

Dec. 24, 1968

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3,417,407

CAP CONSTRUCTION

Filed Feb. 23, 1966

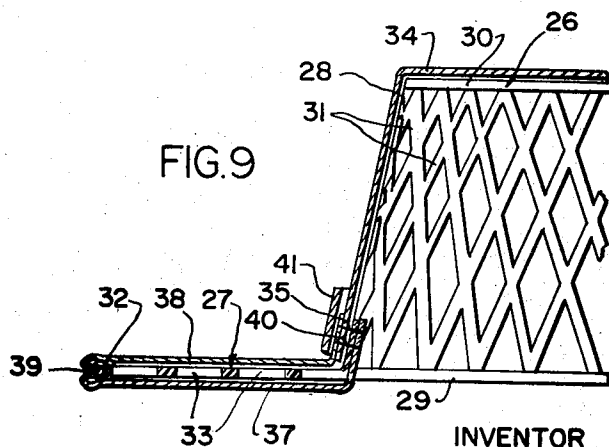
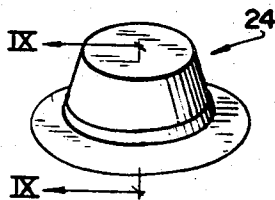
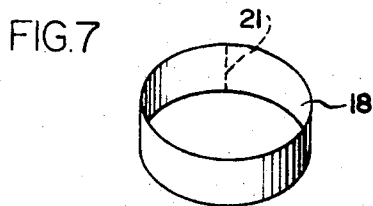
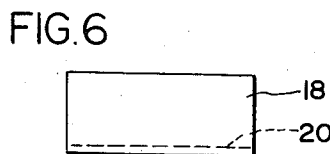
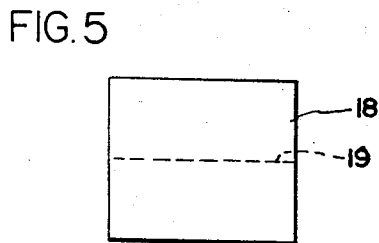
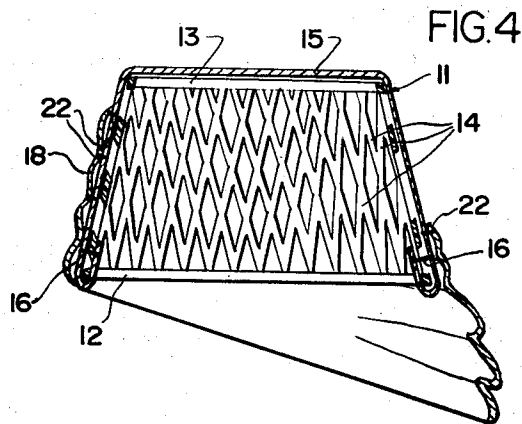
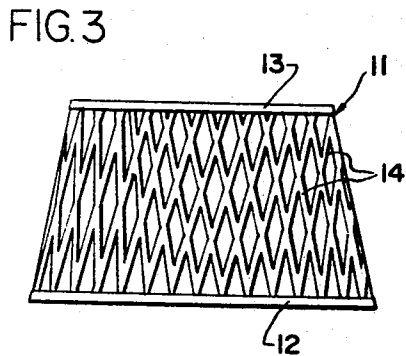
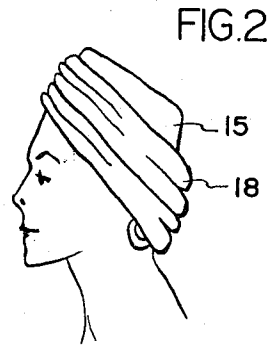
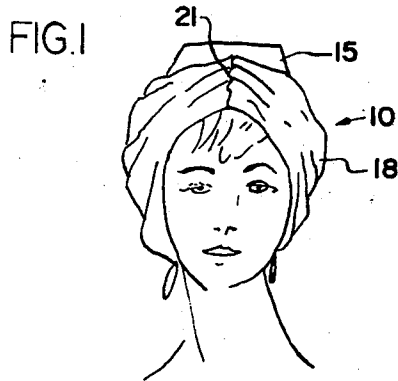


