

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: GALEN J. SUPPES
4 BINGHAM
COLUMBIA, MO 65203

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing (day/month/year)	DEC 07 2021
Applicant's or agent's file reference	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US 21/16392	International filing date (day/month/year) 03 February 2021 (03.02.2021)
Applicant SUPPES, GALEN J.	

1. The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

How? Directly to the International Bureau preferably through ePCT, or on paper to:
The International Bureau of WIPO, 34, chemin des Colombettes, 1211 Geneva 20, Switzerland

For more detailed instructions, see the *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3. With regard to any protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
- the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.
- no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders

The applicant may **submit comments on an informal basis on the written opinion of the International Searching Authority** to the International Bureau. These comments will be made available to the public after international publication. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established.

Shortly after the expiration of **18 months from the priority date**, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for **entry into the national phase** before those designated Offices. In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months. For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Within **22 months from the priority date**, the applicant may request that a **supplementary international search** be carried out by a different International Searching Authority that offers this service (Rule 45*bis*.1). The procedure for requesting supplementary international search is described in the *PCT Applicant's Guide*, International Phase, paragraphs 8.006-8.032.

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Authorized officer Kari Rodriguez Telephone No. PCT Helpdesk: 571-272-4300
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference		FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US 21/16392	International filing date (<i>day/month/year</i>) 03 February 2021 (03.02.2021)	(Earliest) Priority Date (<i>day/month/year</i>) 10 June 2020 (10.06.2020)	
Applicant SUPPES, GALEN J.			

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

the international application in the language in which it was filed.

a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (see Box No. II).

3. **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 21/16392

A. CLASSIFICATION OF SUBJECT MATTER

IPC - B64D 3/00, B64C 39/02, B64F 1/04, B64F 1/08, B64C 37/02, B64C 3/38, B64C 29/00 (2021.01)

CPC - B64D 3/00, B64C 2201/027, B64C 2201/108, B64C 3/385, B64C 2201/206, B64C 2201/02, B64C 31/024, B64D 2211/00, B64C 2003/146, B64C 39/02, B64F 1/04, B64F 1/08, B64C 37/02, B64C 3/38, B64C 29/00, B64C 27/28, B64C 27/22, B64C 3/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2011/0024548 A1 (Kuroda et al.) 3 February 2011 (03.02.2011), entire document, especially Figs 1-2; para [0058]	1-8, 18-20
A	US 2016/0144969 A1 (The Boeing Company) 26 May 2016 (26.05.2016), entire document, especially Figs 1A, 2-3; para [0055]-[0056]	1-8, 18-20
A	US 2019/0382104 A1 (Singapore University Of Technology And Design) 19 December 2019 (19.12.2019), entire document, especially Figs 1-2; para [0034], [0037], [0047]	9-17
A	US 2005/0067524 A1 (Johansen) 31 March 2005 (31.03.2005), entire document, especially Figs 12-14; para [0044]	18-20
A, P	US 10,589,838 B1 (Suppes) 17 March 2020 (17.03.2020), entire document	1-20

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"D" document cited by the applicant in the international application

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

9 November 2021 (09.11.2021)

Date of mailing of the international search report

DEC 07 2021

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-8300

Authorized officer

Kari Rodriguez

Telephone No. PCT Helpdesk: 571-272-4300

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: GALEN J. SUPPES
4 BINGHAM
COLUMBIA, MO 65203

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

DEC 07 2021

Applicant's or agent's file reference

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US 21/16392

International filing date (day/month/year)

03 February 2021 (03.02.2021)

Priority date (day/month/year)

10 June 2020 (10.06.2020)

International Patent Classification (IPC) or both national classification and IPC

IPC - B64D 3/00, B64C 39/02, B64F 1/04, B64F 1/08, B64C 37/02, B64C 3/38, B64C 29/00 (2021.01)

CPC - B64D 3/00, B64C 2201/027, B64C 2201/108, B64C 3/385, B64C 2201/206, B64C 2201/02, B64C 31/024, B64D 2211/00, B64C 2003/146, B64C 39/02, B64F 1/04, B64F 1/08, B64C 37/02, B64C 3/38, B64C 29/00, B64C 27/28, B64C 27/22, B64C 3/10

Applicant SUPPES, GALEN J.

