



US00D827724S

(12) **United States Design Patent** (10) **Patent No.:** **US D827,724 S**
Barajas et al. (45) **Date of Patent:** **** Sep. 4, 2018**

(54) **SET OF SUPPORTING ARMS FOR A QUADROTOR MODEL HELICOPTER**

7,367,863 B2 5/2008 Fosbenner et al.
D628,658 S 12/2010 Wurm
7,980,740 B2 7/2011 Hu

(Continued)

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

FOREIGN PATENT DOCUMENTS

(72) Inventors: **Jaime Felix Barajas**, Dallas, TX (US);
Jonathan Scott Wood, Plano, TX (US)

CN 202170017 U 3/2012
CN 203047531 U 7/2013

(Continued)

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

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

OTHER PUBLICATIONS

(21) Appl. No.: **29/540,838**

MATTYP2013; "Phantom/Hero Black for sale" RC Groups bulletin board post; Jan. 13, 2013; <http://www.rcgroups.com/forums/showpost.php?p=23798876&postcount=1245>.

(Continued)

(22) Filed: **Sep. 28, 2015**

(51) **LOC (11) Cl.** **21-01**

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

USPC **D21/453**; D12/16.1

(58) **Field of Classification Search**

USPC D12/16.1, 319, 323-345; D21/436, 438,
D21/439, 440, 441, 447, 448, 449, 450,
D21/452, 453, 454, 455

CPC B64C 1/062; B64C 39/024; B64C 27/08

See application file for complete search history.

Primary Examiner — Brandon M Rosati

Assistant Examiner — Marissa J Cash

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

(57) **CLAIM**

We claim the ornamental design for a set of supporting arms for a quadrotor model helicopter, as shown and described.

