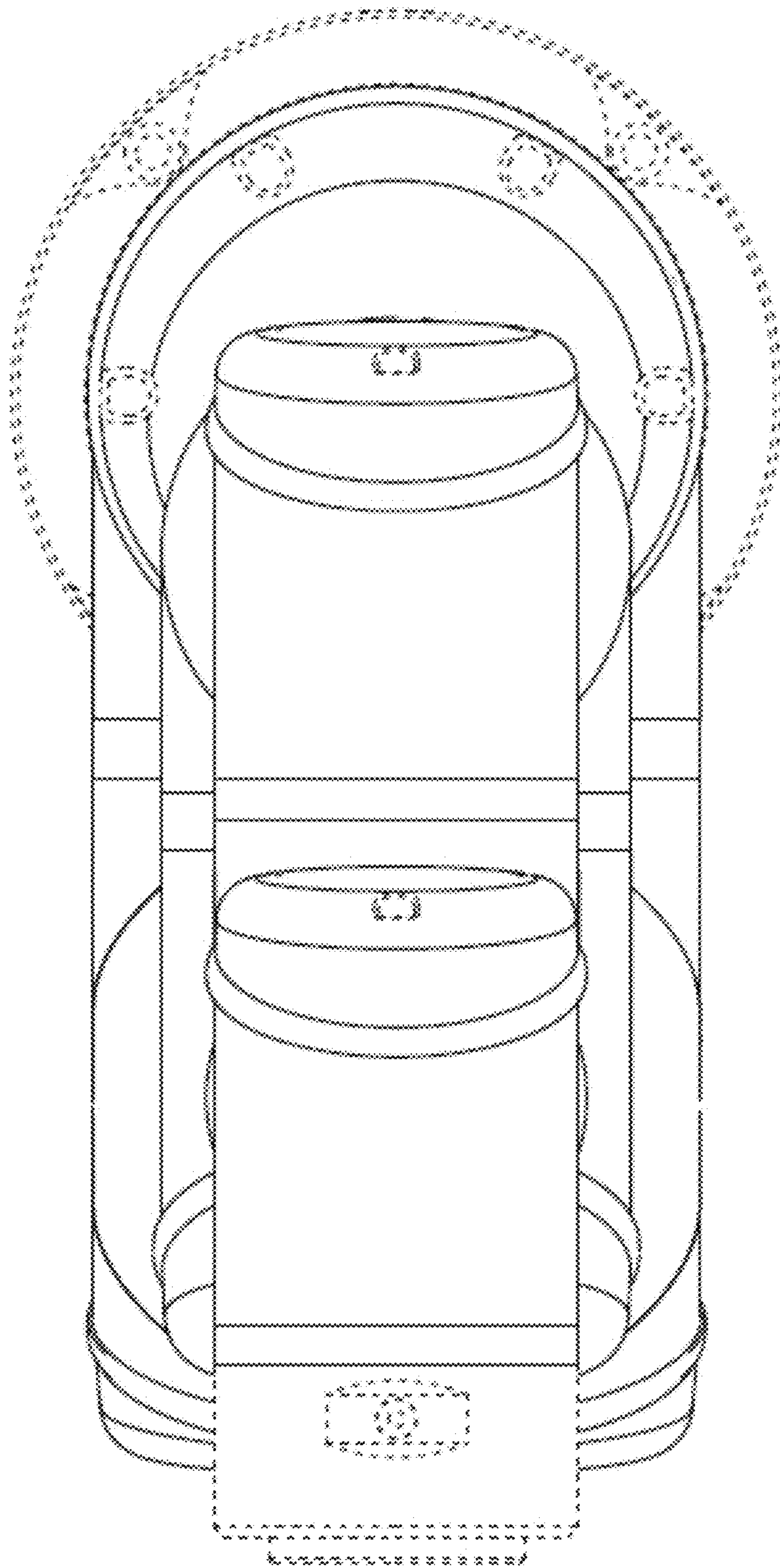


FIG. 21

