April 26, 1966 S. LIPKIN 3,247,523

CAP

Filed Aug. 28, 1964 3 Sheets-Sheet 1

FIG. 1

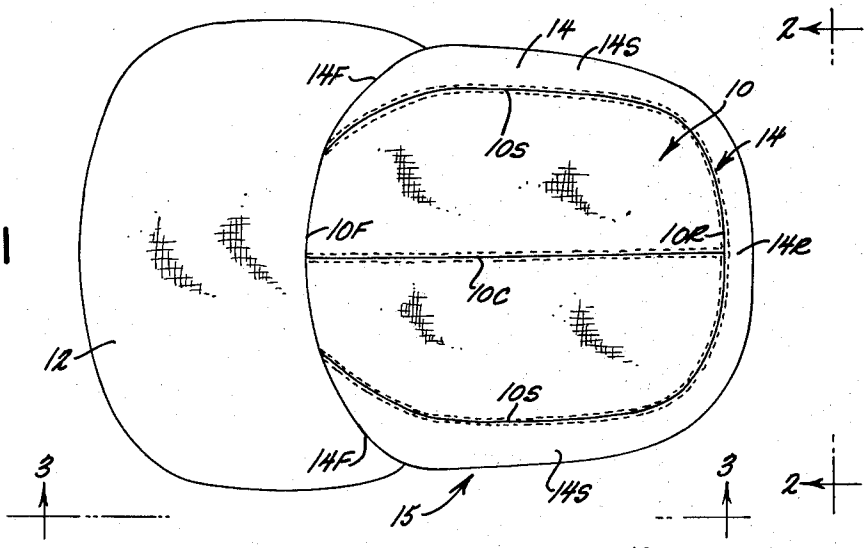


FIG. 3

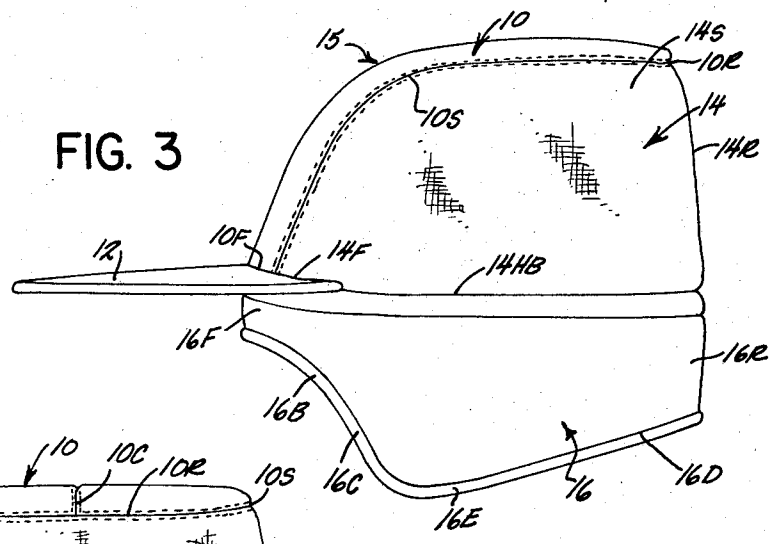
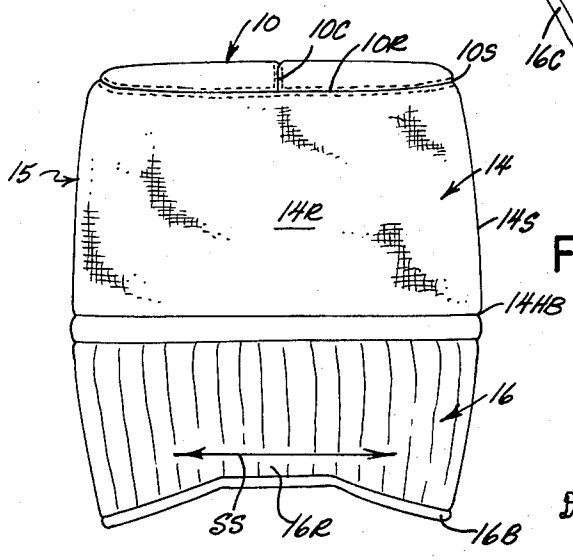


