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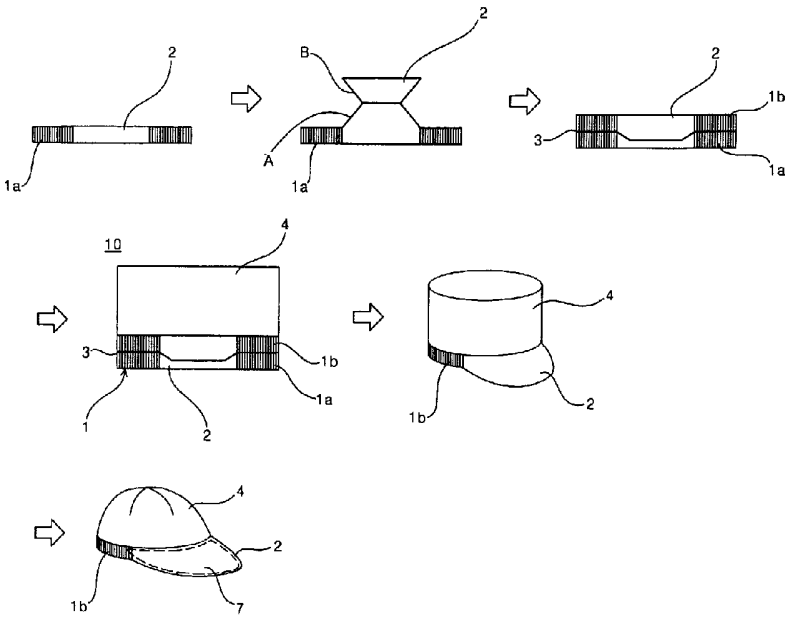
(54) **Title:** METHOD FOR MANUFACTURING PEAK-INTEGRATED TYPE CAP



(57) **Abstract:** The present invention relates to a method for manufacturing a peak-integrated type cap that can reduce the number of sewing processes. The method includes the steps of: forming one side of a head fitting part in an one-to-one knitting pattern, while forming a peak on the center thereof in a plain knitting pattern, the peak formed by using a select knitting manner where it is decreased in width and increased at the time of reaching a predetermined width and also knitted by connecting the both peripheries thereof such that it is in the shape of a general pocket; forming a folding part such that the other side of the head fitting part knitted in abutment with the one side thereof is easily folded; and forming the root part of the peak, while the other side of the head fitting part is being formed.

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METHOD FOR MANUFACTURING PEAK-INTEGRATED TYPE CAP

Technical Field

The present invention relates to a method for manufacturing a peak-integrated type cap that is capable of making a piece of raw cloth for the cap on which a crown, a peak and a head fitting part are formed integrally with each other, whereby a series of sewing processes that are needed for connecting the crown of the cap and the peak thereof and for connecting a sweat absorbing part on the inside of the crown can be advantageously avoided, which enables the production cost of the cap to be low.

Background Art

Generally, headgear is worn on the head of a human being such that it protects his or her hair from strong light or heat or is worn for the purpose of decoration. The headgear has been developed in various kinds and shapes and also made of all kinds of materials such as, for example, paper, silk, synthetic resin, etc.

In case of a cap with a peak at the front, it is composed of a crown that is a body thereof, the peak that is sewn with the crown for veiling sunlight, and a sweat absorbing part that is sewn with the whole inside of the crown such that it comes in contact with the periphery of the head including the forehead at the time when a user wears it, thereby functioning to absorb the sweat coming through his or her skin.

In manufacturing such a cap, typically, the crown is cut into four or six parts and the top ends of the four or six parts gather, such that the crown takes a generally round shape like the head, without any laying of the cut parts on another. Then, the respective cut parts are sewn with each other. The peak formed at the front of the cap is manufactured in such a manner that a peak pad is inserted into the piece of cloth that is of a generally semicircular or crescent

shape. Next, the front part of the crown and the peak of the cap are sewn. As a last consequence, the band type sweat absorbing part that absorbs the sweat coming through the forehead is disposed and then sewn on the inside surface of an edge of the lower portion of the crown, i.e., the portion with which the periphery of the head comes in contact, thereby completing a desired cap.

As mentioned above, the processes of sewing at least the crown itself and the peak itself as well as sewing the peak with the crown are necessarily made, which of course causes the production cost to be considerably high and also renders the number of caps manufactured per hour undesirably decreased.

Disclosure of Invention

To solve the above-described problems, it is an object of the present invention to provide a method for manufacturing a peak-integrated type cap in which a cap is made of a piece of raw cloth for the cap in such a manner that a crown, a peak and a head fitting part of the cap are formed integrally with each other.

To accomplish this and other objects of the present invention, there is provided a method for manufacturing a peak-integrated type cap, which includes the steps of: forming one side of a head fitting part in an one-to-one knitting pattern, while forming a peak on the center thereof in a plain knitting pattern, the peak formed by using a select knitting manner where it is decreased in width and increased at the time of reaching a predetermined width and also knitted by connecting the both peripheries thereof such that it is in the shape of a general pocket; forming a folding part in a front or back knitting manner such that the other side of the head fitting part knitted in abutment with the one side thereof is easily folded; and forming the root part of the peak, while the other side of the head fitting part is being formed in an one-to-one knitting pattern.

