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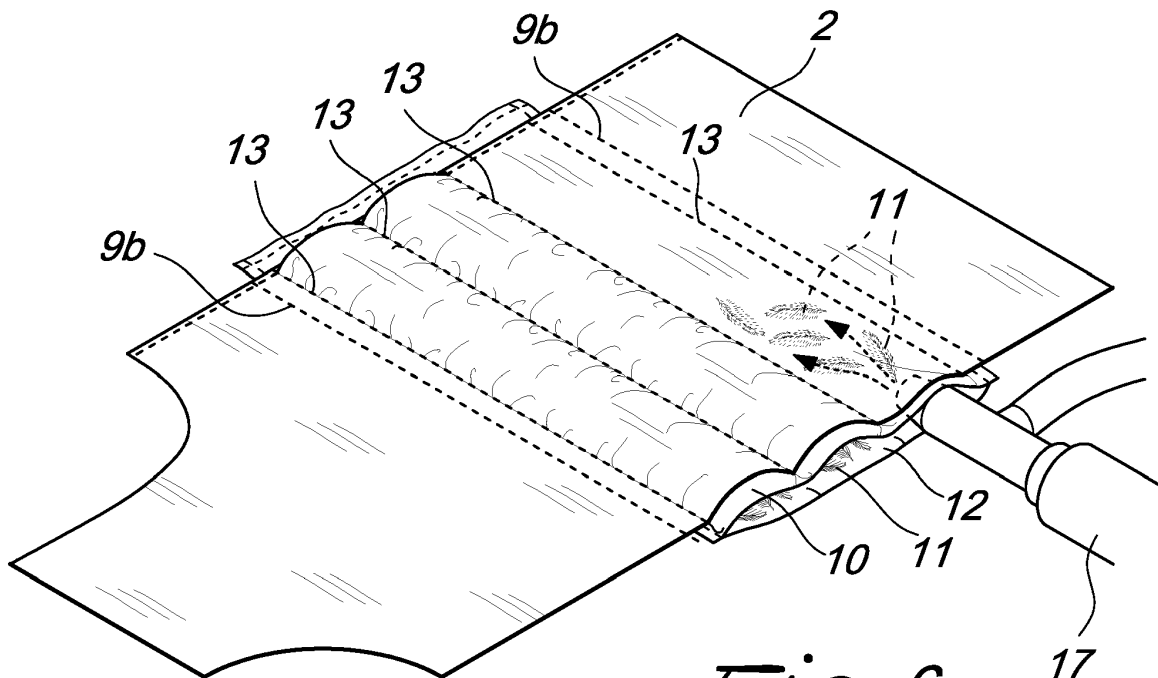
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(54) **METHOD FOR PADDING DOUBLE CLOTHS**

(57) A method for padding double cloths, which is characterized in that it comprises the steps of:

- preparing a blank (1) made of double cloth, preferably shaped like a portion of an item of clothing, the double cloth comprising at least two layers of cloth (2, 3) which are mutually joined by way of a two-dimensional distribution of connecting threads (5);

- separating the two layers of cloth (2, 3) starting from at least one edge region (6) of the blank (1) and for an extent that substantially corresponds to a region to be padded (7) of the partially processed item;
- interposing a bag (10) of feathers or down between the two layers of cloth (2, 3) at the region to be padded (7);
- closing the at least one edge region (6).



*Fig. 6*

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**Description**

**[0001]** The present invention relates to a method for padding double cloths.

**[0002]** "Double" cloth is a cloth formed of two layers of cloth, for example of wool, mutually joined together by way of a two-dimensional distribution of connecting threads, substantially along all of the contact surface between the layers.

**[0003]** In this manner, the cloth has the right side on both faces and the item of clothing made with such cloth can as a consequence be reversible, i.e. it can also be worn inside-out.

**[0004]** Nowadays no methods are known that make it possible to produce items of clothing made of double cloth that are padded with feathers or down and which, preferably, maintain the typical characteristics of double-cloth garments, such as for example reversibility and lightness.

**[0005]** The aim of the present invention is to provide a method of padding double cloths with feathers or down.

**[0006]** Within this aim, an object of the invention is to provide such method starting from a double cloth that is already available.

**[0007]** Another object of the invention is to provide a method of padding double cloths with feathers or down that reduces or prevents the possibility that the feathers or the down can exit from the fabric.

**[0008]** Furthermore, another object of the present invention is to overcome the drawbacks of the prior art in an alternative manner to any existing solutions.

**[0009]** Another object of the invention is to provide a method that is highly reliable, easy to implement and low cost.

