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• Li, Yu-Lin
 Apia (WS)
 • Yang, Chien-Hui
 Apia (WS)

(74) Representative: **dompatent von Kreisler Selting**
Werner -
Partnerschaft von Patent- und Rechtsanwälten
mbB
Deichmannhaus am Dom
Bahnhofsvorplatz 1
50667 Köln (DE)

(71) Applicant: **Aknit International Ltd.**
Apia (WS)

(72) Inventors:
 • Kuo, Ming-Sheng
 Apia (WS)

(54) **METHOD FOR KNITTING INTEGRAL SHOE UPPER FABRIC BY CIRCULAR KNITTING MACHINE AND INTEGRAL SHOE UPPER FABRIC THEREOF**

(57) An integral shoe upper fabric (100), knitted by a circular knitting machine from at least one non-elastic yarn, that includes: a first suture reserved section (1) including a first opening (11); a first toe section (2); a first foot body section (3), with a first toe turning interknitting line (32) formed between the first toe section (2) and the first foot body section (3); a first sole extension section (4); a first heel section (5), with a first heel turning interknitting line (54) formed between the first sole extension section (4) and the first heel section (5); a second heel

section (60); a second sole extension section (7), with a second heel turning interknitting line (76) formed between the second heel section (60) and the second sole extension section (7); a second foot body section (80); a second toe section (90), with a second toe turning interknitting line (98) formed between the second foot body section (80) and the second toe section (90); and a second suture reserved section (91) including a second opening (911).

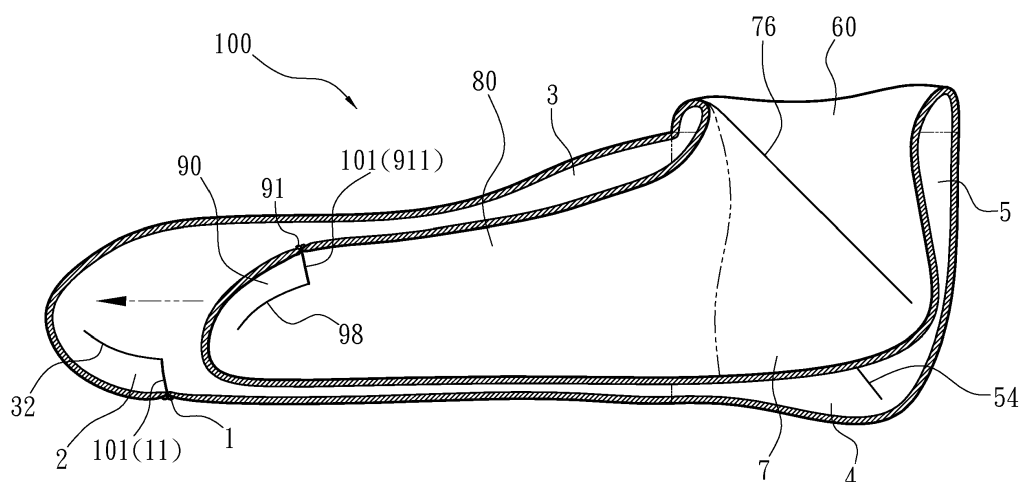


Fig. 5

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to a shoe upper fabric, and particularly to an integral shoe upper fabric woven by a circular knitting machine.

BACKGROUND OF THE INVENTION

[0002] Based on different shoe upper materials, shoes have different fabrication methods and shoe upper structures. The shoe upper and fabrication method discussed herein are mainly associated with a shoe upper material made of a fabric for shoes. For example, a known technology is as disclosed by the Taiwan Patent Publication No. 201609010. This disclosure provides a shoe object including a shoe upper and a sole structure secured to the shoe upper. The shoe object of the above current technology is woven by a flat bed knitting machine. In addition to a slow knitting speed of a flat bed, the knitting shoe object further needs manual splicing and sewing to form the shoe upper, resulting in an issue that factories are incapable of reducing production costs.

[0003] In another known technology as the Taiwan Patent Publication No. 201603735 disclosing a shoe object, the shoe object includes a seamless sleeve portion or fabric shoe upper formed by a knitting assembly removed from one single warp knit fabric element. From the content of the above known technology, the seamless sleeve portion or fabric shoe upper of the above known technology is woven by a circular knitting machine. The circular knitting machine solves the issue of a slow speed of a flat knitting machine. However, to weave the shoe object using the above known technology, in addition to the issue of the procedure of manual splicing and sewing, excessive parts of the shoe object need to be first trimmed before the splicing procedure. Thus, due to the waste material produced by the excessive parts trimmed off, not only production costs are increased by also a waste in raw materials is further caused.

[0004] In another known technology as the Taiwan Patent No. M400227 disclosing a sock shoe, the sock shoe includes a sock body. The sock body includes a foot covering portion including an end opening, and a sleeve portion extending outwards from the end opening of the foot covering portion. The sock shoe further includes an insulation layer, which is made of an elastic material and is a formed integral to appear shoe-shaped at a surface of the foot covering portion. In this known technology, the sock body is first woven, and is then processed to fabricate the shoe. However, the sock body itself is not exactly suitable for directly fabricating into a shoe upper, with main reasons being as follows. First of all, an elastic yarn (a fiber material with flexibility), as the main weaving material when the sock body is woven, is extremely prone to deformation due to an external force when employed as the shoe upper. Even with a shaping object (the insu-

lation layer in an elastic material) covering the sock body, the shaping object may be easily broken or damaged as the sock body lacks a supporting effect. Secondly, although the thickness of the sock body may be increased by a double-sided weaving method during the weaving process, the sock body is nonetheless a single-layer fabric. In order to wear the sock body as the shoe upper of a shoe, the sock body needs to have support and wear resistance greater than those of a common fabric. However, the sock body has not only insufficient support but is also a single-layer fabric with lower wear resistance, and is thus an inappropriate material for directly fabricating into a shoe upper. Thirdly, another sock body may accommodate around the original sock body to form a double-layer fabric and to thus further reinforce the wear resistance of the sock body. However, as the two separate sock bodies need to be appropriately sleeved with each other, the alignment process of the corresponding edges and corners inevitably encounter increased complications, and can only be completed with great amounts of experience and manpower, or else product defective rate may be increased to contrarily lead to increased labor and time costs.

SUMMARY OF THE INVENTION

[0005] Therefore, it is a primary object of the present invention to solve the issues of the known technologies. That is, it is a primary object of the present invention to provide an integral shoe upper fabric for a shoe upper with sufficient support. Further, the integral shoe upper fabric may be promptly and reversibly folded in half to form a double-layer structure with high wear resistance, thereby effectively reducing labor and material costs as well as significantly enhancing production efficiency.

[0006] To achieve the above object, the present invention provides a method for weaving an integral shoe upper fabric by a circular knitting machine. The method includes: providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving; causing the circular knitting machine to weave a first suture reserved section including a first opening from the yarn; causing the circular knitting machine to weave a first toe woven section in continuation from an upper edge of the first suture reserved section; causing the circular knitting machine to turn the weaving direction from the first toe woven section, combine a lower edge of the first suture reserved section, and weave in continuation to form a first foot body woven section, with a first toe turning interweaving line interweaved between the first toe woven section and the first foot body woven section; causing the circular knitting machine to weave a first sole extension section in continuation from a lower edge of the first foot body woven section; causing the circular knitting machine to turn the weaving direction from the first sole extension section, and sequentially weave a first heel woven section and a second heel woven section, with a first heel

turning interweaving line interweaved between the first sole extension section and the first heel woven section; causing the circular knitting machine to turn the weaving direction from the second heel woven section, and weave a second sole extension section, with a second heel turning interweaving line interweaved between the second heel woven section and the second sole extension section and symmetric to the first heel turning interweaving line; causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section and an upper edge of the first foot body woven section to form a second foot body woven section; causing the circular knitting machine to weave in continuation from an upper edge of the second foot body woven section, and turn the weaving direction to weave a second toe woven section, with a second toe turning interweaving line interweaved between the second foot body woven section and the second toe woven section; and causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section and a lower edge of the second foot body woven section to form a second suture reserved section including a second opening that is asymmetric to the direction of the first opening of the first suture reserved section.

[0007] To achieve the above object, the present invention further provides a method for weaving an integral shoe upper fabric by a circular knitting machine. The method includes: providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving; causing the circular knitting machine to weave a first suture reserved section including a first opening from the yarn; causing the circular knitting machine to weave a first toe woven section in continuation from an upper edge of the first suture reserved section; causing the circular knitting machine to turn the weaving direction from the first toe woven section, combine a lower edge of the first suture reserved section, and weave in continuation to form a first foot body woven section, with a first toe turning interweaving line interweaved between the first toe woven section and the first foot body woven section; causing the circular knitting machine to weave a first instep extension section in continuation from an upper edge of the first foot body woven section; causing the circular knitting machine to weave a sole extension section in continuation from a lower edge of the first foot body woven section; causing the circular knitting machine to turn the weaving direction from the first sole extension section, and sequentially weave a first heel woven section and a second heel woven section, with a first heel turning interweaving line interweaved between the first sole extension section and the first heel woven section; causing the circular knitting machine to turn the weaving direction from the second heel woven section, and weave a second sole extension section, with a second heel turning interweaving line interweaved between the second heel woven section and the second sole extension section and symmetric to the first heel turning interweaving line; causing the circular

knitting machine to turn the weaving direction from the first instep extension section, and weave a second instep extension section in continuation from the first instep extension section, with an instep extension turning interweaving line interweaved between the first instep extension section 33 and the second instep extension section; causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section and an edge of the second instep extension section to form a second foot body woven section; causing the circular knitting machine to weave in continuation from an upper edge of the second foot body woven section, turn the weaving direction, and weave a second toe woven section, with a second toe turning interweaving line interweaved between the second foot body woven section and the second toe woven section; and causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section and a lower edge of the second foot body woven section to form a second suture reserved section including a second opening that is asymmetric to the direction of the first opening of the first suture reserved section.

[0008] To achieve the above object, the present invention further provides a method for weaving an integral shoe upper fabric. The method includes: providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving; causing the circular knitting machine to weave a first suture reserved section including a first opening from the yarn; causing the circular knitting machine to weave a first toe woven section in continuation from an upper edge of the first suture reserved section; causing the circular knitting machine to turn the weaving direction from the first toe woven section, combine a lower edge of the first suture reserved section, and weave in continuation to form a first foot body woven section, with a first toe turning interweaving line interweaved between the first toe woven section and the first foot body woven section; causing the circular knitting machine to weave a first sole extension section in continuation from a lower edge of the first foot body woven section; causing the circular knitting machine to turn the weaving direction from the first sole extension section, and weave a first heel woven section in continuation from the first sole extension section, with a first heel turning interweaving line interweaved between the first sole extension section and the first heel woven section; causing the circular knitting machine to weave a first heel extension section in continuation from a lower edge of the first heel woven section; causing the circular knitting machine to turn the weaving direction, and weave a second heel extension section in continuation from the first heel extension section, with a heel extension turning interweaving line interweaved between the first heel extension section and the second heel extension section; causing the circular knitting machine to combine and weave in continuation from the second heel extension section and a side edge of the first heel woven section to form a second heel woven

section; causing the circular knitting machine turn the weaving direction from the second heel woven section, and weave a second sole extension section, with a second heel turning interweaving line interweaved between the second heel woven section and the second sole extension section and symmetric to the first heel turning interweaving line; causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section and an upper edge of the first foot body woven section to form a second foot body woven section; causing the circular knitting machine to weave from an upper edge of the second foot body woven section, turn the weaving direction, and weave a second toe woven section, with a second toe turning interweaving line interweaved between the second foot body woven section and the second toe woven section; and causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section and a lower edge of the second foot body woven section to form a second suture reserved section including a second opening that is asymmetric to the direction of the first opening of the first suture reserved section.

[0009] To achieve the above object, the present invention further provides a method for weaving an integral shoe upper fabric by a circular knitting machine. The method includes: providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving; causing the circular knitting machine to weave a first suture reserved section including a first opening from the yarn; causing the circular knitting machine to weave a first toe woven section in continuation from an upper edge of the first suture reserved section; causing the circular knitting machine to turn the weaving direction from the first toe woven section, combine a lower edge of the first suture reserved section, and weave in continuation to form a first foot body woven section, with a first toe turning interweaving line interweaved between the first toe woven section and the first foot body woven section; causing the circular knitting machine to weave a first instep extension section in continuation from an upper edge of the first foot body woven section; causing the circular knitting machine to weave a first sole extension section in continuation from a lower edge of the first foot body woven section; causing the circular knitting machine to turn the weaving direction, and weave a first heel woven section in continuation from the first sole extension section, with a first heel turning interweaving line interweaved between the first sole extension section and the first heel woven section; causing the circular knitting machine to weave a first heel extension section in continuation from a lower edge of the first heel woven section; causing the circular knitting machine to turn the weaving direction, and weave a second heel extension section in continuation from the first heel extension section, with a heel extension turning interweaving line interweaved between the first heel extension section and the second heel extension section; causing the

circular knitting machine to combine and weave in continuation from the second heel extension section and a side edge of the first heel woven section to form a second heel woven section; causing the circular knitting machine turn the weaving direction from the second heel woven section, and weave a second sole extension section, with a second heel turning interweaving line interweaved between the second heel woven section and the second sole extension section and symmetric to the first heel turning interweaving line; causing the circular knitting machine to turn the weaving direction, and weave a second instep extension section in continuation from the first instep extension section, with an instep extension turning interweaving line interweaved between the first instep extension section and the second instep extension section; causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section and an edge of the second instep extension section to form a second foot body woven section; causing the circular knitting machine weave in continuation from an upper edge of the second foot body woven section, turn the weaving direction, and weave a second toe woven section, with a second toe turning interweaving line interweaved between the second foot body woven section and the second toe woven section; and causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section and a lower edge of the second foot body woven section to form a second suture reserved section including a second opening that is asymmetric to the direction of the first opening of the first suture reserved section.

[0010] To achieve the above object, the present invention further provides an integral shoe upper fabric woven by a circular knitting machine. The integral shoe upper fabric is woven from at least one non-elastic yarn provided to the circular knitting machine, and includes: a first suture reserved section woven by the circular knitting machine and including a first opening; a first toe woven section located at an upper edge side of the first suture reserved section and woven by the circular knitting machine; a first foot body woven section located at a turning side of the first toe woven section and a lower edge side of the first suture reserved section, and woven by the circular knitting machine, and a first toe turning interweaving line formed between the first toe woven section and the first foot body woven section; a first sole extension section located at a lower edge side of the first foot body woven section and woven by the circular knitting machine; a first heel woven section located at a turning side of the first sole extension section and woven by the circular knitting machine, and a first heel turning interweaving line formed between the first sole extension section and the first heel woven section; a second heel woven section located at an edge side of the first heel woven section and woven by the circular knitting machine; a second sole extension section located at a turning side of the second heel woven section and woven by the circular knitting machine, and a second heel turning inter-

weaving line that is formed between the second heel woven section and the second sole extension section and is symmetric to the first heel turning interweaving line; a second foot body woven section located at an edge side of the second sole extension section and woven by the circular knitting machine; a second toe woven section located at an upper turning edge side of the second foot body woven section and woven by the circular knitting machine, and a second toe turning interweaving line formed between the second foot body woven section and the second toe woven section; and a second suture reserved section located at an edge side of the second toe woven section and a lower edge side of the second foot body woven section, woven by the circular knitting machine, and including a second opening that is asymmetric to the direction of the first opening of the first suture reserved section.

[0011] The integral shoe upper fabric woven by a circular knitting machine further includes a reinforcing additional section, which is located between the first heel woven section and the second heel woven section and is woven by the circular knitting machine.

[0012] The integral shoe upper fabric woven by a circular knitting machine further includes a first instep extension section located at an upper edge side of the first foot body woven section and woven by the circular knitting machine, and a second instep extension section located at a turning side of the first instep extension section and woven by the circular knitting machine, and an instep extension turning interweaving line is formed between the first instep extension section and the second instep extension section.

[0013] The integral shoe upper fabric woven by a circular knitting machine further includes reinforcing additional section, which is located between the first foot body woven section and the first instep extension section and is woven by the circular knitting machine.

[0014] The integral shoe upper fabric woven by a circular knitting machine further includes at least one first heel extension section located at a lower edge of the first heel woven section and woven by the circular knitting machine, and at least one second heel extension section located at a turning side of the first heel extension section and woven by the circular knitting machine, and at least one heel extension turning interweaving line is formed between the first heel extension section and the second heel extension section.

[0015] The integral shoe upper fabric woven by a circular knitting machine further includes a reinforcing additional section, which is located between the first heel woven section and the first heel extension section and is woven by the circular knitting machine.

[0016] Further, in the integral shoe upper fabric woven by a circular knitting machine, the first opening is sutured to form a suture line appearing as an inverted T, an inverted Y or a horizontal I, and the first suture reserved section is appropriately trimmed after the suture line is formed.

