



US00D951151S

(12) **United States Design Patent** (10) **Patent No.:** **US D951,151 S**
Ewing et al. (45) **Date of Patent:** **** May 10, 2022**

(54) **MODEL VEHICLE LOWER SUSPENSION ARM**

FOREIGN PATENT DOCUMENTS

CN 303934565 11/2016
CN 303934566 11/2016

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(Continued)

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OTHER PUBLICATIONS

Associated Electrics, "Monster GT" model truck; Associated Electrics, Inc., Costa Mesa, California, 1 photograph.

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(Continued)

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

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(21) Appl. No.: **29/711,520**

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(22) Filed: **Oct. 31, 2019**

(57) **CLAIM**

We claim the ornamental design for a model vehicle lower suspension arm, as shown and described.

(51) **LOC (13) Cl.** **12-16**

DESCRIPTION

(52) **U.S. Cl.**

USPC **D12/159**; D21/562

FIG. 1 is an upper, left, front perspective view of a model vehicle lower suspension arm;
FIG. 2 is a front elevation view thereof;
FIG. 3 is a rear elevation view thereof;
FIG. 4 is a left side elevation view thereof;
FIG. 5 is a right side elevation view thereof;
FIG. 6 is a top plan view thereof;
FIG. 7 is a bottom plan view thereof; and,
FIG. 8 is a lower, right, rear perspective view of the model vehicle lower suspension arm.

(58) **Field of Classification Search**

USPC D12/159–160; D21/495, 561–562

CPC B60G 7/001; B60G 7/003; A63H 17/262

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

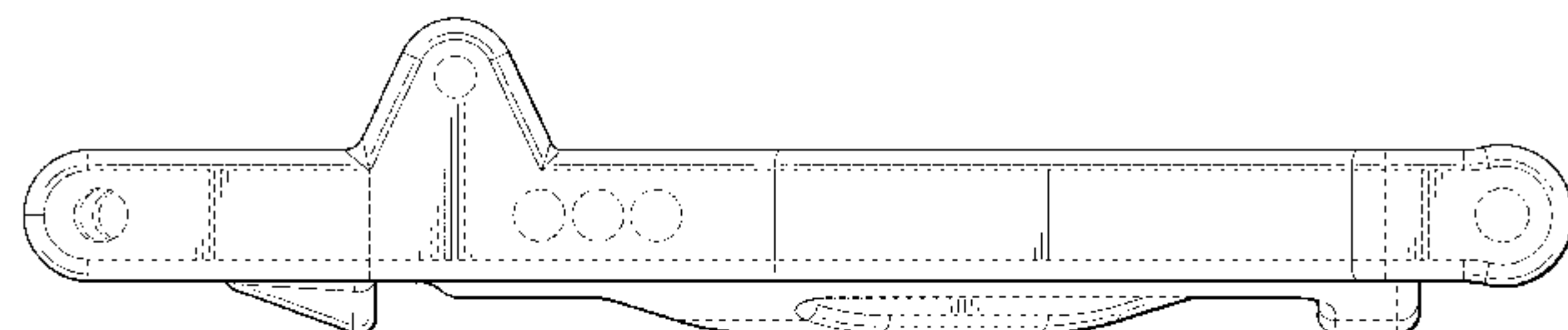
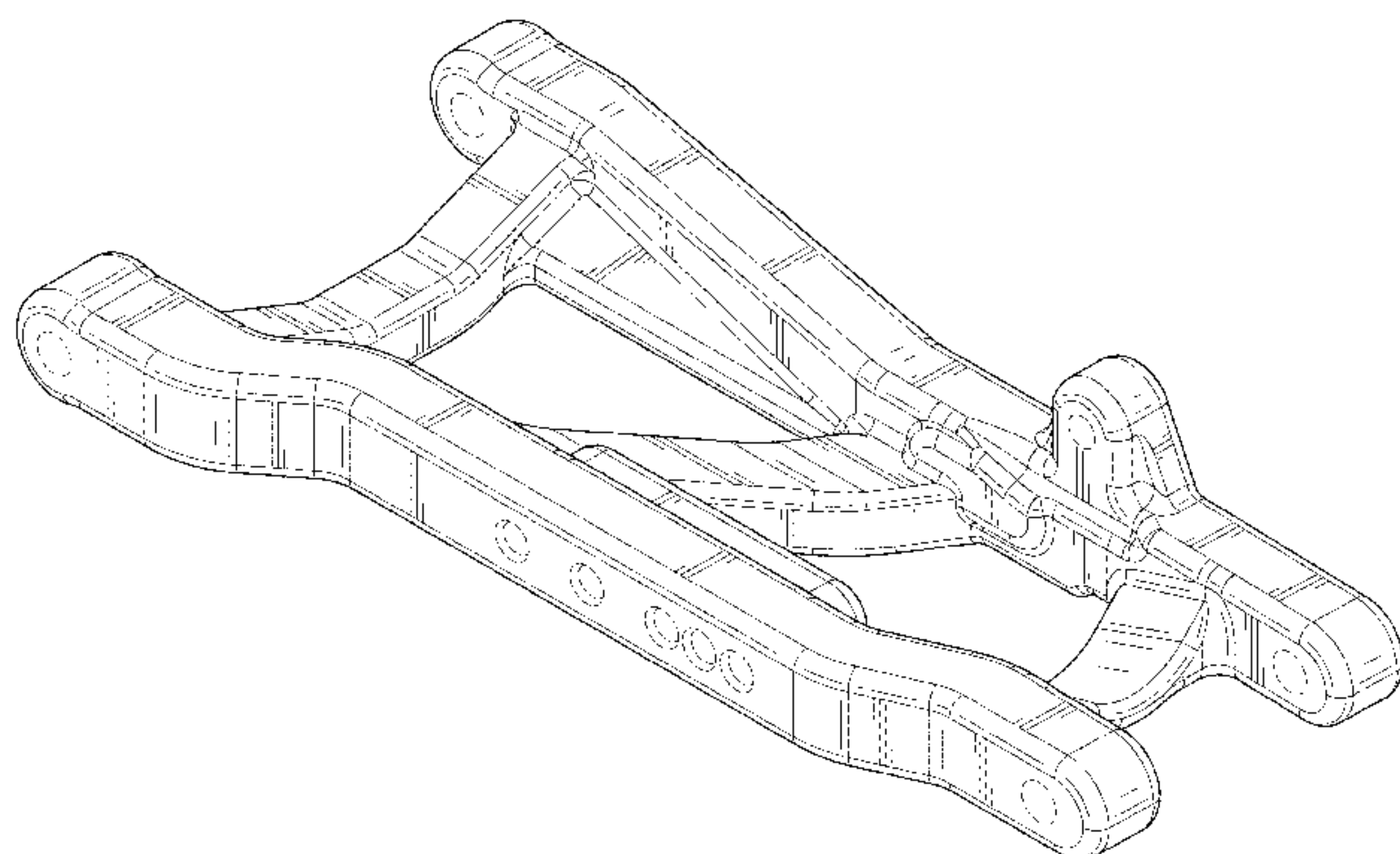
D31,946 S 12/1899 Stanley et al.
D31,948 S 12/1899 Stanley et al.
D32,661 S 5/1900 Morgan et al.
D34,632 S 6/1901 Warner
D46,086 S 7/1914 Clark
1,135,577 A 4/1915 Hague
1,647,438 A 11/1927 De Ram
1,695,379 A 12/1928 Keck
1,998,477 A 4/1935 Wikander
2,000,255 A 5/1935 Rivard
2,111,696 A 3/1938 Sherman
2,123,681 A 7/1938 Willgoos

