



US0D1037028S

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

(10) **Patent No.:** **US D1,037,028 S**

(45) **Date of Patent:** **** Jul. 30, 2024**

(54) **SENSOR ASSEMBLY**

- (71) Applicant: **Waymo LLC**, Mountain View, CA (US)
- (72) Inventors: **Yoojung Ahn**, Mountain View, CA (US); **Jerry Chen**, Castro Valley, CA (US); **Toshihiro Fujimura**, San Francisco, CA (US); **Jinseok Hwang**, Mountain View, CA (US); **Joshua Newby**, San Francisco, CA (US); **Zhaokun Wang**, Mountain View, CA (US)
- (73) Assignee: **Waymo LLC**, Mountain View, CA (US)

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

(21) Appl. No.: **29/907,999**

(22) Filed: **Jan. 10, 2024**

Related U.S. Application Data

- (62) Division of application No. 29/818,904, filed on Dec. 10, 2021, now Pat. No. Des. 1,017,436.
- (51) **LOC (14) Cl.** **10-04**
- (52) **U.S. Cl.**
USPC **D10/70; D12/187**
- (58) **Field of Classification Search**
USPC **D10/65, 70; D12/187, 188**

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

- D462,626 S 9/2002 Li
- D478,518 S 8/2003 Porter

(Continued)

FOREIGN PATENT DOCUMENTS

- CN 108664029 A 10/2018
- CN 106199556 B 1/2019

(Continued)

OTHER PUBLICATIONS

“Car Roof Mounted Adjustable CCTV Camera Mounting Brackets”; Alibaba; retrieved Nov. 14, 2021; published date unknown, prior to Nov. 14, 2021; URL: <https://www.alibaba.com/product-detail/Car-roof-mounted-adjustable-cctv-camera_60658705316.html>.

(Continued)

Primary Examiner — Antoine Duval Davis
(74) *Attorney, Agent, or Firm* — Banner & Witcoff, Ltd.

(57) **CLAIM**

The ornamental design for a sensor assembly, as shown and described.

DESCRIPTION

FIG. 1 is a top, front, left perspective view of a first embodiment of the claimed design for a sensor assembly; FIG. 2 is a front view thereof; FIG. 3 is a back view thereof; FIG. 4 is a right side view thereof; FIG. 5 is a left side view thereof; FIG. 6 is a top view thereof; FIG. 7 is a bottom view thereof; FIG. 8 is a top, rear, right perspective view thereof; FIG. 9 is a top, front, left perspective view of a second embodiment of the claimed design for a sensor assembly; FIG. 10 is a front view thereof; FIG. 11 is a back view thereof; FIG. 12 is a right side view thereof; FIG. 13 is a left side view thereof; FIG. 14 is a top view thereof; FIG. 15 is a bottom view thereof; FIG. 16 is a top, rear, right perspective view thereof; FIG. 17 is a top, front, left perspective view of a third embodiment of the claimed design for a sensor assembly; FIG. 18 is a front view thereof; FIG. 19 is a back view thereof; FIG. 20 is a right side view thereof; FIG. 21 is a left side view thereof; FIG. 22 is a top view thereof; FIG. 23 is a bottom view thereof;

(Continued)

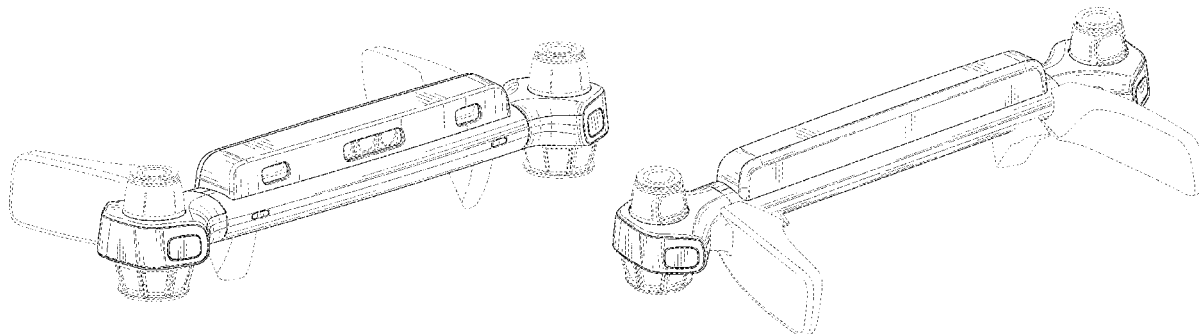


FIG. 24 is a top, rear, right perspective view thereof;
 FIG. 25 is a top, front, left perspective view of a fourth embodiment of the claimed design for a sensor assembly;
 FIG. 26 is a front view thereof;
 FIG. 27 is a back view thereof;
 FIG. 28 is a right side view thereof;
 FIG. 29 is a left side view thereof;
 FIG. 30 is a top view thereof;
 FIG. 31 is a bottom view thereof; and,
 FIG. 32 is a top, rear, right perspective view thereof.
 The broken lines showing the remainder of the sensor assembly depict environmental structure and form no part of the claimed design.

1 Claim, 28 Drawing Sheets

(58) **Field of Classification Search**

CPC G01S 7/4808; G01S 7/481; G01S 7/4813;
 G01S 17/93; G01S 17/936; G08G 1/16;
 B60R 1/12; B60R 1/074; B60R 1/072;
 B60R 1/06; B60R 1/003; B60R 1/00;
 B60R 1/0605; B60R 1/0607; B60R
 1/0612; B60R 11/04; B60R 11/0258;
 B60R 11/0264; B60R 2001/1223; B60R
 2011/004; B62D 15/00; B62D 15/024
 See application file for complete search history.

CN	306759506	8/2021
EM	008147631-0001	11/2020
EM	008147631-0002	11/2020
EM	008147631-0003	11/2020
EM	008147631-0004	11/2020
EM	008147631-0005	11/2020
EM	008147631-0006	11/2020
EM	008147631-0007	11/2020
EM	008147631-0008	11/2020
EM	008147631-0009	11/2020
EM	008147631-0010	11/2020
EM	008147631-0011	11/2020
EM	008147631-0012	11/2020
GB	9008147631-0001	8/2020
GB	9008147631-0002	8/2020
GB	9008147631-0003	8/2020
GB	9008147631-0004	8/2020
GB	9008147631-0005	8/2020
GB	9008147631-0006	8/2020
GB	9008147631-0007	8/2020
GB	9008147631-0008	8/2020
GB	9008147631-0009	8/2020
GB	9008147631-0010	8/2020
GB	9008147631-0011	8/2020
GB	6186979	S 1/2022
JP	1618864	11/2018
JP	1660227	5/2020
JP	D1692286	8/2021
JP	D1692313	8/2021
JP	D1692314	8/2021
JP	D1692315	8/2021
JP	D1692316	8/2021
KR	301122263.0000	S 8/2021

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,811,330	B1	11/2004	Tozawa	
D547,222	S	7/2007	Wilson et al.	
D853,866	S	7/2019	Mörsch	
D869,299	S	12/2019	Mörsch	
D907,517	S	1/2021	Gonzalez	
D931,126	S	9/2021	Jones, II et al.	
11,760,315	B2*	9/2023	Caillot B60S 1/566 359/509
2017/0187931	A1	6/2017	Onishi et al.	
2020/0307467	A1	10/2020	Skinner	
2020/0353876	A1	11/2020	Li et al.	
2021/0302541	A1	9/2021	Fields et al.	

FOREIGN PATENT DOCUMENTS

CN	305826877	S	6/2020
CN	111522350	B	10/2020
CN	306486773	S	4/2021

OTHER PUBLICATIONS

Automotive Report, Nikkei Automotive 2018, p. 17, Issue 92, Published Oct. 11, 2018, Japan.
 Yining Chen, Autonomous Vehicle Company Aurora Releases LiDAR Sensor for Its Self-driving Cars, Date first available Jul. 14, 2020, [online] retrieved Jun. 27, 2023, available from https://www.ledinside.com/news/2020/7/aurora_lidar (Year: 2020).
 Charles Choi, Toyota's Woven Planet Acquires Renovo, Date first available Oct. 12, 2021, [online] retrieved Jun. 27, 2023, available from <https://insideautonomousvehicles.com/toyotas-woven-planet-acquires-renovo/> (Year: 2021).
 Alan Ohnsman, Tesla's Elon Musk Trashes Lidar For Self-Driving Cars, But Waymo Is Rolling Out A New One, Date first available Apr. 23, 2019, [online] retrieved Jun. 27, 2023, available from <https://www.forbes.com/sites/alanohnsman/2019/04/23/teslas-elon-musk-trashes-lidar-for-self-driving-cars-but-waymo-is-rollin> (Year: 2019).

