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(54) **A METHOD FOR PRODUCING A SERIES OF TROUSERS**

(57) A method for producing a series of trousers is provided. A fabric having a fabric stretch, as measured in accordance with Active Standard ASTM D3107, of at least 85, is provided. Patterns for a plurality of sizes of the trousers are provided, where each size covers at least three standard sizes. The fabric is cut in accordance with the patterns, thereby obtaining a plurality of trouser cuttings, and trousers in various sizes are manufactured from the trouser cuttings. The method according to the invention reduces waste in textile manufacturing.

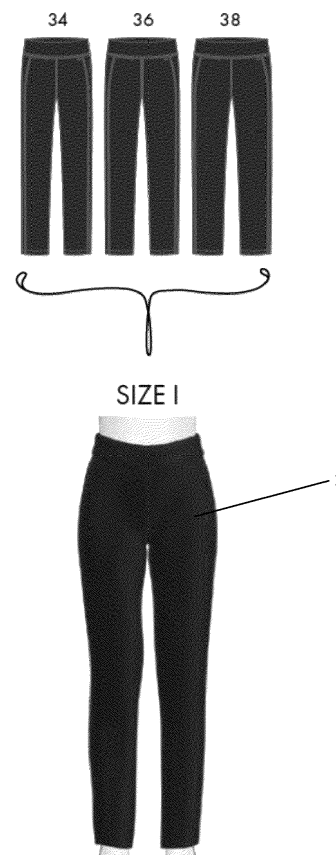


Fig. 1

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Description**FIELD OF THE INVENTION**

[0001] The present invention relates to a method for producing a series of trousers. The method according to the invention reduces waste related to textile production.

BACKGROUND OF THE INVENTION

[0002] When designing clothes, such as trousers, it is common to design a number of different sizes for a given style, in order to ensure that the style can fit a wide variety of persons. The various sizes are then produced in batches in such a manner that it is attempted to match an expected demand from consumers. On the one hand, it should be ensured that a specific size is available for a consumer requesting so, and on the other hand it should be ensured that an excessive surplus of some sizes is avoided.

[0003] Since a manufacturer would often rather meet the demands of the consumers than not, the balancing between the two concerns described above often leads to a surplus of produced garments, which are destroyed, often burned, when a new collection enters the market. This constitutes a very undesired waste of textiles. This problem is particularly pronounced for very large and very small sizes, which are in lower demand than the intermediate sizes.

[0004] Furthermore, a person who has acquired a garment may change size in such a manner that the garment no longer fits, before the garment is worn out. This could, e.g., be the case in case of weight loss or weight gain, or due to children growing. In such cases the garment will most likely also be discarded, and thereby destroyed, even though the garment is not worn out.

DESCRIPTION OF THE INVENTION

[0005] It is an object of embodiments of the invention to provide a method for producing a series of trousers which allows a reduction of waste related to textile production.

[0006] It is a further object of embodiments of the invention to provide a method for producing a series of trousers which improves sustainability.

[0007] The invention provides a method for producing a series of trousers, the method comprising the steps of:

- providing a fabric having a fabric stretch, as measured in accordance with Active Standard ASTM D3107, of at least 85,
- providing patterns for a plurality of sizes of the trousers, where each size covers at least three standard sizes,
- cutting the fabric in accordance with the patterns,

thereby obtaining a plurality of trouser cuttings, and

- manufacturing trousers in various sizes from the trouser cuttings.

[0008] Thus, the invention provides a method for producing a series of trousers. In the present context the term 'series of trousers' should be interpreted to mean a style or design, in the form of a pair of trousers, which is produced in a number of different sizes.

[0009] According to the method, a fabric is initially provided. The fabric has a fabric stretch of at least 85, as measured in accordance with Active Standard ASTM D3107. This is a standard test which is used for determining the stretch, growth and recovery properties that garments made with the tested fabric may be expected to exhibit during use. The test is particularly suitable for fabrics woven in whole or in part from stretch yarns, and which exhibit high stretch and good recovery properties from low tension. Further information regarding the Active Standard ASTM D3107 can be found at: <https://www.astm.org/Standards/D3107.htm>.

[0010] Accordingly, the provided fabric has a high fabric stretch, and may advantageously be a fabric which is woven in whole or in part from stretch yarns.

[0011] Next, patterns for a plurality of sizes of the trousers are provided. Each of the sizes covers at least three standard sizes. Thereby the number of different sizes produced can be reduced by at least 2/3, without reducing the number of standard sizes covered by the series of trousers. This will be described in further detail below.

[0012] Finally, the fabric is cut in accordance with the patterns, thereby obtaining a plurality of trouser cuttings, and trousers in various sizes are manufactured from the trouser cuttings, thereby producing the series of trousers.

[0013] As described above, the series of trousers manufactured in this manner covers a high number of standard sizes with a number of sizes which is at most 1/3 of the number of standard sizes covered. This is partly possible due to the high fabric stretch of the applied fabric, which allows the trousers to stretch and recover, thereby matching several sizes.

