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(54) **Amusement device for dynamic simulation, in particular for use in amusement parks or the like**

(57) An amusement apparatus for dynamic simulation, in particular for use in amusement parks or the like, comprising: a first housing station (2) of at least one user (U), which is mobile along a respective path (P); at least one second housing station (3) of at least one user (U); interaction means (9) between the users (U) arranged at

the first and the second station (2, 3); a water basin (4) interposed between the first and the second station (2, 3); said interaction means (9) comprising water supply organs, arranged on the respective stations (2, 3) in order to generate water jets between the users (U).

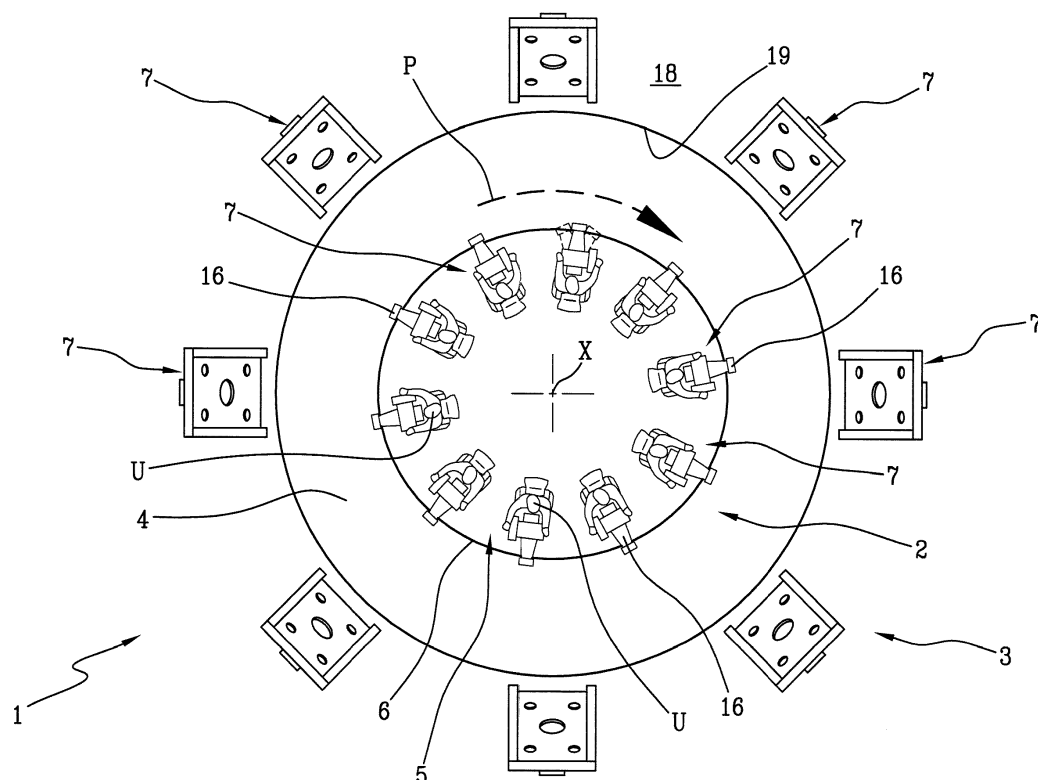


Fig.1

Description

Technical Field

[0001] The present invention relates to an amusement apparatus for dynamic simulation.

[0002] In particular, the present invention relates to an apparatus for dynamic simulation able to reproduce a predetermined play situation, for example, a conflict in a historical context adapted to produce an amusement or entertainment effect for a predetermined number of people, for example in an amusement park.

Background Art

[0003] It is well known that inside amusement parks attractions are installed specifically intended to make participants experience sensations that are very similar to those that can be found in analogous situations to real life and in situations of particular entertainment.

[0004] The above-mentioned attractions envisage simulating such situations through special mobile apparatuses, onto which the participants can climb aboard. Some of these apparatuses simulate in particular a conflict that can be set in a predetermined historical context, in order to provide a special emotional involvement on the part of the users.

[0005] Apparatuses are known, for example, comprising a series of vehicles for housing the user who, according to the setting, can reproduce the shape of space shuttles, war vehicles, horses, etc.

[0006] These vehicles are generally hinged to respective arms which are in turn connected to a central rotating support for moving the vehicles themselves along a circular path. Furthermore, the support arms of vehicles can be moved vertically by appropriate pneumatic systems associated with the central support, in order to translate the vehicles in height in order to give participants the sensation of gliding in the air.