(Continued)

In the drawings, the broken line showing of features of the model vehicle lower suspension arm illustrate portions of the model vehicle lower suspension arm that form no part of the claimed design.

In the drawings, only the first embodiment of the model vehicle lower suspension arm is shown. The second embodiment of the claimed design is a right model vehicle lower suspension arm which is a mirror image of the left model vehicle lower suspension arm disclosed in the first embodiment.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2,126,085 A	8/1938	Balz	6,170,838 B1	1/2001	Laurent et al.	
2,131,661 A	9/1938	Heyermans et al.	6,206,392 B1	3/2001	Siecinski et al.	
2,148,177 A	2/1939	Sherman	6,478,655 B2	11/2002	Wu	
2,153,083 A	4/1939	Griswold	6,550,796 B2	4/2003	Behr	
2,186,065 A	1/1940	Fischer	D475,001 S	5/2003	Roll	
2,219,361 A	10/1940	Haberstump	6,595,714 B2	7/2003	Moore	
2,232,397 A	2/1941	Leighton	6,641,457 B1	11/2003	Lai	
2,264,174 A	11/1941	Crump et al.	6,655,118 B1	12/2003	Thompson et al.	
2,298,585 A	10/1942	Phelps	6,668,779 B2	12/2003	Hendriksma et al.	
2,580,559 A	1/1952	Kolbe	6,685,203 B1	2/2004	Bodin et al.	
2,624,592 A	1/1953	Macpherson	6,698,963 B1	3/2004	Parker et al.	
2,643,110 A	6/1953	Gregoire	6,702,307 B2	3/2004	Becker et al.	
2,678,803 A	5/1954	Wilkerson	6,719,313 B2	4/2004	Zadok	
2,707,100 A	4/1955	Schilberg	6,752,411 B2	6/2004	Few	
2,718,409 A	9/1955	Kishline et al.	6,761,372 B2	7/2004	Bryant	
2,776,147 A	1/1957	Bamford	6,767,021 B2	7/2004	Schnurpel	
2,852,269 A	9/1958	Gaines	6,881,122 B2	4/2005	Bloch et al.	
2,913,253 A	11/1959	Taber	6,929,273 B2	8/2005	Dobson et al.	
2,931,663 A	4/1960	Ferand	6,932,366 B2	8/2005	Jones et al.	
2,992,014 A	7/1961	Muller	6,945,843 B1	9/2005	Motosko	
3,007,728 A	11/1961	Horfman	6,968,931 B2	11/2005	Huisman	
3,034,810 A	5/1962	Primean (Primeau)	7,152,866 B2	12/2006	Chalin et al.	
3,059,950 A	10/1962	Hedges	7,185,902 B1	3/2007	Lloyd	
3,177,004 A	4/1965	Schmidt	7,367,573 B2	5/2008	Kudo et al.	
3,231,040 A	1/1966	Blanchette	D622,642 S	8/2010	Noble et al.	
3,410,575 A	11/1968	Turnbull et al.	7,883,099 B2	2/2011	Byers et al.	
3,448,991 A	6/1969	Leggett	7,887,074 B2	2/2011	Byers et al.	
3,545,125 A	12/1970	Okuma	8,549,752 B1	10/2013	Byers	
3,583,052 A	6/1971	Herbenar et al.	D785,513 S	5/2017	Park et al.	
3,591,198 A	7/1971	Brando	D788,653 S	6/2017	Smith	
3,632,127 A	1/1972	Grosseau	D827,054 S *	8/2018	Ewing	D21/561
3,671,694 A	6/1972	Masuda	D828,460 S	9/2018	Wood	
3,721,455 A	3/1973	Blanton	D839,363 S	1/2019	Ewing et al.	
3,727,938 A	4/1973	Goodbary et al.	10,266,025 B2	4/2019	Lorenz et al.	
3,738,631 A	6/1973	Haley	D852,095 S	6/2019	Walter	
3,787,073 A	1/1974	Lievore	D853,938 S	7/2019	Smith	
3,938,822 A	2/1976	Guerriero	D856,432 S	8/2019	Ewing et al.	
D262,959 S	2/1982	Cowan	D865,079 S	10/2019	Ewing	
4,470,611 A	9/1984	Duphily et al.	10,435,075 B2	10/2019	Lorenz et al.	
D277,952 S	3/1985	Nakano et al.	D867,475 S *	11/2019	Ewing	B60G 7/001 D12/159
4,534,575 A	8/1985	Grove et al.	D871,273 S	12/2019	Bhaskar	
4,537,420 A	8/1985	Ito et al.	D875,186 S *	2/2020	Ewing	B60G 7/001 D12/159
4,546,997 A	10/1985	Smyers	D902,089 S *	11/2020	Ewing	D12/159
D281,772 S	12/1985	Heideman et al.	D902,090 S *	11/2020	Ewing	D12/159
4,706,989 A	11/1987	Iijima et al.	D905,798 S *	12/2020	Ewing	D12/159
4,786,075 A	11/1988	Takahashi	D905,799 S *	12/2020	Ewing	D12/159
4,807,901 A	2/1989	Kondo	D935,532 S *	11/2021	Ewing	D21/562
D304,473 S	11/1989	Poulsen	D944,901 *	3/2022	Ewing	D21/562
4,881,752 A	11/1989	Tanaka	2002/0041076 A1	4/2002	Becker et al.	
4,955,634 A	9/1990	Smith	2002/0077025 A1	6/2002	Wu	
5,004,257 A	4/1991	MacIsaac	2002/0125676 A1	9/2002	Bryant	
5,080,389 A	1/1992	Kawano et al.	2003/0107198 A1	6/2003	VanDenberg	
5,108,126 A	4/1992	Banse	2003/0122336 A1	7/2003	Zadok	
D335,851 S	5/1993	Lofy	2003/0209217 A1	11/2003	Hendriksma et al.	
D337,555 S	7/1993	McNab et al.	2003/0227151 A1	12/2003	Schreiber et al.	
5,284,353 A	2/1994	Shinji et al.	2004/0004335 A1	1/2004	Rudder et al.	
5,288,101 A	2/1994	Minnett	2004/0045518 A1	3/2004	Abe	
5,332,255 A	7/1994	Velazquez	2004/0261739 A1	12/2004	Shimizuya	
5,516,130 A	5/1996	Mitchell	2005/0040619 A1	2/2005	Melcher	
5,522,281 A	6/1996	Herman	2005/0156399 A1	7/2005	Chu	
5,603,583 A	2/1997	Jackson	2005/0200096 A1	9/2005	Izquierdo Nunez et al.	
D385,835 S	11/1997	Webster	2005/0220535 A1	10/2005	Griffin	
5,682,849 A	11/1997	Regueiro	2005/0287921 A1	12/2005	Lai	
5,692,853 A	12/1997	Litz et al.	2006/0006622 A1	1/2006	Gesmer et al.	
5,774,984 A	7/1998	Kotani	2006/0246819 A1	11/2006	Byers et al.	
5,816,357 A	10/1998	Camlin	2009/0230650 A1	9/2009	Mayen et al.	
5,839,742 A	11/1998	Holt	2014/0361507 A1	12/2014	Park et al.	
5,845,926 A	12/1998	Davis et al.	2016/0068036 A1	3/2016	Minoda et al.	
5,915,727 A	6/1999	Bonnville	2016/0318362 A1	11/2016	Watanabe et al.	
5,934,696 A	8/1999	Bloser et al.	2017/0050483 A1	2/2017	Gordon et al.	
5,938,219 A	8/1999	Hayami et al.	2017/0050485 A1	2/2017	Eleazar	
5,992,863 A	11/1999	Forbes-Robinson et al.	2017/0080350 A1 *	3/2017	Allmendinger	A63H 23/02
6,076,840 A	6/2000	Kincaid et al.	2017/0274932 A1	9/2017	Bymes, Jr.	
6,142,268 A	11/2000	Kuo-An	2018/0065465 A1	3/2018	Ward et al.	
D435,236 S	12/2000	Hanlon et al.	2018/0111433 A1	4/2018	Compigne et al.	
			2018/0126290 A1 *	5/2018	Hodge	A63H 17/262
			2018/0326843 A1	11/2018	Danielson et al.	

