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(54) **Sports mat with Velcro joining means**

(57) The present invention concerns a gymnastic appliance (1) of the type typically used in connection with performing jumping, trampoline or tumbling, wherein the gymnastic appliance includes one or more elastic pads (2,3) or members with joining means (8) at or along at least part of the top side (4), bottom side (5) and/or lateral sides (6) of the appliance, wherein the joining means include Velcro tapes, and wherein joining is effected by complementary Velcro tapes arranged on respective appliances, and where respective appliances together con-

stitute a gymnastic appliance. The new feature of a gymnastic appliance according to the invention is that the joining means are joined with and at least partially covered by a double-sided Velcro tape member (9) with a first side and a second side, the Velcro tape member at the first side including Velcro tape which is complementary to the Velcro tape arranged on the first appliance, and on the second and opposite side including Velcro tape which is complementary to the Velcro tape found on another appliance.

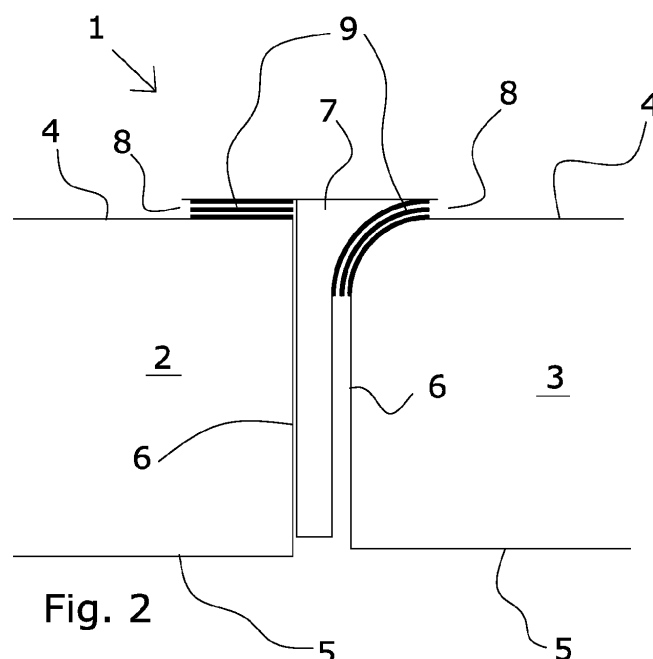


Fig. 2

Description

Field of the Invention

[0001] The present invention concerns a gymnastic appliance of the type typically used in connection with performing jumping, trampoline or tumbling, wherein the gymnastic appliance includes at least a first appliance and a second appliance, wherein at least one of the appliances, e.g. an elastic pad/element, includes a top side, a bottom side and a number of lateral sides, and further including joining means at or along at least part of the top side, bottom side and/or lateral sides of the appliance, wherein the joining means include Velcro tapes, and wherein the first and second tools via the joining means are adapted for mutual joining, wherein this joining is effected by complementary Velcro tapes arranged on respective appliances, and where respective appliances together constitute a gymnastic appliance. The invention also relates to a method for joining a gymnastic appliance as mentioned above.

Background of the Invention

[0002] In connection with performing jumping, trampoline or tumbling gymnastics, it is common to use various forms of floor pads/floor mats/landing mats, including air-filled products such as Air-Track Plus™ or Team-Track™, both products from the company PE-Redskaber A/S, or similar products.

[0003] Through the years this type of products has found wide application in the world of gymnastics and is used in connection with a great number of gymnastics. The products in question are used as individual products or appliances, however, it is very common to use several products in conjunction, why these products are typically equipped with joining means in the form of strips of Velcro tapes sewn or glued thereon. By joining such products with Velcro tapes, ample and secure joining is achieved which is easily separated and jointed according to need. Examples of products that may be joined with floor pads/floor mats/landing mats can be wedge mats, somersault vaulting boxes, roll vaulting boxes, foam vaulting boxes and other types of appliances.

