



US0D1057627S

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

(10) **Patent No.:** **US D1,057,627 S**  
(45) **Date of Patent:** **\*\* Jan. 14, 2025**

(54) **OMNI WHEEL**

(71) Applicant: **REV Robotics LLC**, Carrollton, TX  
(US)

(72) Inventors: **Nicholas James Coussens**, Chicago, IL  
(US); **Orion Christopher DeYoe**,  
Irving, TX (US); **Gregory Elliott**  
**Needel**, Coppel, TX (US); **David**  
**Aaron Yanoshak**, Dallas, TX (US)

(73) Assignee: **REV Robotics LLC**, Carrollton, TX  
(US)

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

(21) Appl. No.: **29/834,697**

(22) Filed: **Apr. 13, 2022**

(51) **LOC (15) Cl.** ..... **12-16**

(52) **U.S. Cl.**  
USPC ..... **D12/204**

(58) **Field of Classification Search**  
USPC ..... D12/133, 204–213, 501; D21/563, 779;  
D3/318; D15/17, 138; D8/375  
CPC ..... B60B 19/003; B60B 19/12; B60B 19/125;  
B60B 21/02; B60B 33/00; B60B 33/0028;  
B60B 33/0039; B60B 33/0044; B60B  
33/0049; B60B 2900/351; B60B  
2310/204; B60C 7/00; B60C 7/08; B60C  
7/102

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

888,114 A	5/1908	Numan
910,192 A	1/1909	Grouvelle et al.
2,472,742 A	6/1949	Theophilus
2,495,952 A	1/1950	James
2,569,590 A	10/1951	Schoyck
2,835,275 A	5/1958	Scholten
4,424,047 A	1/1984	Welschhof et al.
4,472,156 A	9/1984	Orain

4,832,637 A	5/1989	Goluba
D309,254 S *	7/1990	Guile ..... 16/45
D318,219 S *	7/1991	Guile ..... D8/375
D318,791 S *	8/1991	Guile ..... D8/375
5,158,389 A	10/1992	Osterwald et al.
D435,437 S *	12/2000	Guile ..... D8/375
6,368,223 B1	4/2002	Ouchi et al.
6,450,585 B1	9/2002	Kochsiek

(Continued)

**FOREIGN PATENT DOCUMENTS**

JP 60042101 3/1985

**OTHER PUBLICATIONS**

ION Omni Wheels, Published date unavailable [online], [retrieved on May 12, 2024]. Retrieved from the Internet: <https://www.revrobotics.com/ION-Omni-Wheels/> (Year: 2024).\*

(Continued)

*Primary Examiner* — Mark A Goodwin

*Assistant Examiner* — Adam C Mager

(74) *Attorney, Agent, or Firm* — Stephen Y. Liu; David  
W. Carstens; Carstens, Allen & Gourley, LLP

(57) **CLAIM**

The ornamental design for an omni wheel, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view taken from the front, the top and the right of an omni wheel.

FIG. 2 is a perspective view taken from the rear, the bottom and the left of the omni wheel.

FIG. 3 is a right side view of the omni wheel.

FIG. 4 is a left side view of the omni wheel.