[0017] Through the above technical solutions, the present invention achieves following effects compared to known technologies. First of all, as the integral shoe upper fabric of the present invention is woven from a non-elastic yarn by a circular knitting machine, the integral shoe upper fabric of the present invention not only can be woven at a fast speed but also provides sufficient intrinsic support required by a shoe upper. Secondly, the integral shoe upper fabric of the present invention can be promptly folded in reverse by half, and readily forms a double-layer structure by aligning the corners and edges, thereby enhancing the wear resistance. Thirdly, because the integral shoe upper fabric of the present invention is a one-time fabric woven by a circular knitting machine, working hours for splicing and suturing different fabrics are eliminated while minimal waste materials are produced, and therefore labor and material costs can be effectively reduced and production efficiency can be significantly enhanced.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018]

Fig. 1 is a planar appearance schematic diagram according to a first preferred embodiment of the present invention;

Fig. 2 is a section view of Fig. 1 of the present invention;

Fig. 3 to Fig. 5 are continuous operation diagrams before processing Fig. 2 of the present invention to a shaped shoe upper;

Fig. 6 is a section view of the first preferred embodiment having been processed to a shaped shoe upper;

Fig. 7 is a planar appearance schematic diagram according to a second preferred embodiment of the present invention;

Fig. 8 is a section view of Fig. 7;

Fig. 9 is a section view of the second preferred embodiment having been processed to a shaped shoe upper;

Fig. 10 is a planar appearance schematic diagram according to a third preferred embodiment of the present invention;

Fig. 11 is a section view of Fig. 10;

Fig. 12 is section view of the third preferred embodiment having been processed to a shaped shoe upper;

Fig. 13 is a planar appearance schematic diagram according to a fourth preferred embodiment of the present invention;

Fig. 14 is a section view of Fig. 13;

Fig. 15 is a section view of the fourth preferred embodiment having been processed to shaped shoe upper;

Fig. 16 is a planar section view according to a fifth preferred embodiment of the present invention;

Fig. 17 is a section view of a first pattern of the fifth preferred embodiment having been processed to shaped shoe upper;

Fig. 18 is a section view of a second pattern of the fifth preferred embodiment having been processed to shaped shoe upper;

Fig. 19 is a planar section view according to a sixth preferred embodiment of the present invention;

Fig. 20 is a section view of the sixth preferred embodiment having been processed to a shaped shoe upper;

Fig. 21 is a planar section view according to a seventh preferred embodiment of the present invention;

Fig. 22 is a section view of the seventh preferred embodiment having been processed to a shaped shoe upper;

Fig. 23 is a planar section view according to an eighth preferred embodiment of the present invention;

Fig. 24 is a section view of a the eighth preferred embodiment having been processed to a shaped shoe upper;

Fig. 25 is a partial perspective view before a first opening is sutured in embodiments of the present invention;

Fig. 26 is a partial perspective view of the first opening sutured as an inverted T in embodiments of the present invention;

Fig. 27 is a partial perspective view of the first opening sutured as an inverted Y in embodiments of the present invention; and

Fig. 28 is a partial perspective view of the first opening sutured as a horizontal I in embodiments of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] The present invention provides a method for weaving an integral shoe upper fabric by a circular knitting machine and an integral shoe upper fabric thereof. Details of preferred embodiments and technical contents of the present invention are given with the accompanying drawings below. Refer to Fig. 1 to Fig. 6 showing a planar appearance diagram and a section view according to a first preferred embodiment of the present invention, continuous operation diagrams before the first preferred embodiment is processed to a shaped shoe upper, and a section view of the first preferred embodiment having been processed to a shaped shoe upper. It is clearly seen from the diagrams that, the present invention provides an integral shoe upper fabric woven by a circular knitting machine. The integral shoe upper fabric 100 is woven from at least one non-elastic yarn provided to the circular knitting machine, and includes: a first suture reserved section 1 woven by the circular knitting machine and including a first opening 11; a first toe woven section 2 located at an upper edge side of the first suture reserved section 1 and woven by the circular knitting machine; a

first foot body woven section 3 located at a turning side of the first toe woven section 2 and a lower edge side of the first suture reserved section 1, and woven by the circular knitting machine, and a first toe turning interweaving line 32 formed between the first toe woven section 2 and the first foot body woven section 3; a first sole extension section 4 located at a lower edge side of the first foot body woven section 3 and woven by the circular knitting machine; a first heel woven section 5 located at a turning side of the first sole extension section 4 and woven by the circular knitting machine, and a first heel turning interweaving line 54 formed between the first sole extension section 4 and the first heel woven section 5; a second heel woven section 60 located at an edge side of the first heel woven section 5 and woven by the circular knitting machine; a second sole extension section 7 located at a turning side of the second heel woven section 60 and woven by the circular knitting machine, and a second heel turning interweaving line 76 that is formed between the second heel woven section 60 and the second sole extension section 7 and is symmetric to the first heel turning interweaving line 54; a second foot body woven section 80 located at an edge side of the second sole extension section 7 and woven by the circular knitting machine; a second toe woven section 90 located at an upper turning edge side of the second foot body woven section 80 and woven by the circular knitting machine, and a second toe turning interweaving line 98 formed between the second foot body woven section 80 and the second toe woven section 90; and a second suture reserved section 91 located at an edge side of the second toe woven section 90 and a lower edge side of the second foot body woven section 80, woven by the circular knitting machine, and including a second opening 911 that is asymmetric to the direction of the first opening 11 of the first suture reserved section 1. It should be noted that, the first opening 11 before having been sutured is as shown in Fig. 25, and may form a suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, as shown in Fig. 26 to Fig. 28. Further, after the suture line 101 is formed, the first suture reserved section 1 may be appropriately trimmed as shown in Fig. 2 to Fig. 6. Further, the second opening 911 may form another suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and may be appropriately trimmed as shown in Fig. 2 to Fig. 6 after the suture line 101 is formed. To better explain the present invention, the present invention further provides a method for weaving an integral shoe upper fabric by a circular knitting machine. The method includes: providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving; causing the circular knitting machine to weave a first suture reserved section 1 including a first opening 11 from the yarn; causing the circular knitting machine to weave a first toe woven section 2 in continuation from an upper edge of the first suture reserved section 1; causing the circular knitting machine to turn

the weaving direction from the first toe woven section 2, combine a lower edge of the first suture reserved section 1, and weave in continuation to form a first foot body woven section 3, with a first toe turning interweaving line 32 interweaved between the first toe woven section 2 and the first foot body woven section 3; causing the circular knitting machine to weave a first sole extension section 4 in continuation from a lower edge of the first foot body woven section 3; causing the circular knitting machine to turn the weaving direction from the first sole extension section 4, and sequentially weave a first heel woven section 5 and a second heel woven section 60, with a first heel turning interweaving line 54 interweaved between the first sole extension section 4 and the first heel woven section 5; causing the circular knitting machine to turn the weaving direction from the second heel woven section 60, and weave a second sole extension section 7, with a second heel turning interweaving line 76 interweaved between the second heel woven section 60 and the second sole extension section 7 and symmetric to the first heel turning interweaving line 54; causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section 7 and an upper edge of the first foot body woven section 3 to form a second foot body woven section 80; causing the circular knitting machine to weave in continuation from an upper edge of the second foot body woven section 80, and turn the weaving direction to weave a second toe woven section 90, with a second toe turning interweaving line 98 interweaved between the second foot body woven section 80 and the second toe woven section 90; and causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section 90 and a lower edge of the second foot body woven section 80 to form a second suture reserved section 91 including a second opening 911 that is asymmetric to the direction of the first opening 11 of the first suture reserved section 1. Further, subsequent steps of the present invention for processing the integral shoe upper fabric 100 to a shaped shoe upper 103 are as below. In step 1, in the integral shoe upper fabric 100, the second opening 911 is sutured from an intersection point 102 from which the second suture reserved section 91 is connected to one second toe turning interweaving line 98 to another intersection point 102 of another second toe turning interweaving line 98, and the second suture reserved section 91 is appropriately trimmed. In step 2, outside the integral shoe upper fabric 100, the first opening 11 is sutured from an intersection point 102 at which the first suture reserved section 1 is connected to one first toe turning interweaving line 32 to another intersection point 102 of another first toe turning interweaving line 32, and the first suture reserved section 1 is appropriately trimmed. In step 3, the second toe woven section 90, the second foot body woven section 80, the second sole extension section 7 and the second heel woven section 60 are completely folded in reverse into the integral shoe upper fabric 100 to form a double-layer

structure, as shown in Fig. 3 to Fig. 5. In step 4, the inside of the integral shoe upper fabric 100 is applied by a shaping solvent, and the shaping solvent is caused to infuse from an inner layer to an outer layer of the integral shoe upper fabric 100. In step 5, a shoe shape supporting mold is placed in the integral shoe upper fabric 100. In step 6, the inner layer and the outer layer of the integral shoe upper fabric 100 are glued together and shaped at the same time by a temperature-controlled heating method. In step 7, the shoe shape supporting mold is taken out of the integral shoe upper fabric 100, and the shaped shoe upper 103 is formed, as shown in Fig. 6. The above-mentioned steps for processing the integral shoe upper fabric 100 into the shaped shoe upper 103 are not the subject matter of the application, and are not further discussed in detail. Associated processing steps or technologies may be referred from the disclosure of the Taiwan Patent Publication No. 201514353.

[0020] Refer to Fig. 7 to Fig. 9 showing planar appearance and section diagrams according to a second preferred embodiment of the present invention, and a section view of the second preferred embodiment having been processed to a shaped shoe upper. It is clearly seen from the diagrams that, a variation of the second preferred embodiment of the present invention compared to the first preferred embodiment of the present invention is that, the integral shoe upper fabric 100 further includes a first instep extension section 33 located at an upper edge side of the first foot body woven section 3 and woven by the circular knitting machine, and a second instep extension section 8 located at a turning side of the first instep extension section 33 and woven by the circular knitting machine, with an instep extension turning interweaving line 83 formed between the first instep extension section 33 and the second instep extension section 8. It should be noted that, the first opening 11 before having been sutured is as shown in Fig. 25, and may form a suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, as shown in Fig. 26 to Fig. 28. Further, after the suture line 101 is formed, the first suture reserved section 1 may be appropriately trimmed as shown in Fig. 7 to Fig. 9. Further, the second opening 911 may form another suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and may be appropriately trimmed as shown in Fig. 7 to Fig. 9 after the suture line 101 is formed. To better explain the present invention, the present invention further provides a method for weaving an integral shoe upper fabric by a circular knitting machine. The method includes: providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving; causing the circular knitting machine to weave a first suture reserved section 1 including a first opening 11 from the yarn; causing the circular knitting machine to weave a first toe woven section 2 in continuation from an upper edge of the first suture reserved section 1; causing the circular knitting machine to turn the weaving di-

rection from the first toe woven section 2, combine a lower edge of the first suture reserved section 1, and weave in continuation to form a first foot body woven section 3, with a first toe turning interweaving line 32 interweaved between the first toe woven section 2 and the first foot body woven section 3; causing the circular knitting machine to weave a first instep extension section 33 in continuation from an upper edge of the first foot body woven section 3; causing the circular knitting machine to weave a first sole extension section 4 in continuation from a lower edge of the first foot body woven section 3; causing the circular knitting machine to turn the weaving direction from the first sole extension section 4, and sequentially weave a first heel woven section 5 and a second heel woven section 60, with a first heel turning interweaving line 54 interweaved between the first sole extension section 4 and the first heel woven section 5; causing the circular knitting machine to turn the weaving direction from the second heel woven section 60, and weave a second sole extension section 7, with a second heel turning interweaving line 76 interweaved between the second heel woven section 60 and the second sole extension section 7 and symmetric to the first heel turning interweaving line 54; causing the circular knitting machine to turn the weaving direction, and weave a second instep extension section 8 in continuation from the first instep extension section 33, with an instep extension turning interweaving line 83 interweaved between the first instep extension section 33 and the second instep extension section 8; causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section 7 and an edge of the second instep extension section 8 to form a second foot body woven section 80; causing the circular knitting machine to weave in continuation from an upper edge of the second foot body woven section 80, turn the weaving direction, and weave a second toe woven section 90, with a second toe turning interweaving line 98 interweaved between the second foot body woven section 80 and the second toe woven section 90; and causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section 90 and a lower edge of the second foot body woven section 80 to form a second suture reserved section 91 including a second opening 911 that is asymmetric to the direction of the first opening 11 of the first suture reserved section 1.

[0021] Refer to Fig. 10 to Fig. 12 showing planar appearance and section diagrams according to a third preferred embodiment of the present invention, and a section view of the third preferred embodiment having been processed to a shaped shoe upper. It is clearly seen from the diagrams that, a variation of the third preferred embodiment of the present invention compared to the first preferred embodiment of the present invention is that, the integral shoe upper fabric 100 further includes at least one first heel extension section 55 located at a lower edge of the first heel woven section 5 and woven by the

circular knitting machine, and at least one second heel extension section 6 located at a turning side of the first heel extension section 55 and woven by the circular knitting machine, with at least one heel extension turning interweaving line 65 formed between the first heel extension section 55 and the second heel extension section 6. It should be noted that, the first opening 11 before having been sutured is as shown in Fig. 25, and may form a suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, as shown in Fig. 26 to Fig. 28. Further, after the suture line 101 is formed, the first suture reserved section 1 may be appropriately trimmed as shown in Fig. 10 to Fig. 12. Further, the second opening 911 may form another suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and may be appropriately trimmed as shown in Fig. 10 to Fig. 12 after the suture line 101 is formed. To better explain the present invention, the present invention further provides a method for weaving an integral shoe upper fabric by a circular knitting machine. The method includes: providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving; causing the circular knitting machine to weave a first suture reserved section 1 including a first opening 11 from the yarn; causing the circular knitting machine to weave a first toe woven section 2 in continuation from an upper edge of the first suture reserved section 1; causing the circular knitting machine to turn the weaving direction from the first toe woven section 2, combine a lower edge of the first suture reserved section 1, and weave in continuation to form a first foot body woven section 3, with a first toe turning interweaving line 32 interweaved between the first toe woven section 2 and the first foot body woven section 3; causing the circular knitting machine to weave a first sole extension section 4 in continuation from a lower edge of the first foot body woven section 3; causing the circular knitting machine to turn the weaving direction from the first sole extension section 4, and weave a first heel woven section 5 in continuation from the first sole extension section 4, with a first heel turning interweaving line 54 interweaved between the first sole extension section 4 and the first heel woven section 5; causing the circular knitting machine to weave a first heel extension section 55 in continuation from a lower edge of the first heel woven section 5; causing the circular knitting machine to turn the weaving direction, and weave a second heel extension section 6 in continuation from the first heel extension section 55, with a heel extension turning interweaving line 65 interweaved between the first heel extension section 55 and the second heel extension section 6; causing the circular knitting machine to combine and weave in continuation from the second heel extension section 6 and a side edge of the first heel woven section 5 to form a second heel woven section 60; causing the circular knitting machine turn the weaving direction from the second heel woven section 60, and weave a second sole extension section

7, with a second heel turning interweaving line 76 interweaved between the second heel woven section 60 and the second sole extension section 7 and symmetric to the first heel turning interweaving line 54; causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section 7 and an upper edge of the first foot body woven section 3 to form a second foot body woven section 80; causing the circular knitting machine to weave in continuation from an upper edge of the second foot body woven section 80, turn the weaving direction, and weave a second toe woven section 90, with a second toe turning interweaving line 98 interweaved between the second foot body woven section 80 and the second toe woven section 90; and causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section 90 and a lower edge of the second foot body woven section 80 to form a second suture reserved section 91 including a second opening 911 that is asymmetric to the direction of the first opening 11 of the first suture reserved section 1.

[0022] Refer to Fig. 13 to Fig. 15 showing planar appearance and section diagrams according to a fourth preferred embodiment of the present invention, and a section view of the fourth preferred embodiment having been processed to a shaped shoe upper. It is clearly seen from the diagrams that, a variation of the fourth preferred embodiment of the present invention compared to the first preferred embodiment of the present invention is that, the integral shoe upper fabric 100 further includes a first instep extension section 33 located at an upper edge side of the first foot body woven section 3 and woven by the circular knitting machine, a second instep extension section 8 located at a turning side of the first instep extensions section 33 and woven by the circular knitting machine, and at an instep extension turning interweaving line 83 formed between the first instep extension section 33 and the second instep extension section 8. The integral shoe upper fabric 100 further includes at least one first heel extension section 55 located at a lower edge of the first heel woven section 5 and woven by the circular knitting machine, at least one second heel extension section 6 located at a turning side of the first heel extension section 55 and woven by the circular knitting machine, and at least one heel extension turning interweaving line 65 formed between the first heel extension section 55 and the second heel extension section 6. It should be noted that, the first opening 11 before having been sutured is as shown in Fig. 25, and may form a suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, as shown in Fig. 26 to Fig. 28. Further, after the suture line 101 is formed, the first suture reserved section 1 may be appropriately trimmed as shown in Fig. 13 to Fig. 15. Further, the second opening 911 may form another suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and may be appropriately trimmed as shown in Fig. 13 to Fig. 15 after the suture

line 101 is formed. To better explain the present invention, the present invention further provides a method for weaving an integral shoe upper fabric by a circular knitting machine. The method includes: providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving; causing the circular knitting machine to weave a first suture reserved section 1 including a first opening 11 from the yarn; causing the circular knitting machine to weave a first toe woven section 2 in continuation from an upper edge of the first suture reserved section 1; causing the circular knitting machine to turn the weaving direction from the first toe woven section 2, combine a lower edge of the first suture reserved section 1, and weave in continuation to form a first foot body woven section 3, with a first toe turning interweaving line 32 interweaved between the first toe woven section 2 and the first foot body woven section 3; causing the circular knitting machine to weave a first instep extension section 33 in continuation from an upper edge of the first foot body woven section 3; causing the circular knitting machine to weave a first sole extension section 4 in continuation from a lower edge of the first foot body woven section 3; causing the circular knitting machine to turn the weaving direction, and weave a first heel woven section 5 in continuation from the first sole extension section 4, with a first heel turning interweaving line 54 interweaved between the first sole extension section 4 and the first heel woven section 5; causing the circular knitting machine to weave a first heel extension section 55 in continuation from a lower edge of the first heel woven section 5; causing the circular knitting machine to turn the weaving direction, and weave a second heel extension section 6 in continuation from the first heel extension section 55, with a heel extension turning interweaving line 65 interweaved between the first heel extension section 55 and the second heel extension section 6; causing the circular knitting machine to combine and weave in continuation from the second heel extension section 6 and a side edge of the first heel woven section 5 to form a second heel woven section 60; causing the circular knitting machine turn the weaving direction from the second heel woven section 60, and weave a second sole extension section 7, with a second heel turning interweaving line 76 interweaved between the second heel woven section 60 and the second sole extension section 7 and symmetric to the first heel turning interweaving line 54; causing the circular knitting machine to turn the weaving direction, and weave a second instep extension section 8 in continuation from the first instep extension section 33, with an instep extension turning interweaving line 83 interweaved between the first instep extension section 33 and the second instep extension section 8; causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section 7 and an edge of the second instep extension section 8 to form a second foot body woven section 80; causing the circular knitting machine weave in continuation from an upper edge of the

second foot body woven section 80, and turn the weaving direction, weave a second toe woven section 90, with a second toe turning interweaving line 98 interweaved between the second foot body woven section 80 and the second toe woven section 90; and causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section 90 and a lower edge of the second foot body woven section 80 to form a second suture reserved section 91 including a second opening 911 that is asymmetric to the direction of the first opening 11 of the first suture reserved section 1.

[0023] Refer to Fig. 16 to Fig. 17 showing a section view according to a fifth preferred embodiment of the present invention, and a section view of a first pattern of the fifth preferred embodiment having been processed to a shaped shoe upper. It is clearly seen from the diagrams that, a variation of the fifth preferred embodiment of the present invention compared to the first preferred embodiment of the present invention is that, the integral shoe upper fabric 100 further includes a reinforcing additional section 35, which is located between the first heel woven section 5 and the second heel woven section 60, and is woven by the circular knitting machine. The first pattern can be formed by directly folding the reinforcing additional section 35 by half. Fig. 18 shows a section view of a second pattern of the fifth preferred embodiment having been processed to a shaped shoe upper. A variation of the second pattern compared to the first pattern is that, when a center line of the reinforcing additional section 35 of the first pattern is pressed and becomes recessed, the shape of the reinforcing additional section 35 as shown by the second pattern can be formed. It should be noted that, the first opening 11 before having been sutured is as shown in Fig. 25, and may form a suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, as shown in Fig. 26 to Fig. 28. Further, after the suture line 101 is formed, the first suture reserved section 1 may be appropriately trimmed as shown in Fig. 16 and Fig. 17. Further, the second opening 911 may form another suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and may be appropriately trimmed as shown in Fig. 16 and Fig. 17 after the suture line 101 is formed.

[0024] Refer to Fig. 19 to Fig. 20 showing a section view according to a sixth preferred embodiment of the present invention, and a section view of the sixth preferred embodiment having been processed to a shaped shoe upper. It is clearly seen from the diagrams that, a variation of the sixth preferred embodiment of the present invention compared to the second preferred embodiment of the present invention is that, the integral shoe upper fabric 100 further includes a reinforcing additional section 35, which is located between the first foot body woven section 3 and the first instep extension section 33 and woven by the circular knitting machine. The circular knitting machine may additionally employ an elastic yarn to

weave the reinforcing additional section 35. When the integral shoe upper fabric 100 is folded in reverse along the instep extension turning interweaving line 83 as a reference line, and the reinforcing additional section 35 between the centerline of the reinforcing additional section 35 and the first instep extension section 33 is pressed to become recessed, the integral shoe upper fabric 100 becomes a form shown in Fig. 20. It should be noted that, the first opening 11 before having been sutured is as shown in Fig. 25, and may form a suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, as shown in Fig. 19 and Fig. 20. Further, after the suture line 101 is formed, the first suture reserved section 1 may be appropriately trimmed as shown in Fig. 13 to Fig. 15. Further, the second opening 911 may form another suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and may be appropriately trimmed as shown in Fig. 19 and Fig. 20 after the suture line 101 is formed.

