



US00D824321S

(12) **United States Design Patent** (10) **Patent No.:** **US D824,321 S**
Ivans et al. (45) **Date of Patent:** **** Jul. 31, 2018**

(54) **FOLDABLE TILTROTOR AIRCRAFT**

OTHER PUBLICATIONS

(71) Applicant: **Bell Helicopter Textron Inc.**, Fort Worth, TX (US)

Bill Carey, "Bell Unveils 'Vigilant' Unmanned Tiltrotor for U.S. Marine Corps;" Sep. 22, 2016.

(Continued)

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(57) **CLAIM**

The ornamental design for a foldable tiltrotor aircraft, as shown and described.

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

(21) Appl. No.: **29/628,827**

DESCRIPTION

(22) Filed: **Dec. 7, 2017**

Related U.S. Application Data

(63) Continuation of application No. 29/577,578, filed on Sep. 14, 2016, now Pat. No. Des. 808,328.

(51) **LOC (11) Cl.** **12-07**

(52) **U.S. Cl.**
USPC **D12/327**

(58) **Field of Classification Search**
USPC D12/16.1, 319-345; D21/436, 441, 442, D21/443, 444, 447-454, 437
CPC B64C 2201/141; B64C 39/024; B64C 2201/127
See application file for complete search history.

FIG. 1 is a top, right front perspective view of a foldable tiltrotor aircraft with the rotor nacelles facing forward; FIG. 2 is a front elevational view of FIG. 1; FIG. 3 is a right side elevational view of FIG. 1; FIG. 4 is a left side elevational view of FIG. 1; FIG. 5 is a top plan view of FIG. 1; FIG. 6 is a bottom plan view of FIG. 1; FIG. 7 is a top, right front perspective view of the foldable tiltrotor aircraft with the rotor nacelles facing upward; FIG. 8 is a front elevational view of FIG. 7; FIG. 10 is a left side elevational view of FIG. 7; FIG. 11 is a top plan view of FIG. 7; FIG. 12 is a bottom plan view of FIG. 7; FIG. 13 is a top, right front perspective view of the foldable tiltrotor aircraft in a folded position; FIG. 14 is a front elevational view of FIG. 13; FIG. 15 is a right side elevational view of FIG. 13; FIG. 16 is a left side elevational view of FIG. 13; FIG. 17 is a top plan view of FIG. 13; and, FIG. 18 is a bottom plan view of FIG. 13. The broken lines in the drawings represent unclaimed environmental subject matter and form no part of the claim.

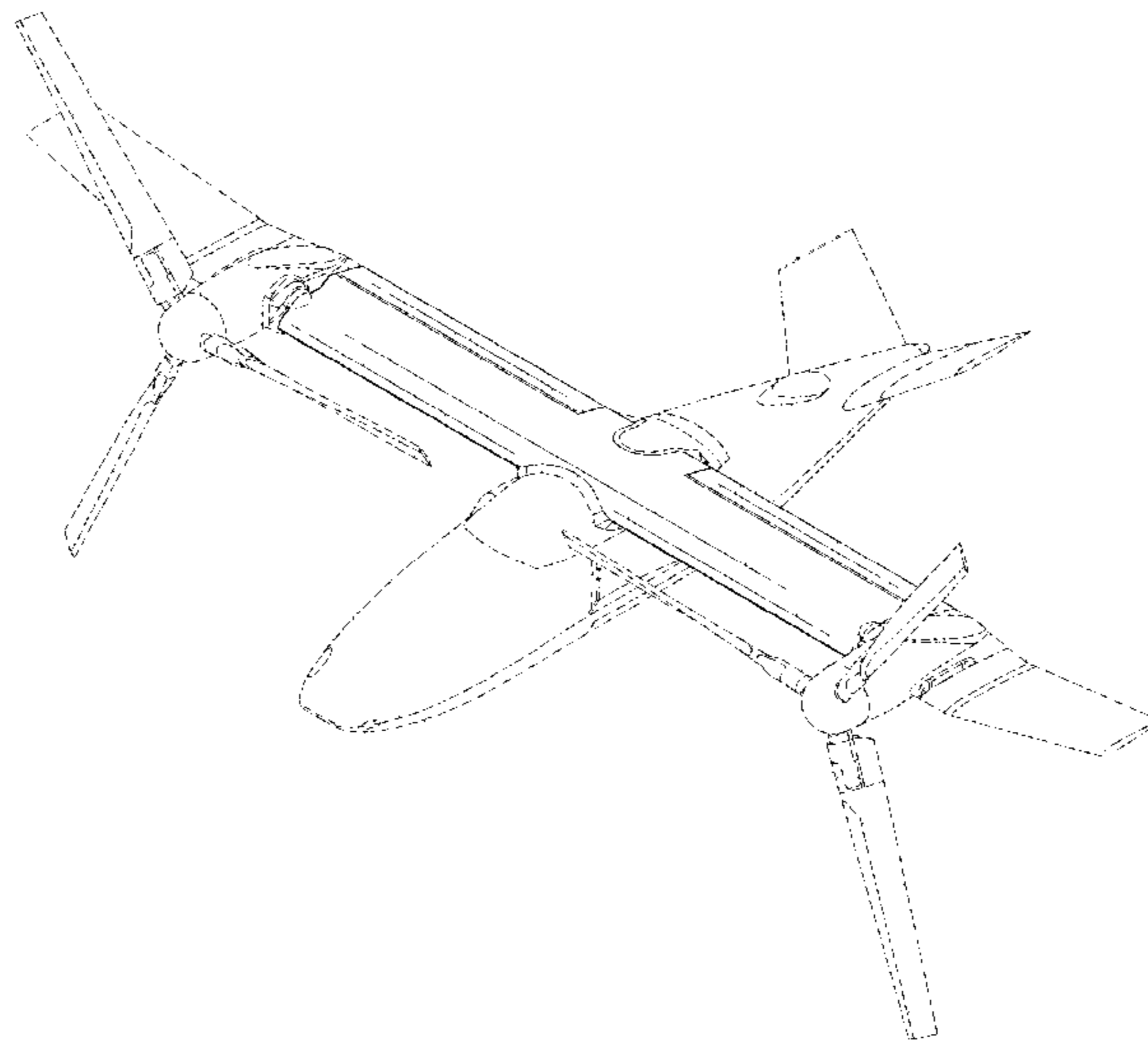
(56) **References Cited**

U.S. PATENT DOCUMENTS

D195,794 S 7/1963 Dancik
D203,523 S * 1/1966 Girard D12/327
D311,719 S 10/1990 Haga
D317,287 S 6/1991 Haga

(Continued)

1 Claim, 13 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,031,858 A 7/1991 Schellhase
 5,054,716 A 10/1991 Wilson
 D388,392 S * 12/1997 McGinnis D12/319
 D394,422 S 5/1998 Magee
 D399,816 S 10/1998 Peacock
 7,604,202 B2 10/2009 Froman
 D624,001 S * 9/2010 Saint-Jalmes D12/345
 D628,528 S * 12/2010 Cabezas Carrasco D12/319
 D691,547 S 10/2013 Hall
 8,626,363 B2 1/2014 Kisor
 D706,678 S * 6/2014 Earon D12/16.1
 D708,563 S * 7/2014 Colten D12/319
 D713,774 S 9/2014 Tritschler
 D725,548 S * 3/2015 Herald D12/16.1
 D725,576 S * 3/2015 Vickers D12/3
 D725,577 S 3/2015 Vickers
 9,051,046 B2 6/2015 Ivans
 D739,335 S 9/2015 Robertson
 D739,807 S 9/2015 Strand
 D743,868 S * 11/2015 Cummings D12/328
 D755,702 S * 5/2016 Hall D12/343
 9,376,206 B2 6/2016 Ross
 9,650,128 B2 5/2017 Fenny
 9,657,816 B2 5/2017 Burnett
 9,663,225 B1 5/2017 Kooiman
 D797,641 S * 9/2017 Cummings D12/343
 D799,402 S * 10/2017 Cummings D12/327
 D807,273 S * 1/2018 Koppenwallner D12/337
 D808,328 S * 1/2018 Ivans D12/328
 D810,621 S * 2/2018 Sadek D12/16.1
 D813,143 S * 3/2018 Belik D12/326
 2010/0209242 A1 8/2010 Popelka

2012/0199699 A1 8/2012 Isaac
 2012/0292456 A1 11/2012 Hollimon
 2013/0153708 A1 6/2013 Brunken
 2014/0084080 A1 3/2014 Robertson
 2014/0263855 A1 9/2014 Ross
 2014/0322010 A1 10/2014 Rauber
 2015/0048213 A1 2/2015 Ross
 2016/0023752 A1 1/2016 Foskey
 2016/0122039 A1 5/2016 Ehinger
 2016/0152329 A1 6/2016 Tzeng
 2016/0207611 A1 7/2016 Fenny
 2016/0229531 A1 8/2016 Robertson
 2016/0333797 A1 11/2016 Laramee
 2016/0340038 A1 11/2016 Chavez
 2016/0347479 A1 12/2016 O'Neil
 2017/0036753 A1 2/2017 Shue
 2017/0121029 A1 5/2017 Blyth
 2017/0137122 A1 5/2017 Kooiman
 2017/0190443 A1 * 7/2017 Fisher B64F 1/005
 2017/0291719 A1 * 10/2017 Lavine B64D 47/08
 2017/0355460 A1 * 12/2017 Shannon B64C 39/024
 2018/0079484 A1 * 3/2018 Ross B64C 3/38
 2018/0079503 A1 * 3/2018 Ivans B64C 29/0033

OTHER PUBLICATIONS

Richard Whittle, "Month After Use, Bell Unveils V-247 Vigilant Tiltrotor Drone;" Sep. 22, 2016.
 Notice of Allowance, dated Jun. 21, 2017, by the USPTO, re Design U.S. Appl. No. 29/577,578.
 Notice of Allowance, dated Sep. 20, 2017, by the USPTO, re Design U.S. Appl. No. 29/577,578.