Preferably, the crown of the cap is knitted after the completion of the head fitting part or knitted before the formation of the peak of

the cap.

Preferably, the method further includes the steps of inserting a fixing yarn into the peak of the cap at the time of knitting and placing the cap with the knitted peak thereon into a mold, whereby it is fixed and is kept in the original shape of the peak without the insertion of a peak pad.

Since the head fitting part comes in direct contact with the periphery of the head, preferably, it is knitted along with a cotton or natural yarn such that it effectively absorbs the sweat coming to the face of a user.

The peak or the head fitting part is knitted along with a rubber yarn having flexibility such that the cap is applied in all kinds of sizes.

The cap according to the present invention is manufactured with a piece of raw cloth for the cap where the peak and the crown are formed integrally with each other, such that the production cost thereof can be considerably reduced.

Brief Description of the Drawings

Further objects and advantages of the invention can be more fully understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a flow diagram illustrating a method for manufacturing a peak-integrated type cap according to a first embodiment of the present invention;

FIG. 2 is a perspective view illustrating the cap manufactured according to the first embodiment of the present invention;

FIG. 3 is a flow diagram illustrating a method for manufacturing a peak-integrated type cap according to a second embodiment of the present invention;

FIG. 4 is a perspective view illustrating a piece of raw cloth

for the cap manufactured according to the second embodiment of the present invention;

FIG. 5 is a perspective view illustrating the cap manufactured according to the principles of the second embodiment of the present invention;

FIG. 6 is a flow diagram illustrating a method for manufacturing a peak-integrated type cap according to a third embodiment of the present invention; and

FIG. 7 is a perspective view illustrating the cap manufactured according to the third embodiment of the present invention.

Best mode for Carrying Out the Invention

Now, an explanation of the preferred embodiments of the present invention will be described with reference to accompanying drawings. To understand the preferred embodiments of the present invention, an explanation of a knitting machine used for embodying the principles of the present invention will be first described.

To manufacture the peak-integrated type cap according to the present invention, there are provided a computer for implementing a knitting program and a knitting machine for operating the knitting program in response to the execution command from the computer.

The knitting machine is provided with a front needle bed and a back needle bed that are disposed in the form of 겖?, each of the beds having needles that are thickly placed thereon, a yarn carrier rail formed on the upper sides of the needle beds, on which a yarn carrier connected to a yarn is disposed, a carriage that moves left and right along the yarn carrier rail and the formation path of the needle beds, and a control box that receives the signals transmitted from the computer and controls the execution of the corresponding operation. At this time, the yarn carrier rail is configured in such a fashion that four rails are arranged in parallel relation with each other, each rail having two yarn carriers installed thereon. The carriage is provided with a cam that serves to adjust the size of a loop, a needle selector that selects a necessary needle, and a yarn carrier magnet that serves

to hold the yarn carrier such that the yarn carrier can carry the yarn, in the interior thereof. In this case, the number of cams is 3 and the number of yarn carrier magnets is 8 in each cam, such that the carriage moves left and right for knitting, while the yarn carrier magnet is moving in the state of holding one or two or more yarn carriers.

On the other hand, an operator executes knitting programming by using a computer in which the knitting program for producing a piece of raw cloth of the cap to be manufactured by the knitting machine is previously stored. To do this, he or she draws the whole shape of the piece of raw cloth for the cap on the computer in a mosaic manner and at the same time selects a knitting pattern, a size of a loop, a needle to be used and color of a yarn.

In more detail, if the operator executes the knitting program on the computer, an initial screen is displayed with generally square cells that are arranged in the form of a lattice, and command icons selecting the knitting pattern, the size of the loop, the needle to be used and the color of the yarn are arranged on the left side thereof. Using the desired command icons, he or she designates the knitting command on the corresponding cells like the formation of the mosaic pattern, thereby completing the whole shape of the piece of raw cloth for the cap. At this time, as the corresponding number for each of the needles disposed on the front and back needle beds is designated, the needle corresponding to the designated number is the needle to be used. In the same manner as above, as the corresponding number for each of the yarn carriers on the yarn carrier rails is designated, the color corresponding to the designated number is the color of the yarn to be used.

When the above-mentioned operation is finished, the whole shape of the piece of raw cloth for the cap to be manufactured is formed on the screen, in the state where each cell has a designated command. The operator stores this knitting program, and if he or she starts to execute knitting for the cap, the computer transmits the data on the piece of raw cloth for the cap to the control box of the knitting machine. Under the control of the control box, the carriage, which is adapted to move along the formation paths of the needle beds and the yarn carrier rails, starts to move such that the yarn carrier magnets hold the yarn carriers on the yarn carrier rails, thereby carrying the

yarns connected to the yarn carriers. On the other hand, the needle selector selects the needle necessary among the needles on the needle beds in accordance with the data signal transmitted from the computer, and the cam decides the size of the loop to be knitted in accordance with the signal transmitted from the computer. As a consequence, the desired knitting is executed according to the predetermined knitting pattern based upon the signals transmitted from the computer, and this operation is repeatedly executed until the piece of raw cloth for the cap is produced.