**[0010]** This aim and these and other objects which will become better apparent hereinafter are achieved by a method for padding double cloths, characterized in that it comprises the steps of:

- providing a blank made of double cloth, preferably shaped like a portion of an item of clothing, said double cloth comprising at least two layers of cloth which are mutually joined by way of a two-dimensional distribution of connecting threads;
- separating said two layers of cloth starting from at least one edge region of said blank and for an extent that substantially corresponds to a region to be padded of the partially processed item;
- interposing a bag of feathers or down, preferably goose feathers or down, between said two layers of cloth at said region to be padded;
- closing said at least one edge region.

**[0011]** Further characteristics and advantages of the invention will become better apparent from the detailed description that follows of a preferred, but not exclusive, embodiment of the method according to the invention, which is illustrated by way of non-limiting example in the

accompanying drawings wherein:

- Figure 1 shows a blank made of double cloth that can be used in the method according to the invention;
- Figure 2 shows the start of the separation between the two layers of the double cloth in order to create a region to be padded;
- Figure 3 shows the insertion of the bag into the region to be padded of the double cloth;
- Figure 4 shows the bag inserted into the region to be padded;
- Figure 5 shows the sewing of the region to be padded for the creation of pockets to be filled with feathers or down;
- Figure 6 shows the filling of the pockets in the previous figure;
- Figure 7 shows the padded blank after having stitched closed the pockets in the previous figure.

**[0012]** With reference to the figures, the method according to the invention, generally designated by the reference numeral 1, comprises preparing a blank 1 originating from a double cloth manufactured previously with conventional techniques. The double cloth comprises at least two layers of cloth 2 and 3, for example of wool, mutually joined together by way of a two-dimensional distribution of connecting threads 5, substantially along all of the contact surface between the layers 2 and 3.

**[0013]** The blank 1 can be shaped like a portion of an item of clothing to be made, for example the blank 1 can be shaped by cutting a double cloth according to a determined pattern.

**[0014]** Subsequently, the two layers of cloth 2 and 3 are separated, starting from at least one edge region of the blank and for an extent that substantially corresponds to a region to be padded 7 of the blank 1.

**[0015]** This region to be padded 7, in the example shown, corresponds to a band, i.e. a portion of the entire blank 1 that includes two mutually opposite edges 6 and 8 of the blank. In another embodiment, not shown, the region to be padded can correspond to the entire surface of the blank 1.

**[0016]** Preferably, the method according to the invention entails the tracing of provisional lines 4 on the blank 1, for example by way of chalk or a fabric pencil, adapted to visually indicate on the blank 1 the limits of the region to be padded 7 and/or where to carry out the lockstitches or the fixing in the subsequent steps of the method according to the invention, thus assisting the operator in the manufacturing.

**[0017]** To carry out the mutual separation of the two layers of cloth 2 and 3 in the region to be padded 7, the operator can use a blade (not shown) which is inserted between the two layers 2 and 3 at the edge region 6 in order to cut the connecting threads 5 that kept such layers together in the region to be padded 7.

**[0018]** Advantageously, to limit the separation of the layers 2 and 3, so preventing it from affecting regions of

the blank 1 outside the region to be padded 7, it is possible to carry out lockstitches or basting stitches for containment 9b on the blank 1. The lockstitches or basting stitches for containment 9b, which can be carried out by hand or with a sewing machine, serve to prevent the region to be padded 7 into which the layers of cloth 2-3 have been or will be separated from expanding, in an unwanted manner, toward areas of the blank 1 in which the layers of cloth 2 and 3 must not be separated.

**[0019]** Alternatively, the lockstitches or basting stitches for containment 9b can be carried out after having inserted the bag 10 (which will be described later) into the region to be padded 7 and they can optionally pass through the bag 10 as well, so as to fix the bag 10 in the region to be padded 7.

**[0020]** The lockstitches or basting stitches for containment 9b will preferably be removed at the end of the method according to the invention.

**[0021]** The method according to the invention, after the step of separating the layers 2 and 3, continues with a step of interposing a bag 10 filled with feathers or down 11, preferably goose feathers or goose down, between the two separated layers 2-3 at the region to be padded 7 which was obtained with the aforementioned separation.

**[0022]** This step of interposition, in an embodiment that is not shown, can comprise inserting, into the region to be padded 7, a bag that was previously filled with feathers or down. Such interposition would, however, have the drawback that, in the subsequent steps of sewing the partially processed item, the feathers or the down might be drawn out from the fabric by the sewing needle.

**[0023]** To overcome this possible drawback, in the preferred embodiment of the invention, illustrated in the drawings, between the two layers of cloth 2-3 of the region to be padded 7 a bag 10 is inserted which is empty, i.e. is yet without feathers or down, so that, after insertion, the mouth 12 of the empty bag 10 is located along the edge region 6 from which the separation began of the two layers of cloth 2-3, or along an optional other edge 8 of the region to be padded 7 at which the two layers of cloth 2-3 are separated.

**[0024]** The bag 10, which has a surface extension, i.e. a width and a length, that substantially corresponds to that of the region to be padded 7, is preferably made of downproof material, which is per se known.

