



US00D902090S

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

(10) **Patent No.:** **US D902,090 S**  
(45) **Date of Patent:** **\*\* Nov. 17, 2020**

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

(71) Applicant: **TRAXXAS LP**, McKinney, TX (US)

(72) Inventors: **Adam Cole Ewing**, McKinney, TX (US); **Otto Karl Allmendinger**, Rowlett, TX (US)

(73) Assignee: **TRAXXAS LP**, McKinney, TX (US)

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

(21) Appl. No.: **29/705,185**

(22) Filed: **Sep. 10, 2019**

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

(52) **U.S. Cl.**  
USPC ..... **D12/159**; D21/562

(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**

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
2,123,681 A	7/1938	Willgoos

(Continued)

**FOREIGN PATENT DOCUMENTS**

DE	2137757 A1	2/1973
DE	3622552 A1	1/1988

(Continued)

**OTHER PUBLICATIONS**

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

(Continued)

*Primary Examiner* — Michael A. Pratt

(74) *Attorney, Agent, or Firm* — Daryl R. Wright; Greg Carr

(57) **CLAIM**

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

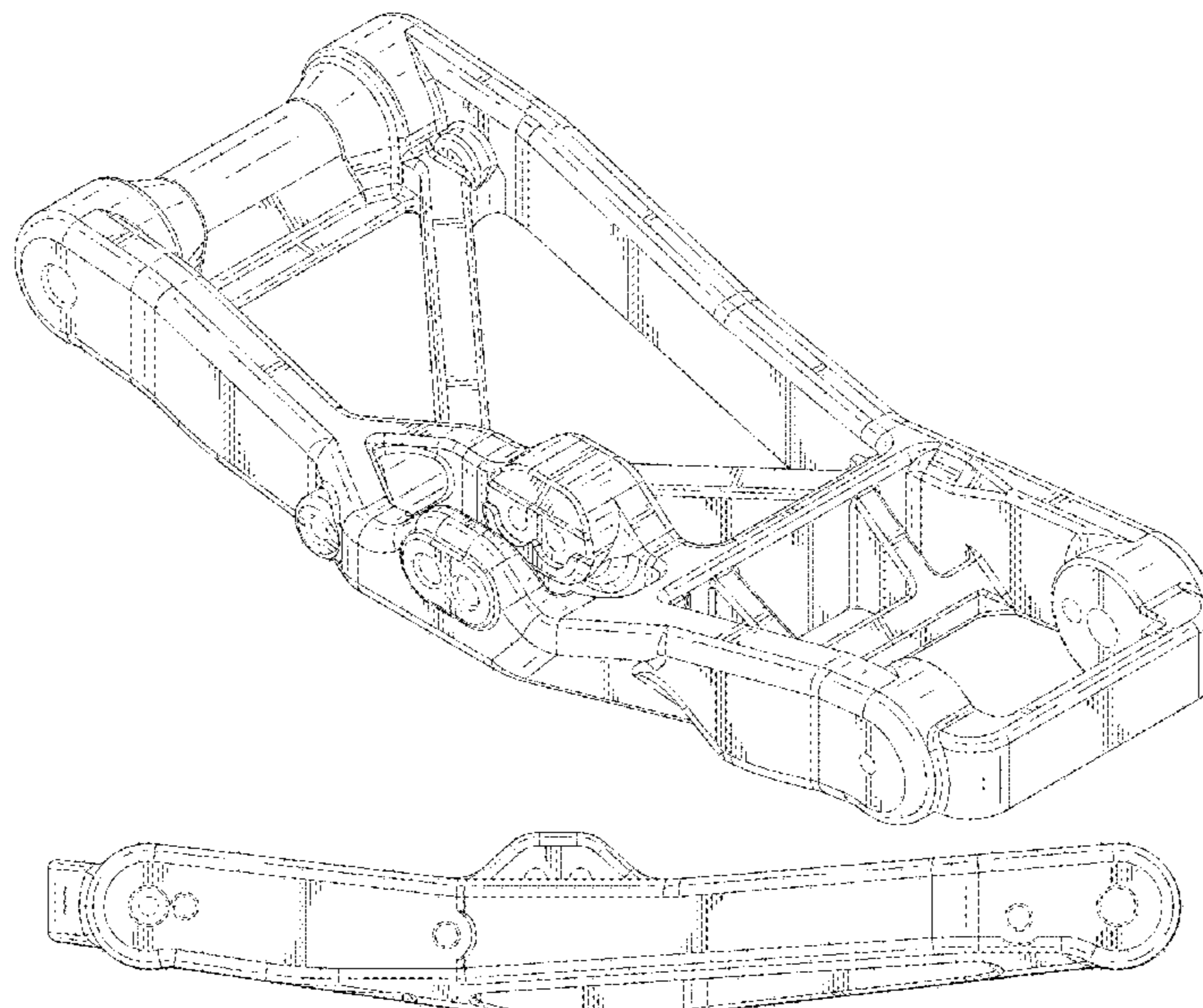
**DESCRIPTION**

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;  
FIG. 8 is a lower, right, rear perspective view thereof; and,  
FIG. 9 is a lower, right, rear perspective environmental use view of the model vehicle lower suspension arm.