* cited by examiner

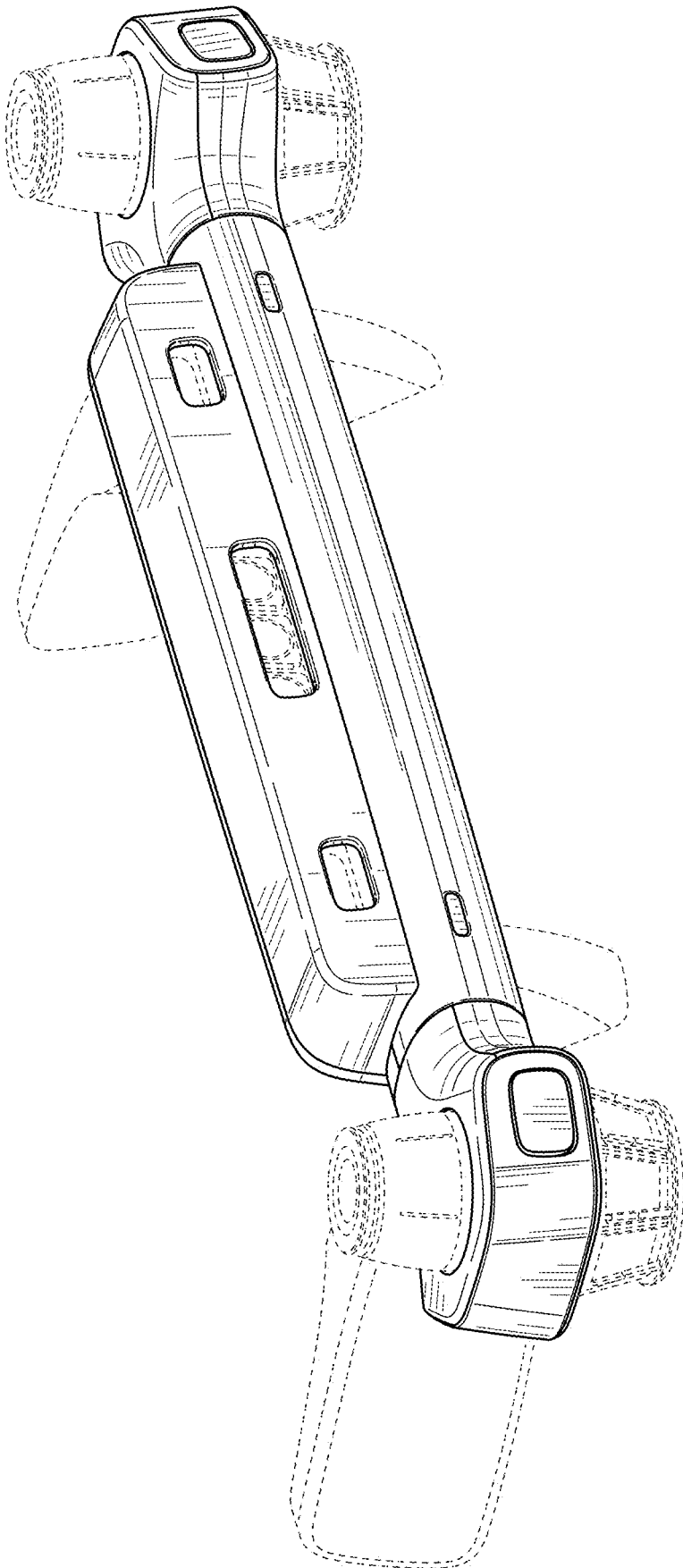


FIG. 1

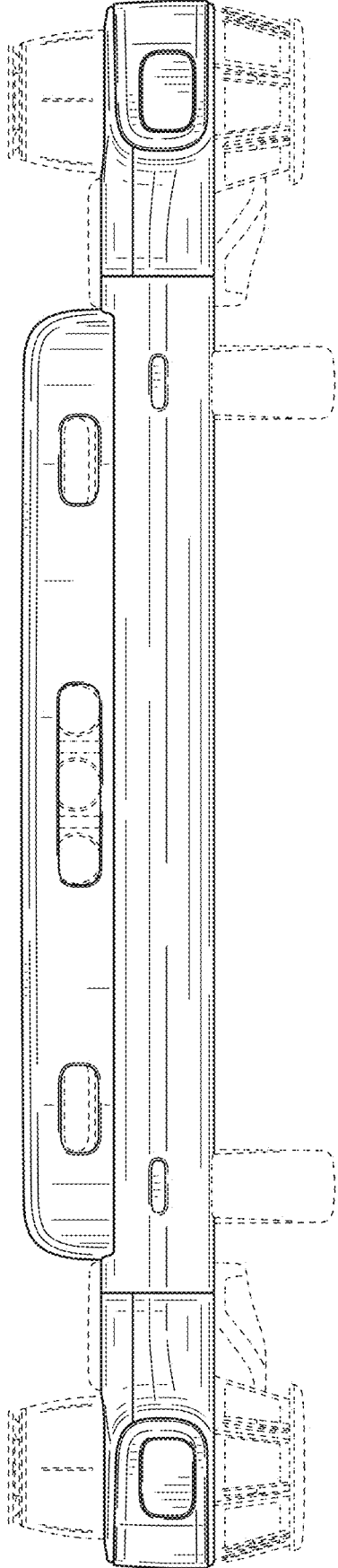


FIG. 2

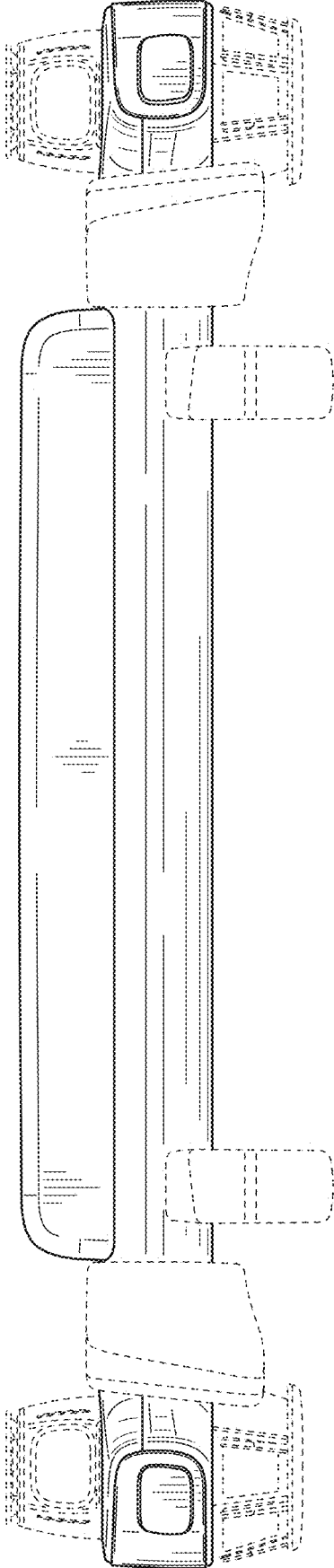


FIG. 3

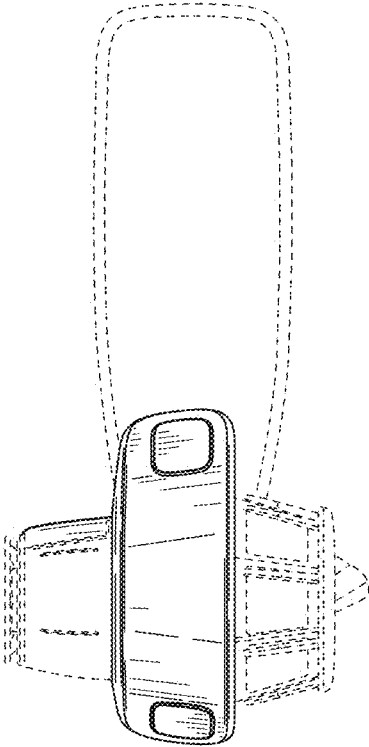