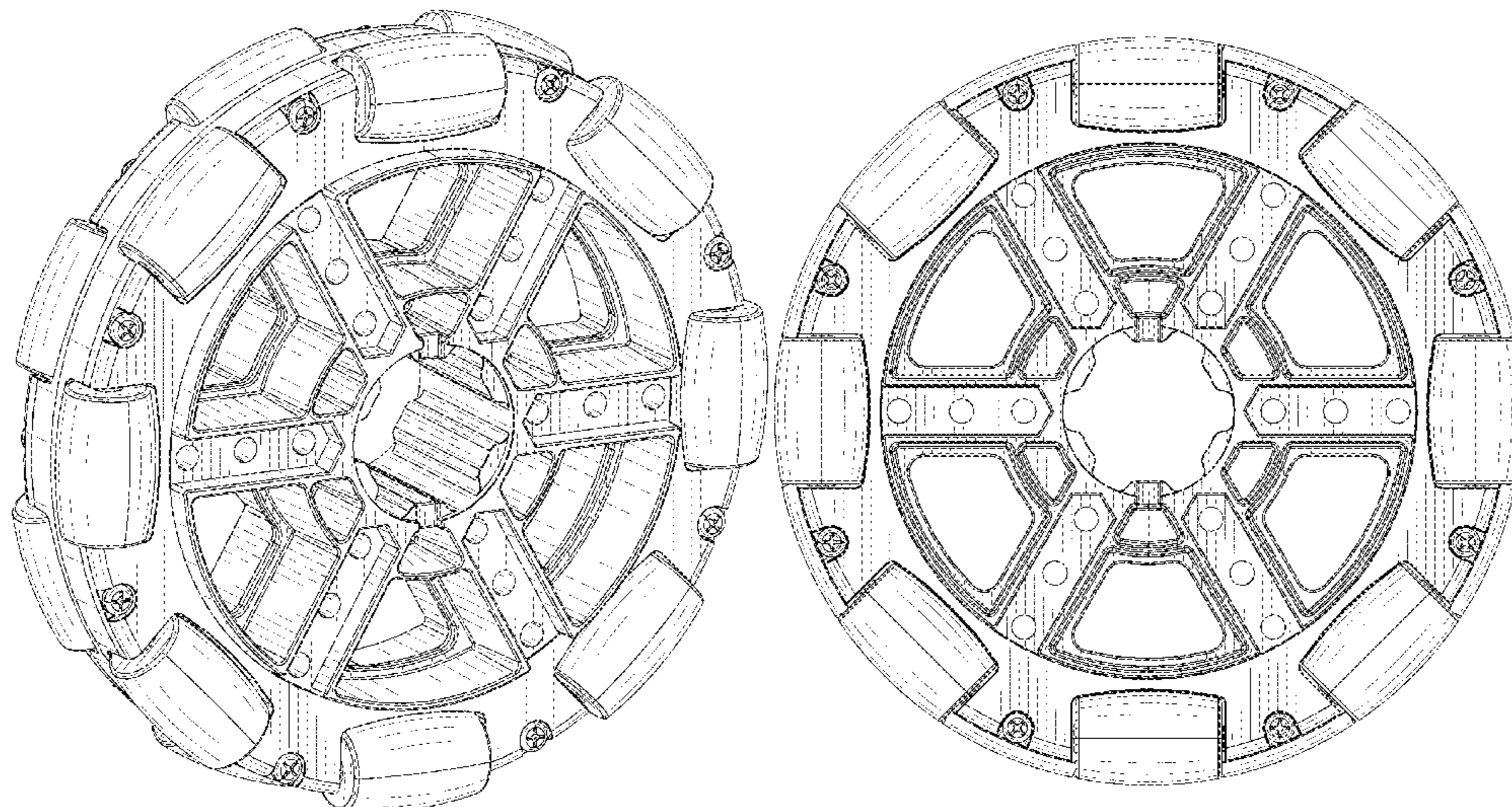
FIG. 5 is a rear view of the omni wheel.

FIG. 6 is a front view of the omni wheel.

FIG. 7 is a top view of the omni wheel; and,

FIG. 8 is a bottom view of the omni wheel.

**1 Claim, 6 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

6,550,975	B2	4/2003	Inoue et al.	
6,551,190	B2	4/2003	Hofmann et al.	
6,692,157	B2	2/2004	Sahashi et al.	
D535,239	S *	1/2007	Hovind .....	D12/209
7,231,949	B2	6/2007	Tuggle	
7,249,528	B2	7/2007	Inoue	
9,623,702	B2	4/2017	Fudemoto et al.	
D802,509	S *	11/2017	Tran .....	D12/209
D829,627	S *	10/2018	Hunt .....	D12/204
D867,953	S *	11/2019	Hunt .....	D12/204
10,563,693	B2	2/2020	Sguotti et al.	
D892,698	S *	8/2020	Hunt .....	D12/204
D928,680	S *	8/2021	McKinnon .....	D12/204
D941,731	S *	1/2022	Podlovits .....	D12/209
D971,811	S *	12/2022	Sempek .....	D12/209
D983,720	S *	4/2023	Mukti .....	D12/211
2006/0145531	A1	7/2006	Galvanin	
2017/0058940	A1	3/2017	Wehner et al.	

OTHER PUBLICATIONS

Drive Shafts, Inc. “Agricultural Driveshafts”, <https://www.driveshaftsoftulsa.com/pages/agricultural-drive-shafts>, accessed as least as early as Oct. 30, 2023, 7 pages.

MR Driveline, Star Tube, <https://www.ujdriveshaft.com/product/star-tube/>, accessed at least as early as Oct. 30, 2023 6 pages.