[0014] Since each of the sizes covers at least three standard sizes, the surplus of produced items required in order to meet customer demands can be reduced, because a given size will meet the demand of customers which would normally require at least three different sizes. In particular, the very small and very large normal sizes are covered by sizes which also cover more intermediate sizes, which are in higher demand. This significantly reduces the need for destroying unsold items, thereby reducing waste of textile products and improving sustainability.

[0015] Furthermore, if an owner of a specific pair of trousers increases or decreases a single standard size, the trousers will most likely still fit, because the size covers at least three standard sizes. This increases the likelihood that the owner will wear and use the trousers until

they are worn out, rather than discarding them because they no longer fit. This also significantly reduces waste of textile products and improves sustainability.

[0016] The method according to the invention is particularly relevant with respect to garments for children and maternity clothes, but it is also relevant for ordinary garments for adults.

[0017] The fabric may have a fabric stretch, as measured in accordance with Active Standard ASTM D3107, within the interval 85 to 95, such as within the interval 87 to 93, such as within the interval 90 to 92, such as approximately 91. According to one embodiment, the fabric stretch may be approximately $91.2 \pm 4\%$.

[0018] The step of providing patterns for a plurality of sizes may comprise providing patterns for at most six adult sizes.

[0019] According to this embodiment, a high number of standard adult sizes are covered by at most six adult sizes of the kind provided by the invention. Thus, if the patterns define six adult sizes, and each of these adult sizes covers at least three standard sizes, then at least eighteen standard sizes will be covered by only six sizes. This significantly reduces the waste of textile products.

[0020] The step of providing patterns for a plurality of sizes of trousers may comprise providing patterns, where each size covers at least three European standard sizes.

[0021] According to this embodiment, the standard sizes covered by the inventive sizes are European standard sizes, such as European standard adult sizes. As an alternative, the standard sizes could be US standard sizes, UK standard sizes, standard children sizes, or any other suitable kind of standard sizes.

[0022] The plurality of sizes may in combination cover sizes of at least European standard size 34 to European standard size 56.

[0023] These are the most commonly used standard sizes in Europe, and collections covering this span of sizes would normally include, by far, most of the demand of the market.

[0024] According to this embodiment, a size I may cover European standard sizes 34, 36 and 38. A size II may cover European standard sizes 40, 42 and 44. A size III may cover European standard sizes 46, 48 and 50. Finally, a size IIII may cover European standard sizes 52, 54 and 56.

[0025] Thereby European standard size 34, which is normally not in high demand, is covered by a size, i.e. size I, which also covers the more common sizes 36 and 38. This allows the manufacturer to readily offer a supply of 'size 34' trousers without risking that a high number of these trousers will not be sold, due to a low demand, and therefore needs to be destroyed.

[0026] Similarly, European standard size 56 is covered by a size, i.e. size IIII, which also covers sizes 52 and 54. Accordingly, a supply of 'size 56' can also be offered without risking that a high number of trousers needs to be destroyed.

[0027] The fabric may be a denim fabric. Denim fabric

is known to be durable, and it is therefore suitable for producing trousers. Alternatively, the fabric may be of any other suitable kind which meets the requirements with regard to fabric stretch.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] The invention will now be described in further detail with reference to the accompanying drawings in which

Figs. 1-4 illustrate four sizes of a series of trousers manufactured in accordance with a method according to an embodiment of the invention, and

Figs. 5-8 illustrate patterns for four sizes of a series of trousers manufactured in accordance with an embodiment of the invention.

DETAILED DESCRIPTION OF THE DRAWINGS

[0029] Figs. 1-4 illustrate four sizes of a series of trousers 1 manufactured in accordance with a method according to an embodiment of the invention. Fig. 1 illustrates size I, Fig. 2 illustrates size II, Fig. 3 illustrates size III, and Fig. 4 illustrates size IIII. It can be seen from Figs. 1-4 that each of the sizes I-IIII covers three European standard sizes.

[0030] It can be seen from Fig. 1-4, that size I covers European standard sizes 34, 36 and 38, that size II covers European standard sizes 40, 42 and 44, that size III covers European standard sizes 46, 48 and 50, and that size IIII covers European standard sizes 52, 54 and 56.

[0031] Thus, by the series of trousers 1 illustrated in Figs. 1-4, European standard sizes 34-56 are covered by only four sizes, i.e. sizes I-IIII. As described above, this reduces the risk that surplus garments need to be discarded due to low demand from consumers.

[0032] Figs. 5-8 illustrate patterns 2 for four sizes of a series of trousers manufactured in accordance with a method according to an embodiment of the invention. The patterns 2 illustrated in Figs. 5-8 could, e.g., be applied for manufacturing the trousers 1 illustrated in Figs. 1-4.

