

(19)



(11)

EP 2 915 568 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
09.09.2015 Bulletin 2015/37

(51) Int Cl.:
A63H 33/04 (2006.01)

(21) Application number: **14157637.1**

(22) Date of filing: **04.03.2014**

(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

(72) Inventor: **Kampinga, Stefan**
3363 XP Sliedrecht (NL)

(74) Representative: **Doolaar, Frans**
Inaday Patent B.V.
Hengelsestraat 141
7521 AA Enschede (NL)

(71) Applicant: **Proflexis B.V.**
3363 XP Sliedrecht (NL)

(54) **Construction toy**

(57) The invention relates to a construction toy 1 comprising a plate 2 having a front side, a backside and a peripheral wall 5 and comprising attachment means 6 extending along at least a part of the peripheral wall 5

and extending from the front side, along the peripheral wall to the backside, such that the attachment means 6 are wrapped around the part of the peripheral wall 5.

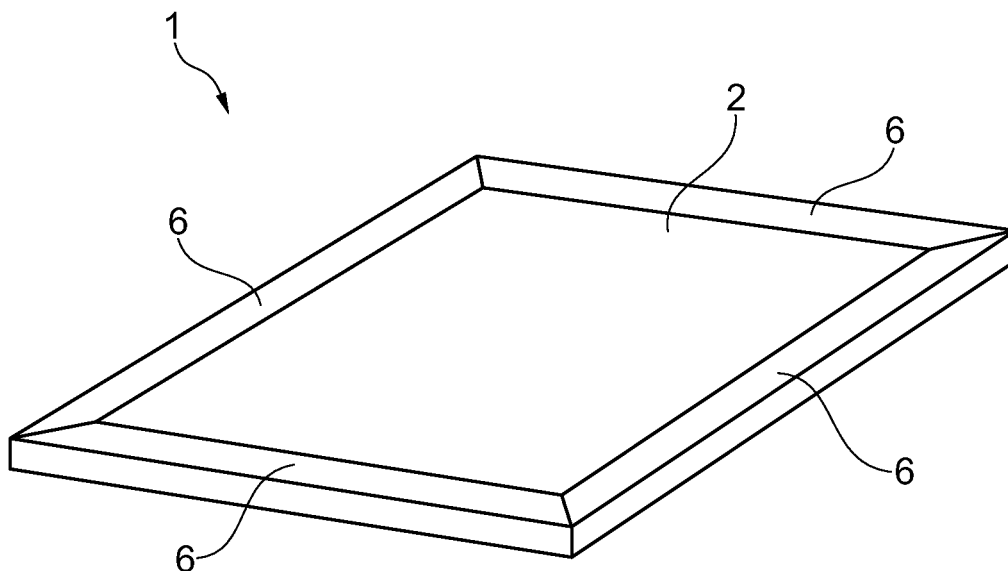


Fig. 1

EP 2 915 568 A1

Description

[0001] The invention relates to a construction toy comprising a plate having a front side, a backside and a peripheral wall.

[0002] Such a construction toy is for example known from US 2003153243. This document discloses a square plate, which is enveloped in a fabric. Each edge of the square plate is provided with a flap having a strip of hook tape. The hooks of the hook tape can connect with the fabric enveloping the square plate.

[0003] Now two of these construction toys according to the prior art can be connected by attaching one of the flaps of one plate to the fabric of the other plate. In this way it is possible to build large structures out of a number of plates.

[0004] The flaps typically overlap with an adjacent plate to provide a solid and firm connection. However, connecting two plates correctly typically requires one to fold back a flap of each plate, while positioning the plates.

[0005] Disassembling a structure build out of these plates according to the prior art proves also difficult. One has to pry two flaps loose from the fabric and keep them away from fabric, before the plates can be taken apart.

[0006] Especially for smaller children it is too difficult to handle two flaps at the same time, while positioning the plates in a desired configuration. Even prying loose a single flap is already cumbersome for smaller children.