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; whereas, the broken line showing of the environmental use view depicts environmental subject matter and is provided for the purposes of illustrating environmental use structure and context and also forms 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, 7 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

2,126,085 A 8/1938 Balz  
 2,131,661 A 9/1938 Heyermans et al.  
 2,153,083 A 4/1939 Griswold  
 2,186,065 A 1/1940 Fischer  
 2,219,361 A 10/1940 Haberstump  
 2,232,397 A 2/1941 Leighton  
 2,264,174 A 11/1941 Crump et al.  
 2,580,559 A 1/1952 Kolbe  
 2,624,592 A 1/1953 Macpherson  
 2,643,110 A 6/1953 Gregoire  
 2,678,803 A 5/1954 Wilkerson  
 2,776,147 A 1/1957 Bamford  
 2,852,269 A 9/1958 Gaines  
 2,913,253 A 11/1959 Taber  
 2,931,663 A 4/1960 Ferand  
 2,992,014 A 7/1961 Muller  
 3,034,810 A 5/1962 Primean  
 3,059,950 A 10/1962 Hedges  
 3,177,004 A 4/1965 Schmidt  
 3,231,040 A 1/1966 Blanchette  
 3,410,575 A 11/1968 Tumbull et al.  
 3,448,991 A 6/1969 Leggett  
 3,545,125 A 12/1970 Okuma  
 3,583,052 A 6/1971 Herbenar et al.  
 3,591,198 A 7/1971 Brando  
 3,632,127 A 1/1972 Grosseau  
 3,671,694 A 6/1972 Masuda  
 3,721,455 A 3/1973 Blanton  
 3,727,938 A 4/1973 Goodbary et al.  
 3,738,631 A 6/1973 Haley  
 3,787,073 A 1/1974 Lievore  
 3,938,822 A 2/1976 Guerriero  
 D262,959 S 2/1982 Cowan  
 4,470,611 A 9/1984 Duphily et al.  
 D277,952 S 3/1985 Nakano et al.  
 4,534,575 A 8/1985 Grove et al.  
 4,546,997 A 10/1985 Smyers  
 D281,772 S 12/1985 Heideman et al.  
 4,706,989 A 11/1987 Iijima et al.  
 4,786,075 A 11/1988 Takahashi  
 4,807,901 A 2/1989 Kondo  
 4,881,752 A 11/1989 Tanaka  
 4,955,634 A 9/1990 Smith  
 5,004,257 A 4/1991 MacIsaac  
 5,080,389 A 1/1992 Kawano et al.  
 5,108,126 A 4/1992 Banse  
 D335,851 S 5/1993 Lofy  
 D337,555 S 7/1993 McNab et al.  
 5,284,353 A 2/1994 Shinji et al.  
 5,288,101 A 2/1994 Minnett  
 5,332,255 A 7/1994 Velazquez  
 5,516,130 A 5/1996 Mitchell  
 5,522,281 A 6/1996 Herman  
 5,603,583 A 2/1997 Jackson  
 D385,835 S 11/1997 Webster  
 5,682,849 A 11/1997 Regueiro  
 5,692,853 A 12/1997 Litz et al.  
 5,774,984 A 7/1998 Kotani  
 5,816,357 A 10/1998 Camlin  
 5,839,742 A 11/1998 Holt  
 5,845,926 A 12/1998 Davis et al.  
 5,915,727 A 6/1999 Bonnville  
 5,934,696 A 8/1999 Bloser et al.  
 5,938,219 A 8/1999 Hayami et al.  
 5,992,863 A 11/1999 Forbes-Robinson et al.  
 6,076,840 A 6/2000 Kincaid et al.  
 6,142,268 A 11/2000 Kuo-An  
 D435,236 S 12/2000 Hanlon et al.  
 6,170,838 B1 1/2001 Laurent et al.  
 6,206,392 B1 3/2001 Siecinski et al.  
 6,478,655 B2 11/2002 Wu  
 6,550,796 B2 4/2003 Behr  
 D475,001 S 5/2003 Roll  
 6,595,714 B2 7/2003 Moore  
 6,641,457 B1 11/2003 Lai