(56)

References Cited

U.S. PATENT DOCUMENTS

2018/0370310	A1	12/2018	Becker et al.
2019/0070919	A1	3/2019	Andou et al.
2019/0143871	A1	5/2019	Weber et al.
2019/0145465	A1	5/2019	Olason
2019/0217894	A1	7/2019	Upah et al.
2019/0225042	A1	7/2019	Upah et al.
2019/0241035	A1	8/2019	Wolf-Monheim
2019/0283516	A1	9/2019	Gordon et al.
2019/0285131	A1	9/2019	Garrett
2019/0315174	A1	10/2019	Kwon et al.
2019/0367117	A1	12/2019	Fischer et al.
2020/0324599	A1	10/2020	Frenzel et al.

FOREIGN PATENT DOCUMENTS

CN	304279714		9/2017	
CN	304762592		8/2018	
CN	304904482		11/2018	
DE	2137757	A1	2/1973	
DE	3622552	A1	1/1988	
DE	102006060897	A1	6/2008	
DE	102007055683	A1	5/2009	
DE	202018103151	U1	6/2018	
EM	002601971-0003		1/2015	
EP	0070025	A2	1/1983	
EP	3271195	B1	5/2019	
FR	2957324	A1	9/2011	
GB	9005431038-0004		7/2018	
KR	20080042707	A	5/2008	
WO	2010066226	A1	6/2010	
WO	WO-2013079850	A1 *	6/2013 B60G 7/003
WO	D095551-009		4/2017	
WO	D095551-010		4/2017	
WO	2021046302	A1	3/2021	

OTHER PUBLICATIONS

Associated Electrics, "RC10GT" model vehicle; Associated Electrics, Inc., Costa Mesa, California, 1 photograph.
 Bradley, John; "The Racing Motorcycle"; 1996, pp. 246-273, 322-325; Broadland Leisure Publications, England.
 Ellsworth, Tony; "Suspension Design Enhancements—The Ellsworth Dare"; Dreamride Mountain Bike Tours and Film Services, Moab, Utah, 2001.
 Horizon Hobby, "Losi XXX buggy"; Horizon Hobby, Inc., Champaign, Illinois; 1 sketch of suspension geometry.
 HPI Racing, "Savage 21" model truck; Hobby Products International, Foothill Ranch, California; 1 sketch of suspension geometry.
 HYPERPRO_USA; "What is Progressive Suspension?" HyperPRO_USA.com.
 KYOSHO Inferno MP7.5 model car; Kyosho America, Lake Forest, California; 2 sketches of suspension geometry.
 Mulliken, William F. and Milliken, Douglas L.; "Race Car Vehicle Dynamics" 1995, pp. 580-583, 595-597, 628-631; SAE Publications Group, Pennsylvania USA.
 Phillipotts, Peter; "Rising Rate Suspension"; Off Road Design, 2001.
 Race Tech, "Profile—Chalmers Formula SAE Car" Race Tech magazine, Oct./Nov. 2003, p. 74; Racecar Graphic Ltd, London, England.
 Racecar Engineering, Jun. 2003—vol. 13 No. 6, pp. 15, 106; Country & Leisure Media Ltd./IPC Media Ltd., Croydon, England.
 Salven, Michael; "Progressive Suspension" Nov. 10, 2000; myTSN—Publication, Netherlands.
 Serpent, Veteq; Serpent Model Racing Cars, Noord-Holland, Netherlands; 3 pictures.
 Serpent, Veteq; Serpent Model Racing Cars, Noord-Holland, Netherlands; 1 sketch of suspension geometry.
 Staniforth, Allan; "Competition Car Suspension" 1988, pp. 76-81, 84-85; Haynes Publications, Newbury Park, California.
 Tamiya, "Terra Crusher" model truck; Tamiya America, Inc., Aliso Viejo, California; 1 sketch of suspension geometry.