DESCRIPTION

(56) **References Cited**

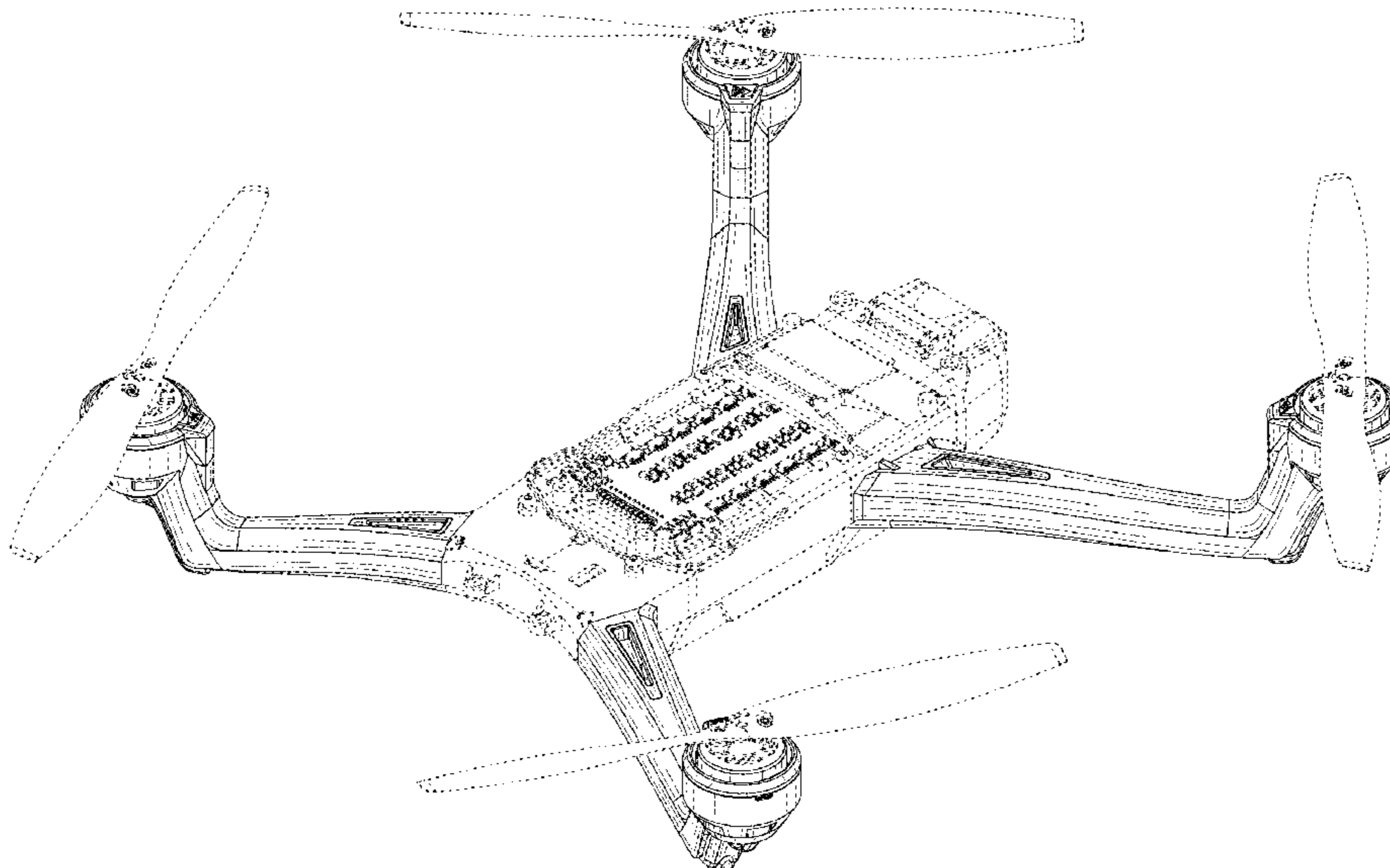
U.S. PATENT DOCUMENTS

1,749,471 A	3/1930	De Bothezat
3,053,480 A	9/1962	Vanderlip
3,253,806 A	5/1966	Eickmann
3,345,016 A	10/1967	Eickmann
3,768,757 A	10/1973	Eickmann
4,184,119 A	1/1980	Kerruish
5,082,079 A	1/1992	Lissaman et al.
5,720,651 A	2/1998	Chien
D453,317 S	2/2002	DeTore et al.
D458,892 S	6/2002	DeTore et al.
D465,196 S	11/2002	Dammar
6,626,078 B2	9/2003	Thornton
6,688,936 B2	2/2004	Davis
6,921,313 B2	7/2005	Yu

FIG. 1 is a, top, left, front perspective view of a set of supporting arms for a quadrotor model helicopter; FIG. 2 is a bottom, right, rear perspective view thereof; FIG. 3 is a top plan view thereof; FIG. 4 is a bottom plan view thereof; FIG. 5 is a rear elevation view thereof; FIG. 6 is a front elevation view thereof; FIG. 7 is a right side elevation view thereof; and, FIG. 8 is a left side elevation view thereof.

In the drawings, the broken lines depict environmental subject matter only and form no part of the claimed design.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D648,808 S 11/2011 Seydoux et al.
 D659,771 S 5/2012 Seydoux et al.
 8,282,437 B2 10/2012 Norman et al.
 D691,514 S 10/2013 Wang et al.
 D710,452 S * 8/2014 Barajas D12/16.1
 D710,453 S * 8/2014 Barajas D12/16.1
 D710,454 S * 8/2014 Barajas D12/16.1
 8,973,861 B2 * 3/2015 Zhou A63H 27/12
 244/17.23
 9,004,973 B2 4/2015 Condon et al.
 9,061,763 B1 * 6/2015 Christensen A63H 17/28
 9,099,902 B2 * 8/2015 Chen H02K 5/225
 9,208,689 B2 12/2015 Fisher et al.
 9,221,539 B2 12/2015 Christensen et al.
 2002/0098768 A1 7/2002 Kuo et al.
 2004/0150144 A1 8/2004 Goepfert et al.
 2007/0049159 A1 3/2007 Kulis, II
 2007/0105474 A1 5/2007 Gotou et al.
 2008/0048065 A1 2/2008 Kuntz
 2009/0283629 A1 11/2009 Kroetsch et al.
 2010/0243794 A1 9/2010 Jermyn
 2011/0017865 A1 1/2011 Ahtelik et al.
 2011/0288696 A1 11/2011 Lefebure
 2011/0301784 A1 12/2011 Oakley et al.
 2012/0056041 A1 * 3/2012 Rhee B64C 25/32
 244/4 R
 2012/0078451 A1 * 3/2012 Ohtomo B64C 39/024
 701/15
 2012/0083945 A1 4/2012 Oakley et al.
 2012/0138732 A1 6/2012 Olm et al.
 2012/0234969 A1 9/2012 Savoye et al.
 2013/0092799 A1 4/2013 Tian et al.
 2014/0032034 A1 1/2014 Raptopoulos et al.
 2014/0099853 A1 4/2014 Condon et al.
 2014/0117149 A1 5/2014 Zhou et al.
 2014/0131510 A1 5/2014 Wang et al.
 2014/0312169 A1 10/2014 Fisher et al.
 2014/0339355 A1 * 11/2014 Olm B64C 27/08
 244/17.23
 2015/0051755 A1 * 2/2015 Erhart A63H 27/12
 701/2
 2015/0336670 A1 * 11/2015 Zhang B64C 1/00
 244/119
 2016/0122017 A1 * 5/2016 Welker B64C 39/024
 244/17.23
 2016/0198088 A1 * 7/2016 Wang H04N 5/23238
 348/36