* cited by examiner

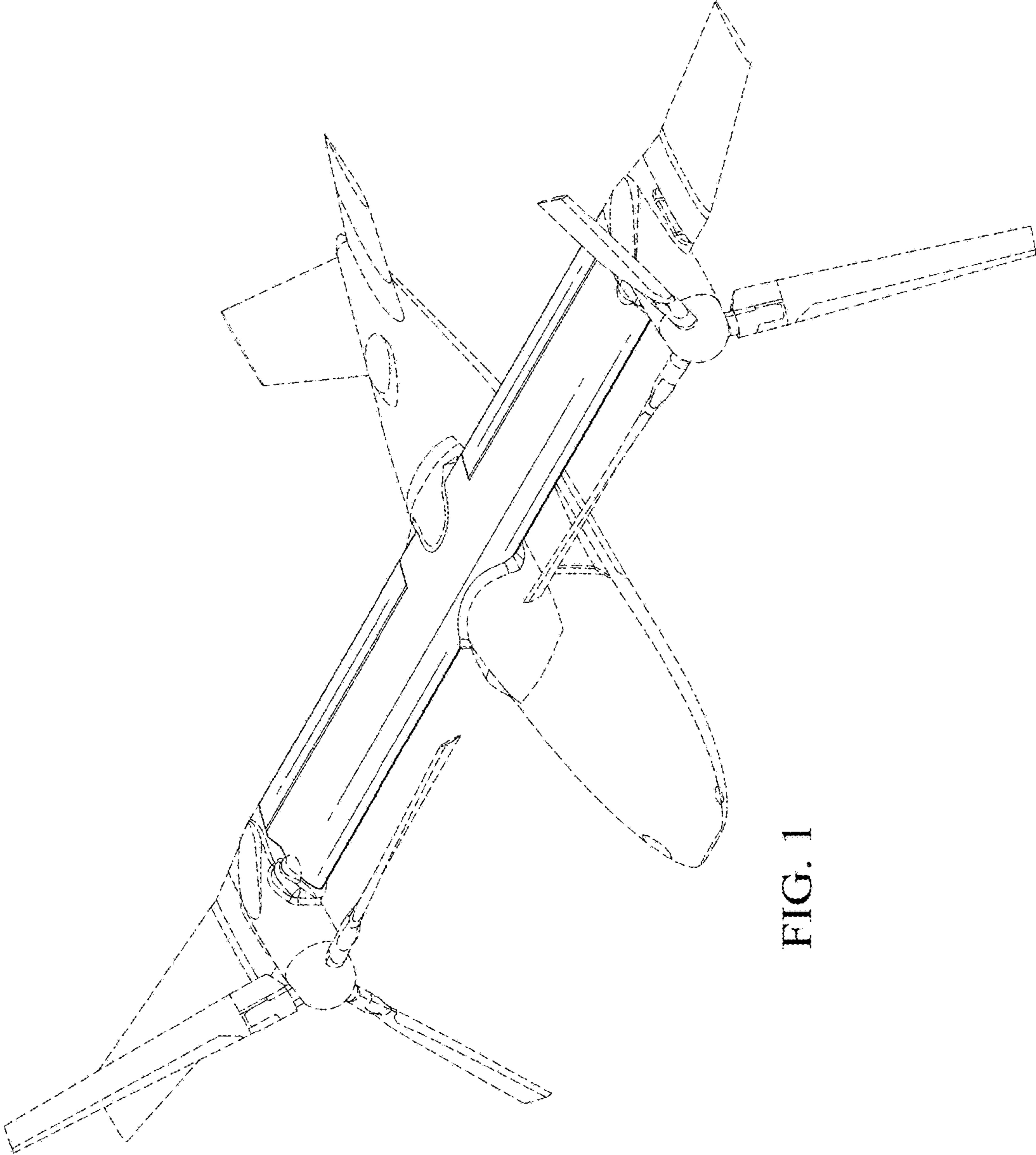


FIG. 1

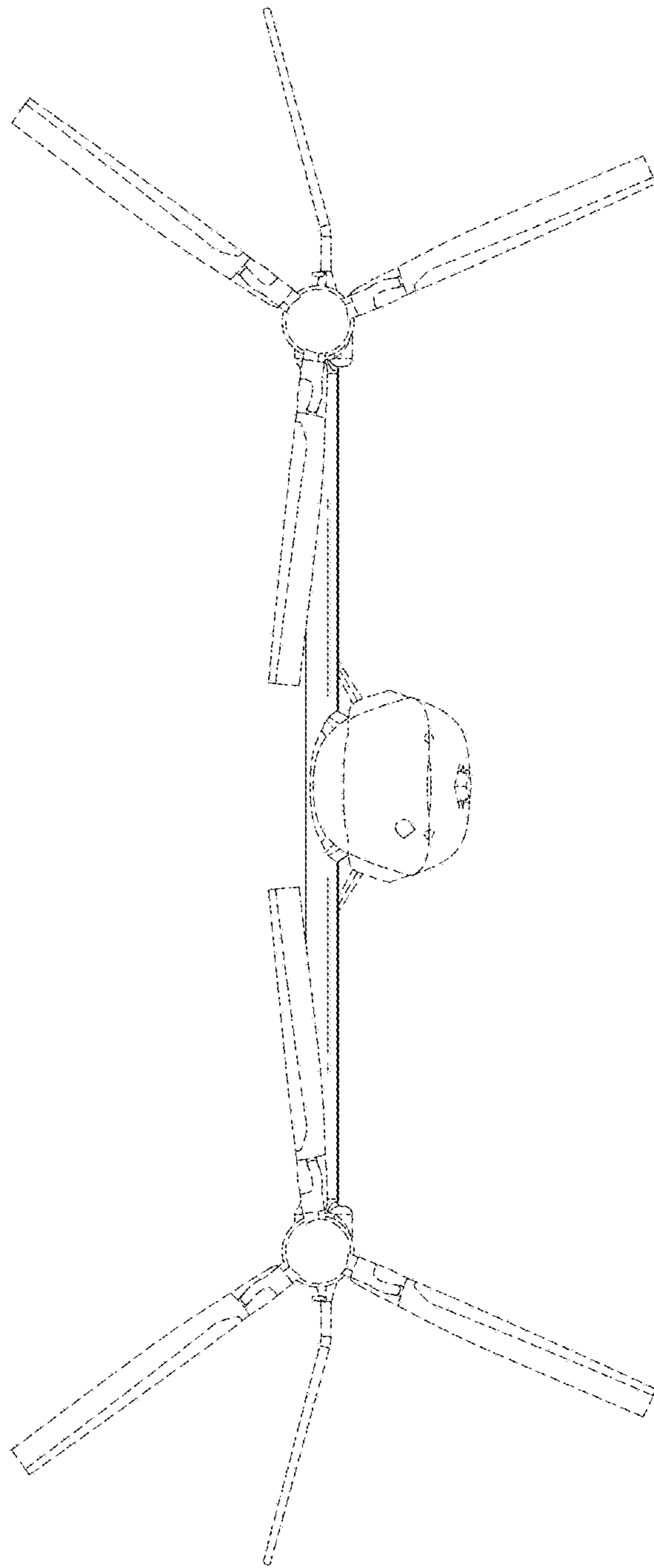


FIG. 2

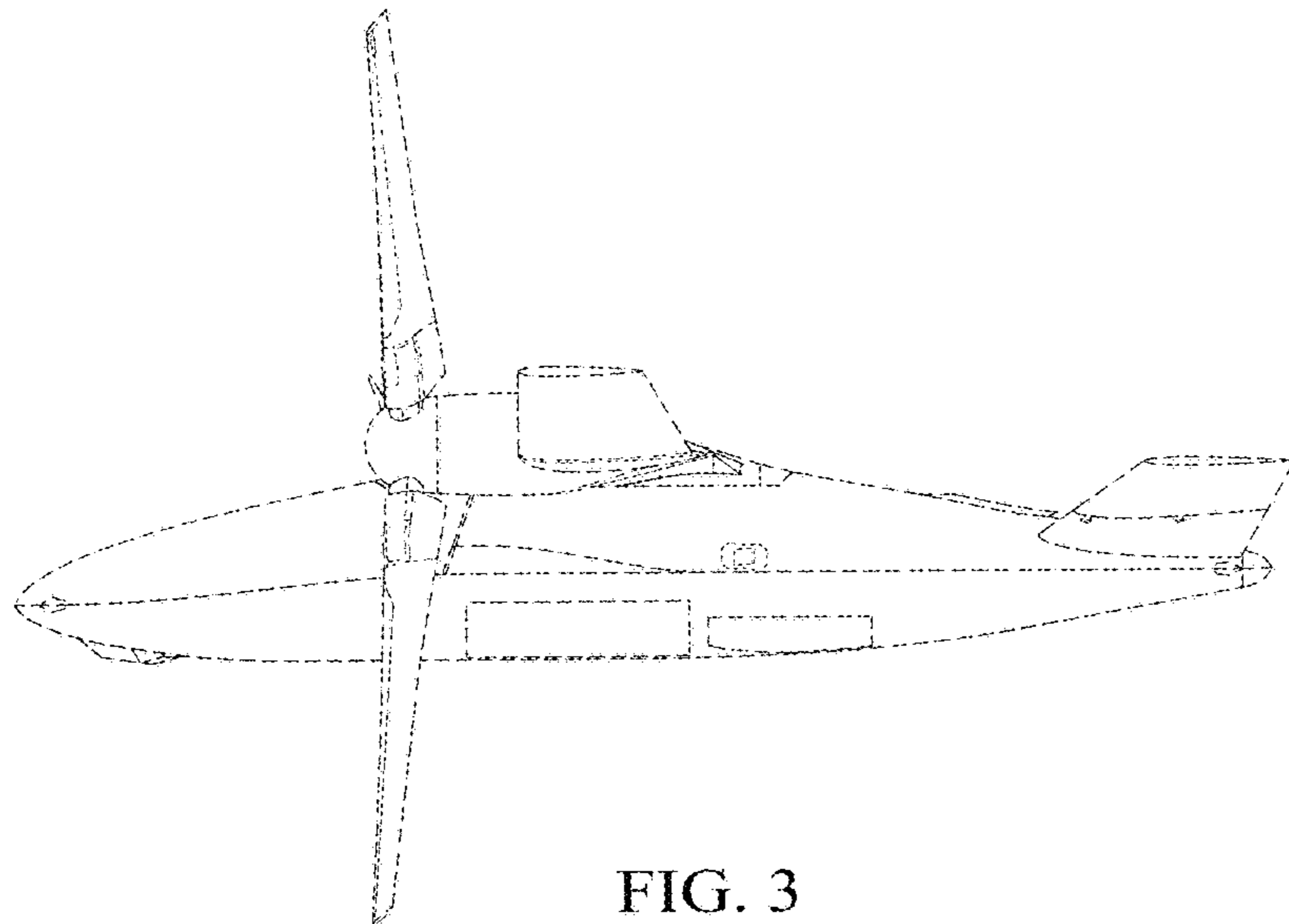


FIG. 3

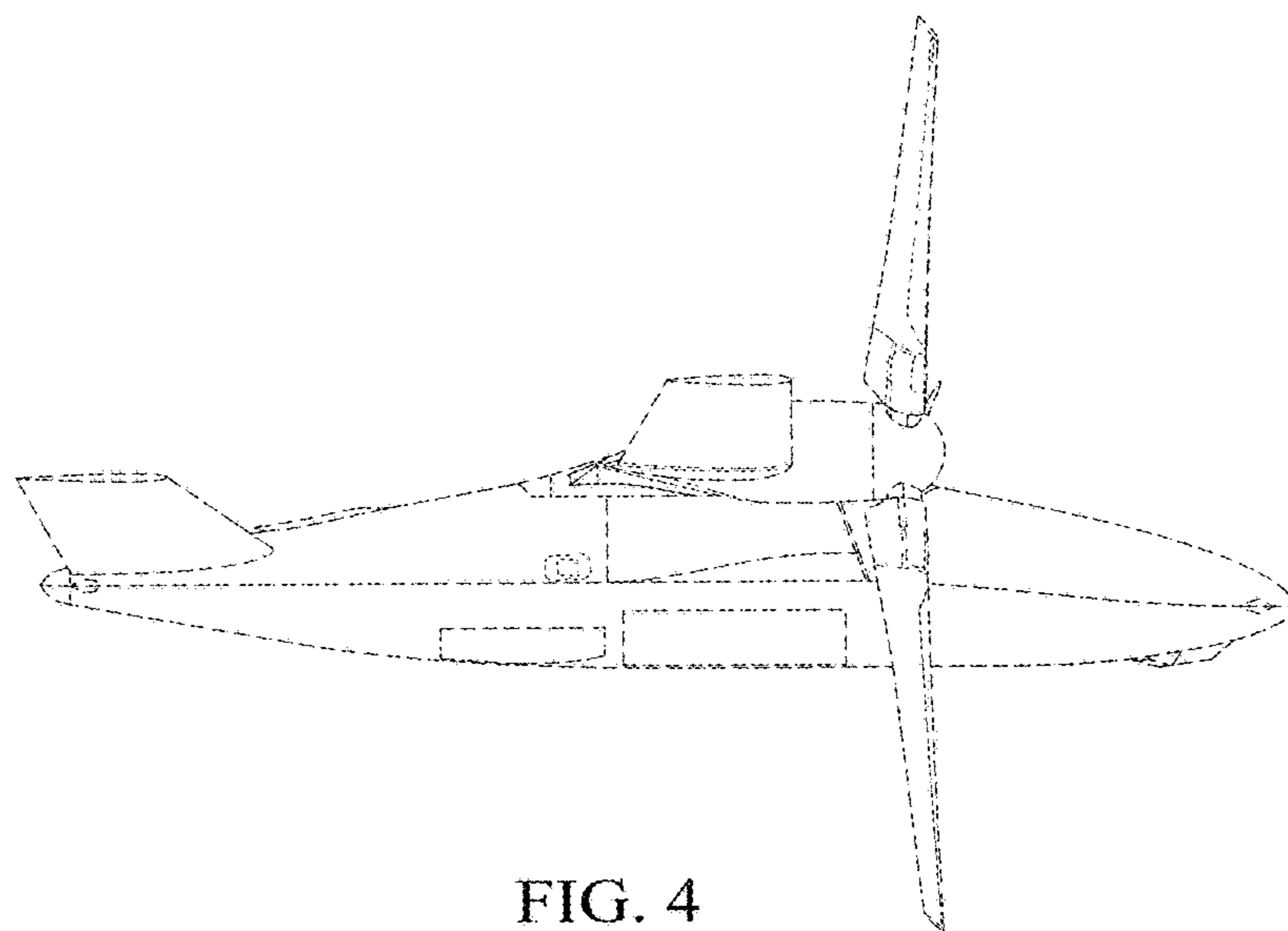