EMBODIMENTS

[Embodiment 1]

FIG. 1 is a flow chart illustrating a method for manufacturing a peak-integrated type cap according to a first embodiment of the present invention, and FIG. 2 is a perspective view illustrating the cap manufactured according to the principles of the first embodiment of the present invention.

To knit a piece of cloth having the size corresponding to a piece of raw cloth 10 for the cap according to the first embodiment of the present invention, first, the needles that are formed on the front and back needle beds are appropriately selected, and the inside part 1a of a head fitting part 1 and a part of the peak 2 on the center of the cap are knitted. At this time, the head fitting part 1 is formed in an one-to-one knitting manner where the needles formed on the front and back needle beds are used in a zigzag way, and the peak 2 is formed in a plain knitting manner.

When knitting of the inside part 1a of the head fitting part 1 and the root part of the bottom portion of the peak 2 is completed, the other part of the peak 2 starts to be knitted. In this case, the peak 2 is formed in a select knitting manner where, first, the peak 2 gradually decreases the number of needles used as it moves from the root part to the protruding end such that the knitting width is reduced until the number of needles used in the knitting machine is reduced to a predetermined number of needles, and second, it gradually increases the number of needles used such that the knitting width is increased to

a predetermined number of needles.

At that time, in the processes of decreasing the knitting width and increasing the knitting width the parts "A" and "B" as shown in FIG. 1 are connected in such a manner as to be protruded upward, thereby forming the whole shape of the peak 2 like a pocket.

Next, before the outside part 1b of the head fitting part 1 is knitted for connection with the inside part 1a of the head fitting part 1, the formation of a folding part 3 is first made on the connected portion to the inside part 1a of the head fitting part 1 by using a front knitting manner where only the needles formed on the front needle bed of the knitting machine are used, or by using a back knitting manner where only the needles formed on the back needle bed of the knitting machine are used. The folding part 3 is a reference line in folding the head fitting part 1 in the process of sewing the piece of raw cloth for the cap as will be described below. That is, the folding part 3 is knitted between the inside part 1a and the outside part 1b of the head fitting part 1.

Next, a crown 4 is formed integrally in abutment with the root part of the peak 2 and the outside part 1b of the head fitting part 1, wherein it is knitted in a Jacquard knitting manner where a predetermined image or logo may be formed.

In addition thereto, the crown 4 may form the whole pattern in any one of plain, link-link, cable, and Intarsia knitting manners.

The peak 2, the head fitting part 1, and the crown 4 are set knitted at a time by the knitting program on the computer connected to the knitting machine, and therefore, it is not necessary to sew the peak 2 and the crown 4 that are knitted separately in the conventional practices.

The crown 4 comes in direct contact with the head of the human body, and therefore, in order for it to have at a relatively high density in winter for giving a good heating efficiency and to have at a relatively low density in summer for giving a good ventilation efficiency, the knitting program is appropriately controlled.

In addition, upon knitting of the peak 2, the head fitting part 1, or the crown 4, a rubber yarn having flexibility is inserted such that the cap is applied in all kinds of sizes.

As a consequence, the piece of raw cloth 10 for the cap is produced.

With the piece of raw cloth 10 for the cap, thereby, a series of sewing processes for making a peak-integrated type cap as shown in FIG. 2 are executed. First, the head fitting part 1 is folded relative to the folding part 3 and sewn and then, the peak 2 is sewn in the same manner as above. At this time, the peak 2 is sewn except the insertion part of a peak pad 7. After the insertion of the peak pad 7, the peak 2 is completely sewn.

Next, the piece of raw cloth 10 for the cap in the spreading form is rolled in the round form and the left and right edges thereof are sewn. In this case, the crown 4 of the round type of a piece of raw cloth 10 for the cap takes a generally cylindrical shape. At this time, in order for the crown 4 to take a similar shape to that of the head of the human being, it is cut into predetermined parts on the upper portion thereof and sewn with each other to thereby form sewing lines 8.

Finally, the peak pad 7 is inserted into the insertion part on the peak 2 and the insertion part is then sewn. After completing other finishing works, the manufacturing for the cap according to the first embodiment of the present invention ends.

In this case, a poly yarn or a fixing yarn such as vinyl chloride having a shape-maintaining characteristic is inserted during knitting of the peak 2 and the crown 4, and after the whole shape of the cap is once taken, the peak 2 and the crown 4 is placed into a mold for fixation thereof. As a result, the peak 2 can be freely bent without any insertion of the peak pad 7, and the crown 4 can be kept in the predetermined shape thereof. Therefore, this method may be applied in this embodiment of the present invention.

According to the method for manufacturing the peak-integrated type cap according to the first embodiment of the present invention, the peak 2 is formed in the plain and select knitting manners, the head fitting part 1 in an one-to-one knitting manner, the folding part 3 in

the front or back knitting manner, and the crown 4 in any one of the Jacquard, plain, link-link, cable, and Intarsia knitting manners, whereby the piece of raw cloth 10 for the cap where the peak 2 and the crown 4 are formed integrally can be made. This enables the production cost thereof to be substantially reduced, and the insertion of the rubber yarn or the spandex yarn into the head fitting part 1 allows the head fitting part 1 to have an excellent flexibility, such that the cap can be applied in all kinds of sizes.