FIG. 8

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CAP CONSTRUCTION
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 Filed Feb. 23, 1966, Ser. No. 529,591
 4 Claims. (Cl. 2—180)

ABSTRACT OF THE DISCLOSURE

A cap construction comprising a polyethylene mesh-like crown base having a fabric covering with an annular fabric band secured about the fabric covering. Opposite upper edge portions of the annular fabric band are secured to the fabric covering such that the lower edge of the annular fabric band is disposed an increasing distance below the lower edge of the crown base. The cap crown base material has flexibility, resiliency, and toughness to permit bending and crushing without permanent deformation.

This invention relates to hats and more particularly to hats which can be made in a wide variety of designs and which are relatively simple and inexpensive in construction while being very durable, having a construction such that they can be washed by machine and such that they can be crushed in use or in packing or storage and yet be readily restored to their original shape.

The principles of this invention are particularly applicable to ladies' hats wherein the design and appearance may vary widely, but are not necessarily limited thereto and may be applied to men's sports hats, for example. Most ladies' hats of common design comprise a frame of buckram material and such hats are not washable and are quite fragile, because the buckram frames lose their shape if the hats are washed, squashed or crushed in any way.

This invention was evolved with the object of overcoming the disadvantages of prior hat constructions and of providing hats which are inexpensive in construction, which are light and cool and which will be restored to their original shape even after being packed, crushed or washed by hand or machine.

According to this invention, a molded plastic hat frame is provided of sufficient flexibility and toughness for hand and machine washability and of sufficient resilience to resume its original shape after packing or crushing.

In accordance with a specific feature of the invention, the molded plastic frame has an open construction with cloth covering material being secured thereto by suitable thread means. The open construction decreases the weight of the hat, and also provides a hat which is cool.

According to another specific feature of the invention, the molded plastic frame has a criss-cross pattern for increased flexibility and strength.

According to a further feature of the invention, the molded plastic frame includes a portion having a frusto-conical shape, which facilitates the construction of hats of a wide variety of designs. Preferably, the frusto-conical portion includes a lower ring or rim and an upper ring or rim of smaller diameter, the rims being in spaced parallel planes. With this arrangement, a flat top hat can be provided and, if desired, material can be attached to provide a turban type of hat.

According to still another feature of the invention, the molded plastic frame includes both a crown portion and a brim portion extending outwardly from the lower edge of the crown portion, with both the crown and rim portions being of an open construction and being covered with a suitable cloth material.

Further important features of the invention relate to methods of constructing hats using molded plastic frames.

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This invention contemplates other and more specific objects, features and advantages which will become more fully apparent from the following detailed description taken in conjunction with the accompanying drawings which illustrate preferred embodiments and in which:

FIGURE 1 is a front elevational view showing a turban type hat constructed in accordance with the principles of this invention and disposed on a lady's head;

FIGURE 2 is a side elevational view of the turban type hat shown in FIGURE 1;

FIGURE 3 is a side elevational view of a moldable plastic frame used in constructing the turban type hat shown in FIGURES 1 and 2;

FIGURE 4 is a cross-sectional view of the turban type hat shown in FIGURES 1 and 2;

FIGURE 5 is a view illustrating a blank cloth material used in constructing the turban type hat shown in FIGURES 1 and 2;

FIGURE 6 is a view illustrating the blank as shown in FIGURE 5, after folding and stitching;

FIGURE 7 is a view illustrating the material shown in FIGURES 5 and 6, after a further step toward construction of the hat as shown in FIGURES 1 and 2;

FIGURE 8 is a perspective view illustrating a brim type hat constructed in accordance with the principles of this invention; and

FIGURE 9 is a cross-sectional view, taken substantially along line IX—IX of FIGURE 8.

Reference numeral 10 generally designates a turban type hat which in accordance with the principles of this invention comprises a moldable plastic frame 11 shown in FIGURE 3.