FIG. 4

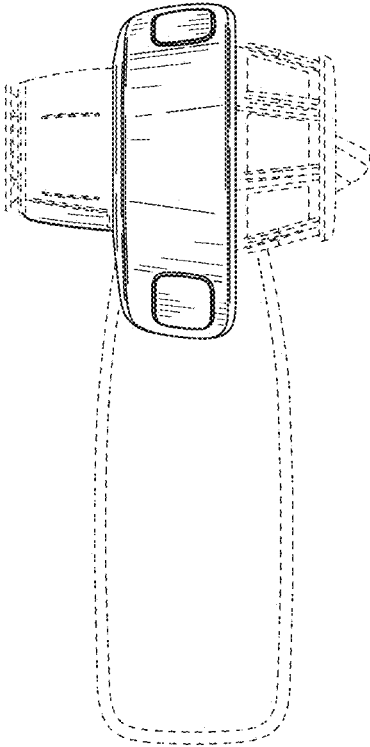


FIG. 5

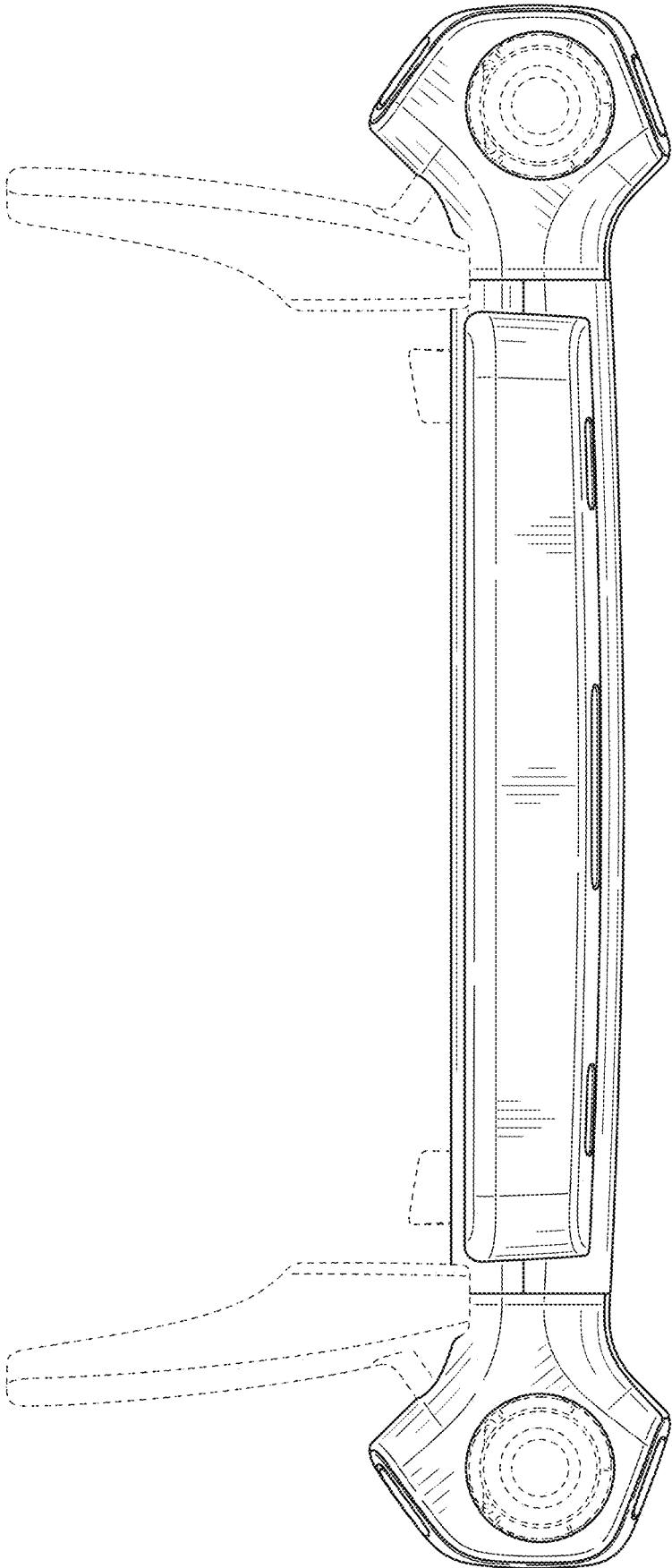


FIG. 6



FIG. 7

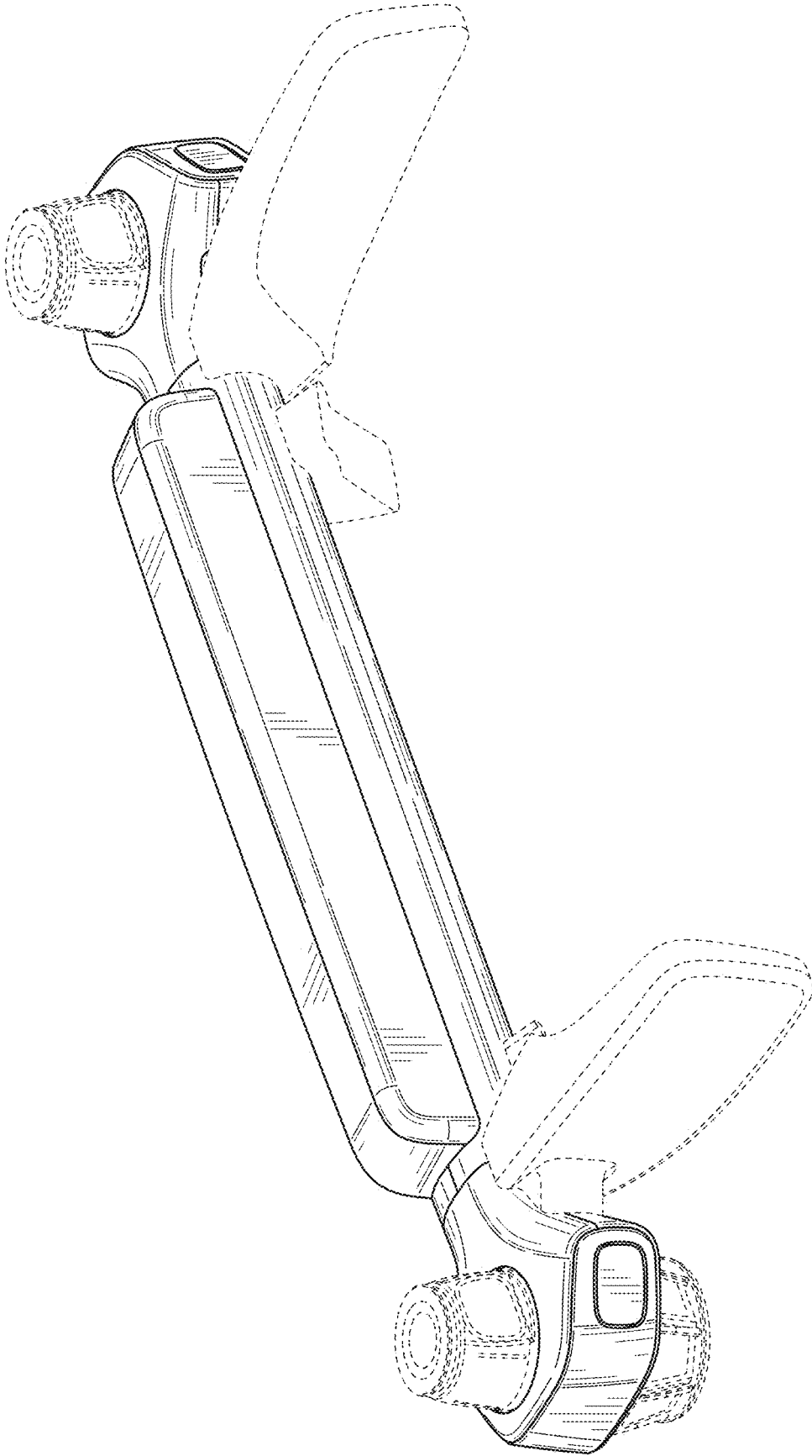


FIG. 8

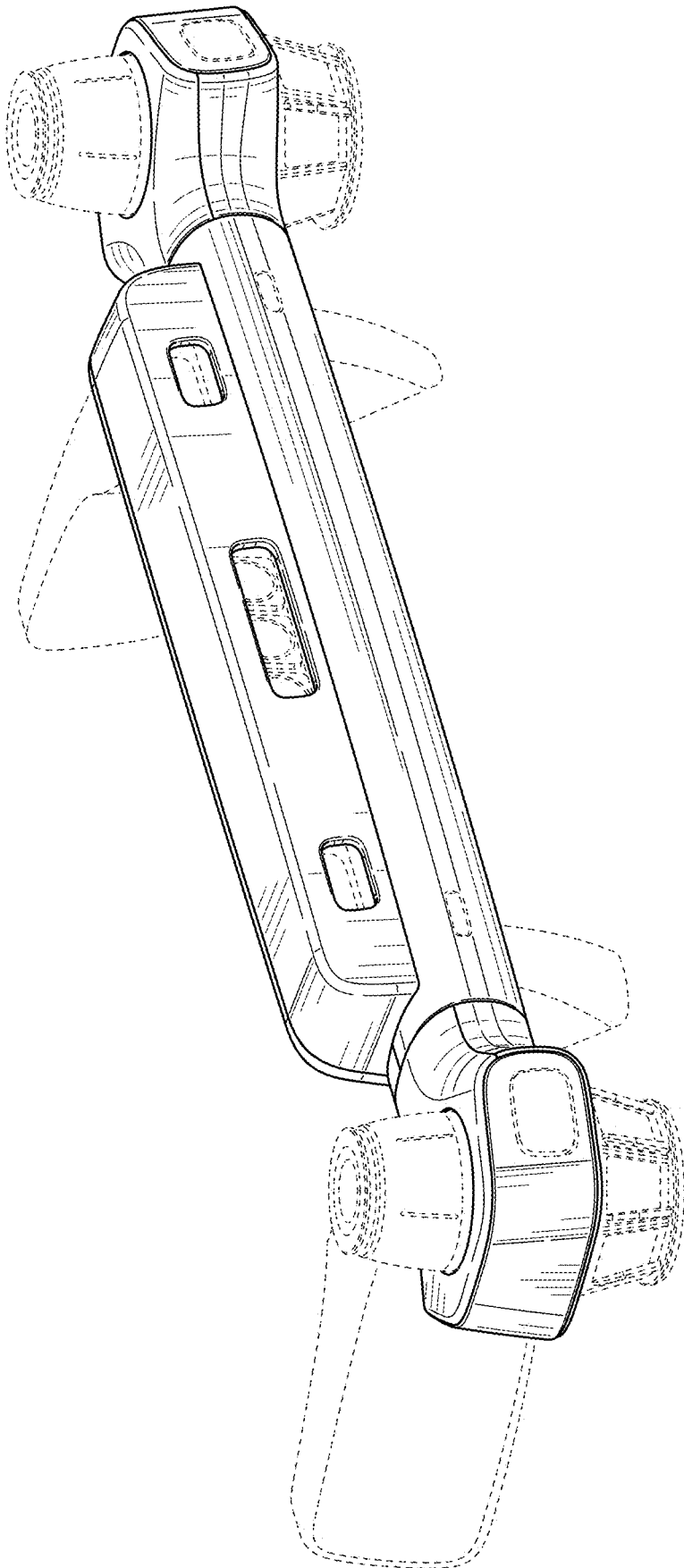


