



US00D840450S

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

(10) **Patent No.:** **US D840,450 S**
(45) **Date of Patent:** **** Feb. 12, 2019**

(54) **INDUSTRIAL ROBOT**

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

(21) Appl. No.: **29/566,771**

(22) Filed: **Jun. 2, 2016**

(30) **Foreign Application Priority Data**

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Dec. 2, 2015 (JP) 2015-027016
Dec. 2, 2015 (JP) 2015-027017

(51) **LOC (11) Cl.** **15-99**

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

(58) **Field of Classification Search**
USPC D15/199; D7/300, 305-311; D14/248;
D32/17, 18, 21, 22, 31-34
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D267,883 S * 2/1983 Susnjara D15/122
D293,324 S * 12/1987 Gotou D15/122
(Continued)

OTHER PUBLICATIONS

“YouTube—New SCARA Robot Generation HSR Series (English Ver).” Found online Aug. 15, 2018 at www.youtube.com. Video

published Apr. 18, 2017. Retrieved from URL: https://www.youtube.com/watch?v=QUhYcuDFH_A (Year: 2017).*

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(57) **CLAIM**

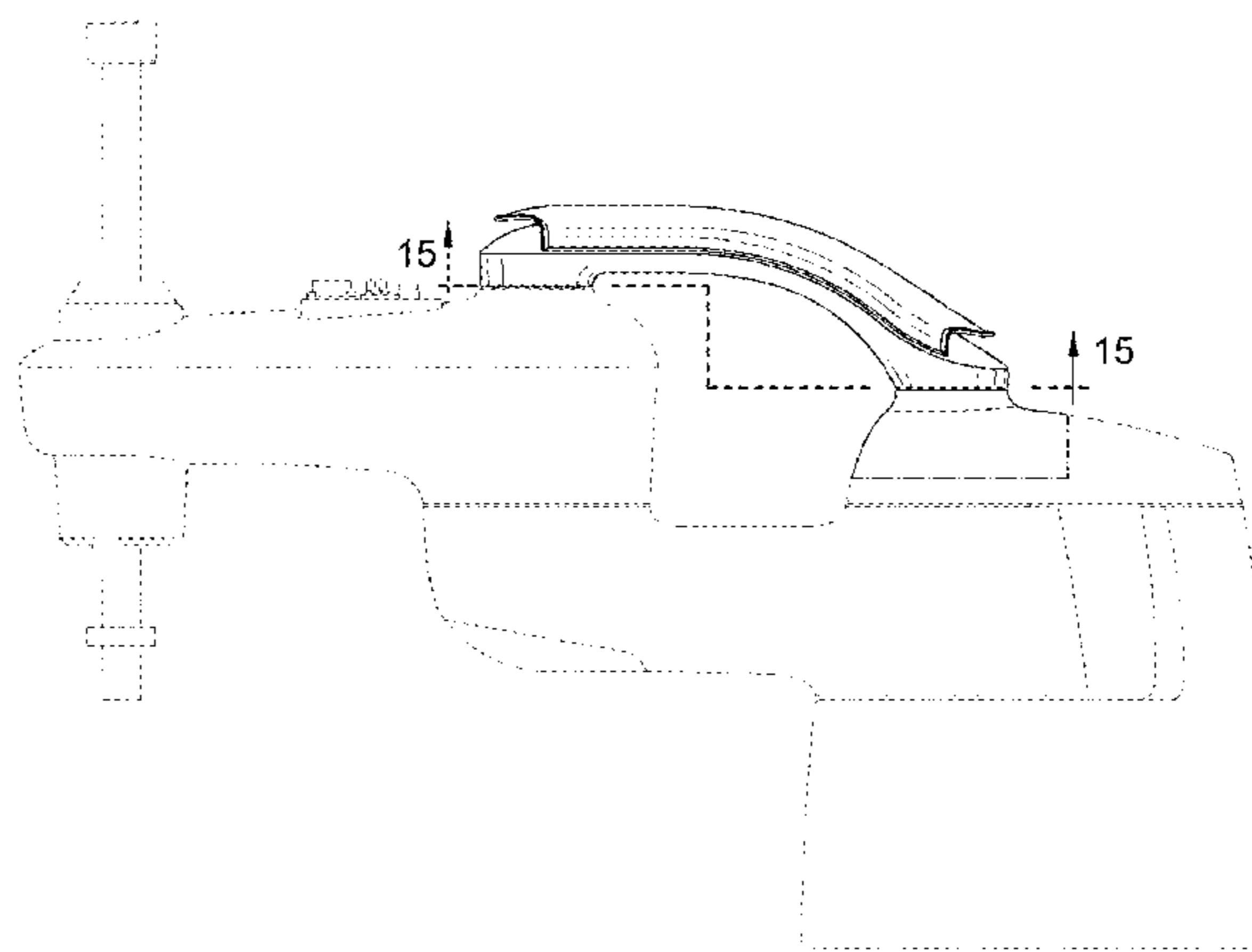
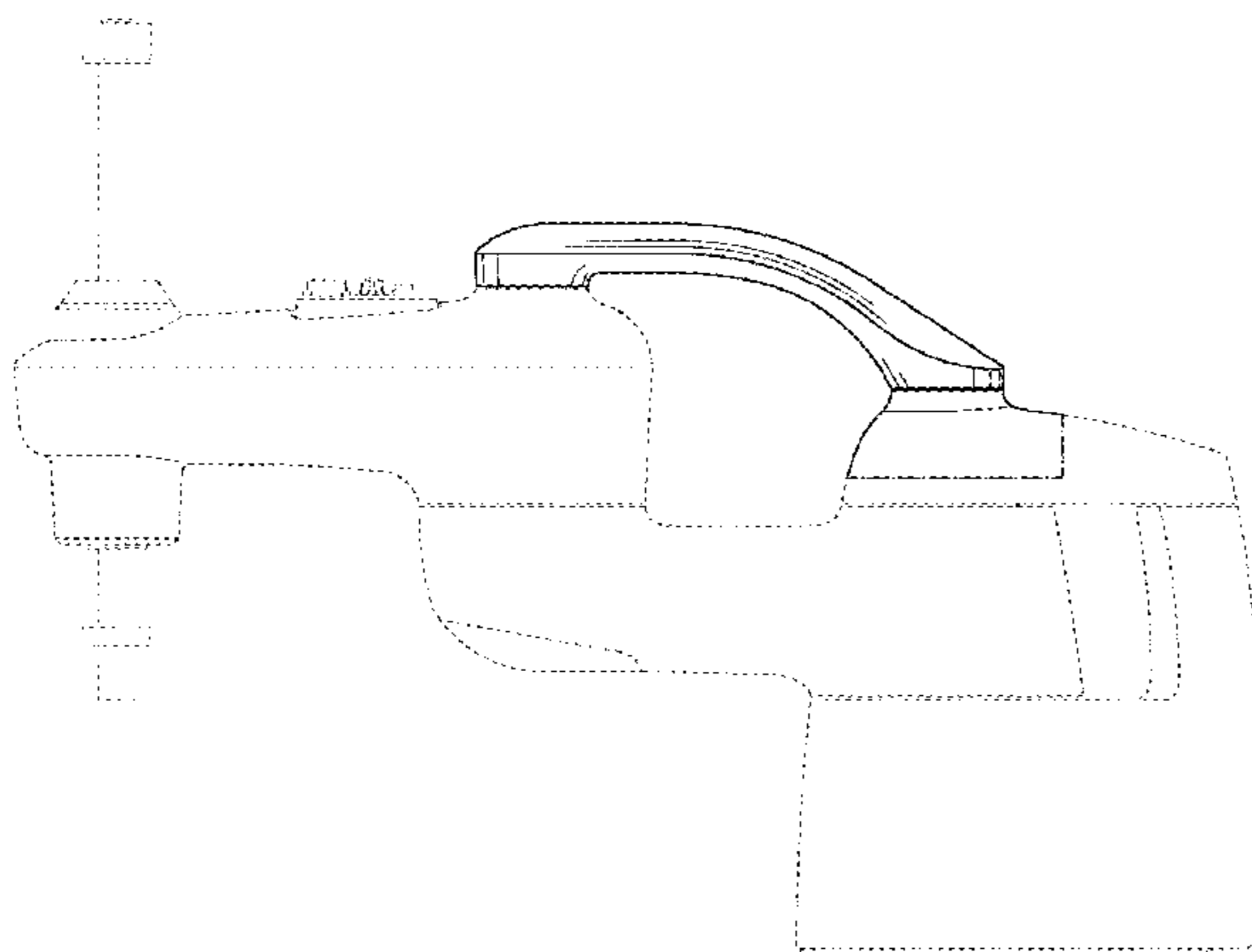
The ornamental design for an industrial robot, as shown and described.