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/IIS
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-8300

Date of completion of this opinion

9 November 2021 (09.11.2021)

Authorized officer

Kari Rodriguez

PCT Help Desk

Telephone No. 571-272-4300

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 21/16392

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed.
 - a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(b)).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).
 - on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 21/16392

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	1-20	YES
	Claims	None	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-20 meet the criteria as set forth by PCT Article 33(2)-33(3) as having novelty and an inventive step because the prior art fails to teach or fairly suggest the claimed subject matter.

The prior art is exemplified by (1) US 2011/0024548 A1 to Kuroda et al. (hereinafter Kuroda), (2) US 2016/0144969 A1 to The Boeing Company (hereinafter Boeing), (3) US 2019/0382104 A1 to Singapore University of Technology And Design (hereinafter SUTD), and (4) US 2005/0067524 A1 to Johansen.

Regarding claim 1, Kuroda teaches an aerial towed platform (12d; Figs. 1-2; para [0058]: "[t]he delta wing 12d is a flat-shaped wing") comprising a flat plate airfoil (see that 12d is a flat plate airfoil as described above in para [0058]) pivotally connected to a propulsion means (30; Fig. 1) through a forward joint (11 and 20, collectively - there always is a D-ring or hook or similar making the connections at both ends of a conventional airplane towing another flying object, which are inherently pivotal in nature; Fig. 1; NOTE; see Box VIII);
 said flat plate airfoil comprising a sheet (see sheet of 12d; Fig. 2), a [rounded] leading edge (see leading edge of 12d; Fig. 2), a trailing edge (see trailing edge of 12d comprising flaps 70; Fig. 2), an average chord length (see average chord length of 12d; Fig. 2), (two sides), an average span (see the average span of 12d; Fig. 2) [between the sides, and a distributed load];
 said sheet having an upper surface; said upper surface generating lift (all delta wings have upper surfaces to generate lift);
 said sheet having a lower surface; said lower surface generating lift (all delta wings have lower surfaces to generate lift). Kuroda does not specifically teach
 wherein the leading edge is rounded;
 wherein the flat plate airfoil further comprising two sides and a distributed load; and
 wherein the average chord length is greater than the average span. It was well known in the art that routine experimentation and various experimental design choices could have been used to have arrived at a rounded leading edge and it was also well known in the art for leading edges to be rounded. Boeing teaches a wing (12 in Fig. 1A, comprising 22 in Figs. 2-3; para [0055]: "an exemplary wing panel 22 that may be included in wing 12") comprising a distributed load (26, 28; Fig. 3; para [0056]: "solar panels 26, 28 may be mounted to one or both sides of the wing panel"). Accordingly, it would have been obvious to one of ordinary skill in the art to have rounded the leading edge in order to have laminar flow over the flat plate airfoil and to have incorporated Boeing's solar panels in order to reduce emission, but the prior art does not teach nor fairly suggest, in the absence of hindsight, such an aerial towed platform further incorporating the limitation of
 wherein the flat plate airfoil further comprising two sides and the average chord length is greater than the average span as Kuroda teaches a delta wing.

Regarding claims 2-8, the prior art does not teach nor fairly suggest the aerial towed platform as claimed since they are dependent upon claim 1.

-*-Continued in Supplemental Box*-*

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 21/16392

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Regarding claims 1, 9, and 18, the term "a forward joint" is confusing and lacks clarity. As best understood by the ISA according to the specification and drawings, the term "a forward joint" has been interpreted to mean any joint extending towards the propulsion means/lead aircraft, away from the leading edge of the flat plate airfoil, to connect the flat plate airfoil to the propulsion means/lead aircraft.