FIG. 2



INVENTOR.
SOL LIPKIN

BY
Dugger Braddock Johnson + Westman

ATTORNEYS

April 26, 1966 S. LIPKIN 3,247,523

CAP

Filed Aug. 28, 1964 3 Sheets-Sheet 2

FIG. 4

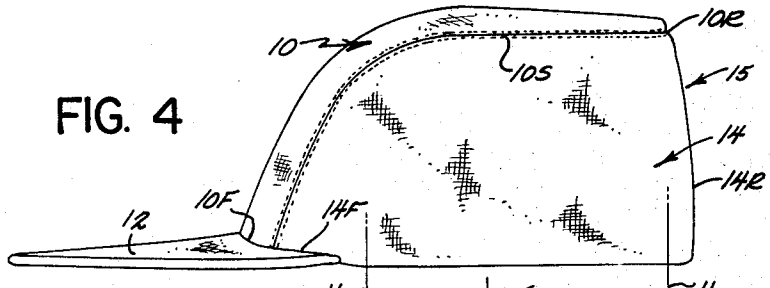


FIG. 5

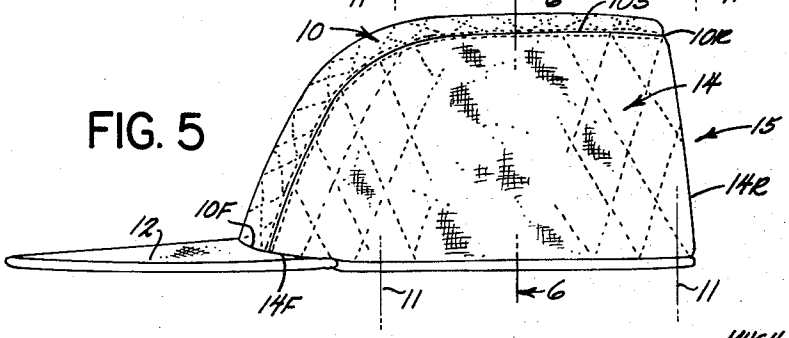


FIG. 7

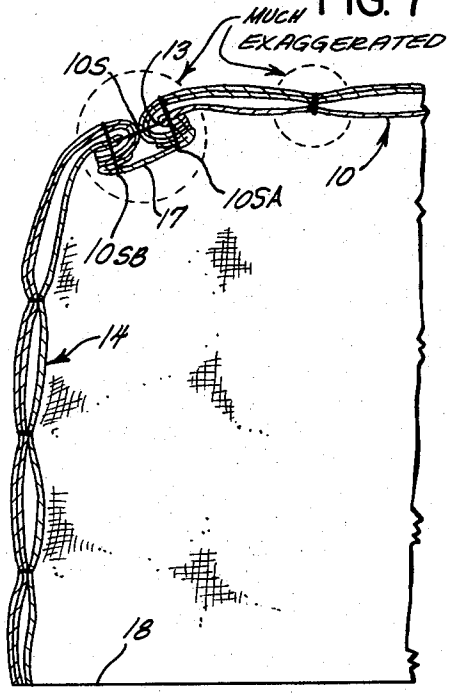
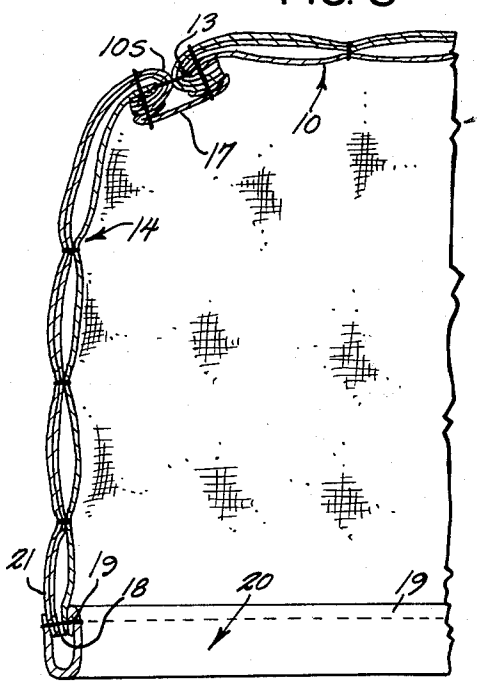