[0007] The vehicles are further equipped with play instruments that can reproduce a determined weapon according to the historic period, the setting and the conflict to be recreated. For example, compressed air or spring-powered pistols can be provided, as well as futuristic laser weapons.

[0008] In all these cases the attractions can be used by both adult and child participants and perform the function of entertaining the participants by making them experience a sense of fun and strong emotional involvement.

[0009] However, the need often arises to be able to make use of an attraction which, in the specific case of a conflict simulation, can reproduce a situation closer to reality.

[0010] The attractions currently known and described above, however, have limits due to safety reasons which exclude interaction between users with weapons that can "shoot" objects. For this reason, the known apparatuses

envisage the use of weapons that can only be used on special targets, or weapons with which the action which reproduces a shooting between individuals is only imitated.

[0011] In this situation, the weapons provided in the known apparatuses cannot generate a sensation of full satisfaction in participants and, above all, in the case of weapons that fire objects against targets, are often dangerous due to the possibility of hitting the users.

Description.

[0012] The object of the present invention is therefore to provide an amusement apparatus for dynamic simulation, in particular for use in amusement parks or the like, which can reproduce a situation typical of a conflict.

[0013] The set technical task and aims are substantially attained by an amusement apparatus for dynamic simulation, in particular for use in amusement parks or the like, comprising the technical characteristics set out in one or more of the appended claims.

[0014] Further characteristics and advantages of the present invention will become more apparent from the following indicative, and hence non-limiting, description of a preferred, but not exclusive, embodiment of an amusement apparatus for dynamic simulation, in particular for use in amusement parks or the like, as illustrated in the appended drawings, in which:

- Figure 1 is a schematic plan view of an amusement apparatus for dynamic simulation according to the present invention;
- Figure 2 is a schematic plan view of a second embodiment of the amusement apparatus for dynamic simulation according to the present invention;
- Figure 3 is a lateral raised view of a detail of the apparatus of Figures 1 and 2;
- Figure 4 is a lateral raised view of a construction detail of the apparatus illustrated in Figure 1;

[0015] In accordance with the attached drawings, no. 1 denotes in its entirety an amusement apparatus for dynamic simulation according to the present invention. Apparatus 1 is intended to create an attraction for entertainment and amusement, for example in amusement parks.

[0016] The apparatus 1 comprises a first station 2 for housing at least one user "U" and at least a second station 3 for housing at least one user "U". Preferably, the first and second station 2, 3 are adapted to contain a plurality of users.

[0017] Advantageously, with reference to Figures 1 and 2, please note that between the first and the second station 2, 3, a water basin 4 develops.

[0018] The water basin 4 may be of any type and, in accordance with a preferred embodiment illustrated in the appended drawings, comprises an artificial lake. The water basin 4 could be supplied in various ways, for ex-

ample directly from a water mains or through a tank.

[0019] In particular, the first station 2 is housed within the mentioned basin 4 and mobile along a respective path "P".

[0020] In greater detail, the station 2 comprises a platform 5 housed in the water basin 4 and above the free surface of the basin 4 itself.

[0021] The platform 5 preferably has a substantially flat conformation with a circular peripheral development. At a peripheral edge 6 of the platform 5 a plurality of housing seatings 7 of respective users "U" develops. In this way, the seatings 7 are arranged circumferentially along the whole peripheral profile of the platform 5. With particular reference to the view of Figure 3, the platform 5 may be rotatably associated with a central support structure 11, assembled fixed inside the basin 4, to rotate about a respective longitudinal development axis "X" of the support structure 11. The rotation of the platform 5 takes place through appropriate motor means 12 of the known art therefore not described and illustrated in detail. Alternatively the platform 5 could be fixed.

[0022] Furthermore, the platform 5 is rotatable about a horizontal "Y" axis, transversal to the mentioned longitudinal "X" axis, so as to determine a combined rotation and oscillation movement of the platform 5. Advantageously, the housing seatings 7 may be mobile along the path "P", even if this is not strictly necessary, in the mentioned combined movement which gives the users "U" a particular rocking sensation which simulates sailing on the sea.

[0023] Still with reference to Figure 3, please note that each housing seating 7 comprises a seat 8 for the user "U" and respective interaction means 9 between the users "U" arranged in the first and second station 2, 3.