FIG. 9

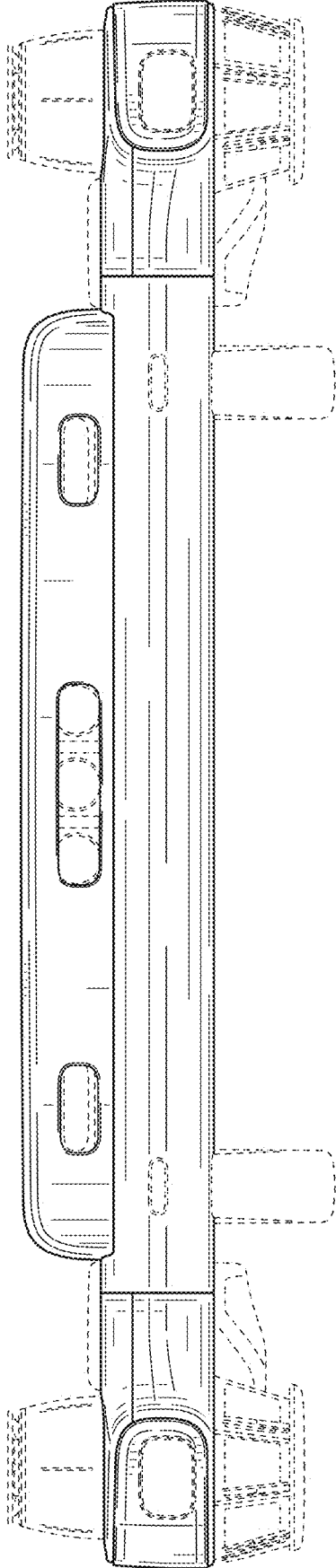


FIG. 10

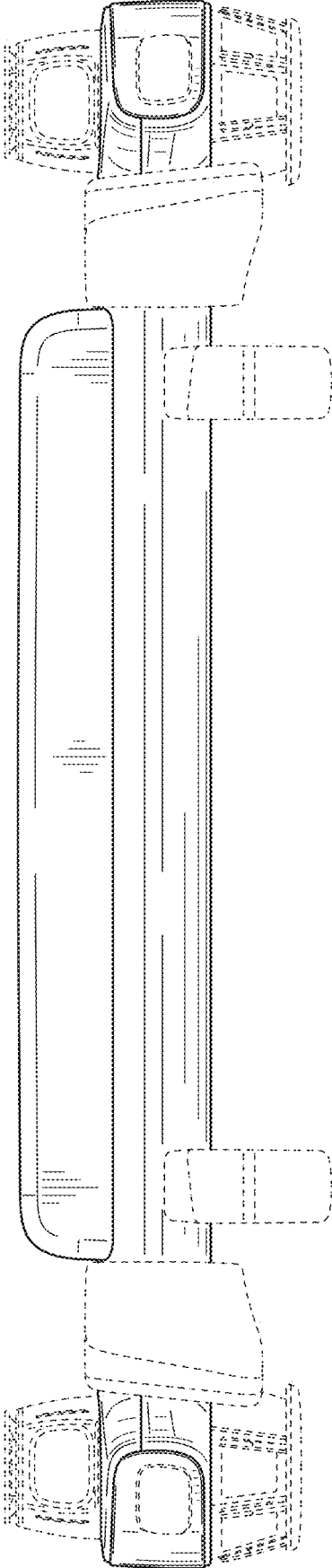


FIG. 11

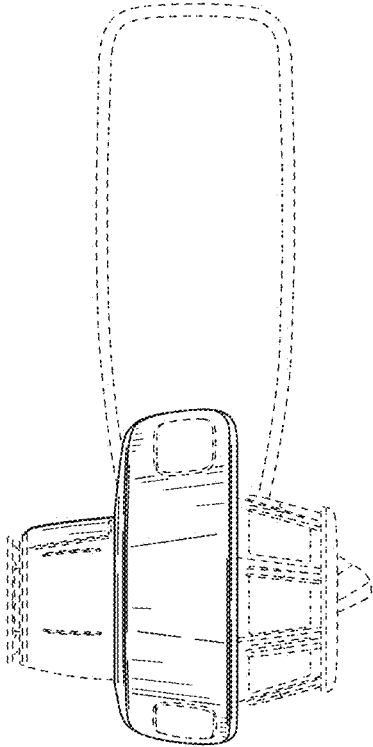


FIG. 12

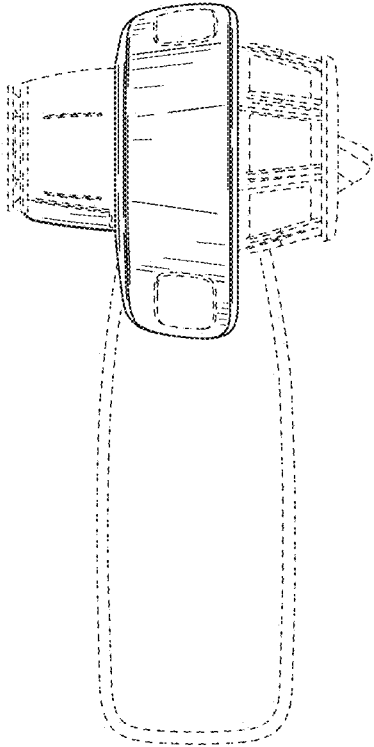


FIG. 13