[0025] Refer to Fig. 21 and Fig. 22 showing a section view according to a seventh preferred embodiment of the present invention, and a section view of the seventh preferred embodiment having been processed to a shaped shoe upper. It is clearly seen from the diagrams that, a variation of the seventh preferred embodiment of the present invention compared to the third preferred embodiment of the present invention is that, the integral shoe upper fabric 100 further includes a reinforcing additional section 35, which is located between the first heel woven section 5 and the first heel extension section 55 and is woven by the circular knitting machine. The round knitting machine may additionally employ an elastic yarn to weave the reinforcing additional section 35. When the integral shoe upper fabric 100 is folded in reverse along heel extension turning interweaving line 65 as a reference line, and the reinforcing additional section 35 between the centerline of the reinforcing additional section 35 and the first heel extension section 55 is pressed to become recessed, the integral shoe upper fabric 100 becomes a form shown in Fig. 22. It should be noted that, the first opening 11 before having been sutured is as shown in Fig. 25, and may form a suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, as shown in Fig. 21 and Fig. 22. Further, after the suture line 101 is formed, the first suture reserved section 1 may be appropriately trimmed as shown in Fig. 13 to Fig. 15. Further, the second opening 911 may form another suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and may be appropriately trimmed as shown in Fig. 21 and Fig. 22 after the suture line 101 is formed.

[0026] Refer to Fig. 23 and Fig. 24 showing a section view according to an eighth preferred embodiment of the present invention, and a section view of the eighth preferred embodiment having been processed to a shaped shoe upper. It is clearly seen from the diagrams that, a

variation of the eighth preferred embodiment of the present invention compared to the fourth preferred embodiment of the present invention is that, the integral shoe upper fabric 100 further includes a reinforcing additional section 35, which is located between the first foot body woven section 3 and the first instep extension section 33 and is woven by the circular knitting machine. The circular knitting machine may additionally employ an elastic yarn to weave the reinforcing additional section 35. When the integral shoe upper fabric 100 is folded in reverse along the instep extension turning interweaving line 83 or the heel extension turning interweaving line 65 as a reference line, and the reinforcing additional section 35 between the centerline of the reinforcing additional section 35 and the first instep extension section 33 or the first heel extension section 55 is pressed to become recessed, the integral shoe upper fabric 100 becomes a form shown in Fig. 24. It should be noted that, the first opening 11 before having been sutured is as shown in Fig. 25, and may form a suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, as shown in Fig. 23 and Fig. 24. Further, after the suture line 101 is formed, the first suture reserved section 1 may be appropriately trimmed as shown in Fig. 13 to Fig. 15. Further, the second opening 911 may form another suture line 101 appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and may be appropriately trimmed as shown in Fig. 23 and Fig. 24 after the suture line 101 is formed.

Claims

1. A method for weaving an integral shoe upper fabric (100) by a circular knitting machine, comprising:

providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving;
causing the circular knitting machine to weave a first suture reserved section (1) including a first opening (11) from the yarn;
causing the circular knitting machine to weave a first toe woven section (2) in continuation from an upper edge of the first suture reserved section (1);
causing the circular knitting machine to turn the weaving direction from the first toe woven section (2), combine a lower edge of the first suture reserved section (1), and weave in continuation to form a first foot body woven section (3), with a first toe turning interweaving line (32) interweaved between the first toe woven section (2) and the first foot body woven section (3);
causing the circular knitting machine to weave a first sole extension section (4) in continuation from a lower edge of the first foot body woven section (3);

causing the circular knitting machine to turn the weaving direction from the first sole extension section (4), and sequentially weave a first heel woven section (5) and a second heel woven section (60), with a first heel turning interweaving line (54) interweaved between the first sole extension section (4) and the first heel woven section (5);

causing the circular knitting machine to turn the weaving direction from the second heel woven section (60), and weave a second sole extension section (7), with a second heel turning interweaving line (76) interweaved between the second heel woven section (60) and the second sole extension section (7) and symmetric to the first heel turning interweaving line (54);

causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section (7) and an upper edge of the first foot body woven section (3) to form a second foot body woven section (80);

causing the circular knitting machine to weave in continuation from an upper edge of the second foot body woven section (80), and turn the weaving direction to weave a second toe woven section (90), with a second toe turning interweaving line (98) interweaved between the second foot body woven section (80) and the second toe woven section (90); and

causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section (90) and a lower edge of the second foot body woven section (80) to form a second suture reserved section (91) including a second opening (911) that is asymmetric to the direction of the first opening (11) of the first suture reserved section (1).

2. A method for weaving an integral shoe upper fabric (100) by a circular knitting machine, comprising:

providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving
causing the circular knitting machine to weave a first suture reserved section (1) including a first opening (11) from the yarn;
causing the circular knitting machine to weave a first toe woven section (2) in continuation from an upper edge of the first suture reserved section (1);
causing the circular knitting machine to turn the weaving direction from the first toe woven section (2), combine a lower edge of the first suture reserved section (1), and weave in continuation to form a first foot body woven section (3), with a first toe turning interweaving line (32) interweaved between the first toe woven section (2)

and the first foot body woven section (3);
 causing the circular knitting machine to weave
 a first instep extension section (33) in continua-
 tion from an upper edge of the first foot body
 woven section (3); 5
 causing the circular knitting machine to weave
 a first sole extension section (4) in continuation
 from a lower edge of the first foot body woven
 section (3);
 causing the circular knitting machine to turn the 10
 weaving direction from the first sole extension
 section (4), and sequentially weave a first heel
 woven section (5) and a second heel woven sec-
 tion (60), with a first heel turning interweaving
 line (54) interweaved between the first sole ex- 15
 tension section (4) and the first heel woven sec-
 tion (5);
 causing the circular knitting machine to turn the
 weaving direction from the second heel woven
 section (60), and weave a second sole extension 20
 section (7), with a second heel turning inter-
 weaving line (76) interweaved between the sec-
 ond heel woven section (60) and the second sole
 extension section (7) and symmetric to the first
 heel turning interweaving line (54); 25
 causing the circular knitting machine to turn the
 weaving direction, and weave a second instep
 extension section (8) in continuation from the
 first instep extension section (33), with an instep
 extension turning interweaving line (83) inter- 30
 weaved between the first instep extension sec-
 tion (33) and the second instep extension sec-
 tion (8);
 causing the circular knitting machine to combine
 and weave in continuation from an edge of the 35
 second sole extension section (7) and an edge
 of the second instep extension section (8) to
 form a second foot body woven section (80);
 causing the circular knitting machine to weave
 in continuation from an upper edge of the second 40
 foot body woven section (80), turn the weaving
 direction, and weave a second toe woven sec-
 tion (90), with a second toe turning interweaving
 line (98) interweaved between the second foot
 body woven section (80) and the second toe wov- 45
 en section (90); and
 causing the circular knitting machine to combine
 and weave in continuation from an edge of the
 second toe woven section (90) and a lower edge
 of the second foot body woven section (80) to 50
 form a second suture reserved section (91) in-
 cluding a second opening (911) that is asym-
 metric to the direction of the first opening (11)
 of the first suture reserved section (1).

3. A method for weaving an integral shoe upper fabric
 (100) by a circular knitting machine, comprising:

providing a circular knitting machine, and pro-
 viding at least one non-elastic yarn for the cir-
 cular knitting machine to perform weaving
 causing the circular knitting machine to weave
 a first suture reserved section (1) including a first
 opening (11) from the yarn;
 causing the circular knitting machine to weave
 a first toe woven section (2) in continuation from
 an upper edge of the first suture reserved sec-
 tion (1);
 causing the circular knitting machine to turn the
 weaving direction from the first toe woven sec-
 tion (2), combine a lower edge of the first suture
 reserved section (1), and weave in continuation
 to form a first foot body woven section (3), with
 a first toe turning interweaving line (32) inter-
 weaved between the first toe woven section (2)
 and the first foot body woven section (3);
 causing the circular knitting machine to weave
 a first sole extension section (4) in continuation
 from a lower edge of the first foot body woven
 section (3);
 causing the circular knitting machine to turn the
 weaving direction, and weave a first heel woven
 section (5) in continuation from the first sole ex-
 tension section (4), with a first heel turning in-
 terweaving line (54) interweaved between the
 first sole extension section (4) and the first heel
 woven section (5);
 causing the circular knitting machine to weave
 a first heel extension section (55) in continuation
 from a lower edge of the first heel woven section
 (5);
 causing the circular knitting machine to turn the
 weaving direction, and weave a second heel ex-
 tension section (6) in continuation from the first
 heel extension section (55), with a heel exten-
 sion turning interweaving line (65) interweaved
 between the first heel extension section (55) and
 the second heel extension section (6);
 causing the circular knitting machine to combine
 and weave in continuation from the second heel
 extension section (6) and a side edge of the first
 heel woven section (5) to form a second heel
 woven section (60);
 causing the circular knitting machine turn the
 weaving direction from the second heel woven
 section (60), and weave a second sole extension
 section (7), with a second heel turning inter-
 weaving line (76) interweaved between the sec-
 ond heel woven section (60) and the second sole
 extension section (7) and symmetric to the first
 heel turning interweaving line (54);
 causing the circular knitting machine to combine
 and weave in continuation from an edge of the
 second sole extension section (7) and an upper
 edge of the first foot body woven section (3) to
 form a second foot body woven section (80);

causing the circular knitting machine to weave in continuation from an upper edge of the second foot body woven section (80), turn the weaving direction, and weave a second toe woven section (90), with a second toe turning interweaving line (98) interweaved between the second foot body woven section (80) and the second toe woven section (90); and
 causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section (90) and a lower edge of the second foot body woven section (80) to form a second suture reserved section (91) including a second opening (911) that is asymmetric to the direction of the first opening (11) of the first suture reserved section (1).

4. A method for weaving an integral shoe upper fabric (100) by a circular knitting machine, comprising:

providing a circular knitting machine, and providing at least one non-elastic yarn for the circular knitting machine to perform weaving;
 causing the circular knitting machine to weave a first suture reserved section (1) including a first opening (11) from the yarn;
 causing the circular knitting machine to weave a first toe woven section (2) in continuation from an upper edge of the first suture reserved section (1);
 causing the circular knitting machine to turn the weaving direction from the first toe woven section (2), combine a lower edge of the first suture reserved section (1), and weave in continuation to form a first foot body woven section (3), with a first toe turning interweaving line (32) interweaved between the first toe woven section (2) and the first foot body woven section (3);
 causing the circular knitting machine to weave a first instep extension section (33) in continuation from an upper edge of the first foot body woven section (3);
 causing the circular knitting machine to weave a first sole extension section (4) in continuation from a lower edge of the first foot body woven section (3);
 causing the circular knitting machine to turn the weaving direction, and weave a first heel woven section (5) in continuation from the first sole extension section (4), with a first heel turning interweaving line (54) interweaved between the first sole extension section (4) and the first heel woven section (5);
 causing the circular knitting machine to weave a first heel extension section (55) in continuation from a lower edge of the first heel woven section (5);
 causing the circular knitting machine to turn the

weaving direction, and weave a second heel extension section (6) in continuation from the first heel extension section (55), with a heel extension turning interweaving line (65) interweaved between the first heel extension section (55) and the second heel extension section (6);
 causing the circular knitting machine to combine and weave in continuation from the second heel extension section (6) and a side edge of the first heel woven section (5) to form a second heel woven section (60);
 causing the circular knitting machine turn the weaving direction from the second heel woven section (60), and weave a second sole extension section (7), with a second heel turning interweaving line (76) interweaved between the second heel woven section (60) and the second sole extension section (7) and symmetric to the first heel turning interweaving line (54);
 causing the circular knitting machine to turn the weaving direction, and weave a second instep extension section (8) in continuation from the first instep extension section (33), with an instep extension turning interweaving line (83) interweaved between the first instep extension section (33) and the second instep extension section (8);
 causing the circular knitting machine to combine and weave in continuation from an edge of the second sole extension section (7) and an edge of the second instep extension section (8) to form a second foot body woven section (80);
 causing the circular knitting machine weave in continuation from an upper edge of the second foot body woven section (80), and turn the weaving direction, weave a second toe woven section (90), with a second toe turning interweaving line (98) interweaved between the second foot body woven section (80) and the second toe woven section (90); and
 causing the circular knitting machine to combine and weave in continuation from an edge of the second toe woven section (90) and a lower edge of the second foot body woven section (80) to form a second suture reserved section (91) including a second opening (911) that is asymmetric to the direction of the first opening (11) of the first suture reserved section (1).

5. An integral shoe upper fabric (100), woven by a round knitting machine, the integral shoe upper fabric (100) woven from at least one non-elastic yarn provided to the round knitting machine; the integral shoe upper fabric (100) comprising:

a first suture reserved section (1), woven by the circular knitting machine and including a first opening (11);

- a first toe woven section (2), located at an upper edge side of the first suture reserved section (1) and woven by the circular knitting machine;
- a first foot body woven section (3), located at a turning side of the first toe woven section (2) and a lower edge side of the first suture reserved section (1), and woven by the circular knitting machine, a first toe turning interweaving line (32) being formed between the first toe woven section (2) and the first foot body woven section (3);
- a first sole extension section (4), located at a lower edge side of the first foot body woven section (3) and woven by the circular knitting machine;
- a first heel woven section (5), located at a turning side of the first sole extension section (4) and woven by the circular knitting machine, a first heel turning interweaving line (54) being formed between the first sole extension section (4) and the first heel woven section (5);
- a second heel woven section (60), located at an edge side of the first heel woven section (5) and woven by the circular knitting machine;
- a second sole extension section (7), located at a turning side of the second heel woven section (60) and woven by the circular knitting machine, a second heel turning interweaving line (76) being formed between the second heel woven section (60) and the second sole extension section (7) and symmetric to the first heel turning interweaving line (54);
- a second foot body woven section (80), located at an edge side of the second sole extension section (7) and woven by the circular knitting machine;
- a second toe woven section (90), located at an upper turning edge side of the second foot body woven section (80) and woven by the circular knitting machine, a second toe turning interweaving line (98) being formed between the second foot body woven section (80) and the second toe woven section (90); and
- a second suture reserved section (91), located at an edge side of the second toe woven section (90) and a lower edge side of the second foot body woven section (80), woven by the circular knitting machine, and including a second opening (911) that is asymmetric to the direction of the first opening (11) of the first suture reserved section (1).
6. The integral shoe upper fabric (100) woven by a round knitting machine of claim 5, further comprising a first instep extension section (33) located at an upper edge side of the first foot body woven section (3) and woven by the circular knitting machine, and a second instep extension section (8) located at a turning side of the first instep extension section (33) and woven by the circular knitting machine, an instep extension turning interweaving line (83) being formed between the first instep extension section (33) and the second instep extension section (8).
 7. The integral shoe upper fabric (100) woven by a round knitting machine of claim 5 or claim 6, further comprising at least one first heel extension section (55) located at a lower edge of the first heel woven section (5) and woven by the circular knitting machine, and at least one second heel extension (6) located at a turning side of the first heel extension section (55) and woven by the circular knitting machine, at least one heel extension turning interweaving line (65) being formed between the first heel extension section (55) and the second heel extension section (6).
 8. The integral shoe upper fabric (100) woven by a round knitting machine of claim 5, further comprising a reinforcing additional section (35), which is located between the first heel woven section (5) and the second heel woven section (60) and is woven by the circular knitting machine.
 9. The integral shoe upper fabric (100) woven by a round knitting machine of claim 6, further comprising a reinforcing additional section (35), which is located between the first foot body woven section (3) and the first instep extension section (33) and is woven by the circular knitting machine.
 10. The integral shoe upper fabric (100) woven by a round knitting machine of claim 7, further comprising a reinforcing additional section (35), which is between the first heel woven section (5) and the first heel extension section (55) and is woven by the circular knitting machine.
 11. The integral shoe upper fabric (100) woven by a round knitting machine of claims 5, 6, 8 or 9, wherein the first opening (11) forms a suture line (101) appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and the first suture reserved section (1) is appropriately trimmed after the suture line (101) is formed.
 12. The integral shoe upper fabric (100) woven by a round knitting machine of claim 7, wherein the first opening (11) forms a suture line (101) appearing as an inverted T, an inverted Y or a horizontal I after having been sutured, and the first suture reserved section (1) is appropriately trimmed after the suture line (101) is formed.
 13. The integral shoe upper fabric (100) woven by a round knitting machine of claim 10, wherein the first opening (11) forms a suture line (101) appearing as

an inverted T, an inverted Y or a horizontal I after having been sutured, and the first suture reserved section (1) is appropriately trimmed after the suture line (101) is formed.