DESCRIPTION

FIG. 1 is a right-side elevational view depicting a first embodiment of an industrial robot, showing my new design; FIG. 2 is a top plan view thereof; FIG. 3 is a left-side elevational view thereof; FIG. 4 is a front elevational view thereof; FIG. 5 is a rear elevational view thereof; FIG. 6 is a bottom plan view thereof; FIG. 7 is a cross-sectional view thereof taken along line 7-7 in FIG. 3; FIG. 8 is a right-side elevational view depicting a second embodiment of an industrial robot; FIG. 9 is a top plan view thereof; FIG. 10 is a left-side elevational view thereof; FIG. 11 is a front elevational view thereof; FIG. 12 is a rear elevational view thereof; FIG. 13 is a bottom plan view thereof; FIG. 14 is a cross-sectional view thereof taken along line 14-14 in FIG. 10; and, FIG. 15 is a cross-sectional view thereof taken along line 15-15 in FIG. 8.

The evenly-spaced broken lines depict portions of the industrial robot that form no part of the claimed design. The dash-dot-dash broken lines are boundaries of the design and form no part of the claim.

1 Claim, 11 Drawing Sheets



(58) **Field of Classification Search**
 CPC B25J 9/00; B25J 9/04; B25J 18/00
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D301,033	S *	5/1989	Brown	.....	D14/248
D306,863	S *	3/1990	Gallagher	.....	D14/248
4,951,517	A *	8/1990	Azuma	.....	B25J 9/04
					414/744.5
D311,542	S *	10/1990	Corneliess	.....	D14/248
D343,630	S *	1/1994	Tomiyama	.....	D15/199
D344,272	S *	2/1994	Desbarats	.....	D14/248
D344,279	S *	2/1994	Koyama	.....	D15/199
D354,061	S *	1/1995	Desbarats	.....	D14/248
D384,673	S *	10/1997	Hernandez	.....	D14/248
D393,645	S *	4/1998	Langlois	.....	D14/248
D398,306	S *	9/1998	Jemal	.....	D14/144
D458,599	S *	6/2002	Nagase	.....	D14/248
6,439,076	B1 *	8/2002	Flemmer	.....	B25J 9/04
					74/490.03

D499,724	S *	12/2004	Weidinger	.....	D14/248
D625,347	S *	10/2010	Feng	.....	D15/199
D653,247	S *	1/2012	Jones	.....	D14/248
D668,642	S *	10/2012	Feldman	.....	D14/248
D763,337	S *	8/2016	Ries	.....	D15/199
D763,338	S *	8/2016	Ries	.....	D15/199
D790,618	S *	6/2017	Ke	.....	D15/199
D818,019	S *	5/2018	Huang	.....	D15/199
D818,511	S *	5/2018	Li	.....	D15/199
2018/0087292	A1 *	3/2018	Kojima	.....	B25J 9/00
2018/0169760	A1 *	6/2018	Negishi	.....	B33Y 80/00

OTHER PUBLICATIONS

“Denso Wave Incorporated 4-Axis (SCARA) Robots HSR Series.”
 Found online Aug. 15, 2018 at www.denso-wave.com. Page archived
 Nov. 6, 2016. Retrieved from URL: <https://web.archive.org/web/20161106135411/https://www.denso-wave.com/en/robot/product/four/hsr.html> (Year: 2016).*

