(11) **EP 2 891 510 A1**

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication: 08.07.2015 Bulletin 2015/28

(21) Application number: 14198321.3

(22) Date of filing: 16.12.2014

(51) Int Cl.: **A63K 3/04** (2006.01)

E04H 3/14 (2006.01) A63B 5/12 (2006.01) A63B 17/04 (2006.01) A63B 71/02 (2006.01)

(22) Date of filling. 10.12.2014

(84) Designated Contracting States:

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated Extension States:

BA ME

(30) Priority: 20.12.2013 DK 201370798

(71) Applicant: PE Redskaber A/S 6510 Gram (DK)

(72) Inventor: Ebsen, Preben 6630 Rødding (DK)

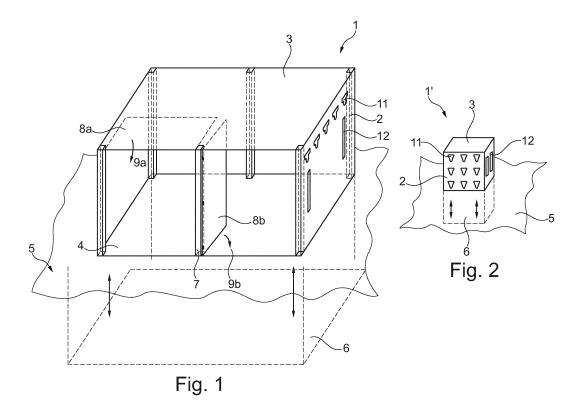
(74) Representative: Olesen, Birthe Bjerregaard et al Patrade A/S

Fredens Torv 3A 8000 Aarhus C (DK)

(54) Stowable sports apparatus

(57) There is disclosed an athletic appliance (1) with several functions. The athletic appliance (1) includes one or more wall elements (2) where at least one of the wall elements (2) include means (11, 12) for fastening one or more other athletic appliances to the first athletic appliance (1). In its position of use, the athletic appliance (1) is situated above a level of a floor surface (5), and the athletic appliance (1) includes means for completely or

partially lowering the athletic appliance below the floor level (5), as a top surface of the athletic appliance constitutes a part of the floor surface (5) when the athletic appliance (1) is placed in its storage position, and elevate the athletic appliance (1) to a position of use. This design facilitates the setting up of athletic appliances without heavy manual work.



EP 2 891 510 A1

40

Field of the Invention

[0001] The present invention concerns an athletic appliance with one or more wall elements wherein at least one of the wall elements include means for fastening one or more other athletic appliances to the first athletic appliance.

1

Background of the Invention

[0002] When performing various athletic exercises, including in particular gymnastics, and setting up various indoor obstacle courses, e.g. for performing parcour, different appliances are used.

[0003] An example of this type of athletic appliances is shown in WO 2011/141254 A. Herein is described a system for performing parcour wherein various tower- or block-shaped appliances are connected with other appliances, e.g. ladders, climbing nets, balance bars etc. The tower- or block-shaped parts typically have lockable wheels and are pushed or pulled typically from a separate storage room into the sports hall or gymnasium. Other appliances are carried from the storage room. The appliances are fastened on the walls of the blocks in specially formed holes that secure the appliances. The appliances can possibly be locked in the holes such that it is avoided that the appliance inadvertently falls down from the block-shaped appliance while a user is using the appliance.

[0004] These appliances are normally stored in a storage room, also called appliance room, and are taken out when they are to be used, implying a considerable time consumption for setting up the appliances, and in addition requiring a certain capacity in the storage room as the towers and blocks take up some space during storage.

[0005] In addition, this system entails some manual, heavy work of pushing or pulling the blocks and/or towers before setting up the athletic appliances, e.g. an obstacle course. This is partly due to the self-weight of the blocks/towers, and partly to the fact that the towers and blocks often contain ballast material, e.g. sandbags, in order to prevent them from overturning during use.

[0006] Moreover, such appliances have limited application as they cannot be adapted to the target group using them, and it may therefore be necessary to procure appliances in different sizes for children and for adults, respectively.

[0007] The tower- or block-shaped elements are voluminous and require much space in storage. This means, for example, that the storage room of the sports hall, which normally has limited storage capacity, soon becomes in adequate when storing systems with many individual parts in addition to traditionally used athletic appliances.

[0008] Besides the fact that such systems require manual setting up they also have limited application as the

individual parts are used exclusively as athletic appliances and do not have any secondary use.

Object of the Invention

[0009] It is an object of the invention to provide athletic appliances that are easy to set up before use and which require a minimum of manual work in connection with the setup of e.g. obstacle courses.

[0010] It is thus also the object of the invention to provide athletic appliances which, in addition to application as athletic appliance, also have a secondary use.