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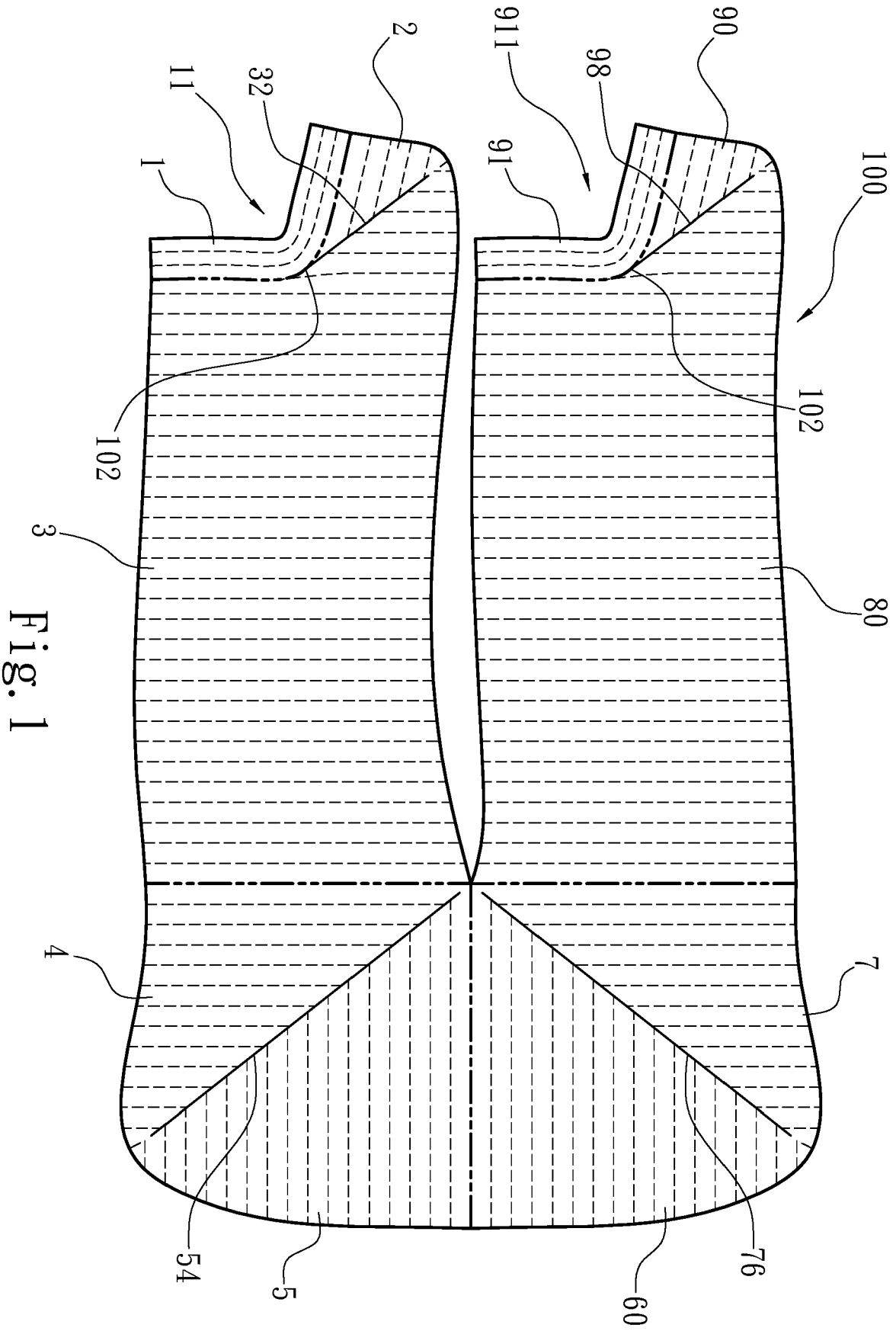
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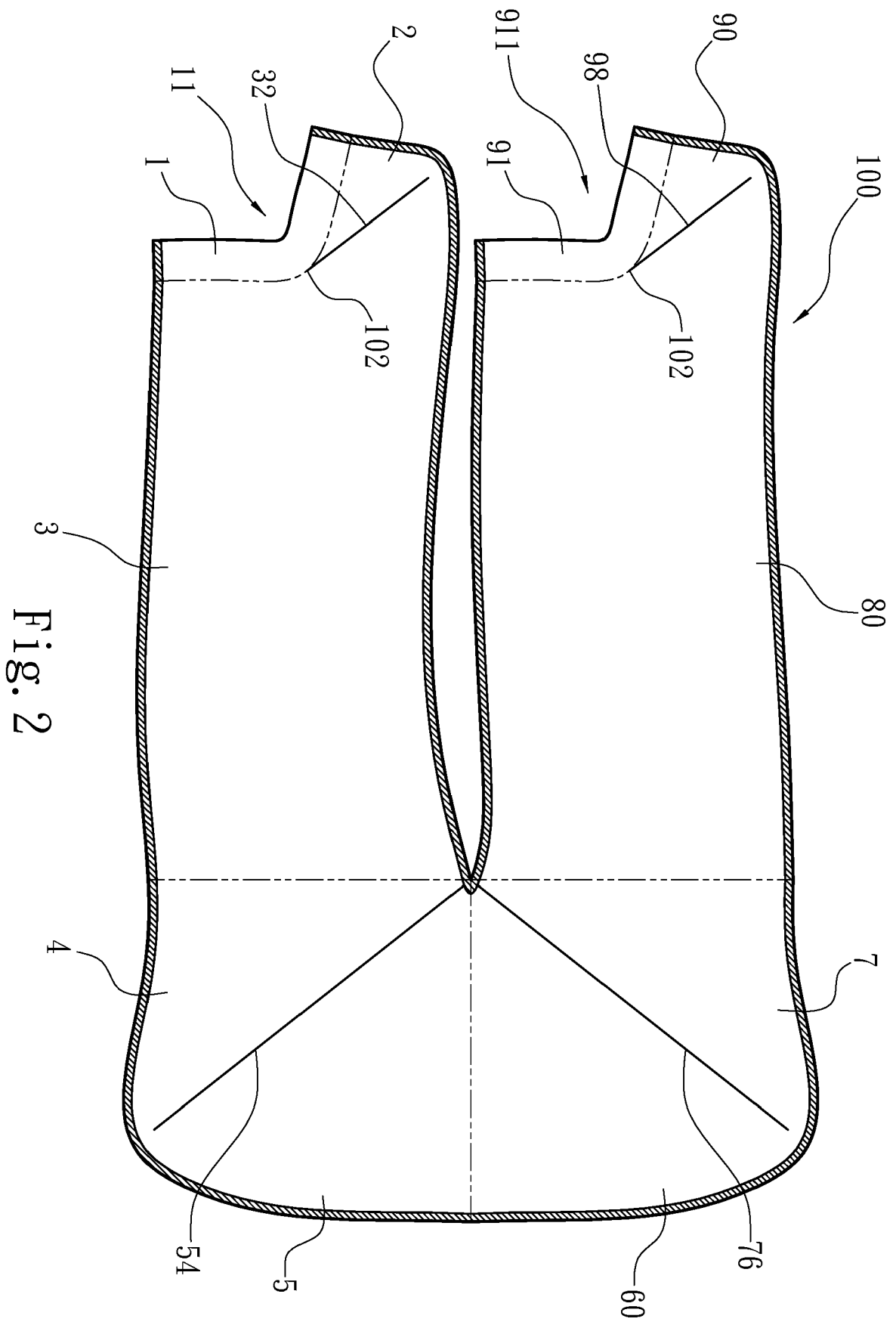
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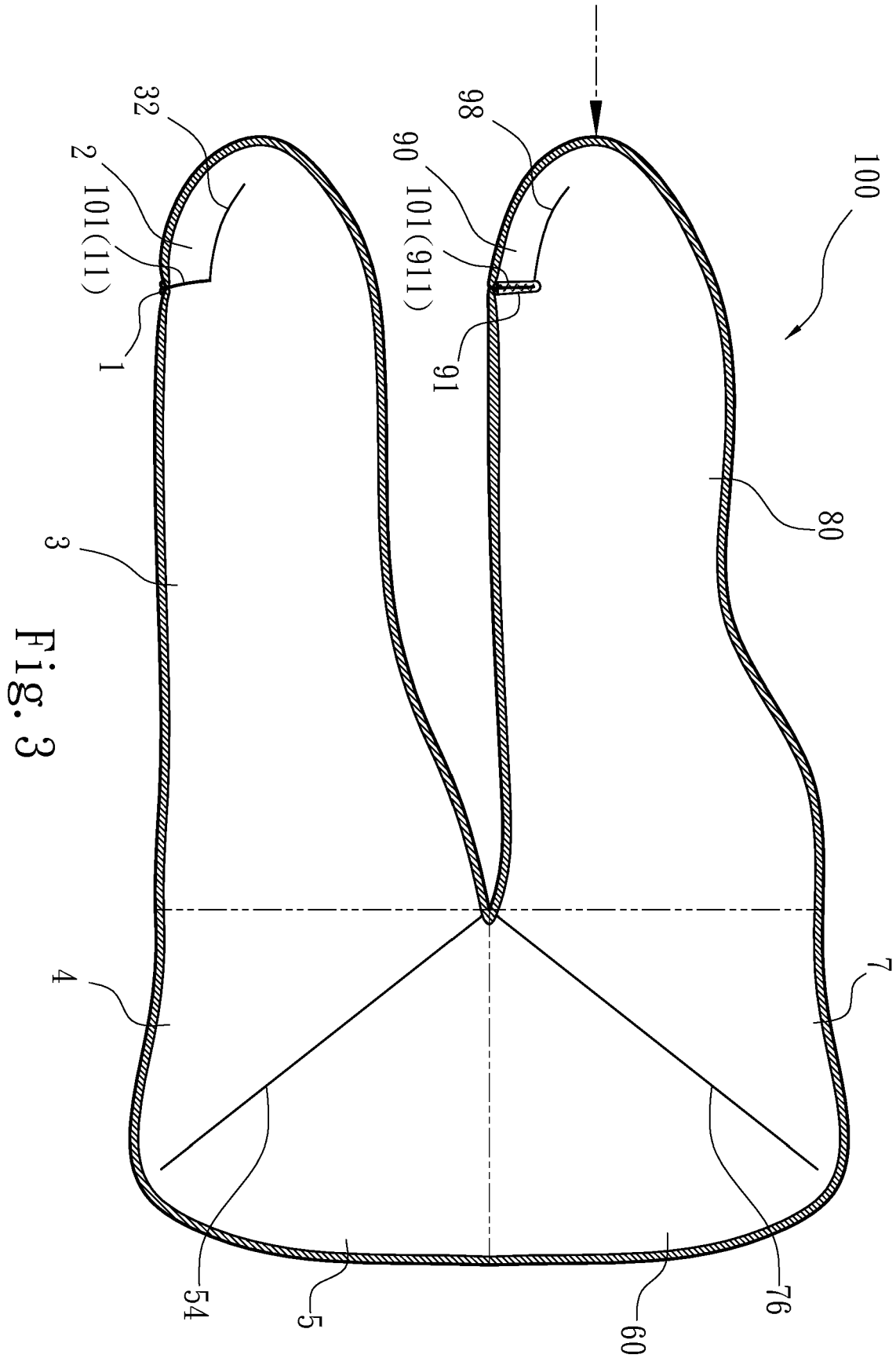