[0024] These interaction means 9 preferably comprise water supply organs 10, arranged on the relative stations 7 for generating jets of water between the users "U". Alternatively, the interaction means 9 could comprise devices for shooting pellets or other small objects, or laser sources.

[0025] In greater detail, the supply organs 10 arranged on the seatings 7 of the platform 5 are oriented in order to direct the water jet towards the outside of the platform 5, in a substantially radial direction with respect to the circular path "P".

[0026] Preferably, each supply organ 10 arranged on the platform 5 comprises a tubular dispenser 13 defining an outlet opening 14 of the water jet.

[0027] The tubular dispenser 13 is rotatably hinged onto a support element 15 constrained onto the platform. Furthermore, each organ 10 has manoeuvring means 15 (not described and illustrated in detail) associated with the dispenser 13 to direct the water jet moving the dispenser 13 itself manually with respect to the support element 15. In this way the user "U" can determine where to direct the water jet and, by means of appropriate control means, activates/deactivates the dispensing of the jet according to requirements. For the water supply, the

dispenser 13 is operatively connected to a water pump (not described and illustrated since it is of the known art) adapted to take water from the basin 4 to provide it to the various organs 10. Preferably, each housing seating 7 further comprises a target 17 arranged above the user "U" and overlooking the second station 3 (Figure 4).

[0028] In accordance with a first embodiment illustrated in Figure 1, the second station 3 comprises a dock 18 surrounding the water basin 4. In this embodiment, the dock 18 has a substantially circular conformation developing around the platform 5.

[0029] The dock 18 has a plurality of housing seatings 7 of the users "U" which are arranged along a peripheral edge 19 of the dock 18 itself.

[0030] Each housing seating 7 of the dock 18 comprises a respective water supply organ 10 adapted to direct the water jet towards the first station 2 and in particular towards the targets 17 of each seating 7 of the platform 5.

[0031] In particular, with reference to Figure 4, at least one water supply organ 10 of the housing seating 7 of the dock 18 comprises a launch system 20 of an elastic container 21. In this case the water jet is contained in the elastic container 21 which is preferably made of latex in order to allow the water jet to exit following an impact against the first station 2.

[0032] In other words, when the elastic container 21 thrown by the launch system 20 hits the target 17 or potentially a part of the platform 5, the latex structure that defines the container 21 itself is ripped making the water jet exit.

[0033] The launch system 20 comprises a sling having a housing seating 22 of the elastic container 21 and at least one pair of elastic tie-rods 23 operatively connected between the housing seating 22 and a fixed structure 24 of the dock 18.

[0034] In this way the sling can be manually switched between a preload condition in which the seating 22 is held by a user "U" to stretch the pair of tie-rods 23, and a launch condition in which the seating 22 is released in order to allow the elastic pull of the tie-rods 23 and cause the launch of the container 21. One or more launch systems 20 comprised of slings or catapults can also be arranged on the platform 5, just as one or more targets 17 can be associated with the dock 18 above the users "U" and overlooking the platform 5.

[0035] Each housing seating 7 of the dock 18 may be equipped with a water supply organ 10 comprising a launch system 20 of an elastic container 21 of the type described above. Alternatively, some housing seatings may be provided with a launch system 20, and others with a tubular dispenser 13 of the type described in relation to the platform 5.

[0036] Also the housing seating 7 of the dock 18 comprises a target 25 arranged above the user "U" overlooking the first housing station 2.

[0037] In accordance with a second embodiment illustrated in Figure 2, the second station 3 comprises at least one boat 26 which is mobile in the water basin 4 and

having at least one housing seating 7 of respective users "U".

[0038] In this embodiment the boat 26 is mobile through respective motor means which are not illustrated and preferably arranged inside the basin 4, along a respective path "P" which develops at least partially around the first station 2.

[0039] Furthermore, each housing seating 7 of the boat comprises at least one water supply organ 10 comprising a tubular dispenser 13 of the type described above and the same as that of the first station 2, defining an outlet opening of the water jet.

[0040] In accordance with a further embodiment not illustrated in the appended drawings, numerous second stations 3 may be provided, each of which is comprised by a boat 26.

[0041] Again, a series of second stations 3 may be provided, comprising both fixed positions, for example docks 18 of the type described above, and mobile positions for example boats 26.

[0042] The operation of the apparatus 1 described above is as follows.

[0043] Starting from the solution in Figure 1, the platform 5 rotates and oscillates moving the respective seatings 7 along the circular path "P".