Pat’s Driveline, “Agricultural PTO Shaft Tubing”, <https://patsdriveline.com/products-services/agricultural-products/pto-shaft-tubing/>, accessed at least as early as Oct. 30, 2023, 6 pages.

PaulB Hardware, AW35, AW36, AW26 series star profile tube, clearanced for uncoated tube, <https://paulbhardware.com/pto-outer-w2400-2500-inner-w2600-6007961>, accessed at least as early as Oct. 30, 2023, 1 page.

Quality Farm Supply, PTO Repair Tubes and Shafts, <https://qualityfarmsupply.com/collections/pto-repair-tubing-and-shafting>, accessed at least as early as Oct. 30, 2023, 22 pages.

Sparex Agricultural Parts, PTO Tube—Star Profile, <https://export.sparex.com/pto-tube-star-profile-length-1m-s5-24821.html>, accessed at least as early as Oct. 30, 2023, 3 pages.

Tube MFG, Shaped Steel Tubes, <https://www.tubemfg.com/product/other-products/Shaped-Steel-Tubes.html>, accessed at least as early as Oct. 30, 2023, 3 pages.

Weasler Engineering, Inc., Star Profile Tube, <https://www.weasler.com/product/star-profile-tube-2/>, accessed at least as early as Oct. 30, 2023, 4 pages.

24 Best and Coolest Star Socket Sets for 2019; Posted in Power and Hand Tools by Admin on Dec. 5, 2019; <https://www.hotpowerhandtools.com/24-best-and-coolest-star-socket-sets-for-2019/>.

3D ContentCentral—Free 3D CAD Models, 2D Drawings, and Supplier Catalogs; <https://www.3dcontentcentral.com/parts/supplier/REV-Robotics/102733.aspx>.

Auto Quarterly; Best Socket Sets to Expand Your Toolbox; Last Updated Mar. 19, 2021, Posted in Reviews, Tools; <https://autoquarterly.com/best-socket-sets/>.