FIG. 4

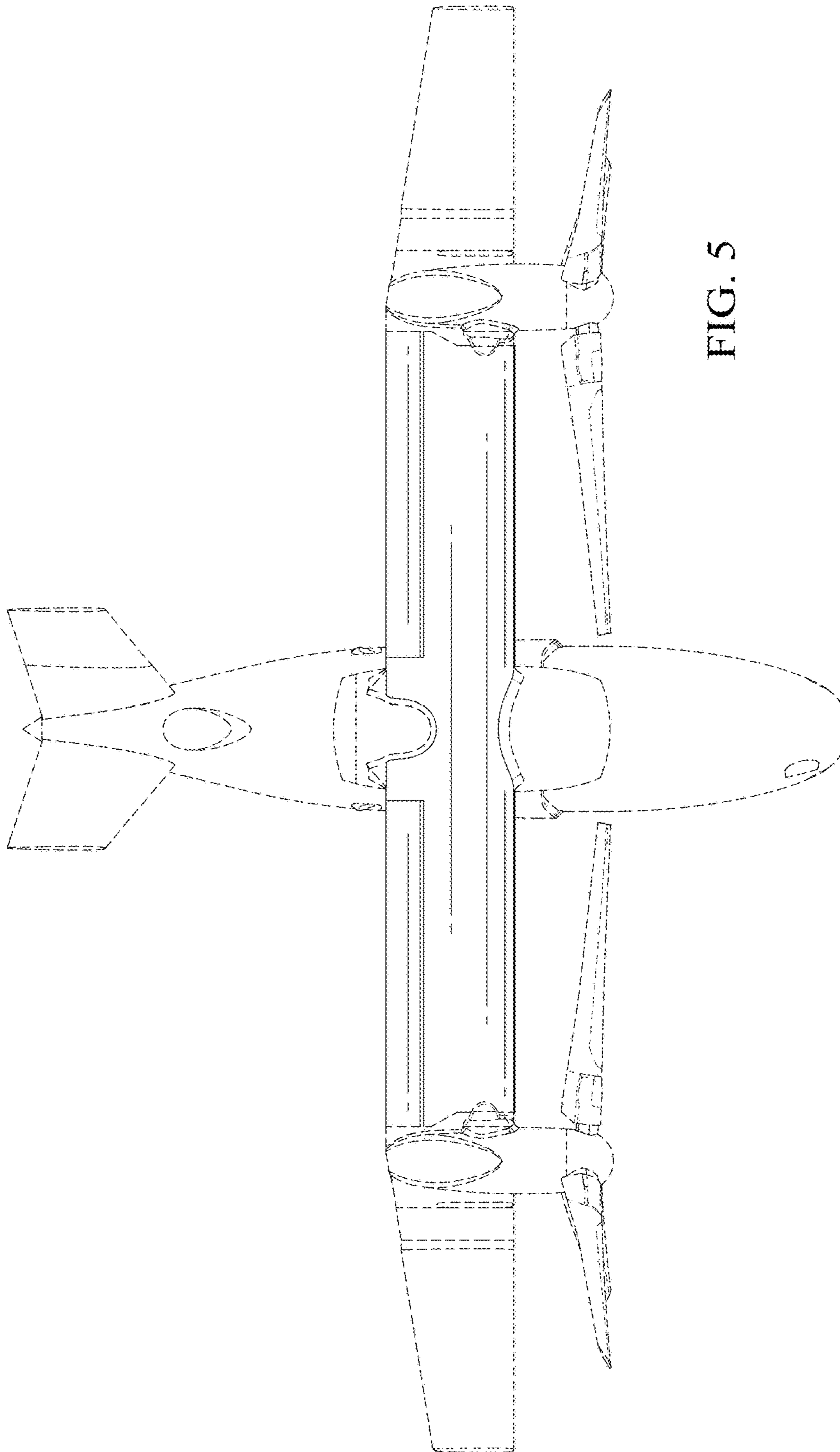


FIG. 5

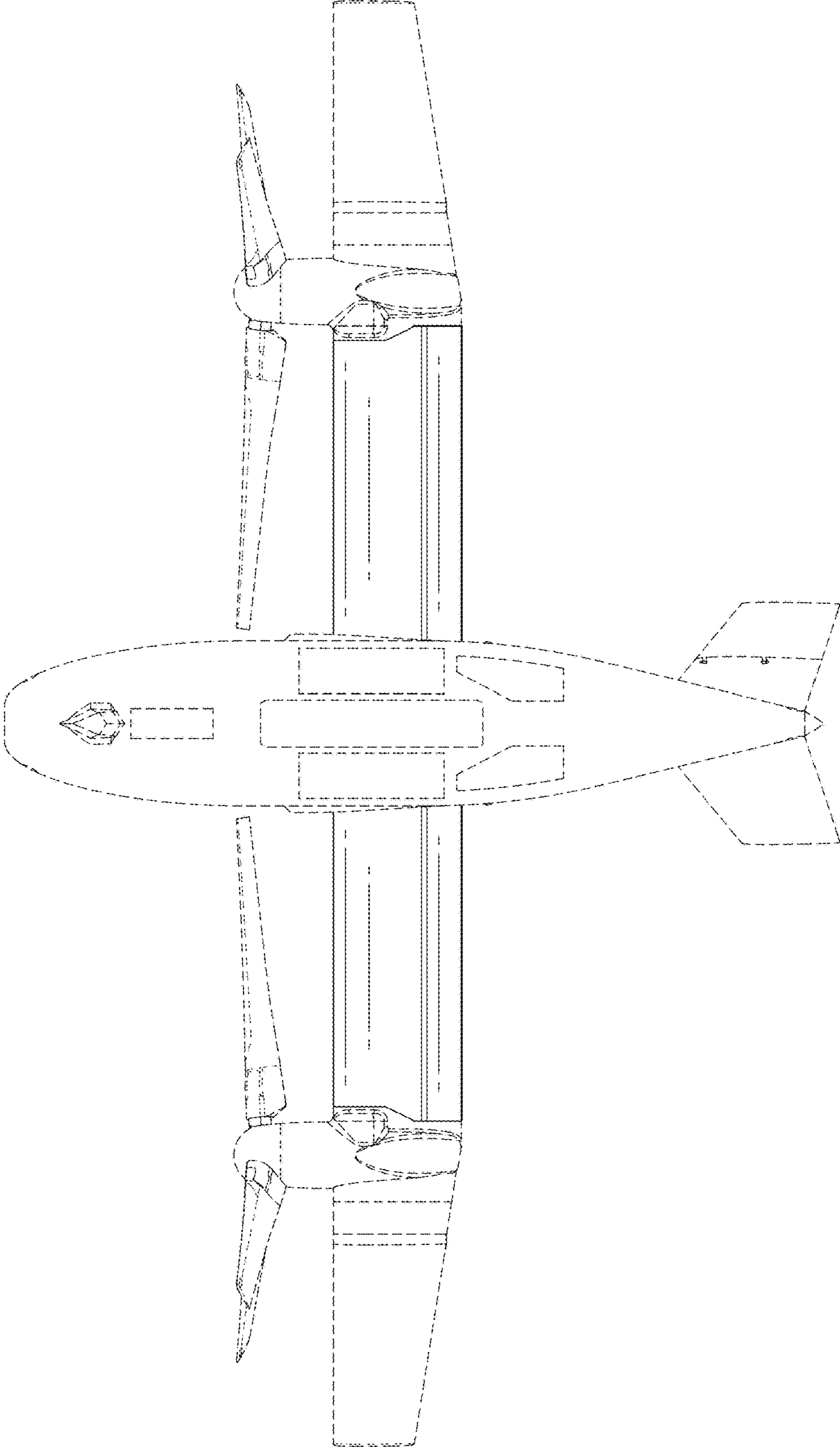


FIG. 6

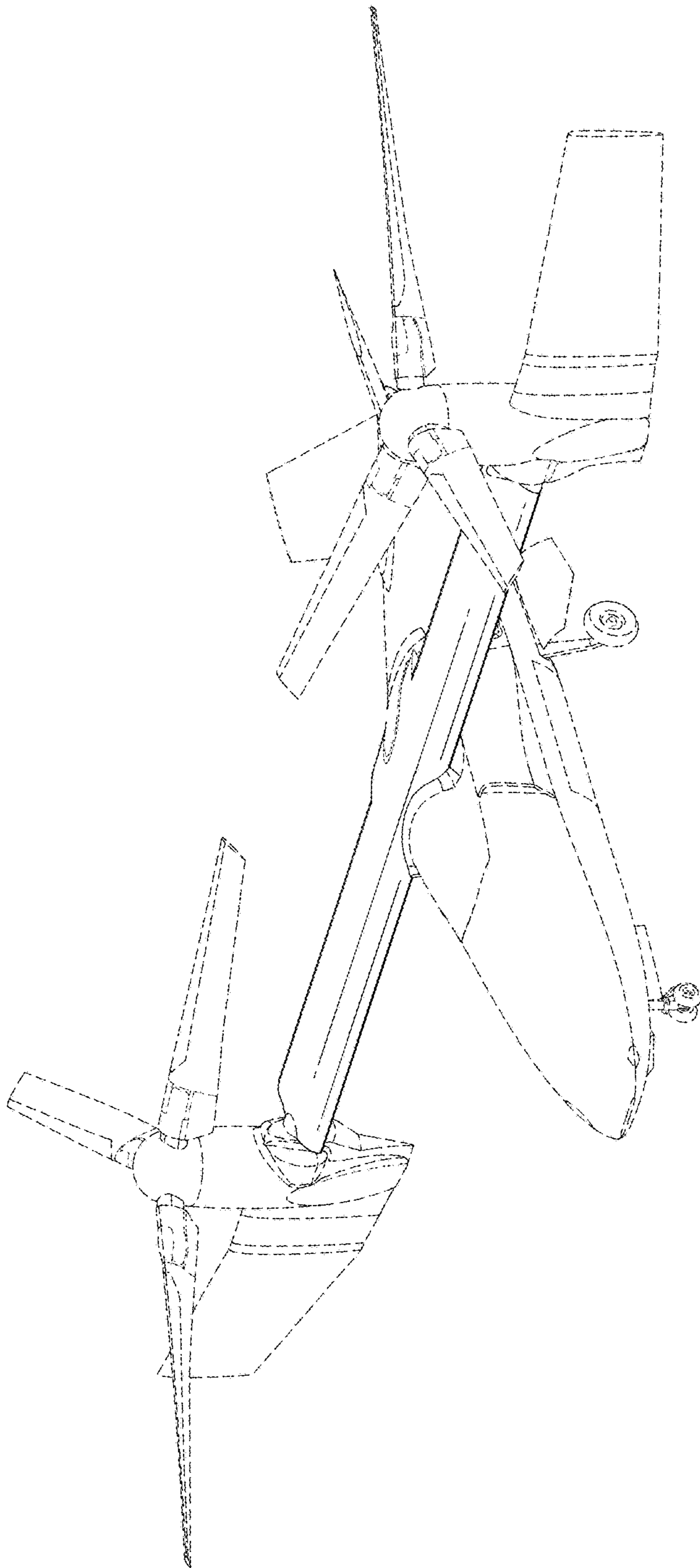


FIG. 7

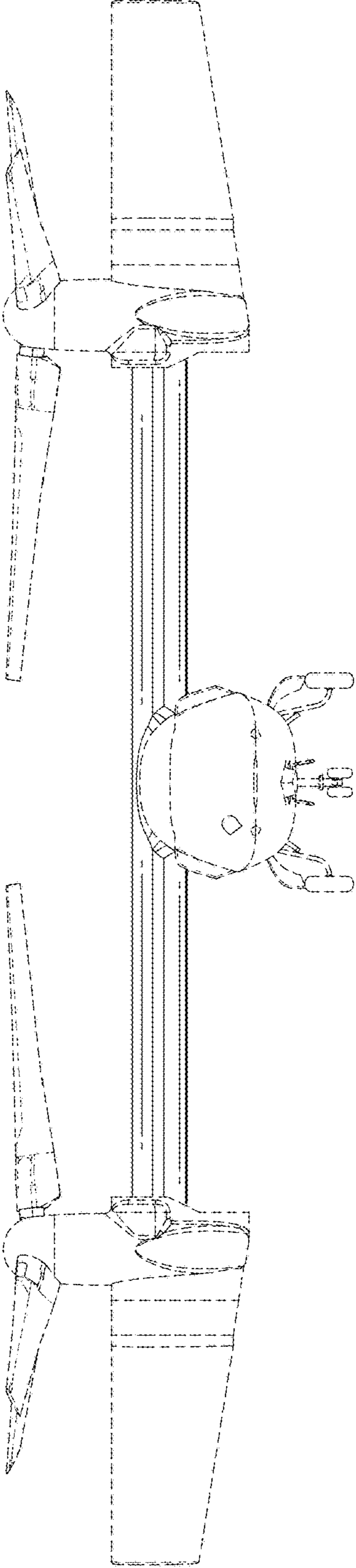


FIG. 8