Fig. 3

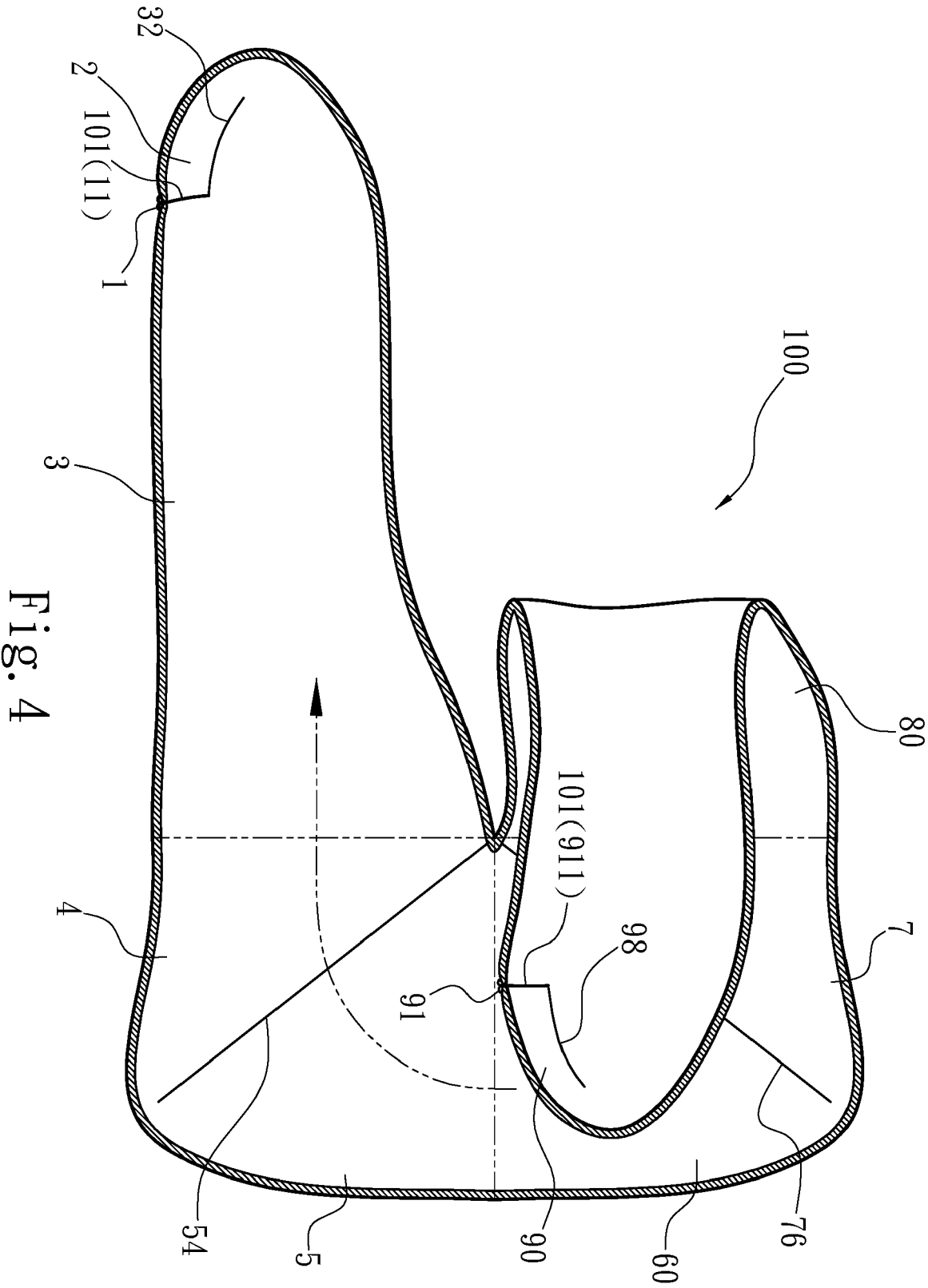


Fig. 4

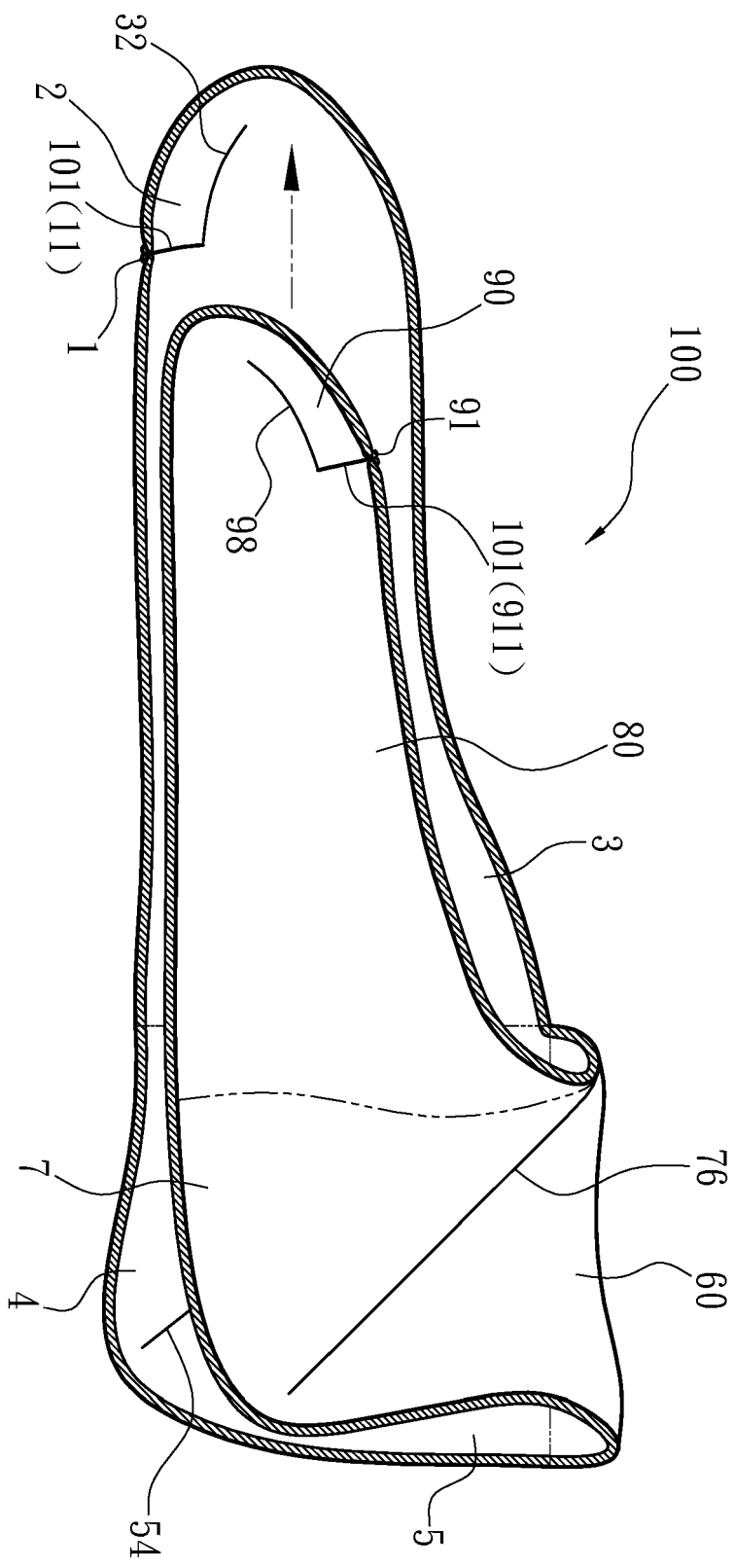


Fig. 5

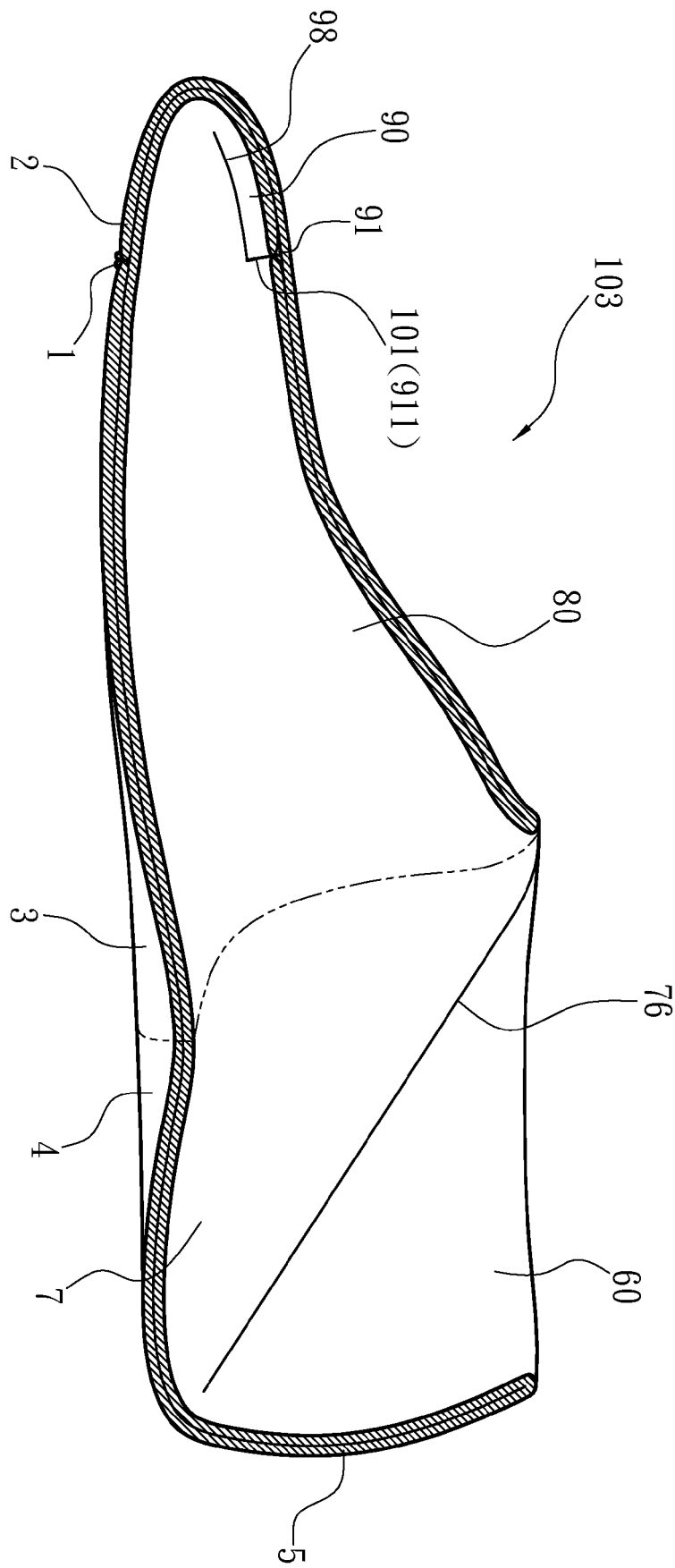


Fig. 6

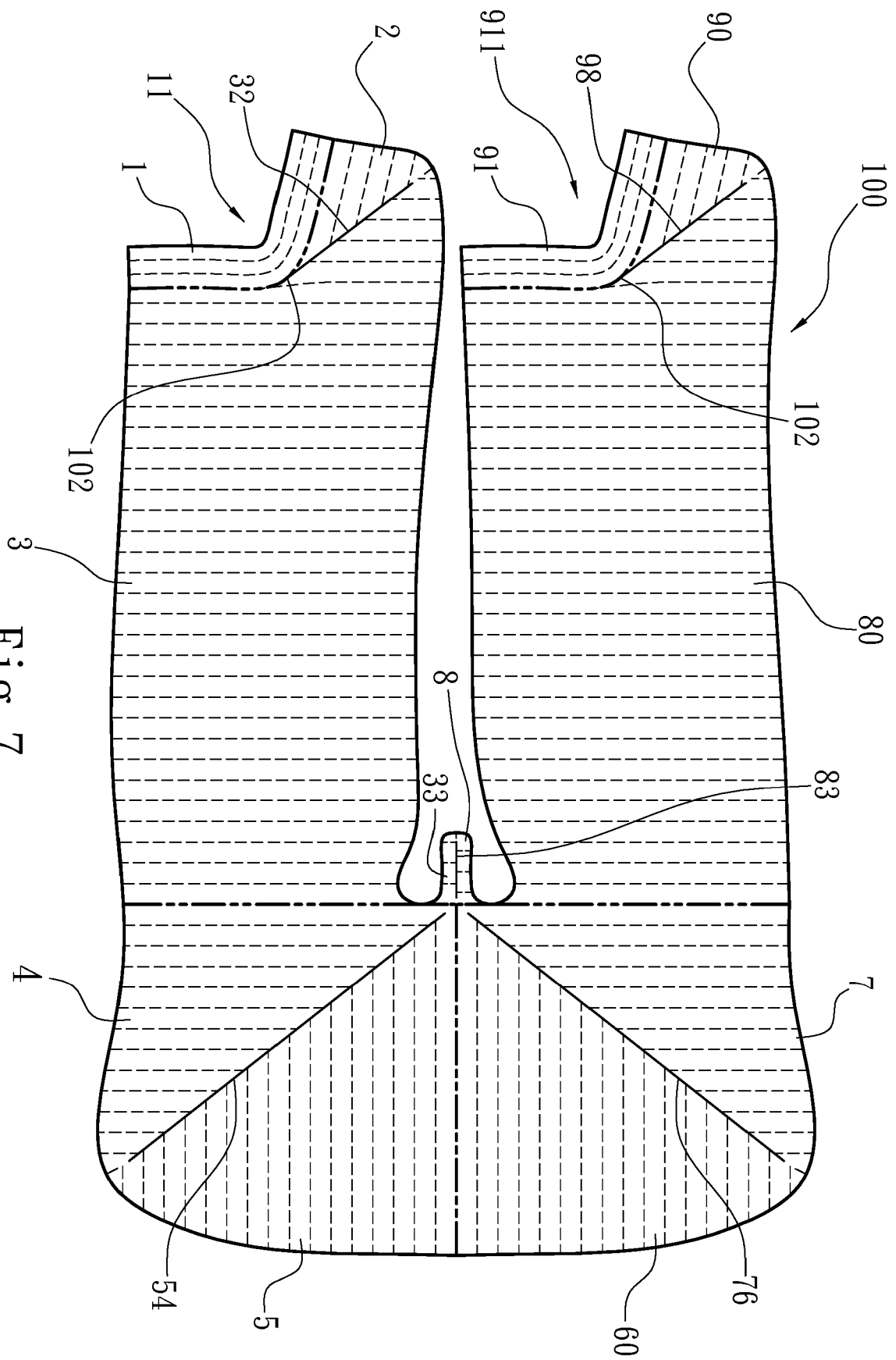


Fig. 7

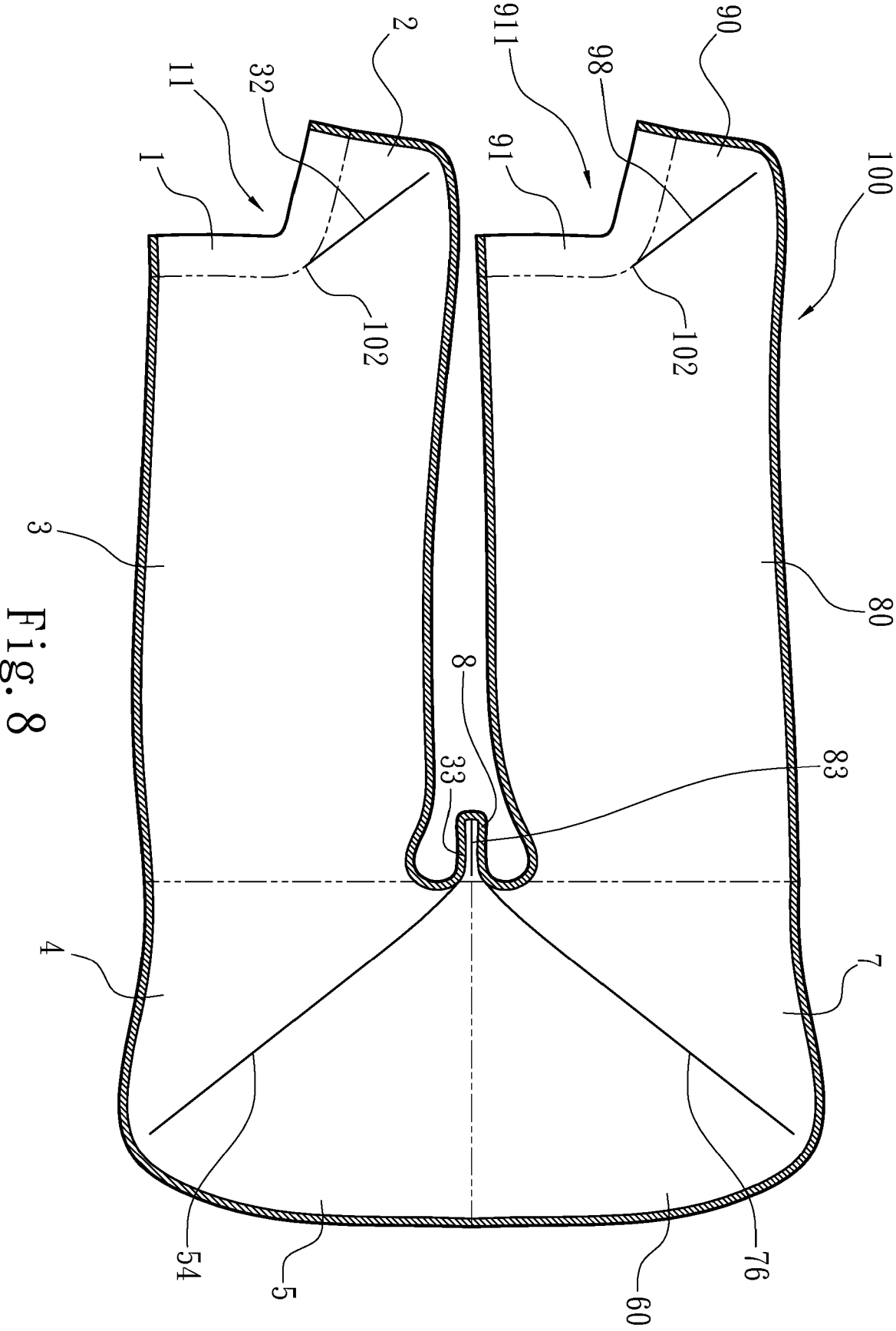


Fig. 8

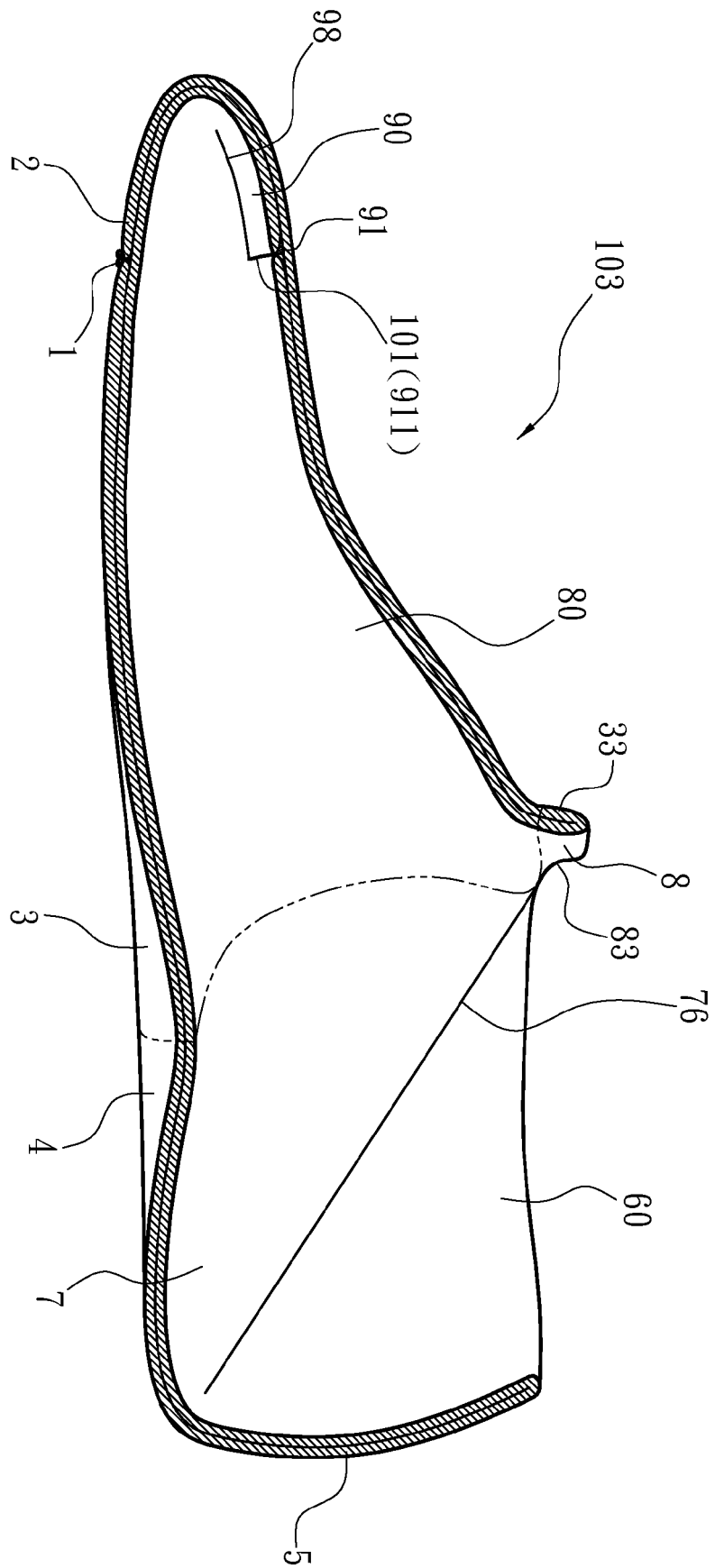


Fig. 9

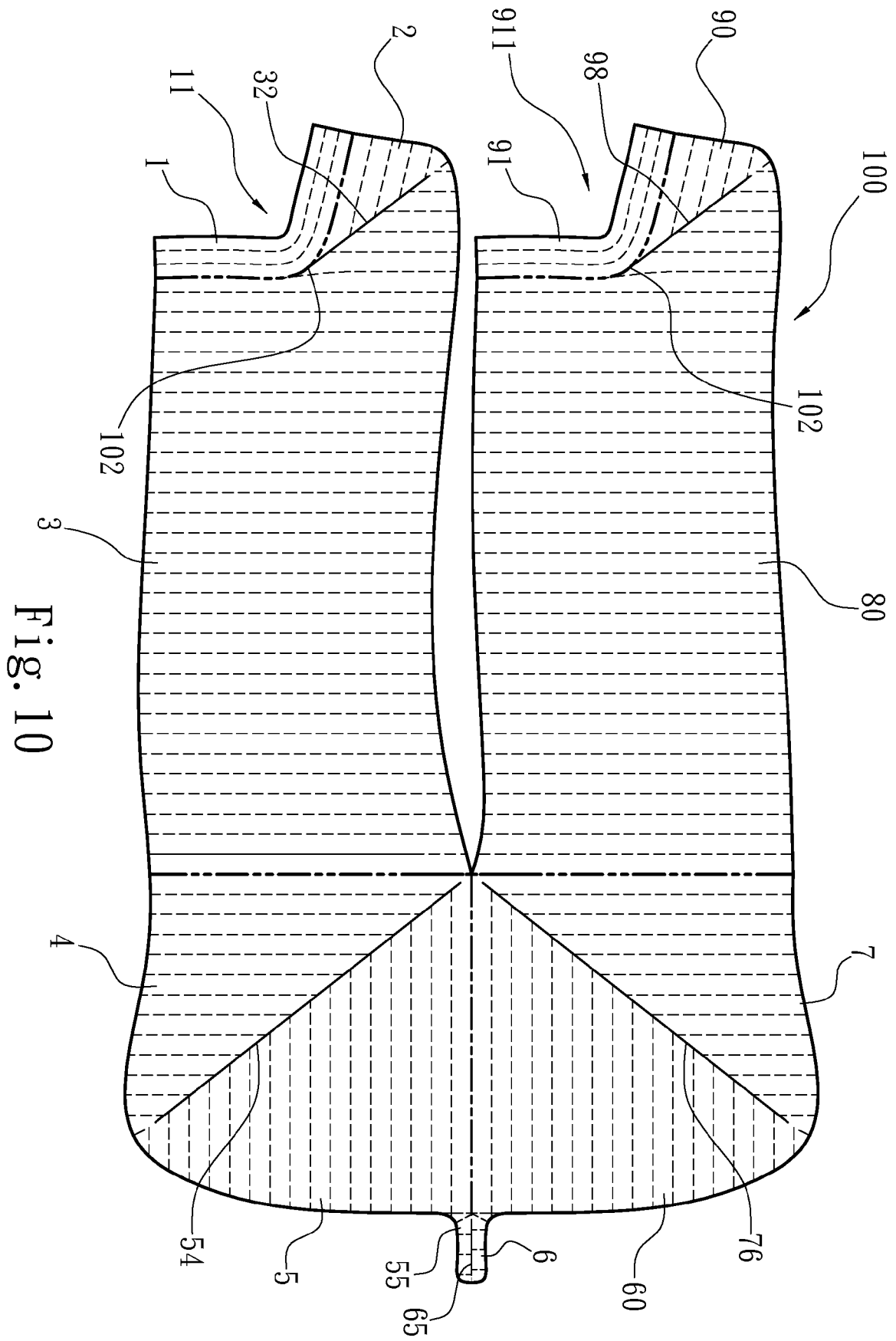
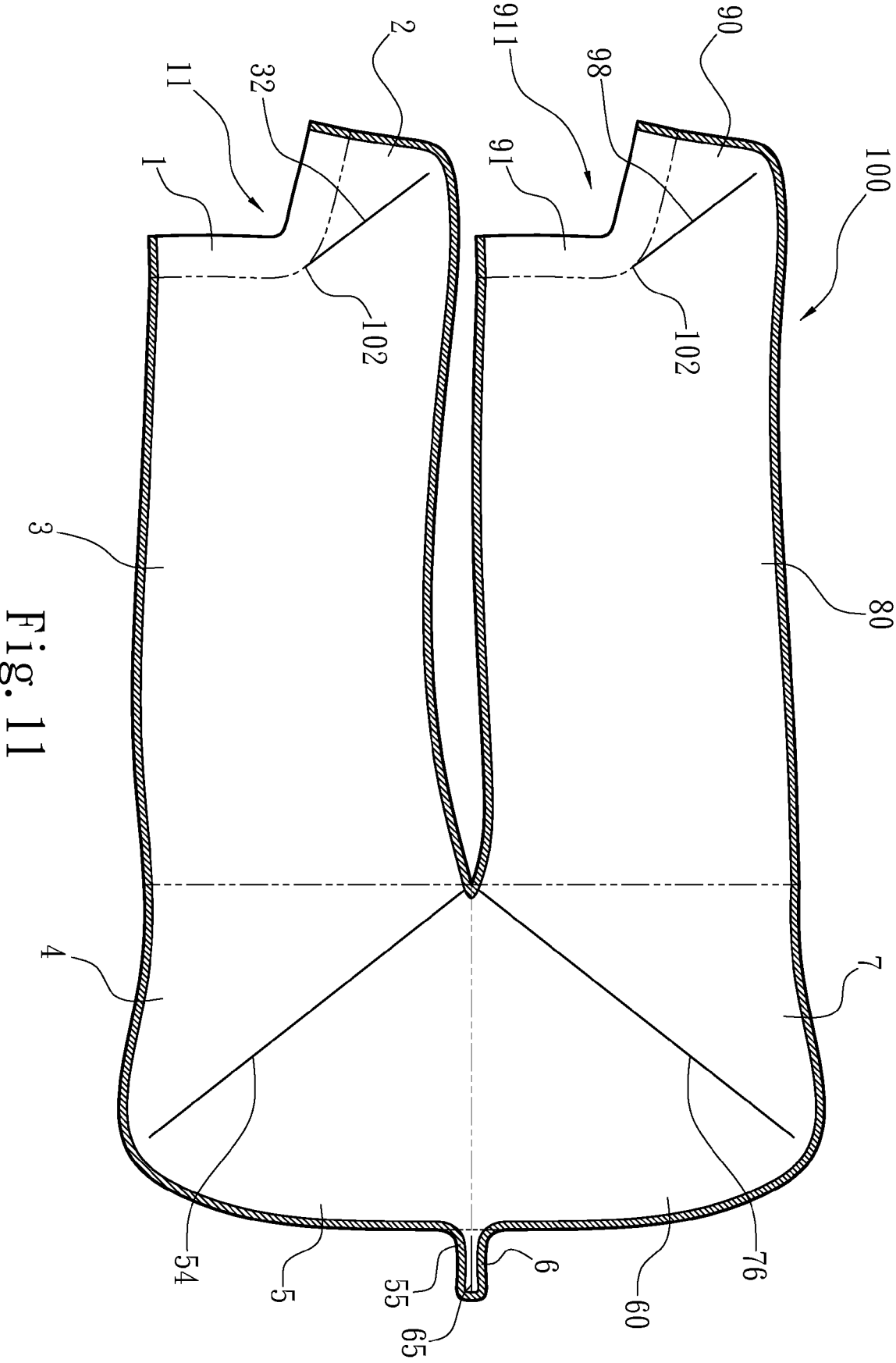


