March 8, 1932. G. V. MacKINNON 1,848,832

REENFORCED EDGE FOR HAT BRIMS

Filed April 22, 1931 2 Sheets-Sheet 1

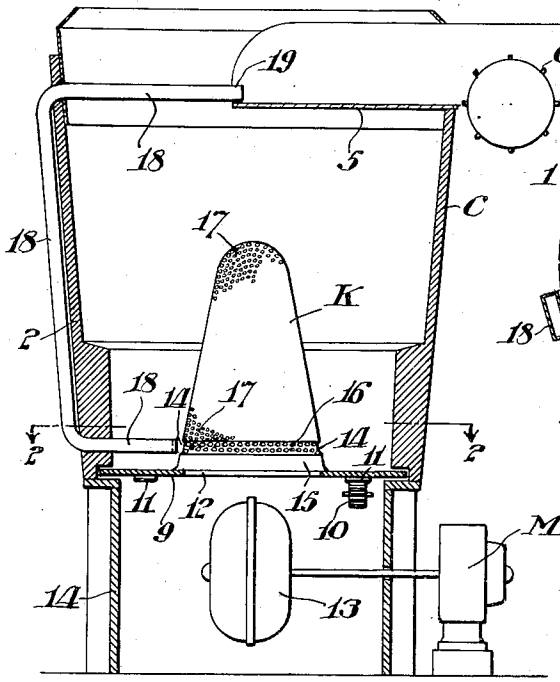


Fig. 1.

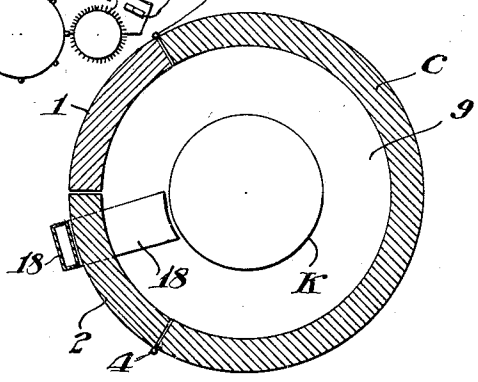


Fig. 2.

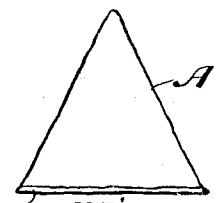


Fig. 7.

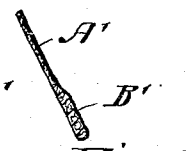


Fig. 8.

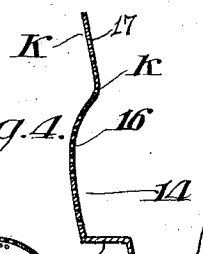


Fig. 4.

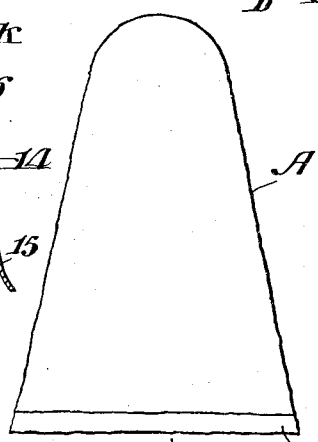


Fig. 5.

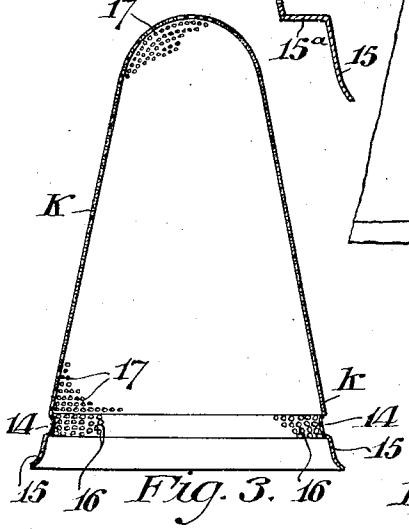


Fig. 3.



Fig. 6.

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REENFORCED EDGE FOR HAT BRIMS

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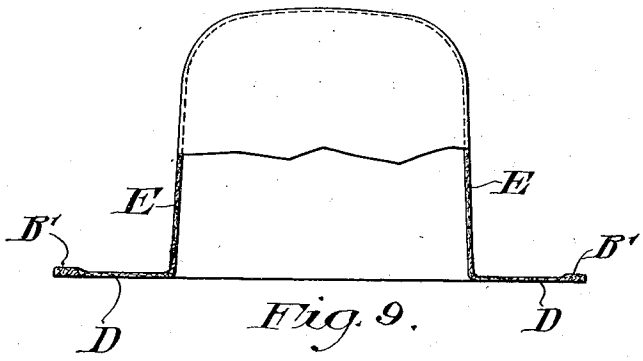


Fig. 9.



Fig. 10.

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UNITED STATES PATENT OFFICE

GEORGE V. MacKINNON, OF ELKINS PARK, PENNSYLVANIA, ASSIGNOR TO JOHN B. STETSON COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

REENFORCED EDGE FOR HAT BRIMS

Application filed April 22, 1931. Serial No. 531,933.