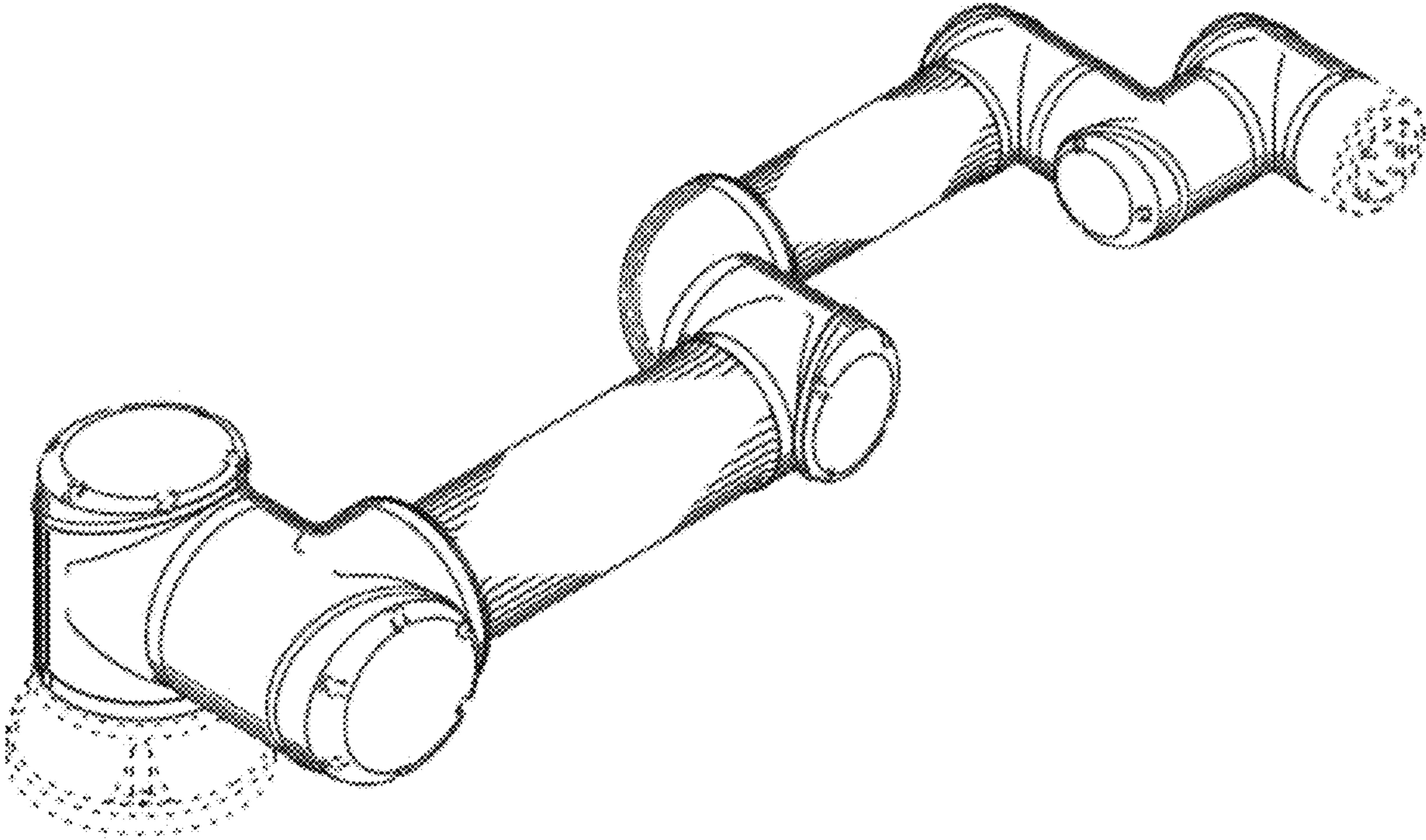


FIG. 22

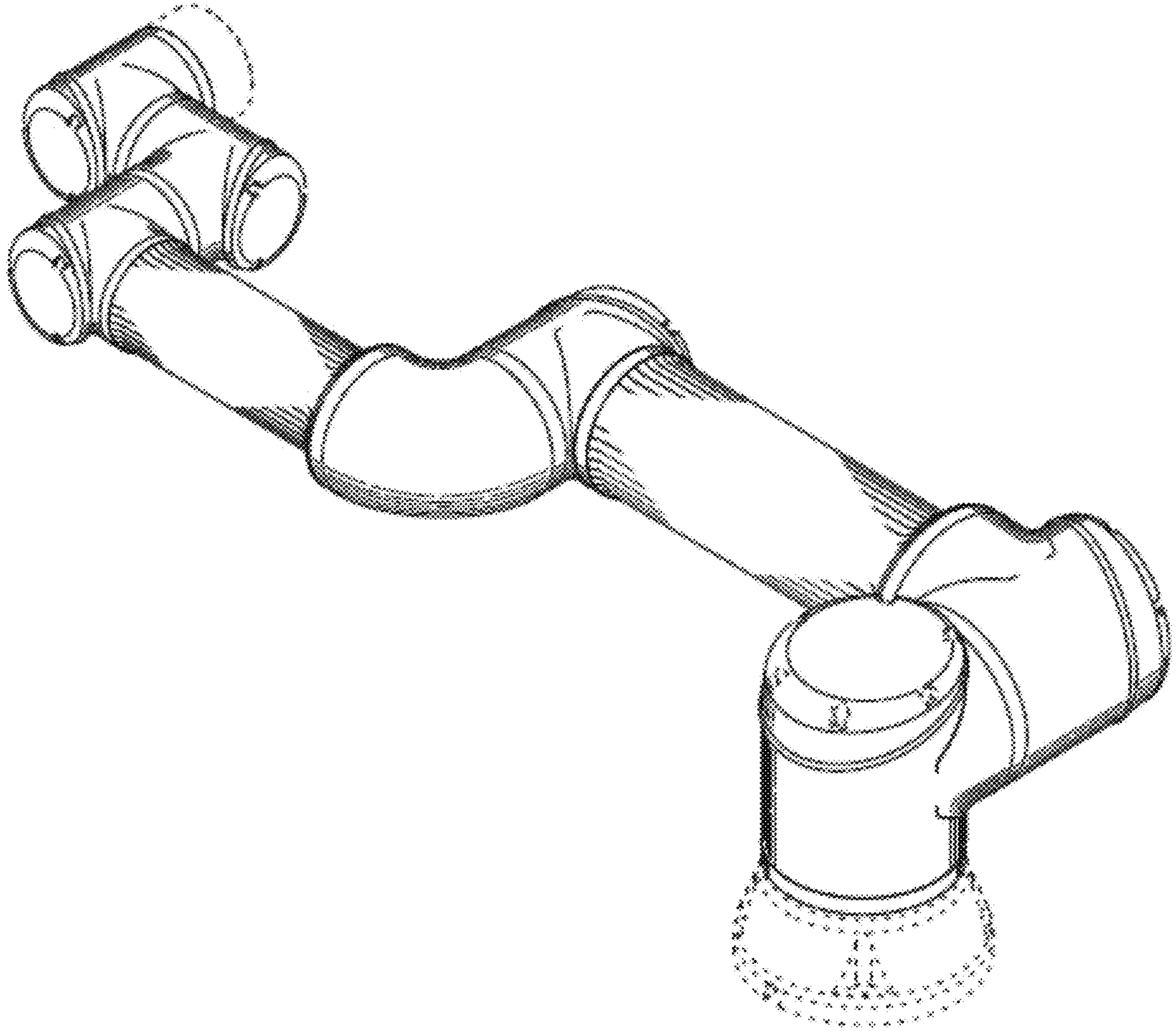