[0004] On products as mentioned above, there are thus arranged strips of Velcro tape along the edges such that these strips can be brought into engagement and thereby secure respective appliances to each other. However, with time it has appeared that the mentioned strips of Velcro tape are worn out before the remainder of the product, which obviously entails a need for replacing the Velcro tapes, a task which is not so easy to perform as the Velcro tape is often sewn and/or glued to the appliance. Therefore, it is very common either that an inferior joint is tolerated or that the entire products is replaced, which is an expensive solution however.

Object of the Invention

[0005] It is the object of the invention to indicate an improved solution to joining gymnastic appliances where the actual joining means are at least partially replaceable and thus do not imply a substantial burden in order to replace.

Description of the Invention

[0006] As also mentioned in the introduction and in claim 1, the present invention concerns a gymnastic appliance of the type typically used in connection with performing jumping, trampoline or tumbling, wherein the gymnastic appliance includes at least a first appliance and a second appliance, wherein at least one of the appliances, e.g. an elastic pad/element, includes a top side, a bottom side and a number of lateral sides, and further including joining means at or along at least part of the top side, bottom side and/or lateral sides of the appliance, wherein the joining means include Velcro tapes, and wherein the first and second tools via the joining means are adapted for mutual joining, wherein this joining is effected by complementary Velcro tapes arranged on respective appliances, and where respective appliances together constitute a gymnastic appliance.

[0007] The new feature of a gymnastic appliance according to the invention is that the joining means that include Velcro tapes fixed directly or indirectly on an appliance are joined with and at least partially covered by a double-sided Velcro tape member with a first side and a second side, the Velcro tape member at the first side comprising Velcro tape which is complementary to the Velcro tape arranged on the first appliance, and on the second and opposite side comprising Velcro tape which is complementary to the Velcro tape found on another appliance.

[0008] By such a solution it is possible to replace the mentioned Velcro tape member with a new one when it is worn out or in other ways has lost its ability to hold on to a corresponding product. This is a great advantage as the daily wear and tear so to say occurs on the double-sided Velcro tape which readily can be released from the Velcro tape attaching it to the gymnastic appliance itself. The Velcro tape on the gymnastic appliance itself is not subjected to the regular and frequent attachments and detachments as these occur on the external side of the "loose" double-sided Velcro tape member, causing that the same wear obviously does not occur nearly to the same extent on the permanently mounted Velcro tapes. In other words, a double-sided Velcro band member is a wear part which can be replaced immediately with a new double-sided Velcro band member according to need and without any substantial effort, as replacement in principle corresponds to a quite ordinary coupling together of two appliances. Hereby is achieved the great advantage that a permanently mounted Velcro tape on an appliance can last as long as the rest of the appliance, which

has been a problem until now as the Velcro tape could be worn out long before the remainder of the gymnastic appliance is worn out. Since the Velcro tape typically is glued and/or sewn on the gymnastic appliance, a replacement is not a simple task, often meaning that an inferior coupling of two appliances is tolerated with the risk that the appliances can slide away from each other during use and thereby cause injuries on the gymnasts. Alternatively, new gymnastic appliances are acquired which certainly is not a cheap and attractive solution to the problem either. By a loose double-sided Velcro tape member as indicated above there is thus achieved a simple, cheap and attractive solution to the mentioned problem.

[0009] A gymnastic appliance according to the invention can include that the double-sided Velcro tape member includes a first layer of Velcro tape and a second layer of Velcro tape, the two layers of Velcro tape at respective back sides being fixed at each side of an intermediate support layer. By such an intermediate support layer it is possible to incorporate a certain rigidity and strength in a loose double-sided Velcro tape member.

[0010] However, it is also possible that a gymnastic appliance according to the invention can be designed such that the double-sided Velcro tape member includes a first layer of

[0011] Velcro tape and a second layer of Velcro tape, the two layers of Velcro tape at respective back sides being fixed directly to each other.