FOREIGN PATENT DOCUMENTS

CN 203127141 U 8/2013
 DE 202013101170 U1 5/2013
 EP 1245257 A2 10/2002
 JP H01-201294 A 8/1989

OTHER PUBLICATIONS

Elintocable; “Traxxas QR-1 Quad Rotor”; RC Groups bulletin board post; Nov. 22, 2012; <http://www.rcgroups.com/forums/showthread.php?t=1775303&highlight=qr+1#post23336888>.
 Blade mQX, Ultra Micro Quad-Copter; Jun. 15, 2012.
 Blade Nano QX 18 Gram Quad-Copter; Jul. 3, 2013.
 Hobbico; “Heli Max1SQ Ready-to-Fly Quadcopter”, fact sheet; 2012; <http://downloads.hobbico.com/factsheets/hmx/hmxe0834-fact-sheet.pdf>.
 Syma X1 quadcopter; photographed Apr. 22, 2013.
 Dualsky, Hornet 460, 9th Shanghai International Model Exhibition 2012; Aug. 28, 2013;.
 Ariete; “Walkera Hoten X” RC Groups bulletin board post; Jul. 26, 2012; <http://www.rcgroups.com/forums/showpost.php?p=22269995&postcount=1>.
 Walkera; “Ladybird” quadcopter; May 25, 2012.

Walkera; “Scorpion” quadcopter; Jul. 20, 2012.
 Walkera; “MX400 UFO” quadcopter; May 23, 2012.
 Parrot AR.Drone2.0; photographed May 26, 2012.
 Bangkomit; “Hubsan X4H107L”; RC Groups bulletin board post; Mar. 1, 2013; <http://www.rcgroups.com/forums/showthread.php?t=1842561#post24290286>.
 Team Black Sheep, TBS Discovery, Jan. 2015, <http://team-blacksheep.com/products/product:98>.
 Sky-Hero, Spyder, Jan. 2015, <http://www.sky-hero.com/en/content/12-spyder-black-edition>.
 Jameschen072; “The UDi U839 review”; RC Groups; May 15, 2014; <http://www.rcgroups.com/forums/showthread.php?t=2167429>.
 UDI RC; “U839 Nano 3D RC Quadcopter with 6-Axis Gyro, 2.4 GHz 4-Channel. 306°—Rolling Action”; UDIRCTOYS Industry Co., Ltd., Shantou City, Guangdong, China; photographs of typical unit with manual; Aug. 6, 2014; via Battery Superstore and amazon.com.
 WL Toys; “Skylark V636 Headless Mode 2.4 G 4CH 6 Axis Quadcopter RTF”; Shantou Chenghai WL Toys Industrial Co., Ltd., Shantou City, Guangdong, China; web page offer for sale, Banggood.com/Banggood Ltd., Aug. 13, 2014.
 Gemini Industries Ltd. / WL Toys; “Skylark R/C Quadcopter”; Gemini Industry Ltd., Shenzhen, China; photographs of typical unit with manual; Aug. 13, 2014; via Gemini (HK) Ind. Ltd.
 Mohr, Tim; “Hobbico/Great Planes at the ’14 HobbyTown USA Convention”; Jul. 11, 2014; Big Squid RC.com.
 Barnes, Jon; “HobbyTown National Convention Held Jul. 9-10, 2014 in Lincoln, Nebraska”; Jul. 19, 2014; FLY RC Magazine web page: <http://www.flyrc.com/hobbytown-national-convention-held-july-9-10-2014-in-lincoln-nebraska/>.
 gau.co.uk; “Gau 500X Quad Flyer”; Hinckley, Leicestershire, England; Apr. 27, 2013; <https://web.archive.org/web/20130427105355/http://www.gau.co.uk/>.
 Empire Hobby; “Gau LED Set (2 Red, 2Wh, 4 Lens)”; Mesa, Arizona; Jul. 21, 2011; <http://www.empirerc.com/gau-led-set-2-red-2-wh-4-lens-p-5954.html?sess=90d4b90f52b3db5305af59d96954e6fa>.
 Gau; “Beijing Model Expo—Gau 500X Quad Flyer”; Gau Tai Shih Hobby Corp., New Taipei City, Taiwan; photographs of trade show booth and typical unit; May 1, 2011.
 Mulcahy, Chris; “DJI Innovations Phantom RTF—Review”; RCGroups.com; Feb. 5, 2013; <http://www.rcgroups.com/forums/showthread.php?t=1811071>.
 DJI; “Phantom Quick Start Manual V1.3”; DJI Innovations, Shenzhen, China; Jan. 22, 2013.
 DJI; “Phantom Advanced Manual V1.1”; DJI Innovations, Shenzhen, China; Jan. 15, 2013.
 HGT; “DJI Phantom Full inner nudity”; RC Groups; Jan. 11, 2013; <http://www.rcgroups.com/forums/showpost.php?p=23788478&postcount=1121>.
 Draganfly; “DraganFlyer X4-P”; Draganfly Innovations Inc., Saskatoon, Canada; Mar. 23, 2013; <http://www.draganfly.com/uav-helicopter/draganflyer-x4p/gallery/pictures/>.
 Draganfly; “Draganflyer X4-P”; Draganfly Innovations Inc., Saskatoon, Canada; Apr. 3, 2013; <http://www.draganfly.com/uav-helicopter/draganflyer-x4p/gallery/pictures/>.
 Parrot; “AR.Drone 2.0 User Guide”; Parrot SA, Paris, France; May 3, 2012; <http://ardrone2.parrot.com/support>.
 Hubsan; “The Hubsan X4 2.4GHz R/C Series 4 Channel Six-Axis Gyro” photographs of typical unit with manual; ; Hubsan, Tangxia Town, Dong guan, China; Sep. 10, 2012.
 Horizonhobby; “Blade Mqx Ultra Micro Quad Copter”; HorizonHobby, Champaign, IL; photographs of typical unit; Jan. 25, 2012.
 Horizonhobby; “Blade Nano QX 18 Gram Quad-Copter”; HorizonHobby, Champaign, IL; photographs of typical unit; Jul. 8, 2013.
 DJI; “Phantom”; DJI Innovations, Shenzhen, China; photographs of typical unit ; Jan. 31, 2013.
 Ares; “Ethos PQ—A Handful of Fun”; Firelands Group, LLC, Champaign, IL; <http://ares-rc.com/ethosPQ/> ; Jul. 31, 2014.