Claims 1-20 as a whole present several issues which make it difficult to specifically identify the invention disclosed and determine the technical features for which patent protection is sought. For example, Claims 1-20 miss a lot of punctuations and connecting words such as "said sheet having an upper surface said upper surface generating lift" and "said payload at least one of batteries, fuel cells, fuel tank". The claims also contain typographical and grammatical errors such as "alower pitch" and "wherein the average span is at least ten times the averages platform thickness". Further, the claims are generally nondescript and include non-limiting recitations as well as alternative language. The issues described are exemplary, and many other issues exist in the claims, resulting in a general lack of clarity and lack of full enablement. For the purposes of this search report and written opinion, the claims as a whole are interpreted as best understood by the ISA according to the specification and drawings.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 21/16392

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

-*Box V.2 - Citations and Explanations-*

Regarding claim 9, SUTD teaches a flat platform aircraft (100; Fig. 1) comprising an energy storage means (112; Fig. 1), a control system (110; Fig. 1), a payload (para [0034]: "[a]ccording to various embodiments, the aircraft may include a payload , for example a camera or other types of data collection sensors"), and a tiltwing (104a-b; Figs. 1-2) pivotally connected to a primary flat platform (102; Figs. 1-2) by a [forward] joint (120; Figs. 1-2; para [0037]: "[t]he aircraft 100 may include a pair of bearings 120. Each bearing 120 may serve as a connecting part or joint between a servo motor 106 and its corresponding wing 104. The bearing 120 may be mechanically coupled at one end to the servo motor 106, and coupled at an opposing end to the corresponding wing 104. The bearing 120 may transfer the rotational momentum of the servo motor 106 to the corresponding wing 104");

said tiltwing comprising at least one tiltwing airfoil (see airfoils of 104a-b; Figs. 1-2), at least one propulsor (108; Fig. 1), and a pitch control means (para [0047]: "the aircraft 100 may use the servo motors 106 to change the direction of the thrust from each thrust motor 108 to control the pitch of the aircraft 100, as well as to change the angle of attack of each wing 104 to control the roll of the aircraft 100"), said tiltwing having a tiltwing pitch (all wings, including tiltwings, have a pitch);

said energy storage means configured to provide power to the at least one propulsor (see that 108 are electric motors; Fig. 1; para [0037]: "[t]he battery 112 may provide electrical energy to all of the electronic components in the aircraft 100");

said control system configured to control the at least one propulsor (para [0037]: "[t]he flight controller 110 may be connected to the servo motors 106 and to the thrust motors 108. The flight controller 110 may control the pair of servo motors 106, either jointly or individually. The flight controller 110 may also control the pair of thrust motors 108, either jointly or individually. In addition, the flight controller 110 may also be connected to the IMU 116 and the ESC 114. The flight controller 110 may control the servo motors 106 and the thrust motors 108 based on data received from the IMU 116 and the ESC 114");

said control system configured to control the tiltwing pitch (para [0037]: "[t]he flight controller 110 may also receive command messages from a datalink system and may control the servo motors 106 and / or the thrust motors 108 based on the command messages. The aircraft 100 may include a pair of bearings 120. Each bearing 120 may serve as a connecting part or joint between a servo motor 106 and its corresponding wing 104. The bearing 120 may be mechanically coupled at one end to the servo motor 106, and coupled at an opposing end to the corresponding wing 104. The bearing 120 may transfer the rotational momentum of the servo motor 106 to the corresponding wing 104"). SUTD does not specifically teach

wherein the joint is a forward joint; and

wherein said primary flat platform configured to have a lower pitch than the tiltwing pitch at takeoff. However, it would have been obvious to one of ordinary skill in the art to have the tiltwing pitch to be higher than the primary flat platform at takeoff in order to generate more lift, but the prior art does not teach nor fairly suggest, such a platform further incorporating the limitation of wherein the joint is a forward joint (NOTE: see Box VIII).

Regarding claims 10-17, the prior art does not teach nor fairly suggest the flat platform aircraft as claimed since they are dependent upon claim 9.