My invention relates to hats of felt and the like, and more particularly to thickened or reenforced edges of their brims.

In accordance with my invention the brim of a hat of felt or the like is provided with a non-composite or simple edge, thicker than and integral with the brim, jointless, single ply or homogeneous throughout.

More particularly, such an edge may have one of its faces offset from the adjacent face of the brim.

My invention resides in a thickened or reenforced edge of a brim of a hat of felt or the like having the characteristics hereinafter described and claimed.

For an understanding of my invention, and of the structure and characteristics of the brim edge, reference is had to the accompanying drawings and description illustrative of the edge and its formation.

Fig. 1 is a vertical sectional view, partly in elevation, of apparatus for producing a reenforced edge of the character aforesaid;

Fig. 2 is a horizontal sectional view, partly in plan, taken on the line 2—2 of Fig. 1;

Fig. 3 is a vertical sectional view of a cone or equivalent form on which is deposited the hat body or bat with reenforced or thickened edge;

Fig. 4 is a fragmentary sectional view on an enlarged scale of the cone at and adjacent the edge-forming groove or channel;

Fig. 5 is an elevational view of the hat body with thickened edge;

Fig. 6 is a fragmentary sectional view on enlarged scale of one relative arrangement of the reenforced or thickened edge and adjacent hat body;

Fig. 7 is an elevational view of the body and its thickened edge, after shrinking or sizing;

Fig. 8 is a fragmentary sectional view on enlarged scale through the reenforced brim edge of Fig. 7;

Fig. 9 is a sectional view of a hat embodying my reenforced edge;

Fig. 10 is a fragmentary sectional view on enlarged scale of a portion of the brim and its thickened or reenforced edge.

Referring to Figs. 1 and 2, to the open upper end of the chamber or drum C, having the two doors 1 and 2 swinging outwardly upon their pivots 3 and 4, the fur, wool or other felt-forming fibres are delivered through the chute or guiding structure 5 with which are associated the usual brush and picker rolls or cylinders 6 and 7 with which may be associated, as usual, a transversely extending series of steam jets 8 for moistening and blowing the fibres.

At the bottom of chamber C is provided the usual turntable 9 rotated by gear 10, driven by any suitable means, meshing with the circular rack or gear 11 upon the table 9, which has an opening 12 covered by the cone K. Air is drawn through the perforations in the cone and thence through opening 12 by suction created by the exhaust fan or pump 13 disposed within the sub-base or chamber 14 and driven by any suitable means, such as an electric motor M.

The cone K, as illustrated in Figs. 1, 3 and 4, is provided with a circumferential groove or channel 14 adjacent or immediately above the imperforate inwardly extending flange or ledge 15*a* of the imperforate base 15. The wall of the channel 14 has extending therethrough numerous holes or perforations 16, substantially uniformly distributed and preferably larger than the holes or perforations 17 distributed substantially uniformly over the remainder of the cone above the channel 14.

The fur or fibres, passing downwardly from the delivery chute 5 in the chamber C, are drawn to and settle upon the revolving cone K, due to the applied suction, building up on the cone a hat body A, Figs. 5 and 6, of loose felt of usual or suitable thickness. At the same time there is deposited in the channel 14, under the influence of more intense suction, because of the larger apertures or holes 16 therein or because of local application of more intense suction otherwise produced, the thickened or reenforced edge, band or border B, integral with the body A, and finally, after sizing, constituting a reenforced edge of the hat brim.

By the channel 14 the band B width is quite definitely determined, and its lower edge at

the flange or ledge 15*a* is well defined in regularity and of sufficient uniformity and smoothness ordinarily to require no trimming, cutting or working before or after shrinkage to size or final dimensions. The band B, as indicated in Fig. 6, may, as to its excess in thickness over body A, be offset on the outer side, as effected by and at that upper portion of channel 14 at or adjacent its junction with the cone body *k*.

When the holes 16 are either larger than the holes 17, or of any other suitable relative size, as equal in diameter to the holes 17, the border or band B, of greater thickness than the body A and integral therewith, may be formed of fur or other fibres deposited by suction in the channel 14, delivered thereto through the conduit or pipe 18, whose inlet end 19 is preferably adjacent the chute 5, causing fur or fibres to pass through the pipe 18 due to the suction of air therethrough and to be delivered into or adjacent the groove 14. Deposit of the thickened border B by this method involves the delivery of fur or fibres to the cone or its groove 14 through a path distinct from that of the remainder which as usual passes downwardly in chamber C and deposits on all perforated portions of cone K. Fur other than that passing through conduit 18 is also deposited in the groove 14, as in the case first described, so that the deposit for the thickened band B is in part and mainly due to the fur delivered by the conduit 18 and in part to fur falling downwardly through the chamber C as delivered through the chute 5 independently of the conduit 18.

In either case, by the provision of the channel 14 with its perforations 16, or by the conduit 18, or both, the fur is deposited in a substantially sharply defined region, to form the band B, integral with the body A, and of substantially greater thickness, even as much as two or more times the thickness of the body A as a whole or immediately adjacent the band B.