FIG. 8



INVENTOR.
SOL LIPKIN

BY
Dugger Braddock Johnson + Whitman
ATTORNEYS

April 26, 1966 S. LIPKIN 3,247,523

CAP

Filed Aug. 28, 1964 3 Sheets-Sheet 3

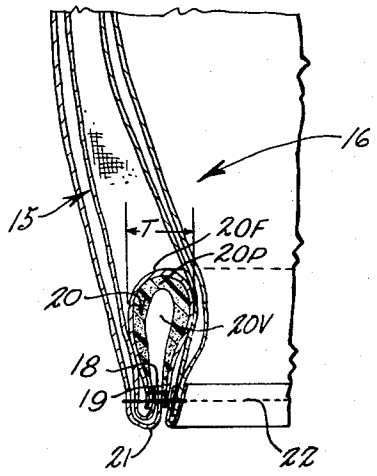


FIG. 10

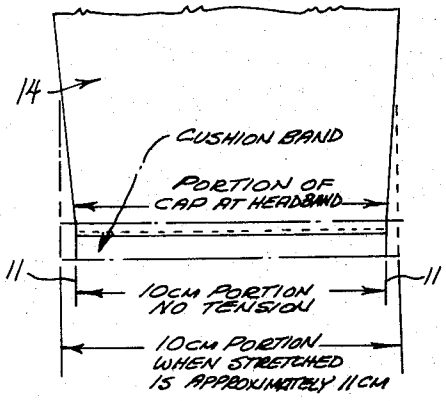


FIG. 11

FIG. 9

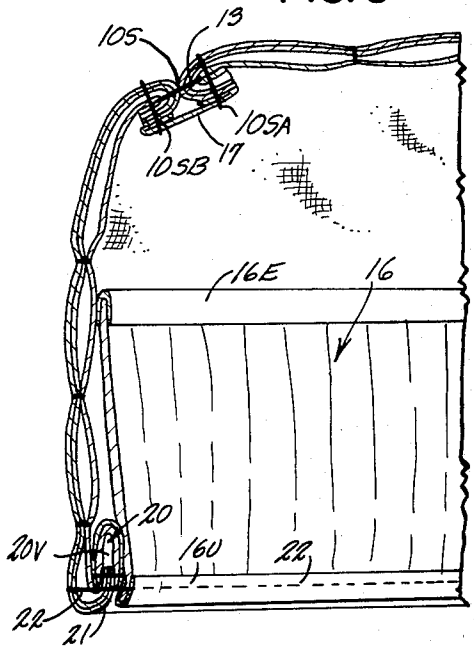
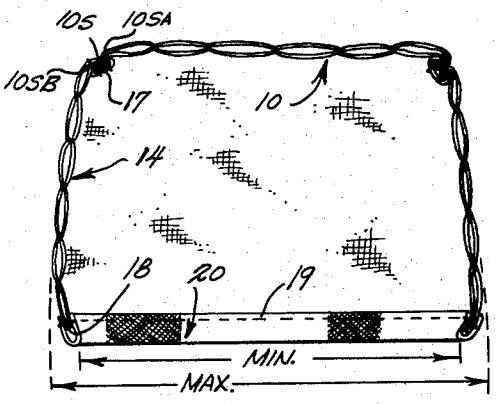


FIG. 6



INVENTOR.
SOL LIPKIN

BY
Dugger Braddock Johnson + Westman
ATTORNEYS

United States Patent Office 3,247,523 Patented Apr. 26, 1966

3,247,523

CAP

Sol Lipkin, 2623 Huntington Ave., St. Louis Park, Minn.