Traxxas LP; "T-Maxx Assemblies, Front Assembly" exploded view; Traxxas LP, Plano, Texas.
 Traxxas, "Nitro Rustler" model vehicle; Traxxas LP, Plano, Texas; 1 photograph.
 Traxxas, "T-Maxx" model vehicle; Traxxas LP, Plano, Texas; 1 photograph.
 Full size vehicle with suspension linkage #1.
 Full size vehicle with suspension linkage #2.
 Chassis Shop, "Tube Adapters" Catalog pp. 46-51, Chassis Shop Performance Products, Mears, MI, USA.
 Coleman Racing, "Hex Trailing Arm" web pages: http://www.colemanracing.com/catalog/index.php?cPath=49_1024 http://www.colemanracing.com/catalog/product_info.php?cPath=49_1024&products_id=4714 Coleman Racing, Memominee, MI, USA.
 Traxxas, "T-Maxx Rear Assembly" exploded view drawing; Traxxas LP, Plano, TX, USA.
 Aerosticks, "What Are They" web page article, Dec. 26, 2004, DPD Enterprises, Ventura, CA, USA.
 Aerosticks, "Fabrication" web page article, Dec. 26, 2004, DPD Enterprises, Ventura, CA, USA.
 Aerosticks, "Design Basis" web page article, Jun. 7, 2004, DPD Enterprises, Ventura, CA, USA.
 Aerosticks, 2 pages photographs, DPD Enterprises, Ventura, CA, USA.
 ARTINCbydb, Traxxas E-Revo Upper/Lower Arm Replacement, posted at YouTube, posting date Feb. 4, 2013. Site visited Apr. 12, 2019. URL: <<https://www.youtube.com/watch?v=fGMtjirezT0>> (Year: 2013).
 Traxxas 5331 Right Front Upper & Lower Arms, posted at Amazon, review posted Dec. 30, 2014. Site visited Apr. 12, 2019. URL <<https://www.amazon.com/Traxxas-Right-Front-Upper-Suspension/dp/B000BOPT0G>> (Year: 2014).
 "Traxxas 7729 X-Maxx Upper Suspension Arms (pair)," Jan. 5, 2016, amazon.com, site visited Dec. 14, 2021, URL: <https://www.amazon.com/Traxxas-7729-X-Maxx-Upper-Suspension/dp/B01A6Z068O/> (Year: 2016).
 "Team Integy C26836SILVER Upper Suspension Arm X-Ma," Apr. 19, 2017, amainhobbies.com, site visited Dec. 14, 2021, URL: <https://www.amainhobbies.com/team-integy-c26836silver-upper-suspension-arm-xma-intc26836silver/p-quaxtarqpc2xactz> (Year: 2017).
 Traxxas 7729 X-Maxx Upper Suspension Arms (pair), Earliest available date Jan. 5, 2016 [Online], [Site Visited Oct. 23, 2020] Available From Internet, URL: <<https://www.amazon.com/Traxxas-7729-X-Maxx-Upper-Suspension/dp/B01A6Z068O>> (Year: 2016).
 Traxxas X-Maxx 8s F/R Left Lower Suspension Arm (1), Tin-Eye date May 26, 2017 [Online], [Site Visited Oct. 23, 2020] Available From Internet, URL: <<https://www.modelsport.co.uk/traxxas-x-maxx-8s-f-r-left-lower-suspension-arm-1/rc-car-products/396018>> (Year: 2017).
 Traxxas 7831G Suspension arm lower left F orR Green X-Maxx series, Earliest available date Oct. 15, 2020 [Online], [Site Visited Oct. 23, 2020] Available From Internet, URL: <<https://www.ebay.com/itm/Traxxas-7831G-Suspension-arm-lower-left-F-orR-Green-X-Maxx-series-Heavy-Duty-New/402480149730?epid=20038117293&hash=item5db5afb4e2:g:It4AAOSw9she7BMU>> (Year: 2020).
 "Xray XB2 Right Rear Composite Suspension Arm (Hard)," Jan. 12, 2016, amainhobbies.com, site visited Dec. 14, 2021, URL: <https://www.amainhobbies.com/xray-xb2-right-rear-composite-suspension-arm-hard-xra323110-h/p-qeazlzuq7b2xactz> (Year: 2016).
 "Traxxas X-Maxx Right Lower Suspension Arm," Jan. 15, 2016, amainhobbies.com, site visited Dec. 14, 2021, URL: <https://www.amainhobbies.com/traxxas-xmaxx-right-lower-suspension-arm-tra7730/p-qeazt2qa7czxactz> (Year: 2016).
 "Traxxas 7730 X-Maxx Lower Suspension Arm," Mar. 24, 2016, amazon.com, site visited Dec. 14, 2021, URL: https://www.amazon.com/ca/Traxxas-7730-X-Maxx-Lower-Suspension/dp/B01A6YD1UU/ref=sr_1_10?keywords=traxxas+suspension+arms&qid=1639510580&sr=8-10 (Year: 2016).
 Stephen Mitchell, "Awesome Part Replacement," Mar. 25, 2018 (review with photo), amazon.com, site visited Dec. 14, 2021, URL: <https://www.amazon.com/dp/B01DUCYDZC/> (Year: 2018).

(56)

References Cited

OTHER PUBLICATIONS

“Traxxas Heavy Duty Suspension Arms (Blue),” Feb. 15, 2019, amainhobbies.com, site visited Dec. 14, 2021, URL: <https://www.ainhobbies.com/traxxas-heavy-duty-suspension-arms-blue-tra3655p-p-qezltakq7z2xactz> (Year: 2019).

“Traxxas Suspension arms, red,” Jun. 23, 2019, amazon.com, site visited Dec. 14, 2021, URL: https://www.amazon.ca/Traxxas-Suspension-Front-Weather-Material/dp/B07MXP4DTP/ref=sr_1_5?keywords=traxxas+suspension+arms&qid=16395102838sr=8-5 (Year: 2019).