[Embodiment 2]

FIG. 3 is a flow diagram illustrating a method for manufacturing a peak-integrated type cap according to a second embodiment of the present invention, FIG. 4 is a perspective view illustrating the piece of raw cloth for the cap manufactured according to the second embodiment of the present invention, and FIG. 5 is a perspective view illustrating the cap manufactured according to the second embodiment of the present invention.

In the second embodiment of the present invention, a piece of raw cloth 10 for the cap on which the sewing for the cut parts in the crown 4 has been completed is produced, whereby the manufacturing of this cap can be finished without any additional process of sewing the cut parts in the crown 4.

According to the second embodiment of the present invention, the method for forming the head fitting part 1 and the peak 2 is the same as in the first embodiment of the present invention, and the crown 4 takes a generally semicircular shape.

Now, an explanation of the method for forming the crown 4 in the shape of a general semicircle will be given.

The crown 4 of the piece of raw cloth 10 for the cap is bent in the shape of the general semicircle, not in the shape of a generally rectangle, and the parts "P", "Q", "R", "S", and "T" as shown in FIG. 4 are formed in such a manner that the needles on the back needle bed move as the back needle bed moves as many as a predetermined needle number and thereby, the loops transfer inwards such that the knitting size is decreased. After the head fitting part 1 and the peak 2 are completed, the crown 4 starts to be knitted and stops knitting when it

reaches the part "P". The loops transfer inwards to thereby reduce the knitting size of the crown 4, and the crown 4 starts to be knitted again. If the crown 4 reaches the part "Q", it stops knitting, and the loops transfer inwards to thereby reduce the knitting size of the crown 4. This is repeated at the time when the crown 4 reaches the part "T".

In this case, an explanation of the method for reducing the knitting size of the crown 4 will be in detail given.

A letter "F" denotes a reference position indicating the center of the crown 4, and letters "C" and "D" denote the left and right areas relative to the reference position "F". The crown 4 is knitted and if it reaches the part "P", the positioning of the needles are reestablished such that the needles in the area "C" are positioned on the back needle bed and those in the area "D" are positioned on the front needle bed, wherein the front needle bed is in a fixed state and the back needle bed is movable left and right.

In order for the loops on the area "C" to transfer inwards, that is, in a direction of the reference position "F", first, the back needle bed moves by one needle number in the direction of the reference position "F" and thus, the needles on the back needle bed move to the front needle bed, such that the loops transfer inwards by the distance of the movement of the back needle bed. To fill the space caused by moving the loops by one needle number inwards, the back needle bed moves by two needles number and thus, the needles on the back needle bed move to the front needle bed, such that the loops transfer inwards. In the same manner as above, to fill the space caused by moving the loops by two needles number inwards, the back needle bed moves by three, four, five, six or more needles number and thus, the loops transfer inwards.

As mentioned above, the back needle bed moves inwards by the set needle number and thus, the needles on the back needle bed moves to the front needle bed such that the loops on the area "C" move inwards and knitted. Next, the area "D" is knitted in the same manner as the area "C", and in this case, the needles on the area "D" on the front needle bed are positioned again to the back needle bed. Then, while the back needle bed moves by one needle number in the direction of the reference position "F", the needles on the back needle bed move to the front needle bed such that the loops transfer inwards by the distance of movement of the back needle bed. Thereby, the back needle bed moves by

the set needle number such that the loops on the area "D" transfer inwards.

When the loops transfer inwards and knitted, therefore, the knitting size corresponding to the loops transferred is reduced, and if knitting starts there, it is carried out in smaller size than before. If knitting reaches the area "Q", the above-described method for reducing the knitting size is carried out.

While knitting and the reduction of the knitting size are repeatedly carried out, the piece of raw cloth 10 for the cap, on which the crown 4 becomes in the shape of a general semicircle and has the upper end greatly narrowed in width, is made. With the piece of raw cloth 10 for the cap, the head fitting part 1 and the peak 2 are first sewn, and the left and right edges of the piece of raw cloth 10 for the cap are connected by sewing in the state where the piece of raw cloth 10 is rolled in the shape of a round. Finally the upper end of the crown 4 is sewn. After that, the peak pad 7 is inserted into the insertion part of the peak 2, and the insertion part is then sewn, thereby completing the manufacturing procedure for the cap.

As shown in FIG. 4, in this case, the crown 4 is formed integrally with a plurality of cap shape maintaining parts 5 that are formed radially from the top end and to the bottom end thereof, such that it has the same shape as the conventional crown 4 having the process of sewing the cut parts thereon. The plurality of cap shape maintaining parts 5 are grooved or protruded in accordance with the knitting program, and they serve as the frames of the crown 4, with a result that the crown 4 can be kept in its original shape, without any squeezing. To maintain the shape of the cap in more effective way, desirably, the cap shape maintaining parts 5 are spaced equally.

In order for the crown 4 to be easily finished on the upper end thereof, further, a finishing yarn 6 is linked to the yarns knitted on the upper end of the crown 4 and when it pulls, the upper end of the crown 4 all gathers with a result that the sewing process is completed with ease.