**[0025]** After having inserted the empty bag 10 into the region to be padded 7, the bag 10 is preferably fixed to the layers 2 and 3 of the double cloth, for example by applying on the blank 1 a fixing lockstitch 9a that passes through the bag 10. The fixing lockstitch 9a, in the drawings, has been applied to the bottom region of the bag 10, but in other embodiments of the invention it can extend along all of the peripheral region of the bag 10 except for the mouth 12 of the bag, which thus remains open and can be accessed from outside for the subsequent steps.

**[0026]** At this point, the bag 10 can already be filled

with feathers or down 11, preferably goose feathers or goose down, finally closing the region to be padded 7.

**[0027]** In the preferred embodiment shown, before filling the bag 10 with the feathers or the down 11, one or more pockets 16 are created in the bag 10, for example by carrying out a sewing operation on the region to be padded 7 containing the empty bag 10 along at least one line, and preferably along a plurality of lines 4, inside the perimeter of the bag 10, for example substantially parallel lines 4 that are transverse or substantially perpendicular to the mouth 12 of the bag or to the edge region 6 of the blank 1 from which the mouth 12 of the bag 10 can be accessed from outside. Such sewing operation can be preferably facilitated by the presence of the provisional lines 4 that were traced previously, along which the sewing needle can be made to operate.

**[0028]** The lockstitches 13 obtained from such sewing operation will also keep the layers of cloth 2 and 3 and the bag 10 fixed to each other.

**[0029]** The pockets 16 are then filled with feathers or down 11, preferably with goose feathers or goose down, at their open part, i.e. at the respective portion of the mouth 12 of the bag obtained with the above mentioned lockstitches 13, so as to create the "boudin" 14, i.e. the typical sausage-like appearance of down jackets.

**[0030]** The filling can be done in a way that is known per se, for example with a machine for force-filling with feathers which is provided with an injector 17, which is inserted into the empty bag 10 at the mouth 12, more specifically into each one of the pockets 16 as shown in Figure 6.

**[0031]** After having filled the bag 10 with the feathers or down 11, another lockstitch 15 is performed along the mouth 12 of the bag 10 and/or along the edge region 6 of the blank 1 at which the bag has been filled with feathers or down, and in this way the region to be padded 7 is closed.

**[0032]** In other embodiments of the invention, not shown, the fixing along the lines 13 and/or 15 and/or 9a and/or 9b can be done by way of tailoring techniques other than sewing, for example by the interposition of double-sided adhesive tape.

**[0033]** Any flaps of the bag 10 that protrude from the blank 1 after the region to be padded 7 has been closed can easily be cut away.

**[0034]** The blank padded with feathers or down thus obtained can optionally be finished and/or joined to others in order to obtain a complete item of clothing.

**[0035]** In practice it has been found that the invention fully achieves the intended aim and objects since it makes it possible to obtain items of clothing made of double cloth that are padded with feathers or down and, at the same time, to maintain all the characteristics typical of this fabric, such as for example reversibility.

**[0036]** The invention, thus conceived, is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims. Moreover, all the details may be substituted by other, technically equiv-

alent elements.

**[0037]** In practice, the materials used, as well as the contingent shapes and dimensions, may be any according to the requirements and to the state of the art.

**[0038]** The disclosures in Italian Patent Application No. 102017000104327 from which this application claims priority are incorporated herein by reference.

**[0039]** Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

## Claims

1. A method for padding double cloths, **characterized in that** it comprises the steps of:

- providing a blank (1) made of double cloth, preferably shaped like a portion of an item of clothing, said double cloth comprising at least two layers of cloth (2, 3) which are mutually joined by way of a two-dimensional distribution of connecting threads (5);
- separating said two layers of cloth (2, 3) starting from at least one edge region (6) of said blank (1) and for an extent that substantially corresponds to a region to be padded (7) of the blank;
- interposing a bag (10) of feathers or down, preferably goose feathers or goose down, between said two layers of cloth (2, 3) at said region to be padded (7);
- closing said at least one edge region (6).

