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HAT AND HAT FRAME AND METHOD OF MAKING SAME

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Fig. 1

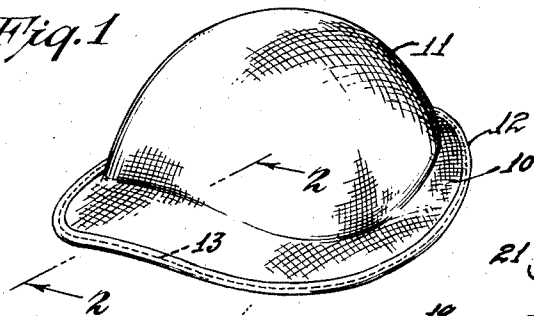


Fig. 2

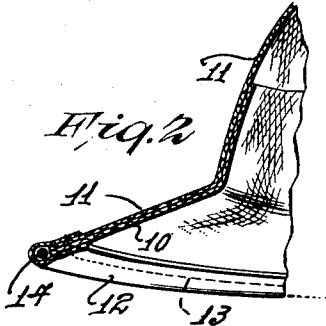


Fig. 3

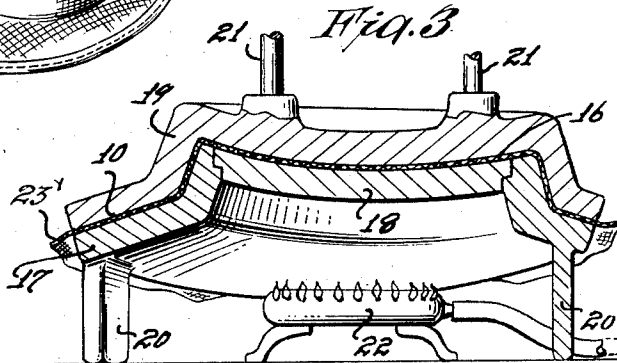


Fig. 4

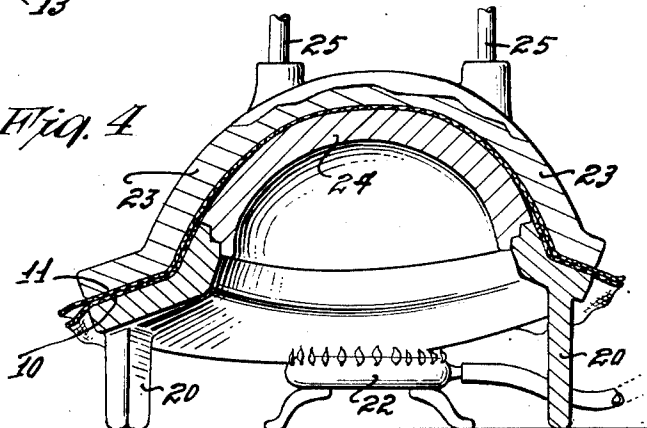
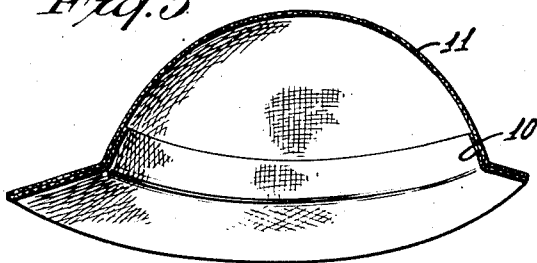


Fig. 5



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HAT AND HAT FRAME AND METHOD OF
MAKING SAME

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8 Claims. (Cl. 2—192)

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This invention relates to a method for making feminine hat frames and hats and to such frames or hats. It is in particular applicable to frames consisting of more than one part, for instance a brim and a crown, and to hats consisting of more than one part, for instance a brim and a crown or several superposed layers. The separate parts may be made of the same or of different materials, as desired.

In the conventional method of making frames for feminine hats consisting of several parts, the several parts are separately blocked out of buckram, rice net, miscellaneous cotton goods or other suitable material, and subsequently the separate pieces are carefully pieced together by stitching. This sewing together of the separate pieces is a tedious and time consuming process. Moreover, great care must be taken to correctly align the separate parts as designed, since otherwise the finished product will not assume the intended shape.