[0011] Moreover, it is the object of the invention to provide athletic appliances that can be adapted in height for the group of users that are to use the appliance.

Description of the Invention

[0012] As mentioned in the introduction, the invention concerns an athletic appliance with one or more wall elements wherein at least one of the wall elements include means for fastening one or more other athletic appliances to the first athletic appliance.

[0013] The athletic appliance is peculiar in that in its position of use, it is situated above a level of a floor surface, and that the athletic appliance includes means for completely or partially lowering the athletic appliance below the floor level, as a surface of the athletic appliance constitutes a part of the floor surface when the athletic appliance is placed in its storage position.

[0014] Hereby is achieved that the athletic appliance can be stowed away in a simple way under the floor in the sports hall, and that the athletic appliance thus does not take up any space in a storage room. In addition it is achieved that when the internal space in the athletic appliance is used as storage room for other athletic appliances, these will be easy to set up before use and require a minimum of manual work in connection with the setup of e.g. obstacle courses. This entails an appreciable relief in the setting up of athletic appliances as manual work with moving the appliances from a storage room to the sports hall is minimised since it is not longer necessary to push or pull such appliances from the storage to the position of use in the sports hall itself. Hereby it also becomes much faster to set up the appliances before use. [0015] The athletic appliance is intended for incorporation into the floor of a sports hall or gymnasium, preferably in sports halls or gymnasiums or similar sports facilities where various forms of athletics are performed and where there is a need for rapid exchange or removal of various athletic appliances after use for a certain type of sport and before use for another type of sport. This can be achieved in a simple way with an athletic appliance which during storage is stowed away under the floor and which can be elevated up from and lowered down into the floor, respectively, between a position of use above floor level and a storage position below floor level. The athletic appliance includes a top face which in the

30

40

storage position is flush with the hall floor and constitutes part thereof such that the hall can be used for other types of sport when the athletic appliances are not in use.

[0016] Furthermore, this design according to the invention has the advantage that the athletic appliances in addition to application as athletic appliance also can have a secondary use, as described below.

[0017] In its simplest form, the athletic appliance is a block- or tower-shaped element, e.g. with polygonal ground plan, such as square, rectangular, triangular, pentagonal, hexagonal, octagonal, etc., having a top face and a number of side faces in the form of wall elements corresponding to the sides in the polygonal ground plan. One or more, possibly all side faces include means for fastening one or more other athletic appliances to the block- or tower-shaped element. A block-shaped element preferably has a height which is less than or equal to at least one other dimension, e.g. diagonal, width or depth, and a tower-shaped element has a height which is typically greater than the other dimensions, i.e. width, depth and diagonal.

[0018] Alternatively, the athletic appliance is a post-shaped element that can be elevated up from/lowered down into the floor between the position of use and the storage position. The post element can e.g. be a net post for a volleyball net, badminton net, tennis net or similar. In addition to functioning as a net post, the post element will preferably include one or more fastening means as described above by the prior art, or below in connection with fastening means according to the invention, such that it is possible to fasten other athletic appliances to the post-shaped element.

[0019] In order to elevate/lower the athletic appliances up from/down into the floor, it will also be possible to adapt the athletic appliances in height to the group of users using the appliance such that the height can be reduced in that the athletic appliance is partially elevated up from the floor when the users are small children, whereas the appliance, for example, can be elevated completely up from the floor when used by larger children or adults. The degree of difficulty of the exercises performed on the athletic appliances can thereby also be varied and adapted to the group using the appliances, e.g. beginners or more experienced users.

[0020] In a variant, the athletic appliance includes a top face, a bottom face and one or more wall faces surrounding an inner compartment. Hereby is achieved that the inner compartment can be used as storage compartment for one or more other athletic appliances, e.g. of the kind that can be fastened to the wall surface of the athletic appliance and/or towers and/or blocks, e.g. corresponding to the above prior art towers and blocks.

[0021] In a further variant, at the inner side of one or more walls of the athletic appliance, i.e. inside the storage compartment in the appliance, there are provided means for fastening one or more other athletic appliances to the wall or walls. One or more appliances can thereby also be fastened inside the compartment, further extending

the variation options for the use of the athletic appliance. Furthermore, the fastening means on the inner side of the wall/walls can be used for making fast possible stored athletic appliances that easily overturn, e.g. while the athletic appliance is elevated or lowered between the positions of use and storage, respectively. The risk of possible overturned appliances in the inner compartment blocking the elevating/lowering function is thereby reduced. The risk of the elevating/lowering mechanism being destroyed is thereby minimised as the risk of blocking is substantially reduced.