Fig. 10



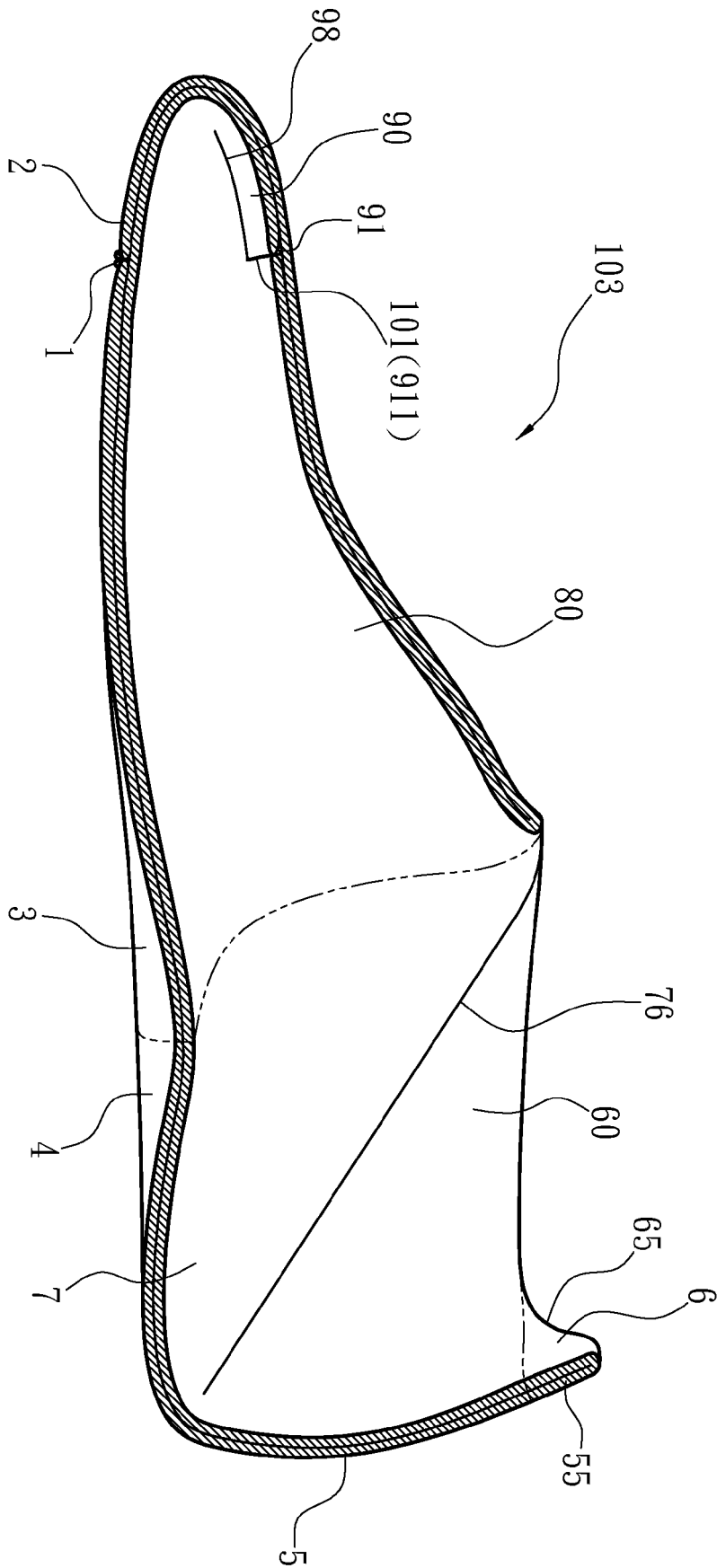


Fig. 12

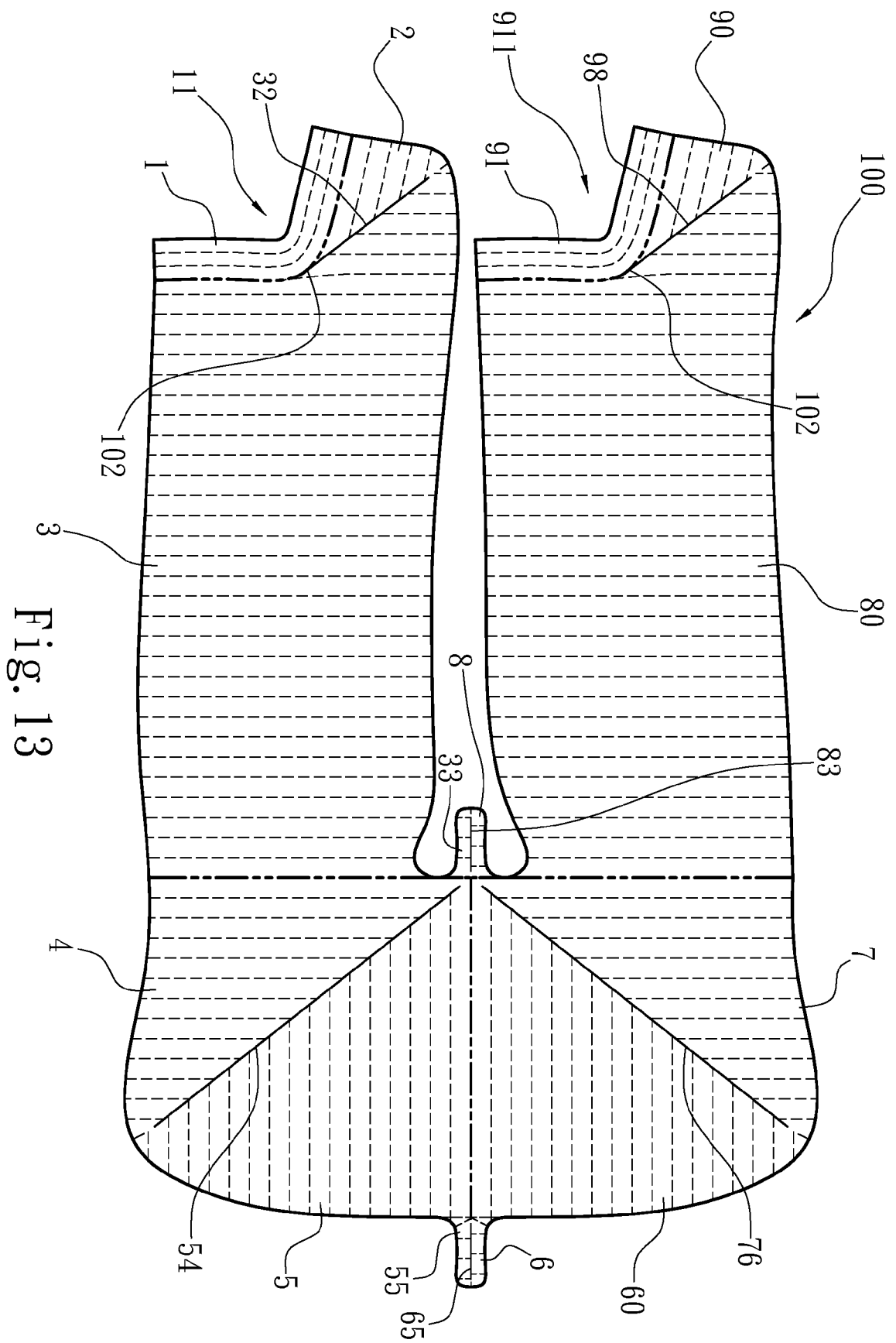


Fig. 13

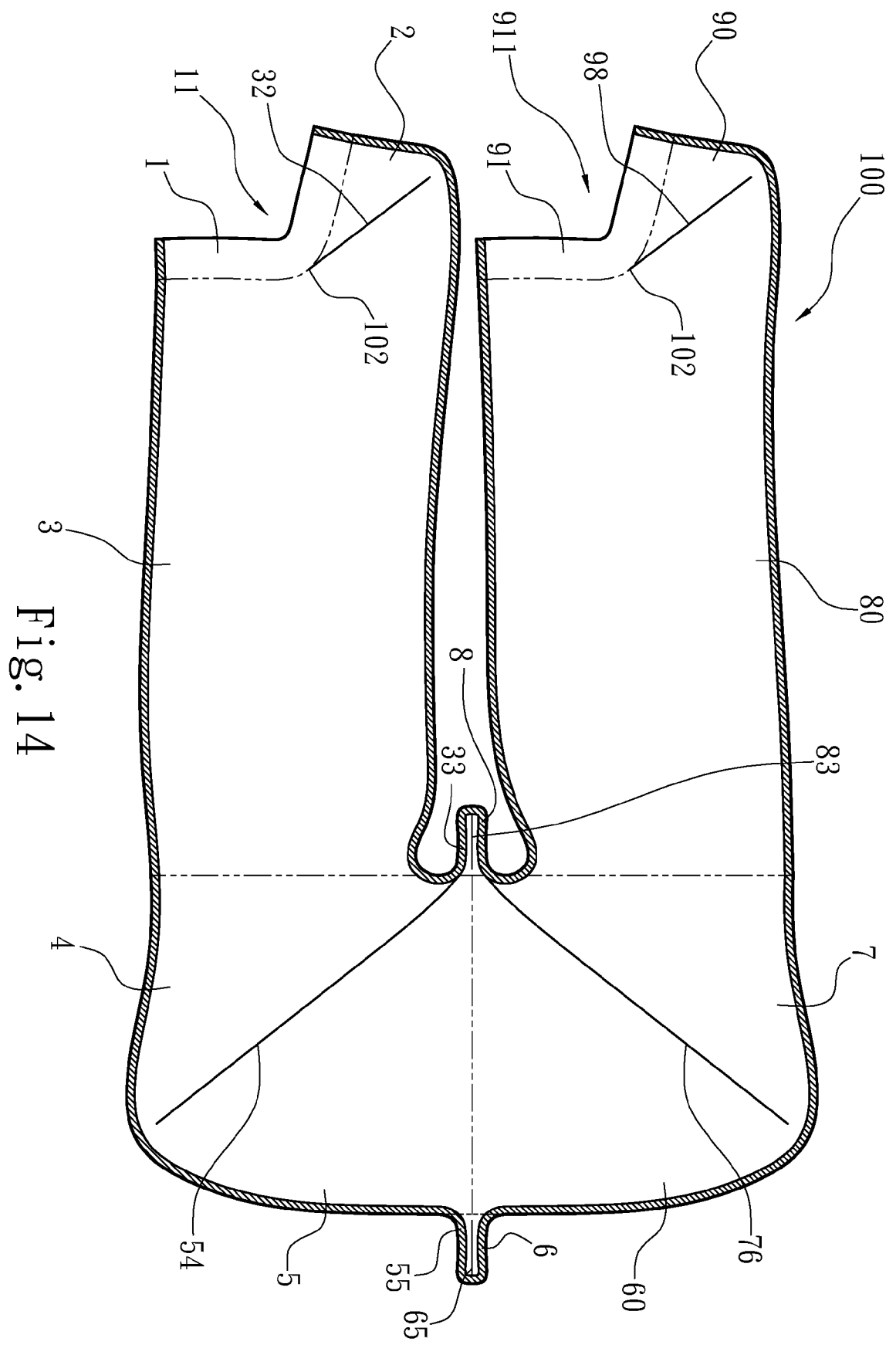


Fig. 14

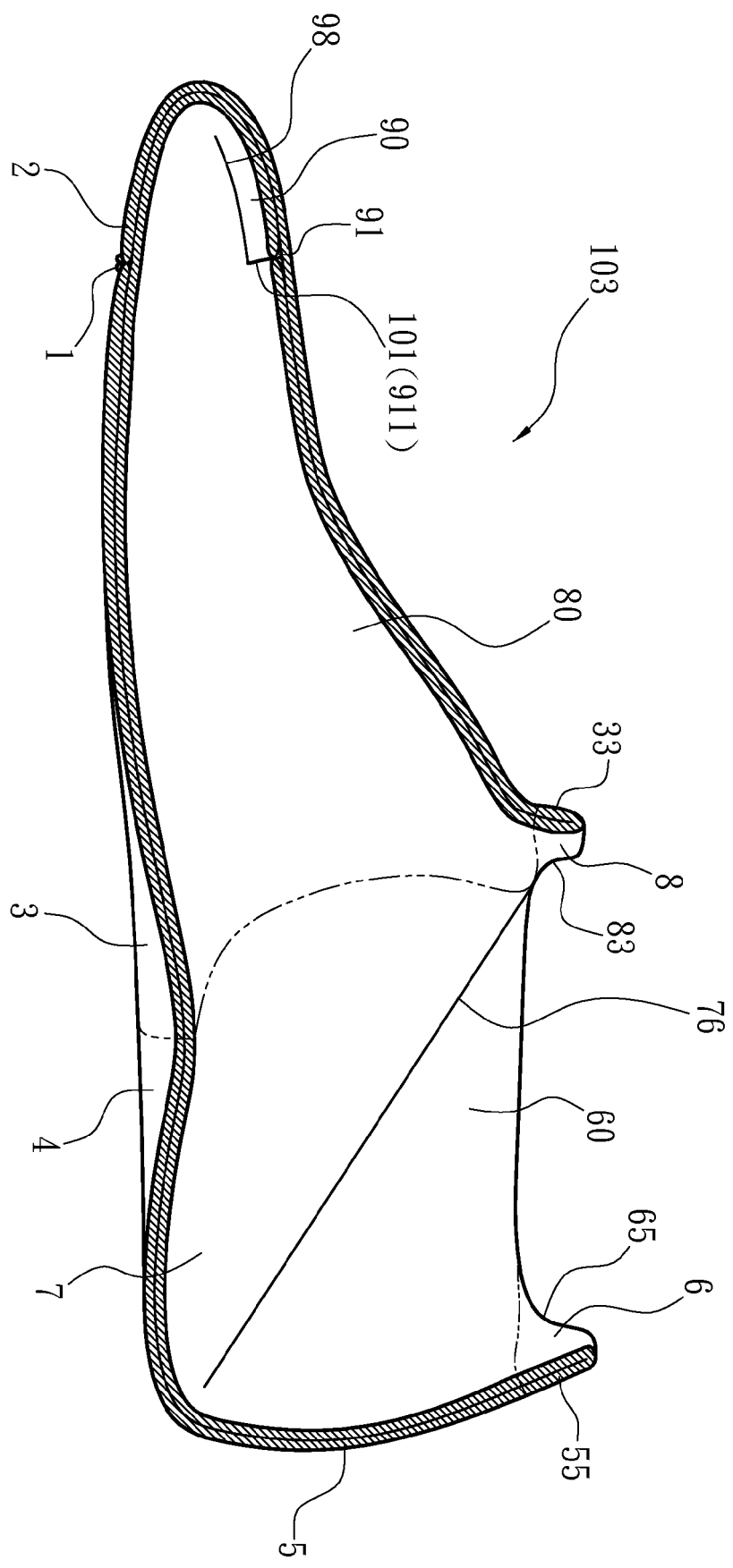


Fig. 15

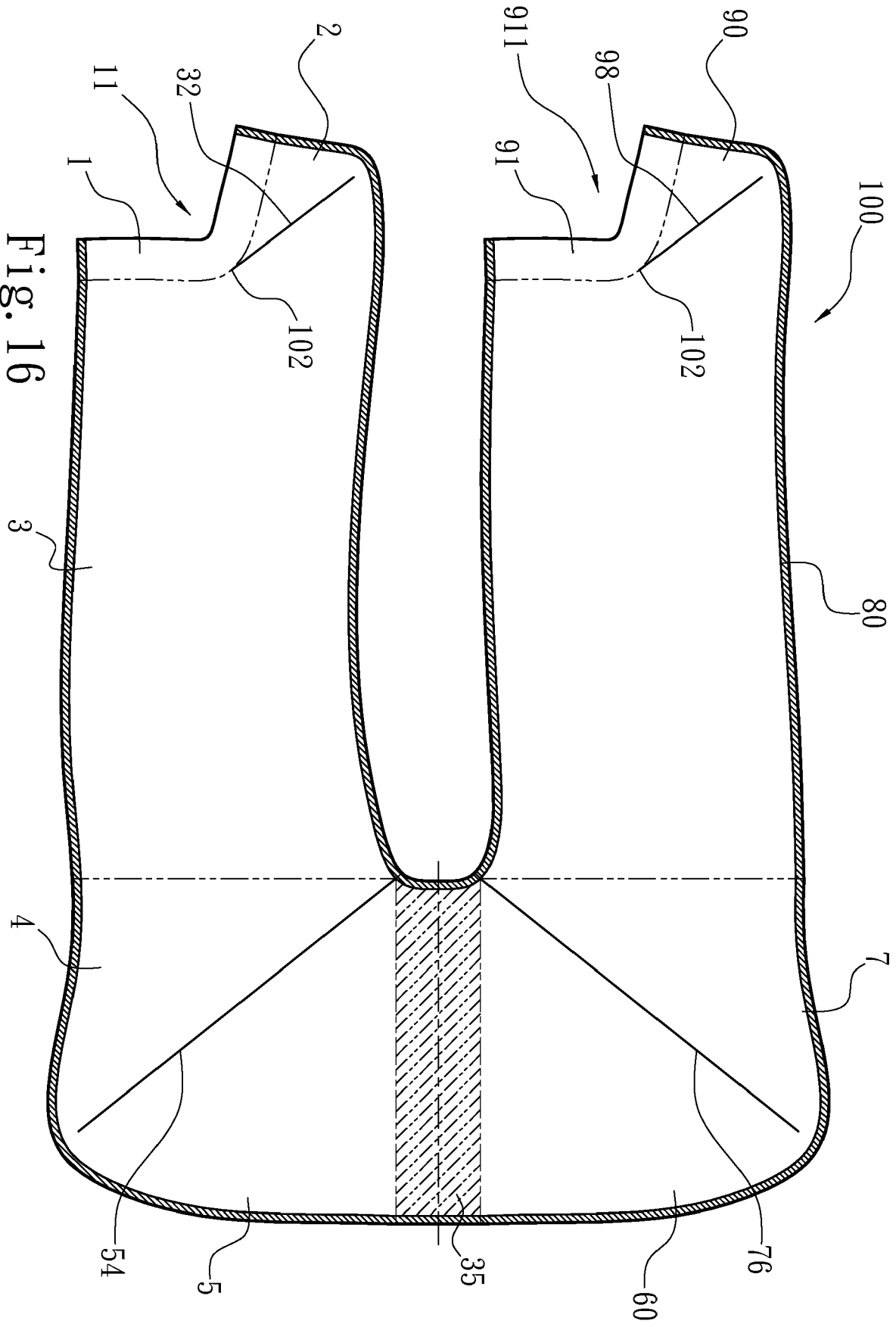


Fig. 16

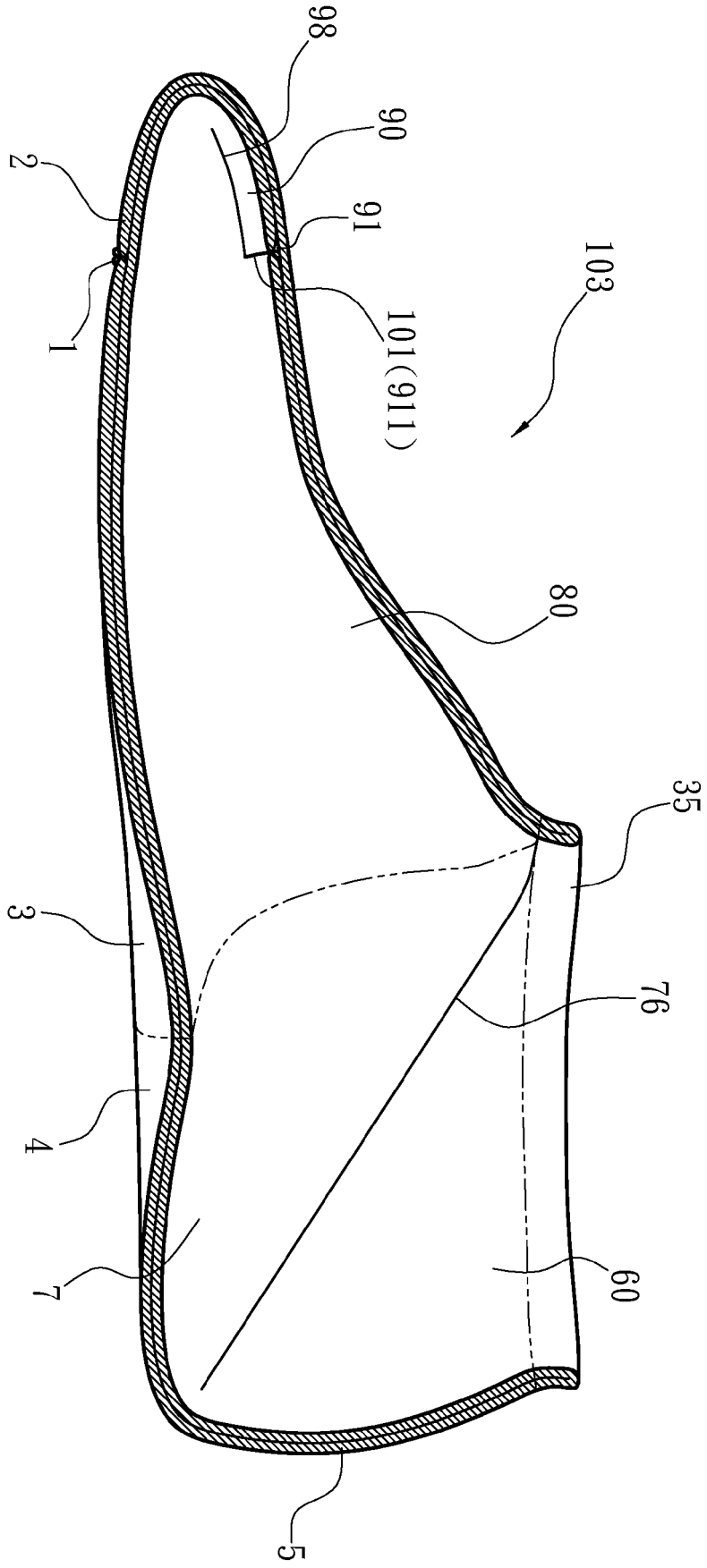