According to the present invention, the step of sewing together the separate pieces is eliminated, overlaying portions of the different pieces being held together by the blocking operation. This not only considerably simplifies the method of production, but also assures the correct relative positioning of the various pieces constituting the hat frame or hat.

It is a primary object of the present invention to provide a method of making either hats or hat frames, wherein the crown is simultaneously formed and secured to the brim in a single die-forming operation.

A further object is to provide a method wherein the crown is formed of a different material from that of the brim, the crown preferably being of a relatively flexible material, the frame being formed of a relatively stiff inflexible material, and wherein the brim and crown are bonded together to form a unitary hat or hat frame by means of a relatively simple, highly economical and extremely effective die-forming operation.

Another object of the invention is to provide a method of forming hats and hat frames by one or more die-forming operations and to provide such a method wherein the crown is formed of a different and more flexible material than the material of the brim.

Still another object is to provide a hat or hat frame and a method of making same wherein the crown is formed of a material so sheer and flexible as not to be able to retain its crown shape if blocked separately. In one form of the present invention the brim is provided with a stiff upstanding brace flange and the sheer flexible crown material is adhesively secured to the brace

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flange by heat and pressure simultaneously with the crown blocking operation, the brace flange serving to maintain the crown shape of the crown material notwithstanding the sheer flexible nature of the latter. Therefore, the present method enables the use of extremely sheer flexible crown materials for the first time in the history of the ladies' hat industry, since by the methods of the prior art it was necessary to block and form the crown independently of the brim and hence the crown material had to be sufficiently stiff to retain its crown shape independently of any external supporting or bracing structure.

A further object is to provide a method wherein the starch-like stiffening substance, with which crown and brim sheet materials have been impregnated by the textile manufacturer before they are delivered to the hat frame manufacturer, is also utilized as an adhesive securing the crown to the brim, thereby eliminating the costly sewing operation heretofore necessary for this purpose.

Further objects and advantages of the present invention will become apparent in conjunction with the following specification and drawing, in which—

Fig. 1 is a perspective view of a hat frame according to the present invention;

Fig. 2 is a cross-section on the line 2—2 of Fig. 1 through part of a hat frame according to this invention;

Fig. 3 is a cross-section through a die for hat frames, adjusted for brims;

Fig. 4 is a cross-section through a die for hat frames, adjusted for crowns;

Fig. 5 is a cross-section through a hat frame according to this invention.

Referring to Fig. 1, 10 indicates the brim and 11 the crown of a hat frame. 12 is a conventional binding stitched onto the edge of the brim.

Fig. 2 illustrates the overlapping of a portion of the crown material 11 of the hat frame and the brim 10. In the embodiment shown, overlapping occurs over the entire width of the brim and somewhat inwardly of the crown. However, it may be desirable to have the two pieces overlap only a shorter portion. A wire 14, stiffening the outer edge of the brim, is generally attached by means of a binding 12 stitched to the brim at 13.

Fig. 3 shows a conventional die for hat forms, when adapted for the blocking of brims. The die consists of a lower portion 17, an insert 18 and a top portion 19. The lower portion 17 is permanently supported by legs 20, while the top portion, in operation, is engaged by a press, not

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shown, through lugs 21. A burner 22 maintains the die at operating temperature. The brim 19 between the lower portion 17 and the upper portion 19 of the die is also indicated. A central area 16 in the brim-forming piece is later removed, as is any superfluous material 23' protruding beyond the edge of the die, if necessary.

Fig. 4 illustrates the same die now adapted for finally forming the hat article and used according to the present method. The lower portion 17 supported by legs 20 is identical with that shown in Fig. 3. However, there is now an insert 24 which is shaped to block the crown, followed by a top concave female die member 23 having up-standing posts 25 which will receive pressure via the platten of a press. The brim part 19 is shown in position and so is the crown 11, overlapping the brim. The crown may be either of a frame material or of several layers of material, such as a lining, a frame material, and one or more outer fabric layers, for instance straw cloth, velvet or satin.

Fig. 5 shows a finished frame, illustrating the relative positions of the brim part 19 and the crown part 11. If several layers of the same or different materials have been used in either blocking operation, the article or part thereof will comprise a composite of such material or materials.