[0044] During the movement, the users "U" arranged on the respective seatings 8 launch the water jets orienting the tubular dispenser 13 towards the housing seatings 7 of the dock 18 and in particular towards the respective target 25.

[0045] Simultaneously, the users "U" arranged in the seatings 7 of the dock 18 launch the elastic containers 21 towards the platform 5 through the action of the sling.

[0046] In particular, the containers 21 are launched in order to hit the targets 17 of the first station 2.

[0047] In the second embodiment of Figure 2, the users "U" arranged in the boats 26 orient the dispensers 13 to direct the water jet towards the targets 17 of the first station 2. The dispensing of the water takes place in particular in the stretches of the path "P" in which the boats 26 are taken in proximity to the platform 5.

[0048] Advantageously, the apparatus simulates a naval conflict, through the use of only water as a weapon.

[0049] Consequently, the apparatus gives special involvement to the users "U" who interact with each other using water weapons therefore through instruments that are safe for the users "U" themselves.

[0050] Furthermore, the naval conflict is simulated very truthfully, precisely due to the possibility to allow the users to interact in a playful way with water weapons.

[0051] It is to be understood that, in a less preferred embodiment of the invention, each water jet launch or emitting device could be replaced by a device for shooting pellets or other small objects, or by a device for emitting a laser beam.

Claims

1. An amusement apparatus for dynamic simulation, in particular for use in amusement parks or the like, comprising:

- a first housing station (2) of at least one user (U), mobile along a respective path (P);
- at least one second housing station (3) of at least one user (U);
- interaction means (9) between the users (U) arranged at the first and the second station (2, 3); **characterised in that** between the first and the second station (2, 3) a water basin (4) develops and **in that** said interaction means (9) comprise water supply organs, arranged on the respective stations (2, 3) to generate water jets between the users (U).

2. The apparatus according to claim 1, **characterised in that** said first station (2) comprises a platform (5) housed in the water basin (4) and above the free surface of said basin (4); said platform (5) having a plurality of housing seatings (7) of respective users (U) arranged along a peripheral edge (6) of the platform (5) itself.

3. The apparatus according to the preceding claim, **characterised in that** said platform (5) is rotatably associated with a central support structure (11) to rotate about a respective axis (X) of longitudinal development of said support structure (11); said housing seatings (7) being mobile about a respective circular path (P) defined by the rotation of the platform (5).

4. The apparatus according to the preceding claim, **characterised in that** said platform (5) is rotatable about a horizontal axis (Y), transversal to said longitudinal axis (X), to oscillate during its rotation about the longitudinal axis (X).

5. The apparatus according to claim 3 or 4, **characterised in that** each housing seating (7) comprises a seat (8) for the user and a water supply organ (10) for directing the water jet towards the outside of the platform (5), in a substantially radial direction with respect to the circular path (P).

6. The apparatus according to the preceding claim, **characterised in that** each supply organ (10) arranged on the respective housing seating (7) comprises: a tubular dispenser (13) defining an outlet opening (14) of said water jet; a support element (15), constrained to the platform (5) and above which said dispenser (13) is hinged rotatably; and manoeuvring means (16) associated with said dispenser (13), to orient the water jet by moving the dispenser