[0022] In a variant, the athletic appliance can be elevated up from and lowered down into the floor, respectively, by a linear vertical movement, implying the least possible adaptation of the surrounding floor area, and at the same time implying that it is not necessary to cover possible additional openings in the floor before performing exercises.

[0023] In a variant, the athletic appliance includes one or more movable wall elements and/or barrier elements. The movable wall or barrier elements are e.g. connected to the athletic appliance with a hinge connection and may thus be swung in front of an opening. The hinge connection is e.g. mounted in a post or similar in the wall of the athletic appliance and may pivot the wall or barrier element into the inner compartment for allowing access to the interior of the compartment. Alternatively, the wall or barrier element is mounted with a connection along an underside of the top face such that it can be pivoted down in front of the opening to the interior of the compartment. The movable wall or barrier elements can preferably be locked into a position where they cover all or part of the opening into the inner compartment, preferably by traditional locking elements, e.g. one or more sliding locks. The movable wall/barrier elements can cover the entire opening in full height and width, or possibly in full height and part of the width, or full width and the upper part of the height of the opening to the inner compartment.

[0024] These movable wall/barrier elements preferably also include fastening means such that other athletic appliances can be fitted to these wall elements or to barrier elements.

[0025] In order to be able to block the apertures to the interior of the athletic appliance it becomes possible to partially elevate/lower the athletic appliance such that it can be adapted in height to small children. In this position, the wall or barrier elements will prevent access to the inner compartment of the appliance in the said partially elevated position such that it may be avoided that a user slides into the opening between the floor of the sports hall and the top face of the appliance and falls down on the floor in the inner compartment.

[0026] In a variant, the athletic appliance is a pivotable wall element that includes a hinge connection around which the athletic appliance is pivotable between its storage position, such as in an opening in the floor, and its position of use.

[0027] Thereby it becomes possible that the wall ele-

25

30

40

45

50

55

ment can be pivoted from a horizontal storage position in which the upper side face of the wall element constitutes part of the floor into a vertical position in which the wall element can be used for fastening athletic appliances or as boards around a football or hockey ground in the sports hall. It is preferred that the fastening means are located on the wall surface facing downwards when the wall face is in its storage position as it is avoided hereby that the fastening elements appear on the floor surface itself. This will entail a risk of a user falling over the fastening means which is completely avoided when they are disposed on the side of the wall element facing downwards in the storage position.

[0028] In a variant, the wall element pivots up from the floor such that the bottom surface faces the centre of the floor area. Thereby it becomes possible to mount other athletic appliances on the fastening means on the wall element.

[0029] In another variant, the wall element pivots up from the floor such that the top surface faces the centre of the floor area. The fastening means are thereby exposed at the back side of the wall element as seen in relation to the centre of the hall/floor. By this variant, the other athletic appliances will typically be mounted with a number of rectangular fittings which at one end can be mounted down over the upper edge of the wall element and grasping the fastening means at the back side of the wall element, and which at the other end have fastening means corresponding to the fastening means on wall elements which can secure one or more other appliances. [0030] In a further variant of the athletic appliance, it includes a secondary floor surface adapted to cover the opening in the floor as the secondary floor surface is connected with means for elevating the secondary floor surface between a position of use flush with the floor and a storage position at a level below the floor. Thereby it becomes possible the opening appearing in the floor when the wall element is pivoted from a horizontal position in which one of the side faces of the wall element constitutes part of the floor into a vertical position in which the wall element can be used for fastening athletic appliances or as boards around a football or hockey ground in the sports hall.

[0031] It is preferred that the means for elevating and lowering the athletic appliance and/or the secondary floor surface includes one or more hydraulically and/or pneumatically driven actuators, and/or a mechanically operated system, such as a wire drive, ensuring an effective and reliable transmission of force to the athletic appliance. When the athletic appliance is also used a storage compartment, it will, in addition to its self-weight, also comprise the weight of the additional appliances stored in the inner compartment. A hydraulic actuator will be preferred in these situations as this is more robust and capable of exerting a force that ensures the elevation and lowering of the total weight of the athletic appliance and its contents in the inner compartment without problems, and without overloading the elevating/lowering

mechanism.

