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2,410,033

HAT CONSTRUCTION

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FIG. 1.

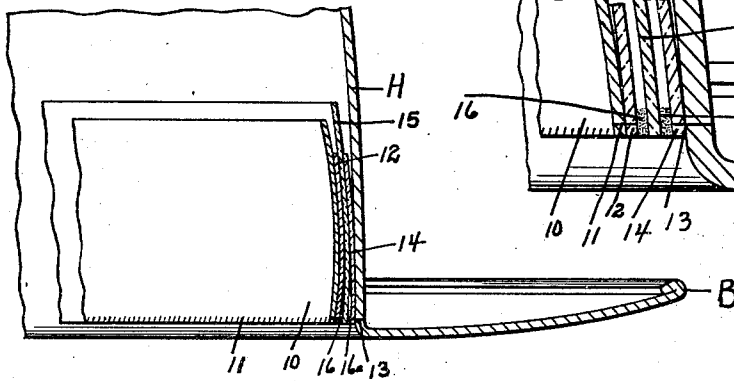


FIG. 4.

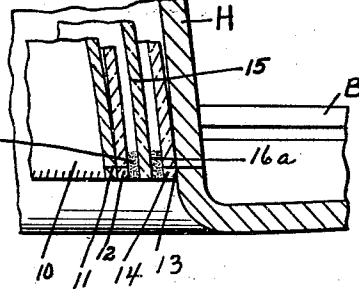


FIG. 2.

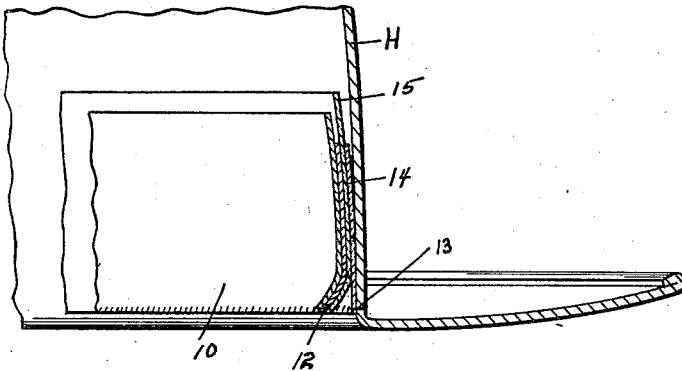
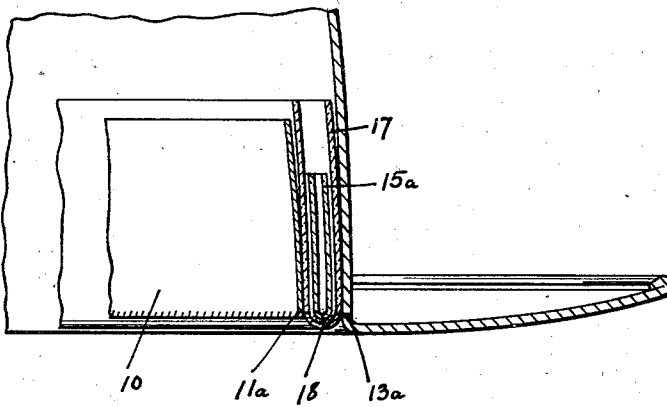


FIG. 3.



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HAT CONSTRUCTION

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My invention relates to hats and more particularly to a sweat-band arrangement wherein the transmission of perspiration or oil from the head of the wearer to the outer hat band is prevented.

The damage done to a hat due to the absorption of perspiration and oil from the sweat-band is well recognized in the industry and much effort has been directed toward its elimination. Most of these efforts take the form of a moisture-proof member arranged between the sweat-band and the adjacent portion of the crown. However, the interconnection of these elements by sewing, not only produces needle holes which afford convenient paths for the objectionable moisture, but the threads act as wicks which transmit the moisture by capillary action. The prior art has, in general, stitched the moisture-proof member separately to the hat body and to the sweat-band. It has further arranged the stitched row of the hat body and moisture proof member, and the stitched row of the moisture-proof member and sweat-band mutually out of alignment so that the rows of stitches do not contact each other. While the expedient partially solves the perspiration problem, it introduces an objectionable physical arrangement of elements, because the resulting N-shaped structure leaves the bottom of the sweat-band unconnected to the hat body so that they can separate and create an unsightly and unsanitary open space at the inner circumference of the hat brim. Of course, if adhesive is used, without stitching, it is not necessary to misalign the connections but an adhesive connection only between leather, a moisture-proof member and felt is inadequate and unsatisfactory.

Bearing the foregoing in mind, it is an object of this invention to provide a novel and effective sweat-band arrangement wherein the transmission of perspiration or oil from the sweat-band to the hat band is prevented.

Another object of this invention is to provide a moisture-proofing arrangement between the hat body and sweat-band which permits both of these hat elements to be stitched at their bases and directly in alignment so that the objectionable open space is avoided without risking contact of the respective rows of stitching.