[0007] Accordingly it is an object of the invention to provide a construction toy in which the above mentioned disadvantages are reduced or even removed.

[0008] This object is achieved according to the invention with a construction toy according to the preamble, which is characterized by attachment means extending along at least a part of the peripheral wall and extending from the front side, along the peripheral wall to the backside, such that the attachment means are wrapped around the part of the peripheral wall.

[0009] With the construction toy according to the invention, the plate is provided with an attachment zone along a part of the peripheral wall, which attachment zone extends on both front side and backside. Because of this attachment zone being wrapped around an edge of the plate, two plates of the invention can easily be positioned against each other and the attachment means ensure that the plates are fixed to each other.

[0010] Also disassembling is easier than with the prior art construction toys, as two plates can simply be pulled apart such that the attachment means are disconnected. In some cases it already would suffice to fold the plates together. This is possible due to the attachment zones, which more or less as a hinge.

[0011] So, with the construction toy according to the invention, also smaller children can easily build larger structures by putting plates together such that the attachment means connect the plates. It does not require complex handling, as with prior art toys, in which flaps need to be folded away while positioning the plates.

[0012] In a preferred embodiment of the construction toy according to the invention, the attachment means comprise a strip of hook and/or loop tape. Hook and loop tape is typically known under the trade name Velcro. Hook and loop tape provides a strong attachment due to the interlocking action of the hooks and loops on the tape.

[0013] The plate of the construction toy according to the invention could be provided along one part of the peripheral wall with hooks, while another part of the peripheral wall could be provided with loops. When combining two plates, one has to observe that a hooks-part is brought in contact with a loops-part to obtain a good attachment. The different parts could be color coded to provided a visual aid when building.

[0014] In a very preferred embodiment of the construction toy according to the invention, the strip of hook and loop tape has a backing with a plurality of hook poles and loop poles, both extending from the same surface of the backing.

[0015] By combining both hooks and loops in one strip, one will always get a good attachment when bringing two such parts together. With a construction toy according to this embodiment it is thus no longer necessary to observe the relative positioning of two plates to get a good attachment.

[0016] In another embodiment of the construction toy according to the invention the attachment means comprise a strip of re-adherable adhesive. Such re-adherable adhesive is for example known from sticky notes. The adhesive allows repeated attachment and detachment, while maintaining the adhesive properties.

[0017] With a re-adherable adhesive on the attachment zone it would also be possible to attach a part of a second plate, which is not provided with attachment means. The attachment may not be as strong as when two attachment zone of two plates are put together, but it will at least provide more flexibility in the construction of larger structures.

[0018] In yet another embodiment of the construction toy according to the invention the attachment means comprise a strip of embedded magnetic powder. A strip of embedded magnetic powder has the property that it will always attract other strips of embedded magnetic powder and will not repel, as is usual with common magnets when the poles are directed equal.

[0019] This embodiment with embedded magnetic powder in the attachment zones also provides for an easy to use construction toy, which could also be combined with iron building elements.

[0020] Preferably, in the construction toy according to the invention the plate has a polygon shape. A polygon shape has the advantage, that other plates with similar shapes can easily be combined. However, other shapes, such as a circular shape, rectangular shape or an oval shape, are also possible for a construction toy according to the invention.

[0021] In a further embodiment of the construction toy according to the invention the attachment means extend

along the whole periphery of the plate.

[0022] When the attachment means extend along the whole periphery of the plate, it is not crucial how the plates are positioned relative to each other, as long as some of the attachment means overlap.

[0023] Preferably, light but relatively strong plates are used, such that high structures can easily be build. A preferred material is for example polystyrene.

[0024] A number of the construction toys according to the invention could be used to build a storage box, in which further construction toys according to the invention can be stored.

[0025] The invention also relates to a construction kit comprising a plurality of construction toys according to the invention.