6,655,118 B1 12/2003 Thompson et al.  
 6,668,779 B2 12/2003 Hendriksma et al.  
 6,685,203 B1 2/2004 Bodin et al.  
 6,698,963 B1 3/2004 Parker et al.  
 6,702,307 B2 3/2004 Becker et al.  
 6,719,313 B2 4/2004 Zadok  
 6,752,411 B2 6/2004 Few  
 6,761,372 B2 7/2004 Bryant  
 6,767,021 B2 7/2004 Schnurpel  
 6,881,122 B2 4/2005 Bloch et al.  
 6,929,273 B2 8/2005 Dobson et al.  
 6,932,366 B2 8/2005 Jones et al.  
 6,945,843 B1 9/2005 Motosko  
 6,968,931 B2 11/2005 Huisman  
 7,152,866 B2 12/2006 Chalin et al.  
 7,185,902 B1 3/2007 Lloyd  
 7,367,573 B2 5/2008 Kudo et al.  
 7,883,099 B2 2/2011 Byers et al.  
 7,887,074 B2 2/2011 Byers et al.  
 8,549,752 B1 10/2013 Byers  
 D785,513 S 5/2017 Park et al.  
 D788,653 S 6/2017 Smith  
 D827,054 S 8/2018 Ewing et al.  
 D828,460 S \* 9/2018 Wood ..... D21/561  
 10,266,025 B2 4/2019 Lorenz et al.  
 D852,095 S 6/2019 Walter  
 D856,432 S \* 8/2019 Ewing ..... D21/495  
 D865,079 S 10/2019 Ewing  
 10,435,075 B2 10/2019 Lorenz et al.  
 2002/0041076 A1 4/2002 Becker et al.  
 2002/0077025 A1 6/2002 Wu  
 2002/0125676 A1 9/2002 Bryant  
 2003/0107198 A1 6/2003 VanDenberg  
 2003/0122336 A1 7/2003 Zadok  
 2003/0209217 A1 11/2003 Hendriksma et al.  
 2003/0227151 A1 12/2003 Schreiber et al.  
 2004/0004335 A1 1/2004 Rudder et al.  
 2004/0045518 A1 3/2004 Abe  
 2004/0261739 A1 12/2004 Shimizuza  
 2005/0040619 A1 2/2005 Melcher  
 2005/0220535 A1 10/2005 Griffin  
 2006/0006622 A1 1/2006 Gesmer et al.  
 2006/0246819 A1 11/2006 Byers et al.  
 2016/0318362 A1 11/2016 Watanabe et al.  
 2017/0050483 A1 2/2017 Gordon et al.  
 2017/0050485 A1 2/2017 Eleazar  
 2017/0274932 A1 9/2017 Byrnes, Jr.  
 2018/0065465 A1 3/2018 Ward et al.  
 2018/0326843 A1 11/2018 Danielson et al.  
 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  
 2019/0367117 A1 \* 12/2019 Fischer ..... B60K 11/04

FOREIGN PATENT DOCUMENTS

DE 202018103151 U1 6/2018  
 EP 0070025 A2 1/1983  
 EP 3271195 B1 5/2019  
 WO 2010066226 A1 6/2010

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.

(56)

**References Cited**

## OTHER PUBLICATIONS

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.

Milliken, William F. and Milliken, Douglas L.; "Race Car Vehicle Dynamics" 1995, pp. 580-583, 595-597, 628-631; Sae Publications Group, Pennsylvania USA.

Phillpotts, 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. 06, 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/index.php?cPath=49_1024) [http://www.colemanracing.com/catalog/product\\_info.php?cPath=49\\_1024&products\\_id=4714](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.

CN-304138171, posted at Orbit.com, publication date May 17, 2017. Site visited Apr. 12, 2019. Available from Internet. (Year: 2017).

CN-304110963, posted at Orbit.com, publication date Apr. 19, 2017. Site visited Apr. 12, 2019. Available from Internet. (Year: 2017).

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=fGMtjrezT0>> (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).