Fig. 17

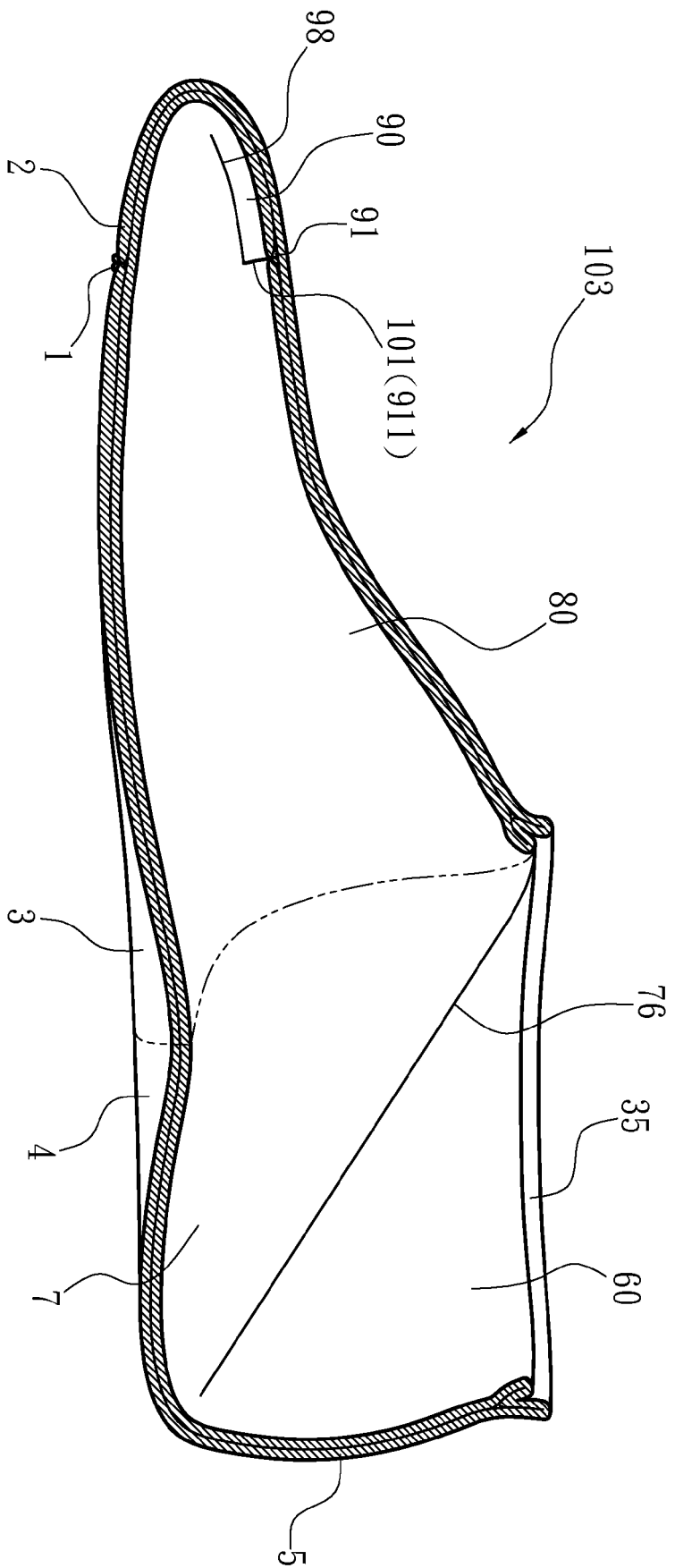
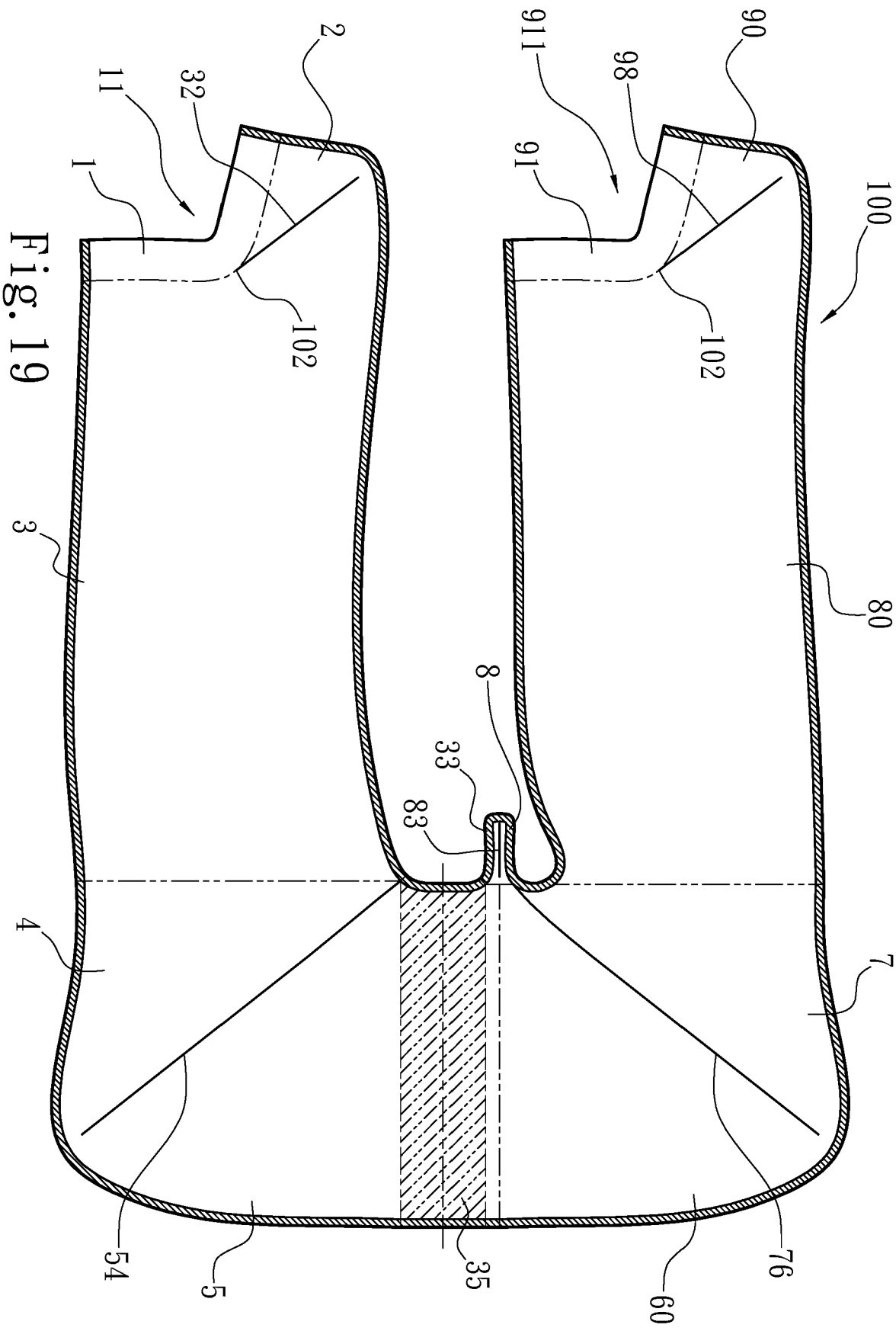


Fig. 18



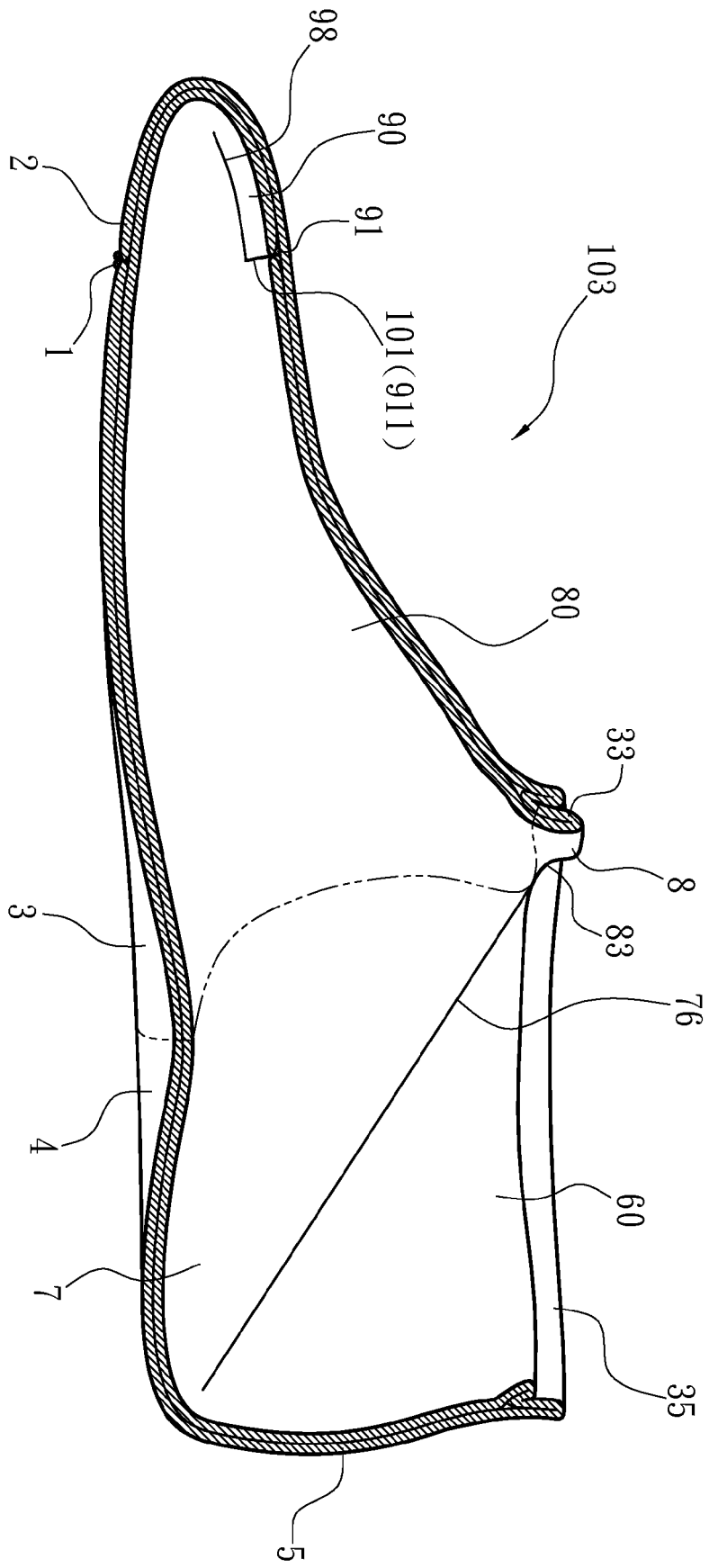


Fig. 20

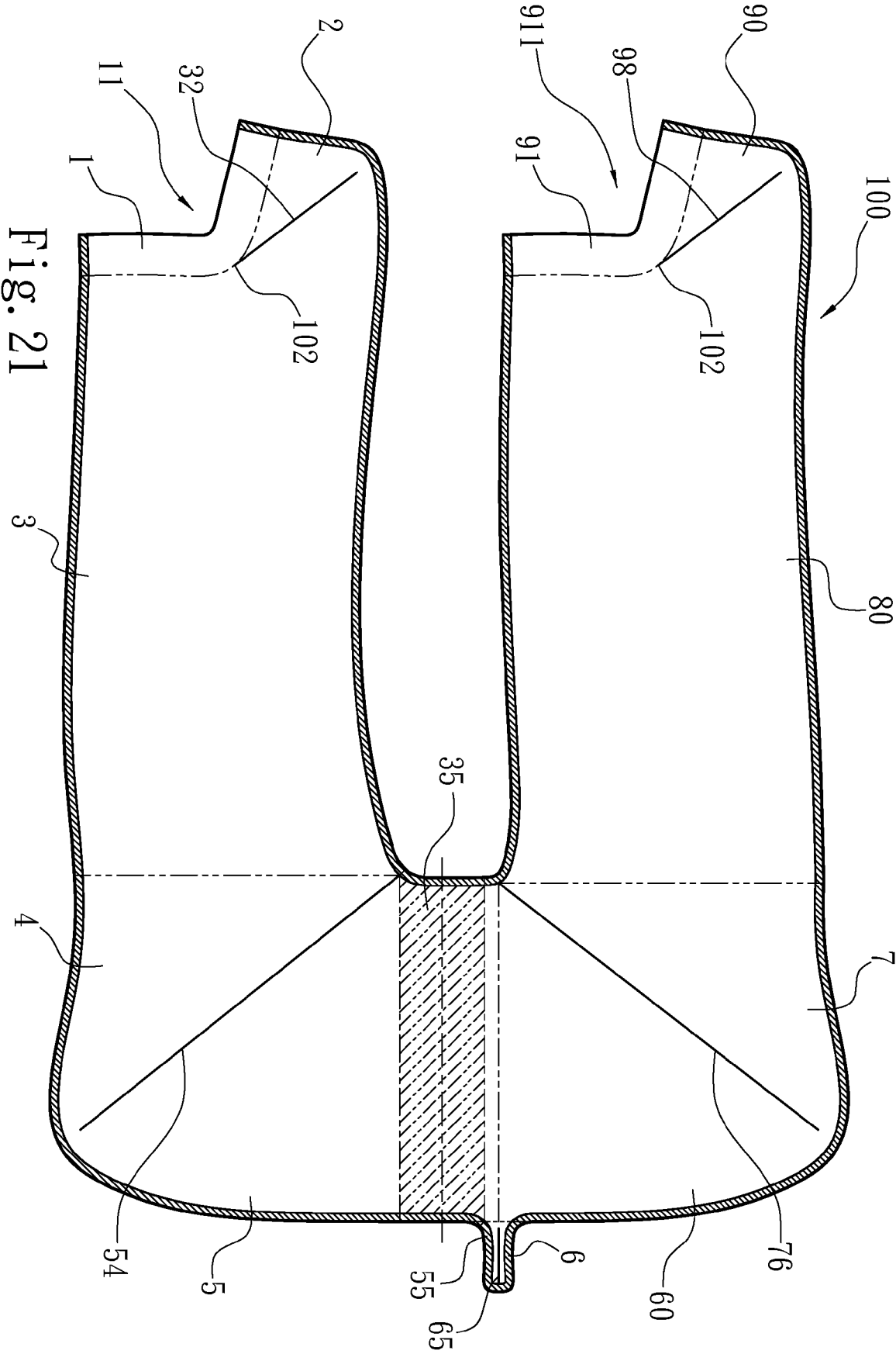


Fig. 21

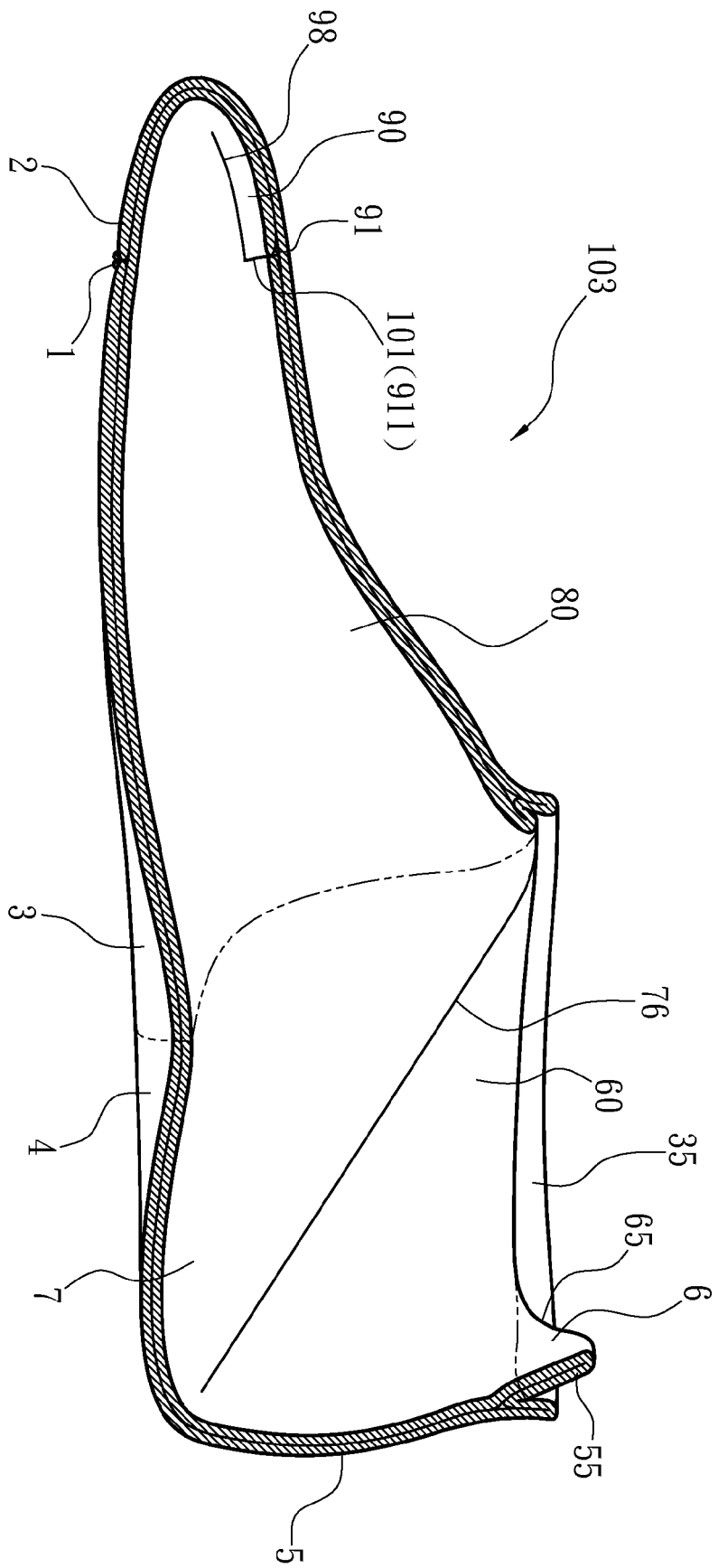
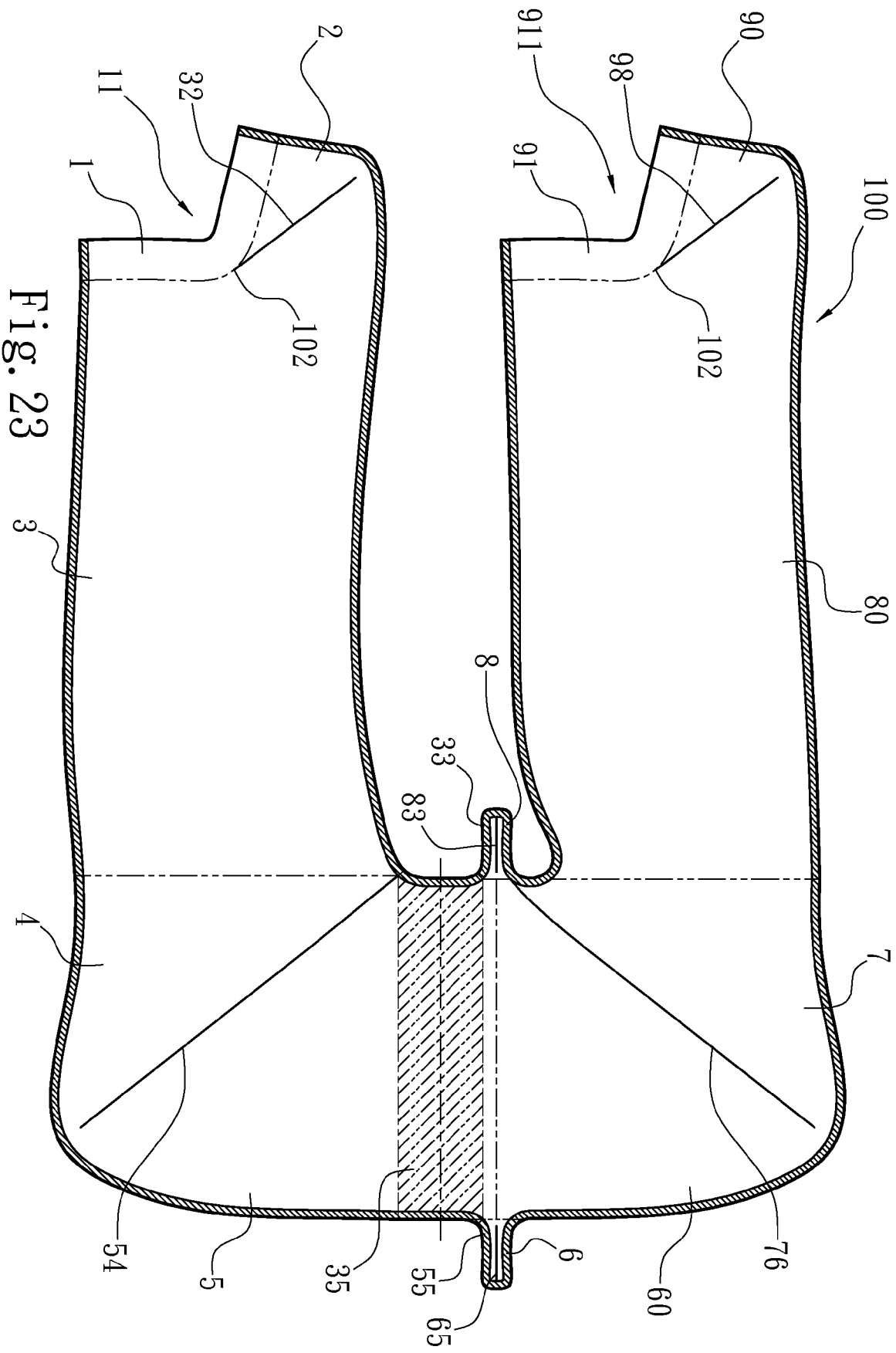