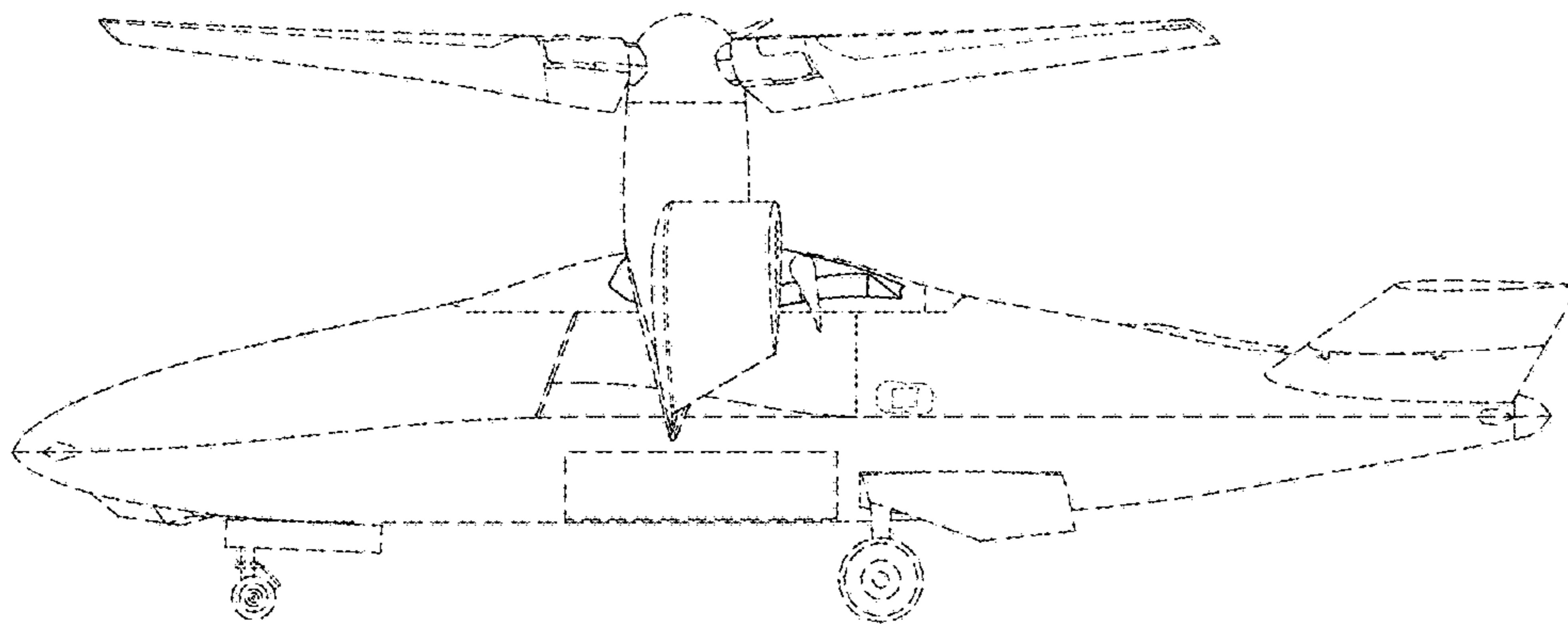


FIG. 9

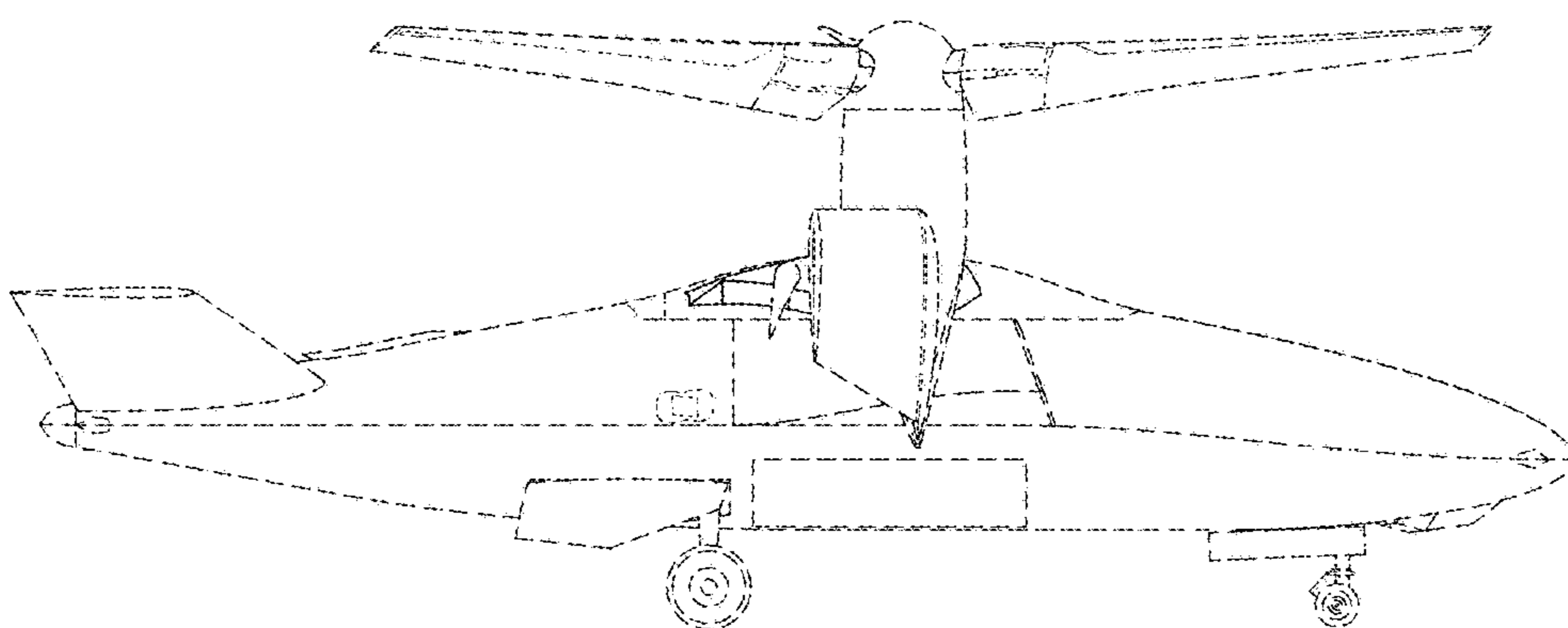


FIG. 10

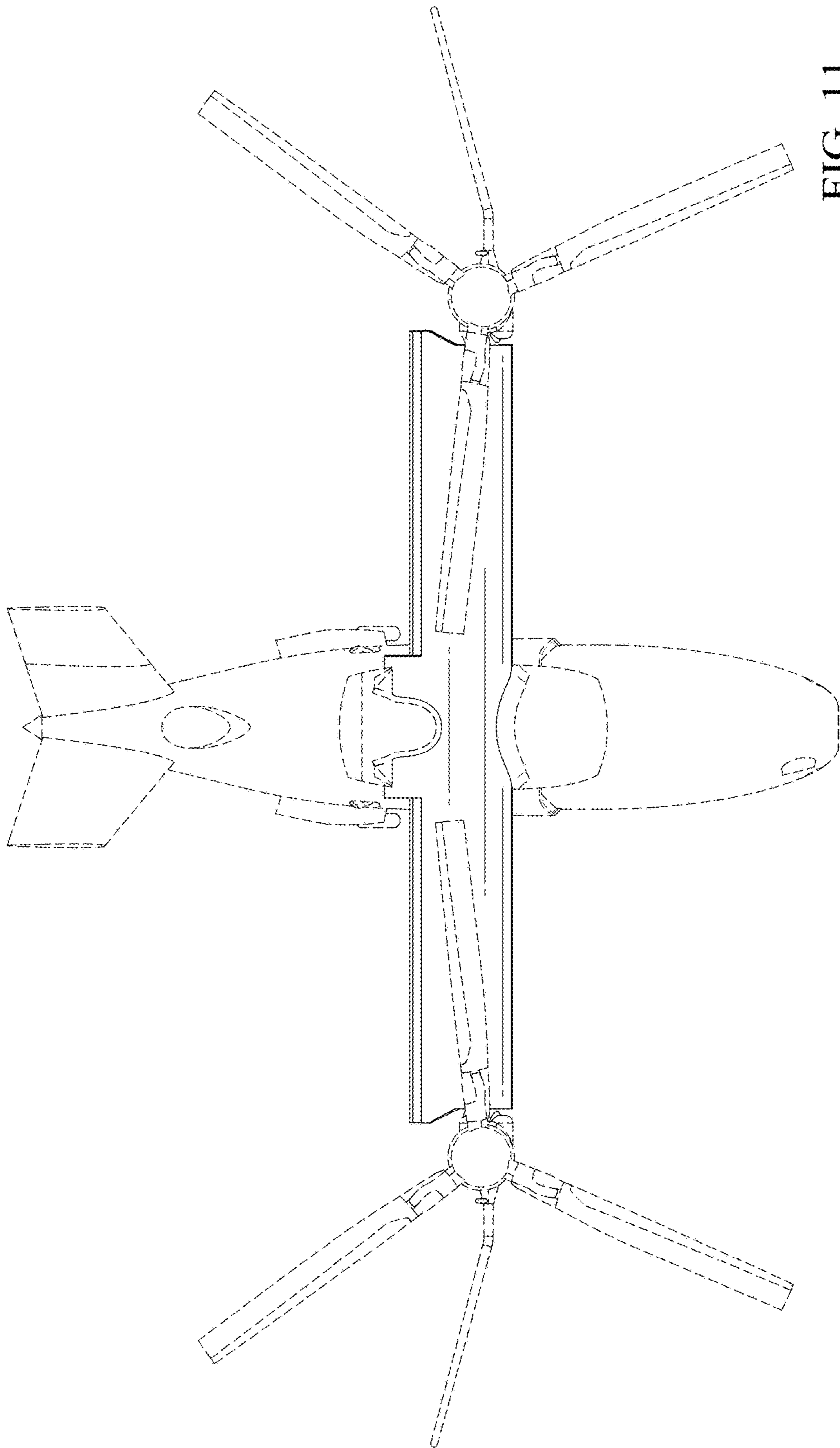


FIG. 11

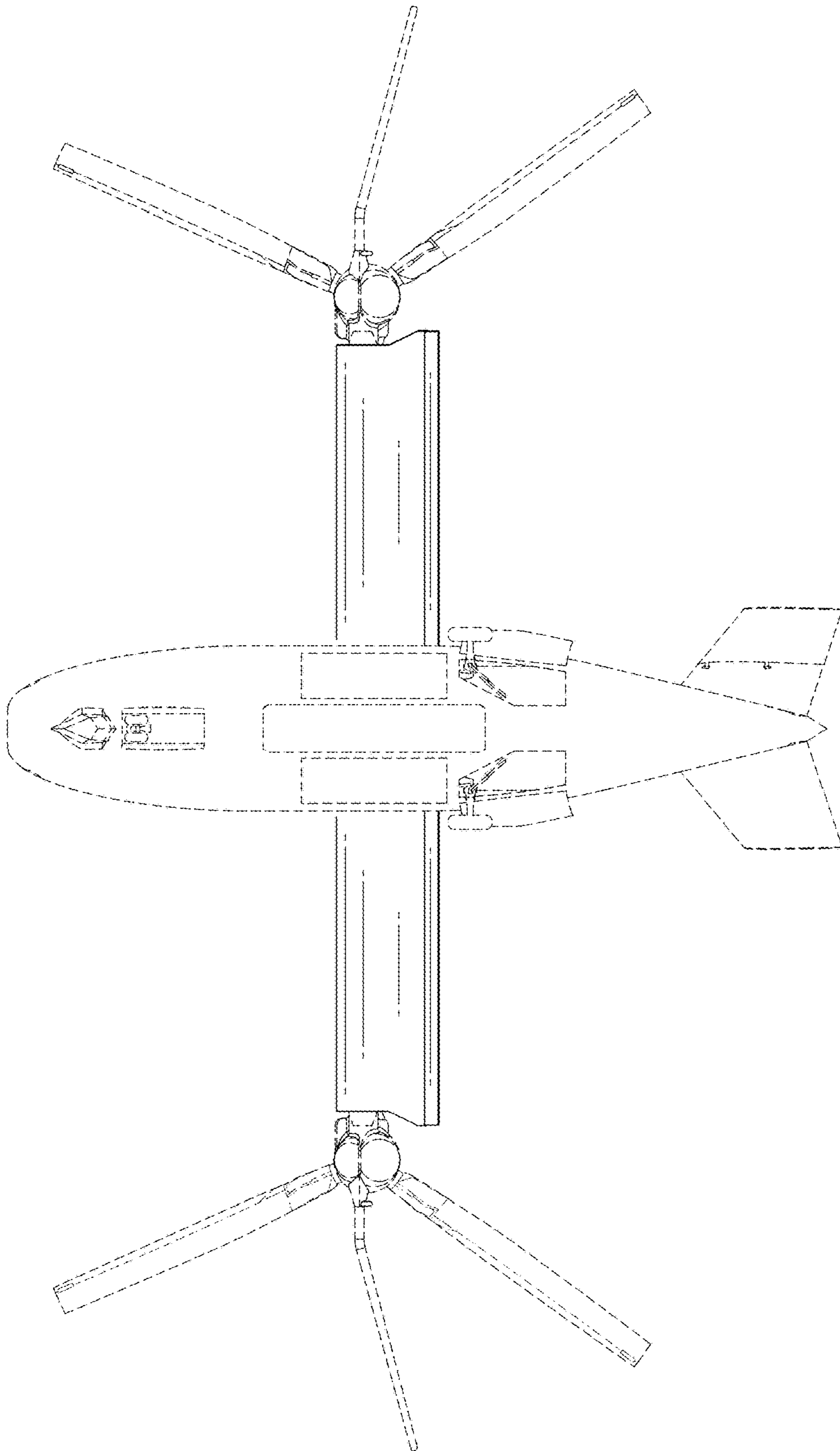


FIG. 12