According to the above-mentioned procedure, the peak-integrated type cap according to the present invention is manufactured, and

specifically, at the time of making the piece of raw cloth 10 for the cap the crown 4 is knitted with the inward movement of the loops carried out repeatedly at necessary positions, whereby the total number of processes for sewing the cut parts on the crown 4 can be reduced.

According to the knitting program a pattern or a picture can be formed on the outside of the crown 4, such that the process of adding the pattern or logo on the surface of the crown 4 can be avoided.

As noted above, the method for manufacturing the peak-integrated type cap according to the second embodiment of the present invention can make the piece of raw cloth 10 for the cap on which the crown 4 is knitted with the inward movement of the loops carried out repeatedly at necessary positions, whereby the total number of processes for sewing the cut parts on the crown 4 can be reduced.

[Embodiment 3]

FIG. 6 is a flow diagram illustrating a method for manufacturing a peak-integrated type cap according to a third embodiment of the present invention, and FIG. 7 is a perspective view illustrating the cap manufactured according to the third embodiment of the present invention.

The cap manufactured according to the third embodiment of the present invention has a crown 4 that is opened at the upper portion. The method for manufacturing the cap is carried out in the opposite order to that in the first embodiment of the present invention, but the basic manufacturing principles are same as in the first embodiment of the present invention.

The crown 4, which has a relatively long length when compared with its width, is first knitted.

Next, the outside part 1b of a head fitting part and a peak 2 are knitted integrally in abutment with the crown 4.

The outside part 1b of the head fitting part is formed in one to one knitting manner, and the peak 2 is formed in a plain knitting manner. While the peak 2 is knitted in the plain knitting manner, in this case, it is knitted in a select knitting manner where, first, it gradually decreases the knitting width and second, it gradually

increases the knitting width when it reaches a predetermined knitting width.

At that time, in the processes of decreasing the knitting width and increasing the knitting width the parts "A" and "B" are connected in such a manner as to be protruded upward, thereby forming the whole shape of the peak 2 like a pocket.

Next, a folding part 3 is formed in a front or back knitting manner such that the inside part 1a of the head fitting part to be formed in abutment with the outside part 1b of the head fitting part 1 can be easily folded.

After that, while the inside part 1a of the head fitting part is being formed in an one-to-one knitting manner, the root part of the peak 2 is knitted.

As a consequence, the piece of raw cloth 10 for the cap is produced.

Next, the inside part 1a of the head fitting part is folded toward the inside of the crown 4 and sewn except for the insertion part of a peak pad 7.

Then, the left and right edges of the piece of raw cloth 10 for the cap are sewn to thereby form the body of the cap.

Finally, the peak pad 7 is inserted into the insertion part of the peak 2, and the insertion part is completely sewn.

The method for manufacturing the peak-integrated type cap according to the first embodiment of the present invention needs the finishing work for the upper portion thereof, whereas the method for manufacturing the peak-integrated type cap according to the third embodiment of the present invention makes the finishing work for the lower portion achieved by sewing the inside part 1a of the head fitting part, thereby rendering the production procedure considerably simplified.

Industrial applicability

As set forth in the foregoing, there is provided a method for manufacturing a peak-integrated type cap in which a cap is made of a piece of raw cloth for the cap in such a manner that a peak and a crown of the cap are formed integrally with each other, whereby the production cost of the cap can be considerably low.

CLAIMS

1. A method for manufacturing a peak-integrated type cap, said method comprising the steps of:

forming one side of a head fitting part in an one-to-one knitting pattern, while forming a peak on the center thereof in a plain knitting pattern, the peak formed by using a select knitting manner where it is decreased in width and increased at the time of reaching a predetermined width and also knitted by connecting the both peripheries thereof such that it is in the shape of a general pocket;

forming a folding part in a front or back knitting manner such that the other side of the head fitting part knitted in abutment with the one side thereof is easily folded; and

forming the root part of the peak, while the other side of the head fitting part is being formed in an one-to-one knitting pattern.

2. The method according to claim 1, wherein said one side of said head fitting part is an inside part of said head fitting part, said other side of said head fitting part is an outside part of said head fitting part, and said method further comprising the steps of knitting a crown integrally in abutment with said outside part of said head fitting part to thereby make a piece of raw cloth for the cap, folding said inside part of said head fitting part into the inside of said crown and sewing said inside part of said head fitting part excepting an insertion part of a peak pad thereon, sewing the left and right edges of said piece of raw cloth for the cap to thereby form a body of the cap, and inserting said peak pad into the insertion part of said peak and sewing said insertion part.

3. The method according to claim 2, wherein said crown of said piece of raw cloth for the cap is in the shape of a general rectangularity, and the step of forming said body of the cap is made by connecting the left and right edges of said piece of raw cloth for the cap, cutting the upper part of said crown into a plurality of parts spaced equally, and sewing the respective parts.

4. The method according to claim 2, wherein said crown of said piece of

raw cloth for the cap is in the shape of a general semicircle.

5. The method according to claim 4, wherein said crown comprises a plurality of cap shape maintaining parts that are formed radially from the top part to the bottom part thereof, each of said plurality of cap shape maintaining parts being grooved or protruded integrally on said crown.

6. The method according to claim 2, wherein said crown is knitted in a relatively low density such that it has a good ventilation effect and thus is used especially in summer.