* cited by examiner

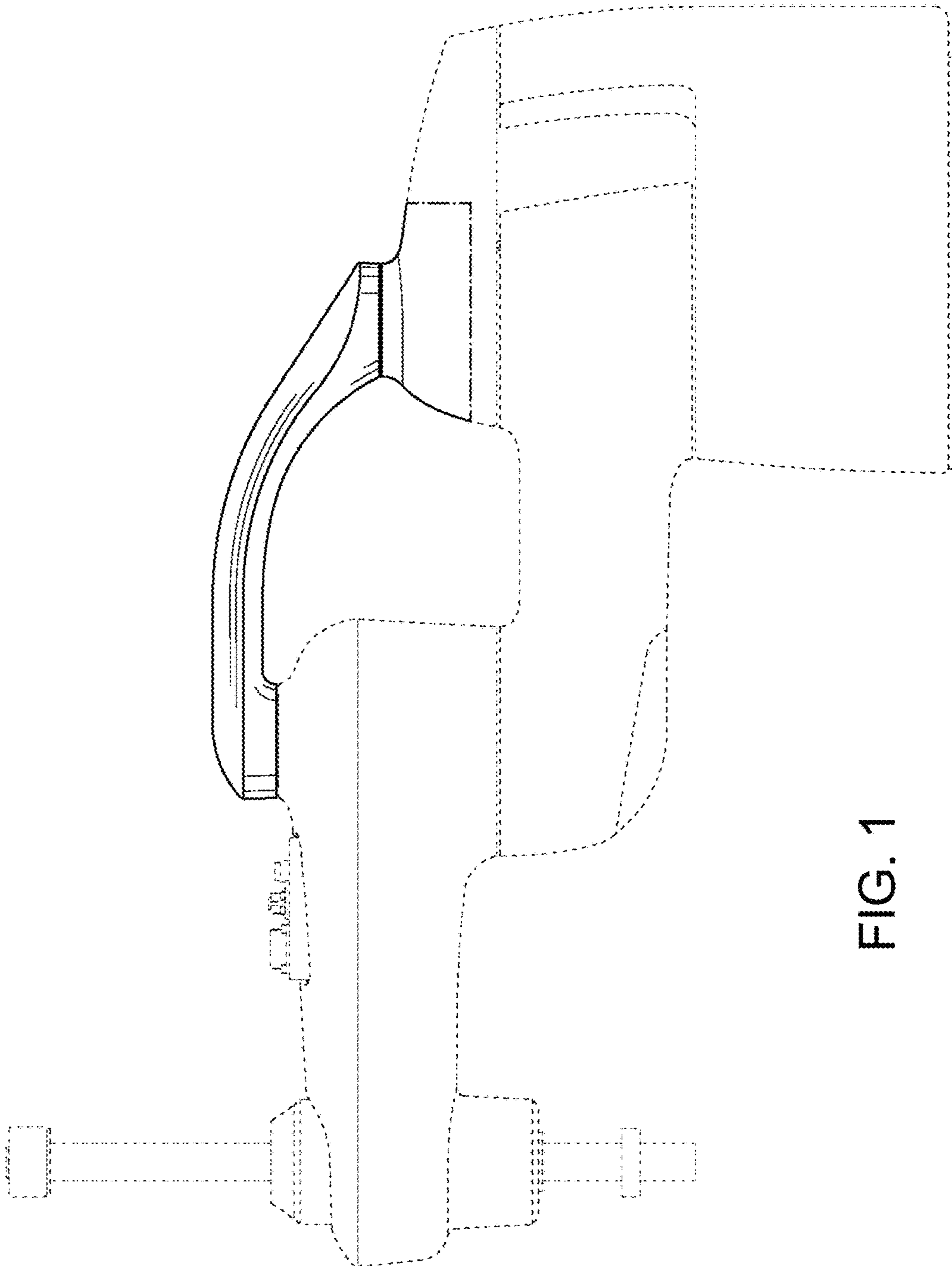


FIG. 1

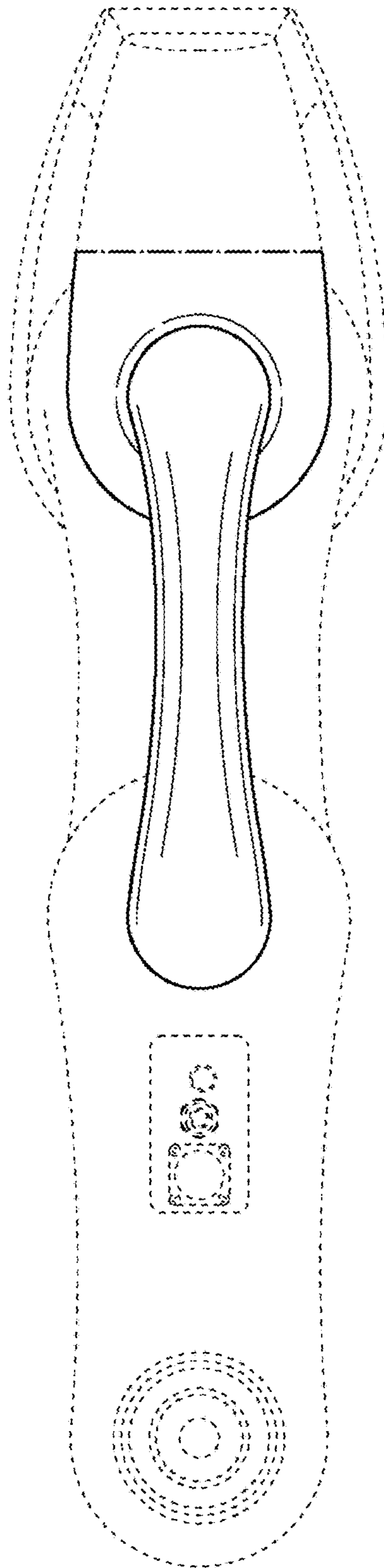


FIG. 2