[0033] Fig. 5 illustrates a pattern 2 for a size I which covers European standard sizes 34, 36 and 38. The solid line 3 represents the inventive size I pattern. Dashed line 4 represents European standard size 34 for a similar prior art style. Similarly, dotted line 5 represents European standard size 36 for the prior art style, and dashed line 6 represents European standard size 38 for the prior art style.

[0034] Due to the high fabric stretch of the applied fabric, the inventive trousers can stretch in such a manner that the three shown European standard sizes 4, 5, 6 are covered by the inventive pattern 3.

[0035] Figs. 6-8 illustrate similar patterns 2 for sizes II, III and IIII according to the invention.

[0036] In Fig. 6, the solid line 7 represents the inventive size II pattern, which covers European standard sizes 40, 42 and 44 for a similar prior art style. Dashed line 8 represents European standard size 40 for the similar prior art style, dotted line 9 represents European standard size 42 for the prior art style, and dashed-dotted line 10 represents European standard size 44 for the prior art style.

[0037] In Fig. 7, the solid line 11 represents the inventive size III pattern, which covers European standard sizes 46, 48 and 50 for a similar prior art style. Dashed-dotted line 12 represents European standard size 46 for the similar prior art style, dotted line 13 represents European standard size 48 for the prior art style, and dashed-dotted line 14 represents European standard size 50 for the prior art style.

[0038] In Fig. 8, the solid line 15 represents the inventive size IIII pattern, which covers European standard sizes 52, 54 and 56 for a similar prior art style. Dotted line 16 represents European standard size 52 for the similar prior art style, dashed line 17 represents European standard size 54 for the prior art style, and dashed line 18 represents European standard size 56 for the prior art style.

wherein the plurality of sizes in combination covers sizes of at least European standard size 34 to European standard size 56.

- 5 **6.** A method according to any of the preceding claims, wherein the fabric is a denim fabric.

Claims

1. A method for producing a series of trousers, the method comprising the steps of:
 - providing a fabric having a fabric stretch, as measured in accordance with Active Standard ASTM D3107, of at least 85,
 - providing patterns for a plurality of sizes of the trousers, where each size covers at least three standard sizes,
 - cutting the fabric in accordance with the patterns, thereby obtaining a plurality of trouser cuttings, and
 - manufacturing trousers in various sizes from the trouser cuttings.
2. A method according to claim 1, wherein the fabric has a fabric stretch, as measured in accordance with Active Standard ASTM D3107, within the interval 85 to 95.
3. A method according to claim 1 or 2, wherein the step of providing patterns for a plurality of sizes comprises providing patterns for at most six adult sizes.
4. A method according to any of the preceding claims, wherein the step of providing patterns for a plurality of sizes of trousers comprises providing patterns, where each size covers at least three European standard sizes.
5. A method according to any of the preceding claims,