The illustrated frame 11 comprises a lower ring or rim 12 and an upper ring or rim 13 in spaced parallel planes, connected by criss-cross angularly extending web portions 14. Preferably, the upper rim 13 has a diameter substantially less than that of the lower rim 12, such that the frame has a generally frusto-conical shape. The rims 12 and 13 may be circular but preferably are slightly oval in shape, to more readily fit the head.

In accordance with this invention, the rims 12 and 13 and the web portions 14 are relatively thin while being of a moldable plastic material which is moisture-resistant and which has sufficient flexibility, resiliency and toughness to permit all portions to be bent back on themselves and still spring back to the original condition thereof, so as to permit the hat to be crushed and also to permit washing either by hand or machine. Many plastic materials are not suitable because of being too brittle, but since a number of commercially available compositions of moldable plastic materials, such as polyethylene, will meet the above-stated functional requirements, the invention is not limited to any particular composition.

By way of illustrative example, and not by way of limitation, the diameter of the lower rim 12 may be on the order of 7 $\frac{3}{8}$ inches, while the diameter of the upper rim 13 may be on the order of 5 $\frac{3}{4}$ inches, with each rim having a width on the order of $\frac{1}{4}$ inch and a thickness on the order of $\frac{1}{16}$ inch. The web portions 14 may have widths on the order of $\frac{1}{8}$ inch and thickness on the order of $\frac{1}{32}$ inch.

The illustrated construction of the frame 11 has a further important advantage in that cloth material can be readily attached thereto. To construct the turban type hat shown in FIGURES 1 and 2, a fabric cover piece 15 is first cut with a circular shape and with a radius somewhat greater than the radius of the upper rim 13 plus the distance between the upper rim 13 and the lower rim 12. The piece 15 is then placed in centered relation over the frame 11 and the peripheral edge portion is brought down to extend under the lower rim 12 and to thence extend upwardly on the inside of the web

portions 14, while forming pleats in the material. The cover piece 15 is then secured in place by sewing threads 16 through the peripheral edge portion of the piece on the inside of the frame 11 and the opposed portion on the outside of the frame 11. If a stretch fabric material is used, a piece of smaller initial size can be used, and the pleats may not be required. When using either a non-stretchable or a stretchable fabric material, it is desirable that the material be pulled or stretched tightly over the frame 11, to obtain a stronger and more rigid construction.

In the next step of constructing the turban type hat shown in FIGURES 1 and 2, a rectangular piece 18 of fabric is cut, having a width on the order of three or four times the height of the frame 11 and having a length on the order of the circumference of the lower rim 12. The piece 18 so formed is then folded along a central fold line 19, as indicated by broken lines in FIGURE 5, and the edge portions are then stitched together by threads 20, as shown in FIGURE 6. At this time, the unfinished side of the fabric may be on the outside, and the sleeve-like piece so formed is turned inside out, to place the finished side on the outside, and to cause the edge portions of the material to be turned inwardly. Next, the ends of the piece 18 are brought together, turned inwardly and stitched together by threads 21, as shown in FIGURE 7.

The piece is then placed on the hat frame, with the portion having the seam 21 being placed and formed with pleats to extend from the lower rim 12 at least halfway to the upper rim 13, and with a diametrically opposed portion of the piece having only an upper part secured to a lower portion of the frame, to thereby be draped downwardly as shown in the side elevational view of FIGURE 2 and the sectional view of FIGURE 4. The piece 18 is secured in place by suitable threads 22.

Referring to FIGURE 8, reference numeral 24 generally designates a brim type hat constructed in accordance with the principles of this invention. The hat 24 comprises a molded plastic frame 26 including a brim portion 27 and a crown portion 28. The crown portion 28 has a construction similar to that of the frame 11 and includes a lower ring or rim 29 and an upper ring or rim 30, with angularly extending criss-crossed web portions 31 between the rims 29 and 30. The brim portion 27 comprises an outer ring or rim 32 spaced radially outwardly from the lower rim 29 of the crown portion 28, and angularly extending criss-crossed web portions 33 interconnecting the rim 29 and the rim 32. By way of illustrative example and not by way of limitation, the rims 29 and 30 and web portions 31 of the crown portion 28 may have dimensions such as those of the frame 11 as described above, the outer rim 32 of the brim portion 27 may have width and thickness dimensions similar to those of the rims 29 and 30, and the dimensions of the web portions 33 may be similar to those of the web portions 31.