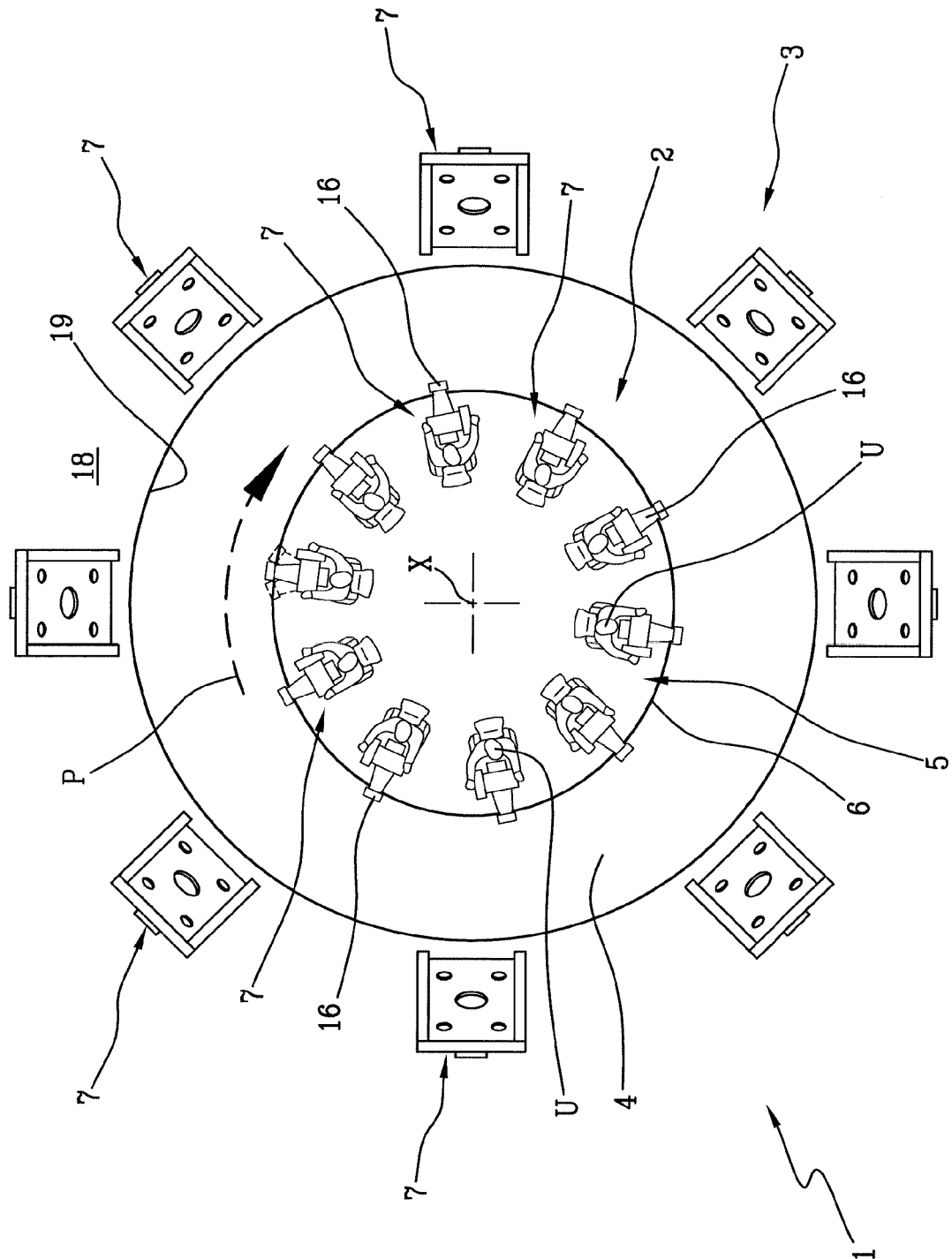
(13) manually with respect to the support element (14).