-*Continued in next Supplemental Box-*

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 21/16392

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

-*Box V.2 - Citations and Explanations-*

Regarding claim 18, Kuroda teaches a flying towed platform train (Fig. 1) comprising a lead aircraft (30; Fig. 1) followed by a first aerial towed platform (12; Fig. 1) [followed by at least a second aerial towed platform],

said first aerial towed platform comprising a first flat plate airfoil (12d; Figs. 1-2; para [0058]: "[t]he delta wing 12d is a flat-shaped wing"), a forward joint (11; Fig. 1; NOTE: see Box VIII), a first forward connection (20; Fig. 1) [and a first aft connection],

[said second aerial towed platform comprising a second flat plate airfoil and a second forward connection,]

said first flat plate airfoil comprising a sheet (see sheet of 12d; Fig. 2), a [rounded] leading edge (see leading edge of 12d; Fig. 2), a trailing edge (see trailing edge of 12d comprising flaps 70; Fig. 2), an average chord length (see average chord length of 12d; Fig. 2), an average platform thickness (see average thickness of 12d; Fig. 1), [two sides,] an average span (see the average span of 12d; Fig. 2) [between the sides, and a distributed load],

said sheet having an upper surface; said upper surface generating aerodynamic lift (all delta wings have upper surfaces to generate lift); and

wherein the first forward connection pivotally connects to the lead aircraft (there always is a D-ring or hook or similar making the connections at both ends of a conventional airplane towing another flying object, which are inherently pivotal in nature; Fig. 1). Kuroda does not specifically teach

wherein the first aerial towed platform is followed by at least a second aerial towed platform, said second aerial towed platform comprising a second flat plate airfoil and a second forward connection;

wherein the first aerial towed platform further comprising

a first aft connection;

wherein the leading edge is rounded;

two sides; and

a distributed load;

wherein the average chord length is greater than the average span,

wherein the average span is at least ten times the average platform thickness,

wherein the second forward connection pivotally connects to the first aft connection. It was well known in the art that routine experimentation and various experimental design choices could have been used to have arrived at a rounded leading edge and it was also well known in the art for leading edges to be rounded. Boeing teaches a wing (12 in Fig. 1A, comprising 22 in Figs. 2-3; para [0055]: "an exemplary wing panel 22 that may be included in wing 12") comprising a distributed load (26, 28; Fig. 3; para [0056]: "solar panels 26, 28 may be mounted to one or both sides of the wing panel"), Johansen teaches a flying towed platform train (Figs. 12-14) comprising a lead aircraft (60; Figs. 12-14) followed by a first aerial towed platform (62; Figs. 12-14) followed by a second aerial towed platform (66; Figs. 12-14; para [0044]: "a first towing vehicle 60 pulls a Second towing vehicle 62 using a first tether 64. Second towing vehicle 62, in turn, pulls a launch vehicle 66 using a second tether 68"), and optimizing size, shape, and angle(s) is within the ordinary skill of one in the art as well as routine experimentation and various experimental design choices could have been used to have arrived at the average span is at least ten times the average platform thickness. Accordingly, it would have been obvious to one of ordinary skill in the art to have rounded the leading edge in order to have laminar flow over the flat plate airfoil, to have incorporated Boeing's solar panels in order to reduce emission, to have added a first aft connection such that a second aerial towed platform, identical to the first aerial towed platform, can follow the first aerial towed platform in order to allow more solar power collection, and to have the average span at least ten times the average platform thickness in order to ensure the sheet to be able to withstand extreme weather conditions, but the prior art does not teach nor fairly suggest, in the absence of hindsight, such a towed platform train further incorporating the limitation of

wherein the flat plate airfoil further comprising two sides and the average chord length is greater than the average span as Kuroda teaches a delta wing.

Regarding claims 19-20, the prior art does not teach nor fairly suggest the flying towed platform train as claimed since they are dependent upon claim 18.

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used by industry.