\* cited by examiner

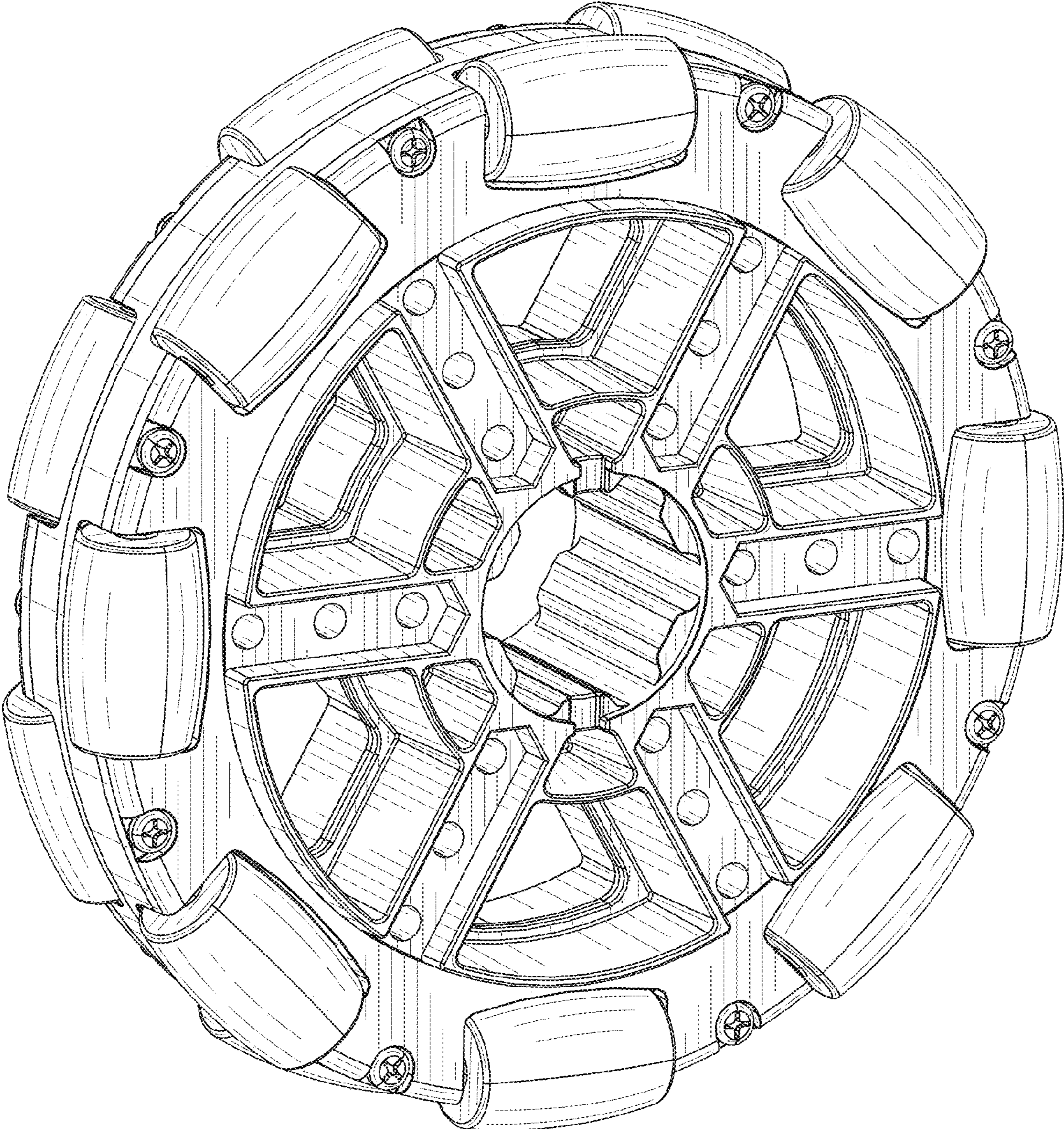


FIG. 1