(56)

References Cited

OTHER PUBLICATIONS

Big Squid RC; Ethos PQ Quadcopter; Jul. 31, 2014; Big Squid RC; <http://www.bigsquidrc.com/ethos-pq-quadcopter/>.
Hobbytown; "Ethos PQ Instruction Manual"; Firelands Group LLC, Champaign, IL; Jul. 31, 2014.
Hobbico; "Dromida Ominus" quadcopter; Hobbico Inc., Champaign, IL; photographs of typical unit; Sep. 18, 2014.
Ares; "Ethos HD Large Quad, Full 1080 HD Video, One Package"; Firelands Group, LLC, Champaign, IL; Jul. 2014.
Parrot; "AR.Drone 2.0" web page; Parrot SA, Paris, France; Jan. 2012.
Wikipedia; "Parrot AR.Drone"; Parrot SA, Paris, France; Jan. 2013.
Parrot; "AR.Drone 2.0" photographs of typical unit; Parrot SA, Paris, France; May 26, 2012.
Mohr, Tim; "Firelands Group at the 2014 HobbyTown USA Convention, ARES RC Ethos PQ nano quad"; Jul. 11, 2014; Big Squid RC.com.
Sievers, Steve. "Fundamentals of LED Light Pipes." May 8, 2013. <electronicdesign.com/components/fundamentals-led-light-pipes>.
"Light Up Your Plane With LEDs." Author Unknown. Fly RC Magazine. Jan. 1, 2010. <www.flyrc.com/light-up-your-plane-with-LEDs/>.
PCT/US2014/051361; International Search Report and Written Opinion; dated Dec. 15, 2015.
Dean Berry, Traxxas Aton Quadcopter Drone, dated Dec. 22, 2015, found online (Sep. 18, 2016) <http://www.rcdriver.com/its-almost-here-the-traxxas-aton-quadcopter-drone/>.