[0012] Moreover, a gymnastic appliance according to the invention can be designed such that the double-sided Velcro tape member includes Velcro tape at the first side with a first adhering capability and Velcro tape at the second side with a second adhering capability. It can e.g. be so that the Velcro tape which is adapted to interact with Velcro tape on the gymnastic appliance itself is very strong whereas the Velcro tape applied in daily use is less strong. Hereby is achieved the advantage that it is easier to separate two gymnastic appliances at the proper joint face or faces, such that the double-sided Velcro tape member remains in the intended position and is not entirely or partly torn off in connection with separation of two appliances.

[0013] A variant of a gymnastic appliance according to the invention can be adapted such that the double-sided Velcro tape member includes Velcro tapes at the first side as well as at the second side, e.g. Velcro tape with hooks only or with loops only. Such a solution means that a double-sided Velcro tape cannot be turned upside down, and there may be some production advantages as well by such a solution as not all types of Velcro tapes are equally easy to handle in the different situations.

[0014] A further variant of a gymnastic appliance according to the invention can be adapted such that the double-sided Velcro tape member includes Velcro tapes at the first side and at the second side, each of respective Velcro tapes including hooks as well as loops. By such a solution two appliances or a tool and a double-sided

Velcro tape member can be coupled together immediately without regard to respective parts having one or the other type of Velcro tape as there are no longer specific male-female parts but instead universal Velcro tapes that can be coupled with "themselves".

[0015] In a particularly preferred variant of a gymnastic appliance according to the invention, along at least one side of an area with Velcro tape an appliance can include a fixing flange with a first side and a second side, the first side of the fixing flange including Velcro tape which is complementary to Velcro tape at the second side of the double-sided Velcro tape member. By these fixing flanges on the appliance itself, the double-sided Velcro tape member can be fixed to the appliance in a way that prevents the double-sided Velcro tape member from being separated from the appliance during daily use. The double-sided Velcro tape member can be released only by loosening these fixing flanges. In other words, the fixing flanges lock the double-sided Velcro tape member to the appliance such that the appliance in principle appears with one or more Velcro tapes for direct coupling to another member with Velcro tape. Only in connection with replacing the double-sided Velcro tape member when worn out, the fixing flange/flanges is/are loosened and separation becomes possible.

[0016] As mentioned in the introduction, the present invention also concerns a method for joining a gymnastic appliance of the type typically used in connection with performing jumping, trampoline or tumbling, wherein the gymnastic appliance includes at least a first appliance and a second appliance, wherein at least one of the appliances, e.g. an elastic pad/element, includes a top side, a bottom side and a number of lateral sides, and further including joining means at or along at least part of the top side, bottom side and/or lateral sides of the appliance, wherein the joining means include Velcro tapes, and wherein the first and second tools via the joining means are adapted for mutual joining, wherein this joining is effected by complementary Velcro tapes arranged on respective appliances, and where respective appliances together constitute a gymnastic appliance.

[0017] The new feature of the method according to the invention is that the method at least includes the following steps:

- providing a first appliance with joining means that include Velcro tape;
- providing a second appliance with joining means that include Velcro tape;
- providing and mounting of at least one double-sided Velcro tape member between the joining means on the first and the second appliance.

[0018] Thus is mounted a double-sided Velcro tape on one of the joining means on one of the two appliances or alternatively on both or all the appliances used or present in a given gymnasium/sports centre. By mounting a double-sided Velcro tape member on all appliances

and on all respective joining means, there is achieved the ultimate certainty that the appliances can be adequately joined, and that in case of worn Velcro tapes replacement of the double-sided Velcro tape members can be performed easily and rapidly, whereby optimal joining is possible again. Such replacement can be effected in very few minutes and only requires manual handling. This is a great advantage compared with prior art solutions where glue joints and/or seams are to be separated and re-established afterwards.

[0019] The invention also comprises a method for joining a gymnastic appliance wherein the method at least further includes the following steps which are also mentioned above:

- mounting and locking/fixing of the double-sided Velcro tape member to joining means on an appliance by means of one or more fixing flanges that are fastened to the appliance in question, and where such a fixing flange is arranged at the side of a double-sided Velcro tape member facing away from the appliance. By applying such fixing flanges there is achieved optimal securing and retention of the double-sided Velcro tape member, and no inadvertent separation between appliance and the double-sided Velcro tape member will occur. The fixing flanges need to be loosened manually before dismounting of a double-sided Velcro tape member.