7. The method according to claim 2, wherein said crown forms the whole pattern in any one of Jacquard, plain, link-link, cable, and Intarsia knitting manners.

8. The method according to claim 2, wherein upon knitting of said crown, a rubber yarn having flexibility is inserted thereinto.

9. The method according to claim 1, wherein said peak is kept in the original shape thereof, without any insertion of a peak pad, by inserting a fixing yarn thereinto and placing the cap with said peak into a mold for fixing said peak.

10. The method according to claim 1, wherein upon knitting of said head fitting part, a rubber yarn having flexibility is inserted thereinto and a cotton yarn or a natural yarn having a sweat absorbing capability is contained therein.

11. The method according to claim 1, wherein said one side of said head fitting part is an outside part of said head fitting part, said other side of said head fitting part is an inside part of said head fitting part, and said method further comprising the steps of knitting a generally rectangular crown that has a relatively long length when compared with the width thereof to thereby make a piece of raw cloth for the cap, folding said inside part of said head fitting part into the inside of said crown and sewing said inside part of said head fitting part excepting an insertion part of a peak pad thereon, sewing

the left and right edges of said piece of raw cloth for the cap to thereby form a body of the cap, and inserting said peak pad into said insertion part and sewing said insertion part, wherein at said step of knitting said peak said outside part of said head fitting part and said peak are knitted integrally in abutment with said crown.