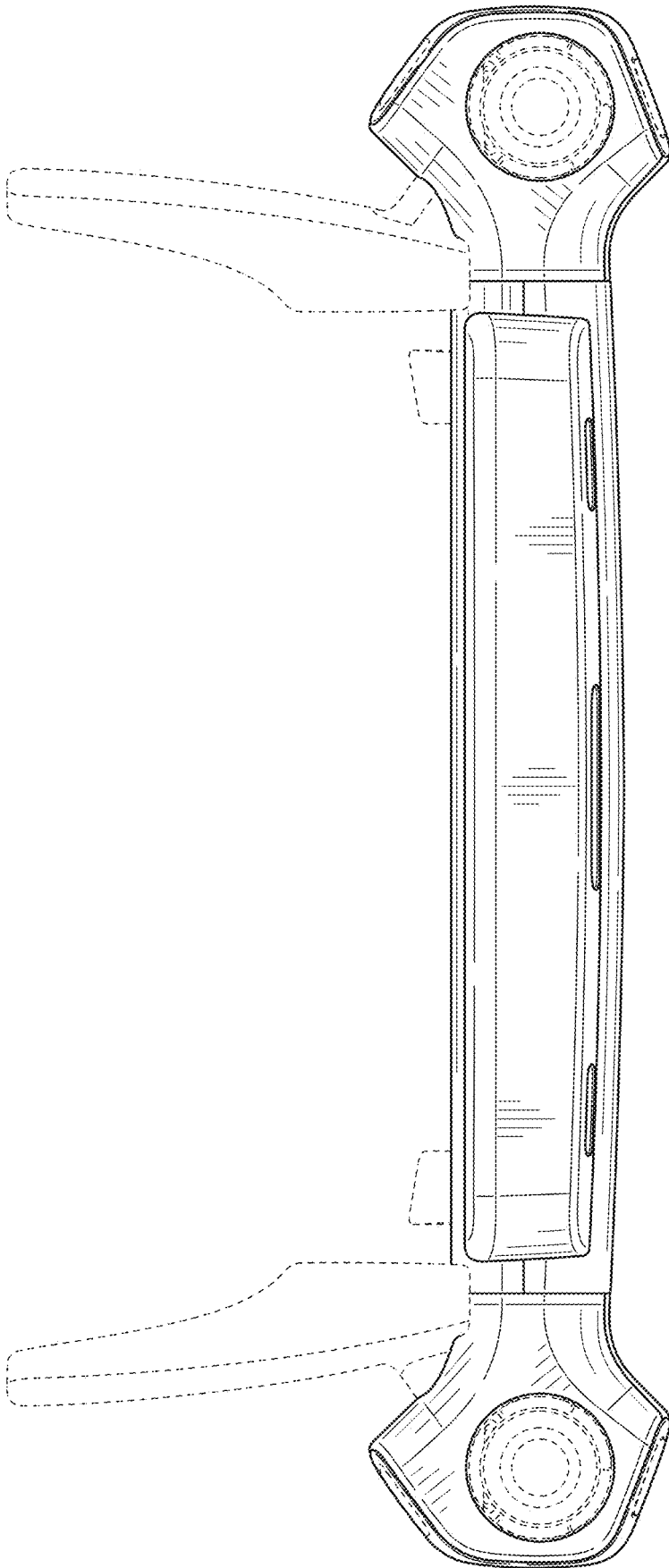


FIG. 14



FIG. 15

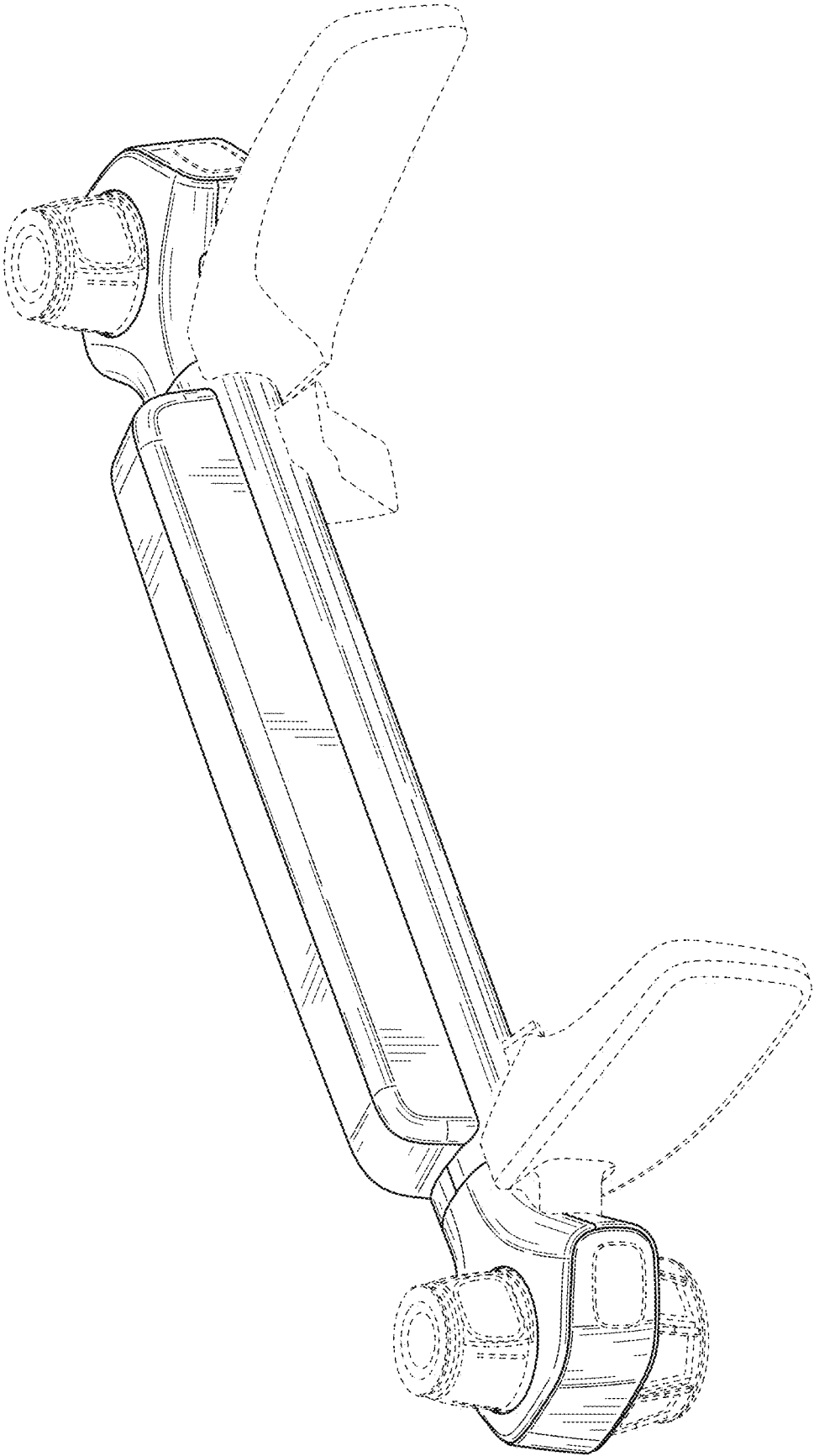


FIG. 16

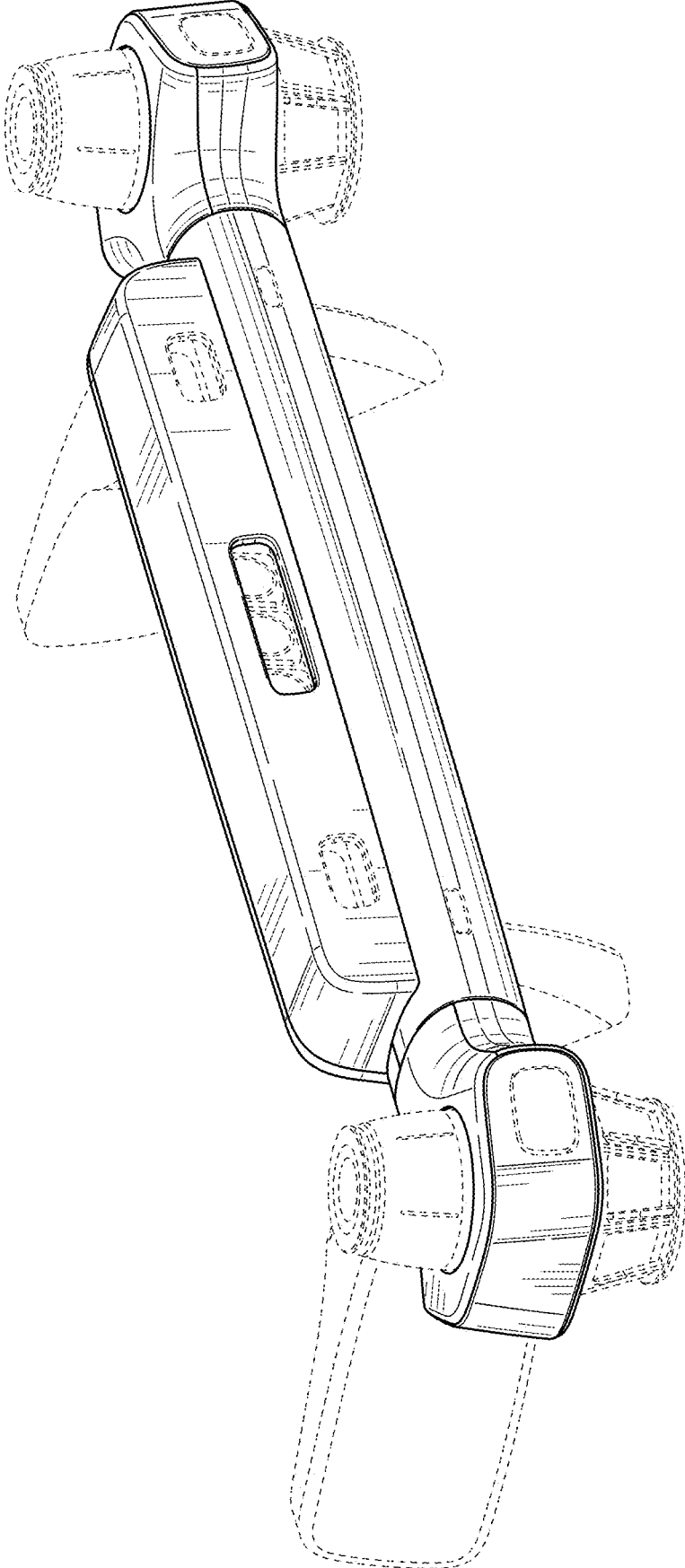


FIG. 17

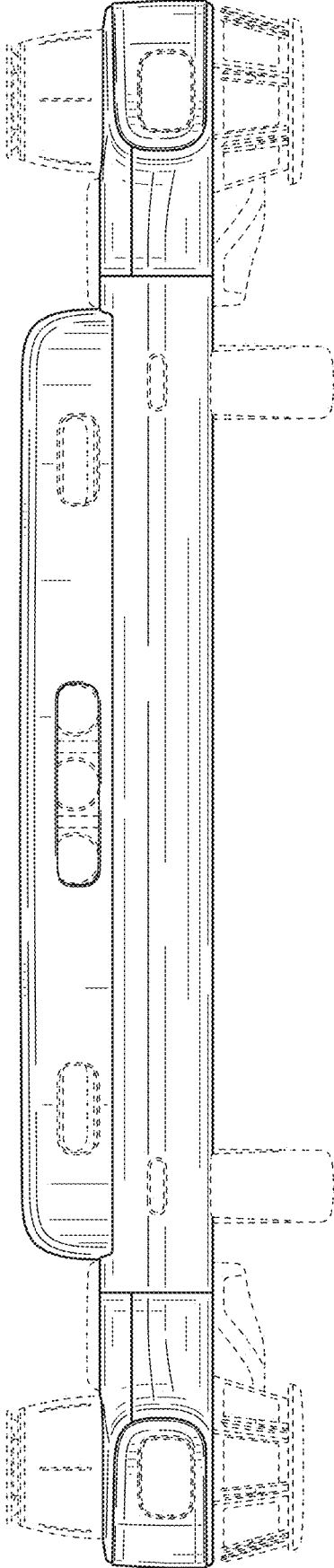


FIG. 18