[0026] The invention furthermore relates to a preassembled construction object, the object comprising a number of adjacent surfaces, wherein the attachment means extending along a connection edge of two adjacent surfaces and extend from one of the two surfaces to the other of the two surfaces.

[0027] Although a construction toy consisting of a plate provides to most flexibility to build a desired structure, a preassembled construction object has the advantage that building speed can be increased, such that a large structure can be build quicker.

[0028] In combination with a number of construction toys according to the invention, one still can build large and complex structures. In such a case one would use a number of preassembled construction objects to build the basic structure and then add further construction toys to add further detail and/or complexity.

[0029] These and other features of the invention will be elucidated in conjunction with the accompanying drawings.

Figure 1 shows a perspective view of a first embodiment of the construction toy according to the invention.

Figure 2 shows a cross sectional view of the embodiment according to figure 1.

Figure 3 shows a top view of a second embodiment of the construction toy according to the invention.

Figure 4 shows a structure build out of toys according to figures 1 - 3.

Figure 5 shows an embodiment of a preassembled construction objects according to the invention.

Figure 6 shows a structure build out of preassembled construction objects according to figure 5.

Figure 1 shows a perspective view of a first embodiment 1 of the construction toy according to the invention. This embodiment 1 has a plate 2 with a front side 3, a backside 4 and a peripheral wall 5 (see figure 2)

[0030] Attachment means 6 are wrapped around the edges of the plate 2. These attachment means 6 are in this embodiment a strip of backing material 7 on which

loop poles 8 and hook poles 9 are arranged. Due to the mix of loop poles 8 and hook poles 9, two similar attachment means 6 will always connect to each other.

[0031] Figure 3 shows a top view of second embodiments 10 of the construction toy according to the invention. Each embodiment has a triangular shaped plate 11, which is provided with attachment means 6 along the whole peripheral edge.

[0032] The attachment means 6 could comprise a similar backing with loop poles and hook poles as shown in figure 2, but can also comprise a strip of re-adherable adhesive or a strip of embedded magnetic particles.

[0033] By positioning the embodiments 10 in the shown configuration, a large surface can be constructed.

[0034] Figure 4 shows a structure 20 build out of toys according the embodiments 1 and 10. The base is constructed out of six square plates 1 positioned in a cube like configuration and four triangular plates 10 are placed on top, such that the structure resembles a small house.

[0035] Figure 5 shows an embodiment of a preassembled construction object 30 according to the invention. This preassembled construction object is composed out of six square plates to compose a cube. Preferably these six plates are moulded as a single piece.

[0036] The edges of the cubes 30 are provided with suitable attachment means (not shown) with which cubes 30 can be connected to each other or with for example a construction toy 1 as shown in figure 1.

[0037] Figure 6 shows a structure build out of the preassembled construction objects 30 of figure 5 and construction toys 1 of figure 1. As shown, a large structure can quickly be build with the preassembled construction objects 30, which is then finished with some plate like construction toys 1.

Claims

1. Construction toy comprising a plate having a front side, a backside and a peripheral wall **characterized by** attachment means extending along at least a part of the peripheral wall and extending from the front side, along the peripheral wall to the backside, such that the attachment means are wrapped around the part of the peripheral wall.
2. Construction toy according to claim 1, wherein the attachment means comprise a strip of hook and/or loop tape.
3. Construction toy according to claim 2, wherein the strip of hook and loop tape has a backing with a plurality of hook poles and loop poles, both extending from the same surface of the backing.
4. Construction toy according to any of the preceding claims wherein the attachment means comprise a strip of re-adherable adhesive.