2. The method according to claim 1, wherein said interposing step comprises the steps of:

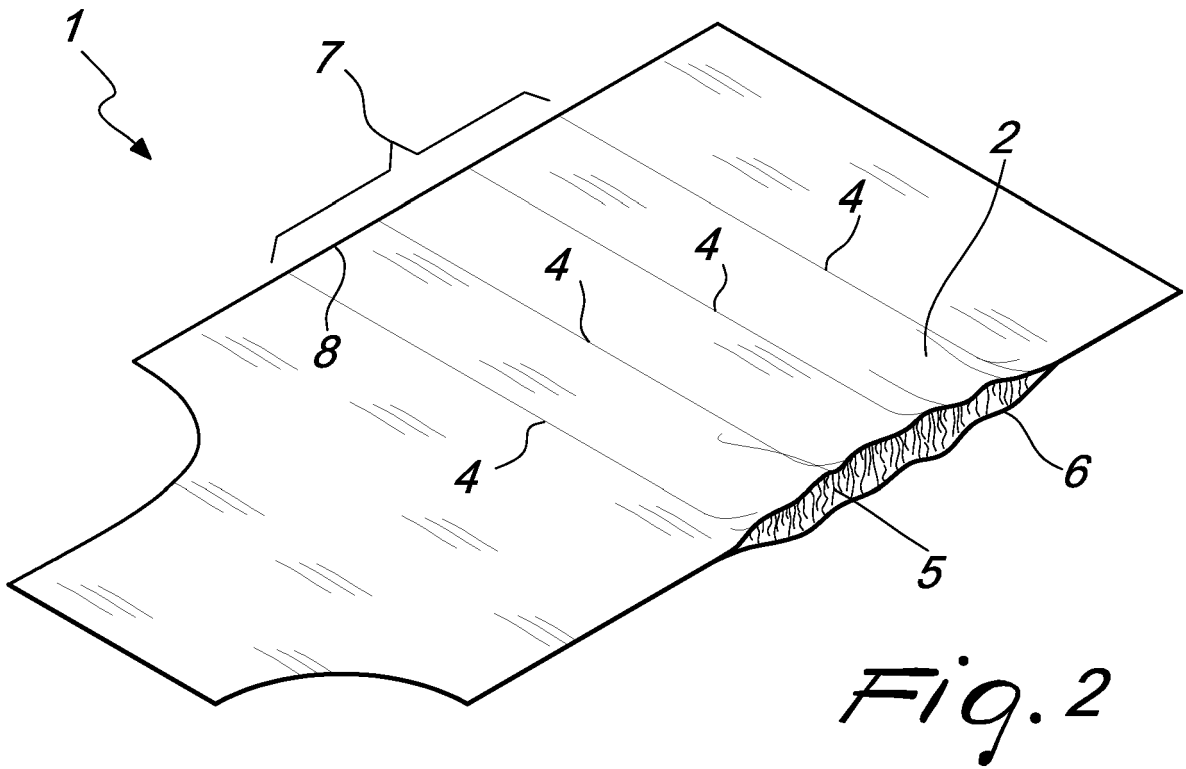
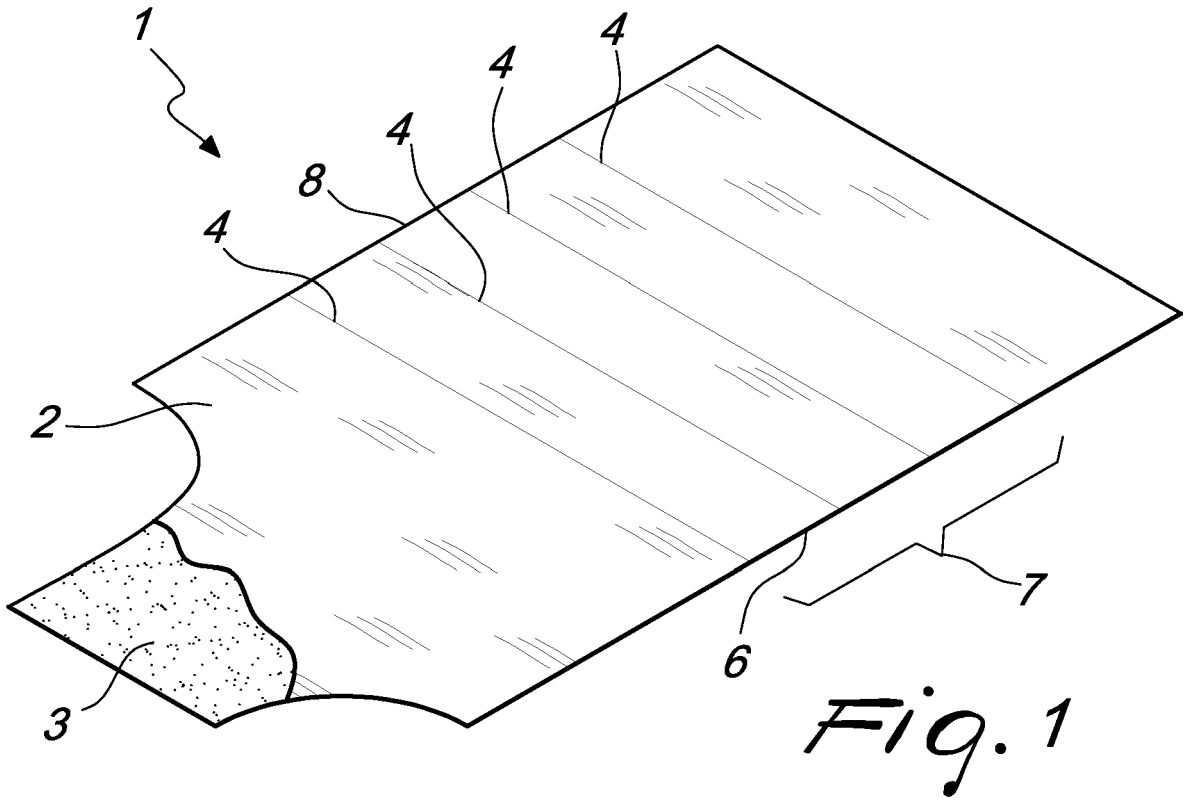
- inserting said bag (10), still without feathers or down, between said two layers of cloth (2, 3), said bag (10) having an open mouth (12);
- filling said bag with feathers or down (11), preferably goose feathers or down, through said mouth (12);