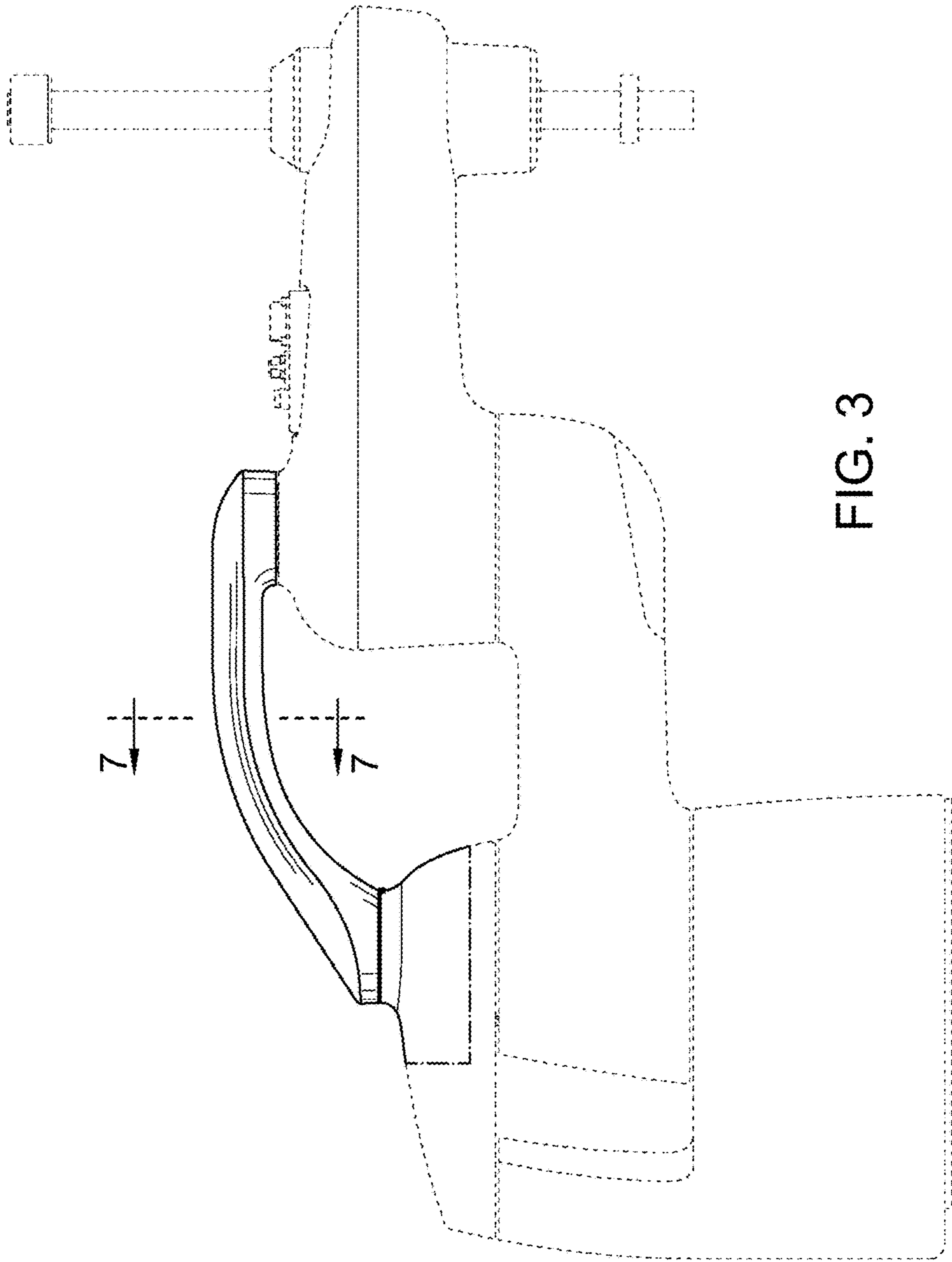


FIG. 3

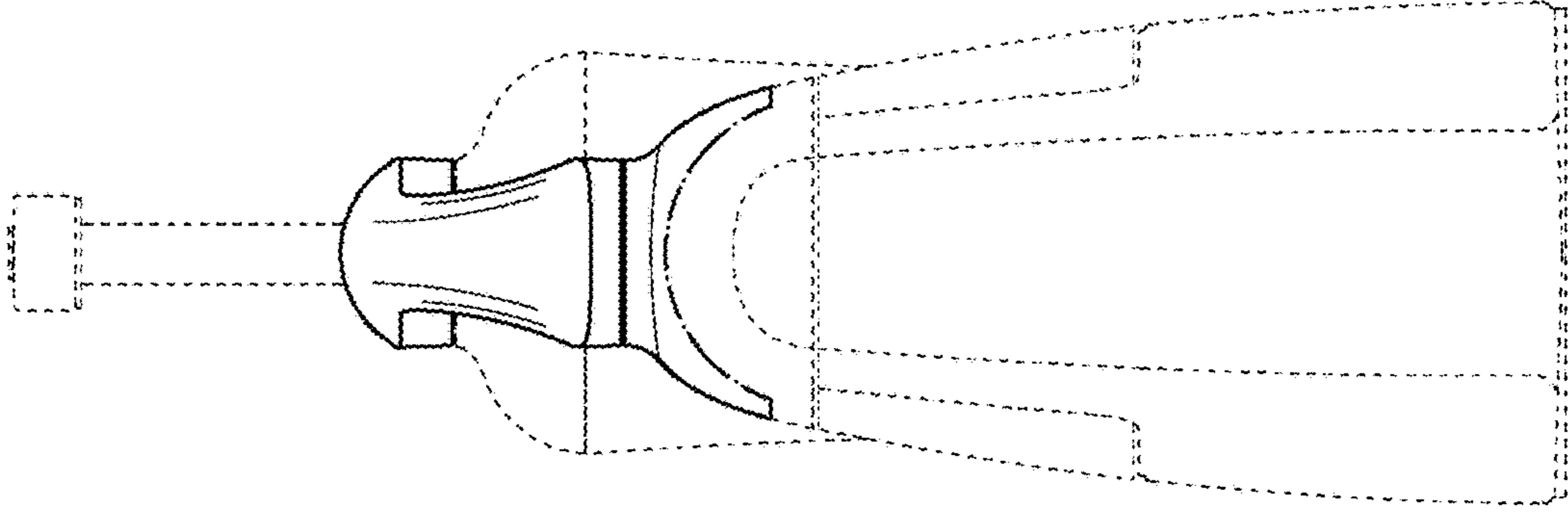


FIG. 4

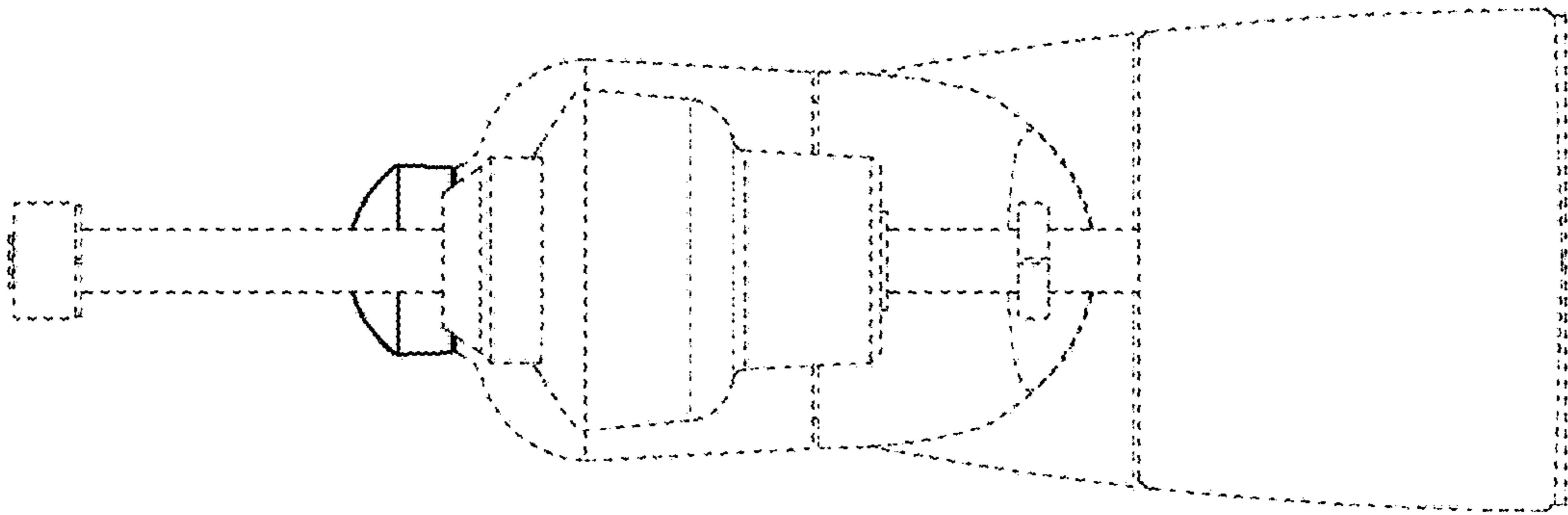