Filed Aug. 28, 1964, Ser. No. 392,831
6 Claims. (Cl. 2—197)

This invention relates to improvements in caps and particularly in improvements in winter caps of tailored construction which are comfortable, attractive in appearance, which fit the wearer snugly, keep their shape, and provide ear protection. The invention particularly relates to tailored cap structures which can be manufactured in a fewer number of sizes than caps of standard construction.

When the retail purchaser buys a cap, this is the consummation of a long series of prior events. These events begin with the design of the cap. The construction of one cap is of no great difficulty, but when a manufacturer designs a cap which is to be sold in retail stores, if the cap is to be sold in reasonable quantities, it must be stocked by the retail store in a range of sizes sufficient to fit a large number of head sizes, and in a range of styles and colors. Caps are sold in sizes which are divided into three major classifications, namely, men's, boys' and junior boys' sizes. Men's sizes range from 6¾ to 7¾ and require a total of nine sizes. Boys' sizes range from 6⅜ through 7⅛ and require a total of seven sizes. Junior boys' sizes ranges from 6 through 6¾ and require a total of seven sizes. Therefore, a stock of caps, of only one color and style, and one cap per size, would involve a total of 23 caps. When several colors are stocked, as well as duplicates in the more popular sizes, the merchant's total number of caps in stock can easily exceed 100 caps, for one style only. If several styles and several colors in each style are stocked, then the number of caps increases accordingly.

Therefore, the stocking of merchandise at retail in order adequately to serve the retail customer, involves a considerable investment for every retail store at which cap merchandise is sold. The investment cannot be avoided if the merchant desires to have the merchandise available in an adequate range of sizes, colors and styles.

A primary object of this invention is to provide a tailored winter cap construction which greatly diminishes the number of sizes required to fit all of the head sizes in each major size classification of men's, boys' and junior boys' sizes.

It is another object of the invention to provide a tailored winter cap construction which can be manufactured at reduced unit costs, and a tailored winter cap construction that is attractive in appearance, and will keep its appearance during use.

It is a further object of this invention to provide a cap of the aforesaid type which provides good protection to the ears of the wearer, and which reduces the variety of raw materials and trimmings which must be purchased by the manufacturer in order to carry through the project.

Other and further objects are those inherent in the invention herein illustrated, described and claimed and will be apparent as the description proceeds.

To the accomplishment of the foregoing and related ends, this invention then comprises the features hereinafter fully described and particularly pointed out in the claims, the following description setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principles of the invention may be employed.

The invention is illustrated with reference to the drawings, in which:

FIGURE 1 is a top plan view of a tailored winter cap embodying the invention;

FIGURE 2 is a rear elevational view taken in the direction of arrows 2—2 of FIGURE 1, showing the ear flaps in the down position;

FIGURE 3 is a side elevational view taken in the direction of arrows 3—3 of FIGURE 1, showing the cap of FIGURE 1 with the ear flaps in the down position;

FIGURE 4 is a side elevational view, corresponding to FIGURE 3, except that the ear flap portion of the cap has been folded up inside the cap;

FIGURE 5 is a side elevational view, corresponding to FIGURE 4, except that it shows another form of tailored winter cap. In FIGURE 5, the ear flap is turned up inside the cap, corresponding to FIGURE 4;

FIGURE 6 is a transverse sectional view of the upper portion of the cap, taken in the direction of arrows 6—6 of FIGURE 5, during construction, and prior to the time that the ear flap portion is sewed in;

FIGURES 7, 8, 9 and 10 are a series of related views illustrating the steps in the construction. FIGURES 7, 8 and 9 each shows half of a transverse sectional view. FIGURE 10 is a very much enlarged fragmentary portion of the transverse sectional view of FIGURE 9. FIGURE 7 shows the upper portion of the cap after it has been sewed together, but before applying the cushion band at the head band portion of the cap. FIGURE 8 shows the cushion band applied to the structure of FIGURE 7. FIGURES 9 and 10 illustrate the cap construction after the ear flap has been sewed into the cap structure;

FIGURE 11 is a fragmentary portion of the cap structure, as for example, the portion shown between the lines 11—11 of FIGURE 4 or FIGURE 5, illustrating the resiliency of the cap for increasing its head band dimension.