and wherein said step of closing comprises the closing of the mouth (12) of said bag.

3. The method according to claim 1 or 2, **characterized in that** it comprises, prior to the separating step, a step of applying lockstitches or basting stitches for containment (9b) on at least one side of the region to be padded (7) that is not affected by said edge region (6), which are adapted to prevent the region to be padded (7) into which the layers of cloth (2, 3) have been or will be separated from expanding, in

an unwanted manner, toward areas of said blank 1 in which the layers of cloth (2, 3) must not be separated.

4. The method according to one or more of the preceding claims, **characterized in that** it further comprises a step of fixing said bag (10) in said region to be padded (7), wherein preferably said step of fixing precedes said step of filling.
5. The method according to claim 4, wherein said fixing is obtained by way of at least one fixing lockstitch (9a) that passes through said two layers of cloth (2, 3) and said bag (10).
6. The method according to claim 4 or 5, wherein said fixing is performed on said blank (1) along peripheral regions of said bag (10) that is contained in the region to be padded (7).
7. The method according to one or more of claims 4-6, wherein said fixing is performed along at least one line (4) within the perimeter of said bag (10).
8. The method according to claim 7, wherein said at least one line (4) is adapted to define, inside said bag (10) fixed between said two layers of cloth (2, 3) and starting from the mouth (12) of said bag, a plurality of pockets (16) which are respectively filled with feathers or down (11) in said step of filling.
9. The method according to claim 8, wherein said step of closing comprises a closing of said pockets (16), preferably by sewing (15).
10. The method according to one or more of the preceding claims, wherein said region to be padded (7) has an extension that substantially corresponds to the extension of the entire blank (1).



