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(54) Title: VERTICAL WIND TUNNEL SKYDIVING SIMULATOR

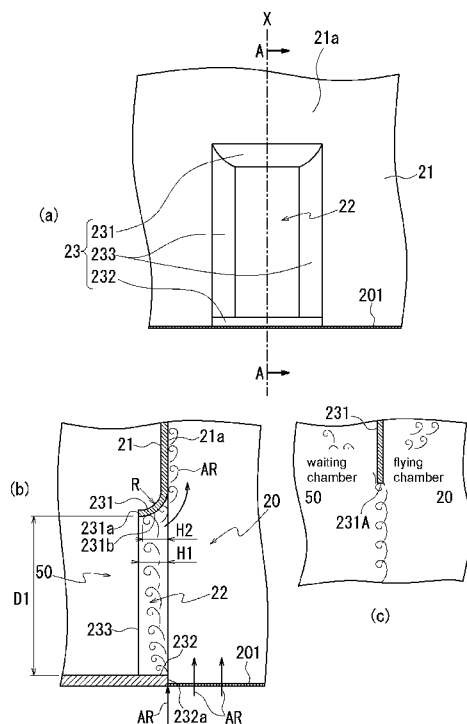


Figure 5

(57) Abstract: A vertical wind tunnel skydiving simulator including a flight chamber entrance that has a curved air deflector that extends into a waiting chamber, in which a convex surface of the curved air deflector faces across or towards the flight chamber entrance or into the flight chamber, and extends into the waiting chamber a sufficient distance to substantially reduce the flow of turbulent air into the waiting chamber. The curved surface is at the top of the entrance and can also be at the sides. The extent and exact shape the curved surface takes depends on various factors; the key principle however is that it has to be sufficient to minimize the flow of turbulent air into the waiting chamber; the effect is to make it more comfortable and less noisy for people in the waiting area. This also helps to preserves the laminar, non-turbulent flow of air in the flying chamber, even across the flight chamber entrance. This makes flying more comfortable and predictable.



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2016/051137

A. CLASSIFICATION OF SUBJECT MATTER
INV. G01M9/02 B64D23/00 A63G31/00
ADD.

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)

G01M B64D A63H A63G

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

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>Anonymous: "iFLY - UAE's first indoor skydiving experience - Dubai, Mirdif City Center", 13 November 2014 (2014-11-13), XP055293935, Retrieved from the Internet: URL:http://web.archive.org/web/20141113181450/http://www.theplaymania.com/gallery/ify-photo-week [retrieved on 2016-08-05] photographs</p> <p>----- -/-</p>	1-13



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

"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

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Name and mailing address of the ISA/

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Shmonin, Vladimir

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2016/051137

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>Anonymous: "iFly Dubai (United Arab Emirates): Top Tips Before You Go - TripAdvisor", 1 July 2012 (2012-07-01), XP055293880, Retrieved from the Internet: URL:https://www.tripadvisor.co.uk/Attraction_Review-g295424-d2148489-Reviews-IFly_Dubai-Dubai_Emirate_of_Dubai.html#photos;geo=295424&detail=2148489&ff=43773028&albumViewMode=hero&albumid=101&baseMediaId=43773028&thumbnailMinWidth=50&cnt=30&offset=-1&filter=7 [retrieved on 2016-08-05] photographs</p> <p>-----</p>	1-13
X	<p>US 2006/105300 A1 (MOINEL DELALANDE EMMANUEL [FR]) 18 May 2006 (2006-05-18) paragraph [0045] - paragraph [0049]; figure 1</p> <p>-----</p>	1-10, 12, 13
X	<p>US 7 156 744 B2 (METNI N A [US] ET AL) 2 January 2007 (2007-01-02) column 11, line 18 - column 11, line 27; figure 11</p> <p>-----</p>	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2016/051137

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-13

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-13

a curved air deflector that extends into a waiting chamber

2. claims: 14-17

extra-large turning vanes

3. claims: 18-21

airflow straighteners

4. claims: 22-26

a duct that is formed from fibre-reinforced plastic

5. claim: 27

a waiting area that is separated from the main part of the building by a decompression chamber

6. claims: 28, 29

two or more axial fans in the left side vertical column and
two or more axial fans in the right side vertical column;
and in which each axial fan sits inside its own duct

7. claim: 30

pressure sensor

8. claim: 31

CO2 sensor

9. claim: 32

a glass floor that is built around a double-height flight chamber, at about half-way up

10. claims: 33-38

turning vanes that have internal coolant channels.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

11. claims: 39, 40

a large air exchanger in the top, horizontal ducts that includes an air exhaust system formed by a large, horizontally hinged panel in the upper surface of the top, horizontal ducts

12. claims: 41-43

axial fans with a diameter exceeding 3.2m

13. claims: 44-46

noise sensors

14. claims: 47, 65-69

UV lights / a matrix of RGB LEDs that is used in the expansion chamber above the flight chamber for special lighting effects

15. claim: 48

multiple cameras filming the flight chamber

16. claim: 49

depth sensors

17. claims: 50-56

a helmet with a display worn by flyers in a vertical wind tunnel skydiving simulator

18. claims: 57-64

an RFID tag adapted to be worn by a flyer in a vertical wind tunnel skydiving simulator

19. claims: 70-75

a safety mesh or net at the base of the flight chamber, the safety mesh or net including cables or ropes attached to a perimeter wall

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2016/051137

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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