FIG. 23

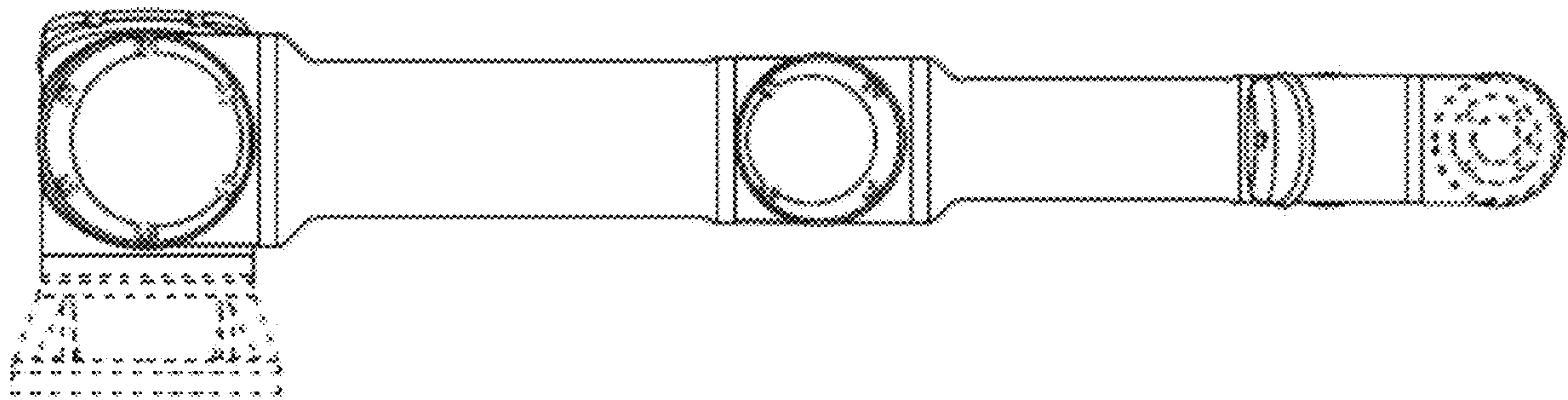


FIG. 24