[0032] It is further preferred that the means for pivoting the wall-shaped athletic appliance about the hinge connection also includes one or more hydraulically and/or pneumatically driven actuators and/or a mechanically operated system, such as a wire drive, ensuring an effective and reliable transmission of force to the athletic appliance

[0033] The elevating/lowering means for the athletic appliances and/or the pivoting function and elevating/lowering mechanism for the secondary floor surface of the wall-shaped athletic appliance is preferably controlled via a control unit used for controlling the elevating/lowering means of one or more individual athletic appliances. The elevating/lowering means for several individual athletic appliances according to the invention can thus be controlled individually and/or groupwise via the control unit. The control unit is operated via an operating panel, possibly in the form of a remote control such as a wireless unit. The wireless unit is e.g. a traditional remote control with buttons for elevating and lowering the various athletic elements mounted in the sports hall. Alternatively, the operating unit is a smartphone, a tablet or similar portable unit on which is installed a program that via a wireless connection, such as a wireless data network, mobile network, internet, bluetooth or infrared connection, transmits information to the control unit of the athletic appliances or appliances regarding elevation/lowering of one or more athletic appliances between the position of use above floor level and the storage position below floor level.

[0034] The fastening means on the wall faces preferably include perforations in the wall surface, Velcro tape and/or zipper joints. The perforations will constitute the female part of a joint which may have different shapes depending on the shape of the male part to be mounted in the perforation. It is preferred that the fastening means are evenly distributed across the entire, at least one, wall surface of the appliance, preferably all wall surfaces, such that other athletic appliances can be fastened at different positions on the wall surface, ensuring optimal variation options for setting up e.g. obstacle courses, including e.g. parcour courses. One type of fastening means can be used, but it will be preferred that a wall surface includes a variety of fastening means as thereby it becomes possible to fasten a plurality of different athletic appliances to the athletic appliance according to the invention. For example, Velcro tapes and/or zipper joints can be used for fastening landing mats and/or foambased appliances for the athletic appliance according to the invention, and the perforations can be used for fastening other appliances, e.g. ladders, climbing nets, balance bars etc., for example with fastening means as described below. Alternatively, fastening means between the athletic appliance according to the invention and other athletic appliances may be used, corresponding to the ways of fastening for the secondary appliances described in the above mentioned WO 2011/141254 A, and which

20

25

40

45

are incorporated herein by reference hereby.

[0035] The male part will typically be inserted in the female part and fastened, e.g. with a locking pawl that e.g. can be released by a tool or a key, by traditional snap-lock action. Alternatively, the male part in the perforation is fastened in that the male part includes a transverse rod-shaped element, and that the perforation comprises a slot where the male part is passed downwards after being introduced in the opening and/or by rotating the athletic appliance on which the male part is mounted, e.g. 90°. The transverse rod will in both cases be situated behind the wall such that it is impossible to draw the male part out of the female part without first lifting the male part out of the slot and/or by performing a corresponding oppositely directed rotation of the male part.

[0036] In the simplest variant, the perforations can be circular, oval, rectangular or triangular, as these shapes are preferred for use together with a locking mechanism based on snap-lock or a locking pawl constituting the male part of the other appliance.

[0037] Alternatively, more complex shapes of perforations are possible as these e.g. can be used together with a male part which is rotated and/or displaced vertically downward by the fastening action as described above. Examples of possible shapes of the perforations are e.g. keyhole shape, cross shape, T-shape, or with circular, oval, rectangular, such as vertically rectangular or horizontally rectangular or triangular shape where a slot is formed, preferably in the shape of a substantially rectangular cut at the lower end or edge of the perforation.

Description of the Drawing

[0038] The invention will now be described below with reference to the drawing, wherein:

Fig. 1 shows a perspective view of an athletic appliance which can be elevated up of/lowered down into a hall floor and which at the same time functions as storage compartment;

Fig. 2 shows a perspective view of an alternative design of an athletic appliance in the form of a block- or tower-shaped appliance that may be elevated up of/lowered down into a hall floor;

Figs. 3a-b show a perspective view of two alternative embodiments wherein a wall-shaped element can be elevated up from/lowered down into a hall floor by rotation about a hinge connection; and

Figs. 4a-i show various possible forms of perforations in a wall surface in the athletic appliance.

Detailed Description of Embodiments of the Invention

[0039] Fig. 1 shows a first embodiment of the athletic

appliance according to the invention in the form of an athletic appliance 1 that may be elevated up from a hall floor 5 into a position of use when it is to be used, and lowered such that the top surface 3 of the athletic appliance 1 is flush with the hall floor 5 when not in use, also called the storage position. The appliance 1 includes a top face 3 and at least one, preferably a number of wall faces 2. The appliance 1 is shown in its position of use wherein the top face 3 of the athletic appliance is situated above the level of the hall floor 5. The wall faces 2 are hereby exposed, and it is possible to fasten other athletic appliances (not shown) by means of perforations or holes 11 in the wall faces 2 and/or alternative fastening means 12, e.g. in the form of Velcro tapes and/or zipper joints that are fastened at the inner and/or outer sides of the wall faces 2. The perforations 11 are described in more detail above. Non-limiting examples of the above shapes for holes/perforations 11 in the wall elements 2 are shown in Figs. 4a-4g. It is preferred that the fastening means 11, 12 are evenly distributed across the entire, at least one, wall surface 2 of the appliance 1, preferably across all wall surfaces 2, such that other athletic appliances (not shown) can be fastened at different positions on the wall surface 2, ensuring optimal variation options for setting up e.g. obstacle courses.