\* cited by examiner

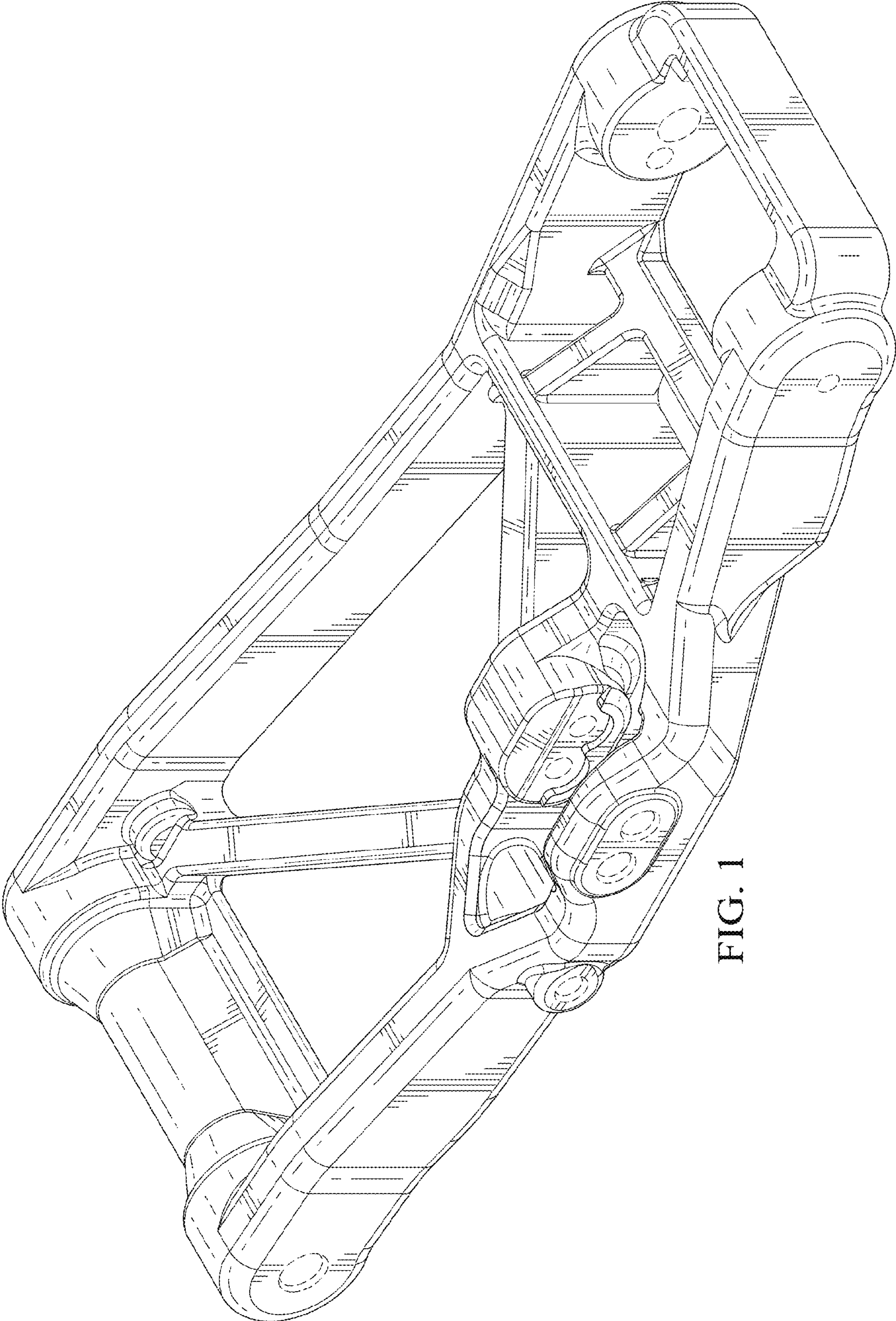


FIG. 1

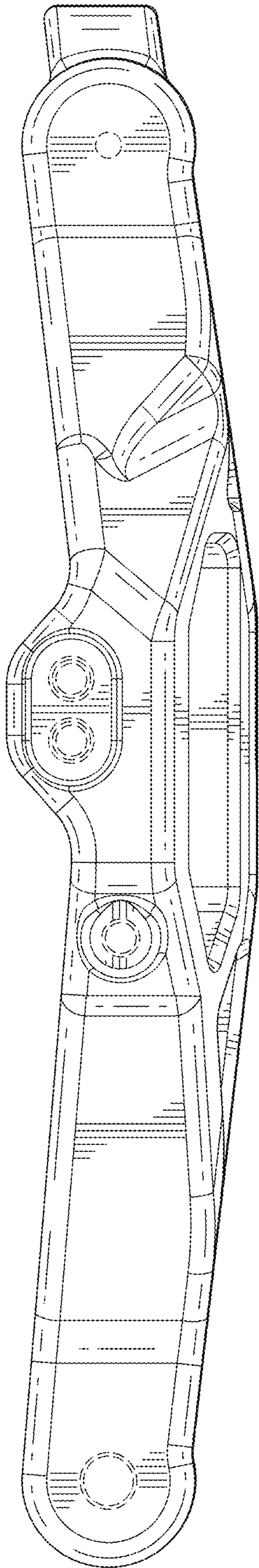