* cited by examiner

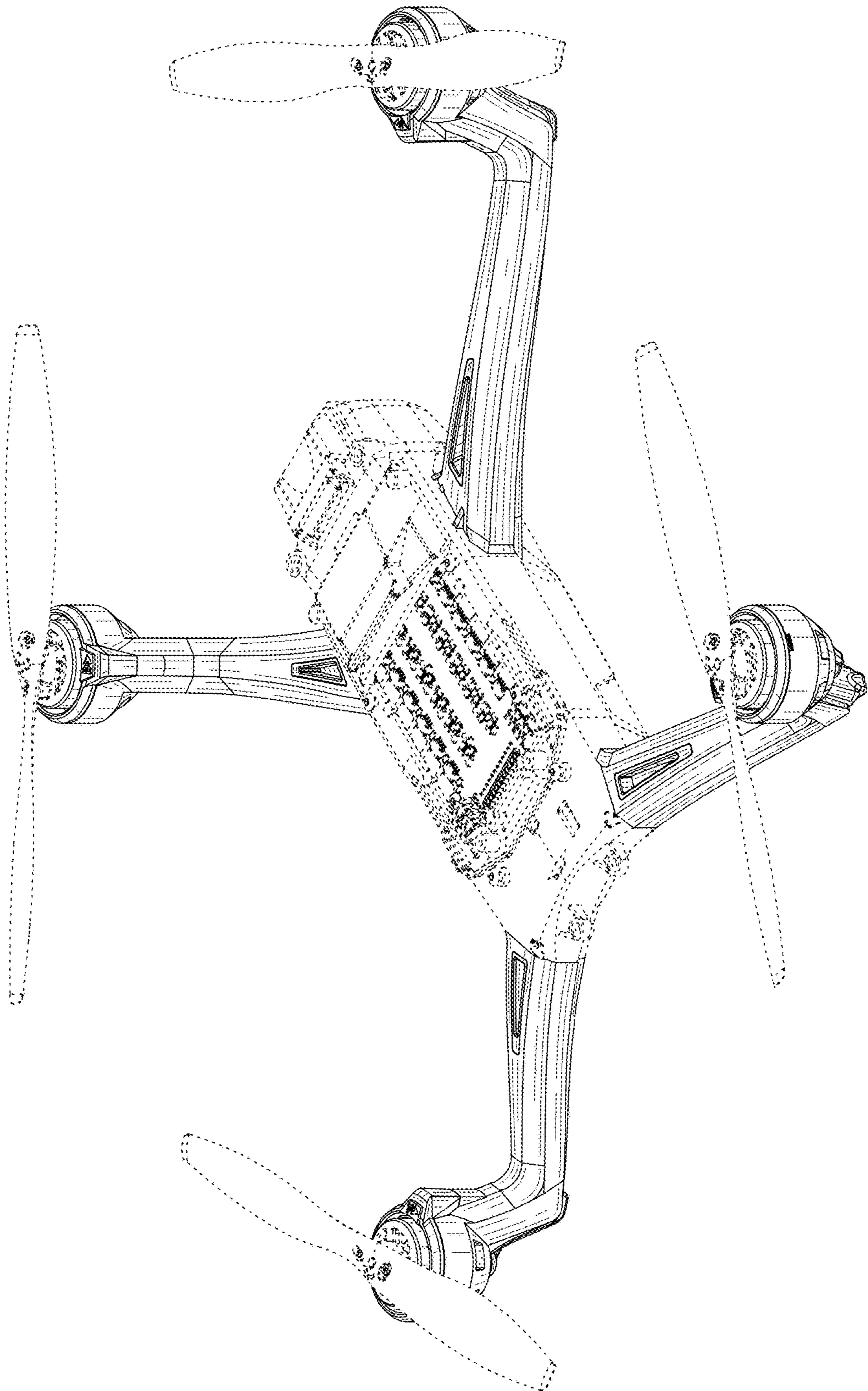


FIG. 1

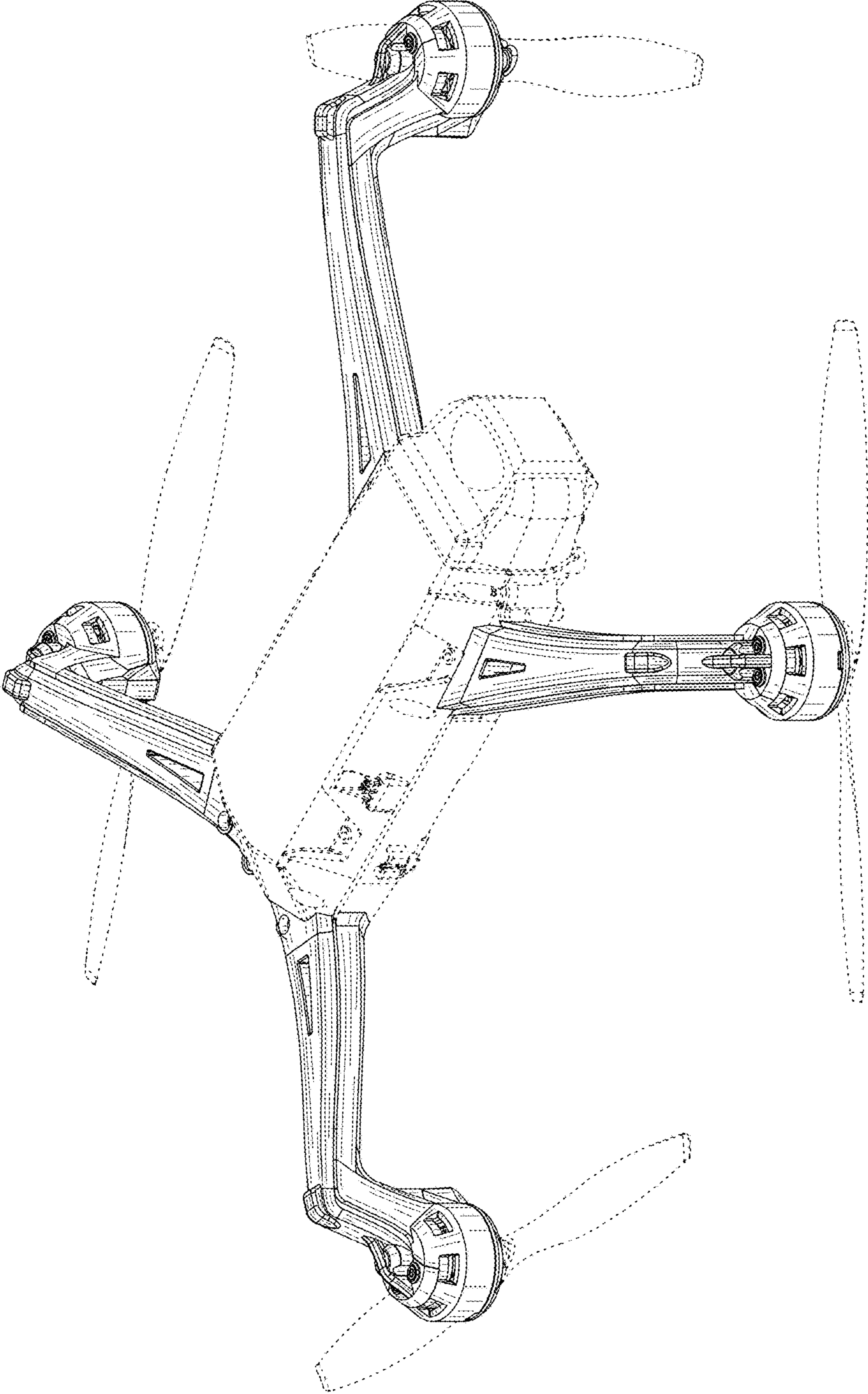