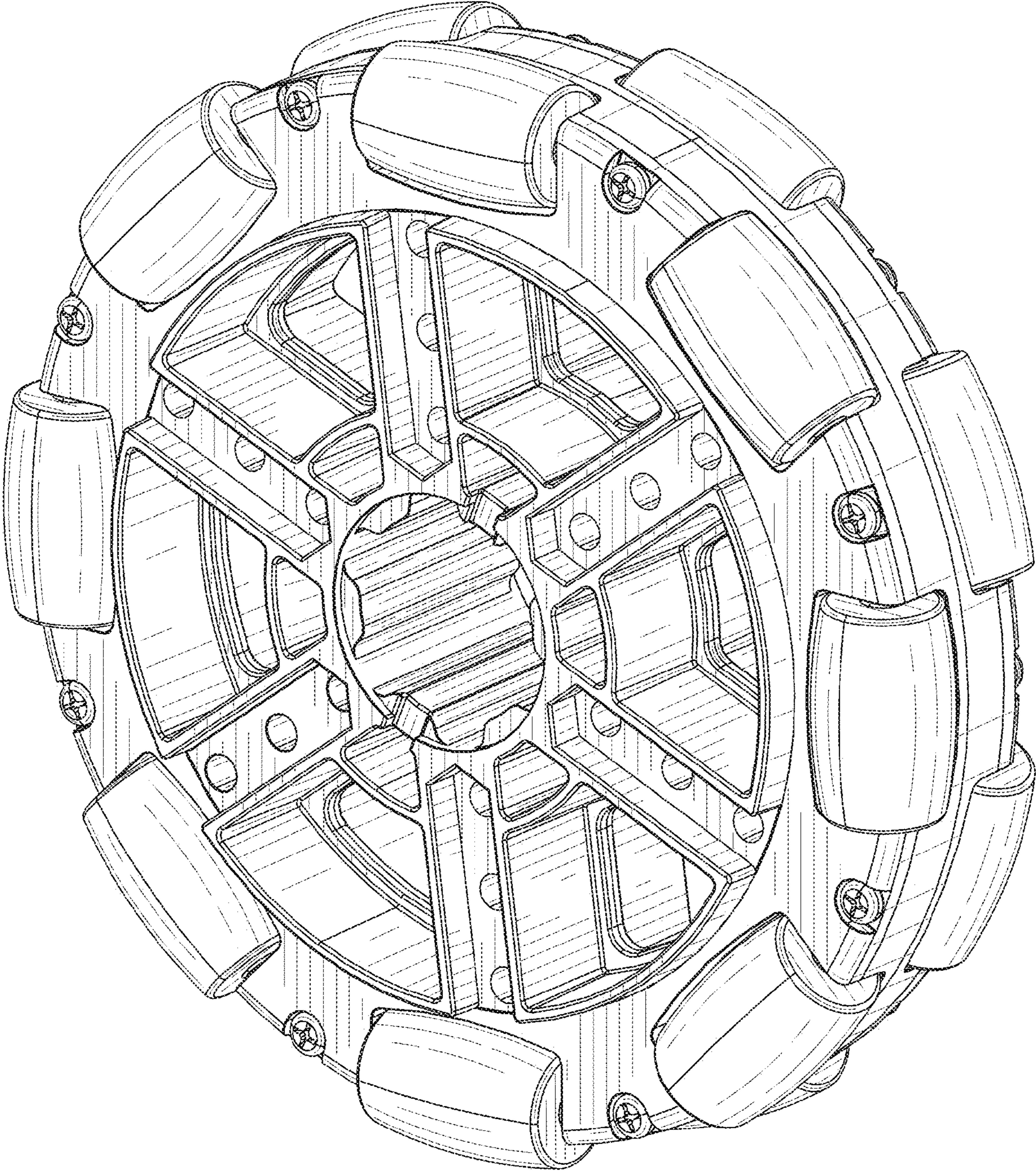


FIG. 2

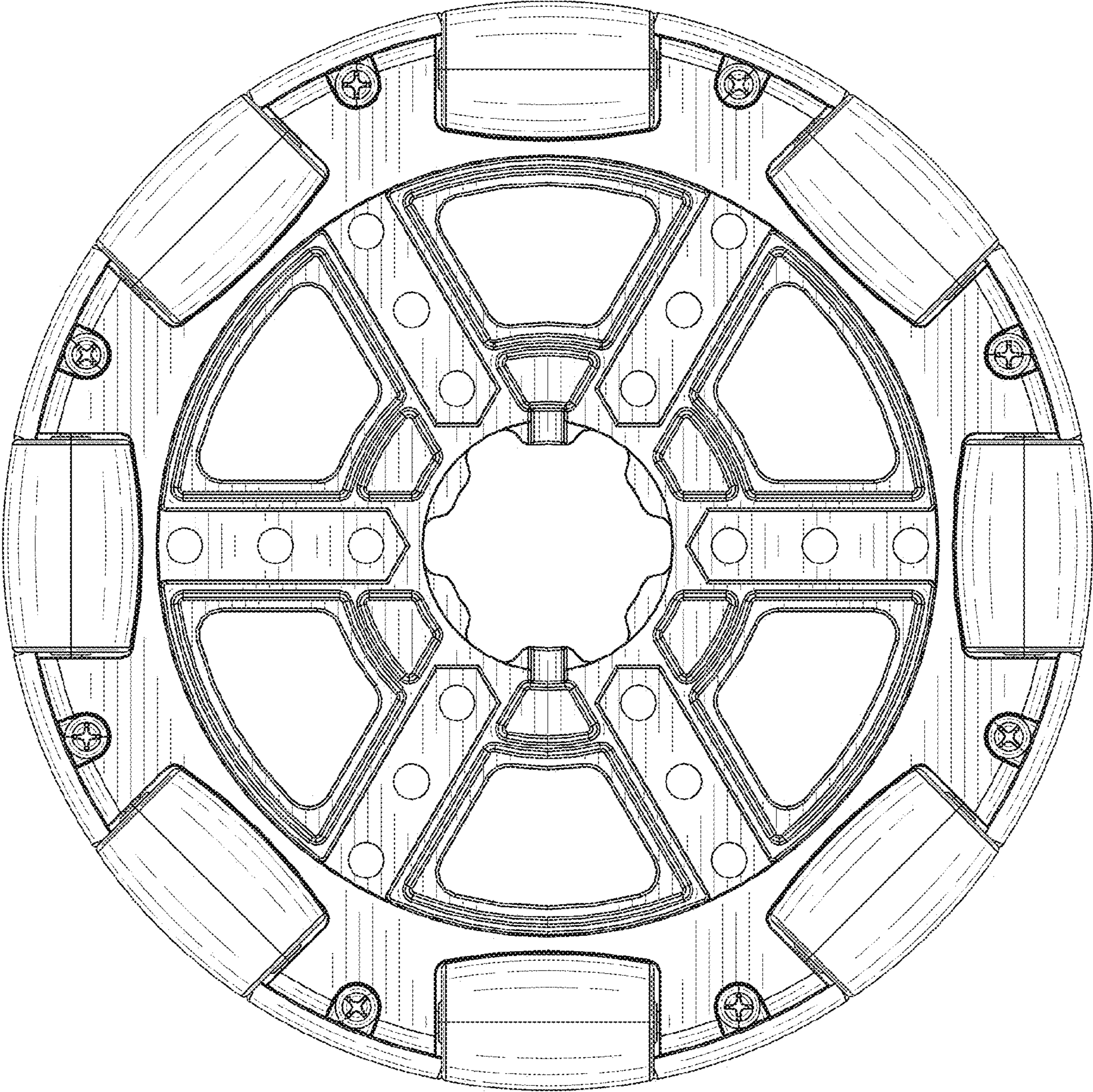


FIG. 3