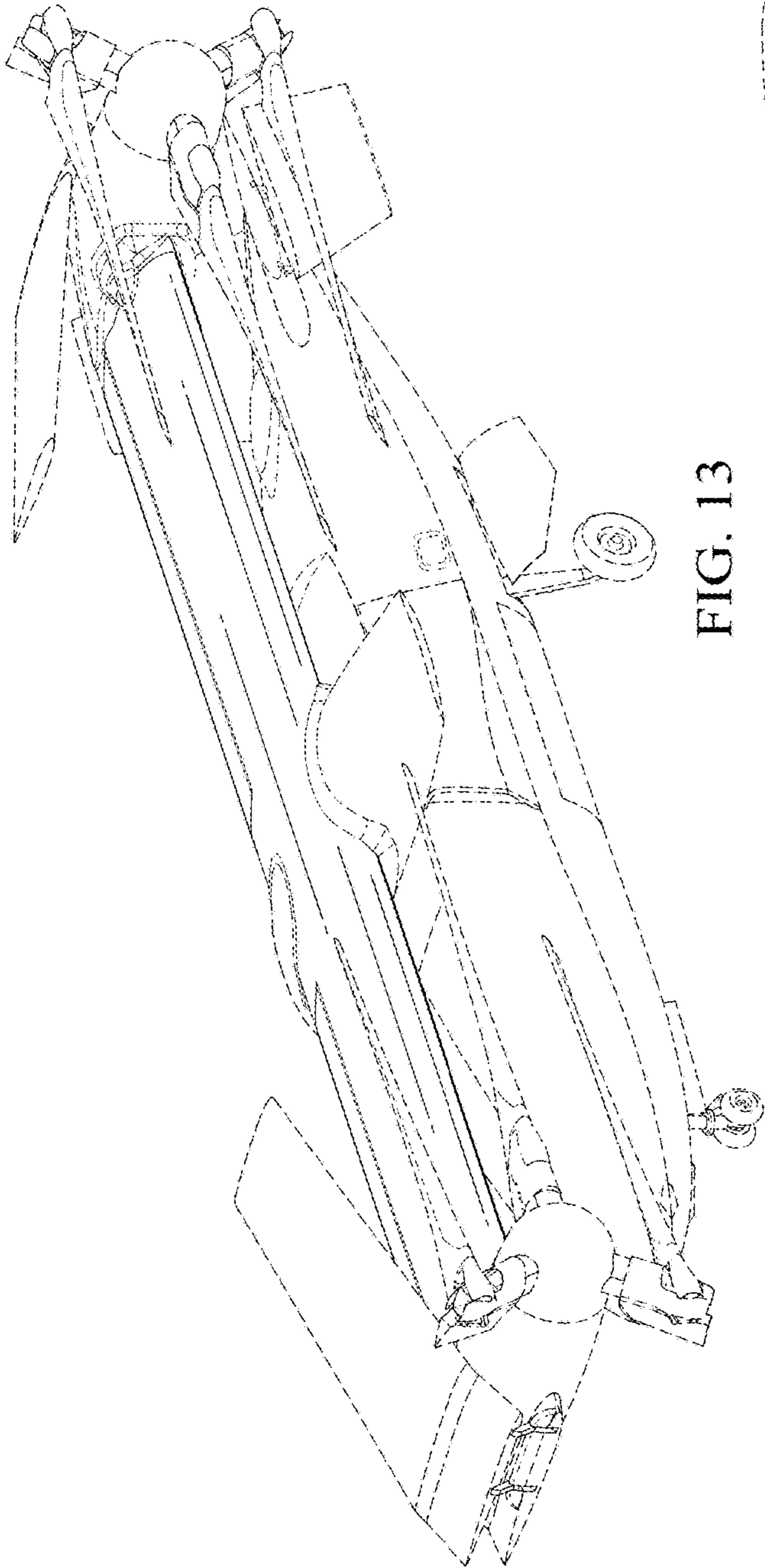


FIG. 13

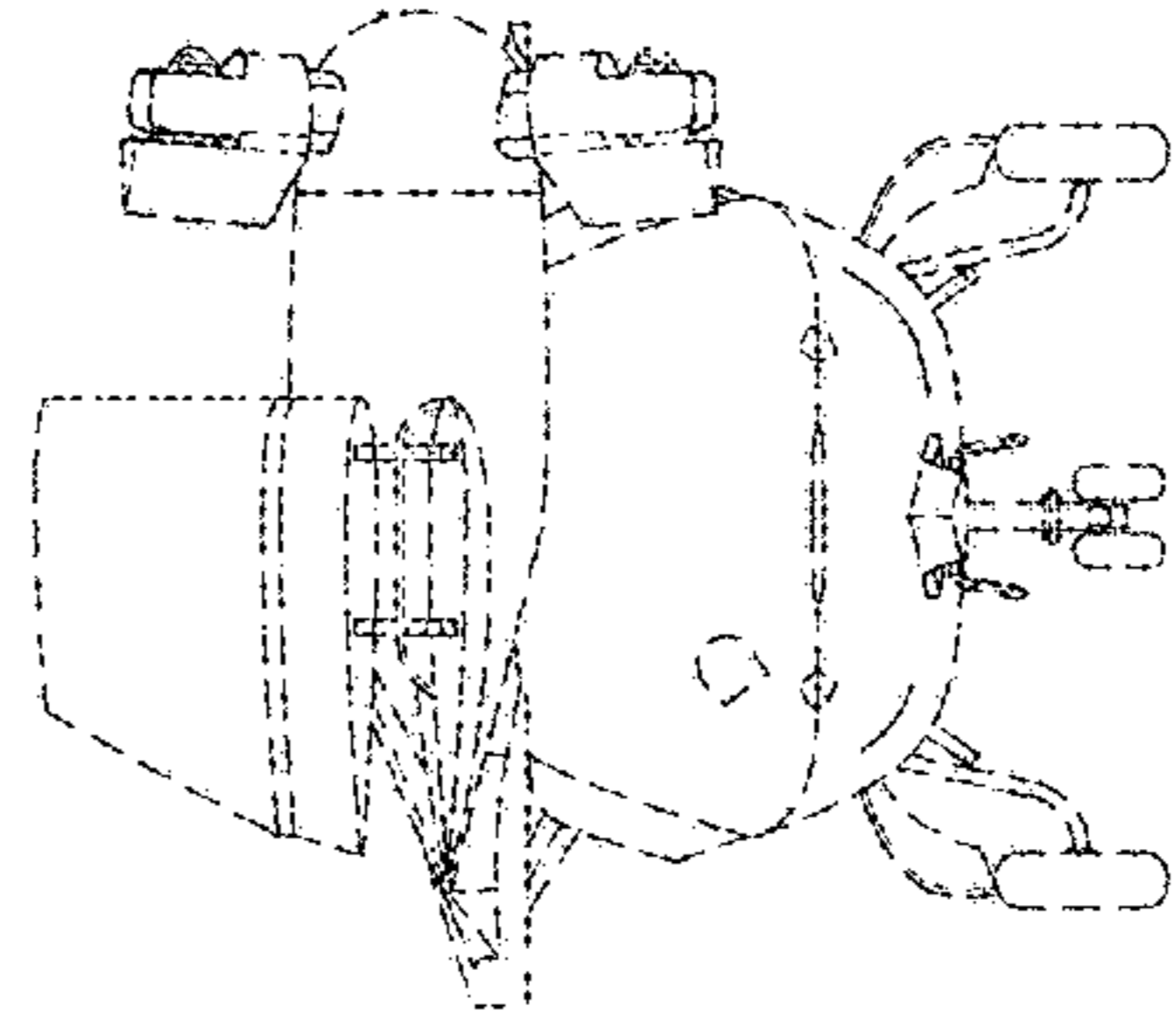


FIG. 14

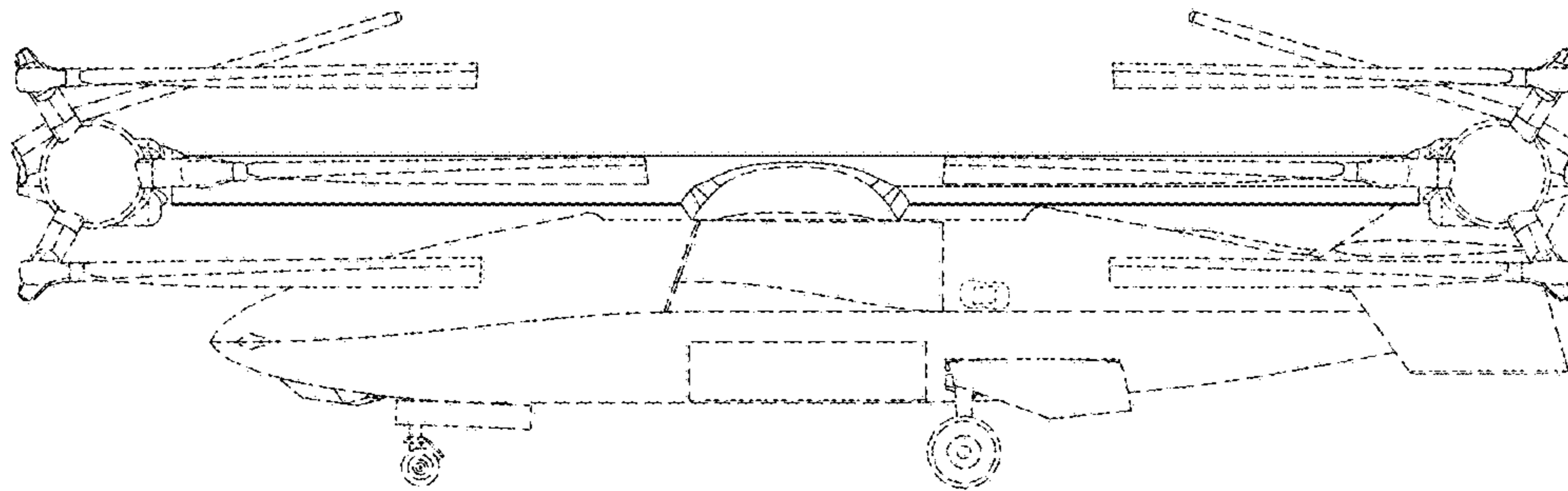


FIG. 15

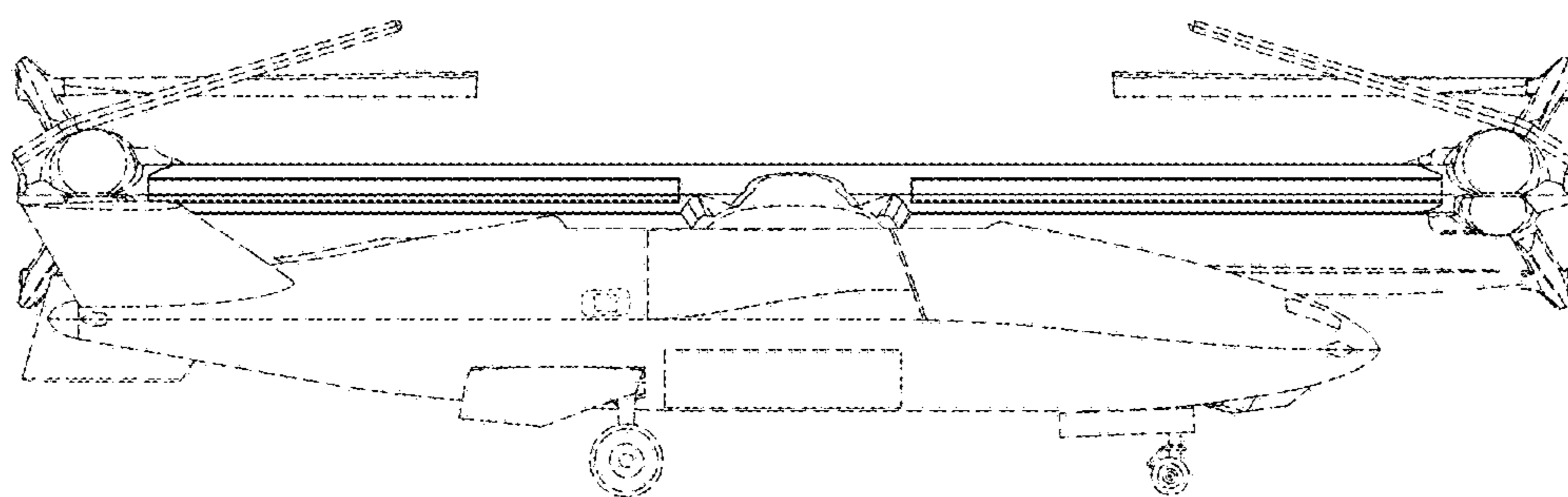


FIG. 16

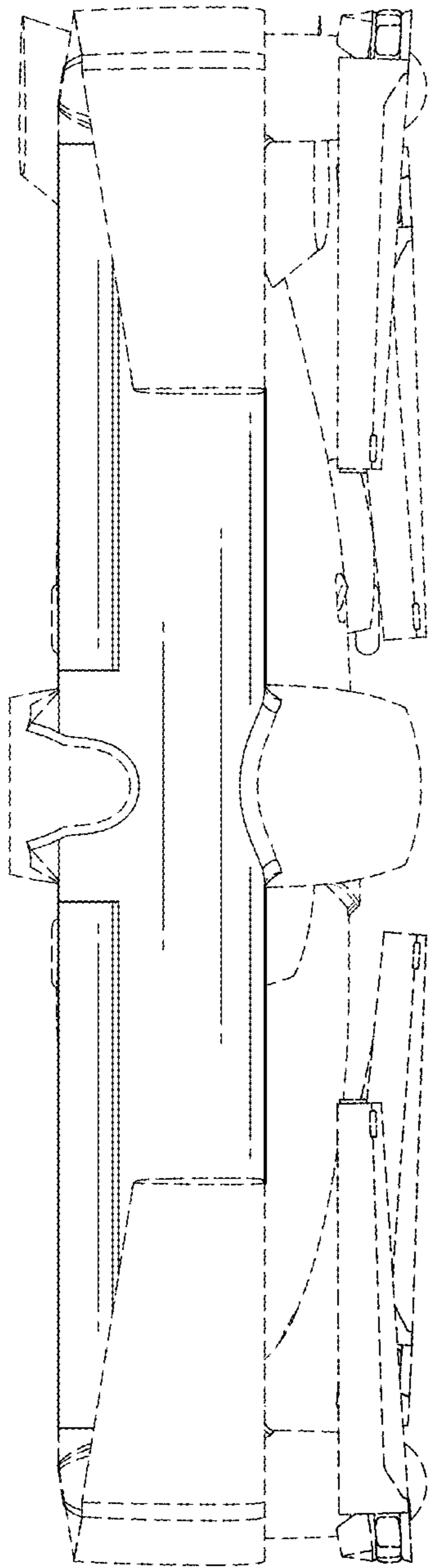