While a channel 14 is preferred, the perforated band-forming zone may be the lower portion of the cone K without channel or recess.

Upon completion of deposit, the doors 1 and 2 are swung outwardly, giving access to the cone for applying wet cloth or fabric over the hat body, whereupon the cone with the body thereon is removed. The body with its integral band B is then plunged into hot water, removed from the cone, and thereafter sized by usual methods.

As shown, when conduit 18 is employed, it swings out with door 2 on which it is supported, giving free access to the cone. It will be understood conduit 18 may be otherwise disposed or supported, as fixedly upon and within chamber C, with its discharge end movable away from the cone or fixed in a position away from the doors 1 and 2 to allow free access to the cone.

The band B may be produced by the larger holes 16 or increased suction without the channel; or by the effect of the channel 14 with suitable intensity or degree of suction; or by the definite local delivery of fur or the like to a restricted or defined zone of the cone. Any one or more of these features is or are effective; preferably all three are employed.

The band B is simple or plain, or single-ply, as distinguished from the case where the lower or brim forming end of the body A is of the thickness of the body itself, and then folded back upon itself, with or without stitching, forming a double-ply edge, worked or felted together, and carried on through the remainder of the usual process of sizing or shrinking. In accordance with my method the thick band is preformed and complete before removal of the body from the cone K.

The thickened border B is itself at its free edge left raw, untrimmed or uncut; however, if desired, it may be trimmed or cut more sharply to define or smooth its lowermost edge, though this has been found to be unnecessary.

The body A, with its integral thickened band B, is then carried through the usual sizing or shrinking process for simple hat bodies, the body A and band B both shrinking while increasing in thickness. This process is continued until there is reached a stage represented by Figs. 7 and 8, in which the body A has been reduced in size to that indicated by A′, and its band has been reduced in length and increased in thickness as indicated at B′. Thereafter the sized body is blocked and finished. In this further treatment the band B′ ordinarily requires no special treatment other than that applied to the remainder of the hat.

After the body has been sized, as indicated in Figs. 7 and 8, it is blocked and finished as usual, without need for special treatment of the thickened edge B′, which ordinarily requires no cutting, trimming or tooling, though these or other operations may be applied, if and when desirable.

After blocking, the hat takes the form generally indicated in Fig. 9 in which, as usual, the brim D extends substantially horizontally from the upstanding crown E.

Ordinarily the treatment of the hat, after blocking to the form indicated in Fig. 9, involves only the usual finishing and pouncing, which may or may not be applied to the reenforced edge B′, as may be desired. The extreme edge of the reenforcement B′ need not be rounded or cut or otherwise worked to size. Both the final size and the final finish of the reenforcement B′ is ordinarily attained at the completion of the sizing or shrinking operation, the stage indicated in

Figs. 7 and 8. It will be understood, however, that my invention is not so limited, and that, after sizing, the reenforcement B′ may be further operated upon in any desired way as, for example, by ironing or pressing the brim D at the point where it merges into the reenforcement B′, effecting somewhat more abrupt offset of the face of the band B′ from the face of the brim as more clearly indicated in Fig. 10.

The edge reenforcement B′, produced as above described is most effective; it is, in a mechanical sense, strong; it is homogeneous, and its integral union with the brim is homogeneous therewith and of great strength. It is simple and plain in structure, because it is single-ply or a single element, and is not composed of or built up from two or more layers or components, and is devoid of stitching, either temporary or permanent, and requires after initial formation, no turning, folding, working, welding, welting or the like. In fact it is elementally simple, and is structurally formed entirely during the deposit of the hat body as a whole upon the cone; and thereafter it requires no working or treatment, because in the usual sizing or shrinking operation it takes its final form and dimensions, without need for cutting, trimming, rounding or other operation.

Because of its characteristics aforesaid, and due to its method of manufacture, it is very low in cost, for in its production there is involved no folding, stitching, manual felting together or welding of parts, or any other significant operation.

The reenforcement B′ is homogeneous or jointless throughout, in the sense that it is without such a joint as is occasioned by more or less complete intermingling, welding or mutual penetration of two or more layers of felt or like material.

I make no claim to, and disclaim from the scope of the appended claims, composite edges of brims of felt hats, and particularly make no claim to, and disclaim from the scope of the appended claims, composite brim edges of the types disclosed in Letters Patent of the United States Nos. 1,053,973, 1,246,917 and 1,805,977.

The method and apparatus for producing a reenforced brim edge of the character aforesaid are claimed in my copending application Serial No. 531,934, filed April 22, 1931.

What I claim is:

1. A hat brim of felt having a defined reenforced edge, homogeneous throughout, and thicker than, and integrally and homogeneously united to, the adjacent portion of the brim.

2. A hat brim of felt having an untrimmed homogeneous edge thicker than and integral and homogeneous with the adjacent portion of the brim.

3. A hat brim of felt having a reenforced edge, homogeneous throughout and thicker than and integral with the adjacent portion of the brim, and having a face offset from the adjacent face of the brim, said edge and brim being homogeneous at their union and at their said offset and adjacent faces.

GEORGE V. MacKINNON.