* cited by examiner

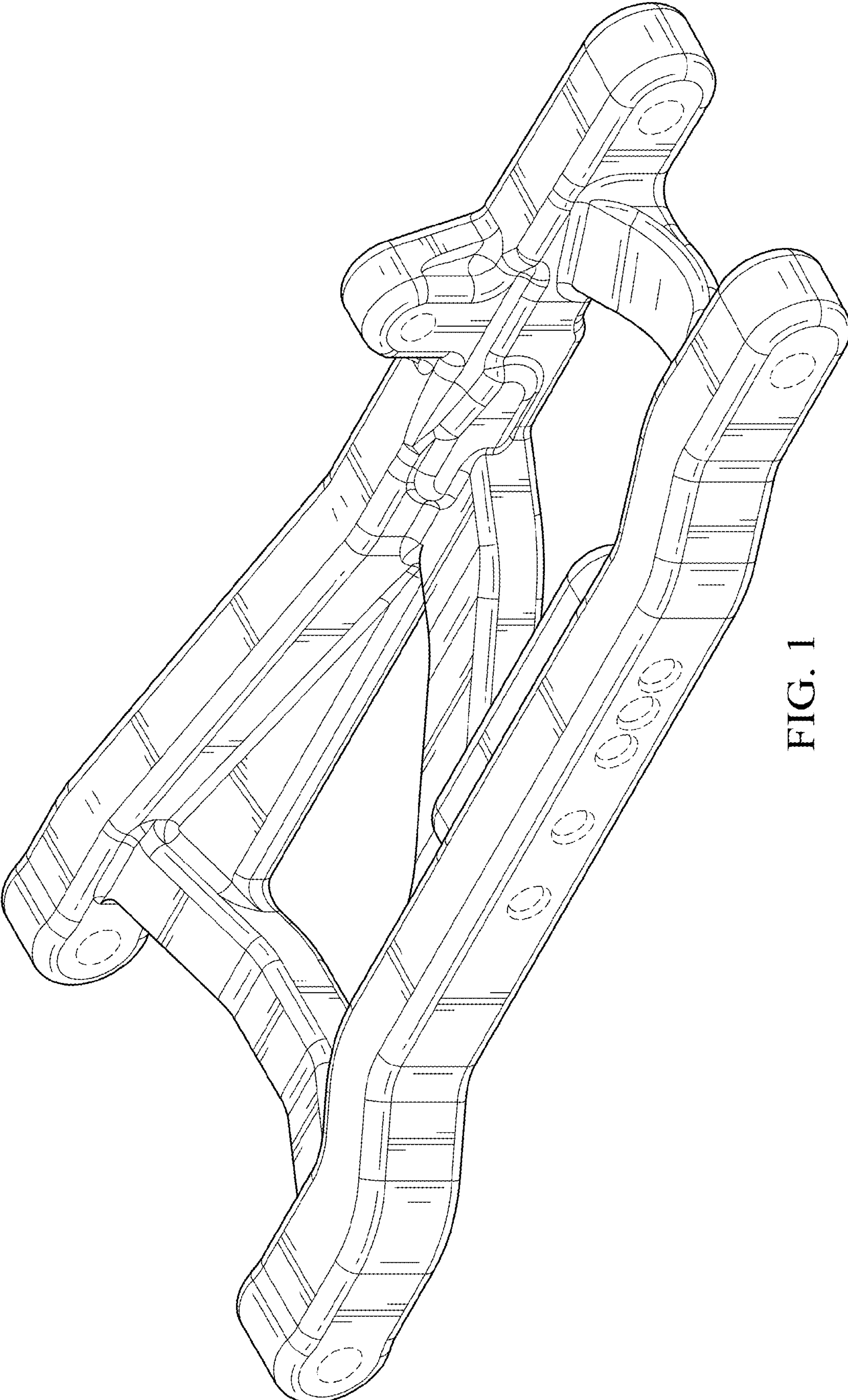


FIG. 1

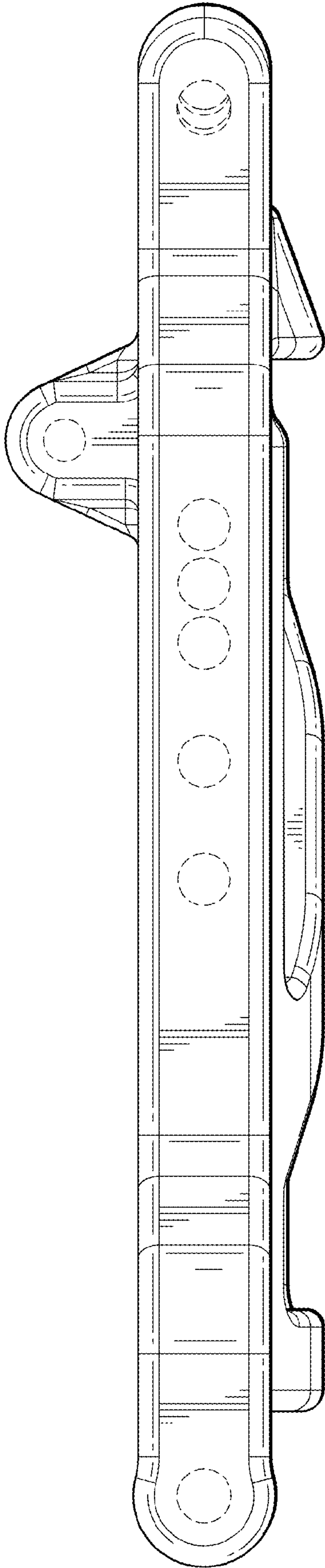