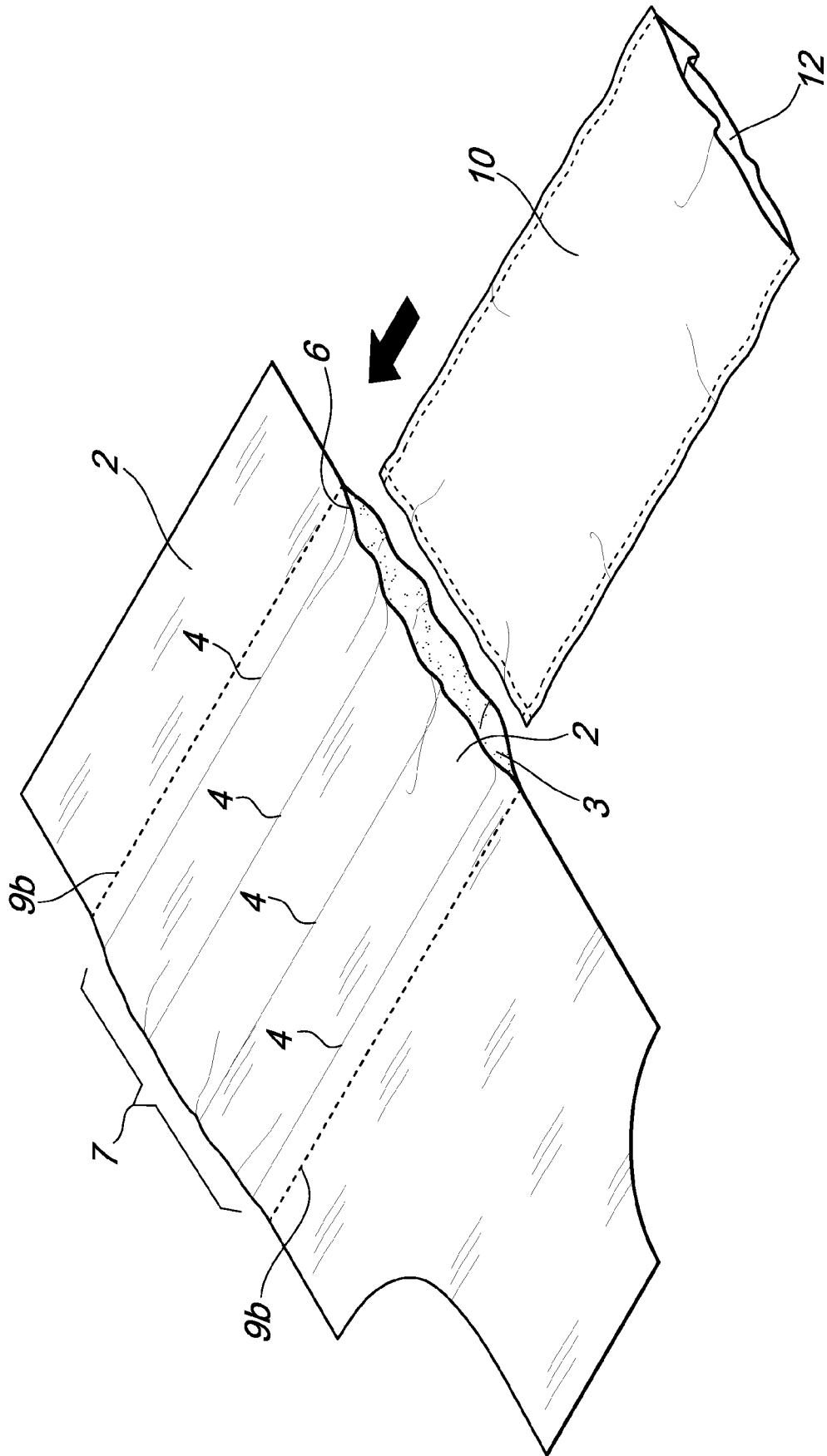
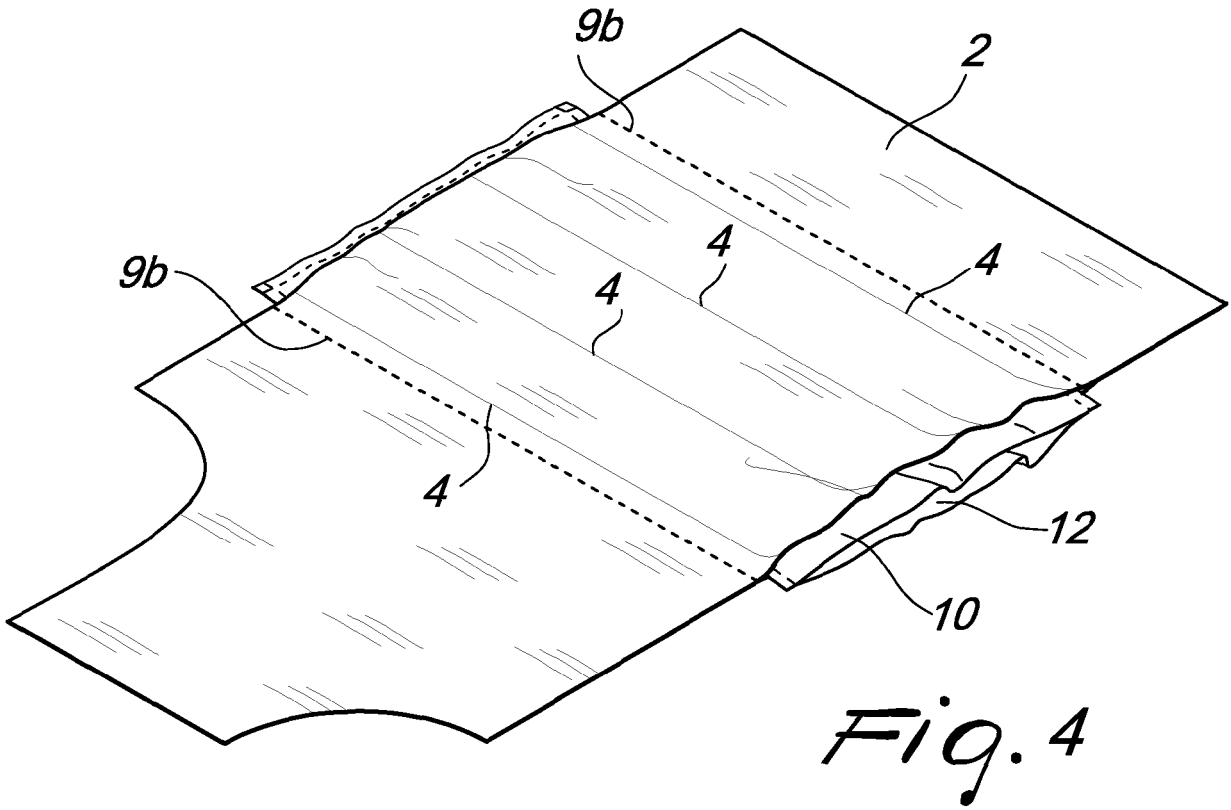