[0040] In the shown embodiment, the athletic appliance has a bottom 4, and bottom 4, top face 3 and sidewalls 2 form an inner compartment. This inner compartment can e.g. be used for storing other athletic appliances (not shown), including e.g. other appliances that can be fastened on outer and/or inner sides of the wall faces 2. [0041] Between the top face 3 and the bottom face 4 there are preferably provided supporting posts 7, at least at each corner of the athletic appliance 1, supporting the top face 3 at a determined height above the bottom face 4. The wall faces 2 are preferably permanently mounted on the supporting posts 7. Alternatively, one or more movable wall faces 8a, 8b are mounted on the supporting posts 7, or at the underside of the top face 3 with a hinge connection 10, such that the wall face 8a, 8b can act as a door or gate into the interior of the appliance compartment and block the opening to the inner compartment, pivoting into and/or out of the opening in the appliance 1 as illustrated by the arrows 9a, 9b. The distance between the top face 3 and the bottom face 4 is preferably so large that an adult can stand completely or approximately upright in the inner compartment.

[0042] It is preferred that the inner side of the one or more wall faces 2 of the athletic appliance 1 also includes fastening means for fastening one or more other appliances as the latter can be used as well for making fast appliances to the wall during storage.

[0043] Fig. 2 shows a second embodiment of the athletic appliance according to the invention in the form of a tower- or block-shaped athletic appliance 1'. The appliance 1 includes a top face 3 and a number of wall faces 2. There are four wall faces 2 in the shown embodiment, but there may be more, e.g. six wall faces, if the ground

25

30

40

45

50

55

plan of the athletic appliance has hexagonal shape, or eight wall faces if the ground plan of the athletic appliance is octagonal. The appliance 1' is shown in its position of use wherein the top face 3 of the athletic appliance is situated above the level of the hall floor 5. The wall faces 2 are hereby exposed, and it is possible to fasten other athletic appliances (not shown) by means of the perforations 11 and/or alternative fastening means, e.g. in the form of Velcro tape or zipper joint.

[0044] As shown on Figs. 1-2 there is formed a pit 6 under the floor 5, including means (not shown) for lowering the appliance 1 down into the pit 6 to a storage position where the top face 3 is at level with the floor 5, and elevating it again to its shown position of use. The pit 6 therefore has a size allowing the lowering of the athletic appliance 1 down into the pit 6 while at the same time providing space for actuators for elevating/lowering the athletic appliance 1. It is preferred that the actuators for elevating and lowering the athletic appliance 1 include hydraulically and/or pneumatically operated elevating/lowering means, and/or a mechanically operated system, such as a wire drive. When the athletic appliance 1 is also used a storage compartment, it will, in addition to its self-weight, also comprise the weight of the additional appliances stored in the inner compartment. A hydraulically based elevating/lowering system will be preferred in these situations as this is more robust and capable of exerting a force that ensures the elevation and lowering of the total weight of the athletic appliance 1 and its contents in the inner compartment without any problems, and without overloading the elevating/lowering mecha-

[0045] The elevating/lowering mechanism is preferably controlled via a control unit (not shown) used for controlling the elevating/lowering means of one or more individual athletic appliances, as described in detail above. [0046] It is possible to lift the appliance 1 completely or partially above floor level into a position of use. This enables adaptation of the height of the athletic appliances 1, i.e. the distance between the top face 3 and the level of the floor 5, to the users such that the same athletic appliances can be used for both children and adults.

[0047] If the athletic appliance 1 includes an inner compartment, the movable wall elements 8a, 8b will block the opening to inner compartment in the athletic appliance and prevent a user from falling down on the bottom face 4 in the inner compartment in a partially elevated position.

[0048] When the athletic appliance 1 includes an inner compartment, the athletic appliance will preferably have a size that will enable use of the inner compartment for storing other athletic appliances, such as vaulting boxes, vaulting horses, mats, e.g. landing mats, parcour appliances, including appliances of the type described in the introduction above, or similar appliances.