FIG. 2

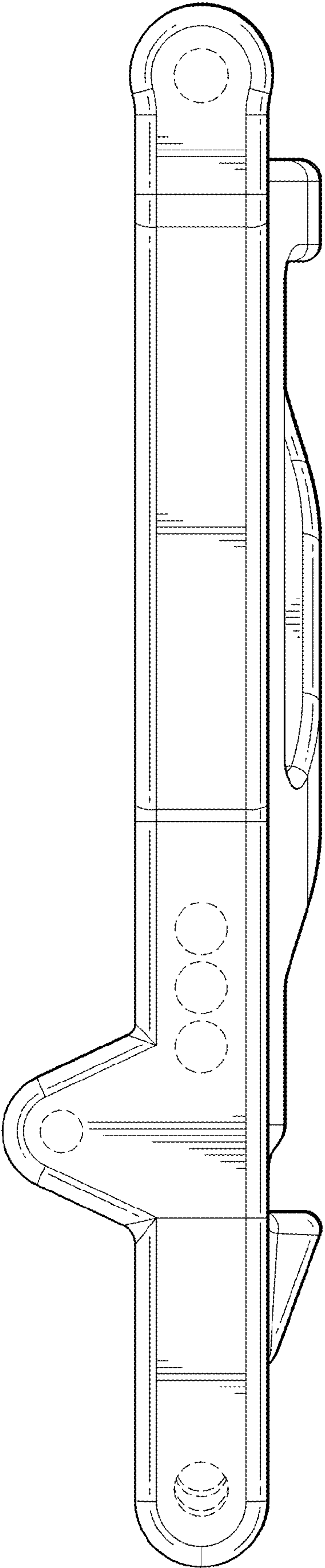


FIG. 3

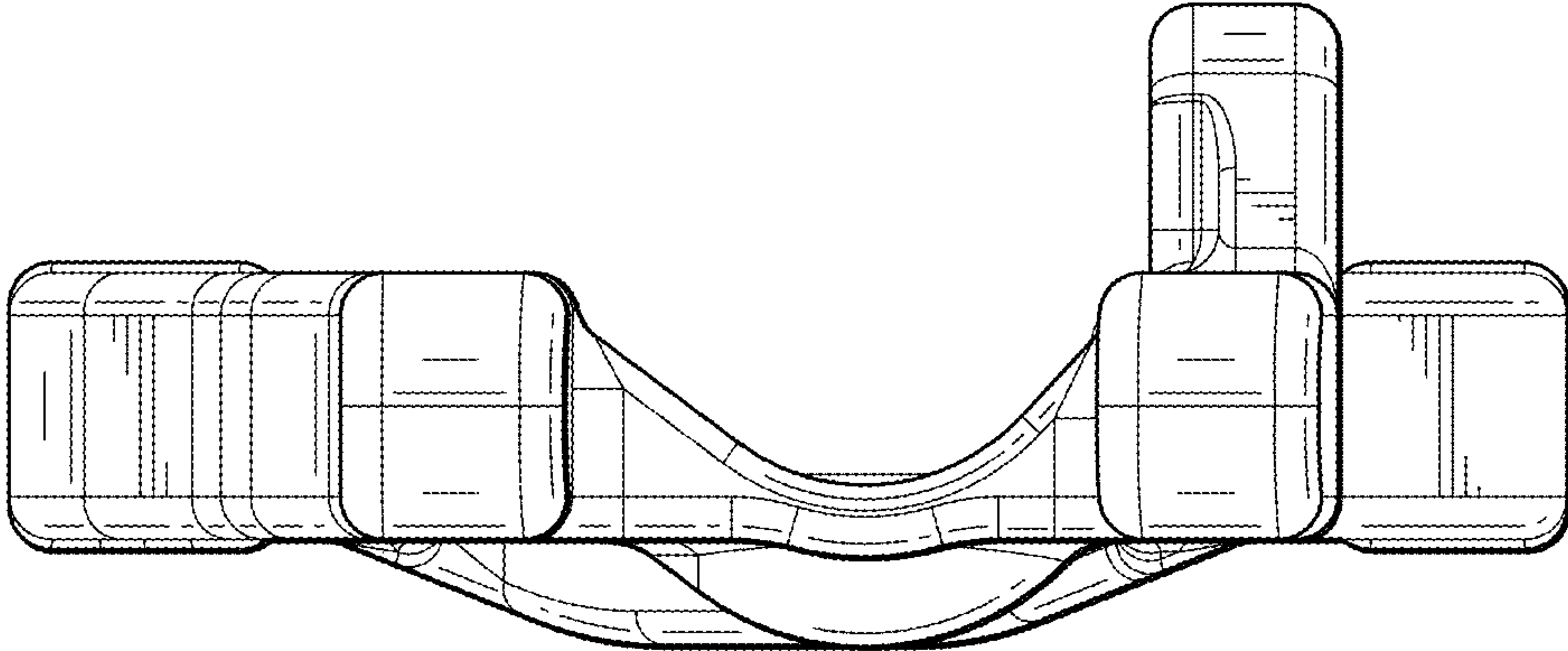