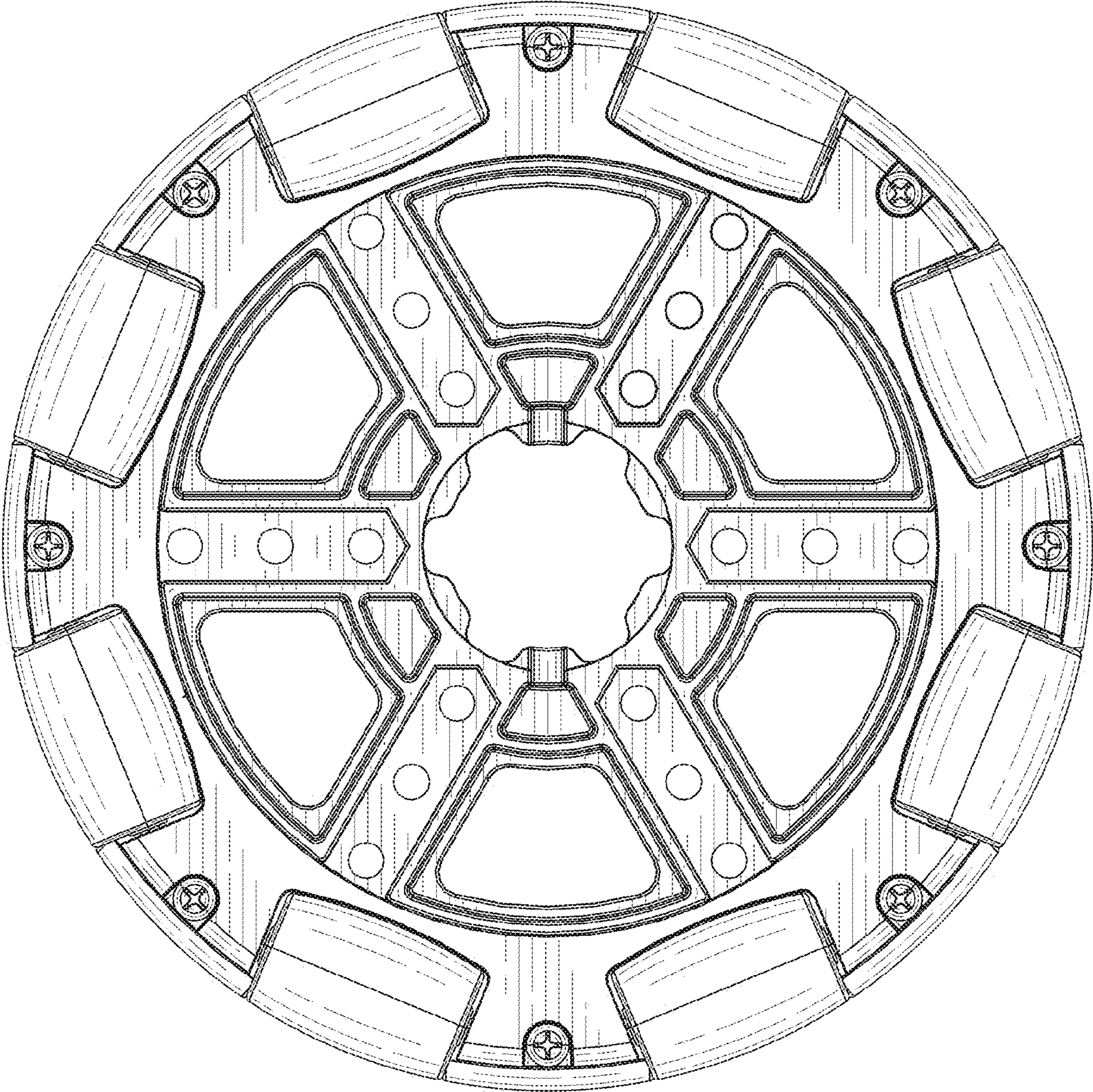


FIG. 4

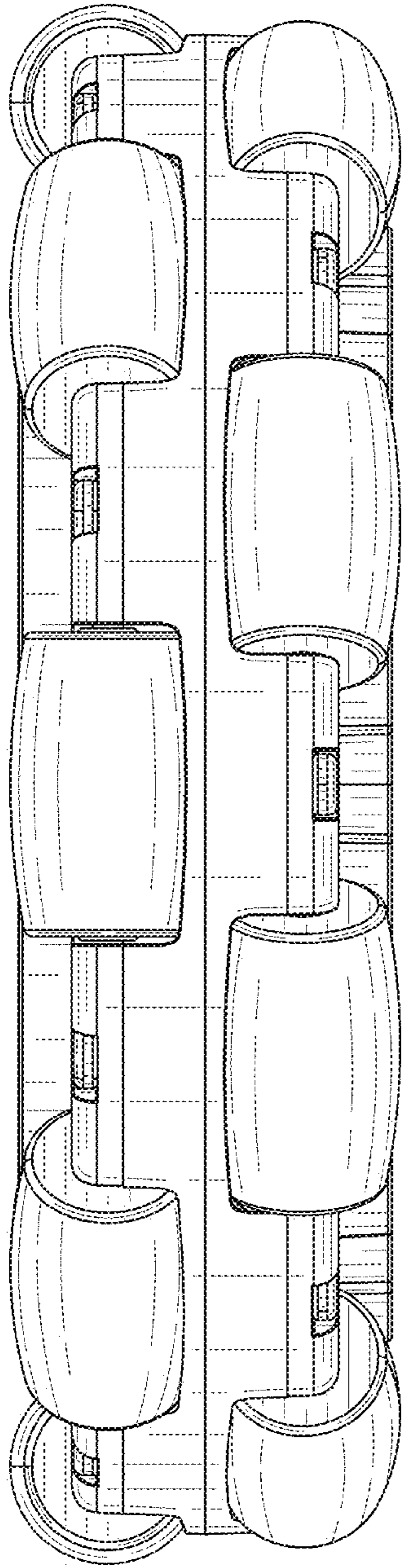