[0049] The size of the athletic appliance 1 will preferably be such that the height of the inner compartment allows an adult person to stand at least approximately

upright, i.e. preferably 1.70 to 2.50 m, as allowance is made for possible limitations to the building height with regard to the actual conditions on site, i.e. the floor of the hall where the athletic appliance is to the installed. The area of the inner compartment can be adapted according to the users' need for storage of the appliance, as allowance is made for the limitations provided by the means for elevating and lowering the athletic appliance and the local conditions in the hall in which the appliance is to the installed. Thereby it is also possible to use the walls in the compartment to connect and set up various athletic appliances inside the storage compartment whereby the inner compartment can be used for athletic performances as well.

[0050] An example of a suitable athletic appliance thus has a height of 1.75-2.5 m, a width of 2-4 m and a length of 2-10m.

[0051] In a further embodiment, the athletic appliance 1 is a pivotable wall element 1", 1" that includes a hinge connection (not shown) around which the athletic appliance 1", 1" is pivotable between its storage position, such as in an opening 14 in the floor 5, and its position of use. [0052] Thereby it becomes possible that the wall element 1", 1" can be pivoted from a horizontal storage position in which the upper side face 2" of the wall element 1", 1" constitutes part of the floor 5 into a vertical position in which the wall element 1", 1" can be used for fastening other athletic appliances or as boards around a football or hockey ground in the sports hall.

[0053] It is preferred that the fastening means 11, 12 are located on the wall surface 2' facing downwards when the wall face 1", 1"' is in its storage position as hereby it is avoided that the fastening elements 11, 12 appear on or in the part of the wall element 1", 1" which in the storage position constitutes part the floor surface 5 itself. This will entail that a possible risk of a user tripping over the fastening means 11, 12 is completely avoided.

[0054] In a variant of this embodiment, the wall element 1" pivots up from the floor such that the bottom surface 3' faces inwards towards the centre of the floor area 5. Thereby it becomes possible to mount other athletic appliances on the fastening means 11, 12 on the wall element 1", 1".

[0055] In another variant, the wall element 1" pivots up from the floor such that the top surface faces the centre of the floor area. The fastening means are thereby exposed at the back side of the wall element as seen in relation to the centre of the hall/floor. By this variant, the other athletic appliances will typically be mounted with a number of rectangular fittings which at one end can be mounted down over the upper edge of the wall element and grasping the fastening means at the back side of the wall element, and which at the other end have fastening means corresponding to the fastening means on wall elements which can secure one or more other appliances.

[0056] By this embodiment of the athletic appliance 1", 1"' it includes a secondary floor surface 14 adapted to cover the opening 15 in the floor 5, as the secondary floor

15

surface 14 includes means for elevating the secondary floor surface between a position of use flush with the floor 5 and a storage position at a level below the floor 5. Thereby it becomes possible to cover the opening 15 appearing in the floor 5 when the wall element 1", 1"' is pivoted from a horizontal position in which a first side face 3' of the wall element 1", 1"' constitutes part of the floor 5 into a vertical position of use in which the wall element 1", 1"' can be used for fastening other athletic appliances. As alternative, the wall element 1", 1"' can be used for other types of sports that use boards around an arena, e.g. a football or hockey ground.

[0057] It is preferred that the means for pivoting the wall-shaped athletic appliances 1", 1" and for elevating and lowering the secondary floor surface 14 include hydraulically and/or pneumatically powered actuators corresponding to those already described above for the elevating/lowering mechanism of the athletic appliance 1.

Claims

- 1. An athletic appliance with one or more wall elements wherein at least one of the wall elements include means for fastening one or more other athletic appliances to the first athletic appliance, characterised in that the athletic appliance in its position of use is situated above a level of a floor surface, and that the athletic appliance includes means for completely or partially lowering the athletic appliance below the floor level, as a surface of the athletic appliance constitutes a part of the floor surface when the athletic appliance is placed in its storage position.
- An athletic appliance according to claim 1, characterised in that the athletic appliance includes a top face, a bottom face and one or more wall faces surrounding an inner storage compartment for storing other athletic appliances.
- 3. An athletic appliance according to claim 2, **characterised in that** the inner side of the one or more walls of the athletic appliance includes fastening means for fastening one or more other athletic appliances to the first athletic appliance.
- 4. An athletic appliance according to claim 2 or 3, characterised in that it includes one or more movable wall elements and/or barrier elements.
- **5.** An athletic appliance according to any preceding claim, **characterised in that** the athletic appliance can be elevated up from and lowered down into the floor, respectively, by a linear vertical movement.
- **6.** An athletic appliance according to claim 1, **characterised in that** the wall element includes a hinge connection around which the athletic appliance is

pivotable between its storage position, such as in an opening in the floor, and it position of use.