Drawings

FIG.1

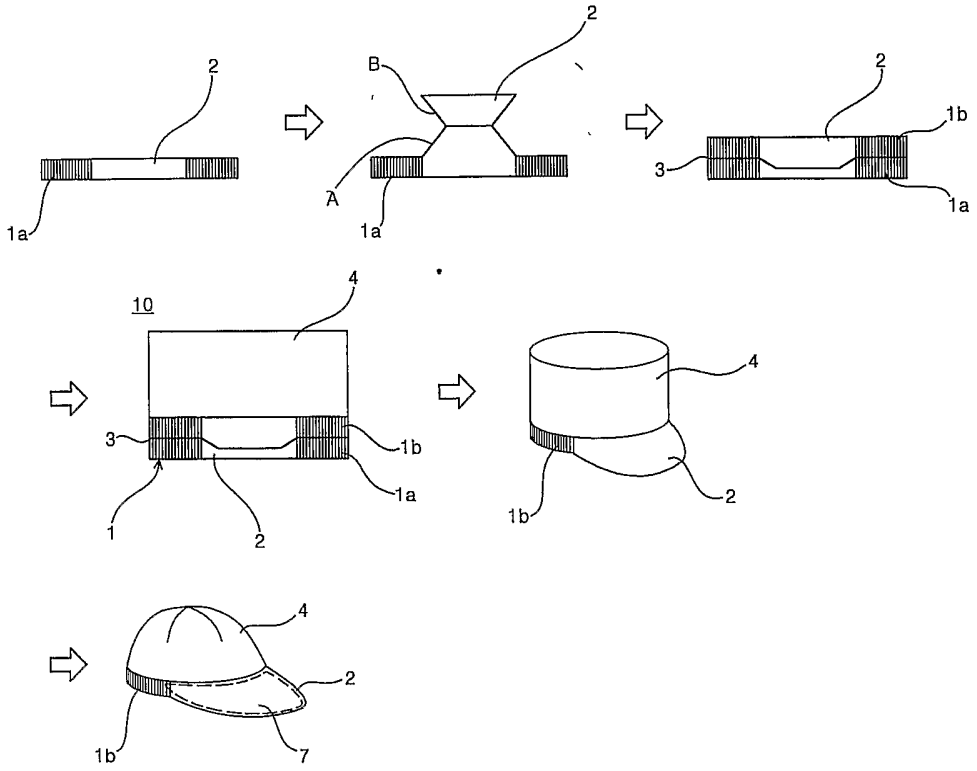


FIG. 2

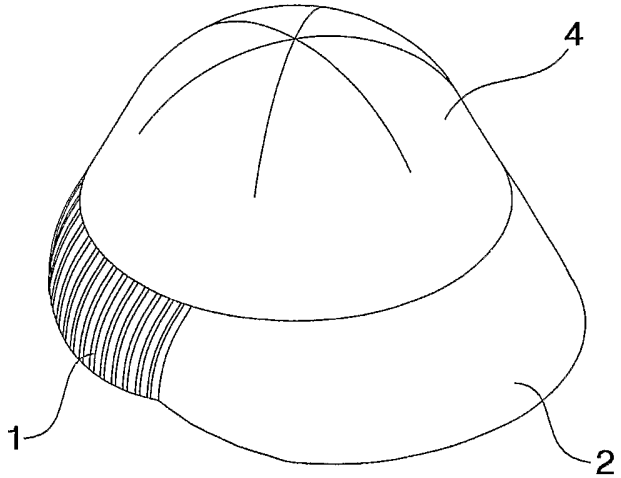
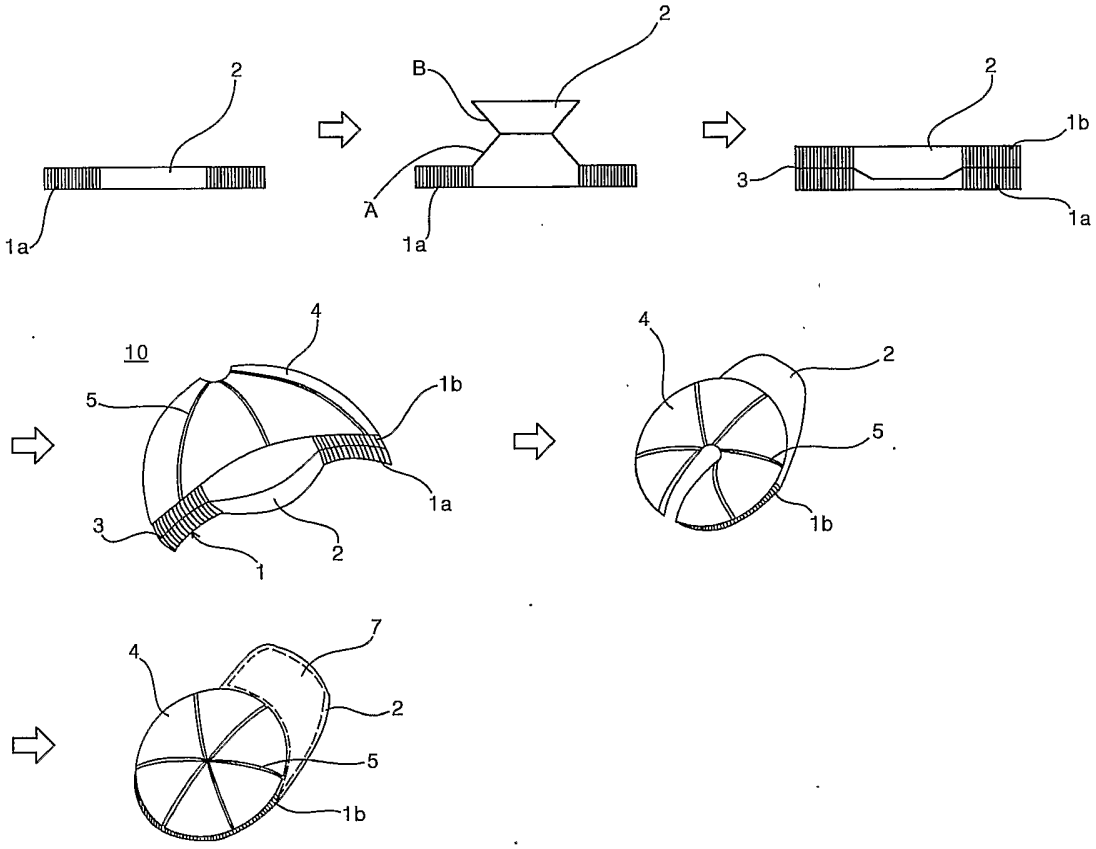


FIG. 3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1a
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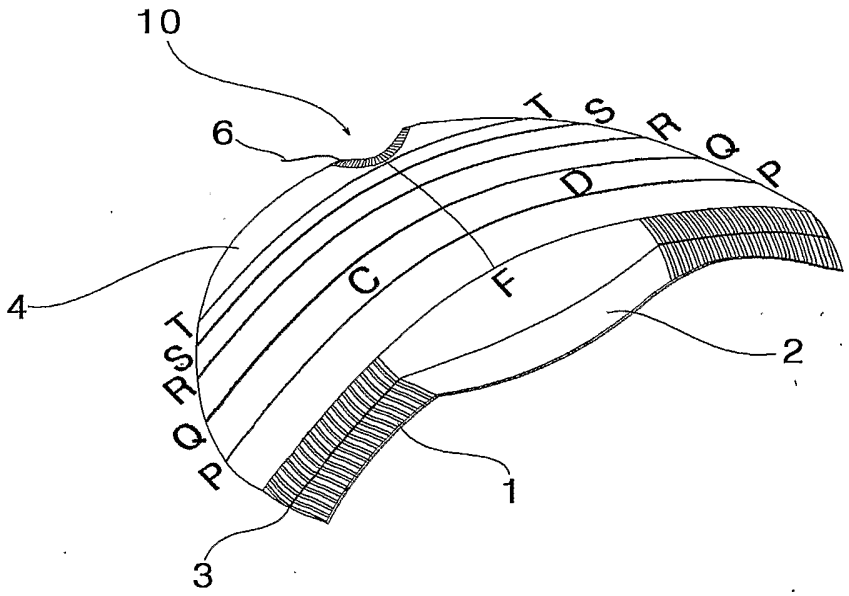
5
1b
4
7
2
5
1b