It should be pointed out that the particular fabric used in the styling of the cap may be varied. In FIGURES 1 through 4, the ordinary woven cloth is used, smooth on the outside with the usual liner and inner liner, with the inner liner customarily quilted to the liner, not illustrated. In FIGURE 5, the styling uses multiple plies of cloth with a cushion inner liner between them, with quilting through the plies and cushion. The structure of the cap thus starts with appropriately cut pieces of the fabric that is to be used. It will be understood that if the fabric is smooth on the outside a liner and inner liner, with or without an insulating cushion, may be used, and if the fabric is quilted, it will be as illustrated in FIGURES 5 through 9. The selection of the fabric, quilted or unquilted, on the outside, is optional.

In FIGURES 1–4, the cap has a top **10** which is defined by the front line **10F**, the side lines **10S—10S**, the rear line **10R** and a center seam **10C**. These are defined by the junction of the top of the sides and rear wall of the cap **14**, which has the side wall portions **14S—14S** and rear wall portion **14R**. The peak is joined to the top-front along the front line **10F**, which is, of course, a seam. This same seam extends along **14F—14F** where the peak meets the front portions of the sidewalls **14S** of the portion **14** of the cap. At the lower edge of the sidewall-rearwall portion **14** there is a seam **14HB**, which is the head band seam of the cap, and below this there is an ear flap generally designated **16**. This ear flap has a small binding **16B** all around its lower edge, this binding being stitched on as is well known. The ear flap has a very small vertical dimension at the narrow front portion **16F** but it reaches down along the curve line **16C** which overlies the temple of the wearer so as to provide a maximum vertical dimension at **16E** where it covers the ears of the wearer, after which the vertical dimension narrows, along the line **16D**, until it reaches the rear portion of the ear flap at **16R**. The ear flap is composed wholly or partly of resilient material so that it will have resiliency for a cer-

tain amount of stretch in the direction of the double arrow S—S. Thus, the entire ear flap may be made of somewhat resilient material, or merely a segment in the rear portion may be inserted to provide the desired resiliency in the direction of double arrow S—S, for a purpose to be described.

So far, the construction described is what might be considered standard construction in the trade. However, according to the present invention an innovation is introduced, which is now to be described.

The shell **15** of the cap (defined by numerals **10** and **15**) is made first, and the visor **12** is then joined to it. At this time, the shell **15** of the cap will be either a single layer of fabric which has been sewed together, ready to have the head liner inserted, or the shell **15** will be of the quilted construction as shown in FIGURE 5, except that the lower edge at the head band seam will at this stage be unfinished.

FIGURES 6–9 illustrate a quilted type shell. It may be said with reference to FIGURES 7, 8 and 9 that the puffing of the quilted structure is shown much exaggerated, as is also the seam along the side line **10S**. In the quilted type construction, the portions **10** and **14** are sewed together along the line **10S–10R–10S**. The portion **10S** of this line, being illustrated in FIGURES 7, 8 and 9. Then, since the cap will not otherwise be finished on the inside, a finishing strip **17** is applied on the inside of the cap, and this is stitched down along the stitching lines **10SA** and **10SB**, which are equally spaced on either side of the side line **10S**. It will be appreciated that the stitching **13** and the stitching along **10SA** and **10SB** will tightly pull down the fabric at each line, but in FIGURES 7, 8 and 9 the fabrics are shown as though they were not pulled down, in order that they may be illustrated. The binding strip **17** produces a finish on the inside of the shell **15**. However, the lower edge **18** of the shell is at this time still unfinished.