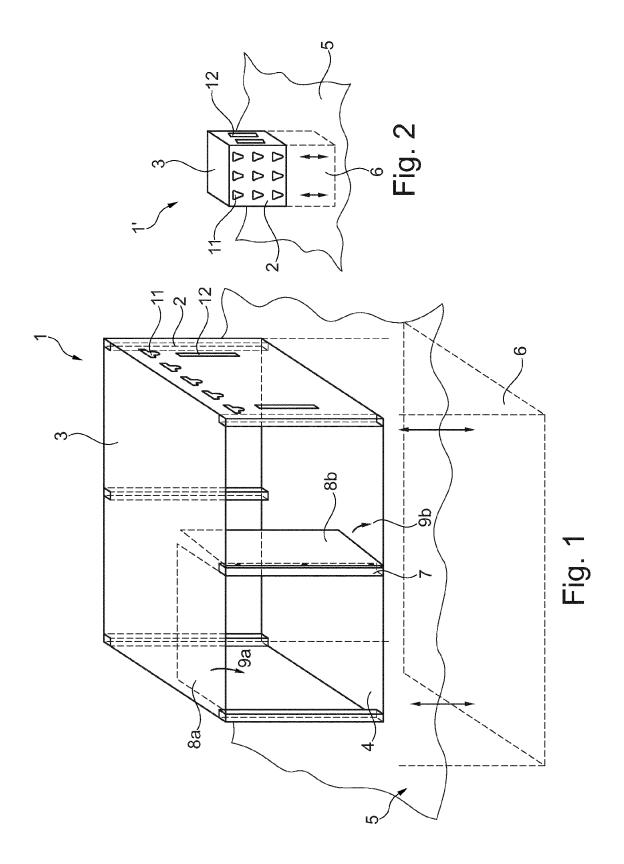
- 7. An athletic appliance according to claim 6, characterised in that the athletic appliance includes a secondary floor surface adapted to cover the opening in the floor, as the secondary floor surface is connected with means for elevating the secondary floor surface between a position of use flush with the floor and a storage position at a level below the floor.
- 8. An athletic appliance according to any preceding claim, characterised in that the means for elevating and lowering the athletic appliance and/or the secondary floor surface includes hydraulically and/or pneumatically operated elevating/lowering means, and/or a mechanically operated system, such as a wire drive.
- 20 9. An athletic appliance according to any preceding claim, characterised in that the fastening means include perforations in the wall surface, Velcro tape, and/or zipper joints.