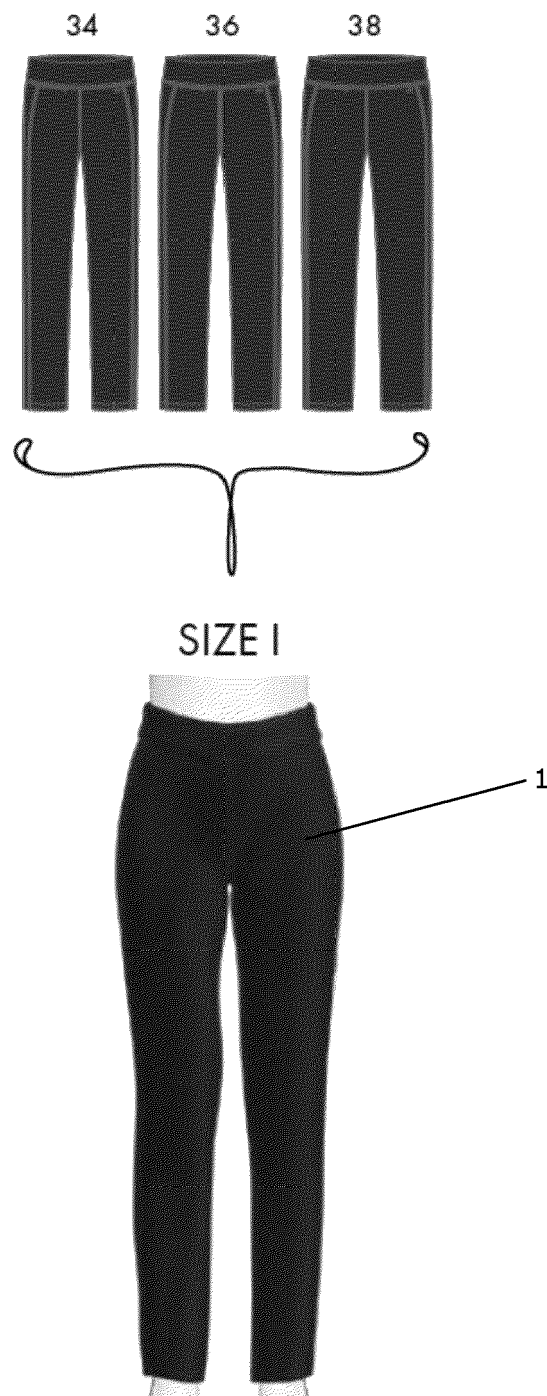


Fig. 1

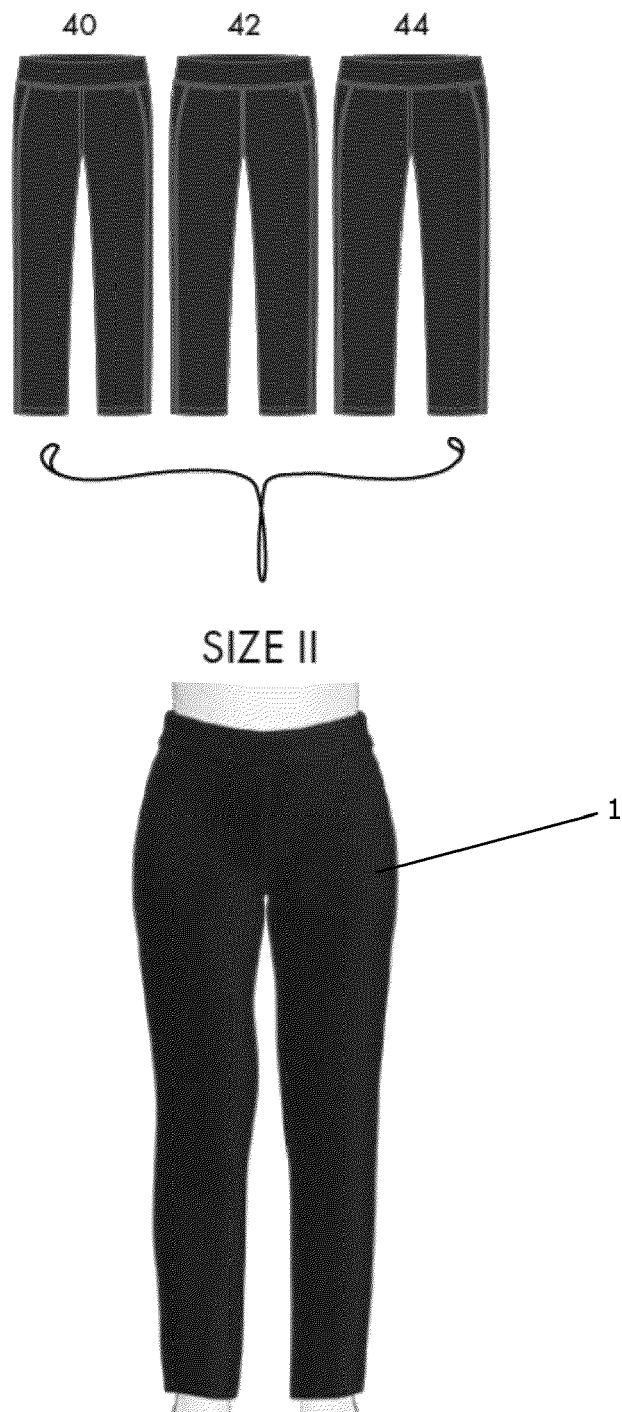


Fig. 2

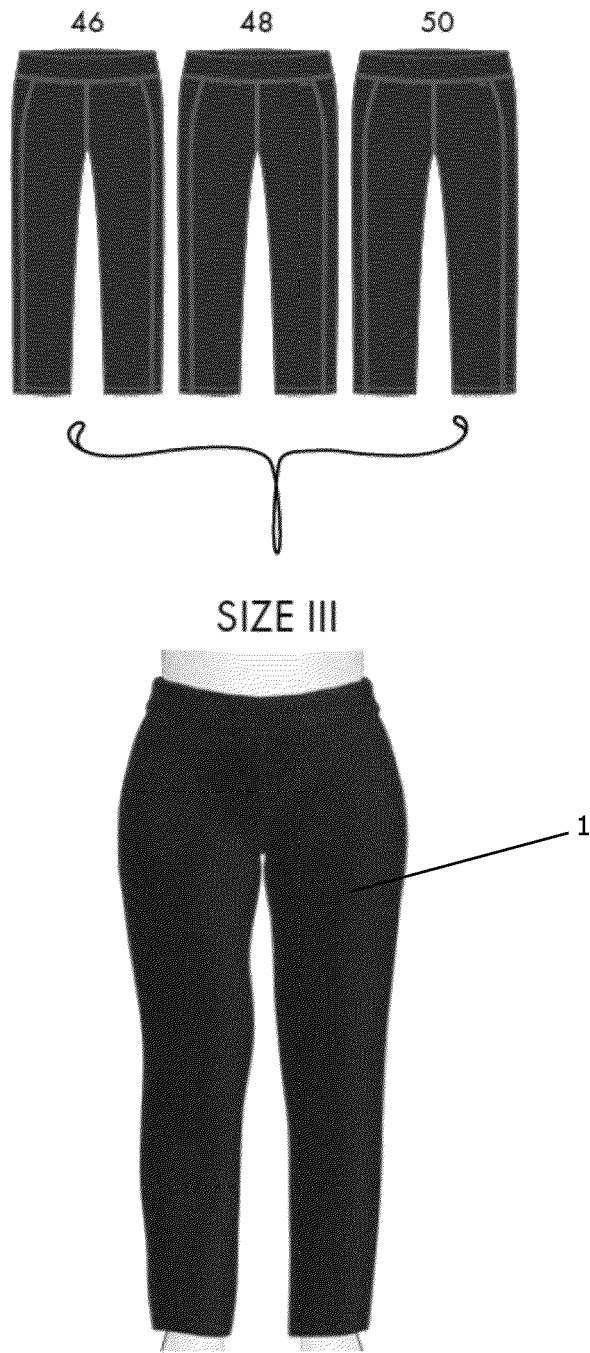


Fig. 3