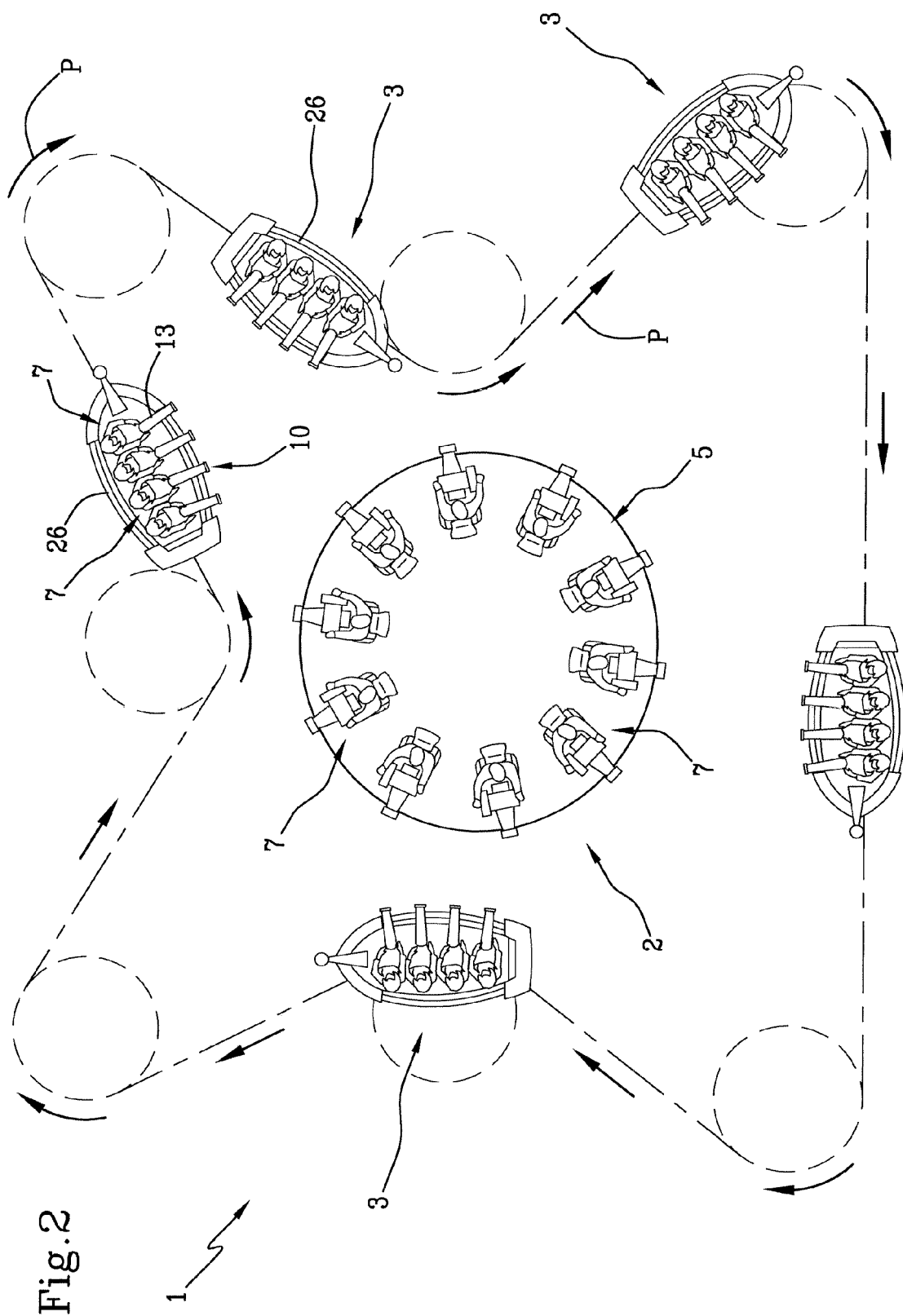
7. The apparatus according to any of claims 2 to 6, **characterised in that** each housing seating (7) comprises a target (17) arranged above the user (U) and overlooking said second housing station (3). 5
8. The apparatus according to claim 1, **characterised in that** said second station (3) comprises a dock (18) surrounding said water basin (4) and said first station (2); said dock (18) having a plurality of housing seatings (7) of respective users (U) arranged along a peripheral edge (19) of the dock (18) itself. 10
9. The apparatus according to the preceding claim, **characterised in that** each housing seating (7) of the dock (18) comprises a water supply organ (10) for directing the water jet towards said first station (2). 15
10. The apparatus according to the preceding claim, **characterised in that** said water supply organ (10) of the seating (7) of said dock (18) comprises a launch system (20) of an elastic container (21); said water jet being contained in said elastic container (21). 20
11. The apparatus according to the preceding claim, **characterised in that** said elastic container (21) is made of latex in order to allow the water jet to exit following an impact against the first station (2). 25
12. The apparatus according to claim 9, **characterised in that** said launch system (20) comprises a sling having a housing seating (22) of the elastic container (21) and at least one pair of elastic tie-rods (23) operatively connected between the housing seating (21) and a fixed structure (24) of the housing seating (22); said sling being able to be switched between a preload condition in which the seating (22) is held by a user (U) to stretch the pair of tie-rods (23), and a launch condition in which the seating (21) is released to allow the elastic pull of the tie-rods (23) and cause the launch of said container (21). 30
13. The apparatus according to any of claims 7 to 12, **characterised in that** each housing seating (7) comprises a target (25) arranged above the user (U) and overlooking said first housing station (2). 35
14. The apparatus according to claim 1, **characterised in that** said second station (3) comprises at least one boat (26) which is mobile in said water basin (4) and having at least one housing seating (7) of respective users (U). 40
15. The apparatus according to the preceding claim, **characterised in that** said boat (26) is mobile along 45

a respective path (P) developing at least partially around said first station (2).