FIG. 4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1
3

FIG. 5

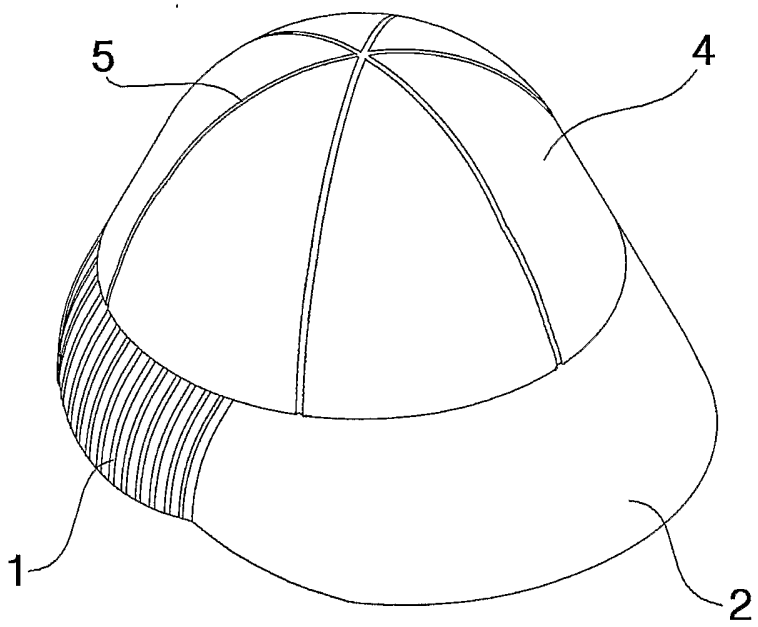


FIG. 6

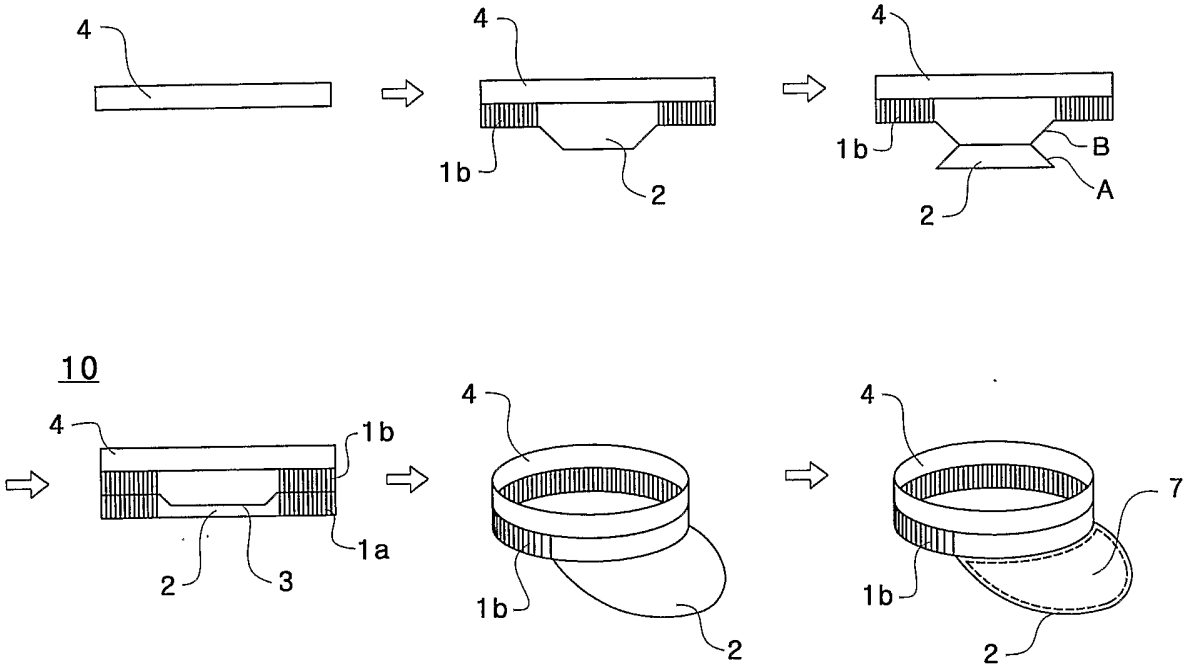
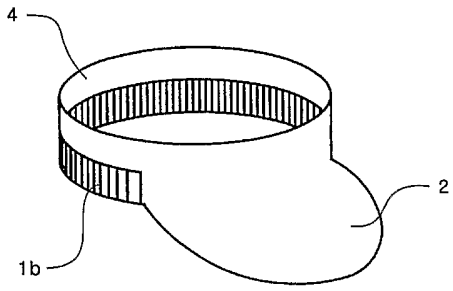


FIG. 7



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR02/01316

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 A42C 1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 A42C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KR, JP, US : IPC as above

Electronic data base consulted during the intertnational search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 99-171051 Y (Jang, Won-Seok) 02 December 1999 (02.12.1999) (Family None) See the whole document.	1-11
A	KR 01- 68099 A (Kim, Young-Kwan) 07Juy l2001 (13.07.2001) (Family None) See the whole document.	1-11
A	JP 4-209814 A (K.K. Hayashi Knit) 31 July 1992 (31.07.1992) (Family None) See the whole document.	1-11
A	JP 7-118908 A (K.K. Yakayama Tomson) 9 May 1995 (09.05.1995) (Family None) See the whole document.	1-11
A	US 6,067,658 (Byung-Woo Cho) 30.May 2000 (30.05.2000) (Family None) See the whole document.	1-11

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 NOVEMBER 2002 (11.11.2002)	11 NOVEMBER 2002 (11.11.2002)

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