FIG. 2

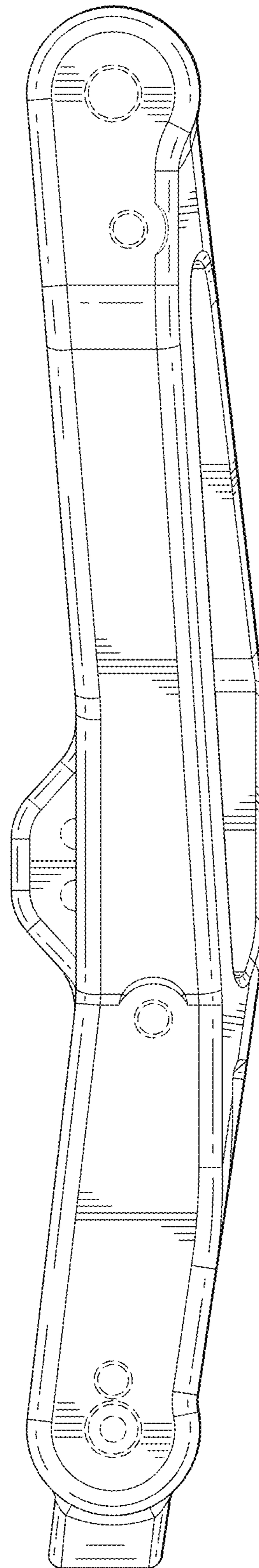


FIG. 3