According to the present invention, there is applied to the lower edge **18** a resilient stretchy "cushion band" which is generally designated **20**. This cushion band is composed of a fabric layer **20F** on the outside and a very resilient compressible stretchy plastic foam layer **20P** on the inside as viewed in FIGURE 10. The two layers are adhesively attached together. The fabric layer **20F** is preferably, but not necessarily, of knitted fabric, it being sufficient for the purposes of this invention that the fabric layer be stretchable when cut on the bias. However, a knitted fabric composed of synthetic fibers and attractively colored, is preferred. This fabric layer is then adhesively attached to a foam layer of plastic, which can, for example, be 1/16 to 1/8 of an inch in thickness, or even thicker foam material. This plastic foam material is exceedingly resilient and can be compressed so as to reduce its thickness. After the knitted fabric has been adhesively attached to the plastic foam layer, strips of this dual fabric-plastic component are then cut on what would be the bias with reference to the fabric layer. These fabric-plastic strips are then folded so that the fabric-layer **20F** is on the outside and the plastic layer **20P** is on the inside and the folded material is stitched to the lower edge **18** of the shell **15**, the stitching line being at **19**. It will be noted that the foam plastic is on the inside and embraces the lower edge **18** of the shell **15**, and the stitching line, in practice, will cause the compression of the plastic, so as to draw all of the layers of fabric down close together.

It is important, in respect to the invention, that, at the time the stitching is applied along stitch line **19**, the folded fabric-plastic cushion band be stretched so that it is under tension, but the lower edge **18** of the shell **15** is not under tension. The cushion band **20** is applied all the way around the lower edge **18** of the shell **15**. As a result, the cushion band **20** acts as a hoop all the way around the lower edge **18** of the shell **15** and causes the shell at this edge to be drawn inwardly so as to decrease the peripheral dimension of the shell **15** at the lower edge **18**. This is illustrated by the dimension "min" in FIGURE 6. However, the cushion band **20** is stretchy and if the cap shell **15** is placed upon a head size which is somewhat larger than the dimension "min," the cushion band **20** will stretch up to a maximum dimension illustrated at "max" in FIGURE 6.

The cushion band should extend at least around the back and sides of the shell **15**, so as to give a maximum stretching length. It is less important that it extend along that portion of the headband that is co-extensive with the attachment of the visor. This is because the lack of resilience along the back edge of the visor will prevent stretching along the headband line in front. However, the cushion band is usually included in front because of the cushioning effect.

Continuing with the construction of the cap, the ear flap **16** is manufactured separately, and has a neat binding at its upper edge as well as its lower edge. To fasten the ear flap to the visor and shell of the cap the cushion band **20** is in the first instance folded up to the position shown in FIGURE 9 and then the ear flap **16** is laid inside the shell **15** so that what will be the upper terminal edge of the ear flap lies against the fold **21** of the cap fabric, which is the part just above the stitching line **19**, as shown in FIGURE 8. The ear flap has an upper binding edge **16U**, as a single finishing strip. This is then stitched entirely through the folded cap portion along the stitching line **22**. In FIGURE 9, the various layers of the fabric are illustrated as separated, but the stitching along line **22** will actually pull all of the fabric down tight, since the stitch is under tension. It should be remembered also that the dimension in a peripheral direction around the upper binding edge **16U** of the ear flap should be equal to the maximum dimension of the cushion band when it is stretched. Accordingly, the ear flap **16** is gathered slightly so as to provide extra fabric in each stitch along the stitch line **22**, so that the ear flap fabric will not impose a resistance to the outward stretching movement in a peripheral direction which is permitted by the cushion band **20**.

It will be noted that FIGURE 10 is simply an enlargement of the lower edge **18** of the shell **15** as shown in FIGURE 9. In FIGURES 9 and 10 it should be noted that the cushion band **20** springs out, so as to provide a void at **20V**. This occurs when there is no hoop tension placed upon the cap by using the cap on a relatively large head.