FIG. 2

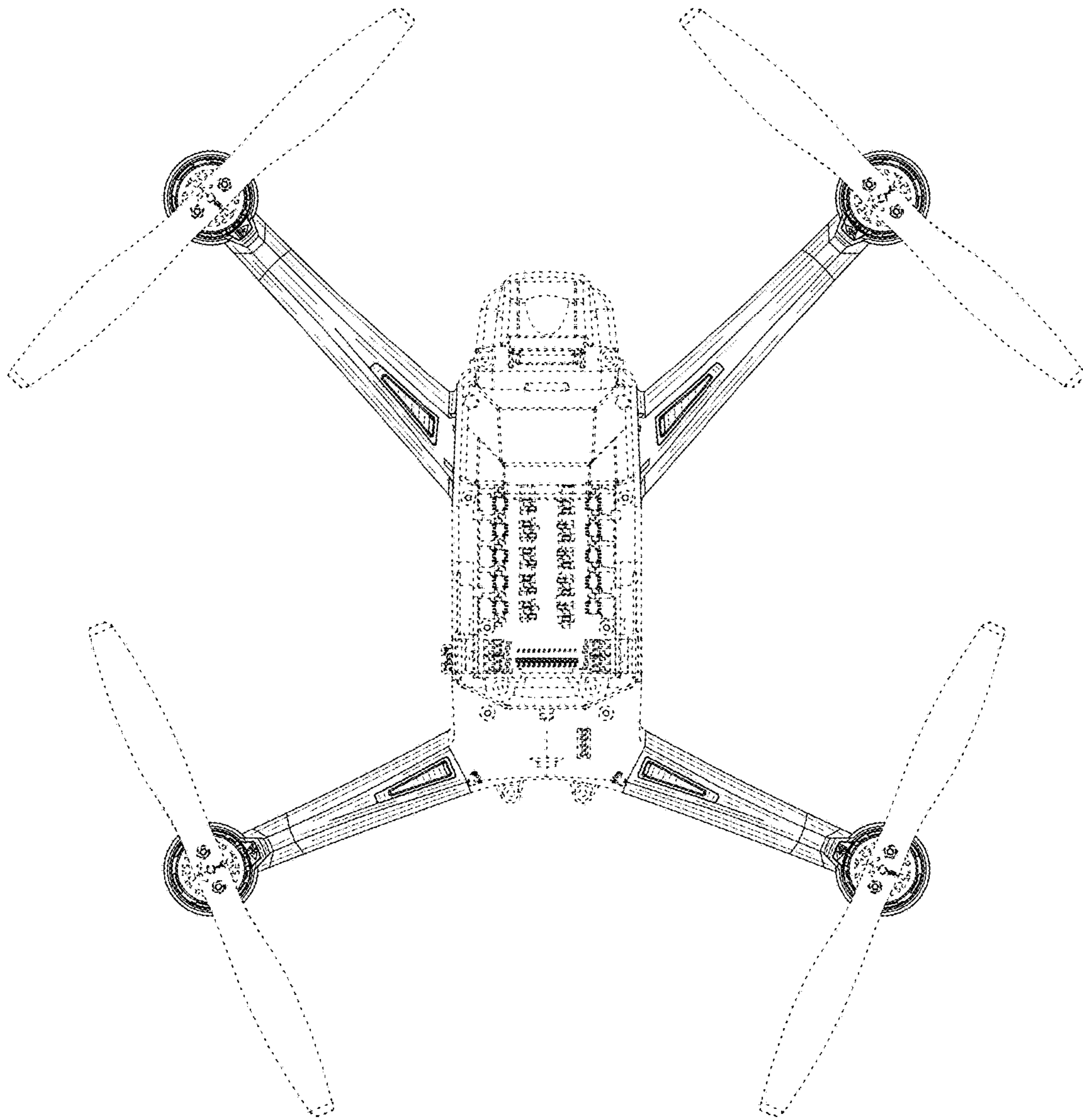


FIG. 3

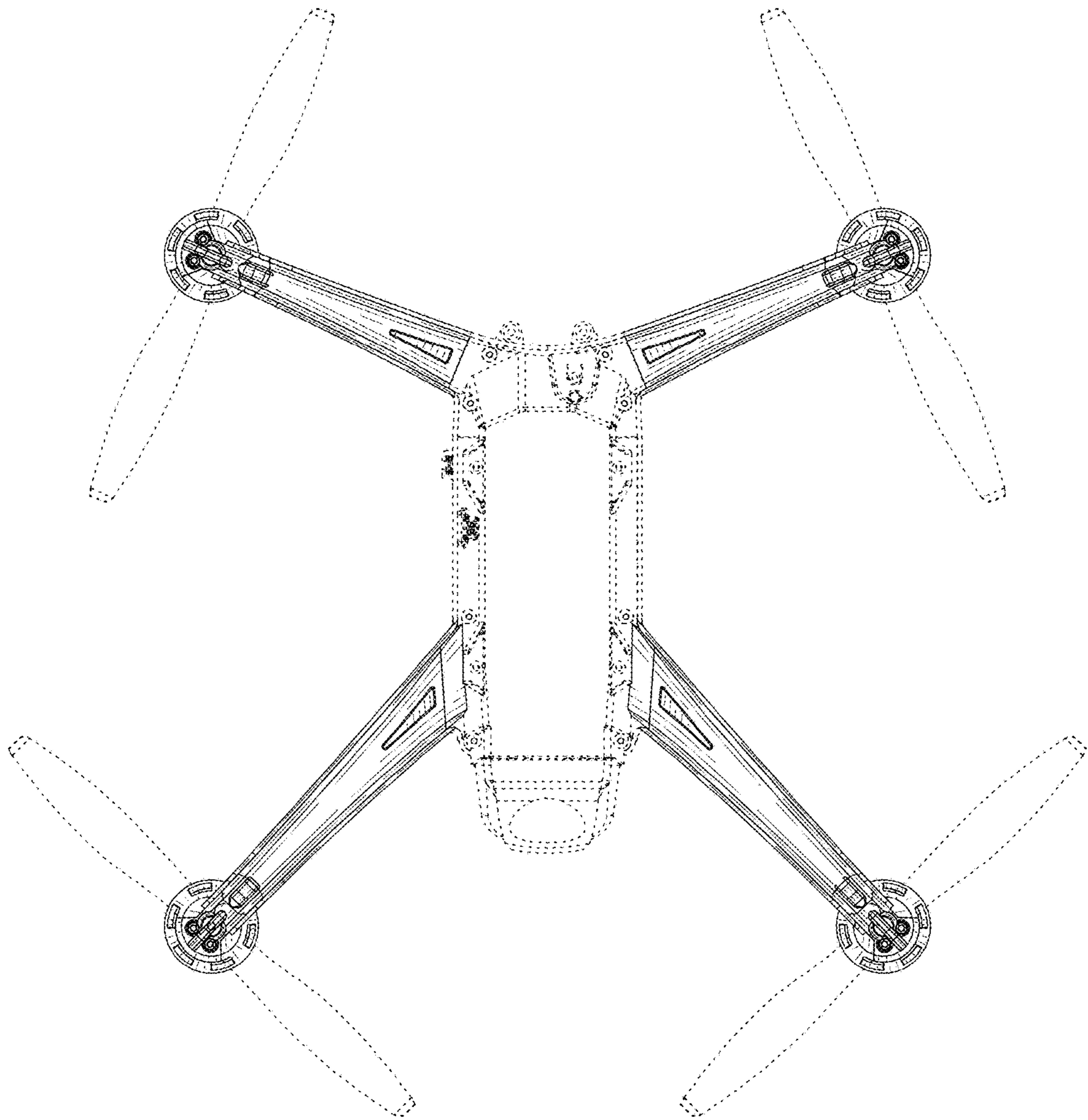