FIG. 5

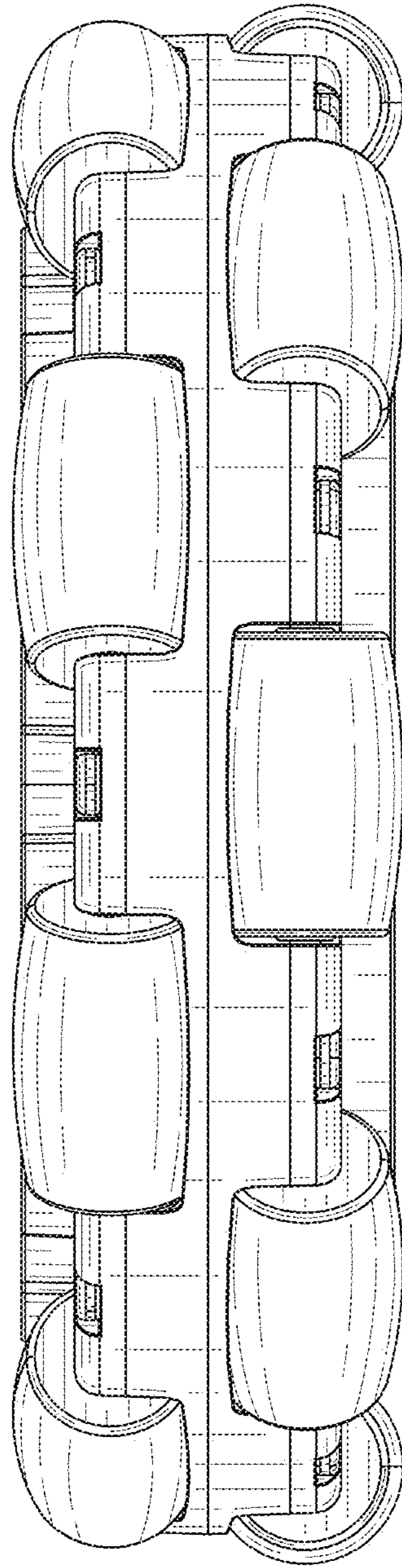


FIG. 6