When the cap is relaxed, the void appears at **20V**, and the cushion band **20** contracts. Both the void and the contraction of the cushion band will tend to decrease the peripheral dimension of the cap at the headband line. This will allow the cap to fit a relatively small head.

However, when the cap is placed on a larger size head, the dimension T and the void **20V** will be reduced or eliminated. At the same time the cushion band will stretch peripherally around the lower edge of the cap. The lower edge **18** of the shell **15** of the cap will stretch with the cushion band since the cushion band was applied to it with the band already under tension but the lower edge **18** relaxed and not under tension. In this way, the cap is permitted to expand circumferentially, so as to increase its "size" to fit a larger head.

When the ear flap portion **16** is turned down, as shown in FIGURES 2 and 3, this will also accommodate the larger and smaller sizes of heads and necks, due to its resiliency.

FIGURE 11 illustrates a portion of the side wall **14** of the cap, as for example, a portion between the lines **11—11** of FIGURES 4 and 5. Due to the resiliency of the cushion band **20**, this portion of the side wall, when relaxed, will have a certain dimension, but it can be stretched out to a greater dimension. In a typical construction made according to the present invention,

the headband dimensions may be increased about 10% from the minimum. Thus, when a relaxed ten centimeter portion between the lines **11—11** is selected, it may be increased in length to approximately eleven centimeters by applying tension to it. Therefore, by utilizing the present invention in cap construction, a tailored cap may be prepared which will accommodate two and in some instances, three sizes, according to the usual sizes of caps. This accommodation is due not only to the resiliency of the cushion band **20**, but also to its filler effect, due to the changing dimension T when the cap is relaxed as compared to when the cap is worn on a larger size head.

As many widely apparently different embodiments of this invention may be made without departing from the spirit and scope thereof, it is to be understood that I do not limit myself to the specific embodiments disclosed herein.

What is claimed is:

1. A cap of tailored construction comprising a shell for embracing the upper part of the head including a portion adapted to cover the top of the head and a portion adapted to encircle the head and cover the forehead, sides and rear of the head, said latter portion having an upwardly and inwardly folded edge, said latter portion terminating along a lower edge defined as the headband line, a visor attached to said shell along the forehead portion of the headband line, a flap adapted to extend at least around the back and sides of the head, said flap having a lower edge and an upper edge, said flap being situated within the shell, and a cushion band composed of an inverted U-shaped fold of resilient material attached to said upwardly and inwardly folded edge, said cushion band having resiliency along its length so as to permit it to be stretched, said cushion band being compressible transversely through its thickness so as to permit it to be substantially flattened, said cushion band extending around at least the back and sides of the cap and situated between the shell and said flap, said shell, cushion band, and flap being stitched together along the headband line with said cushion band being tensioned when stitched.

2. The cap of claim **1** further characterized in that the cushion band completely encircles the lower edge of the shell.

3. The cap of claim **1** further characterized in that the flap has an increased width around the sides and back of the head so that when folded down it will cover the ears and lower back portion of the head.

4. The cap of claim **1** further characterized in that the cushion band is a composite of a layer of stretchy fabric attached to a thicker layer of highly compressible spongy material.

5. The cap of claim **4** further characterized in that the stretchy fabric is cut on the bias.

6. The cap of claim **5** further characterized in that the thicker layer of highly compressible material is composed of foam plastic.

References Cited by the Examiner

UNITED STATES PATENTS

1,267,799	5/1918	Perlman	2—195
1,379,142	5/1921	Wallace	2—172
1,988,248	1/1935	Lewis	2—195
2,052,123	8/1936	Adamson	2—195
2,825,328	3/1958	Olsen	2—181 X
2,885,683	5/1959	Lipkin	2—172
3,134,983	6/1964	Lipkin	2—172

FOREIGN PATENTS

667,881	3/1952	Great Britain.

JORDAN FRANKLIN, *Primary Examiner.*

G. H. KRIZMANICH, *Assistant Examiner.*