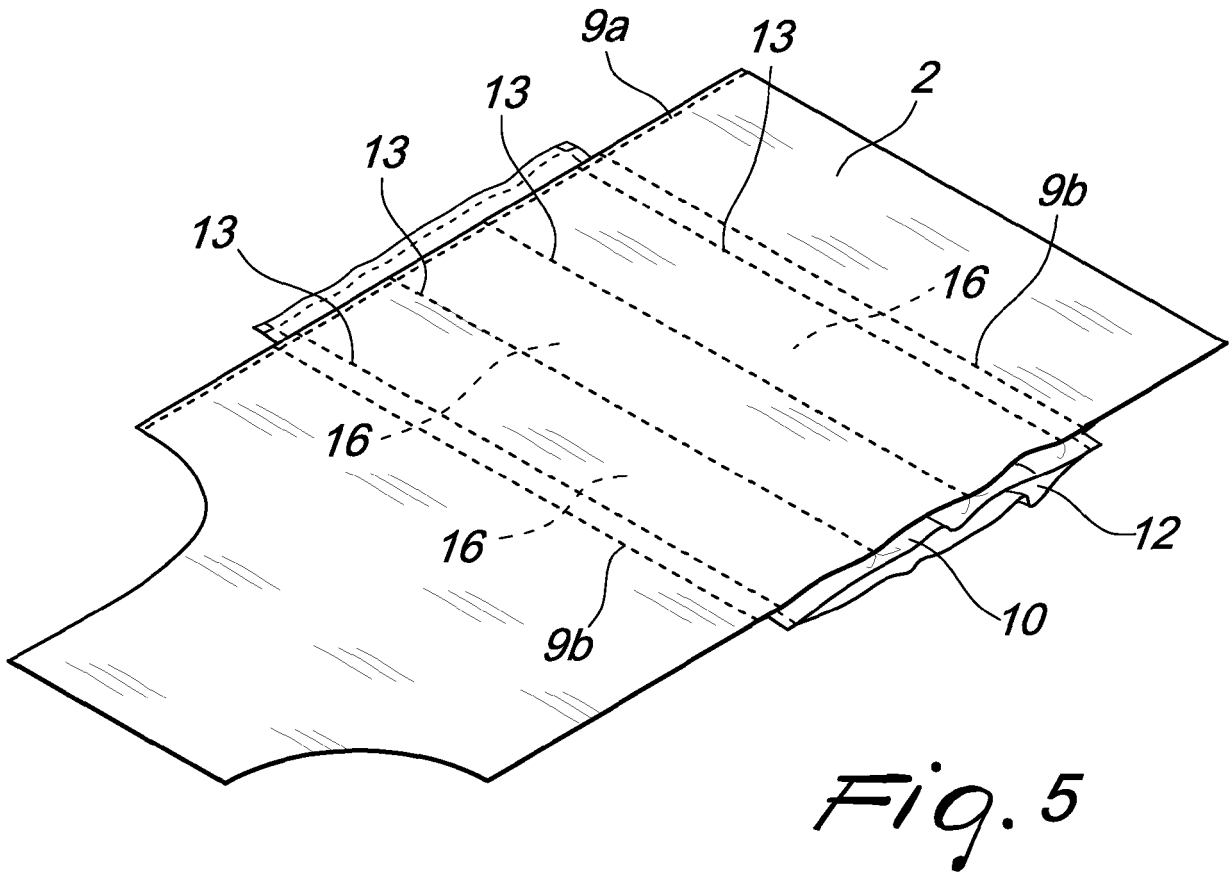