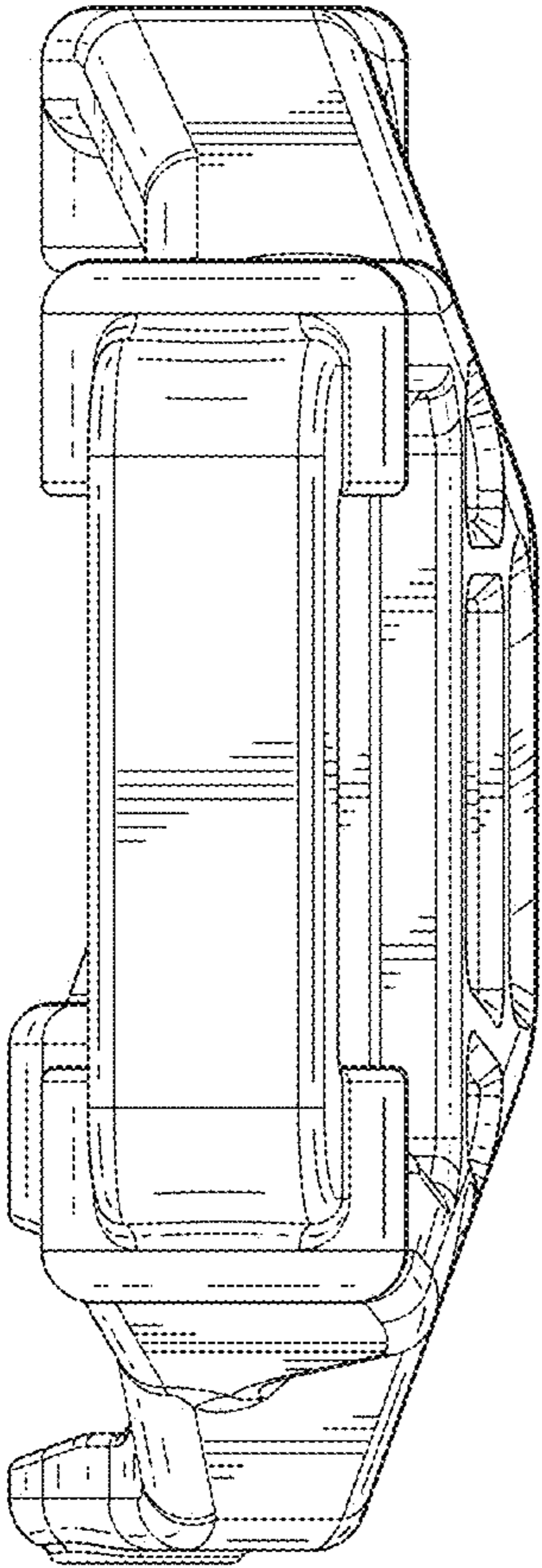


FIG. 4

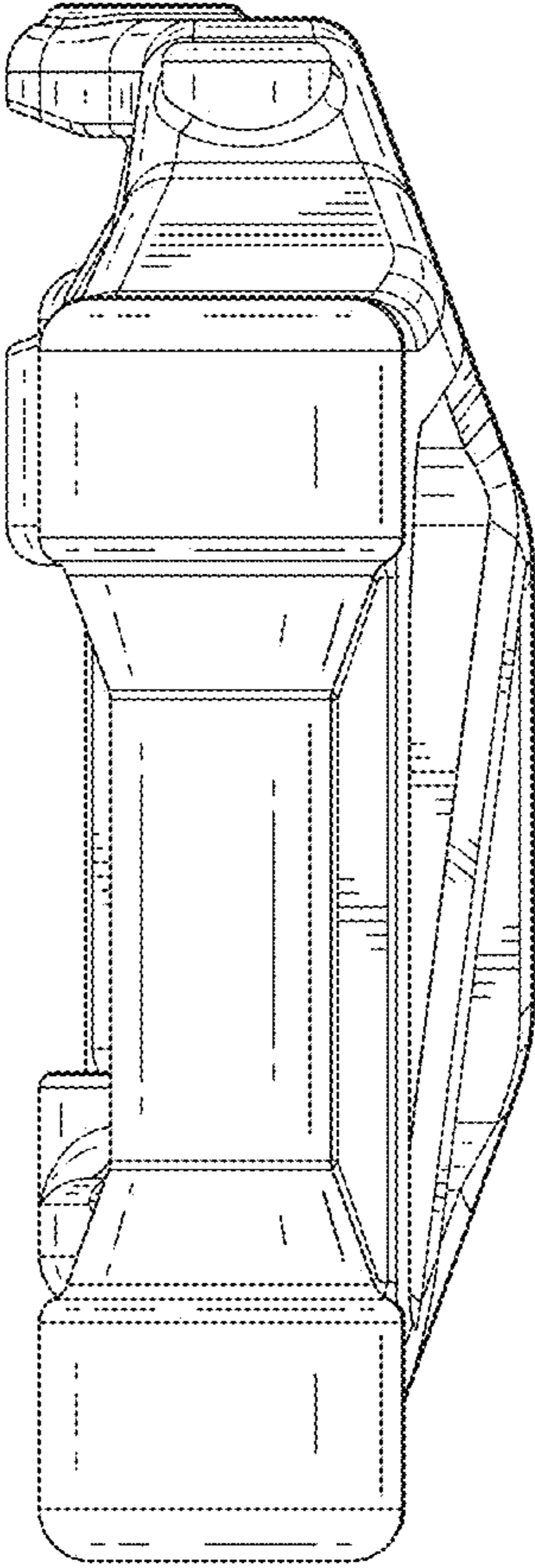


FIG. 5