Another object of this invention is to provide a moisture proofed sweat-band construction wherein the structure can be made up as a pre-fabricated unit requiring only a very simple connecting operation when securing the structure to a hat. This feature is of particular advantage in the hat renovating business since it requires a

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minimum of operations, skill or equipment in replacing a worn hat band and sweat-band.

Other objects of my invention will become apparent from the following description it being understood that the above general statements of the objects of my invention are intended to describe and not to limit it in any manner.

Referring to the drawing:

Figure 1 is a fragmentary cross-section through a hat provided with a sweat-band construction according to my invention.

Figure 2 is a fragmentary cross-sectional view illustrating a preliminary installation of the form of the improved sweat-band used in renovating a hat.

Figure 3 is a modification of the improved sweat-band assembly with the space between the folds being exaggerated for the sake of clarity.

Figure 4 is an enlarged view similar to Figure 1 with the space between the folds being particularly exaggerated for the sake of clarity.

Referring to Figures 1 and 4, the hat H, provided with a brim B, has the usual leather sweat-band 10 therein. The line of stitches 13 around the base of the hat crown connects a waterproof liner 14 to the crown of the hat while the line of stitches 11 connects a similar waterproof liner 12 to the sweat-band 10. Both liners 12 and 14 are preferably, but not necessarily, thin, highly flexible sheets of a thermoplastic, synthetic resin or the like. Examples of suitable materials are the vinyl resins, cellulose nitrate, cellulose acetate, and other thermoplastic resins which are waterproof and can be caused to flow by the application of heat and pressure or suitable solvents.

A liner 15, preferably of the same material as that of the above plastic liners, is disposed between the liners 12 and 14 where it separates the lines of stitches 11 and 13 preventing contact between them. The assembly is rendered unitary by applying a solvent of the thermoplastic liners 12, 14, and 15 to the lines of stitching 11 and 13 at 16 and 16a, and thereafter pressing the liners together. The effect of this operation is to create an integral mass consisting of the bottoms of the liners and the layers of thermoplastic solvent between them. This integral mass is formed with the lines of stitches 11 and 13 protruding respectively from both sides of the mass and effectively connecting it on one side to the hat crown and on the other side to the sweat-band. Considering this construction, it is obvious that the transmission of perspiration or oil from the sweat-band to the hat is virtually impossible either directly or through the stitches. The solvent is considered

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to be part of the integral mass because the solvent solution may be fortified with the particular plastic used so that a deposit of thermoplastic material accompanies the application of the solvent. It will be observed that the liner 15 is of greater width than the sweat-band 10 in order to insulate the entire sweat-band from the hat crown. However, any of the liners can assume this function.

Due to the integral nature of the mass, it is unnecessary to misalign the stitched rows 11 and 13. As a result, the sweat-band 10 cannot lift up from the base of the hat crown to create an objectionable open space. Furthermore the sweat-band appears to be sewn to the hat with a small strip of plastic appearing between them.

In the embodiment shown in Figure 2, the sweat-band 10, and the liners 12, 14, 15 may be initially assembled as a unitary sweat-band assembly which may be conveniently and easily applied as a unit to the hat. Accordingly, the solvent area 16 is preliminarily formed as in the previous case between the liners 12 and 15 but the solvent area 16a is disposed higher up between the liners 15 and 14 to leave their bottom edges unconnected as illustrated in Figure 2. The solvent areas 16 and 16a can extend up to the top of the liners as desired. Since the bottom edge of the liner 14 in Figure 2 is free from the remainder of the sweat-band assembly, it can be sewn to the hat body by the line of stitches 13 whereupon the operator need merely apply some solvent between said line of stitches 13 and the liner 15. This simple operation is all that is necessary to install the sweat-band assembly in a hat. This facility of installation is of particular advantage when renovating a hat since it produces the appearance and effectiveness of a factory made product and requires a minimum of time and technique.

In the modification shown in Figure 3, the liner 17 is U-shaped and it assumes the functions of the liners 12 and 14 in the other figures. It can therefore be considered as comprising two liners, one on each side of the central liner 15a. Similarly the liner 15a is U-shaped and it is connected by solvent area 18 to the liner 17. The solvent area 18 may be substantially confined to the respective bight portions of the U-shaped liners 17 and 15a. The liner 17 has its sides respectively connected by the lines of stitches 11a and 13a to the sweat-band and hat body as in the previous embodiment. However, it is unnecessary that the solvent area 18 cover either line of stitches 11a or 13a since they are directly separated by the waterproof thermoplastic liner 15a and the path around the bight of liner 15a is blocked by the solvent area which, in effect, creates an integral mass of the bight portions of liners 17 and 15a, and, like a portion of the areas 16 and 16a, is disposed below the lines of stitches connecting the liners.

The modification of Figure 3 is also satisfactory for renovating as well as manufacturing purposes and it has a particular advantage since it requires no application of solvent in connecting the pre-fabricated assembly to a hat.