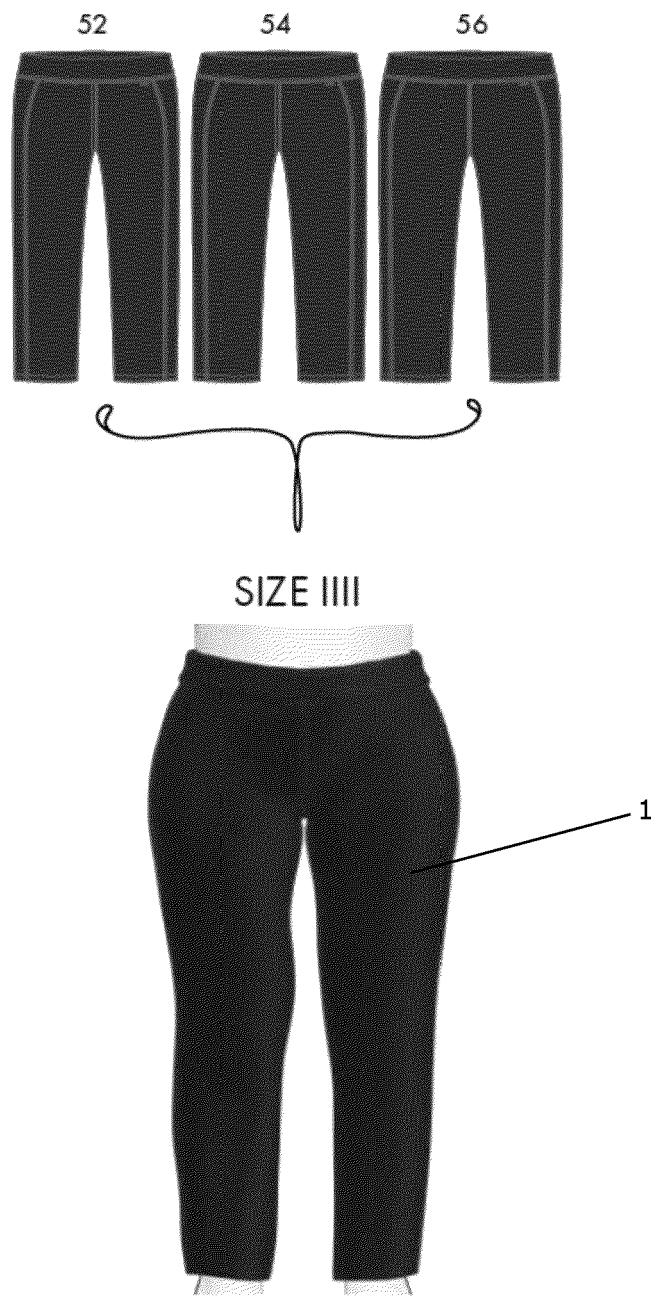


Fig. 4

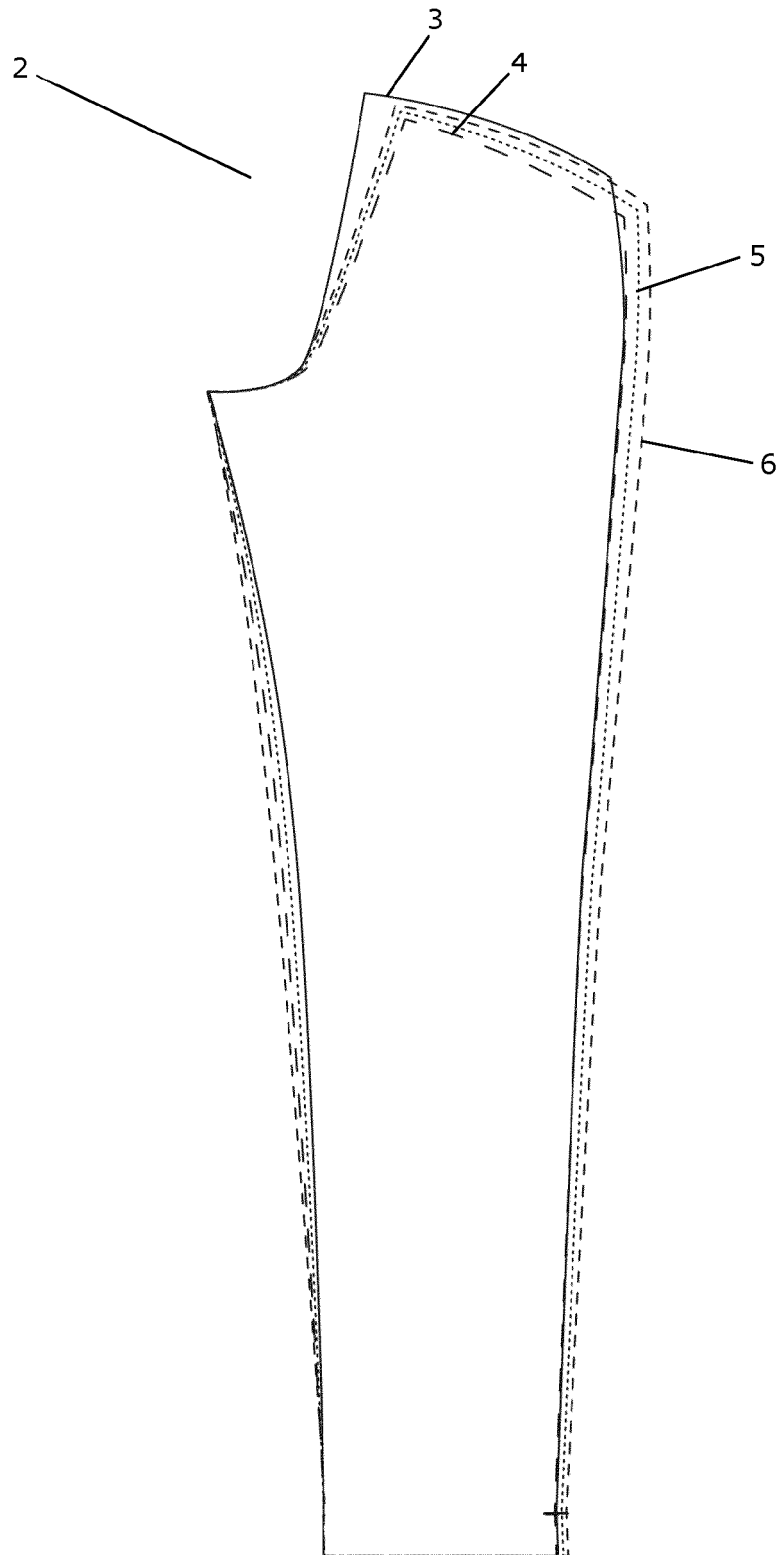


Fig. 5

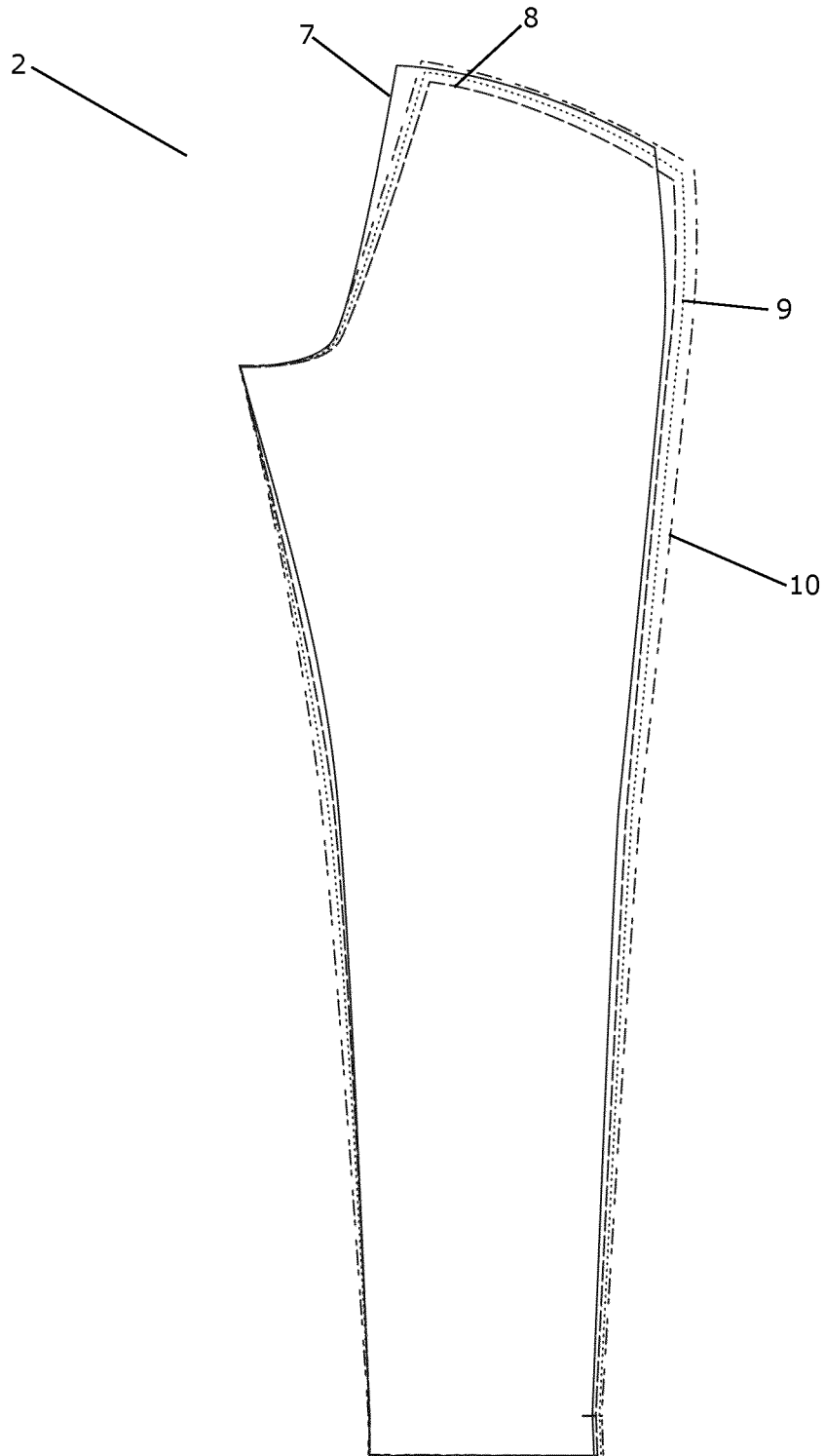


Fig. 6