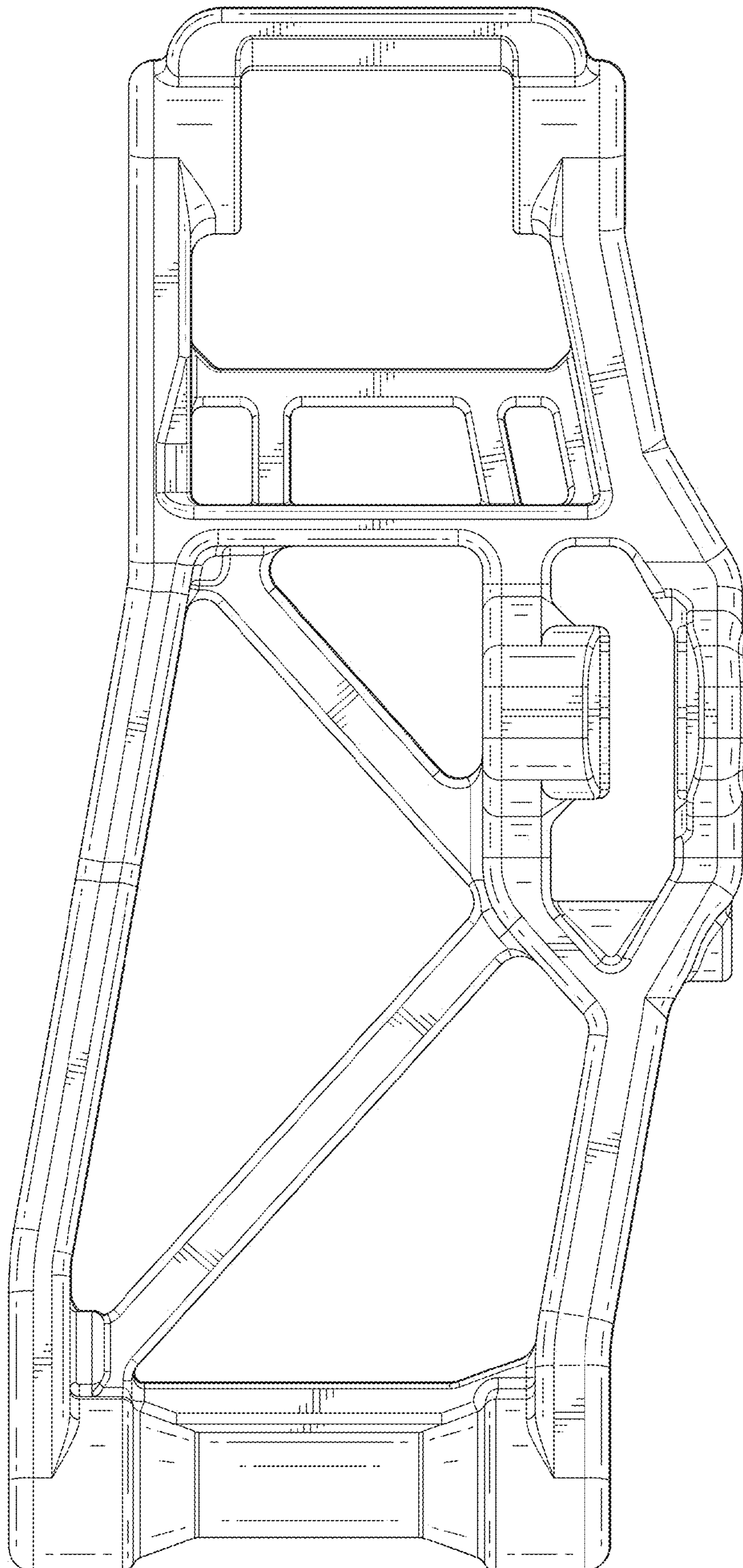


FIG. 6

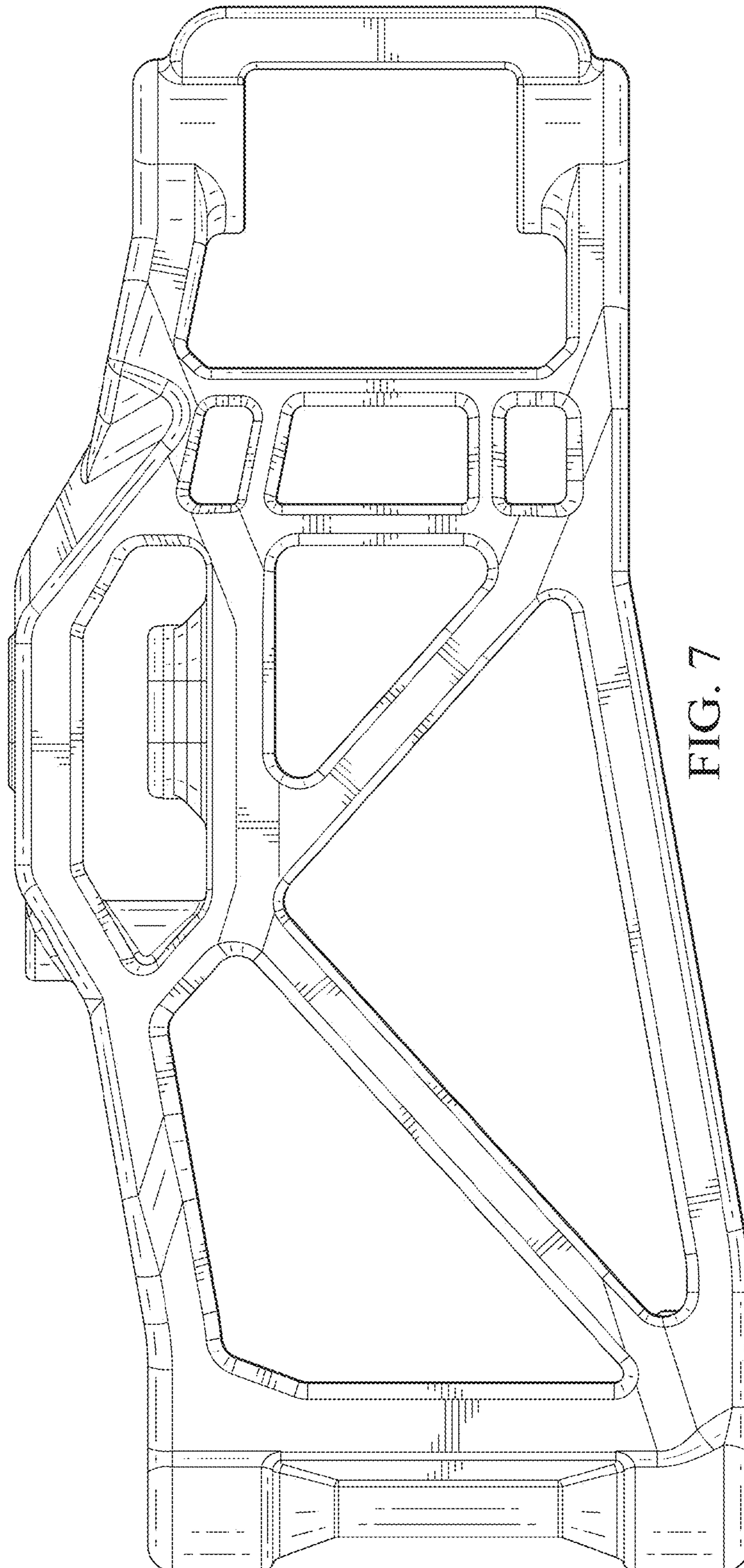


FIG. 7