FIG. 5

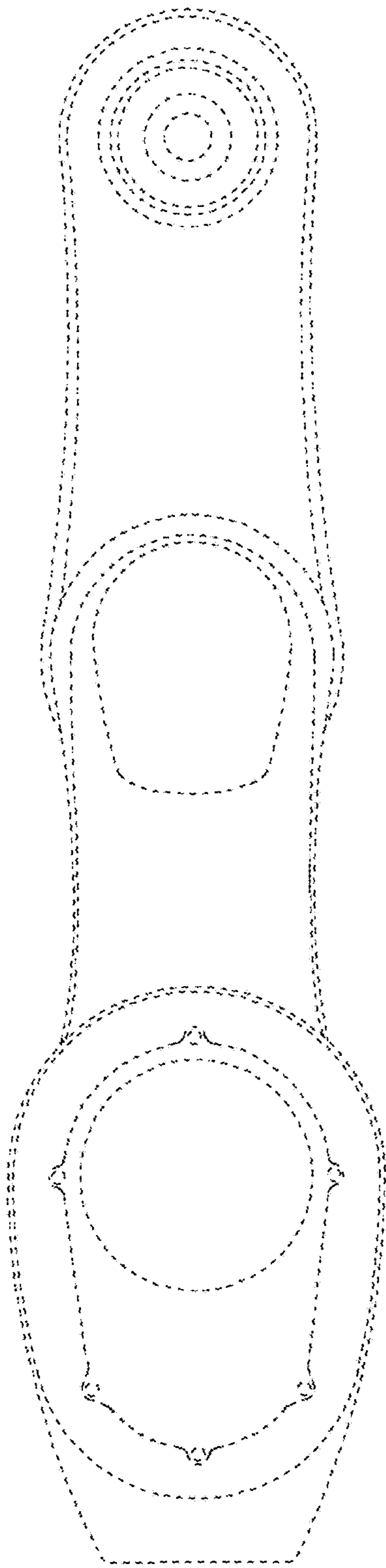


FIG. 6

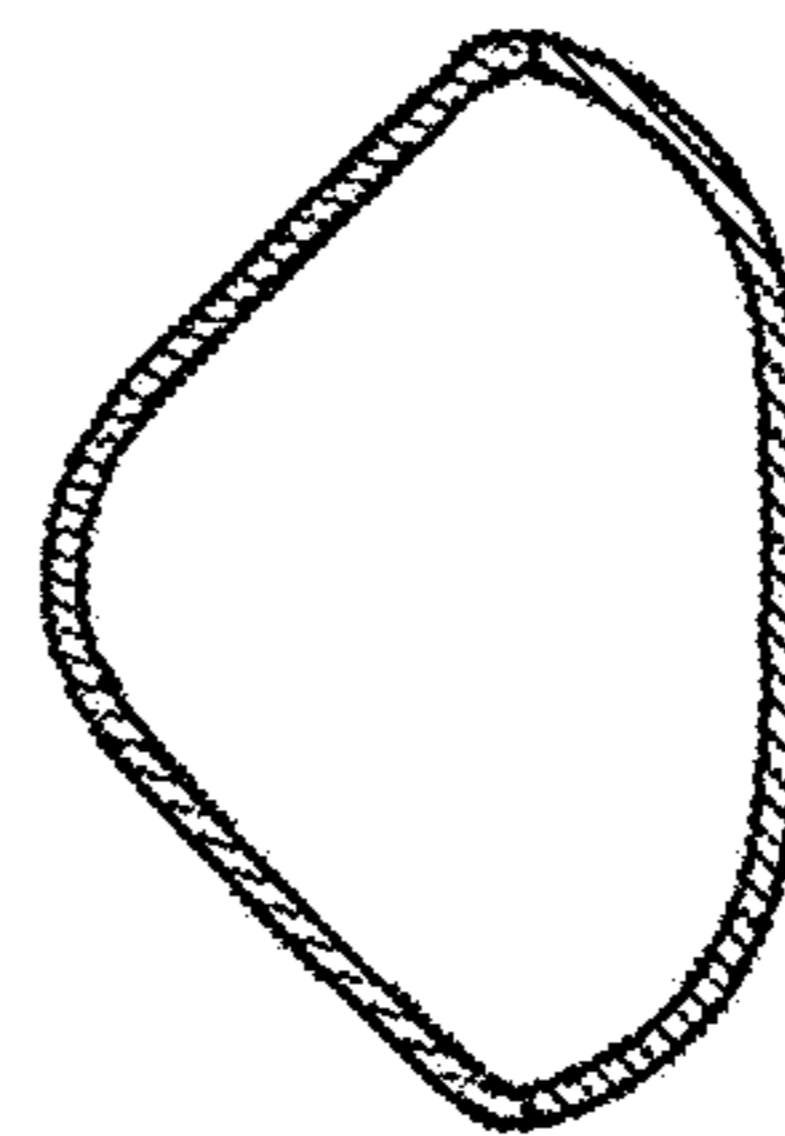


FIG. 7