5. Construction toy according to any of the preceding claims, wherein the attachment means comprise a strip of embedded magnetic powder.
6. Construction toy according to any of the preceding claims, wherein the plate has a polygon shape. 5
7. Construction toy according to any of the preceding claims, wherein the attachment means extend along the whole periphery of the plate. 10
8. Construction kit comprising a plurality of construction toys according to any of the preceding claims.
9. Preassembled construction object, the object comprising a number of adjacent surfaces, wherein the attachment means extending along a connection edge of two adjacent surfaces and extend from one of the two surfaces to the other of the two surfaces. 15
20

25

30

35

40

45

50

55

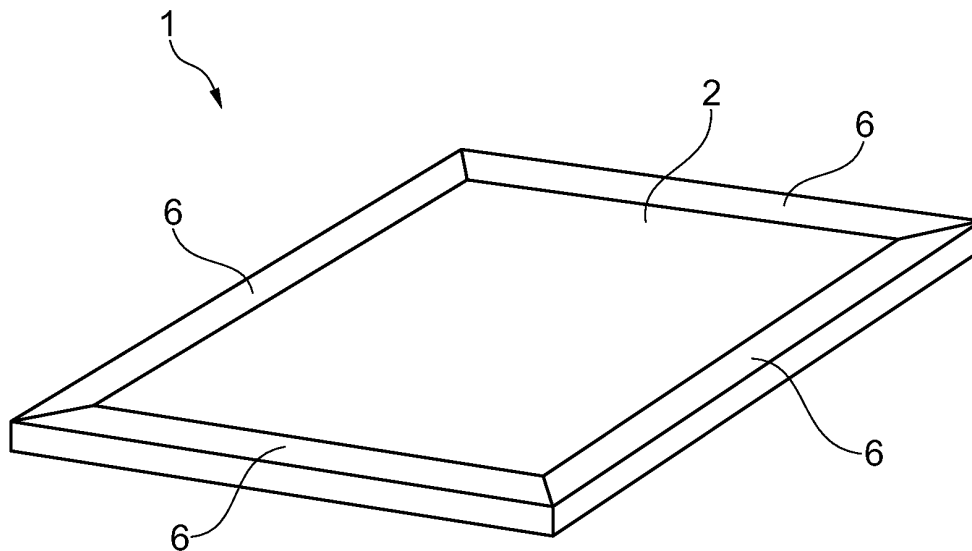


Fig. 1

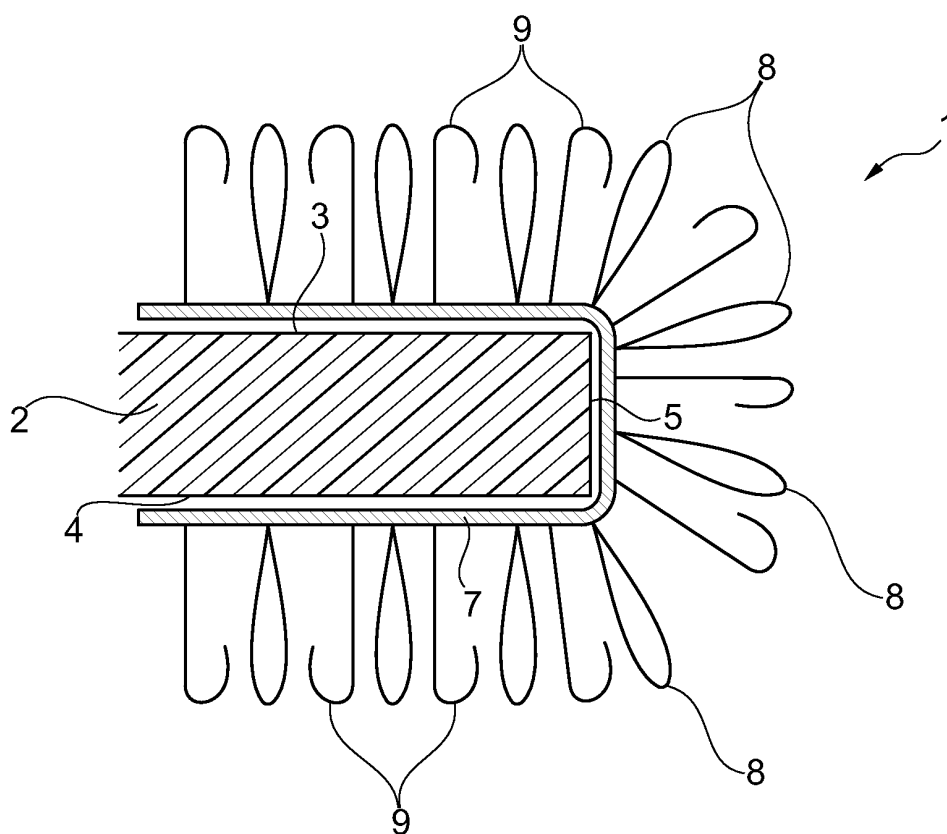


Fig. 2

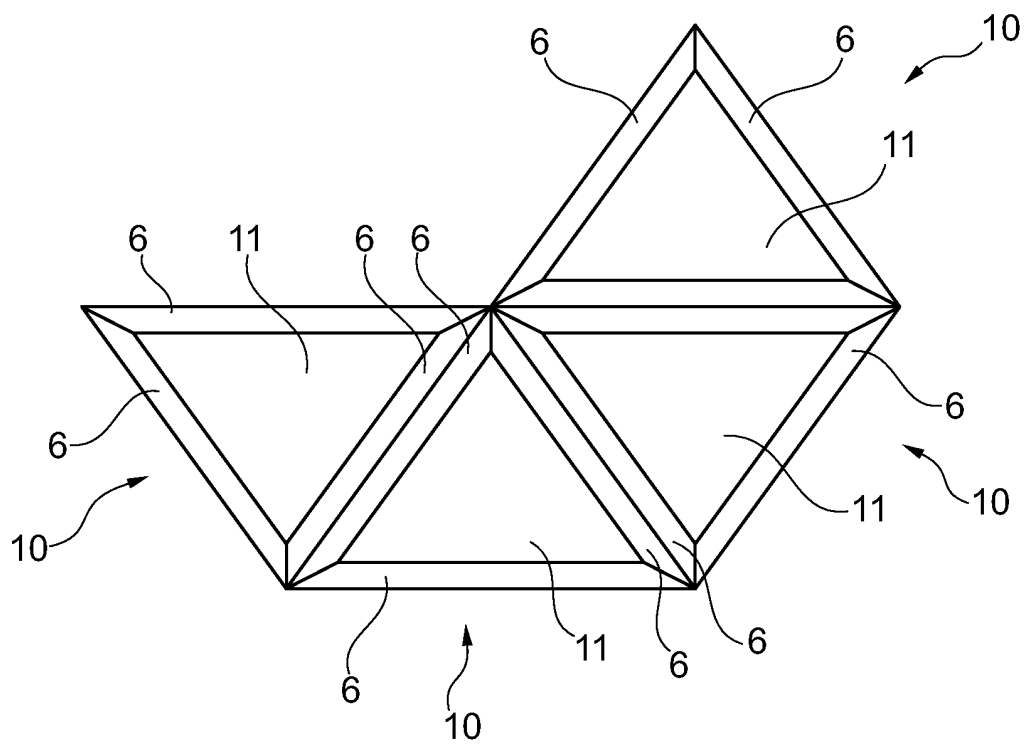


Fig. 3

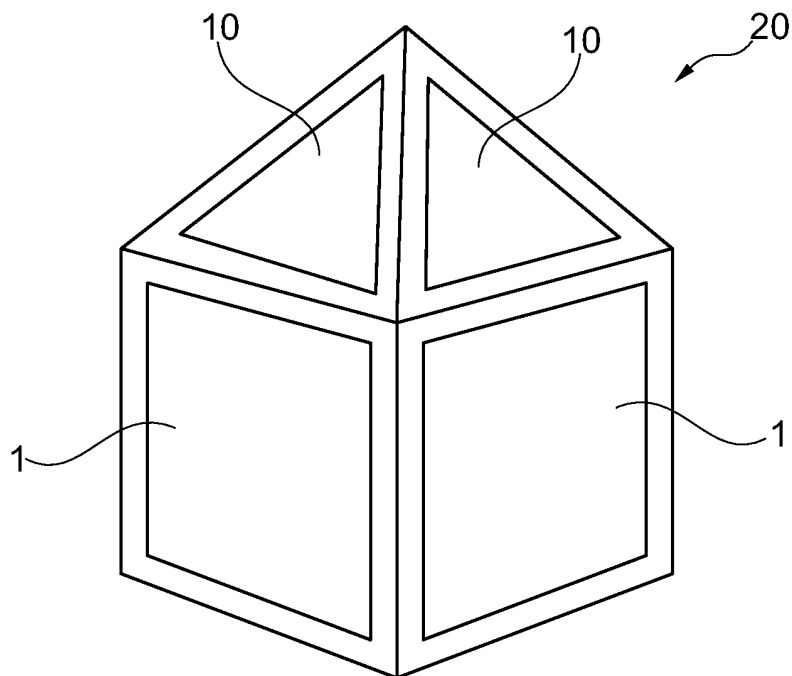


Fig. 4

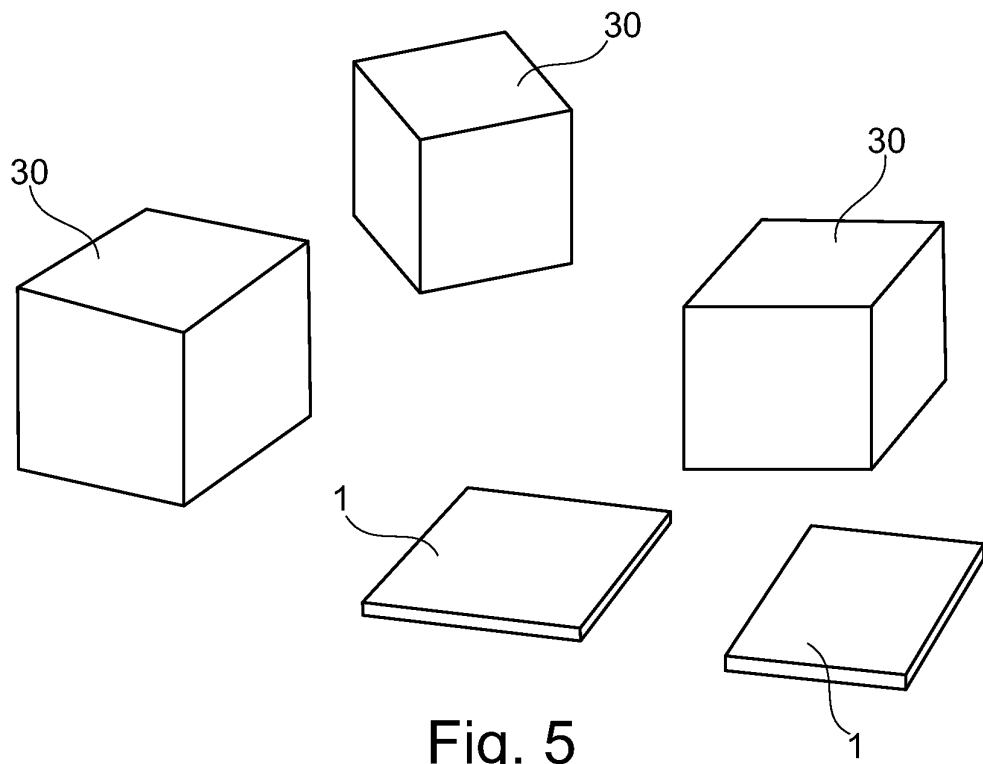


Fig. 5

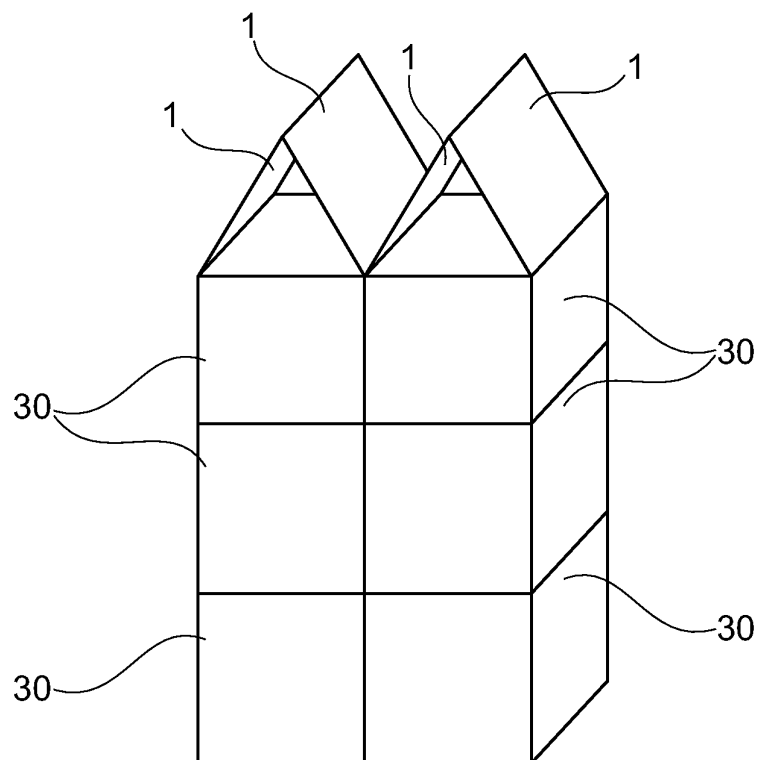


Fig. 6



EUROPEAN SEARCH REPORT

Application Number
EP 14 15 7637

5

10

15

20

25

30

35

40

45

50

55

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	US 4 884 988 A (MCMURRAY LARRY D [US]) 5 December 1989 (1989-12-05)	1-4,6-9	INV. A63H33/04