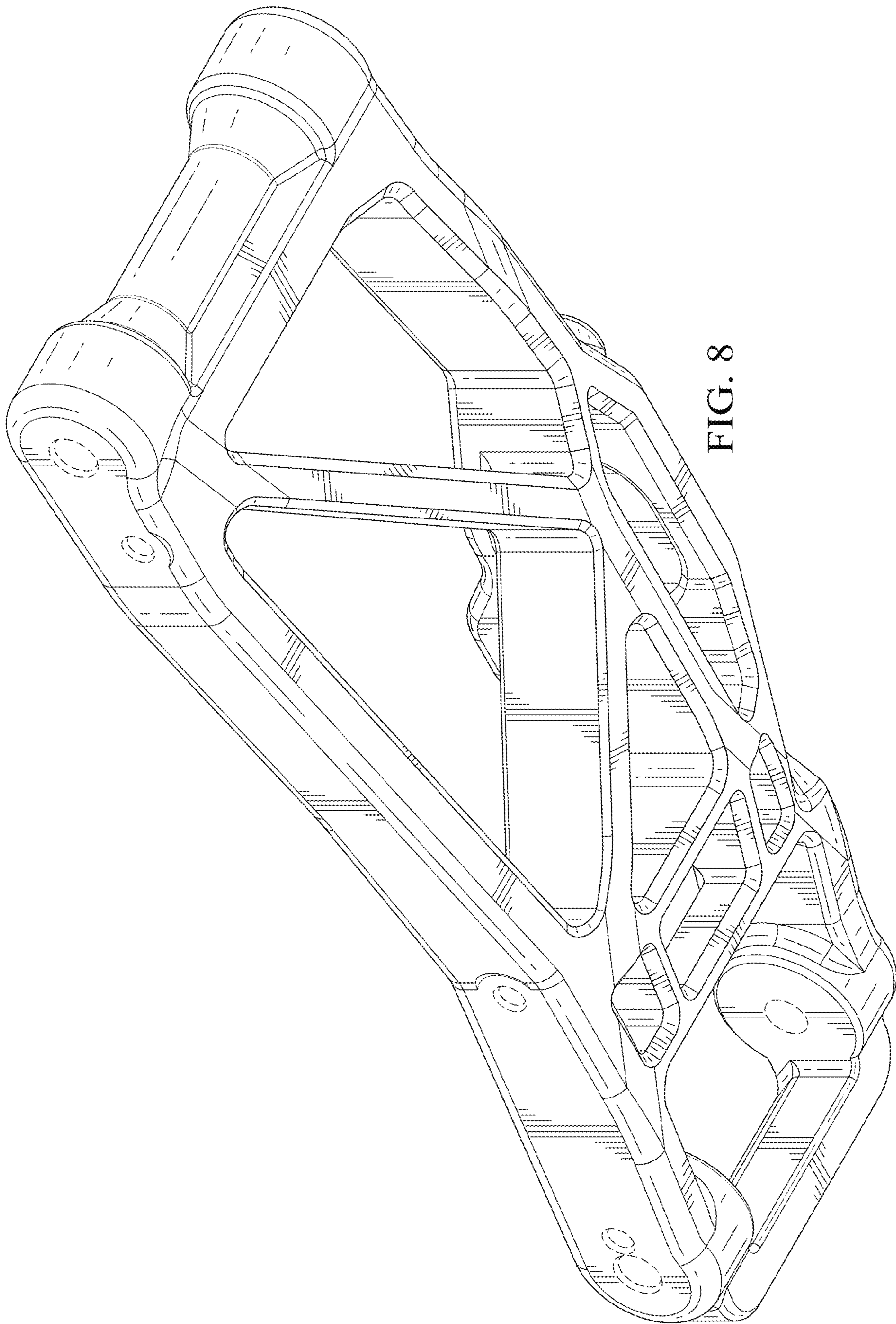


FIG. 8

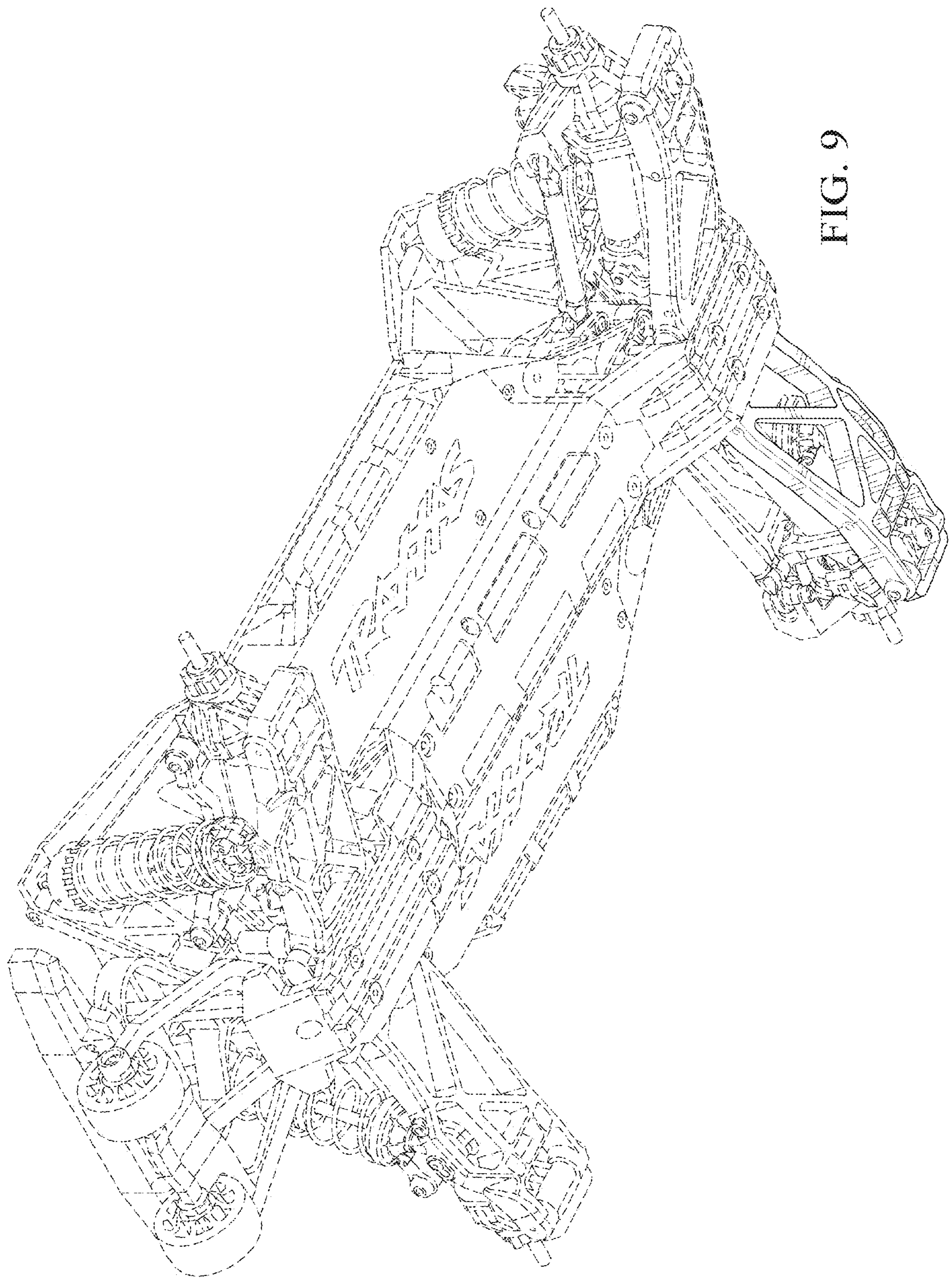


FIG. 9