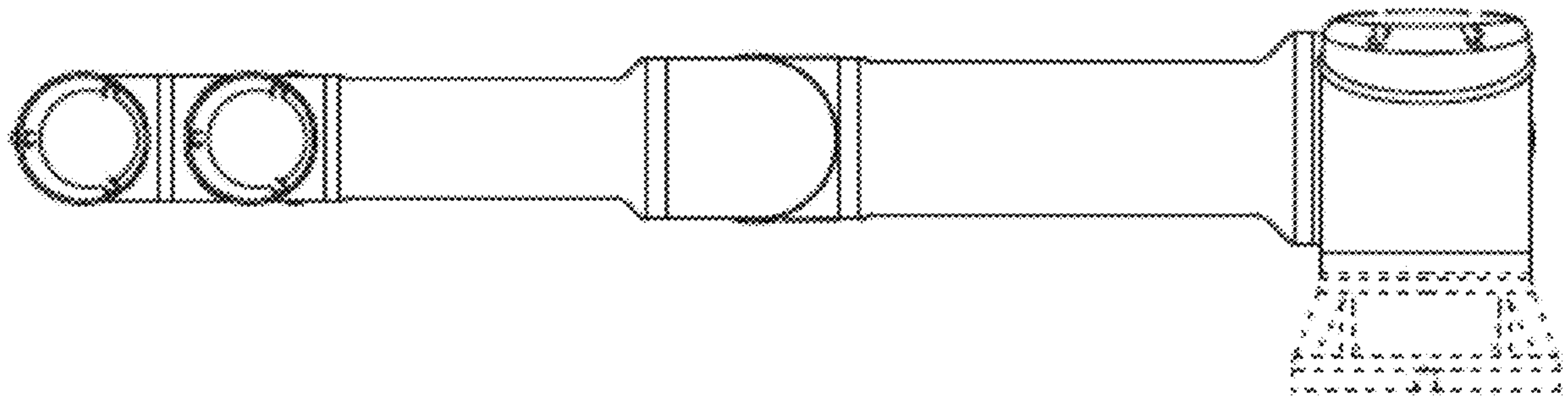


FIG. 25