Y	* column 3, line 35 - line 57; figures 1-6 *	5	

X	DE 22 39 291 A1 (SPANNHEIMER KILIAN) 21 February 1974 (1974-02-21)	1-4,6-9	
Y	* claims 1-13; figures 1-6 *	5	

X	EP 1 977 804 A2 (TROCELLEN GMBH [DE]) 8 October 2008 (2008-10-08)	1-4,6-9	A63H
Y	* paragraph [0015] - paragraph [0017]; figures 1-8 *	5	

X	US 2009/127900 A1 (BALCHUNAS ROBERT [US]) 21 May 2009 (2009-05-21)	1-4,6-9	
Y	* paragraph [0041] - paragraph [0043]; figures 1-20 *	5	

Y	US 2007/254555 A1 (JOHNSON JASON R [US] ET AL) 1 November 2007 (2007-11-01)	5	TECHNICAL FIELDS SEARCHED (IPC)
* paragraph [0071]; figures 1-5d *			

The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 September 2014	Examiner Shmonin, Vladimir
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			

EPO FORM 1503 03.82 (P04C01)

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

EP 14 15 7637

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.

18-09-2014

10

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4884988	A	05-12-1989	NONE	
DE 2239291	A1	21-02-1974	NONE	
EP 1977804	A2	08-10-2008	NONE	
US 2009127900	A1	21-05-2009	NONE	
US 2007254555	A1	01-11-2007	NONE	

15

20

25

30

35

40

45

50

55

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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

- US 2003153243 A [0002]