Fig. 22



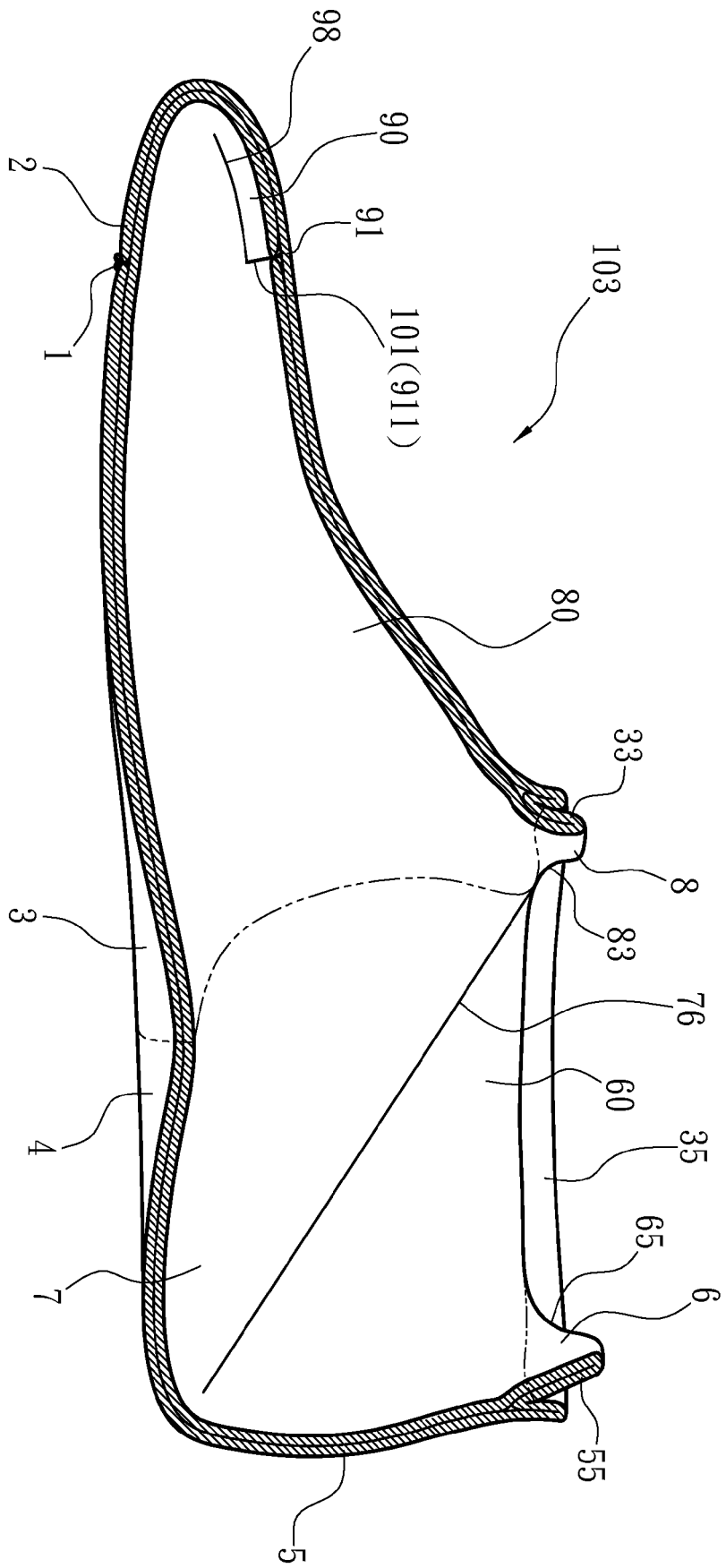
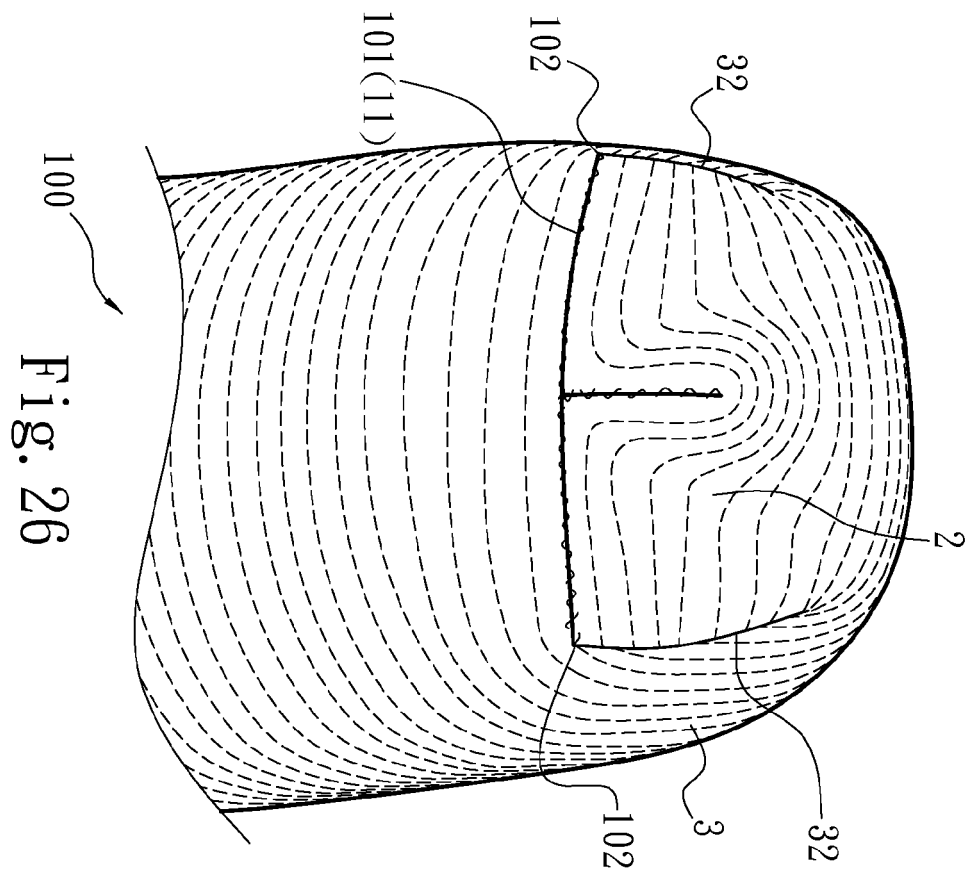
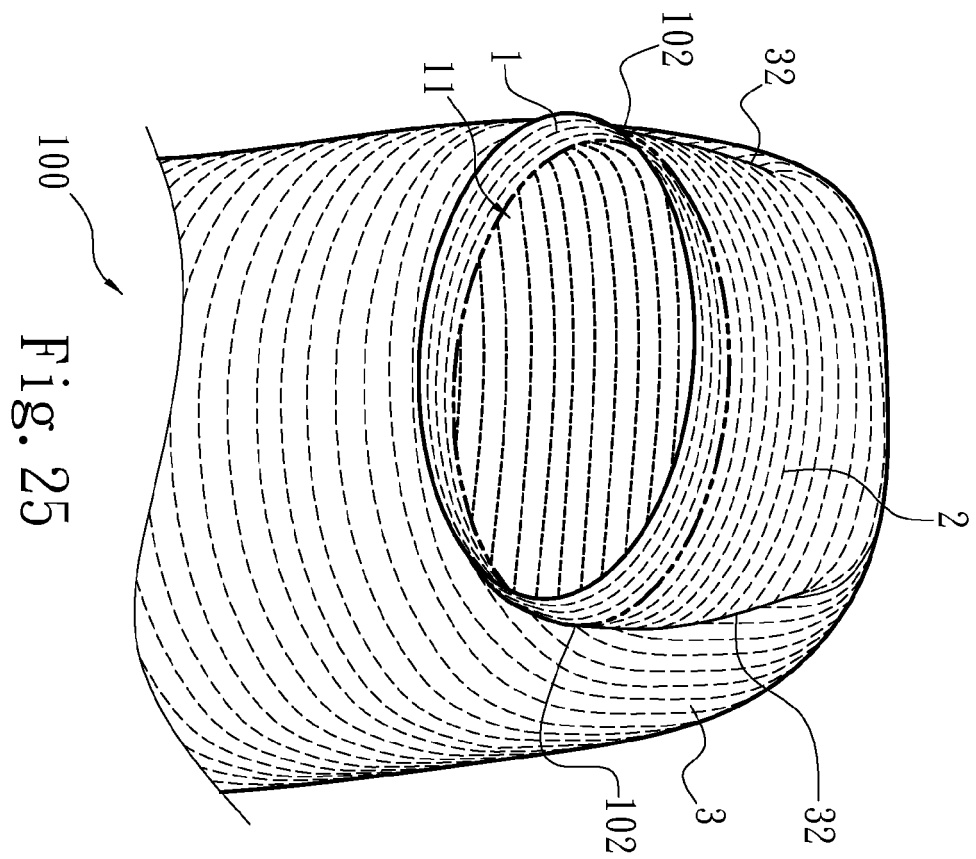
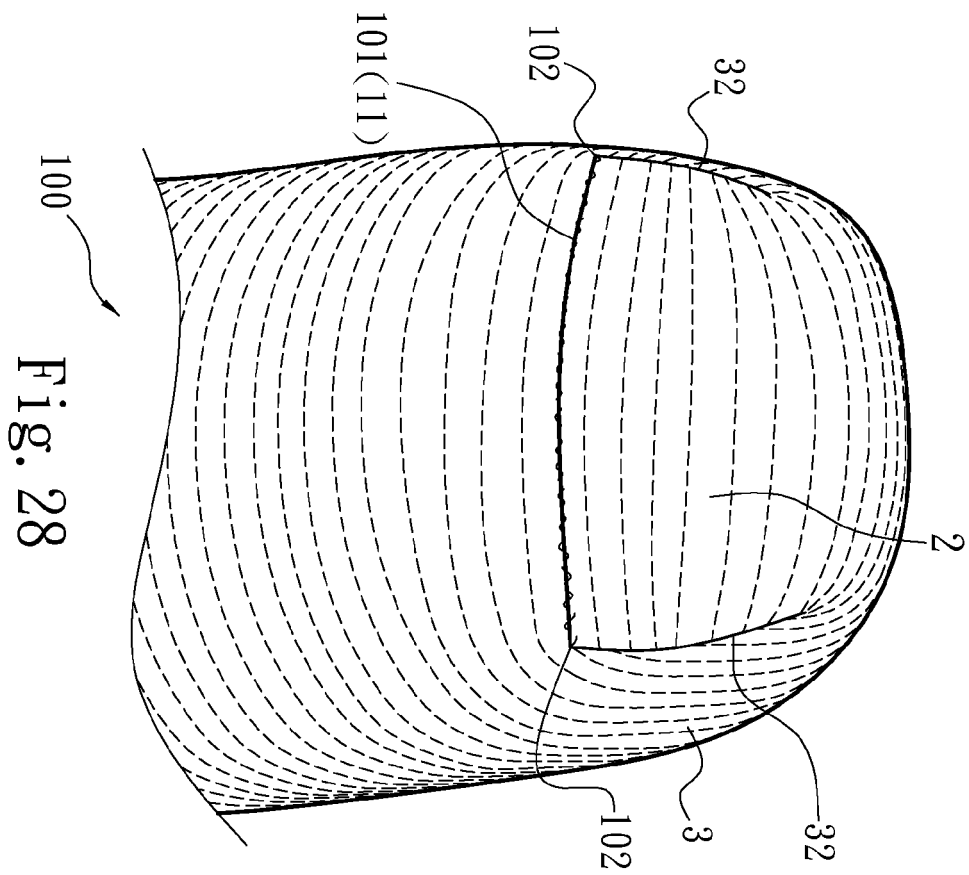
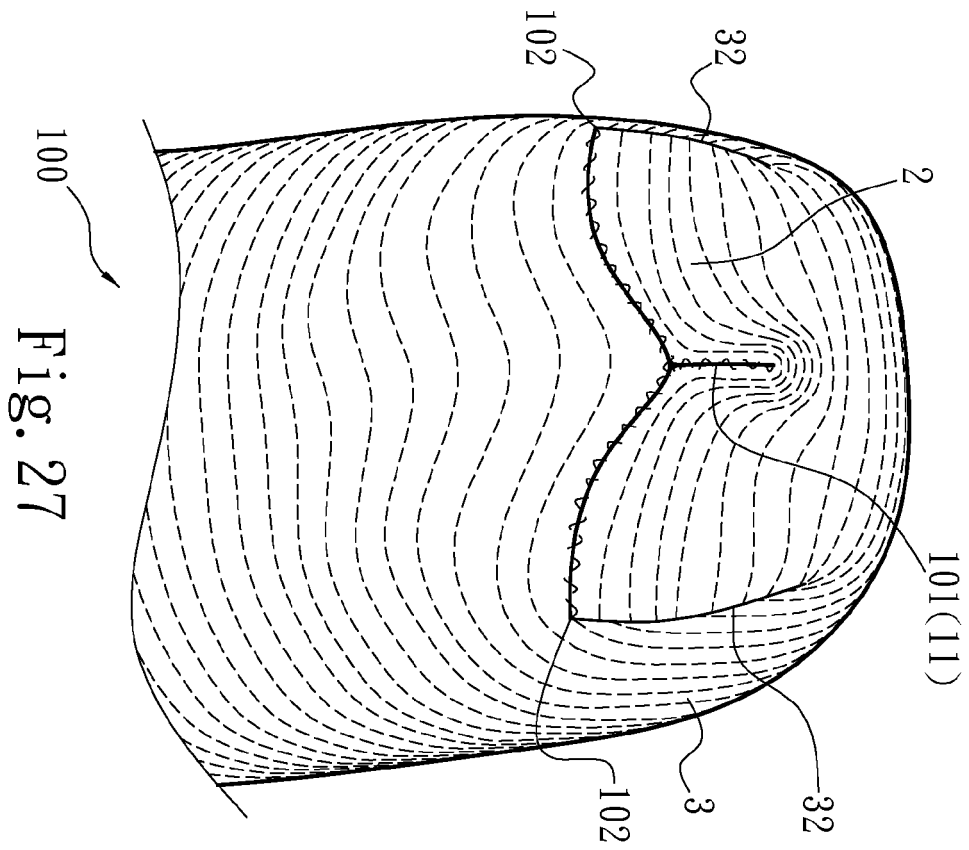


Fig. 24







EUROPEAN SEARCH REPORT

Application Number
EP 16 18 4433

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	EP 2 805 638 A1 (SHIMA SEIKI MFG [JP]) 26 November 2014 (2014-11-26) * paragraph [0023] - paragraph [0035]; figures 1-3 *	1-13	INV. D04B1/10 A43B1/04 A43B23/04 D04B1/22 D04B1/26
Y	US 2003/089136 A1 (LYNCH JUSTIN [IE] ET AL) 15 May 2003 (2003-05-15) * paragraph [0177] - paragraph [0197]; figures 1-32 *	1-13	
Y	EP 0 105 773 A1 (FOSTER BOYD INC [US]) 18 April 1984 (1984-04-18) * page 14, line 10 - page 16, line 5; figures 7, 8 *	1-13	
			TECHNICAL FIELDS SEARCHED (IPC)
			D04B A43B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 24 January 2017	Examiner Braun, Stefanie
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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ON EUROPEAN PATENT APPLICATION NO.**

EP 16 18 4433

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
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2805638 A1	26-11-2014	CN 104066350 A	24-09-2014
		EP 2805638 A1	26-11-2014
		JP W02013108506 A1	11-05-2015
		KR 20140105032 A	29-08-2014
		US 2015107307 A1	23-04-2015
		WO 2013108506 A1	25-07-2013
US 2003089136 A1	15-05-2003	EP 1442168 A1	04-08-2004
		JP 2005508455 A	31-03-2005
		US 2003089136 A1	15-05-2003
		US 2003131635 A1	17-07-2003
		US 2006010931 A1	19-01-2006
		WO 03040447 A1	15-05-2003
EP 0105773 A1	18-04-1984	DE 3376732 D1	30-06-1988
		EP 0105773 A1	18-04-1984
		JP S5988901 A	23-05-1984
		US 4571960 A	25-02-1986

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- TW 201609010 [0002]
- TW 201603735 [0003]
- TW 400227 M [0004]
- TW 201514353 [0019]