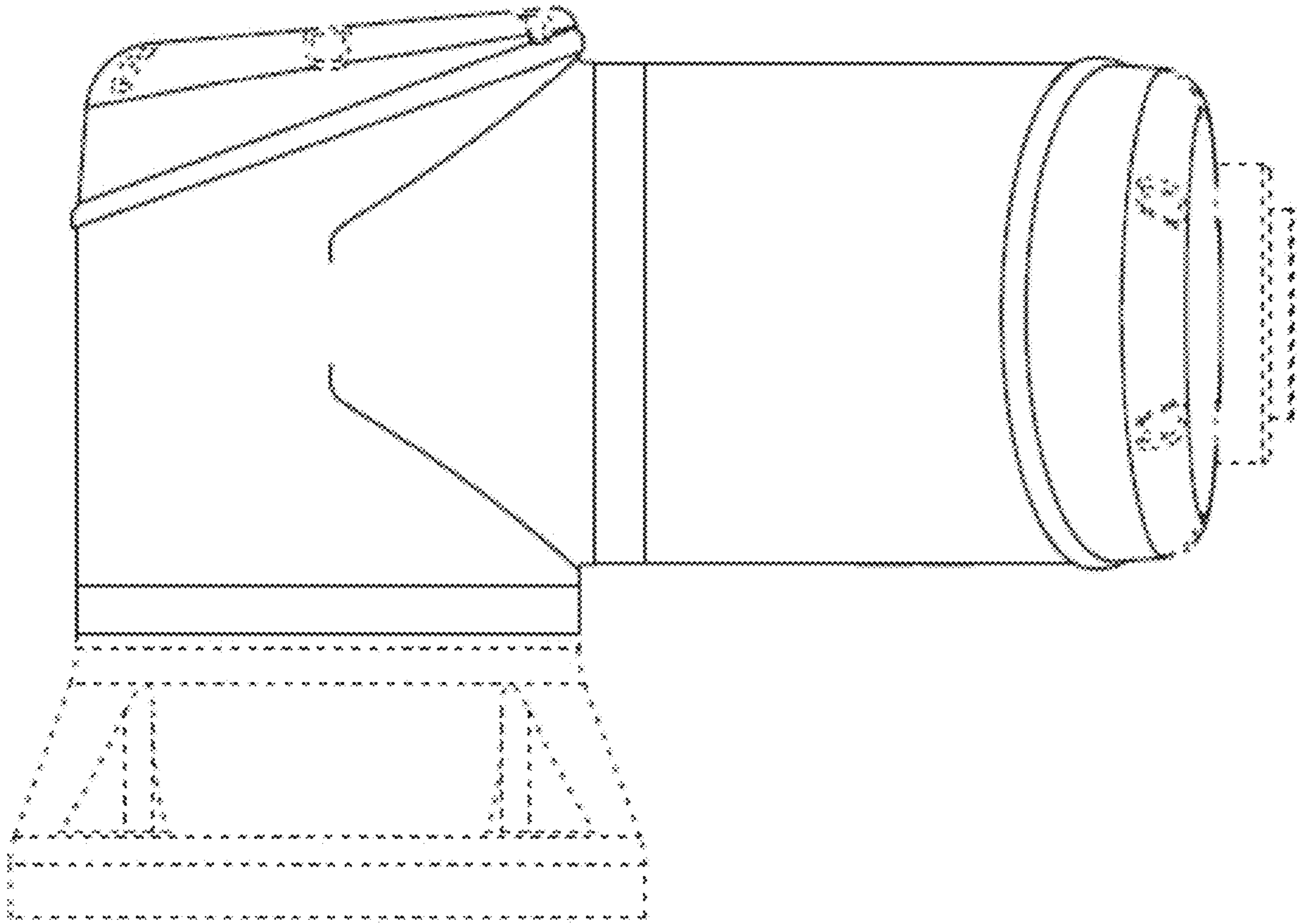


FIG. 26

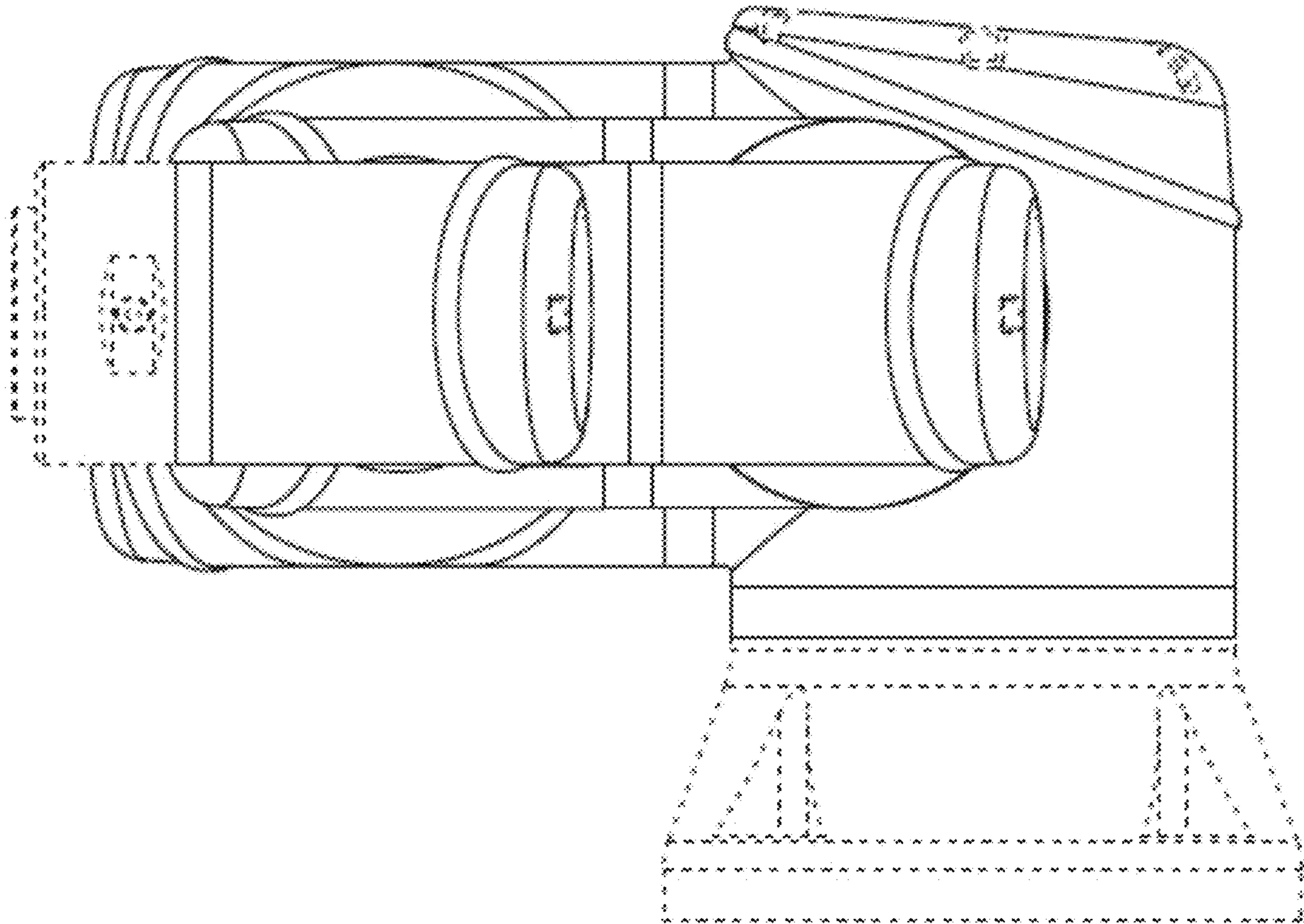