[0020] Some gymnastic appliances have Velcro tapes/joining means along one side, along two sides or along several sides, faces and/or edges, and the invention indicated above is very attractive in connection with joining a large number of different or uniform appliances irrespective of the location at which the respective joining means are arranged. These may be gymnastic appliances that are foam-filled and/or air-filled, made of wood, plastic or other suitable materials, and practically all types of gymnastic appliances and mats including traditional or more modern appliances, such as e.g. parkour-appliances, can be joined according to the invention.

Description of the Drawing

[0021] The invention is described in the following with reference to the drawing, wherein:

Fig. 1 shows a prior art solution for joining gymnastic appliances.

Fig. 2 shows how gymnastic appliances according to the invention are joined.

Fig. 3 shows a double-sided Velcro tape member.

Fig. 4 shows an appliance with fixing flanges during mounting of a double-sided Velcro tape member.

Fig. 5 shows an appliance with fixing flanges with a mounted double-sided Velcro tape member.

[0022] In the explanation of the Figures, identical or

corresponding elements will be provided with the same designations in different Figures. Therefore, no explanation of all details will be given in connection with each single Figure/embodiment.

List of designations:

[0023]

- 10 1 Gymnastic Appliance
- 2 First appliance
- 3 Second appliance
- 4 Top side
- 5 Bottom side
- 15 6 Edge side
- 7 Transition piece
- 8 Joining means/Velcro tape
- 9 Double-sided Velcro tape member
- 10 First side of double-sided Velcro tape member
- 20 11 Second side of double-sided Velcro tape member
- 12 Support layer
- 13 Fixing flange

Detailed Description of Embodiments of the Invention

[0024] In Fig. 1 appears an example of a prior art gymnastic appliance 1 which is made up of a first appliance 2 and a second appliance 3. Both of the mentioned appliances 2, 3 have a top side 4, a bottom side 5 and edge sides 6, and between the appliances 2, 3 there is arranged a so-called transition piece 7. The appliances 2, 3 as the transition piece are provided with joining means 8 which in the shown configuration are constituted by Velcro tape.

[0025] In the shown Fig. 1, in a side view, only the parts of the appliances 2, 3 that are close to the joint thereof by the transition piece 7 appear.

[0026] In Fig. 2 appear in principle the same appliances 2, 3, 7 shown in Fig. 1, but here with a double-sided Velcro tape member 9 between respective joining means or Velcro tapes 8. As it appears from Fig. 2, here there is an intermediate layer which e.g. can be mounted on the joining means 8 themselves on the appliances 2, 3, whereby the means are spared from daily use. On the shown transition piece there are corresponding joining means/Velcro tapes 8 and these are shown here without a double-sided Velcro tape member 9. However, it is apparent that a double-sided Velcro tape member 9 could readily be arranged on the appliances 2, 3 as well as on the transition piece 7 such that all the permanent joining means 8 in principle were protected by a replaceable double-sided Velcro tape member 9.

[0027] Fig. 3 shows a replaceable double-sided Velcro tape member 9 with a first side 10 and a second side 11 at each their side of a centrally located support layer 12. Such a double-sided Velcro tape member 9 can be with the same type or with different types of Velcro tape at

respective sides 10 and 11. For example, it may be that the Velcro tape on the first side 10 is stronger or weaker than the one on the other side 11, but other parameters can be different or the same as well.

[0028] In Fig. 4 is seen an appliance 2 on the top side 4 of which there are arranged joining means 8 and where along the sides of the joining means 8 there are arranged fixing flanges 13. In the shown situation, the fixing flanges 13 are open such that it is possible to mount the first side 10 on a double-sided Velcro tape member 9 on the joining means 8 arranged on the surface 4 of the appliance 2. Fixing flanges 13 upon which joining means/Velcro tapes 8 are mounted as well can then be pressed against the second side 11 of the double-sided Velcro tape member 9, whereby the latter is fixed to the surface 4. The last-mentioned appears in Fig. 5 where mounting of the double-sided Velcro tape member 9 is completed, and where the appliance 2 is ready for joining with another, not shown appliance 3.