FIG. 4

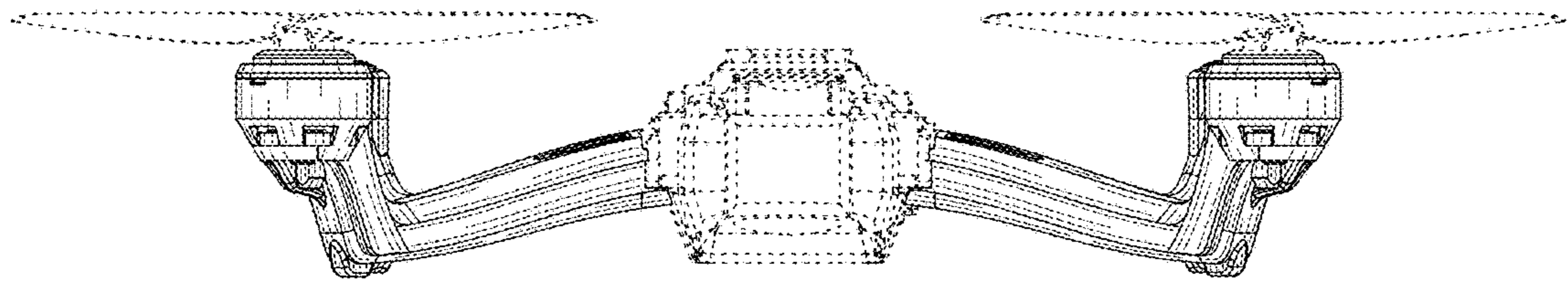


FIG. 5

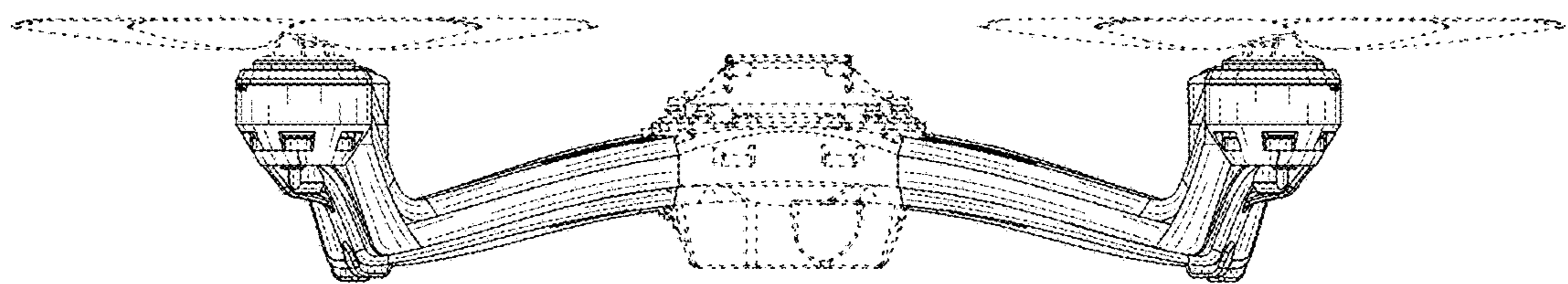