16. The apparatus according to claim 14 or 15, **characterised in that** each housing seating (7) of the boat (26) comprises at least one water supply organ (10); said organ (10) having a tubular dispenser (13) defining an outlet opening (14) of the water jet. 50

Fig. 1





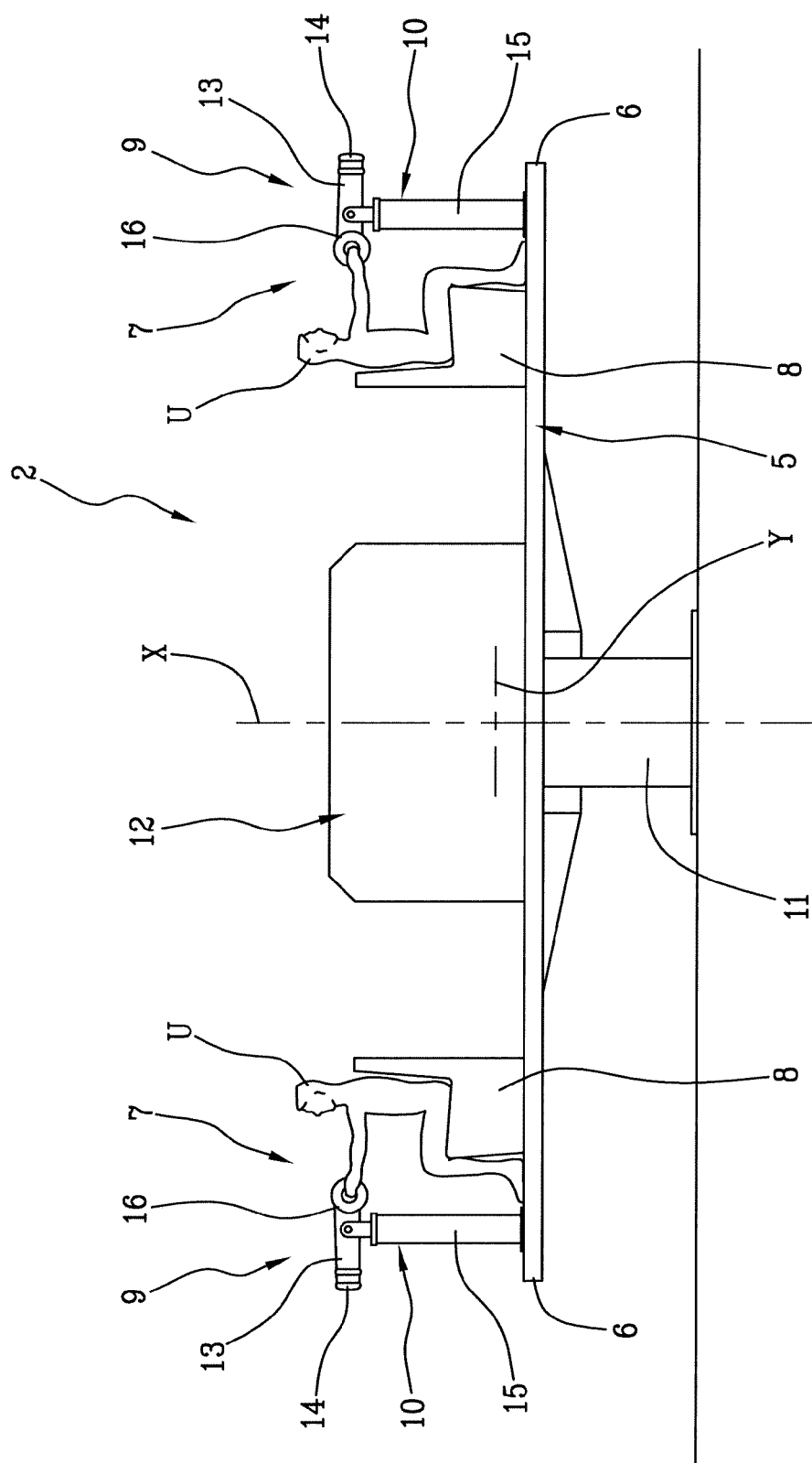


Fig. 3

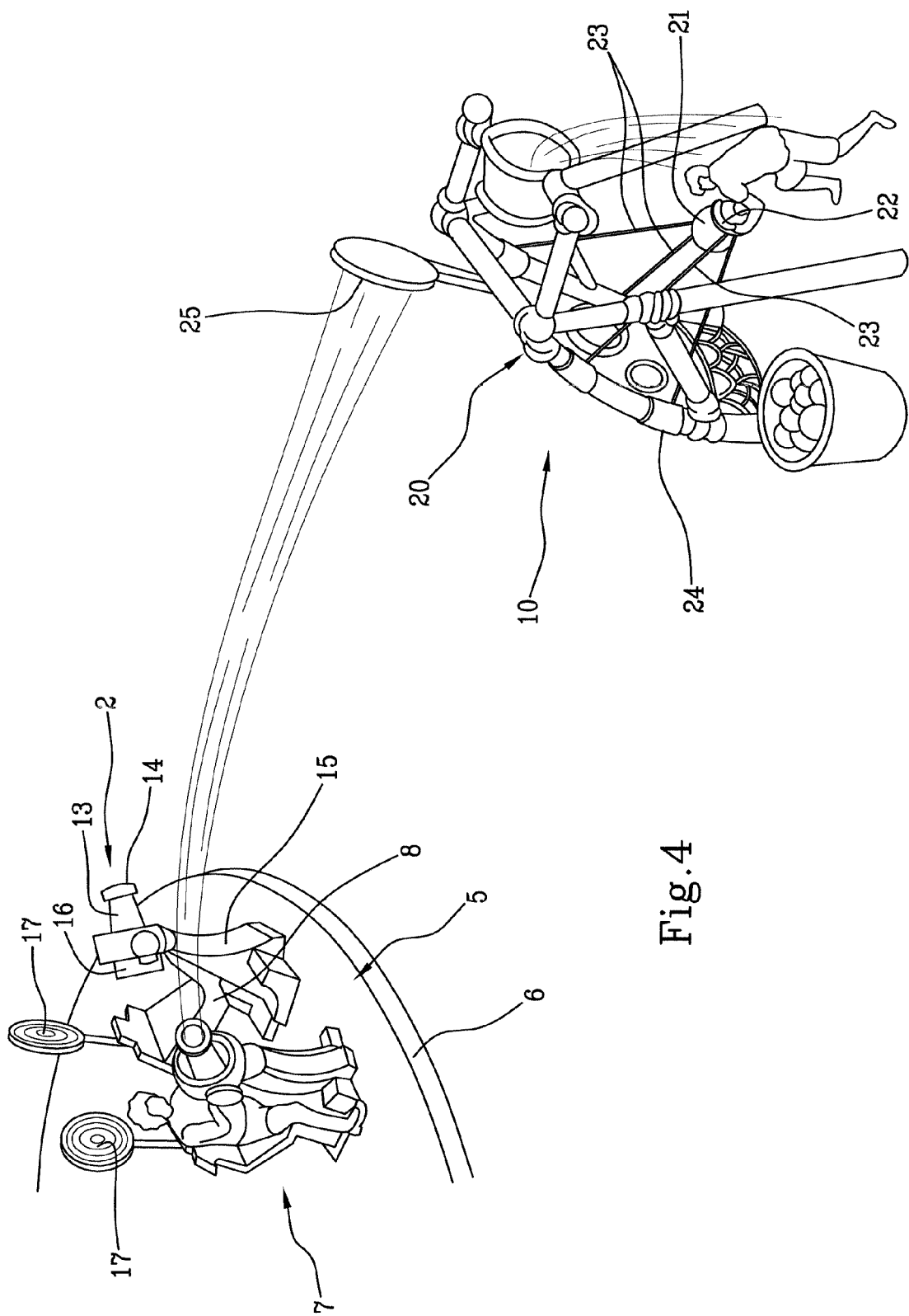


Fig. 4



EUROPEAN SEARCH REPORT

 Application Number
EP 13 42 5122

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 864 702 A1 (FAR FABBRI SRL [IT]) 12 December 2007 (2007-12-12)	1-6, 8-12, 14-16	INV. A63G31/00 A63G33/00
A	* paragraph [0005] - paragraph [0008]; figures *	7,13	
X	WO 02/058810 A1 (KOALA CORP [US]) 1 August 2002 (2002-08-01)	1,6,7, 10,11,13	
A	* page 2, line 32 - page 3, line 9 * * page 4, line 26 - page 5, line 20; figures *	2-5,8,9, 12,14-16	
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A	* paragraph [0013] - paragraph [0020] * * paragraph [0060] - paragraph [0066]; figures *	8,10-16	
A	US 5 011 161 A (GALPHIN MARION C [US]) 30 April 1991 (1991-04-30) * column 3, line 5 - column 4, line 37; figures *	1-16	TECHNICAL FIELDS SEARCHED (IPC)
A	US 3 843 127 A (LACK J) 22 October 1974 (1974-10-22) * column 2, line 4 - line 23; figures *	1-16	A63G
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 20 December 2013	Examiner Lucas, Peter
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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