FIG. 27

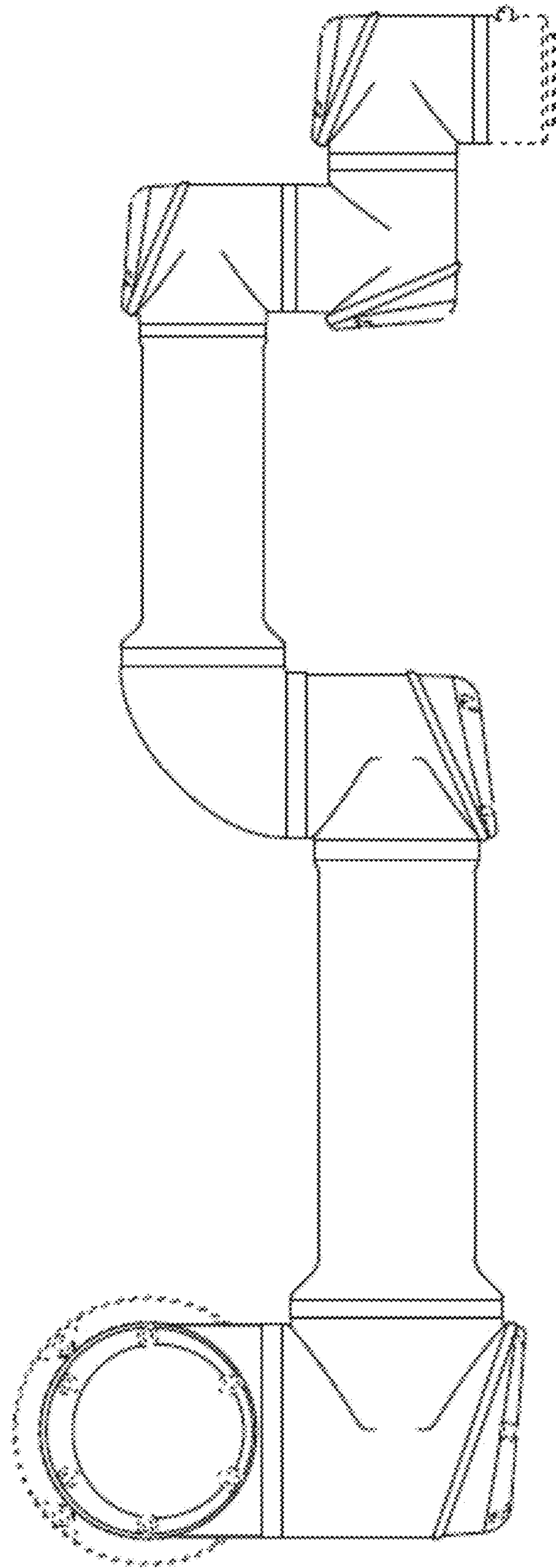


FIG. 28