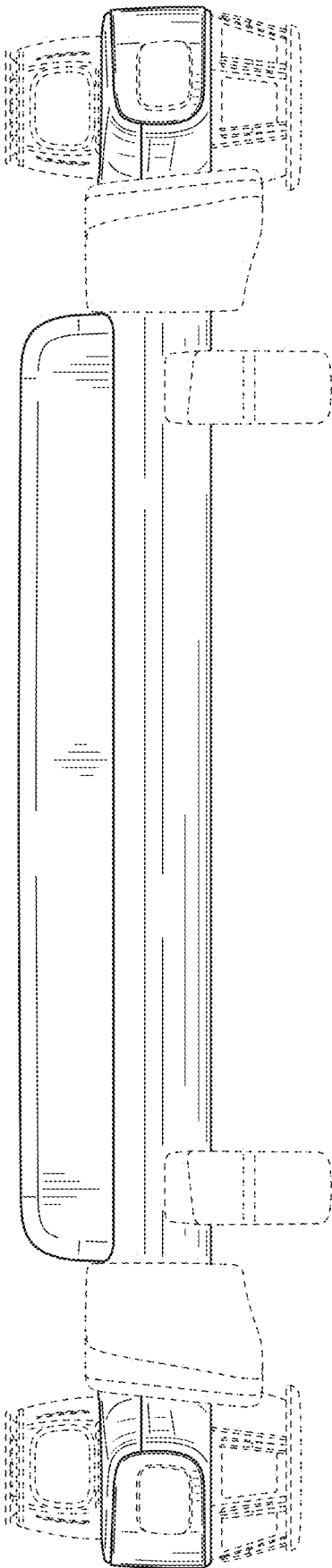


FIG. 19

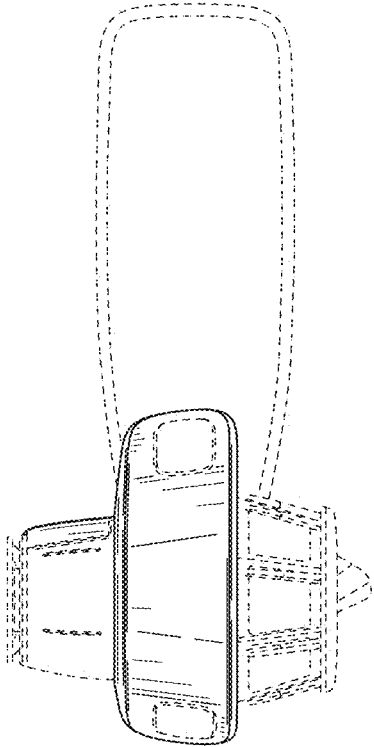


FIG. 20

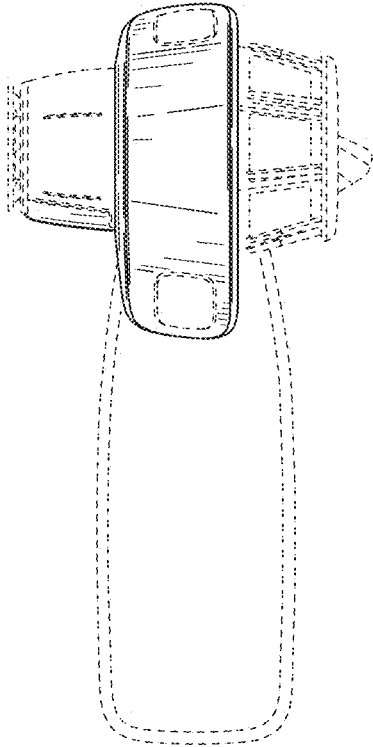


FIG. 21

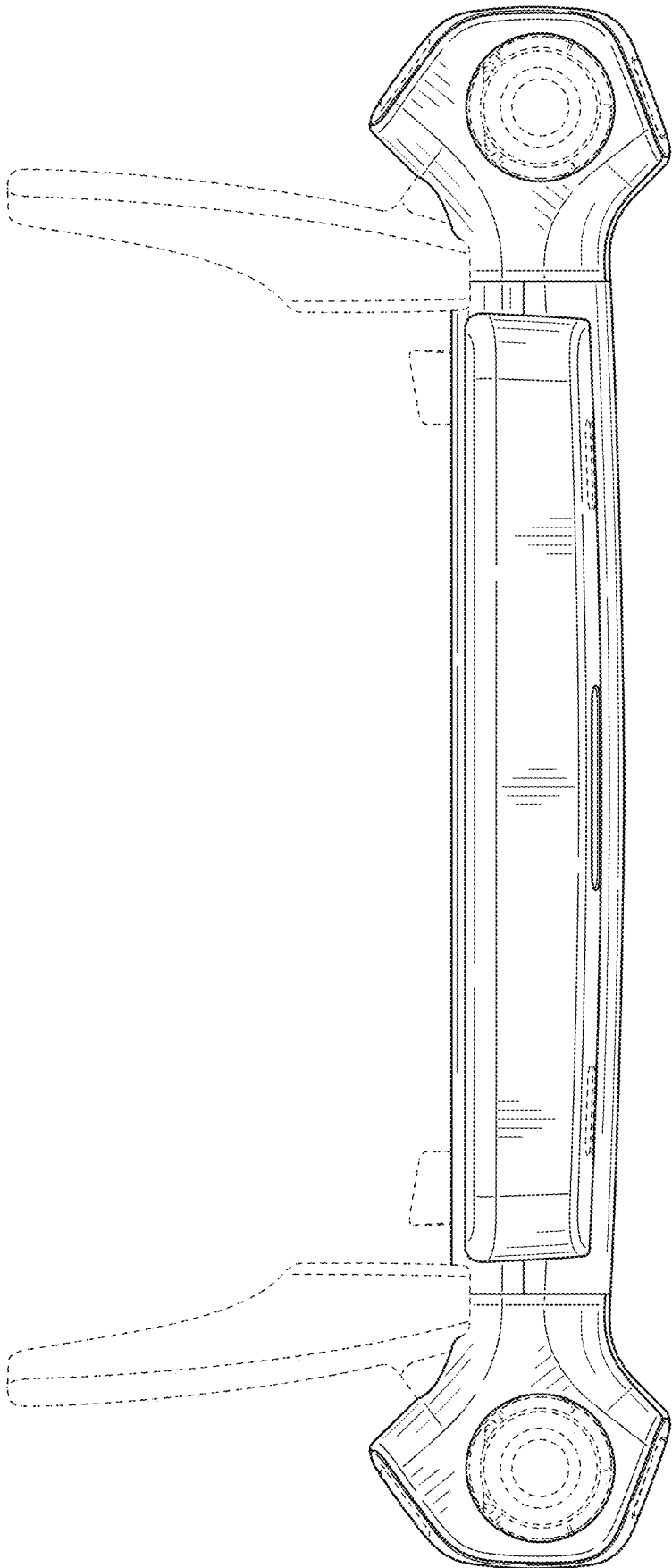


FIG. 22