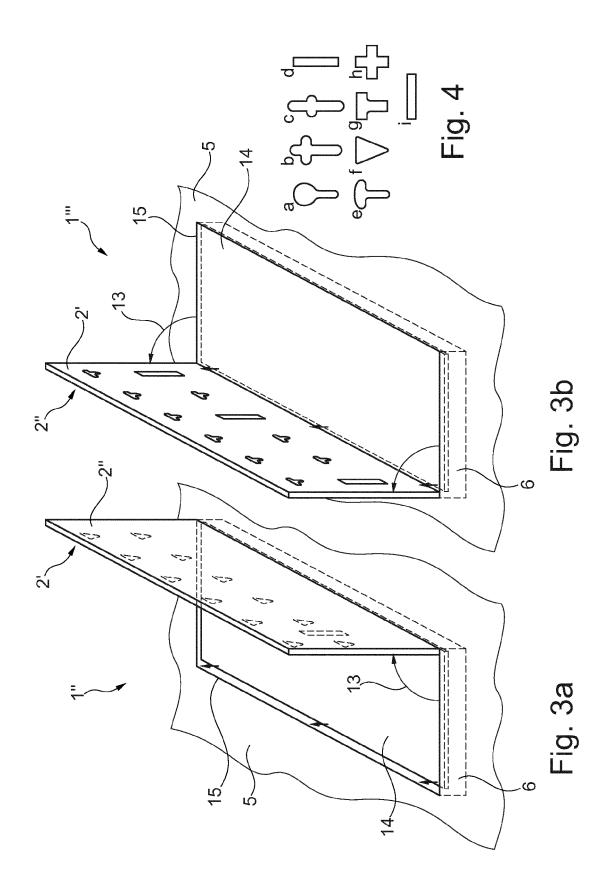
55

40

45

50







EUROPEAN SEARCH REPORT

Application Number EP 14 19 8321

Category	Citation of document with in of relevant pass	ndication, where appropriate, ages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y,D	WO 2011/141254 A1 (WERGEN MARCEL [DE]; 17 November 2011 (2	CUBE HOLDING GMBH [DE]; BORSCHEL DANIEL [DE]) 1011-11-17) 1 page 13, paragraph 1; 1 ragraph - page 18,	1-9	INV. A63K3/04 A63B17/04 E04H3/14 A63B71/02 A63B5/12
Υ	US 2011/088975 A1 (21 April 2011 (2011 * the whole documer		1-5,8,9	
Y	DE 10 97 652 B (KLE FABRIKEN) 19 Januar * figures 7-8 *	EMANN S VEREINIGTE by 1961 (1961-01-19)	1-4,6,7	
A	JP S62 286480 A (MI 12 December 1987 (1 * figures 1,2,6,7 *		1-9	
A	US 3 018 102 A (MUR 23 January 1962 (19 * column 5, lines 3	RPHY RAYMOND J) 162-01-23) 8-59; figures 10,14 *	1-9	TECHNICAL FIELDS SEARCHED (IPC) A63K A63B
A	US 7 150 688 B1 (CC 19 December 2006 (2 * figures 4,5 *	DULBOURN WAYNE [US]) 2006-12-19)	1-9	E04H
Α	US 2002/115534 A1 (22 August 2002 (200 * figures *		1-9	
	The present search report has	been drawn up for all claims		
	Place of search	Date of completion of the search		Examiner
Munich		1 June 2015	ne 2015 Vesi	
CA	ATEGORY OF CITED DOCUMENTS	T : theory or principle	underlying the i	invention
Y : parti docu	icularly relevant if taken alone icularly relevant if combined with anot iment of the same category nological background	L : document cited for	the application rother reasons	
	inological background -written disclosure	& : member of the sar		/ corresponding

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 14 19 8321

5

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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

01-06-2015

10	
15	
20	
25	
30	
35	
40	
45	
50	

55

DE 202010005104 U1 29-07- EP 2558168 A1 20-02- W0 2011141254 A1 17-11- US 2011088975 A1 21-04-2011 NONE DE 1097652 B 19-01-1961 BE 586855 A1 16-05- CH 381405 A 31-08- DE 1097652 B 19-01- JP S62286480 A 12-12-1987 NONE US 3018102 A 23-01-1962 NONE US 7150688 B1 19-12-2006 NONE	DE 202010005104 U1 29-07- EP 2558168 A1 20-02- W0 2011141254 A1 17-11- US 2011088975 A1 21-04-2011 NONE DE 1097652 B 19-01-1961 BE 586855 A1 16-05- CH 381405 A 31-08- DE 1097652 B 19-01- JP \$62286480 A 12-12-1987 NONE US 3018102 A 23-01-1962 NONE US 7150688 B1 19-12-2006 NONE US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-2002 TW 2002115534 A1 22-08-		nent report	Publication date	Patent family member(s)	Publicati date
DE 1097652 B 19-01-1961 BE 586855 A1 16-05- CH 381405 A 31-08- DE 1097652 B 19-01- JP \$62286480 A 12-12-1987 NONE US 3018102 A 23-01-1962 NONE US 7150688 B1 19-12-2006 NONE US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-	DE 1097652 B 19-01-1961 BE 586855 A1 16-05- CH 381405 A 31-08- DE 1097652 B 19-01- JP \$62286480 A 12-12-1987 NONE US 3018102 A 23-01-1962 NONE US 7150688 B1 19-12-2006 NONE US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-	WO 2011141	.254 A1	17-11-2011	DE 202010005104 U1 EP 2558168 A1	24-01- 29-07- 20-02- 17-11-
CH 381405 A 31-08- DE 1097652 B 19-01- JP \$62286480 A 12-12-1987 NONE US 3018102 A 23-01-1962 NONE US 7150688 B1 19-12-2006 NONE US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-	CH 381405 A 31-08- DE 1097652 B 19-01- JP \$62286480 A 12-12-1987 NONE US 3018102 A 23-01-1962 NONE US 7150688 B1 19-12-2006 NONE US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-2002 TW 2002115534 A1 22-08-	US 2011088	3975 A1	21-04-2011	NONE	
US 3018102 A 23-01-1962 NONE US 7150688 B1 19-12-2006 NONE US 2002115534 A1 22-08-2002 TW 472613 U 11-01-	US 3018102 A 23-01-1962 NONE US 7150688 B1 19-12-2006 NONE US 2002115534 A1 22-08-2002 TW 472613 U 11-01-	DE 1097652	? В	19-01-1961	CH 381405 A	16-05- 31-08- 19-01-
US 7150688 B1 19-12-2006 NONE US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-	US 7150688 B1 19-12-2006 NONE US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-	JP S622864	180 A	12-12-1987	NONE	
US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-	US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-	US 3018102	 2 A	23-01-1962	NONE	
US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-	US 2002115534 A1 22-08-2002 TW 472613 U 11-01- US 2002115534 A1 22-08-	US 7150688	B1			
		US 2002115	5534 A1		TW 472613 U	11-01-

EP 2 891 510 A1

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

• WO 2011141254 A [0003] [0034]