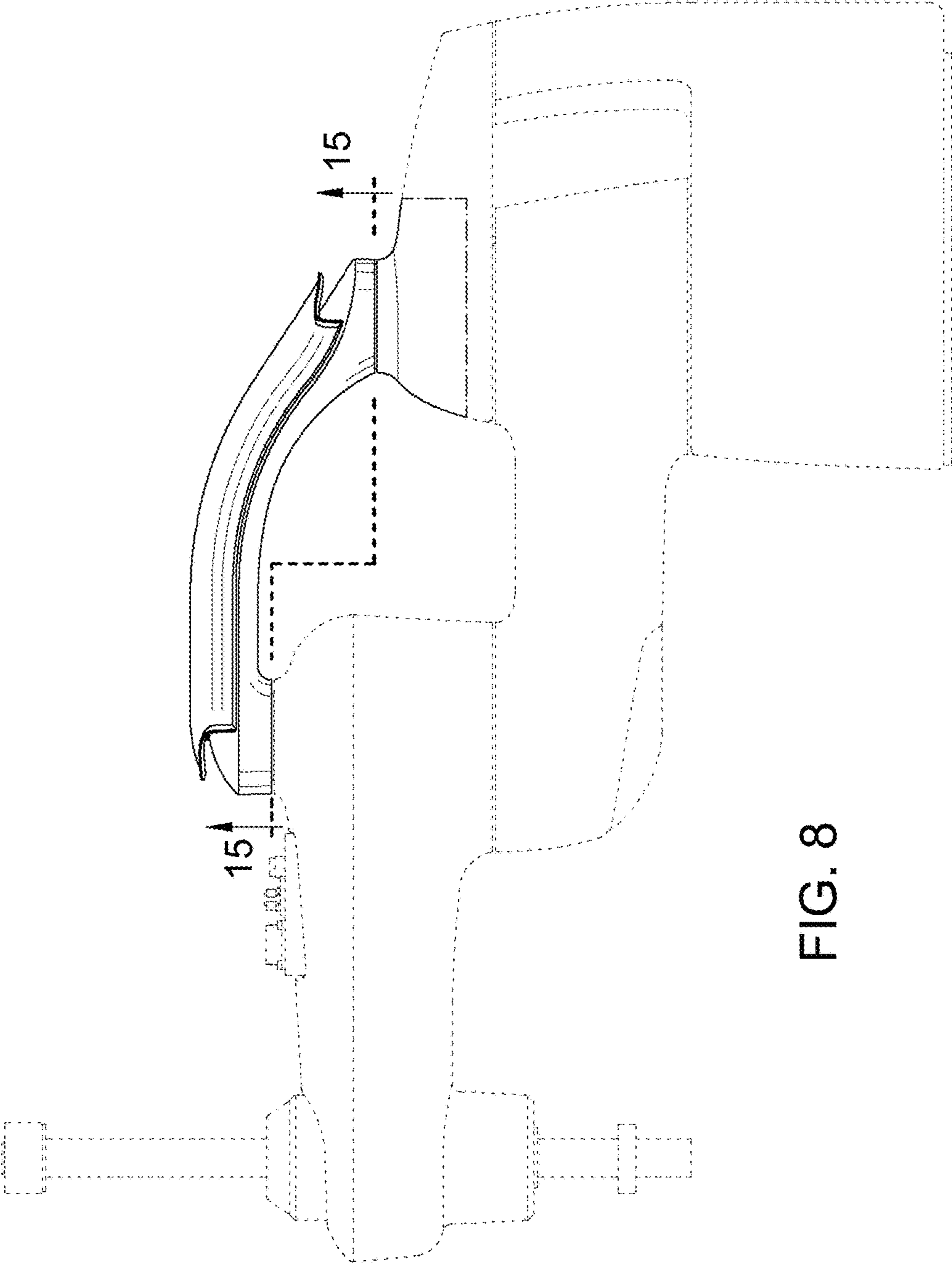


FIG. 8

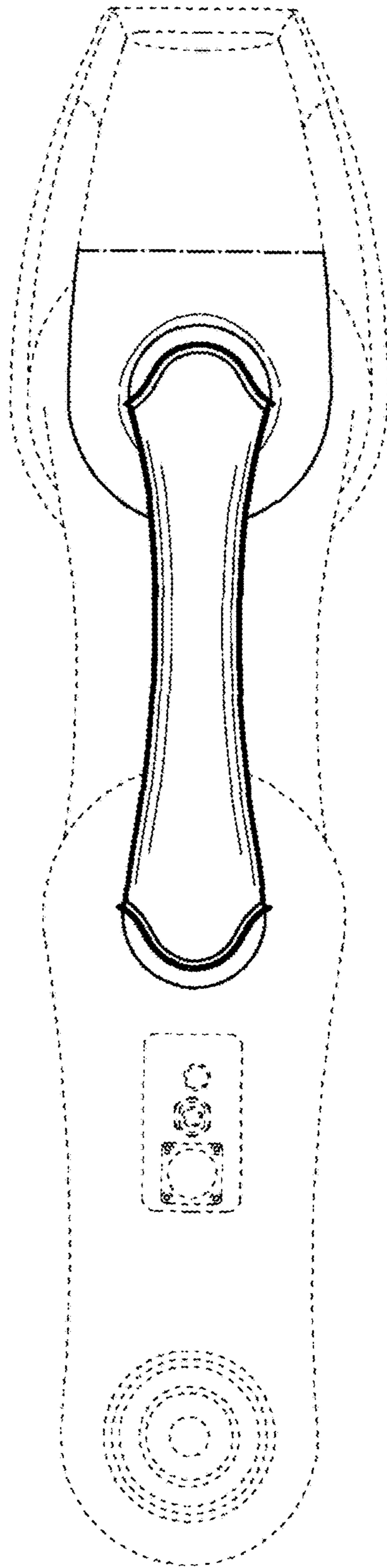


FIG. 9

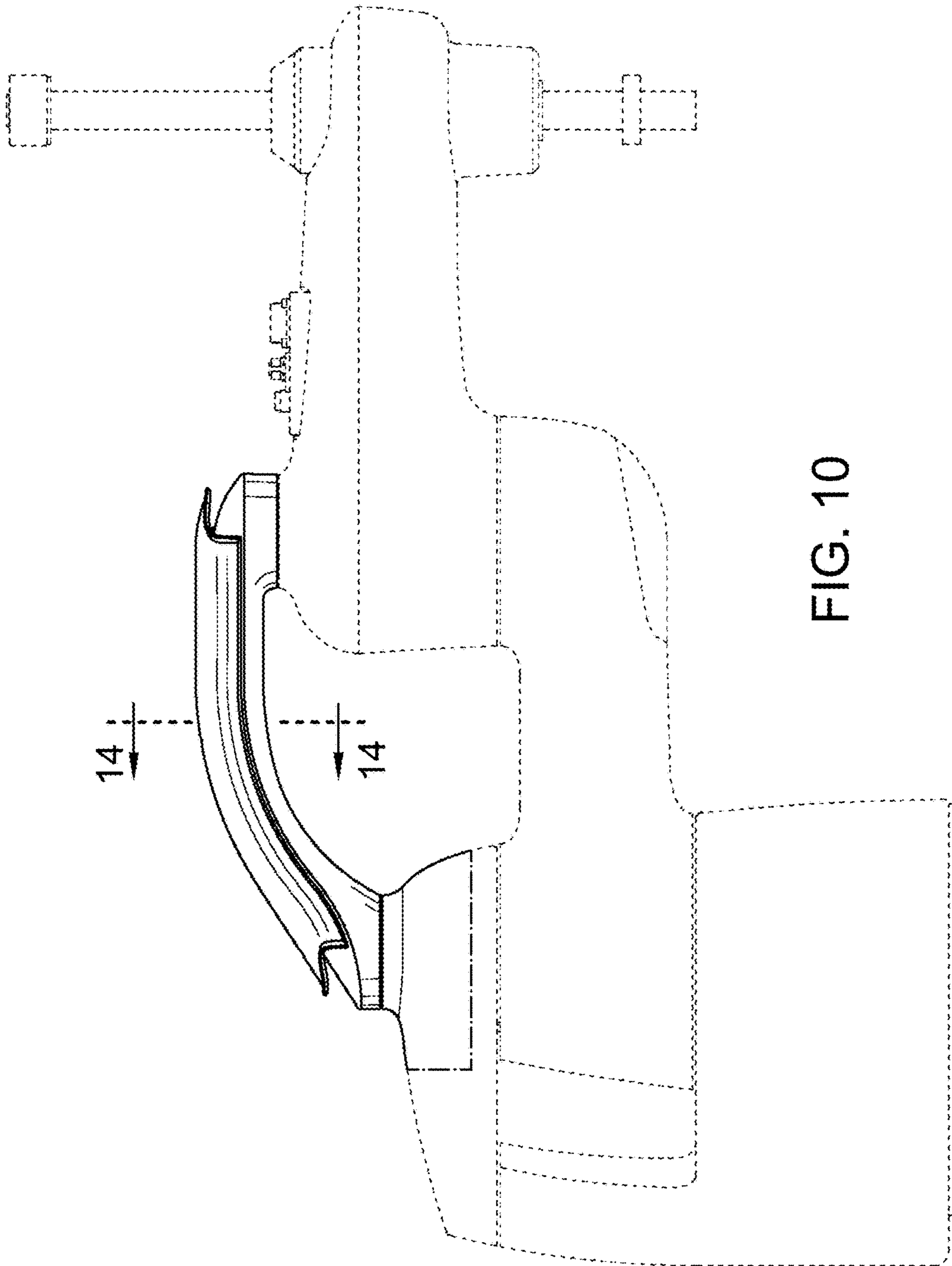