FIG. 23

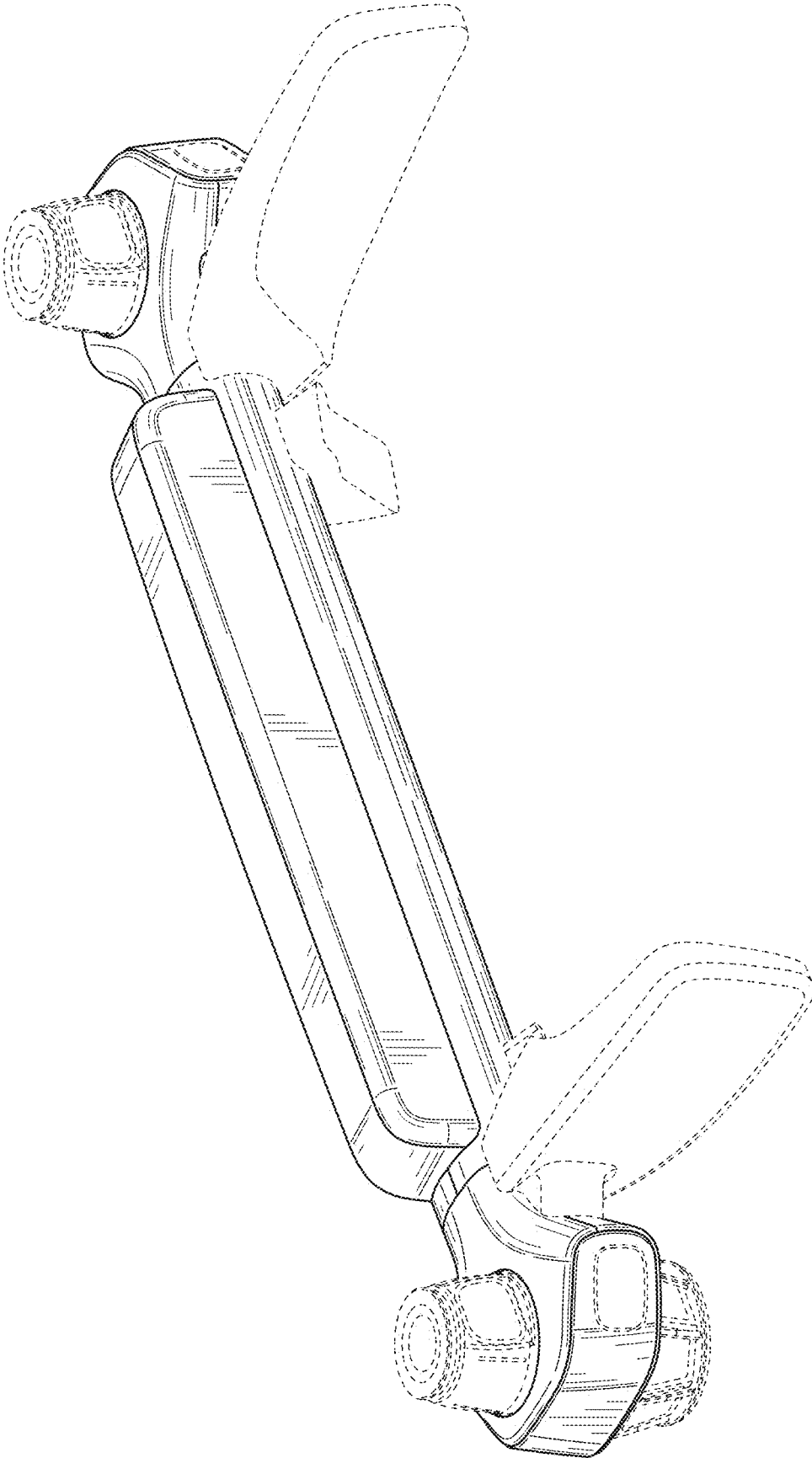


FIG. 24

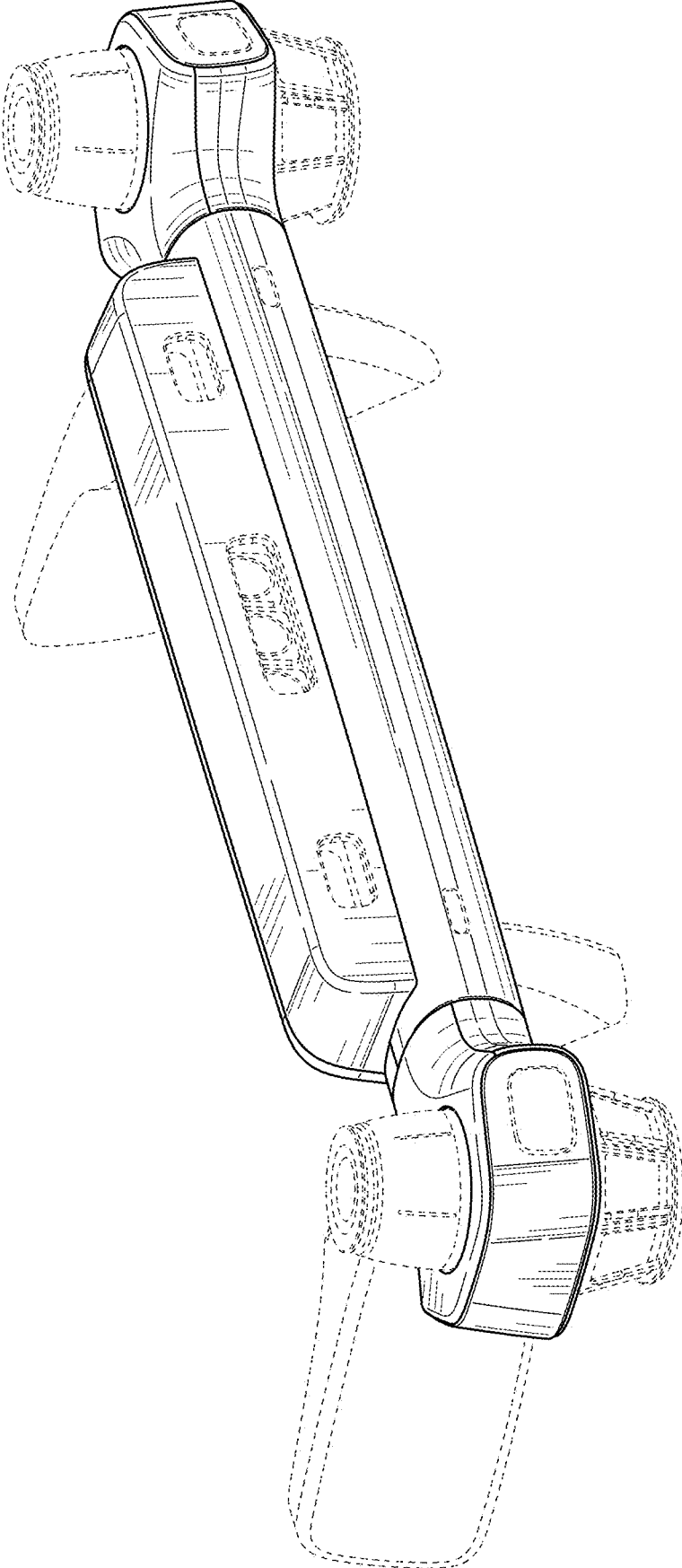


FIG. 25

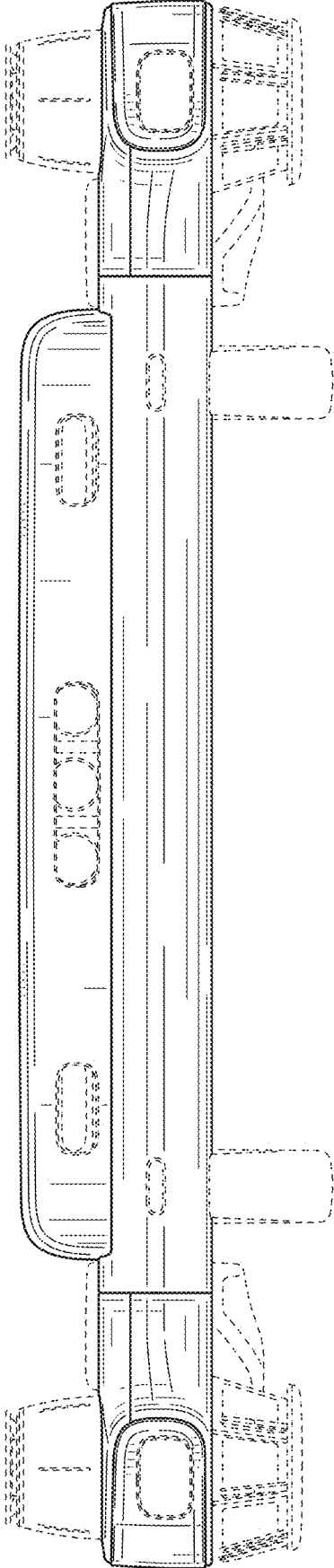


FIG. 26

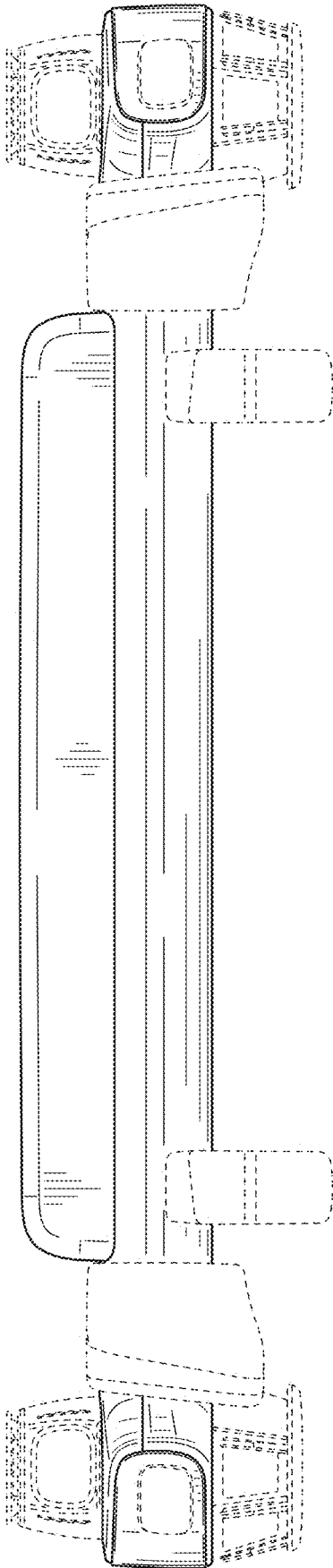


FIG. 27