FIG. 4

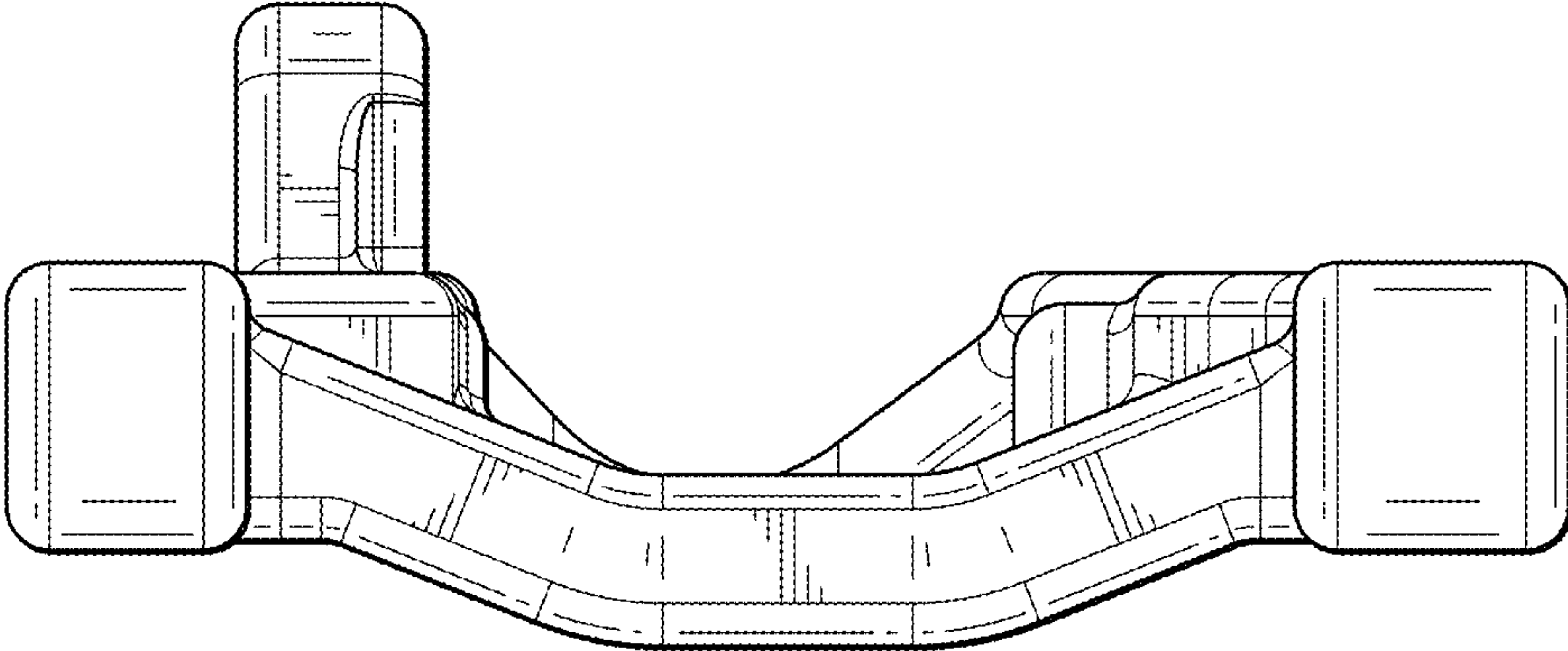


FIG. 5

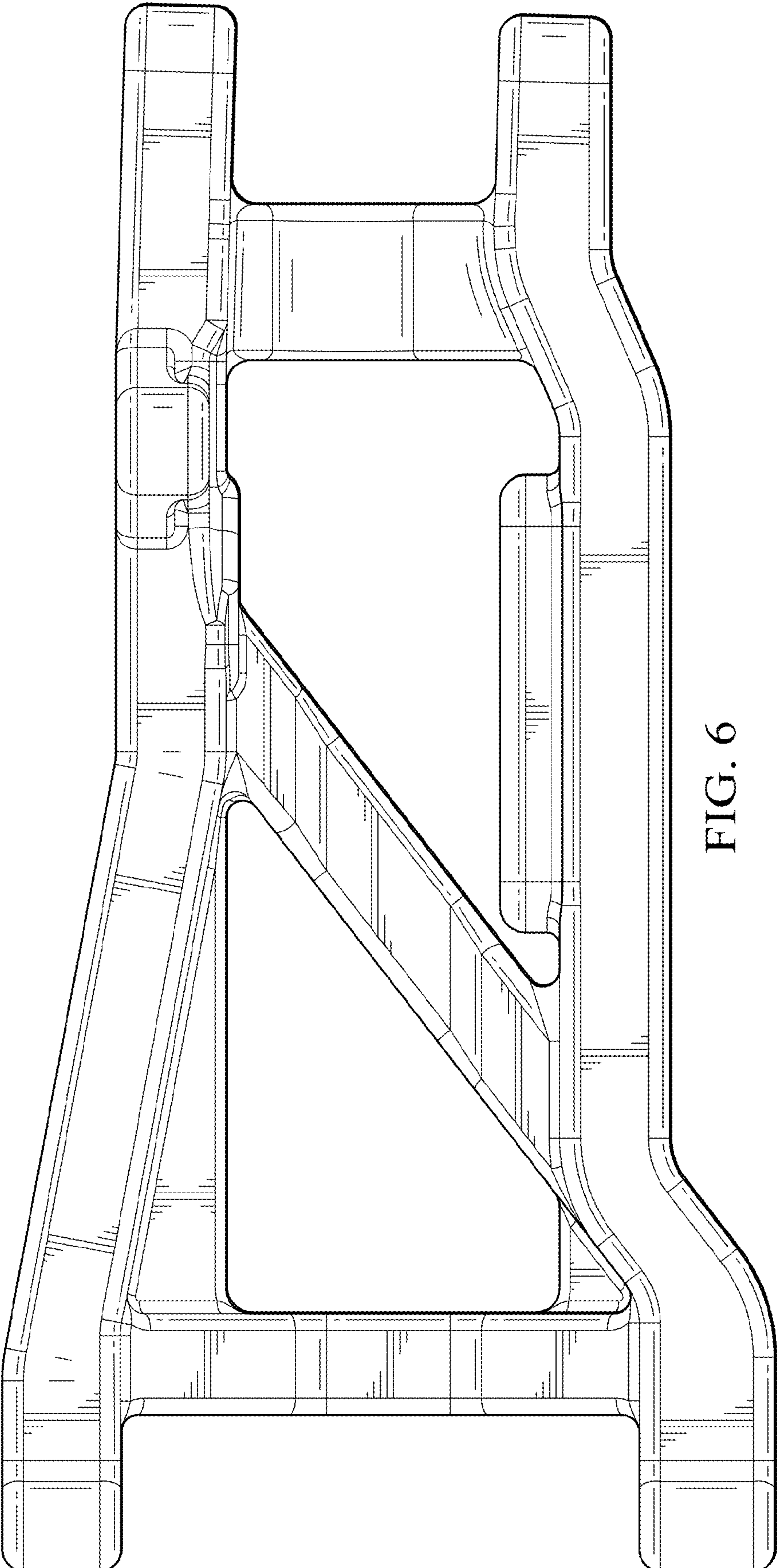