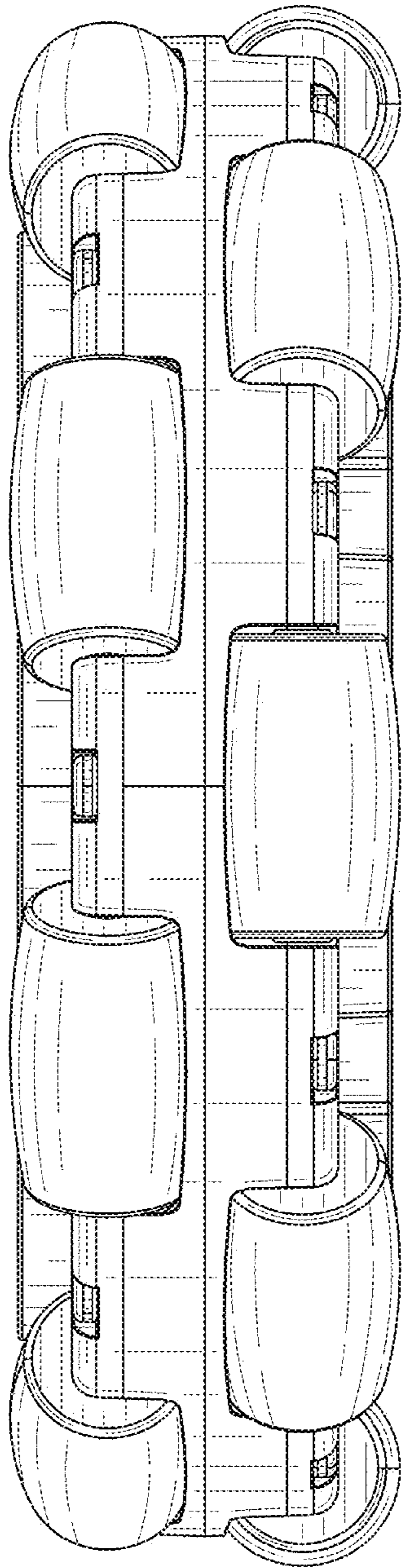


FIG. 7

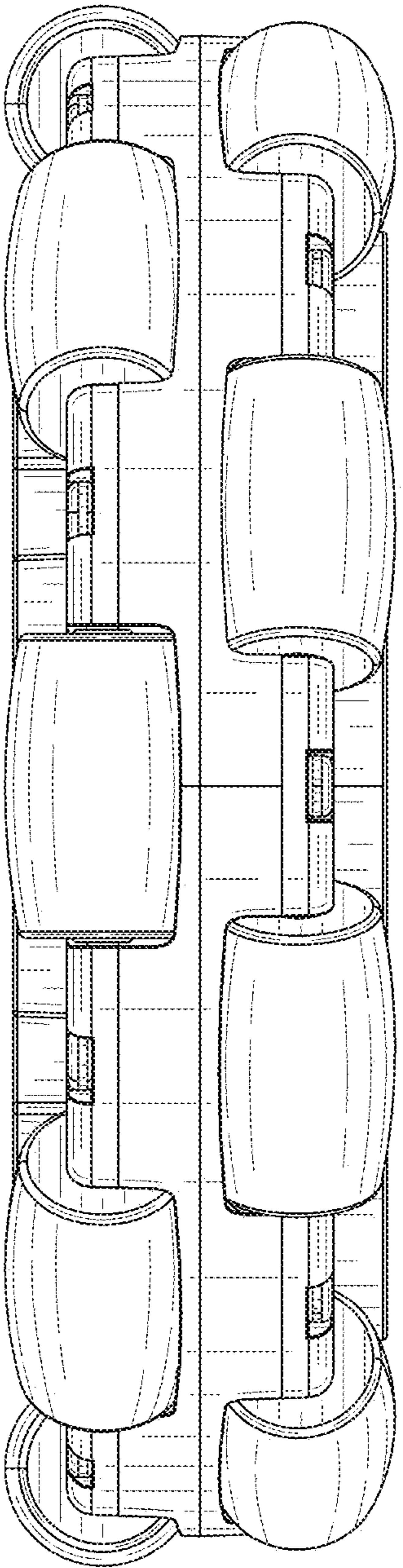


FIG. 8