FIG. 17

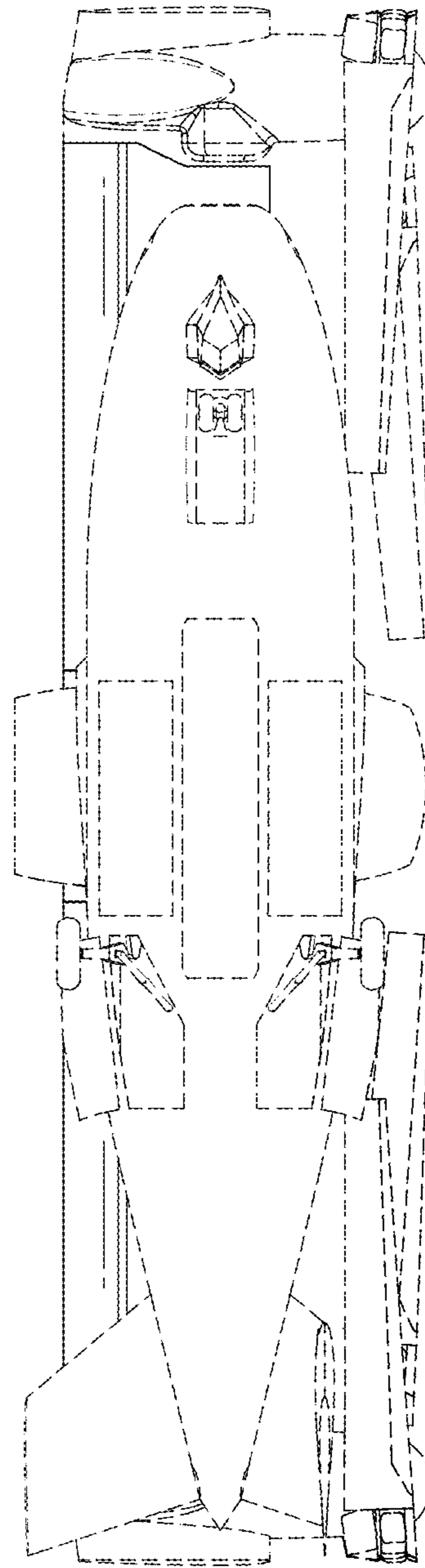


FIG. 18

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : D824,321 S
APPLICATION NO. : 29/628827
DATED : July 31, 2018
INVENTOR(S) : Steven Ivans et al.