The modification of Figure 3 is also particularly useful when a reed or its equivalent is to be included in the assembly. As will be obvious to those skilled in the art, a reed may be interposed, if desired, in the bight portion of liner 15a and secured by suitable means. A very convenient means of installing a reed is to dip the reed in the thermoplastic solvent and press it in place where-

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upon the assembly will set firmly retaining the reed in place. The application of fortified thermoplastic solvent to the reed makes the reed more convenient to handle since the conventional reed is rather brittle and hard and breaks easily. The reed, however, could take the form of an extruded plastic length of circular cross-section. Although liner 15a is illustrated as U-shaped, it could be J-shaped as well with the base of the J being connected by solvent to the bight portion of liner 17.

Referring to the invention as a whole, the specific arrangement utilized, serves to install and firmly retain an unperforated, waterproof liner between the sweat-band and the hat body. This liner may be considered to be liner 15. In order to retain it in place, elements which are compatibly adherent thereto are sewn to the sweat-band and hat body. These compatibly adherent elements may be considered to be the liners 12 and 14. The adhesion between the liners 12, 14 and 15 is so complete as to create an unseparable merger in which the component elements virtually lose their identity. The liners 12 and 14 need not be of the material described if they are compatibly adherent to the thermoplastic liner 15 in the manner described. Most thermoplastic materials among other materials will satisfy this requirement, the term "thermoplastic" being used in its conventional sense to indicate a synthetic resin of the type described above.

The solvent may take the form of a simple, rapid, application of heat, as with a soldering iron, with or without a reinforcing strip of thermoplastic material. Solvents such as acetone, propylene oxide, ethylene dichloride, mesityl oxide or the higher ketones are satisfactory. The solvent solution may be fortified with the particular type of plastic used so that the subsequent merger is reinforced thereby.

I have shown a preferred embodiment of my invention but it is obvious that numerous changes and omissions can be made without departing from its spirit.

What is claimed is:

1. A hat construction comprising a hat body, a sweat-band, a first liner stitched to said hat body and a second liner stitched to said sweat-band, a central liner disposed between said first and second liners and being connected to at least either one of said first and second liners so as to cover the stitching thereon, said connection comprising a thermoplastic resin bond between said central liner and said liner to which it is connected.

2. A hat construction comprising a hat body, a sweat-band, first liner means connected by a row of stitching to said hat body, second liner means connected by a row of stitching to said sweat-band, said rows of stitching being disposed adjacent to the bottom edges of said liners and being substantially in alignment, a central liner disposed between said first and second liner means and separating said rows of stitching, said first and second liner means and said central liner being of a thermoplastic material, the bottom of said central liner being connected to the bottom edges of said first and second liner means, at least a portion of said connection extending below said rows of stitching, said connection comprising a thermoplastic bond whereby the bottom edges of said first and second liner means and the bottom of said central liner are rendered integral.

3. A hat construction according to claim 2

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wherein the bottom edges of said first and second liner means are connected to form a U-shaped member, and wherein said central liner is U-shaped, the outer side of the bight of said U-shaped central liner being connected to the inner side of the bight of said U-shaped member, said connection being a thermoplastic bond whereby the respective bight portions of the U-shaped member and U-shaped central liner are rendered integral.

4. A hat construction comprising a hat body, a first liner connected by a row of stitching to said hat body, a sweat-band, a second liner connected by a row of stitching to said sweat-band, a central liner separating said first and second liners and separating said rows of stitching, said central liner being of a thermoplastic material and being connected to both said first and second liners at the respective stitched areas, said connection comprising a thermoplastic bond between said central liner and both said first and second liners.

5. An article of manufacture comprising a sweat-band, first liner means connected to said sweat-band by a row of stitching, a central liner, and second liner means, said central liner being connected between and to both said first and second liner means whereby said row of stitching is insulated from said second liner means, said first and second liner means and said central liner being of thermoplastic material, said connection of said central liner to said first and second liner means comprising a thermoplastic bond rendering the connected portions of both said liner

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means and central liner integral and including said row of stitching.

6. A hat construction comprising a hat body, a sweat-band, first liner means connected by a row of stitching to said hat body, second liner means connected by a row of stitching to said sweat-band, said rows of stitching being disposed adjacent to the bottom edges of said liner means and being substantially in alignment, a central liner disposed between said first and second liner means and separating said rows of stitching, said first and second liner means and said central liner being of a thermoplastic material, the bottom of said central liner being connected to the bottom edges of said first and second liner means, said connection extending above and below said rows of stitching, said connection comprising a thermoplastic bond whereby the bottom edges of said first and second liner means and the bottom of said central liner are rendered integral.

7. A hat construction comprising a hat body, a sweat-band, a first liner stitched to said hat body and a second liner stitched to said sweat-band, a central liner disposed between said first and second liners, each of said liners being of a thermoplastic material and having connections to an adjacent liner, said connections comprising thermoplastic bonds disposed on both sides of said central liner so as to cover the stitching of said first and second liners, said thermoplastic bonds respectively connecting said first and second liners to said central liner.

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