In the method according to the present invention, and referring first to Fig. 3, the insert 18 is initially placed in assembled relation on the lower portion 17 of the male or convex die-forming member and a sheet of material which is to form the brim is then placed over the lower portion 17 and insert 18. The brim material is preferably relatively stiff and inflexible as compared with the relatively flexible material which is to be subsequently employed in forming the crown. However, it is to be understood that the relative degrees of flexibility of the brim and crown materials may be varied as desired.

The die member 19 is then moved downwardly so as to form the brim material into the configuration shown in Fig. 3. The die member 19 is then moved upwardly and the formed brim material is removed from the die. The central area 16 of the formed brim material is then cut out and discarded, thereby leaving an annular brim.

The insert 18 is then removed and the convex insert 24 substituted therefor, as shown in Fig. 4. The annular brim is then placed around the lower or male convex die member. A sheet of crown material, preferably of greater flexibility than the material of the brim, but not necessarily so, is then placed over the lower or male convex die member formed by die portions 17 and 24, and also in superimposed or overlapping relation with respect to the annular brim. The upper or concave female die member 23 is then moved downwardly into contact with the crown material while simultaneously stretching and tensioning the latter in radially outward directions.

Either the brim material or the crown material may be provided with a suitable adhesive and either of these materials may be moistened or dampened before being assembled on the male die member, if desired.

It will thus be seen that the die members 23 and 17, 24 apply heat and molding pressure to the brim and the crown material, thereby simultaneously die-forming the crown material into a crown and securing the crown to the brim. The female die member 23 may then be moved upwardly and the completed unitary hat or hat

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frame may then be removed from the lower die member 17, 24.

It is further proposed to put several layers of material, such as lining, a frame material and an outer fabric or several outer fabrics, all overlapping over all or part of their surfaces, simultaneously into the press. These layers will, during the blocking operation, be fused together by the presence of some adhesive in either or several of the materials, moistened before blocking.

It is to be understood that the term "hat" as employed in the specification and claims is intended to be a generic term meaning any type of head covering having a crown and brim and its use in this application includes both a finished hat or the uncovered hat frame.

Although the integral sheet of material designated in the specification as "crown 11" is provided in the disclosed embodiment of the invention with a flange-like portion lying in superimposed relation with respect to the brim 19, this flange-like portion having the same shape as the brim 19 therebeneath, the entire sheet 11 is referred to as a "crown" notwithstanding the fact that it is only the upper portion of the sheet 11 which is of crown shape, whereas the lower flange-like portion may be regarded as being a brim portion. The reasons for this terminology, that is designating both the crown and brim portion of the sheet 11 by the term "crown" are several. First, such terminology is the accepted one universally employed in the hat frame industry. Second, the brim or lower flange-like portion of the sheet 11 which lies in superimposed relation over the brim 19 usually does not function as a brim. That is, the brim 19 is usually, although not always, of much stiffer material than the sheet 11 and hence most of the reinforcing and shape-retaining functions of a brim are supplied by the brim 19 rather than by the lower flange-like portion of the sheet 11. Third, it is to be understood that the flange-like or brim portion of the sheet 11 may be eliminated if desired without departing from the scope of the invention, such brim portion being present in the disclosed embodiment because it is a result of the preferred and most advantageous manner of practicing the invention rather than because it is an essential and necessary element thereof. In other words, the sheet materials 11 may be circularly cut approximately along the lower edge of its crown portion so as to eliminate the lower flange-like or brim portion of the sheet 11 entirely, or, only part of the brim portion of the sheet 11 may be cut away if desired.

The term "heat-sealable adhesive" as used in the claims refers to any type of adhesive with which the crown or brim material may be impregnated and which adhesive will be activated to adhere the crown to the brim upon the application of heat, as is well known in the art.

It will be understood that various modifications may be made in the method and resulting article illustrated and described herein without departing from the spirit of the invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is as follows:

1. A method of making hats comprising the steps of forming an annular brim, placing the brim around a male convex member of a hat-forming die, placing a sheet of crown material over said male die member and in overlapping relation to the brim so as to provide overlapping portions of the crown material to the brim, plac-

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ing a female concave member of said hat-forming die into engagement with said crown material, and applying heat and pressure to said material and brim by means of said die members and thereby simultaneously molding the material into a crown and adhesively securing the brim thereto at the overlapping portion of the crown material.