Page 1 of 1

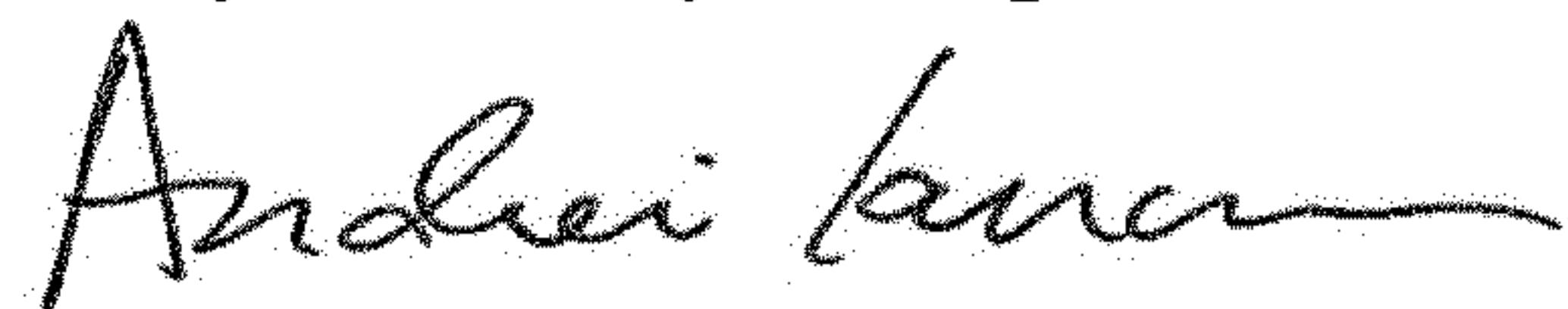
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page

Insert the following under DESCRIPTION, after the description of FIG. 8, and before the description of FIG. 10:

-- FIG 9. is a right side elevational view of FIG. 7; --

Signed and Sealed this
Twenty-fifth Day of September, 2018



Andrei Iancu
Director of the United States Patent and Trademark Office