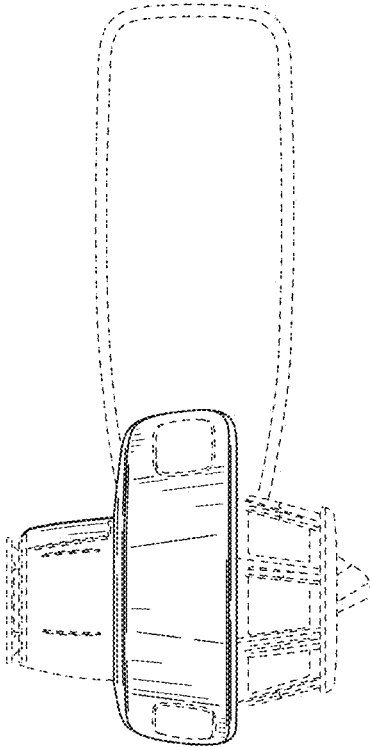


FIG. 28

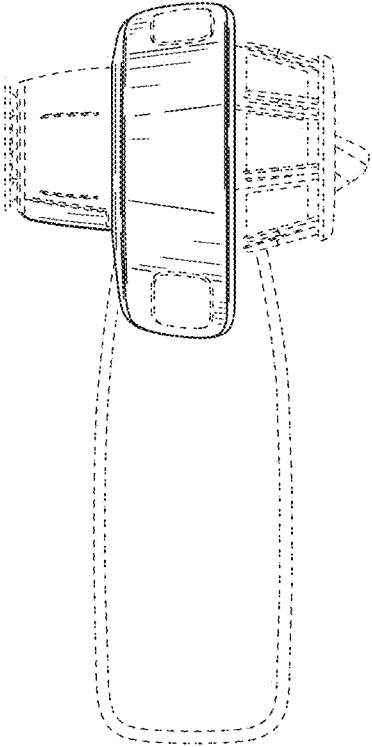


FIG. 29

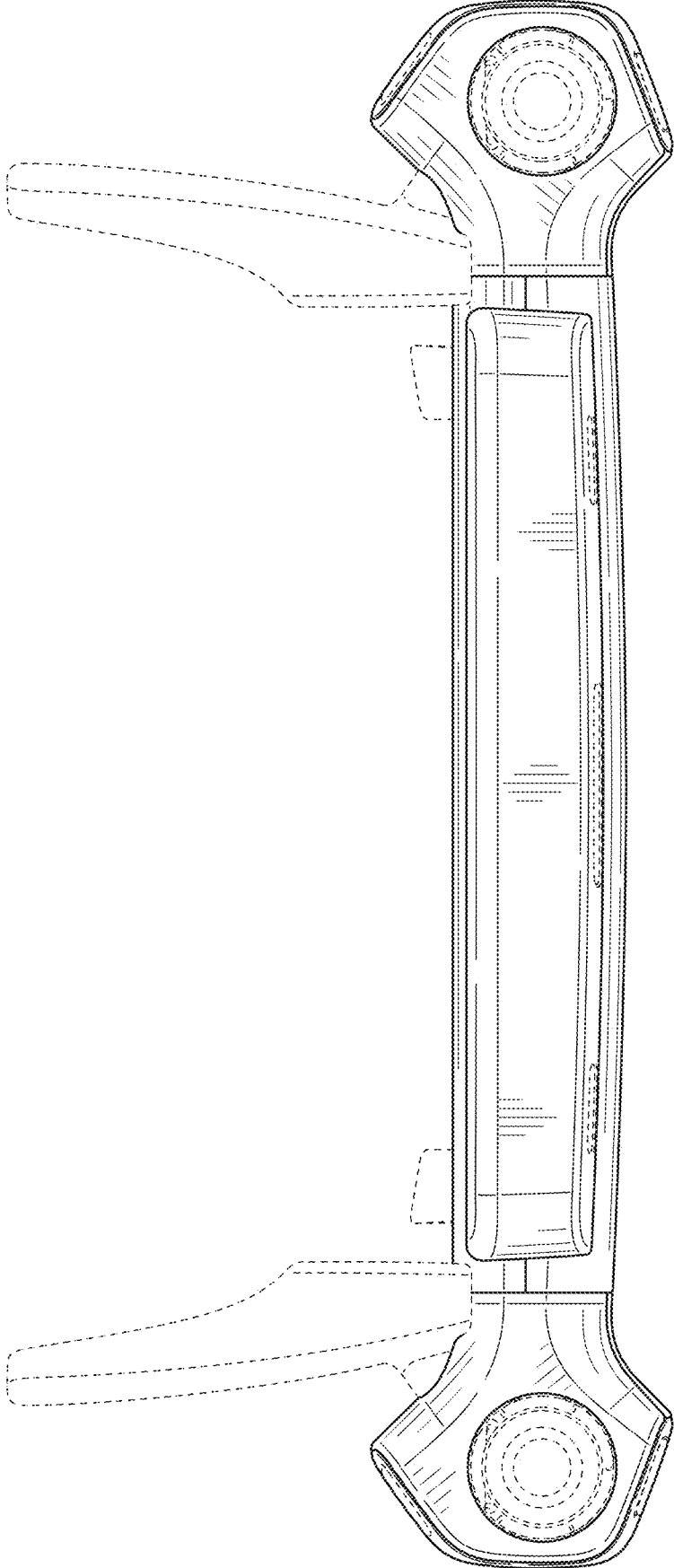


FIG. 30



FIG. 31

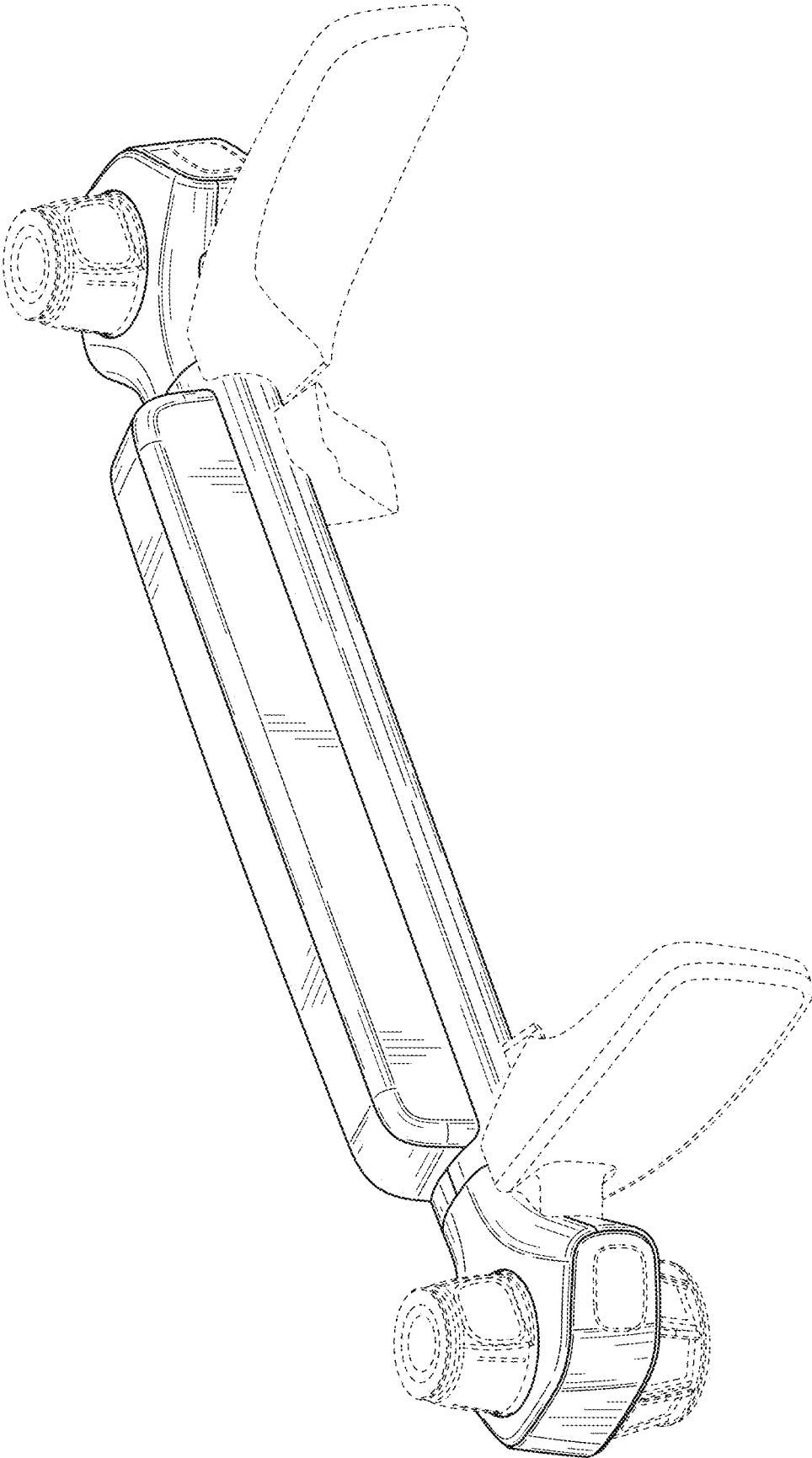


FIG. 32