FIG. 10

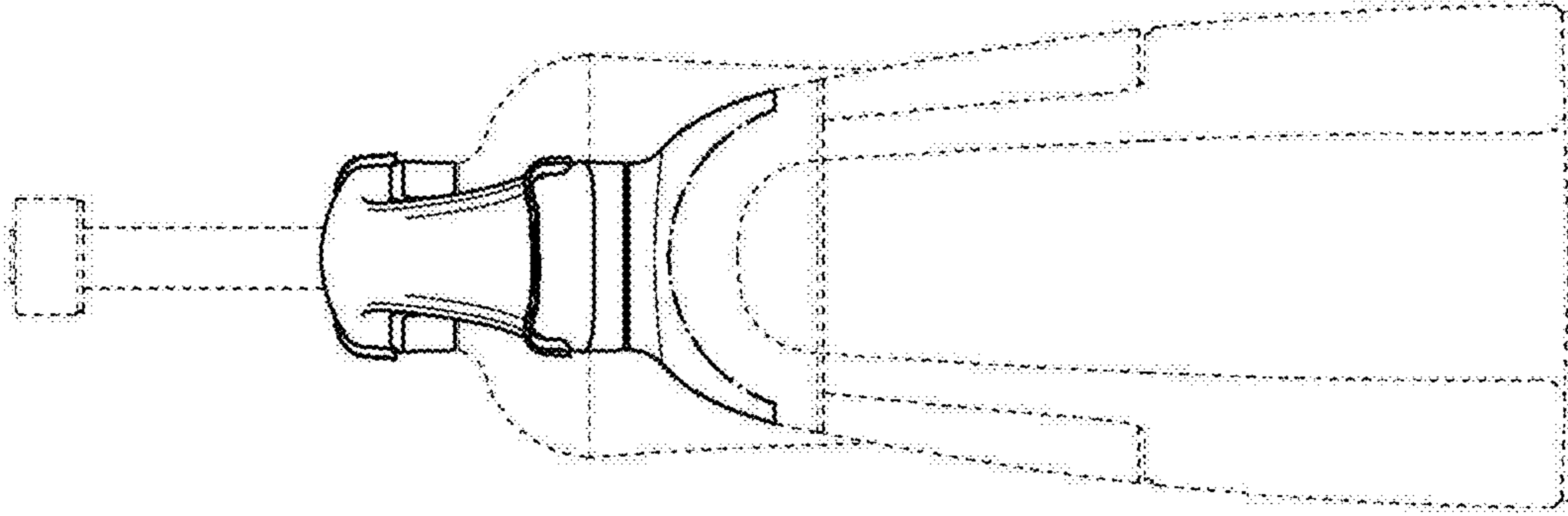


FIG. 12

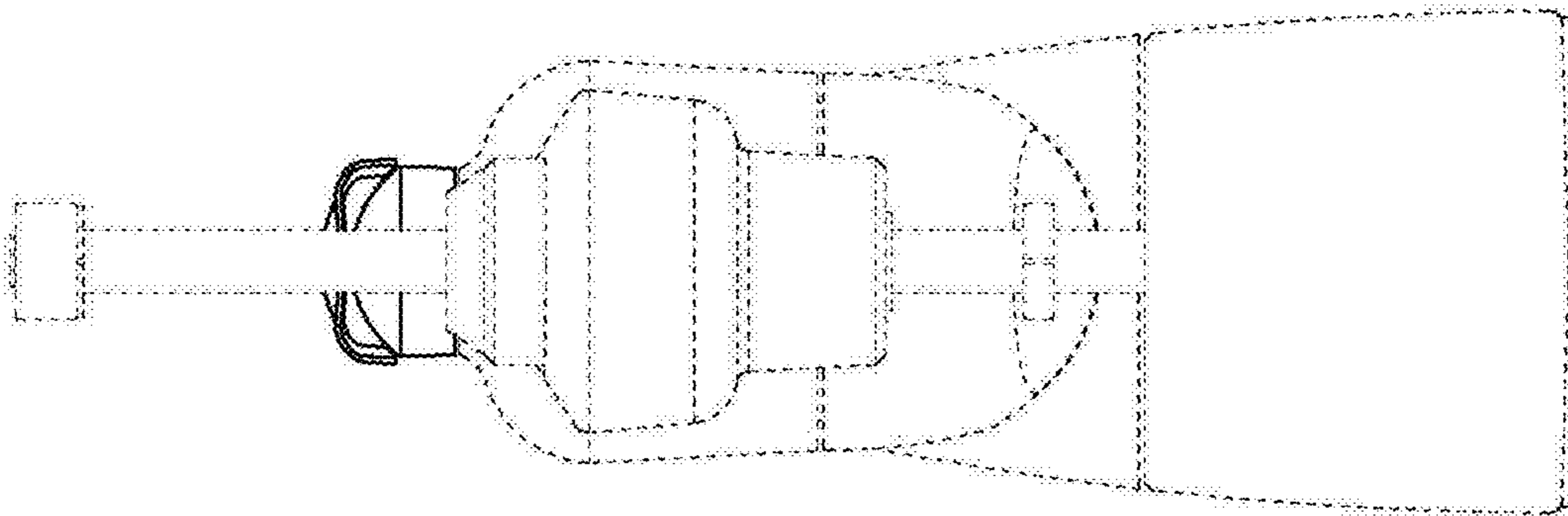


FIG. 11

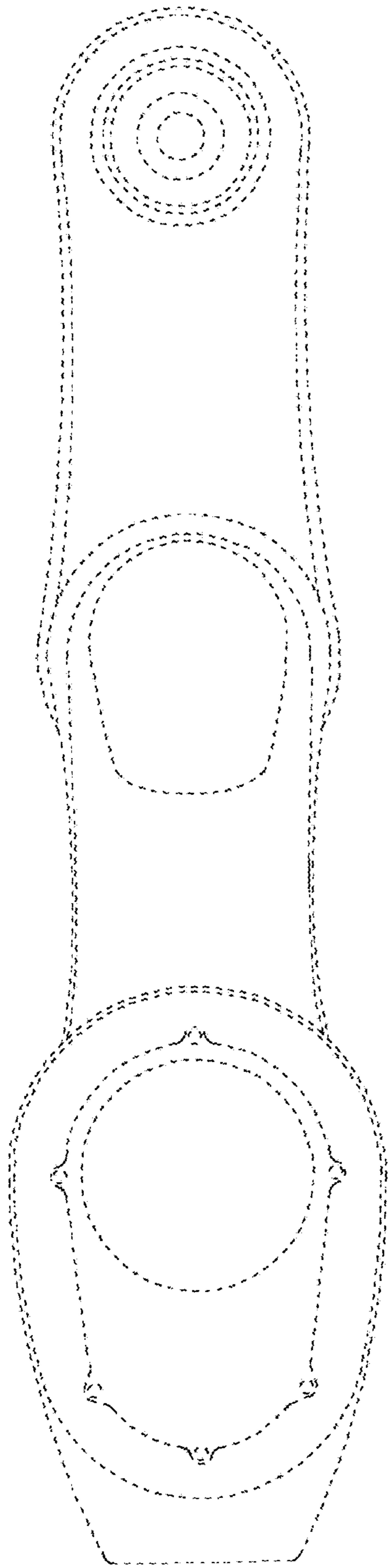