FIG. 6

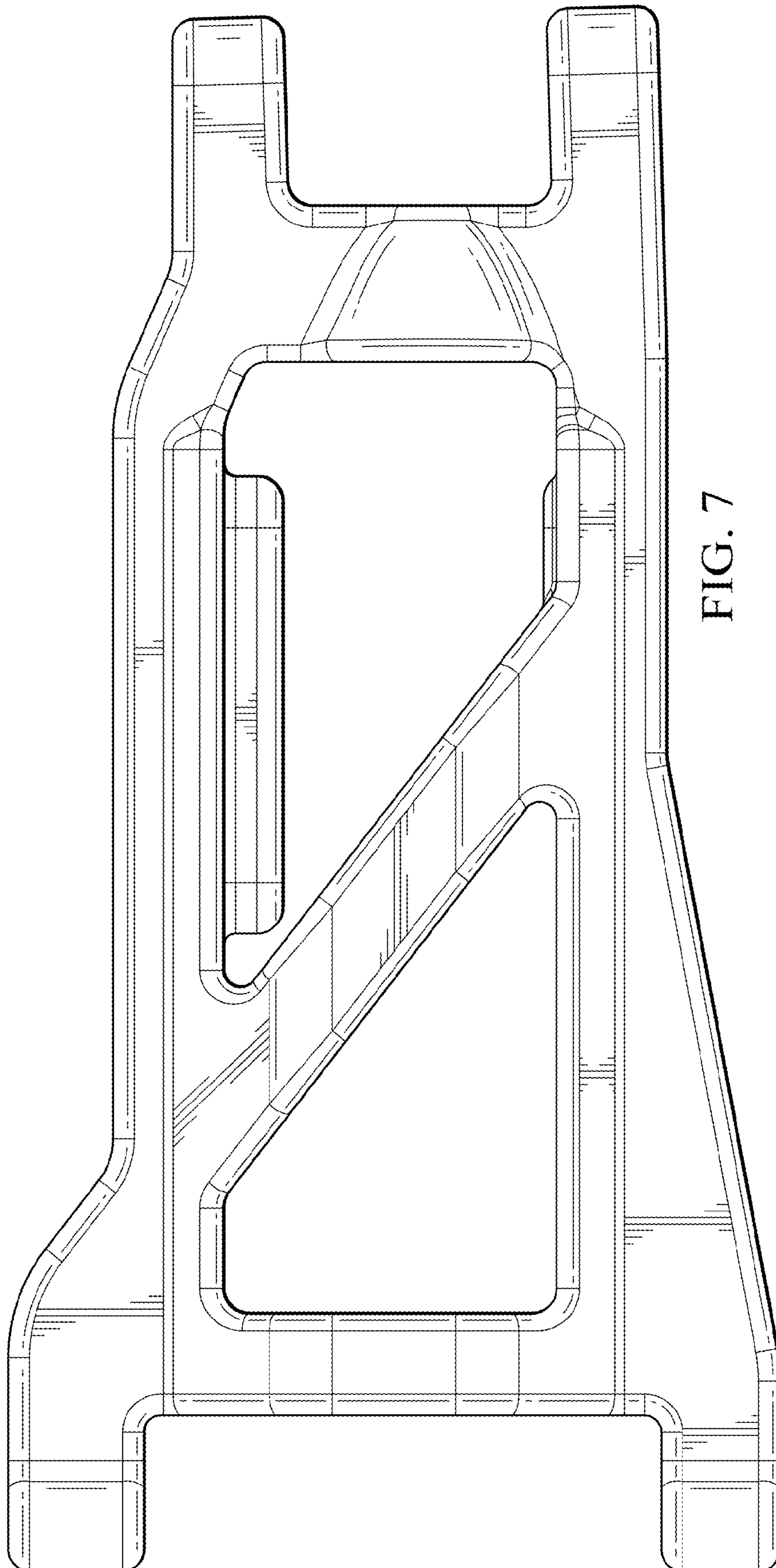


FIG. 7

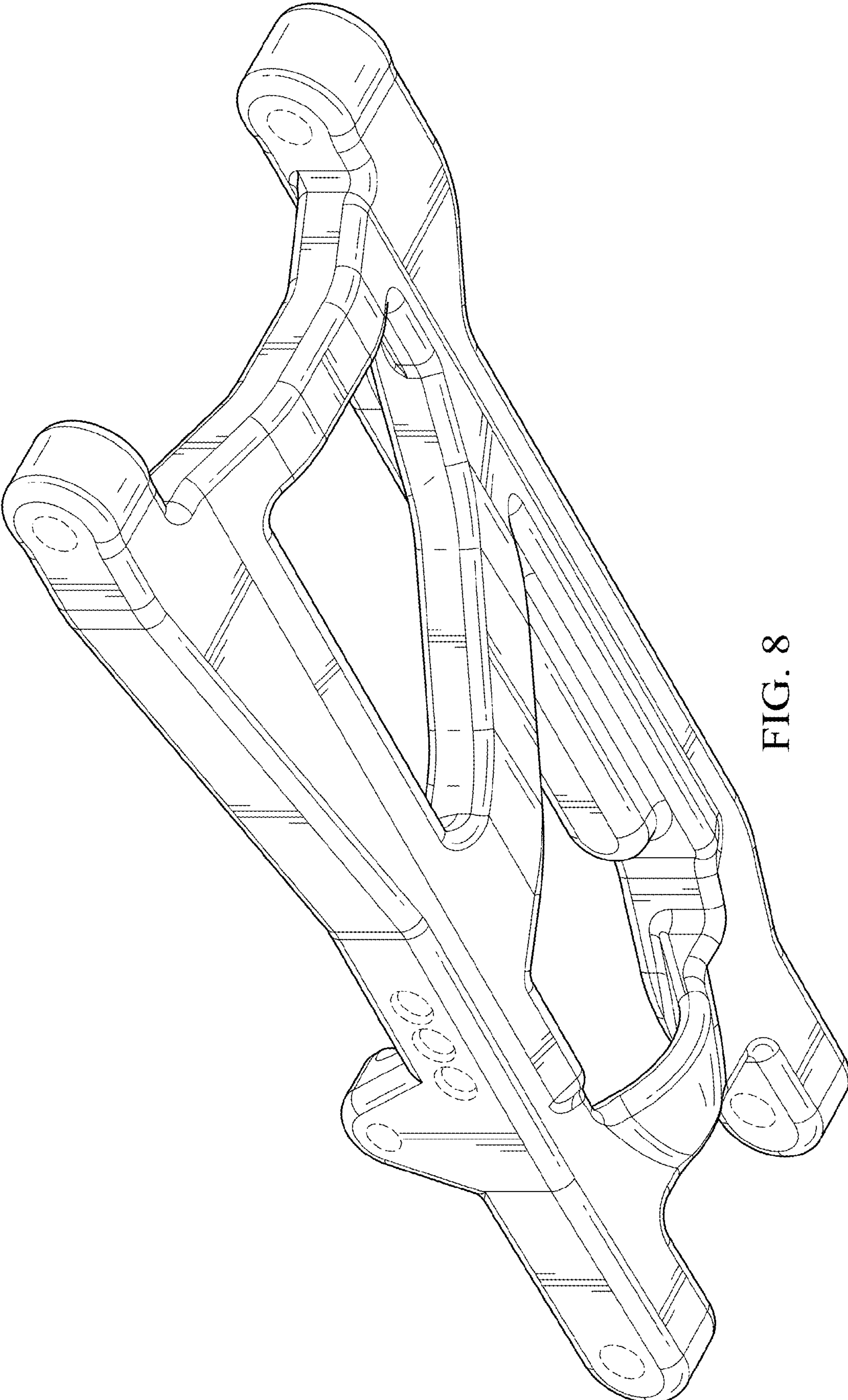


FIG. 8