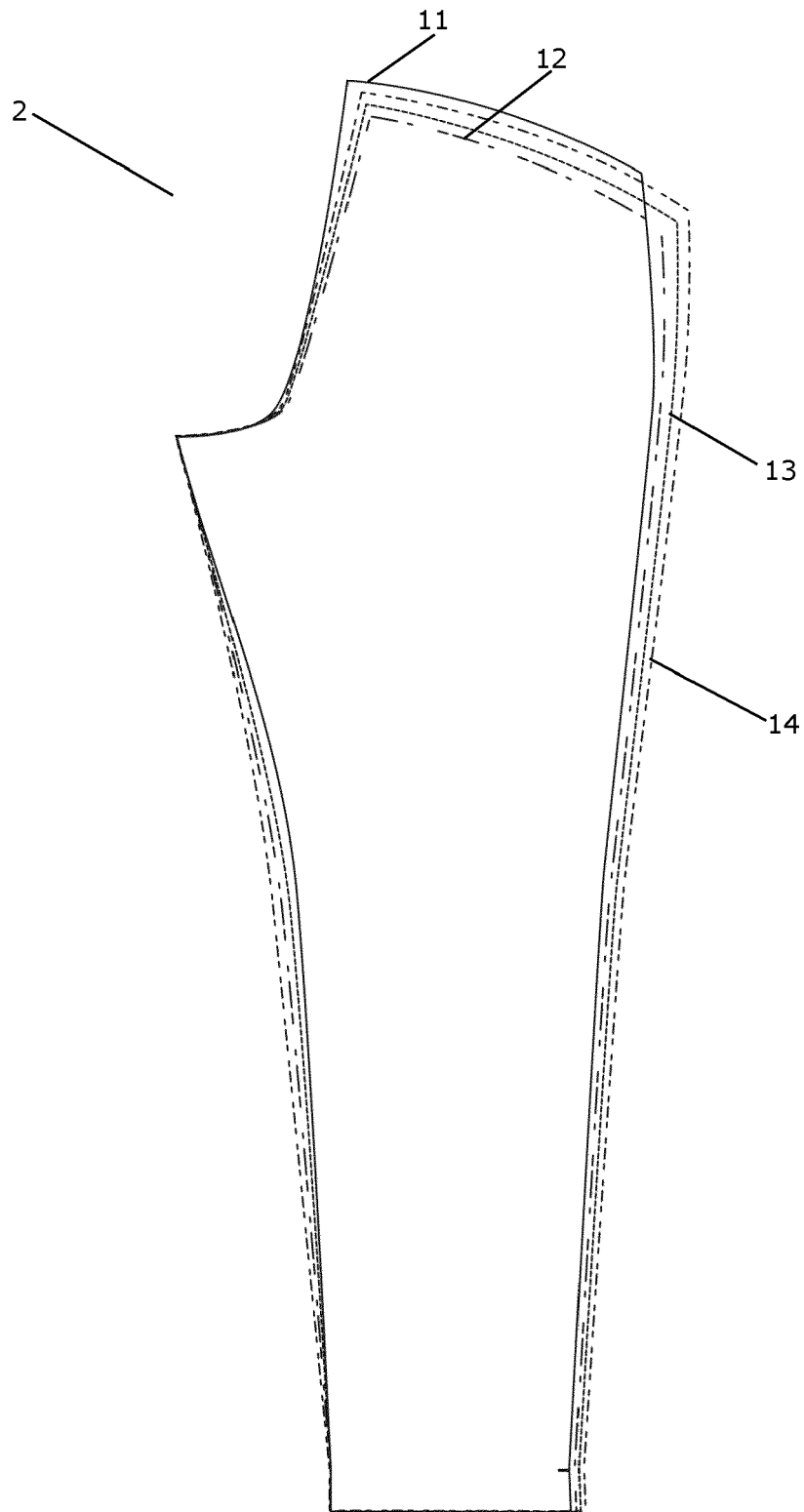


Fig. 7

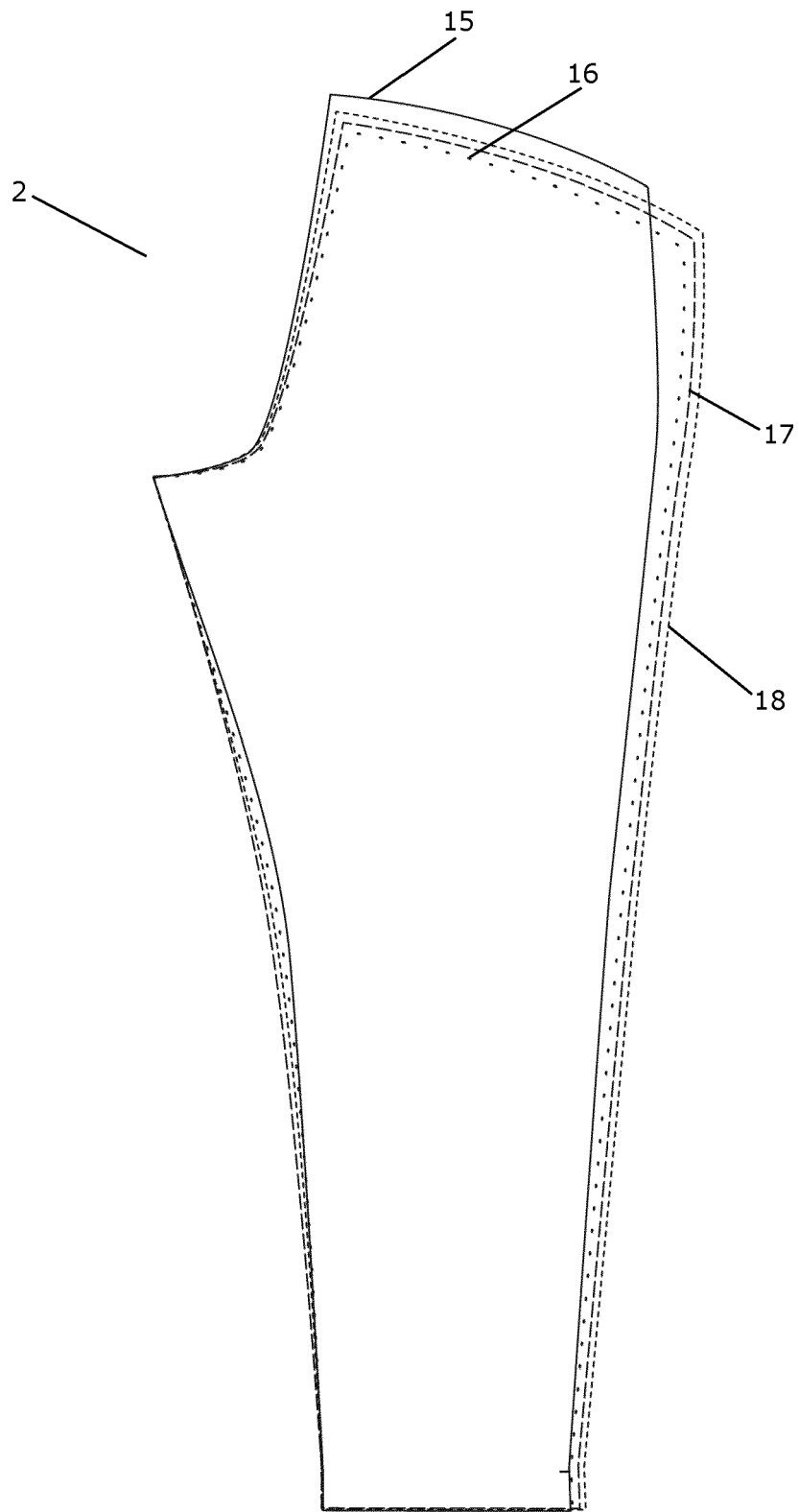


Fig. 8



EUROPEAN SEARCH REPORT

Application Number
EP 20 21 5865

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 1 June 2021	Examiner Krüger, Sophia
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
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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01-06-2021

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