2. A method of making hat frames comprising the steps of forming an annular brim of relatively stiff material, applying adhesive to the brim, placing the brim on a male convex member of a forming die, placing a sheet of crown material having greater flexibility than the material of the brim on said male die member and in overlapping relation with respect to the brim so as to provide overlapping portions of the crown material to the brim, applying moisture to said crown material and said brim, placing a female concave member of said forming die into engagement with said crown material while simultaneously stretching and tensioning the latter, and applying heat and pressure to said crown material and brim by means of said die members thereby simultaneously molding the crown material into a crown and adhesively securing the brim thereto at the overlapping portion of the crown material.

3. A method of making hats or hat frames comprising the steps of forming an annular brim of relatively stiff material, placing the brim around a male convex member of a hat-forming die, placing a sheet of crown material over said die member in overlapping relation to the brim so as to provide overlapping portions of the crown material to the brim, said crown material being relatively flexible as compared with the material of the brim, placing a female concave member of said hat-forming die into engagement with said crown material and applying heat and pressure to said crown material and brim by means of said die members so as to simultaneously mold the crown material into a crown and secure the brim thereto at the overlapping portion of the crown material.

4. A method of making hat frames having a crown of flexible material which is too sheer to retain its shape when formed independently of a reinforcing brim or other bracing element, said method comprising the steps of forming an annular brim of relatively stiff material and having an upstanding brace flange formed therewith, placing the brim on a male convex member of a forming die, placing a sheet of said sheer flexible crown material on said male die member and in overlapping relation with respect to said annular brim and its upstanding brace flange of the brim so as to provide overlapping portions of the crown material and the brace flange, applying moisture to said crown material, said crown material and said brim material containing a starch-like stiffening substance, placing a female concave member of said forming die into engagement with said crown material while simultaneously stretching and tensioning the latter, and applying heat and pressure to said crown material and said annular brim by means of said die members thereby simultaneously molding the crown material into a crown and causing said starch-like stiffening substance to form an adhesive securing the crown material to the brim and its upstanding brace flange at said overlapping portions thereof, whereby said upstanding brace flange supports said crown material along the flange engaging portion of the latter

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and maintains its crown shape notwithstanding said sheer flexible nature of the crown material.

5. A hat frame comprising an annular brim of relatively stiff material and having an upstanding brace flange extending around the inner periphery thereof, and a crown, said crown having a crown shape and being formed of a sheer material too flexible to maintain its crown shape without external supporting or bracing structure therefore, said brim and crown materials containing a starch-like stiffening substance, the lower portion of said crown lying in superimposed relation with respect to said brim and said upstanding brace flange, said stiffening substance serving to retain the shape of the crown and the brim and said stiffening substance also being an adhesive securing said lower portion of the crown to said brim and said upstanding brace flange thereof, whereby the brace flange supports the crown material along the flange engaging portion of the latter and maintains its crown shape notwithstanding said sheer flexible nature of the crown material.

6. A method of making hat frames of material impregnated with a starch-like stiffening substance so as to utilize said substance as an adhesive and thereby render sewing operations unnecessary, said method comprising the steps of forming an annular brim of a first sheet of said impregnated material, moistening a second sheet of said impregnated material, placing said second sheet in superimposed relation to said brim and in contact therewith, applying heat and molding pressure to said second sheet and said brim so as to simultaneously form said second sheet into a crown and cause said starch-like stiffening substance to adhesively secure said crown to said brim.

7. A method of making hat frames comprising the steps of forming a brim, placing a sheet of material containing a heat-sealable adhesive in contact with said brim, and applying heat and molding pressure to said sheet and said brim so as to simultaneously form said sheet into a crown and to adhesively secure said crown to said brim.

8. A method of making hat frames of material impregnated with a starch-like stiffening substance so as to utilize said substance as an adhesive and thereby render sewing operations unnecessary, said method comprising the steps of forming an annular brim of a first sheet of said impregnated material, moistening a second sheet of said impregnated material, placing said second sheet in superimposed relation to said brim and in contact therewith, simultaneously deforming said second sheet into a crown while activating said starch-like stiffening substance by means of heat to adhesively secure said crown to said brim.

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