FIG. 13

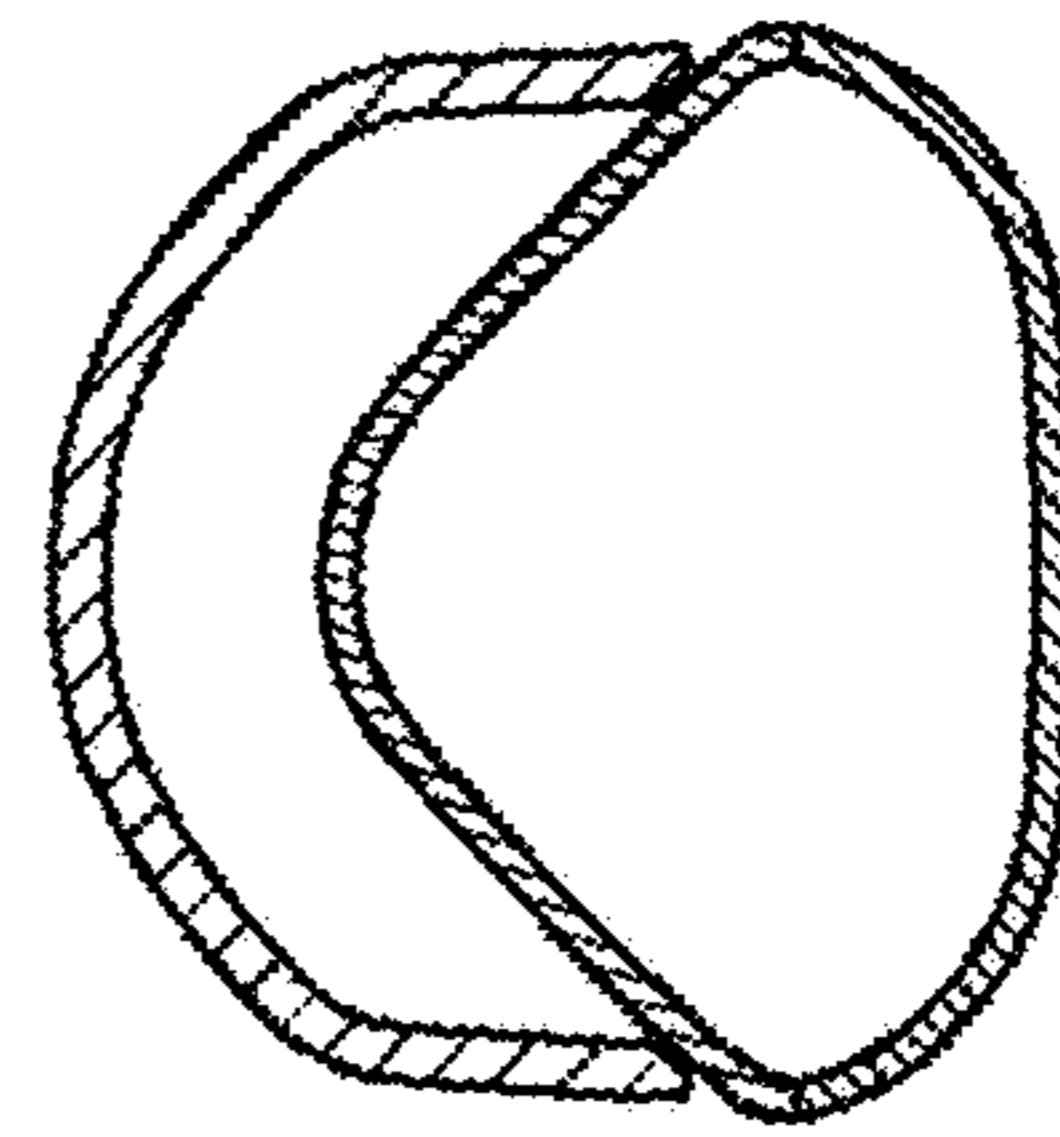


FIG. 14

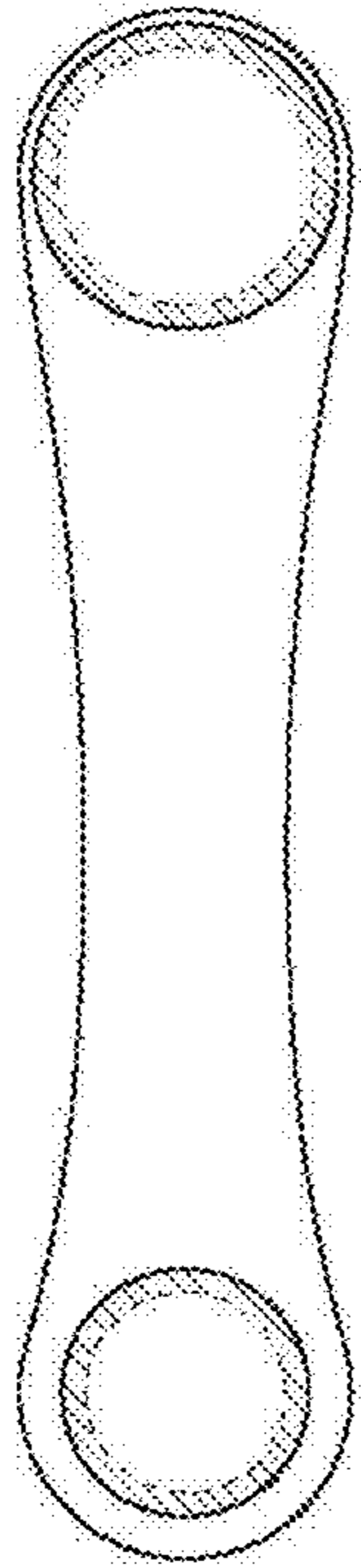


FIG. 15