FIG. 6

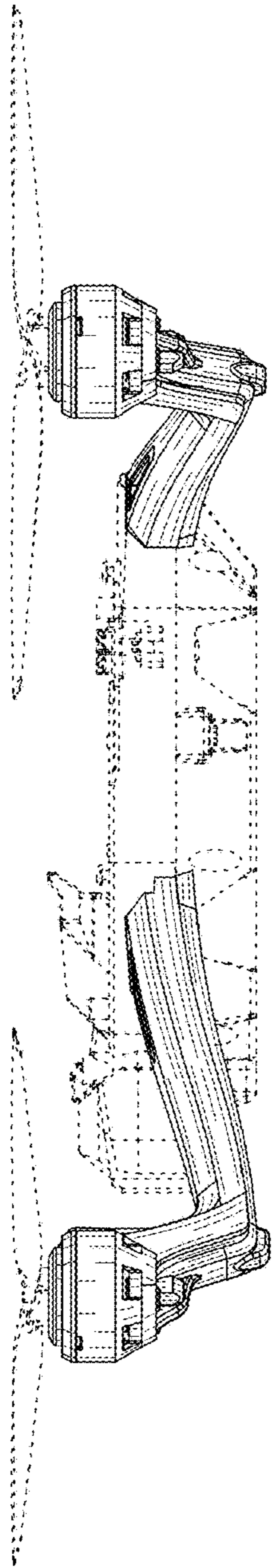


FIG. 7

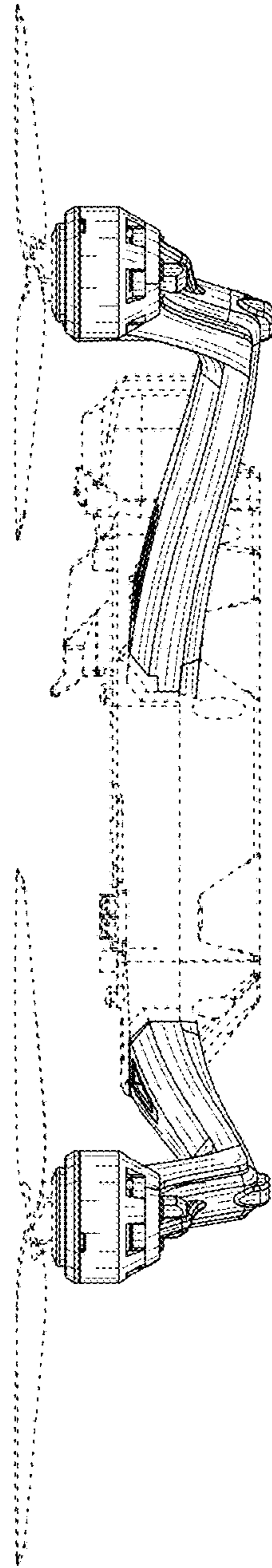


FIG. 8