[0029] In order make respective parts of the invention clear, the Figures are shown exaggerated why the joining means 8 and the double-sided Velcro tape member 9 on some of the Figures appear too large as compared with how the details would be in reality.

Claims

1. A gymnastic appliance (1) of the type typically used in connection with performing jumping, trampoline or tumbling, wherein the gymnastic appliance (1) includes at least a first appliance (2) and a second appliance (3), wherein at least one of the appliances (2, 3), e.g. an elastic pad/element, includes a top side (4), a bottom side (5) and a number of lateral sides (6), and further including joining means (8) at or along at least part of the top side (4), bottom side (5) and/or lateral sides (6) of the appliance, wherein the joining means (8) include Velcro tapes, and wherein the first and second tools (2, 3) via the joining means (8) are adapted for mutual joining, wherein this joining is effected by complementary Velcro tapes arranged on respective appliances (2, 3, 7), and where respective appliances (2, 3, 7) together constitute a gymnastic appliance (1), **characterised in that** the joining means (8) that include Velcro tapes fixed directly or indirectly on an appliance (2, 3, 7) are joined with and at least partially covered by a double-sided Velcro tape member (9) with a first side (10) and a second side (11), the Velcro tape member (9) at the first side (10) comprising Velcro tape which is complementary to the Velcro tape (8) arranged on the first appliance (2), and on the second and opposite side (11) comprising Velcro tape which is complementary to the Velcro tape (8) found on another appliance.

2. Gymnastic appliance (1) according to claim 1, **char-**

acterised in that the double-sided Velcro tape member (9) includes a first layer of Velcro tape and a second layer of Velcro tape, the two layers of Velcro tape at respective back sides being fixed at each side of an intermediate support layer (12).

3. Gymnastic appliance (1) according to claim 1, **characterised in that** the double-sided Velcro tape member (9) includes a first layer of Velcro tape and a second layer of Velcro tape, the two layers of Velcro tape at respective back sides being fixed directly to each other.

4. Gymnastic appliance (1) according to any of claims 1 to 3, **characterised in that** the double-sided Velcro tape member (9) includes Velcro tape at the first side (10) with a first adhering capability and Velcro tape at the second side (11) with a second adhering capability.

5. Gymnastic appliance (1) according to any of claims 1 to 4, **characterised in that** the double-sided Velcro tape member (9) includes Velcro tapes at the first side (10) as well as at the second side (11), e.g. Velcro tape with hooks only or with loops only.

6. Gymnastic appliance (1) according to any of claims 1 to 5, **characterised in that** the double-sided Velcro tape member (9) includes Velcro tapes at the first side (10) as well as at the second side (11), each of the Velcro tapes including hooks as well as loops.

7. Gymnastic appliance (1) according to any of claims 1 to 6, **characterised in that** along at least one side of an area with Velcro tape, an appliance (2, 3, 7) includes a fixing flange (13) with a first side and a second side, the first side of the fixing flange (13) including Velcro tape (8) which is complementary to Velcro tape at the second side (11) of the double-sided Velcro tape member (9).

8. A method for joining a gymnastic appliance (1) of the type typically used in connection with performing jumping, trampoline or tumbling, wherein the gymnastic appliance (1) includes at least a first appliance (2) and a second appliance (3), wherein at least one of the appliances (2, 3), e.g. an elastic pad/element, includes a top side (4), a bottom side (5) and a number of lateral sides (6), and further including joining means (8) at or along at least part of the top side (4), bottom side (5) and/or lateral sides (6) of the appliance, wherein the joining means (8) include Velcro tapes, and wherein the first and second tools (2, 3) via the joining means (8) are adapted for mutual joining, wherein this joining is effected by complementary Velcro tapes arranged on respective appliances (2, 3, 7), and where respective appliances (2, 3, 7) together constitute a gymnastic appliance (1),

characterised in that the method includes at least the following steps:

- providing a first appliance (2) with joining means (8) that include Velcro tape; 5
- providing a second appliance (3, 7) with joining means (8) that include Velcro tape;
- providing and mounting of at least one double-sided Velcro tape member (9) between the joining means (8) on the first and the second appliance (2, 3, 7). 10

9. Method for joining a gymnastic appliance (1) according to claim 8, **characterised in that** the method further includes at least the following step: 15

- mounting and locking/fixing of the double-sided Velcro tape member (9) to joining means (8) on an appliance (2, 3, 7) by means of one or more fixing flanges (13) that are fastened to the appliance (2, 3, 7) in question, and where such a fixing flange (13) is arranged at the side (11) of a double-sided Velcro tape member (9) facing away from the appliance (2, 3, 7). 20

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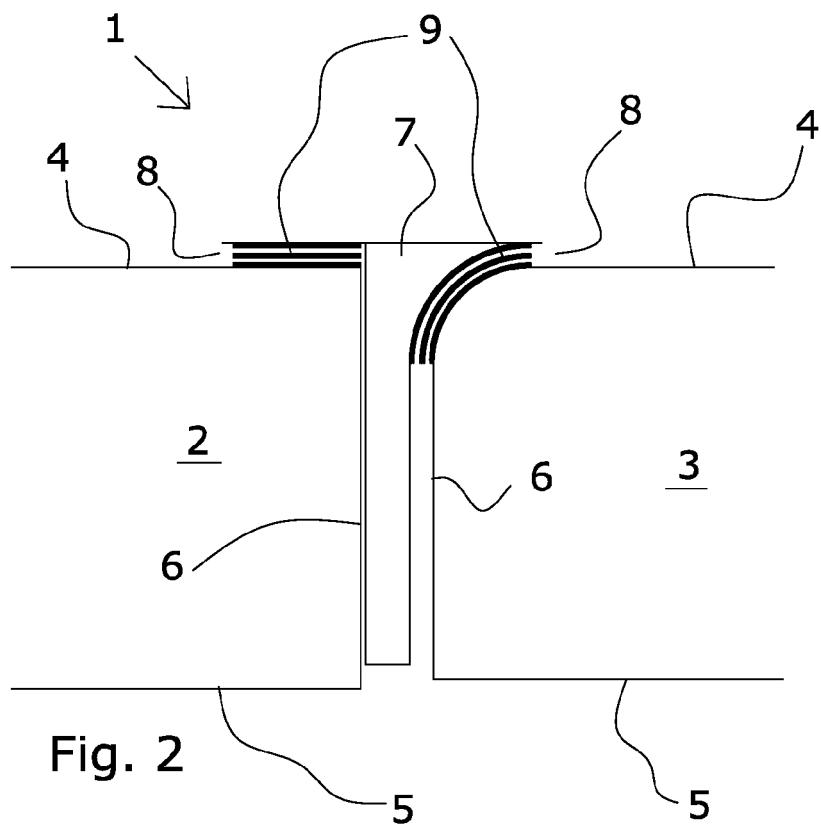
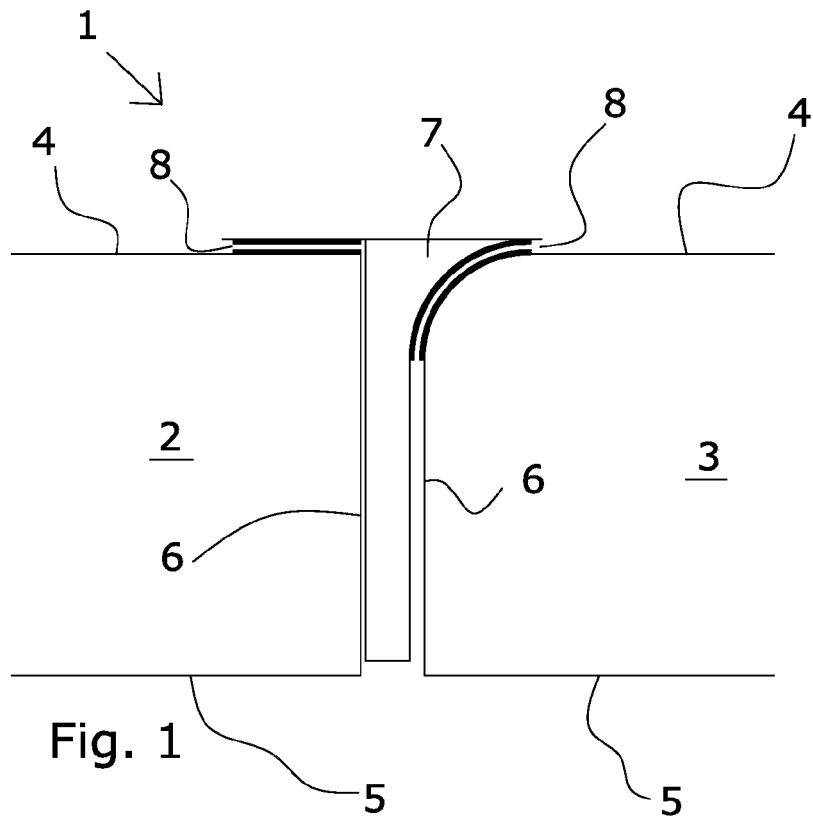
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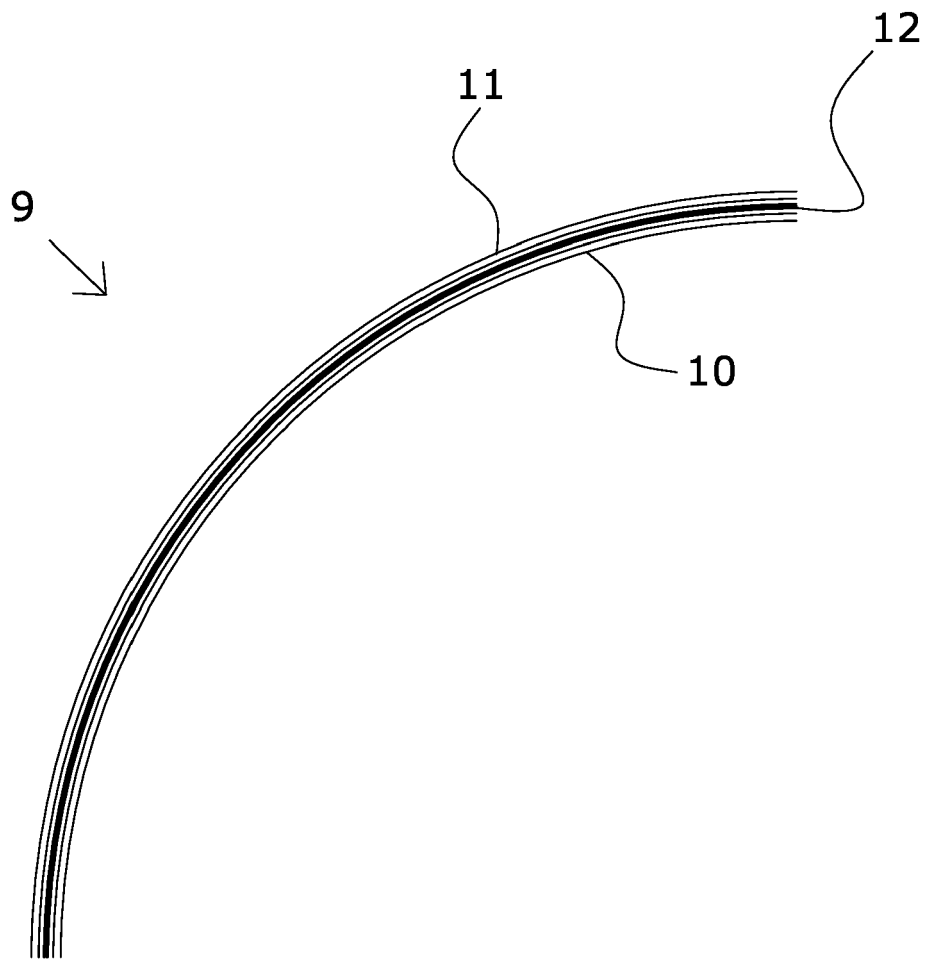