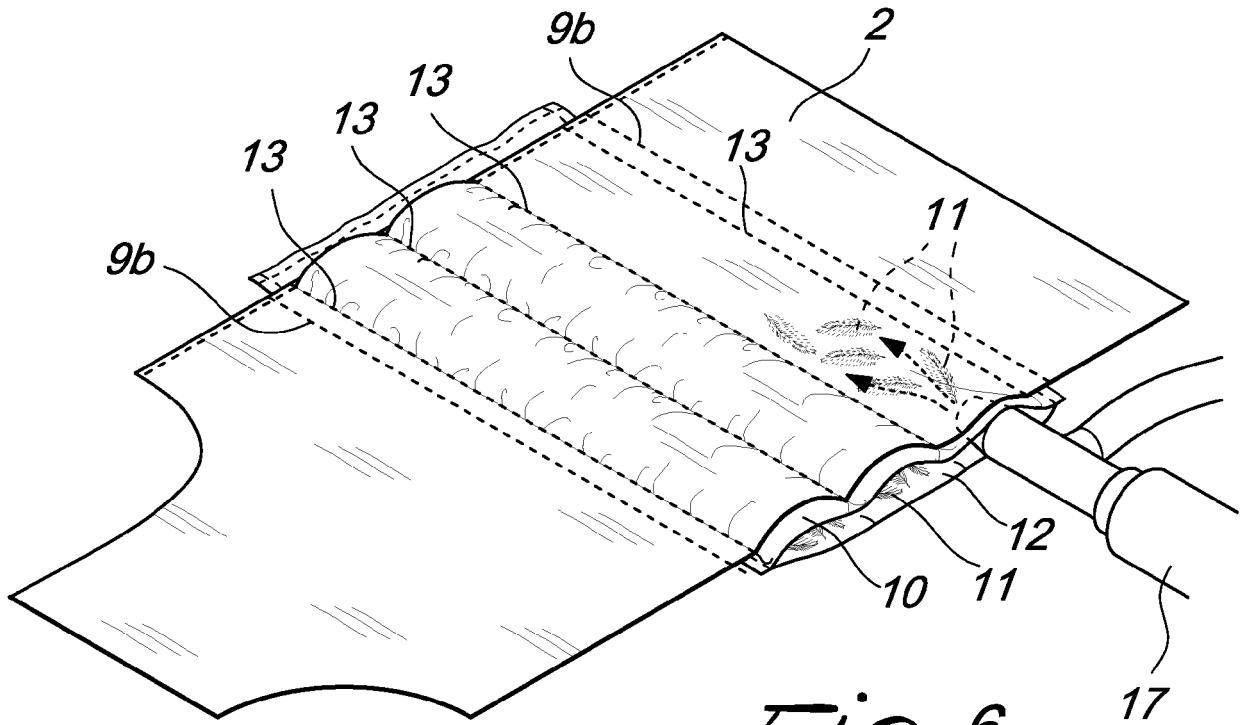
Fig. 3



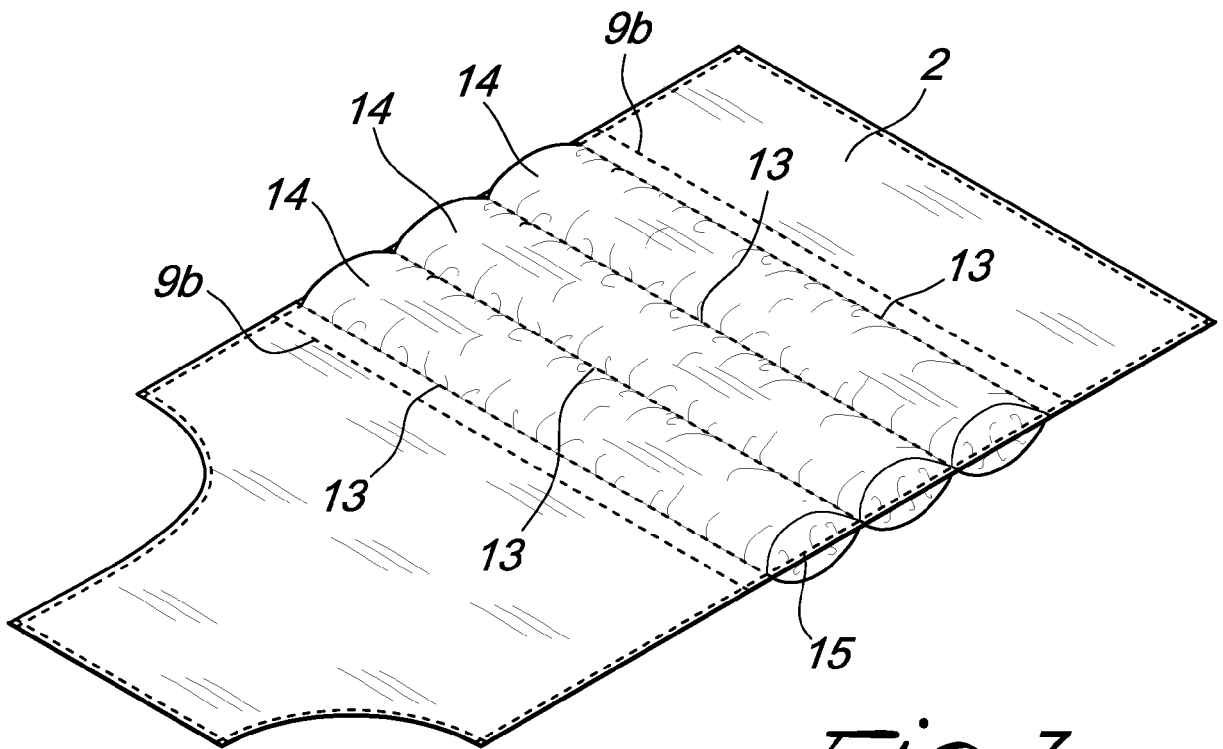
*Fig. 4*



*Fig. 5*



*Fig. 6*



*Fig. 7*





EUROPEAN SEARCH REPORT

Application Number  
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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 8 November 2018	Examiner da Silva, José
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