To construct the hat 24, a piece 34 is cut from fabric in the form of a circle, having a radius substantially equal to the radius of the upper rim 30 plus the distance between the rims 29 and 30, in the case of a non-stretchable fabric, or of somewhat less dimensions in the case of a stretchable fabric. The circular piece 34 is then placed over the frame 26 and the peripheral edge is brought down in proximity to the lower rim 29 and is secured in position by threads 35, suitable pleats being formed in the case of a fabric of non-stretchable material.

Next, a pair of pieces 37 and 38 are cut from fabric with annular shapes, with an inside diameter slightly less than the diameter of the rim 29 and with an outside diameter somewhat greater than the outside diameter of the rim 32. The pieces 37 and 38 so formed are preferably placed one on top of the other, with the finished sides thereof together, after which the peripheral edge portions are stitched together by stitching 39. The pieces are then turned so that the finished sides thereof face downwardly and upwardly. Then the pieces are placed over the rim

27 with the inside portion of the piece 37 being inside the lower edge of the crown portion 28, and with the inside edge portion of the piece 37 on the outside of the crown portion 28. Such inner edge portions are then stitched together through the lower edge of the crown portion 28, by means of threads 40. Finally, a band 41 may be stitched or otherwise secured to cover the inner edge of the upper piece 38.

It will be appreciated that the illustrated turban and brim type hats are only representative types of hats which may be provided, using the principles of this invention, and the forms may be changed as required by appearance or functional considerations. Hats formed in accordance with the invention are machine or hand washable, and yet retain their shape. They can be packed or crushed and still be readily restored to their original shape. Any suitable fabrics may be used, and decorations such as pins, earrings and flowers may be readily applied. The hats are particularly desirable for sport and hot weather activities, since the open construction of the frames facilitates ventilation. However, the hats can be used for dress or formal occasions with suitable fabrics being applied.

The hats are inexpensive to manufacture, the frames being readily and cheaply moldable, with standard mass-production techniques. A minimum amount of fabric material is required, with very little sewing, and few finishing stitches.

It will be understood that modifications and variations may be effected without departing from the spirit and scope of the novel concepts of this invention.

I claim as my invention:

1. A cap construction comprising a resilient plastic frame having upper and lower annular rim portions and an annular mesh-like member having criss-cross web portions connecting said upper and lower rim portions together, said plastic frame having sufficient resilience to resume its original shape after packing or crushing, a circular piece of fabric covering said frame with the outer edge thereof marginally folded and secured to the inner lower surface of said frame, an annular fabric band, means securing said annular fabric band to said frame, with substantially the entire lower edge of said annular fabric band being spaced a distance below the lower edge of said frame which distance increases from the front to the rear portions of said frame.

2. In a cap construction as defined in claim 1, said means securing said annular fabric band to said frame including thread means.

3. In a cap construction as defined in claim 1, said annular fabric band being formed from a rectangular piece of fabric folded along a central fold line and having edge portions stitched together to form a sleeve-like piece with the ends of said sleeve-like piece being stitched together.

4. In a cap construction as defined in claim 1, said circular piece of fabric being stretched tightly over said frame.

References Cited

UNITED STATES PATENTS

807,952	12/1905	Mayer	2—180 X
811,178	1/1906	Saks	2—175
1,625,670	4/1927	Maxwell	2—180 X
2,616,091	11/1952	Luttge	2—177 X
2,675,558	4/1954	Richard	2—180
3,150,381	9/1964	Baumkirchner	2—198
3,014,221	12/1961	Brunetto	2—200 XR

FOREIGN PATENTS

271,309	2/1930	Italy.
165,965	5/1950	Austria.

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