Fig. 3

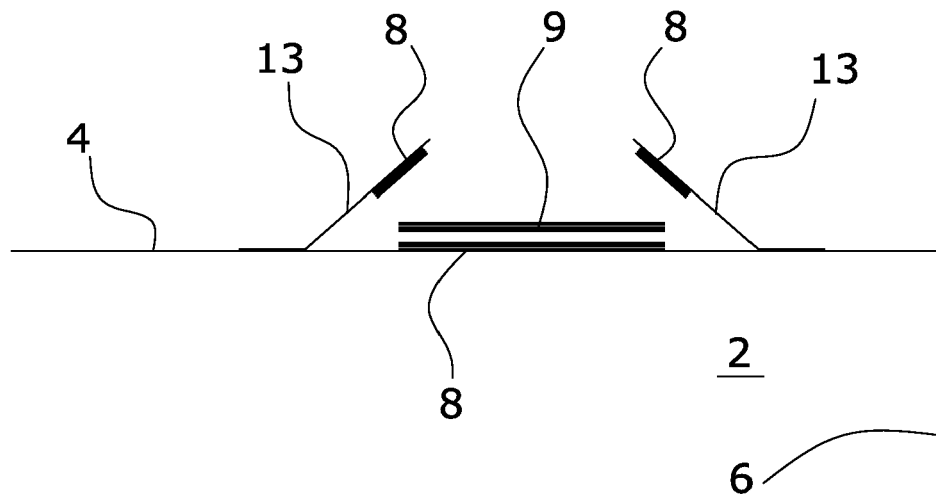


Fig. 4

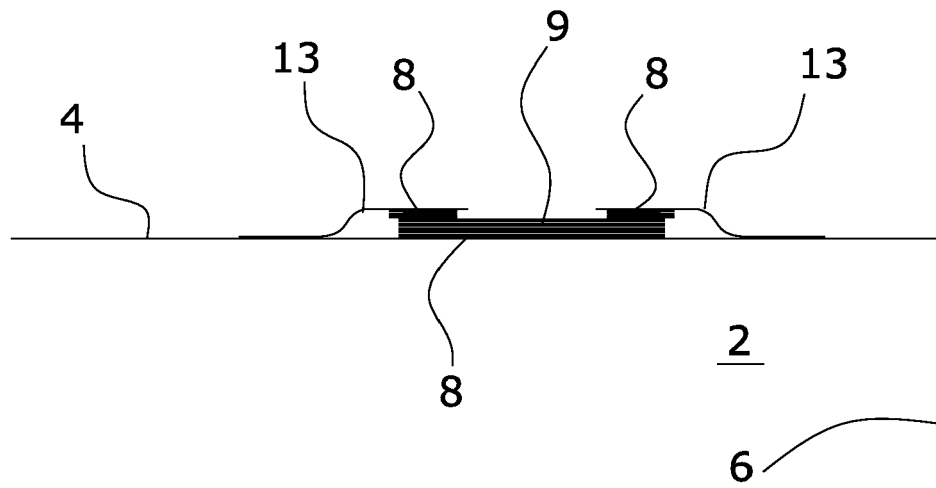


Fig. 5



EUROPEAN SEARCH REPORT

Application Number
EP 14 16 3543

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	DE 20 2011 004115 U1 (MUELLER CHRISTIAN [DE]) 26 May 2011 (2011-05-26) * paragraph [0010] - paragraph [0014]; figure 2 *	1-9	INV. A63B6/00
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A	DE 73 43 839 U (ROST, WERNER) 10 December 1973 (1973-12-10) * figures *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 30 June 2014	Examiner Lundblad, Hampus
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
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 16 3543

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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30-06-2014

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